LAREDO METROPOLITAN TRANSPORTATION PLAN 2005 - 2030

As Amended January 2008

The 2008 Metropolitan Transportation Plan amendment was prepared by Alliance Transportation Group, Inc. in conjunction with the Laredo Urban Transportation Study.

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Chapter 1
Introduction

The Laredo Metropolitan Transportation Plan (MTP) serves as an important tool in facilitating orderly urban and rural development through guiding the location and type of roadway facilities that are needed to meet projected growth and development in the area. The Plan addresses all modes of transportation and provides a structure and planning process for improving the region's transportation system. The MTP serves as an update of the previous plan that was prepared in 1999, and covers a 25 year planning horizon through the Year 2030. Due to passage of new legislation, described below, the plan was amended in 2007. Key elements of the Plan include, defining the region's transportation goals, evaluating the existing transportation system and future transportation needs and identifying recommended improvements that will enhance mobility and economic development in the Laredo Metropolitan area. Additionally, the MTP includes a financial plan which prioritizes the short- and long-term transportation improvements and identifies federal, state, local and/or private funding sources for each identified project.

Background and Purpose

According to the results of the 2000 U.S. Census, Laredo is one of the fastest growing cities in Texas and in the U.S. Laredo's location as the center of a primary trade route between Mexico, U.S. and Canada and increased trade activity have resulted in significant growth in the Laredo metropolitan area over the past decade. The Laredo MSA encompasses all of Webb County, while the MPO study area encompasses just a portion of the county. The Laredo MSA population grew from 133,239 in 1990 to 193,117 in the Year 2000 representing an annual increase of 3.8 percent. The Texas State demographer estimates the 2006 Laredo MSA population at 231,643. This growth in population coupled with increased trade traffic continues to place increasing demands on the transportation system. The Port of Laredo is the largest inland port on the US-Mexico border and consists of four international bridges plus a rail bridge. Two of the international bridges handle non-commercial traffic only, one handles commercial traffic only, and the fourth allows both types of traffic. A safe, efficient and well maintained multimodal transportation system will be important in enhancing the movement of goods and people and in continuing to promote international trade and economic development in the Laredo area.

The purpose of the MTP is to develop a comprehensive multimodal transportation plan to accommodate travel demands for the Laredo metropolitan area through the Year 2030. The study identifies the existing and future land use trends and transportation needs, and develops coordinated strategies to provide necessary transportation facilities essential for the continued mobility and economic vitality of the Laredo metropolitan area. Additionally, the development of the MTP is required under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) to assure the continuation of federal transportation funds for the Laredo metropolitan area.

The Laredo MTP documents the urban area's existing transportation system and evaluates its future transportation needs for the next 25 years. SAFETEA-LU requires the MTP to be financially constrained, meaning each transportation project and strategy identified in the plan is backed by clearly specified federal, state, local and/or private funding and future expenditures are reflected in "year of expenditure" dollars. The Laredo Urban Transportation

Study (LUTS) leads the overall review of transportation plans and programs for the Laredo Metropolitan Area by virtue of its designation as the Metropolitan Planning Organization (MPO) for the area.

LEGISLATION

With the passing of the Federal Aid Highway Act of 1962, Congress made urban transportation planning a condition for receipt of federal funds for highway projects in urban areas with a population of 50,000 or more. This new legislation encouraged a continuing, comprehensive transportation planning process carried on cooperatively by the states and local communities. Metropolitan Planning Organizations (MPO) were designated by the governor in each state to carry out this legislative requirement. As a result the Laredo Urban Transportation Study was created as the MPO, to provide for a continuing, comprehensive transportation planning process for the Laredo urbanized area as mandated by the Act.

The Laredo MPO derives its authority from Title 23, United States Code Section 134. The MPO is governed by a Policy Committee established in accordance with by-laws adopted June, 1994 and revised in June 1997, June 2000, and September 24 2007. It is the Policy Committee's responsibility to review and make decisions regarding the transportation planning efforts in the Laredo metropolitan area. Transportation planning activities are undertaken by the planning staff of LUTS (acting as the MPO) and by the Texas Department of Transportation (TxDOT). The Committee is chaired by the Mayor of the City of Laredo and includes as voting members: the mayor, three Laredo City Council persons, the Webb County Judge, two County Commissioners, the TxDOT Laredo District Engineer, and the Director of the Transportation Planning Department. Ex-officio, non voting members include the State Senator for District 21, State Representative for District 42 and State Representative for District 31.

Under the direction of the Policy Committee, transportation planning efforts for the Laredo metropolitan area are managed by the Technical Committee. This committee has the responsibility of professional and technical review of work programs, policy recommendations and transportation planning activities. The Technical Committee is comprised of 22 members representing the city, county, state, school districts and the private sector. The Committee is chaired by the Laredo City Planning Director (also the MPO Planning Director).

There are three major pieces of federal legislation that define metropolitan transportation planning. The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 recognizes the economic and cultural diversity of metropolitan areas, and the need to provide metropolitan areas with more control over transportation in their own areas. ISTEA emphasizes the efficient use and preservation of the existing transportation infrastructure, the inclusion of private citizens and stakeholders in the planning process, the synergistic relationship between all modes of transportation, and transportation's linkage with the environment. The Transportation Equity Act for the 21st Century (TEA-21) was passed into law in 1998. The Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) succeeded TEA-21 in 2005.

SAFETEA-LU reaffirms all that ISTEA and TEA-21 set out to accomplish. This includes public involvement, linking land use to transportation planning, a multimodal approach in developing transportation solutions, the need for increased mobility and transportation's key role in economic growth. In addition, SAFETEA-LU includes several new requirements. MPOs are

now encouraged to consult with other agencies that influence other types of planning activities such as economic development and environmental protection as well as issues related to airport operations and freight movement. MPOs must now prepare a general discussion of potential environmental threats as well as potential mitigation activities and locations. Public outreach is an important element of SAFETEA-LU as with ISTEA and TEA-21. Representatives of the disabled, as well as users of pedestrian walkways and bicycle facilities are specifically singled out for inclusion in the public participation process. In recognition of the effect of the economy on multi-year projects, MPOs are now required to apply an inflation factor to costs for the later years of projects.

In areas that do not meet federal clean air requirements, legislation related to clean air also affects metropolitan transportation planning efforts. Since Laredo is in compliance with current clean air requirements this legislation does not apply.

Study Area

Laredo is located in Webb County in southwestern Texas, on the border between Mexico and the United States. It is separated from Nuevo Laredo, Mexico by the Rio Grande. The study area for the MTP includes all areas located within the MPO's planning boundary (**Figure 1-1**). The MPO boundary was expanded in 2004 to include additional areas of Webb County expected to become urbanized in the next 25 years. The MPO planning region includes all of the City of Laredo, plus the City of Rio Bravo and other areas in Webb County. This area is approximately 291 square miles. Based on the 2000 Census the population of the study area is approximately 186,120.

Benefits of Transportation Planning

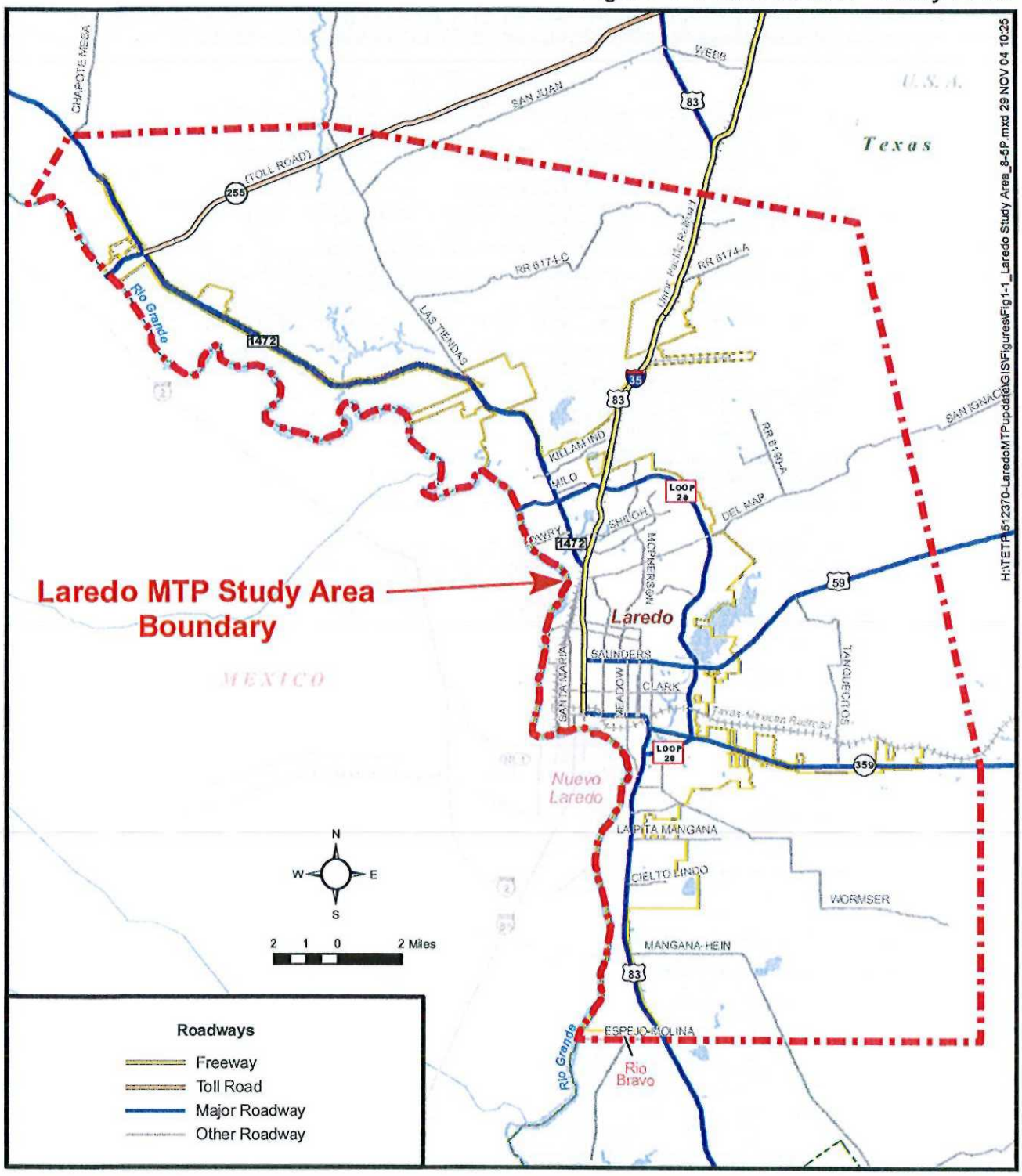
Transportation planning is the process used by municipalities and other governmental entities to provide for the development of an efficient and appropriate transportation system to meet existing and future travel needs. The primary purpose is to ensure the orderly and progressive development of the urban and rural street system to serve the mobility and access needs of the public. Transportation planning is interrelated with other components of the urban planning and development process. Therefore, coordination with other agencies that affect transportation and economic development is an important part of the development process for the Metropolitan Transportation Plan.

The Metropolitan Transportation Plan is a 25 year transportation planning document that provides a framework for addressing the area's transportation needs. The MTP is the MPO's adopted plan for guiding transportation system improvements, including the existing and planned extension of major highways. The transportation system is comprised of existing and planned freeways/expressways, arterials, collectors and local streets, which could require wider or new rights-of-way for needed improvements. Other elements of the transportation system include pedestrian walkways, bicycle facilities, bridges, rail facilities, and intermodal connectors. One objective of the MTP is to ensure the preservation of adequate right-of-way (ROW) on appropriate alignments and of sufficient width to allow the orderly and efficient expansion and improvement of the transportation system to serve existing and future transportation needs.

The benefits provided by effective transportation planning are realized by achieving the following objectives:

- Maximizing mobility while minimizing the negative impacts of street widening and construction on neighborhood areas and the overall community by recognizing where future improvements may be needed and incorporating thoroughfare needs;
- Preservation of adequate rights-of-way for future long-range transportation improvements;
- Making efficient use of available resources by designating and recognizing the major streets that will likely require improvements;
- Minimizing the amount of land required for street and highway purposes;
- Identifying the functional role that each street should be designed to serve in order to promote and maintain the stability of traffic and land use patterns;
- Informing citizens of the streets that are intended to be developed as arterial and collector streets, so that private land use decisions can anticipate which streets will become major traffic facilities in the future;
- Facilitating connections between different modes;
- Minimizing conflicts between agencies that affect transportation and transportation related issues such as environmental protection;
- Facilitating economic development;
- Providing information on thoroughfare improvement needs, which can be used to determine priorities and schedules in the City's Capital Improvement Program (CIP); and,
- Providing an implementation program to prioritize improvements and identify funding sources.

Figure 1-1 Laredo MTP Study Area



GOALS

Goals developed for the MTP are the result of a collaborative effort between the Policy Committee, Technical Committee, and the Laredo Public. Goals reflect a collective vision that defines important transportation issues for the Laredo Metropolitan Area. These goals provide the framework for the MTP and include:

Operational Goals:

- Deploy intelligent transportation systems;
- Evaluate intra-city commercial truck traffic;
- Provide for sufficient air transportation;
- Upgrade existing transportation facilities;
- Provide for grade separations at intersections of key arterial roads over existing rail lines;
- Incorporate full accessibility in all new street designs;
- Accommodate bicycle routes in new street designs or segregated facilities;
- Establish a plan for public transportation to meet rider needs; and,
- Implement accessible public mass transit service.

Policy Goals:

- Promote multi-modal transportation projects;
- Increase the safety and efficiency of the transportation system;
- Provide safe and efficient mobility throughout the community;
- Optimize available local, State and Federal funding sources;
- Protect and Enhance the quality of life of the Laredo area; and,
- Encourage transportation alternatives that reduce the impact on the environment.

PUBLIC INVOLVEMENT

Public involvement was an important component of the Plan and included several activities to involve public agencies and stakeholders throughout the plan development process. Public involvement activities centered on obtaining meaningful input from key stakeholders concerning transportation issues in the area. The MPO Technical Committee guided the overall plan development and provided technical expertise throughout the process.

Meetings

Three meetings were held with the MPO Technical committee, which is responsible for reviewing the overall study progress. These meeting were held at key milestones allowing the committee to evaluate data forecasts and alternative evaluation criteria, initiate the evaluation

of alternatives, review the evaluation of alternatives, prioritize improvements, develop the financial implementation plan and review the draft plan.

LUTS Public Involvement Process

In compliance with Federal regulations, a Public Involvement Process (PIP) was developed by the LUTS. The Public Involvement Process provides every opportunity and encouragement for the involvement of citizens in the transportation planning process. The purpose of the Public Involvement Process is to:

- Provide early and continuing public involvement opportunities throughout the transportation planning and programming process;
- Provide timely information concerning transportation issues and processes to area residents, affected public agencies, representatives of transportation agency employees, private providers of transportation, other interested parties and segments of the community affected by transportation plans, programs, and projects;
- Seek out and consider the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households;
- Provide adequate public notice of public involvement activities and time for public review and comment at key decision points, including the approval of plans and programs;
- Demonstrate explicit consideration and response to public input received during the planning and program development process.

The adoption of the Metropolitan Transportation Plan (MTP) required a public review and comment period of 45 days prior to final action by the Policy Committee. A project nomination form was published in a newspaper of general circulation and was made available through the Internet 90 days prior to final action by the Policy Committee. Presentations on the proposed MTP were made to the Laredo City Council and Webb County Commissioners Court prior to the public review and comment period. Additionally, written comments and project nomination forms received during the public review and comment period regarding the draft MTP were incorporated into the final document. **Table 1-1** identifies the meetings held as part of the MTP process. A summary of all public comments received by the MPO is included in **Appendix A.**

Pursuant to adoption of the final rule for metropolitan transportation planning, LUTS has adopted a new Public Participation Plan whose guidelines were used in the adoption of the most recent amendment to the MTP.

Table 1-1
Meetings
Laredo Metropolitan Transportation Plan Update

Agency	Date	Purpose	Advertised in Newspaper	Televised	Noticed as per Texas Open Meetings Act
MPO Policy Committee	Sept. 9, 2004	Present and adopt the project selection criteria	✓	✓	✓
Laredo City Council	Oct. 25, 2004	Present draft plan and receive comments	✓	✓	✓
Webb County Commissioners Court	Oct. 25, 2004	Present draft plan and receive comments	✓	✓	✓
MPO Policy Committee	Oct. 29, 2004	Present draft plan and initiate public comment period	✓	✓	✓
MPO Policy Committee	Dec. 17, 2004	Adopt plan	✓	✓	✓

Chapter 2
Existing Conditions

This chapter examines the existing physical features and transportation system in the Laredo area. Having an understanding of the existing conditions in the region is an important first step in developing the transportation plan and in making recommendations regarding future improvements. The existing street network and traffic patterns will serve as the basis for the future street network and in identifying future transportation conditions and needs. Additionally, existing environmental and physical features of the community may impact transportation improvements and should be recognized and considered in the development of the plan. Unless otherwise noted, data in this chapter are from 2004.

GEOGRAPHY

Laredo is the largest city in Webb County and is located on the north bank of the Rio Grande River across from Nuevo Laredo, Mexico. Laredo's total land area has grown from 33.5 square miles in 1990 to approximately 81 square miles in 2003, an increase of 142 percent. The Port of Laredo is the largest inland port on the US Mexico border. Laredo is the only city that operates international bridges between two Mexican States. Currently the city maintains three border crossings with the Mexican State of Tamaulipas at Nuevo Laredo and one with the Mexican State of Nuevo Leon at Columbia.

World Trade Bridge

LAND USE

Evaluating existing and future land use patterns and trends is important as development patterns will influence transportation needs and improvements in the region. **Figure 2-1** displays the existing land use in the Laredo study area. The Laredo Metropolitan area has experienced rapid growth and development over the past decade. As shown, the majority of development has occurred inside Loop 20, with some additional development occurring along major transportation corridors including I-35, US 59, SH 359, US 83 and FM 1472. Of the developed acreage, residential accounts for the largest use, 27 percent, followed by right-of-way, 22 percent, and industrial, 18 percent. Residential, industrial and commercial development is expected to continue to occur in the region particularly to the east along U.S 59, SH 359, south along the U.S 83 corridor, northwest along FM 1472 and north along I-35.

ENVIRONMENTAL FEATURES

Protecting natural features and minimizing impacts of transportation programs on the natural environment are an important consideration in transportation planning. In developing transportation programs and policies every effort should be made to ensure their compatibility with the region's environmental goals. The following section examines existing environmental features and constraints in the Laredo study area. Environmental features that may be impacted by transportation programs include endangered species habitat, wetlands, public parks, national grasslands or wildlife management areas and historic structures.

Figure 2-1a Existing Land Use, Study Area

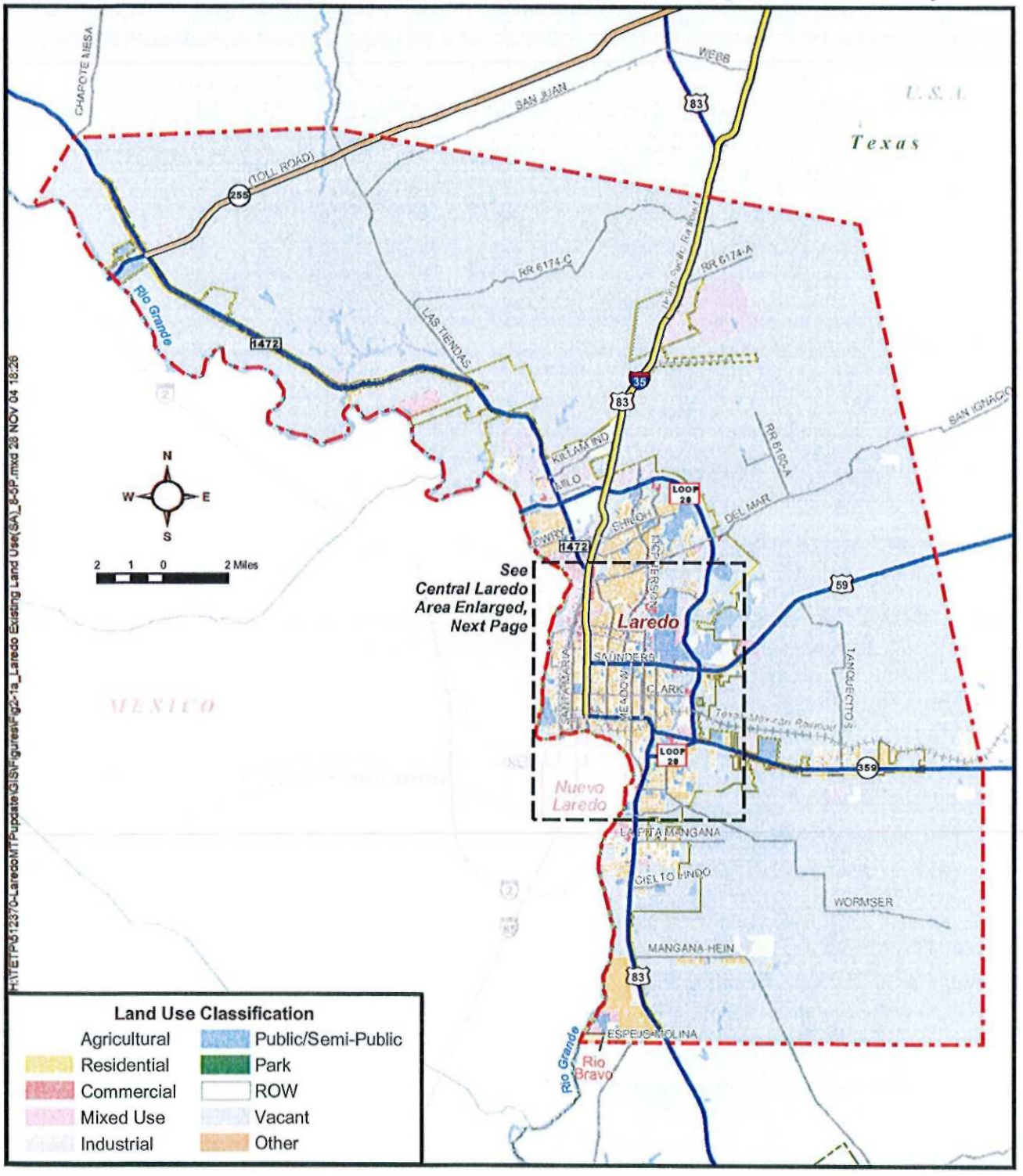
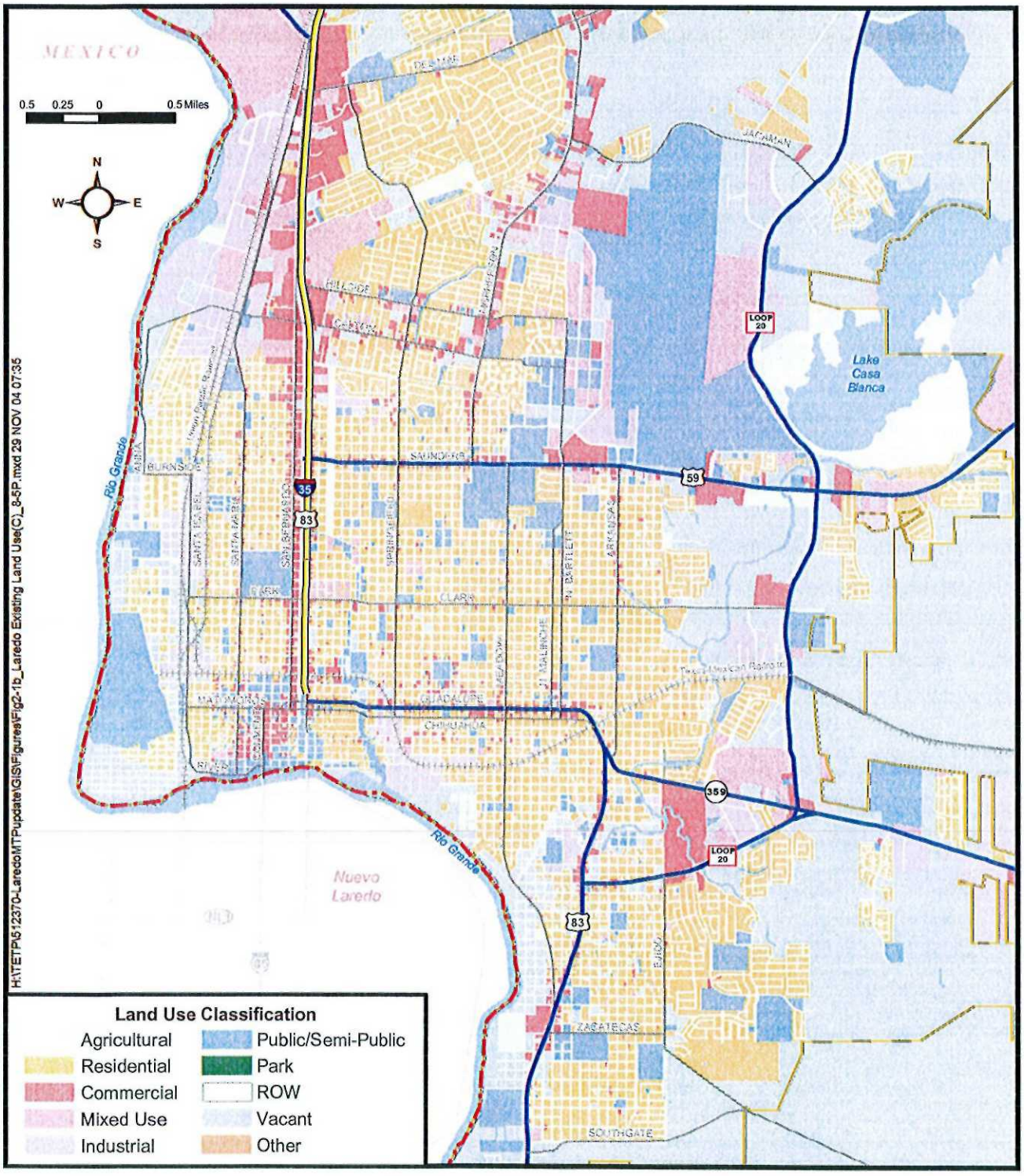


Figure 2-1b Existing Land Use, Central Laredo



HISTORICAL LANDMARKS AND SITES

Throughout the Laredo area, numerous landmarks and sites have been designated as historically significant at either the local, state or national level. Some of these sites may be protected under Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended in 1976, 1980, 1992, and 2000) which requires federal agencies, prior to implementing an undertaking, take into account the effects of the undertaking on historic properties and afford various interested persons, groups, or agencies an opportunity to comment on the undertaking.

The Federal Highway Administration (FHWA) delegates responsibility for the Section 106 process of highway projects to TxDOT. If a property/site has been determined to be eligible for addition to the National Register of Historic Places (NRHP), the regulatory procedures implementing Section 4(f) to the DOT Act are applied accordingly. A Section 4(f) evaluation is prepared and coordinated with the FHWA and the Department of the Interior (DOI). If the site is determined to be valuable or important only for the data that may be recovered from the site, rather than its importance in place, Section 4(f) does not apply.

Figure 2-2 identifies historic districts and landmarks within the study area. As shown there are three districts within the study area that are on the National Register of Historic Places, including Fort McIntosh Historic District, Villa San Augustin de Laredo Historic District, and Barrio Azteca Historic District. Additionally, the City of Laredo has also designated three districts and several landmarks as historic. Landmarks considered historic include the following:

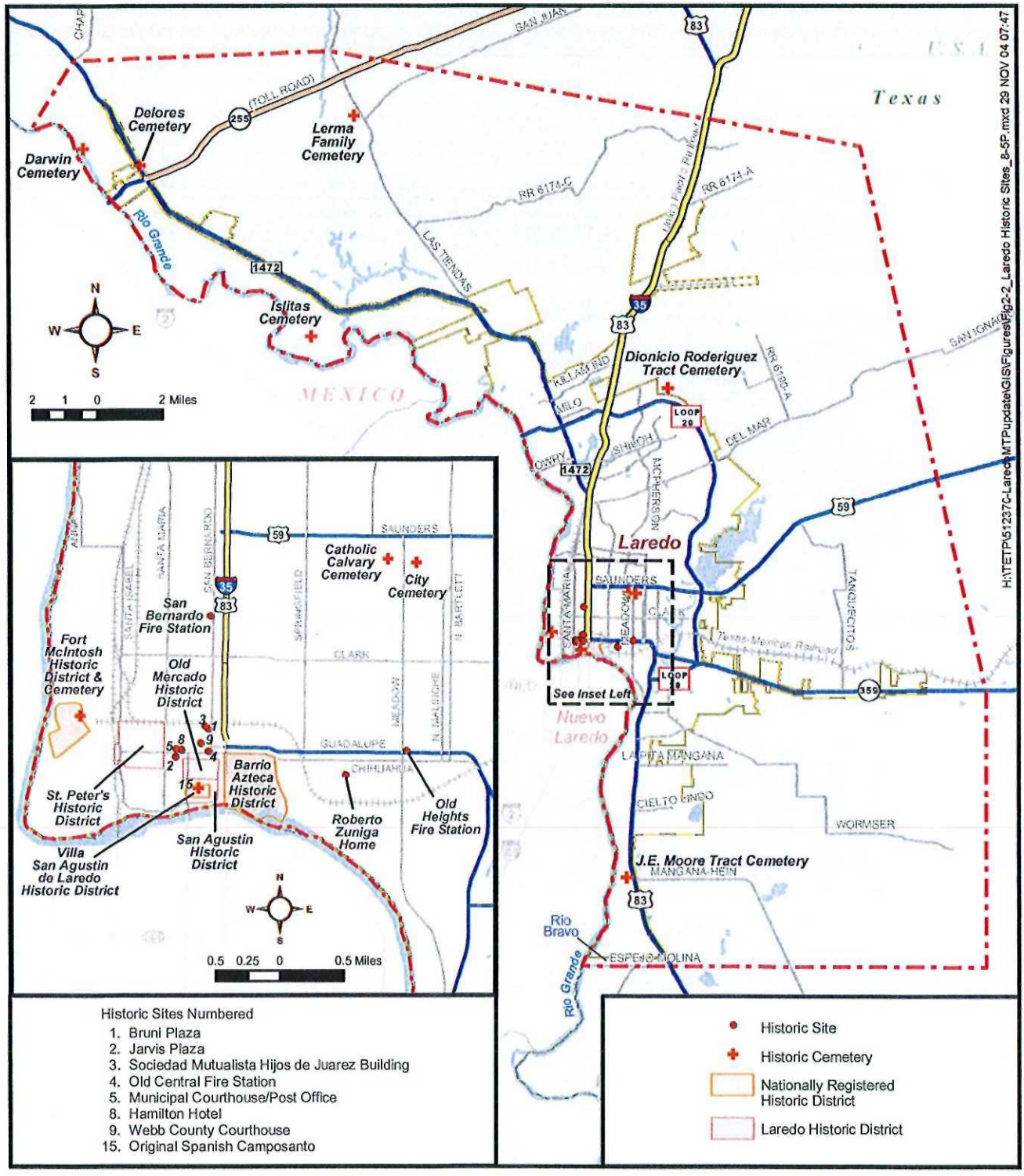
- Bruni Plaza;
- Jarvas Plaza;
- Sociedad Mutualista Hijos de Juraez Building;
- Old Central Fire Station;
- Municipal Courthouse/Post Office;
- Hamilton Hotel;
- Webb County Courthouse; and,
- Original Spanish Camposanto.

Soils and Farmlands

The purpose of the Farmland Protection Policy Act of the Agricultural and Food Act of 1981 is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of prime, unique, and other farmlands of statewide or local importance to non-agricultural uses. Federal agencies are directed to take into account the adverse effects of federal action on farmlands, to consider appropriate alternative actions that mitigate adverse effects, and to assure that such federal actions are compatible with those state, local, and private programs designed to protect farmlands.

According to the Soils Survey of Webb County, Texas prime farmland soils, defined by the U.S. Department of Agriculture, are those that are best suited for producing food, feed, forage, fiber, and oil seed crops. Prime farmland soils produce the highest yields with minimal inputs of energy and economic resources, and farming these soils results in the least damage to the environment.

Figure 2-2 Historic Sites



There is no prime farmland in Webb County without irrigation, including non-irrigated pastureland and cropland. However, in those areas where there is water available for irrigation the agricultural potential becomes prevalent. The majority of the prime farmland (when irrigated) is located along the eastern perimeter extending toward the Rio Grande River in the northern and southern portions of the city.

Floodplains

The area surrounding the City of Laredo has creeks that form the local drainage basin for the Rio Grande River. Past this drainage basin there is a broad drainage basin from the Nueces River. As shown in **Figure 2-3** there are several areas within the study area that are subject to the 100 and 500 year floods. The majority of flood prone areas occur along the Rio Grande River and along creeks within the region including San Idelfonso Creek, Cuervo Creek, Becerra Creek, Sombreitillo Creek, Chacon Creek, Zacate Creek and Santa Isabel Creek. These areas are subjected to flash flooding and should be allowed to function unhindered by structures in the stream channels or floodway.

Wetlands

Wetlands are areas that are inundated by surface or ground water frequently enough to support vegetation or aquatic life that requires saturated or seasonally wet soil conditions. The U.S Army Corps of Engineers performs field investigations to identify "jurisdictional" wetlands – those considered a part of the "waters of the United States". Permits are required for activities impacting federally identified wetlands under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. The extent of floodplain areas identified by the Federal Emergency Management agency is indicative of where wetlands are more likely to be found, although all of the floodplain areas are not necessarily considered to be jurisdictional wetlands.

In 1979, a comprehensive classification system of wetlands and deepwater habitats was developed for the U.S. Fish and Wildlife Service (Cowardin et al. 1979). Under this system, Laredo's wetlands are categorized as inland (also known as non-tidal, freshwater). The wetlands common to the Laredo metropolitan area are riparian wetlands commonly found in the semiarid west. The following is a brief description of the two classes of wetlands under the Cowardian system found in the study area.

Palustrine (predominant class in study area) - All nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such tidal wetlands where ocean-derived salinities are below 0.5 parts per thousand. This category also includes wetlands lacking such vegetation but with all of the following characteristics: (1) area less than 8 hectares; (2) lacking an active wave-formed or bedrock boundary; (3) water depth in the deepest part of the basin less than two meters at low water; and (4) ocean-derived salinities less than 0.5 parts per thousand.

Riverine - All wetlands and deepwater habitats contained within a channel except those wetlands (1) dominated by trees, shrubs, persistent emergents, emergent mosses or lichens; and (2) which have habitats with ocean-derived salinities in excess of 0.5 parts per thousand.

Figure 2-3a Development Constraints, Study Area

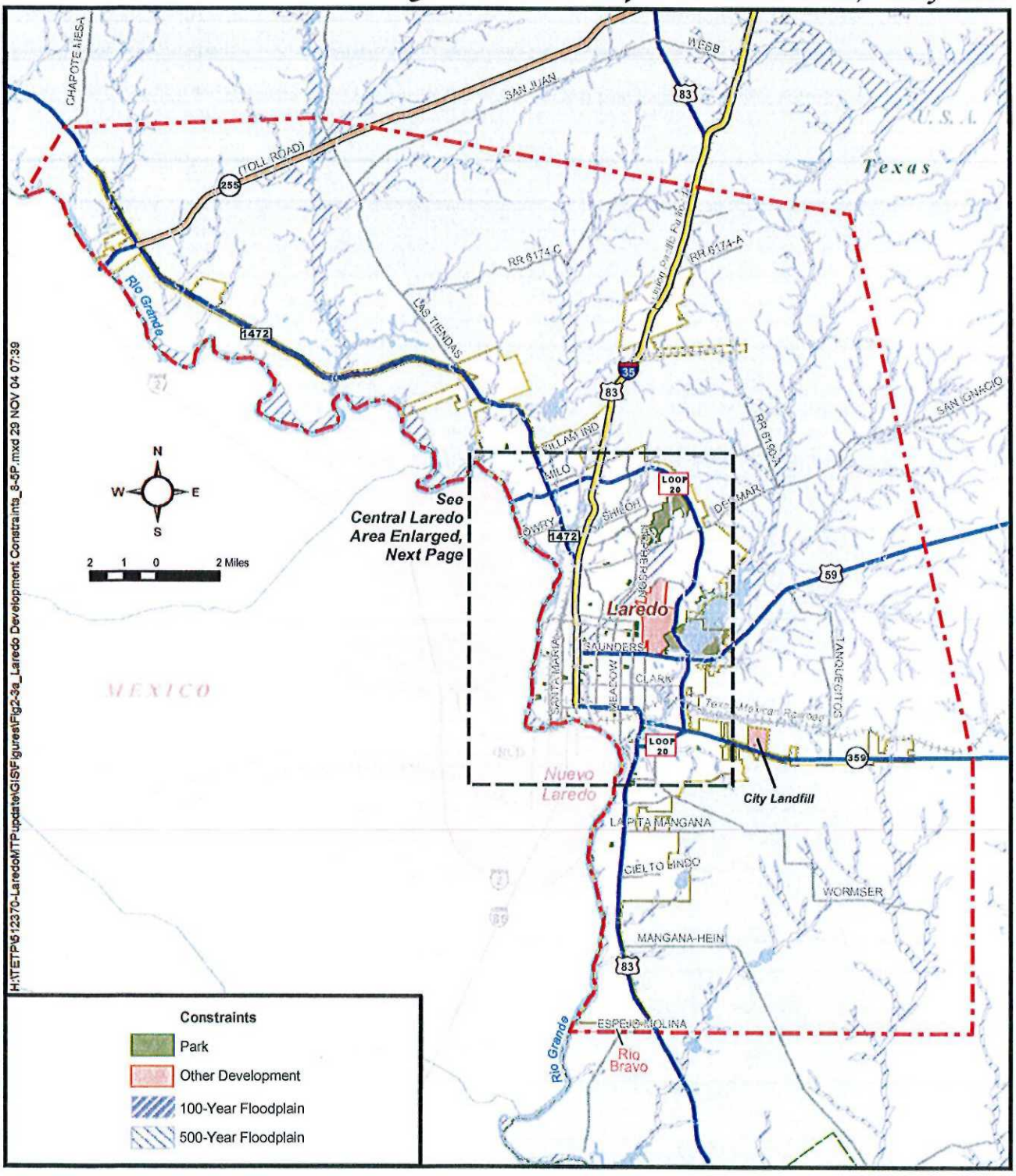
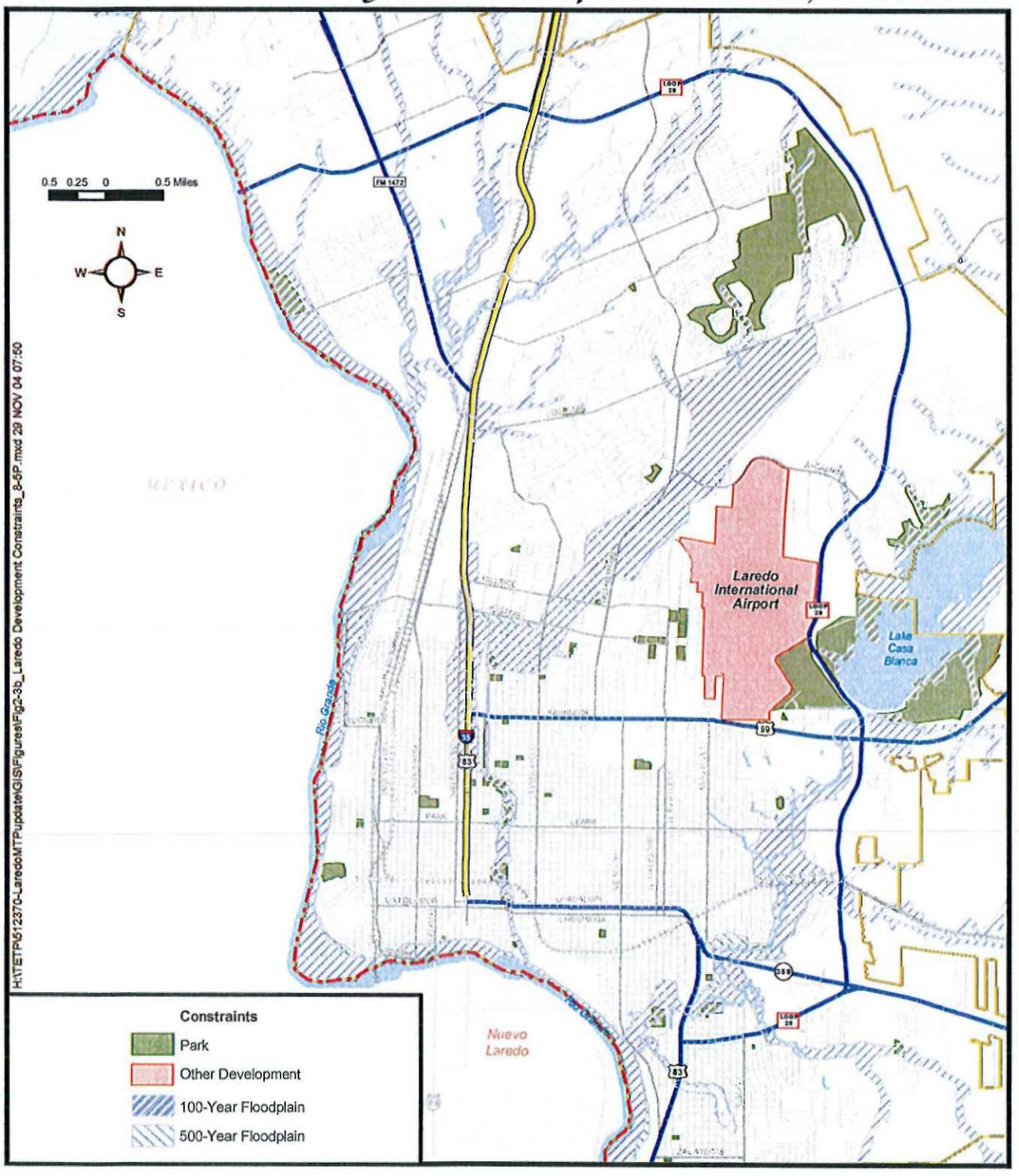


Figure 2-3b Development Constraints, Central Laredo



Parks and Recreation

The U.S. Department of Transportation Act of 1966, Section 4(f), requires that no publicly-owned land from a public park or recreation area, or land from a significant historic site be used for federal-aid highways unless there is no feasible or prudent alternative. The Land and Water Conservation Fund Act of 1970, Section 6(f), requires land conversion approval by park authorities where these funds were used in purchase or development of parklands or facilities.

The City of Laredo has numerous recreational facilities and the majority of these are located within the central part of the city. The City of Laredo currently oversees 554 acres of parkland including 8 recreational facilities, 61 parks and open space areas owned by the City and five parks that were jointly developed with the local independent school districts. The nearby Lake Casa Blanca State Park provides a swimming pool, golf course, picnic areas, and boating facilities. Parks and recreation facilities are identified in **Table 2-1** and displayed on Figure 2-3.

Table 2-1
Parks and Recreation Facilities
Laredo Metropolitan Transportation Plan Update

Parks	
Al King Little League park	Las Palmas Park Trail
Aldo Tantagelo Walkway	Los Dos Laredos Park
Azteca Park	Lyon Street Skate Park
Base Community Complex	Market Street Complex
Benavides Park	Noon Lions Park
Bruni Plaza	Northeast Hillside Park
Canizales Park	Ochoa Sanchez Park
Chaparral Park	Santa Fe Park
Cirlcle Drive Park	Santa Rita Park
Civic Center Pool	Scott Street park
Community Baseball Fields	Seven Flags Park
Cruz Little League Field	San Augustin Plaza
Del Mar Community Park	St. Peter's Plaza
Dryden Park	Taylor Street Park
East Central Park	Three Points Park and Pool
Garcia-Vela Park	Toddler Park
Jarvis Plaza	Villa del Sol Park
La Ladrillera Park	Zacate Creek Park
Las Brisas Park	Zacate Linear Park
Facilities	**Joint Use Facilities**
Canizales Boxing Gym	Albert Ochoa Park
Cigarroa Recreation Center	East Martin Baseball Field
Civic Center	Father Mc Naboe Park
D.D. Hachar Recreation Center	Freddy Benavides Complex
Farias Recreation Center	Veteran's Field/West Martin
Tarver Recreation Center	
La Ladrillera Recreation Center	
NE Hillside Recreation Center	

Air Quality

Over the past several decades, air quality has become increasingly a national concern. With the passing of the Clean Air Act of 1970 and the Clean Air Act Amendments of 1977 and 1990 (CAAA), individual states have become responsible for adhering to pollution limits set forth by the Environmental Protection Agency (EPA) and preparing State Implementation Plans which outline regulations and policies to reduce pollution levels in the region. Transportation facilities are a major source of pollution levels and thus serve as an impediment to maintaining clean air goals. These regulations set forth by federal and state agencies to improve and/or maintain air quality standards affect transportation programs and policies in the region.

The Clean Air Act requires EPA to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. The EPA has set NAAQS for the following six principal pollutants which are called "criteria" pollutants:

- carbon monoxide;
- nitrogen oxides;
- ozone;
- particulate matter;
- sulfur dioxides; and,
- lead.

The EPA classifies a county's or metropolitan area's ambient air quality with respect to conformity to the NAAQS. The classifications are as follows:

- Attainment - Met or better than NAAQS;
- Nonattainment - Did not meet NAAQS; and,
- Unclassifiable - Cannot be classified.

In Texas, air quality is monitored by the Texas Commission on Environmental Quality. The commission measures both particulate matter and ozone. Currently, the Laredo metropolitan area is classified as being within the "attainment" criteria. However, it will be crucial to monitor closely the increasing truck and automobile traffic projected for the study area to be able to verify and maintain this status.

Although Laredo is classified as being within attainment, airborne particulate matter is becoming a concern within the Laredo metropolitan study area. The high particulate readings are caused by the dry climate, frequent winds, and unpaved streets.

As mentioned previously, the attainment status is directly related to the area's current and projected truck traffic. In addition to the emissions generated by automobiles and trucks, diesel trucks (which are the predominate type of trucks) generate particulates. The amount of particulate is dependent on the number, relative speed, fuel quality, and engine maintenance of the trucks. Traffic congestion that results in lower speeds and idling for long periods of time also increases the emission levels.

Environmental Mitigation

Under SAFETEA-LU MPOs are now required to consider potential environmental mitigation activities and potential areas in which to carry out these activities. The first step in undertaking this activity is the identification of environmentally sensitive areas. The discussion and maps above can now be supplemented by a process approved by the Environmental Protection Agency (EPA) known as GISST (Geographic Information System Screening Tool). This tool that combines environmental resource data with analytical capabilities ("natural weighting") was designed in response to the particular requirements of federal transportation legislation. Using various criteria vetted by the Environmental Protection Agency an area can be analyzed and areas of high and low environmental sensitivity identified. The outcome is a map as shown in Appendix C. The Laredo MPO will take into account local environmental considerations during all planning processes.

Major Area Roadways

The Laredo MPO region is served by an interstate and several state roadways that provide the basic framework of transportation facilities for the area. The Texas Department of Transportation (TxDOT) maintains the state roadways for the Laredo MPO area, while the City of Laredo and Webb County maintain all local roadways that are not part of the state system. Study area roadways range from six-lane interstate and arterial roads to two-lane local streets. **Figure 2-4** presents the existing travel lanes for the Laredo MTP roadway network.

Interstate Highways

Serving as the only interstate facility in the region, IH 35 provides north-south access for persons traveling from San Antonio to the City of Laredo and the international border crossing for Mexico. IH 35 is considered a major international trade corridor that extends from Duluth, Minnesota to Laredo where it terminates at the Juarez-Lincoln International Bridge, Texas-Mexico border. The Juarez-Lincoln International Bridge is for non-commercial traffic only. Vehicle access across the bridge is provided and vehicles can enter the City of Nuevo Laredo and continue on into the interior of Mexico. Average daily traffic along IH 35 ranges from 13,700 vpd at the northern edge of planning boundary to 97,000 vehicles per day (vpd) in the central part of the City.

IH 35 is a four to six-lane controlled-access facility with a varying posted speed limit of 60 to 65 mph within the MTP boundary. The interstate has a mix of concrete and asphalt surfaces with both inside and/or outside shoulders. Along the northern edge of the study boundary the mainlanes are separated by a wide grass median. Within the City the mainlanes are separated by a concrete barrier. Frontage road sections along IH 35 extend from the northern study limits to U.S 83 / Matamoros Boulevard. Between the northern study limit and Loop 20 the frontage roads are primarily two-way with one travel lane in each direction. Between Loop 20 and Matamoros Boulevard the frontage roads are primarily one-way with 2 or 3 travel lanes.

I-35

U.S. Highways

The Laredo MTP study area contains two U.S. Highway facilities (US 59 and US 83) that provide service from other Texas regions to this area. US 59 begins in Laredo at the interchange with IH 35 and travels east to Victoria and Houston, while US 83 provides north-south access from Brownsville, through Laredo, and north to Abilene and west Texas.

US 59 consists of a four-lane principal arterial with a center turn lane (Saunders Street) within the urban area and a two-lane roadway in rural areas. The urban arterial section has an asphalt surface with a continuous left turn lane (CLT) , while the rural section has an asphalt surface with a CLT and shoulders. US 59 has a posted speeds ranging from 35 to 65 mph within the study area, and carries an average daily traffic between 3,200 and 25,000 vpd.

US 83 is a four-lane expressway (Zapata Highway) from Palo Blanco to the southern study limits. Within this study section US 83 is an asphalt roadway that has inside and outside shoulders and the posted speed limits ranges from 55 to 65 mph. Between Market Street and Palo Blanco US 83 is a 4-lane asphalt covered arterial roadway with a continuous center turn lane. The posted speed limit in this section is 35 mph. Between Market and the IH 35, US 83 splits into 2 one-way pairs (Chihuahua – eastbound and Guadalupe – westbound). Both streets are 2 lanes asphalt roadways with limited on-street parking. The posted speed limit within this section is 30 mph. From IH 35, US 83 extends north following the IH 35 alignment for about 14 miles. US 83 carries average daily traffic volume of 13,600 to 35,000 vpd.

US 83

State Highways

The Laredo MTP study area currently contains one State Highway and one State Loop roadways. Loop 20 is the primary bypass loop around the City of Laredo that begins at the intersection with US 83 South and travels north and west to its terminus at the World Trade Bridge west of Mines Road. SH 359 originates near the intersection of US 83 (Zapata Highway) and Arkansas Avenue, and travels eastward to the town of Alice and south Texas.

State Loop 20 (Bob Bullock Loop) extends from US Highway 83 to the Texas-Mexico border crossing where there is a large intermodal inspection station and border crossing. Between US 83 and Sinatra Parkway Loop 20 is a 4-lane asphalt and concrete roadway with a continuous center turn lane. Within this area there are outside shoulders that are used as right turn lanes and the posted speed limit varies from 40 to 50 mph.

Loop 20

Figure 2-4a Existing Roadway Travel Lanes, Study Area

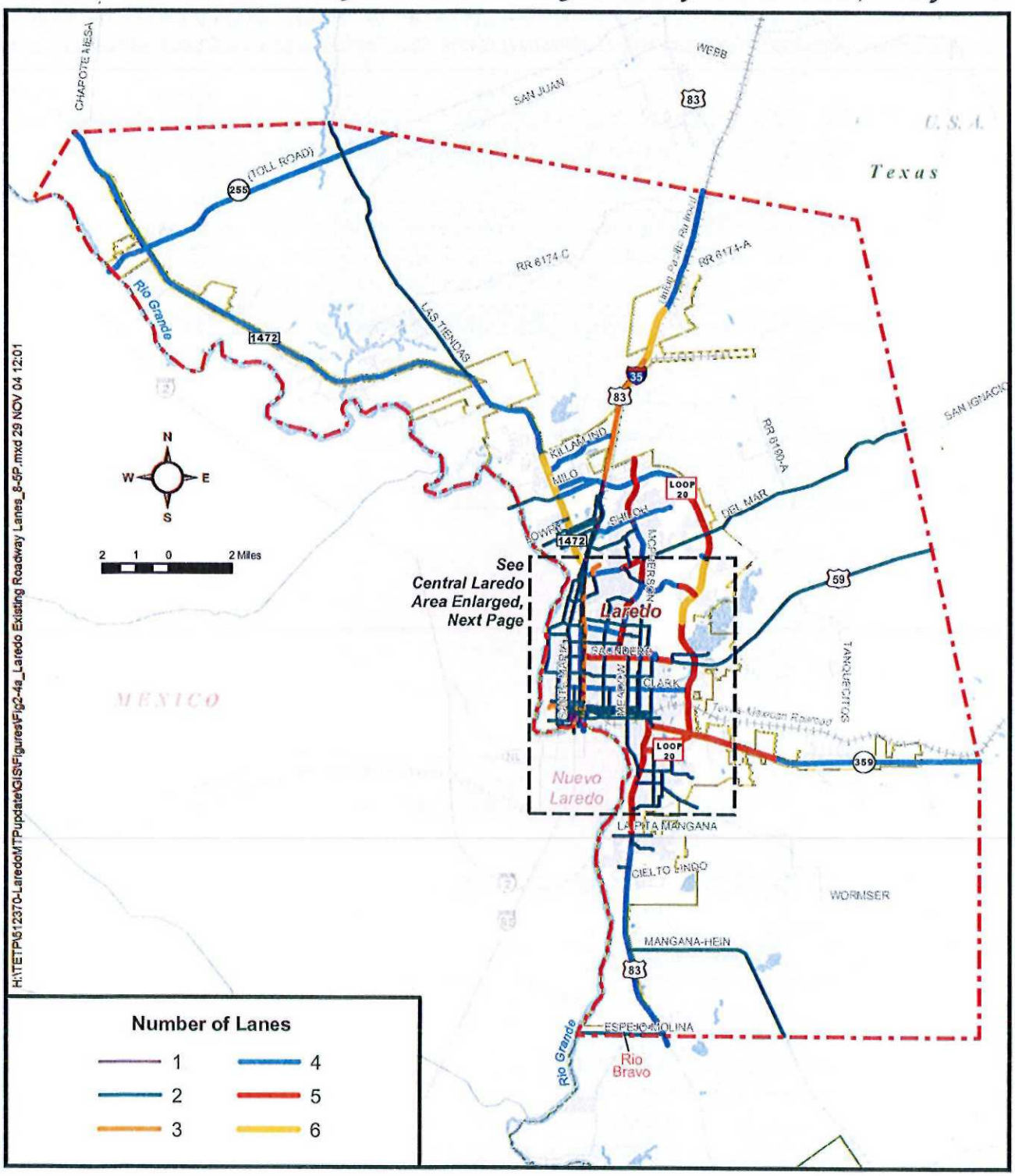
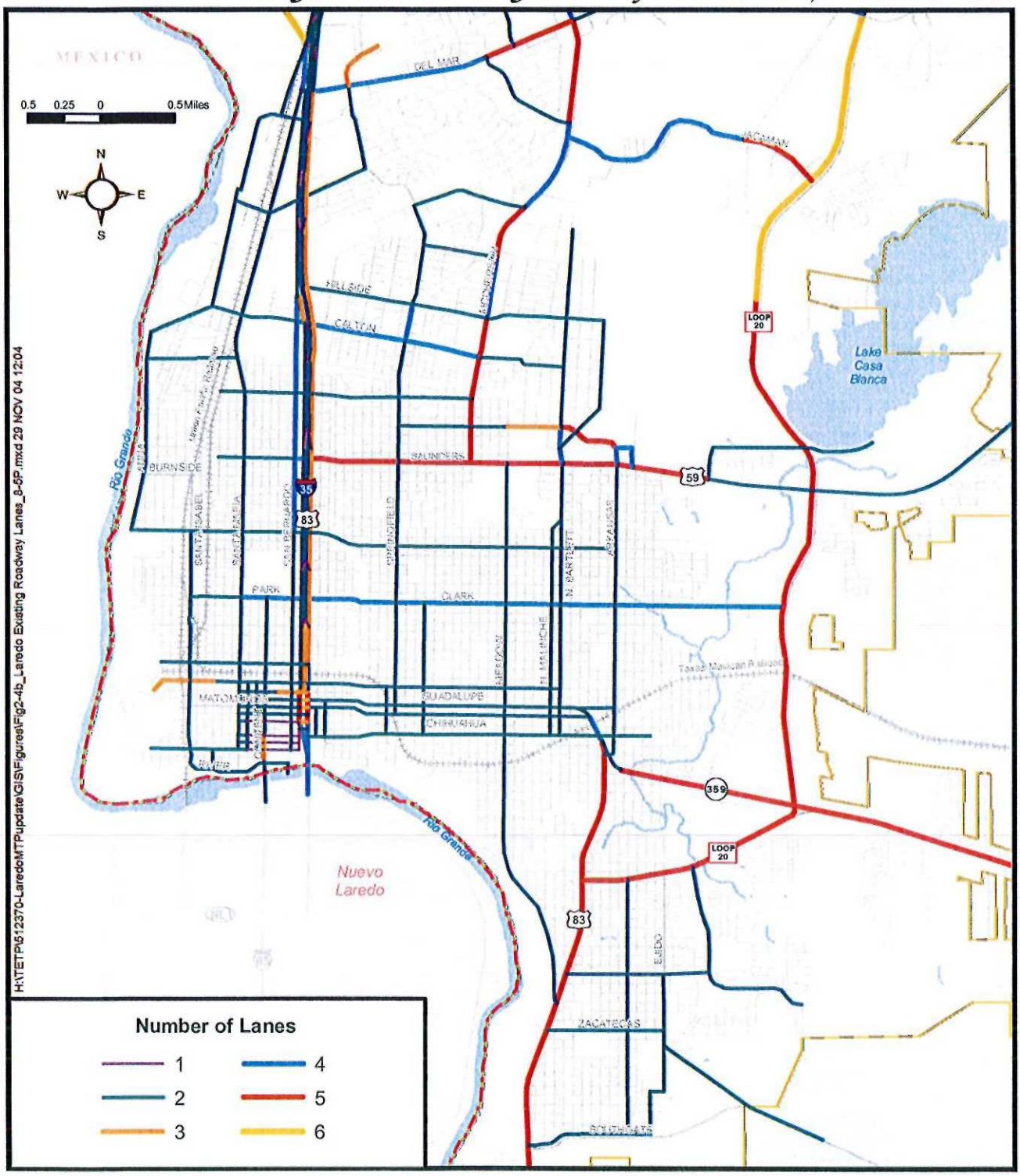


Figure 2-4b Existing Roadway Travel Lanes, Central Laredo



Between Sinatra Parkway and Del Mar, Loop 20 is a 6-lane concrete and asphalt facility with a concrete median separating the travel directions. There is a newly constructed jogging/bicycle path constructed along the eastern side of Loop 20. The posted speed limit is 50 mph. North of Del Mar and continuing west of the IH 35 interchange, Loop 20 is undergoing major construction. New overpasses are being constructed as well as travel lanes and jogging/bicycle lanes. During field review, this section had been narrowed to two lanes (1 each direction). Loop 20 continues under IH 35 and continues as a freeway section to the Texas-Mexico border, where there is a truck only border crossing.

SH 359 consists of a four-lane roadway with a posted speed of 55 mph and an ADT between 8,300 and 13,800 vpd. The roadway section along SH 359 is asphalt with a CLT and shoulders. The Laredo MTP region also has the Camino Colombia Toll Road that connects IH 35 (south of Encinal) to the Colombia-Solidarity International Bridge. The Toll Road, which was recently purchased by the State of Texas, now has a new designation, SH 255, and is in operation. FM 255 was recently designated as part of SH 255 and also serves the Laredo area connecting FM 1472 to the Colombia Bridge.

Farm-to-Market Roads

The Laredo MTP region has three Farm-to-Market (FM) roads providing connections between the major highway facilities and urban and rural residential areas, including FM 1472, and FM 3368. FM 1472 begins with the interchange with IH 35 north of downtown Laredo and travels northwest to the Colombia-Solidarity International Bridge and the western regions of Webb County.

FM 1472

The urban section of FM 1472 (Mines Road) is classified as a six-lane divided primary arterial with a posted speed of 45 mph and an ADT of about 40,000 vpd. Mines Road is asphalt with a CLT and sidewalks. The rural section of FM 1472 is a four-lane roadway with a posted speed of 65 mph and an ADT of about 7,000 vpd. This section has an ashphalt surface with shoulders and an open space median. FM 3368 (Las Tiendas Road) also serves the Laredo area.

Local Roads / Streets

Many City of Laredo streets and Webb County roads consist of two-lane collectors and local access roads / streets with a speed limit of 30 mph. However, the City of Laredo has several arterials connecting the interstate and state roadways to commercial and residential areas. The four-lane arterials include McPherson Road (from Saunders Street to Loop 20), Del Mar Boulevard (from IH 35 to the eastern portion of Webb County), and Clark Boulevard in downtown Laredo (connecting IH 35 and Santa Maria Avenue to Loop 20 south of US 59). Two-lane arterials include Arkansas Avenue (between SH 359 and US 59) and Santa Maria Avenue (from downtown Laredo to the FM 1472 interchange with IH 35).

EXISTING FUNCTIONAL CLASSIFICATION

Functional classifications of transportation facilities are designed to describe the hierarchical arrangement and interaction between various roadways. These classifications may change over time, as the function of roadways changes to serve different land uses or other transportation facilities. As an area becomes more developed, roads that have previously been classified in one category may be reclassified to a higher category.

As previously mentioned, US 59 is located along the potential route of Interstate 69 and may eventually be upgraded to an interstate-type facility with intermodal improvements for enhanced truck access between the Mexican border and other U.S. destinations. **Figure 2-5** shows the current functional classifications for the area roadways within the Laredo MTP boundary, and these classifications are described in the following categories:

Freeways/Expressways

Classified as interstate highways, freeways or expressways, these facilities provide for the rapid and efficient movement of large volumes of goods and traffic between regions and across the metropolitan area. Direct access to abutting property is not an intended function of these facilities. Design characteristics support the function of traffic movement by providing multiple travel lanes, a high degree of access control, and few or no intersections at grade.

Tollways

These facilities generally serve the same purpose as a freeway or expressway classification with access control and goods and traffic movement between major roadways. However, access control and traffic flow is managed through the use of toll booths (and other possible toll collection methods) located along the main lanes and access ramps of the tollway.

Arterial Streets

Arterials primarily provide for traffic movement with a secondary function being the provision of direct access to abutting property. Major arterials typically serve as connections between major traffic generators and land use concentrations, and facilitate large volumes of through traffic traveling across the community. Minor arterials typically serve as connections between local/collector streets and major arterials, and facilitate the movement of large traffic volumes over shorter distances within the community. Because direct access to abutting property is a secondary function of arterial streets, access should be carefully managed to avoid adverse impacts on movement function intended for these facilities.

Collector Streets

Collector streets provide for a balance of the traffic movement and property access functions. Traffic movement is often internal to local areas and connects residential neighborhoods, parks, churches, etc., with the arterial street system. As compared to arterial streets, collector streets accommodate smaller traffic volumes over shorter distances.

Local Streets

Local streets function to provide access to abutting property and to collect and distribute traffic between parcels of land and collector or arterial streets.

Figure 2-5a Existing Roadway Functional Classifications, Study Area

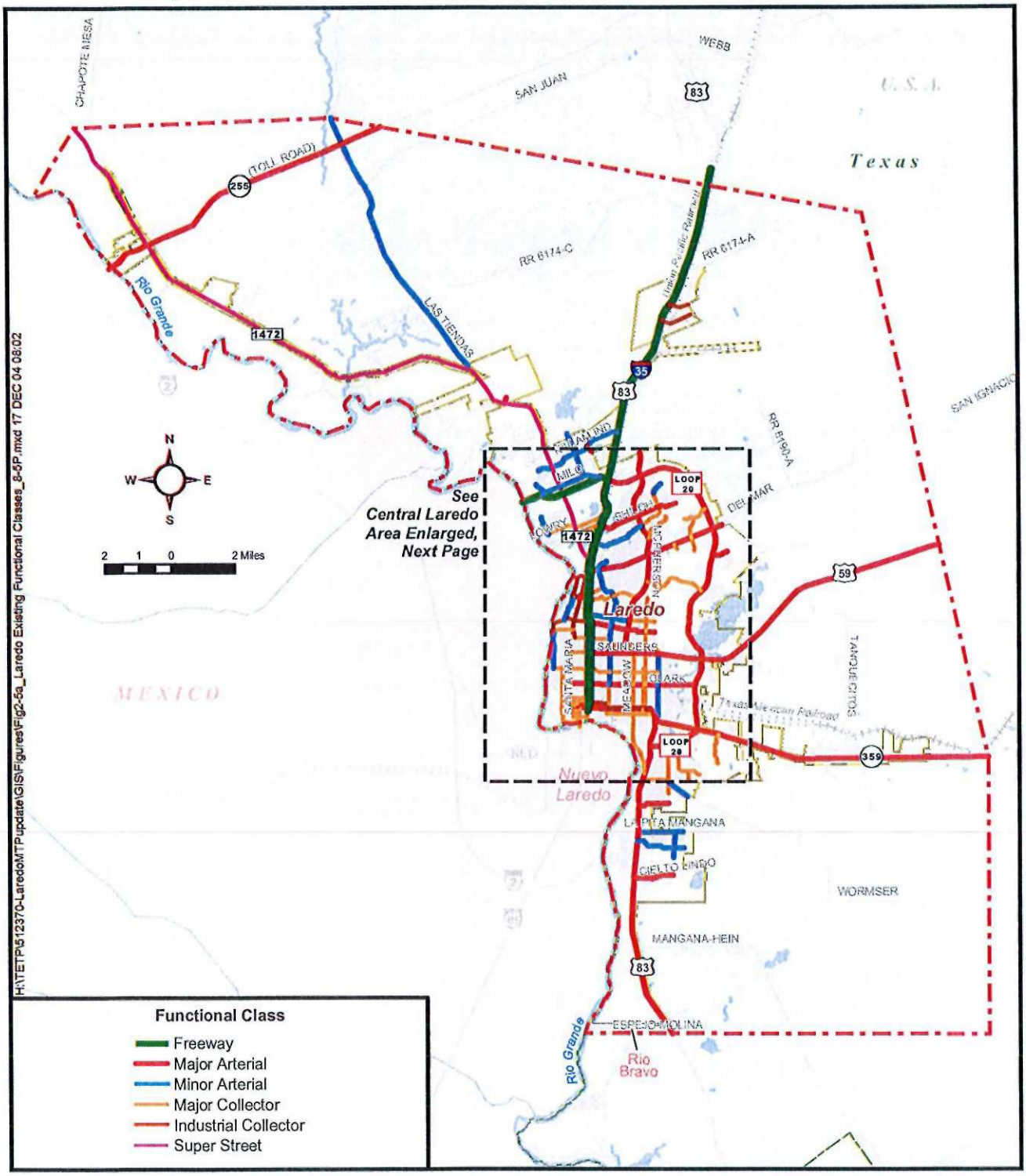
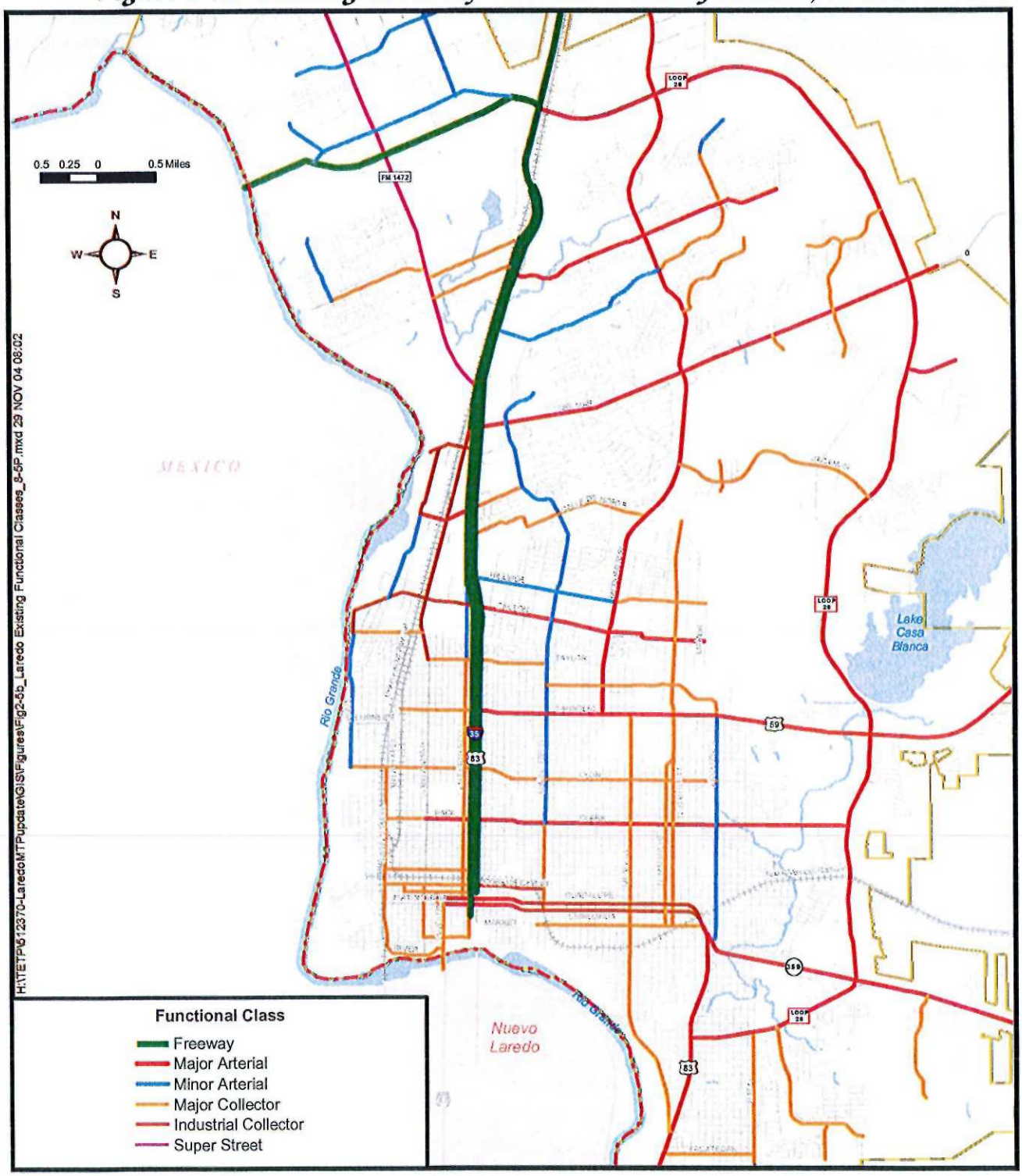


Figure 2-5b Existing Roadway Functional Classifications, Central Laredo



Existing Traffic Control

Facilitation of traffic flow on the roadway network is provided through the application of traffic control devices such as traffic signals, traffic signs, and pavement markings. Of these, traffic signals have the greatest impact on the traffic flow and roadway capacity. Within the Laredo MTP region, there are approximately 233 signalized intersections operated by pre-timed or traffic-actuated controller equipment. Plus, signal coordination has been established along the major thoroughfares. Under an interagency agreement, traffic signals installed by the TxDOT district office are maintained by the City of Laredo's Traffic Safety Department.

Daily Traffic Volumes

Average daily traffic volumes for the Laredo MTP region were provided by the Texas Department of Transportation. Existing daily traffic volumes along major roadway facilities range from 97,000 vpd on IH 35 north of the US 59 interchange to 350 vpd on FM 1472 at the northern limits of the study area boundary. The most heavily traveled roadway segments are those approaching or within the City of Laredo. **Figure 2-6** shows the 2003 ADT on major roadways throughout the study area. Traffic volumes along major roadways are discussed below:

- I-35 – I-35 is one of the most heavily traveled roadways in the study area. Average daily traffic along I-35 ranges from 97,000 vpd in the central part of the City to 13,700 vpd at the northern edge of the planning area boundary;
- U.S. 59 – Average daily traffic volumes along US 59 range from 25,000 vpd, east of I-35 to 3,200 vpd at the eastern edge of the study area;
- FM 1472 / Mines Road – Average daily traffic volumes along FM 1472 range from 40,000 vpd north of Lowry to 350 vpd north of the Camino Columbia Toll Road;
- Loop 20 – Average daily traffic volumes along Loop 20 range from 30,000 vpd along the southern portion of the Loop to 7,200 vpd north of Del Mar; and,
- US 83 – Average daily traffic volumes along U.S 83 south of downtown range from 13,600 vpd near the southern edge of the planning area to 35,000 vpd south of downtown.

Figure 2-6 Existing Daily Traffic Volumes

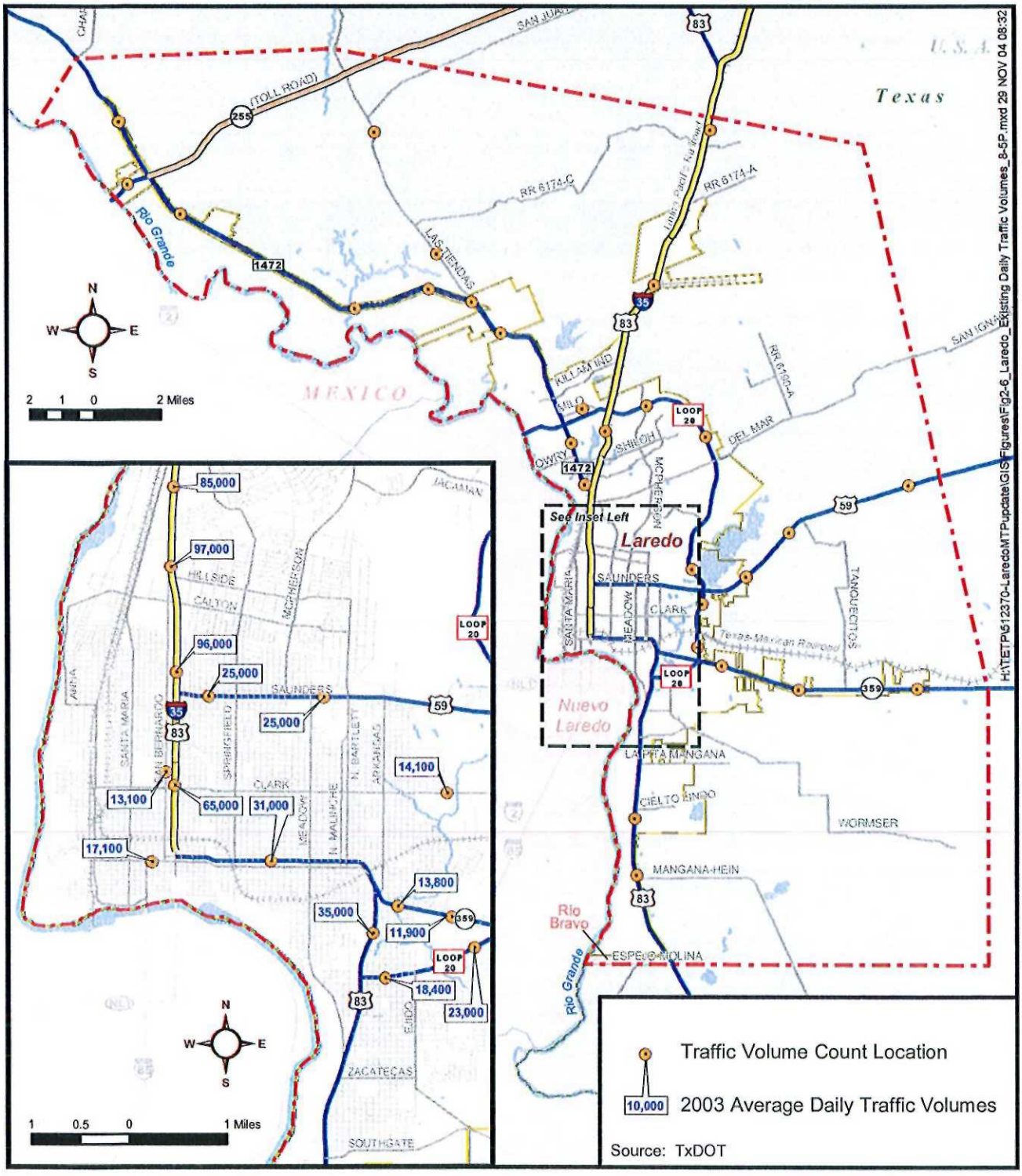


Table 2-2 identifies historical traffic volumes for the Years 1993 and 2002 along selected segments of major roadways in the Laredo area. As shown, the Laredo region has experienced significant growth in traffic along its roadways over the past nine years. Growth in traffic has ranged from an annual increase of 3.1 percent on I-35 to 13.4 percent along FM 1472.

Table 2-2
Historic Traffic Volumes
Laredo Metropolitan Transportation Plan Update

Map_ID	Roadway	Location	Rural or Urban	1993	2002	Annual % Increase
41	I-35	North of Killam Industrial Road	U	9,930	19,960	8.1%
40	I-35	North of Shiloh	U	15,520	23,140	4.5%
37	I-35	North of Saunders	U	47,960	63,330	3.1%
11	US 59	West of N. Bartlett	U	11,000	28,000	10.9%
9	US 59	West of Tanquecitos Road	R	2,900	3,700	2.7%
15	US 83	North of Southgate Road	U	16,000	29,000	6.8%
13	US 83	West of Meadow Street	U	21,000	35,000	5.8%
17	US 83	At Southern Laredo City Limits	R	8,100	12,100	4.6%
26	State Loop 20	South of SH 359	U	6,100	17,000	12.1%
46	SH 359	West of Tanquecitos Road	R	5,600	11,000	7.8%
7	SH 359	West of State Loop 20	U	6,600	11,000	5.8%
34	FM 1472	North of Lowry	U	12,300	38,000	13.4%
33	FM 1472	South of FM 3338	U	4,000	9,400	10.0%
30	FM 1472	South of Thiesel Road	U	2,700	6,100	9.5%

TRAFFIC OPERATIONS

Utilizing the traffic count data and design capacities based on the roadway functional classes, existing traffic operations can be evaluated by conducting a traffic volume to capacity ratio analysis. Roadway capacity is defined as the maximum number of vehicles that can be accommodated on a roadway facility during a particular time period under prevailing roadway, traffic, and control conditions. An important result of this type of capacity analysis is the determination of the roadway level-of-service (LOS).

Level-of-Service is a measure of operating conditions at a location and is directly related to the volume-to-capacity ratio along roadways, as shown in **Table 2-3**. LOS is given a letter designation ranging from A to F (free flow to heavily congested), with LOS D considered in most urban areas as the limit of acceptable operation. For example, LOS can be related to the grading scale of a report card: A – Excellent, B – Good, C – Average, D – Acceptable, E – Needs improvement, and F – Failing. Utilizing procedures identified in the 2000 Highway Capacity Manual and the available traffic data identified previously, level-of-service was determined for principal roadways within the study area.

Table 2-3
Level-of-Service Definitions for Principal Roadways
Laredo Metropolitan Transportation Plan Update

Level-of-Service (LOS)	Maximum Volume-to-Capacity Ratio (v/c)			Description
	Two-Lane Roadways	Multi-Lane Arterials	Freeways	
A	0.10	0.35	0.35	Very low vehicle delays, traffic signal progression extremely favorable, free flow, most vehicles arrive during given signal phase
B	0.25	0.50	0.50	Good signal progression, more vehicles stop and experience higher delays than for LOS A.
C	0.40	0.65	0.70	Stable flow, fair signal progression, significant number of vehicles stop at signals.
D	0.60	0.80	0.85	Congestion noticeable, longer delays and unfavorable signal progression, many vehicles stop at signals.
E	1.00	1.00	1.00	Limit of acceptable delay, unstable flow, poor signal progression, traffic near roadway capacity, frequent cycle failures.
F	> 1.00	> 1.00	> 1.00	Unacceptable delay, extremely unstable flow, and congestion, traffic exceeds roadway capacity, stop-n-go conditions.

Source: Adapted from Highway Capacity Manual, Transportation Research Board, 2000

Figure 2-7 displays existing LOS in the study area. As shown many of roadways outside the central part of the city have an LOS of A to C, meaning they are operating below capacity, resulting in acceptable traffic operations. However, segments of many of the area's roadways, in particular within the central part of the City, have an LOS of D, E, or F, meaning that they are near or exceeding capacity. The majority of congestion problems are occurring along roadways in the central part of Laredo and/or along roadways approaching the City. Segments of roadways within the City experiencing congestion problems include segments of US 83, I-35, and SH 359.

Figure 2-7a Existing Roadway Level of Service (LOS), Study Area

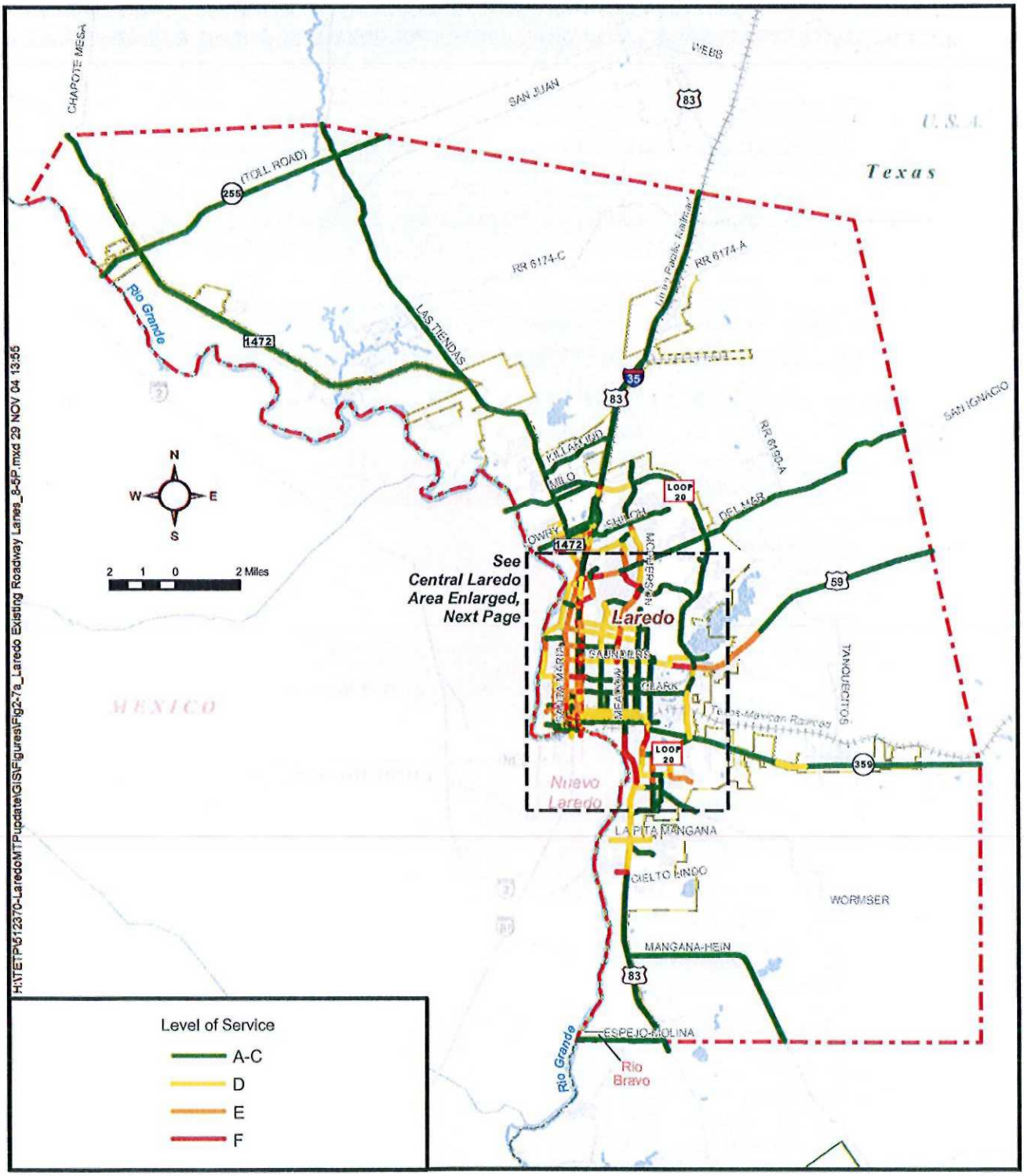
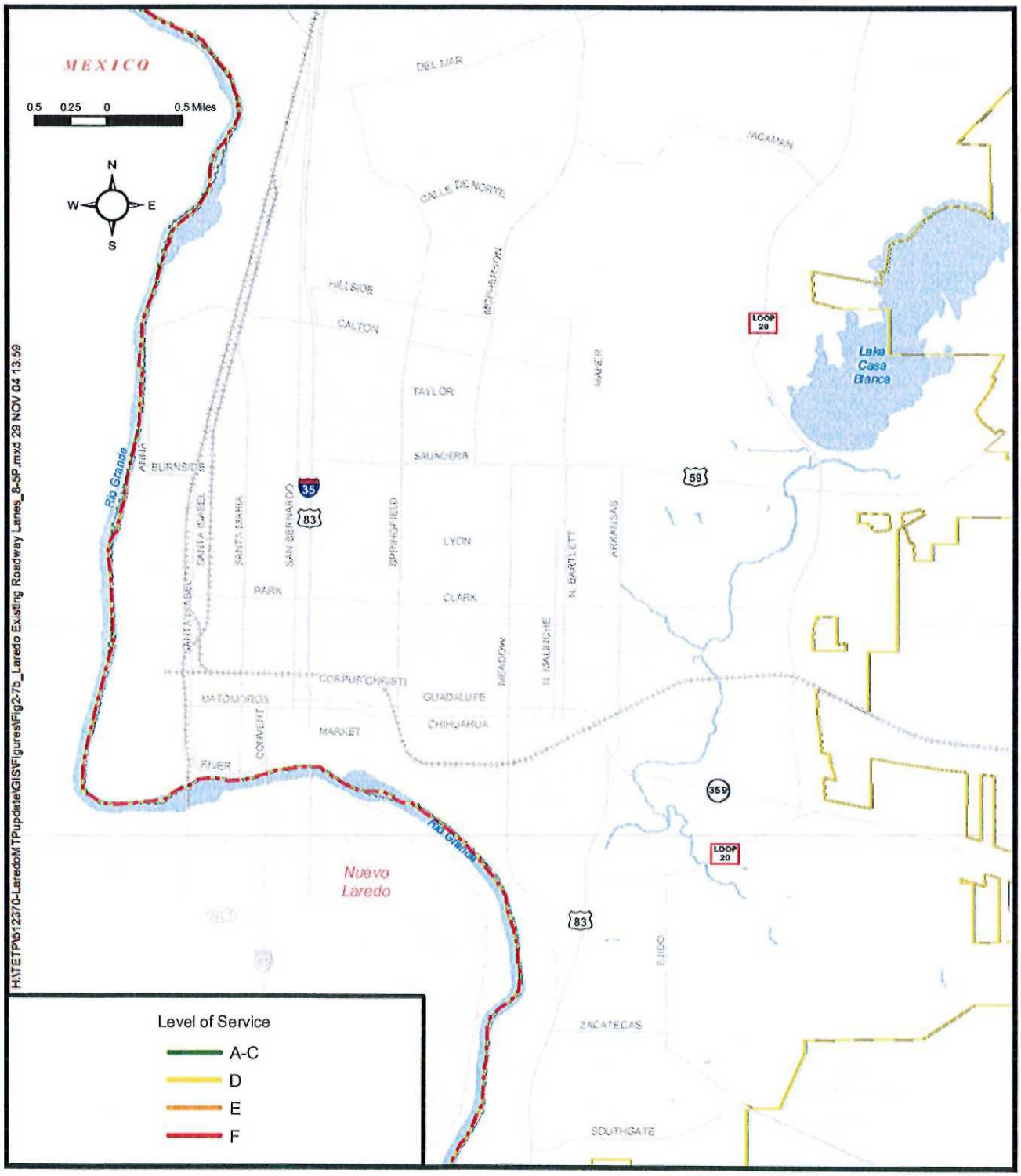


Figure 2-7b Existing Roadway Level of Service (LOS), Central Laredo



SPECIAL TRAFFIC GENERATORS

The analysis of traffic operations also requires the determination of major activity centers, like large industrial companies with numerous employees and major retail facilities that attract many shopping trips. The location and character of these activity centers (or major traffic generators) have an influence on the regional traffic volumes and flow patterns. For the Laredo MTP study area, the traffic generators can be classified into the following categories: industrial facilities, commercial / retail, civic-related facilities, colleges and universities, medical facilities, transportation-related services, and sport and recreational facilities. **Table 2-4** and **Figure 2-8** show the descriptions and locations of individual traffic generators discussed in the following sections.

Laredo Community College

Industrial Facilities

The Laredo region contains several clusters of industrial parks and a few major distribution centers along the outskirts of the City of Laredo. Seven industrial locations are classified as foreign trade zones: the Laredo International Airport, the Texas-Mexican Railroad, Killam Industrial Park, International Commerce Center, La Barranca Ranch Development, Unitec Industrial Park, and Embarcadero Industrial Park.

Many industries are located along the FM 1472 corridor north of Loop 20, the Loop 20 corridor from FM 1472 to IH 35, and in the region surrounding the SH 359 and Loop 20 intersection. Plus, several industrial parks have access to the Union Pacific and Texas-Mexican Railroads. The U.P. Terminal and the nearby Port of Laredo are located near the IH 35 and Loop 20 interchange, which provides easy access to truck traffic entering and leaving the Laredo region.

Commercial / Retail

Retail establishments within the City of Laredo include two shopping malls, several plazas, and various retail centers throughout the city. Mall del Norte is located on IH 35 north of Hillside Road, while the El Portal is located on Santa Maria Avenue in downtown Laredo. The downtown area also has several plazas. Other retail corridors include IH 35 corridor north of Saunders Street and Loop 20 from the airport to SH 359.

Figure 2-8a Special Traffic Generators, Study Area

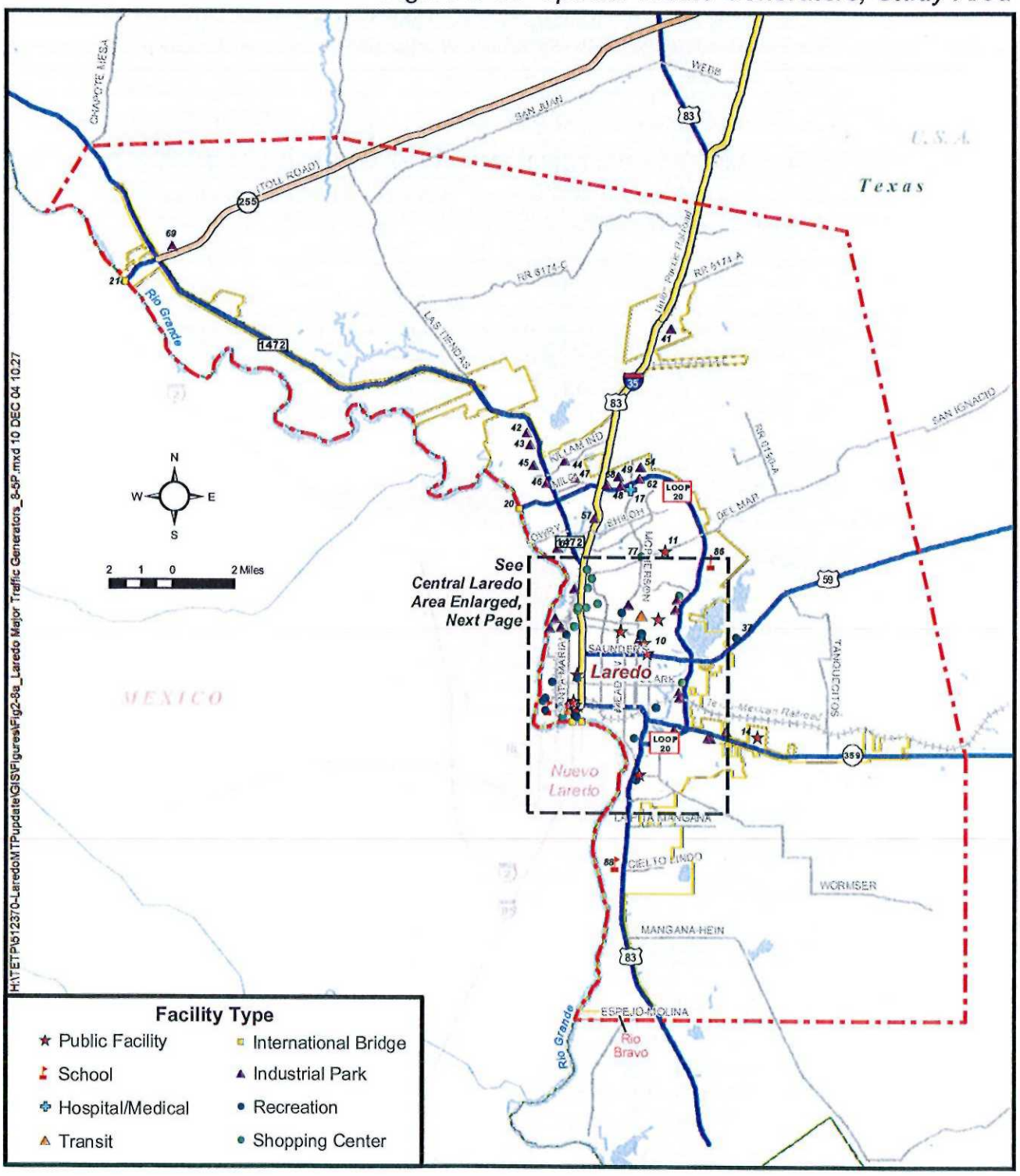


Figure 2-8b Special Traffic Generators, Central Laredo

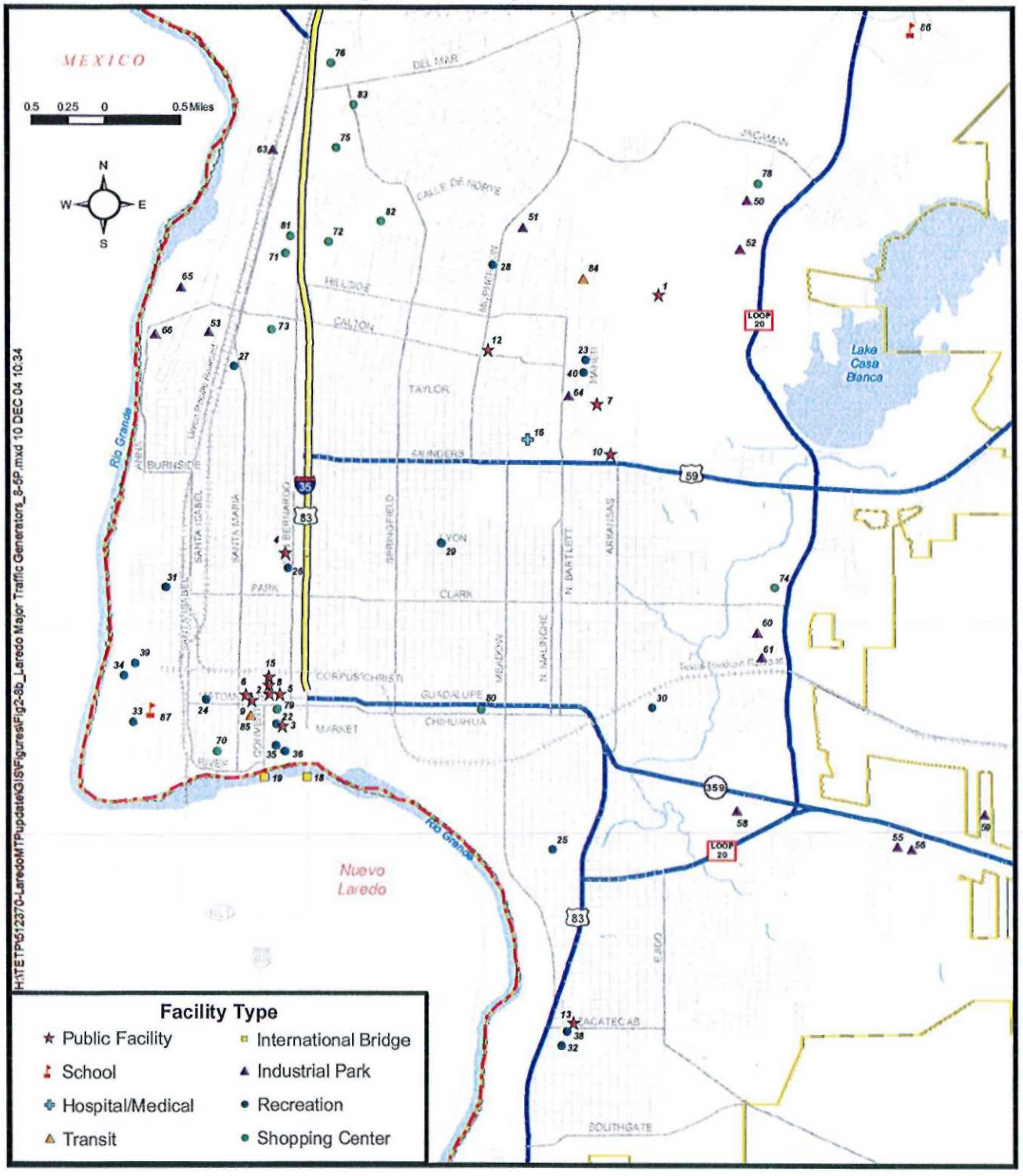


Table 2-4
Traffic Generators
Laredo Metropolitan Transportation Plan Update

Public Facility			
	Map ID		Map ID
Laredo International Airport	1	Federal Court/Post Office	9
City Hall	2	Post Office	10
Convention & Visitors Bureau	3	Del Mar Branch Post Office	11
Laredo Civic Center	4	Laredo Public Library	12
Webb County Courthouse	5	Public Library	13
Federal Courthouse	6	City of Laredo Landfill	14
Municipal Courthouse	7	Webb County Administrative Building	15
Webb County Justice Center	8		
Hospital/Medical			
Laredo Medical Center	16	Doctors Hospital of Laredo	17
International Bridge			
Juarez-Lincoln International Bridge	18	World Trade Bridge	20
Gateway to the Americas/Bridge	19	Colombia-Solidarity Bridge	21
Recreation			
Center for the Arts	22	Freddy Benavides Sport Complex	32
Laredo Little Theatre	23	Laredo Children's Museum	33
Laredo Theatre Arts Bldg.	24	Lamar Bruni Vergara Science Center	34
Benavides Park	25	Republic of the Rio Grande Museum	35
Civic Center Pool Complex	26	Washington's Birthday Celebration Museum	36
Farias Recreation Center	27	Webb County LIFE Downs Racetrack	37
Northeast Hillside Recreation Center	28	Cigarroa Recreation Center	38
Tarver Recreation Center	29	Ft. McIntosh Sports & Recreation Center	39
D.D. Hachar Recreation Center	30	Lite-Up Laredo Pool & Pavilion	40
La Ladrillera Recreation Center	31		
Industrial Parks			
Unitec Industrial Park	41	Southern Development Industrial Park 2	56
Pan American Industrial Park	42	Tejas Industrial Park	57
International Trade Center Industrial Pa	43	South Laredo Industrial Park	58
Killam Industrial Park	44	South Texas Oil and Gas Industrial Park	59
Inter-American Distribution Park	45	Ponderosa Industrial Park	60
Pellegrino Industrial Park	46	Tex-Mex Industrial Park	61
El Portal Industrial Park	47	Port of Laredo Industrial Park	62
Union Pacific Main Terminal	48	Del Mar Industrial Park	63
Milo Distribution Center	49	International Airport Industrial Park	64
Jacaman Ranch Industrial Park	50	Octavio Salinas Industrial Park	65
McPherson Acres Industrial Park	51	Paso del Norte Industrial Park	66
Diamond Industrial Park	52	R.M.R & T.W.S. Industrial Park	67
Modern Industrial Park	53	Cross Roads Industrial Park	68
San Isidro East Point Center	54	International Commerce Center	69
Southern Development Industrial Park 1	55		

Table 2-4 Continued
Traffic Generators
Laredo Metropolitan Transportation Plan Update

Shopping Center			
El Portal Centre	70	Shopping Center	77
Shopping Center	71	Laredo Entertainment Center	78
Mall Del Norte	72	H.E.B. Food Store	79
Sam's Warehouse	73	H.E.B. Food Store	80
Wal-Mart Super Center	74	Plaza de Laredo	81
Shopping Center	75	Fountain Creek	82
North Creek Plaza	76	Del Mar Shopping Plaza	83
Transportation			
El Metro Park & Ride Lot	84	El Metro Transit Center	85
Schools			
Texas A&M International University	86	Laredo Community College – south campus	88
Laredo Community College	87		

Civic Facilities

Civic and governmental facilities within the study area include City Hall, Municipal Court, Webb County Courthouse, Webb County Administrative Building, Webb County Justice Center and the Federal Courthouse. Also, the Laredo Civic Center is located along Park Avenue north of downtown, while the Laredo Entertainment Center is located on Loop 20 near Jacaman Road. The Civic Center has an approximate capacity of 2,000 persons and will most likely generate trips due to conventions and other special events.

Webb County Courthouse

Colleges and Universities

The City of Laredo has one university and two secondary college campuses. Located on Loop 20 south of Del Mar Boulevard, Texas A&M International University offers four-year collegiate programs in fields such as business administration, education, and science and technology. The university has a student population of 4,100 students and total employment of 1,031 faculty and staff.

The Laredo Community College has an existing campus located in the downtown area and a south campus on US 83 about two miles south of Loop 20. The community college mainly offers two-year programs in preparatory education, engineering, and various other fields. The main downtown campus currently has 7,352 enrolled students and about 580 faculty and staff.

Texas A&M International University

Medical Facilities

The City of Laredo has one regional medical facility, the Laredo Medical Center located on Saunders. The other major medical center in Laredo is the Doctors Hospital facility located at McPherson Road and Loop 20.

Other Regional Facilities

Other traffic generators within the Laredo MTP study area include the Laredo International Airport, El Metro Park & Ride, and the LIFE Downs Racetrack. The International Airport is located on Loop 20 about ½-mile north of US 59, and provides both freight and commuter service throughout the U.S. and internationally.

Located on Hillside Road west of the international airport is the El Metro Park & Ride, which provides service to the El Metro transit system. The Laredo Entertainment Center, located on Sinatra Drive, has an approximate capacity of 9,000 persons. Last, the LIFE Downs Racetrack is located on US 59 east of Casa Blanca Lake.

Medical Center

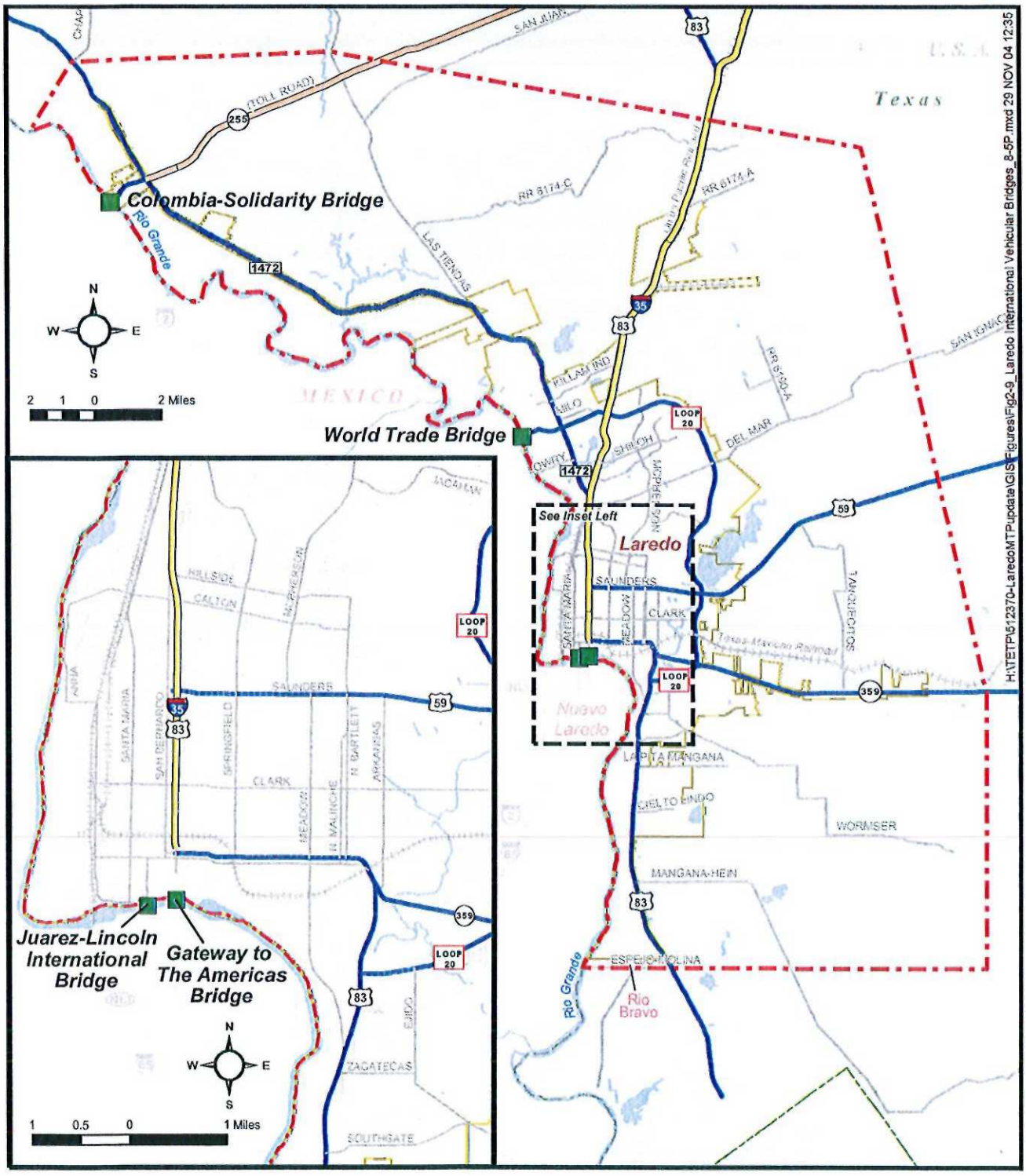
INTERNATIONAL BRIDGES

A major function of the Port of Laredo is the international bridge crossings between Laredo, Texas and Nuevo Laredo, Mexico, and the related commerce and travel aspects with the bridge crossings. The Juarez-Lincoln International Bridge and the Gateway to the Americas Bridge are two bridge crossings near the terminus of IH 35 that provide passenger transport between the United States and Mexico. **Figure 2-9** shows that both bridges are located in downtown Laredo, and on Convent and San Dario Avenues that in return provide access to IH 35 and US 83.

Laredo Entertainment Center

The Colombia-Solidarity Bridge handles commercial and non-commercial crossings and is the border crossing facility designated for transporting hazardous cargo between the two nations. It is located at the end of the Colombia Toll Road northwest of Laredo. The fourth bridge is the World Trade Bridge that was recently constructed in April 2000 near the terminus of Loop 20 west of Mines Road. The World Trade Bridge is the first bridge ever dedicated solely to commercial transport between the U.S. and Mexico, and has helped to relieve years of truck congestion along IH 35 in Laredo.

Figure 2-9 International Vehicular Bridges

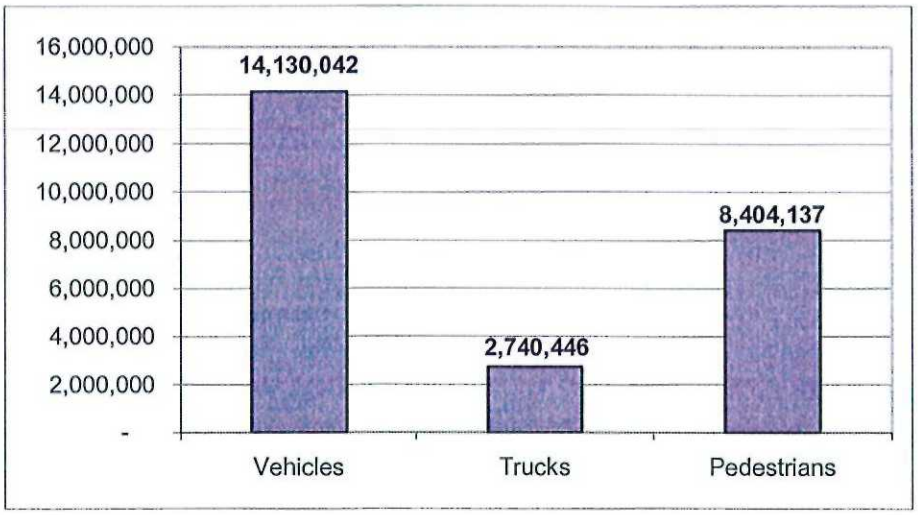


All four international bridges were constructed and are currently operated by the City of Laredo in conjunction with the U.S. Customs Office and other federal agencies. The revenue acquired from the usage fees help in return to finance the maintenance and operational costs associated with the bridges and local roadways that provide access to the bridges. In fact, the Port of Laredo engrossed about twice the amount of U.S. – Mexico trade dollars in year 2000 ($84.2 billion) than did their nearest competitor, El Paso ($39.9 billion). Plus, 2.9 million trucks crossed through the Port of Laredo in year 2000 versus 1.3 million trucks in 1993, and more than 9,000 commercial crossings were recorded on a daily basis for the two commercial bridges (Colombia-Solidarity and the World Trade Bridge).

Gateway to the Americas Bridge

The Texas Center for Border and Economic and Enterprise Development compiles border crossing data provided by the U.S. Customs Service (north bound data) and U.S. bridge operators (south bound data). As shown in **Figure 2-10**, there were over 25 million north and south bound border crossings in the Year 2003. Vehicles crossing comprised the largest percentage, 56 percent, with over 14 million crossings. Truck traffic, which consists of loaded and unloaded commercial vehicles, comprised 11 percent of total traffic with 2.7 million crossings. Pedestrian traffic accounted for 33 percent of total border crossings.

Figure 2-10
Border Traffic, 2003
Laredo Metropolitan Transportation Plan Update



Source: Texas Center for Border Economic and Enterprise Development

Table 2-5 displays border traffic data for the years 1998 and 2003. As shown, over the past five years overall border traffic has increased by 2 percent. This increase in border traffic is primarily attributed to pedestrian traffic, which increased by 17 percent over the past five years. As shown, during this same period vehicle and truck traffic declined by 3.8 percent and 3.7 percent respectively. The decline in truck traffic is attributed to a decline in southbound traffic or exports.

Table 2-5
Border Traffic, 1998-2003
Laredo Metropolitan Transportation Plan Update

	1998	2003
Vehicles	**14,691,542**	**14,130,042**
North	7,642,793	7,104,801
South	7,048,749	7,024,241
Trucks	**2,846,079**	**2,740,446**
North	1,352,198	1,354,229
South	1,493,881	1,386,217
Pedestrians	**7,171,360**	**8,404,137**
North	3,149,623	4,466,739
South	4,021,737	4,037,398
Total	***24,768,981***	***25,274,625***

Source: Texas Center for Border Economic and Enterprise Development

Economic data for total imports and exports in Laredo, as shown in **Table 2-6** below, was collected from the Texas Center for Border Economic and Enterprise Development. The data shows that from 1994 to 2003, imports have risen from $10.1 billion to $47.6 billion, which is an average growth rate of 18.8 percent per year. Exports increased from $19.4 billion in 1994 to $32.5 billion in 2003, which is an average growth rate of 5.9 percent per year.

Table 2-6
Imports and Exports in Laredo, TX.
Laredo Metropolitan Transportation Plan Update

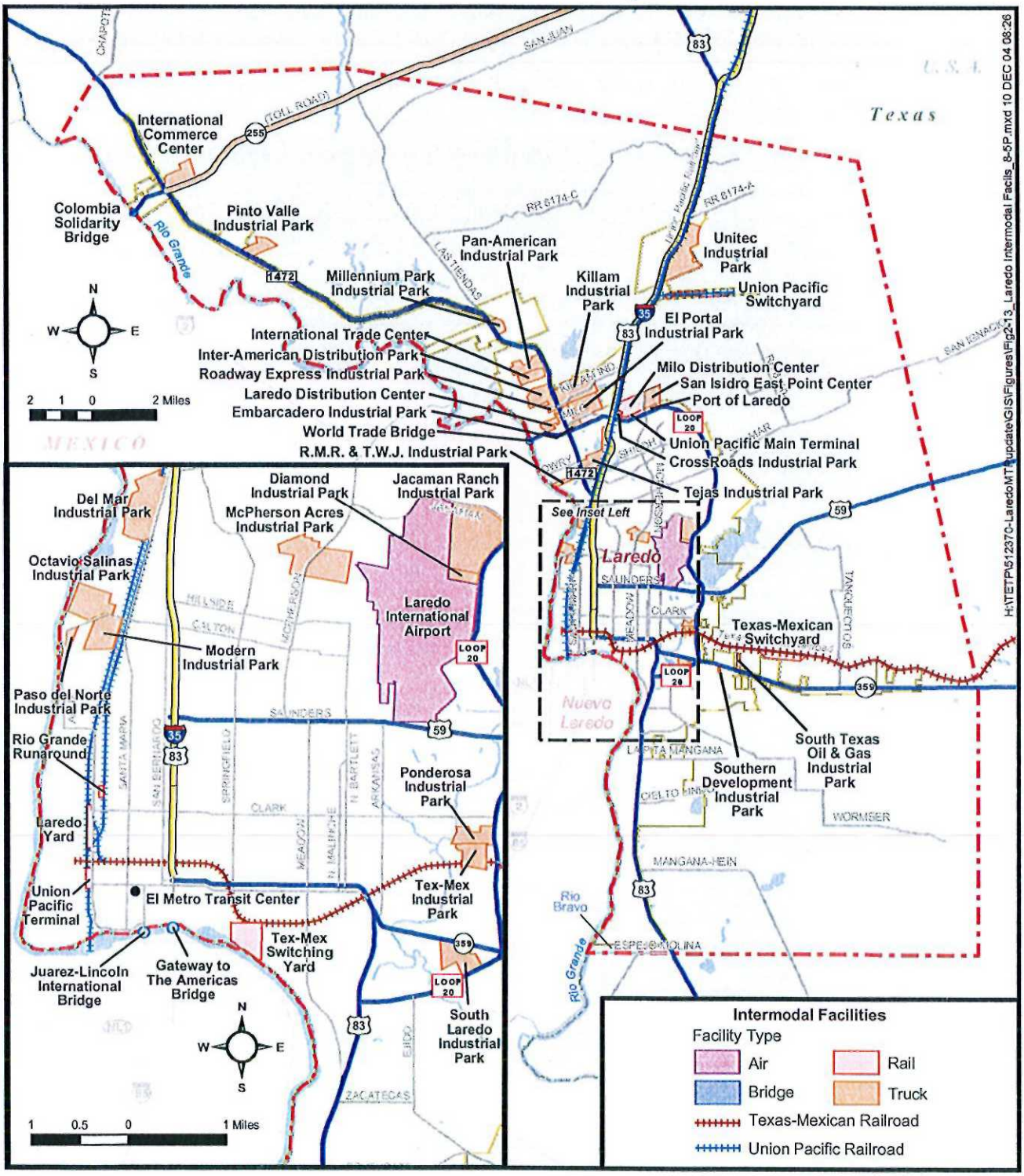
Year	1994	2003
Exports	$19,389,787,952	$32,469,438,916
Imports	$10,055,444,119	$47,556,772,992

INTERMODAL FACILITIES

Since the passage of the North American Free Trade Agreement (NAFTA) in 1993, the development of intermodal facilities has received increased consideration. The transportation demands created by the implementation of NAFTA have placed the Laredo region in the position of meeting present and future transportation demands through a coordinated and intermodal transportation plan.

The Laredo Metropolitan area is well served by numerous intermodal facilities, including an airport, railroads, and trucking facilities which cover every aspect of today's transportation needs. Existing intermodal facilities (shown in **Figure 2-11**) include the Laredo International Airport, Transit Center, Nuevo Laredo airport, Union Pacific Railway, Texas-Mexican Railway and the Port of Laredo; which are discussed in detail in the following sections.

Figure 2-11 Intermodal Facilities



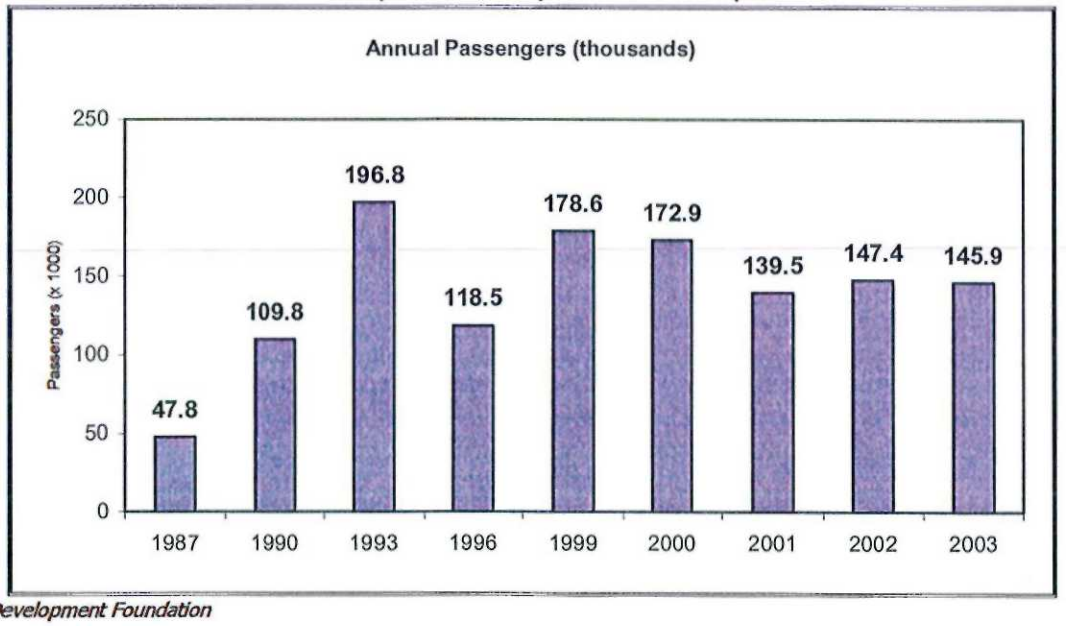
Airports

The Laredo International Airport (LRD) is owned and operated by the City of Laredo, and provides daily air service to and from Houston, Dallas / Fort Worth, and Mexico City. LRD serves the air transport needs of the Laredo MTP region and south Texas, including commercial air carrier, air taxi and commuter airline service for domestic and international passengers and cargo, as well as the general and military aviation needs of Laredo and the surrounding area. LRD is also classified as a Foreign Trade Zone, which is where commercial merchandise receives the same Customs treatment it would if it were outside the commerce of the United States without being subject to Customs duties and other taxes. The LRD Foreign Trade Zone is utilized for aeronautical and industrial purposes.

The Laredo International Airport is located in the eastern part of Laredo, on a portion of the 1,400 acre former Laredo Air Force Base that was deactivated by the U.S. Department of Defense in 1973. LRD currently has 16 scheduled flights during weekdays and 10 flights on the weekends. The airport itself is bounded in the south by U.S. 59 and the east by Casa Blanca Lake State Park. The main access road to the airport is from Loop 20 on the east side, while the west side of the airport has a secondary freight access from Hillside Road and Maher Avenue.

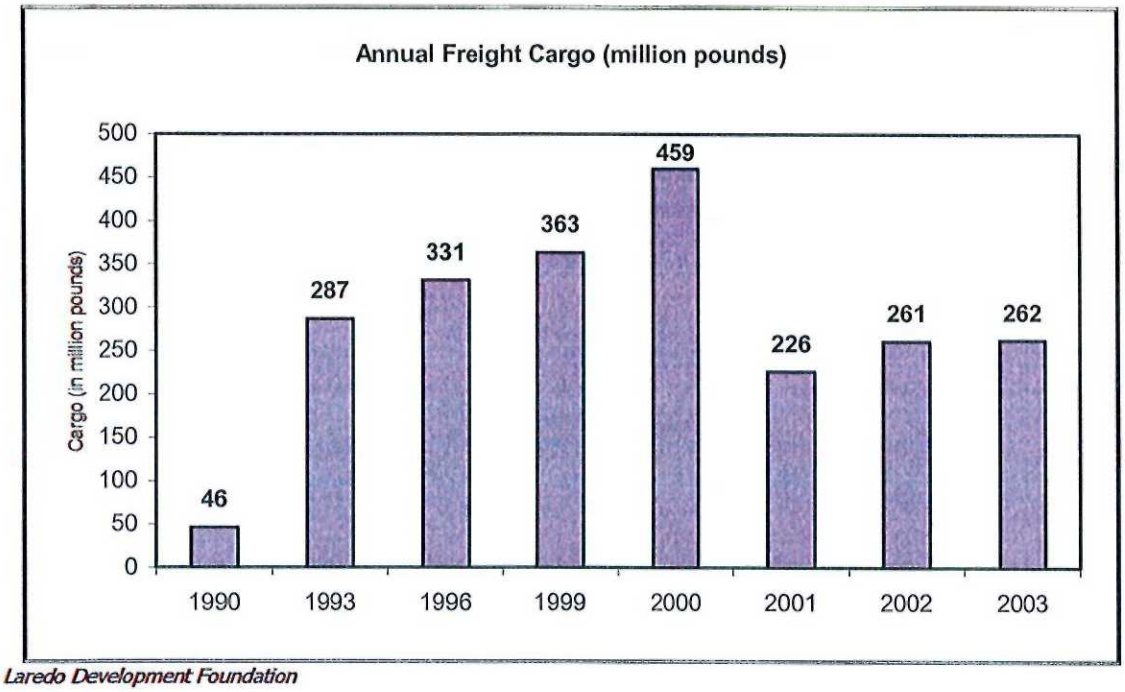
As shown in **Figure 2-12**, annual passengers have increased by 205 percent from 47,800 passengers in 1987 to 145,900 passengers in the Year 2003. Air Cargo has also increased over the past decade from 46 million pounds in 1990 to 262 million pounds in 2003, an increase of 469 percent. LRD is still considered a major port for Latin American air cargo; being ranked 8th in the nation by Air Cargo World in 1993. **Figure 2-13** displays cargo traffic handled by the airport for the last decade.

Figure 2-12
Annual Passengers
Laredo Metropolitan Transportation Plan Update



Laredo Development Foundation

Figure 2-13
Annual Freight Cargo
Laredo Metropolitan Transportation Plan Update



Laredo Development Foundation

The Laredo International Airport includes the following physical constructs for the commercial aviation, general aviation, and air cargo freight operations. The primary runway (designated as RW 17R-35R) is 7,800 feet long and 150 feet wide; while the secondary parallel runway (designated as RW 17L-35R) is 8,200 feet long and 150 feet wide. This runway was rebuilt to support the heaviest aircraft currently flying. The crosswind runway (designated as RW 14-32) is 5,900 feet long and 150 feet wide. Taxiways connect the runways to the apron and terminal areas located on the west side of the airfield. LRD is equipped with runway and taxiway lighting systems, an instrument landing system (ILS) for the primary runway, and an air traffic control tower and other navigational aids for operation under both visual flight rule (VFR) and instrument flight rule (IFR) conditions.

In 1998, LRD completed a $31 million, 78,000 square foot passenger terminal facility. The terminal provides space for six airlines, five car rental agencies, a duty-free store and government inspection facilities. The terminal has jet-boarding bridges on currently-operating gates, and is expandable to 20 gates for accommodating future demand. In addition, LRD has two fixed-base operators that provide general aviation services, and dedicated air freight facilities in excess of 340,000 square feet.

Railroads

The railroad network in Laredo is part of an international network, which extends into Mexico and serves the rail cargo needs of the area on both sides of the US/Mexico border. Freight rail service is provided by privately owned US carriers: the Union Pacific Railway (UP) and Texas-

Mexican Railway Company (Tex-Mex). Together, these railway companies account for all rail traffic through Laredo and utilize the only international rail bridge between Laredo and Nuevo Laredo. Tex-Mex Railways owns the international rail bridge and has an agreement with Union Pacific that allows UP to use the bridge, the Tex-Mex mainline, and the storage tracks located at the north end of the bridge.

The Union Pacific rail line travels in a north – south direction through Laredo along IH 35 and Santa Maria Road. The UP Railroad continues north to San Antonio and provides service throughout the United States. UP Railway operates an average of 16 trains per day in the Laredo area, and its main rail yard is located near the IH 35 and Loop 20 interchange. UP also maintains a terminal and yard at Lafayette Street north of the International Railroad Bridge.

The Texas-Mexican rail line begins with Mexico's rail line that crosses over the international bridge from Nuevo Laredo. The Tex-Mex line then travels eastward from the UP downtown terminal to the industrial parks along SH 359, and onward to serve the area east of Laredo to as far as Corpus Christi, Texas. Tex-Mex Railway operates an average of eight trains per day, and has a rail yard located on SH 359. In addition to carrying freight, the Tex-Mex Railway also serves passenger traffic between Nuevo Laredo and the interior of Mexico.

As shown in **Table 2-7**, cargo transport by rail has been increasing in the last few years; with the City of Laredo reporting a total of about 394,200 loaded rail car crossings in year 2003. The northbound loaded rail cars (imports to US) have increased annually by an average of 13.5 percent between 1998 and 2003. Southbound loaded rail cars (exports from the US) have increased annually for the same period by an average of approximately 8.2 percent.

Table 2-7
Loaded Rail Cars Exports and Imports
Laredo Metropolitan Transportation Plan Update

Travel Direction	1998	1999	2000	2001	2002	2003
Southbound (exports)	148,009	167,871	184,498	182,226	190,974	219,362
Percent Change		13%	10%	-1%	5%	15%
Northbound (imports)	92,829	115,771	151,110	168,376	174,762	174,837
Percent Change		25%	31%	11%	4%	0%

Source: Laredo Development Foundation

Given the increase of rail traffic in Laredo, traffic movement and safety considerations are important concerns due to the point of conflict between trains and roadway vehicles. Vehicles are delayed as trains travel from one location to another and block roadways. The UP Railroad has about 53 crossings in Laredo, which includes 49 at-grade crossings and four grade-separated crossings. Additionally there are 3 proposed crossings along this rail alignment, two at the intersection Calton Road and one at the intersection of FM 1472. The Tex-Mex Railroad has a total of 33 crossings in Laredo (including 32 at-grade crossings and one grade separated crossing). **Figure 2-14** shows all existing at-grade rail crossings and grade-separated crossings; along with proposed grade separations.

Other rail interests in the area include the Webb County Rural Rail Transportation District (RRTD) which was established by Webb County. Rural Rail Transportation Districts 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 have the power of eminent domain and can be used to construct new rail lines or acquire and rehabilitate existing rail lines. Additionally they can be used to develop rail served industrial parks, intermodal facilities and transload facilities.

Trucks

Almost all major freight truck carriers serve the industrial community in the Laredo area, and have intermodal connections to the Union Pacific Railway via the Port of Laredo, a transloading trucking facility owned by U.P. Also, Laredo is the only border city served by freight carriers licensed by the Interstate Commerce Commission (ICC) to provide international service between the City of Laredo and Nuevo Laredo. There are about 515 freight forwarders, 210 trucking companies, and 105 licensed U.S. Customs brokers operating within the Laredo area.

As shown in Table 2-5, southbound trucks (exports to Mexico) decreased by seven percent between 1998 and 2003. This decrease in traffic is primarily attributed to the events of September 11th. Northbound trucks (imports from Mexico) remained relatively constant during that same time frame.

As shown in **Figure 2-15**, truck traffic is significant in the Laredo area. As indicated, I-35 has the highest volumes of truck traffic in the region, with volumes ranging from over 63,000 trucks per day north of Saunders Street to 14,000 trucks per day at the northern limits of the study area. The percentage of truck traffic along major roadways in the region including I-35, US 59, US 83, SH 359, FM 1472 and Saunders Street exceed 15 percent and along several segments exceed 25 percent.

In order to concentrate commercial traffic to certain corridors within the area, the City of Laredo designated specific roadways as truck routes, as shown in **Figure 2-16.** These routes include all freeways and most primary arterials, like IH 35, Loop 20, US 83, US 59, SH 359, and FM 1472; as well as local roads like Calton Road and Santa Isabel Avenue that provide access to intermodal facilities. By separating commercial vehicles away from non-commercial vehicles, the movement of freight transportation is improved throughout the area, along with better access to the industrial parks and terminals and the international bridge crossings.

Figure 2-14a Railroad Crossings, Study Area

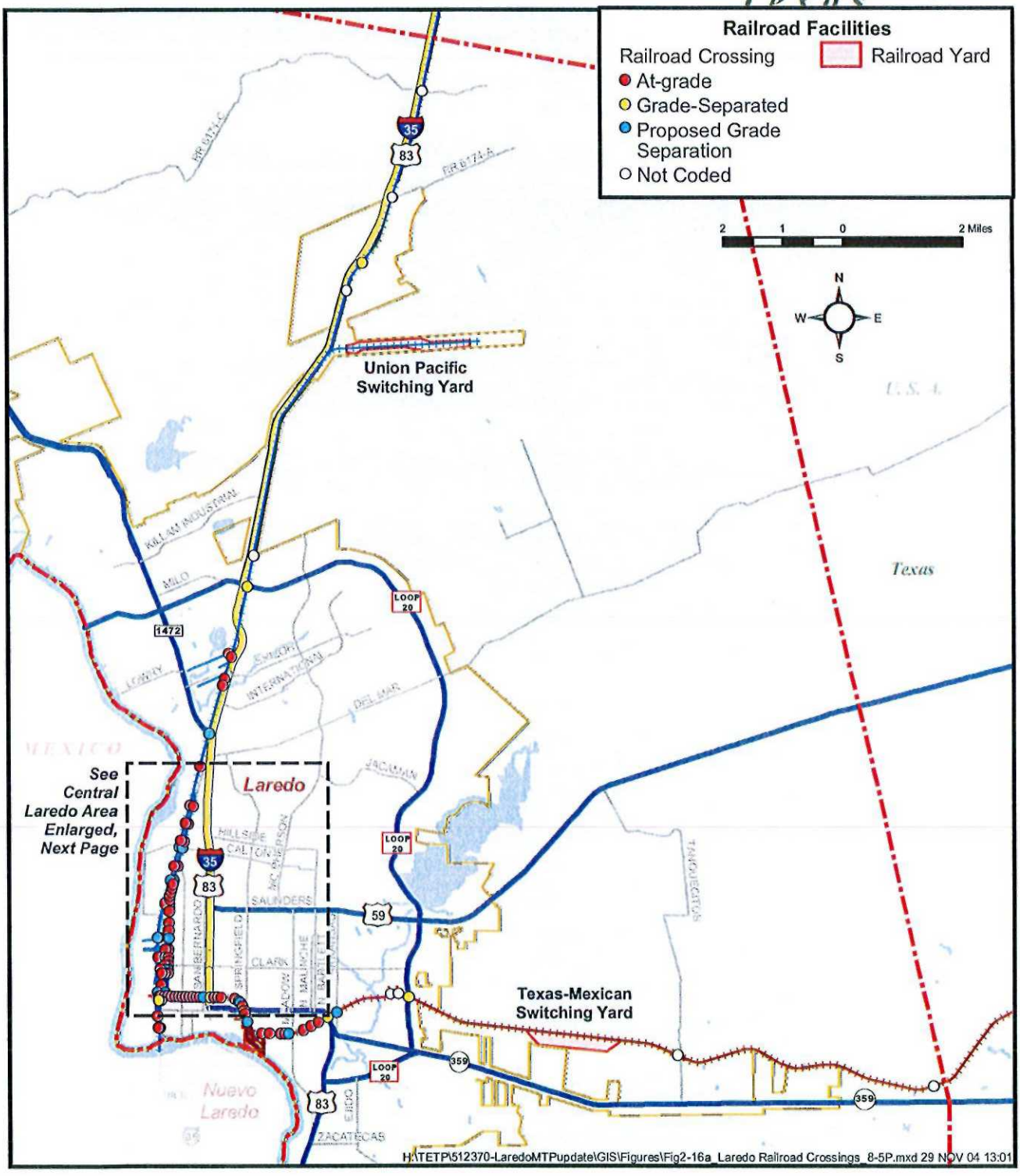
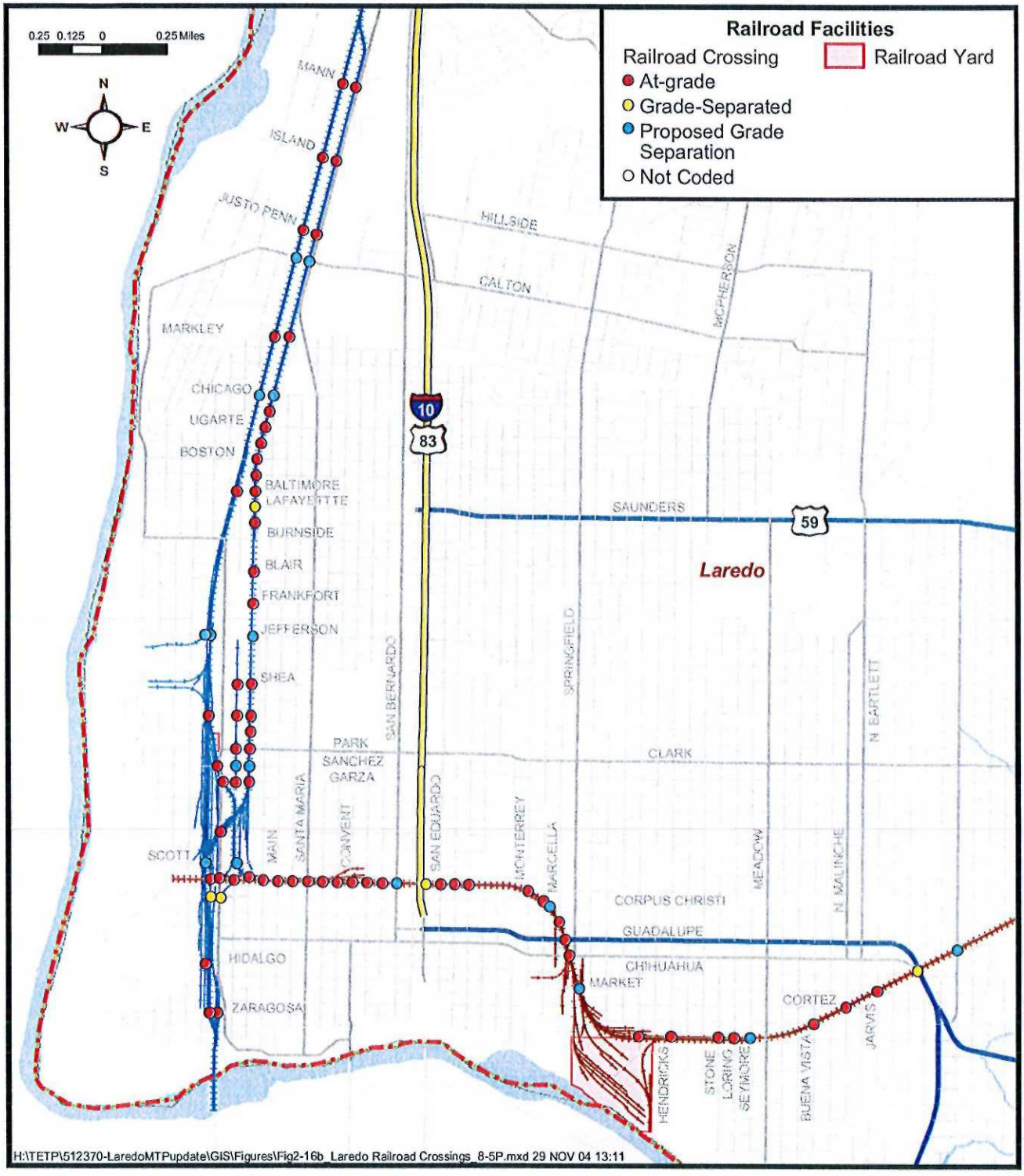


Figure 2-14b Railroad Crossings, Central Laredo



PUBLIC TRANSPORTATION

The El Metro transit system operates 18 fixed bus routes and recorded an annual ridership of 4.8 million passengers in 2001. **Figure 2-17** shows that these bus routes are predominantly radial, connecting downtown Laredo with neighborhoods and major traffic generators. This radial structure is designed to serve the needs of the transit-dependent community of Laredo's compact central area.

Currently, El Metro has a total fleet size of 60 vehicles, which includes over 40 fixed-route buses, two trolleys, and 18 El Lift paratransit vans. The fixed-route service has an average frequency of about 30 minutes between vehicles, and a regular fare of $1 / patron (with reduced fares for children, senior citizens, and disabled riders). Also, El Metro provides transit service seven days a week and on several busy transit corridors, such as San Bernardo, Santa Maria, and Del Mar Boulevard.

As for transit operations, El Metro Transit reported about 2.1 million revenue miles in FY 2002. Average weekday passenger ridership for El Metro fixed route service is 15,400 patrons, and the combined fixed-route and paratransit services recorded an average of about 32 weekday passengers per revenue hour.

Also in 1997, El Metro opened a new Multimodal Transportation Terminal in Downtown Laredo adjacent to Jarvis Plaza and serving as the central transfer point for El Metro's downtown bus activity. In addition to serving as El Metro's bus terminal and administrative offices, this new multi-level facility also features an inter-city bus terminal, passenger waiting areas, and public parking. The El Metro Terminal currently receives about 327,000 transfers from urban transit and inter-city bus services, like Greyhound and Valley Transit. Also, El Metro provides bus service to the Park and Ride lot located at the airport on Hillside Road.

BICYCLE AND PEDESTRIAN FACILITIES

Bicycle and pedestrian systems facilitate the use of alternative modes of transportation such as cycling or walking. These facilities can also serve to reduce congestion and pollution. Bicycle and pedestrian facilities should be coordinated with the local transit system to provide access to transit stops and bolster transit ridership. To ensure that these forms of transportation are possible, the City of Laredo has adopted sidewalk standards that call for the provision of sidewalks in most developments within the city limits. Bicycle facilities and pedestrian attraction centers are shown in **Figure 2-18.**

Bicycle System

The State currently has a bicycle lane along Spur 400 (Clark Boulevard). Additionally there is a newly constructed jogging/bicycle path constructed along the eastern side of Loop 20. Safety is the main priority in developing the bicycle transportation system. Congested areas and truck routes need to be avoided when developing bicycle corridors. This is accomplished by providing bike lanes that are separated by striping on the right shoulder of roadways, and/or constructing off-street trails within exclusive right-of-way for use by bicycles, joggers and pedestrians. Figure 2-18 identifies proposed bike routes in the Laredo area. These bikeways were developed with respect to traveler safety and useful origins and destinations.

Figure 2-15 Existing Daily Truck Traffic Volumes

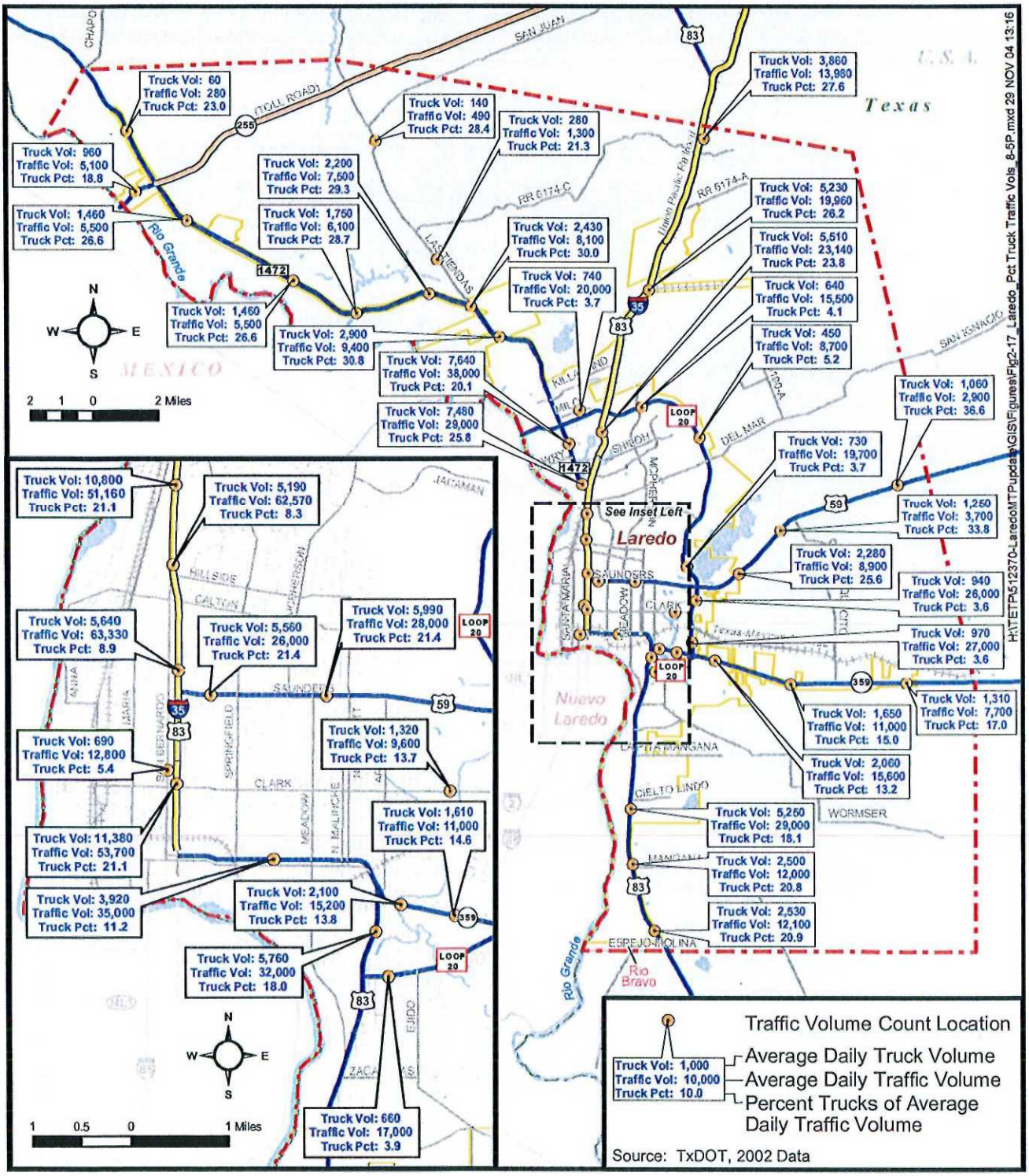


Figure 2-16 Designated Truck Routes

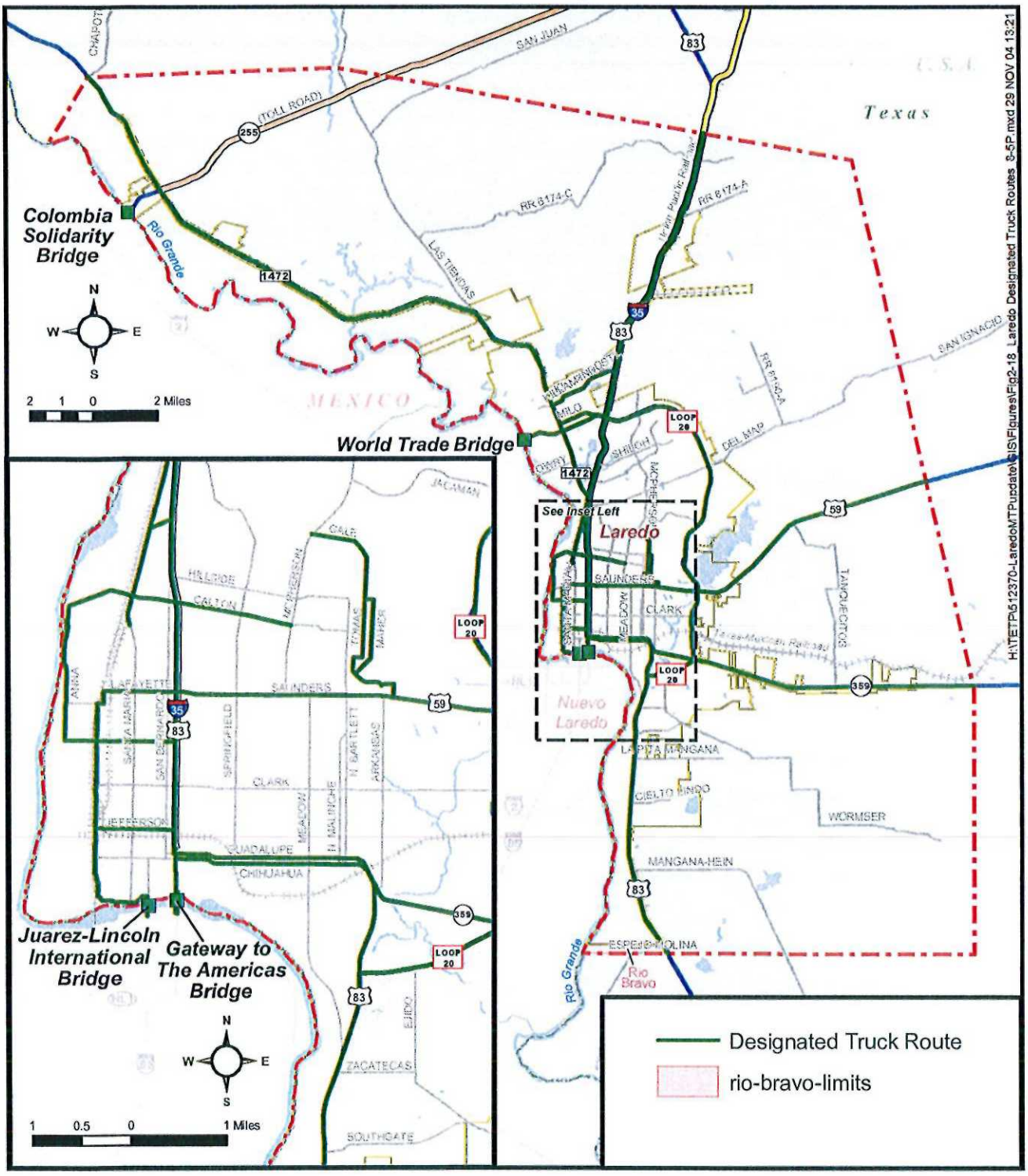
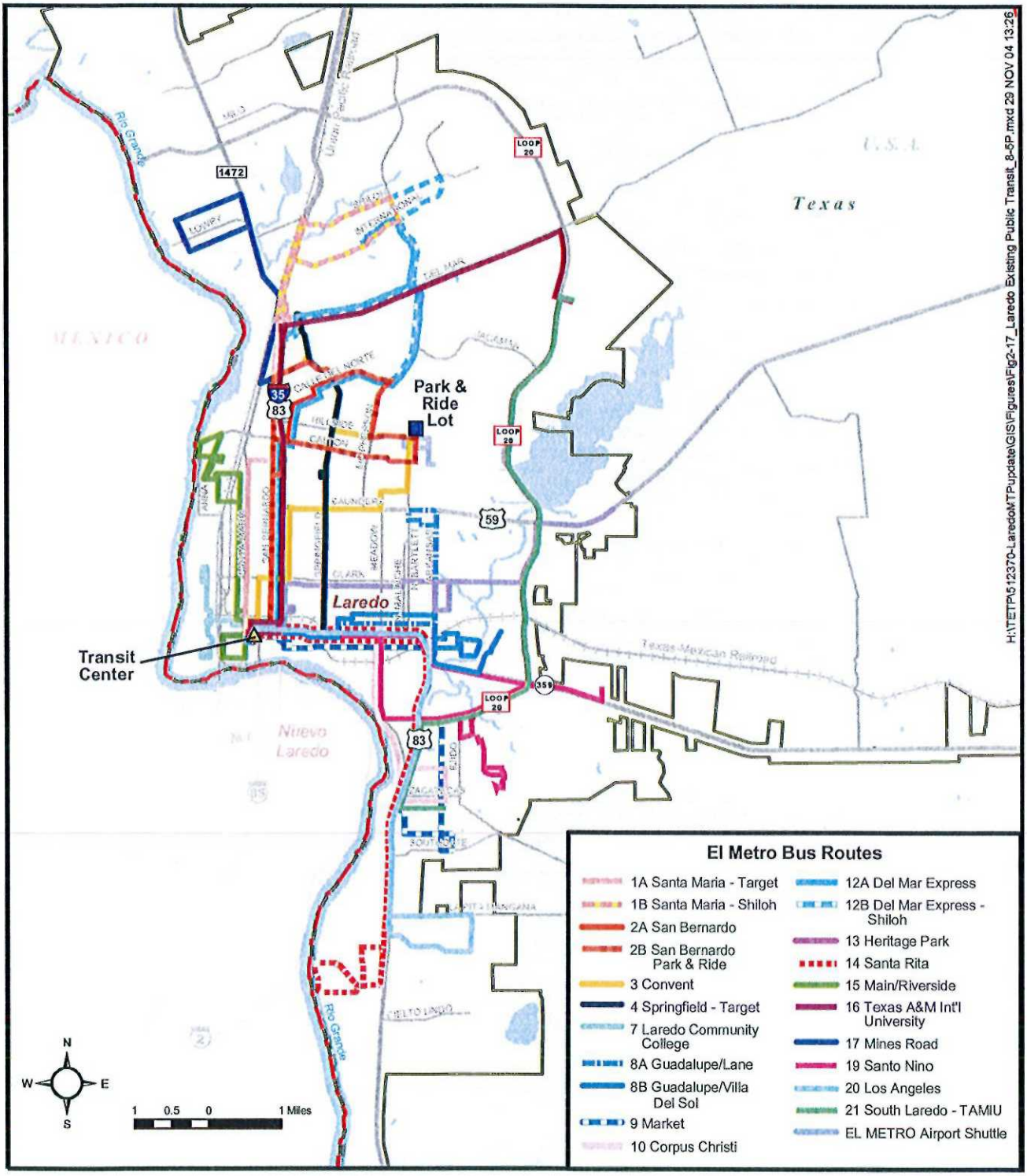


Figure 2-17 Existing Public Transit



Pedestrian System

Previous studies conducted for the City of Laredo identify the main pedestrian attractions as schools, grocery stores, and shopping centers. In Laredo, the intersections of Park and Santa Maria, Tacuba and Old Santa Maria, and Garcia and Davis were identified as the intersections having the largest concentrations of pedestrian activity. All three intersections are located adjacent to school buildings and as a result, are used extensively by people on foot. Figure 2-18 shows the primary pedestrian attraction centers.

In January 2004, over 350,000 northbound pedestrians crossed the Gateway to the Americas Bridge between downtown Laredo and Nuevo Laredo. Once they enter Laredo, these pedestrians are typically destined for Jarvis Plaza, HEB and other retail centers, or the Los Dos Laredos Park. The multimodal transit center south of Jarvis Plaza provides transit access throughout the city, while the retail centers and Los Dos Laredos Park serve shopping and recreational demands, respectively.

SAFETY

Safety of the transportation system is an important issue for the Laredo region. A safe transportation network is essential to the community's economic vitality and quality of life. Transportation safety concerns primarily focus on accidents that occur on the roadway system involving motorists, pedestrians and bicyclists.

Traffic accident records are maintained by the different law enforcement agencies in the Laredo Metropolitan area. Recorded accident information is sent to the Department of Public Safety in Austin, where information is centralized. This information is available to transportation agencies to evaluate the safety of the area roadway system operations and to help develop strategies that will enhance public safety. The most recent accident data available for the Laredo Metropolitan area is for the Year 2001, as shown in **Tables 2-8** and **2-9**.

During the year 2001 there were 1,099 accidents reported, half of which involved possible injury. Non-Injury accounted for 316 of the accidents or 29 percent followed by non-incapacitating injury, 16 percent, incapacitating injury, 4 percent, and fatal injury, 2 percent.

Table 2-8
Study Area Traffic Accidents, 2001
Laredo Metropolitan Transportation Plan Update

Quarter	Non-Injury	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal Injury	Total
Jan-Mar 2001	80	139	41	7	7	274
Apr-Jun 2001	87	148	43	16	4	298
Jul-Sep 2001	74	127	37	13	6	257
Oct-Dec 2001	75	133	50	8	4	270
Total	316	547	171	44	21	1099
Pct of Total	28.75%	49.77%	15.56%	4.00%	1.91%	100

Source: TxDOT

Figure 2-18a Bicycle Facilities and Pedestrian Attractions, Study Area

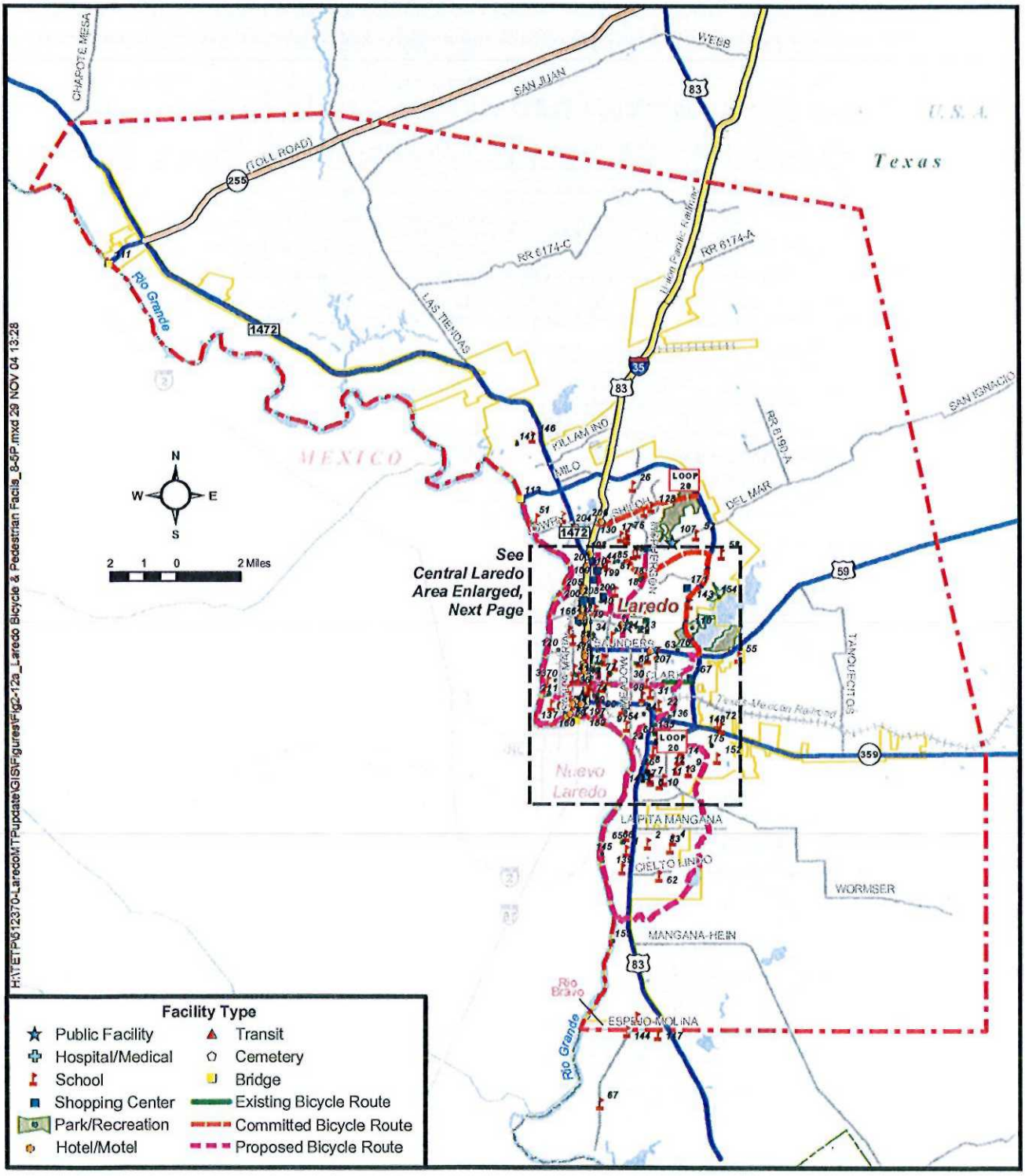


Figure 2-18b Bicycle Facilities And Pedestrian Attractions, Central Laredo

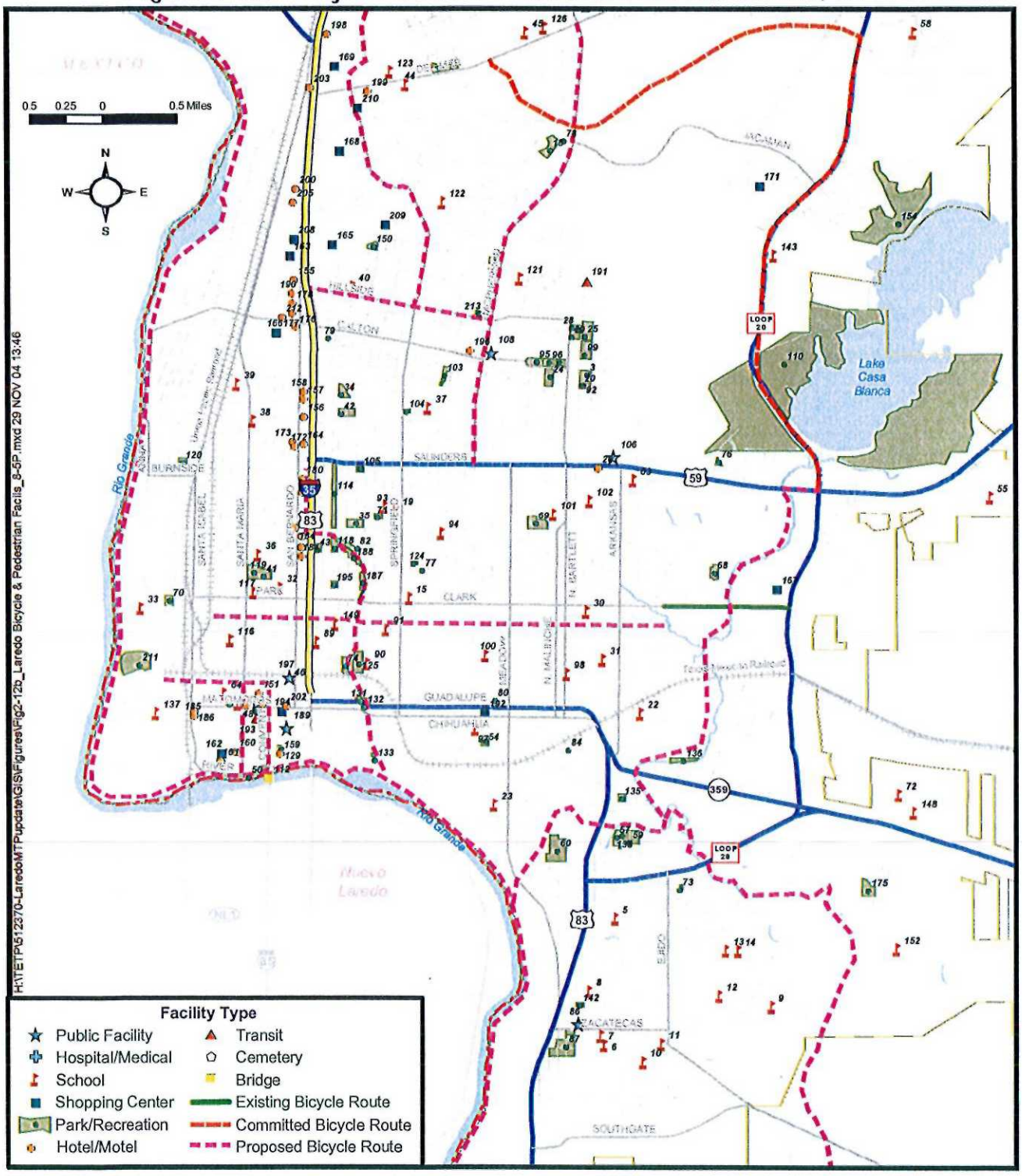


Table 2-9 shows the number of accidents during 2001 that involved pedestrians and bicyclists. As shown, 27 accidents, 2.5 percent, involved pedestrians while 4 accidents involved collisions with bicyclists.

Table 2-9
Study Area Traffic Accidents Involving Non-Autos, 2001
Laredo Metropolitan Transportation Plan Update

Quarter	With Pedestrians	With Bicyclists	Total
Jan-Mar 2001	8	2	10
Apr-Jun 2001	5	1	6
Jul-Sep 2001	5	0	5
Oct-Dec 2001	9	1	10
Total	27	4	31
Percent of Total Accidents	2.5	0.4	2.8

Source: TxDOT

The Laredo Urban Transportation Study is in the process of developing a safety strategy for the study area. The following steps have been taken towards that goal. The Technical Committee has been directed to form a Safety Subcommittee. The MPO has begun an analysis of hazardous material routes through the study area. All these data will be used to create a safety strategy specific to the unique qualities of Laredo that conforms to the state Strategic Highway Safety Plan.

SECURITY

The City of Laredo has an Emergency Management Plan that was updated in July 2007. This plan has been developed, updated and implemented by Deputy Fire Chief / Emergency Management Coordinator Steve E. Landin in coordination with various City of Laredo Department Directors. The plan utilizes operations and responses from many local, state and federal agencies. It addresses the blueprint to emergency responses related to natural disasters, terrorist threats, and other emergencies including threats to the areas bridges, utilities, health and transit system. While details cannot be presented here, this plan does address, in the event of an emergency, the security of all Laredoans.

Chapter 3 - Demographics & Travel Demand Model

DEMOGRAPHIC DATA

The purpose of the following section is to examine existing and future demographic conditions that are used as inputs to the area travel demand computer model. The model is used to estimate existing and future trip generation and traffic volumes for area roadways. Demographic variables discussed in this section include population, employment and income. Through analysis of these variables and development of forecasts, future transportation needs can be identified and evaluated. This report discusses basic demographic information for the City of Laredo and Webb County and summarizes forecasts developed for the study area. More detailed information is presented in a separate report entitled, Socioeconomic Data Collection and Forecast Study. The transportation networks and travel demand model developed for this study will be discussed in further detail later on this chapter.

Methodology

This chapter addresses existing and future conditions that are closely associated with travel demand and trip generation characteristics of the Laredo Metropolitan area. Demographic estimates were prepared for the base year 2003 and forecasts were prepared for the years 2010, 2020 and 2035. The forecasts were prepared for the Laredo MPO planning area at the Traffic Analysis Zone (TAZ) level. Traffic Analysis Zones (TAZs) define geographic areas (Census block groups) which are used to relate travel demand to socioeconomic characteristics. The resulting traffic analysis zone system is shown in **Figure 3-1**. There are a total of 232 TAZs within the Laredo MPO planning area, 216 of which are internal zones and 16 of which are external zones (locations where traffic enters and exits the study area). Demographic variables examined within each TAZ include:

- Population
- Households
- Housing Units
- Total Employment
- Retail Employment
- Basic Employment
- Service Employment
- Median Household Income
- Undeveloped Acreage

Base Year Estimates

Base year estimates were developed using available data from the US Census Bureau, Texas Workforce Commission and City of Laredo. In developing 2003 estimates for population, households and housing units, 2000 US Census Bureau block level data was aggregated to the TAZ level. This data was then adjusted to reflect the Texas State Data Center's 2003 population estimate for Webb County through utilizing available plat data to determine the number of housing units built since the Year 2000.

Figure 3-1a Traffic Analysis Zones, Study Area

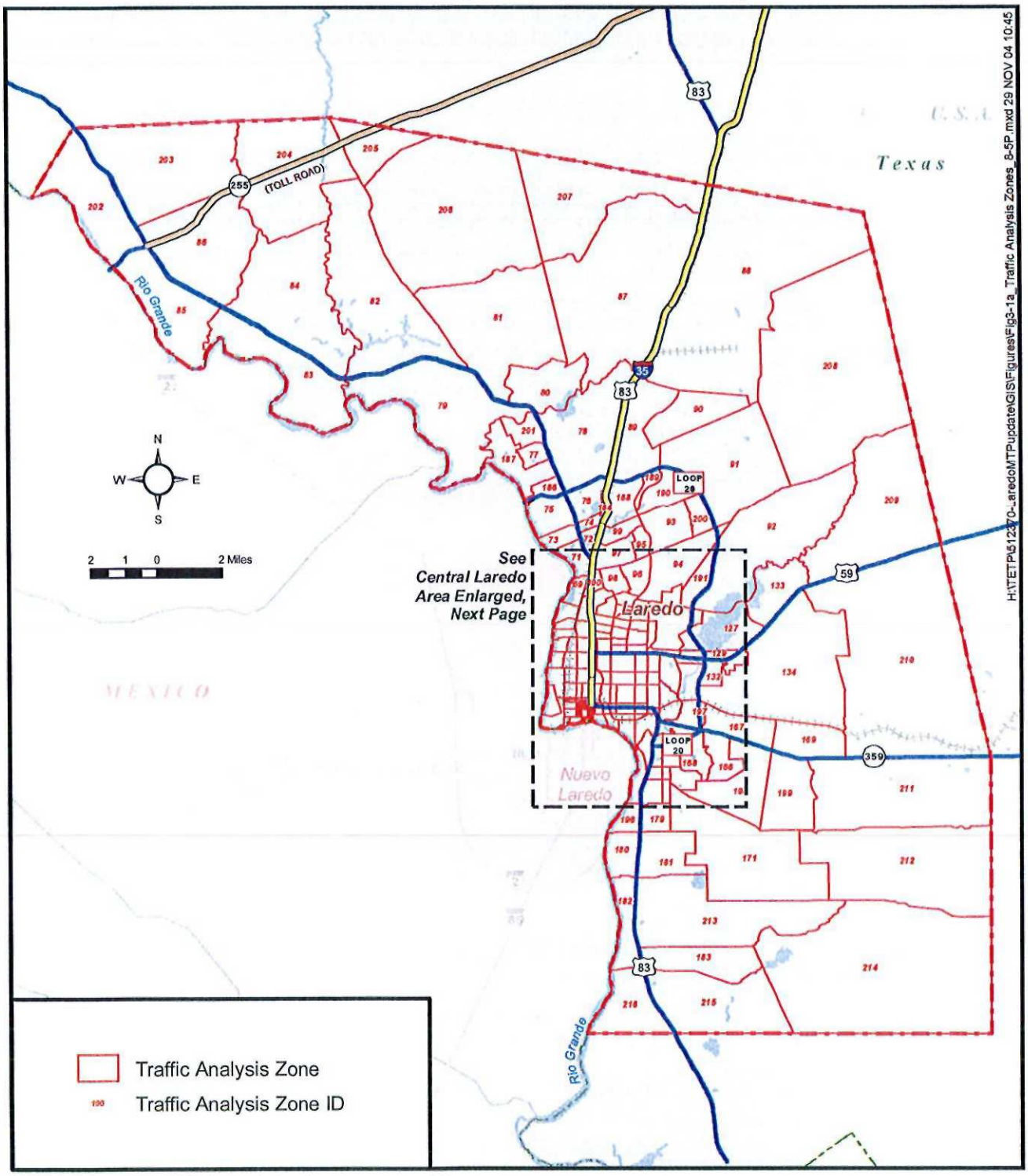
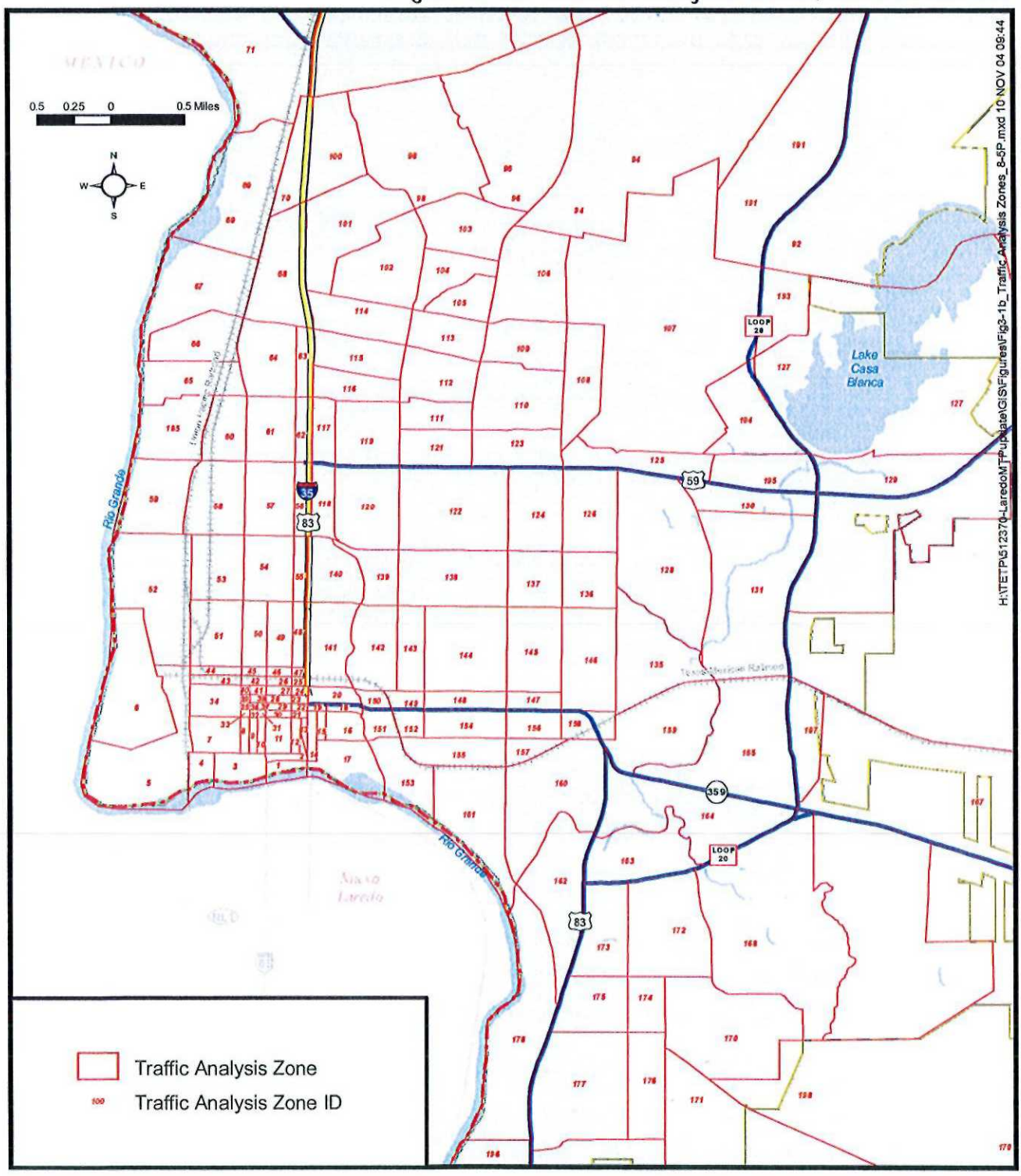


Figure 3-1b Traffic Analysis Zones, Central Laredo



In developing base year data for employment, a database of employers and their number of employees in Webb County was obtained from an outside vendor. This database, as well as data obtained from the City and Texas Workforce Commission was used to disaggregate employment to the TAZ level.

Median Household Income for the Year 2003 was developed by applying historical growth rates in median household income in Webb County to the 2000 U.S. Census Bureau estimates. Finally undeveloped acreage was estimated using an existing land use inventory obtained from the City, supplemented by aerial photography flown in 2003.

Control Totals

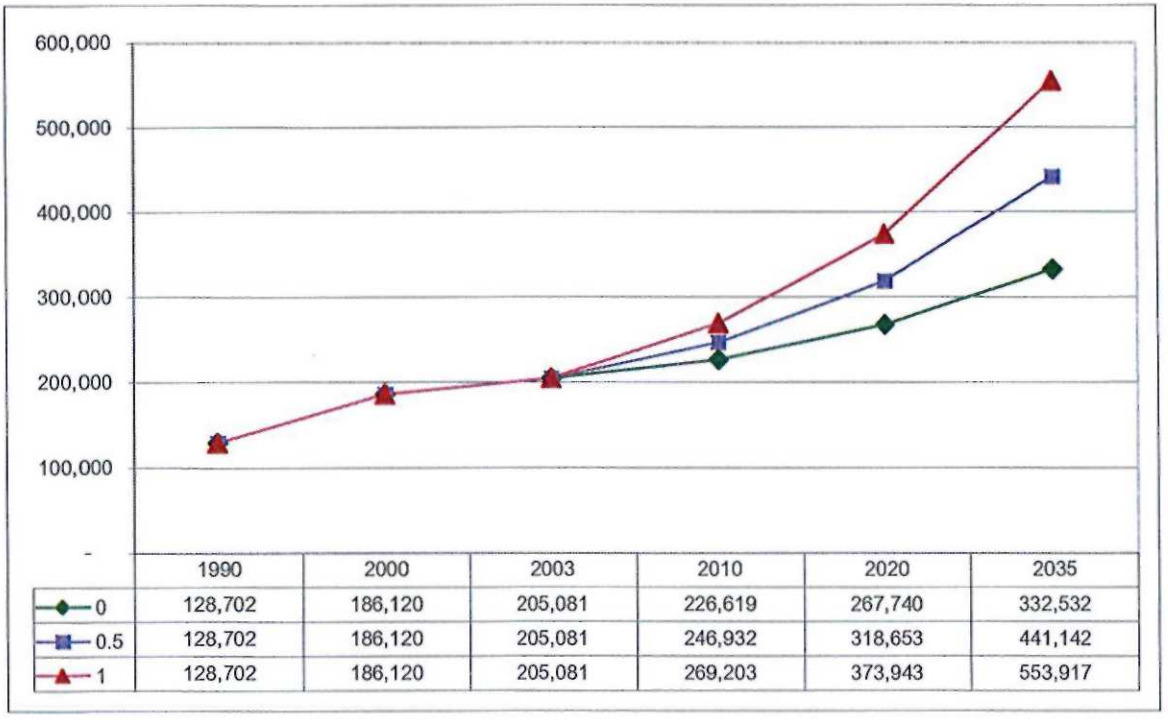
The initial step in developing socioeconomic data for the study area was to establish existing and future population "control totals". The Texas State Data Center, the Census Bureau's state-level affiliate based at Texas A&M University, is one of many public and private entities that prepare population projections for cities, counties and metropolitan areas using sophisticated models that consider migration patterns as well as fertility (birth) and mortality (death) rates. Three projections scenarios are produced by the State Data Center which differ in their assumptions relative to net migration. The 0.0 Migration Scenario assumes that immigration and outmigration are equal resulting in growth only through natural increase. The 0.5 Migration Scenario assumes rates of net migration one-half of those of those experienced during the 1990s and the 1.0 Migration Scenario assumes that migration patterns of the 1990s will continue to occur in the future. The 1990s was a period of rapid growth and it is unlikely that this growth will continue to occur, therefore the Texas State Data Center recommends the 0.5 Migration Scenario as appropriate for most Texas counties as this scenario reflects slower but steadier growth than that experienced in the 1990s. Texas State Data Center forecasts for Webb County were adapted to reflect the Study area's share of the county population.

Displayed in **Figure 3-2** are alternative population projections for the study area. As shown, forecasts for the Year 2035 range from 332,532 (0.0 Scenario) to 553,917 (1.0 Scenario).

In selecting a growth scenario historical growth patterns were examined in Webb County and Laredo. According to the results of the 2000 U.S. Census, Laredo is one of the fastest growing cities in Texas and the U.S. Laredo's location as the center of a primary trade route between Mexico, U.S. and Canada and increased trade activity have resulted in significant growth in the Laredo metropolitan area over the past decade. Economic growth of recent years has spurred considerable new investment and migration into the Laredo area and this growth is expected to continue over the next decade, therefore the 1.0 scenario was chosen for the forecast year 2010. However in the long-term, growth in the Laredo region is not expected to continue at such an aggressive rate, therefore the 0.5 scenario was chosen for forecast Years 2020 and 2035. Utilizing theses scenarios resulted in the following population control totals:

- 2003 – 205,081
- 2010 – 269,203
- 2020 – 347,979
- 2035 – 482,300

Figure 3-2
Population Projections
Laredo Metropolitan Transportation Plan Update



	1990	2000	2003	2010	2020	2035
0	128,702	186,120	205,081	226,619	267,740	332,532
0.5	128,702	186,120	205,081	246,932	318,653	441,142
1	128,702	186,120	205,081	269,203	373,943	553,917

Employment forecasts are a function of population and are based on the population projections outlined above. Employment control totals were developed by using a ratio of employment to overall population, considering historical employment figures and unemployment trends. Retail, Basic and Service employment was determined through examining their historical shares of total employment and adjusting these shares based on projected state and national trends. Control totals for employment are shown below:

- 2003 – 76,398
- 2010 – 99,482
- 2020 – 128,881
- 2035 – 178,629

Allocation Of Control Totals

Once the control totals for population and employment were determined, input was solicited to identify the zones that are suitable for future development and most likely to develop by Forecast Years 2010, 2020 and 2035. This input was used to guide the assignment of future population and employment. Staff identified TAZs as high or moderate growth for both residential and nonresidential development and for forecast years 2010, 2020 and 2035. The moderate and high growth areas are those with pending development and availability of utilities

and transportation access. TAZs not identified as high or moderate growth areas were assumed to have limited growth.

Population

Historical Population

Webb County has experienced significant growth over the past several decades. As shown in **Table 3-1**, the county's population has more than doubled since 1970 as it grew from 72,859 people in the Year 1970 to over 193,000 people in the Year 2000, an annual increase of 3.3 percent. The most significant growth occurred during the 1990s with an average annual growth rate of 3.8 percent. Historical growth rates for the City of Laredo mirrored those of the County. Laredo is the largest city in the county and in the Year 2000 comprised 91 percent of the County's total population.

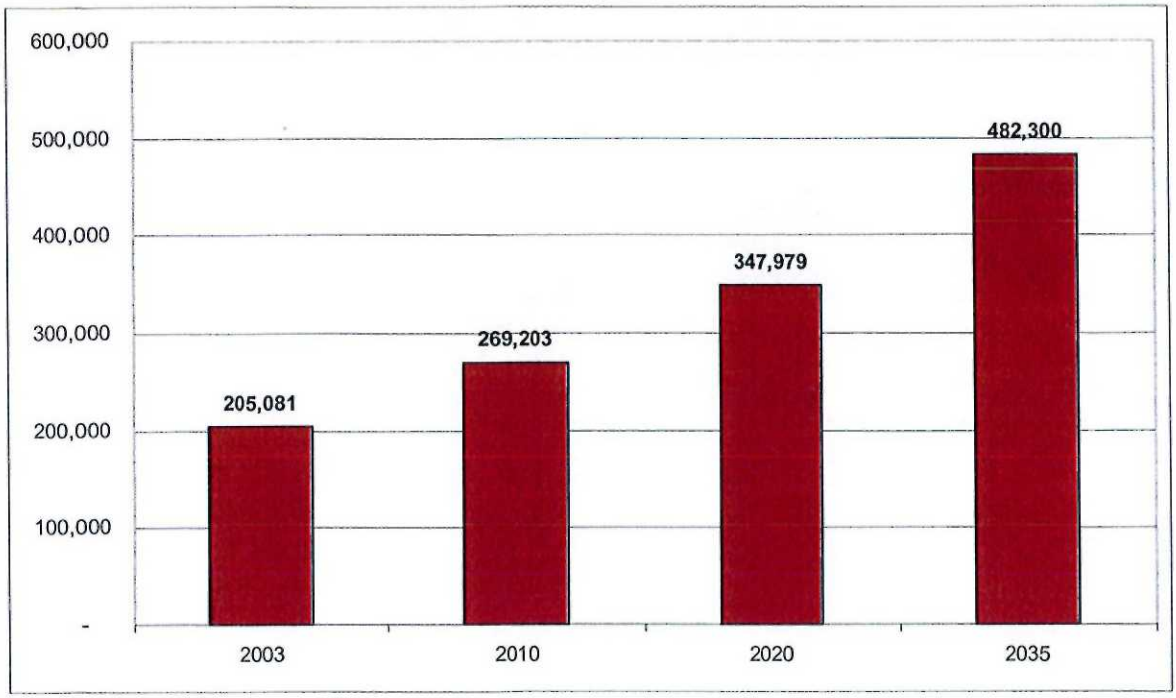
Table 3-1
Historical Population
Laredo Metropolitan Transportation Plan Update

Year	Webb County	Annual % increase	Laredo	Annual % increase
1970	72,859		69,024	
1980	99,258	3.1%	91,449	2.9%
1990	133,239	3.0%	122,899	3.0%
2000	193,117	3.8%	176,576	3.7%

Projected Population

Figure 3-3 displays base and forecast year population for the MPO planning area. As shown, the MPO planning area is expected to experience continued growth over the next several decades. Population is projected to grow from 205,081 in the Year 2003 to 482,300 in the Year 2035, an annual increase of 2.7 percent.

Figure 3-3
Projected Population
Laredo Metropolitan Transportation Plan Update



Households & Housing Units

Historical

Between 1990 and 2000 households and housing units grew at a faster rate than population. As shown in **Table 3-2**, households, or occupied housing units grew by 47 percent in Webb County from 34,438 households in 1990 to 50,740 households in the Year 2000. Housing units grew by 48 percent from 37,197 units in 1990 to 55,206 units in the Year 2000. This resulted in an 8 percent housing vacancy rate in the Year 2000.

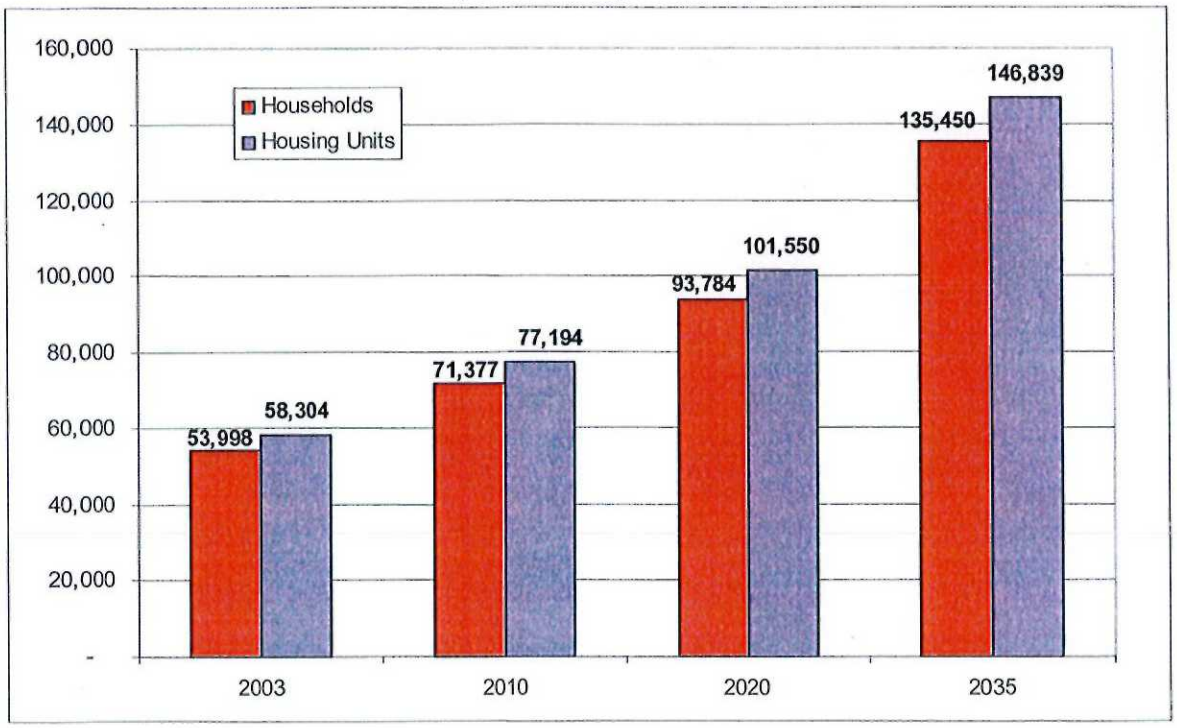
Table 3-2
Households and Housing Units
Laredo Metropolitan Transportation Plan Update

	Webb County		Laredo	
	Households	Housing Units	Households	Housing Units
1990	34,438	37,197	32,029	33,998
2000	50,740	55,206	46,852	50,319

Projected Households and Housing Units

As displayed in **Figure 3-4**, households in the MPO planning area projected to increase by 151 percent from 53,998 in the Year 2003 to 135,450 in the Year 2035, and annual increase of 2.9 percent. Within the MPO planning boundary housing units are projected to grow by 152 percent from 58,304 units in the Year 2003 to 146,839 units in the Year 2035, an average annual increase of 2.9 percent.

Figure 3-4
Projected Households and Housing Units, MPO Boundary
Laredo Metropolitan Transportation Plan Update



Employment

Employment by Industry

Table 3-3 displays covered employment data, employment for which unemployment taxes are collected, for Webb County. As shown total employment in Webb County was estimated at 77,187 in the Year 2003 with Trade, Transportation and Utilities industries comprising the largest percentage, 33 percent, of total employment followed by Local Government and Education and Health Services, with 18 and 13 percent of total employment respectively.

Table 3-3
Employment by Industry, Webb County, 2003 (fourth quarter)
Laredo Metropolitan Transportation Plan Update

Industry	Employment	Percent of Total
Natural Resources & Mining	1,509	2.0%
Construction	2,496	3.2%
Manufacturing	1,126	1.5%
Trade, Transportation & Utilities	25,391	32.9%
Information	660	0.9%
Financial Activities	4,139	5.4%
Professional & Business Services	4,814	6.2%
Education & Health Services	10,237	13.3%
Leisure & Hospitality	7,244	9.4%
Other Services	1,340	1.7%
Nonclassifiable	35	0.0%
Federal Government	2,327	3.0%
State Government	1,723	2.2%
Local Government	14,146	18.3%
Total Employment	***77,187***	***100.0%***

Source: Texas Workforce Commission, 2003

Major Employers

Based on data obtained from the Laredo Development Foundation there are 8 employers with over 1,000 employees in Laredo. These major employers include:

- United Independent School District – 4,500 employees
- Laredo Independent School District – 3,857 employees
- City of Laredo – 2,084 employees
- Laredo Medical Center – 1,661 employees
- H.E.B Grocery – 1,327 employees
- Webb County – 1,270 employees
- U.S. Department of Border Protection – 1,147 employees
- McDonald's Restaurant – 1,114 employees

Unemployment Rates

Based on data obtained from the Texas Workforce Commission, the Laredo Metropolitan Statistical Area (MSA) labor force grew by almost 10,000 people or 12.8 percent between 2000 and 2003. An additional 8,600 people were employed in the region as employment increased from 69,396 in the Year 2000 to 77,996 employees in the year 2003. As shown in **Table 3-4**, the labor force has been increasing at a greater rate than employment, resulting in increasing unemployment rates over the past couple of years.

Table 3-4
Unemployment Rates, Laredo MSA
Laredo Metropolitan Transportation Plan Update

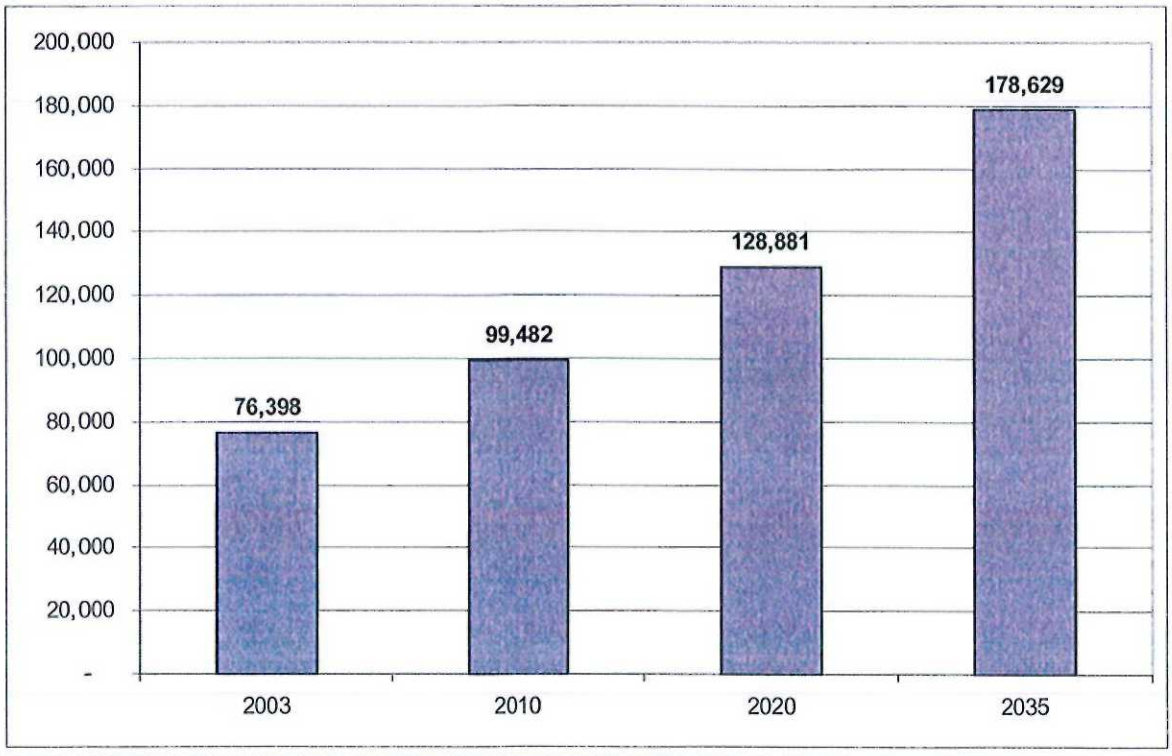
Year	Labor Force	Employment	Unemployment	Unemployment Rate
2000	74,614	69,396	5,218	7.0
2001	76,301	70,952	5,349	7.0
2002	80,404	74,523	5,881	7.3
2003	84,173	77,996	6,177	7.3

Source: Texas Workforce Commission, 2003

Projected Employment

As shown in **Figure 3-5**, the MPO planning area is expected to experience continued growth in employment over the next several decades. Within the MPO planning area, over 102,000 jobs are expected be added to the economy by the Year 2035, increasing employment from 76,398 in the year 2003 to 178,629 in the Year 2035. This represents an annual increase of 2.7 percent.

Figure 3-5
Projected Employment
Laredo Metropolitan Transportation Plan Update



Income

Table 3-5 displays median household income for Webb County and the City of Laredo. In 1999, the City of Laredo had a median household income of $29,108, which is higher than the county average of $28,100.

Table 3-5
Median Household Income
Laredo Metropolitan Transportation Plan Update

	Webb County	Laredo
1989	$18,074	$18,395
1999	$28,100	$29,108

Special Generators

Special generators are major employers, institutions and attractors which create unique travel patterns. These include high schools and post-secondary schools that have peak travel times other than the typical rush hours. Regional shopping malls also have heavy traffic during mid-day rather than from 7:00-9:00 a.m. and 4:00-6:00 p.m. Regional/state parks and entertainment centers also create unique traffic patterns and peak times. Additionally, hospitals and a number of manufacturing plants work around the clock with three shifts of employees creating heavier-than-normal traffic in the off-hours. Special Generators in the Laredo Metropolitan Area are shown in **Table 3-6**.

Table 3-6
Special Generators
Laredo Metropolitan Transportation Plan Update

Schools			
TAZ	**School**	**Students**	**Staff**
92	Texas A&M International University	4,100	1,031
6	Laredo Community College	7,352	580
180	Laredo Community College - South Campus	100	2,000
94	John B. Alexander High School	1,989	246
93	United High School	2,411	250
168	United South High School	1,007	245
124	Nixon High School	2,093	245
54	Martin High School	1,741	250
177	Cigarroa High School	1,499	210
144	St. Augustine Jr./Sr. High School	629	58
213	Lyndon B. Johnson	1,482	250
Airports			
TAZ	**Airports**	**Number of Boardings**	**Number of Deplaning Passengers**
107	Laredo International Airport	73,648	72,345
Transit Center			
TAZ	**Transit Center**	**Annual Bus System Transfers**	
9	Laredo Intermodal Transit Center	326,783	
Hospitals			
TAZ	**Hospitals**	**Number of Employees**	**Number of Beds**
123	Mercy Regional Medical Center	1,700	326
188	Doctor's Hospital	721	178
Regional Shopping Malls			
TAZ	**Regional Shopping Malls**	**Number of Employees**	
101	Mall del Norte	1,441	
131	Wal Mart Super Center	523	
Regional Entertainment/Sports Facilities			
TAZ	**Regional Entertainment/Sports Facilities**	**Type**	**Capacity**
54	Laredo Civic Center	Special Event	Auditorium: 1,979 Ballroom: 1,200 4 Meeting Rooms: 250 each
191	Laredo Entertainment Center	Special Event	Arena: 8065 (sports) 9622 (concerts) 6 meeting rooms: 400 each club level: 150 Parking: 2,000
Regional Parks			
TAZ	**Regional Parks**	**Acreage**	**Visitors**
92, 127, 133	Lake Casa Blanca International State Park	371 (plus 1,650 acre lake)	16,928 (overnight) 310,252 (day)

Demographics Used in the Model

The demographic forecasts discussed above were generated after the model was developed. Therefore for the purpose of this study, forecasts previously prepared for the MPO in 1999 were used as the demographic inputs for the travel demand model. Utilizing the forecasts prepared in 1999 versus those prepared in 2003 has an insignificant impact on the travel demand model and its results.

Networks/Travel Demand Model

In addition to the demographics previously discussed another major input to the travel demand model is the transportation networks. The following section describes these networks and the development and calibration of the transportation model that was used for evaluating existing travel conditions and forecasting future travel demand for the Laredo MPO area. The development of mathematical models capable of simulating existing traffic patterns and projecting future travel demand is one of the most important phases of the transportation planning process.

Networks

The 2000 Laredo model network is a geographical depiction of the Laredo MPO roadway system. A travel demand model compares demand for travel to the supply of the roadway system within a defined study area. Travel demand is derived from population and employment, while the supply side of the equation is the roadway system on which travel occurs. Similar to socioeconomic and demographic data previously described, network attributes describe the characteristics of the roadway system.

The Laredo model network was developed from the Laredo MPO's thoroughfare system. The study area networks are developed and maintained by both the Laredo MPO and TxDOT Laredo District, while TxDOT's Transportation Planning and Programming (TP&P) Division manages the travel forecasting process. The remaining discussion in Chapter 3 is based on documentation from the Laredo Travel Demand Model 1998 Validation summary prepared by TxDOT – TP&P on October 12, 2001.

The following model network features are used to develop a geographical representation of a road thoroughfare system:

- Links,
- Nodes,
- Centroid Connectors, and
- Centroids.

Links are used to represent roadway sections. Nodes are used to split links where roadway attributes differ (i.e., speed limits, number of lanes, or facility type) or where intersections or interchanges occur. Interchanges differ from intersections in that multiple links and nodes are needed. Interchanges require links representing access and egress ramps and require nodes where those ramp connections occur with the intersecting roadway.

Special links and nodes are used to "load" traffic onto the network. Traffic originates from and is destined to geographic areas called traffic analysis zones (TAZs). Special nodes called

"centroids" are used to represent TAZs in the network. Special links called "centroid connectors" are used to represent local streets contained in a TAZ and provide access between centroids and the network. Also, a centroid can have more than one centroid connector.

Figure 3-6 presents the network layout for the year 2003 "base" network. In addition to the graphical depiction of the network, a database is also associated with the model network. The database is used to store link attribute data including but not limited to length (typically in feet), direction of flow (one-way vs. two-way), functional class, area type, number of lanes, posted speeds, model-adjusted speeds and travel times (typically in minutes), directional and total roadway capacities, and observed traffic count data where collected. The base network for the Laredo model was originally calibrated to year 2000 traffic counts, and then this network was utilized to develop the 2025 and 2030 forecast networks (with annotation data about projects and other network modifications).

The forecast networks were updated during a review of each network link's roadway functional class, area type, and number of lanes. Roadway functional class is used to categorize a network link based on its design and intended performance. For example, Del Mar Boulevard has a different functional class than Interstate 35. These facilities are designed differently and intended to perform different travel functions. We expect that speed limits and carrying capacity should differ between the two facilities in our example. The following describes the functional class system for the Laredo MPO region.

Laredo Functional Class System:

Facility Type	Description
1	Radial Freeways
2	Circumferential Freeways
3	Expressways
4	Divided Primary Arterials
5	Undivided Primary Arterials
6	Divided Minor Arterials
7	Undivided Minor Arterials
8	Collectors
9	Local Roads
0	Centroid Connectors

Area type classifies the interaction between a network link and the surrounding land use (for example, urban, suburban, and rural). For example, Santa Maria Avenue provides for more intense interactions between its surrounding land uses than Loop 20 provides to its surrounding land uses. Again, speed and carrying capacity should differ between the two facilities.

Figure 3-6a 2003 Network, Study Area

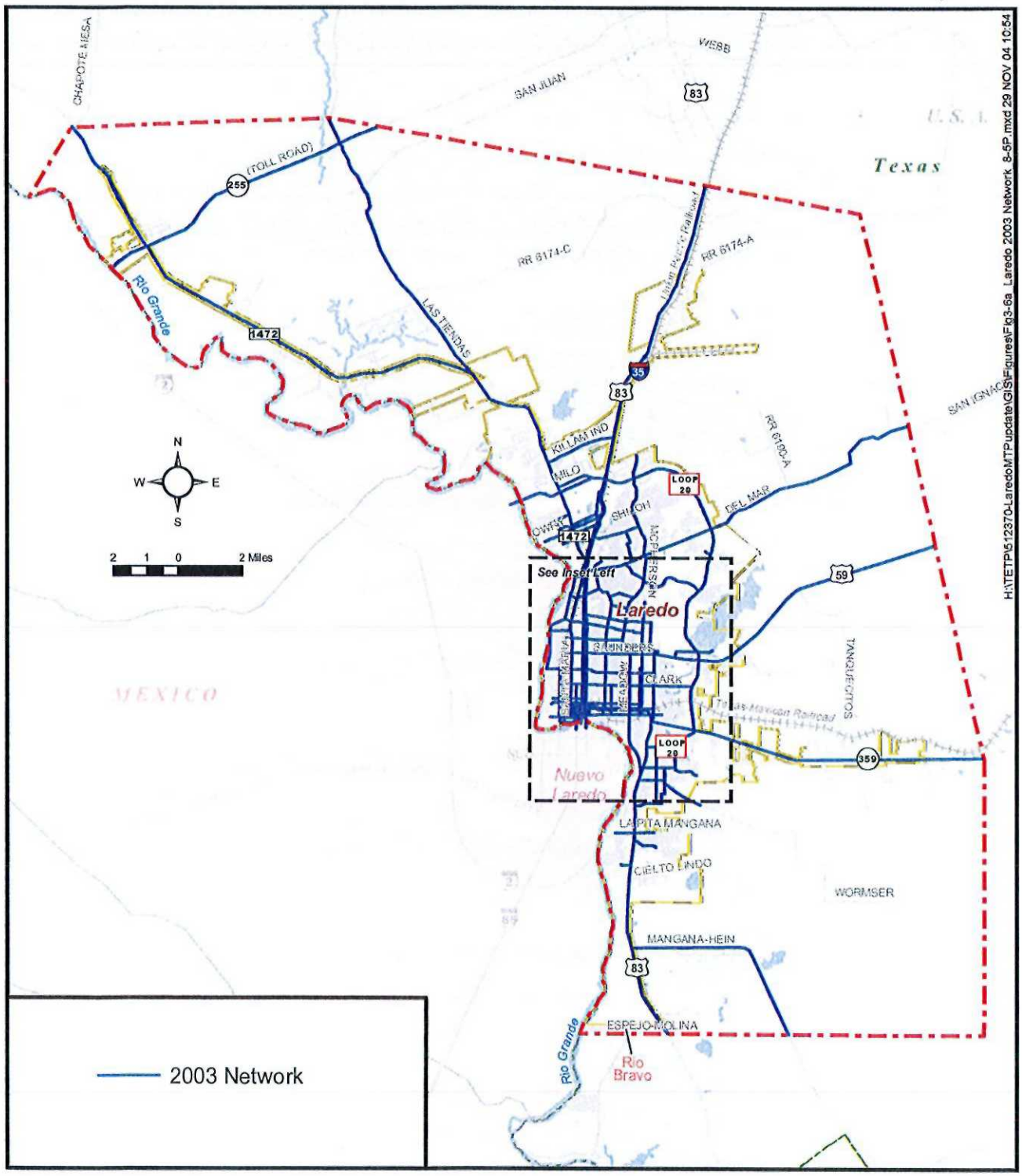
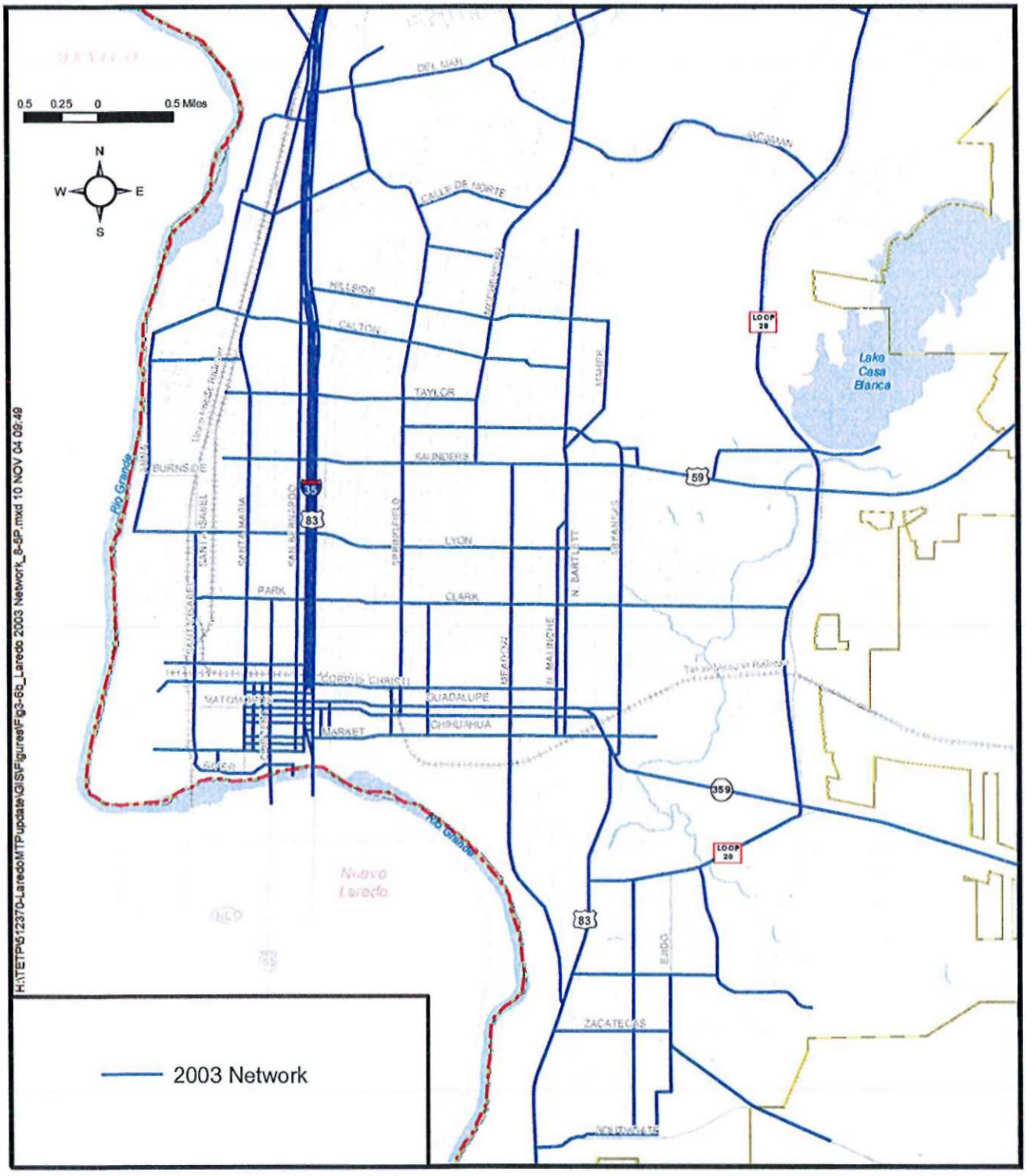


Figure 3-6b 2003 Network, Central Laredo



The number of lanes is also an important roadway feature, representing network supply. Generally speaking, the more lanes a facility has the greater its carrying capacity. These three variables (functional class, area type, and number of lanes) are used to assign speed and capacity values to a network link. **Table 3-7** provides the speed-capacity lookup table for the Laredo model network links.

Table 3-7
Speed – Capacity Lookup Table
Laredo Metropolitan Transportation Plan Update

Note: The top number is *Speed* (mph), the bottom number is *Lane Capacity* (vpd)

Functional Class	Area Type					
	CBD (1)	CBD Fringe (2)	Urban (3)	Suburban (4)	Industrial (5)	Rural (6)
1	35 19,200	43 18,900	51 18,400	55 16,700	52 15,300	60 13,900
2	32 19,200	35 19,700	42 20,100	49 18,900	43 17,900	55 16,900
3	25 10,200	27 10,000	33 9,700	37 8,500	33 7,500	53 6,300
4	23 7,500	28 7,400	33 7,100	36 6,200	33 5,500	53 4,600
5	24 6,700	27 6,600	32 6,400	36 5,600	32 5,000	44 4,200
6	23 6,500	25 6,400	31 6,100	35 5,400	30 4,800	43 4,000
7	22 5,900	25 5,800	30 5,600	34 5,000	30 4,400	42 3,800
8	25 5,000	29 4,900	34 4,700	38 4,200	35 3,700	45 3,100
9	30 3,000	32 3,000	36 2,900	44 2,500	36 2,300	50 1,900
0	22 N/A	25 N/A	30 N/A	35 N/A	30 N/A	42 N/A

Travel Model Forecasting

The entire network development and review process described above is often referred to as network coding. Once network coding is completed, the model network is used as an input to the travel demand model. Prior to forecasting travel demand, the base year model results should be compared to existing traffic patterns of the base year, which is a process referred to as model validation. Validation involves the adjustment of model parameters, so that assigned model volumes fall within an established confidence interval of observed traffic volumes (ground counts) obtained in the base year. **Table 3-8** shows the model validation results by area type and functional class.

Table 3-8
Comparison of Assigned to Counted VMT
Laredo Metropolitan Transportation Plan Update

Area Type	Observed	Assigned	Percent
CBD	38,190	33,841	112.85%
CBD Fringe	717,933	679,192	105.70%
Urban	567,895	567,814	100.01%
Suburban	276,075	271,983	101.50%
Industrial	338,557	337,892	100.20%
Rural	326,525	316,272	103.24%
Total	***2,265,175***	***2,206,994***	***102.64%***

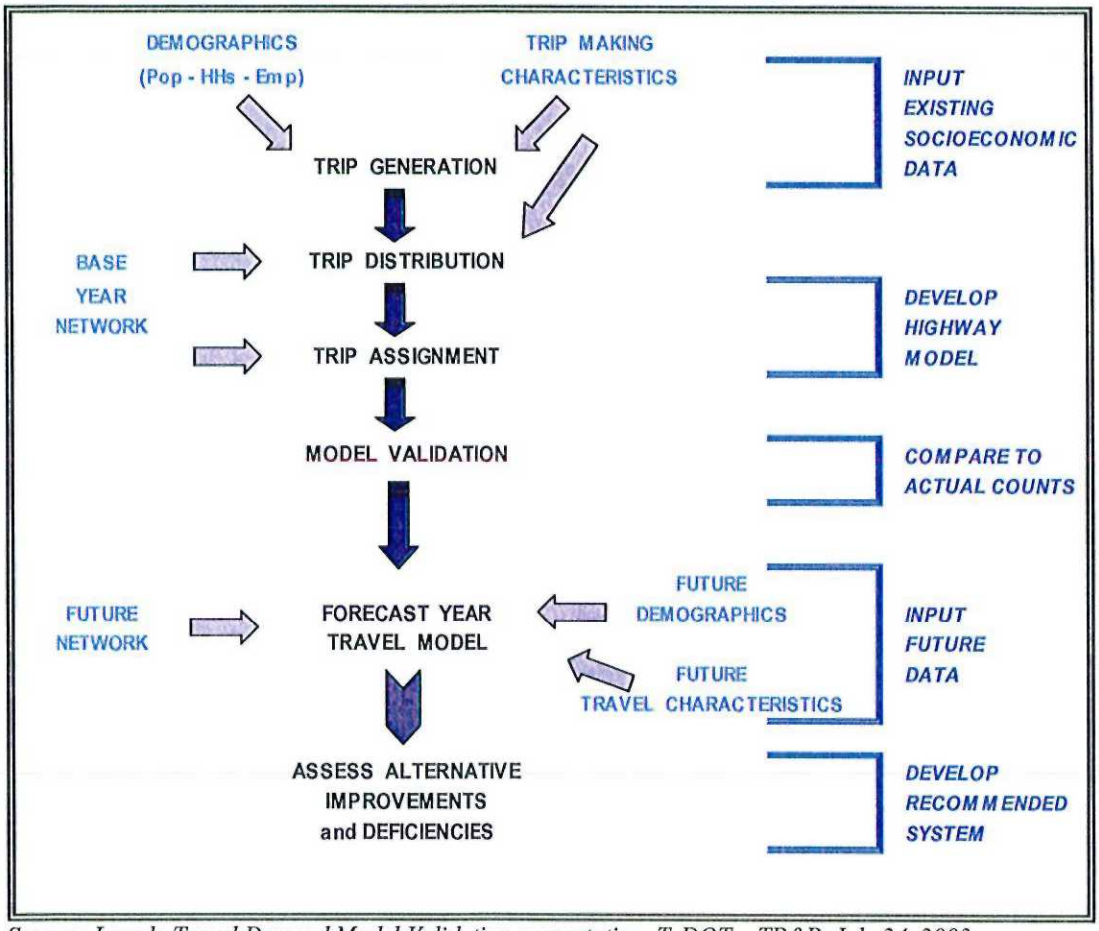
Functional Class	Observed	Assigned	Percent
Freeways	612,973	606,087	101.14%
Expressways	419,317	397,174	105.58%
P. Arterials	603,752	583,377	103.49%
M. Arterials	530,313	505,244	104.96%
Collectors	75,703	93,395	81.06%
Local Roads	23,116	21,717	106.44%
Total	***2,265,174***	***2,206,994***	***102.63%***

The validation results indicate that the model is performing within an acceptable range. Once confident in its performance, the model can be utilized to test the adequacy of proposed transportation improvements for serving projected demand. Travel model forecasting also works in conjunction with land use forecasts, since both depend largely on the following factors:

- Socioeconomic conditions affecting trip productions and attractions,
- Land use patterns based on locations and intensities of use, and
- The type, extent, and quality of transportation networks and facilities.

The Laredo MTP model forecasting process is based on the Texas Model package, which is a modified 4-step analysis maintained by TxDOT-TP&P. This forecasting process includes the trip generation, trip distribution, and traffic assignment steps, as well as a model validation procedure previously described. **Figure 3-7** presents the four steps of the Texas Model along with the inputs to and analyses within the process. One particular input is the TAZ map layer and / or data file; which contains all socioeconomic and demographic data that are a factor in determining the generation and distribution of trips between zones.

Figure 3-7
Travel Demand Model Process Chart
Laredo Metropolitan Transportation Plan Update



Source: Laredo Travel Demand Model Validation presentation, TxDOT – TP&P, July 24, 2003.

The Laredo travel demand model is a planning analysis tool which helps the Laredo MPO and District with their MTP development by evaluating system improvements, identifying system deficiencies, and conducting alternative analyses. One performance measure that helps with this analysis is the volume-to-capacity (V/C) ratio, which helps to determine if a roadway and / or improvement is deficient in capacity (supply) to meet a projected volume (travel demand). The V/C ratio is also useful in describing the Level of Service (LOS) of a particular roadway.

Trip generation is the initial modeling step, which provides an estimation of the amount of travel within the Laredo MTP study area. This method determines the number of trip ends produced from and attracted to each TAZ, and also classifies these trip ends by the following trip purposes:

- HBW = Home-based work trips
- HBNW = Home-based non-work trips
- NHB = Non-home base trips (within the study area)
- NHB-Ext = Non-home base trips (with external destinations)
- Truck / Taxi = "Specialized" truck and carpool trips
- Ext-Through = External "pass-through" trips
- Ext-Local = External trips (with local destinations)

For trip generation, the Texas Model utilizes Tripcal5, a multi-functional and flexible program that can estimate trip productions and attractions for a TAZ coverage of no more than 10,000 zones. TripCal5 has several types of cross-classification or linear regression models; three of which are used for estimating trip-end productions and five for trip attractions. The cross-classification models for trip productions are based on the number of households by household size, income, or auto ownership. Conversely, the trip attraction models estimate the number of employees by area type.

Trip distribution is the second step performed by the model. Trip distribution uses the TAZ productions and attractions output from trip generation, and assigns each production to a destination and each attraction to an origin for all possible zones in the study area. This step is typically accomplished using the gravity model based on Isaac Newton's mathematical formula. The gravity model analyzes the frequency of trip interchange between zone pairs based on the relationship between each zone's productions and attractions and the travel time between the zones.

However, the Texas Model utilizes the Atomistic Model that considers the travel opportunities within a zone to be spatially distributed around instead of concentrated at the zone's centroid. Therefore instead of the single travel time relationship used in the gravity model, the Atomistic Model uses trip attractions and trip length frequencies as factors for calibrating each model iteration, until the model converges on the desired attraction and trip length frequency settings.

The final step involves an iterative process called ***traffic assignment***. The trip productions and attractions (from trip generation) are converted to origins and destinations (from trip distribution). The output of trip distribution is an origin-destination (O-D) matrix which contains total vehicle trips for each O-D pair. The O-D matrix is assigned to the network using a minimum path algorithm based on travel time and capacity restraints.

The Texas Model uses the User Equilibrium (UE) method for assignment, which runs iterative minimum path assignments and readjusts travel times according to link delays. Link delays increase as a result of congestion on a particular link. As link volumes approach link capacity, the V/C ratio increases for that link. The result is a decrease in the LOS on that link and travel time is reduced. As travel time is reduced due to congestion, vehicles divert to other links with faster travel times. This process is continued until no one vehicle can further reduce their travel time. At this point, the assignment is said to have reached "equilibrium". The results of the equilibrium assignment are displayed in the network database for further analysis and for presentation purposes.

The results from the UE assignment are then compared back to the "ground counts" for validation of the base year model (previously discussed). Once the model has been validated, through feedback loops, it is ready for use in the planning and development of forecast networks.

Chapter 4
Project Evaluation

Preparation of a Metropolitan Transportation Plan for the Laredo MPO area requires a detailed understanding of the study area's growth potential and traffic flow characteristics. Based on community objectives and future transportation needs, an evaluation is needed to analyze alternative transportation networks. In addition to traffic service, factors such as maximum utilization of the existing transportation system, community acceptance, and conformance with community goals were all considered in evaluating transportation plan alternatives.

Project Selection Criteria

Project selection criteria was developed by the MPO and used to assist in determining the short term, long-range and unfunded needs sections of the plan for state-sponsored projects. Local projects for the City of Laredo and Webb County were also reviewed.

The MPO Technical Advisory Committee reviewed and modified the project selection criteria at its regular meeting in September 2004. The MPO Policy Committee formally approved the project selection criteria on September 9, 2004. The project selection criteria include the following six categories:

1. **Demonstrated Need** – Does the project documentation clearly demonstrate existing or future need for this project? Does the project significantly improve LOS along the facility or adjacent facilities?

   - Demonstrated Need is evaluated based on an improvement in Level-of-Service (LOS) on existing or parallel facility.

   Current Congestion (existing or parallel facility)

Criteria	Points
LOS A	0
LOS B	25
LOS C	50
LOS D	75
LOS E/F	100

   Future Congestion (existing or parallel facility)

Criteria	Points
LOS A	0
LOS B	25
LOS C	50
LOS D	75
LOS E/F	100

2. **Cost Reasonableness** - Does the proposed cost for the project seem reasonable when compared to comparable projects undertaken in the City, County or Region? Are the cost estimates in line with TxDOT or County estimates for similar projects?

- Cost Reasonableness is evaluated using the cost of project divided by the future VMT multiplied by the project length (Cost per Vehicle Mile). For new construction the 2030 VMT will be used.

Criteria	Points
$0-$75	75
$75-$125	50
$125-$500	25
>$500	0

3. **Modal Impacts** - Does this project help or assist bicycle mobility? Does the project improve accessibility or safety for bicyclists? Does this project improve mobility or access for pedestrians? Is pedestrian safety enhanced with this project? Does this project assist with transit access?

   - Modal Impacts are evaluated by assigning points to projects that provide bicycle, pedestrian, transit, airport, and/or rail access.

Criteria	Points
Bicycle Access	20
Sidewalks	20
Transit Access	20
Airport Access	20
Rail Access	20

4. **Environmental/Socioeconomic Impacts** - Does this project impact the community's environment positively, or is there the potential for negative environmental impacts? Does the project have community support, and is it a priority for the community?

   - Environmental/Socioeconomic Impacts are evaluated by assigning points to projects based on the need for wetland mitigation and/or acquisition of additional Right-of-way.

Criteria	Points
Negative	-10
Positive	10
Public Acceptance	20

ROW Cost as a Percent of Total Implementation Cost:

Criteria	Points
0% of total cost	25
1-25% of total cost	20
26-50% of total cost	15
51-75% of total cost	10
76-100% of total cost	0

5. **Project Readiness -** Is this project likely to be implemented within this 3-year TIP period? Has sufficient engineering work occurred on this project to ensure timely implementation? Has the right-of-way for the project been secured?

   - Project Readiness is evaluated by assigning points to projects based on the likelihood of implementation and on what stage the project is at in the planning and development process.

Criteria	Points
ROW Purchased	10
PE Completed	10
Plans Completed	10

6. **Special Circumstances** – Additional factors considered important to the project which include safety, economic impacts, and system continuity and connectivity. **Safety -** Will implementation of the project improve safety for vehicles, bicyclists or pedestrians? Will accidents be reduced with this project? Does this project reduce the likelihood of accidents or remove unsafe driving/biking/walking conditions? **Economic Impacts –** Does the project support economic development and international trade in the community? **System Continuity and Connectivity** - Does the project provide for connecting sections of an existing or planned street that are presently discontinuous?

   - **Special Circumstances** are evaluated by assigning points for safety, economic impacts, and system continuity and connectivity.

Criteria	Points
Safety	30
Economic Impacts	15
System Continuity	15

Each of these criteria, as well as the results of the analysis, are discussed in the following sections.

Transportation Improvement Needs

The first step in identifying projects to be included in the MTP is projecting traffic demands and needs. Using TxDOT's travel demand model for the Laredo MPO Boundary, projected capacity deficiencies were identified along the existing roadway system. Projected future deficiencies were determined by conducting a capacity/level-of-service analysis of the roadway system.

Roadway capacity is defined as the maximum number of vehicles that can be accommodated on a roadway facility during a particular time period under prevailing roadway, traffic, and control conditions. Roadway capacity is determined by several contributing factors, including the functional class of the roadway, type and intensity of adjacent development, and the number of

travel lanes. Other contributing factors of roadway capacity include intersection spacing, efficiency of signalized intersections, traffic composition, traffic controls and regulations.

An important result of a capacity analysis is the determination of level-of-service. Level-of-Service (LOS) is a qualitative measure of operating conditions at a location and is directly related to the volume-to-capacity ratio along roadways. LOS is given a letter designation ranging from A to F (free flow to heavily congested), with LOS D considered in most urban areas as the limit of acceptable operation. For example, LOS can be related to the grading scale of a report card: A – Excellent, B – Good, C – Average, D – Acceptable, E – Needs improvement, and F – Failing. LOS criteria used to evaluate projected future traffic deficiencies were identified previously in Chapter 2.

In determining the transportation improvement needs for the Laredo MPO area, a base network of the existing roadway system operational in 2003 was developed. All added capacity and regionally significant roadway projects completed by the end of 2003 were added to the updated base network. Plus, a model assignment was conducted to determine the traffic volume and LOS distributions throughout the MPO study area.

The base 2003 network was then utilized to establish a "No-Build" network, where traffic loadings based on year 2020 and 2030 demographic data were projected onto the existing 2003 network. These 2020 and 2030 "No-Build" alternatives analyzed how future traffic volumes were distributed on the existing network if no transportation improvements were implemented during that time period. The 2020 and 2030 No-Build networks also provided a baseline for comparisons between networks with project implementation and the no-build network.

Projected future year 2020 and 2030 daily traffic volume assignments and LOS on the No Build networks are shown in **Figure 4-1** and **Figure 4-2**, respectively. The traffic volume and LOS distributions for each network are based on trip assignments that are described as part of the travel model forecasting process in Chapter 3: Travel Demand Modeling and Demographics. The trip assignments utilize data inputs provided by the Laredo MPO that are originally based on demographic data for the 2030 forecast years.

If no roadway improvement projects are implemented over the course of the next 25 years, most major roadway corridors within the MPO boundary are projected to operate at unacceptable LOS conditions by year 2030, as illustrated in Figure 4-2. The majority of the roadways in Laredo deteriorate to unacceptable LOS, including US 83, Saunders (US 59), Guadalupe, Chihuahua, and IH 35. Clearly, a need for transportation improvements throughout the Laredo MPO area has been identified.

Alternative Improvements

With the analysis of the existing and no build networks complete, the next step was evaluate numerous additional projects for inclusion in the MTP update. As per the Laredo MPO Public Involvement Process, a project nomination form was published in the newspaper in early

Figure 4-1 Year 2020 Traffic Volumes and LOS on No Build Network

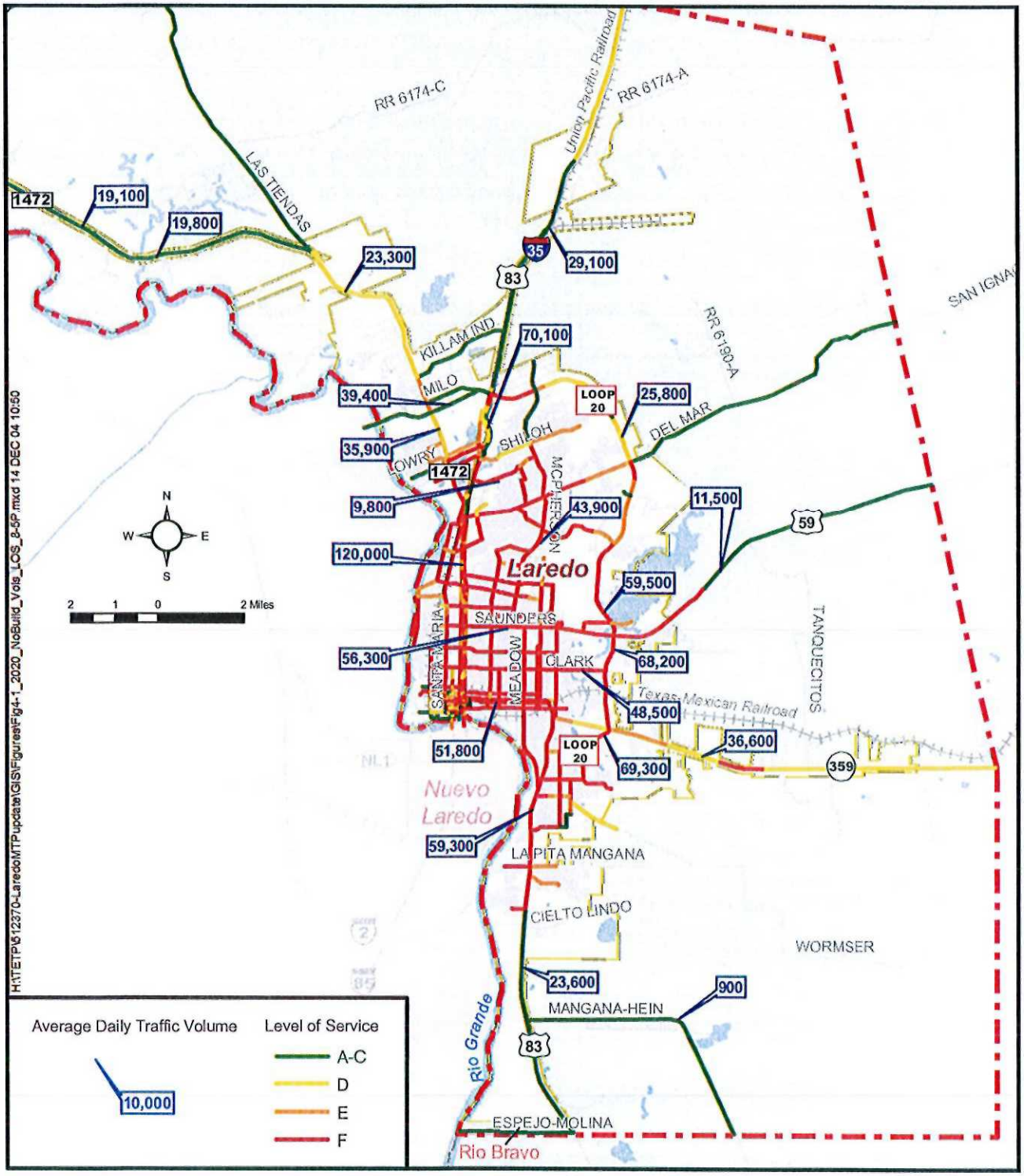
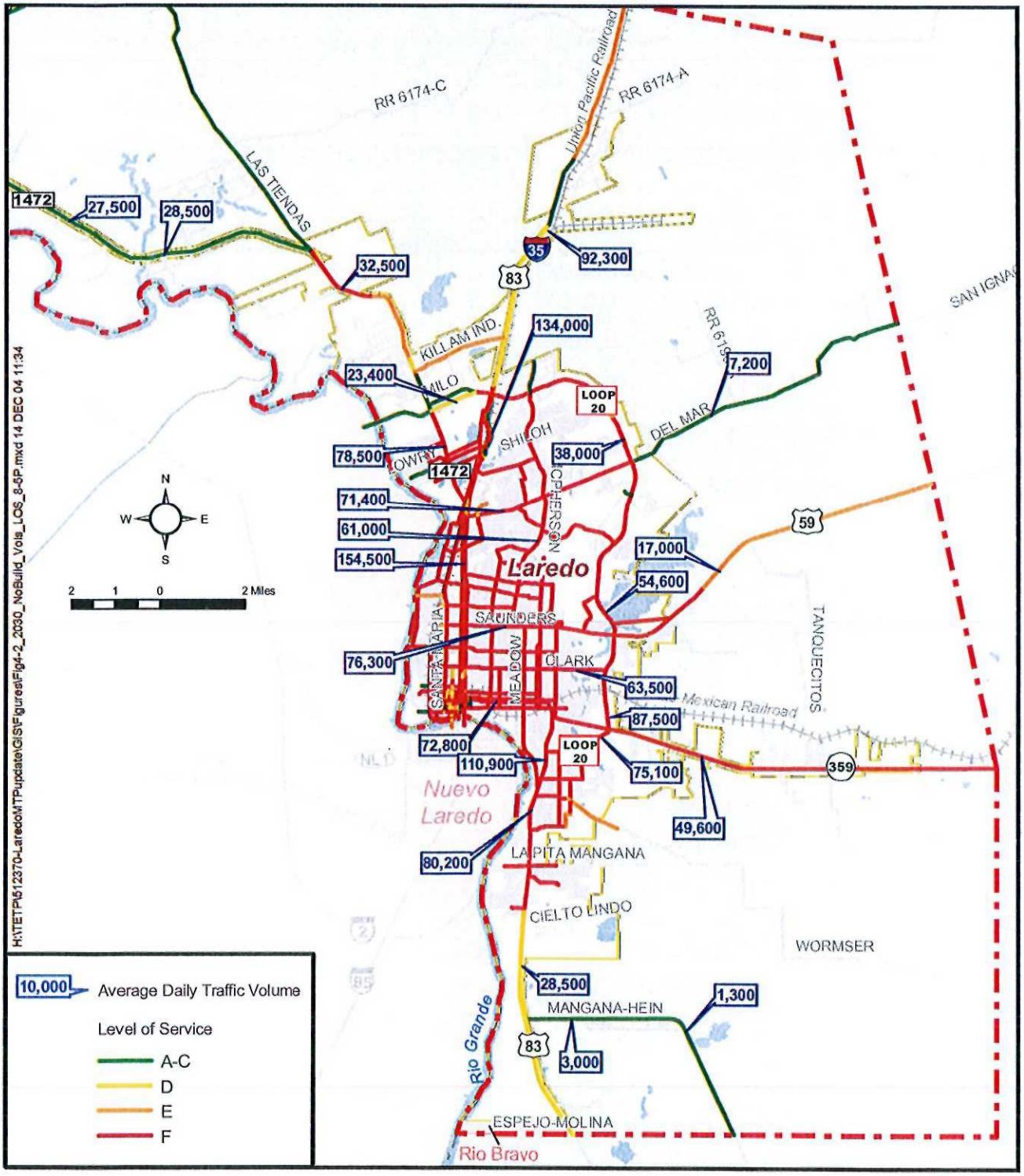


Figure 4-2 Year 2030 Traffic Volumes and LOS on No Build Network



September 2004 to invite the public to nominate projects for inclusion in the MTP. The published nomination form is shown in **Figure 4-3**. In addition, the Laredo MPO Policy Committee, Laredo MPO Technical Committee, TxDOT staff, City of Laredo staff, and El Metro provided input in nominating projects for potential inclusion into the MTP. Projects from the Transportation Improvement Program (TIP), Unified Transportation Program (UTP), and the City of Laredo's Capital Improvement Program (CIP) were all reviewed to develop a complete list of potential projects. Approximately 85 projects were identified for evaluation.

Evaluation of Alternatives

The project selection criteria approved by the MPO Policy Committee, as discussed previously in this chapter, were used to evaluate the alternative transportation improvements for inclusion into the Laredo MTP Update. The project selection criteria were grouped into six categories, including Demonstrated Need, Cost Reasonableness, Modal Impacts, Environmental/Social Impacts, Project Readiness, and Special Circumstances.

Demonstrated Need - The Demonstrated Need category included an analysis existing traffic volumes, existing level-of-service, future traffic volumes, and future level-of-service. The resulting LOS analyses would help to determine which road projects provide a better benefit to surrounding traffic flow conditions. The more effective projects will eventually help to develop a fully integrated and continuous transportation system to serve the future population of the Laredo MPO area.

Using existing year 2003 traffic assignments and future traffic assignments for 2030 no build network, a project matrix was developed to include all evaluated transportation improvement alternatives. The matrix contained several attributes of each project, including the project length and cost, the assigned volumes from the model analysis, and the corresponding LOS value for the project. The volume and LOS data were typically based on the highest assigned values within the limits of the project and for both the existing and future no-build conditions. For new location facilities, traffic volume and LOS data for parallel facilities were used, as the new location facilities would provide a traffic operations benefit to the parallel facilities.

The resulting project matrix is included in **Appendix B**. The change in traffic conditions between the existing and no-build networks helped to rate the need for implementing a particular transportation improvement. Nearly half of the projects were rated with LOS F conditions for both the existing and future time periods and received the maximum score of 200 points for the Demonstrated Need criteria. Another 13 projects received 175 points with LOS E conditions in the existing time period and LOS F in the future time period.

Cost Reasonableness - Cost estimates for the projects discussed in this chapter are based on averages for current roadway construction and are intended for planning purposes only. These order-of-magnitude construction cost estimates will be refined as the projects are staged through the Transportation Improvement Program (TIP) for implementation. The majority of the cost estimates used in this analysis were provided by the Texas Department of

Figure 4-3: Project Nomination Form

Laredo Metropolitan Transportation Plan Update
Project Nomination Form

The Laredo Urban Transportation Study is in the process of updating their Metropolitan Transportation Plan (MTP). The MTP is a long range transportation plan that will guide transportation improvements in the region over the next 25 years. The Metropolitan Planning Organization is accepting nominations for proposed transportation projects of regional significance to be considered in the plan. Proposed projects may include highway, aviation, transit and bicycle and pedestrian improvements.

Project Name _____

Limits _____

Description _____

_____

_____

_____

Please mail or fax forms to
Gabriel Del Bosque
MPO Coordinator
Laredo MPO
P.O. Box 579
Laredo, Texas 78042-0579
Fax: (956) 794-1624
Email: gdelbosque@ci.laredo.tx.us

Transportation, City of Laredo, or Webb County for projects in the TIP, UTP, or CIP. Additional order-of-magnitude cost estimates for other nominated projects were developed by WSA using an analysis of fiscal 1995-97 average road construction costs from the Texas Comptroller of Public Accounts and TxDOT for types of various roadway construction adjusted to year 2004 value. All estimated costs are in terms of year 2004 cost values and are to be used only for the purposes of comparing the relative cost of a project against other projects. The construction cost estimates for recommended improvements are summarized in the project matrix in Appendix A.

Cost reasonableness was calculated by determining the cost per vehicle-mile traveled and using it as a cost-benefit comparison value to compare potential alternatives against each other. Projects with a lower cost per VMT value were assumed to provide more benefits to the public at a lower implementation cost. Cost per VMT values ranged from about $3 per VMT to over $1,600 per VMT. Most projects had cost per VMT values between $20 and $150. The lowest cost per VMT projects (less than $5 per VMT) were access management projects, which are relatively low cost projects which provide travel benefits. The project matrix included in Appendix A identifies cost per VMT values for each project.

MODAL IMPACTS – Each project was also reviewed for potential modal impacts. Modal impacts included whether or not a nominated project included bicycle, pedestrian, transit, rail, or airport access improvements. Most nominated projects did not include bicycle facilities, while most of the arterial street projects within the City of Laredo city limits do include sidewalks. However, even though most roadway projects do not include bicycle facilities, bicycle only projects do receive separate transportation enhancement funding, as discussed in Chapter 6. Projects located along Loop 20 received 20 points, as improvements to Loop 20 would provide improved access to the Laredo International Airport.

ENVIRONMENTAL/SOCIAL IMPACTS – Environmental/Social impacts included public acceptance of the project, positive or negative environmental impacts, and ROW Cost as a percent of total cost. All nominated projects were perceived to have public support, as the projects were nominated by public citizens or agency representatives, with the exception of a few projects such as the Outer Loop, Loop 20, and FM 1472 raised median projects. These three projects, while they do have some support from citizens, they also have some opposition, so they did not receive points for public support. During the 45 day public comment period, citizens were provided the opportunity to again voice their acceptance of nominated projects.

In addition, projects were given points depending upon the amount of additional right-of-way (ROW) that will be required to implement a project. The purchase of right-of-way typically impacts adjacent businesses or residences, so less amount of additional right-of-way needed to implement a project received higher scores than projects requiring a larger percentage of ROW. Twenty-eight of the evaluated projects do not include any additional right-of-way to implement, so they received a full 25 points. For the remaining evaluated projects, ROW cost as a percent of total construction cost ranged from two percent to 70 percent.

PROJECT READINESS – Projects received additional points depending on the stage in the implementation process and how quickly they could be implemented. Projects already included in the MPO's three year Transportation Improvement Program (TIP) typically received between 20 and 30 points, as these projects have completed the preliminary engineering process and design plans are complete. In addition, some of the TIP projects have already acquired all of the needed right-of-way to complete the project. Other project not in the TIP typically received between 0 and 20 points, depending upon their stage in the process.

SPECIAL CIRCUMSTANCES – Projects also received additional points if they had special circumstances that provided additional public benefit. Some projects, such as the railroad and intersection grade separation projects, as well as the raised median projects, received an additional 30 points for safety. In addition, major new location projects, such as the Outer Loop and Cuatro Vientos, received an additional 15 points for system continuity, as they provide important roadway connections through some of the undeveloped portions of Laredo and provide relief to parallel corridors such as US 83.

EVALUATION SUMMARY

All nominated transportation projects went through a selection process based on the project evaluation criteria and the data documented in Appendix A. Each project was placed in either a short-term or long-term financially constrained time period or a financially unconstrained time period based on this data and the project funding levels during those time periods. Chapter 5 discusses the financial plan and level of available funding, while Chapter 6 identifies the selected projects as part of the recommended project listing for the Laredo MTP update.

ENVIRONMENTAL JUSTICE CONSIDERATIONS

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, requires "federal agencies to achieve environmental justice by identifying and addressing disproportionately high and adverse human health and environmental effects, including the interrelated social and economic effects of their programs, policies, and activities on minority populations and low income populations in the United States" (FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations).

In accordance with federal and state requirements, individuals who fall into identified environmental justice and Title VI population groups within the study area are identified in this section for consideration in the evaluation of transportation improvement options. Population groups identified in this section include minority and low income groups.

As discussed in Chapter 1, throughout the development of the plan, several public involvement activities were undertaken to allow all groups the opportunity to participate in the plan and provide input. These activities included the publication of the nomination form in the local newspaper 90 days prior to the adoption of the plan and televised meetings on the local public access network. All MPO meetings were advertised in both Spanish and English.

Minority Populations

This section involves assessing the minority population within the study area. Minority populations are defined in accordance with Executive Order 12898, U.S. Department of Transportation's (DOT) Order DOT 5610.2 and Federal Highway Administration's DOT Order 6640.23 Actions to Address Environmental Justice in Minority Populations and Low-income Populations. Minority is defined as:

- Black (having origins in any of the black racial groups of Africa);
- Hispanic (of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
- Asian American (having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or
- American Indian and Alaskan Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).

Table 4-1 displays race, Hispanic Origin and minority populations for the City of Laredo and Webb County. As shown, 94 percent of Webb County is of Hispanic Origin.

Table 4-1
Race, Hispanic & Minority Population, 2000
Laredo Metropolitan Transportation Plan Update

	Webb County	City of Laredo
Total:	193,117	176,576
Not Hispanic or Latino:	11,047	10,360
White alone	9,508	8,891
Black or African American alone	294	276
American Indian and Alaska Native alone	144	122
Asian alone	783	773
Native Hawaiian and Other Pacific Islander alone	16	15
Some other race alone	22	22
Two or more races	280	261
Hispanic or Latino:	182,070	166,216
White alone	149,162	136,376
Black or African American alone	419	376
American Indian and Alaska Native alone	768	662
Asian alone	50	47
Native Hawaiian and Other Pacific Islander alone	32	32
Some other race alone	27,008	24,589
Two or more races	4,631	4,134
Total Minority Population	**183,609**	**167,685**

Source: U.S. Census Bureau, 2000

Low Income Population

Low-Income is defined as a person whose household income (or in the case of a community or group, whose median household income) is at or below the U.S. Department of Health and Human Services poverty guidelines. The 2004 Health and Human Services poverty guideline for a family of 4 is $18,850. Data sources used in identifying low-income populations in the Laredo area includes available information from the U.S. Census Bureau. The median household income for Webb County and the City of Laredo in 1999 was $28,100 and $29,108 respectively.

Table 4-2 identities persons whose income in 1999 was below poverty level. As shown, 30 percent of Webb County's population was living below poverty level.

Table 4-2
Persons Living Below Poverty Level, 2000
Laredo Metropolitan Transportation Plan Update

	Total Population (for which poverty status is determined)	Below Poverty Level	
		Persons	Percent
City of Laredo	174,070	51,493	31%
Webb County	190,359	59,339	30%

Table 4-3 displays the number of households with an income less than $20,000, based on the 2000 Census. As shown thirty five percent of households in the county have an income less than $20,000.

Table 4-3
Number of Households with Income Less than $20,000, 2000
Laredo Metropolitan Transportation Plan Update

	Total Households	Households with an income less than $20,000	Percent
City of Laredo	46,908	16,437	36%
Webb County	50,647	18,397	35%

Chapter 5 – Financial Plan

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA_LU) requires that the MTP incorporate a financial plan for the planning period. The MTP is required to be "financially constrained", meaning the estimated implementation costs for the planned transportation improvements are in balance with the projected revenues available from identified funding sources. This requirement for a financially constrained MTP ensures that the plan is based upon realistic considerations of the estimated costs for the planned improvements and how they are to be funded. A financially constrained MTP supports the Metropolitan Planning Organization (MPO) in prioritizing area transportation needs and developing a transportation system that maximizes the use of available financial resources.

FUNDING SOURCES

The purpose of this section is to identify funding sources and project costs associated with the transportation improvements identified in the Laredo Metropolitan Transportation Plan Update. Transportation improvements in the Laredo MPO can be funded through a variety of sources including federal, state and local funds. In fact many projects are funded through a combination of these sources.

Federal and State

The Texas Department of Transportation recently streamlined project funding categories from 24 main categories to 12. Projects now fall under the Statewide Preservation Program (SPP), which is supported by the department's "Maintain It' strategy, or the Statewide Mobility Program (SMP), which is supported by the "Build It" strategy. **Table 5-1** provides a general overview of the 12 TxDOT funding categories.

The Laredo MPO is eligible for funding in the following categories:

1- Preventive Maintenance and Rehabilitation
3 – Urban Area (non-TMA) Corridor Projects
4- Statewide Connectivity Corridor Projects
6 – Structures Replacement and Rehabilitation
8 – Safety
9- Transportation Enhancements
10 – Supplemental Transportation Projects
11 – District Discretionary
12 – Strategic Priority

Table 5-1
Funding Summary
Laredo Metropolitan Transportation Plan Update

Funding Category #	Funding Category Name	Program Authority	Allocation Program	Summary / Restrictions	Funding Fed	Funding State	Funding Local
MAINTAIN IT							
1	Preventive Maintenance and Rehabilitation	Commission	Districts	Preventive maintenance and rehabilitation of the existing state highway system including interstate main lanes, structures, signs, markings, striping.	90% 80% 0%	10% 20% 100%	
6	Structures Replacement and Rehabilitation	Commission	none	Rehab of bridges on and off the state system, replacement of existing highway-railroad grade crossing or railroad underpasses	80% 80% 0%	20% 10% 100%	10%
BUILD IT							
2	Metropolitan Area (TMA) Corridor Projects	Commission	none	Mobility and added capacity projects for TMA MPOs	80% 0%	20% 100%	
3	Urban Area (non-TMA) Corridor Projects	Commission	none	Mobility and added capacity projects for non-TMA MPOs	80% 0%	20% 100%	
4	Statewide Connectivity Corridor Projects	Commission	none	Mobility and added capacity projects which serve the mobility needs of statewide connectivity	80% 0%	20% 100%	
5	Congestion Mitigation & Air Quality Improvement	Commission Allocation Projects selected by MPO in consultation with TxDOT and TCEQ	Districts	Addresses attainment of air quality standards in non-attainment areas	80% 80%	20%	20%
7	Metropolitan Mobility/ Rehabilitation	Commission Allocation. Projects selected by MPO & TxDOT	Districts	Transportation needs within MPOs with populations of 200,000 or greater	80% 80% 0%	20% 0% 100%	0% 20% 0%
8	Safety – Federal Hazard Elimination Program	Commission Allocation. Selected statewide by federally mandated safety indices	Traffic Operations Division	Safety related projects	90% 0%	10% 100%	
	Safety – Federal Railroad Signal Safety Program	Commission Allocation. statewide	Traffic Operations Division	Installation of automatic RR warning devices	90% 0%	10% 100%	

Funding Category #	Funding Category Name	Program Authority	Allocation Program	Summary / Restrictions	Funding Fed	Funding State	Funding Local
9	Transportation Enhancements	Commission selection and approval	none	Projects beyond normal what is normally expected for transportation enhancements	80% 80%	20% 0%	0% 20%
	Safety Rest Area Program	Commission allocation. Selected statewide by Maintenance Division	Maintenance Division	Projects to renovate, build, relocate safety rest areas	80%	20%	
10	Supplemental Transportation Projects - State Park Roads	Commission Allocation. Projects selected by Tx Parks & Wildlife	Transportation Planning & Programming Division	Construction and rehabilitation of roadways within or adjacent to state parks	0%	100%	0%
	Supplemental Transportation Projects RR Grade Crossing Replanking Program	Commission allocation	Traffic Operations Division	Replacement of rough railroad crossing surfaces	0%	100%	
	Supplemental Transportation. Projects RR Signal Maintenance Program	Commission allocation	Traffic Operations Division	Contributions to RR Companies based on number of crossings	0%	100%	
10	Supplemental Transportation Projects Construction Landscape Programs	Commission allocation. Projects selected by Districts	Design Division	Landscape, aesthetic, and environmental improvements	0%	100%	
	Supplemental Transportation Projects Landscape Cost Sharing Program	State	Design Division	Allows the department to execute joint landscape improvement projects through partnerships	0%	100%	
	Supplemental Transportation Projects Landscape Improvement Program	Districts	Design Division	Landscape projects for non-attainment air quality or near non-attainment areas	0%	100%	
	Supplemental Transportation Projects Supplemental (Federal)	Federal allocations	None	Federal programs such as Forest Highways, Indian Reservation Highways, Federal Land Highways and Ferry Boat Discretionary	80% 100% 0%	20% 0% 100%	
11	District Discretionary	Commission Allocation. Projects selected by districts	Districts	Projects selected at district's discretion	80% 0% 80%	20% 100% 0%	0% 0% 20%
12	Strategic Priority	Commission Selection. Project-specific	None	Projects must promote economic development, provide system continuity with adjoining states, increase efficiency on military deployment routes	80% 0%	20% 100%	

Source: Texas Department of Transportation

INNOVATIVE FINANCING TECHNIQUES

With continued growth and development occurring across the state, traditional funding sources are no longer adequate to keep up with transportation needs. As a result in June 2003, HB 3588 was passed, which provides local officials the necessary tools to develop and improve Texas' transportation infrastructure. The new legislation gives local authorities more power and provides them with innovative techniques to finance transportation improvements allowing projects to be planned and built at a much faster rate. Innovative financing techniques include the following methods found in the new transportation bill and other tools available to local authorities to supplement the traditional "pay-as-you-go" method of financing highway projects:

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

Bonds allow the state to borrow money to pay for projects over time. Bonds are secured by the existing State Highway Fund and the state can leverage up to $3 billion for transportation projects. Proceeds from bonds would be used to fund highway improvements with at least $600 million dedicated to safety projects.

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.

Comprehensive Development Agreements

A Comprehensive Development Agreement combines all phases of a toll road project into one contract. This includes the design, construction, right of way acquisition, and maintenance phases of a typical project. By combing them all into one contract, it also helps reduce the cost of completing a project and accelerates its completion.

Pass-Through Toll Agreements

This type of agreement is where the driver pays no tolls. A local government or private entity makes a transportation improvement and is reimbursed from the state based on the number of vehicles using the highway. This allows the local area more funding to complete projects quicker while providing a more "fair" way to allocate funds, based on usage.

State Infrastructure Bank

TxDOT has a state infrastructure bank (SIB), which 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, sale and lease of property, 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.

HISTORICAL FUNDING

Historical funding levels by federal, state, and local agencies over the past ten years provides an important baseline for projecting future funding levels for the next 25 year period.

Federal and State

TxDOT provided historical funding for the Laredo MPO for the past 10 years (FY1995 – FY2004). Over the past 10 years state and federal funding for construction only in the area totaled approximately $383 million.

Transit

El Metro has received approximately $48.6 million dollars in federal, state and local revenues over the past five years.

Table 5-2
Historical and Projected Funding, Laredo MPO
Laredo Metropolitan Transportation Plan Update

	Estimated (2005-2007)	Projected Short Term (2008-2011)	Projected Long Term (2012-2030)	Projected Funding Plan Horizon (2005-2030)
Recurring Highway Program Formula Funds at 4% Rate of Growth	$142,377,574	$217,867,174	$1,660,833,767	**$2,021,078,515**
Approved and Appropriated Non-Recurring funds		$86,602,115		$86,602,115
Awarded Non-Recurring Special Program Funds		$97,563,267		$97,563,267
Project Cycle - consultation with TxDOT		$323,277,466		$323,277,466
Subtotal Highway Funds				**$2,528,521,363**
Recurring Transit Program Formula Funds (TPC/YOA dollars)		$21,207,913	$161,671,068	$182,878,982
Transit Capital 2309 Discretionary Earmarks		$34,481,648		$34,481,648
Subtotal Transit Funds				**$217,360,630**
Total MTP Horizon Federal and State Funding				**$2,745,881,992**

Notes:

Historic funding is recurring revenue and does not include earmarks or special non-recurring program funds
Historic funding has been adjusted to reflect total program dollars using the same percentages as TxDOT uses for expenditures

Projected short term matches current TIP years

Projected funding from original document - seems to understate the revenues

Earmarks from TxDOT WP spreadsheet

Special category funding from TxDOT WP spreadsheet for border stations (map ID 17-18)
Project Cycle funding =725,310,022 (total TIP amount from WP) minus the sum of recurring, earmark and special program

Transit numbers from transit TIP

PROJECTED FUNDING AVAILABILITY

Federal and State Funding

Historical funding expenditures, area growth, slated projects, and received earmarks were used in developing projected funding over the 25 year time frame. The estimated funds received from the beginning of the Plan period to the beginning of the current TIP are presented as well as projections for expected federal, state and local funding for the current TIP years and the remaining Plan years. As one end of the North American Free Trade Agreement (NAFTA) corridor, the Laredo area faces many unique transportation challenges. Because of this and increased border security, from time to time the area receives a large infusion of funds for one-time national-scope projects such as the building of an international bridge or the construction

of Border Security stations. Since this funding comes in peaks and valleys, individual years may be higher or lower than the average. This creates a challenge in predicting future funding.

Methodology for Year of Expenditure and Total Project Cost Calculations

Recently adopted SAFETEA-LU regulations require the presentation of funding in Year of Expenditure dollars (accounting for inflation) and Total Project Cost. When this Plan was initially adopted inflation was not accounted for in the funding figures and only construction costs were presented.

Total Project Cost was calculated using the same methodology as that used by the Texas Department of Transportation. The four components that, along with construction costs, make up the total cost of a project are calculated as a percentage of the construction cost. For two components TxDOT uses two different figures therefore the average was used in these calculations. The four components and the percentages used are: preliminary engineering – 4.9%, construction engineering – 5%, contingencies – 7%, and indirect costs – 5.68%.

Traditionally TxDOT has used a 4% compounded rate to account for the effect of inflation on project costs. That same rate has been used in the figures presented here.

For transit capital improvement projects, total project costs in year of expenditures dollars was developed using cost figures for each project based on current industry trends and historical cost data. Professional fees were estimated to be 10% of construction cost, contingency was calculated at 15%. These total project costs were then inflated to year of expenditure dollars.

TxDOT has adopted an inflation rate of 4% compounded annually to forecast tear of expenditure dollars. To calculate the revenue growth at this rate, the total project cost for each transit project was calculated in base year dollars and then was inflated by 4% compounded annually to the anticipated year of project implementation using the following formula:
$YOR\$ = ACY\$ * (1+ 0.04)^{n}$

Where:
YOR$ = year of receipt dollars
ACY$ = Annualized Constant Year Dollars
n= number of years from base years

Local Transportation Improvement Funding

City of Laredo funding for construction is projected to equal $27 million in the short-term strategy and $41 million in the long-term from 2015-2029. County funding for construction and maintenance within the MPO boundary is projected to equal $9 million in the short-term and $14 million in the long-term.

Public Transportation Funding

Future transit funding was projected based on expenditures during 2005-2007 and the 2008-2011 TIP years. Operating funding was grown to year of expenditure dollars using a 4% annually compounded rate of growth.

ESTIMATED FUNDING VS EXPENDITURES

Table 5-3 compares project funding availability with the total estimated cost of the Plan's transportation improvements. Since the Plan was amended to reflect year of expenditure dollars and total project cost several years into implementation of the Plan, the financial landscape has changed and the Laredo Urban Transportation Study finds itself in receipt of targeted funding that allowed the movement of illustrative projects to the short-term list. Although unanticipated at the time of Plan development, these expenditures are reflected in the calculations presented in Table 5-3. A detailed list of short-range and long-term federal, state and local transportation improvements is provided in Chapter 6.

Table 5-3
Estimated Funding VS Project Expenditures
Laredo Metropolitan Transportation Plan Update

Program Item	Estimated 2005-2007 Funding	Actual 2005-2007 Expenditures	Projected Short Term Funding (2008-2011)	Projected Short Term Expenditures (2008-2011)	Projected Long Term Funding (2012-2030)	Projected Long Term Expenditures (2012-2030)	Projected Total MTP Funding (2005-2030)	Projected Total MTP Expenditures (2005-2030)
Recurring Highway Formula Funds	$142,377,574	$138,863,690	$217,867,174	$217,867,174	$1,660,833,767	$ 1,660,833,767	$2,021,078,515	2,017,564,631
Highway Project Earmarks			$86,602,115	$86,602,115			$86,602,115	86,602,115
Highway Non-recurring Special Program Funds			$97,563,267	$97,563,267			$97,563,267	97,563,267
Project cycle funds based on consultation with TxDOT			$323,277,466	$323,277,466			$323,277,466	323,277,466
Highway Subtotal	**$142,377,574**	**$138,863,690**	**$725,310,022**	**$725,310,022**	**$1,660,833,767**	**$1,660,833,767**	**$2,528,521,363**	**2,525,007,478**
Recurring Transit 5307 Formula Funds	$11,829,000	$11,829,000	$21,207,913	$19,977,010	$161,671,068	$161,069,979	$194,707,982	192,875,989
Transit 5309 Earmarks			$34,481,648	$34,481,648			$34,481,648	34,481,648
Transit Subtotal	**$11,829,000**	**$11,829,000**	**$55,689,561**	**$54,458,658**	**$161,671,068**	**$161,069,979**	**$229,189,630**	**227,357,637**
Total MTP	**$154,206,574**	**$150,692,690**	**$780,999,583**	**$779,768,680**	**$1,822,504,835**	**$1,821,903,746**	**$2,757,710,992**	**2,752,365,116**

All Expenditures are total project costs and Year of Expenditure (YOE) dollars based on a cost inflation of 4% compounded annually

All revenues are year of award dollars based on a Rate of Growth (ROG) of 4% compounded annually

Chapter 6 – Transportation Improvements

The Metropolitan Transportation Plan (MTP) for the Laredo MPO area was updated based upon future traffic volume forecasts, transportation network continuity, projected future development, environmental considerations/constraints, and other factors. This chapter identifies the recommended transportation plan, which includes all added capacity and new roadway facility projects on the state system, local projects of regional significance, as well as transit projects. Additionally this chapter outlines other recommendations for corridor preservation and access management.

Legislative Background

ISTEA required that Metropolitan Transportation Plans divide transportation projects into two sections: short-range (2005-2014) and long-range (2015-2029). ISTEA also required that plans be fiscally constrained -- the plan can only contain those projects which can reasonably be expected to be funded. TEA-21 maintained these requirements, but also allowed the plan to include for "illustrative purposes" additional projects that would be included in the long-range plan if "reasonable additional resources" were available. These projects are called "unfunded needs."

Project Selection

This chapter provides a general overview of projects that were identified as a priority in relieving congestion and accommodating future transportation needs within the Laredo urban area. As discussed in Chapter 4, a list of potential projects was initially developed through the public involvement process and input from the Technical and Policy Committees, TxDOT, and the Laredo MPO. Potential projects were evaluated and prioritized based on results of the travel demand model including existing and future level of service and future vehicle miles of travel. Other criteria used in evaluating the projects included cost considerations, modal impacts, public acceptance, ROW requirements, project readiness and other special circumstances. Based on the results of this evaluation, available funding and project development time-frame, projects were designated as short-term, long-term or unfunded.

Recommended Transportation Improvements

The Transportation Plan includes a short-term implementation plan (2005 to 2014) and long range plan (2015 to 2029).

State Sponsored Short-Range Projects

The short-term improvement program includes roadway extensions, new roadways, roadway widening projects, intersection improvements, railroad grade separation and raised median projects. New roadway projects include construction of the Outer Loop as a two lane facility. The recommended short-term program is identified in Table 6-1. Short-term state and local projects are shown in Figure 6-1.

Figure 6-1 Recommended Short-Term Transportation Improvements

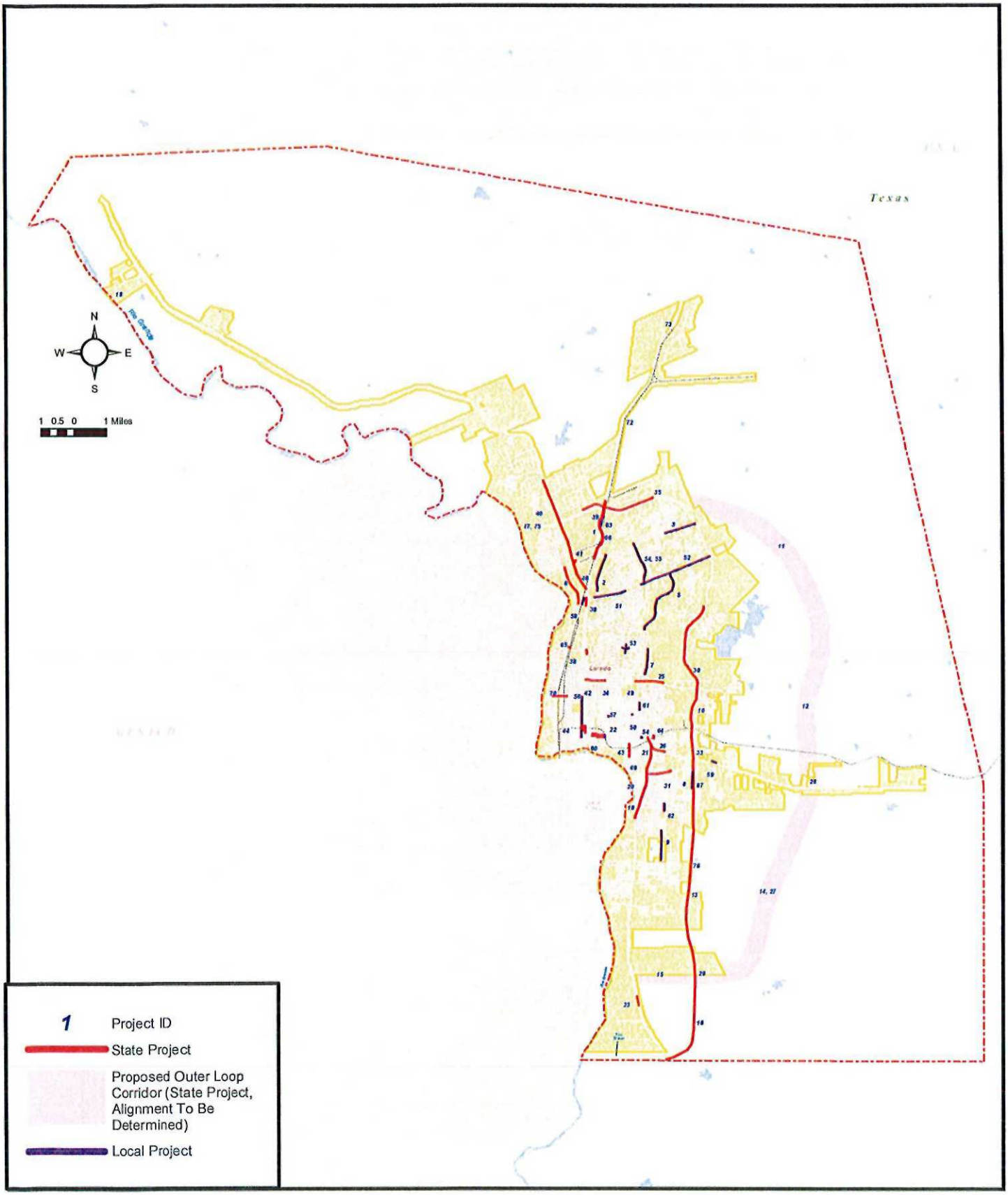


TABLE 6-1

State Sponsored Short-Term Improvements

Laredo Metropolitan Transportation Plan Update

Map ID	Project Location	From Limits	To Limits	Project Description	Length (Miles)	Estimated Cost (In $)
Mobility Improvements						
20	US 83	Chacon Creek Bridge	Palo Blanco Street	Reconstruct Roadway	1.50	$5,025,328
21	US 83	SH 359 / Cortez Street Intersection	Chacon Creek Bridge	Realign and Grade Separate Intersection	0.63	$20,783,610
22	US 83	0.02 Miles West of Monterrey St	0.02 Miles West of Cedar St.	Construct Railroad Grade Separation and Approaches	1.06	$32,121,892
23	US 83	At 2.0 Miles North Of Espejo Molina Road		Construct Overpass	1.00	$7,170,063
26	SH 359	Texas Mexico Railway	Smith Street	Realign Intersection	0.59	$16,014,274
12	Outer Loop	SH 359	US 59	Outer Loop, Construct 2 Lane Section W/Shoulder, and RR Grade Separation (Phase 1)	5.34	$36,237,466
15	Outer Loop	US 83	Cuatro Vientos	Outer Loop, Construct 4 Lane Divided Facility with an Interchange at US 83 (Phase 1)	1.83	$45,014,572
14	Outer Loop	Cuatro Vientos	SH 359	Outer Loop, Construct 2-Lane Section with Shoulder (Phase 1)	7.64	$36,274,978
27	Outer Loop	Cuatro Vientos	SH 359	Outer Loop Upgrade to a 4-Lane Divided Facility (Phase 2)	7.64	$35,691,094
28	Outer Loop	At SH 359		Outer Loop, For Construction of an Interchange	1.00	$27,127,220
29	Outer Loop	At Cuatro Vientos		For the Construction of an Interchange	1.25	$26,516,506
11	Outer Loop	IH 35	US 59/Outer Loop Intersection	Outer Loop, Construct 2-Lane Section W/Shoulder, and an Interchange at Inner Loop 20 (Phase 1)	5.78	$84,636,927
30	Loop 20	0.20 Miles South Of Spur 400	1.68 Miles North Of US 59	For the Construction of a Diamond Interchange	2.72	$23,914,224
10	**Loop 20	US 59	SH 359	Widen to 6 Lanes and Upgrade Intersection at Spur 400 and Construct an Overpass	2.19	$37,936,929
33	Loop 20	At SH 359		For the Construction of an Interchange Facility	1.00	$32,907,784
38	IH 35	East Access Road At Calton Road And	Del Mar Boulevard	Add Right Turn Lanes	0.25	$994,011

Map ID	Project Location	From Limits	To Limits	Project Description	Length (Miles)	Estimated Cost (In $)
1	**IH 35	Shiloh Road	0.25 Miles North Of Loop 20 / FM 3464	Widen NB And SB Mainlanes to 3 Lanes Each Direction, Construct New Railroad Crossing	3.73	$52,167,731
39	IH 35	0.5 Miles South Of Loop 20	Loop 20	For The Const Of Direct Connector (#7) Consist Of Pavmt, Grdg, Drg, Signing, Pavmt Marking,Illum, Sw3p, Trf Management & Strs	1.50	$16,024,746
66	IH 35	Shiloh/IH-35 Intersection	0.80 North of Shiloh	Construct Frontage Road with Exit and Entrance Ramps for Northbound IH-35	0.80	$4,755,525
13	Cuatro Vientos	Mangana-Hein Road	1.0 Miles South of SH 359	Construction of a New Location 4 Lane Divided Highway	7.03	$102,158,858
67	Cuatro Vientos	1.0 Miles South of SH 359	SH 359	Construction of a New Location Divided Roadway	1.0	$9,946,755
16	Cuatro Vientos	Mangana-Hein	US 83 Main Entrance To Rio Bravo	Loop 20, Extension Of Cuatro Vientos - Construct 2 Lane Rural Section	3.05	$13,177,364
Total Mobility Improvements						**$666,597,857**
Non Mobility Improvements						
Category 8 – Safety						
19	US 83	Gautemozin	Palo Blanco Street	Install Raised Median	2.13	$1,455,076
25	US 59	Ejido	Buena Vista	Install Raised Median	0.84	$1,455,076
31	Loop 20	Los Presidentes	US 83	Install Raised Median	0.77	$2,024,379
40	FM 1472	Interamerica	IH 35	Install Raised Median	3.62	$5,621,553
Total Category 8						*$10,556,084*
Category 10 – Miscellaneous						
17	Various	Located In Vicinity Of GSA Facility	Bridge IV	For The Construction of a Border Safety Inspection Facility		$66,931,440

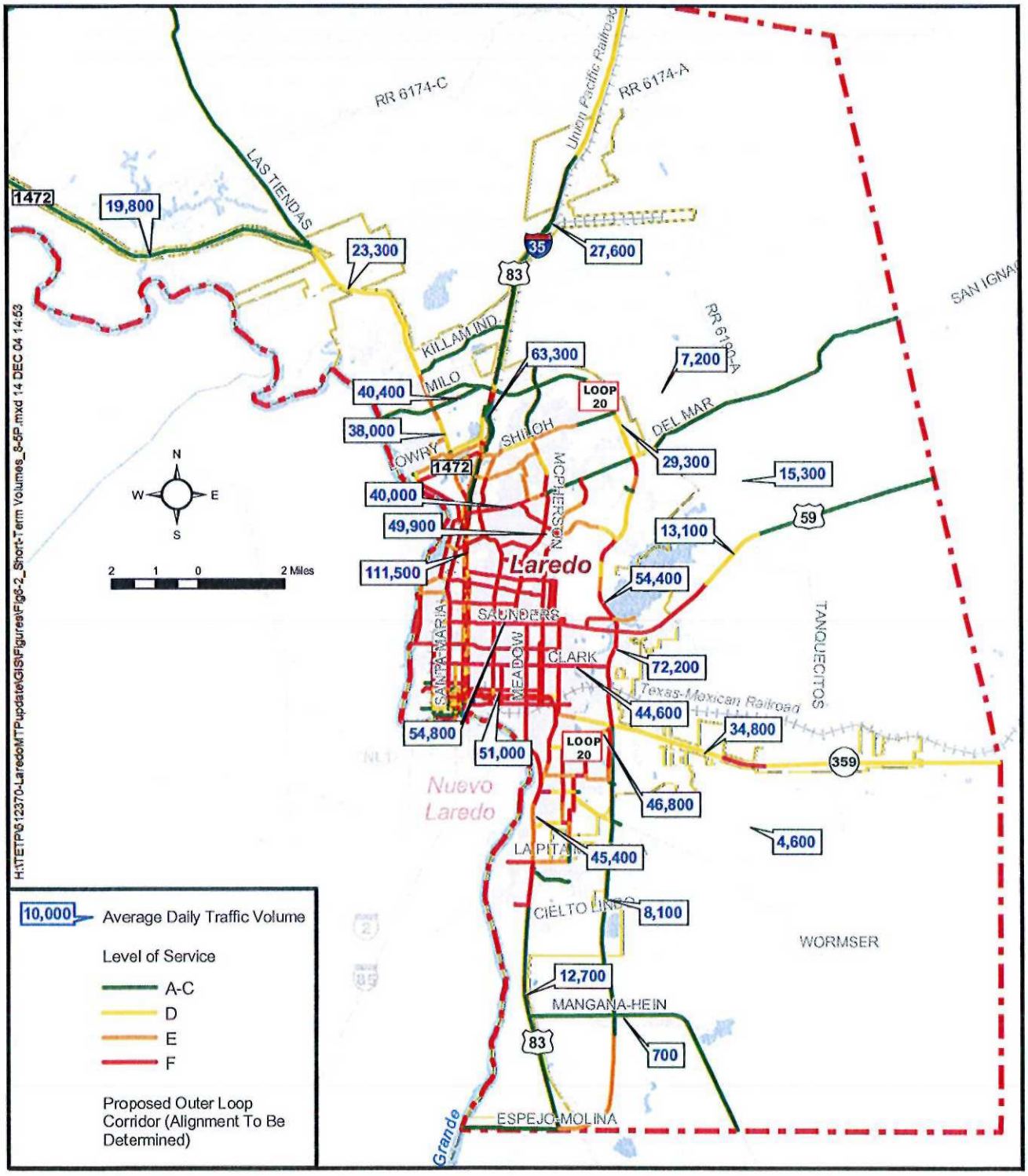
Map ID	Project Location	From Limits	To Limits	Project Description	Length (Miles)	Estimated Cost (In $)
48	Various	Various Locations	In Laredo	Develop an ITS Regional Architecture and ITS Deployment Plan		$2,178,750
18	Various	Located in Vicinity of GSA Facility	Colombia/ Solidarity	For the Construction of a Border Safety Inspection Facility		$30,631,827
68	Various	At GSA Facilities on All Four Laredo Ports of Entry		For the Construction and the Installation of Weigh-In Motion and Automated Vehicle Identification Devices and a Host Computer System		$2,004,962
7 local projects identified in Table 6-2						$87,972,381
Total Category 10						*$189,719,360*
Category 9 - Enhancement						
69	CS	At Chacon Creek in Laredo		For the Construction of a Hike & Bike Trail at Chacon Creek in Laredo		$5,513,645
Category 11 –District Discretionary						
73	IH 35	3.866 Miles North of LP 20/IH 35 Intersection	0.50 Miles North of Uniroyal Rd.	Installation of Roadway Illumination		$1,336,641
72	IH 35	LP 20/IH 35 Intersection	3.866 Miles North of LP 20/IH 35 Intersection	Installation of Roadway Illumination		$1,336,641
Category 11 unspecified projects						*$6,000,000*
Total Category 11						*$8,673,282*
Total Non Mobility						**$214,462,371**
Category 6						
42	US 59	0.019 Miles East Of San Francisco	0.021 Miles West Of San Francisco	For the Construction of the Replacement of an Existing Bridge	0.04	$13,494,690
44	IH 35	The Int. Of Santa Ursula And Moctezuma	On West Frontage Road	Construct Railroad Grade Separation Str and Approaches	0.25	$6,014,159
46	FM 1472	0.4 Miles North Of IH 35 West Frontage Road	IH35 West Frontage Road (Dot #446697k)	Construction of Railroad Grade Separation Str & Approaches	0.40	$38,617,136
1 local project identified in Table 6-2						$5,497,068
Total						**$63,623,053**

Map ID	Project Location	From Limits	To Limits	Project Description	Length (Miles)	Estimated Cost (In $)
Grouped Projects						
						$7,034,569

*These projects would be funded by Category 6 funds.
**A portion of these projects is being funded by Coordinated Border Infrastructure monies

Figure 6-2 displays Level of Service (LOS) and projected daily traffic volumes in the Year 2020 with the implementation of the short-term projects adopted in 2004. Short-term improvements including the Outer Loop and the Cuatro Vientos extension provide alternative routes through Laredo and relieve congestion along US 83 south and in the inner city area.

Figure 6-2 Year 2020 Traffic Volumes and LOS for the Short-Term Network



Twenty nine mobility improvements have been identified in the short-term plan totaling approximately $667 million. Non Mobility projects and the "grouped CSJ projects" categories total approximately $221 million. This primarily includes short-term non-capacity improvement projects that could be funded by the following categories:

- Category 8 – Safety
- Category 9 – Enhancement
- Category 10 - Miscellaneous
- Category 11 – District Discretionary

The "grouped CSJ projects" category was developed to account for non-capacity improvement projects that are not individually listed in the plan. This category includes projects such as roadway illumination and Safe Routes to School.

Local Short Term Projects

Local short-term improvements include roadway extensions, roadway widening, intersection improvements and roadway reconstruction projects. As shown in **Table 6-2**, 21 City of Laredo projects have been identified in the plan totaling approximately $22.5 million. The majority of these projects are identified in the city's CIP (2005-2009). It should be noted that funding for these projects include city funds, bonds and other sources including private developers. One Webb County project, within the MPO Boundary, totaling $364,500 has been identified in the plan. This project is identified in the County's CIP (2002-2007). Additionally nine federally funded local projects are included in the plan totaling approximately $93 million. Four of these federally-funded local projects are part of the larger West Laredo Multi-Modal Corridor Project. This corridor begins at the intersection of Las Cruces and IH 35 continues along Flecha Lane, CPL Avenue, and the Anna truck route terminating at the intersection of Jefferson Street and the railroad tracks.

Table 6-2
Local Improvements
Laredo Metropolitan Transportation Plan Update

Map ID	Project Location	From Limits	To Limits	Project Description	Length (miles)	Funding	Estimated Cost
City of Laredo							
5	Bartlett Avenue	Gale	Del Mar Boulevard	Widen existing roadway between Sandman and Hillside and extend to Del Mar	2.12	Bond	$3,804,000
49	Bartlett Avenue	at Saunders (US 59)		Intersection improvements		Bond	$266,000
50	Bueno Vista	at Gustavos		Reconstruct intersection		Bond	$218,000
51	Del Mar	Fenwick	Springfield	Widen roadway and construct sidewalks		Bond	$1,874,000
52	Del Mar	1000 feet east of McPherson	Loop 20	Widen roadway and construct sidewalks		Bond	$1,757,000
9	Ejido Avenue	La Pita Mangana Road	Colombia Street	Construct road extension	0.89	City	$2,000,000
53	Hillside	at McPherson		Widen roadway to 5 lanes at intersection		Bond	$465,000
54	McPherson	Del Mar Boulevard	Shiloh Road	Widen to 65 feet and increase through lanes		Bond	$90,000
55	McPherson (Phase II)	Villa	Shiloh Road	Widen to 65 feet with utility adjustments and lighting		Bond	$1,000,000
8	Merida	North Merida	South Merida	Connect existing roads and acquire ROW	1.17	City Developer	$2,583,000
56	San Bernardo	Farragut	Jefferson	Street and sidewalk rehabilitation		Bond	$960,000
57	San Eduardo	at Sanchez		Widen and reconstruct intersection		Bond	$150,000
58	Santa Maria Avenue	Industrial Boulevard	Del Mar Boulevard	Reconstruct roadway		Bond	$442,000
59	SH 359	at Concord Hills Subdivision		Improve intersection access to subdivision		Bond	$75,000
3	Shiloh Road	Stone Creek Subdivision	Loop 20	Extend as a 44-foot roadway	0.75	City Developer	$1,080,000
2	Springfield	Hill Top II Subdivision	Shiloh Road	North extension of Springfield	1.16	Bond	$3,800,000
60	Springfield	Existing road	Tilden	South extension of Springfield (near Meadow and Tex-Mex Railroad)		Bond	$250,000
61	Stewart	at Malinche		Reconstruct intersection		Bond	$80,000

Map ID	Project Location	From Limits	To Limits	Project Description	Length (miles)	Funding	Estimated Cost
7	Tomas Avenue	Bustamante	Hillside	Widening, reconstruct, realignment	0.77	Bond	$989,000
62	Zacatecas	Ejido Avenue	Las Americas Subdivision	Widen street to 48 feet		Bond	$354,000
63	I-35 Exit Ramp	San Isidro Parkway		Exit Ramp off I-35 onto San Isidro Parkway		Developer	$300,000
Total City of Laredo							**$22,537,000**
Webb County							
71	TxDOT Bridge Replacement Program			Rubio Road/San Junito Creek Eagle Pass Rd./San Ambrosio Creek Jefferies Rd./Tejanos Creek Callaghan Rd./Becerra Creek			$364,500
Total Webb County (within the MPO Boundary)							**$364,500**
Federally Funded Local Projects							
74	*Various	Various Industrial Parks		Industrial Parks Street reconstruction Projects		Category 10 Funds	$24,516,000
75	*Various	World Trade International Bridge		7 Federal Inspection Booths		Category 10 Funds	$4,994,362
64	Arkansas Street	Near Guadalupe and	Chihuahua Streets	Railroad Grade Separation		Category ~~6~~ 10 Funds	$8,617,864
43	Meadow Street	At Tex-Mex RR Crossing		Replace Bridge and Approaches	0.25	Category 6 Funds	$5,497,068
West Laredo Multi-Modal Corridor Project (6, 41, 65, 70)							
6	CPL Road	Industrial Blvd	Flecha Lane	For the Construction of a New Location Roadway	1.42	Category 10 Funds	$5,744,023
41	Flecha/Calton	0.25 Miles East Of Calton Road / St Maria	0.25 Miles East Of Las Cruces / Flecha Lane	For the Reconstruction/ Rehabilitation of Flecha Ln / Las Cruces Along FM 1472 & For the PE Work of a Grade Sep at Calton Rd / Santa Maria Int	0.50	Category 10 Funds	$4,988,178
65	Calton Road	0.25 Miles East of Calton Road/ St. Maria	0.25 Miles West of Calton Road/ St. Maria	Railroad Grade Separation	0.50	Category 10 Funds	$31,727,154

Map ID	Project Location	From Limits	To Limits	Project Description	Length (miles)	Funding	Estimated Cost
70	Jefferson (E&W)	Jefferson Ave. & Pindar St	Jefferson Ave. & Main St.	Railroad Grade Separation	0.42	Category 10 Funds	$7,384,800
Total							**$93,469,449**

*All or part of these projects is being funded by Coordinated Border Infrastructure monies

State Sponsored Long Range Projects

Using roadway deficiencies identified by the travel demand model in Year 2030, recommended transportation improvements for the long-term time horizon were developed. The long-term improvement program (2015-2029) includes roadway extensions, new roadways, roadway widening and intersection improvement projects. The recommended long-term program is identified in **Table 6-3** and long-term state projects are shown in **Figure 6-3**.

Thirty projects have been identified in the long-range plan totaling approximately $1.165 billion. In addition to these projects $92 million of total funding is set aside for long-term non capacity improvement projects that could be funded by the following categories: Category 8 – Safety, Category 9 – Enhancement, Category 10- Miscellaneous and Category 11 – District Discretionary. Category 8 - Safety funds can be used to implement access management projects which can improve traffic efficiency and flow along roadways where capacity improvements are not possible. Access management techniques are further discussed in the Corridor Preservation element of the plan.

Figure 6-4 displays Level of Service (LOS) in the Year 2030 with the implementation of the long-term projects.

Table 6-3
State Sponsored Long-Term Improvements
Laredo Metropolitan Transportation Plan Update

Map ID	Project Location	From Limits	To Limits	Project Description	Length (Miles)	Cost
Capacity Improvements						
8	Various	At Cuatro Vientos / SH 359		Construction of 2 Direct Connectors	2.00	$52,290,836
9	Various	At Laredo Outer Loop / US 83		Construction of Direct Connector	1.00	$26,145,418
6	US 83 (Guadalupe)	IH 35	SH 359	Restripe for Additional Lanes	2.15	$19,173,307
6	US 83 (Chihuahua)	IH 35	SH 359	Restripe for Additional Lanes	2.15	$19,173,307
76	US 83	*To Be Determined*		Construct Overpass	1.00	$14,525,232
10	US 59	3.3 Miles East Of Arkansas Street	Proposed Outer Loop	Construct 7 Lane Urban Section Of Roadway	3.66	$60,134,462

Map ID	Project Location	From Limits	To Limits	Project Description	Length (Miles)	Cost
4	US 59	Outer Loop	MPO Boundary	4 lane divided rural freeway		$40,670,650
5	Spur 400	Loop 20	Proposed Outer Loop	Construct 5 Lane Urban Section of Roadway	6.20	$101,894,504
11	Loop 20	1.000 Mile West Of IH 35	McPherson Rd	Construct Eastbound Mainlanes	2.00	$34,860,557
12	Loop 20	Inner/Outer Loop Interchange	FM 1472	Construct Roadway and Interchange @ IH35	8.00	$116,201,858
13	Loop 20	Mcpherson	0.5 Mile East Of Intersection With Outer Loop	Construction of Mainlanes	2.00	$17,430,279
14	Loop 20	At Del Mar		Construct Overpass	1.00	$14,525,232
15	Loop 20	At Shiloh		Construct Overpass	1.00	$14,525,232
34	Loop 20	0.05 Miles West of Milo Interchange	0.05 Miles East of McPherson	Construction of an Interchange facility to Include Mainlanes and Interchange at McPherson	2.25	$85,976,187
32	Loop 20	At Spur 400	Tex Mex RR	Construct Overpass	1.00	$39,250,906
30	IH 35			Construction of an Interchange Facility to Include Mainlanes and Interchange at Mcpherson		$23,240,372
36	Loop 20	At Laredo International Airport		Construct Overpass	1.00	$36,679,968
37	Loop 20	At Jacaman		Construct Overpass	1.00	$34,749,444
77	Loop 20	US 59	SH 359	Widen Roadway	2.19	$49,063,632
47	Bus IH 35-A	The Int. Of San Bernardo And Moctezuma		Construct Railroad Grade Separation Str and Approaches	0.25	$6,254,725
45	IH 35	The Int. Of San Dario And Santa Ursula	On East Frontage Road	Construct Railroad Grade Separation Str & Approaches	0.25	$6,504,914
17	IH 35	0.5 Miles North On IH 35	0.5 Miles East On Loop 20	Construction of Direct Connector #3	1.00	$26,145,418
20	IH 35	0.5 Miles East On Loop 20	0.5 Miles North On IH 35	Construction of Direct Connector #4	1.00	$26,145,418
21	IH 35	0.5 Miles East On Loop 20	0.5 Miles South On IH 35	Construction of Direct Connector #5	1.00	$26,145,418

Map ID	Project Location	From Limits	To Limits	Project Description	Length (Miles)	Cost
22	IH 35	0.5 Miles South On IH 35	0.5 Miles East On Loop 20	Construction of Direct Connector #6	1.00	$26,145,418
23	IH 35	0.5 Miles West On Loop 20	0.T Miles South On IH 35	Construction of Direct Connector #8	1.00	$26,145,418
7	Cuatro Vientos	SH 359 At Loop 20	Proposed Outer Loop	Widen To 6 Lane Urban Section with Median	7.25	$58,100,929
24	Cuatro Vientos	2.77 Miles South Of SH 359	2.39 Miles South Of SH 359	Construct Overpass at Southgate Blvd	1.00	$45,541,684
25	Cuatro Vientos	6. 26 Miles South Of SH 359	5.90 Miles South Of SH 359	Construct Overpass at Unnamed Minor Arterial	1.00	$43,541,159
26	Cuatro Vientos	4.8 Miles South Of SH 359	3.6 Miles South Of SH 359	Construct Overpass at Cielto Lindo Rd and Sierra Vista Rd	1.18	$74,008,263
Total Capacity						$1,165,190,147
Non Capacity Improvements						
Category 8 - Safety						$36,122,067
Category 9 - Enhancement						$14,384,856
Category 10 - Miscellaneous						$27,091,550
Category 11 – District Discretionary						$36,122,067
Total Non-Capacity						$92,395,629

Local Sponsored Long Range Projects

Local long-term improvements include roadway widening and roadway reconstruction projects. As shown in **Table 6-4**, five local projects have been identified in the plan totaling approximately $126 million. This includes the International Bridge #5 which will be funded locally by the City, or County through bonds (estimated costs range from $32 to $51.4 million). The current location of the bridge is unknown and several proposals exist from the City and County. This project would be funded separately through bonds and therefore is not accounted for in the local funding projections.

Table 6-4
Local Sponsored Long-Term Improvements
Laredo Metropolitan Transportation Plan Update

Map ID	Project Location	From Limits	To Limits	Project Description	Length (miles)	Funding	Estimated Cost
27	Bartlett Avenue	at US 83		ROW acquisition and bridge reconstruction		City Unfunded	$9,975,000
28	Calton Road	Santa Maria Road	McPherson Road	Reconstruct roadway		City Unfunded	$2,553,000
29	Springfield	Olive	San Pedro	Widen roadway		City Unfunded	$360,000
31	*International Rail Bridge and Railroad Line	Construct an International Bridge at the south side of the existing Laredo Columbia International Bridge and a Railroad line from the bridge to IH 35 Mile Marker 24 utilizing the TxDOT SH 225 ROW and connecting to the existing Union Pacific Railroad				Webb County Rural Rail Transportation District Bonds	$61,400,000
	**International Bridge #5	South Laredo between US 83 and Rio Grande River.		Construction of an international bridge		Locally funded through bonds	$51,400,000
Total							**$125,688,000**

** This project will be funded by the Webb County Rural Rail Transportation District through bonds, a portion of the project extends beyond the MPO boundary*

***The International Bridge will be funded by the City or County through bonds (estimated costs range from $32 to $51.4 million)*

Figure 6-3 Recommended Long-Term Transportation Improvements

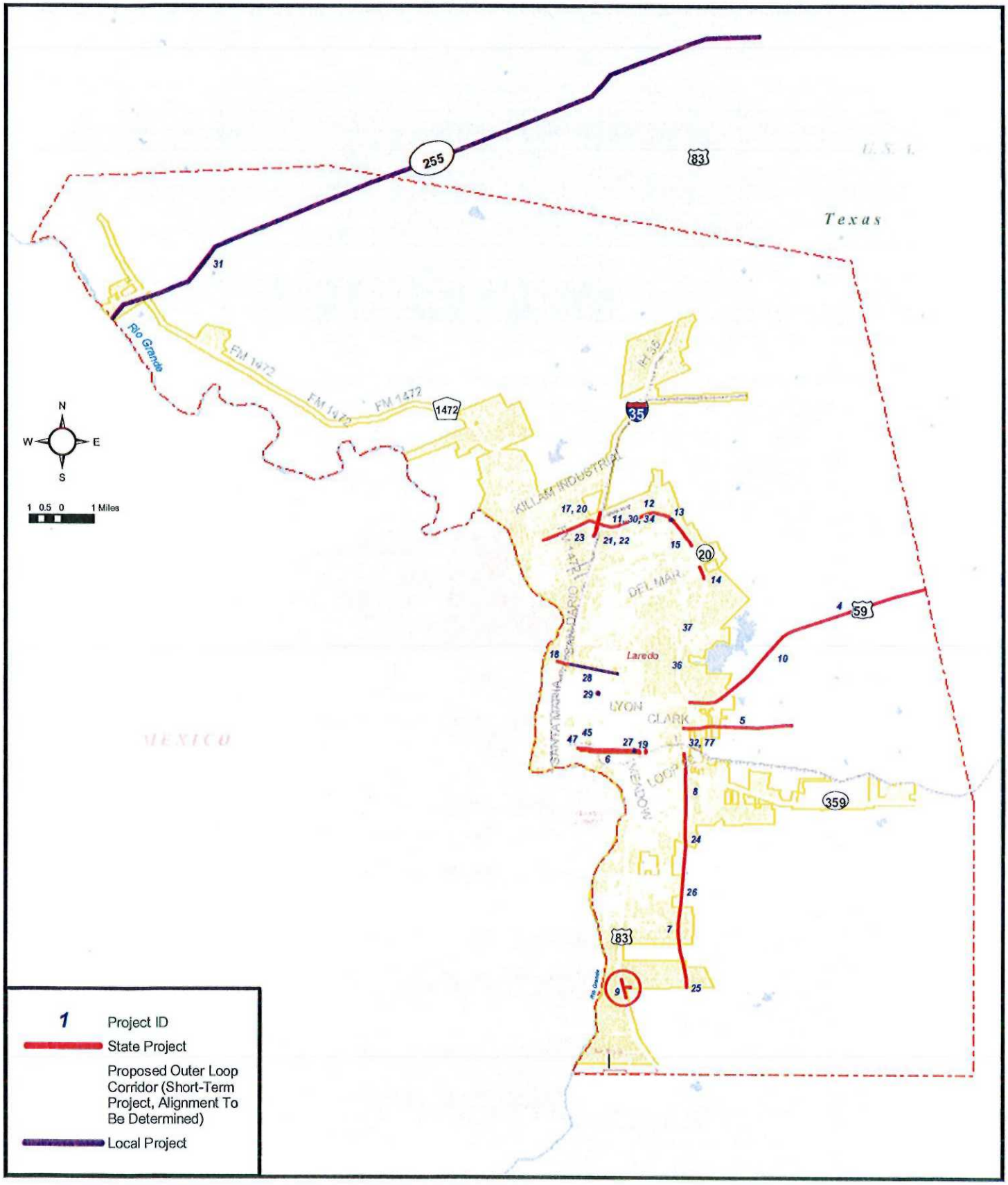
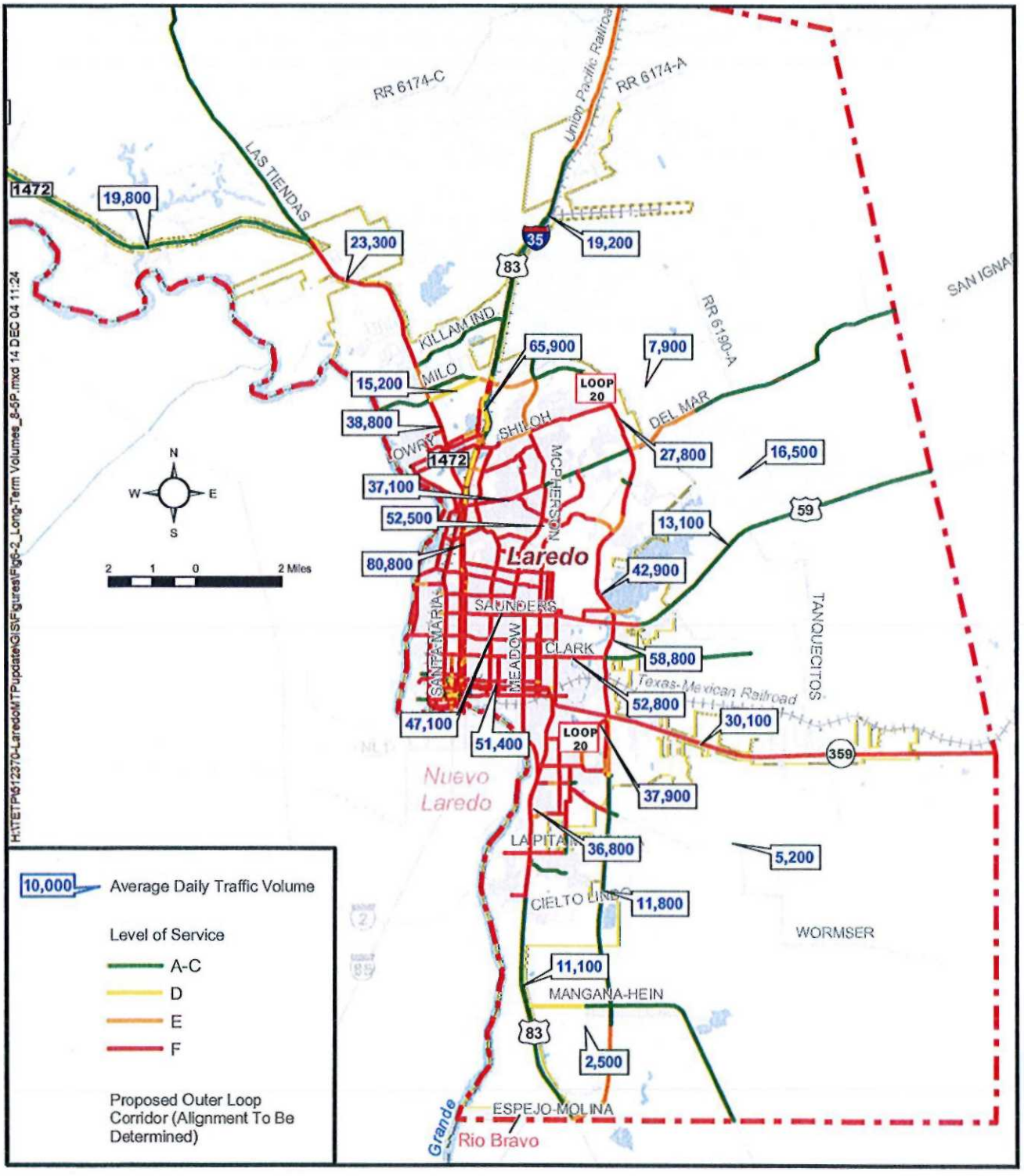


Figure 6-4 Year 2030 Traffic Volumes and LOS for the Long-Term Network



Effectiveness of the Recommended Transportation Plan

The effectiveness of the recommended transportation plan can be evaluated by reviewing projected traffic volumes, level-of-service, and can be measured in terms of daily vehicle-hours traveled. A comparison of the existing year 2003 network and the year 2030 recommended transportation plan networks is presented in Table 6-5.

As shown in **Table 6-5**, implementation of the recommended year 2030 transportation plan is estimated to save area motorists more than 345,000 hours of time each day spent traveling in their vehicles.

Table 6-5
Comparison of Daily Vehicle Hours of Travel
Laredo Metropolitan Transportation Plan Update

Year	Network	Total Trips	Vehicle Hours of Travel (hours per day)	Hours Saved Per Day Verses No Build or E+C Network
2003	Base Year	790,213	107,187	
2020	No Build	1,290,486	547,161	
	Recommended short-term transportation plan	1,290,486	423,659	123,502
2030	E + C Network	1,641,953	1,866,910	
	Recommended long term transportation plan	1,641,953	1,522,074	344,836

Enhancement Projects

Category 9 – Enhancement funding is projected to equal $4 million in the short-term and $6 million in the long-term. Figure 2-18 in Chapter 2 displays proposed bicycle facilities in the Laredo area. To obtain funding for bicycle and pedestrian facilities, the City of Laredo or other local agencies will need to nominate and sponsor projects and compete on a statewide basis for funding.

Other Categories

Federal law requires that system preservation also be accounted for in the transportation plan, although these projects do not have to be listed individually in the MTP. Types of projects included in system preservation include rehabilitation and maintenance of roadways, traffic operations improvements, bridge replacement or reconstruction, and railroad safety projects. Traffic operation projects include signalization installation or enhancement, intersection capacity improvements, roadway striping, shoulder enhancements and other similar projects which are primarily concerned with traffic flow improvements. These projects are combined into a "lump sum" in this plan. Funding for these projects are listed in Chapter 5, Financial Plan, as:

- "Maintain It" – Category 1- Preventive Maintenance and Rehabilitation, Category 6- Structures Replacement and Rehabilitation

- City of Laredo Maintenance/Rehab
- Webb County Maintenance/Rehab

TRANSIT

As shown in Table 6-6, capital projects and operations equal $235.2 million. As of 2007 funding totaling $30.1 million has been secured for eleven of the projects. The implementation of these "illustrative" projects will be subject to available funding. The transit agency will continue to apply for grants and/or obtain other funding for these projects.

It should be noted that in the year 2010 the Laredo MPO area will have a population over 200,000 which will impact transit funding. With a population over 200,000 the transit agency will receive funding directly from the FTA and will no longer receive funding from the state.

Table 6-6
El Metro Transit Projects
Laredo Metropolitan Transportation Plan Update

Funded	Source	Year	Project	Cost
Yes	FTA	2005	Buses (7)	$ 2,275,000
Yes	TAX	2005	Bus Shelters	$ 25,000
Yes	FTA	2005	Comprehensive Operational Analysis	$ 100,000
Yes	FTA	2005	Bus Pullouts (4)	$ 100,000
	FTA	2005	Mobile Data Terminals with GPS	$ 250,000
Yes	FTA	2005	Operations and Maintenance Bus Facility	$ 2,429,000
Pending	FTA	2006	Buses (4)	$ 1,300,000
	TAX	2006	Bus Shelters	$ 25,000
Pending	FTA	2007	North and South Hubs	$ 4,000,000
Pending	FTA	2007	Buses (4)	$ 1,300,000
	TAX	2007	Bus Shelters	$ 25,000
Pending	FTA	2007	Operations and Maintenance Bus Facility	$ 850,000
	FTA	2008	Operating assistance bus operations and maintenance.	$ 4,975,684
Yes	FTA	2008	North Laredo Transit Hub- Bus Maintenance Facility	$ 850,162
Yes	FTA	2008	North Laredo Transit Hub- Bus Maintenance Facility	$ 2,429,446
Pending	TAX	2008	Bus Replacement finance through local sales tax	$ 3,460,000
Pending	FTA	2008	Laredo Intermodal Center First Floor Rehab	$ 150,000
Yes	FTA	2008	North Laredo Transit Hub- Bus Maintenance Facility	$ 892,500
Pending	FTA	2008	ADA Sidewalks	$ 375,000
	TAX	2008	Bus (10)	$ 3,460,000
	TAX	2008	Bus Shelters	$ 25,000
Pending	FTA	2009	Operating assistance bus operations and maintenance	$ 4,975,684
Pending	FTA	2009	North Laredo Transit Hub- Bus Maintenance Facility	$ 970,000
Pending	FTA	2009	Paratransit Vans Replacement	$ 1,170,000
Pending	FTA	2009	North Laredo Transit Hub- Bus Maintenance Facility	$ 12,644,540
	TAX	2009	Bus Shelters	$ 25,000
Pending	FTA	2010	Operating Assistance	$ 5,012,821

Pending	FTA	2010	Transit Center Intermodal Addition	$ 15,000,000
	TAX	2010	Bus Shelters	$ 25,000
Pending	FTA	2011	Operating Assistance for operations and maintenance	$ 5,012,821
	FTA	2012-2030	Operating Assistance for operations and maintenance	$ 161,069,979
Total				**$ 235,202,637**

Bus Rapid Transit

A Bus Rapid Transit Plan was prepared for the Laredo Urban Transportation Study in 2003. The purpose of the study was to develop a feasible plan for Bus Rapid Transit (BRT) services and facilities for the Laredo Urban Area. BRT addresses improvement in travel times and service quality. Projects may include reserved bus lanes, special stops, traffic signal priority, limited stop service along designated corridors and express bus service. After identifying and evaluating several alternatives as BRT projects in the Laredo area, the study identified potential short-range and long-range projects as shown in **Table 6-7**. The total capital cost of these projects omitting duplicated cost items would be approximately $159 million. Although BRT is not feasible at this time, the community will work towards implementing feasible projects in the future. The projects identified in Table 6-7 are "illustrative" and their implementation would be subject to future feasibility and available funding.

Table 6-7
BRT Projects
Laredo Metropolitan Transportation Plan Update

BRT Project	Conceptual-Level Capital Cost Estimate (current prices)	Approximate Net Annual O&M Cost (current prices)
Alternative A: Zacatecas Transit Center and BRT service to downtown Laredo Transit Center	$7.8 million including Zacatecas Transit Center and BRT corridor improvements	$0.57 million, not including probable offset from increased fare revenue due to attraction of added riders
Alternative D: Mall Del Norte Transit Center and BRT service to downtown Laredo Transit Center	$7.7 million including Mall Del Norte Transit Center and BRT corridor improvements	$0.56 million, not including probable offset from increased fare revenue due to attraction of added riders
Alternative E: Zacatecas Transit Center and BRT Busway to Bridge #1, service continuing to downtown Laredo Transit Center	$64.7 million including new Transit Center, or $61.2 million if the transit center has previously been provided	$1.01 million, not including probable offset from increased fare revenue due to attraction of added riders
Alternative F: Mall Del Norte Transit Center and BRT Busway to downtown Laredo Transit Center	$77.1 million including new Transit Center, or $73.8 million if the transit center has previously been provided	$1.48 million, not including probable offset from increased fare revenue due to attraction of added riders
Alternative G: Double-ended	$2.2 million	$0.53 million, but potentially

shuttle bus service across pedestrian-only Bridge #1		more than recovered from nominal fare (previously un-served passenger market)
Alternative H: BRT service via Loop 20 between Zacatecas Transit Center and Shiloh Transit Center	$4.3 ($6.3 if Shiloh Transit Center cost is included)	$1.19 million, not including probable offset from increased fare revenue due to attraction of added riders

Source: Laredo Urban Transportation Study, Bus Rapid Transit Plan, July 7, 2003

ILLUSTRATIVE PROJECTS

This plan includes a list of unfunded projects which may eventually be included in the long-range plan if "reasonable additional resources" become available. As shown in **Table 6-8**, 7 railroad grade separation projects, totaling $42 million have been identified as well as three other City projects totaling $133.5 million. Additionally two county projects have been identified totaling approximately $68.5 million. Illustrative projects are displayed in **Figure 6-5**.

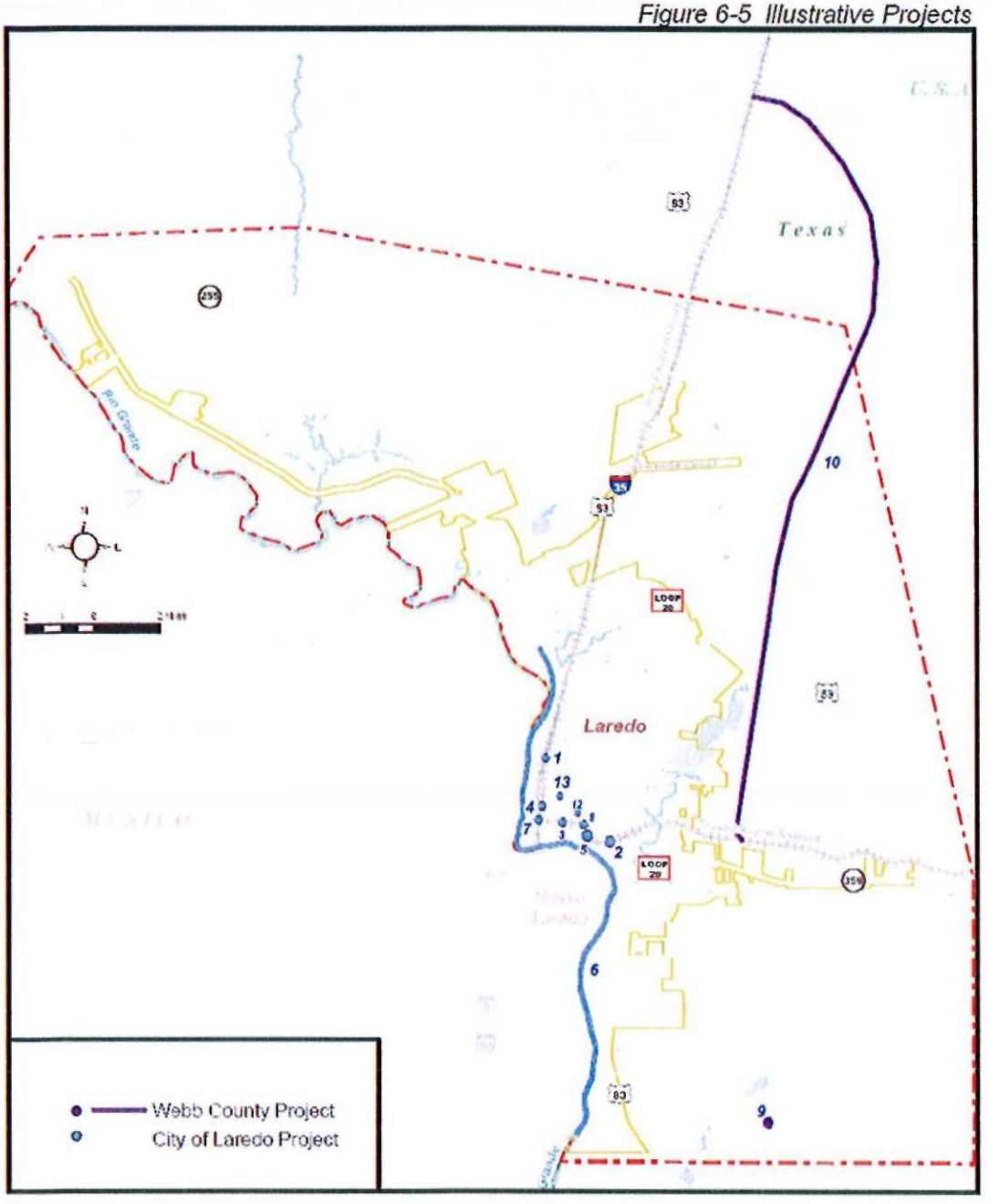
Table 6-8
Illustrative Projects
Laredo Metropolitan Transportation Plan Update

Map ID	Location/Project Name	Description	Cost
City of Laredo			
1	Chicago	Railroad Grade Separation	$6,000,000
2	Seymour	Railroad Grade Separation	$6,000,000
3	San Bernardo	Railroad Grade Separation	$6,000,000
4	Sanchez	Railroad Grade Separation	$6,000,000
5	Market Street	Railroad Grade Separation	$6,000,000
7	Scott	Railroad Grade Separation	$6,000,000
8	Corpus Christi	Railroad Grade Separation	$6,000,000
12	*Sanchez-Gustavus	Replace Bridge over Zacate Creek	$1,000,000
6	River Road Project	New Location Roadway from Mines Rd. to 2 Miles South of Mangana-Hein Rd.	$127,000,000
11	Quiet Zones at Railroad Crossings	At Various Locations Install New Signs, Close Crossings, Add Medians, and Add Gates and Signals	$5,500,000
13	San Bernardo	Rehabilitation/Reconstruction	$15,000,000

Total			**$190,500,000**
Webb County			
9	Mangana Hein Road	Paving Project – east to the MPO Boundary	$1,830,000
10	Rural Rail District Project (Phase II)	Rail line from the existing Tex-Mex rail yard on Highway 359 to the eastern edge of the existing toll road (connecting to Phase I)	$66,700,000
Total			**$68,530,000**

* Funds for preliminary design and environmental work have been allocated in the TIP. Funding for the complete project has not yet been secured.

Figure 6-5 Illustrative Projects



AVIATION

Aviation projects as identified in the Laredo International Airport Master Plan Study (2004), are shown in **Tables 6-9** thru **6-11**. As shown, 26 Phase I capital improvement projects have been identified totaling $163.4 million. Phase II capital improvement projects total $41.7 million and Phase III projects total $96.8 million.

Table 6-9
Phase I Capital Improvement Projects (2004-2009)
Laredo Metropolitan Transportation Plan Update

ID Number	Title	Amount
I-01	FAR Part 150 Noise	$24,000,000
I-02	Construct Cargo Pads	$200,000
I-03	Upgrade AOA Electrical	$200,000
I-04	New GA and Cargo FIS	$4,500,000
I-05	Reconstruct Taxiways - Phase 1	$8,600,000
I-06	Acquire Land for RPZ and Airport Development	$19,000,000
I-07	Expand Automobile Parking Area - Phase 1	$2,260,000
I-08	Expand North East Cargo Apron - Phase 2	$9,150,000
I-09	Expand North East Cargo Area - Phase 1 (Private Sector)	$13,200,000
I-10	Extend Runway 17L-35R - Phase 1	$7,900,000
I-11	Reconstruct West Side Cargo and GA Apron Phases I-IV	$27,000,000
I-12	ATCT - Site Selection	$90,000
I-13	Construct New Air Traffic Control Tower	$2,000,000
I-14	Perimeter Fence	$200,000
I-15	Runway 17R-35L Safety Area Improvements	$6,000,000
I-16	Reconstruct Runway 17-35L - Phase 1	$4,400,000
I-17	Reconstruct Runway 14-32	$7,000,000
I-18	Extend Taxiway G to Taxiway A	$2,200,000
I-19	Extend Taxiway E to Runway 17R-35L	$620,000
I-20	Expand General Aviation Apron	$9,000,000
I-21	Construct T-Hanger Storage Units (Private Sector)	$900,000
I-22	Construct Conventional Hangars (Private Sector)	$3,000,000
I-23	Expand Terminal Apron	$1,000,000
I-24	Expand Passenger Terminal Building	$5,500,000
I-25	Extend Taxiway D to Terminal Apron	$1,400,000
I-26	Construct New Maintenance Facility	$4,100,000
Total		**$163,420,000**

Table 6-10
Phase II Capital Improvement Projects (2010-2015)
Laredo Metropolitan Transportation Plan Update

ID Number	Title	Amount
II-01	Taxiway Reconstruction - Phase II	$4,500,000
II-02	Construct New ARFF Facility	$1,100,000
II-03	Update FAR Part 150 Study	$350,000
II-04	Update Airport Master Plan	$350,000
II-05	Reconstruct Runway 17R-35L	$12,000,000
II-06	Expand North East Cargo Area Phase II	$13,200,000
II-07	Acquire Land North of East Cargo Facilities	$2,200,000
II-08	Construct High Speed Exit Taxiway	$1,400,000
II-09	Construct Entrance Taxiway North of Taxiway C	$2,900,000
II-10	Install 4-Box PAPIs on Runway 17R-35L	$240,000
II-11	Install 4-Box PAPIs and REIL on Runway 14-32	$275,000
II-12	Extend Thomas Avenue	$500,000
II-13	Construct Access Taxiways for South T-Hangars	$1,150,000
II-14	Construct South T-Hangar	$570,000
II-15	Construct Two Conventional Hangars in Central GA Area	$950,000
Total		**$41,685,000**

Table 6-11
Phase III Capital Improvement Projects (2016-2025)
Laredo Metropolitan Transportation Plan Update

ID Number	Title	Amount
III-01	Construct T-Hangar Storage Units	$570,000
III-02	Expand Automobile Parking Area - Phase II	$1,200,000
III-03	Expand North East Cargo Apron - Phase III	$25,000,000
III-04	Extend Dual Parallel Taxiway	$3,500,000
III-05	Expand North East Cargo Area - Phase III	$43,000,000
III-06	Reconstruct Runway 17L-35R	$18,600,000
III-08	Extend Taxiway B	$1,200,000
III-09	Construct High Speed Exit Taxiway	$1,700,000
III-10	Construct Conventional Hangar in Central GA Area	$2,050,000
Total		**$96,820,000**

Corridor Management

In addition to the proposed roadway improvements identified in this plan there are other non-capacity transportation-related recommendations that can enhance the transportation system in the Laredo MPO area. These recommendations include modifications to transportation-related regulations, policies, and guidelines; corridor preservation measures; and, access management guidelines.

Collectively, these recommendations are referred to as corridor management. Corridor management includes preserving needed right-of-way in advance, minimizing development within the proposed right-of-way of a planned transportation facility, and preserving the safety and efficiency of the existing facilities through access management. Corridor management promotes the orderly development of a transportation network and helps to assure that transportation facilities will be adequate to serve existing and planned development.

Corridor Preservation

Corridor preservation is the first action in the corridor management process. Corridor preservation techniques are important tools for local, state, and federal agencies to protect needed future right-of-way for proposed transportation facilities. AASHTO defines corridor preservation as a "concept utilizing the coordinated application of various measures to obtain control of or otherwise protect right-of-way for a planned transportation facility. Corridor preservation techniques should be applied as early as possible after the transportation corridor is identified either along a new alignment, or along an existing facility to:

- Prevent inconsistent development;
- Minimize or avoid environmental, social, and economic impacts;
- Reduce displacement;
- Prevent the foreclosure of desirable location options;
- Permit orderly project development; and,
- Reduce costs.

A prerequisite for selecting corridors for preservation is the presence of a transportation plan. These types of plans typically identify future transportation corridors based on analysis of transportation deficiencies, a needs study, a statewide planning process, and urban development plans. Potential transportation corridors not identified in a transportation plan would require too much study, planning, and public participation to warrant early preservation action. Corridor preservation candidates can be prioritized using the following five criteria:

- Importance of the Corridor;
- Immediacy of Development;
- Risk of Foreclosing Options;
- Opportunity to Prevent Loss of the Corridor; and,
- Strength of Local Government Support.

Successful corridor preservation actions require cooperation and a working relationship between numerous public agencies, private developers, and public interest groups. Agencies and groups that should be included in corridor preservation activities include the following:

- **Federal:** Federal Highway Administration (FHWA) and Resource Agencies (EPA, Corps of Engineers, etc.);
- **State:** TxDOT, State Legislature, and Resource Agencies;
- **Local:** City Council, Mayors and Executives, Planning Commissions, City Planning and Public Works Departments;
- **Private:** Land Owners, Developers, Chamber of Commerce, and Bankers; and,
- **Citizens:** Corridor Neighborhood and Civic Groups, Umbrella Public Interest Groups, and Environmental Activists.

Establishing means of corridor preservation for the implementation of the Laredo Metropolitan Transportation Plan Update is important. Before a new facility is constructed, all sections throughout the route should have protected right-of-way to assure ultimate development of the entire facility. Means that can be employed to assist in the successful planning and implementation of roadway improvements are identified in **Table 6-12**.

These techniques are divided into two basic categories, including interim protection techniques and preservation techniques. Interim protection techniques, such as official maps of reservation, and options to purchase at a later date, strive to hold land out of development until right-of-way purchases can be made or land titles transferred. Interim protection techniques provide temporary assurances that right-of-way will be available in the future, but they cannot guarantee right-of-way protection. Preservation techniques on the other hand definitely ensure that right-of-way is, or will be, available for a transportation facility when needed. Preservation techniques include such measures as fee simple acquisition, landowner donations, and development easement acquisitions.

Access Management

Access Management is another important component of the corridor management process. Access management is defined as the protecting of the capacity of existing transportation routes and systems by controlling access rights from adjacent properties. Access management techniques serve to limit and separate vehicle (and pedestrian) conflict points, reduce locations requiring vehicle deceleration, remove vehicle turning movements from through lanes, create intersection spacings that facilitate signal progression, and provide adequate on-site capacity to accommodate ingress and egress traffic movements. Limiting access of new developments will not require additional cost from the City. However, elimination of access rights will require compensation by the City.

Access management techniques are extremely important for managing congestion on existing transportation facilities. The implementation of applicable techniques, or a combination of techniques, can eliminate the need for expensive roadway widenings or potential right-of-way acquisitions. Studies have shown that increasing the signalized intersection spacing to uniform

intervals of one-half mile and the use of a non-traversable median to restrict left-turns will increase the capacity of a four-lane urban arterial by about 50 percent as compared to quarter-mile signal spacing and unrestricted left-turns. This is the same increase in capacity that can be obtained by widening a four-lane divided arterial to six lanes. Also, safety will be increased and congestion reduced to a greater extent than by the roadway widening. Research has consistently shown that access management helps to reduce the rate and severity of traffic accidents and improves pedestrian and bicycle safety.

Table 6-12
Corridor Preservation Techniques
Laredo Metropolitan Transportation Plan Update

Corridor Preservation Technique	Interim Protection	Preservation
Subdivision Regulations	✓	✓
Building Permits	✓	
Building Setbacks	✓	
Access Management and Control	✓	✓
Fee Simple Acquisition		✓
Development Easement Acquisition		✓
Landowner Donations		✓
Public/Private Partnerships (toll facilities)		✓
Options to Purchase at a Later Date	✓	
Official Maps of Reservation	✓	
General Plan Corridor Designations	✓	
Transfer Development Rights to Other Properties or Land Swaps		✓
Density Transfer within a Single Property	✓	
Interim Uses on Right-of-Way	✓	
Irrevocable Offers to Dedicate	✓	
Highway Right-of-Way Platting	✓	
Developer Agreements	✓	
Tax Abatement	✓	
Voluntary Developer Reservations	✓	
Special Assessment Districts Involving Right-of-Way Dedications		✓

Source: : Corridor Preservation: Case Studies and Analysis Factors in Decision-Making, Volume I, U.S. Department of Transportation, Federal Highway Administration, FHWA-PD-96-044, 1995.

From a land development perspective, access management assists in the orderly layout and use of land and helps to discourage poor subdivision and site design. Poorly designed entrances and exits to major developments not only present a traffic hazard, but also cause increased congestion, which can create a negative image of the development. In addition, access management techniques, such as reducing the number and frequency of driveways and median openings, improve the appearance of major corridors. Scenic and environmental features can be increased, which improves the image of streetscapes and can attract additional economic development.

Access management relies on a variety of access control techniques to promote efficient vehicular movements. These include the following:

- Limit number of conflict points;
- Separate conflict points;
- Limit deceleration;
- Remove turning vehicles from through lanes;
- Space major intersections to facilitate progressive travel speeds along arterials; and,
- Provide adequate on-site storage to accommodate both ingress and egress traffic.

The Texas Department of Transportation recently adopted an Access Management Manual which identifies the procedures and requirements for the control of access along State maintained roadways. Several corridors within Laredo were identified as corridors with strong potential for implementation of access management techniques. These corridors typically have limited right-of-way, dense development, and limited opportunity for roadway capacity improvements. These corridors include, but are not limited to, the following:

- US 59 (Marlyland to San Dario)
- US 59 (Ejido to Buena Vista)
- US 83 (Gautemozin to Palo Blanco Street)
- Loop 20 (Los Presidentes to US 83)
- FM 1472 (Interamerica to IH-35)

Each of these corridors should be investigated by local agencies for potential access management improvements, including traffic signal timing modifications/upgrades, medial access control (such as installation of raised medians), and driveway consolidations. Corridors selected for access management improvements would be eligible for Category 8 funding as part of this plan.

Appendix A

Public Comments

Appendix A
Public Comments

Source	Comment	How Comment was Addressed in the Plan
TxDOT	Figure 2-3A, 2-3b, 2-5b – would prefer for the enlarged area to include the area outside Loop 20.	Maps were modified to include this enlarged area.
TxDOT	Figure 2-5a would be helpful to have a typical section of the different functional classification. What is the difference between the freeway and expressway, IH-35 is both in some sections.	Expressway was removed from the functional classification. IH-35 is shown as freeway.
TxDOT	Add more to description for IH 35 Shiloh to Milo Project, as we will have to construct a new RR crossing.	Description of this project was expanded to include the new RR crossing.
TxDOT	Loop 20 overpasses at Jacaman and Airport, should move to long term.	These projects were moved forward to the short-term due to available funding.
TxDOT	Would prefer another table be prepared for State Administered Off-system roadway projects.	State administered off system roadway projects were included in the local listing
TxDOT	US 59 from 3.3 Miles E. of Arkansas St. to Proposed Outer Loop description needs to be changed to 7 lane, instead of 5. Also the project is duplicated with one labeled from Lifedown to MPO boundary; the section East of the Outer Loop was proposed to be 4 lane divided; the urban section would go only to the Outer Loop.	The Lifedown to MPO Boundary project was removed. US 59 - Outer Loop to MPO Boundary was added as a four lane rural highway.
County (see attached letter)	The draft of the MTP proposes a modification to the existing long-range thoroughfare plan and current MTP by realigning the proposed Outer Loop to a location south of Mangana-Hein Road. **Recommendations:** • Clarify that the final route alignment of the Outer Loop will be determined by TxDOT after completion of the route alignment study, resolution of environmental issues, public comment process and the approval of the Federal Highway Administration on all project descriptions, analysis, maps and funding matrices of the proposed MTP	The final alignment of the Outer Loop has not yet been determined. The MTP does not establish alignments. • All maps were revised to show the Outer Loop as a corridor in the plan. • There is no site specific language regarding the Outer Loop and its alignment in the MTP document.

Source	Comment	How Comment was Addressed in the Plan
	• Revise all maps to depict the location of the proposed Outer Loop to a central location within the study corridor (Mangana Hein Road) or alternatively show all three alignments under consideration • Revise funding matrices and project descriptions to remove site-specific language within the MTP document related to the Outer Loop, its intersections with US 83 or proposed interchanges contemplated along the route	
County	The draft of the MTP proposes funding for an interchange at US Highway 83 and a modified location of the Outer Loop to serve the 5th International Bridge Recommendations: • Clarify that the location of the interchange will be determined after the final route alignment of the Outer Loop has been determined in conjunction with an approved bridge site. Alternatively, modify the MTP to include funding for interchanges at both proposed bridge sites or all three alignments of the Outer Loop currently under study. • Revise all maps to show the location of the proposed interchange associated with the location of the proposed Outer Loop to a central location within the study corridor. Alternatively, identify proposed interchanges at all three alignments of the Outer Loop currently under consideration or at both proposed bridge sites. • Revise funding matrices and project descriptions to remove site-specific language within the MTP document related to this interchange	• The location of the bridge has not yet been determined. The project identified in the long range plan includes a direct connector at US 83 and the Outer Loop. Maps were revised to show this project as a general area as opposed to a site specific location. • Text was added to Chapter 6 stating that the current location of the bridge is unknown and several proposals exist from the City and County. • There is no site-specific language regarding this interchange in the MTP the document.
County	The draft MTP fails to identify and show the public portion of the Mangana-Hein Road in its entirety Recommendations: • Revise all maps to show the location of the Mangana-Hein Road in its entirety and label its name accordingly	• All maps were revised to show Mangana-Hein Road in its entirety • Existing condition and short and long-term network maps were revised to show volumes and level of service along Mangana Road within the study area.

Source	Comment	How Comment was Addressed in the Plan
	• Revise the MTP to reflect the existing conditions, traffic analysis and level of service associated the Mangana-Hein Road within the MPO Study area and its impact the ADT volumes and LOS for the short-term and long-term networks	
County	The draft of the MTP fails to identify the Webb County Rural Rail District (WCRRD) or its proposed rail projects. Recommendation: • Incorporate comments and projects identified by the WCRRD	• At the time of publication of the draft document, WSA had not received information from Webb County regarding the WCRRD or proposed projects. However the information has since been provided. The document was revised and now references the district in Chapter 2, under rail as well as in Chapter 5 under innovative financing techniques. One of WCRRD's projects has been added to the long-term plan and another to the list of illustrative projects in Chapter 6.
County	The draft of the MTP appears to limit local sponsored projects to only those transportation projects of the City of Laredo Recommendations: • Incorporate all county projects in the MTP – including the county's proposal for the fifth international bridge. Alternatively remove local sponsored projects in their entirety and any reference to locally sponsored projects	• County projects were not originally incorporated into the plan as we had not received the County's CIP. WSA accessed the County's CIP online, but projects were not identified in the plan because they were outside the MPO boundary or were part of a state system project (ie. Cuatro Vientos Road) • Based on more recent information provided by the county, four county projects have been added to either the short or long-term plan or as an illustrative project. • The international bridge has been identified as being funded locally by the City or County through bonds (estimated costs range from $32 to $51.4 million)
County	Inclusion of RMA Projects	Once the RMA is formed the MTP can be revised to include any projects proposed by the RMA
County	Include the following projects in the MTP: • Mangana Hein Road Paving Project • International Bridge #5 • Rail District – International Bridge and	• Mangana Hein Road Paving Project was added as an illustrative project • One international bridge project is shown in the plan and it has been

Source	Comment	How Comment was Addressed in the Plan
	Railroad Line	identified as being funded locally by the City or County through bonds (estimated costs range from $32 to $51.4 million) • Phase 1, Rural Rail District's Project – International Bridge and Railroad Line was added to the local long-term plan • Phase 2, Rural Rail District's Project – Rail line from the Tex-Mex rail yard to the eastern edge of the existing toll road, was added as an illustrative project
FHWA (see attached letter)	Has the expanded study area boundary been approved by the Governor	The expanded boundary has been approved and the "Proposed boundary" text was removed from Figure 1-1
FHWA	Functional Classification does not extend to MPO Boundary	All maps were revised and the functional classification of all roadways extend to the MPO Boundary
FHWA	Does the Laredo MPO have a separate bicycle/pedestrian plan and how will the expansion or enhancement of the bicycle system be accomplished	Proposed bicycle facilities were added to Figure 2-18
FHWA	Explain the straight line projections used to forecast available federal and state funding	A more detailed explanation of how funding was projected was added to Chapter 5
FHWA	Include a table indicating total estimated costs of projects versus estimated revenues	Table was added to Chapter 5
FHWA	Table 6-4 (Comparison of daily vehicle hours of travel) appears to be missing significant amount of information	The document was draft at the time of submittal to FHWA and this table has since been updated with all relevant data.
FHWA	How does the MPO propose to address Title VI considerations	A discussion of Environmental Justice considerations was added to Chapter 4
City Council	Include grade separation at International and Loop 20	Project was added to the local long range strategy (Table 6-4)
MPO Policy Committee Meeting	Funding for grade separation at International and Loop 20 would be private	This project was listed as privately funded in the long range plan, as no other funding source could be identified.
Project Nomination Form	Many properties in the Heights area were allowed to disregard building code regulations and cover the sidewalk areas with vegetation forcing the children to walk	The MTP sets aside funding for Category 9 – Enhancement which can be used for bicycle and pedestrian projects. The MTP does not address building codes.

Source	Comment	How Comment was Addressed in the Plan
	to school on the street.	

Appendix B

Project Evaluation Matrix

Appendix B - Project Evaluation Matrix

Project	From Limits	To Limits	Project Description	Length (miles)	In Plan	Estimated Cost (in $)	Parallel Roads	Existing Volumes	Existing LOS	Future Volumes	Future LOS	Future VMT	Cost / Future VMT	ROW Cost	ROW Cost as Percent of Total	Existing LOS Rating	Future LOS Rating	Cost Reas. Rating	Modal Impact Rating	Public Accept. Rating	ROW Cost Rating	Project Readiness Rating	Special Circumst. Rating	TOTAL SCORE
US 83	Gautemozin	Palo Blanco Street	Install Raised Median	2.13	1	800,000		48,000	F	110,900	F	236,217	$3.38	$500,000	62.5%	100	100	75	0	20	10	20	30	355
US 83	Chacon Creek Bridge	Palo Blanco Street	Reconstruct Roadway	1.50	1	4,680,000		47,700	F	110,900	F	166,350	$27.85	$0	0.0%	100	100	75	0	20	25	20	0	340
US 83	SH 359 / Cortez Street Intersection	Chacon Creek Bridge	Realign and grade separate intersection	0.93	1	5,000,000		48,000	F	110,900	F	68,967	$71.56	$0	0.0%	100	100	75	0	20	25	20	0	340
US 83	San Eduardo Street	Mcpherson Road	Construct Railroad Grade Separation Structure and Approaches	1.08	1	9,360,000		42,700	F	72,800	F	77,168	$121.29	$8,000,000	85.5%	100	100	50	20	20	0	0	30	320
US 83	At 2.0 Miles North Of Espejo Makina Road		Construct Overpass	1.00	1	$5,000,000		15,300	C	25,600	D	25,500	$195.31	$2,600,000	52.0%	50	75	25	20	20	10	0	15	215
US 59	Maryland	San Dario	Install Raised Median	0.65	1	200,000		34,400	F	71,100	F	46,215	$4.33	$0	0.0%	100	100	75	0	20	25	0	30	350
US 59	Eydo	Buena Vista	Install Raised Median	0.84	1	200,000		32,800	F	60,800	F	67,704	$2.95	$0	0.0%	100	100	75	0	20	25	0	30	350
SH 359	Texas Mexico Railway	Smith Street	Realign Intersection	0.58	1	5,000,000		18,200	F	48,000	F	26,320	$178.55	$3,000,000	60.0%	100	100	25	20	20	10	30	0	305
Outer Loop	SH 359	US 59	Outer Loop, Construct 2 Lane Section w/Shoulders, and RR Grade Separation (Phase 1)	5.34	1	8,400,000	Loop 20	33,400	F	87,500	F	467,250	$17.98	$543,000	6.5%	100	100	75	0	0	20	0	45	340
Outer Loop	US 83	Cuatro Vientos	Outer Loop, Construct 4 Lane Divided Facility with an Interchange at US 83 (Phase 1)	1.83	1	6,070,000	Loop 20	30,800	F	75,100	F	137,433	$44.17	$625,000	10.3%	100	100	75	0	0	20	20	15	330
Outer Loop	Cuatro Vientos	SH 359	Outer Loop Upgrade to a 4-Lane Divided Facility (Phase 2)	7.84	1	8,773,939	Loop 20	30,800	F	75,100	F	573,784	$15.29	$0	0.0%	100	100	75	0	0	25	0	15	315
Outer Loop	Cuatro Vientos	SH 359	Outer Loop, Construct 2-Lane Section with Shoulder (Phase 1)	7.64	1	6,120,000	Loop 20	30,800	F	75,100	F	573,764	$10.67	$640,000	10.5%	100	100	75	0	0	20	0	15	310
Outer Loop	At SH 359		Outer Loop, for Construction of an Interchange	1.00	1	3,000,000	Loop 20	33,100	F	87,500	F	87,500	$34.28	$500,000	16.7%	100	100	75	0	0	20	0	15	310
Outer Loop	At Cuatro Vientos		For the Construction of an Interchange	1.25	1	3,000,000	US 83	18,300	D	28,500	D	35,625	$84.21	$500,000	16.7%	75	75	50	0	0	20	0	15	235
Outer Loop	Loop 20	US 59	Outer Loop, Construct 2-Lane Section W/Shoulder, and an Interchange at Inner Loop 20 (Phase 1)	5.78	1	17,000,000	Loop 20	20,200	C	54,600	F	315,588	$53.87	$500,000	2.9%	50	100	75	0	0	20	0	15	260
Loop 20	0.20 Miles South of Spur 400	1.68 Miles North of US 59	For the Construction of a Diamond Interchange	2.72	1	9,680,000		28,400	F	68,300	F	185,776	$53.18	$650,000	6.6%	100	100	75	20	20	20	20	0	355
Loop 20	Los Presidentes	US 83	Install Raised Median	0.77	1	230,000		18,300	D	64,100	F	49,357	$4.66	$0	0.0%	75	100	75	20	20	25	0	30	345
Loop 20	US 59	SH 359	Widen to 6 Lanes and Upgrade Intersection at Spur 400	2.19	1	5,000,000		33,400	F	87,500	F	191,625	$26.09	$500,000	10.0%	100	100	75	20	20	20	0	0	335
Loop 20	At Spur 400 from Fairfield	Tex Mex RR Bridge	Construct Overpass	1.00	1	$8,500,000		33,400	F	87,500	F	87,500	$74.28	$3,500,000	53.8%	100	100	75	20	20	10	0	0	325
Loop 20	At SH 359		For the Construction of an Interchange Facility	1.00	1	18,000,000	Loop 20	33,100	F	87,500	F	87,500	$205.71	$500,000	2.8%	100	100	25	20	20	20	20	0	305
Loop 20	0.32 Miles West of Mile Interchange	0.57 Miles East of McPherson Road	For the Construction of Westbound Mainlanes over IH 35	2.25	1	10,000,000		22,200	D	54,200	F	121,950	$82.00	$0	0.0%	75	100	50	20	20	25	0	0	290
Loop 20	0.39 Miles West of McPherson Road	0.38 Miles East of McPherson Road	For the Construction of Interchange Facility over McPherson Road	0.78	1	4,083,808		20,900	D	52,600	F	41,028	$99.53	$0	0.0%	75	100	50	20	20	25	0	0	280
Loop 20	At Laredo International Airport		Construct Overpass	1.00	1	$5,000,000		20,200	D	52,700	F	52,700	$94.88	$3,500,000	70.0%	75	100	50	20	20	10	0	15	280
Loop 20	At Jacaman		Construct Overpass	1.00	1	$5,000,000		20,200	C	52,700	F	52,700	$94.88	$3,500,000	70.0%	50	100	50	20	20	10	0	15	265
IH 35	East Access Road at Calton Road	Del Mar Boulevard	Add Right Turn Lanes	0.25	1	800,000	At Calton intersection	15,100	F	30,000	F	7,500	$80.00	$120,000	20.0%	100	100	50	0	20	20	30	0	320
IH 35	Shiloh Road	0.25 Miles North of Loop 20 / FM 3464	Widen NB and SB Mainlanes to 3 Lanes Each Direction, Construct RR Crossing	3.73	1	6,000,000		34,500	C	134,000	F	499,820	$12.00	$0	0.0%	50	100	75	0	20	25	20	0	290
IH 35	0.5 Miles South of Loop 20	Loop 20	For the Const of Direct Connector (#7) Consist of Pavmt, Grdg, Drg, Signing, Pavmt Marking,Illum, SW3P, Trf Management & Sbs	1.50	1	8,000,000	Intersection LOS	17,400	D	64,300	E	96,300	$83.45	$0	0.0%	75	100	50	0	20	25	20	0	290
FM 1472	Interamerica	IH 35	Install Raised Median	3.82	1	997,000		48,200	E	78,500	F	284,170	$3.47	$0	0.0%	100	100	75	0	0	25	20	30	350
Cuatro Vientos	SH 359 at Loop 20	Proposed Outer Loop	Loop 20, Extension of Loop 20 - Construct 5 Lane Urban Section	7.03	1	39,807,639	US 83	40,800	F	80,200	F	563,806	$70.25	$0	0.0%	100	100	75	20	20	25	20	0	360
Cuatro Vientos	Outer Loop	US 83 Main Entrance to Rio Bravo	Loop 20, Extension of Cuatro Vientos - Construct 2 Lane Rural Section	3.05	1	4,000,000	US 83	16,300	C	28,500	D	86,925	$46.02	$500,000	15.0%	50	75	75	20	20	20	20	0	280
CPL Road	Industrial Blvd	Riverbank Road	For The Construction of a New Location Roadway	1.42	1	4,469,250	FM 1472	48,200	E	78,500	F	111,470	$40.08	$500,000	11.2%	100	100	75	0	20	20	0	0	315
City Street	0.26 Miles East of Calton Road / St Mara	0.25 Miles East of Las Cruces / Flecha Lane	For The Realignment of Flecha Ln / Las Cruces along FM 1472 and for the PE Work of a Grade Sep at Calton Rd / Santa Mara Int.	0.50	1	3,155,750	FM 1472	34,100	D	88,600	F	43,300	$72.88	$50,000	1.6%	75	100	75	0	20	20	0	15	305
*US 59	0.018 Miles East of San Francisco	0.021 Miles West of San Francisco	For the Construction of the Replacement of an Existing Bridge	0.04	1-8	1,200,000		34,400	F	71,100	F	2,844	$421.94	$0	0.0%	100	100	25	0	20	25	0	0	270
*Meadow Street	at Tex-Mex RR Crossing		Replace Bridge and Approaches	0.25	1-8	3,500,000		22,500	F	56,600	F	14,150	$247.35	$0	0.0%	100	100	25	0	20	25	0	0	270
*IH 35	The Intersection of Santa Ursula and Moctezuma	On West Frontage Road	Construct Railroad Grade Separation Structure and Approaches	0.25	1-8	4,000,000		13,900	E	32,600	F	8,150	$488.80	$0	0.0%	100	100	25	0	20	25	0	30	300
*IH 35	The Intersecaon of San Dario and Santa Ursula	On East Frontage Road	Construct Railroad Grade Separation Structure and Approaches	0.25	1-8	4,000,000	San Dario Ave	8,800	E	38,800	F	9,200	$434.78	$0	0.0%	100	100	25	0	20	25	0	30	300
*FM 1472	0.4 Miles North of IH 35 West Frontage Road	IH 35 West Frontage Road (DOT #448887K)	Construct Railroad Grade Separation Structure and Approaches	0.40	1-8	17,000,000		48,200	E	88,800	F	39,840	$426.71	$400,000	2.4%	100	100	25	0	20	20	20	30	315
*Bus IH 35-A	The Intersection of San Bernardo and Moctezuma		Construct Railroad Grade Separation Structure and Approaches	0.25	1-8	4,000,000		13,900	E	32,900	F	8,225	$486.32	$0	0.0%	100	100	25	0	20	25	0	30	300

Appendix B - Project Evaluation Matrix

Project	From Limits	To Limits	Project Description	Length (miles)	In Plan	Estimated Cost (in $)	Parallel Roads	Existing Volumes	Existing LOS	Future Volumes	Future LOS	Future VMT	Cost / Future VMT	ROW Cost	ROW Cost as Percent of Total	Existing LOS Rating	Future LOS Rating	Cost Reas. Rating	Modal Impact Rating	Public Accept. Rating	ROW Cost Rating	Project Readiness Rating	Special Circumst. Rating	TOTAL SCORE
*Arkansas	at Tex-Mex RR Crossing		Construct Railroade Grade Separation	0.50	1-5	8,000,000		18,800	C	45,900	F	22,950	$261.44	$0	0.0%	50	100	25	0	20	25	0	30	250
*Calton Rd.	at UP Railroad Crossing		Construct Railroade Grade Separation	0.50	1-5	8,000,000		7,400	E	25,600	F	12,800	$468.75	$0	0.0%	100	100	25	0	20	25	0	30	300
Various	At Cuatro Vientos / SH 359		Construct 2 Direct Connectors	2.00	2	$18,000,000	Loop 20 South of SH 359	30,800	F	75,100	F	150,200	$119.84	$2,000,000	11.1%	100	100	50	20	20	20	0	0	310
Various	At Laredo Outer Loop / US 83		Construct Direct Connector	1.00	2	$9,000,000	US 83	15,300	C	25,600	D	25,600	$351.56	$2,700,000	30.0%	50	75	25	0	20	15	0	0	185
US 83 (Guadalupe)	IH 35	SH 359	Restripe for additional lanes	2.15	2	$8,600,000		18,800	F	39,000	F	27,888	$238.58	$0	0.0%	100	100	25	0	20	25	0	0	270
US 83 (Chihuahua)	IH 35	SH 359	Restripe for additional lanes	2.15	2	$8,600,000		23,500	F	43,600	F	93,740	$70.41	$0	0.0%	100	100	75	0	20	25	0	0	320
US 83	*To Be Determined*		Construct Overpass	1.00	2	$5,000,000		15,300	C	25,600	D	25,600	$195.31	$0	0.0%	50	75	25	0	20	25	0	15	210
US 59	3.5 Miles East of Arkansas Street	Proposed Outer Loop	Construct 7 Lane Urban Section	3.86	2	$20,700,000		15,500	E	53,500	F	198,122	$105.55	$1,500,000	7.2%	100	100	50	0	20	20	0	0	290
US 59	Outer Loop	MPO Boundary	Construct 4 Lane Rural Freeway	1.20	2	$14,000,000		4,800	C	17,000	E	20,400	$686.27	$0	0.0%	50	100	0	0	20	25	0	0	195
Spur 400	Loop 20	Proposed Outer Loop	Construct 5 Lane Urban Roadway	6.20	2	$35,075,000	SH 359	19,600	D	52,200	F	323,640	$108.38	$2,400,000	6.8%	75	100	50	0	20	20	0	0	265
Loop 20	1.000 Mile West of IH 35	McPherson Rd	Construct Eastbound Mainlanes	2.00	2	$12,000,000		22,200	D	54,200	F	108,400	$110.70	$0	0.0%	75	100	50	20	20	25	0	0	290
Loop 20	Inner/Outer Loop Interchange	FM 1472	Construct Roadway and Interchange at IH 35	8.00	2	$40,000,000		22,200	D	54,200	F	433,600	$92.25	$3,000,000	7.5%	75	100	50	20	20	20	0	0	285
Loop 20	McPherson	0.5 Mile East of Intersection With Outer Loop	Construct Mainlanes	2.00	2	$8,000,000		11,700	C	35,100	F	70,200	$85.47	$0	0.0%	50	100	50	20	20	25	0	0	265
Loop 20	At Del Mar		Construct Overpass	1.00	2	$5,000,000		19,500	C	47,200	F	47,200	$105.93	$3,500,000	70.0%	50	100	50	20	20	10	0	15	265
Loop 20	At Shiloh		Construct Overpass	1.00	2	$5,000,000		19,500	C	35,600	E	35,600	$140.45	$3,500,000	70.0%	50	100	25	20	20	10	0	15	240
IH 35	0.5 Miles North on IH 35	0.5 Miles East on Loop 20	Construction of Direct Connector #3	1.00	2	$9,000,000	IH 35 mainlanes	8,900	C	33,000	D	33,000	$272.73	$0	0.0%	50	75	25	0	20	25	0	0	195
IH 35	0.5 Miles East on Loop 20	0.5 Miles North on IH 35	Construction of Direct Connector #4	1.00	2	$9,000,000	IH 35 mainlanes	8,900	C	33,000	D	33,000	$272.73	$0	0.0%	50	75	25	0	20	25	0	0	195
IH 35	0.5 Miles East on Loop 20	0.5 Miles South on IH 35	Construction of Direct Connector #5	1.00	2	$9,000,000	IH 35 mainlanes	8,900	C	33,000	D	33,000	$272.73	$0	0.0%	50	75	25	0	20	25	0	0	195
IH 35	0.5 Miles South on IH 35	0.5 Miles East on Loop 20	Construction of Direct Connector #6	1.00	2	$9,000,000	IH 35 mainlanes	8,900	C	33,000	D	33,000	$272.73	$0	0.0%	50	75	25	0	20	25	0	0	195
IH 35	0.5 Miles West on Loop 20	0.7 Miles South on IH 35	Construction of Direct Connector #8	1.00	2	$9,000,000	IH 35 mainlanes	8,900	C	33,000	D	33,000	$272.73	$0	0.0%	50	75	25	0	20	25	0	0	195
Cuatro Vientos	SH 359 at Loop 20	Proposed Outer Loop	Widen to 6 Lane Urban Section with Median	7.25	2	$20,000,000	US 83	40,800	F	100,900	F	731,525	$27.34	$0	0.0%	100	100	75	20	0	25	0	0	320
Cuatro Vientos	2.77 Miles South of SH 359	2.38 Miles South of SH 359	Construct Overpass at Southgate Blvd	1.00	2	$15,678,749	US 83	40,800	F	100,900	F	100,000	$156.77	$2,700,000	17.2%	100	100	25	20	0	20	0	45	310
Cuatro Vientos	6.26 Miles South of SH 359	5.90 Miles South of SH 359	Construct Overpass at Unnamed Minor Arterial	1.00	2	$14,968,111	US 83	15,300	C	28,500	D	28,500	$525.90	$2,700,000	18.0%	50	75	0	20	0	20	0	45	210
Cuatro Vientos	4.8 Miles South of SH 359	3.6 Miles South of SH 359	Construct Overpass at Cielo Lindo Rd and Sierra Vista Rd	1.18	2	$25,475,758	US 83	16,900	C	30,200	D	35,836	$714.88	$2,700,000	10.6%	50	75	0	20	20	20	0	45	230
US 83	SH 359	Chacon Creek Bridge	Widen to 7-lane section	0.75		$500,000		49,000	F	110,900	F	83,175	$6.01	$0	0.0%	100	100	75	0	20	25	0	0	320
US 83	Palo Blanco	3.1 miles south of Loop 20	Widen to 7-lane section	1.85		$9,500,000		40,800	F	92,400	F	170,940	$55.58	$0	0.0%	100	100	75	0	20	25	0	0	320
US 83	Chacon Creek Bridge	Palo Blanco	Widen to 7-lane section	1.61		$15,321,700		40,400	F	100,800	F	162,828	$93.90	$0	0.0%	100	100	50	0	20	25	0	0	295
US 83	Proposed Outer Loop	MPO Boundary	Upgrade to freeway facility	8.80		$29,280,000		16,300	C	28,500	D	250,800	$112.76	$0	0.0%	50	75	50	0	20	25	0	0	220
US 59	IH 35	Buena Vista	Widen to 7-lane urban section	2.50		$35,767,500		37,800	F	78,300	F	180,750	$197.51	$0	0.0%	100	100	25	0	20	25	0	0	270
SH 359	Loop 20	1 mile east of Loop 20	Widen to 7-lane section	4.25		$29,713,500		19,600	D	52,200	F	221,850	$120.41	$0	0.0%	75	100	50	0	20	25	0	0	270
SH 359	US 83 / Texas-Mexico RR	Smith Street	Widen to 7-lane section	0.78		$8,058,360		19,200	F	48,000	F	13,440	$599.58	$0	0.0%	100	100	0	0	20	25	0	0	245
SH 359	Smith Street	Loop 20	Widen to 7-lane section	1.01		$11,734,820		17,500	C	54,700	F	55,247	$212.40	$0	0.0%	50	100	25	0	20	25	0	0	220
Outer Loop	at US 59		Construct Interchange	0.25		$63,630,000	Loop 20	28,400	F	68,300	F	17,075	$3,728.59	$0	0.0%	100	100	0	0	0	25	0	15	240
Outer Loop	at Spur 400		Construct Interchange	0.25		$4,040,000	Loop 20	33,400	F	87,500	F	21,875	$184.69	$0	0.0%	100	100	25	0	0	25	0	15	265
Outer Loop	US 59	SH 359	Widen to 4-lane rural freeway	6.20		$30,057,600	Loop 20	33,400	F	87,500	F	542,500	$55.41	$0	0.0%	100	100	75	0	0	25	0	15	315
Outer Loop	Loop 20	US 59	Widen to 4-lane rural freeway	7.00		$33,936,000	Loop 20	20,200	C	54,600	F	382,200	$88.78	$0	0.0%	50	100	50	0	0	25	0	15	240
NW Loop 20 Extension	FM 1472	IH 35	Construct new 2-lane rural and later widen to 4-lane divided facility	4.75		$18,801,000	Kilkam Industrial	2,800	C	16,500	E	78,650	$238.44	$0	0.0%	50	100	25	0	20	25	0	0	220
North Loop 20 Extension	Loop 20	IH 35	Construct new 2-lane rural section	2.10		$7,834,000	IH 35	25,600	C	93,700	D	196,770	$39.81	$0	0.0%	50	75	75	20	20	25	0	0	265
North Loop 20 Extension	Loop 20	IH 35	Widen to 5 or 7-lane rural section	2.10		$8,868,000	IH 35	25,600	C	93,700	D	196,770	$34.80	$0	0.0%	50	75	75	20	20	25	0	0	265
IH 35	Shiloh Road	Loop 20	Widen frontage roads to 3 lanes per direction	8.00		$12,120,000		11,400	D	36,300	F	217,800	$55.65	$0	0.0%	75	100	75	0	20	25	0	0	295
IH 35	at North Loop 20 Extension		Construct overpass	0.25		$10,100,000		20,200	C	93,700	D	23,425	$431.18	$0	0.0%	50	75	25	20	20	25	0	0	215
IH 35	at Vallecillo		Construct overpass	0.25		$6,060,000		20,200	C	93,700	D	23,425	$258.70	$0	0.0%	50	75	25	0	20	25	0	0	195
FM 1472	at NW Loop Extension		Construct Interchange	0.25		$4,040,000		9,300	C	28,700	F	7,175	$544.11	$0	0.0%	50	100	0	0	20	25	0	0	195

*In Plan: 1=Short Term, 2 = Long Range, 1-5=Short Term, Category 5 Funding

APPENDIX C

PENDING ACTIONS FOR THE NEXT UPDATE

Appendix C
Potential Actions for the Next Update

Passage of the new federal transportation bill, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), confers new responsibilities upon MPOs. The Laredo Urban Transportation Study takes these responsibilities seriously and will implement various new methods during its next MTP update cycle to comply with the renewed description of continuing, comprehensive, and cooperative planning in these newly adopted policies and regulations. This appendix outlines potential strategies for the Laredo MPO to contemplate.

Coordination with Other Agencies

The Laredo MPO will be considering two approaches towards coordination with other agencies. One approach is to contact other agencies as part of the public participation portion of the MTP update process. This has the advantage of bringing the relevant agencies into the process early. One disadvantage is that the MTP is only updated every five years. Another approach to coordination with other agencies is to have representatives of the various agencies join the technical committee. An advantage to this approach is that it recognizes the potentially technical nature of the input from relevant agencies and provides for more frequent input than every five years if there are changing circumstances. A disadvantage to this approach is that it places an extra time commitment on agencies that are not directly involved in transportation and may have little interest in service.

Operational and Management Strategies to Improve the Existing System

After adoption of the current MTP, the City of Laredo commissioned an ITS Master Plan report. The objective was to coordinate ITS efforts among the various departments and agencies in the Laredo area. This report was delivered in 2003.

Strategy to Improve Intermodal Connectivity/Mode Integration

The most pressing issue of concern related to multi-modal connectivity is actually related to one mode impeding another. At this time a long wait is required for freight trains crossing the border. While waiting for inspection these trains block traffic at at-grade intersections creating disruptions to people traveling by automobile as well as goods traveling by truck. In the short term efforts are under way to reduce the number of at-grade crossings. In the long term the City is evaluating potential routes outside the CBD that would minimize traffic disruptions.

Environmental Mitigation

Under SAFETEA-LU MPOs are now required to consider potential environmental impacts at a broad scale. The Region VI Environmental Protection Agency office has developed a GIS-based analysis tool. They have vetted a wide range of environmental criteria that are combined with weighting factors to create an environmental "score" for each square kilometer of the study area. The output is a map such as that shown in Figure C-1.

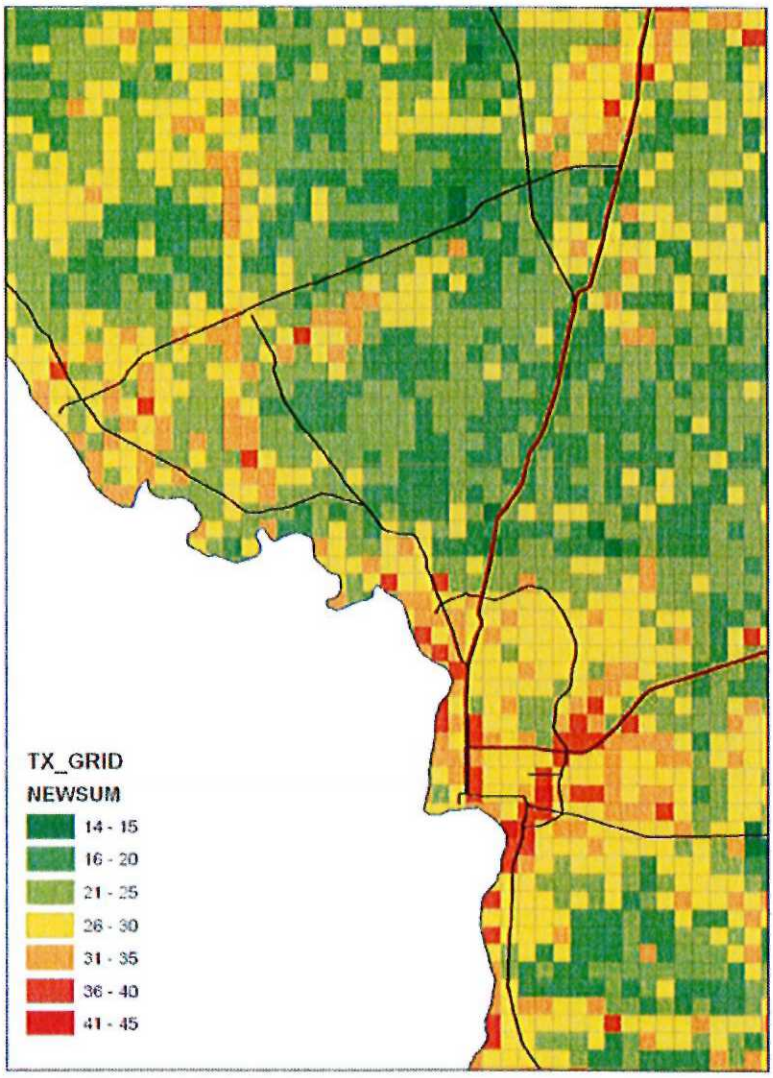


Figure C-1 Results of GISST Analysis for the Laredo Metropolitan Area

Appendix D

Total Project Cost and Year of Expenditure Breakdown

Appendix D
Total Project Cost and Year of Expenditure Breakdown

Financial Constraint Methodology using Total Project Cost and Year of Expenditure Dollars for the LUTS 2030 MTP Amendment (January 2008)

The Laredo Urban Transportation Study 2030 Metropolitan Transportation Plan as amended remains financially constrained. This determination was made by comparing anticipated total program (highway and transit) funding from recurring and non-recurring sources ($2,757,710,992) to the anticipated total program (highway and transit) costs in year of expenditure dollars ($2,752,365,116) for the projects included in the 2030 MTP. The revenue and cost estimates used in the comparison were developed and applied using the methodology described below.

Step 1. Review and verify base revenue forecasts from the 2030 MTP update in 2005

The revenue estimates developed and published in the 2030 MTP were based on the historical availability of construction dollars over the previous ten program years (1995 – 2004). However, these construction dollars also had unreported companion program dollars made available for LUTS projects for preliminary engineering, construction engineering, contingencies, and indirect categories. To accurately estimate total program revenue growth these collateral program dollars needed to be estimated as well.

Step 2. Revise base revenue estimate to reflect total program dollars available

The base revenue figures reported in 2005 were determined to accurately reflect the anticipated construction related revenue available in constant 2005 dollars.

Highway Funding.. Since TxDOT does not presently have available the historical data on 1995 –2004 total program expenditures (construction, PE, CE, Indirect and Contingency) The program dollars available for the non-construction portion of total program revenue was calculated using the same estimation rates that TxDOT applied in developing Total Program Cost, namely:

- Preliminary engineering program dollars were estimated at 4.9 % of construction dollars
- Construction engineering program dollars were estimated at 5% of construction dollars
- Contingency dollars were estimated at 7.0% of construction program dollars
- Indirect dollars were estimated at 5.68% construction program dollars available

Total construction dollars available from 2005 to 2030 was originally estimated at $967,426,695 in constant 2005-year dollars over the 25 years of the MTP. This amount

was annualized by dividing by 25 to obtain an annual construction only revenue estimate of $37,208,719 per year in constant 2005 dollars. This dollar amount was then adjusted by applying the TxDOT rates for PE, CE, Contingencies, and Indirect using the percentages noted above to develop an estimate of total program revenues. Using this approach, it was estimated that the annual total program dollars available for LUTS projects is $45,610,448 per year in constant 2005 dollars.

Transit Funding.

A similar methodology was used to develop transit total program funding. In the case of transit construction projects, the same multipliers supplied by the transit provider for calculating total project cost were applied to identify total program revenue. (Because non-construction funds such as operating and maintenance are already reported in total program dollars, the TPC multipliers are applied only to construction projects) The transit estimated rates varied only slightly from the highway rates. The transit calculation applied to multiplier categories:

- Professional fees at 10%
- Contingency at 15%

Step 3. Convert constant year 2005 dollars to year of award dollars

Revenue growth for both highway and transit funds were forecast using the policy assumptions developed and adopted by TxDOT, LUTS and the transit provider in consultation with FHWA that revenue growth is anticipated to occur at the same inflation rate (4% compounded) at which costs are anticipated to grow. To calculate the revenue growth at this rate, the annual estimate in constant 2005 dollars was inflated by 4% compounded annually for the life of the plan using the formula

$$YOR\$ = ACYD * (1+0.04)^{n}$$

Where:
YOR$ = year of receipt dollars
ACY$ = Annualized constant year dollars
n= number of years from base year (2005)

Step 4. Sum annualized / inflated total program funding

The annualized total program dollars inflated at the 4% compound rate of growth were then summed to determine the total program dollars available to fund the 2030 MTP. Based on this methodology the recurring program funds anticipated to be available for LUTS highway and transit projects over the 25-year life of the plan is anticipated to be $2,757,710,992

Reasonableness check – comparison of funding forecast with actual funds

Because the 2030 MTP was adopted in 2005 and there are three years worth of information on revenues actually received for projects in the first years of the plan, it was possible to check the revenue estimates for reasonableness.

Based on TxDOT reported total highway project costs for projects let since the 2005 adoption of the MTP, the total revenue available for MTP projects was $138 million. The revenue estimate for the same period using the methodology described is $142 million. Given that the forecast revenues are within 3% of the actual revenues for the early plan years, the revenue forecast of recurring revenues seems to be reasonable.

Step 5. Account for non-recurring special program, TxDOT project cycle and discretionary revenue

Since the 2030 MTP was adopted, in addition to recurring program funds used in the revenue forecasts, LUTS has received special non-recurring competitive grants and special discretionary earmarks due to its role as a border gateway to the US. These items relate primarily to border security and safety issues and are actual revenues received from sources not included in the recurring revenue forecasts. In order to accurately assess fiscal constraint, these revenues should be included in the comparisons of revenue and expenditure.

These funds include $86.6 million in Congressional Earmarks for Border Security and safety highway projects, $ 34,481,648 in Transit Congressional Earmarks, and $98 million in special program funds for Border Security Stations and consultation with TxDOT on the program cycle for larger projects, as well as,which added approximately $323,277,466 in non-recurring funds to the short term element of the plan . These special program revenues bring the grand total of highway and transit funds anticipated to be available to fund the 2030 MTP to $ 2,757,710,992.

Step 6. Estimate Total Project Costs in base year dollars

Total Project Costs in Year of Expenditure Dollars was developed using cost figures for each project supplied by TxDOT and the transit provider. The highway project totals (used directly as reported by TxDOT Laredo District) calculated Total Project Cost by applying percentages for PE (4.9%), CE (5%), Indirect (5.68%) and Contingencies (7.0%) to the base construction cost estimates.

The transit project construction costs (used directly as reported by the transit provider and TxDOT Public Transportation office in the TIP documentation) calculated Total Project Cost by for capital improvement projects, using cost figures for each project based on current transit industry trends and historical cost data. Professional fees were estimated to be 10% of Construction Cost, Contingency was calculated at 15%.

These highway and transit total program costs were then inflated to Year of Expenditure Dollars.

Step 7. Estimate Year of Expenditure dollars

TxDOT has adopted an inflation rate of 4% compounded annually to forecast highway and transit Year of Expenditure dollars. To calculate the total project costs in year of expenditure dollars at this inflation rate, the total project cost for each project calculated in base year dollars was inflated by 4% compounded annually to the anticipated year of project implementation using the following formula.

$$YOR\$ = ACYD * (1+0.04)^{n}$$

Where:
YOR$ = year of receipt dollars
ACY$ = Annualized constant year dollars
n= number of years from base year

The total project cost in year of expenditure dollars for the entire inventory of highway and transit projects identified in the 2030 MTP totals to $2,752,365,116.

Step 8. Compare Total Plan Revenue to Total Plan Costs

A comparison of total program revenues to total project costs was made to insure that total plan revenues equal or exceed total plan costs in year of expenditure dollars. Based on the comparison of anticipated revenues ($2,757,710,992) and anticipated total project cost in year of expenditure dollars ($2,752,365,116), the LUTS 2030 MTP as amended, remains fiscally constrained.

Appendix D
Total Project Cost and Year of Expenditure Breakdown

CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
	US 83	Reconstruct roadway	$4,036,408		$197,784	$77,499	$201,820	$282,549	$229,268	$5,025,328
	US 83	Realign and grade separate intersection	$16,693,663		$817,989	320,518	834,683	1,168,556	948,200	$20,783,610
008601052	US 83	Construct RR grade separation and approaches	$18,500,000	$19,240,000	$942,760	$8,537,500	$962,000	$1,346,800	$1,092,832	$32,121,892
	US 83	Construct overpass	$5,000,000	$5,849,293	$286,615		$292,465	$409,450	$332,240	$7,170,063
	SH 359	Realign intersection	$12,862,871		$630,281	$246,967	$643,144	$900,401	$730,611	$16,014,274
092233024	Outer Loop	Construct 2 lane intersection with shoulder, and RR grade separation (Phase I)	$24,975,348	$28,093,870	$1,376,600	$1,800,000	$1,404,693	$1,966,571	$1,595,732	$36,237,466
092233039	Outer Loop	Construct 4 lane divided facility with an interchange at US 83 (Phase I)	$34,000,000	$36,774,400	$1,801,946	$672,000	$1,470,976	$2,206,464	$2,088,786	$45,014,572
092233022	Outer Loop	Construct 2 lane intersection with shoulder (Phase I)	$24,842,599	$27,944,545	$1,369,283	$2,300,000	$1,397,227	$1,676,673	$1,587,250	$36,274,978
092233924	Outer Loop	Construct 4 lane section w/ shoulder (phase II)	$23,931,700	$29,116,572	$1,426,712		$1,455,829	$2,038,160	$1,653,821	$35,691,094
092233108	Outer Loop	Construction of an interchange	$20,000,000	$22,497,280	$1,102,367		$899,891	$1,349,837	$1,277,846	$27,127,220
	Outer Loop	For the Construction of an Interchange	$20,000,000	$21,632,000	$1,059,968		$1,081,600	$1,514,240	$1,228,698	$26,516,506
	Outer Loop	Construct 2-lane section w/shoulder, and an interchange at Loop 20 (Phase I)	$60,000,000	$70,191,514	$3,439,384		$2,807,661	$4,211,491	$3,986,878	$84,636,927
	Loop 20	For the construction of a diamond interchange	$19,208,212		$941,202	$368,798	$960,411	$1,344,575	$1,091,026	$23,914,224
008614046	Loop 20	Widen to 4 lanes and upgrade intersection at Spur 400 and construct on overpass	$27,969,640	$31,462,041	$1,541,640		$1,258,482	$1,887,722	$1,787,044	$37,936,929

Appendix D
Total Project Cost and Year of Expenditure Breakdown

CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
	Loop 20	For the construction of an interchange facility	$22,701,476	$22,701,476	$1,112,372	$5,080,315	$1,135,074	$1,589,103	$1,289,444	$32,907,784
	IH 35	Add right turn lanes	$798,403		$39,122	$15,329	$39,920	$55,888	$45,349	$994,011
001806136	IH 35	Widen NB and SB mainlines to 3 lanes each direction and RR grade separation	$40,000,000	$43,264,000	$2,119,936		$1,730,560	$2,595,840	$2,457,395	$52,167,731
	IH 35	For the construction of Direct Connector #7	$12,871,282		$630,693	$247,129	$643,564	$900,990	$731,089	$16,024,746
	IH 35	Construct frontage road with exit and entrance ramps for NB IH 35	$3,819,699		$187,165	$73,338	$190,985	$267,379	$216,959	$4,755,525
092233043	Cuatro Vientos	For the construction of a new location 4 lane divided roadway	$76,679,748	$79,746,938	$3,907,600	$6,000,000	$3,189,878	$4,784,816	$4,529,626	$102,158,858
092233096	Cuatro Vientos	For the construction of a new location 4 lane divided roadway	$7,173,616	$7,460,561	$365,567	$801,600	$373,028	$522,239	$423,760	$9,946,755
092233066	Cuatro Vientos	Loop 20, extension of Cuatro Vientos - Construct 2 lane rural section	$8,250,000	$8,580,000	$420,420	$2,660,000	$429,000	$600,600	$487,344	$13,177,364
	US 83	Install raised median	$1,168,736		$57,268	$22,440	$58,437	$81,812	$66,384	$1,455,076
	US 59	Install raised median	$1,168,736		$57,268	$22,440	$58,437	$81,812	$66,384	$1,455,076
	Loop 20	Install raised median	$1,626,007		$79,674	$31,219	$81,300	$113,820	$92,357	$2,024,379
	FM 1472	Install raised median	$4,515,304		$221,250	$86,694	$225,765	$316,071	$256,469	$5,621,553
092200024	Various	For the construction of a border safety inspection facility	$45,000,000	$46,800,000	$2,293,200	$10,500,000	$1,872,000	$2,808,000	$2,658,240	$66,931,440
	Various	Develop an ITS regional architecture and ITS deployment plan	$1,750,000		$85,750	$33,600	$87,500	$122,500	$99,400	$2,178,750

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Total Project Cost and Year of Expenditure Breakdown

CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
092200025	Various	For the construction of a border safety inspection facility	$24,514,009	$24,514,009	$1,201,186	$582,555	$1,225,700	$1,715,981	$1,392,396	$30,631,827
092233062	Various	For the construction of the installation of weigh-in-motion and automated vehicle identification devices and a host computer system	$1,500,000	$1,622,400	$79,498		$97,344	$113,568	$92,152	$2,004,962
092233100	City street	For the construction of a hike and bike trail at Chacon Creek in Laredo	$4,125,000	$4,461,600	$218,618		$267,696	$312,312	$253,419	$5,513,645
001805067	IH 35	Installation of roadway illumination	$1,000,000	$1,081,600	$52,998		$64,896	$75,712	$61,435	$1,336,641
001806156	IH 35	Installation of roadway illumination	$1,000,000	$1,081,600	$52,998		$64,896	$75,712	$61,435	$1,336,641
054201056	US 59	For the construction of the replacement of an existing bridge	$9,410,440	$11,008,884	$539,435		$550,444	$770,622	$625,305	$13,494,690
001806906	IH 35	Construct railroad grade separation street and approaches	$4,000,000	$4,866,612	$238,464		$291,997	$340,663	$276,424	$6,014,159
	FM 1472	Construction of railroad grade separation street and approaches	$31,017,780		$1,519,871	$595,541	$1,550,889	$2,171,245	$1,761,810	$38,617,136
092233116	Various	Industrial park street reconstruction projects	$20,000,000	$20,000,000	$980,000		$1,000,000	$1,400,000	$1,136,000	$24,516,000
092233114	Various	Construct 7 federal inspection booths	$4,041,400	$4,041,400	$198,029		$242,484	$282,898	$229,552	$4,994,362

Appendix D
Total Project Cost and Year of Expenditure Breakdown

CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
092233099	City street	For the construction of railroad grade separation	$6,500,000	$7,030,400	$344,490		$351,520	$492,128	$399,327	$8,617,864
092233104	City street	Replace bridge and approaches	$4,112,598	$4,448,186	$217,961		$266,891	$311,373	$252,657	$5,497,068
092233071	City street	For the construction of a new location 3-lane roadway	$4,469,250	$4,648,020	$227,753		$278,881	$325,361	$264,008	$5,744,023
092233076	City street	For the realignment of Flecha Lane/Las Cruces along FM 1472 and for the PE work of a grade separation at Calton Road/Santa Maria intersection	$3,881,150	$4,036,396	$197,783		$242,184	$282,548	$229,267	$4,988,178
092233093	City street	For the construction of a grade separation at Calton/Santa Maria intersection	$24,100,608	$25,064,632	$1,228,167	$1,002,928	$1,253,232	$1,754,524	$1,423,671	$31,727,154
	Jefferson	RR Grade Separation	$6,000,000		$294,000	$30,000	$300,000	$420,000	$340,800	$7,384,800
092233XXX	Various	Construction of two direct connectors	$18,000,000	$42,658,538	$2,090,268		$2,132,927	$2,986,098	$2,423,005	$52,290,836
092233XXX	Various	Construction of direct connector	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
008601XXX	US 83	IH 35	$6,600,000	$15,641,464	$766,432		$782,073	$1,094,902	$888,435	$19,173,307
008601XXX	US 83	IH 35	$6,600,000	$15,641,464	$766,432		$782,073	$1,094,902	$888,435	$19,173,307
008601XXX	US 83	Construct overpass	$5,000,000	$11,849,594	$580,630		$592,480	$829,472	$673,057	$14,525,232
054201XXX	US 59	3.3 mi east of Arkansas Street	$20,700,000	$49,057,319	$2,403,809		$2,452,866	$3,434,012	$2,786,456	$60,134,462
054201XXX	US 59	Outer Loop, construct 2 lane section w/ shoulder and RR grade separation (phase I)	$14,000,000	$33,178,863	$1,625,764		$1,658,943	$2,322,520	$1,884,559	$40,670,650
008614XXX	SL 400	Construct 5 lane urban section of roadway	$35,075,000	$83,124,902	$4,073,120		$4,156,245	$5,818,743	$4,721,494	$101,894,504

Appendix D
Total Project Cost and Year of Expenditure Breakdown

CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
008614XXX	Loop 20	Construct eastbound mainlanes	$12,000,000	$28,439,025	$1,393,512		$1,421,951	$1,990,732	$1,615,337	$34,860,557
008614XXX	Loop 20	Construct roadway and interchange at IH 35	$40,000,000	$94,796,752	$4,645,041		$4,739,838	$6,635,773	$5,384,455	$116,201,858
008614XXX	Loop 20	Construction of mainlanes	$6,000,000	$14,219,513	$696,756		$710,976	$995,366	$807,668	$17,430,279
008614XXX	Loop 20	Construct overpass	$5,000,000	$11,849,594	$580,630		$592,480	$829,472	$673,057	$14,525,232
008614XXX	Loop 20	Construct overpass	$5,000,000	$11,849,594	$580,630		$592,480	$829,472	$673,057	$14,525,232
008614031	Loop 20	Interchange facility to include mainlanes & interchange at McPherson	$44,535,141	$71,302,196	$3,493,808		$2,852,088	$4,278,132	$4,049,965	$85,976,187
008614922	Loop 20	Construct overpass at Spur 400	$20,000,000	$32,020,644	$1,569,012		$1,601,032	$2,241,445	$1,818,773	$39,250,906
001806XXX	IH 35	Construction of an interchange facility to include mainlanes and interchange at McPherson	$8,000,000	$18,959,350	$929,008		$947,968	$1,327,155	$1,076,891	$23,240,372
008614XXX	Loop 20	Construct overpass	$19,000,000	$30,419,612	$1,490,561		$1,216,784	$1,825,177	$1,727,834	$36,679,968
008614XXX	Loop 20	Construct overpass	$18,000,000	$28,818,580	$1,412,110		$1,152,743	$1,729,115	$1,636,895	$34,749,444
008614921	Loop 20	Widen roadway	$25,000,000	$40,025,805	$1,961,264		$2,001,290	$2,801,806	$2,273,466	$49,063,632
001808013	BI 35-A	Construct railroad grade separation street and approaches	$4,000,000	$5,061,276	$248,003		$303,677	$354,289	$287,480	$6,254,725
001806907	IH 35	Construct railroad grade separation street and approaches	$4,000,000	$5,263,727	$257,923		$315,824	$368,461	$298,980	$6,504,914
001806XXX	IH 35	Construction of Direct Connector #3	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
001806XXX	IH 35	Construction of Direct Connector #4	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418

Appendix D
Total Project Cost and Year of Expenditure Breakdown

CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
001806XXX	IH 35	Construction of Direct Connector #5	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
001806XXX	IH 35	Construction of Direct Connector #6	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
001806XXX	IH 35	Construction of Direct Connector #8	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
092233XXX	Cuatro Vientos	Widen to 6 lane urban section with median	$20,000,000	$47,398,376	$2,322,520		$2,369,919	$3,317,886	$2,692,228	$58,100,929
092233XXX	Cuatro Vientos	Construct overpass at Southgate Blvd.	$15,676,749	$37,152,622	$1,820,478		$1,857,631	$2,600,684	$2,110,269	$45,541,684
092233XXX	Cuatro Vientos	Construct overpass at unnamed minor arterial	$14,988,111	$35,520,606	$1,740,510		$1,776,030	$2,486,442	$2,017,570	$43,541,159
092233XXX	Cuatro Vientos	Construct overpass at Cielito Lindo Rd and Sierra Vista Rd	$25,475,759	$60,375,480	$2,958,399		$3,018,774	$4,226,284	$3,429,327	$74,008,263

Appendix D
Total Project Cost and Year of Expenditure Breakdown

	Transit Project Name	Construction Cost in Constant 2008 Dollars	Total Project Cost in Constant 2008 Dollars	Total Project Cost in YOE Dollars
2008	Operating assistance bus operations and maintenance.		$ 4,975,684	$ 4,975,684
2008	North Laredo Transit Hub- Bus Maintenance Facility.	$ 680,130	$ 850,162	$ 850,162
2008	North Laredo Transit Hub- Bus Maintenance Facility	$ 1,943,557	$ 2,429,446	$ 2,429,446
2008	Bus Replacement finance through local sales tax.		$ 3,460,000	$ 3,460,000
2008	Laredo Intermodal Center First Floor Rehab	$ 120,000	$ 150,000	$ 150,000
2008	North Laredo Transit Hub- Bus Maintenance Facility	$ 714,000	$ 892,500	$ 892,500
2008	ADA Sidewalks	$ 300,000	$ 375,000	$ 375,000
2009	Operating assistance bus operations and maintenance.		$ 4,784,312	$ 4,975,684
2009	North Laredo Transit Hub- Bus Maintenance Facility	$ 746,154	$ 932,692	$ 970,000
2009	Paratransit Vans Replacement		$ 1,125,000	$ 1,170,000
2009	North Laredo Transit Hub- Bus Maintenance Facility	$ 9,726,569	$ 12,158,212	$ 12,644,540
2010	Operating Assistance		$ 4,634,635	$ 5,012,821
2010	Transit Center Intermodal Addition	$ 11,094,675	$ 13,868,343	$ 15,000,000
2011	Operating Assistance for operations and maintenance.	$ 3,565,104	$ 4,456,380	$ 5,012,821
	Subtotal TIP (2008-2011)	**$ 28,890,188**	**$ 50,116,681**	**$ 52,942,974**
2012	Operating Assistance for operations and maintenance		$ 4,975,684	$ 5,820,847
2013	Operating Assistance for operations and maintenance		$ 4,975,684	$ 6,053,680
2014	Operating Assistance for operations and maintenance		$ 4,975,684	$ 6,295,828
2015	Operating Assistance for operations and maintenance		$ 4,975,684	$ 6,547,661
2016	Operating Assistance for operations and maintenance		$ 4,975,684	$ 6,809,567

	Transit Project Name	Construction Cost in Constant 2008 Dollars	Total Project Cost in Constant 2008 Dollars	Total Project Cost in YOE Dollars
2017	Operating Assistance for operations and maintenance		$ 4,975,684	$ 7,081,950
2018	Operating Assistance for operations and maintenance		$ 4,975,684	$ 7,365,228
2019	Operating Assistance for operations and maintenance		$ 4,975,684	$ 7,659,837
2020	Operating Assistance for operations and maintenance		$ 4,975,684	$ 7,966,230
2021	Operating Assistance for operations and maintenance		$ 4,975,684	$ 8,284,880
2022	Operating Assistance for operations and maintenance		$ 4,975,684	$ 8,616,275
2023	Operating Assistance for operations and maintenance		$ 4,975,684	$ 8,960,926
2024	Operating Assistance for operations and maintenance		$ 4,975,684	$ 9,319,363
2025	Operating Assistance for operations and maintenance		$ 4,975,684	$ 9,692,137
2026	Operating Assistance for operations and maintenance		$ 4,975,684	$ 10,079,823
2027	Operating Assistance for operations and maintenance		$ 4,975,684	$ 10,483,016
2028	Operating Assistance for operations and maintenance		$ 4,975,684	$ 10,902,336
2029	Operating Assistance for operations and maintenance		$ 4,975,684	$ 11,338,430
2030	Operating Assistance for operations and maintenance		$ 4,975,684	$ 11,791,967
	Subtotal Long-range (2012-2030)		**$ 94,537,996**	**$ 161,069,979**
	Total MTP Horizon (2008-2030)		**$ 144,654,677**	**$ 214,012,953**