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

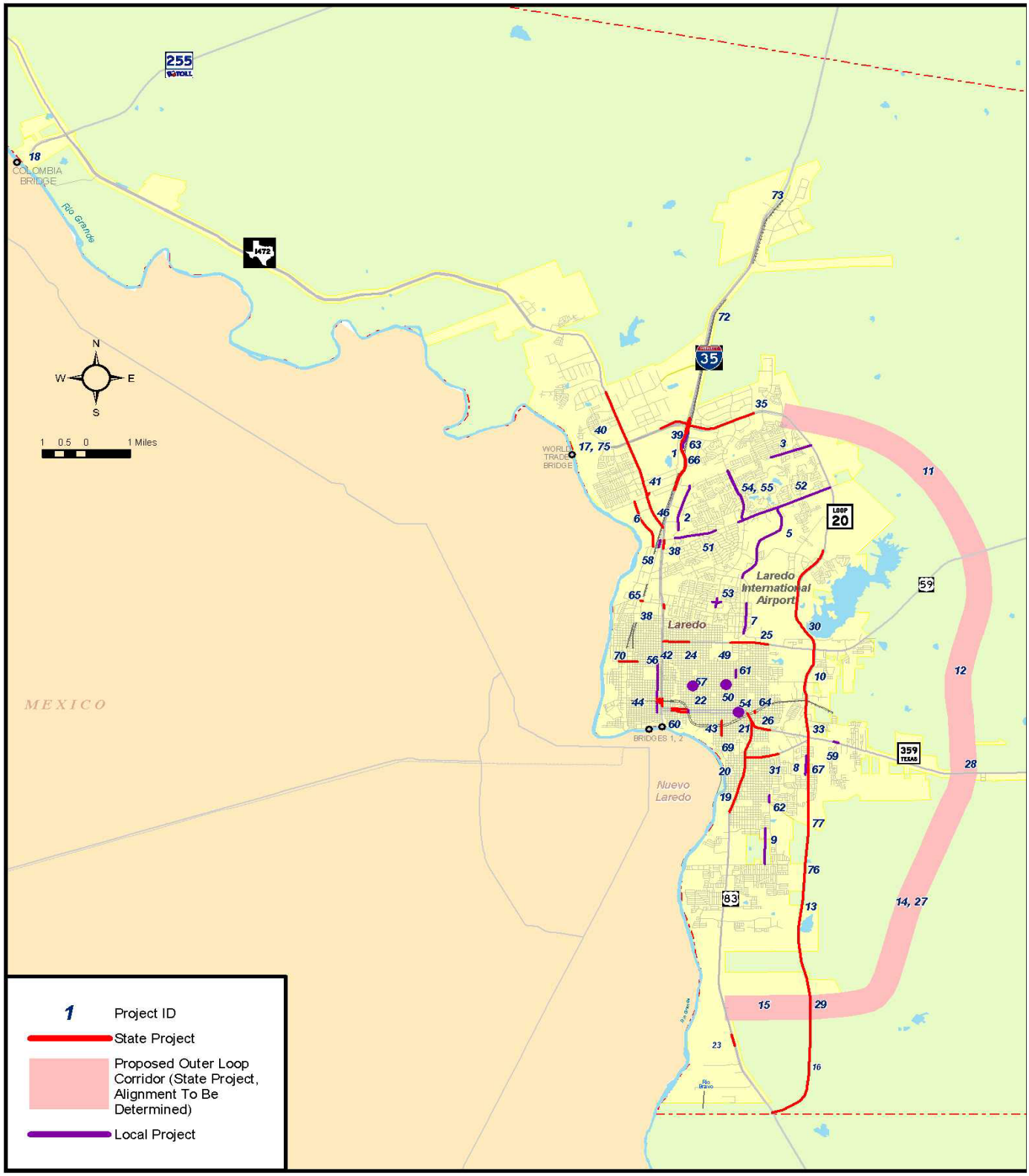


Table 6-1

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 4 Lanes and Upgrade Intersection at Spur 400 and Construct a 4 lane 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
77	Cuatro Vientos	2.6 miles south of SH 359	1.0 miles south of SH 359	Construction of new location 4 lane divided roadway	1.655	30,151,200
13	Cuatro Vientos	Mangana-Hein Road	2.6 Miles South of SH 359	Construction of a New Location 4-Lane Divided Highway	4.42	49,831,340
67	Cuatro Vientos	1.0 Miles South of SH 359	SH 359	Construction of a 4-Lane 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						614,270,339
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

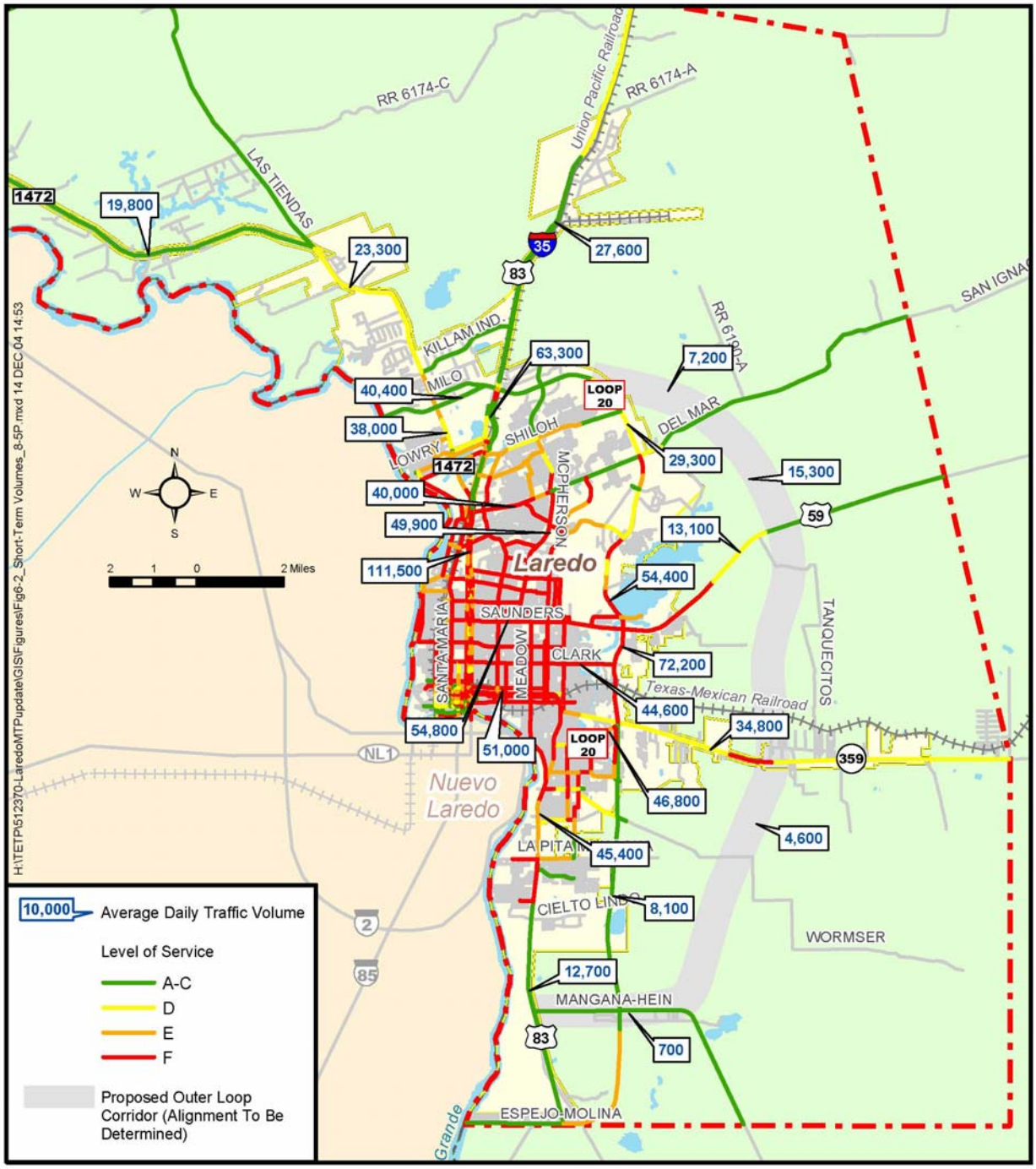
Map ID	Project Location	From Limits	To Limits	Project Description	Length (Miles)	Estimated Cost (In $)
48	Various	Various Locations	In Laredo	Develop an ITS Regional Architecture and ITS Deployment Plan		$2,178,750
18	Various	Located in Vicinity of GSA Facility	Colombia/ Solidarity	For the Construction 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 2-Lane Roadway with a continuous turning lane.	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 realignment of Flecha Ln / Las Cruces & 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

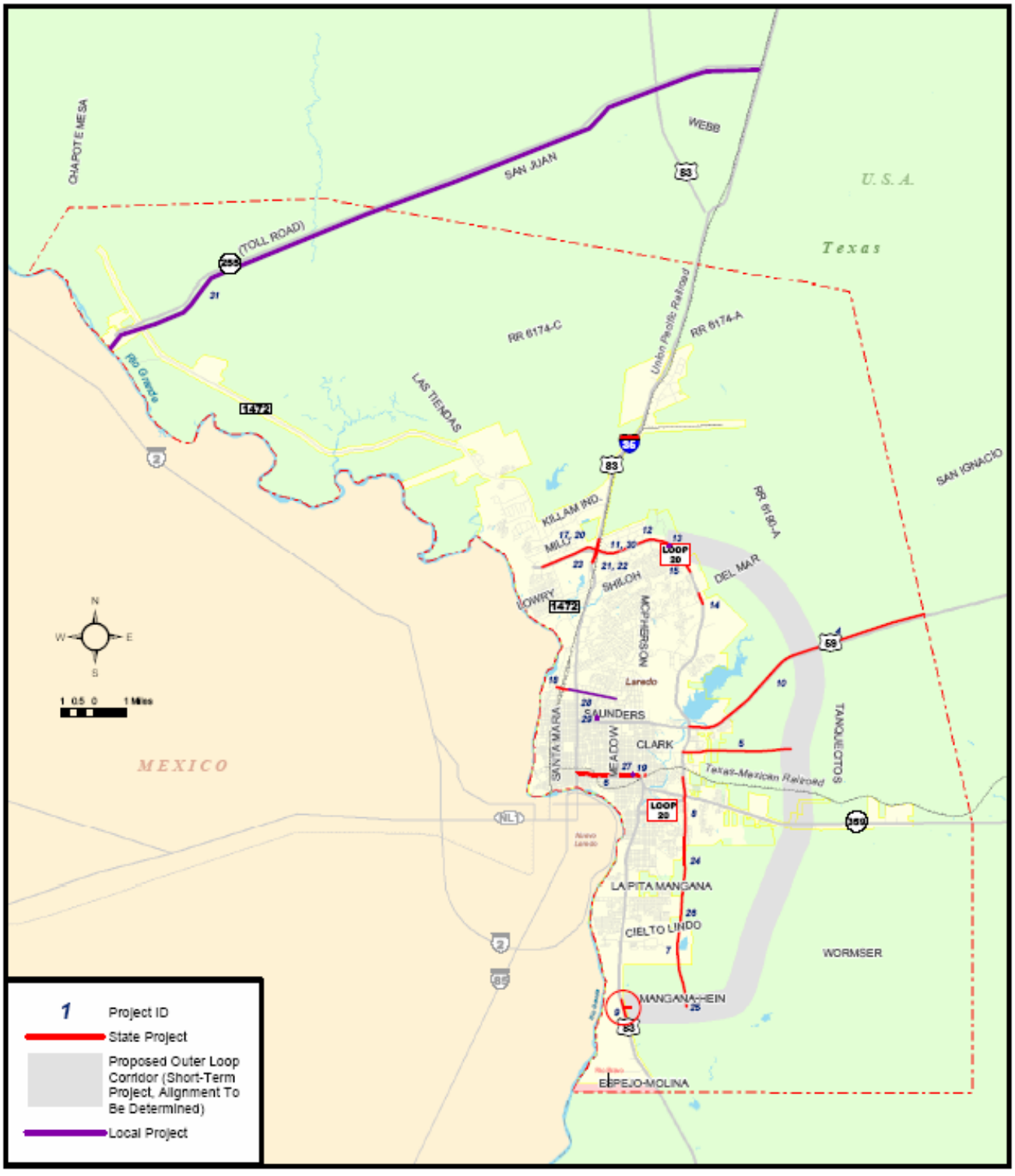
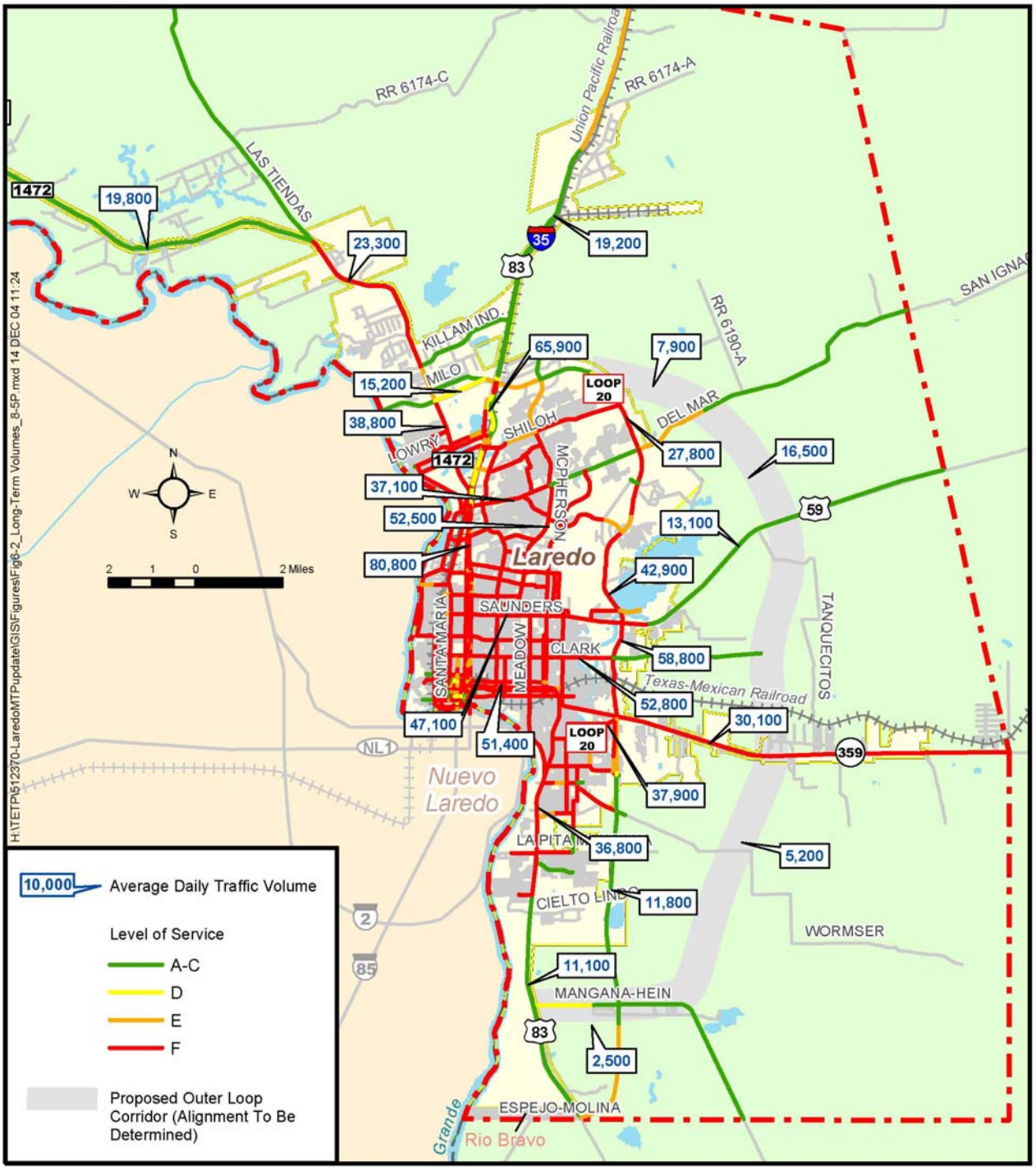


Figure 6-4 Year 2030 Traffic Volumes and LOS for the Long-Term Network



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**.

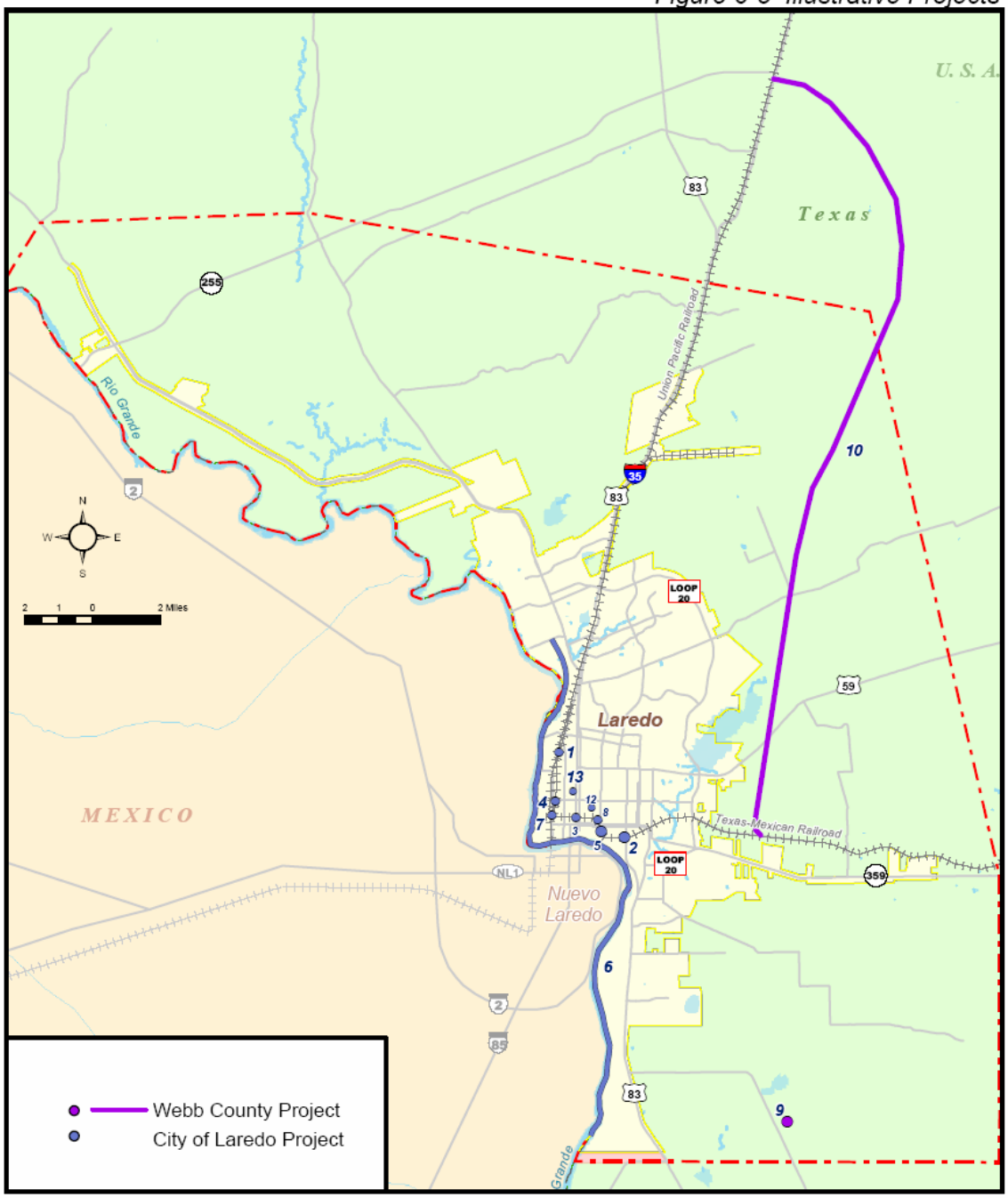
Table 6-8
Illustrative Projects
Laredo Metropolitan Transportation Plan Update

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.