



Appendix D

Environmental Constraints

Webb County-City of Laredo Regional Mobility Authority
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Table of Contents

Environmental Factors..... **1**

Basis for Comparison **2**

Project Comparison Ratings..... **5**

Project Summaries..... **11**

 Potential Projects that are on the State Roadway System (On-System) 11

 Potential Projects that are not on the State Roadway System (Off-System) 14

 Overall Findings:..... 19

Summary Findings..... **21**

Environmental Factors

Impacts that are considered in this planning study include the potential construction, right-of-way, displacements, disruptions during construction as well as the potential impacts to the human and natural environments.

Project Planning and Implementation Factors:

- Project Construction Cost
- Right-of-way (ROW) acquisitions, displacements/relocations, changes in access
- Traffic disruptions during construction

Human Environmental Factors:

- Impacts to residential and commercial properties (including displacements, relocations, substantial access changes, etc.)
- Social setting (i.e. environmental justice community impacts; distinct neighborhoods/community resources; limited English proficiency; etc.)
- Economic setting (i.e. low-income neighborhoods; transportation accessibility; availability to existing and future job centers; etc.)

Natural Resource Factors:

- Biological resources (including terrestrial and aquatic species/habitats, threatened/endangered species, loss of plant communities especially those that are rare/high-value, etc.)
- Water resources (i.e. streams, lakes, wetlands, floodplains, etc.)
- Farmland impacts (i.e. irrigated)

Other Pertinent Factors:

- Historic resources (i.e. historic standing structures, historic districts, historic bridges, etc.)
- Archeological resources (sites with archeological artifacts, cemeteries, etc.)
- Hazardous materials pollution contamination from manufacturing or spills
- Oil-field facilities including past, present and future well-sites; other oil-field facilities (i.e. tanks, pump stations, etc.); pipelines; etc.
- Municipal Utilities – water/sanitary/gas pipelines; telecommunication lines
- Traffic Noise and Air Quality Impacts

Basis for Comparison

Ratings have been developed to evenly compare the potential impacts from the prospective projects analyzed in the study area. These ratings are expected to illustrate the varying types of potential impacts for projects that are in a currently urbanized setting versus rural projects that pass through undeveloped ranchland. For each resource discussed, a rating of zero indicates no measurable impacts to those resources; a rating of one indicates a minor impact; a rating of five indicates a severe impact.

Construction Cost Ratings:

- 1 = minimal impacts to TxDOT Laredo District / MPO / City of Laredo / Webb County construction budgets
- 2 = moderately low impacts (\$20M to \$30M construction cost)
- 3 = moderate impacts (\$30M to \$50M construction cost)
- 4 = moderately high impacts (\$50M to \$100M construction cost)
- 5 = high impacts (more than \$100M construction cost resulting in severe strains on multi-year construction budgets or would require funding from non-traditional sources)

Traffic Disruption During Construction Ratings:

- 1 = minimal impacts (no noticeable impacts to the traveling public/commercial drivers/freight haulers during the project's construction)
- 2 = moderately low impacts (minor impacts to drivers/freight haulers during construction)
- 3 = moderate impacts (noticeable impacts to drivers/freight haulers but not substantial changes in travel times and congestion during construction)
- 4 = moderately high impacts (noticeable impacts to drivers/freight haulers with substantial congestion and degradation of travel times; noticeable impacts that would extend construction times)
- 5 = high impacts (substantial impacts to drivers/freight haulers with severe congestion and degradation in travel times; substantial impacts that would extend construction times; substantial impacts to access into or leaving facilities in the project area; travel detours required; etc.)

ROW Acreage; Business/Residential Acquisitions and Relocation Impacts Ratings:

- 0 = no impacts (no ROW required; no changes to access points)
- 1 = minimal impacts (very minor ROW acquisitions; no impacts to access points or business activities on adjacent properties)
- 2 = moderately low impacts (minor ROW acquisitions; impacts to access points or business activities on adjacent properties that do not impact the business operations of the properties)
- 3 = moderate impacts (moderate ROW acquisitions; some impacts to access points or business activities on the affected properties but do not rise to the point of relocations; includes ROW acquisitions on undeveloped properties that could affect future property development plans)
- 4 = moderately high impacts (large acreages of undeveloped properties acquired; some residential relocations; some business property acquisitions that require relocations)
- 5 = high impacts (substantial and high numbers of residential relocations; substantial number of high cost/high value business relocations)

Municipal Utilities / Oil Wells, Facilities and Pipelines Impacts Ratings:

- 0 = no utility conflicts identified
- 1 = minimal impacts (no concerns identified)
- 2 = moderately low impacts (minor concerns identified; minor utility adjustments to be determined and coordinated along with the project design)
- 3 = moderate impacts (moderate concerns identified; some utility, etc. conflicts identified requiring moderate, typical design efforts for projects in an urban setting)
- 4 = moderately high impacts (moderately high concerns identified; utilities, oil-field facility/pipeline conflicts identified requiring typical but substantial coordination, design efforts and utility, etc. relocations required)
- 5 = high impacts (substantial and highly hazardous utility relocation or oil-field concerns identified; extensive utility coordination, design/survey efforts required along with extensive utility, etc. relocations/adjustments)

Hazardous Materials Impacts Ratings:

- 0 = no hazmat impacts identified
- 1 = minimal impacts (no hazardous materials concerns identified)
- 2 = moderately low impacts (minor hazardous materials concerns identified)
- 3 = moderate impacts (moderate hazardous materials concerns identified; some remediation required)
- 4 = moderately high impacts (moderately high hazardous materials concerns identified; a moderate level of remediation required)
- 5 = high impacts (substantial hazardous materials concerns identified; extensive remediation required)

Socio-Economic Impacts Ratings:

- 0 = no socio-economic impacts identified
- 1 = minimal impacts (no noticeable impacts to the social or economic conditions of persons living or working in the project area)
- 2 = moderately low impacts (minor impacts to the social or economic conditions of persons living or working in the project area)
- 3 = moderate impacts (moderate impacts to the social or economic conditions of persons living or working in the project area)
- 4 = moderately high impacts (moderately high impacts to the social or economic conditions of persons living or working in the project area)
- 5 = high impacts (substantial and high impacts to the social or economic conditions of persons living or working in the project area)

Air Quality / Traffic Noise Impacts Ratings:

- 0 = no impacts to air quality or from traffic noise identified
- 1 = minimal impacts (no noticeable impacts to air quality or from traffic noise)
- 2 = moderately low impacts (minor impacts to air quality or from traffic noise)
- 3 = moderate impacts (moderate impacts to air quality or from traffic noise)

Appendix D: Environmental Constraints

- 4 = moderately high impacts (moderately high impacts to air quality or traffic noise is approaching but not exceeding noise impact thresholds)
- 5 = high impacts (substantial and high impacts to air quality or projected traffic noise impacts are above noise impact thresholds / noise abatement measures required to be considered)

Cultural Resources (Archeological and/or Historic Structures) Impacts Ratings:

- 0 = no impacts to archeological resources identified
- 1 = minimal impacts (no cultural resources concerns identified)
- 2 = moderately low impacts (minor cultural resource concerns identified)
- 3 = moderate impacts (moderate cultural resource concerns identified; some additional field testing required)
- 4 = moderately high impacts (moderately high cultural resources concerns identified; additional field testing required)
- 5 = high impacts (substantial and high cultural resources concerns identified; extensive extensive field testing and/or recovery efforts required)

Natural Resource Impacts Ratings:

- 0 = no impacts to natural resources identified (highly developed commercial properties)
- 1 = minimal impacts (no natural resource concerns identified; mowed/maintained areas only)
- 2 = moderately low impacts (minor natural resource concerns identified; small amounts of remnant natural vegetation present; coordination with TPWD may be required)
- 3 = moderate impacts (moderate natural resource concerns identified; larger tracts of native vegetation present that could contain habitat for native fauna; coordination with TPWD required)
- 4 = moderately high impacts (moderately high concerns about natural resource impacts identified; extensive tracts of native vegetation typical to the region that contain habitats for native fauna present; potential habitats for federally or state-listed species identified requiring coordination with USFWS)
- 5 = high impacts (substantial and high concerns about natural resource impacts identified; extensive, uninterrupted tracts of native vegetation that contain unique habitats for native fauna present; extensive potential habitat for federally protected species present requiring extensive coordination with USFWS required)

Water Resource Resources Impact Ratings:

- 0 = no impacts to water bodies
- 1 = minimal impacts (no water resource concerns identified)
- 2 = moderately low impacts (minor water resource concerns identified)
- 3 = moderate impacts (moderate water resource concerns identified; some wetlands or other special aquatic sites identified)
- 4 = moderately high impacts (moderately high impacts to water resource identified; wetlands or other special aquatic sites identified; pre-construction notification and coordination with USACE required)
- 5 = high impacts (substantial and high impacts to water resources identified; wetlands or other special aquatic sites identified; an individual permit with USACE required; substantial mitigation required)

Project Comparison Ratings

Construction costs used in this comparison matrix were derived from projects listed in the Statewide Transportation Improvement Program (STIP), the Unified Transportation Plan (UTP), the Laredo Metropolitan Transportation Plan (MTP), the TxDOT Project Tracker, comparative cost/mile of similar projects, or estimates calculated by the Webb County-City of Laredo Regional Mobility Authority (WC-CL RMA) staff.

Table 1 – Prospective roadway projects and anticipated environmental impacts

Map ID #	Potential Projects:	Rating/ Construction Cost (\$M)	Construction Disruptions	ROW Acquisitions / Displacements / Impacts to Access Rating	Municipal Utilities / Oil-wells/ Pipelines	Hazardous Materials	Socio- Economic Factors	Air Quality & Traffic Noise Impacts	Cultural Resources	Biological Resources	Water Resources	Unweighted Total <i>(Maximum Total = 50)</i>
On-System Road Projects: \$1.36 Billion												
FM 1472 Projects: \$810 Million												
	FM 1472/IH-69W Direct Connectors <i>(IH-69W East to FM 1472 North & FM 1472 South to IH-69W East – Includes Reconstruction of Existing DC)</i>	4 / \$75M	5	3	3	1	1	1	0	1	1	20
	FM 1472 Intersection Improvements <i>(IH-69W to FM 3338 – Safety and Operational Improvements)</i>	1 / \$5M	3	1	1	1	1	1	0	0	0	9
	FM 1472 Upgrade to Urban Freeway <i>(South)</i> <i>(IH-69W to FM 3338)</i> <i>~5.1-mi./No ROW</i>	5 / \$286M	5	5	3	1	1	1	0	1	1	23
	FM 1472 Upgrade to Urban Freeway <i>(North)</i> <i>(FM 3338 to SH 255)</i> <i>~11.2-mi./No ROW</i>	5 / \$443M	3	1	1	1	1	1	0	1	1	15

Appendix D: Environmental Constraints

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IH-35 Projects: \$334.6 Million												
	<u>IH-35 Widening and Railroad Crossing</u> (Shiloh Rd. to south of U.S. 59 Loop) ~1.6-mi./No ROW (Phase 1)	4 / \$61.1M	4	4	1	1	1	1	1	1	1	19
	<u>IH-35 Widening & U.S. 59 Interchange Upgrades (4 DCs)</u> (At the IH-35/U.S. 59 intersection) Within ~0.5-mi. of this intersection/No ROW	4 / \$65M	2	0	1	1	1	1	1	0	0	11
	<u>IH-35 Widening and Uniroyal/Beltway Interchange Upgrades</u> (South of Uniroyal to South of U.S. 83) ~3.1-mi./ No ROW	4 / \$83.5M	5	1	2	1	1	1	0	0	1	16
	<u>IH-35 Widening & U.S. 83/IH-35 Interchange</u> (South of IH-35/U.S. 83 to 1.0-mi. N. of U.S. 83) ~4.3-mi./65-acres ROW	4 / \$75M	4	5	2	1	2	1	2	2	1	24
	<u>IH-35 Widening & Overpass Upgrades</u> (1.0-mi. N. of U.S. 83 to SH 255) ~4.2-mi./No ROW	3 / \$50M	3	0	1	1	1	1	1	1	1	13

Map ID #	Potential Projects:	Rating/ Construction Cost (\$M)	Construction Disruptions	ROW Acquisitions / Displacements / Impacts to Access Rating	Municipal Utilities / Oil-wells/ Pipelines	Hazardous Materials	Socio-Economic Factors	Air Quality & Traffic Noise Impacts	Cultural Resources	Biological Resources	Water Resources	Unweighted Total (Maximum Total = 50)
SH 255 Projects: \$101 Million												
	<u>SH 255 Upgrade to 4-lane Divided Road</u> (FM 1472 to IH-35) ~21.0-mi./No ROW	5 / \$101M	1	0	1	1	0	0	1	1	1	11
U.S. 83 / FM 3338 Projects: \$110 Million												
	<u>U.S. 83 Upgrade to 4-lane Divided Road</u> (IH-35 to SH 255) ~4.0-mi./~30-acres ROW	4 / \$65.0M	3	2	2	1	2	1	2	2	1	20
	<u>FM 3338</u> Upgrade to 5-Lane Urban Roadway; Realign Connection to FM 1472 ~8.3-mi./130-acres ROW	3 / \$45.0M	4	1	1	1	2	1	2	2	1	18
	Average of Twelve On-System Projects	3.83	3.5	1.92	1.58	1.0	1.17	0.92	0.83	1.0	0.83	16.58
Off-system Road/Street Projects: \$ _____ Million												
	<u>Aquero Blvd. Extension</u> <u>New location City Street Arterial</u> (River Bank Drive to FM 1472) ~5.2-mi./66-acres ROW	2 / \$59M	1	1	1	0	2	1	3	3	1	15

Appendix D: Environmental Constraints

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	Multimodal Improvements (A-D) (Sidewalks/Bike-lanes/Shared-Use Paths) Along Killam Industrial/River Bank Dr./Aguero Blvd./A.F. Muller/Lamar Dr./El Gato Rd.	1 / \$5.6M	1	1	1	1	0	0	0	0	0	5
	Milo Road Widening (Reconstruction and Widening) 1.3-mi. / No ROW	1 / \$9M	2	1	1	1	0	0	0	0	0	6
	Milo Road Extension to River Bank Drive and Intersection Upgrades at FM 1472 (Traffic Circle under FM 1472) 0.6-mi. / ~5.7-acres ROW	1 / \$12.5M	4	2	2	1	1	1	0	0	1	13
	Sara Road Widening (Vallecillo Rd. to IH-69W) ~1.0-mi./0.5-acre ROW	1 / \$30M	5	2	3	1	1	1	0	0	1	14
	Future Vallecillo Road (FM 1472 to IH-35; Extension over IH-35 to International Blvd.) ~4.4-mi./~80-acres	2 / \$72M	0	2	1	1	0	0	3	3	1	13
	Port Drive Widening and Extension (Extension to Hachar Parkway) ~3.7-mi./~32-acres	1 / \$25M	1	1	1	1	0	1	2	2	1	11

Map ID #	Potential Projects:	Rating/ Construction Cost (\$M)	Construction Disruptions	ROW Acquisitions / Displacements / Impacts to Access Rating	Municipal Utilities / Oil-wells/ Pipelines	Hazardous Materials	Socio-Economic Factors	Air Quality & Traffic Noise Impacts	Cultural Resources	Biological Resources	Water Resources	Unweighted Total (Maximum Total = 50)
	<u>Uniroyal Drive Widening and Extension</u> <i>Widen to 5-lanes; Extend East to Hachar Parkway (East of IH-35) ~3.5-mi. / ~34-acres ROW</i>	1/ \$31M	4	2	2	1	1	1	1	1	1	15
	<u>Hachar Parkway & Hachar Eastern Extension</u> <i>(Phase 1: FM 1472 to IH-35; Phase 2: Extend over IH-35/U-P RR to the East) ~14.7-mi. / ~712-acres ROW</i>	3/ \$133M	0	2	1	0	0	0	4	3	1	14
	<u>Carrier Drive Extension to Beltway Parkway</u> <i>(IH-35 West-side Frontage Road to Beltway) ~0.7-mi. / ~7-acres ROW</i>	1/ \$4.5M	0	2	1	1	0	0	2	2	1	10
	<u>International Blvd. Extension</u> <i>(Extend from United Blvd. to North-South Blvd.) ~1.6-mi. / ~23-acres ROW</i>	2/ \$16M	0	1	1	1	0	0	3	3	1	12
	<u>McPherson Road Extension</u> <i>(Extend from Union-Pacific Blvd. to North-South Blvd.) ~2.6-mi. / ~38-acres ROW</i>	2/ \$21M	0	1	1	1	0	0	3	3	1	12
	<u>United Blvd. Extension</u> <i>(Extend to existing IH-35 Overpass) ~1.3-mi. / ~14-acres ROW</i>	2/ \$17M	0	1	1	1	0	0	3	3	1	12

Appendix D: Environmental Constraints

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	<u>Trade Center Blvd. Extension</u> <i>(Extend West to Aquero/River Bank Dr; Extend East to IH-35) ~4.8-mi. / ~34-acres ROW</i>	2/ \$25M	0	1	1	1	0	0	3	3	1	12
	<u>Major North/South Arterial (Sara Road)</u> <i>(Future Hachar Parkway to SH 255) ~11-mi. / ~187-acres ROW</i>	2/ \$103M	0	2	1	0	0	0	4	3	1	13
	<u>Major East/West Arterial – Verde Road</u> <i>(FM 1472 to IH-35) ~6.5-mi. / ~79-acres ROW</i>	2/ \$68M	0	2	1	0	0	0	3	3	1	12
	<u>Major East/West Arterial</u> <i>(FM 1472 to IH-35 parallel to SH 255) ~19-mi. / ~322-acres ROW</i>	3/ \$175M	0	1	1	1	0	0	3	3	1	13
<i>Average Impacts of Seventeen Off-System Projects</i>		1.59	1.06	1.47	1.24	0.76	0.29	0.29	1.94	2.06	0.88	11.88
<u>Individual Impact Ratings:</u> 0 = None / Not Measurable 1 = Minor 5 = Severe		Construction Cost Estimates: derived from the STIP; the UTP; the TxDOT Project Tracker; or comparative cost/mile of similar projects										

Project Summaries

The projects discussed in this report have been analyzed as stand-alone projects that have independent utility and logical termini. Providing strategies for grouping or scheduling projects are discussed in the report.

Potential Projects that are on the State Roadway System (On-System)

FM 1472/IH-69W Direct Connectors:

This project would construct one new direct connector (DC) from IH-69W eastbound to northbound FM 1472; it would also demolish and rebuild the existing DC at this location (southbound FM 1472 to eastbound IH-69W). Approximately 0.8-acres of new ROW would be required with impacts to one existing warehouse. It is not anticipated to require changes to business access points or the ability of developments to continue to be fully functional.

Summary of Impacts: The construction costs and ROW impacts are anticipated to be moderate; impacts to the human and natural environments would be low. However, the impacts to traffic flow during construction would be severe.

FM 1472 (Mines Road) Upgrade to an Urban Freeway (South):

This project would upgrade FM 1472 from IH-69W to FM 3338 to an urban freeway with three-lane mainlanes and two-lane frontage roads in each direction. This project would also construct four mainlane bridges over Killam Industrial Boulevard/River Bank Drive; Interamerica Boulevard; A.F. Muller Boulevard/Vallecillo Road; and either Trade Center Boulevard or Pan American Boulevard.

The ROW would be widened from 200-ft. to at least 300-ft. (400-ft. at interchange locations) requiring approximately 61-acres of additional ROW. It is anticipated that ROW impacts to adjacent properties could trigger the displacements as listed below. There would be no acquisitions or displacements of residences.

- Warehouses – 11
- Trucking Companies – 6
- Truck Repair/Maintenance/Part Stores – 6
- Truck Fueling Stations/Scales/Washes – 3
- Convenience Stores/gas stations – 3
- Strip Malls and Other Businesses - 2

Construction plus ROW costs are estimated to total \$286 Million.

Summary of Impacts: The construction costs are anticipated to be very high; ROW costs and impacts would be severe; impacts to the human environment would be moderate (mainly because of job losses/relocations); impacts to the natural environment would be low. The impacts to traffic flow during construction would be severe.

Appendix D: Environmental Constraints

FM 1472 (Mines Road) Upgrade to an Urban Freeway (North):

This project would upgrade FM 1472 from FM 3338 to SH 255 to an urban freeway with three-lane mainlanes and two-lane frontage roads in each direction. This project would also construct up to four mainlane bridges; one at FM 3338 and three other locations to be determined in the future.

The ROW widening would be minimal from the existing 300-ft. but could be required at the interchange locations. Approximately 15-acres of additional ROW could be needed. Displacements of existing business are not anticipated and there would be no acquisitions or displacements of residences.

Construction plus ROW costs are estimated to total \$443 Million.

Summary of Impacts: The construction costs are anticipated to be very high; ROW impacts would be low; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be moderate.

IH-35/U.S. 59 Loop Interchange Direct Connectors:

This project would construct the final four of eight DCs between IH-35 and the U.S. 59 Loop (previously Loop 20).

No additional ROW would be needed for the IH-35/U.S. 59 interchange direct connectors.

Construction costs are estimated to total for constructing the final four DCs) totaling \$53.1 Million; this work is not currently scheduled.

Summary of Impacts: The construction costs for all of the remaining four direct connectors are anticipated to be high; however, each of the direct connectors has independent utility and can be constructed individually as funding becomes available. ROW impacts would be low; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be moderate.

IH-35 Mainlane Widening / Upgrade of the Uniroyal Road Interchange:

This project would widen the existing IH-35 interstate freeway from two-mainlanes to three-mainlanes from the just south of the Uniroyal Road interchange to south of the U.S. 83 overpass. This project would also reconstruct and raise the mainlane overpass. This project would not reconfigure the overpass at the Uniroyal/Beltway intersection to elevate Uniroyal/Beltway over the IH-35 mainlanes and the adjacent UPRR which is adjacent to the east side of IH-35 and would not provide a second grade-separated UPRR crossing into the Unitec Industrial Park located to the east; the other entrance into this industrial area is a grade separated crossing at Carriers Drive just to the south of Uniroyal. The UPRR intermodal rail yard is located just to the south of Carriers Drive which requires trucks entering the intermodal rail yard to cross the rail line at either Carriers Drive or Uniroyal Drive.

No additional ROW would be needed for this work.

The construction cost is estimated at \$83.5 Million and is currently scheduled for 2022.

Summary of Impacts: The construction costs are anticipated to be moderately high; ROW impacts would be low; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be high and further exacerbate congestion at the existing at-grade railroad crossing.

IH-35 Mainlane Widening / Reconfiguration of the U.S. 83 Interchange & UPRR Crossing:

This project would widen the existing IH-35 interstate freeway from two-mainlanes to three-mainlanes from the just south of the U.S. 83 overpass to one mile north of the U.S. 83 intersection. This project would also reconfigure the overpass at the U.S. 83 intersection to elevate the IH-35 mainlanes over the adjacent UPRR crossing. Currently, the IH-35 mainlanes cross under the UPRR with minimal clearance (approximately 14-ft.) and which regularly experiences bridge strikes from over-height trucks. The proposed project could be multi-phased with the IH-35 mainlane widening and reconfiguration of the U.S. 83 interchange and elevating the IH-35 mainlanes over the UPRR crossing. Later phases could include direct connectors between IH-35 and U.S. 83 and constructing IH-35 frontage roads over the UPRR.

This project's ultimate configuration could require up to approximately 300-acres of additional ROW and the displacement of a compressed natural gas (CNG) fueling station located on the west side of U.S. 83 just north of the IH-35 interchange; the majority of the additional ROW is either undeveloped ranchland or land that has been cleared in anticipation of development.

The first phase of this project to reconfigure the U.S. 83 interchange and the UPRR crossing is currently estimated to cost \$75 Million and is scheduled for 2023.

Summary of Impacts: The construction costs are anticipated to be high; ROW impacts would be high; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be moderate.

IH-35 Mainlane Widening from North of U.S. 83 to SH 255:

This project would widen the existing IH-35 interstate freeway from two-mainlanes to three-mainlanes in each direction from approximately 1-mile north of the U.S. 83 intersection to SH 255. This project would also rebuild, raise and widen the Webb County Road overpass.

This project's ultimate configuration would not require additional ROW.

This project is currently estimated to cost \$69 Million and is not scheduled for construction.

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be minimal or zero; impacts to the human and natural environments would be very low. Impacts to traffic flow during construction would be moderate.

FM 3338 Upgrade:

This project would upgrade the approximately 8.1-mile roadway that extends from FM 1472 to SH 255 from the existing two-lane roadway to a five-lane road with two travel lanes in each direction and a center left-turn lane. The FM 1472 intersection would be realigned further to the north to allow for a safer intersection and proper interchange spacing between FM 3338 and the Hachar Parkway. This FM 3338 upgrade would allow for alternate travel routes to the highly congested FM 1472, Killam Industrial, IH-35 and IH-69W roadways that carry an extremely high percentage of heavy trucks (up to 60 percent trucks).

This project is estimated to cost \$45 Million to construct. The approximately 40-acres of ROW needed is anticipated to be donated and would not require any residential or commercial displacements.

Appendix D: Environmental Constraints

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be moderate; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be moderate.

Upgrade U.S. 83 to a Four-lane Divided Highway:

This project would expand U.S. 83 between IH-35 and SH 255 from a two-lane highway to a four-lane divided highway.

Upgrading U.S. 83 to a four-lane divided highway could require approximately 150-acres of additional ROW and up to five residential relocations.

The first phase of this project to reconfigure the U.S. 83 interchange and the UPRR crossing is currently estimated to cost \$65 Million but is not currently scheduled for construction.

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be high; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be moderate.

Potential Projects that are not on the State Roadway System (Off-System)

Aquero Boulevard Extension:

This project would construct an approximately 5.2-mile new-location city arterial boulevard that would extend from approximately River Bank Drive to FM 1472 at or near Pico Road along the upper banks of the Rio Grande. Currently this proposed roadway would be intended for personal vehicles only with heavy trucks prohibited; this would allow residents in the study area an alternate route from FM 1472, Killam Industrial, or Sara Road which are highly congested and carry an extremely high percentage of heavy trucks (up to 60 percent trucks).

This project is estimated to cost \$59 Million to construct. The approximately 66-acres of ROW needed is anticipated to be donated and would not require any residential or commercial displacements.

Summary of Impacts: The construction costs are anticipated to be low; ROW impacts would be low because the route is typically on land that could not be developed due to topography; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be very low because this is a new-location roadway.

Milo Road Widening and Reconstruction:

This project would reconstruct and widen approximately 1.3-miles of Milo Road to include a five-lane urban street between FM 1472 and the IH-69W north-side frontage road near IH-35. Currently, the truck and personal vehicles use either IH-69W or Milo Road to access the warehouse districts west of IH-35 and north of IH-69W.

This project is estimated to cost \$9 Million to construct. Minimal or no ROW would be needed; no residential or commercial displacements are anticipated.

Summary of Impacts: The construction costs are anticipated to be low; ROW impacts would be low; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be moderate.

Milo Road Extension to River Bank Drive:

This project would construct an approximately 0.6-mile new-location city arterial extension west from FM 1472 to River Bank Drive. This would allow an alternate route in the study area to FM 1472, Killam Industrial, or Sara Road which are highly congested and carry an extremely high percentage of heavy trucks (up to 60 percent trucks). This would be a five-lane street with a traffic circle capable of handling heavy trucks at the FM 1472 intersection in order to provide more efficient traffic flow than with a signalized intersection.

This project is estimated to cost \$12.5 Million to construct. Approximately 5.7-acres of ROW would be needed that could impact one convenience store and one warehouse parking area.

This would allow an alternate route in the study area to FM 1472, Killam Industrial, or Sara Road which are highly congested and carry an extremely high percentage of heavy trucks (up to 60 percent trucks). A traffic circle capable of handling heavy trucks would also be proposed at the FM 1472 intersection in order to provide a more efficient traffic flow than with a signalized intersection.

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be moderate; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be moderately high, mainly at the FM 1472 intersection.

Sara Road Upgrades and Extension to IH-69W:

This project would expand Sara Road from two travel-lanes to three travel lanes in each direction and would be extended to connect to the IH-69W frontage road. Sara Road is located in a heavily trafficked warehouse district where no residential subdivisions are located. Upgrades to the existing Sara Road (between Milo Road and Vallecillo Road) could require up to 20-ft. of additional ROW on each side to accommodate the street improvements, any utility adjustments and any sidewalks; this would total approximately 6-acres of additional ROW. The approximately 0.25-mi. extension of Sara Road to the IH-69W frontage road would require approximately 0.2-acres of ROW and could impact two warehouse properties. This project would provide alternate travel routes for heavy truck traffic in the southern portion of the study area.

This project is estimated to cost \$30 Million to construct.

This would allow an alternate route in the study area to FM 1472, Killam Industrial, or Milo Road which are highly congested and carry an extremely high percentage of heavy trucks (up to 60 percent trucks).

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be low; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be moderate.

Vallecillo Road:

The Vallecillo Road project would construct a new-location city street arterial from FM 1472 at the A.F. Muller Boulevard intersection to the IH-35 west-side frontage road. The proposed 2.65-mile long arterial street would be a five-lane boulevard with two travel lanes in each direction and a center left-turn lane in a 150-ft. wide ROW. Sara Road would intersect Vallecillo Road about midway between FM 1472 and IH-35. The proposed Vallecillo Road is located on Laredo's urban fringe with undeveloped ranchland to the north and a heavily trafficked warehouse district to the south. There are no residential subdivisions located in the vicinity of this corridor, though resident from La Bota Ranch can be

Appendix D: Environmental Constraints

expected to use this road to access IH-35. This project would be designed to allow for interchanges to be constructed at FM 1472 and at IH-35 in later projects.

This project is estimated to cost \$31 Million to construct.

Approximately 65-acres of additional ROW from mostly undeveloped properties would be required; two trucking company parking areas located on FM 1472 could be impacted that may lead to two displacements.

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be moderately low; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be very low because this project is largely on a new location.

Extensions of Port Drive; Uniroyal Drive; International Blvd.; McPherson Road; and United Blvd.:

These projects project would construct new-location city street arterials that would be five-lane streets with two travel lanes in each direction and a center left-turn lane in a 150-ft. wide ROW. These proposed streets would interconnect to make a complete street infrastructure in the area bounded by IH-35 and the adjacent UPRR; the UPRR intermodal rail yard; the Unitech warehouse district and the existing warehouse district north of the U.S. 59 Loop. All of these east/west streets would extend over the UPRR and IH-35. While these streets are located on Laredo's northeastern urban fringe used as undeveloped ranchland, this area would be heavily trafficked as the existing warehouse district to the south expands northward. While there are no residential subdivisions located north of the existing warehouses, there is a large high school and residential subdivisions to the east of International Blvd.

These projects are estimated to cost \$110 Million to construct.

Additional ROW from mostly undeveloped properties would be required; no displacements are anticipated. Having connections through the existing warehouse districts and connections across the UPRR would provide alternate routes into and out of this area.

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be moderate; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be very low because these projects are largely on new locations. Impacts to the human environment would be low; impacts to archeological, biological and water resources would be moderate to low.

Extensions and Widening of Trade Center Drive:

This project would construct new-location city street arterial extensions that would be five-lane streets with two travel lanes in each direction and a center left-turn lane in a 80-ft. wide ROW. This work would be in two phases:

- Extending the existing street to the west to Aquero Boulevard and
- From FM 1472 to IH-35.

These proposed streets would improve access into and out of the warehouses in this area by providing alternate routes.

These projects are estimated to cost \$25 Million to construct.

Additional ROW from mostly undeveloped properties would be required; no displacements are anticipated.

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be low; impacts to traffic flow during construction would be very low because these project phases are largely on new locations. Impacts to the human environment would be low; impacts to archeological, biological and water resources would be moderate to low.

Hachar Parkway and the Northern Hachar Parkway Extension West of IH-35:

The Hachar Parkway project is a joint project between the City of Laredo and Webb County which would construct a new-location arterial city street from FM 1472 just south of the FM 3338 intersection to the IH-35 west-side frontage road approximately 1.5-miles north of Uniroyal/Beltway. This roadway would be ultimately an urban freeway with two mainlanes and two-lane frontage roads in each direction. There would be two overpasses along the route where future north-south arterial streets would cross. This roadway would also be an over-size/over-weight truck route as per state legislation. This 8.7-mile long project with a 400-ft. wide ROW is currently anticipated to be constructed in phases:

- City of Laredo Phase 1 – construct the frontage roads between Beltway Boulevard and FM 1472; this is currently funded for 2022.
- Webb County Phase 1 – construct the frontage roads from the City of Laredo Phase 1 to the IH-35 west-side frontage road; this is currently funded for 2023.
- City of Laredo Future Phases (unfunded) – construct mainlanes and overpasses between Beltway and FM 1472.
- Webb County Future Phases (unfunded) – construct mainlanes between the City of Laredo mainlanes and IH-35.

The currently funded City and County initial construction phases are estimated to cost \$54 Million. It is anticipated that the approximately 320-acres of ROW would be donated.

The proposed Hachar Parkway corridor is in currently undeveloped ranchland; however, this area is platted and scheduled for development as soon as the roadway is open to traffic. This project would be designed to allow for interchanges to be constructed at FM 1472 and over IH-35 at later dates.

Approximately 320-acres of new-location ROW from undeveloped ranchland properties would be required; it should be noted that commercial developments are currently extending westward towards the Hachar Parkway corridor along Beltway Parkway.

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be moderate; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be very low because this is a new-location roadway.

Extensions and Widening of Hachar Parkway (over and to the East of IH-35) and Uniroyal Drive:

These projects would construct new-location city street arterials that would be five-lane streets with two travel lanes in each direction and a center left-turn lane in a 150-ft. wide ROW. These proposed streets would interconnect to make a complete street infrastructure in the area bounded by IH-35 and the adjacent UPRR and the north side of the Unitech warehouse district. All of these east/west streets would extend over the UPRR and IH-35. While these streets are located on Laredo's northeastern urban fringe used as undeveloped ranchland, this area would be heavily trafficked as the existing

Appendix D: Environmental Constraints

warehouse districts expand to the north and east. There are no residential subdivisions located in this area.

These projects are estimated to cost \$111 Million to construct.

Additional ROW from mostly undeveloped properties would be required; no displacements are anticipated. Having connections to the existing warehouse districts and connections across the UPRR would provide much needed alternate routes into and out of this area.

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be moderately low. Impacts to the human environment would be low; impacts to archeological, biological and water resources would be moderate to low. Impacts to traffic flow during construction would be very low because these projects are largely on new locations.

Future Sara Road Extension:

This un-named north/south new-location arterial street would extend from Vallecillo Road at the Sara Road intersection to SH 255. The proposed 11.5-mile long street would be a five-lane boulevard with two travel lanes in each direction and a center left-turn lane in a 140-ft. wide ROW. This street would intersect at one of the future Hachar Parkway overpasses.

This future arterial would extend through currently undeveloped ranchland. Approximately 210-acres of additional ROW from mostly undeveloped properties would be required with no displacements anticipated.

Based on the cost estimates of similar projects, the current construction estimate is \$103 Million; no ROW cost estimate is available.

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be moderate; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be very low because this is a new-location roadway.

Future Major Un-named East/West Arterial Streets:

These un-named east/west arterial streets would extend from FM 1472 or SH 255 west of FM 3338 to IH-35. The proposed streets would be five-lane boulevards with two travel lanes in each direction and a center left-turn lane in a 140-ft. wide ROW. This street would intersect FM 3338 and U.S. 83 and connect to IH-35.

Additional ROW is anticipated. These arterial streets would extend mostly through currently undeveloped ranchland. However, displacements could occur in the rural landholdings near the U.S. 83 crossing that have small businesses and residences; it should be noted that this area is currently experiencing rapid growth of commercial businesses that are primarily trucking-related.

Based on the cost estimates of similar projects, the current construction estimate is \$175 Million; no ROW cost estimate is available.

Summary of Impacts: The construction costs are anticipated to be moderate; ROW impacts would be moderately low; impacts to the human and natural environments would be low. Impacts to traffic flow during construction would be very low because this is a new-location roadway.

Overall Findings:

Overall, the prospective projects in the study area have varying levels of impacts depending on if they are located in currently developed areas, on the urban fringes of Laredo, or if they are located in currently undeveloped areas.

The projects in the developed areas and the urban fringes of Laredo could have minimal to substantial impacts to existing businesses that are primarily freight and international trade related (warehouses, customs houses, truck maintenance/fueling, etc.).

- Projects in developed areas could have moderate to substantial construction costs that would have to include extended roadway construction periods, increased traffic control measures, measures to minimize access into/out of existing businesses and residential subdivisions. The cost of additional right-of-way, especially with business displacements, would be substantial. Also of concern could be seemingly minor right-of-way acquisitions that could substantially impact the internal circulation of trucks in warehouse facilities and trucking-related businesses that could lead to impediments to the business uses of properties.
- Impacts to traffic during construction, including to commercial traffic carrying international trade goods, could be significant to long-distance trucks entering the study area as well as to drayage traffic into/out of warehouse districts, between warehouses/customs houses, and for traffic actually crossing the border. This could lead to the perception of intolerable congestion leading to the avoidance of international trade using Laredo ports-of-entry at least in the short run; improvements to congestion would have a very positive long-term impact.
- Impacts in developed areas could lead to socio-economic impacts to owners and workers by the displacement and relocation of the facilities, loss of business profitability and loss of wages and/or jobs held by low-income persons. Also of concern would be the operational impacts to businesses and job centers during the construction period which could be multi-year in duration.
- Long-term improvements to the overall infrastructure as well as improvements to mass transit and bicycle/pedestrian facilities would be a positive impact for residents and low-income workers.
- Impacts to utilities could be substantial; however, based on past experience these impacts are typically handled with standard practices and procedures. The anticipated cost of utility impacts could be much higher.
- Projects that provide travel route alternatives would be an overall positive outcome by increasing the resiliency of the TxDOT/local transportation infrastructure. Providing alternate routes would be an important strategy in preparation for larger projects that could have substantial disruptions on the major routes in the study area (i.e. FM 1472; I-69W; I-35; US 59 Loop; etc.).
- Impacts to the natural environment (biological and water resources) and to archeological resources in developed areas would be minimal due to the previous loss of habitats/impacts to water bodies and previous disturbances to archeological sites. Impacts to historical resources in the developed areas would be minimal due to the recent ages of the developments found in the study area.

Appendix D: Environmental Constraints

The projects located in undeveloped areas could have minimal to no negative impacts to existing businesses or residential areas. The currently undeveloped properties in the study area are typically used for livestock production, wildlife uses and for oil-field production.

- Impacts from projects in the undeveloped areas would have minor direct socio-economic impacts to persons living or working in the area. However, projects that pass through undeveloped areas could have positive impacts to businesses, residents and drivers (including commercial trucks) by providing alternative routes into/out of the commercial districts and neighborhoods in the study area. Providing alternate routes in the study area would be especially valuable as developments proceed in the study area.
- Overall, projects in undeveloped areas would lead to the loss or additional fragmentation of wildlife habitats. Based on previous experience in the area, the vegetation types and habitats are typical to those found throughout western Webb County. There are no anticipated impacts to species that are currently listed by USFWS; there could be impacts to state-listed species such as Horned Lizard; Indigo Snake; Texas Tortoise; etc. due to habitat loss or fragmentation.
- Impacts to water bodies and floodplains found in the study area would be ameliorated by typical avoidance and minimization practices used by TxDOT and local governments.
- There could be impacts to archeological sites due to the prevalence of sites in this portion of Webb County. These impacts would be handled using standard practices and procedures. Impacts to any historical buildings would be minimal.
- Design efforts would need to take into account any oil-field sites such as well-sites, oil storage tanks, pipelines, etc.

Summary Findings

A summary of factors that have stood out in this environmental impacts analysis:

- Projects in the northern, currently undeveloped portions of the study area should be expected to have minor impacts to the human environment; however, new alternate routes would be a positive for commercial drivers (both long distance freight haulers and local drayage drivers) and drivers who live or work in the study area. Negative impacts from projects in the undeveloped areas would be to natural resources, mainly from the loss or further fragmentation of wildlife habitats.
- Projects in the southern, developed portions of the study area should be expected to have more impacts to the human environment including higher costs (due to longer construction durations and substantially higher right-of-way and utility costs) and impacts to the human environment (i.e. business displacements; loss or relocations of jobs especially for low income persons) than to the natural environment. Also, impacts from traffic disruptions during construction could be substantial. Positives for implementing projects in currently developed areas would be to provide effective alternative travel routes for commercial traffic and residents, improvements to congestion that is currently experienced, and alternate routes being available before the construction of major projects on the primary routes in/out of the study area.
- Over all, impacts to the human and natural environments would be manageable by using standard protocols and procedures to meet regulatory requirements. And, a well thought out strategy for improving the transportation infrastructure to improve congestion in this area would provide for a long-term positive impact for attracting and keeping international trade at the Laredo ports-of-entry that are the economic engine of Laredo.