



RIVER ROAD

ROUTE ALTERNATIVES STUDY

FINAL REPORT

MAY 2023



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1. River Road Route Alternatives Study Introduction

Project Background

The Webb County-City of Laredo Regional Mobility Authority (WC-CL RMA), in cooperation with the City of Laredo and the Laredo & Webb County Area Metropolitan Planning Organization (LWCAMPO), has conducted a route alternatives study for a new north-south roadway extending generally from Bernadette Lane and Aquero Boulevard in the south to FM 1472 in the north, intersecting somewhere between Copper Mines Road and Vidal Cantu Road. Locally, the project is known as the River Road Route Alternatives Study.

The City of Laredo is the third most populated United States (U.S.) city on the U.S.-Mexico border, with an existing population of 286,442 and is anticipated to reach a total population of 450,024 by 2045¹. Moreover, Laredo's sister city, Nuevo Laredo, has an estimated existing population of 650,000 and is directly connected to the region making the border critical for the region's mobility, access, and economy. As the region continues to grow, there is a need to study new alternate routes that increase overall connectivity in the Webb County-City of Laredo region. The LWCAMPO 2020-2045 Metropolitan Transportation Plan (MTP) and North Laredo-Webb County Transportation Planning Study both support the need for and recommend a River Road alternative route, further emphasizing the need for this alternatives study.

FM 1472 is the busiest roadway in the region, carrying 60,000 vehicles daily, more than 30% of which are freight trucks² due to its proximity to the World Trade Bridge commercial port-of-entry and the freight-supportive land uses that predominate the area surrounding FM 1472. The roadway is a critical northwest connection for freight traffic that lacks nearby parallel routes. As residential and commercial development continues to expand into the areas around FM 1472, the lack of alternative routes threatens to severely exceed capacity on the FM 1472. Implementation of River Road will improve mobility by providing more choice to users, reducing congestion, and improving travel time reliability.

Study Area

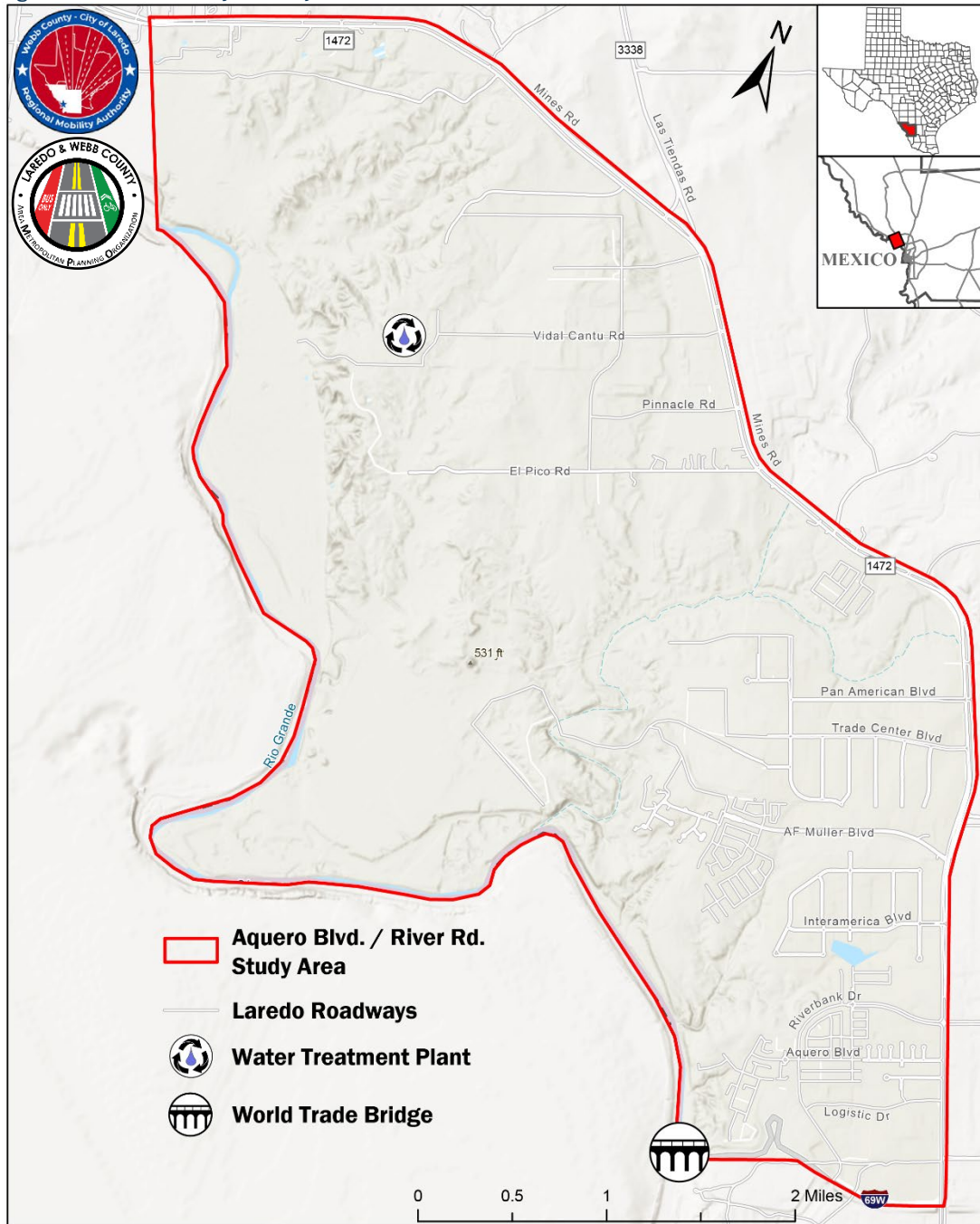
The project study area is bounded by FM 1472 to the north and east, I-69W to the south, and the US-Mexico border to the west. Significant features of the study area include the El Pico water treatment plant, and the World Trade Bridge Port of Entry, each indicated in **Figure 1**. There are two existing large industrial parks and distribution centers in the southeast, the Interamerica Distribution Park, around Interamerica Boulevard, and the International Trade Center, around Trade Center Boulevard. Additionally industrial and commercial development occurring on Vidal Cantu and W. Peak Roads will significantly increase the freight and commercial traffic generated from within the study area. The study area also contains a residential neighborhood, La Bota Ranch, located between the Interamerica Distribution Park and International Trade Center, off of A.F. Mueller Boulevard. Expansions to La Bota Ranch are in development and permitting with the city. Currently, FM 1472 is that neighborhood's only point of ingress and egress.

¹ MTP 2020-2045 – Laredo & Webb County Area MPO (laredompo.org)

² In AM Peak Hour balanced volumes, taken from 2018 traffic study used for Synchro analysis. See **Appendix D** for full numbers.

Introduction

Figure 1: River Road Project Study Area



Purpose and Need

Project Purpose

The purpose of the River Road Route Alternatives Study is to provide a Locally Preferred Alternative (LPA) that will delineate a new roadway in north Laredo to enhance mobility in the region by providing an alternate route that increases network capacity in the area that will serve to relieve congestion on FM 1472. Specifically, the LPA will provide a link between FM 1472 (between Copper Mines Road

and Vidal Cantu Road) in the north, and Bernadette Lane/Aquero Boulevard to the south. The project is being studied to achieve the following goals:

1. **Safety and Mobility** – Provide a safe multimodal transportation system that enhances the efficient mobility of people and goods throughout the region.
2. **Connectivity and Accessibility** - Improve multimodal transportation system connectivity and enhance local and regional access.
3. **Economic Competitiveness** – Promote the efficient movement of goods while reducing the impacts to neighborhoods and single-occupant vehicle (SOV) travel and complement existing and planned economic development opportunities in North Laredo.
4. **Environmental Sustainability** - Minimize impacts to the natural and/or built environment where applicable.

Project Needs

Existing and future transportation issues to be addressed by the project include:

- Expected population and employment growth will continue to increase travel demand and place greater pressure on existing North Laredo roadways.
 - North Laredo is experiencing, and will continue to experience, residential, commercial, and industrial growth. Existing conditions suggest current transportation infrastructure in North Laredo is inadequate for existing demand, and investments in improving the transportation network have been focused in other areas of the Webb County-City of Laredo region.
- The existing transportation network has unreliable and lengthy travel times.
 - The existing roadway system is increasingly congested due to the previously mentioned regional growth and an increase in cross-border traffic at the World Trade Bridge. This has led to higher traffic volumes for both freight and SOVs and has in turn increased travel times and decreased reliability.
- The existing and projected strain on the transportation system suggests north Laredo currently has an inadequate amount of alternative route choices.
 - More route choices are necessary to support connectivity to and from large industrial centers, residential communities, and other major activity centers within north Laredo and the greater Webb County-City of Laredo region.

Organization of the Report

This report provides a summary of the existing conditions in the study area that were analyzed prior to developing initial alternatives. Following the development of initial alternatives, the project team engaged stakeholders for feedback, and began the initial alternatives evaluation process. The process contained two rounds of quantitative evaluation, including traffic modeling and cost estimates. The results of the evaluation are presented with the locally preferred alternative, and a brief discussion of potential unknowns to be aware of, and project implementation cost drivers.

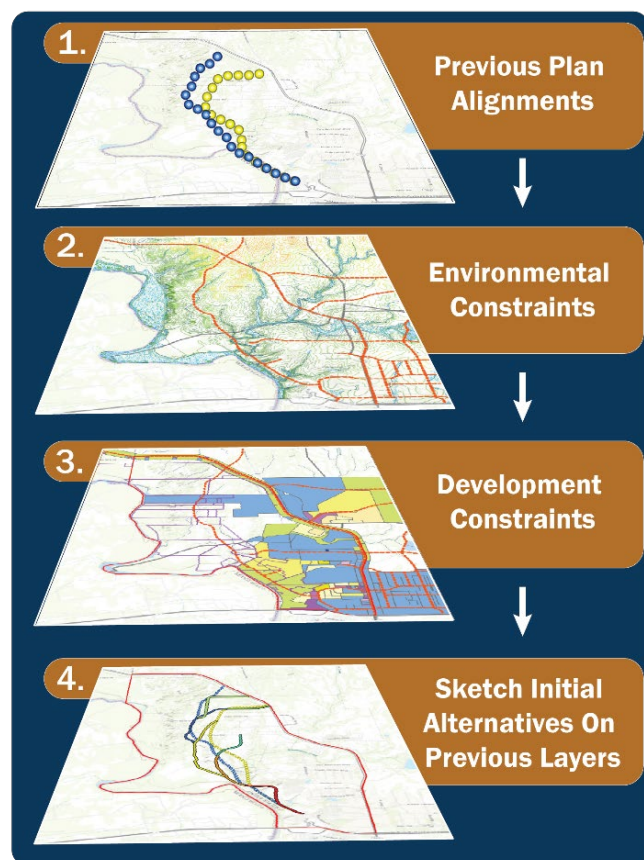
2. Existing Conditions and Alternatives

Prior to drawing preliminary alternatives for the River Road right-of-way, the project team engaged in a detailed environmental constraints mapping effort to understand the obstacles and ideal paths within the study area. Environmental constraints included both natural constraints (i.e. topography, floodplains, etc.) and development constraints (i.e. existing lot lines, zoning and development). This section details the methodology used to map environmental constraints and draw initial alternatives.

Environmental Constraints Methodology

The environmental constraints mapping methodology is summarized in **Figure 2**.

Figure 2: Methodology for Mapping Environmental Constraints and Initial Alternatives



The process began with mapping two previously proposed alignments for River Road from previous studies, including the North Laredo Webb County Transportation Planning Study (2020), and the Future Thoroughfare Plan (2021).

Natural environmental constraints were then mapped atop these previous alignments. This map included: 100-year floodplains, topography, waterways, wetlands, and pipelines.

Development constraints also considered: existing and planned roadways, municipal zoning districts, and existing property parcel lot lines. A number of additional constraints were mapped but did not appear within the study area (wells, schools, fire stations, parks, cemeteries, oil and gas leases, and historical sites and markers).

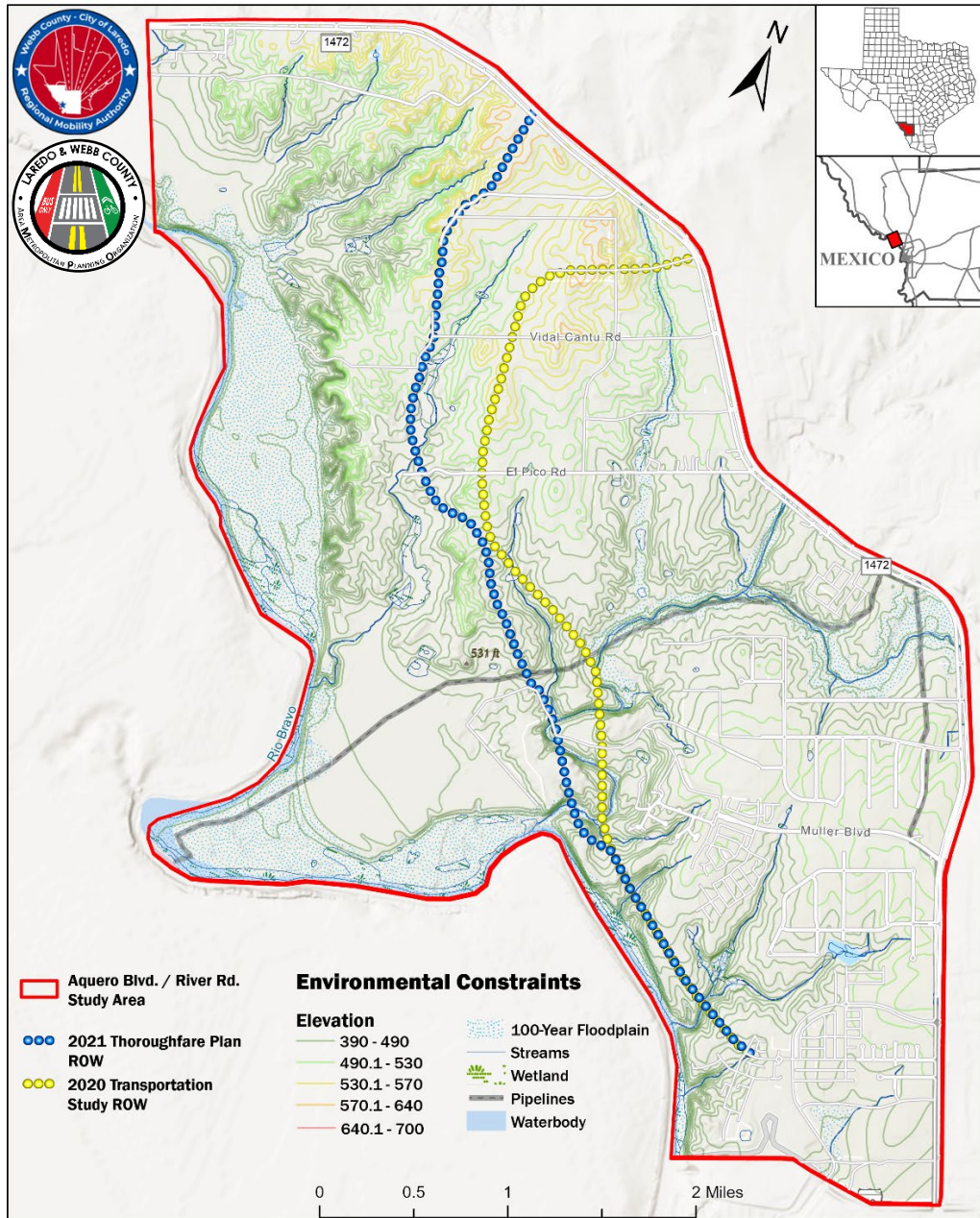
Once this data was gathered and mapped, the project team delineated preliminary alternative alignments. This mapping process revealed several challenges for alternative development.

Natural environmental constraints mapping (**Figure 3**) revealed topographical challenges in the southern part of the study area, especially along Sombbrero Creek. Initial alternative segments 1, 2, and 5 attempted to minimize topographical challenges in this area. Segments 1 and 2 also attempt to navigate flat terrain through the center of the study area. All Initial alternative segments avoid wetlands and 100-year floodplains.

Within the development constraints (**Figure 4**), the previously planned alignments intersect 26 individual parcels, owned by 15 different property owners. The parcels are situated in a predominantly East-West rectangular fashion. South of Pan American Boulevard the parcels take on more irregular boundaries. Because of the north-south direction of the planned River Road is at odds

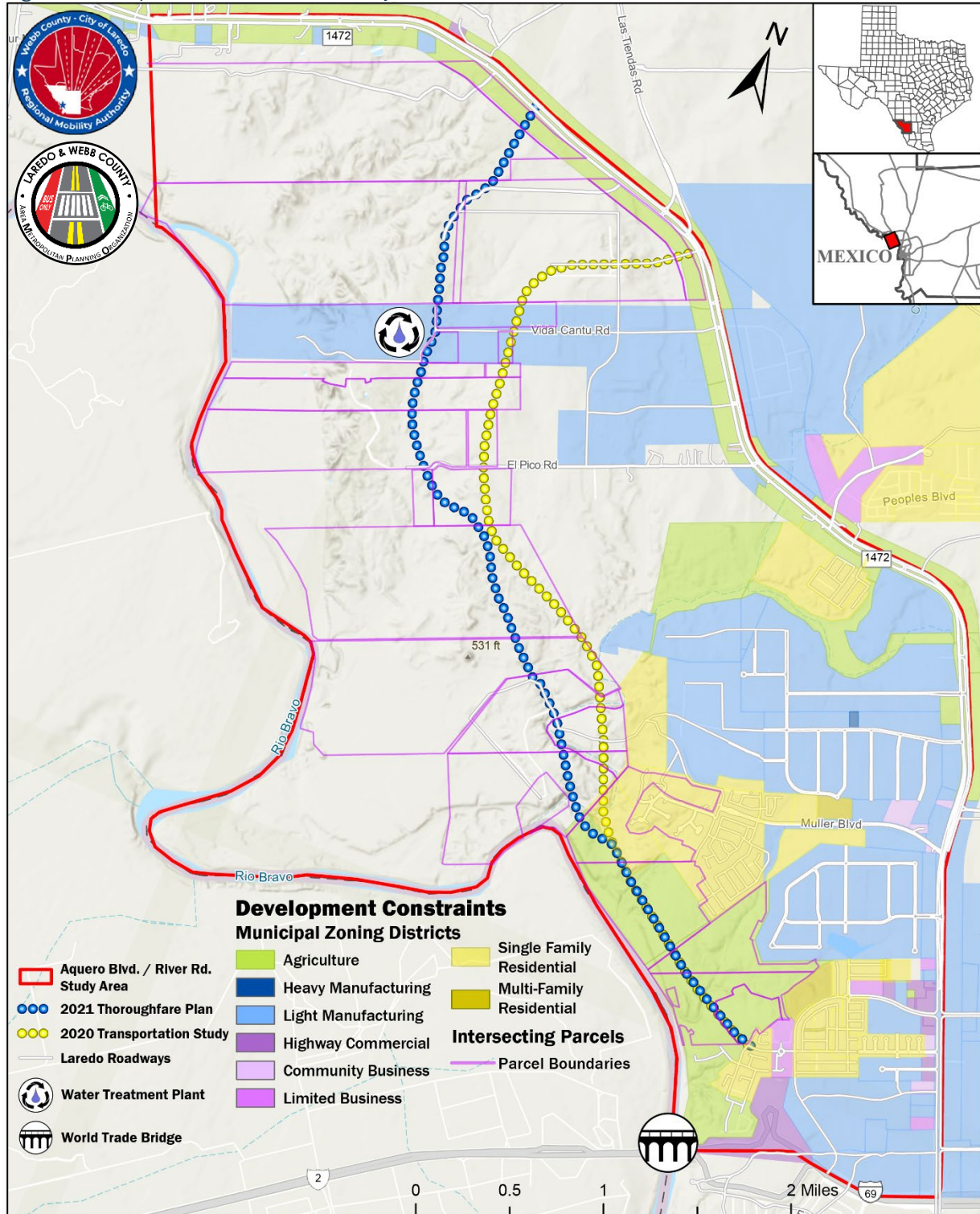
with the east-west orientation of parcels, strictly following parcel boundaries with the new route alignments would not be feasible. There are opportunities however, especially in the central and northern portions of the study area, to construct River Road along certain parcel boundaries or existing roads. When deciding which parcels to split and which to border, ownership and existing development was being considered. There is significant development under way in the central part of the study area along El Pico Road and Vidal Cantu Road. The preliminary alternatives avoid existing development and construction where possible.

Figure 3: Natural Environmental Constraints in the Study Area



Existing Conditions and Alternatives

Figure 4: Development Constraints in the Study Area



Drawing Initial Alternatives

The initial alternatives developed for the River Road Route Alternatives Study were drawn to conform to six-guiding principles to the greatest degree possible.

Guiding Principles of the River Road Phase I Alternatives (in no particular order):

- Conform with Previous Plans
- Minimize Displacements
- Minimize Impacts on Environmental Resources
- Feasible Topography
- Conforming to Existing and Future Roadways and Property Boundaries
- Minimize Potential Conflicts with Existing and Planned Roadways

Most, if not all roadway alternatives are not able to achieve all these principles in equal measure, and each alternative presents tradeoffs. For example, an alternative may represent a route over ideal topography, but will cut through property boundaries as a result. Others will follow existing property lines more closely but may present more challenging topography. After drawing initial alternatives, the project team actively engaged with local stakeholders to gauge priorities when it comes to these tradeoffs. The results of stakeholder engagement and further refinement of these priorities is discussed in greater detail in the following sections.

The purpose of this initial mapping was to provide stakeholders an array of roadway options with clear tradeoffs and they were used to begin the engagement and refinement process. Six initial alternatives were developed. Each is displayed in **Figure 5**, and discussed further.

Explanation of the Alternatives

The six initial alternatives developed following environmental constraints are explained in the following paragraphs and depicted in **Figure 5**. The descriptions all follow the alternatives from south to north, beginning at their common terminus at Aquero Boulevard.

Alternatives 1 and 2 both curve around the creekbed south of La Bota Ranch to avoid bridge construction. They then diverge to follow slightly different paths through the topography before reaching El Pico Road. After El Pico, both alternatives cross through the new commercial/industrial hub around Vidal Cantu Road, rather than west of the development like alternatives 4 through 6. While crossing through the development, alternatives 1 and 2 seek to follow existing parcel boundaries and roadways wherever possible, before diverging to align with either the planned Las Tiendes Road (FM 3338) realignemnt and planned Hachar Parkway, respectively.

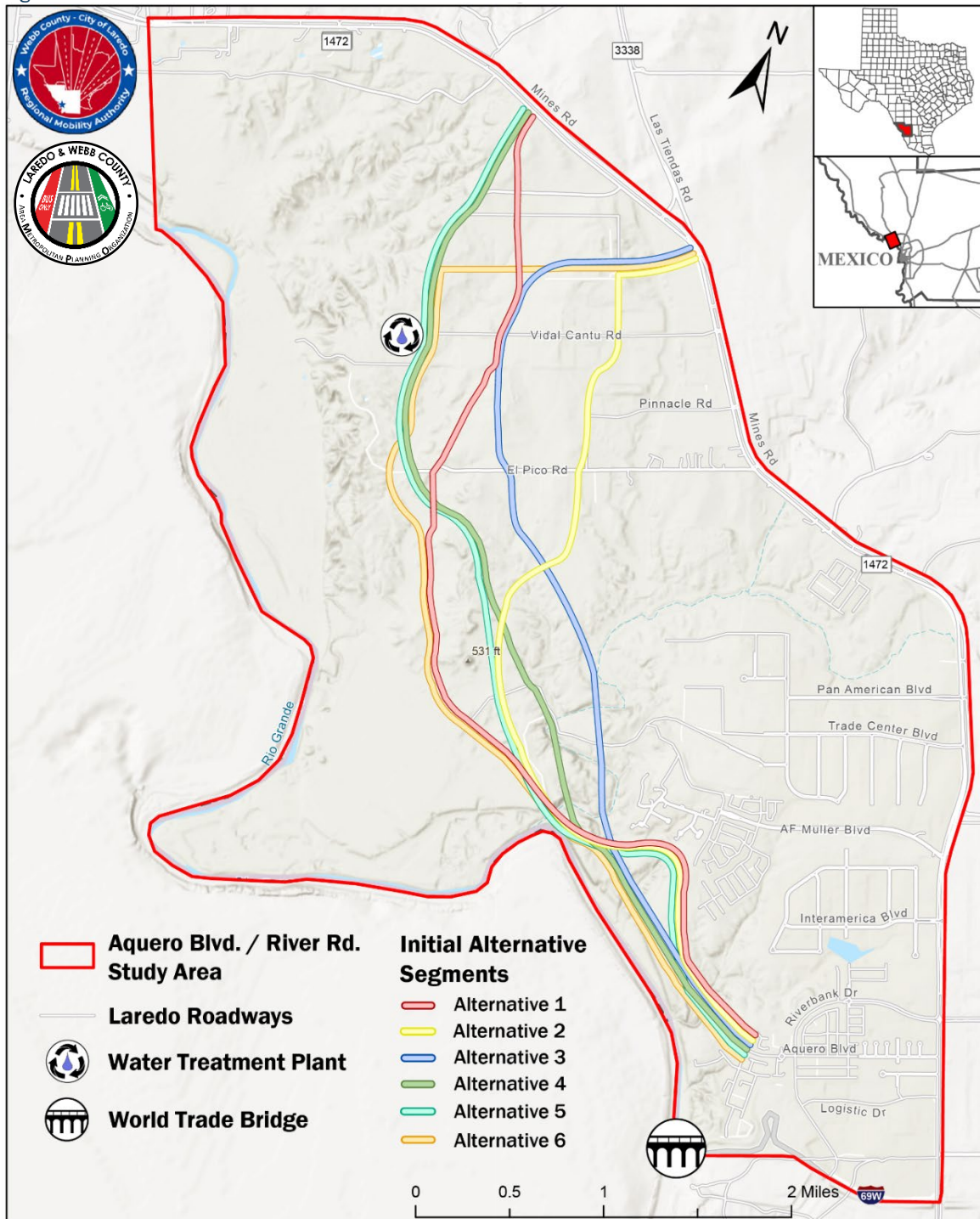
Alternatives 3 and 4 represent the proposed North Laredo Transportation Planning Study and Future Thoughtfare plan alignments respectively. The project team felt it important to recognize and include the proposed alignments from these previous plans in the evaluation as a benchmark to measure newly drawn alternatives against. Neither alternative follows the area's topography very well, however, each connects to one of the two chosen northern termini, future Hachar Parkway or Las Tiendes Road.

Alternatives 5 and 6 diverge over the La Bota Ranch creekbed and follow varying paths through the topographically variable undeveloped land that follows. The alternatives rejoin however, at El Pico Road where they follow the existing El Pico Water Treatment Plant access road west of adjacent industrial developments in the area. By avoiding the ongoing development around Vidal Cantu Road,

Existing Conditions and Alternatives

these alternatives avoid business displacement. Alternative 6 then follows W. Peak Road to planned Hachar Parkway, while Alternative 5 continues north to the planned Las Tiendas Road realignment.

Figure 5: River Road Initial Alternatives



3. Stakeholder Involvement

A critical component to this study included discussions with several public and private-sector stakeholders that are very familiar with the study area and the issues surrounding the need for an alternative route to FM 1472. While conducting analysis with data and considering environmental constraints is a great tool for determining which alignment would work best, the people who are most familiar with the nuances of the issue help with how the data can be interpreted, contributing to a proposed solution that offers a better fit for the area.

To gather input from a broad cross-section of stakeholders in the study area, a series of stakeholder meetings was held over a two-day period, from Thursday, October 20 through Friday, October 21, 2022, at various times and locations throughout Laredo and Webb County.

The purpose of the meetings was to:

- Provide an overview of the study purpose, goals and objectives.
- Collect input on transportation needs and challenges.
- Collect feedback on the draft preliminary purpose and need, evaluation criteria, and proposed alignments of River Road from previous studies.
- Help the project team understand and interpret data analysis in a way that is consistent with how stakeholders understand the area and how this roadway can benefit the community.
- Collect input on priorities related to various transportation issues and corridors in the study area.
- Coordinate planning and implementation efforts with local, state, and federal government and transportation authorities.

Stakeholder Meeting Format

Stakeholder meetings that were carried out over a two-day period included groupings of approximately 60 various stakeholders who provided valuable input and insight to the project team:

Thursday, October 20

El Portal Conference Room

- Department of Homeland Security, Customs and Border Protection
- City of Laredo and TxDOT
- Custom Brokers, ALFA, LMCA
- Webb County, Webb County Sheriff's Department

Friday October 21

Fasken Recreation Center Multi-purpose Room

- Developer Association Group
- HOA Board and Developer Association Group

After this initial round of stakeholder meetings, approximately 10 additional stakeholders that were not available during these dates were engaged to collect further information. These meetings, held in early November 2022 included discussions with United Independent School District as well as various property owners and their representatives with interest in the area. For a more complete list of attendees and other details of what was covered, please refer to **Appendix A**.

Each of these meetings began with a presentation that covered study background, evaluation criteria, preliminary alternative alignments, study process, and schedule. An open input session with stakeholders followed the presentation. The discussion was guided by maps of the study area

Stakeholder Involvement

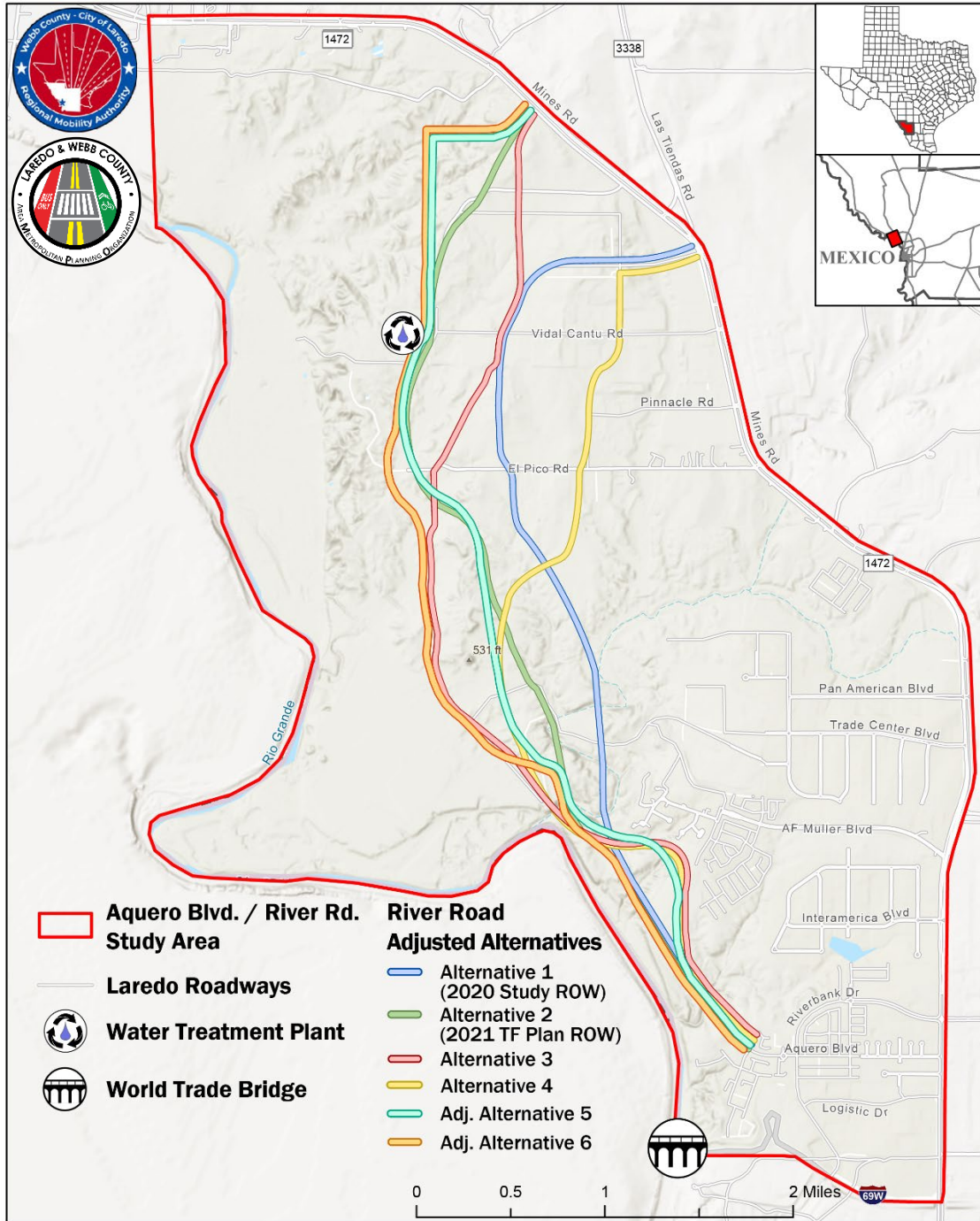
depicting proposed alignments, environmental constraints, intersecting parcel owners, and zoning. Participants were also provided comment cards to submit written comments. During this activity stakeholders provided comments about needs and challenges in the study area, and feedback on the draft preliminary purpose and need, evaluation criteria, and preliminary alternative alignments for River Road. Comments were recorded, and participants were encouraged to comment directly on the study area maps.

Some of the key takeaways and common themes from the Stakeholder meetings as a whole included the following:

- River Road should primarily serve passenger vehicles and prohibit commercial truck traffic.
- There is a need for coordination among the City, County, and developers with interests in the area about ongoing development to ensure that roadway alternatives and implementation do not interfere with development.
- Connection with the planned Hachar Parkway is guaranteed, so providing connectivity to the planned Las Tiendas Road realignment with the project's northern terminus should be prioritized.

Based on this feedback from the stakeholder input sessions, Alternatives 5 and 6 were adjusted to address these local priorities. These new alternatives, mapped in **Figure 6** incorporated the most well-received aspects of the previous six. These six alternatives were used in the evaluations described in the following section.

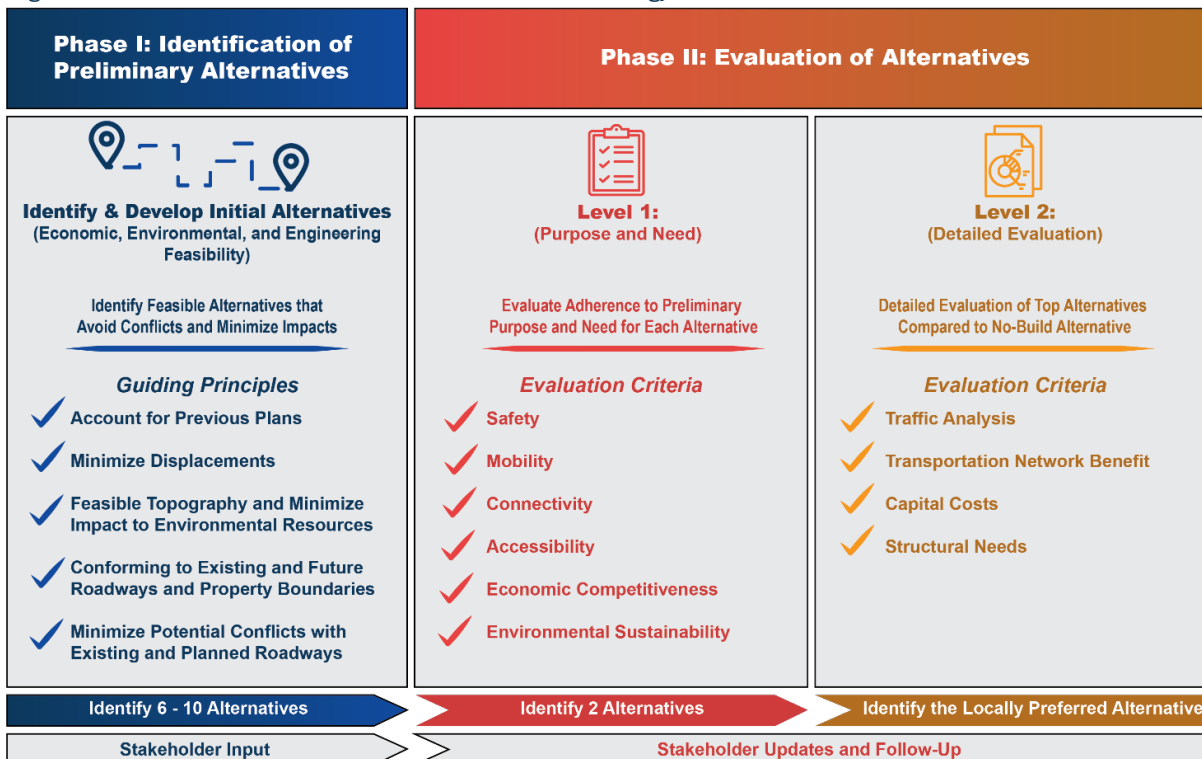
Figure 6: Adjusted Alternatives Used in Level 1 Evaluation



4. Evaluating Alternatives

The alternative evaluation process is outlined in **Figure 7**. Phase I Identification of Preliminary Alternatives includes the work completed in the existing conditions analysis that resulted in the six initial alternatives. Phase II contains two separate evaluations, Level 1 and Level 2. Each level of evaluation is detailed in the following sections. In short, the Level 1 evaluation used qualitative and quantitative measures to select two alternatives for advancement. The Level 2 evaluation reviewed the top two alternatives using a more quantitative process to identify a single, locally preferred alternative. Results from these evaluations are discussed in **Section 5**.

Figure 7: Laredo River Road Alternatives Evaluation Methodology



Level 1 Evaluation

The purpose and need (**Section 1**) was used to guide the evaluation criteria for the Level 1 analysis. At the core of the Level 1 evaluation is an analysis of how the six preliminary alternatives performed in their ability to satisfy the goals included in the purpose for the project. **Table 1** shows the four goals for the project that can be described by the criteria that includes the maximization of safety, mobility, connectivity, accessibility, economic competitiveness, and environmental sustainability. The evaluation criteria were quantifiable, data driven, and tracked through the development of performance measures. The performance measures were organized according to the criteria to which they apply (safety and mobility as well as connectivity and accessibility were grouped together, as performance measures for those criteria apply to both). Performance measures were identified, assessed, and finalized using input from stakeholder engagement to ensure public priorities were quantified in the evaluation process.

Table 1: Goals and Performance Criteria for Level 1 Evaluation

Goal #	Goal Description	Performance Measure
1	Safety and Mobility – Provide a safe multimodal transportation system that enhances the efficient mobility of people and goods throughout the region.	<ul style="list-style-type: none"> • Number of conflict points • Acreage of industrial/light industrial uses within the buffer • Vehicle hours of travel (VHT)
2	Connectivity and Accessibility - Improve multimodal transportation system connectivity and enhance local and regional access.	<ul style="list-style-type: none"> • Creates a novel roadway connection not otherwise planned (FM 3338) • Number of Parallel and crossing facilities • Level of bike suitability
3	Economic Competitiveness – Promote the efficient movement of goods while reducing the impacts to neighborhoods and SOV travel and complement existing and planned economic development opportunities in north Laredo.	<ul style="list-style-type: none"> • Ability to limit drayage and industrial truck traffic (bypass industrial land uses or no) • Percentage of roadways serving residential uses
4	Environmental Sustainability - Minimize impacts to the natural and/or built environment where applicable.	<ul style="list-style-type: none"> • Wetland features within 250ft buffer • Floodplain features within 250ft buffer • Estimated number of bridges needed • Number of impacted properties within ROW

The Level 1 evaluation sought to eliminate four of the six alternatives from consideration. It utilized 12 performance metrics, for which each alternative was rated as either ‘Low’, Medium’, or ‘High’ and symbolized using red, yellow, and green colors respectively as shown in **Section 5**. These ratings were assigned based on various thresholds identified for each performance measure. The two alternatives with the highest cumulative ratings we advanced into the Level 2 evaluation.

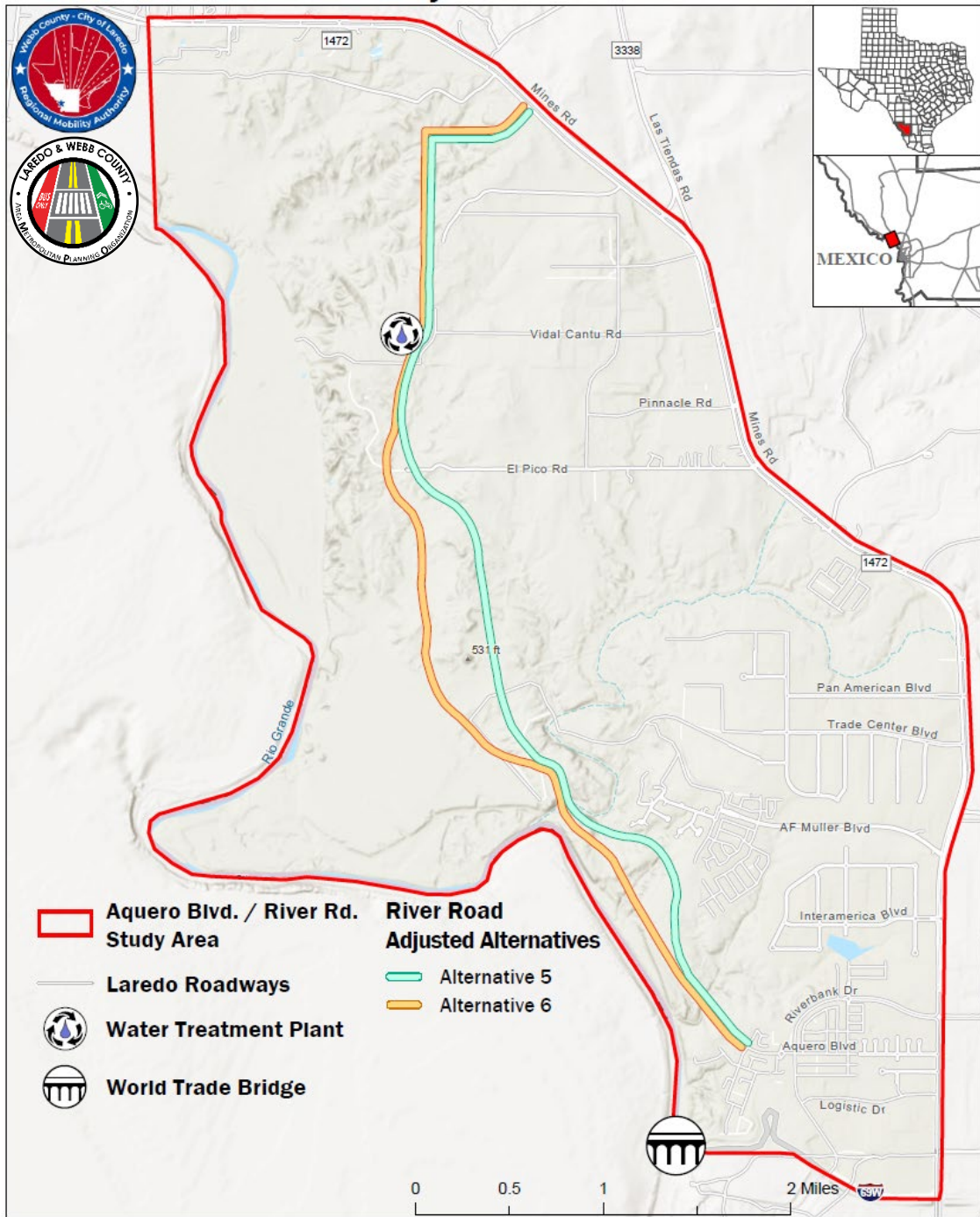
To develop the performance metrics used in this evaluation, the project team began with the four goals from the project purpose and need, shown in **Table 1**. The performance measures identified for this evaluation correspond with these goals. Results from the Level 1 evaluation can be found in the following section.

Level 2 Evaluation

The Level 2 evaluation sought to ground the two chosen alternatives from Level 1 in engineering feasibility. Alternatives 5 and 6 (**Figure 8**) were imported into OpenRoads ConceptStation, a roadway design computer program. Within ConceptStation, preliminary designs were modeled that included environmental constraints, realistic cross-sections, ramps, bridges, and cut-and-fill segments in three dimensions. This facilitated confirmation of assumptions made in the Level 1 evaluation about bridges, costs, and conflicts with the environment.

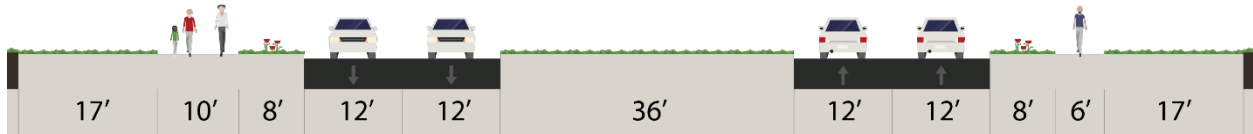
Evaluating Alternatives

Figure 8: Final Alternatives Used in Level 2 Evaluation



When creating roadway designs in ConceptStation, the project team referenced TxDOT and National Association of City Transportation Officials (NACTO) design standards to ensure roadway geometries, cross sections, and structural needs matched state and national best practices. More detail about the specific basis of design can be found in **Appendix B**. The typical roadway cross section for this evaluation³ spanned 150' of right of way, with a 36' median, two 12' travel lanes in each direction, 10' shared use path on the west side and 6' sidewalk on the east side, 8' planting strips, and 17' cut and fill section on either side of the roadway (**Figure 9**).

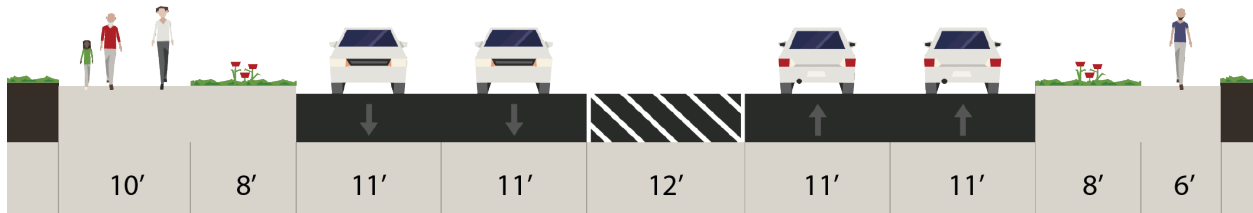
Figure 9: River Road Level 2 Evaluation, Typical (150') Section



The alternatives require 3 to 6 bridges, 500 to 700 feet in total length. Alternative 6 is estimated to require more cumulative bridge length than Alternative 5, based on a maximum slope of 5% to maintain bicycle and pedestrian design standards.

An alternate cross-section was used for ROW-constrained sections as the road intersects Vidal Cantu Road and runs alongside the El Pico Water Treatment Plant. This section (**Figure 10**) includes a 90' ROW, with a 12' bi-directional turn lane, two 11' lanes in each direction, a 10' shared-use path on the west side, and 6' sidewalk on the east side, and 8' planting strips.

Figure 10: River Road Level 2 Evaluation, Constrained (90') Section



The Level 2 evaluation confirmed the constructability of Alternatives 5 and 6, and helped to identify where modifications to the two alternative alignments would be needed. As seen in **Figure 11**, bridge sections were clearly identified and estimated lengths were calculated. As seen in **Figure 12**, certain environmental constraints that appeared to be outside the impact of the roadway in Level 1 evaluations were shown to be well within the ROW. This required some minor modifications to the two alternatives to accommodate environmental features, topography, and development.

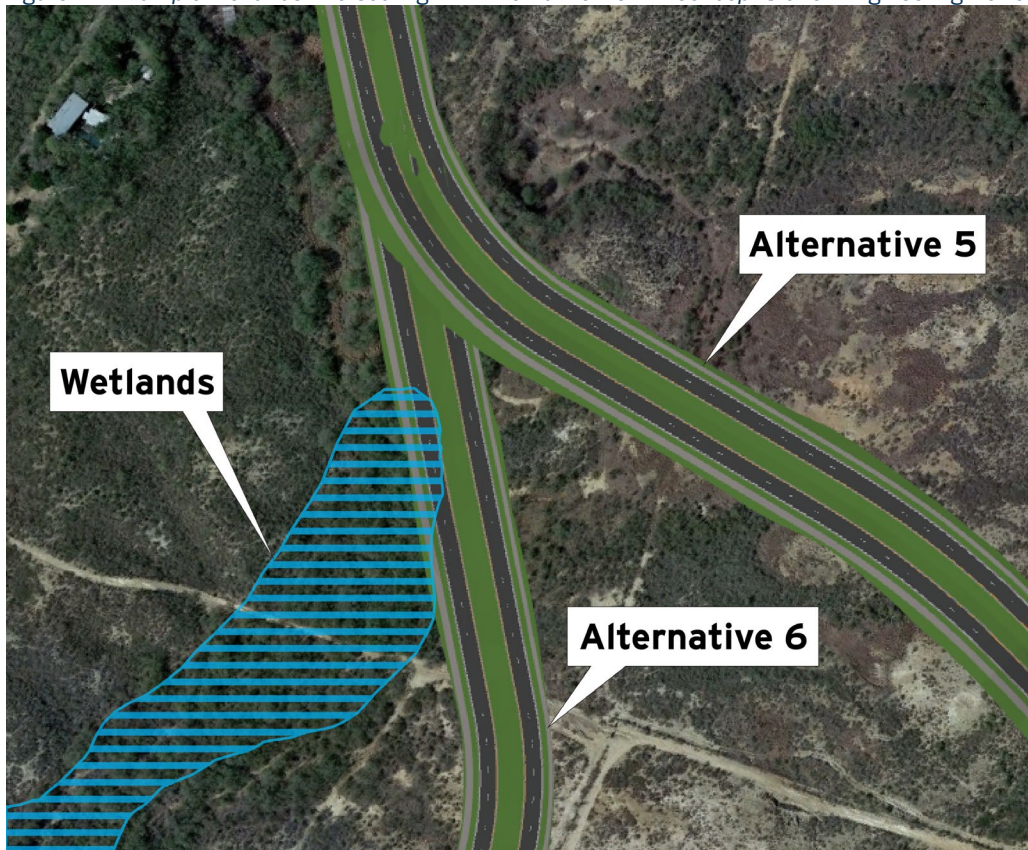
³ This roadway design is subject to change in implementation planning stages of the River Road project. Traffic models for both a 2-lane and 3-lane configurations were modeled, discussed in Section 6.

Evaluating Alternatives

Figure 11: Example of Bridge Location - Concept Station Engineering Review



Figure 12: Example Wetlands intersecting with Alternative ROW - Concept Station Engineering Review



5. Evaluation Results

The evaluation successfully demonstrated tradeoffs between alternatives. In the Level 1 evaluation, Alternatives 5 and 6 were rated the highest. Both were carried into the Level 2 evaluation, where Alternative 5 was selected for its savings in bridge costs and distance from existing wetlands. Bridge cost savings include initial construction, maintenance costs, and future bridge widening. The evaluation revealed both of these alternatives were very similar to one another, differences in final ratings were relatively small.

Level 1 Evaluation Results

As seen in Alternatives 5 and 6 were rated the highest, followed by the remaining alternatives in descending order. The Alternatives 1 and 2, which were drawn from previous plans were rated the lowest. This does not suggest however, that those previous plans were poorly designed. The scale at which those recommendations were made was much larger and focused more on emphasizing a need for a roadway connection. Environmental constraints, topography, and development were not considered. The specific locations of the roadway projects recommended in each was always intended to be adjusted and finalized through a route alternatives study such as this.

Alternatives 3 and 4 scored lower primarily because they traveled through the industrial development areas rather than around them, connected to Hachar Parkway instead of Las Tiendas Road, and they conflicted with wetlands, property lines, and existing roadways more than the final two alternatives. In addition to the property impacts of roadway construction through the industrial area, constructing River Road through areas already congested by truck traffic would have negative impacts for mobility.

Within Alternatives 5 and 6, differences in performance measure ratings highlight tradeoffs for stakeholders to consider. Alternative 5 carries a greater amount of conflicting points (more intersections), while Alternative 6 has a greater impact on wetlands and need for bridge construction. The Level 2 evaluation discusses these tradeoffs in greater detail.

Evaluation Results

Table 2: Level 1 Alternative Evaluation Results

Level 1 Criteria		Alternative Results					
Evaluate Adherence to Purpose and Need							
Criteria	Performance Metric	1	2	3	4	5	6
Safety and Mobility	# of conflict points	High	Med	Low	Med	Low	Med
	Acreage of industrial/light industrial uses within buffer	Low	High	High	Med	Med	High
	Vehicle hours of travel (VHT) / Traffic Movement Efficiency	High	High	Med	High	Med	Med
Connectivity and Accessibility	Creates a new roadway connection (not already planned, FM 3338, Hachar Pkwy)	Low	High	High	Low	High	High
	# of Parallel and crossing facilities	Low	Med	High	Med	High	Med
	Level of bike suitability	Med	Low	High	High	Med	Med
Economic Competitiveness	Ability to limit dreyage and industrial truck traffic (bypass industrial area or no)	Low	High	Med	Low	High	High
	% of roadway serving residential use	Low	Low	High	Med	Med	High
Environmental Sustainability	Wetland features within 250ft buffer	High	Med	Low	High	Med	Low
	Floodplain features within 250ft buffer	Low	Med	High	Med	High	High
	# of Bridges Needed	Low	Low	High	High	High	Med
	# of properties intersecting or adjacent to the alignment	Med	Med	Low	High	Med	Med
Cumulative Rating		Low	Med	Med	Med	High	High

Level 2 Evaluation Results

The Level 2 evaluation resulted in small changes to the Alternatives to accommodate constructability and environmental features. As seen in **Figure 12**, Alternative 6 needed to curve eastward to avoid wetlands south of El Pico Road. In addition, it was determined that Alternative 5 would likely require a utility easement near the La Bota Ranch residential development’s retention ponds. Specific planning-level cost estimates for the two alternatives can be found in **Appendix C**.

Table 3: Level 2 Alternative Evaluation Results

Level 2 Considerations	Alternative Results	
	5	6
Conflicts with Natural Constraints	High	Low
Conflicts with Existing Development	Med	Med
Transportation Network Benefit	Med	Med
Required Utility Easements	Low	High
Estimated Culverts	Med	Med
Estimated Bridge Length	High	Low
Capital Cost	Med	Med
Cumulative Rating	High	Med

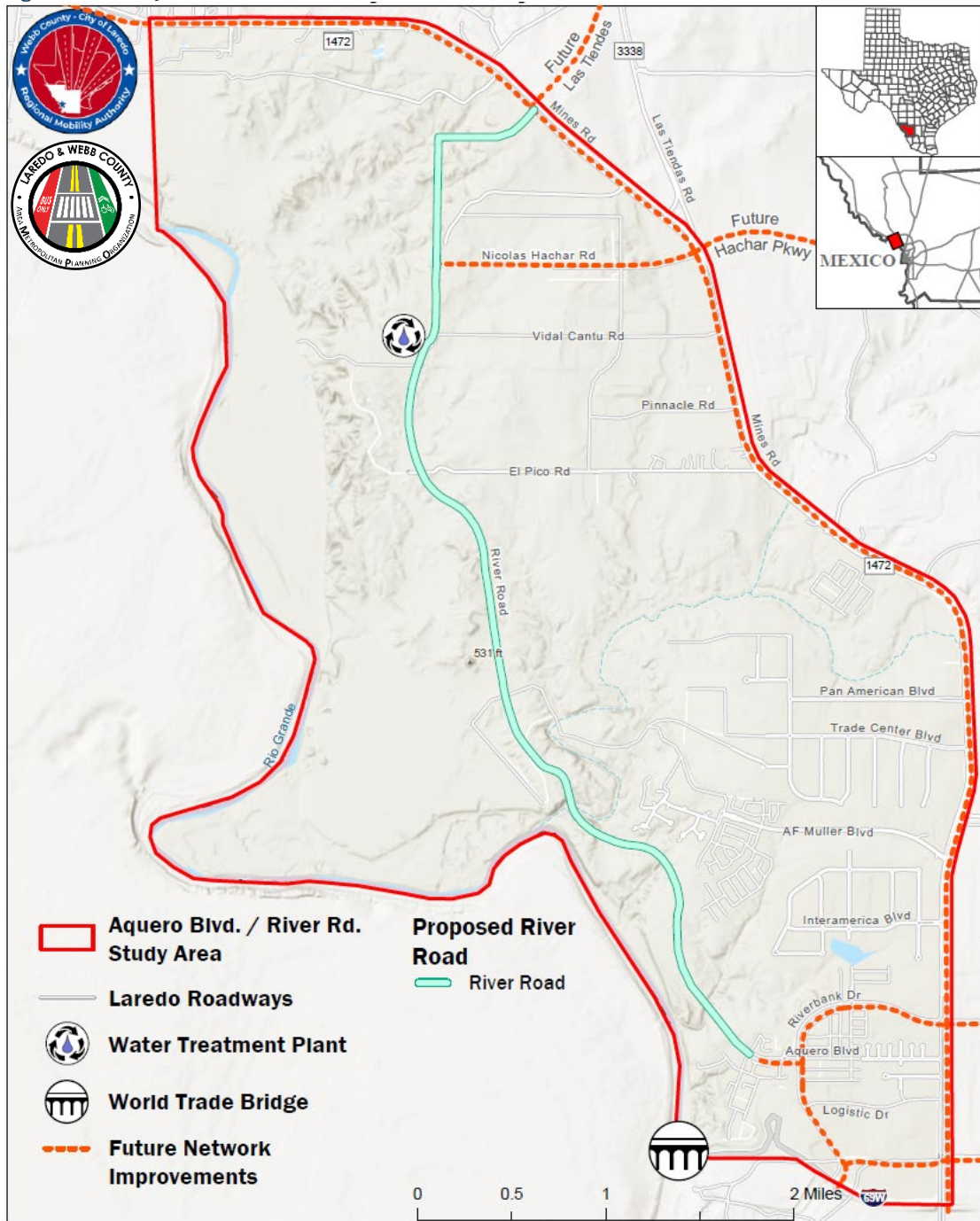
The Level 2 evaluation showed minor differences between the two alternatives. The most significant of was roughly 100 additional linear feet of bridge structure required for Alternative 6. Because of the impacts to cost estimates this additional bridge structure would entail and the greater potential for environmental impacts, Alternative 5 is recommended to be the locally preferred alternative. An option, however, that could remain available is that aspects of both final alternatives be investigated as design options during the environmental assessment phase to make the best possible decision that limits or mitigates potential impacts to the environment.

Locally Preferred Alternative

The locally preferred alternative for River Road is recommended to be based on Alternative 5 as described in this study and shown in **Figure 13**. As the environmental assessment phase of this project progresses, features of Alternative 6 as described in this study may be considered as design options should unforeseen impacts to the built or natural environment require additional considerations. It should be noted that changes to this locally preferred alternative may be required to mitigate any potential environmental impacts, which will be documented through that process and will include continuous coordination with project partners. Should any changes be made through that process, the locally preferred alternative will be redefined according to those recommendations, with the opportunity for project partners to make comments that will have to be responded to and accounted for to complete the environmental assessment and progress the project’s final design. The environmental assessment will ultimately define the alignment and right-of-way, as well as survey and appraise the property that needs to be acquired to construct the project.

Evaluation Results

Figure 13: Locally Preferred Alternative



6. Build vs. No-Build Traffic Analysis

With the recommended Locally Preferred Alternative for River Road selected, the traffic analysis utilized the most recent LWCAMPO regional travel demand model to consider differences in traffic volumes, and a Synchro analysis on FM 1472 to evaluate differences in delay and level of service. This helped to measure the traffic impact on FM 1472 with River Road built (Build scenario) compared to no new roadway being built (No-Build scenario). Comparisons were made in an opening year (2028) as well as a future year (2045). More detail on the traffic analysis methodology and results can be found in **Appendix D**.

The analysis compared traffic volumes, travel times, and level of service in the Build and the No-Build scenarios. This was able to illustrate the benefit of building an alternative route to FM 1472 such as River Road, as well as the volumes that could be anticipated on River Road under a 2-lane (in each direction) and 3-lane configuration. Following popular support during stakeholder engagement, traffic modeling was conducted under the assumption that trucks and commercial traffic would be limited to FM 1472, with River Road serving passenger vehicle traffic only. Results from the traffic analysis are summarized in **Table 4**.

Table 4: Key takeaways from the traffic analysis

Build Scenario results compared to No-Build	
Opening Year (2028)	Future Year (2045)
<ul style="list-style-type: none"> Daily traffic volumes diverted from FM 1472 to River Road in the 2-lane (in each direction) Build scenario can be expected to range from 10,000 – 15,000 vehicles for various segments of River Road. Daily traffic volumes diverted from FM 1472 to River Road in the 3-lane Build scenario can be expected to range from 12,000 – 25,000 vehicles for various segments of River Road. Travel times on FM 1472 from Las Tiendas Road (FM 3338) to I-69W can be expected to drop from 34 minutes in the No Build scenario to 15 minutes in the 2-lane Build scenario. Travel times on FM 1472 from Las Tiendas Road to I-69W can be expected to drop from 34 minutes in the No Build scenario to 12 minutes in the 3-lane Build scenario. In general, northbound and southbound intersection movements on FM 1472 can be expected to have slight improvements in level-of-service and delay in the Build scenario compared to the No Build scenario. 	<ul style="list-style-type: none"> Daily traffic volumes diverted from FM 1472 to River Road in the 2-lane (in each direction) Build scenario can be expected to range from 10,000 – 19,000 vehicles for various segments of River Road. Daily traffic volumes diverted from FM 1472 to River Road in the 3-lane Build scenario can be expected to range from 12,000 – 40,000 vehicles for various segments of River Road. Travel times on FM 1472 from Las Tiendas Road (FM 3338) to I-69W can be expected to drop from 40 minutes in the No Build scenario to 28 minutes in the 2-lane Build scenario. Travel times on FM 1472 from Las Tiendas Road to I-69W can be expected to drop from 40 minutes in the No Build scenario to 23 minutes in the 3-lane Build scenario. In general, northbound and southbound intersection movements on FM 1472 can be expected to have slight improvements in level-of-service and delay in the Build scenario compared to the No Build scenario.

Conclusions from Traffic Analysis

The traffic analysis comparing Build to No Build scenarios indicate that an alternate route such as River Road would have an immediate impact in an assumed opening year of 2028 configured with two lanes in each direction, cutting travel times along FM 1472 from Las Tiendas Road to I-69W by more than half. By 2045, traffic volumes on FM 1472 are expected to be substantially higher than they are today in that roadway’s current configuration, far exceeding capacity. As was concluded in the 2020 *North Laredo-Webb County Transportation Planning Study*, traffic must be diverted across

Build vs. No-Build Traffic Analysis

a network of roadway improvements and new connections such as River Road to alleviate traffic volumes to a more reasonable level of delay along FM 1472. By including a configuration for River Road with three lanes in each direction, the traffic analysis concluded that twice as many cars would be diverted from FM 1472 onto River Road in 2045 by implementing that third lane.

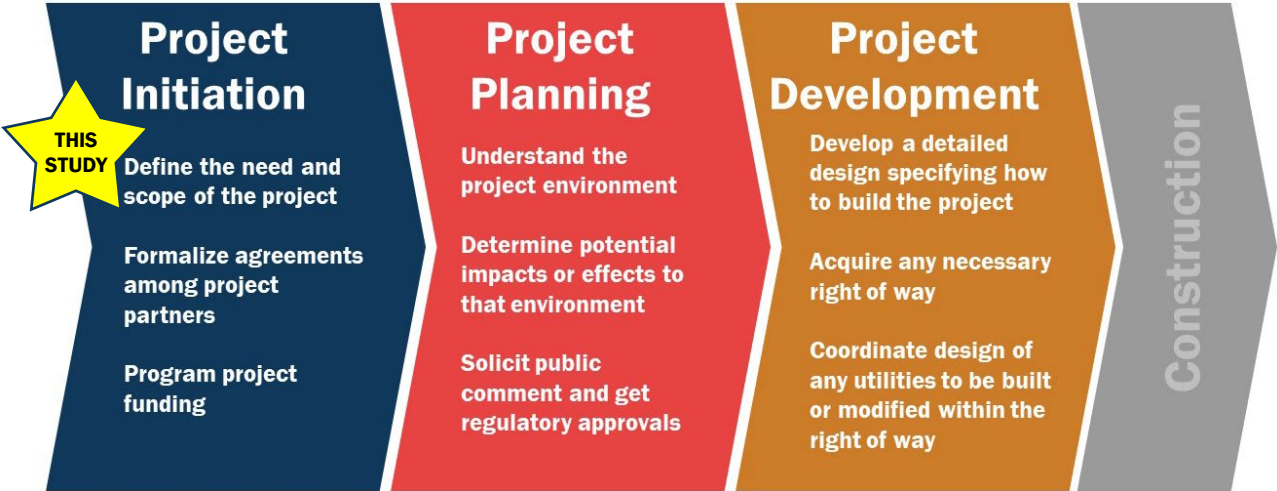
This analysis was primarily meant to help understand and communicate the benefit to FM 1472 should an alternative route such as River Road be built. This benefit will be realized by trucks and other vehicles that would remain on FM 1472. A more detailed traffic analysis that would require additional traffic counts throughout the study area and more realistic traffic impacts from planned developments will be required to focus the analysis on the performance of River Road itself. When considering a diversion of up to 15,000 cars onto River Road in 2028 with two lanes in each direction and as many as 40,000 cars in 2045 with three lanes in each direction, this will be one of the busiest roadways in Laredo almost immediately.

This analysis provides adequate information that must be factored into the roadway's design, particularly at either end of the proposed alignment. The way that Las Tiendas Road and River Road come together at FM 1472 will need to be carefully considered as will how River Road flows into Aquero Boulevard and River Bank Drive before intersecting with I-69W. Individual intersection designs along River Road and methods to deter and enforce prohibition of truck traffic will need to be another consideration. With the expected volumes on River Road, development of commercial goods and services for residents that would be traveling along River Road on a daily basis also becomes feasible given that amount of traffic.

7. Next Steps for Project Development

In the 2020 North Laredo-Webb County Transportation Planning Study, River Road was identified as one of the first projects that should be built to have an immediate impact on relieving traffic congestion in the area, particularly along FM 1472. This study is the first step toward making River Road a capital project. As indicated in **Figure 14**, this study serves to initiate the project and provides the necessary project definition to begin establishing partnerships among public entities such as the WC-CL RMA and City of Laredo, as well as various private property owners and developers that have identified some segment of River Road in their plans. This study also offers an opinion of probable cost based on the information currently available, providing a target to begin identifying sources of funding for implementation of the project. Following this study, the project planning phase will include a more detailed environmental analysis looking at planned land uses and an updated traffic analysis; schematic-level design considering configuration of utilities, drainage, and roadway intersections; and public input on how the proposed designs mitigate potential impacts to the built and natural environment. From there, more detailed plans, specifications, and cost estimates (PS&E) will be completed, and the necessary property acquisition will begin that is required to preserve the right-of-way that River Road will be built within, allowing construction to commence.

Figure 14: Typical capital project development process



Opinion of Probable Cost

Cost estimates for this project were developed using the 2-lane (in each direction) concept established in ConceptStation discussed in **Section 4** of this study to determine roadway material quantities. Unit costs used by the Texas Department of Transportation for fiscal year 2023 for these materials were applied to determine estimated construction costs, which were escalated assuming an average annual inflation rate of 4% to reflect potential costs in fiscal year 2028, when project letting is expected to occur. Costs for work that must be completed prior to construction such as project planning and project development were estimated using standard industry percentages of the estimated construction cost, and a contingency of 20% was added on top of total construction costs to account for unknowns due to the low level of detail that the alignment identified in this study currently reflects. As the design progresses, the cost estimate will change to reflect what is known at that point, and the contingency applied will decrease along the way.

Next Steps for Project Development

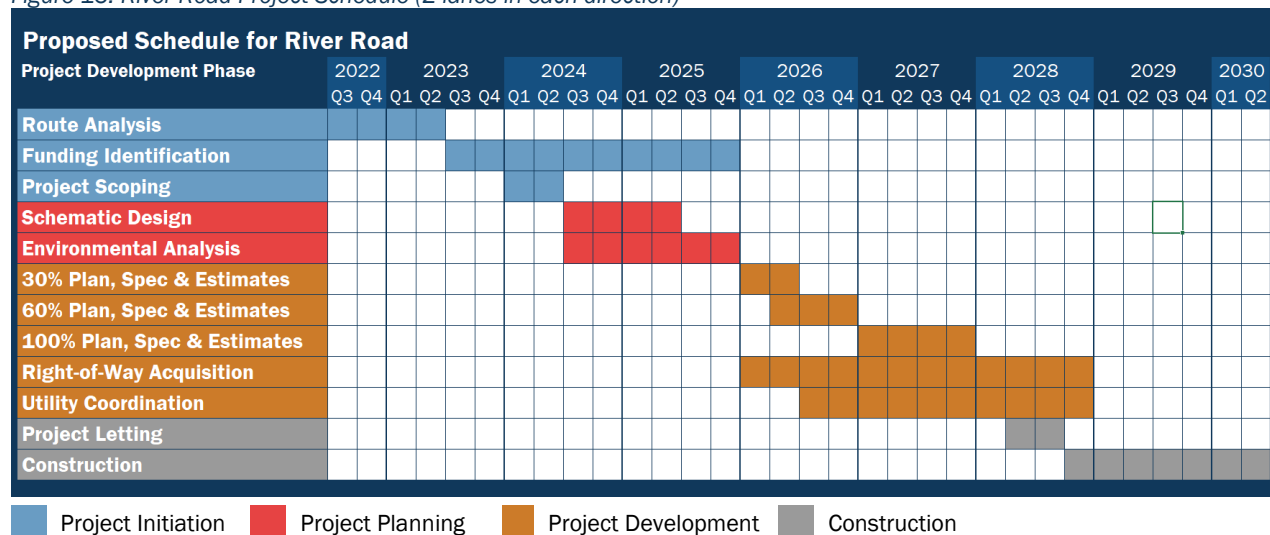
The estimated probable cost in FY 2028 dollars of the 5.57-mile locally preferred alternative for River Road is \$154.8 million, which translates into roughly \$27.8 million per mile. This includes an estimate for right-of-way acquisition based on average property values in the area per square foot multiplied by the square footage of the total right-of-way. This is considered to be a conservative cost estimate using an inflation rate that reflects how material costs have continued to escalate in recent years. This will change as more information becomes available. Locations where the proposed roadway encroaches on wetlands and waterways must be investigated further to ensure proper mitigations are incorporated into the design. Public utility mainlines necessary to support planned developments in the area are also unknown at the time of this opinion of probable cost that need to be identified through further investigation.

Major components driving the probable cost of River Road up include new bridge structures that cross extreme changes in elevation due to creeks in the Rio Grande watershed crossing through the study area as well as locations where the landscape would be either cut or filled in requiring the use of concrete retaining walls and embankments due to the variable nature of the topography. Property acquisition for River Road's right-of-way is another major cost driver that will need to be investigated further for individual properties, and could potentially be offset by developer participation as partners in the project's development. Coordinating with individual property owners and developers that River Road is proposed to cross will be key to advancing this project forward through environmental assessment, design, and funding identification. Detailed cost estimates for the costs of construction and professional services can be found in **Appendix C**.

Proposed Project Schedule

The proposed schedule for the River Road project illustrated in **Figure 15**, corresponds with the project development process shown in **Figure 14**. The schedule begins with this study, captured in the Route Analysis row and continues into the funding identification. In the 6-9 months following acceptance of this study, project partnerships will need to be established and funding for subsequent project planning activities such as schematic design and environmental analysis needs to be identified.

Figure 15: River Road Project Schedule (2 lanes in each direction)



As those project planning activities commence, funding identification continues for PS&E (project development) activities and right-of-way acquisition, as well as project construction. This can take up to two years, though may also occur sooner should project partners be able to secure funds. Similarly, should funds for schematic and environmental be identified sooner, those activities may begin once the project has been scoped. The subsequent PS&E activities typically do not commence until all phases of the project have been fully funded.

Summary of Implementation

With this study complete, the next steps toward implementation of River Road begin with partnerships. This includes formalizing partnerships between participating entities in the form of Memoranda of Understanding and Interlocal Agreements for how all parties understand their responsibilities and who agrees to pay for what by when. If the schedule shown in **Figure 15** is to be realized, these partnership agreements are a critical next step along with schematic and environmental activities that need to occur over the next 24 months. Next steps for the implementation of River Road over that time period include the following:

- Acceptance of the Locally Preferred Alternative as described in **Section 5** of this study by the WC-CL RMA Board, LWCAMPO Transportation Policy Board, and Laredo City Council by resolution.
- Coordination between WC-CL RMA, City of Laredo, and property owners and developers that will have a stake in the development of River Road.
- Formalized partnerships among all participating parties establishing who will be responsible for what and by when.
- Programming of funding for Schematic Design and Environmental Analysis.
- Project scoping for River Road and commencement of Environmental.
- Completion of Schematic Design that includes mitigations prescribed in Environmental.
- Public comment on draft Environmental findings.
- Completion of Environmental allowing for property acquisition and PS&E to begin.
- Identification of all funding needed to deliver the project allowing for PS&E to begin.