



# Appendix B

## Basis of Design Report

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River Road Route Alternatives Study

Webb County-City of Laredo Regional Mobility Authority  
Laredo & Webb County Area Metropolitan Planning Authority  
May 2023

## Overview

### Introduction and Scope

To relieve congestion and provide greater access for people and businesses along FM 1472, two build alternatives (5 and 6) were modeled to better understand the feasibility of constructing River Road running parallel to FM 1472 and the Rio Grande River in Laredo, Texas. FM 1472 currently has an Annual Average Daily Traffic (AADT) of at least 60,000 vehicles per day, majority of which are freight trucks traveling across the World Trade Bridge at US-Mexico Border to industrial buildings in the area. In addition to connecting to existing roadways where viable, the proposed River Road alignments will connect to Aquero Boulevard to the South with Las Tiendas Road to the North. The primary objectives of the alternatives analysis is to assess feasibility and cost.

### Design Criteria

To determine whether the two River Road alternatives that were part of the Level 2 Evaluation can be built, the following design criteria were adopted from roadway classifications specified by the City of Laredo and Laredo-Webb County Area Metropolitan Planning Organization (LWCAMPO). Typical sections were developed according to these criteria and used to inform the conceptual design using these preferred design specifications.

	Design Specifications
Classification	Minor Arterial
Number of Lanes	4
Lane Width	12 ft.
Pavement Width	28 ft. (two 12 ft. lanes + two 2 ft. buffers)
Median Width	38 ft. (12 ft. in some sections)
Planting Strip Width	8 ft.
Shared Use Path/Sidewalk	10 ft. (on west) & 6 ft. (on east)
Total ROW Width	150 ft. (90 ft. in some sections)
Design Speed	35 mph
Pavement Cross Slope (NC)	2.0%
Superelevation (e-max)	4.0%
Min. Sight Distance	250 ft.
Min. Centerline Radius	371 ft. (with e_max) & 510 ft. (with 2% NC)
Min. K-value (crest)	29
Min. K-value (sag)	49
Max Grade	5%
Lateral Clearance (desired from face of curb)	6 ft.
Vertical Clearance (desired)	16.5 ft.

### ***Additional Considerations***

Special considerations were made for existing grades, structures, land platting, overhead transmission lines, and utility easements along the corridor. The section of River Road between Muller Memorial Boulevard and the connection to Aquero Boulevard may require special design considerations due to the necessity for a 38 ft. utility easement running along the east side of the corridor's right-of-way. This will need to be considered as the roadway design progresses.

### ***Conceptual Design Deliverables***

Deliverables will include proposed alignments, cost estimates, cross-section drawings, design constraints. Bentley ConceptStation and MicroStation were the primary software used during the alternatives analysis.