

# Fort Worth to Laredo High-Speed Transportation Study

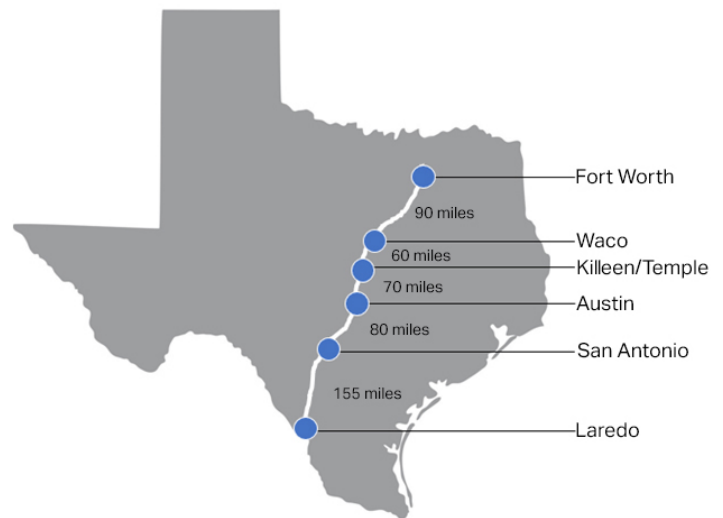
## Introduction

The Fort Worth to Laredo High-Speed Transportation study was conducted through a partnership of six Metropolitan Planning Organizations (MPO) – North Central Texas Council of Governments, Waco MPO, Killeen-Temple MPO, Capital Area MPO, Alamo Area MPO, and Laredo MPO. The 12-month study began in March 2019 with the goal of developing a potential corridors and stations locations to include in a future Tier 2 National Environmental Policy Act document(s).

## Study Approach

The study included four major tasks:

1. Technology and design criteria review for high-speed transportation technologies
2. Previous studies and comments review
3. Develop and screen alternatives
4. Solicit stakeholder input



The study effort built on the recommendations from Record of Decision and Tier 1 Texas-Oklahoma Passenger Rail Service (TOPRS) Final Environmental Impact Statement. While the TOPRS effort did evaluate conventional, higher-speed, and high-speed passenger train alignments, the Tier 1 document focused on service and operations and broadly addressed corridor issues and alternatives and did not consider emerging modes or technologies.

## Stakeholder Involvement

Stakeholders from each area were identified by the respective MPO. Typically, the stakeholders included local and regional transportation agencies and elected officials. The first series of stakeholder meetings held between May and July 2019 introduced the study, goals, and anticipated outcomes. Additionally, stakeholders were asked to provide feedback on the known environmentally sensitive locations, potential station locations, and reasons why a technology may not be appropriate for their MPO. In general, stakeholder questions were related to:

- The capabilities, design and feasibility of high-speed transportation technologies
- Screening criteria particularly cost and engineering considerations
- Operation and service details regarding transportation technologies
- Interagency coordination and the role of participating MPOs

The second series of stakeholder meetings held between October and December 2019 presented preliminary findings from the alternatives analysis. Stakeholders provided feedback related to specific design and operational impacts such as noise, weather, and disaster-related events. Stakeholder questions generally concerned the time frame for future studies and implementation, cost and funding sources, and next steps.

## Technology and Design Criteria Review

The technology review effort provided a list of the potential transportation technologies to be evaluated as part of the study. This review included a brief history of each technology, identification of key design criteria, potential infrastructure integration solutions, and potential regulatory and financing feasibility. Technologies reviewed included: guaranteed transit, conventional passenger rail, high-speed and higher-speed rail, magnetic levitation (maglev), and hyperloop (next generation maglev).

### ● Guaranteed Transit



### ● Conventional Rail



### ● Higher-Speed Rail (Up to 150 mph)



### ● High-Speed Rail (Over 150 mph)



### ● Maglev Train



### ● Hyperloop

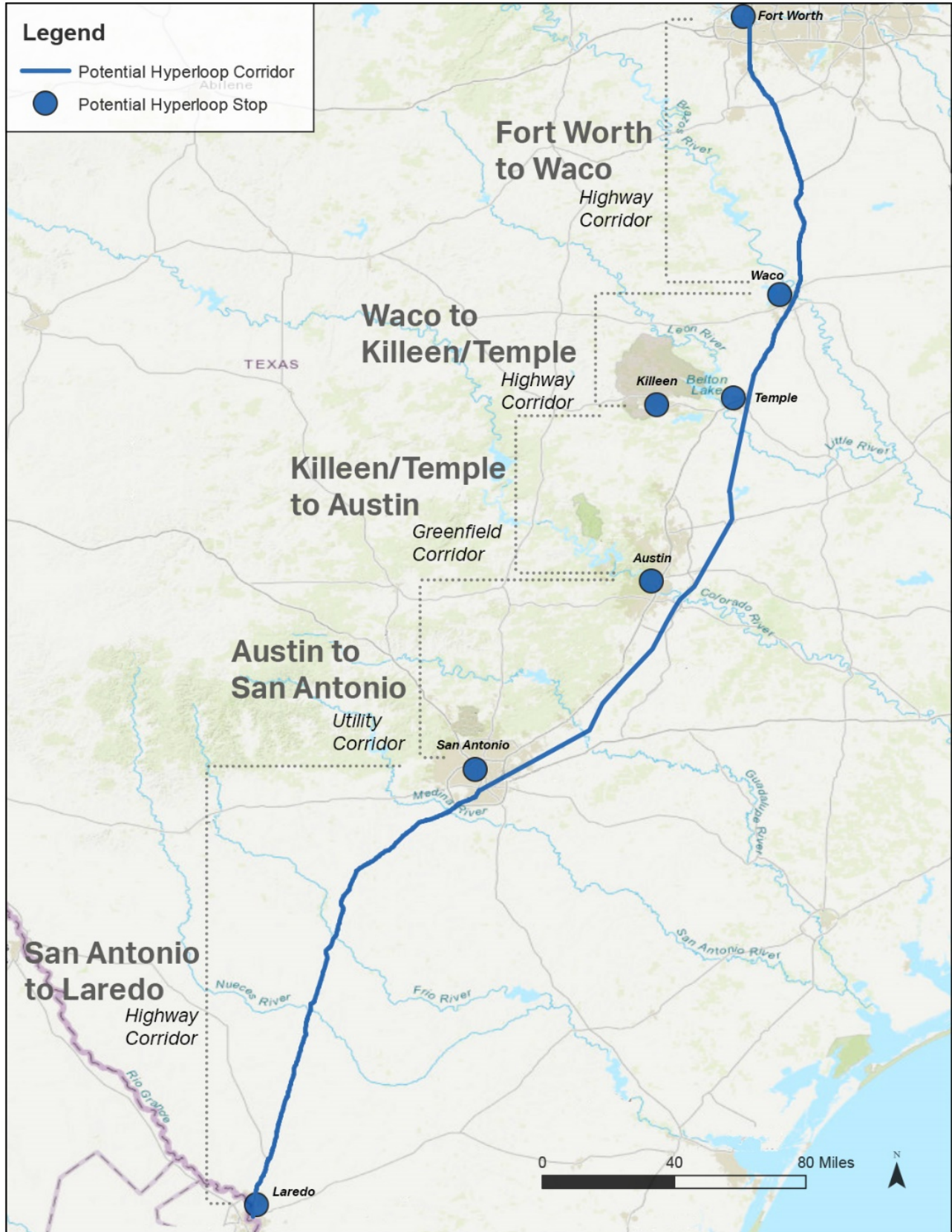


## Alternatives Analysis

The Alternatives Analysis Memorandum builds upon and utilizes information identified in prior tasks to conduct an alternatives analysis evaluating high-speed transportation options broadly along the I-35 corridor.

The analysis was conducted in three levels, beginning by assessing broad aspects of the study area and narrowing to evaluate alternatives against specific criteria. The methodology used in each level of alternative analysis is summarized in the Alternatives Analysis Memorandum.

Level	Evaluation Criteria
Level 1: City Pair + Technology Screening	<ul style="list-style-type: none"> <li>Optimal station distances</li> <li>Operating speeds</li> <li>Design requirements</li> </ul>
Level 2: Corridor & Technology Compatibility	<ul style="list-style-type: none"> <li>Cost to construct</li> <li>Required right-of-way</li> <li>Passenger capacity</li> <li>Reduction in travel time</li> <li>Natural resource sensitivity (e.g., high development, wetlands, water, pasture and crop lands, national and state historic places, parks and open space)</li> </ul>
Level 3: Other Factors to Consider	<ul style="list-style-type: none"> <li>Station location benefits</li> <li>Operational characteristics</li> <li>Interoperability</li> <li>Regulatory factors</li> <li>Convenience</li> <li>Safety and resilience</li> </ul>



## Findings

The highest-ranking technology/corridor combination utilized hyperloop and a highway/greenfield/utility corridor. The corridor generally follows the I-35 corridor from Fort Worth to Killeen/Temple. South of Killeen/Temple, the corridor continues south towards Austin along a greenfield corridor before transitioning to a utility corridor from Austin to San Antonio. From San Antonio to Laredo, the alternative would generally follow the I-35 corridor once again. While hyperloop was the highest-ranking technology, the study findings suggest that a corridor utilizing hyperloop, maglev, or high-speed rail is feasible and a viable solution for transportation issues throughout the State of Texas and particularly in the rapidly growing I-35 corridor.

## Study Assumptions and Limitations

The alternatives analysis relied on publicly available information. The project team was able to identify many design and operating aspects of potential technology modes; however, certain aspects of technologies, particularly hyperloop, are unknown or still under development. Additionally, some aspects of existing technologies, such as maglev, have few operating examples and may have unreliable cost ranges. The project team has attempted to mitigate unknowns by conducting thorough research and by valuing analysis criteria equally.

## Next Steps

The Fort Worth to Laredo High-Speed Transportation Study conducted a planning level analysis of transportation technologies to evaluate and identify high-scoring possibilities for transportation between Fort Worth and Laredo. The study was intended to serve as a tool to build consensus on the consideration and future study of implementing high-speed transportation technologies from Fort Worth to Laredo.

This study has taken a first step in assessing new and emerging transportation technology feasibility throughout Texas. The preliminary findings suggest that a corridor utilizing a hyperloop, maglev, or high-speed rail is feasible and should be further studied, through a National Environmental Policy Act process.

## For More Information

Contact:

Website:

Technical Reports: