



WEST CONNECTOR THOROUGHFARE PHASE 1 REPORT

Comal County

Corridor Study

June 2023



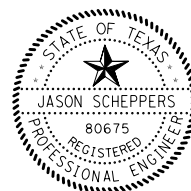
Transportation | Water Resources | Land Development | Surveying | Environmental

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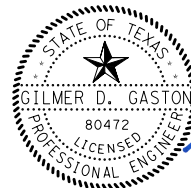


Designed

A blue ink signature of Jason P. Scheppers.

JASON P. SCHEPPERS, P.E.

6/8/2023
DATE



Approved

A blue ink signature of Gilmer D. Gaston.
GILMER D. GASTON, P.E.

6/8/2023
DATE

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MEMO

TO: Thomas Hornseth, P.E.
County Engineer
Comal County
195 David Jonas Drive
New Braunfels, TX 78132

DATE: June 2, 2023

FROM: Jason Scheppers, P.E.

PROJECT NO.: 12357-01

cc: David Vollbrecht, P.E. and Robert Boyd, PE, Comal County Engineering

RE: Phase 1 Recommendation for West Connector

Introduction

Pape-Dawson Engineers, Inc. has been retained to conduct a feasibility study for a roadway “West Connector” from SH 46 to I-35, approximately seven miles west of downtown New Braunfels, Texas. See **Figure 1** below for general location map. This memo outlines the data included in the Phase 1 Report and associated recommendations for the full length from I 35 to SH 46.

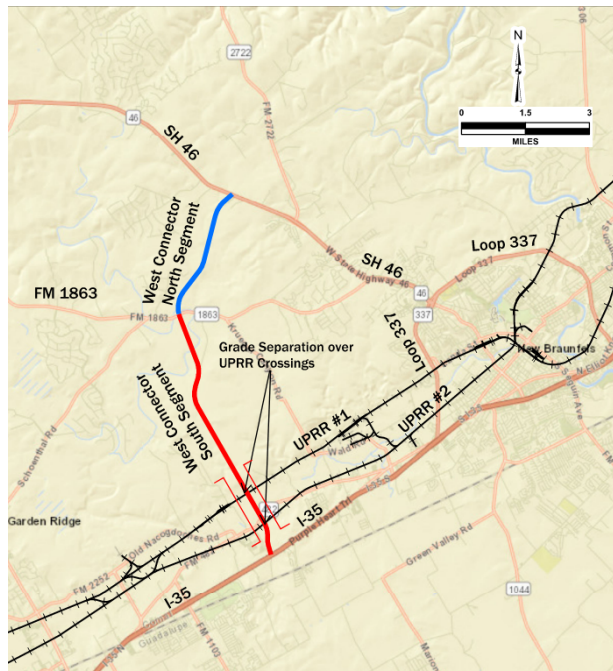


Figure 1 - Project Limits & West Connector

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The recommendation for the West Connector is to provide 400 feet wide ROW from I 35 to FM 1863, 200 to 250' wide ROW from FM 1863 to SH 46. The ROW would provide for an initial 4 lane divided roadway. The additional ROW would serve to address environmental constraints and provide room to address steep slopes in the alignment. The proposed width will provide room for possible future expansion if growth continues in the vicinity of the proposed corridor.

West Connector Supporting documents:

The Traffic Projection Methodology Memo (**Appendix A**) details the expected traffic on the West Connector. We divided the project into two segments, South Segment from IH 35 to FM 1863, and the North Segment from FM 1863 to SH 46, as shown in **Figure 1**, and project that in 2050, the design year, there will be 26,500 vehicles per day from I-35 to FM 1863 and 22,000 vehicles per day from FM 1863 to SH 46.

The following covers summary of supporting reports and references detail reports associated with the Phase 1 Report.

West Connector Traffic Projection

The Traffic Projection Methodology Memo (**Appendix A**) details the expected traffic on the West Connector. We divided the project into two segments, South Segment from IH 35 to FM 1863, and the North Segment from FM 1863 to SH 46, as shown in **Figure 1**, and project that in 2050, the design year, there will be 26,500 vehicles per day from I-35 to FM 1863 and 22,000 vehicles per day from FM 1863 to SH 46.

Facility Sizing for Design Year 2050

The traffic projections show 26,500 Annual Average Daily Traffic (AADT) in 2050. A 4-lane divided arterial roadway can accommodate that volume of traffic.¹

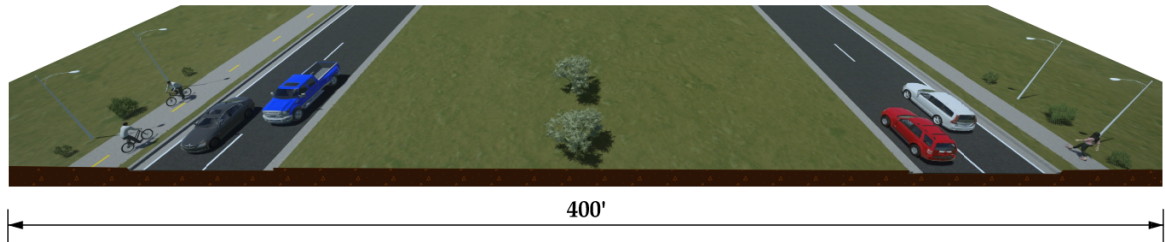
1. The City of New Braunfels shows in the Regional Transportation plan and in their Thoroughfare Plan a Parkway Arterial section in this location in 200 feet of ROW. Our recommendation is to provide 400 feet wide ROW from I 35 to FM 1863. This provides room for 4 lane divided Roadway, with extra width to address environmental concerns that may be found in the ROW and extra space to tie-in side slope in locations where substantial relief is present in the route location. This wider ROW also provides room in the median for future expansions if grade separations are needed to be added as growth continues to expand from the current City of New Braunfels. The current capacity restrictions on SH 46 and Loop LP 337 demonstrate the

¹ Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System, 2019, FHWA

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importance of have capacity to upgrade primary arterial corridors with coming future growth.



2. *Figure 2 - West Connector 400 feet ROW Typical Section from IH 35 to FM 1863*

2. Two-hundred-foot ROW width is recommended from FM 1863 to approximately 3200' north of FM 1863. The location north of FM 1863 has a master development plan and is platted, so to keep the roadway consistency the 200' ROW is recommended. The 4 lanes divided roadway will be possible in the 200-foot ROW. The grading for the development will reduce the need for large grading areas to tie in the slopes. The limited ROW will increase the cost to place future grade separations along this route with implications of more bridges and retaining walls. **(See Appendix C for Porter Tract Master Plan).**

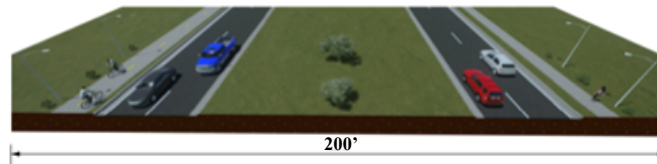


Figure 3 - West Connector 200 feet ROW Typical Section from FM 1863 to 3200' of FM 1863

3. Two-hundred-fifty-foot ROW width is recommended from approximately 3200' N of FM 1863 SH 46, to provide for future and potential intersection/interchange improvements at SH 46. This location has some master development plans and existing residences. The 4 lanes divided roadway will be possible in the 250-foot ROW with room needed for tying-in slopes and accommodation of environmental constraints. The limited ROW will increase the cost to place future grade separations along this route with implications of more bridges and retaining walls.

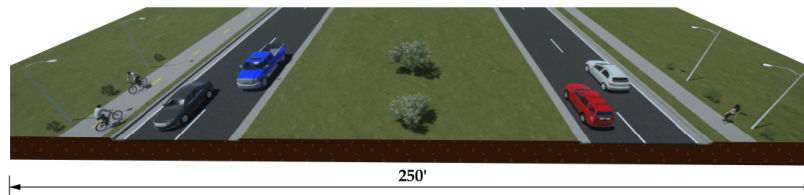


Figure 4 - West Connector 250 feet ROW Typical Section from 3200' N of FM 1863 46 to SH 46

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Environmental Constraints

The Location of the thoroughfare is adjusted from the City of New Braunfels Regional Thoroughfare Map to be outside the FEMA floodplain and to the greatest extent possible to be outside the steep slopes in the area. The crossing of the tributary of the Dry Comal River is made as perpendicular as possible. Potential for Golden Check Warbler habitat and Karst features are equally as likely on any options. Power Transmission lines and Cemeteries, railroads, Dry Comal Creek and Historical structures identified to influence the proposed route.

Geometric Constraints

The design is such that:

- a 5-degree from a perpendicular angle is maintained with SH 46.
- All horizontal curves meet the 1200' minimum radius specified in the City of New Braunfels UDC. (Most curves are planned at 1500' or greater to allow future flexibility.)
- The thoroughfare location is consistent with the proposed ROW dedication made just north of FM 1863 through platting.
- The crossing of the Dry Comal Tributary allows collector access with only one bridge crossing by the collector road to the development and providing proper intersection sight distance with the West Connector.
- Number of parcels impacted was minimized with no acquisition from the New Braunfels ISD parcel.
- The location matches West Connectors' position relative to Comal County Maintenance Facility and existing subdivisions.

Conclusion and Recommendations

See Appendix B for the proposed location for the thoroughfare. Considering the traffic projections of 22,000 AADT, we recommend the West Connector be designated as 200 feet to 400 feet 4-lane divided Parkway.

END MEMO

Appendices

A – Kickoff Meeting Minutes

B – West Connector Program Recommendations

Civil Assessment is contained in Appendices B through G

C - Traffic Projection Report

D – Drainage Recommendations

E – Desktop Geotechnical Study

Pavement Design was agreed to be moved to the Phase 2 Study

F - Environmental Constraints Map is transmitted in GIS format

G – Elevation data is transmitted in Electronic TIN Format

H – Recommended Revision to the Comal County Thoroughfare Plan

I – Recommended Revision to the City of New Braunfels Regional Transportation Plan