

US 290 from RM 1826 to RM 12 Feasibility Study

Concept Options and Screening

CSJs: 0113-07-070 & 0113-08-087

US 290 is an east-west regional arterial that connects communities west of Austin to Austin and other major roadways in the area. The corridor (Figure 1) runs from Dripping Springs to Oak Hill and is experiencing noticeable traffic congestion and significant safety issues.

In response to the need for improvements TxDOT initiated a feasibility study for US 290 in 2019 between Oak Hill and Dripping Springs. In 2022, TxDOT began the next project development phase, which includes schematic design and environmental study for US 290 between RM 1826 and Rob Shelton Boulevard (just east of RM 12).

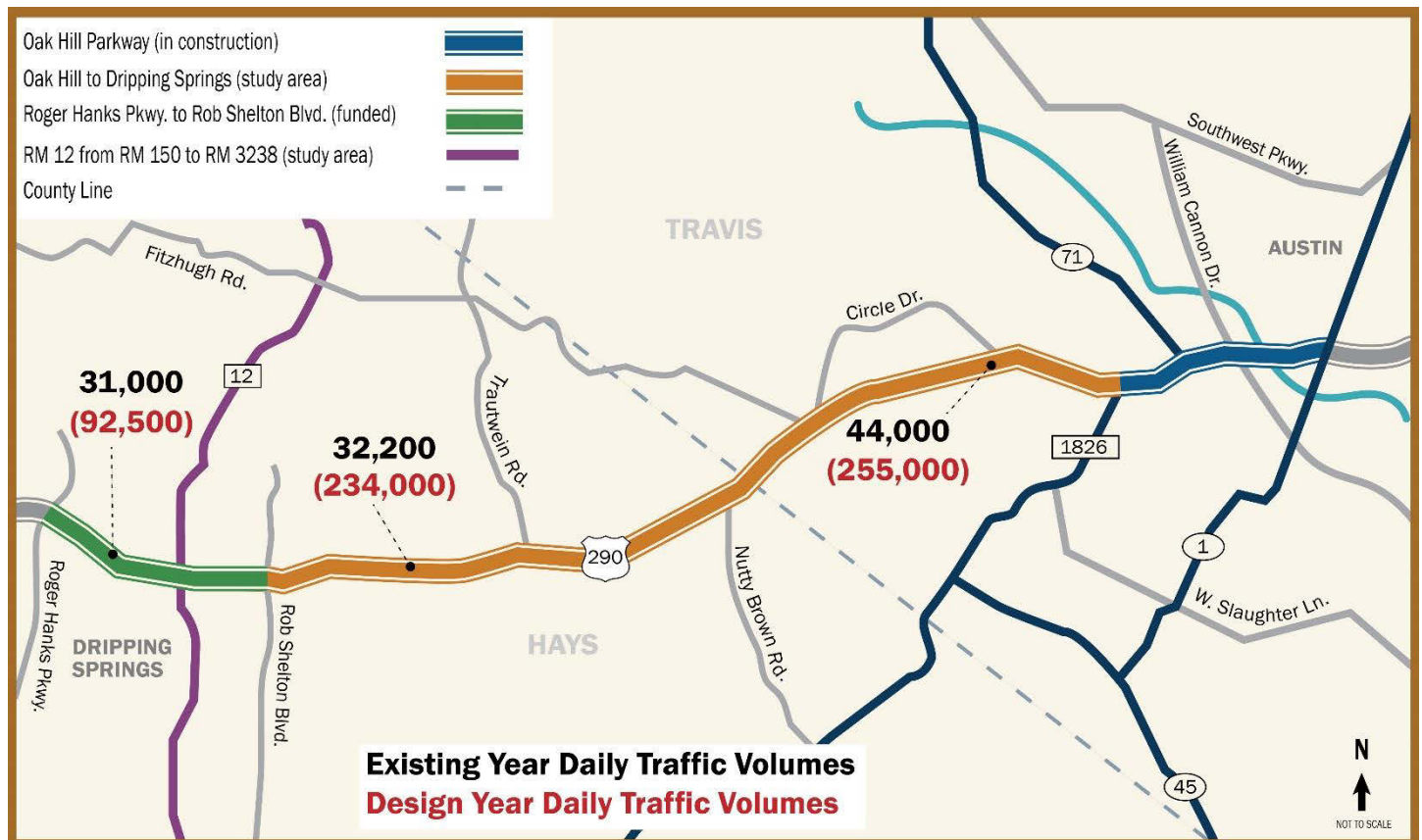


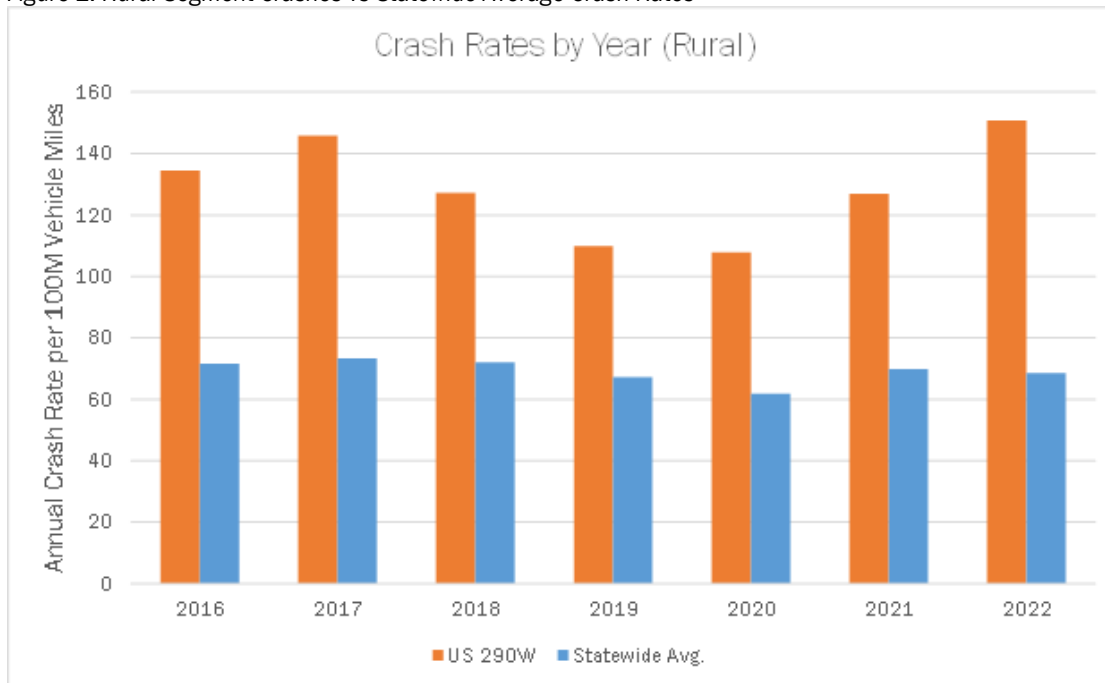
Figure 1: Daily Volume Comparison between Existing and Design Year Conditions

Need for Improvements

- Crash analysis indicates that between 2016 and 2022, crash rates were approximately 86.4% higher than the average for statewide rural segments (see Figure 2). Contributing factors could have included the multiple uncontrolled intersections and driveways, combined with traffic congestion.
 - 1,245 reported crashes occurred on US 290 within the study area from 2016-2022. That's about one crash every other day.
 - 19 crashes were fatal.
 - 44 crashes resulted in serious injuries.
 - 323 crashes resulted in suspected minor or possible injuries.
 - 5 crashes involved people who were walking or biking, and 2 people walking died.
- Approximately 32,000 vehicles per day (vpd) travel the corridor on the west end, and approximately 50,000 vpd on the east end. These volumes are close to or exceed available capacity for US 290. The existing roadway design and high traffic demand results in extensive queues, slow travel speeds and congestion throughout the corridor, especially near Dripping Springs, Belterra, Cedar Valley and West Oak Springs.

- Future travel demand is expected to increase by three to five times by design year, which will make both mobility and safety issues worse. (See Figure 1 and Figure 3).

Figure 2: Rural Segment Crashes vs Statewide Average Crash Rates



Improvements Considered

Today, US 290 is a four-lane undivided roadway with a center-turn lane and signalized intersections. As part of the study TxDOT developed and evaluated concept options to address the need for improved safety and mobility along the corridor.

Option 1: Six Lane Configuration for mainline US 290 – Proposed an additional travel lane in each direction. Analysis indicated that the added capacity would not accommodate anticipated demand for future Build year travel demand. There would be heavy congestion and queuing at all intersections (Figure 3).

Option 2: Six Lane Configuration for mainline US 290 with overpasses at major intersection – Proposed an additional travel lane in each direction, as well as overpasses at major intersections. Analysis indicated that the added capacity and overpasses would not accommodate anticipated demand for future Build year. All intersections are anticipated to operate with heavy congestion and queuing (Figure 3).

Option 3: Controlled Access Configuration for mainline US 290 with frontage roads – Proposed new configuration with mainlines and frontage roads. Specific improvements include:

- An additional travel lane in each direction on the mainlanes. This includes elimination of center-turn lanes and inclusion of median barriers.
- New two-lane frontage roads in each direction (required to accommodate local traffic to circulation since US 290 will be grade-separated).
- Grade-separated interchanges at all US 290 intersections.
- Localized improvements (longer turn bays and additional turn lanes) at some locations.

Today, it takes approximately 20 minutes to drive the full corridor during the AM peak period. Analyses indicate that if improvements are not made, the same trip in the future could take up to 58 minutes. With improvements, the same trip is expected to increase to 44 minutes (Option 1) or 33 minutes (Option 2). Under Option 3, the same trip would take approximately 21 minutes, the same amount of time it takes today (See Figure 3). In addition, analyses also show that major intersections and the frontage roads would

function well with moderate delays and minimized queuing under Option 3. Option 3 was carried forward for further design and environmental analysis.

Figure 3: Speed Comparison between No Build Conditions and Design Year Build Conditions (Options 1, 2 & 3)

