

Traffic Study Summary

Date:	April 2, 2019
Prepared By:	Mary Hamann, P.E., Engineer
Request:	Raise existing 30 mph speed limit to 35 mph on Walnut Avenue between Landa Street and IH-35
Recommendation:	Raise existing 30 mph speed limit to 35 mph on Walnut Avenue between Landa Street and Business IH-35 based on current speeds

Background

The statutory maximum speed limit in the City of New Braunfels is 30 miles per hour (mph) except where otherwise established by ordinance and posted by official traffic signs. Walnut Avenue extends from Loop 337 on the north side of New Braunfels south to Klein Road, with posted speed limits varying from 30 mph to 45 mph. The portion of Walnut Avenue considered for this study is from Landa Street to IH-35 (see Figure 1).

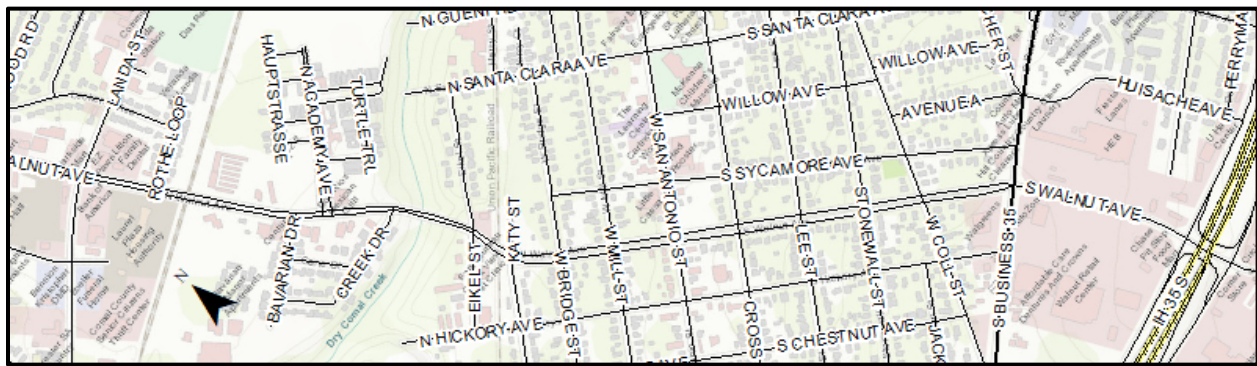


Figure 1. Walnut Avenue

An engineering study was completed to evaluate raising the existing 30 mph to 35 mph on Walnut Avenue between Landa Street to IH-35. The study was completed at the request of citizens due to speeding and safety concerns.

Guidance

Speed limits applicable to public streets are established:

- Statutorily – a maximum speed limit applicable to a particular class of road that is established by State law; or
- As altered speed zones – based on engineering studies.

The maximum speed limits posted should be based primarily on the 85th percentile speed – the speed at or below which 85 percent of vehicles travel. Other factors that may be considered when establishing or reevaluating speed limits include the following:

- Road characteristics
- Roadside development and environment
- Parking practices and pedestrian activity
- Reported crash experience

A city may declare a lower speed limit of not less than 25 miles per hour if the governing body determines that the prima facie speed limit on the streets is unreasonable or unsafe. By State Law, a traffic engineering study is required in order for a city to lower a speed limit below 25 mph.

Site Investigation

A site investigation was conducted on Walnut Avenue between Landa Street to IH-35 in December 2014 and again in January 2019 to evaluate the raised speed limit. The investigation included a review of the road characteristics, roadside environment, parking practices and pedestrian activity. The study was repeated due to the completion of multiple construction projects in the study area throughout the last five years.

The studied portion of Walnut Avenue is constructed as a variable width road. It is a five-lane, undivided roadway with a continuous two-way left turn lane from IH-35 to Business IH-35 (Elliot Knox Boulevard). The portion of the roadway between Business IH-35 and Katy Street is a four-lane roadway with a raised median. Between Katy Street and Landa Street, it alternates between a four-lane divided roadway and a five-lane undivided roadway.

There are two at-grade railroad crossings in this portion of Walnut Avenue; between Katy Street and Eikel Street and between Rothe Loop and Bavarian Drive. These crossings are a part of the New Braunfels quiet zone.

There are 46 driveways on Walnut Avenue between Landa Street and Business IH-35. Of these 46 driveways, only 13 require a backing maneuver onto Walnut Avenue to exit. The portion between Business IH-35 and IH-35 is all commercial development and no backing maneuvers are required at any of the driveways.

Crash History

Traffic crash data for 2016 through February 2019 was found through TxDOT's Crash Records Information System. There were 69 reported crashes on this section of Walnut Avenue during this time. Based on the crash data, speeding was a factor for 17 of these reported crashes.

The Federal Railroad Administration database did not list any crashes at the two at-grade railroad crossings on this section of Walnut Avenue in the last three years.

Data Collection

Traffic speed and volume data were collected in two locations on Walnut Avenue: between Cross Street and Lee Street and between Creek Drive and Landa Street in January 2019. Previously, traffic speed and volume data were collected on Walnut Avenue between Cross Street and Lee Street and between Eikel Street and Landa Street in December 2014. The results of these studies are shown in Tables 1 and 2 below, respectively.

Table 1. January 2019 Walnut Avenue speed and volume study results

Direction	Location	Total Vehicles	50 th Percentile Speed (mph)	85 th Percentile Speed (mph)
NB	Cross St to Lee St	8,598	28	33
SB		8,622	37	42
NB	Landa St to Creek Dr	8,415	33	39
SB		8,565	32	37

Table 2. December 2014 Walnut Avenue speed and volume study results

Direction	Location	Total Vehicles	50 th Percentile Speed (mph)	85 th Percentile Speed (mph)
NB	Cross St to Lee St	7,670	32	37
SB		8,123	31	35
NB	Landa St to Eikel St	8,371	32	37
SB		8,428	33	36

Recommendation

The New Braunfels Police Department has reviewed this request and recommends that the regulatory speed limit on Walnut Avenue between Landa Street and Business IH-35 be raised to 35 mph. Their recommendation included retaining the 30 mph speed limit on Walnut Avenue between Business IH-35 and IH-35.

Based on the site investigation and collected speed data, it is recommended that the regulatory speed limit on Walnut Avenue between Landa Street and Business IH-35 be raised to 35 mph. The measured 85th percentile speeds for both locations and data collection times are all over the posted 30 mph speed limit and are closer to the requested 35 mph speed limit. Maintaining the existing 30 mph speed limit on this portion of Walnut Avenue may make the roadway less safe because of the variation in speeds between those travelling at the posted speed limit and those travelling closer to the 85th percentile speeds.

It is recommended that the speed limit on Walnut Avenue between Business IH-35 and IH-35 be maintained at the current 30 mph due to the density of commercial driveways and high traffic volumes.