

DRAFT MEMORANDUM



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TO: Patricia Davis, City Engineer, City of Pflugerville
CC: Linda Huff, Freese and Nichols, Inc.
FROM: Kevin St. Jacques, P.E., PTOE
SUBJECT: Speed Limits for Weiss Lane
DATE: 11/14/2019
PROJECT: PFL19308

DRAFT
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Issue: Evaluate the current speed limit on Weiss Lane between Pecan Street and Kelly Lane. The location is shown in Figure 1 (aerial photo from Bing Maps).



Figure 1. Speed Study Location Map and Data Collection Locations

Procedure: City staff gathered unimpeded flow travel speeds on Weiss Lane on November 12, 2019 in both directions at three different locations shown in Figure 1. Speed data was collected using speed radar guns during off-peak periods to capture travel speeds that were more likely to be considered free-flow, or unimpeded by the influence of other vehicles, to assess what an isolated driver would consider to be a reasonable speed to traverse the roadway. The data collection method used guidelines contained in the TxDOT manual, Procedures for Establishing Speed Zones.

Travel Speed Data

The raw speed data collection sheets are attached to this document for future reference. The traffic data is summarized in Figures 2, 3 and 4 (Locations #1, 2 and 3, respectively) with the height of the bars indicating the number of vehicles that were observed to travel at each one MPH increment. The 85th percentile speed is determined by putting the number of vehicle observations in order and identifying that speed at which the car representing the 85th percent highest of the total vehicle speeds measured.

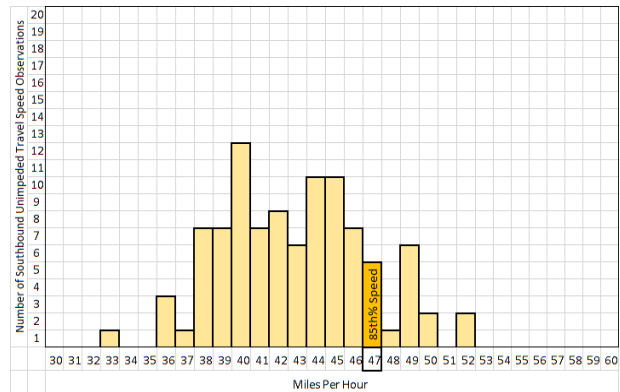
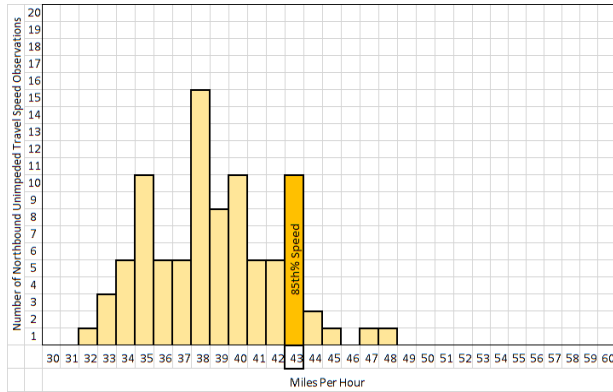


Figure 2. Observed Northbound and Southbound Free Flow Travel Speeds at Data Collection Location #1

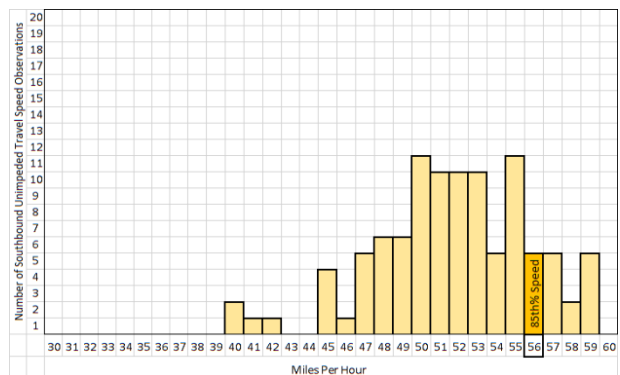
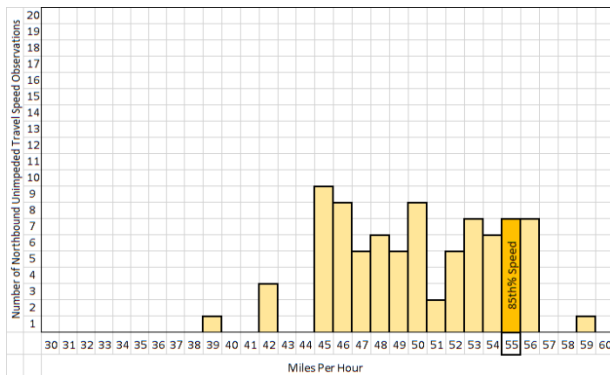


Figure 3. Observed Northbound and Southbound Free Flow Travel Speeds at Data Collection Location #2

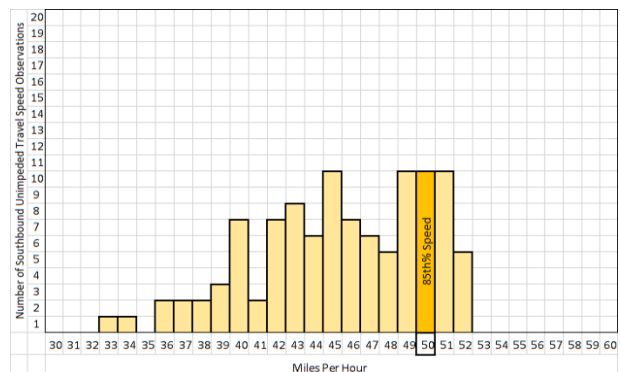
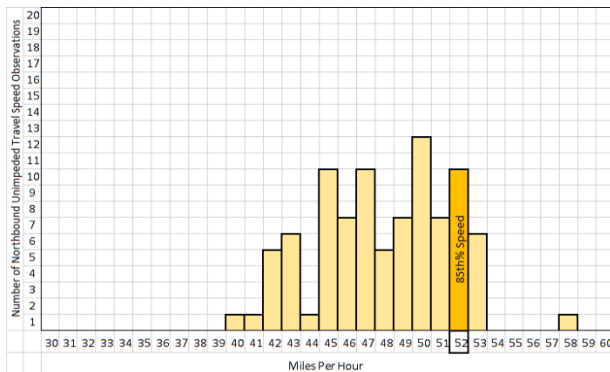


Figure 4. Observed Northbound and Southbound Free Flow Travel Speeds at Data Collection Location #3

Evaluation of Speed Data

Data collection location #1 is approximately 1,500 feet north from the signalized T-intersection at Pecan Street E. Location #2 is approximately 500 feet south of the roadway to access the high school. Location #3 is approximately 1,500 feet north of the signalized intersection of E. Pflugerville Parkway.

Northbound at Location #1 –The measured speeds for northbound traffic at Location #1 are dispersed across a range, with most being between 34 and 43 MPH. The 85th percentile speed for this location is 43 MPH. The location is still within the influence range of the traffic having to turn from Pecan Street to enter Weiss Lane. In light of these factors, the posted speed limit that would be most suitable to the northbound traffic at this location is 45 MPH.

Southbound at Location #1 – The measured speeds for southbound traffic at Location #1 are very dispersed across a range, with most being between 38 and 47 MPH. The 85th percentile speed for this location is 47 MPH. Other factors considered include the presence of the high school, the increasingly residential nature of the roadway and that the southbound traffic is approaching a stop condition at a T-intersection at Pecan Street E. In light of these factors, the posted speed limit that would be most suitable to the southbound traffic at this location is 45 MPH. Warning signs for the T-intersection should be posted in advance of Pecan Street E.

Northbound at Location #2 –The measured speeds for northbound traffic at Location #2 are very dispersed across a range, with most being between 45 and 56 MPH. The 85th percentile speed for this location is 55 MPH. The northbound traffic approaches the entry roadway to the high school. Though near the high school entry roadway, the speed observations were made when the school was in session and very little school traffic was present. In light of these factors, the posted speed limit that would be most suitable to the northbound traffic at this location is 45 MPH. The need for special traffic control at the entry roadway to the high school should be evaluated.

Southbound at Location #2 – The measured speeds for southbound traffic at Location #2 are very dispersed across a range, with most being between 45 and 59 MPH. The 85th percentile speed for that location is 56 MPH. Though near the high school entry roadway, the speed observations were made when the school was in session and very little school traffic was present. The distance between the signals at E. Pflugerville Road and Pecan Street is approximately 1.25 miles, with little impedance along the four-lane divided roadway. Emerging residential development is anticipated along the corridor so travel speeds should gradually begin to reflect a less rural environment. In light of these factors, the posted speed limit that would be most suitable to the southbound traffic at this location is 45 MPH.

Northbound at Location #3 –The measured speeds for northbound traffic at Location #3 are very dispersed across a range, with most being between 42 and 53 MPH. The 85th percentile speed for that location is 52 MPH. In light of these factors, the posted speed limit that would be most suitable to the northbound traffic at this location is 45 MPH.

Southbound at Location #3 – The measured speeds for southbound traffic at Location #3 are very dispersed across a range, with most being between 40 and 52 MPH. The 85th percentile speed for that location is 47 MPH. In light of these factors, the posted speed limit that would be most suitable to the southbound traffic at this location is 45 MPH.

Recommendations for Posting of Speed Limits

1. Weiss Lane, between E. Pflugerville Road and Pecan Street.

It is recommended that this segment of Weiss Lane be posted with a speed limit of 45 MPH.

- a. Post a speed limit sign at 100 feet past the beginning of each end of this segment and one sign in each direction near the midsection of the segment.
 - b. Post a warning sign for the T-intersection in advance of Pecan Street.
 - c. As needed, post a warning signs for the traffic signal in advance of E. Pflugerville Road.
 - d. As needed, assess the crash history and other factors to assess the need for special traffic control at the high school entry points on Weiss Lane.
2. Weiss Lane, between Pflugerville Road and Kelly Lane.

It is recommended that this segment of Weiss Lane be posted with a speed limit of 45 MPH.

- a. Post a speed limit sign at approximately 200 feet past the beginning of each end of this segment and one sign in each direction near the midsection of the segment.
- b. Post a warning signs for the traffic signal in advance of E. Pflugerville Road.