M E M O R A N D U M

To: Traffic Study Files

From: Justin Good, P.E., South Area Engineer
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STATE OF TEXAS
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3/7/2025

Date: March 7, 2025

Subject: SPEED ZONE INVESTIGATION

Location: East Stassney Lane – South IH-35 to Teri Road

Date(s) of Previous Investigation: None

An engineering investigation has been conducted by the Transportation Engineering Division to determine the appropriate speed limit on East Stassney Lane from South IH-35 to Teri Road. Currently the speed limit from South IH-35 to Teri Road is 40 mph. Figure 1 represents a map of the study area.

Figure 1: Study Area Aerial View with Existing Speed Limits

Location Conditions:

East Stassney Lane from South IH-35 to Teri Road is a divided, two-way, four-lane, residential collector roadway with an existing 40 mph speed limit. See Table 1 for more information on the segment studied.

Table 1: Location Information

Street Segment:	Segment Length (Miles)	Number of Unsignalized Access Points	Number of Signalized Intersections	Width (ft)
From South IH-35 to Teri Road	2.12	98	6	62

Speed and Volume Data:

A speed study was conducted in accordance with the Texas Procedures for Establishing Speed Zones. Speed and volume data were collected in January 2024 to determine the appropriate posted speed limit for East Stassney Lane. In 2024, 13,902 vehicles per day were recorded on East Stassney Lane from South IH-35 to Teri Road.

As summarized in Table 2, the 85th percentile speeds on the eastbound and westbound lanes were recorded as 42 mph and 42.5 mph, respectively. The average 85th percentile speed on East Stassney Lane was recorded at 42 mph for the eastbound and westbound lanes of traffic.

Table 2: Speed and Volume Data

Block Numbers	Street Segment	Existing Speed Limit	85% Speed		50% Speed		Traffic Volume AADT
			EB	WB	EB	WB	
1706-5901	South IH-35 to Teri Road	40	42	42.5	36.5	36.5	13,902

General Comments:

Texas Procedures for Establishing Speed Zones provides the information and procedures necessary for establishing speed zones and advisory speeds on the state highway system. Per these procedures, speed limits can be reduced to 10 mph below the 85th percentile speed based on the additional roadway features listed below:

A. Narrow roadway pavement widths (20 feet or less, for example)
B. Horizontal and vertical curves (possible limited sight distance)
C. Hidden driveways and other developments (possible limited sight distance)
D. High driveway density (the higher the number of driveways, the higher the potential for encountering entering and turning vehicles)
E. Crash history along the location

F. Rural residential or developed areas (higher potential for pedestrian and bicycle traffic)
G. Lack of striped, improved shoulders (constricted lateral movement).

It is the conclusion of the engineer that this roadway meets the characteristics of features "D", "E", and "F" above, and should therefore receive a speed limit within 10 mph below the 85th percentile speed.

This investigation also utilized the Federal Highway Administration's USLIMITS2 tool to evaluate speed limits from a safe systems approach, which includes the following inputs to consider in setting reasonable, safe, and consistent speed limits based on the context and operating characteristics on the study segment:

- 50th and 85th percentile speeds
- Statutory speed limit
- Section length
- Road alignment
- Median treatment
- Number of through lanes
- Adjacent land use
- Driveway density
- Traffic control devices
- Bicycle, pedestrian, and parking activity
- Daily vehicular volume
- Crash rate

A USLIMITS2 study was performed for the segment of East Stassney Lane between Conestoga Trail and Teri Road as this segment is representative of the majority of the larger study section which extends to IH-35. Using the inputs listed above, the USLIMITS2 study resulted in a recommended speed limit of 35 mph.

In reviewing both the Texas Procedures for Establishing Speed Zones and the results of the USLIMITS2 study, the recommendations for speed limits along this segment are shown in Table 3 and Figure 2.

Table 3: Speed Zone Report Results

Street Segment	Existing Speed Limit (EB & WB)	Engineer Recommended Speed Limit (EB & WB)
From South IH-35 to Teri Road	40 mph	35 mph

Figure 2: Proposed Speed Limit Along East Stassney Lane

Based on the analysis of this information, it is my engineering judgement that the speed limit on East Stassney Lane from South IH-35 to Teri Road should be 35 miles per hour in both directions of travel.

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: Stassney Lane

Analyst: Justin

Date: 2025-02-27

Basic Project Information
Route Name: East Stassney Lane
State: Texas
County: Travis County
City: Austin city
Route Type: Road Section in Developed Area
Route Status: Existing

Roadway Information
Section Length: 1.80 mile(s)
Statutory Speed Limit: None
Existing Speed Limit: 40 mph
Adverse Alignment: No
One-Way Street: No
Divided/Undivided: Divided
Number of Through Lanes: 4
Area Type: Residential-Collector/Arterial
Number of Driveways: 90
Number of Signals: 5

Crash Data Information
Crash Data Years: 5.00
Crash AADT: 13902 veh/day
Total Number of Crashes: 275
Total Number of Injury Crashes: 30
Section Crash Rate: 602 per 100 MVM
Section Injury Crash Rate: 66 per 100 MVM
Crash Rate Average for Similar Roads: 213
Injury Rate Average for Similar Roads: 67

Traffic Information
85th Percentile Speed: 42 mph
50th Percentile Speed: 37 mph
AADT: 13902 veh/day
On Street Parking and Usage: Not High
Pedestrian / Bicyclist Activity: High

Recommended Speed Limit:

Note: The section crash rate of 602 per 100 MVM is above the critical rate (249). A comprehensive crash study should be undertaken to identify engineering and traffic control deficiencies and appropriate corrective actions. The speed limit should only be reduced as a last measure after all other treatments have either been tried or ruled out.

Note: The road section is in an area with high pedestrian or bicycle activity. Consider implementing engineering measures to reduce speeds before lowering the recommended speed limit. See Engineering Countermeasures for Speed Management and PedSafe for more guidance.

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Equations Used in the Crash Data Calculations

Exposure (M)
M = (Section AADT * 365 * Section Length * Duration of Crash Data) / (100000000)
M = (13902 * 365 * 1.80 * 5.00) / (100000000)
M = 0.4567

Crash Rate (Rc)
Rc = (Section Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Rc = (55.00 * 100000000) / (13902 * 365 * 1.80)
Rc = 602.17 crashes per 100 MVM

Injury Rate (Ri)
Ri = (Section Injury Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Ri = (6.00 * 100000000) / (13902 * 365 * 1.80)
Ri = 65.69 injuries per 100 MVM

Critical Crash Rate (Cc)
Cc = Crash Average of Similar Sections + 1.645 * (Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 /

(2 * Exposure))
Cc = 212.78 + 1.645 * (212.78 / 0.4567) ^ (1/2) + (1 / (2 * 0.4567))
Cc = 249.38 crashes per 100 MVM

Critical Injury Rate (Ic)
Ic = Injury Crash Average of Similar Sections + 1.645 * (Injury Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))
Ic = 67.19 + 1.645 * (67.19 / 0.4567) ^ (1/2) + (1 / (2 * 0.4567))
Ic = 88.24 injuries per 100 MVM