

EXHIBIT A



MEMORANDUM



To: Traffic Study Files

From: Lee Austin, P.E.
Area Engineer
Transportation and Public Works Department

10/13/2023

Date:

Subject: Speed Zone Investigation

Location: East Howard Lane – from 485 ft west of Kearns Drive to Baileyfield Drive

Year(s) of Previous Investigation: None

A speed zone investigation has been conducted by the Transportation and Public Works Department to recommend an appropriate speed limit on East Howard Lane from 485 feet west of Kearns Drive to Baileyfield Drive (the study segment). A speed limit for this segment of East Howard Lane has not been established in City Code Section 12-4-64 (D) Table of Speed Limits as the segment was not previously within the Austin Full Purpose Jurisdiction. Figure 1 at the end of this document presents a map of the study area with existing nearby posted speed limits in the Austin Extraterritorial Jurisdiction and proposed speed limits along the study segment.

Location Conditions

East Howard Lane is a four-lane arterial road that runs in a general east/west direction. The portion of Howard Lane from 485 ft west of Kearns Drive to Baileyfield Drive has a 72-foot-wide cross section with a center left-turn lane and unprotected bicycle lanes in both directions. Sidewalks are present directly behind the curb along the study segment. Six city streets and 12 driveways intersect the study segment of East Howard Lane. Adjacent land use along the study segment is mostly residential with a gas station in the middle of the study segment. 50 mph speed limit signs are posted in the Austin Extraterritorial Jurisdiction area adjacent to the study segment. Figure 1 presents the study segment and the surrounding street network.

Traffic Data

Speed and volume data were collected during the fall of 2019 to determine the appropriate posted speed limit for the study segment.

Block Number	Location	Posted Speed Limit	85 th Percentile Speed		Daily Traffic Volumes
			EB	WB	
3300	West of Cantarra Drive	None	58.3	57.3	11,236

Crash Data

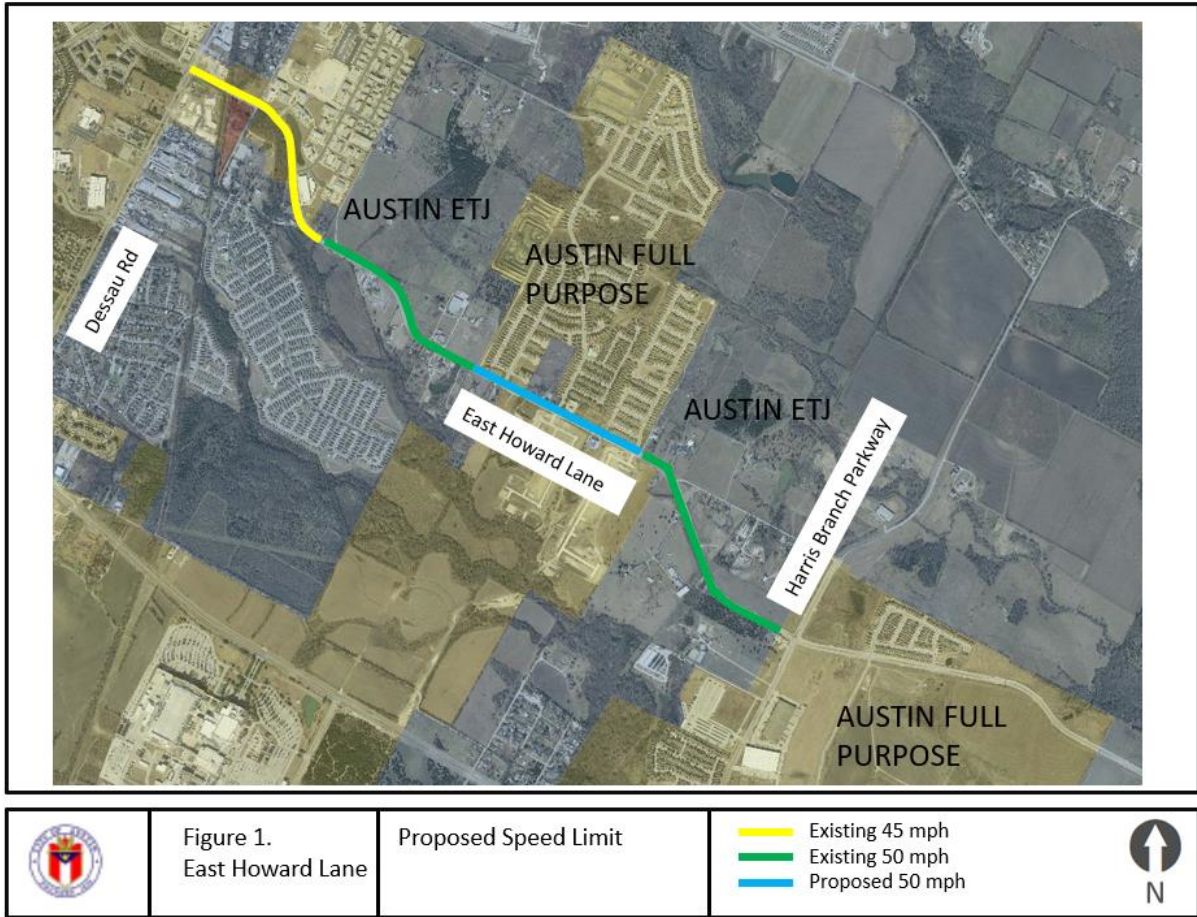
Austin Police Department's crash database was reviewed to analyze documented crashes along the study segment within the past eighteen months. No crashes were documented during this period with a contributing factor involving excessive speed.

Analysis

The analysis of the speed data indicates that the 85th percentile speed along East Howard Lane is between 57.3 mph and 58.3 mph in the study segment. Staff followed the procedures specified in the Texas Procedures for Establishing Speed Zones, 2006, which takes into consideration the 85th percentile speed. In this investigation, staff also employed USLIMITS2, a tool provided by the Federal Highway Administration designed to help practitioners set reasonable, safe, and consistent speed limits for specific segments of roads. USLIMITS2 takes into consideration the 85th percentile speed and other factors such as the 50th percentile speed, annual average daily traffic, roadway characteristics and geometric conditions, level of development in the area around the road, crash and injury rates, presence of on-street parking, and extent of ped/bike activity, as well as several others depending on the road type. The study segment was split into two segments for this analysis. A 50 mph speed limit was recommended by the USLIMITS2 tool utilizing data particular to the segment between 485 feet west of Kearns Drive to Baileyfield Drive.

Recommendation

Based on the analysis of this information, it is my engineering judgement that the speed limit on East Howard Lane from 485 feet west of Kearns Drive to Baileyfield Drive should be established at **50 mph**. Figure 1 presents the recommended speed limits in the study segment.



USLIMITS2 Speed Zoning Report

Project Overview

Project Name: E Howard Ln from Baileyfield to Tavern

Analyst: Ravi D

Date: 2022-09-19

Basic Project Information

Route Name: E Howard Ln from Baileyfield to Tavern
From: Tavern
To: Baileyfield
State: Texas
County: Travis County
City: Austin city
Route Type: Road Section in Developed Area
Route Status: Existing

Crash Data Information

Crash Data Years: 5.00
Crash AADT: 11236 veh/day
Total Number of Crashes: 21
Total Number of Injury Crashes: 5
Section Crash Rate: 205 per 100 MVM
Section Injury Crash Rate: 49 per 100 MVM
Crash Rate Average for Similar Roads: 213
Injury Rate Average for Similar Roads: 67

Roadway Information

Section Length: .5 mile(s)
Statutory Speed Limit: 50 mph
Existing Speed Limit: 50 mph
Adverse Alignment: No
One-Way Street: No
Divided/Undivided: TWLTL
Number of Through Lanes: 4
Area Type: Residential-Collector/Arterial
Number of Driveways: 12
Number of Signals: 0

Traffic Information

85th Percentile Speed: 58 mph
50th Percentile Speed: 51 mph
AADT: 11236 veh/day
On Street Parking and Usage: Not High
Pedestrian / Bicyclist Activity: High

Recommended Speed Limit:



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.

Disclaimer: The U.S. Government assumes no liability for the use of the information contained in this report. This report does not constitute a standard, specification, or regulation.

Equations Used in the Crash Data Calculations

Exposure (M)

$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$
 $M = (11236 * 365 * .5 * 5.00) / (100000000)$
 $M = 0.1025$

Crash Rate (Rc)

$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$
 $Rc = (4.20 * 100000000) / (11236 * 365 * .5)$
 $Rc = 204.82 \text{ crashes per 100 MVM}$

Injury Rate (Ri)

$Ri = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$
 $Ri = (1.00 * 100000000) / (11236 * 365 * .5)$
 $Ri = 48.77 \text{ injuries per 100 MVM}$

Critical Crash Rate (Cc)

$Cc = \text{Crash Average of Similar Sections} + 1.645 * (\text{Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$
 $Cc = 212.78 + 1.645 * (212.78 / 0.1025)^{(1/2)} + (1 / (2 * 0.1025))$
 $Cc = 292.59 \text{ crashes per 100 MVM}$

Critical Injury Rate (Ic)

$Ic = \text{Injury Crash Average of Similar Sections} + 1.645 * (\text{Injury Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$
 $Ic = 67.19 + 1.645 * (67.19 / 0.1025)^{(1/2)} + (1 / (2 * 0.1025))$
 $Ic = 114.18 \text{ injuries per 100 MVM}$