

# USLIMITS2 Speed Zoning Report

## Project Overview

### Project Name: W. Yager Lane Speed Study

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**Date:** 2021-11-23

#### Basic Project Information

Project Number: 33  
Route Name: W. Yager Lane  
From: N. Lamar Blvd.  
To: N. IH-35 northbound Frontage Road  
State: Texas  
County: Travis County  
City: Austin city  
Route Type: Road Section in Developed Area  
Route Status: Existing

#### Crash Data Information

Crash Data Years: 3.00  
Crash AADT: 12836 veh/day  
Total Number of Crashes: 3  
Total Number of Injury Crashes: 1  
Section Crash Rate: 71 per 100 MVM  
Section Injury Crash Rate: 24 per 100 MVM  
Crash Rate Average for Similar Roads: 297  
Injury Rate Average for Similar Roads: 86

#### Roadway Information

Section Length: 0.3 mile(s)  
Statutory Speed Limit: None  
Existing Speed Limit: 40 mph  
Adverse Alignment: No  
One-Way Street: No  
Divided/Undivided: Undivided  
Number of Through Lanes: 2  
Area Type: Commercial  
Number of Driveways: 10  
Number of Signals: 0

#### Traffic Information

85th Percentile Speed: 41 mph  
50th Percentile Speed: 39 mph  
AADT: 12836 veh/day  
On Street Parking and Usage: Not High  
Pedestrian / Bicyclist Activity: Not High

### Recommended Speed Limit:



**Note:** A speed zone of 0.3 miles is generally too short for the recommended speed limit. Consider lengthening the speed zone (if that is possible) or using the speed limits from adjacent sections (if they are appropriate for this section). If the speed and other data you provided are representative of conditions for this short section, then the speed limit noted above may be considered.

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## Equations Used in the Crash Data Calculations

#### Exposure (M)

$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$   
 $M = (12836 * 365 * 0.3 * 3.00) / (100000000)$   
 $M = 0.0422$

#### Crash Rate (Rc)

$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$   
 $Rc = (1.00 * 100000000) / (12836 * 365 * 0.3)$   
 $Rc = 71.15 \text{ crashes per 100 MVM}$

#### Injury Rate (Ri)

$Ri = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$   
 $Ri = (0.33 * 100000000) / (12836 * 365 * 0.3)$   
 $Ri = 23.72 \text{ injuries per 100 MVM}$

#### Critical Crash Rate (Cc)

$Cc = \text{Crash Average of Similar Sections} + 1.645 * (\text{Crash Average of Similar Sections} / \text{Exposure}) ^ (1/2) + (1 / (2 * \text{Exposure}))$

$$C_c = 297.07 + 1.645 * (297.07 / 0.0422)^{(1/2)} + (1 / (2 * 0.0422))$$

$C_c = 447.00$  crashes per 100 MVM

*Critical Injury Rate (Ic)*

$$I_c = \text{Injury Crash Average of Similar Sections} + 1.645 * (\text{Injury Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$$

$$I_c = 86.34 + 1.645 * (86.34 / 0.0422)^{(1/2)} + (1 / (2 * 0.0422))$$

$$I_c = 172.64$$
 injuries per 100 MVM