USLIMITS2 Speed Zoning Report

Project Overview

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

**Analyst:** Sean MacLeod

**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

**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

**Date:** 2021-11-23

**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

**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:**

![40 mph]

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

\]

\[
\text{Crash Rate (Rc)} = \frac{\text{Section Crash Average} \times 100000000}{\text{Section AADT} \times 365 \times \text{Section Length}} \\
Rc = \frac{1.00 \times 100000000}{12836 \times 365 \times 0.3} = 71.15 \text{ crashes per 100 MVM} \\

\]

\[
\text{Injury Rate (Ri)} = \frac{\text{Section Injury Crash Average} \times 100000000}{\text{Section AADT} \times 365 \times \text{Section Length}} \\
Ri = \frac{0.33 \times 100000000}{12836 \times 365 \times 0.3} = 23.72 \text{ injuries per 100 MVM} \\

\]

\[
\text{Critical Crash Rate (Cc)} = \text{Crash Average of Similar Sections} + 1.645 \times (\text{Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 \times \text{Exposure})) \\
Cc = \text{Crash Average of Similar Sections} + 1.645 \times (\text{Crash Average of Similar Sections} / 0.0422)^{(1/2)} + (1 / (2 \times 0.0422)) \\
\]
\[ Cc = 297.07 + 1.645 \times (297.07 / 0.0422)^{1/2} + (1 / (2 \times 0.0422)) \]
\[ Cc = 447.00 \text{ crashes per 100 MVM} \]

**Critical Injury Rate (Ic)**

\[ Ic = \text{Injury Crash Average of Similar Sections} + 1.645 \times \left( \frac{\text{Injury Crash Average of Similar Sections}}{\text{Exposure}} \right)^{1/2} + \left( \frac{1}{2 \times \text{Exposure}} \right) \]
\[ Ic = 86.34 + 1.645 \times (86.34 / 0.0422)^{1/2} + (1 / (2 \times 0.0422)) \]
\[ Ic = 172.64 \text{ injuries per 100 MVM} \]