USLIMITS2 Speed Zoning Report

Project Overview

**Project Name:** Tech Ridge Blvd. Speed Study

**Analyst:** Sean MacLeod

**Date:** 2021-11-30

**Basic Project Information**

- **Project Number:** 44
- **Route Name:** Tech Ridge Boulevard
- **From:** IH 35 Northbound Frontage Road
- **To:** E. Parmer Lane
- **State:** Texas
- **County:** Travis County
- **City:** Austin city
- **Route Type:** Road Section in Developed Area
- **Route Status:** Existing

**Roadway Information**

- **Section Length:** 1.0 mile(s)
- **Statutory Speed Limit:** 60 mph
- **Existing Speed Limit:** 45 mph
- **Adverse Alignment:** No
- **One-Way Street:** No
- **Divided/Undivided:** Divided
- **Number of Through Lanes:** 6
- **Area Type:** Commercial
- **Number of Driveways:** 16
- **Number of Signals:** 1

**Recommended Speed Limit:**

![50 mph speed limit sign]

**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.

**Crash Data Information**

- **Crash Data Years:** 3.00
- **Crash AADT:** 19829 veh/day
- **Total Number of Crashes:** 3
- **Total Number of Injury Crashes:** 0
- **Section Crash Rate:** 14 per 100 MVM
- **Section Injury Crash Rate:** 0 per 100 MVM
- **Crash Rate Average for Similar Roads:** 200
- **Injury Rate Average for Similar Roads:** 63

**Traffic Information**

- **85th Percentile Speed:** 49 mph
- **50th Percentile Speed:** 43 mph
- **AADT:** 19829 veh/day
- **On Street Parking and Usage:** Not High
- **Pedestrian / Bicyclist Activity:** Not High

**Equations Used in the Crash Data Calculations**

**Exposure (M)**

\[
M = \frac{(\text{Section AADT} \times 365 \times \text{Section Length} \times \text{Duration of Crash Data})}{(100000000)}

M = \frac{(19829 \times 365 \times 1.0 \times 3.00)}{(100000000)}

M = 0.2171
\]

**Crash Rate (Rc)**

\[
Rc = \frac{(\text{Section Crash Average} \times 100000000)}{(\text{Section AADT} \times 365 \times \text{Section Length})}

Rc = \frac{(1.00 \times 100000000)}{(19829 \times 365 \times 1.0)}

Rc = 13.82 crashes per 100 MVM
\]

**Injury Rate (Ri)**

\[
Ri = \frac{(\text{Section Injury Crash Average} \times 100000000)}{(\text{Section AADT} \times 365 \times \text{Section Length})}

Ri = \frac{(0.00 \times 100000000)}{(19829 \times 365 \times 1.0)}

Ri = 0.00 injuries per 100 MVM
\]

**Critical Crash Rate (Cc)**

\[
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 = 199.97 + 1.645 \times (199.97 / 0.2171) ^{1/2} + (1 / (2 \times 0.2171))

Cc = 252.20 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 = 63.18 + 1.645 * (63.18 / 0.2171) ^ (1/2) + (1 / (2 * 0.2171))
Ic = 93.55 injuries per 100 MVM