

Speed Zone Study for Bay Area Blvd Between League City Parkway and Magnolia Greens Lane

Background

Study Segment: Bay Area Blvd between League City Parkway and Magnolia Greens Lane in League City, Texas (See **Exhibit A** and **Figure 1** for aerial of study corridor).

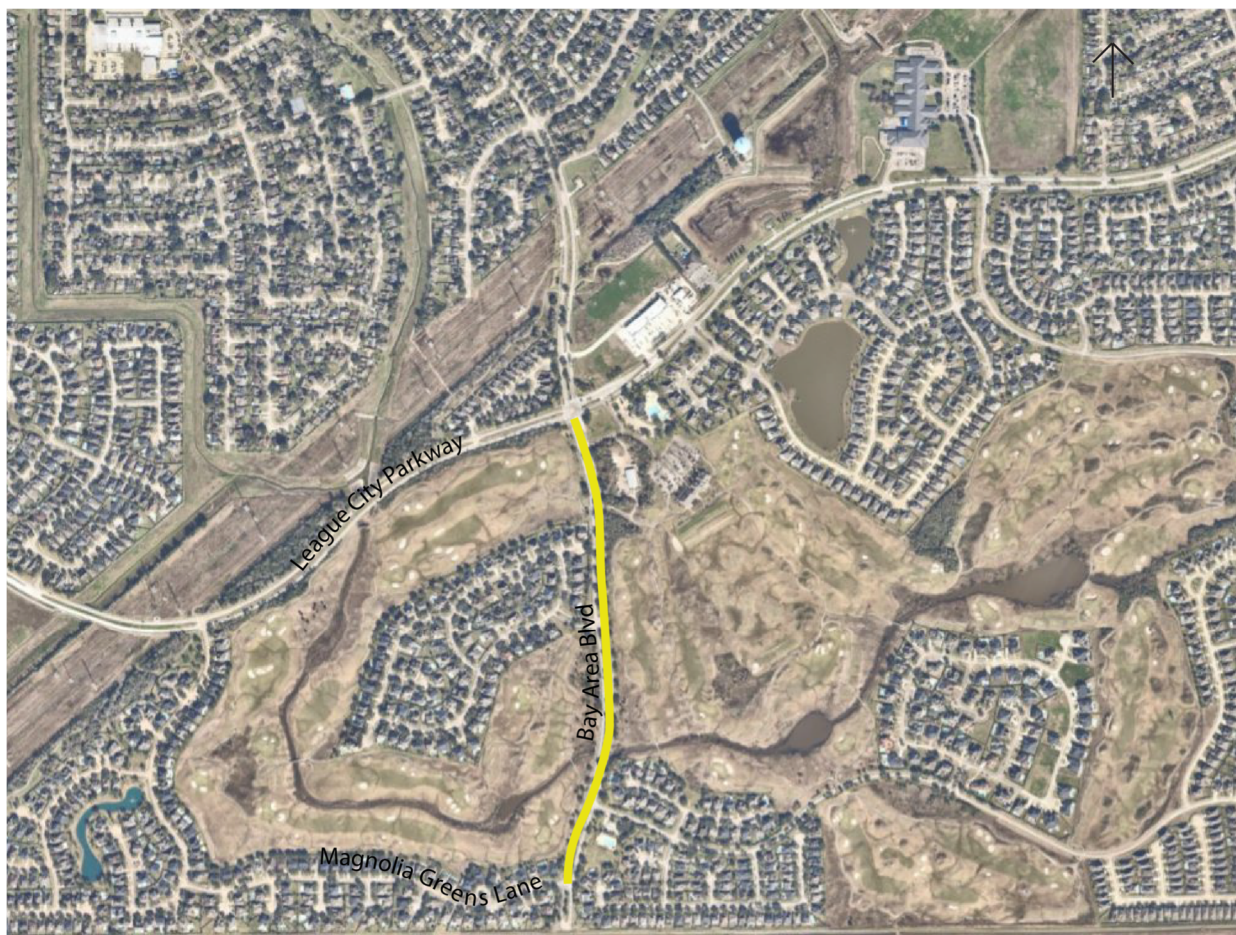


Figure 1 Aerial of Study Corridor

Existing Conditions

- **Roadway Type Designated in the 2024 City of League City Major Thoroughfare Plan:** Arterial
- **Number of Lanes:** Four lane boulevard



Figure 2 Cross Section of Study Corridor

- **Roadway Type:** Concrete - curb and gutter
- **Segment Length:** 0.59 miles
- **Posted Speed Limit:** 30 mph
- **Traffic Volume:** Average Daily Traffic Volume - 2637
- **Land Use:** Residential and Greenspace/Landscaping

Data Collection

- **Data Collection Methods:**
 - Spot Speed and Traffic Volume were collected by Public Works Department between 4/4/25 to 4/8/25 (Provided in **Exhibit B**).
 - Crash data was obtained from the TxDOT Crash Records Information System (C.R.I.S.) for the year 2024 (Provided in **Exhibit C**).
- **Data Collection Location:** Bay Area Blvd

Methodology

The following section provides guidelines and standards from the Manual on Uniform Traffic Control Devices, 11th Edition (MUTCD) to ensure that speed zones are appropriate and effective.

Standard:

Speed zones (other than statutory speed limits) shall only be established on the basis of an engineering study that has been performed in accordance with traffic engineering practices. The engineering study shall consider the roadway context.

Guidance:

Among the factors that should be considered when conducting an engineering study for establishing or reevaluating speed limits within speed zones are the following:

- A. Roadway environment (such as roadside development, number and frequency of driveways and access points, and land use), functional classification, public transit volume and location or frequency of stops, parking practices, and pedestrian and bicycle facilities and activity;*
- B. Roadway characteristics (such as lane widths, shoulder condition, grade, alignment, median type, and sight distance);*
- C. Geographic context (such as an urban district, rural town center, non-urbanized rural area, or suburban area), and multi-modal trip generation;*
- D. Reported crash experience for at least a 12-month period;*
- E. Speed distribution of free-flowing vehicles including the pace, median (50th-percentile), and 85th-percentile speeds; and*
- F. A review of past speed studies to identify any trends in operating speeds.*

When the 85th-percentile speed is appreciably greater than the posted speed limit, and the roadway context does not support setting a higher speed limit, the engineering study should consider whether changes to geometric features, enforcement, and/or other speed-reduction countermeasures might improve compliance with the posted speed limit. A similar approach should be used if the results of past speed studies indicate that the 85th-percentile speed has consistently increased.

On urban and suburban arterials, and on rural arterials that serve as main streets through developed areas of communities, the 85th-percentile speed should not be used to set speed limits without consideration of all factors described above.

Data Analysis

The 85th percentile speed for the northbound and southbound approach of the study stretch on Bay Area Blvd was determined from the spot speed data collected. A summary of the 85th percentile data collected is provided in **Table 1**.

Table 1 85th Percentile Speed Data

| Bay Area Blvd | Northbound | Southbound |
|-----------------------------------|------------|------------|
| 85 th Percentile Speed | 45 mph | 42 mph |

- **Crash Data Analysis:** Over the study period of the year 2024, one crash occurred along the study corridor. Unsafe speed was mentioned as the contributing factor to this crash (Crash ID 20510363).
- **Intersection Sight Distance Analysis:** No sight distance issues were observed along the study corridor.

Findings and Recommendations

A speed study was conducted on Bay Area Blvd between League City Parkway and Magnolia Greens Lane, following the guidelines outlined in the Manual on Uniform Traffic Control Devices, 11th Edition (MUTCD). The existing speed limit along the study corridor is 30 mph. The study determined that the average 85th percentile speed, which represents the speed below which 85 percent of the traffic volume flows, was 43 mph. Based on data analyzed (sight distance analysis, crash data and speed data) and engineering judgement, it is recommended to increase the speed limit on Bay Area Blvd between League City Parkway and Magnolia Greens Lane from 30 mph to 40 mph.