# Selecting Emerging Safety Hot Spots for Priority Funding

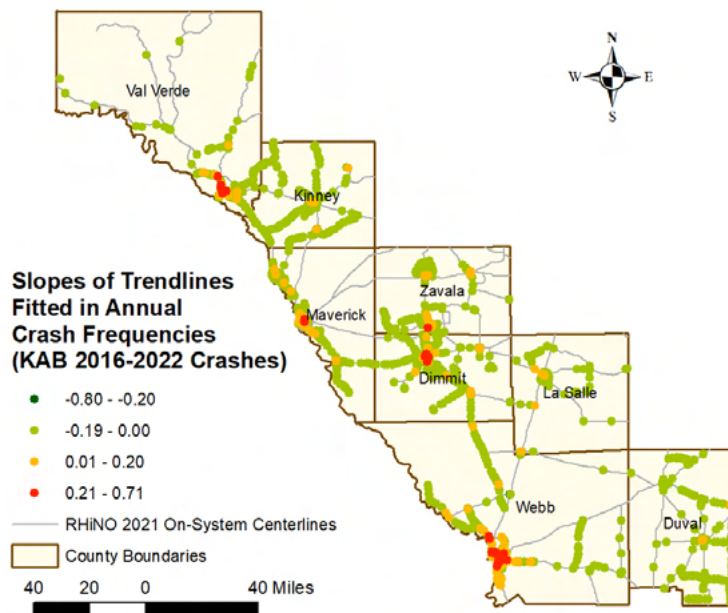**Texas Department of Transportation**

## CHALLENGE

The Laredo District's conventional method for selecting projects relies on data-driven analysis to pinpoint high-risk roadway segments and intersections for potential safety enhancements. This approach has tended to identify low-volume segments with isolated crash occurrences, so a new approad was needed. By adding crash trend data to the analysis the district has improved its ability to identify higher-priority locations where safety enhancements result in crash reduction.

## SOLUTION

The district's effort to improve how road projects are selected for prioritization was organized into two stages:

- **Stage 1:** Augment existing methodologies by incorporating crash trend analysis to identify segments and intersections with the highest increase in severe crashes (Class K, A, B) over four years (Figure 1).
- **Stage 2:** Use connected vehicle (CV) data to further enhance the decision-making process and evaluate its potential to help predict future crash hot spots.

*Figure 1. Slopes of trendlines fitted in annual crash frequencies.*



**TxDOT GOALS**

- Deliver the right projects
- Focus on the customer
- Foster stewardship
- Optimize system performance
- Preserve our assets
- Promote safety
- Value our employees

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## PROACTIVE APPROACH

The enhanced approach was successfully piloted in 2022 and 2023 during the Laredo District's Highway Safety Improvement Program project selection process.

## BENEFITS

- Enhanced ability to identify and predict crash risk, compared to traditional methods.
- More efficient project prioritization and resource allocation.
- Crash reduction at high-risk segments and intersections, based on rate of increase rather than raw crash numbers.

## KEY TASKS

- Document the new selection process.
- Analyze projects using the enhanced method.
- Summarize findings in a technical memo.

## DATA SOURCES

Data sources include TxDOT's Crash Records Information System (CRIS) and Laredo District records.

### Resources

Laredo District (txdot.gov)

Crash Data and Analysis: CRIS Query Tool (txdot.gov)

Safety Analysis Tools (dot.gov)

Using GIS for Crash Location and Analysis at State DOTs (dot.gov)

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