Final Report Presentation

November 19, 2024

Seguin City Council

*Funding for the Seguin Comprehensive Safety Action Plan provided through the *Safe Streets & Roads For All* program by the US Department of Transportation.

Agenda

1. Purpose and Process
2. Crash History Analysis
3. Equity Review
4. High-Injury Network
5. Countermeasures
6. CSAP Implementation

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Safety Action Plan Timeline

Meeting 1: Kick-Off & Visioning	Meeting 2: Safety Analysis (High-Injury Network)	Meeting 3: Equity Review and Priority Considerations	Meeting 4: Implementation Plan	Meeting 5: Final Plan
Feb ‘24	Mar ‘24	Apr ‘24	May ‘24	Sep ‘24

Vision Statement

“Striving for a safer community, Seguin is dedicated to developing an equitable transportation network that prioritizes safety, preserves all lives, and maintains the existing community character. As regional leaders, our mission is to identify and mitigate vulnerabilities to establish the standard for regional safety and inclusive transportation for all users.”

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Part I.

- *Purpose & Process*

Purpose & Process

To accomplish the vision of the Seguin Comprehensive Safety Action Plan the following was identified and implemented into process:

Purpose

Process

Online Engagement

- Project Website
- Roadway Safety Survey
- Interactive Map Survey

Public Events

- Pop-up Events were used to engage the public in the planning process
- Badges, Bikes, and Tykes
- Movies in the Park

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Part II.
Seguin State of Safety

- *Crash History Analysis*
- *Equity Review*
- *High Injury Network*

Crash History Analysis

Crash Trends

- Historical crash data from 2018 – 2022 was used to identify crash trends
- Total number of crashes has stayed consistent over the study period
- Fatalities per 100K Population has been consistently higher than before 2020
- Trends were identified using contributing factors, manners of collision, and safety emphasis areas

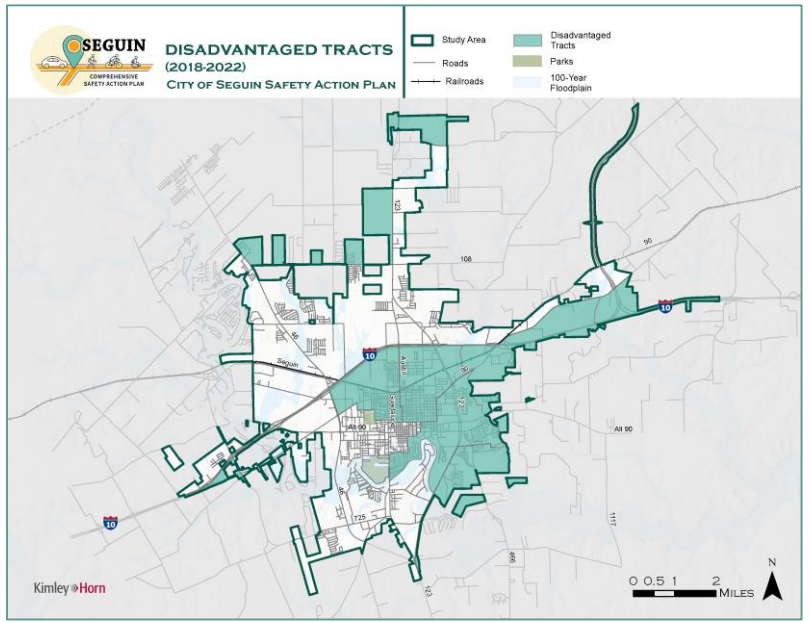
Crash Analysis Takeaways

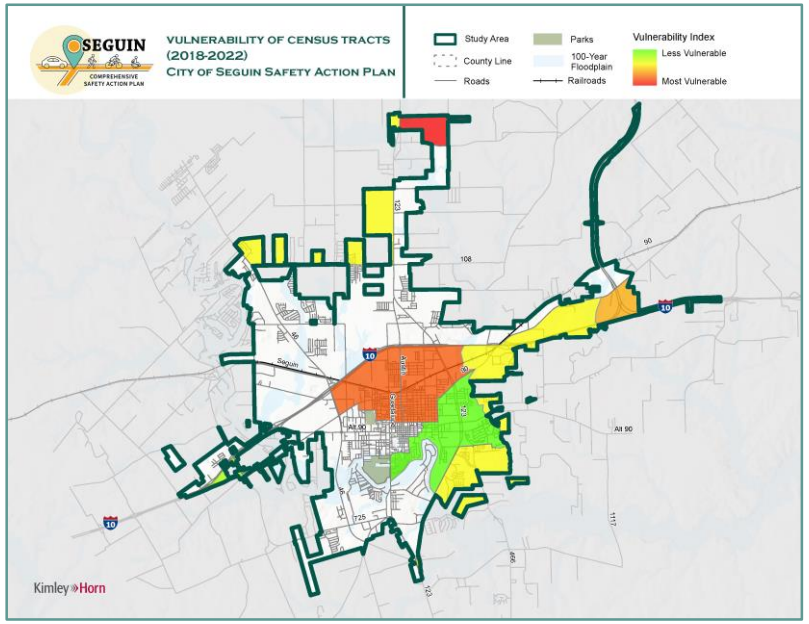
- 27% are distracted driving crashes. Most common factor in Seguin
- 71% of bicyclist & pedestrian crashes are KAB severity
- 43% of freight related crashes are intersection related
- High crash intersections: IH 10/SH 26, US 90/SH 123, SH 123/US 90 ALT
- Impaired driving and motorcycle related crashes are more severe than average

Equity Review

- Disadvantaged census tracts were established using USDOT's ETC Explorer
- Approximately **43% of the population** lives in disadvantaged census tracts
- Out of all KAB crashes, **48%** occurred in disadvantaged census tracts
- Out of all KAB crashes involving pedestrians or bicyclists, **45%** occurred in disadvantaged census tracts

- Further analysis used population characteristics for 6 categories:
  - Accessibility, Environment, Mobility, Connectivity, Safety, Community
- Categories were scored, summed, and ranked to produce the vulnerability of each census tract
- Census tracts with the highest vulnerability have the **highest percentage of population community indicator scores** and **lowest connectivity scores**



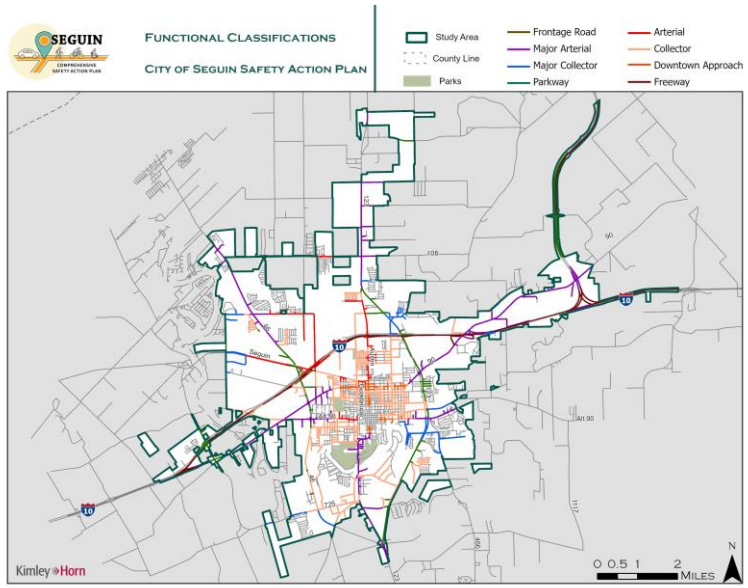


High-Injury Network

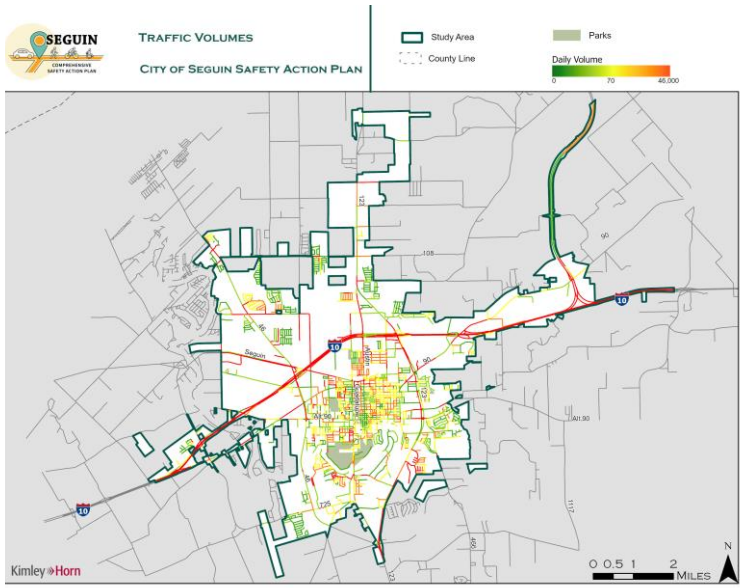
Critical Crash Rate Method

- A critical crash rate is evaluated for each segment and compared to the observed crash rate. Road segments with an observed crash rate greater than their critical crash rate are flagged for further investigation.

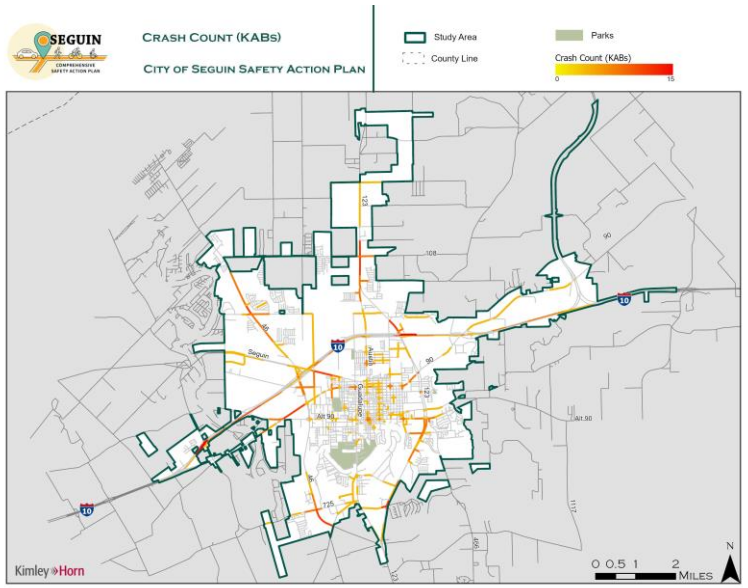
Functional Class



Traffic Volumes



Crash Count (KABs)

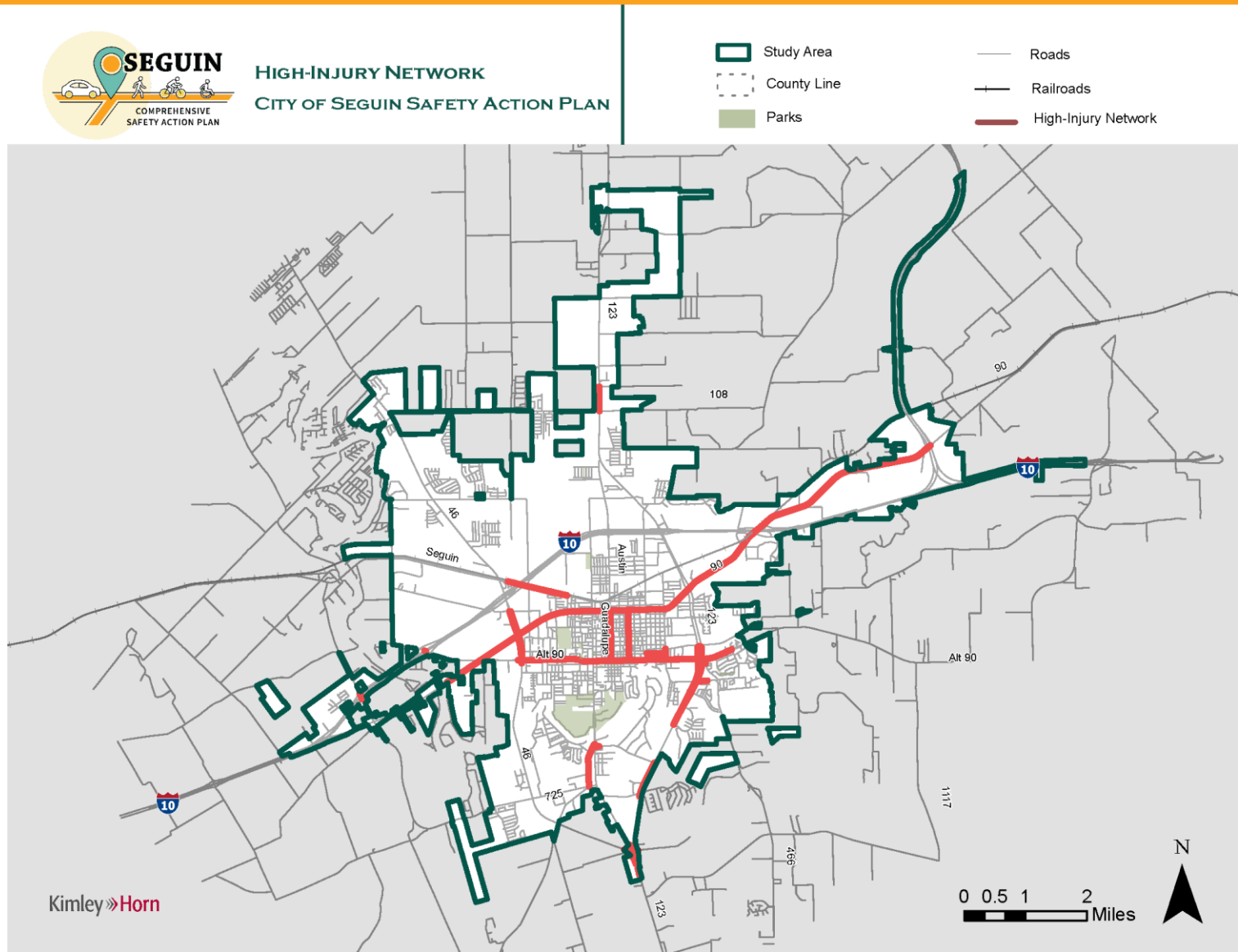


High-Injury Network

HIN Development & Results

- HIN Development is data-driven with qualitative refinement of the model

- HIN segments were selected if they observed the following:
  - ≥1 KA crash within the last 5 years
  - Higher than expected critical crash rate



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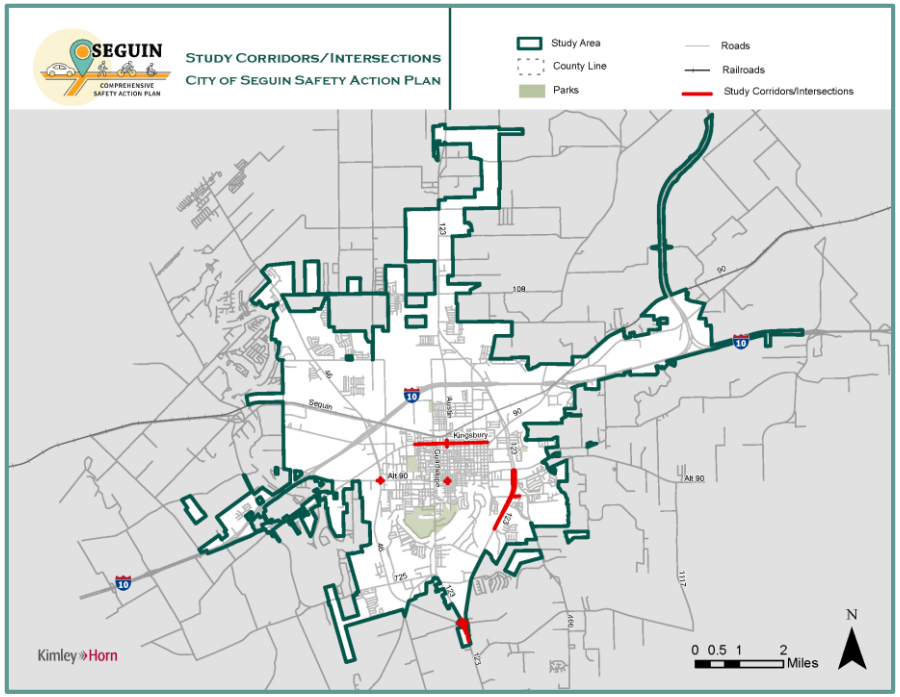
Part III. Comprehensive Safety Action Plan

- *Countermeasures*
- *CSAP Implementation*

Countermeasures

Study Corridors

- Highest priority corridors were chosen with input from City Staff and scored based on:
  1. Equity
  2. Engagement
  3. Feasibility
- **2 corridors** and **5 intersections** were chosen as high priority study locations
- Systemic Countermeasures Toolbox



SAFETY EMPHASIS AREAS	RAISED MEDIAN	CORRIDOR ACCESS MANAGEMENT	CHANGE DRIVEWAY WIDTH	IMPROVE SIGNING AND VISIBILITY AT SIGNALS	RETROREFLECTIVE BACKPLATES	FLASHING YELLOW ARROW	COORDINATED SIGNAL TIMING	LANE DESIGNATION MARKINGS AND SIGNS	WIDE EDGE LINES	HIGH CONTRAST LANE MARKINGS	IMPLEMENT SYSTEMIC SINGING AND MARKING IMPROVEMENTS	CHANGE RIGHT-TURN LANE GEOMETRY
CMF	0.29	0.93	0.25	0.732	0.85	0.975	-	0.75	0.635	0.75	0.734	0.558
Roadway & Lane Departure	•							•	•	•		
Speed-Related	•						•					•
Intersection-Related		•	•	•	•	•	•	•			•	•
Vulnerable Road Users	•			•			•					•
Distracted Driving				•	•			•	•	•	•	
Impaired Driving	•			•	•			•	•	•		
Unrestrained Persons	•						•					•

Systemic Countermeasures

Improved Signals

Traffic signals are often implemented for operational reasons such as improving traffic flow but can create new safety issues such as an increased rate of red-light running. To remedy the safety issues that may develop from traffic signal and enhance their effectiveness, several countermeasures have been recommended. Although most of the suggested countermeasures have an assigned CMF value, there is one that does not have sufficient research associated to warrant a CMF value yet.

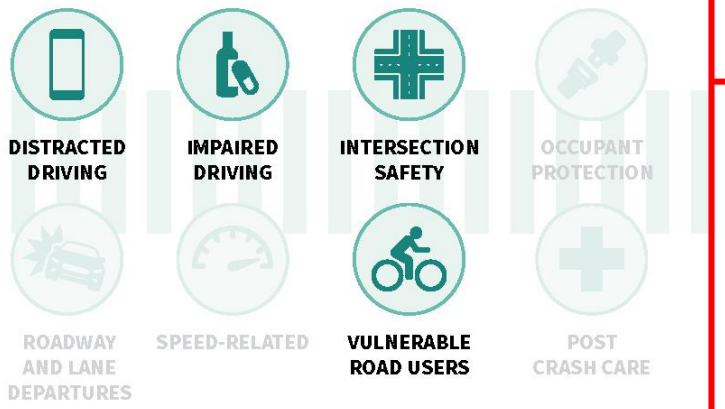
FIGURE 17: CROSSWALK AND PEDESTRIAN CROSSING EXAMPLE

Source: pedbikeimages.org/ Greg Griffin, AICP

Improve Signing and Visibility at Signals

The minimum improvements to the equipment and facilities at signalized intersections should include high contrast crosswalks, pedestrian signal heads and push buttons, ADA compliant curb ramps. When constructed, pedestrians and other vulnerable road users are provided adequate facilities to make safe crossings and motorists are alerted of dedicated crossing areas. Installing a high-visibility crosswalk and pedestrian signals has a CMF of 0.732 for vehicle and pedestrians crashes for all severities (CMF ID: 8967). **Figure 17** provides an example high contrast crosswalk with pedestrian signal head and push buttons.

APPLICABLE SAFETY EMPHASIS AREAS:



Each Countermeasure has a dedicated page that includes the following information:

- Countermeasure Name
- Crash Modification Factor Information
- Which safety emphasis areas are addressed

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CSAP Implementation

Action Matrix

- Texas State Highway Safety Plan
- Six “E’s” of Safety
- Timeframe
  - Short (<2 years)
  - Medium (2 – 5 years)
  - Long (>5 years)
  - Ongoing
- Partners
- Funding
  - Existing Funds
  - Reallocation of Funds
  - Grant Acquisition

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Interactive Crash Dashboard

Seguin City Website

- https://www.seguintexas.gov/1417/Comprehensive-Safety-Action-Plan
- High-Injury Network
- Interactive Crash Map

Click the image to access the application.

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Next Steps

- *Adoption*
- *Implementation*