Rosenberg

Comprehensive
Safety Action Plan

CITY OF ROSENBERG
FOUNDED 1883

ROSENBERG
SAFETY ACTION PLAN

Acknowledgements

The Comprehensive Safety Action Plan was developed by City of Rosenberg, with support from the Kimley-Horn consultant team. This report documents a comprehensive set of projects and strategies to eliminate roadway fatalities and serious injuries within Rosenberg. The information presented herein is planning level only and is not meant to represent the support or commitment of any potential partners.

DISCLAIMER

This material was funded in part through grant(s) from the Federal Highway Administration of the U.S. Department of Transportation. The views and opinions of the authors expressed herein do not necessarily state or reflect those of the U.S. Department of Transportation or the Texas Department of Transportation.

23 United States Code Section 407
Discovery and admission as evidence of certain reports and surveys

Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

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  Mayor
- Richard Olson
  Councilor At Large, Pos. 1
- Jessica Jaramillo-Moreno
  Councilor At Large, Pos. 2
- Felix Vargas, Jr.
  Councilor, District 1
- Steven DeGregorio
  Councilor, District 2
- Hector Trevino
  Mayor Pro Tem, Councilor, District 3
- George A. Zepeda
  Councilor, District 4
- John Maresh
  City Manager

Project Leadership

- Melissa Peña
  Director of Capital Projects
- Rigo Calzoncin
  Executive Director of Public Services

Consultant Team

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QUIDDITY

Last Updated: December 3, 2024

Abbreviations & Definitions

Abbreviation	Definition
ADT	Average daily traffic
BCA	Benefit Cost Analysis
CIP	Capital Improvement Program
CRIS	Crash Records Information System
CSAP	Comprehensive Safety Action Plan
FHWA	Federal Highway Administration
FY	Fiscal Year
FYA	Flashing Yellow Arrow
H-GAC	Houston-Galveston Area Council
HIN	High-Injury Network
HSIP	Highway Safety Improvement Program
IIJA	Infrastructure Investment and Jobs Act (Public Law 117-58), also known as the Bipartisan Infrastructure Law
KAB	The sum of KAB (fatal, serious, and minor injury) crashes
KABCO	Injury Severity Scale K – Fatal Injury A – Serious (Incapacitating) Injury B – Minor (Non-Incapacitating Injury C – Possible Injury O – No Injury, Property Damage Only U – Unknown Severity
LPI	Leading Pedestrian Interval
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
NRSS	National Roadway Safety Strategy
PHB	Pedestrian Hybrid Beacon
PSC	Project Steering Committee

Abbreviation	Definition
RAISE	Rebuilding American Infrastructure with Sustainability and Equity
ROW	Right-of-Way
SHSP	Strategic Highway Safety Plan
SS4A	Safe Streets and Roads for All
TAC	Technical Advisory Committee
TEV	Total entering vehicles
TIP	Transportation Improvement Program
TxDOT	Texas Department of Transportation
USDOT	United States Department of Transportation
VRU	Vulnerable Road Users (Pedestrians and Bicyclists)

Preface

Call to Action

On average, three people die and another 18 suffer life-altering injuries on roadways within Rosenberg each year. These deaths and injuries are unacceptable and preventable. By proxy, unsafe transportation infrastructure which allows death and injury is unacceptable. As emphasized in the National Road Safety Strategy, many of our nation's roads do not adequately incorporate infrastructure design elements conducive to the safe travel of all road users.

Transportation is a fundamental need which significantly impacts quality of life. Therefore, transportation infrastructure is not merely a means of moving vehicles, but instead is a key ingredient in building community. The Safe System Approach is not solely about constructing the best transportation system; it's about cultivating a healthy community.

We are committed to eliminating roadway fatalities and serious injuries within the City of Rosenberg. This Comprehensive Safety Action Plan commits to Vision Zero and describes how we intend to reach the goal of zero roadway fatalities and serious injuries in Rosenberg by the year 2050.

*We are committed to **eliminating roadway fatalities and serious injuries** within the City of Rosenberg.*

ES *Executive Summary*

Executive Summary

In 2023, the City of Rosenberg was awarded a FY22 Safe Streets and Roads for All (SS4A) Planning Grant to complete a Comprehensive Safety Action Plan (CSAP). The City is undertaking this study to improve transportation safety throughout the City across all modes of transportation. On December 3, 2024, the Rosenberg City Council passed and approved a resolution to support transportation projects and programs to eliminate traffic fatalities and serious injuries throughout the City by 2050.

2019-2023 Statistics

4,400+ crashes

104 Severe injuries

16 fatalities

8.3% of fatal crashes involved vulnerable road users

37% of fatal and serious injury crashes are intersection relates

The Safe System Approach

Engagement and Collaboration

Robust public engagement included an online survey, online interactive map, and "pop-ups" at three community events. Public feedback on systemic countermeasures, focus locations, and overall priorities of the CSAP were incorporated throughout the plan.

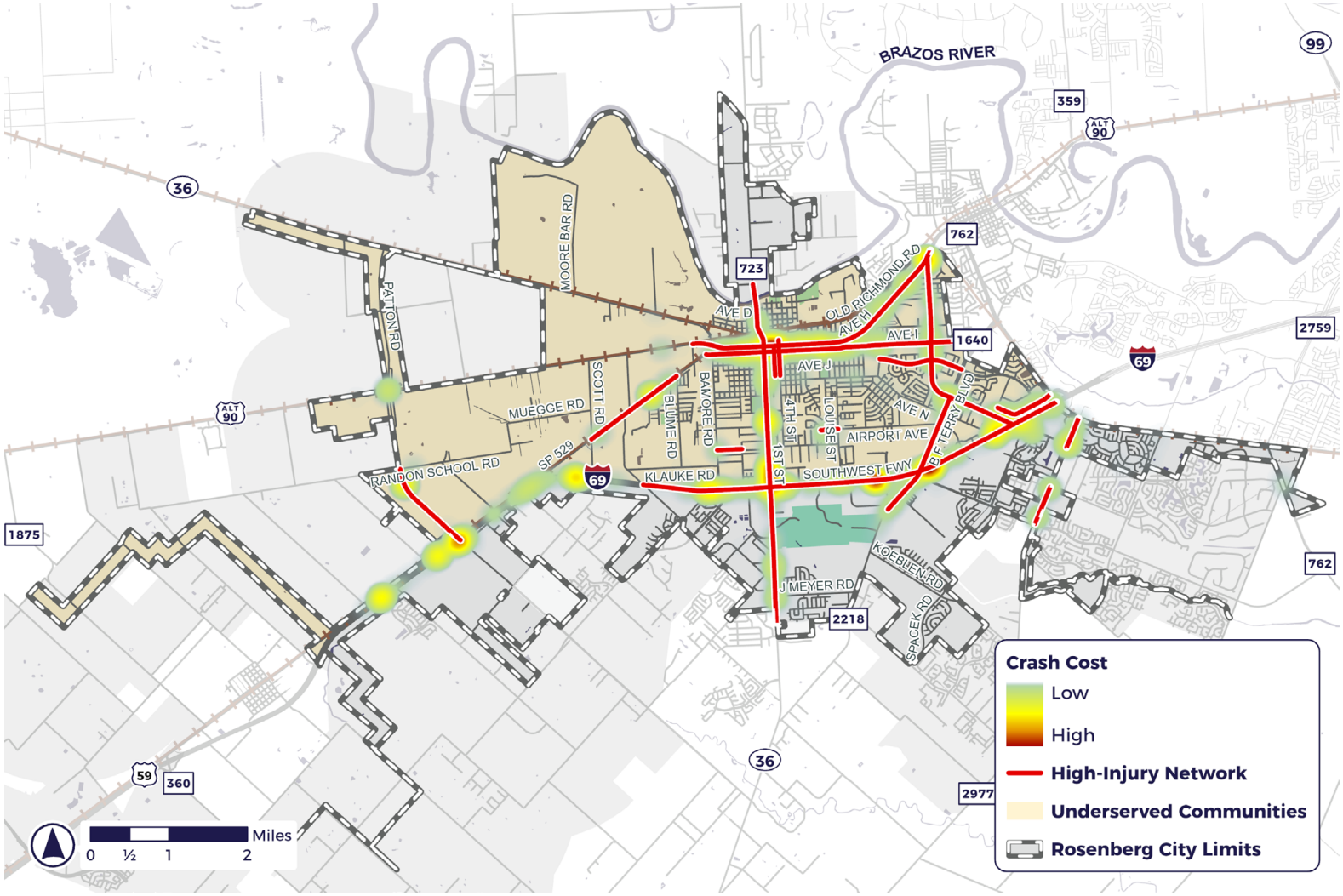
April 27, 2024
Sugar Rush
Downtown Rosenberg

May 5, 2024
Cinco De Mayo Street Dance
Downtown Rosenberg

July 4, 2024
Family 4th
Seabourne Creek Nature Park

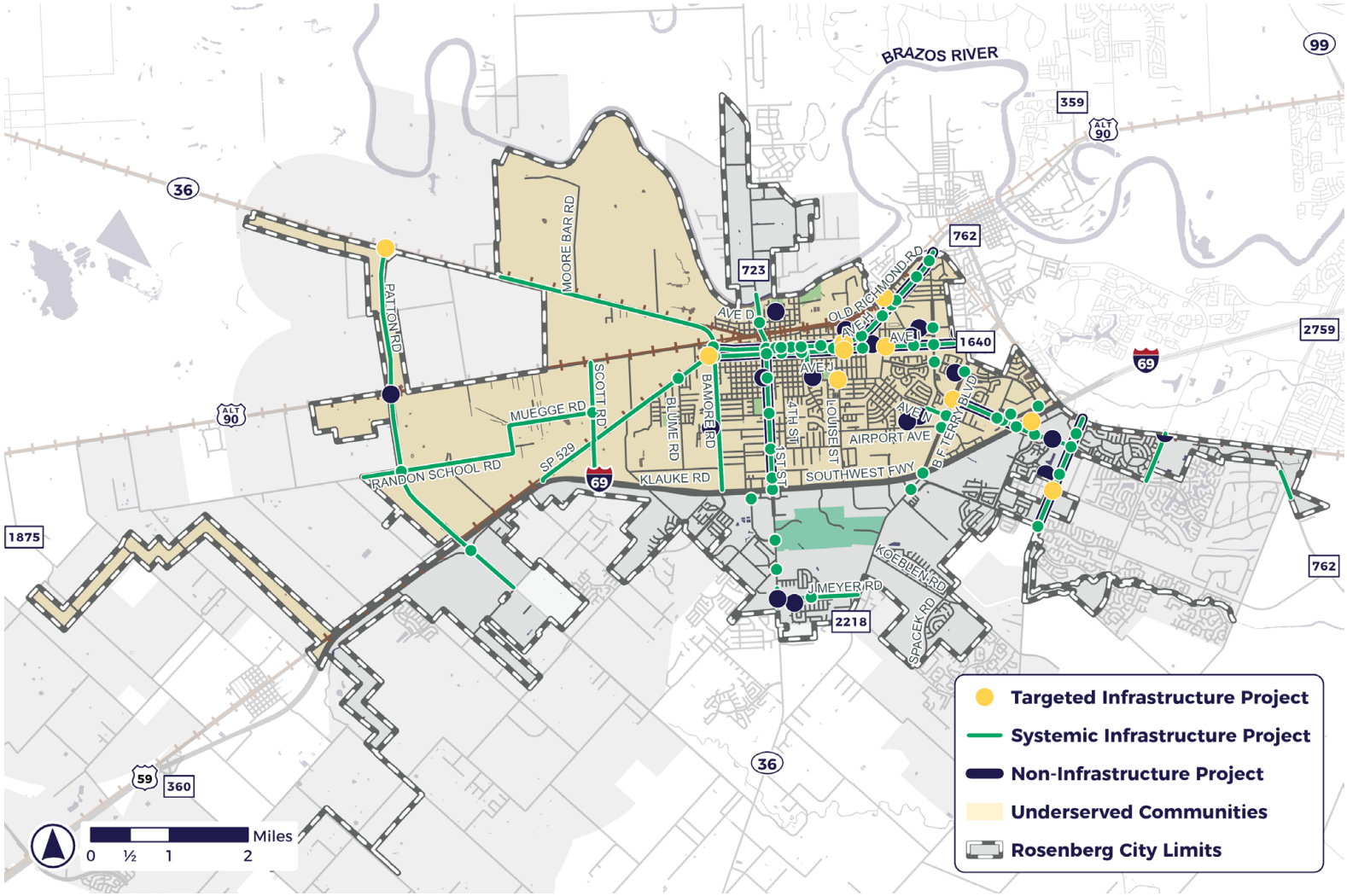
Safety Needs

A High-Injury Network (HIN) is a geospatially defined subset of roadways which account for a large percentage of crashes. The threshold of >750 Equivalent Property Damage Only (EPDO) crashes per centerline mile was chosen as the metric to define the HIN. Rosenberg's HIN represents 14% of centerline miles on which 100% of fatalities and 75% of total crashes occur.



Action Plan

A comprehensive action plan was developed to eliminate roadway fatalities and serious injuries by the year 2050. The action plan includes both infrastructure and non-infrastructure projects, and fulfills related federal requirements. Rosenberg is now eligible to apply for construction funds to implement safety projects.



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1 *Leadership Commitment*

1. Leadership Commitment

SS4A Program History

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries which recognizes that traffic deaths are preventable and that the path to a safer street system requires multidisciplinary collaboration to address the many factors that contribute to safe mobility. Vison Zero was first implemented in Sweden in the 1990s and has since been adopted by communities across the globe.

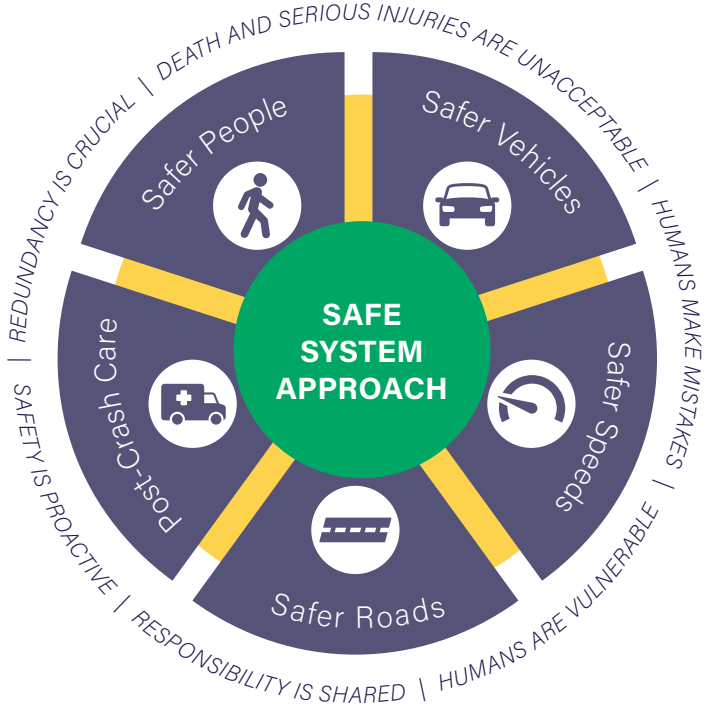
On May 19, 2019, the Texas Transportation Commission formally adopted the Road to Zero policy and instructed the Texas Department of Transportation (TxDOT) to devise strategies for eliminating all traffic fatalities in Texas by 2050.

On October 23, 2020, the Transportation Policy Council of the Houston-Galveston Area Council (H-GAC) passed and approved a resolution to support transportation projects and programs to eliminate traffic fatalities in the region by the year 2050.

In November 2021, the Infrastructure Investment and Jobs Act (IIJA), formally called Public Law 117-58 and colloquially known as the Bipartisan Infrastructure Law, was passed to authorize funds for federal aid highways, highway safety programs, transit programs, and other purposes. The IIJA established the Safe Streets and Roads for All (SS4A) discretionary program with $5 billion in appropriated funds over five years (2022-2026). The SS4A program funds planning and construction projects that aim to prevent roadway deaths and serious injuries.

In January 2022, in response to a recent increase in roadway fatalities and the fatality rate, the Office of the Secretary of Transportation published the National Roadway Safety Strategy (NRSS) which describes the major actions United States Department of Transportation (USDOT) will take to make a meaningful difference in road safety. USDOT's strategy embraces the Safe System Approach, provided as **Figure 1.1**, which focuses on five key objectives (inner ring) based on six principles (outer ring). This holistic approach aims to both prevent crashes from happening and minimize harm when they do.

Figure 1.1 Safe System Approach



In March 2022, in response to a growing concern about increases in cyclist and pedestrian fatalities, USDOT published a report regarding Moving to a Complete Streets Design Model, which elaborates on road design techniques which promote safety for all road users, including bicyclists, pedestrians, and people with disabilities. The SS4A program aligns with USDOT's NRSS and Vision Zero by employing complete street design techniques, in accordance with the Safe System Approach.

In 2023, the City of Rosenberg was awarded a FY22 SS4A Planning Grant to complete a Comprehensive Safety Action Plan (CSAP). The City is undertaking this study to improve transportation safety throughout the City across all modes of transportation. On December 3, 2024, the Rosenberg City Council passed and approved a resolution to support transportation projects and programs to eliminate traffic fatalities and serious injuries throughout the City by the year 2050.

Vision Zero Commitment

RESOLUTION NO. R-3806

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROSENBERG, TEXAS, APPROVING AND ADOPTING A VISION ZERO RESOLUTION AND SAFE STREETS FOR ALL COMPREHENSIVE SAFETY ACTION PLAN FOR THE CITY OF ROSENBERG.

* * * * *

WHEREAS, the City deems it necessary and proper and in the best interest of the City to have a Safe Streets For All Comprehensive Safety Action Plan; and

WHEREAS, the life and health of all persons living and traveling within the City of Rosenberg are our utmost priority, and no one should die or be seriously injured while traveling on our city streets; and

WHEREAS, the Safe System Approach is the concept that traffic deaths and serious injuries on our roadways are unacceptable; and

WHEREAS; the Safe System Approach is a holistic strategy aimed at eliminating all traffic fatalities and serious injuries suffered by all road users while increasing safe, healthy, equitable mobility for all; and

WHEREAS, traffic crashes are among the leading cause of deaths in the United States; and

WHEREAS, approximately 16 people were killed and 89 were seriously injured in the total 4,522 traffic crashes which are reported within the City of Rosenberg from 2019 to 2023; and

WHEREAS, the City Council finds that the continued loss of lives on City streets is unacceptable; and

WHEREAS, the United States Department of Transportation (USDOT), Texas Department of Transportation (TxDOT), and Houston-Galveston Area Council (H-GAC) have adopted policies to eliminate traffic fatalities and serious injuries; now, therefore

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF ROSENBERG:

Section 1. The City Council of the City of Rosenberg hereby commits to support transportation projects and programs to eliminate traffic fatalities and serious injuries in the city by the year 2050 and hereby adopts the Safe Streets For All Comprehensive Safety Action Plan attached hereto as Exhibit "A" and made part hereof for all purposes.

PASSED, APPROVED, AND RESOLVED this 3 day of December 2024.

ATTEST:

Danyel Swint, TRMC, **CITY SECRETARY**

APPROVED:

William Benton, **MAYOR**

CITY OF ROSENBERG · ROSENBERG, TEXAS ·

2 *Planning Structure*

2. Planning Structure

Planning Committee Membership

At the onset of the CSAP, a Safety Task Force (STF) was organized to oversee CSAP development, implementation, and monitoring. The STF includes City staff and representatives from various organizations within Rosenberg: fire, police, school district, City Engineer, and economic development. Based on their individual areas of professional expertise, as well as familiarity with Rosenberg's transportation network, each STF member uniquely contributed to CSAP development. The STF is also well-equipped to continue meeting after the CSAP is published, oversee CSAP implementation, and monitor progress toward Vision Zero. STF membership is provided as **Table 2.1** and STF meeting presentations are provided as an **Appendix**.

Table 2.1 Safety Task Force Membership

Name	Organization	Title
Melissa Peña	City of Rosenberg	Director of Capital Projects
Rigo Calzoncin	City of Rosenberg	Executive Director of Public Services
John Maresh	City of Rosenberg	City Manager
Charles Kalkomey	City of Rosenberg	City Engineer
Daryl Maretka	City of Rosenberg	Fire Chief
Dustin Stroud	City of Rosenberg	Traffic Sergeant
Jonathan White	City of Rosenberg	Chief of Police
Joseph Rogers	City of Rosenberg	Lieutenant
Joe Esch	City of Rosenberg	Director of Economic Development
Henry Garcia	Lamar CISD Police	Chief of Police
Randy Weishiemer	Lamar CISD Police	Sergeant
Carlos Zepeda Jr.	TxDOT	Area Engineer

Visions and Goals

One of the STF's first priorities was discussing community needs and identifying a clear purpose for the CSAP. Goals and objectives established by the STF, which support the vision of zero fatalities and serious injuries, are provided as **Figure 2.1**.

Figure 2.1 Vision, Goals, and Objectives

Vision: ***Eliminate traffic fatalities and serious injuries*** *in the City by the year 2050*

Goal 1: Accommodate all modes of transportation

- Reduce bicycle and pedestrian crashes
- Create safe walking routes to schools

Goal 2: Improve mobility through safety

- Reduce intersection-related crashes
- Reduce congestion-related crashes
- Improve school traffic operations

Goal 3: Build upon previous plans and studies

- Incorporate previous Livable Centers Initiative (LCI) Study projects
- Incorporate US 90A Study

Project Schedule

	Month	1	2	3	4	5	6	7	8	9	10	11	12
Engagement	Safety Task Force			●	●			●			●		
	Pop-up Event				●	●		●					
	Online Engagement				●	●		●	●				
Safety Analysis													
Equity Analysis													
Action Plan Development													

Select focus areas — *Select projects*

Meeting · Workshop · Survey · Presentation

STF Meeting Topic

STF #1 Existing Conditions

STF #2 Focus Areas

Public Engagement Online and In-Person

STF #3 Project Selection Workshop

STF #4 Action Plan Review

3 *Safety Analysis*

3. Safety Analysis

Crash Trends & Locations

Historic crash data was queried from TxDOT's Crash Record Information System (CRIS) for crashes within the City. In addition, crash reports from City of Rosenberg Police were reviewed for fatal and serious injury crashes. A crash history dashboard, which dynamically filters crash data using user-friendly buttons was published on the project website and is provided as a **Digital Appendix**.

Between 2019 and 2023 more than 4,500 crashes occurred in the City. As seen in **Figure 3.1**, while the total number of crashes has decreased in recent years, the average number of fatal and serious injury crashes is on the rise.

As illustrated in **Figure 3.2**, certain types of crashes are more likely to result in fatal or serious injuries. For instance, although bicyclists and pedestrians (referred to as "Vulnerable Road Users" by the Federal Highway Administration (FHWA)), account for less than 1% of total crashes, they are involved in 19% of fatal crashes. Additionally, fixed object crashes, which make up only 10% of total crashes, account for 56% of fatal crashes.

Figure 3.3 on the following page displays a crash density map that highlights areas with higher crash frequency. Notable crash hotspots can be observed along IH 69, 1st Street (SH 36), Avenue H (US 90A), and Avenue I (FM 1640).

Figure 3.1 Rosenberg Crash History

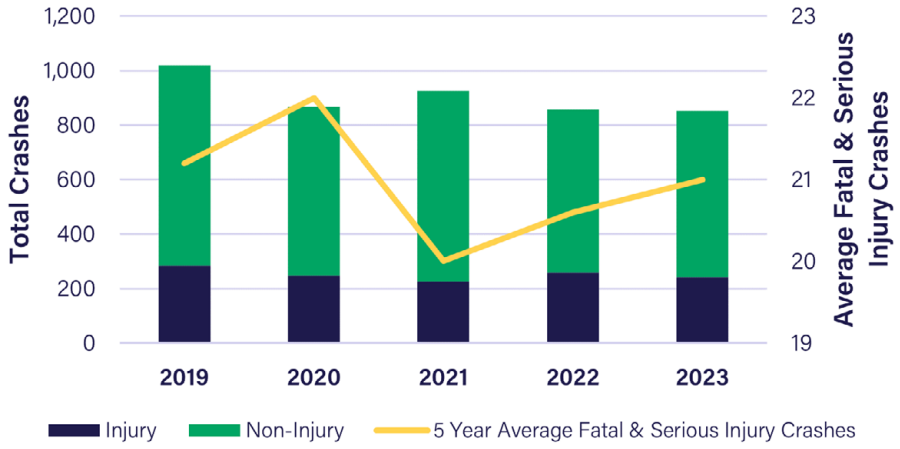


Figure 3.2 Severity by Crash Type

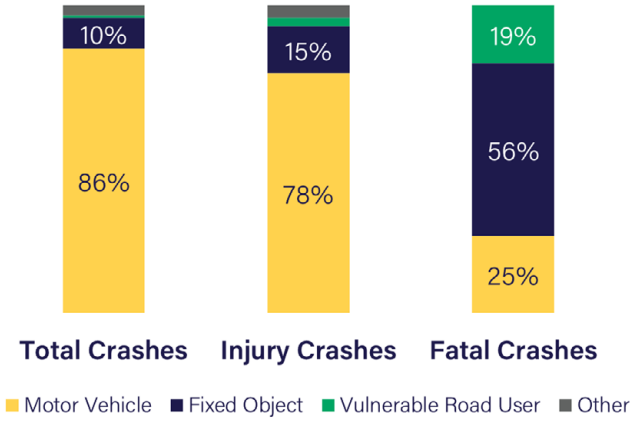
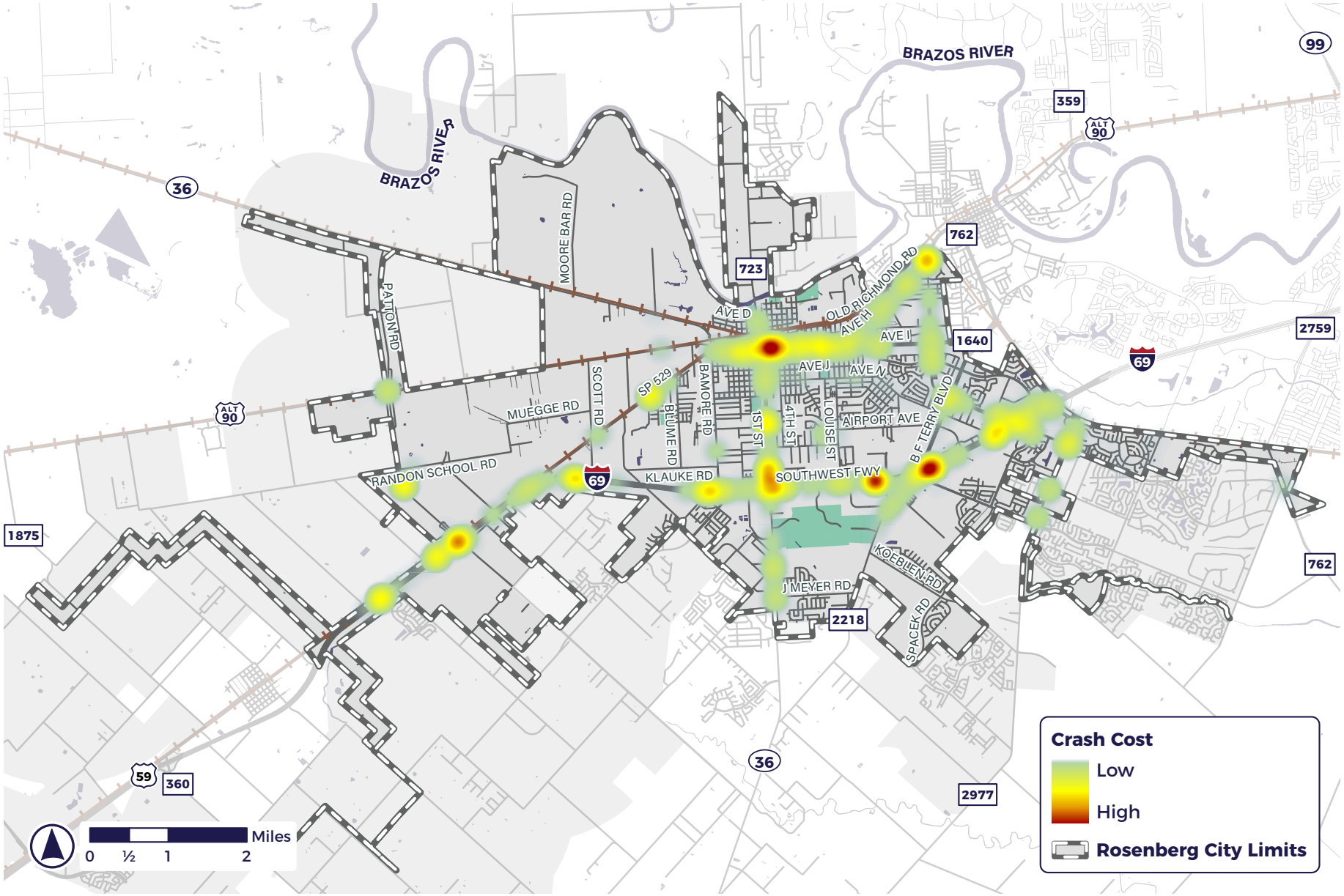


Figure 3.3 Crash Density Map



Safety Analysis Methodology

To comprehensively identify potential safety projects, two methodologies were employed as outlined in **Figure 3.4**. The targeted approach is focused on improving safety at high-crash locations, as identified by a High-Injury Network (HIN), by recommending site-specific countermeasures. The **systemic approach** selects low-cost countermeasures to deploy systemwide based on focus crash types.

Figure 3.4 Safety Analysis Methodology

Milestone	Targeted Approach	Systemic Approach
Existing Conditions (STF #1)	**Network Screening** Identify high-crash locations (the HIN)	**Diagnosis** Determine emphasis area crash types based on local, regional, state, and national priorities
Focus Areas (STF #2)	**Diagnosis** Identify location-specific safety issues based on crash history and existing conditions	**Countermeasure Selection** Select countermeasures that address emphasis area crash types
Project Selection Workshop (STF#3)	**Countermeasure Selection** Select location-specific countermeasures	**Network Screening** Identify locations for countermeasure deployment based on risk factors and crash history
Action Plan Review (STF#4)	**Economic Appraisal and Prioritization** Calculate performance measures for each project. Rank projects using a data-driven evaluation methodology that aligns with each project's, most likely funding source (USDOT, TxDOT, or H-GAC).	

Systemic Safety Analysis

Emphasis Areas

TxDOT's Strategic Highway Safety Plan (SHSP) identified emphasis areas (categories) of crashes and countermeasures which have the greatest potential for crash reduction. Within each emphasis area, the Citywide percent of fatal and serious injury crashes was compared to the statewide average. In addition to SHSP emphasis areas, the Safety Task Force (STF) added one other focus types: Dark or Underlit Conditions. A summary of fatal and serious injury crashes by emphasis area is provided as **Table 3.1**.

Table 3.1 Fatal and Serious Injury Crashes by Emphasis Area

Yellow highlighted cells indicate emphasis areas that are overrepresented in Rosenberg compared to statewide.

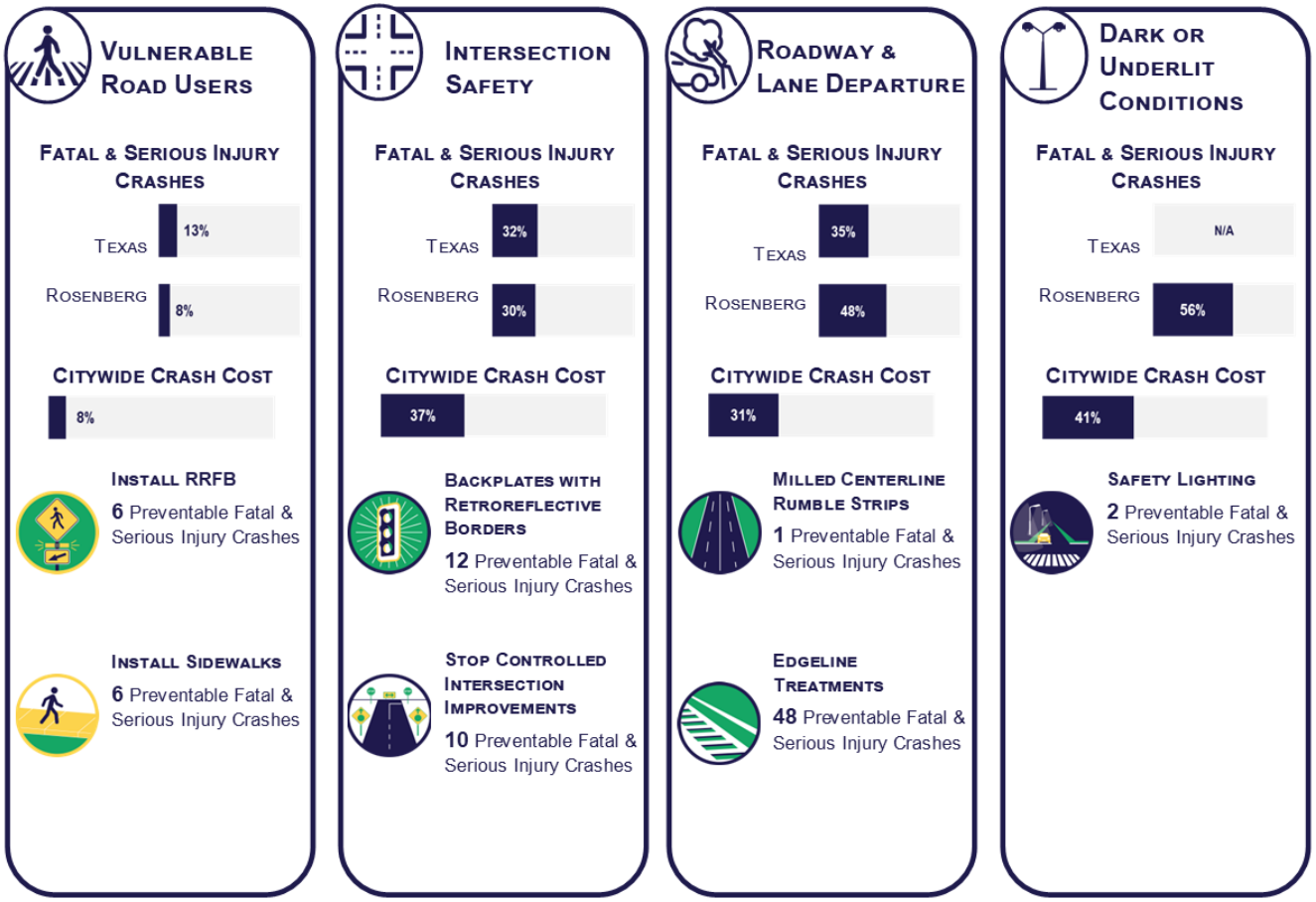
Emphasis Area	Statewide[1]	H-GAC Region[2]	City of Rosenberg[2]
Infrastructure Emphasis			
Vulnerable Road User	13%	17%	8%
Intersection Safety	32%	36%	37%
Roadway & Lane Departure	35%	27%	31%
Dark or Underlit Conditions	-	49%	41%
Behavioral Emphasis			
Speed Related	32%	23%	30%
Distracted Driving	15%	5%	11%
Impaired Driving	18%	6%	8%
Occupant Protection	19%	13%	20%
65+ Older Drivers	13%	11%	14%
< 20 Younger Drivers	16%	15%	20%

[1]Statewide represents 2022 totals per Texas SHSP, Figure 6.1.3

[2]Rosenberg and H-GAC region represent 2019-2023 totals per TxDOT CRIS.

Countermeasures

The systemic approach selects low-cost countermeasures to deploy systemwide based on emphasis area crash types. Specific countermeasures were selected based on emphasis area crash types, input from the STF and the public, and industry guidance (TxDOT's Highway Safety Improvement Program (HSIP) and FHWA's Proven Safety Countermeasures (PSC). Systemic countermeasures were chosen to correspond with TxDOT's HSIP. Detailed countermeasure profiles, including project descriptions, crash statistics, and potential deployment locations, are provided in the **Chapter 9, Action Plan**.



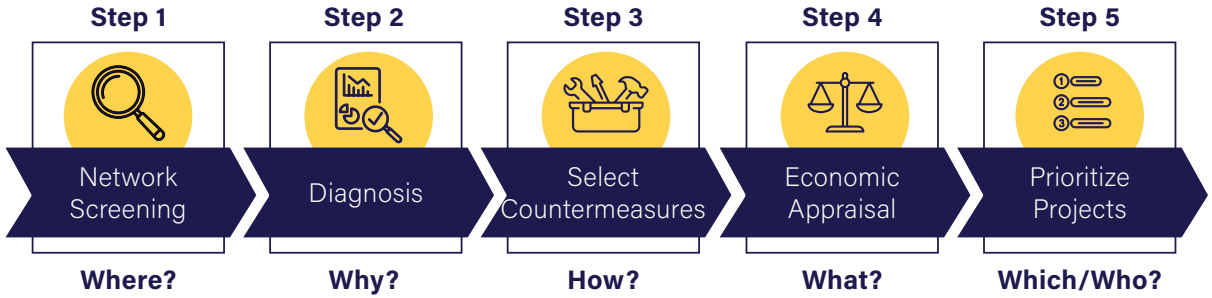
The safety analysis was conducted in accordance with the HSM Roadway Safety Management Process. In general, each step of the process aims to address a different question:

1. Where are crashes occurring?
2. Why are crashes occurring?
3. How will crashes be prevented?
4. What are the benefits/costs of improvements?
5a. Which projects are highest priority?
5b. Who will lead implementation efforts?

Targeted Safety Analysis

The targeted approach is more traditionally employed and aimed at improving safety by identifying site-specific countermeasures at the highest crash locations (focus locations). The targeted safety analysis is built upon a HIN and is based on AASHTO Highway Safety Manual (HSM) procedures. Specifically, it includes the first three steps of the Roadway Safety Management Process (**Figure 3.5**): (1) network screening, (2) diagnosis, and (3) countermeasure selection.

Figure 3.5 Roadway Safety Management Process



High-Injury Network

All roadways within the City (without regard for ownership) were reviewed with a network screening to develop a High-Injury Network (HIN). A HIN is a geospatially defined subset of roadways which account for a large percentage of crashes. Data sourced from TxDOT CRIS, TxDOT roadway inventory, local thoroughfare plans, U.S. Census Bureau's documented roadways, and Open Street Map were used for network screening. CRIS crash records include all severity crashes from the years 2019-2023.

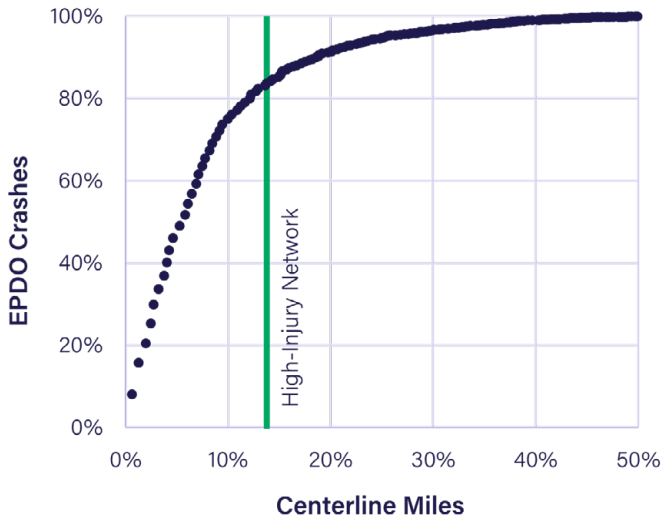
Crashes were attributed (spatially joined) to individual roadway segments. Freeway main lanes and associated crashes were excluded from the analysis. Sensitivity testing was performed to define criteria (crash history thresholds) which function like filters to reveal high-crash segments. Equivalent Property Damage Only crashes (EPDO) was chosen as a focus metric because it functions as a relative severity index because locations with a high EPDO either have high-severity crashes, a large number of crashes, or some combination. The HIN was defintedby EPDO per centerline mile (CL mile) of greater than 750. Statistics for the HIN are provided as **Table 3.2**. This HIN represents 14% of non-freeway centerline miles in the City on which 100% of non-freeway fatalities and 75% of non-freeway total crashes occur. A HIN map is provided as **Figure 3.7**, and the HIN is available as a **Digital Appendix**.

Table 3.2 High-Injury Network Statistics

	Length (Miles)[1]	Crashes			Crash Cost (in $M)[2]
		Total	Fatal	Fatal & Serious Injury	
Within City Limits Network	-	4,522	16	105	$696.7
Freeway Main Lanes (Removed from Analysis)	-	560	7	28	$180.1
Total Roadway Network Analyzed	202	3,934	9	77	$515.1
High-Injury Network (EPDO per CL Mile > 750)	28	2,969	9	64	$432.3
High-Injury Network Percentage of Total (Non-Freeway)	14%	75%	100%	83%	84%

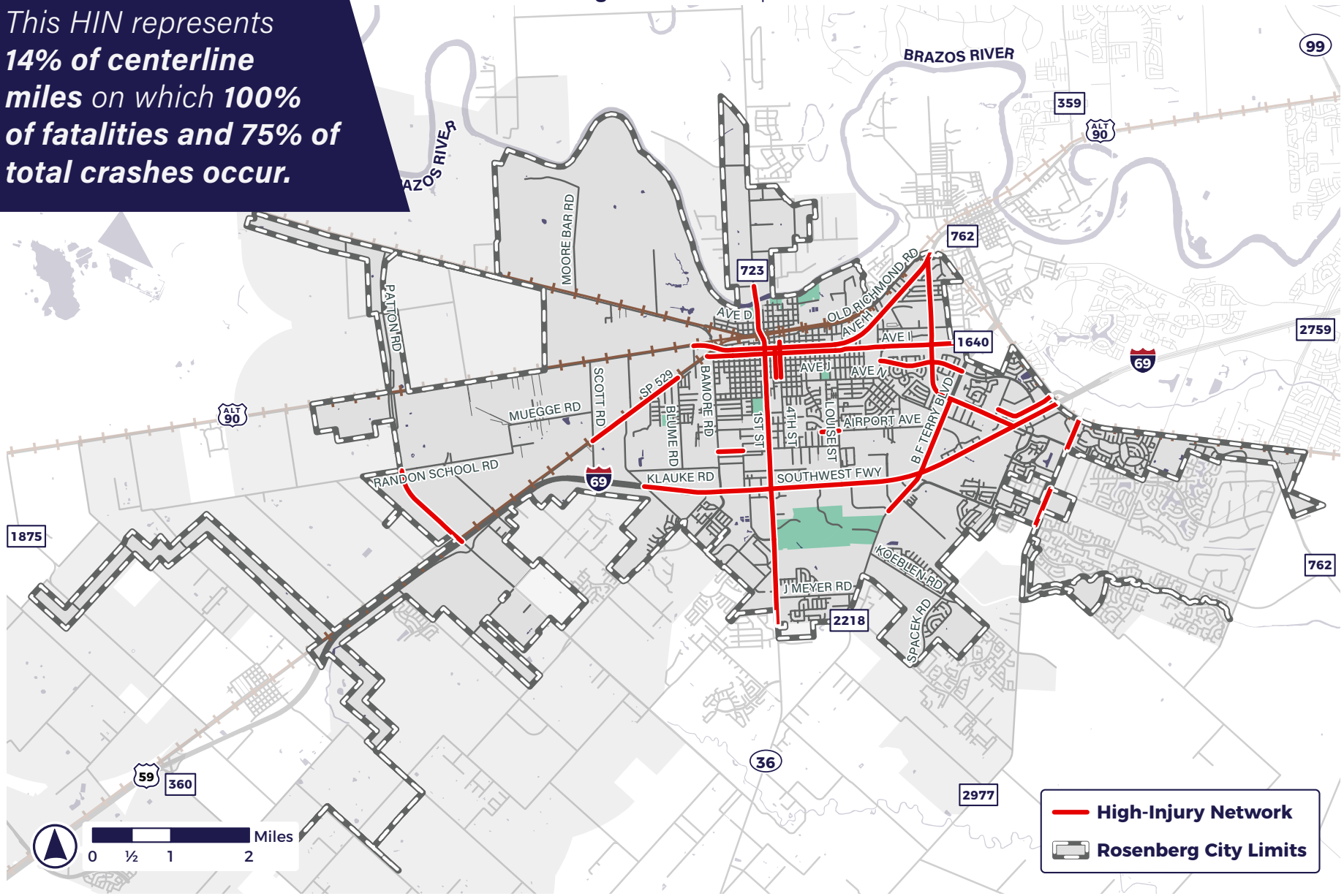
[1]Length denoted is centerline miles | [2]Crash cost based on USDOT BCA Guidance

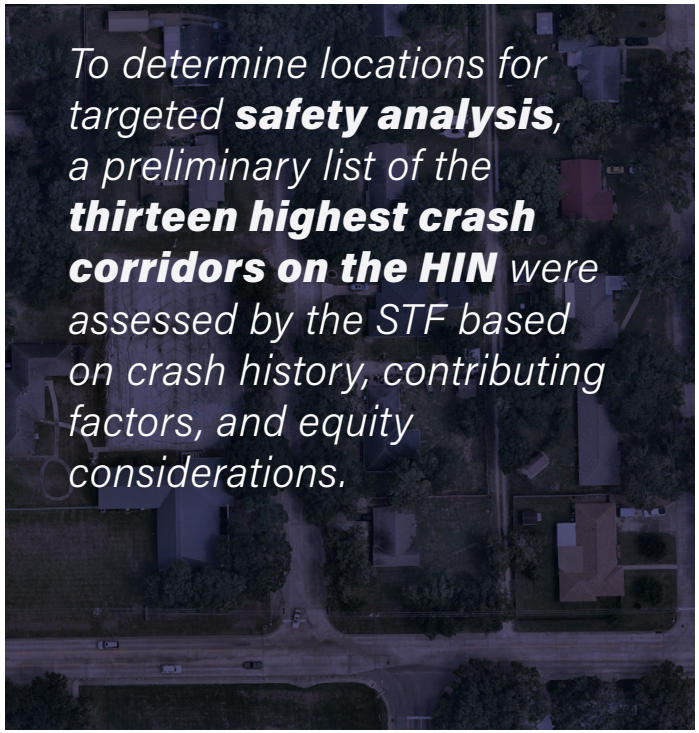
Figure 3.6 Graph of EPDO vs Centerline Miles

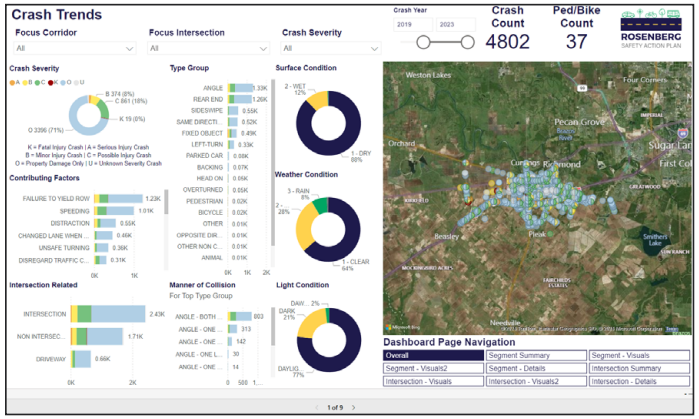


This HIN represents ***14% of centerline miles*** *on which* ***100% of fatalities and 75% of total crashes occur.***

Figure 3.7 HIN Map







▲ ***Crash history dashboard***

Focus Locations

To determine locations for targeted safety analysis, a preliminary list of the 13 highest crash corridors on the HIN were assessed by the STF based on crash history, contributing factors, and equity considerations. Locations with programmed projects or recent construction, such as SH 36 (south of IH 69) and segments along IH 69, were discarded. The STF also selected isolated intersections with a high potential for crash reduction.

Ultimately, the project team identified seven corridors and four intersections for further analysis. A map of focus locations is provided as **Figure 3.8**. Focus locations are not listed in order of priority and should be considered for implementation alongside other safety projects to eliminate roadway fatalities and serious injuries in the City. A summary of crash history at focus corridors and focus intersections are provided as **Table 3.3** and **Table 3.4**, respectively. Additional details of each project, including crash statistics, recommended countermeasures, presence on HIN, and proximity to underserved communities are provided as an **Appendix**. The countermeasures presented here were developed from a planning perspective. City of Rosenberg and partner agencies are encouraged to review observations and refine improvements prior to implementing. Infrastructure improvements should not be limited to the currently identified countermeasures and may include other safety countermeasures that align with the Safe System Approach and CSAP goals.

The crash history dashboard, which was instrumental in diagnosing crash history and developing location-specific countermeasures, is provided as a **Digital Appendix**. For each corridor, overrepresented crash attributes were determined by comparing the corridor's proportion of crashes to the average (Citywide) proportion of crashes. Over-representation of crash types along each corridor are provided as a **Digital Appendix**.

Figure 3.8 Focus Location Map

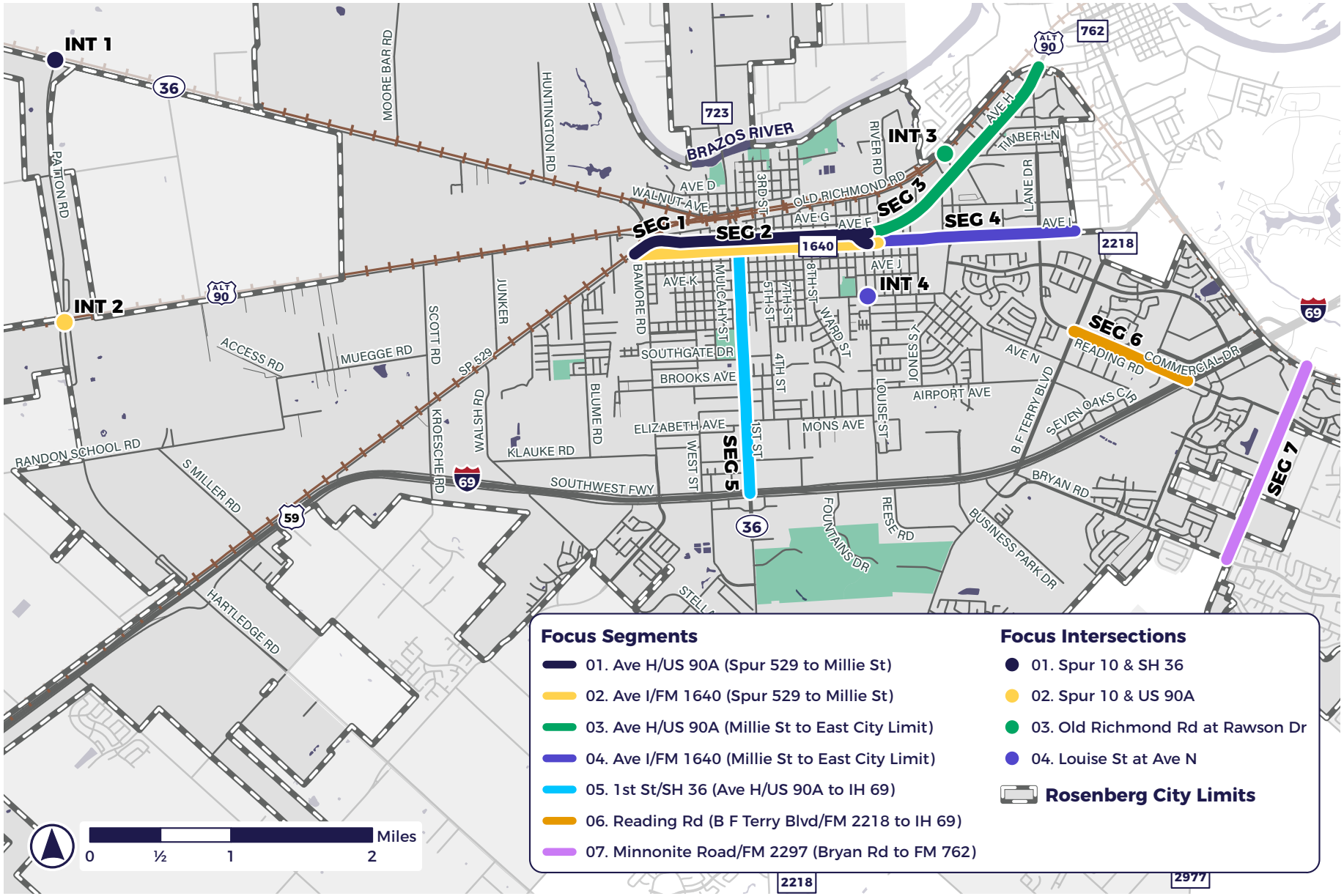


Table 3.3 Focus Corridors

ID	Location	Classification	Within Underserved Community	Length (Miles)	Average Daily Traffic	Crash Rate[1]	Crashes[2]			Crash Cost ($1M)
							Total	Fatal	Fatal & Serious Injury	
1	**Avenue H (US 90A)** *(From Spur 529 to Millie St)*	Principal Arterial	Yes	1.8	12,500	1,117.8	422	1	11	$59.4
2	**Avenue I (FM 1640)** *(From Spur 529 to Millie St)*	Minor Arterial	Yes	1.9	12,500	837.5	349	0	3	$32.0
3	**Avenue H (US 90A)** *(From Millie St to Eastern City Limits)*	Interstate	Yes	1.7	20,000	432.9	270	1	5	$44.0
4	**Avenue I (FM 1640)** *(From Millie St to Eastern City Limits)*	Minor Arterial	Yes	1.4	12,500	624.2	193	0	1	$19.1
5	**1st St (SH 36)** *(From Avenue H (US 90A) to IH 69)*	Interstate	Yes	1.8	20,000	869.4	559	2	5	$69.1
6	**Reading Rd** *(From B F Terry Blvd (FM 2218) to IH 69)*	Minor Arterial	Yes	0.9	17,500	882.5	237	0	2	$22.3
7	**Minonite Rd (FM 2977)** *(From Bryan Rd to FM 762)*	Major Collector	No	1.5	12,500	913.7	318	0	4	$39.5

[1] Crash rate per 100 million vehicle miles traveled | [2] Crash totals per TxDOT CRIS, 2019-2023.

Table 3.4 Focus Intersections

ID	Location	Control	Within Underserved Community	Total Entering Vehicles	Crash Rate[1]	Crashes[2]			Crash Cost ($1M)
						Total	Fatal	Fatal & Serious Injury	
1	**Spur 10 & SH 36**	Two-Way Stop Control	Yes	11,500	1.5	31	1	4	$22.0
2	**Spur 10 & US 90A**	Two-Way Stop Control	Yes	12,000	0.6	14	0	1	$3.1
3	**Old Richmond Rd & Rawson Dr**	Two-Way Stop Control	Yes	20,000	0.4	13	0	0	$0.6
4	**Louise St & Ave N**	Two-Way Stop Control	Yes	12,000	0.3	6	0	0	$0.7

[1] Crash rate per million entering vehicles | [2] Crash totals per TxDOT CRIS, 2019-2023.

4 *Equity Considerations*

4. Equity Considerations

Age Distribution

Compared to Fort Bend County and the Houston-Pasadena-The Woodlands Metropolitan Statistical Area (MSA), Rosenberg has a younger population. The Rosenberg's median age is 31.2 years compared to Fort Bend County's 37.6 median age. The age distribution in the City indicates that overall families are younger (both younger adults and younger children) compared to the County overall. From age 55 and older, the City and the County are more similar, with 22% of Rosenberg residents being 55 or older compared to 24% of Fort Bend County residents.

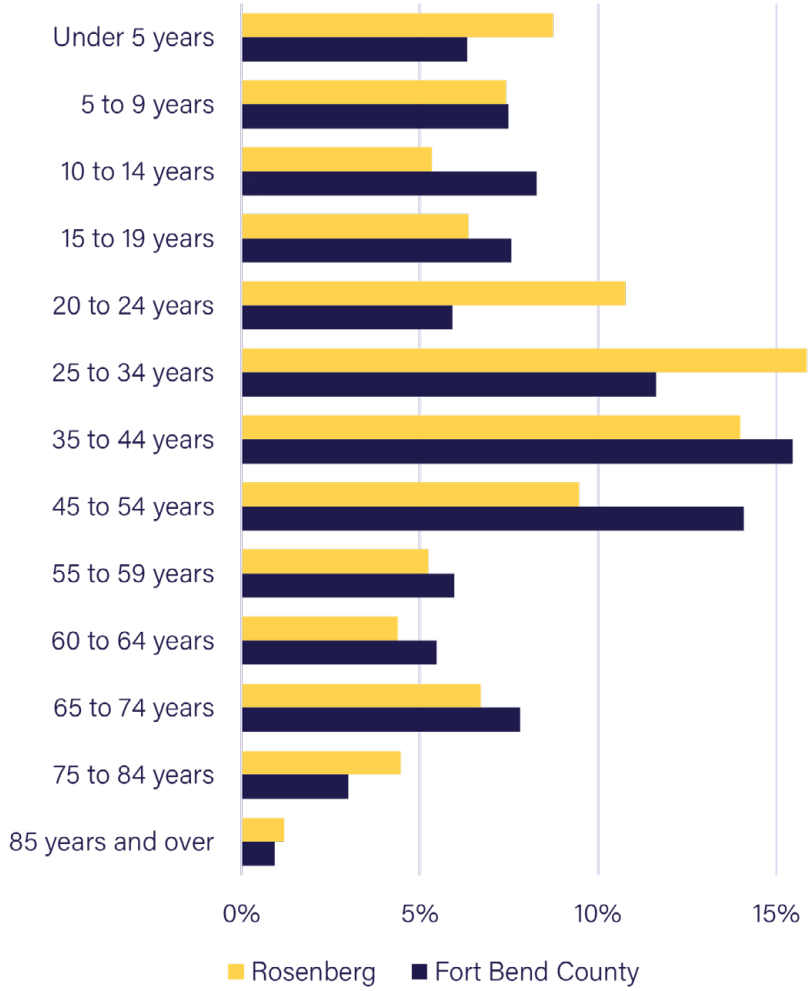
Median Age

31.2 Rosenberg

36.7 Fort Bend County

35.0 Houston-Pasadena-The Woodlands MSA

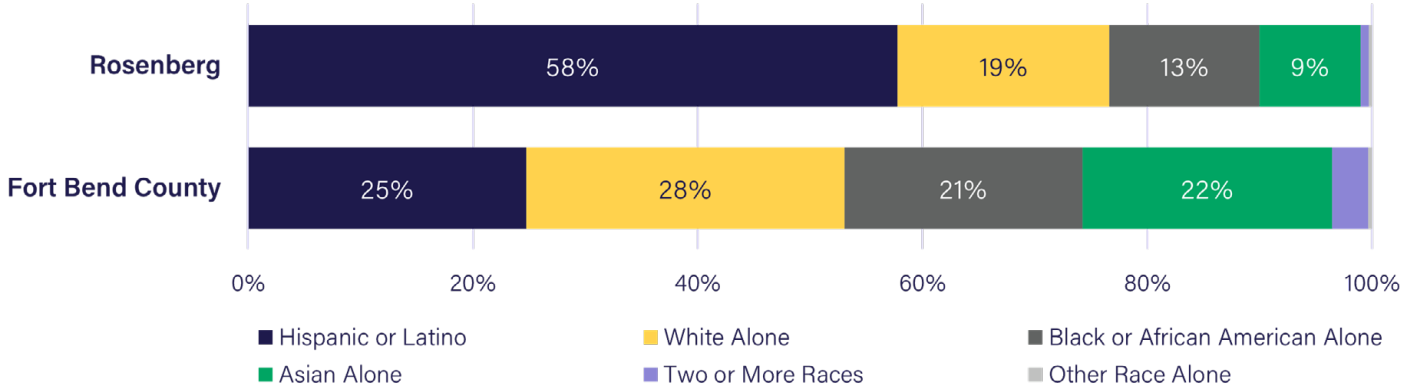
Figure 4.1 Age Distributions



Racial Demographics

Rosenberg's overall racial demographics reflect a much higher representation of Hispanic/Latino people when compared to Fort Bend County. While nearly 60% of City residents identify as Hispanic/Latino, only 25% of County residents do. Following this, the City has smaller representation of people who identify as white, Black, and Asian than the County as a whole.

Figure 4.2 Racial Demographics



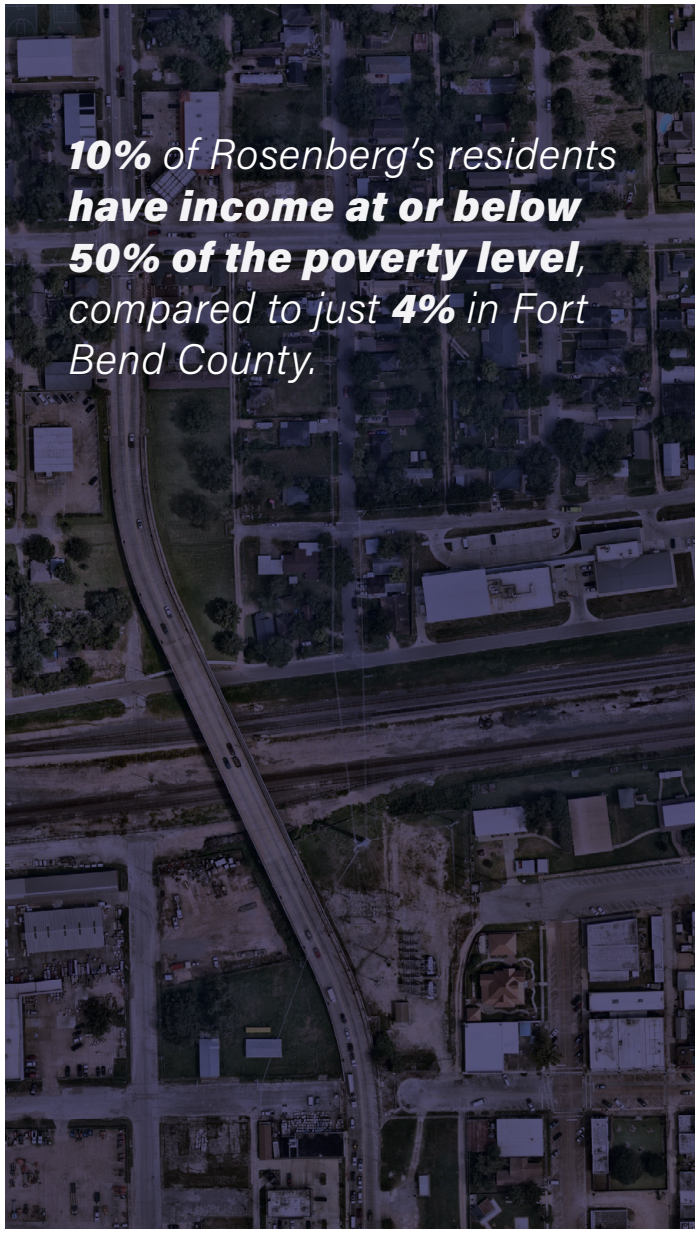
Source: American Community Survey 2022: Race

Daily Commute

The median commute time to work for Rosenberg residents is 28.5 minutes. In comparison to Fort Bend County, residents commute about 4 minutes less, and in comparison with the Houston-Pasadena-The Woodlands MSA, Rosenberg residents commute 1 minute less.

Figure 4.3 Commute Times

Source: American Community Survey 2022: Commuting Characteristics



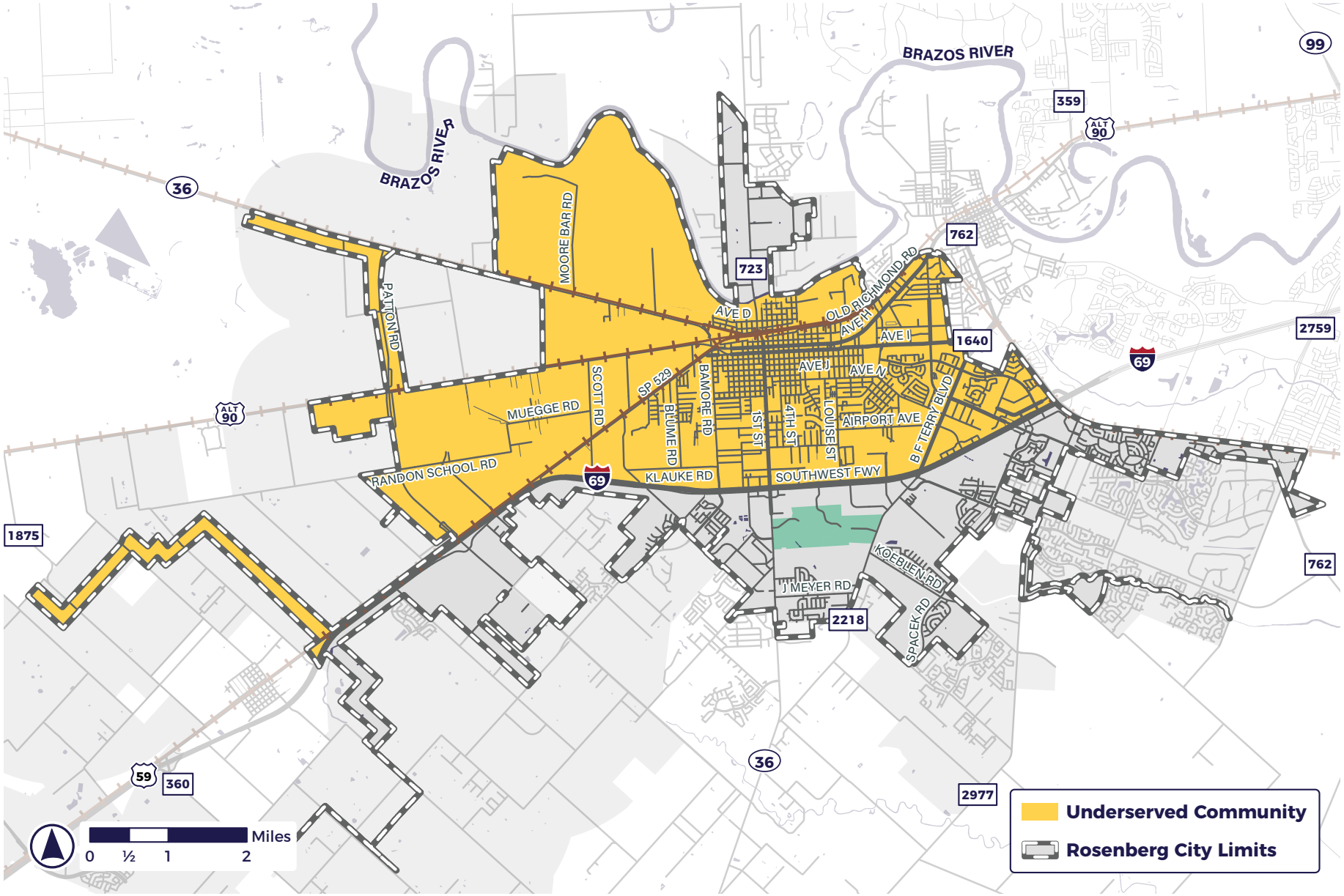
Underserved Communities

Underserved Community census tracts are defined by USDOT based on multiple Component Scores for each census tract in the United States. The components that are factored into determining Underserved Communities include transportation insecurity, health vulnerability, environmental burden, social vulnerability, climate and disaster risk burden. Current Underserved Communities in the City of Rosenberg are shown in **Figure 4.4**. The Underserved Community census tracts cover most of the City.

Poverty Levels

Many aspects of Underserved Community identification are related to income and poverty levels. In Rosenberg, 21% of the population has income at or below 125% of the poverty threshold, whereas in Fort Bend County, this figure is only 9%. Furthermore, a notable 10% of Rosenberg's residents have income at or below 50% of the poverty level, compared to just 4% in Fort Bend County.

Figure 4.4 Underserved Communities



Transportation Insecurity

While areas north of the Brazos River and south of IH 69 are not defined as Underserved Communities, USDOT defined Transportation Insecurity index is relatively high in these areas, as shown in **Figure 4.2**. Transportation insecurity is defined based on transportation cost, access, and safety. Residents in Rosenberg who live further from the City center on average have to drive further to grocery stores, parks and other points of interest and so are considered to experience a higher transportation access burden.

Approximately 620 households (about 4%), in the City do not have a vehicle available and 41% of households have just one vehicle. As a comparison point, 3% of households in Fort Bend County have no vehicles available and 22% of households have one vehicle available. Limited access to vehicles can create a barrier to work and other destinations, especially as there is no transit access in Rosenberg. Nearly all residents drive to work in a car, truck, or van or work from home, shown in **Figure 4.5**. About 230 people walk to work in the City, which is just 1% of Rosenberg's working population.

Figure 4.5 Transportation to Work

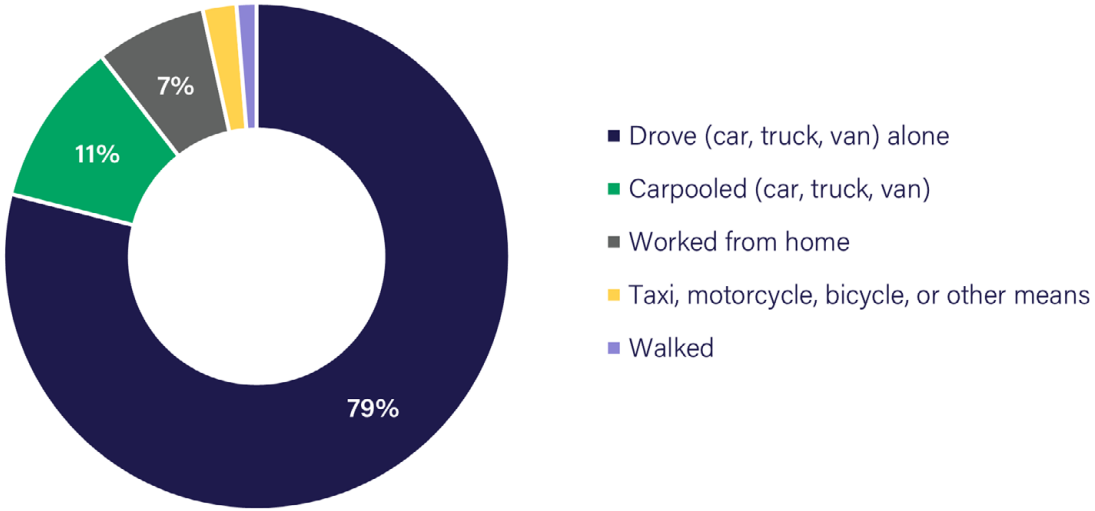
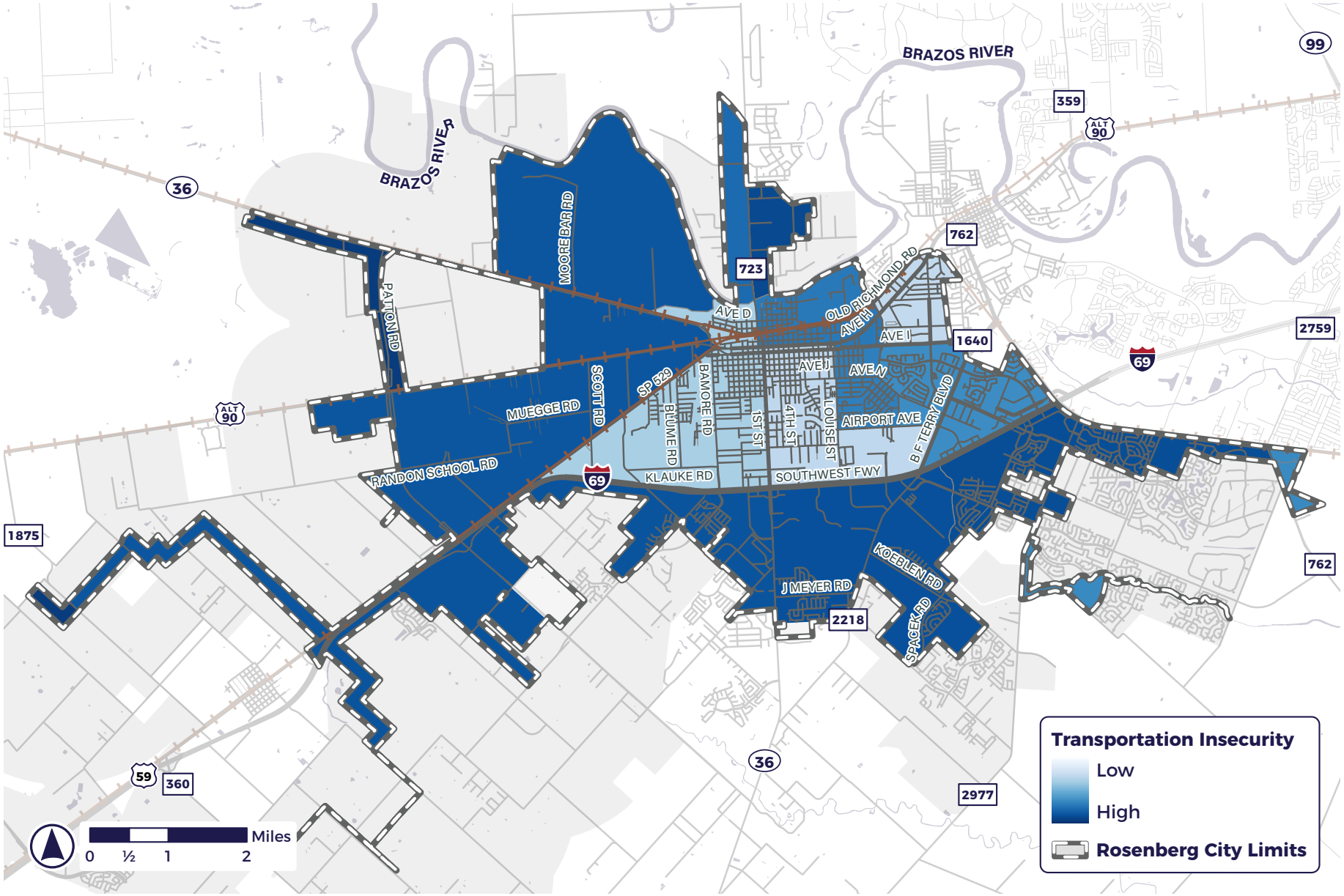


Figure 4.6 Transportation Insecurity



Over-Represented Crash Types

Percentages of crashes with target attributes occurring in underserved communities were compared to similar percentages calculated for the City overall. The results of this analysis are provided as **Figure 4.7** and **Figure 4.8**.

Although overall percentages are low, vulnerable road user (bicycle and pedestrian) crashes are slightly overrepresented– accounting for 1.0% in underserved communities compared to 0.8% city-wide. Turning conflict crashes (angle and left-turn crashes) are overrepresented in underserved communities compared to city-wide. Both vulnerable road users and turning conflict crashes (typically intersection-related crashes) were selected by the STF as systemic focus areas, and targeting priorities for implementation within these communities will help address this overrepresentation.

Figure 4.7 Representation in First Harmful Event

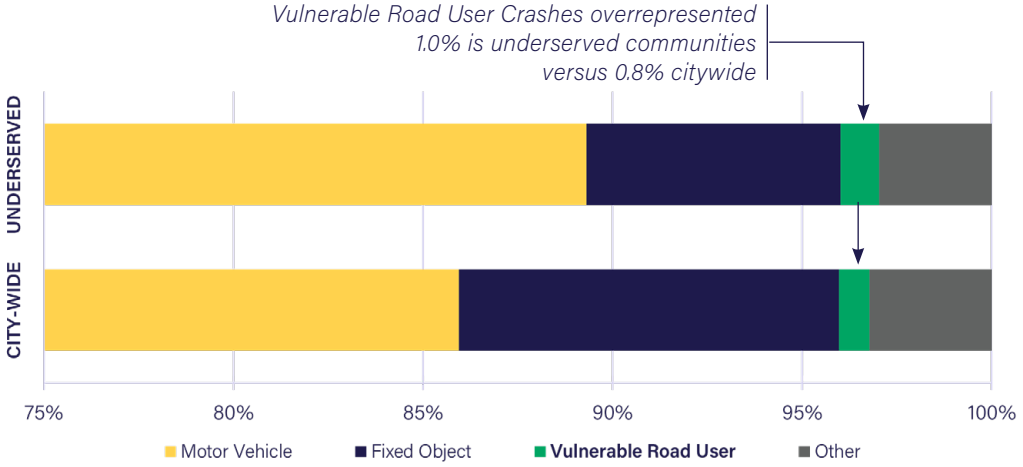
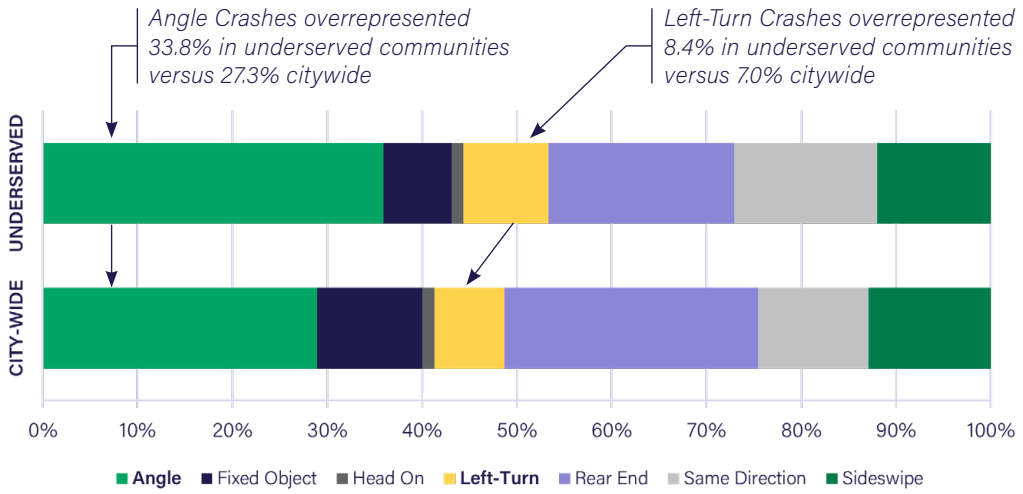


Figure 4.8 Representation in Crash Type



5 *Engagement and Collaboration*

5. Engagement and Collaboration

Engagement Overview

Inclusive and representative engagement methods were used to engage the public. Engagement methods aligned with USDOT's *Promising Practices for Meaningful Public Involvement in Transportation Decision-Making*. Online engagement tools and a project website were created using Social Pinpoint. "Pop-ups" at community events provided in-person engagement opportunities with project team members present to summarize the project and activities for the public to complete. Feedback online and in-person was used throughout CSAP development to select focus locations, confirm the HIN, and prioritize the implementation plan.

Project business cards, yard signs, and flyers, shown in **Figure 5.1**, were distributed to make the public aware of the project and encourage them to visit the project website to engage with online tools or attend in-person events. The yard signs and business cards were double-sided, with English on one side and Spanish on the other side. A flyer was included in utility bills to all residents of Rosenberg and the project website was advertised on City of Rosenberg's official website.

Figure 5.1 Project Advertisement Materials

In-Person Engagement

The project team engaged with the public in person at pop-up events throughout the project. The goal of pop-up events is to meet citizens where they already are instead of asking them to attend a specific event. Pop-up events provide opportunities to garner feedback from the public and educate people about the Safety Action Plan. The project team participated in three events hosted by City of Rosenberg:

April 27, 2024
Sugar Rush
Downtown Rosenberg

May 5, 2024
Cinco De Mayo Street Dance
Downtown Rosenberg

July 4, 2024
Family 4th
Seabourne Creek Nature Park

Pop-up events had three activities—a study area map, preliminary focus location selection, and countermeasure ranking. Preliminary focus corridors were presented to the public and each participant was able to select their top three locations out of six presented. Five potential systemic countermeasures were presented and participants were able to rank them from 1 (lowest) to 5 (highest) based on their preference to see the countermeasure in Rosenberg.

Online Engagement

A project website, shown in **Figure 5.2**, was created to summarize the project, facilitate online engagement activities, notify the public of future in-person opportunities to engage with the project team, and present a crash data dashboard for users to interact with. The site could be translated into Spanish, Mandarin, and other languages using a dropdown on the home page. The website was advertised on the City of Rosenberg's website, on a flyer included in utility bills, and with the previously mentioned flyers, business cards, and yard signs.

An interactive map on the website was open for the public to "drop a pin" to comment on road safety inside city limits. Users categorized their comments as either: vehicle safety, bicycle safety, pedestrian safety, something I like, ideas and suggestions, or other comment. Vehicle safety was the most common category, as shown in **Figure 5.3**. Visitors to the website could also "upvote" comments they agreed with, shown in **Figure 5.4**. A comment on SH 36 at IH-69 about left turn lane markings received the most upvotes. A collection of comments in the vicinity of IH-69 and Reading Road noted dangerous turning movements and missing sidewalk. Multiple comments noted streets that are dark at night or lack of street lighting. A table of all comments is included in the **Appendix**.

Figure 5.2 Project Website Homepage

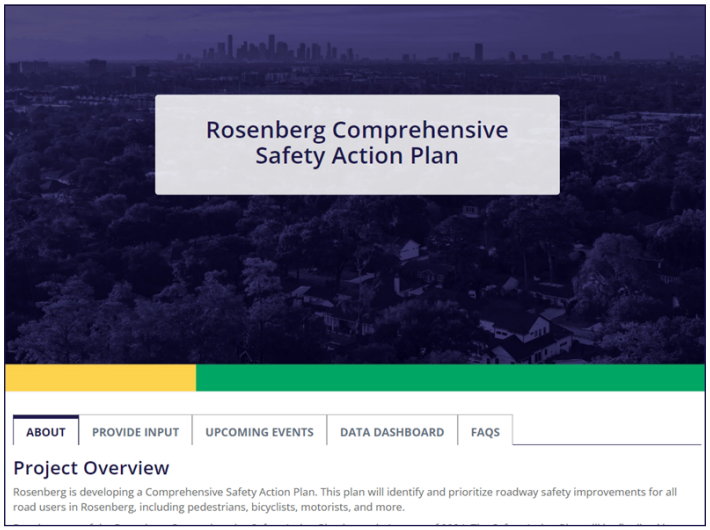


Figure 5.3 Interactive Map Comment Category

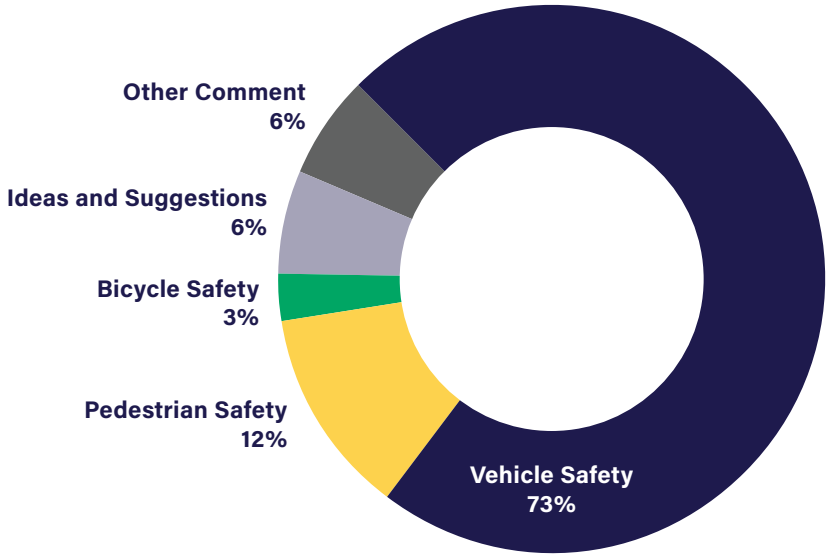
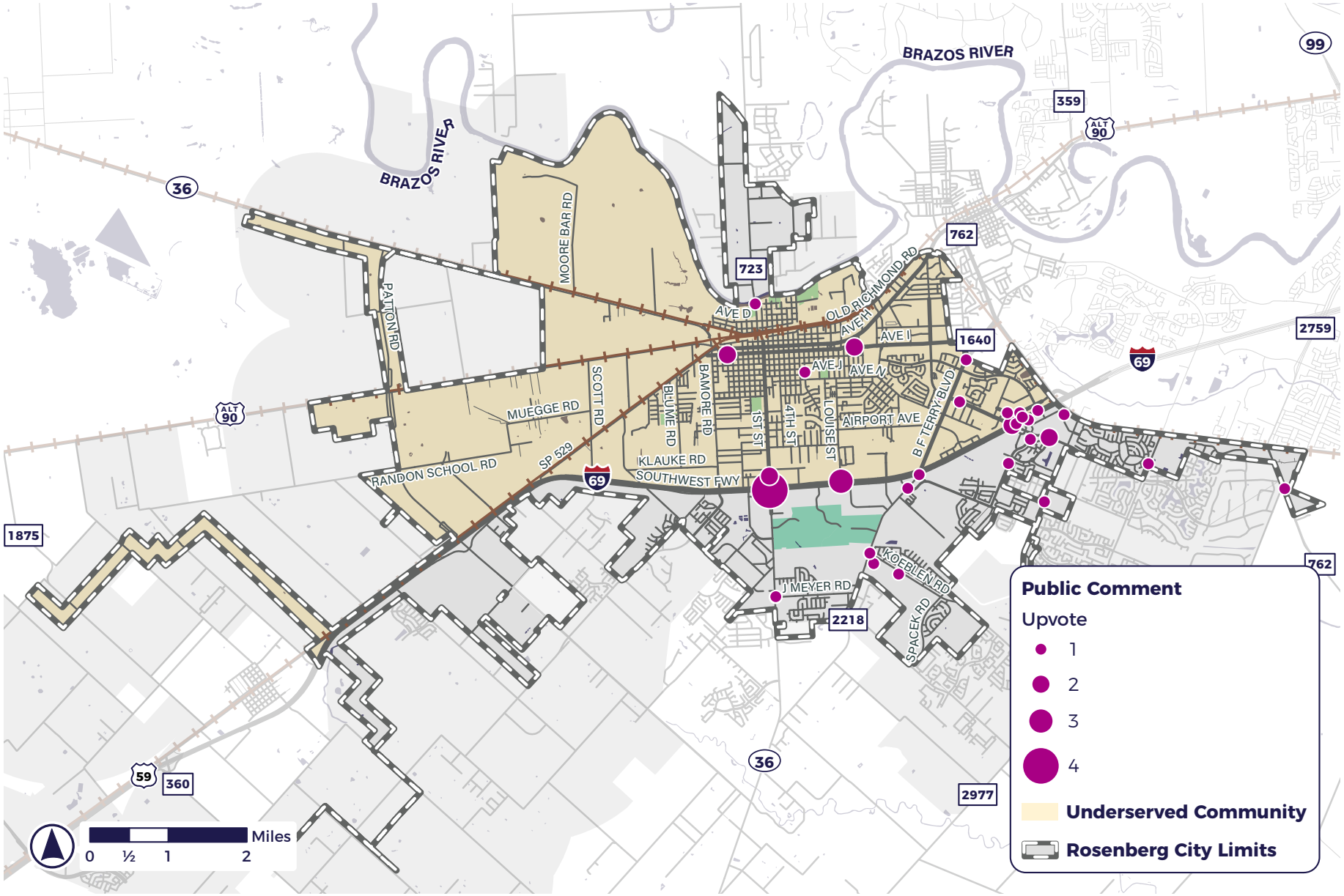


Figure 5.4 Interactive Map Comments



Survey Results

Transportation Priorities

The public was asked to participate in surveys about transportation and project priorities online. As it relates to the transportation system (safety, operations, walkability, bikeability, and access to business), the public identified safety as most important, with operations a close second, shown in **Figure 5.5**. Complete online survey results are included in the **Appendix**.

Focus Location Feedback

Six preliminary focus corridors were initially presented to the public at pop-up events. Each participant was asked to select the top three locations they thought needed safety improvements. Results from this activity are shown in **Figure 5.6**. Based on the results, Commercial Drive was removed from the final list of focus corridors.

Figure 5.5 Transportation Priorities

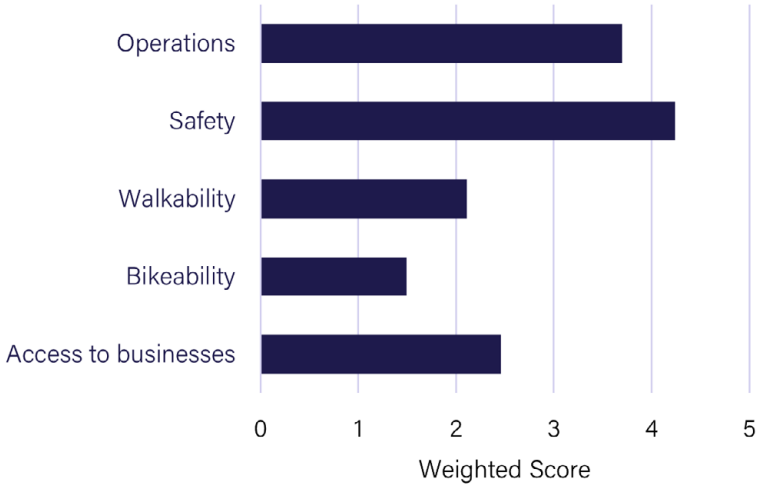
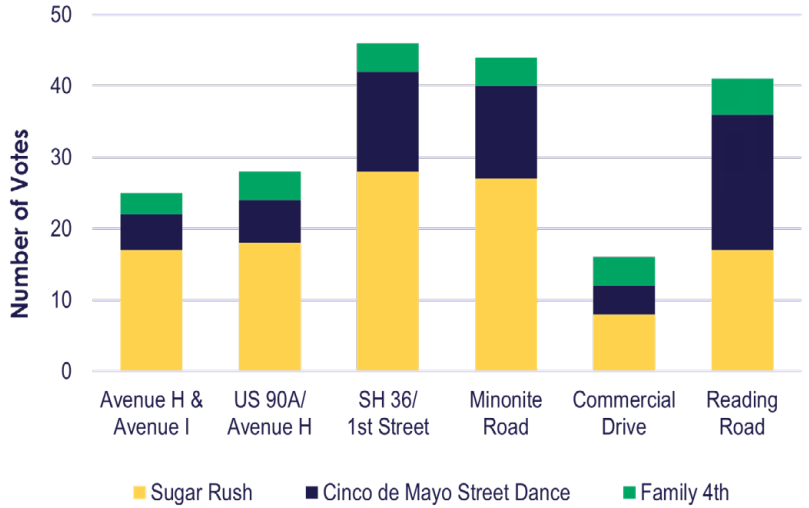


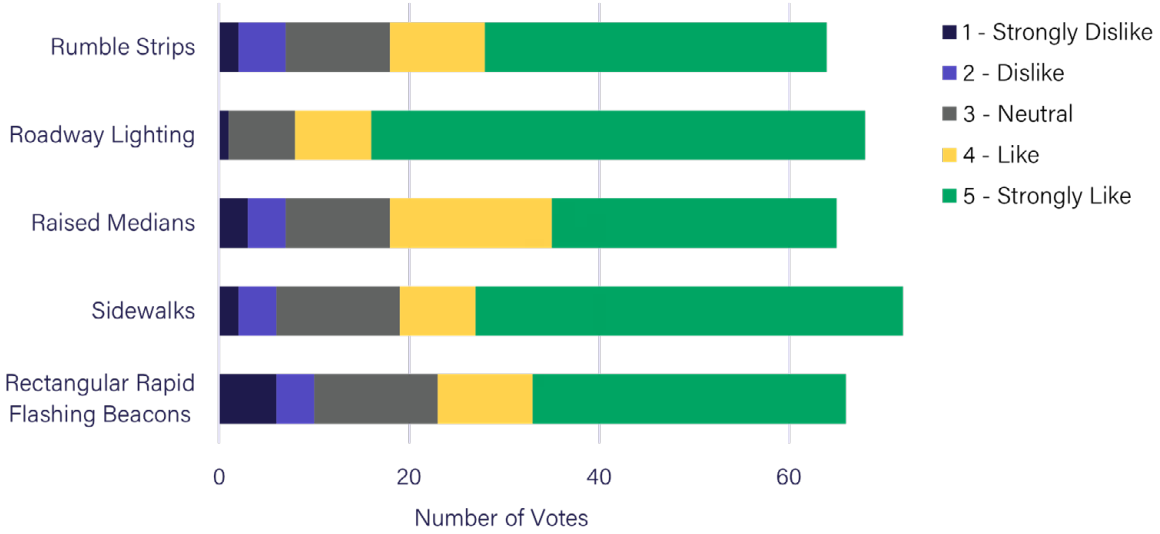
Figure 5.6 Pop-up Focus Location Selection



Systemic Countermeasures

The public was asked to participate in a survey about common traffic safety countermeasures at pop-up events and online. The survey asked participants to rank each countermeasure on a scale from 1 (strongly like) to 5 (strongly dislike). Approximately 35 people participated in the activity at pop-up events and approximately 45 people participated in the activity online. Overall, all countermeasures were ranked favorably, with roadway lighting the most favorable. The combined votes on five countermeasures are shown in **Figure 5.7**.

Figure 5.7 Systemic Countermeasure Survey Results



6 *Strategy and Project Selections*

6. Strategy and Project Selections

Project Selection Workshop

A comprehensive action plan was developed to eliminate roadway fatalities and serious injuries by 2050. CSAP components (Strategy and Project Selections, Policy and Process Changes, and Progress and Transparency) serve as the framework for the action plan. Projects/activities within the action plan build upon the Safe Systems Approach elements and principles, and many ideas are inspired by technical guidance within the Vision Zero Toolkit (FHWA-SA-23-026) and other USDOT guidance.

An project selection workshop was held with the Safety Task Force (STF) to select projects, strategies, policies, and activities for near-, mid-, and long-term implementation. Details of various safety projects and activities were presented to STF members. STF members discussed each potential project/activity and sought to identify safety projects for inclusion in the action plan. Primary criteria used to select projects included:

*Does the project **improve safety**?*

*Does the project **satisfy CSAP goals** (accommodate multiple modes, improve mobility, and implement previous plans)?*

*Does the project have a **high likelihood** of near-term implementation?*

Infrastructure Projects

Safety analysis, equity analysis, and community input were used to develop planning-level recommendations along focus corridors, at focus intersections, and systemic safety countermeasures. These safety recommendations were refined by the STF to enumerate a list of infrastructure projects for the action plan. Infrastructure projects include proven safety countermeasures that address crash patterns and make the built environment safe for all users. While safety needs were identified along high-crash focus corridors, corridor infrastructure projects require time to complete planning, environmental, funding. Therefore, **targeted projects are focused on safety improvements at specific high-crash locations (hot spots) along corridors**, as well as previously-identified high-crash intersections. Focus corridors were also evaluated as potential locations for systemic projects. Targeted infrastructure projects, including hot spot and intersection projects, are provided as **Table 6.1** and **Figure 6.1**. Systemic infrastructure projects are provided as **Table 6.2** and **Figure 6.2**.

Table 6.1 Targeted Infrastructure Project List

ID	Location	Scope	Benefits
Corridor Hot Spot Projects			
C-1	**Avenue I & Bamore Road**	Modify intersection geometry	Lowers vehicle speed and improve sight distance
C-2	**Avenue H & Millie Street**	Modify intersection geometry and traffic signal	Channelizes traffic flow
C-3	**Avenue I & Millie Street**	Construct raised median	Removes turning conflicts
C-4	**Avenue I & Radio Lane**	Construct sidewalk and install pedestrian facilities at intersection (ramps. crosswalks, signals, and push buttons)	Improves pedestrian safety near school
C-5	**Reading Rd & FM 2218**	Add north-westbound left-turn lane along Reading Rd	Removes turning conflicts and improves mobility
C-6	**Minonite Rd & Meadow/Rohan**	Add northbound left-turn lane and southbound left-turn lane along Minonite	Removes turning conflicts and improves mobility
Intersection Projects			
I-1	**Spur 10 & SH 36**	Reconfigure intersection as a Continuous Green-T	Removes turning conflicts and reduces delay along SH 36
I-2	**Old Richmond Rd & Rawson Dr**	Add eastbound left-turn lane along Old Richmond Rd	Allows for vehicle storage (when tracks are occupied), removes head-on conflict, and reduces delay
I-3	**Louise St & Ave N**	Realign northbound approach	Removes turning conflict and improves mobility
I-4	**Spacek Rd & IH 69 EBFR**	Add striping and signing improvements	Adds clarity to unexpected condition

Figure 6.1 Targeted Infrastructure Project Map

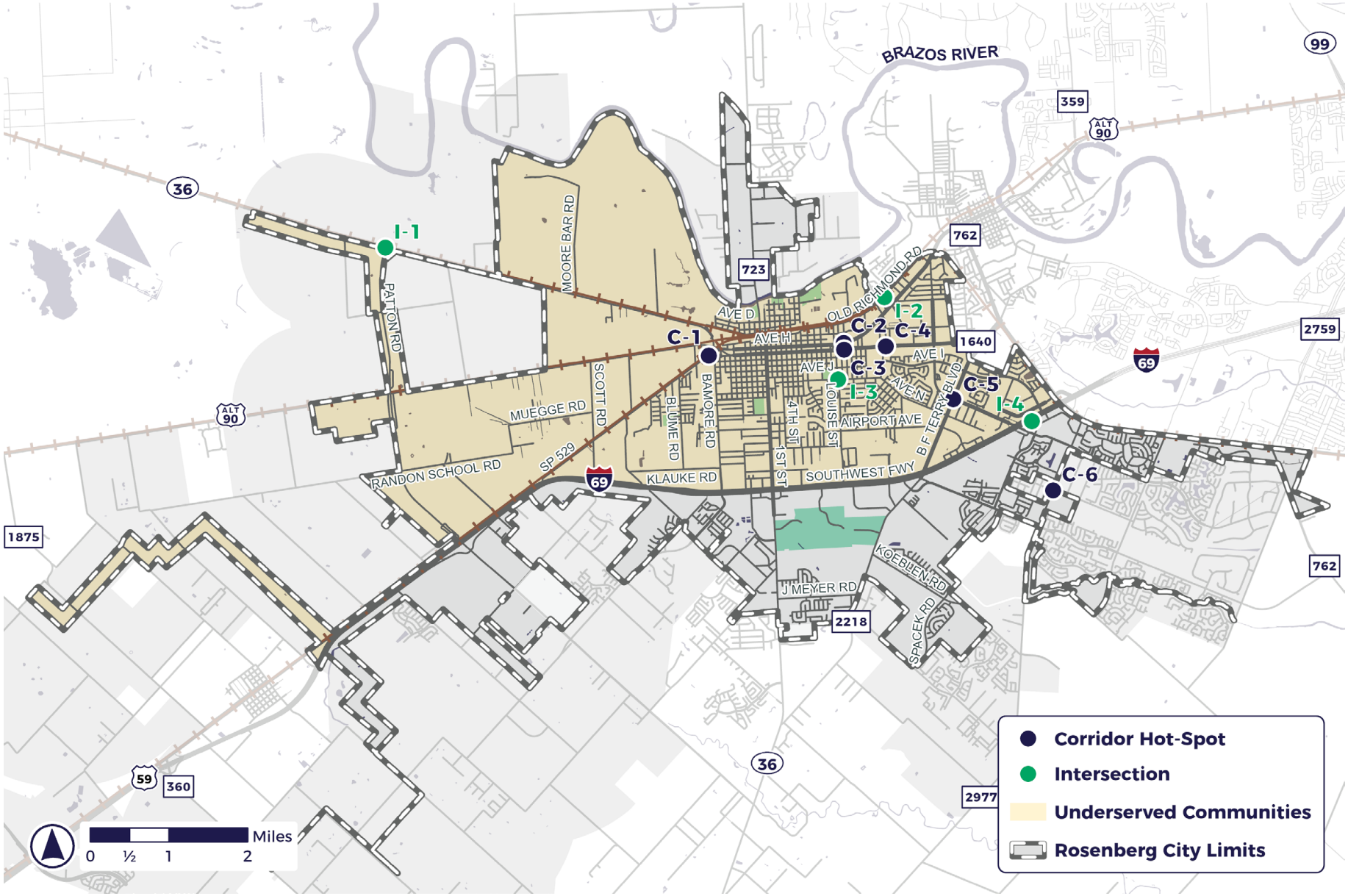
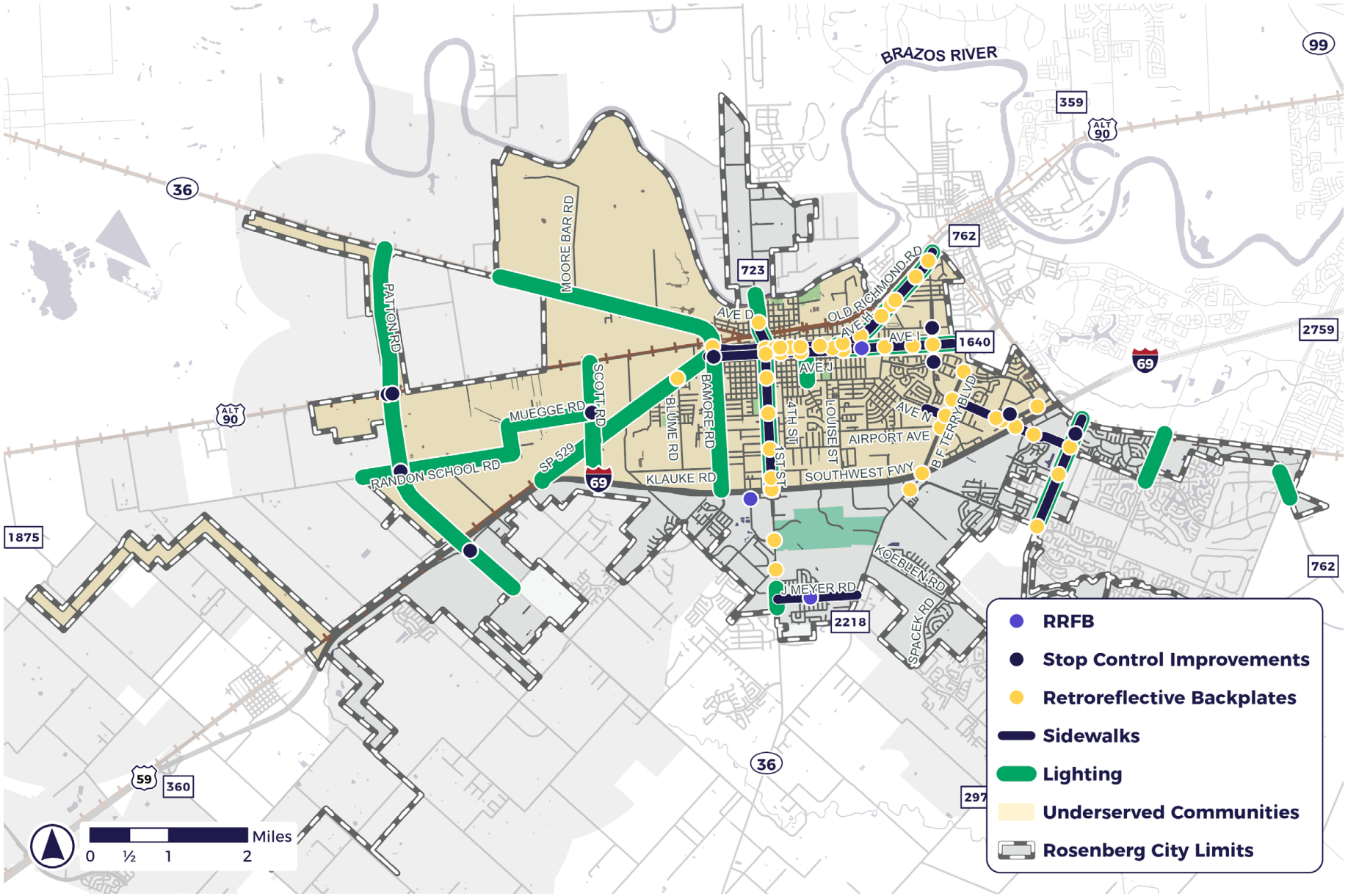


Table 6.2 Systemic Infrastructure Project List

ID	Location	Scope	Benefits
SystemicProjects			
S-1	**3 crossing locations**	Install Rectangular Rapid Flashing Beacons (RRFB) and high visibility pedestrian crosswalk markings	Improves pedestrian safety as mid-block or unsignalized crossing locations near schools, parks, transit stops, and other pedestrian destinations
S-2	**20 miles**	Install 6-foot sidewalks	Improves pedestrian safety and fill gaps in existing pedestrian network
S-3	**45 signalized intersections**	Install backplates with retroreflective borders	Reduces all crashes at signalized intersections
S-4	**28 miles**	Install lighting at intersections along identified roadway segments	Reduces crashes occurring in dark or underlit conditions
S-5	**10 intersections**	Implement signing and marking improvements at stop-controlled intersections	Increase driver awareness of the intersection to reduce left-turn and angle crashes

Systemic countermeasures were selected to deploy systemwide based on emphasis areas, to strategically reduce crash types which are over-represented in City of Rosenberg. Systemic countermeasures are deployed along focus corridors, roadways on the HIN, and other high-risk locations. Additional details are provided in **Chapter 3, Safety Analysis**.

Figure 6.2 Systemic Infrastructure Project Map

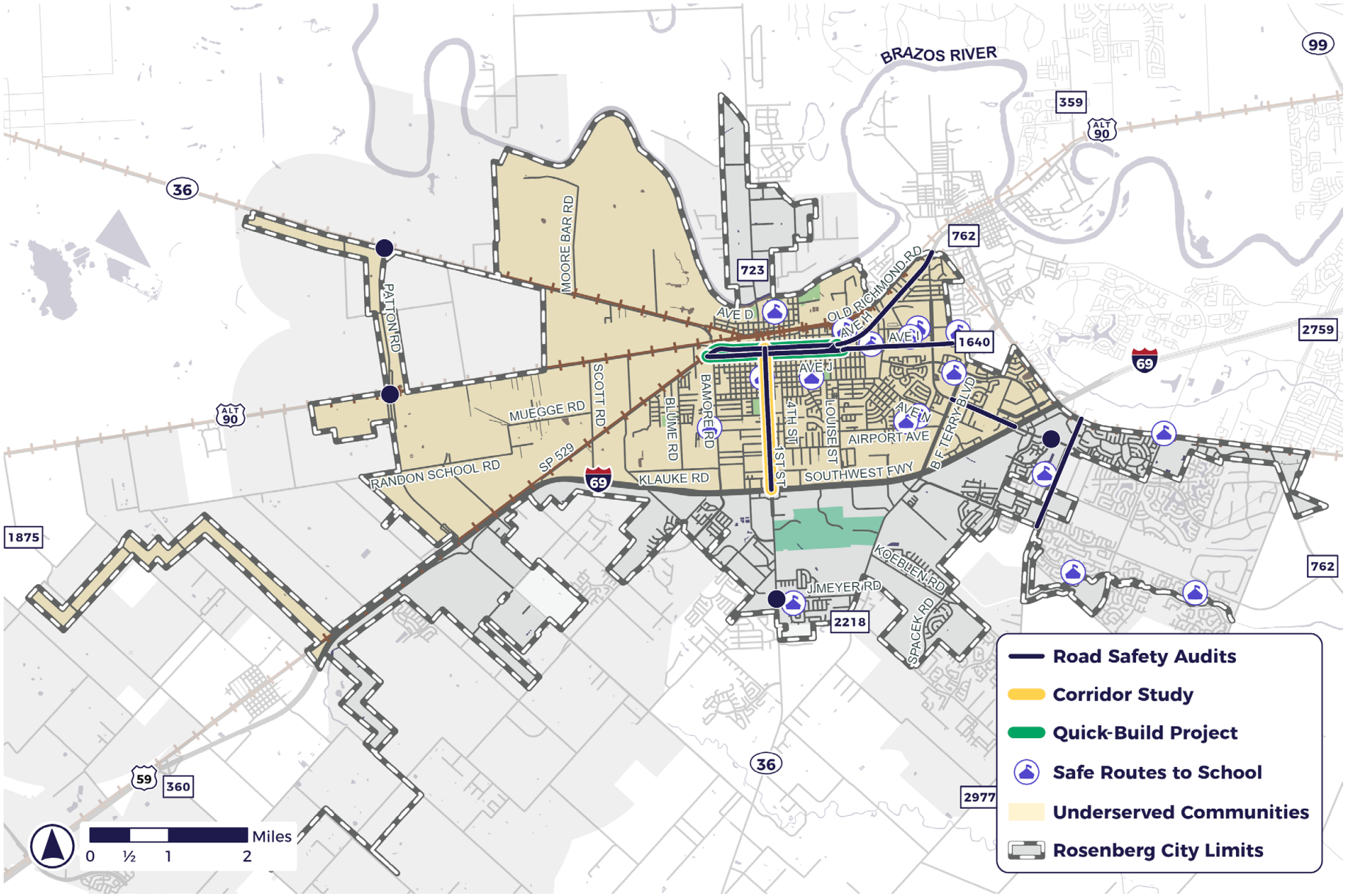


Non-Infrastructure Projects

While infrastructure projects are a major component of the implementation plan, the near-term implementation of infrastructure projects is hindered by funding and/or schedule constraints. Therefore, quick-build and non-infrastructure projects (planning, design guidance, procedures, policies, and activities) are recommended to enact near-term changes. Non-infrastructure projects, including planning and quick-build projects, are listed below and provided as **Figure 6.3**. Details of each project are provided in **Chapter 9, Action Plan**.

- Quick-build complete streets project along Avenue H and Avenue I, from Spur 529 to Millie Street
- Corridor study along 1st Street from Avenue H to IH 69
- Safe Routes to School planning throughout the City
- Road Safety Audits along each of the seven focus corridors
- Intersection Control Evaluations at four locations

Figure 6.3 Non-Infrastructure Project Map

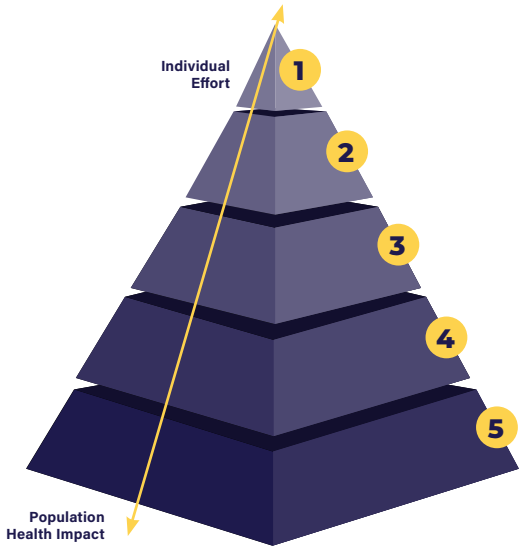


7 *Policy and Process Changes*

7. Policy and Process Changes

The Safe Systems Pyramid

Policies and plans were reviewed to identify changes that would emphasize safety for all road users, and other elements of the Safe System Approach. Establishing safety policies may ensure continuity of Safe System Approach elements beyond election cycles and changes in administration. Policies that impact the base layers of the Safe Systems Pyramid (built environment, latent safety measures, and active safety measures) should be prioritized for implementation, acknowledging these layers have the greatest public health impact and require the least individual effort.



Background

The public health practice is founded on the ideas that health problems are preventable when addressed at the population level, and the focus should be on preventing and controlling risk factors while promoting protective factors when possible.

Thesis

Vision Zero and the Safe Systems approach call for a paradigm shift in transportation safety which requires transportation professionals to understand their roles as public health professionals and incorporate public health principles into their thinking and practice. The Safe Systems Pyramid provides a framework for such thinking.

1. **Education**
   Driver education programs; Slow Down Campaigns
2. **Active Measures**
   Signals and signs indicating that one should stop or yield; forward, rear, and side collision warning; seat belts; helmets
3. **Latent Safety Measures**
   Signal timing that encourages slower traffic progression; leading pedestrian intervals; air bags; automated emergency braking systems; speed governors; alcohol ignition interlocks
4. **Built Environment**
   Roundabouts; speed humps; chicanes; raised crosswalks; sidewalks; bicycle infrastructure
5. **Socioeconomic Factors**
   Land development regulations that reduce vehicle miles traveled; Safety features on commercial fleets

Source: Adapted from The Spectrum of Prevention | Prevention Institute; the article appeared in Injury Prevention (1999;5:203-207), a publication of the BMJ Publishing Group | Ederer et al. The Safe Systems Pyramid: A new framework for traffic safety, Transportation Research Interdisciplinary Perspectives, Volume 21, 2023

Policy Review

Local and regional policies and plans were reviewed to identify potential changes to local policies which may improve road safety. The review was not comprehensive, but instead focused on policies that reduce focus crash types within the urban area. Local guidelines/ordinances which were reviewed include Rosenberg's Unified Development Code (UDC), Traffic Calming Speed Hump Policy, and Policies and Procedures for Stop Sign Installation. Regional, state, and national review included H-GAC's Regional Safety Plan, TxDOT's Strategic Highway Safety Plan, Safe System Roadway Design Hierarchy (FHWA-SA-22-069), and other USDOT guidance.

In general, design guidance should be updated to emphasize safety for all road users. Design guidance should incorporate safety countermeasures which remove potential roadway conflicts and separate vulnerable road users from traveling vehicles, with the goal of reducing crash kinetic energy if a crash does occur. Policy recommendations reflect national practices for crash reduction and should be considered within the local context. Policy recommendations, organized by emphasis area, are provided as **Table 7.1**.

Table 7.1 Policy Recommendations

Emphasis Area	Countermeasure	Existing Policy	Recommendation
Vulnerable Road User	Sidewalks	As areas are developed or redeveloped, sidewalks are required along one side of major thoroughfares and collector streets and along both sides of local/residential streets except along local/residential streets where sidewalk does not already exist (UDC, Chapter 1, Article XXII) Required sidewalk width is 4 feet on residential streets, and 5 feet on collectors and major thoroughfares. Sidewalks through esplanades should be minimum 6 feet wide (UDC Chapter 7, Article VI, Sec 7-51)	Consider removing the exemption for sidewalk construction. Instead, require sidewalks along all newly developed or redeveloped lots, regardless of presence of existing sidewalks (UDC, Chapter 1, Article XXII).
	Sidewalk Buffer Zones	No existing policy	Establish a policy that requires sidewalks on future construction to be set back from the curb at least 3 feet where possible.
	Directional Ramps	Sidewalk wheelchair ramps shall be required at all intersections (UDC Chapter 7, Article VI, Sec 7-51)	Establish a requirement that all future access ramps be directional and align with the crosswalk.
	Bike Lanes	No existing policy	Establish design guidelines and implementation criteria for various types of bike lanes and buffers to separate vehicle travel lanes and bike lanes.

Table 7.1 Policy Recommendations (Continued)

Emphasis Area	Countermeasure	Existing Policy	Recommendation
Intersection Safety	**Stop Sign Policy**	Resolution No. R-2672	No change recommended
	Access Management	Streets and traffic lanes shall be properly aligned across an intersection. Proposed streets shall be aligned with existing streets. (UDC Chapter 7, Article VI, Sec 7-50-P) Driveways must comply with City of Rosenberg Driveway Design and spacing standards. All driveways are required to first obtain a permit through the City of Rosenberg. In addition, if the driveway is located on a state roadway, the City requires the applicant to obtain a driveway access permit from TxDOT. (UDC Chapter 7, Article VII, Sec 7-61)	No change recommended
	Traffic Impact Analysis	A traffic impact analysis (TIA) may be required as part of the approval process for driveways and other roadway access and should include recommendations for site access and transportation improvements needed to maintain traffic flow to, from within, and past the site at an acceptable and safe level of service. (UDC Chapter 7, Article VII, Sec 7-61-E)	Update TIA guidelines to include safety analysis for developments located along the High Injury Network. Update TIA guidelines to include intersection control evaluation at key study intersections for consideration of roundabouts or other innovative intersection designs.
	Sight Distance	Intersection design should consider the required sight distance before establishing corner right-or-way clips (UDC Chapter 7, Article VI, Sec 7-54-D)	No change recommended
	Left-Turn Phasing Guidelines	No existing policy	Develop design guidelines and criteria for left-turn signal treatments.

Table 7.1 Policy Recommendations (Continued)

Emphasis Area	Countermeasure	Existing Policy	Recommendation
Roadway & Lane Departure	**Curve Departure**	Curved sections of major thoroughfares shall consider superelevation, signage and design speeds (UDC Chapter 7, ArticleVI, Sec 7-50-H)	Develop additional guidance for recommended signage and design speeds along curved roadway segments.
Dark or Underlit Conditions	**Lighting**	Within the City, street lighting is required along new public streets and strongly encouraged along existing or repaved streets (UDC Chapter 7, Article II, Sec 7-17) Minimum spacing and lumens is specified based on roadway type, divided vs undivided roadways, and commercial areas. Shorter distances may be required in the vicinity of street intersections (UDC Chapter 7, Appendix E)	Establish intersection lighting requirements.
	Retroreflectivity	All pavement markings should be retro-reflective material. For lane delineation, reflectors shall be used on all roadways classified as Collectors or greater. (UDC Chapter 7, Article VI, Sec 7-53-D).	Establish minimum sign retroreflectivity standards, and a maintenance plan to track and replace signs that do not meet these standards.
Speed Related	**Traffic Calming Speed Hump Policy**	Resolution No. R-3161	No change recommended
	Driveway Speed Differentials	Large speed differentials shall be minimized to prevent unsafe conditions. Every attempt should be made to have driveway designs that create no more than 20 mph maximum speed differential on roadways. (UDC Chapter 7, Article VII, Sec 7-61-E)	No change recommended

8 *Progress and Transparency*

8. Progress and Transparency

Evaluation Outcomes

Rosenberg staff are well-equipped to oversee CSAP implementation and monitor the progress of CSAP projects/strategies. The CSAP implementation process may be incorporated into existing City procedures such as CIP planning. Also, to facilitate regional coordination and minimize administrative efforts, Rosenberg staff may participate in the Regional Transportation Safety Committee organized by H-GAC. Additionally, H-GAC received a FY22 SS4A grant and is assisting several local agencies in the development of local CSAPs. **Rosenberg should coordinate with H-GAC to collaborate regarding implementation and reporting activities after plans are complete.**

Evaluation, the final step of the roadway safety management process, is necessary to understand the progress of CSAP implementation. Outcomes (crash statistics) should be monitored throughout the year and published annually on the City (or H-GAC) website. Federal laws require MPOs to establish performance-based planning practices. H-GAC reports safety crash data, analyzes regional trends, and establishes regional safety targets. Rosenberg should coordinate with H-GAC to understand the feasibility of H-GAC maintaining a public-facing dashboard, hosted on MPO website. The dashboard would monitor crash history outcomes (statistics and performance measures), report safety planning targets, and record outcomes for previous years. Regular evaluation provides an opportunity to refine/adjust the implementation process and continually improve efforts toward achieving Vision Zero. CSAP outcomes (performance measures) are provided as **Table 8.1**.

Table 8.1 CSAP Implementation Evaluation Outcome Performance Measures

Outcome Type	Performance Measure	5-Year Average (2019-2023)	2023
Crash Frequency	Total number of traffic fatalities (persons)	3.2	2
	Total number of serious injuries (persons)	20.8	17
	Fatalities per 100,000 population	8.4	5.2
	Serious Injuries per 100,000 population	54.3	44.4
Vulnerable User Crash Frequency	Total number of non-motorized fatalities and serious injuries	2.0	3
	Number of pedestrian fatalities	0.4	1
	Number of pedestrian serious injuries	1.2	1
	Number of bicycle fatalities	0.2	0
	Number of bicycle serious injuries	0.2	1

*The **H-GAC's Transportation Safety Committee** was established by the Transportation Policy Council to **improve road safety in the region**. The committee's purpose is to promote information-sharing, establish safety goals and performance measures, coordinate safety efforts across the region's jurisdictions, and identify policy issues concerning safety.*

Source: H-GAC Website

9 Action Plan

9. Action Plan

General Schedule of Implementation

While near-term actions will begin shortly after the plan is adopted, the time required to complete implementation varies for each project type: **infrastructure, safety planning, design guidance, and policy updates.** Implementing a combination of project types can create synergy and maximize the result of any one prevention activity, by strengthening the linkages between multiple efforts. For example, a corridor study and quick-build project along US 90A may be used to inform the permanent corridor design. Improvements along US 90A may inform City design guidance for urban arterials, which may then be incorporated into the design of future infrastructure projects. In sum, all project types work together to create a safe system and comprehensively improve safety across time, space, and system levels.

Funding Sources

The immediate next step for most improvements is to estimate cost of improvements, commit local funds, and submit a grant application. Common funding sources for safety improvement projects include USDOT's SS4A and TxDOT's HSIP. Projects funded by FHWA programs will be required to comply with TxDOT Local Government Project procedures. A brief description of common funding sources for infrastructure safety projects is provided below:

Table 9.1 Funding Sources

Funding Source	Description
USDOT SS4A Implementation Grant	Implementation Grants fund projects and strategies identified in an Action Plan that address roadway safety problems. Implementation Grants may also fund supplemental planning and demonstration activities. Applicants must have an existing Action Plan to apply for Implementation Grants or have an existing plan that is substantially similar and meets the eligibility requirements of an Action Plan.
USDOT SS4A Planning and Demonstration Grant	Used to develop a Safety Action Plan, conduct supplemental safety planning to enhance an Action Plan, and/or carry out demonstration activities to inform the development of, or an update to, an Action Plan
TxDOT Highway Safety Improvement Program (HSIP)	HSIP grants fund safety engineering improvements on Texas roadways. TxDOT reserves 10% of the funding for use on off-system roadway improvement projects that include countermeasures preapproved by TxDOT.
TxDOT Transportation Alternatives Set-Aside (TA)	TA grants funds to assist communities in developing non-motorized transportation networks. Eligible activities include planning, engineering, and construction.

Action Plan Summary

Table 9.2 Action Plan Summary

ID	Action (What)	Timeframe (When)	Partner Agencies (Who)	Potential Funding Source (How)
C-1	**At Avenue I & Bamore Road** *Modify intersection geometry*	2025-2026 (funding/design) 2027-2029 (construction)	TxDOT	SS4A Implementation TxDOT HSIP
C-2	**At Avenue H & Millie Street** *Modify intersection geometry and traffic signal*			
C-3	**At Avenue I & Millie Street** *Construct raised median*			
C-4	**At Avenue I & Radio Lane** *Construct sidewalk and install pedestrian facilities*			
C-5	**Reading Rd & FM 2218** *Add north-westbound left-turn lane*			
C-6	**Minonite Rd & Meadow/Rohan** *Add northbound left-turn lane and southbound left-turn lane*			
I-1	**Spur 10 & SH 36** *Reconfigure intersection as a Continuous Green-T*	2025-2026 (funding) 2027-2029 (design) 2030+ (construction)	TxDOT	SS4A Implementation TxDOT HSIP
I-2	**Old Richmond Rd & Rawson Dr** *Add eastbound left-turn lane*	2025-2026 (funding/design) 2027-2029 (construction)	City of Rosenberg (only)	
I-3	**Louise St & Ave N** *Realign northbound approach*			
I-4	**Spacek Rd & IH 69 EBFR** *Add Striping and signing improvements*		TxDOT	

(C) Corridor Hot Spot
(I) Intersection
(S) Systemic
(B) Quick Build/Planning
(P) Policy
(E) Evaluation

Table 9.2 Action Plan Summary (Continued)

ID	Action (What)	Timeframe (When)	Partner Agencies (Who)	Potential Funding Source (How)
S-1	*Unsignalized Pedestrian Crossing Improvements*	2025-2026 (funding/design) 2027-2029 (construction)	TxDOT	SS4A Implementation TxDOT HSIP TxDOT Transportation Alternatives
S-2	*Sidewalks*			
S-3	*Backplates with Retroreflective Borders*			
S-4	*Safety Lighting*			
S-5	*Low-Cost Stop-Controlled Intersection Improvements*			
B-1	**Along Avenue H/I, from Spur 529 to Millie Street** *Implement quick-build project to demonstrate the practicality of narrowing the roadway*	2025-2026 (construction)	TxDOT	SS4A Demonstration
B-2	**Along 1st St, from Avenue H to IH 69** *Conduct study to determine access management improvements*	2025-2026 (planning) 2027-2029 (funding) 2030+ (design)	Rosenberg Development Corporation (RDC)	SS4A Supplemental Planning
B-3	**Safe Routes to School planning** *Throughout the City*		Lamar CISD	
B-4	**Road Safety Audits** *Along each of the seven focus corridors*		TxDOT	
B-5	**Intersection Control Evaluations** *At four locations*			
P-1	*Establish a work group to incorporate policy recommendations into City policies/processes*	2025-2026 (coordination) 2027-2029 (update code)	City of Rosenberg (only)	SS4A Supplemental Planning
E-1	*Coordinate with H-GAC to publish crash performance outcomes*	2025-2026 (coordination) 2027+ (reporting annually)	H-GAC	None

(C) Corridor Hot Spot
(I) Intersection
(S) Systemic
(B) Quick Build/Planning
(P) Policy
(E) Evaluation

C-1. Avenue I & Spur 529/ Bamore Rd

ROSENBERG
SAFETY ACTION PLAN

Project Description

Modify northbound right-turn channelization at Spur 529 to slow speeds on Avenue I at Bamore Road.

Located: On HIN. In Underserved Community. On Focus Corridor.

Estimated Cost: $425,000

Safety Impact

Lowers vehicle speed and improve sight distance.

Expected Crash Reduction: 41%
Crash Cost Savings: $725,000

Preventable Crashes:
18 total
0 fatalities and serious injuries

BENEFIT-COST RATIO: 1.7

HSIP SII: 1.8

Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of intersection center.

Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition

C-2. Avenue H at Millie Street

ROSENBERG
SAFETY ACTION PLAN

Project Description

Construct dedicated eastbound left-turn lane. Modify signal to accommodate a protected eastbound left turn phase.

Located: On HIN. In Underserved Community. On Focus Corridor.

Estimated Cost: $650,000

Safety Impact

Channelizes traffic flow.

Expected Crash Reduction: 75%
Crash Cost Savings: $575,000

Preventable Crashes:
8 total
0 fatalities and serious injuries

BENEFIT-COST RATIO: 0.9

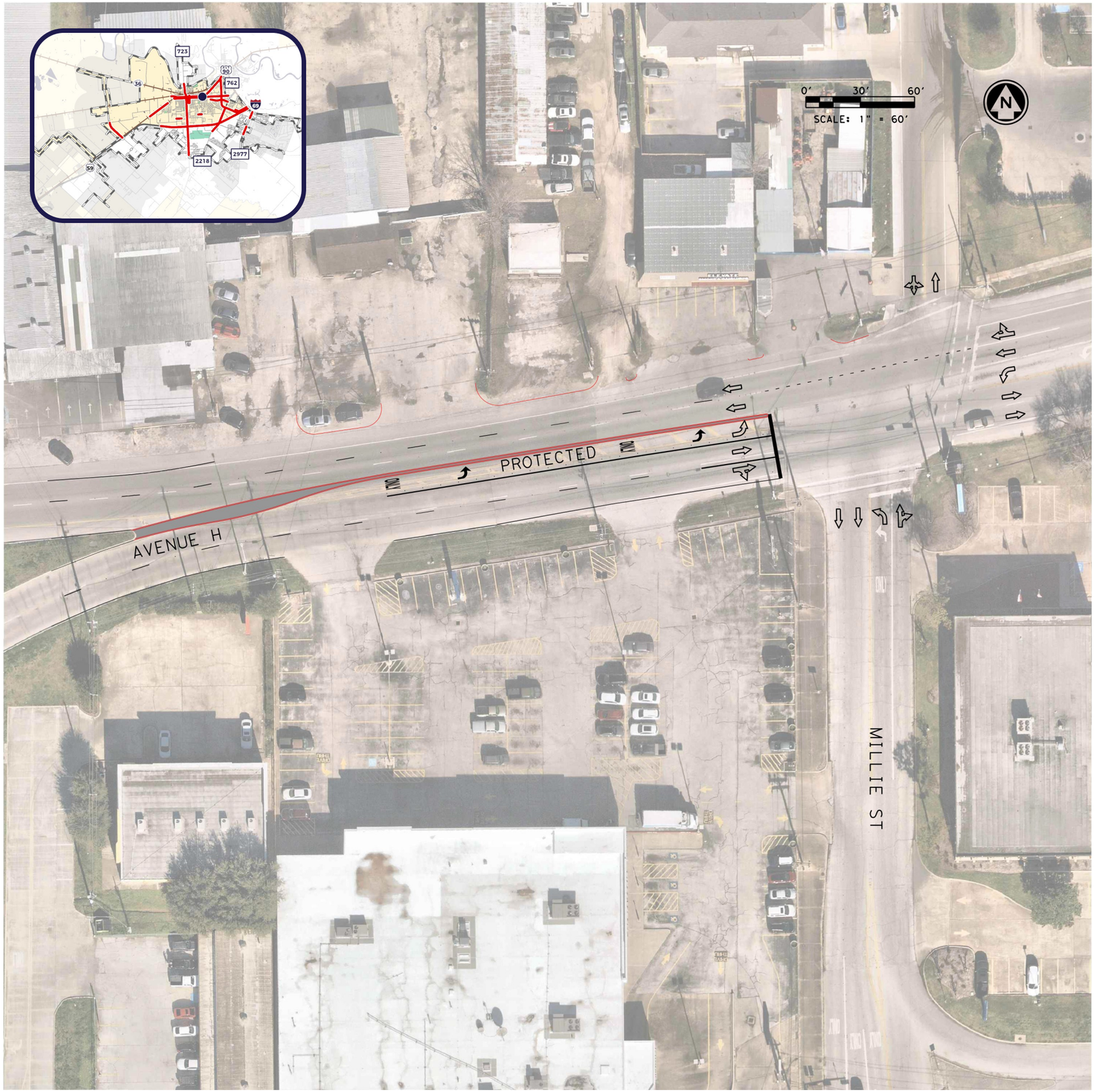
HSIP SII: 0.4

Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of intersection center.

Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition



C-3. Avenue I at Millie Street

ROSENBERG
SAFETY ACTION PLAN

Project Description

Construct raised median on Avenue I to restrict northbound left-turn from unsignalized Millie Street.

Located: On HIN. In Underserved Community. On Focus Corridor.

Estimated Cost: $650,000

Safety Impact

Removes turning conflicts.

Expected Crash Reduction: 75%
Crash Cost Savings: $2.0 million

Preventable Crashes:
31 total
0 fatalities and serious injuries

BENEFIT-COST RATIO: 3.1

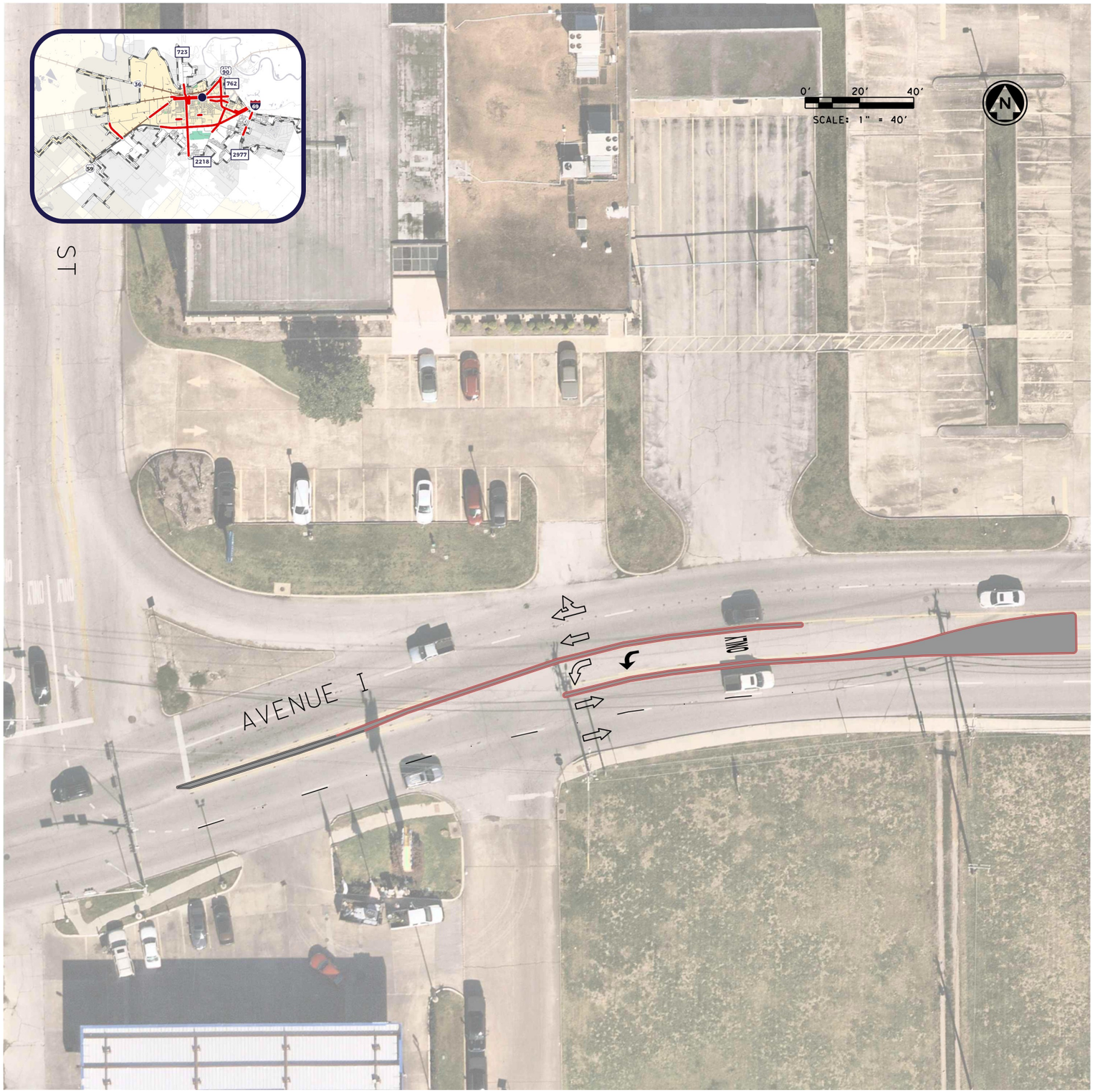
HSIP SII: 2.5

Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of intersection center.

Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition



C-4. Avenue I & Radio Lane

ROSENBERG
SAFETY ACTION PLAN

Project Description

Rebuild signal with mast arms and pedestrian facilities (ramps, crosswalks, signals, and push buttons). Construct sidewalk.

Located: On HIN. In Underserved Community. On Focus Corridor.

Estimated Cost: $1.0 million

Safety Impact

Improves pedestrian safety near school.

Expected Crash Reduction: 23%
Crash Cost Savings: $800,000

Preventable Crashes:
30 total
0 fatalities and serious injuries

BENEFIT-COST RATIO: 0.8

HSIP SII: 0.3

Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of intersection center.

Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition

C-5. Reading Rd & FM 2218

ROSENBERG
SAFETY ACTION PLAN

Project Description

Construct a northwestbound left-turn lane along Reading Road and modify signal to accommodate. Continue roadway widening east to match existing cross-section at Allwright Street.

Located: On HIN. In Underserved Community. On Focus Corridor.

Estimated Cost: TBD

Safety Impact

Removes turning conflicts and improves mobility.

Expected Crash Reduction: 25%
Crash Cost Savings: $1.4M

Preventable Crashes:
61 total
0 fatalities and serious injuries

BENEFIT-COST RATIO: TBD

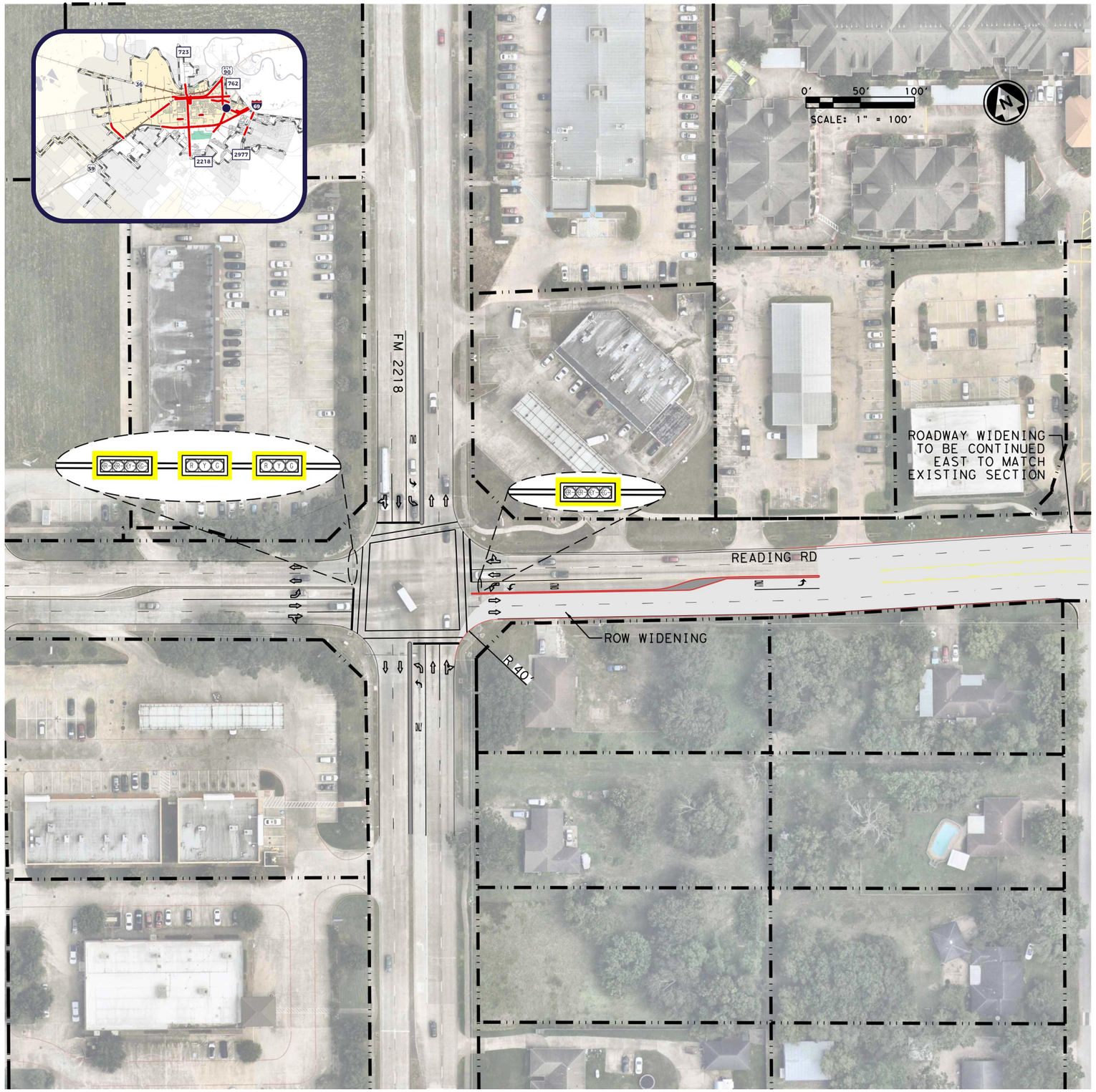
HSIP SII: TBD

Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of intersection center.

Project Readiness

Requires Utility Relocation

Requires ROW Acquisition



C-6. Minonite Rd & Meadow Ln/Rohan Rd

ROSENBERG
SAFETY ACTION PLAN

Project Description

Add northbound left-turn lane and southbound left-turn lane along Minonite Road.

Located: On HIN. Not in Underserved Community. On Focus Corridor.

Estimated Cost: $900,000

Safety Impact

Removes turning conflicts and improves mobility.

Expected Crash Reduction: 25%
Crash Cost Savings: $1.5 million

Preventable Crashes:
18 total
3 fatalities and serious injuries

BENEFIT-COST RATIO: 1.7

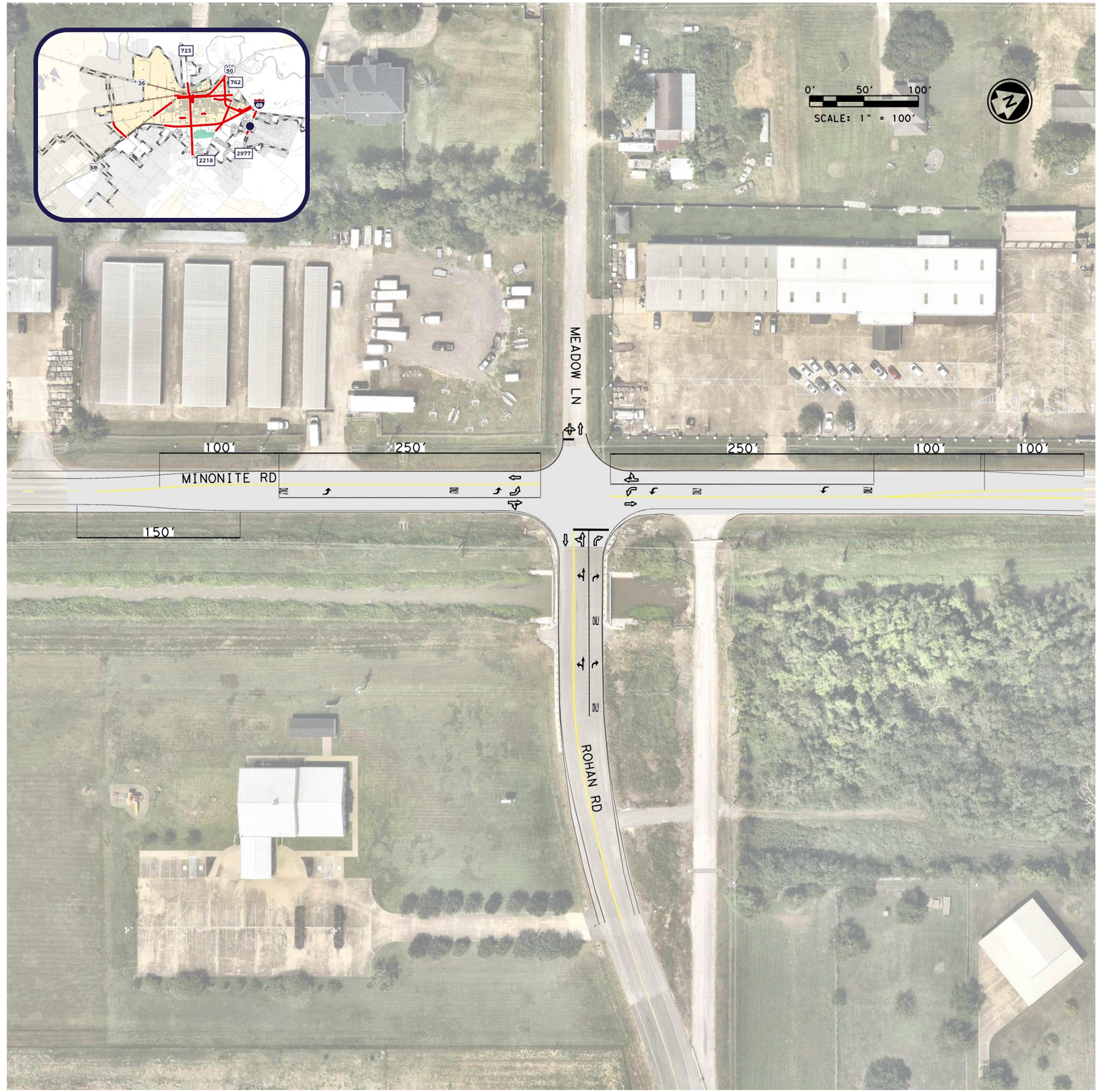
HSIP SII: 3.7

Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of intersection center.

Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition



I-1. Spur 10 & SH 36

ROSENBERG
SAFETY ACTION PLAN

Project Description

Reconfigure intersection as a Continuous Green-T.

Located: Not on HIN. In Underserved Community. Focus Intersection.

Estimated Cost: $1.2 million

Safety Impact

Removes turning conflicts and reduces delay along SH 36.

Expected Crash Reduction: 42%
Crash Cost Savings: $9.2 million

Preventable Crashes:

31 total

6 fatalities and serious injuries

BENEFIT-COST RATIO: 7.8

HSIP SII: 16.1

Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of intersection center.

Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition

I-2. Old Richmond Rd & Rawson Dr

ROSENBERG
SAFETY ACTION PLAN

Project Description

Add eastbound left-turn lane along Old Richmond Road. If pavement widening is not feasible, Dynamic Message Signs (DMS) can provide advanced guidance which directs vehicles to alternative routes when the at-grade crossing is occupied.

Located: Not on HIN. In Underserved Community. Focus Intersection.

Estimated Cost: $1.2 million

Safety Impact

Allows for vehicle storage (when railroad tracks are occupied), removes head-on conflict, and reduces delay.

Expected Crash Reduction: 25%

Crash Cost Savings: $100,000

Preventable Crashes:

2 total

0 fatalities and serious injuries

BENEFIT-COST RATIO: 0.1

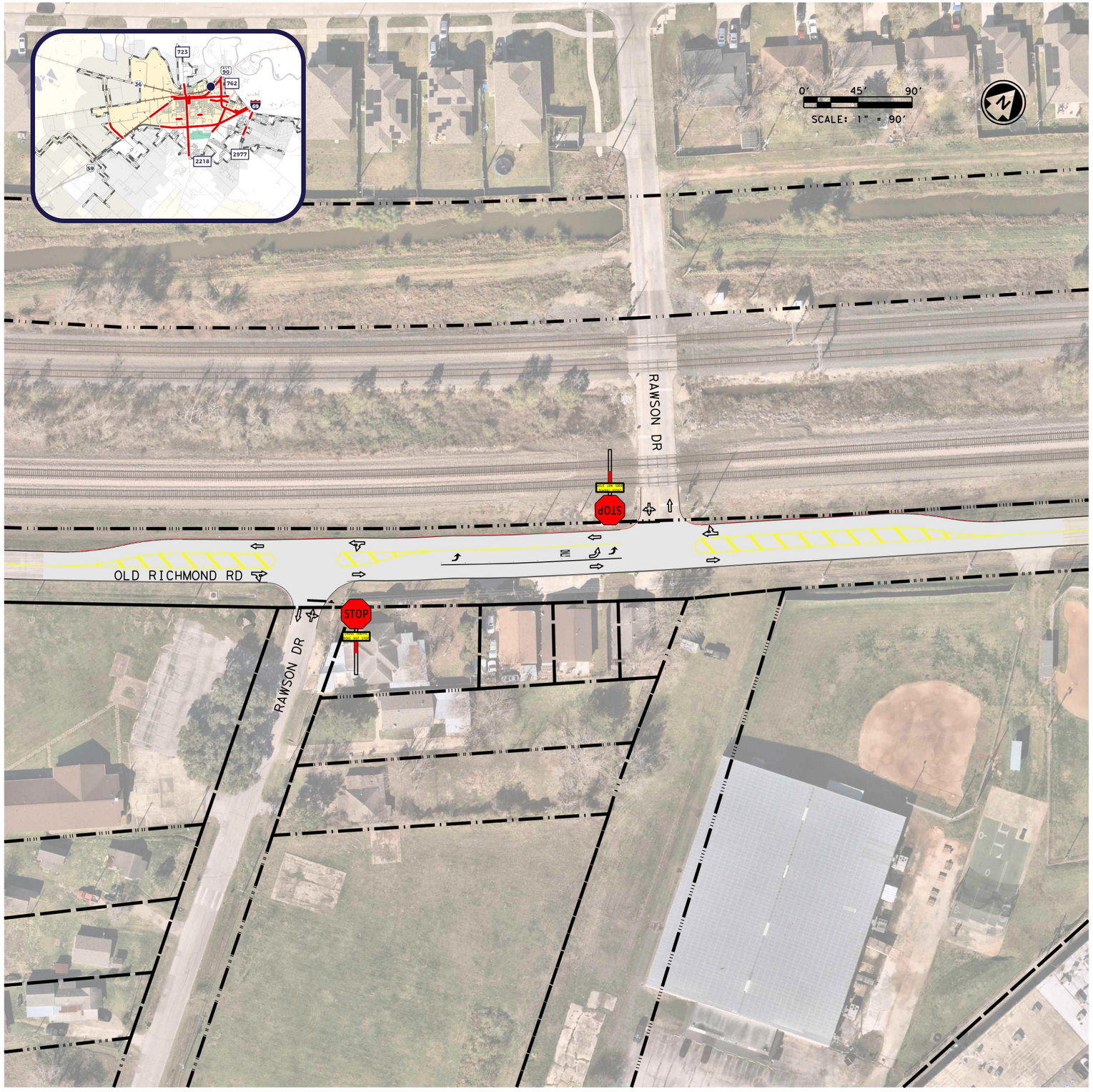
HSIP SII: 0.0

Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of intersection center.

Project Readiness

May Require
Utility Relocation

Requires
ROW Acquisition



I-3. Louise St & Ave N

ROSENBERG
SAFETY ACTION PLAN

Project Description

Realign northbound approach.

Located: Not on HIN. In Underserved Community. Focus Intersection.

Estimated Cost: $1.2 million

Safety Impact

Removes turning conflict and improves mobility.

Expected Crash Reduction: 36%
Crash Cost Savings: $250,000

Preventable Crashes:
6 total
0 fatalities and serious injuries

BENEFIT-COST RATIO: 0.2

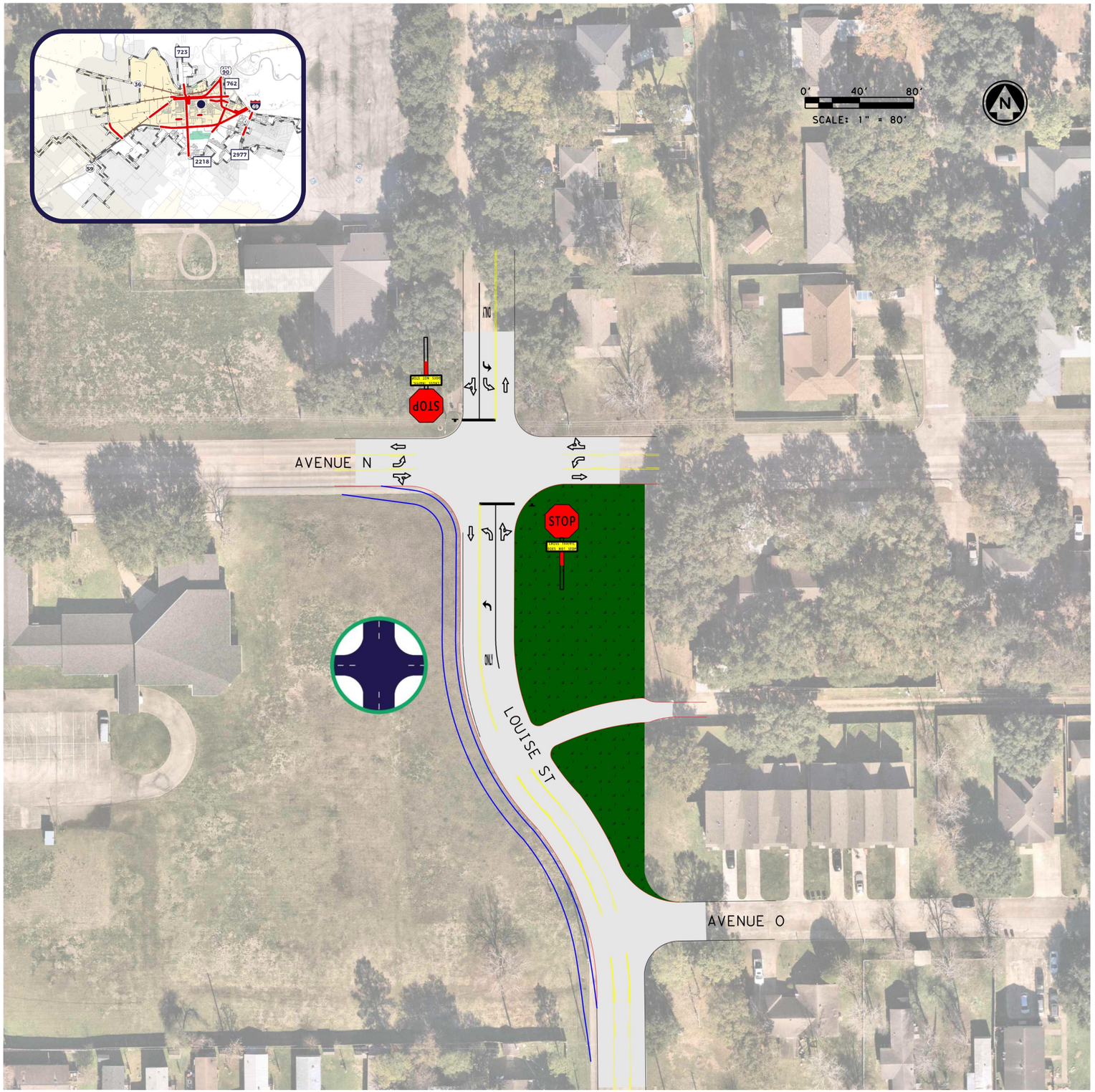
HSIP SII: 0.0

Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of intersection center.

Project Readiness

Requires Utility Relocation

Does NOT Require ROW Acquisition



I-4. Spacek Rd & IH 69 EBFR

ROSENBERG
SAFETY ACTION PLAN

Project Description

Add striping and signage to clarify eastbound right lane drop at intersection. Add stop bar and edge line markings to clarify northbound right movement. Add vertical posts to make raised island more visible.

Located: On HIN. Not in Underserved Community.

Estimated Cost: $50,000

Safety Impact

Adds clarity to unexpected condition.

Expected Crash Reduction: 20%
Crash Cost Savings: $200,000

Preventable Crashes:
10 total
0 fatalities and serious injuries

BENEFIT-COST RATIO: 3.9

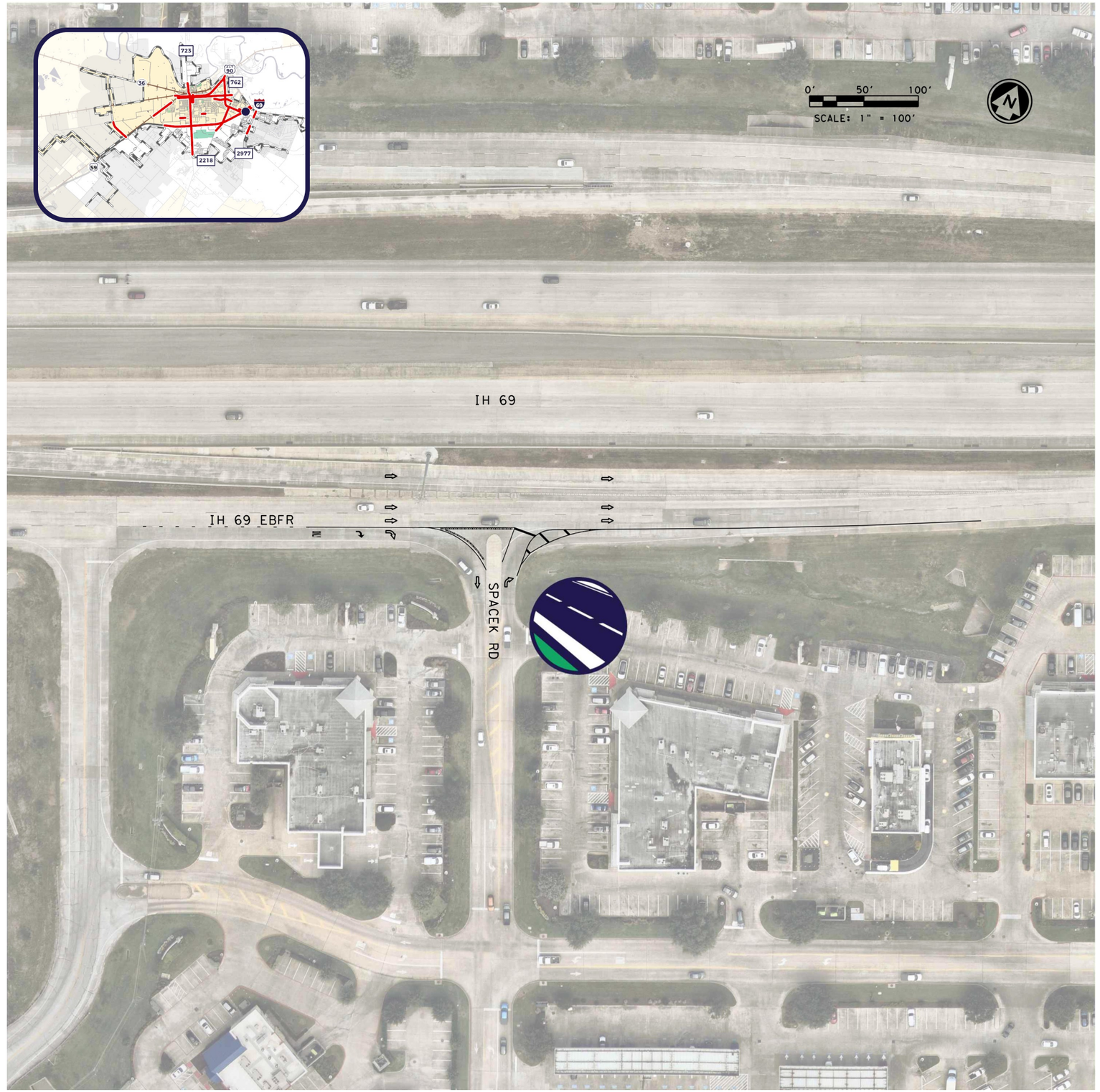
HSIP SII: 2.0

Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of intersection center.

Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition



S-1. Unsignalized Pedestrian Crossing Improvements

ROSENBERG
SAFETY ACTION PLAN

Project Description

Install Rectangular Rapid Flashing Beacons (RRFB) and high visibility pedestrian crosswalk markings.

Potential Locations: 3 crossing locations

Estimated Unit Cost: $70,000 per crossing location
Estimated Total Cost: $200,000

Safety Impact

Improves pedestrian safety as mid-block or unsignalized crossing locations near schools, parks, transit stops, and other pedestrian destinations.

Preventable Crashes:
- 0 total
- 0 fatalities and serious injuries

Expected Crash Reduction: 47%
Crash Cost Savings: $0k

BENEFIT-COST RATIO: 0.0*

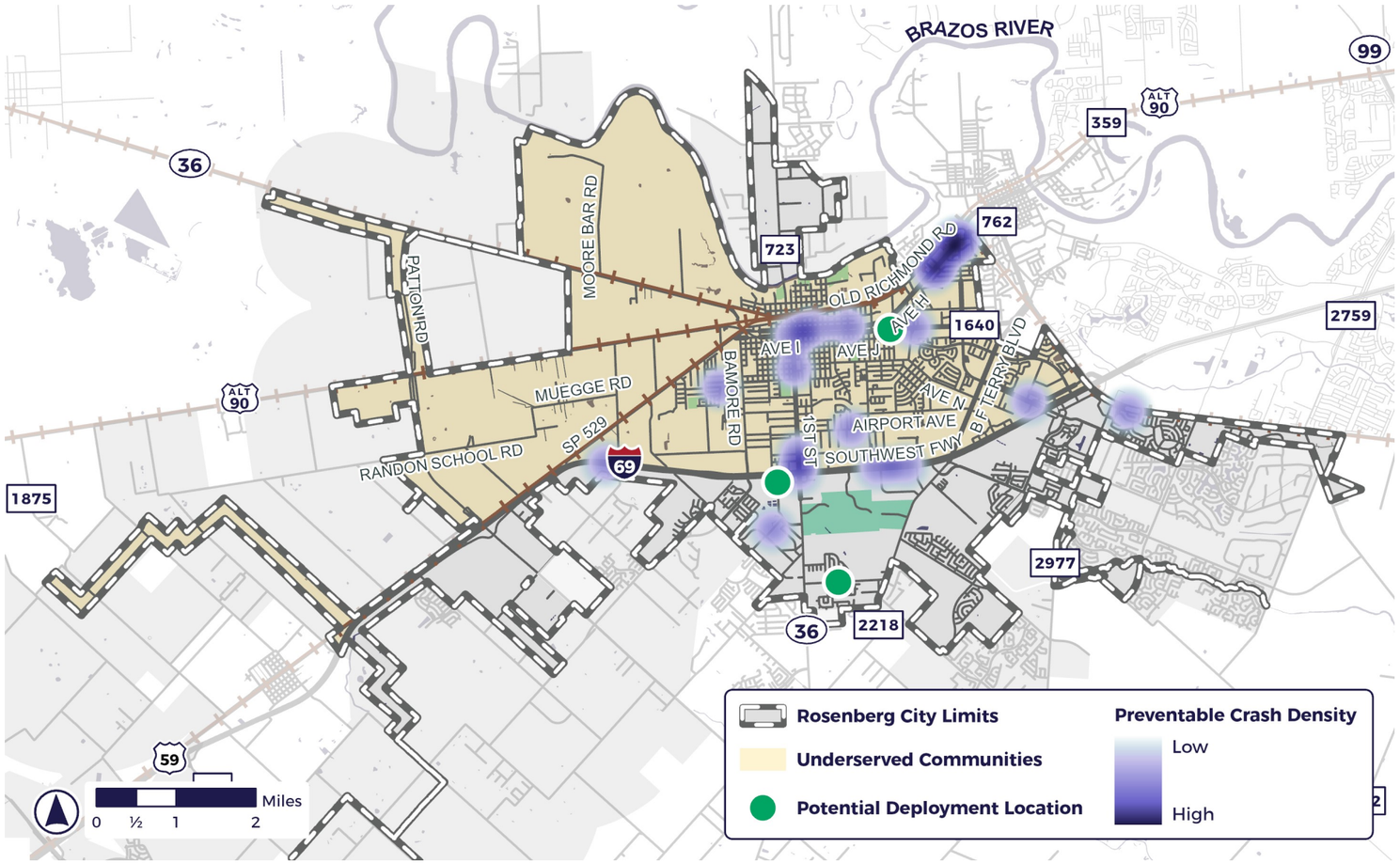
HSIP SII: N/A

*Systemic improvements are recommended based on high-risk features - regardless of reported crash history to date.
Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of identified locations.

Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition



S-2. Sidewalks

ROSENBERG
SAFETY ACTION PLAN

Project Description

Install 6 foot sidewalks

Potential Locations: 20 miles

Estimated Unit Cost: $690,000 per mile
Estimated Total Cost: $13.8 million

Safety Impact

Improves pedestrian safety and fill gaps in existing pedestrian network.

Preventable Crashes:
12 total
2 fatalities and serious injuries

Expected Crash Reduction: 65%
Crash Cost Savings: $11.2 million

BENEFIT-COST RATIO: 0.8*

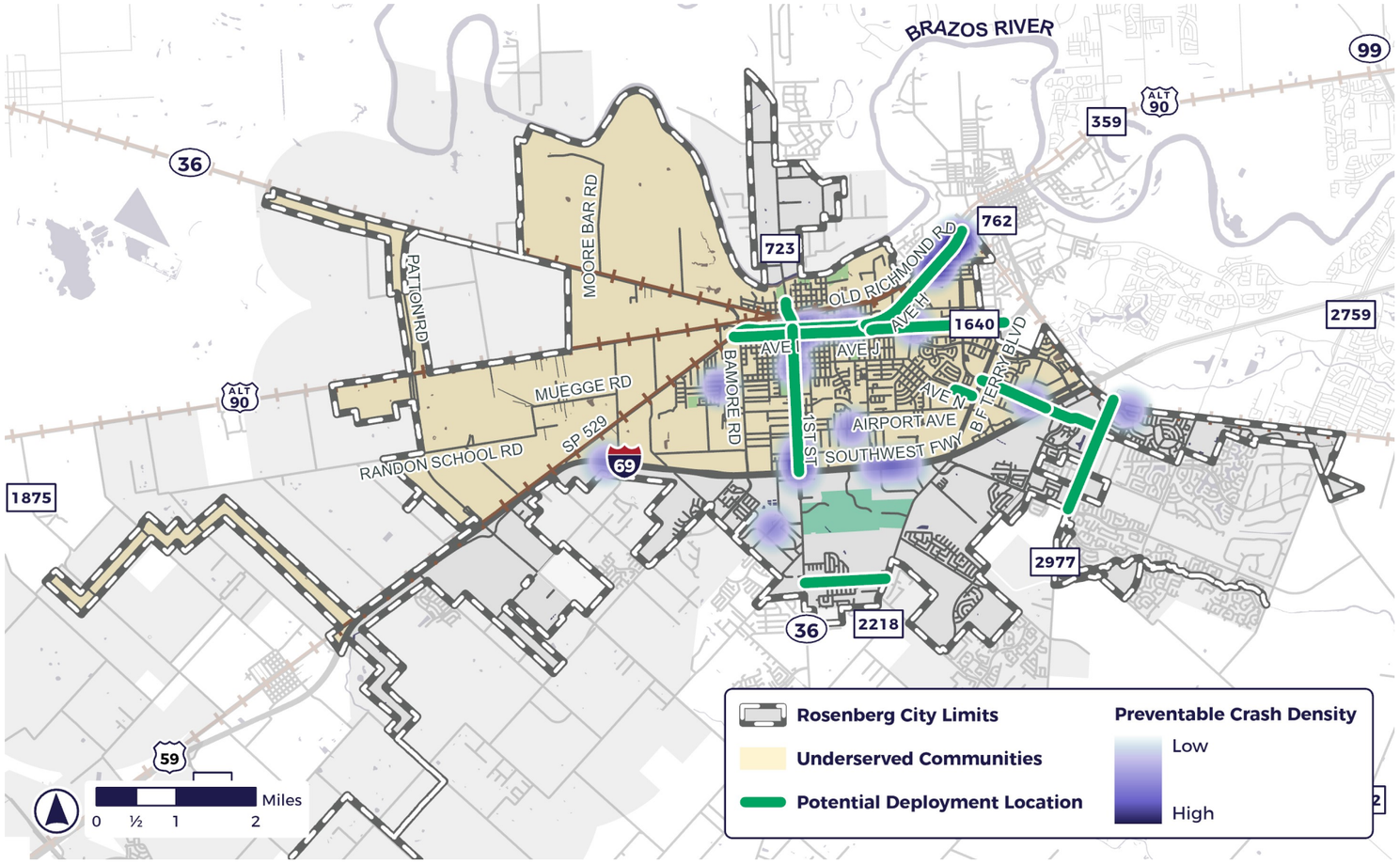
HSIP SII: N/A

*Systemic improvements are recommended based on high-risk features - regardless of reported crash history to date.
Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of identified locations.

Project Readiness

May Require Utility Relocation

May Require ROW Acquisition



S-3. Backplates with Retroreflective Borders

ROSENBERG
SAFETY ACTION PLAN

Project Description

Install backplates with retroreflective borders.

Potential Locations: 45 intersections

Estimated Unit Cost: $25,000 per intersection
Estimated Total Cost: $1.2 million

Safety Impact

Reduces all crashes at signalized intersections.

Preventable Crashes:
- 810 total
- 8 fatalities and serious injuries

Expected Crash Reduction: 15%

Crash Cost Savings: $13.8 million

BENEFIT-COST RATIO: 11.9*

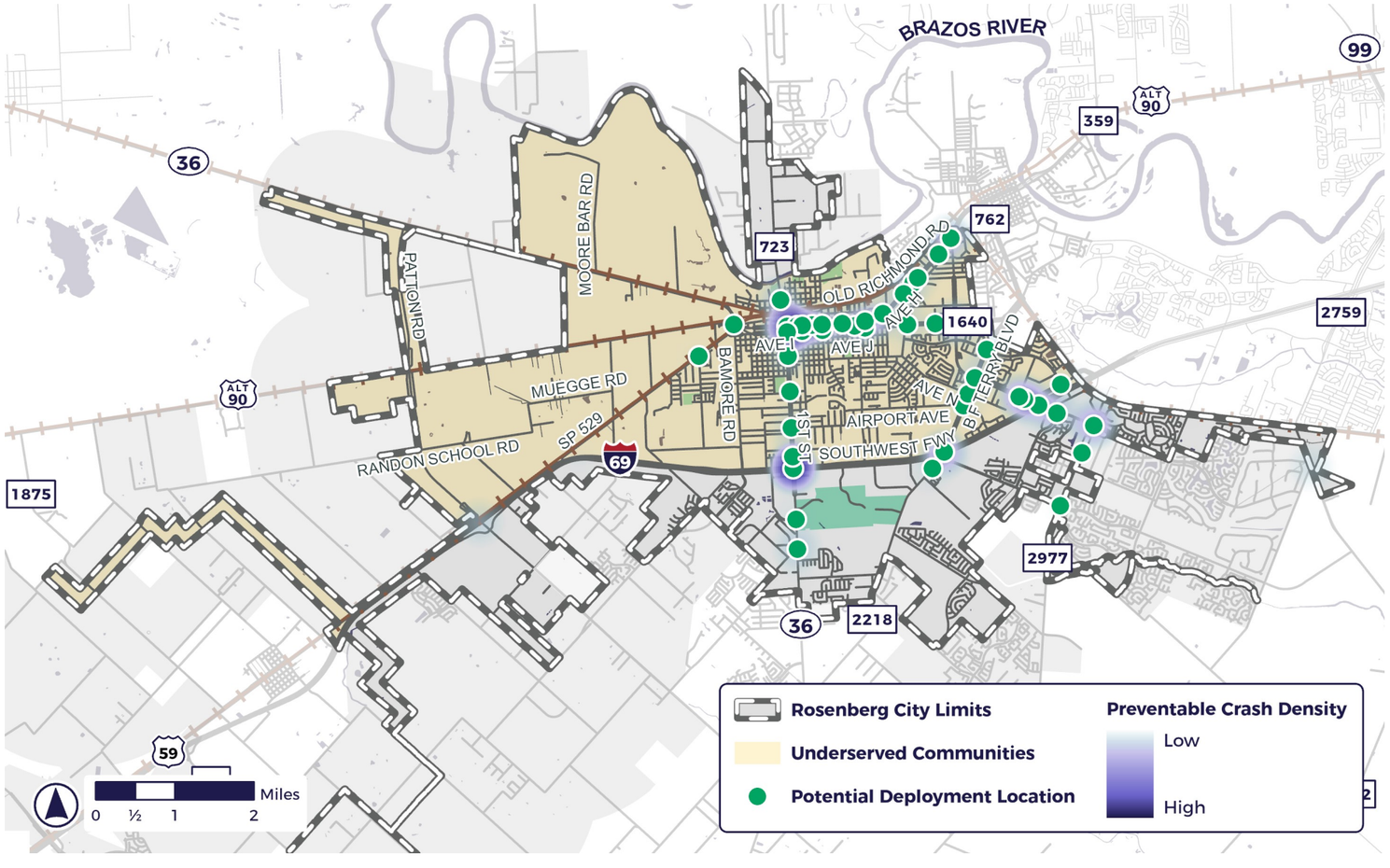
HSIP SII: N/A

*Systemic improvements are recommended based on high-risk features - regardless of reported crash history to date.
Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of identified locations.

Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition



S-4. Safety Lighting

ROSENBERG
SAFETY ACTION PLAN

Project Description

Install lighting at intersections along identified roadway segments

Potential Locations: 28 miles

Estimated Unit Cost: $470,000 per mile
Estimated Total Cost: $13.1 million

Safety Impact

Reduces crashes occurring in dark or underlit conditions.

Preventable Crashes:
357 total
18 fatalities and serious injuries

Expected Crash Reduction: 13%
Crash Cost Savings: $15.0 million

BENEFIT-COST RATIO: 1.1*

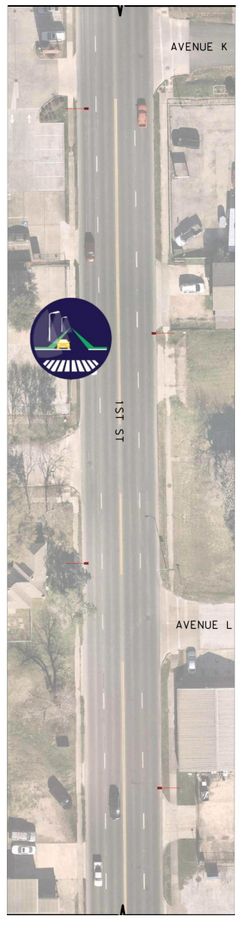
HSIP SII: N/A

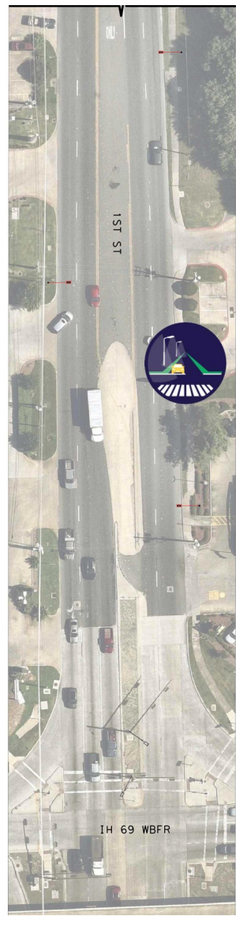
*Systemic improvements are recommended based on high-risk features - regardless of reported crash history to date.
Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of identified locations.

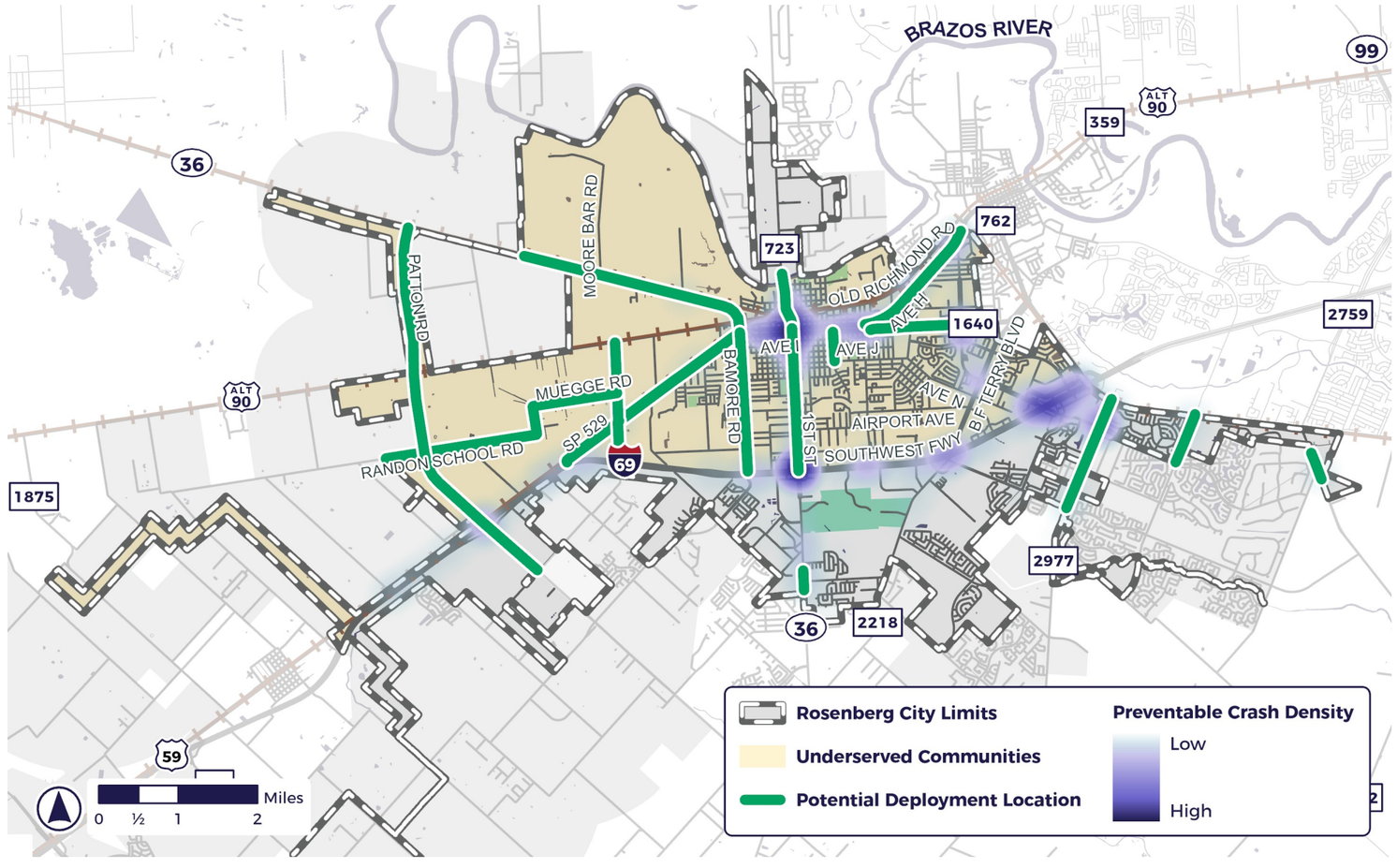
Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition







S-5. Low-Cost Stop-Controlled Intersection Improvements

ROSENBERG
SAFETY ACTION PLAN

Project Description

Install intersection lighting and low-cost signing/pavement marking improvements.

Potential Locations: 10 intersections

Estimated Unit Cost: $120,000 per intersection
Estimated Total Cost: $1.2 million

Safety Impact

Reduces night-time crashes, lowers speed, and reduces crash severity.

Preventable Crashes:
113 total
2 fatalities and serious injuries

Expected Crash Reduction: 10%
Crash Cost Savings: $1.3 million

BENEFIT-COST RATIO: 1.1*

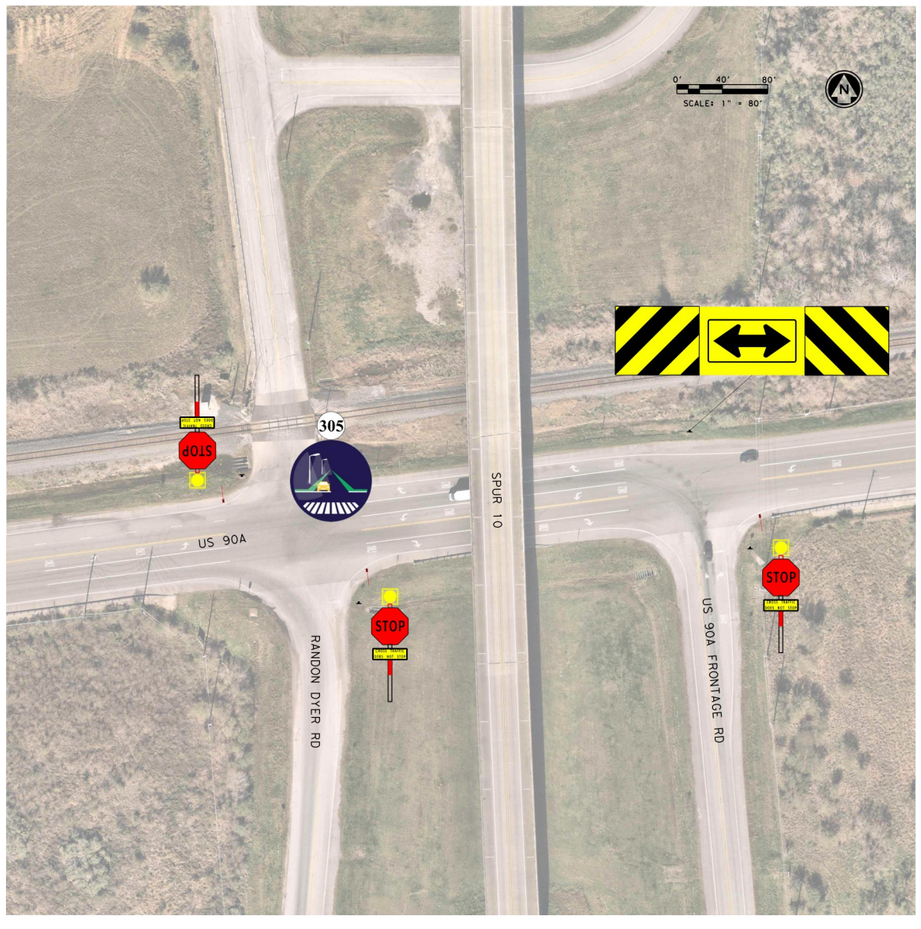
HSIP SII: N/A

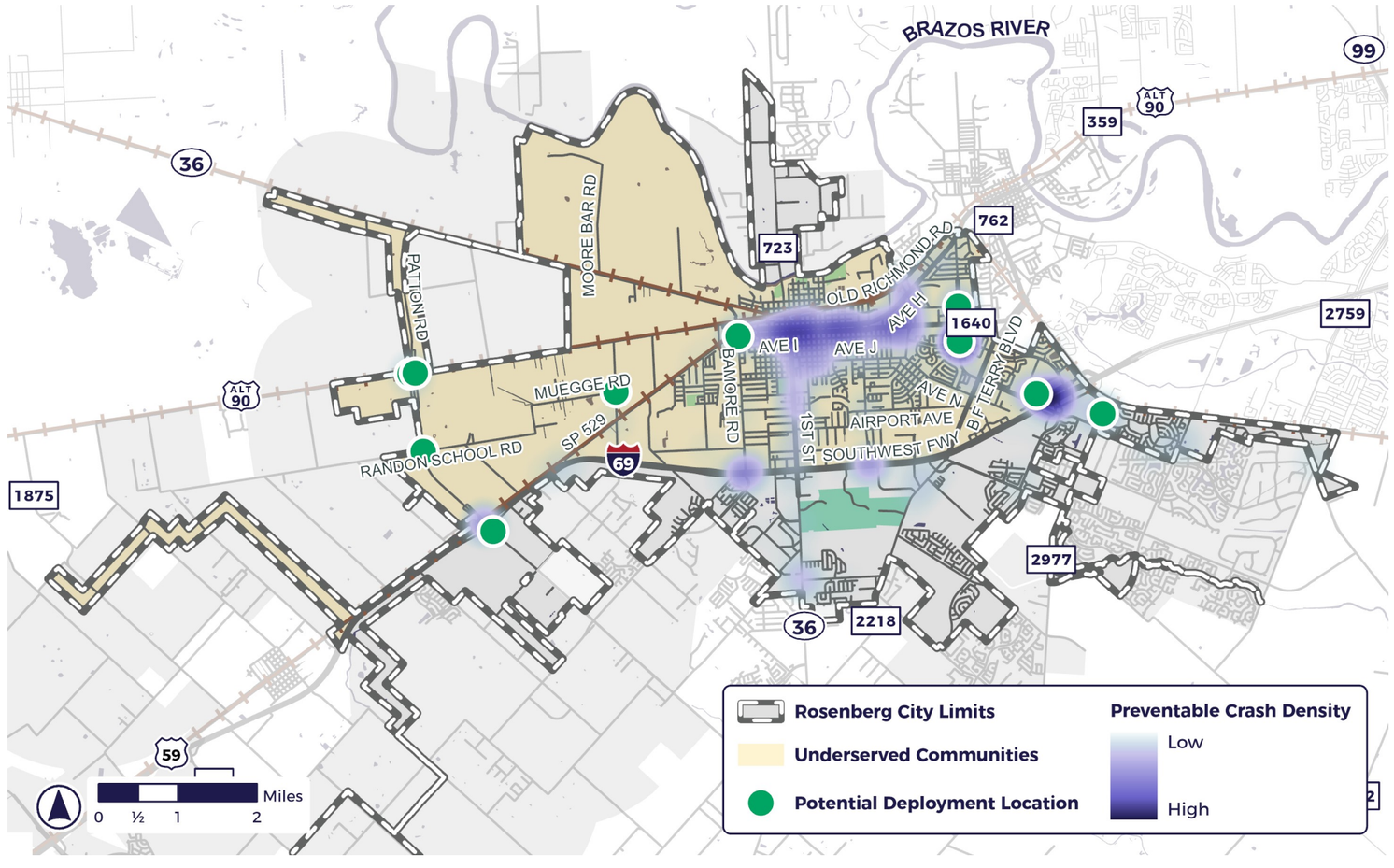
*Systemic improvements are recommended based on high-risk features - regardless of reported crash history to date.
Crash history from TxDOT CRIS 2019-2023, based on crashes reported within 250 ft of identified locations.

Project Readiness

Does NOT Require Utility Relocation

Does NOT Require ROW Acquisition





B-1. Quick-Build Project

Along Avenue H (US 90A) and Avenue I (FM 1640) Between Frost Street and Millie Street

ROSENBERG
SAFETY ACTION PLAN

Project Description

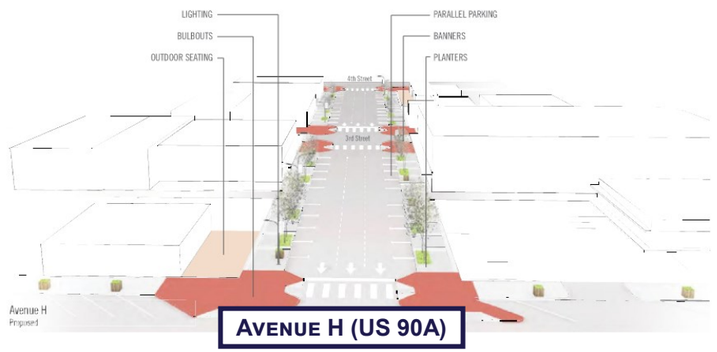
Implement a quick-build project along Avenue H (US 90A) and Avenue I (FM 1640) to demonstrate the feasibility of narrowing the roadway.

Additional Detail

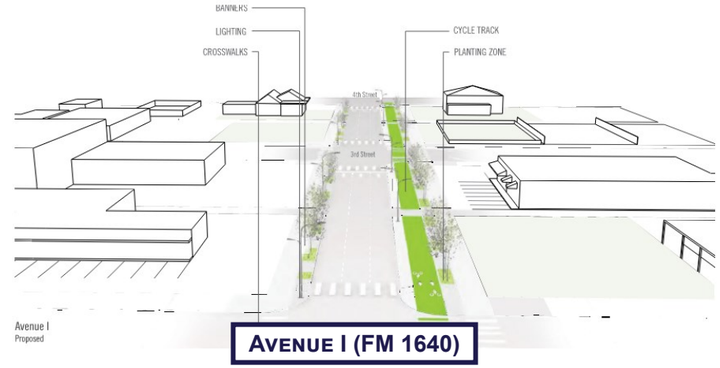
A Livable Centers study was completed in 2015, about the same time TxDOT converted Avenue H and I to a one-way couplet. This study determined that downtown needs a fully multi-modal transportation system with transit connecting Richmond, Rosenberg, and regional employment centers. The primary recommendation from the study was safety improvements and beautification along on Avenues H and I. These improvements follow USDOT's complete street design principles and include wide sidewalks, bike lanes, curb extensions, better crosswalks, and improved lighting.

In addition, Avenues H & I are currently being evaluated as part of a revitalization project that is expected to include recommendations that will impact surrounding land use and overall character of the area. In lieu of a large infrastructure project, a quick-build project is recommended along Avenue H and Avenue I (from Spur 529 to Millie Street) to temporarily implement and evaluate complete street improvements, such as narrowing the traveled way and adding curb extensions at intersections.

Quick build projects often use low-cost construction materials, such as paint, plastic bollards, signs, and pavement markings to enact near-term changes in the built environment. These projects align with demonstration activities supported by SS4A and serve the dual purpose of evaluating a long-term investment and building public support. Along Avenues H & I, a quick-build project could include resurfacing (mill and overlay), lane pavement markings, crosswalks, curb extensions, bicycle facilities. Outcomes from this quick-build project may inform recommendations of the revitalization project and other infrastructure safety projects in Rosenberg.

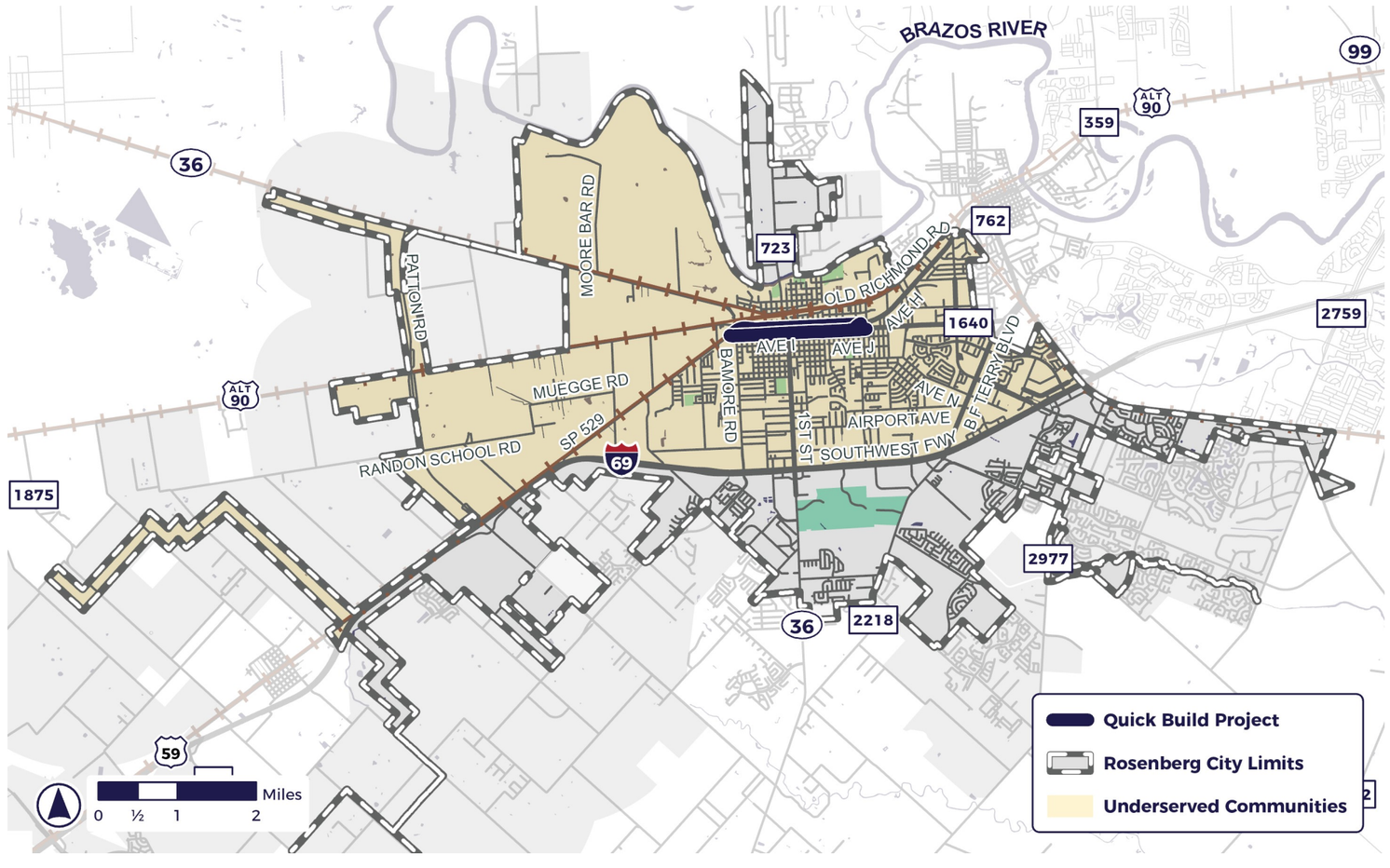


Avenue H (US 90A)



Avenue I (FM 1640)

Concept Source: Rosenberg Livable Centers Study, 2015



B-2. Corridor Study

Along 1st Street (SH 36) between Avenue H (US 90A) and IH 69

ROSENBERG
SAFETY ACTION PLAN

Project Description

Conduct a study along 1st Street (SH 36) between Avenue H (US 90A) and IH 69 to evaluate appropriate cross-section and consider pedestrian access.

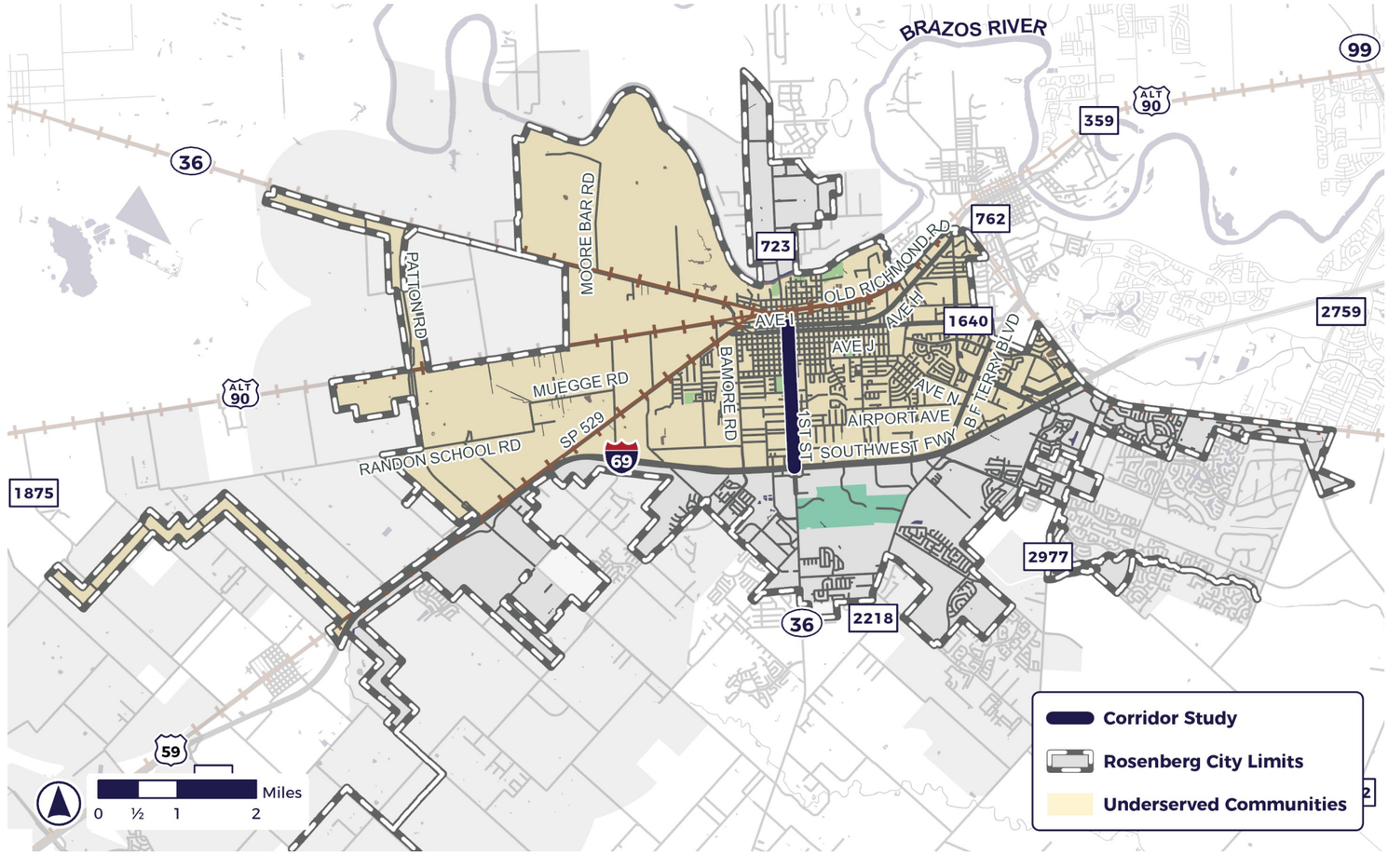
Additional Detail

Along 1st Street between Avenue H and IH 69, 70% of crash costs are attributed to intersection turning conflicts and 21% of crash costs are attributed to pedestrian-involved crashes. Access management strategies are often employed to address turning conflict crashes on high-speed, busy roads with frequent driveways like 1st Street. However, these strategies can also affect business access and development along the corridor, which may be less desirable than the proven safety benefit.

The first step in implementing major infrastructure improvements along this major thoroughfare is a corridor study. A corridor study is recommended along 1st Street to:

- Determine access management (raised median) improvements
- Identify pedestrian crossing treatments
- Identify truck patterns and alternative routes
- Evaluate feasibility of extending TWLTL (or median) north of Avenue O
- Resolve turning conflicts at Avenue H (US 90A) and Avenue I (FM 1640)

Corridor study tasks may include public/stakeholder engagement, traffic (safety and operations) analysis, design development, and implementation plan. Public engagement should solicit feedback from property owners regarding the preferred cross-section and locations of turn lanes, median breaks, and mid-block crossings. Project deliverables may include corridor schematic (roll plot) and benefit-cost analysis (if USDOT or TIP funding is expected). This, and other safety planning projects, align with supplemental planning activities supported by SS4A. While it is often the changes in the built environment (infrastructure projects) which prevent fatal crashes, safety planning is essential to develop projects, organize resources, and garner public support.



B-3. Safe Routes to School

ROSENBERG
SAFETY ACTION PLAN

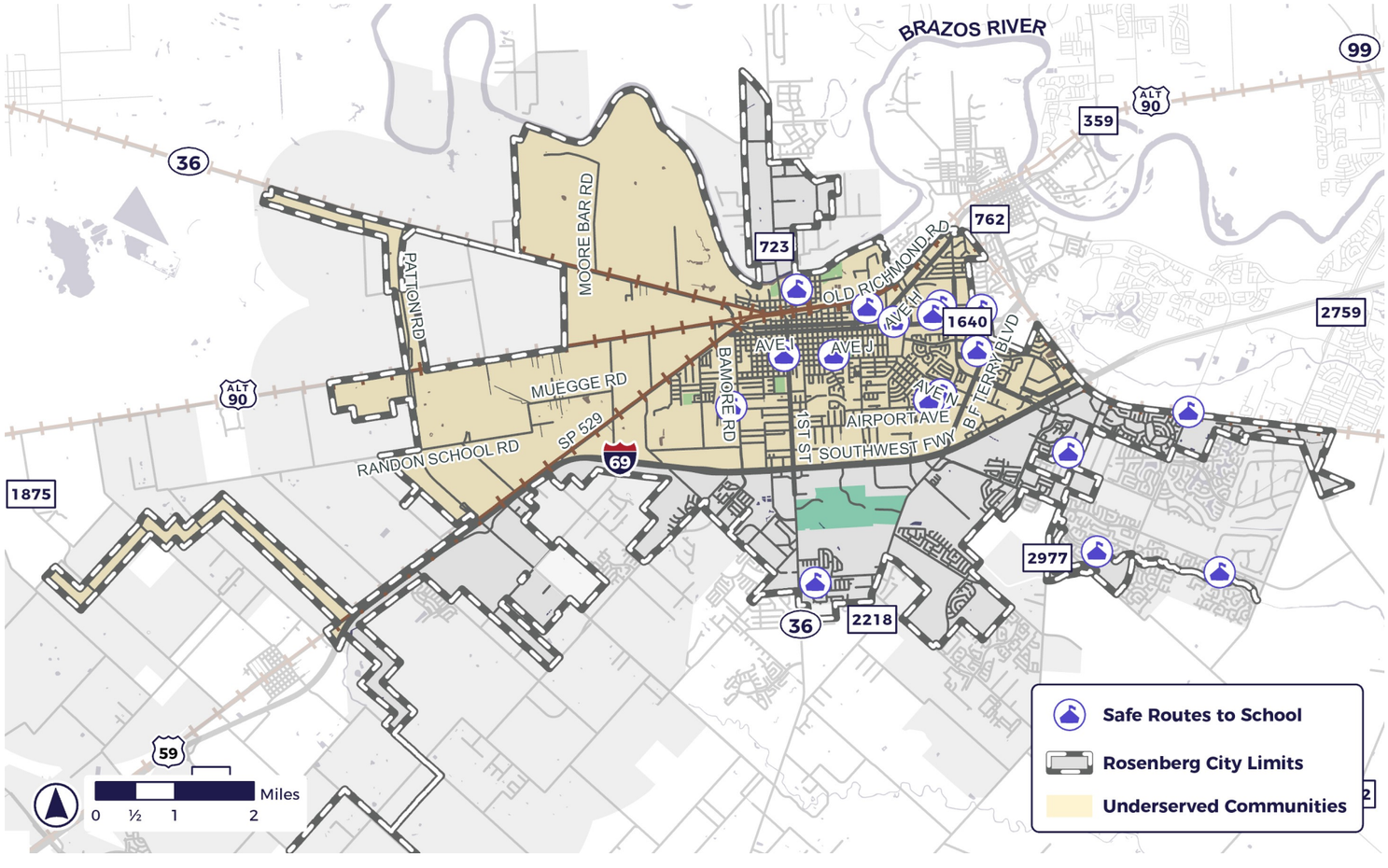
Project Description

Conduct a City-wide Safe Routes to School plan

Additional Detail

The STF identified improving school traffic operations and creating safe walking routes to schools as key objectives of this CSAP. Although the currently reported crash history does not reveal a documented safety concern in active school zones, A Safe Routes to School (SRTS) plan would proactively recommend safety and operations improvements in the vicinity of schools. The SRTS plan aligns with supplemental planning activities supported by SS4A. Additionally, the H-GAC MPO has programmed funding for a SRTS plan. Thus, there is an opportunity for partnership and collaboration at the regional level. This SRTS plan may:

- Identify how children walk and bike to school
- Recommend infrastructure improvements such as sidewalks, crossing treatments, speed bumps, and signage to improve routes to school
- Organize school members participate in activities like painting street art, serving as crossing guards, or leading biking or walking groups
- Establish a process to fund pedestrian and bicycle infrastructure near schools



B-4. Road Safety Audits

ROSENBERG
SAFETY ACTION PLAN

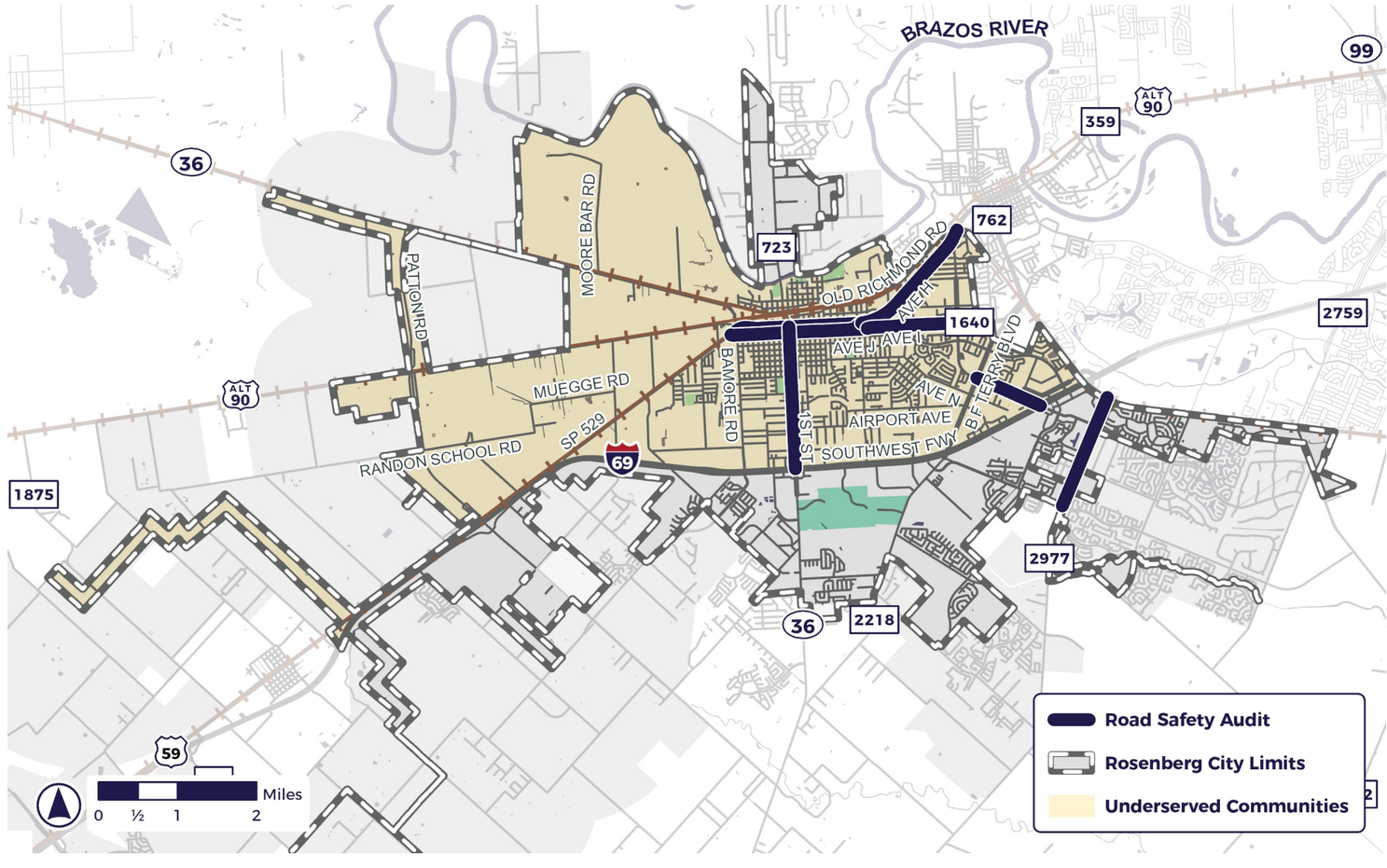
Project Description

Conduct Road Safety Audits along each of the seven focus corridors.

Additional Detail

Several low-cost proven safety countermeasures are recommended along focus corridors, and throughout the study area. While the action plan clearly defines the need for additional safety improvements along focus corridors, further study is required to develop additional location-specific projects to improve safety along focus corridors. Therefore, a Road Safety Audit (RSA) is recommended along each of the seven focus corridors. Per FHWA, a RSA is defined as "a formal safety performance examination of an existing or future road or intersection by an independent audit team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users." RSAs will be used to generate countermeasures at audit locations. RSAs are classified as a Proven Safety Countermeasure and are proven to reduce crashes by up to 60%. Additionally, RSAs will also serve as a tool to educate attendees about the road safety process and provide fresh perspective regarding the experience of non-vehicle travel.

Source: FHWA Road Safety Audit Process



B-5. Intersection Control Evaluations

ROSENBERG
SAFETY ACTION PLAN

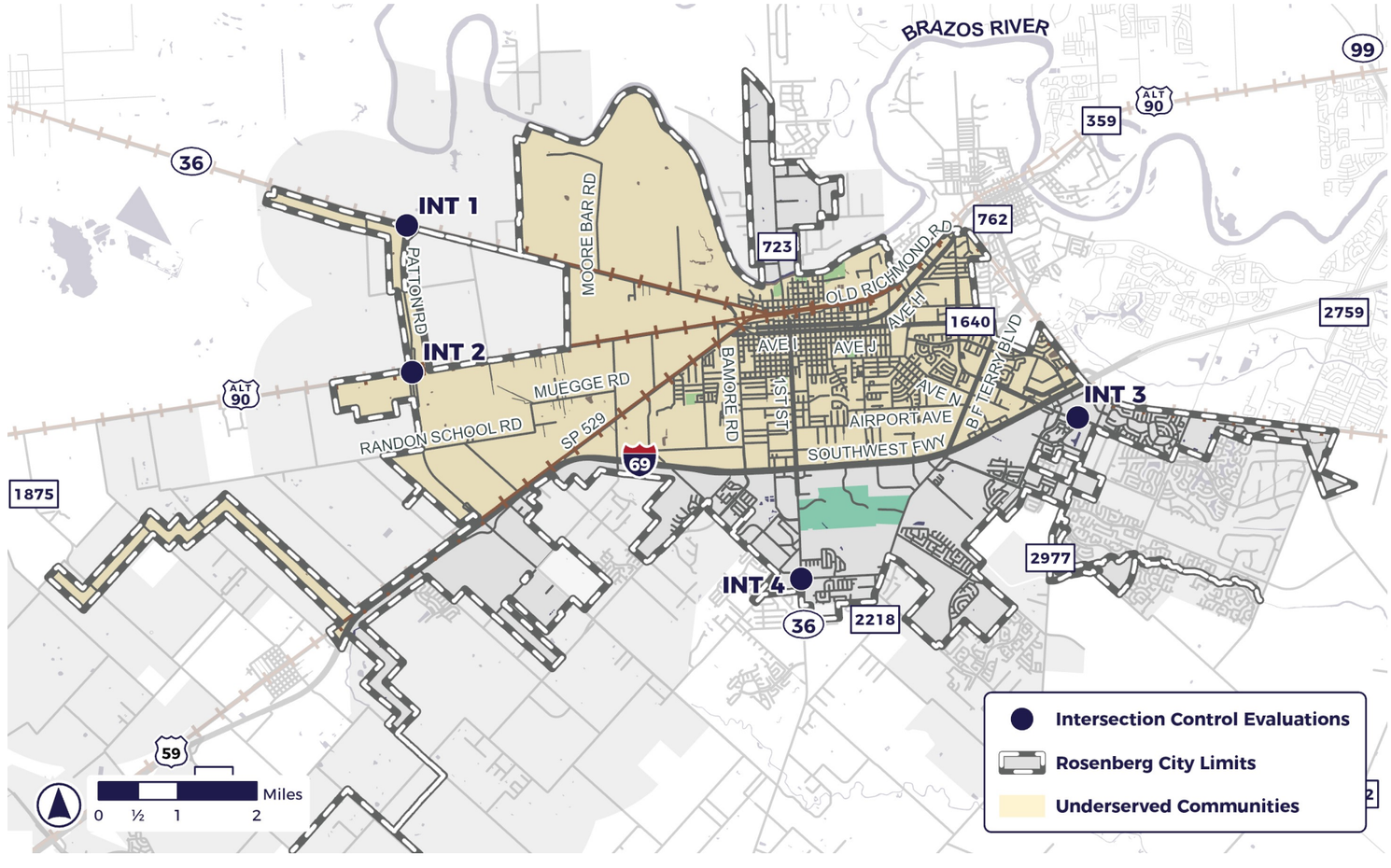
Project Description

Conduct Intersection Control Evaluations (ICE) at four locations.

Additional Detail

Intersections account for approximately 37% of fatal and serious injury crashes within Rosenberg. Four intersections were identified as locations with safety concerns with potential for crash reduction based on public engagement activities and a preliminary safety analysis. An Intersection Control Evaluation (ICE) is recommended. Per TxDOT, an ICE is defined as a transparent process for evaluating and selecting intersection control. ICE promotes the consideration of innovative intersections with fewer (and less severe) conflict points, which yield significant reductions in fatal and serious injury crashes. Traffic Signal Warrant Analyses and non-vehicle safety considerations may also be included within ICE. ICE will also formally advance theses project's development because ICE is required within TxDOT's standard process, and many of the ICE locations are within TxDOT ROW.

1. Spur 10 & SH 36 (Focus Location)
2. Spur 10 & US 90A (Focus Location)
3. Park Pl Blvd & Reading Rd (Public Comments)
4. J Meyer Rd & SH 36 (Public Comments)



ROSENBERG
SAFETY ACTION PLAN