CENTRAL TEXAS ROADWAY SAFETY ACTION PLAN

March 2025
Final Plan

CTCOG KTMPO

DISCLAIMER

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.

Downtown Lampasas

Acknowledgement

The preparation of this plan was funded in part through a 2022 Safe Streets and Roads for All (SS4A) Planning Grant from the U.S. Department of Transportation (USDOT). The views and opinions expressed in this plan do not necessarily state or reflect those of the USDOT. This Action Plan includes all eight required plan components as specified by the SS4A grant program.

This plan was prepared by the Central Texas Council of Governments (CTCOG) and the Killeen-Temple Metropolitan Planning Organization (KTMPO) with support from Kimley-Horn and community engagement-specific support from CD&P. The following staff contributed to plan development:

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Knight's Way in Harker Heights

ACRONYMS

AADT.....Annual Average Daily Traffic
CTCOG.....Central Texas Council of Governments
DVMT.....Daily Vehicle Miles Traveled
EPDO.....Equivalent Property Damage Only
ETC.....Equitable Transportation Community
FHWA.....Federal Highway Administration
HCTD.....Hill County Transit District
HIN.....High Injury Network
HOCTIL.....Heat of Central Texas Independent Living
HSIP.....Highway Safety Improvement Program
KABCO.....Crash Severity Scale
- **K**.....Fatal
- **A**.....Serious Injury
- **B**.....Minor Injury
- **C**.....Possible Injury
- **O**.....No Injury
- **U**.....Severity Unknown

KTMPO.....Killeen-Temple Metropolitan Planning Organization
LPIs.....Leading Pedestrian Intervals
MTP.....Metropolitan Transport Plan
NHTSA.....National Highway Traffic Safety Administration
PHB.....Pedestrian Hybrid Beacon
RRFB.....Rectangular Rapid Flashing Beacon
RSA.....Roadway Safety Audit
RSAR.....Roadway Safety Audit Reviews
SHSP.....Strategic Highway Safety Plan
SRTS.....Safe Routes to School
SS4A.....Safe Streets and Roads For All
TPPB.....Transportation Policy Board
TWLTL.....Two Way Left Turn Lane
TxDOT.....Texas Department of Transportation
USDOT.....United States Department of Transportation
VMT.....Vehicle Miles Traveled
VPD.....Vehicles Per Day

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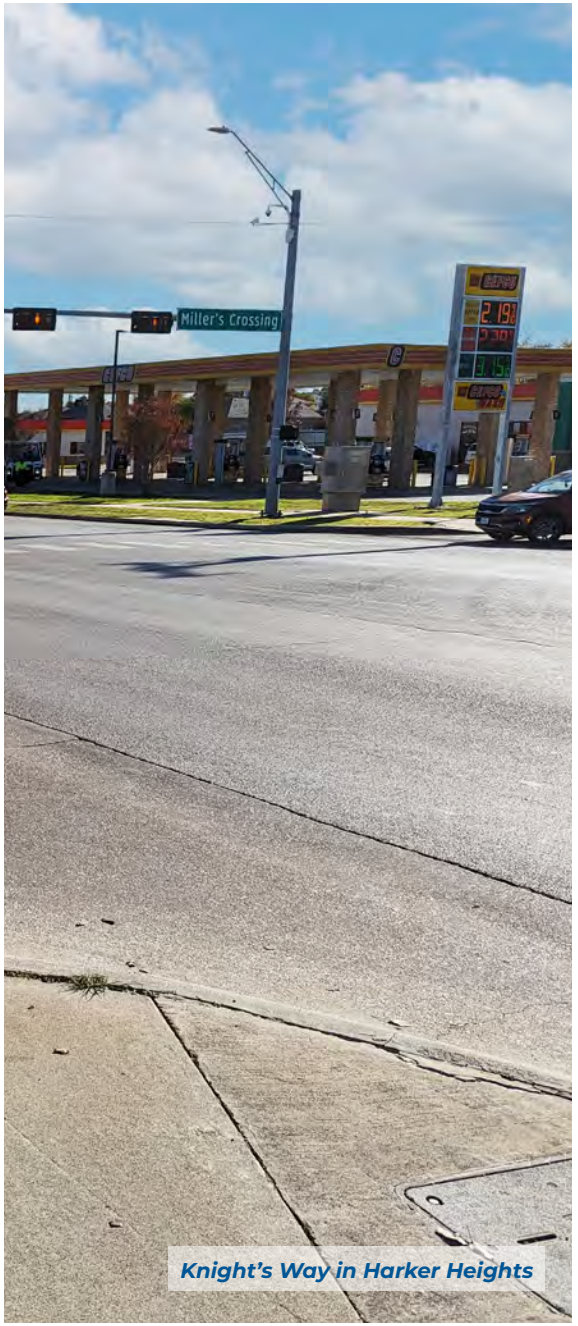
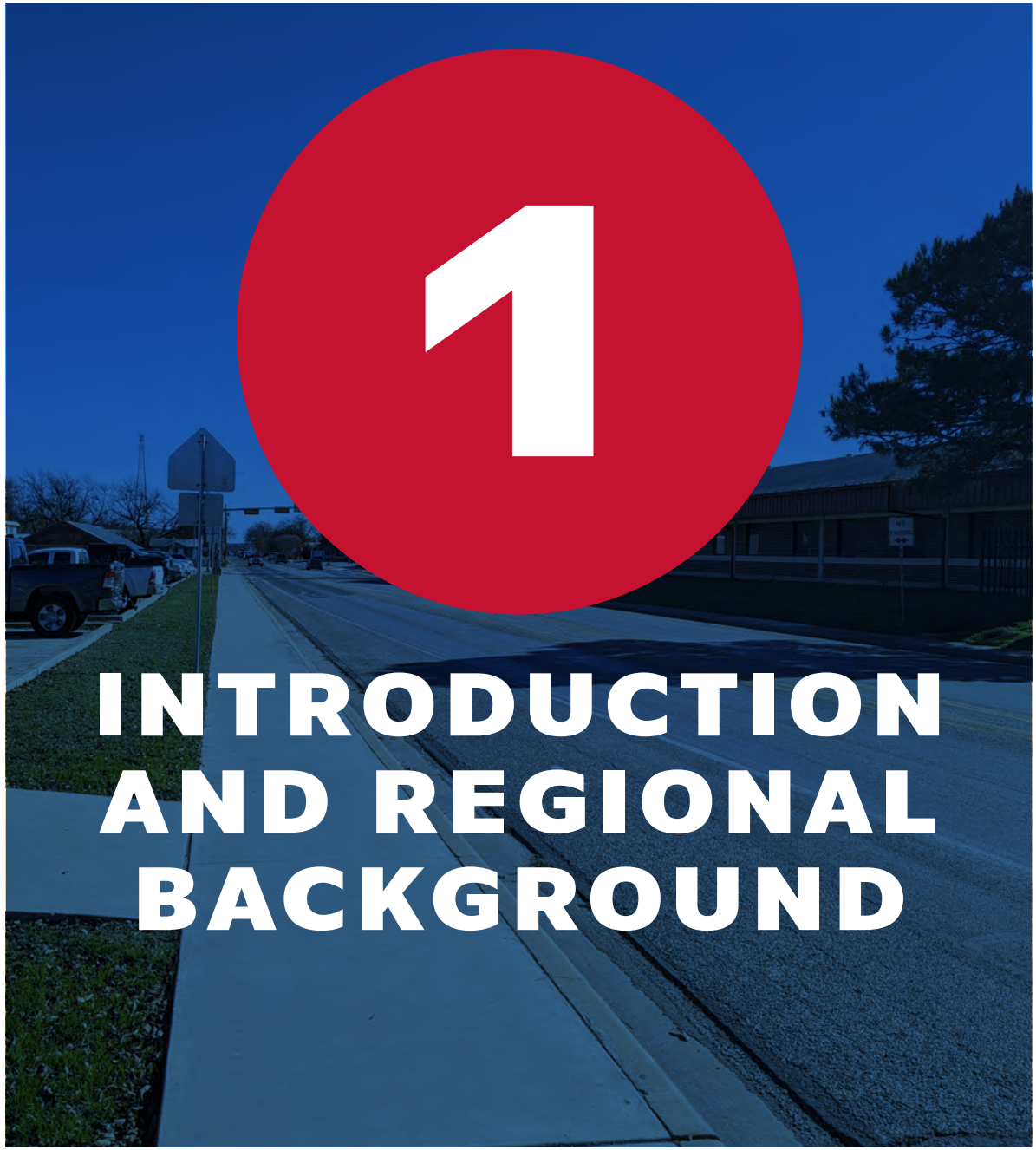


Knight's Way in Harker Heights



1 INTRODUCTION AND REGIONAL BACKGROUND

In 2024, Central Texas leadership formally committed to significantly reducing the number of deaths and serious injuries that occur due to crashes on Central Texas streets and roads.

The Central Texas Roadway Safety Action Plan outlines needs, opportunities, and project and policy priorities that stakeholders from across the region can invest in to make roadways in Central Texas safer for all people. This plan was developed jointly by the Central Texas Council of Governments (CTCOG) and the Killeen-Temple Metropolitan Planning Organization (KTMPO). The United States Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) program provided a grant that helped fund the creation and development of this plan.

SS4A At A Glance

The Bipartisan Infrastructure Law established the SS4A discretionary grant program in 2022. ***The program provides $1 billion annually from 2022 through 2026 to support regional, local, and tribal initiatives to reduce and eventually eliminate roadway fatalities and serious injuries.*** Separate funding tracks exist for both roadway safety planning and project implementation through the SS4A program. In 2023, CTCOG, KTMPO, and Coryell County were jointly awarded a $1.9 million grant to develop the Central Texas Roadway Safety Action Plan and to support related county- and city-level safety planning efforts.

Roadway safety planning through the SS4A program prioritizes safety for all users of the transportation network, including people walking and biking. The program also emphasizes the prioritization of roadway safety needs and projects for disadvantaged communities whose transportation needs have historically been overlooked. The Central Texas Roadway Safety Action Plan includes the eight components that USDOT requires of all safety action plans funded through the SS4A program.

USDOT Components for SS4A Program

Leadership Commitment and Goal Setting

An official public commitment to an eventual goal of zero roadway fatalities and serious injuries.

Planning Structure

A committee or task force that oversees Safety Action Plan development and implementation.

Safety Analysis

An analysis of existing data, conditions, and historical trends that provides a baseline level of crashes involving fatalities and serious injuries.

Engagement and Collaboration

Robust engagement with the public and relevant stakeholders that allows for both community representation and feedback.

Equity Considerations

Safety analysis and Safety Action Plan development that uses inclusive and representative processes.

Policy and Process Changes

Assessment of policies, plans, guidelines, and standards to identify opportunities to improve how these existing processes prioritize transportation safety.

Strategy and Project Selections

Identification of a prioritized and comprehensive set of projects and strategies that will address the safety problems described in the Safety Action Plan.

Progress and Transparency

A method to measure progress over time after a Safety Action Plan is developed or updated.

Downtown San Saba

The Central Texas Region

The Central Texas Roadway Safety Action Plan focuses on Central Texas, which in this plan is defined as the CTCOG service area. ***The CTCOG Service Area (referred to as Central Texas throughout this plan) consists of the Texas counties of Bell, Coryell, Hamilton, Lampasas, Milam, Mills, and San Saba. Included in the CTCOG Service Area is KTMPO, whose service area encompasses Bell County and parts of Coryell and Lampasas counties.*** In total, about 550,000 people live in the CTCOG service area (including the 370,000 people that live in the KTMPO service area), with thousands more traveling to or through the region on roads. As Coryell County has developed, and adopted, a countywide safety plan, the Coryell County plan has been included in this action plan as ***Appendix A*** to ensure all counties within the Central Texas region are represented.

From 2018 through 2022, Central Texas suffered 372 fatal crashes that resulted in 406 deaths. In addition, Central Texas suffered another 1,290 crashes that resulted in one or more serious injuries. When fatal and serious injuries in Central Texas are viewed together over that time period, the total number of these crashes increased each year, from 280 such crashes in 2018 to 399 such crashes in 2022. In 2023 both fatal and serious injury crash totals in Central Texas decreased from their 2022 peak.

Plan Development

The Central Texas Roadway Safety Action Plan gives the region a clear approach toward reducing fatal and serious injury crashes through the implementation of projects and policies designed to improve roadway safety. To develop the plan, the project team analyzed crash data from 2018 through 2022 and used the results to establish a regionwide High Injury Network that prioritizes roadway locations with the greatest safety need, and systemic focus areas that highlight crash types and related countermeasures that could be broadly applied across Central Texas.

Extensive public and stakeholder engagement informed the development of the Central Texas Roadway Safety Action Plan and its priorities. This engagement included meetings with regional leadership boards to identify and secure a policy commitment focused on reducing and one day eliminating fatalities and serious injuries from Central Texas Roadways. Engagement also included the

About 550,000 people live in the CTCOG service area (including the 370,000 people that live in the KTMPO service area), with thousands more traveling to or through the region on roads.

formation of a safety task force comprised of regional roadway safety practitioners who oversaw the development of the plan and guided the project team. State, county, city, and public health stakeholders also met with the project team to discuss localized needs, priorities, and project opportunities.

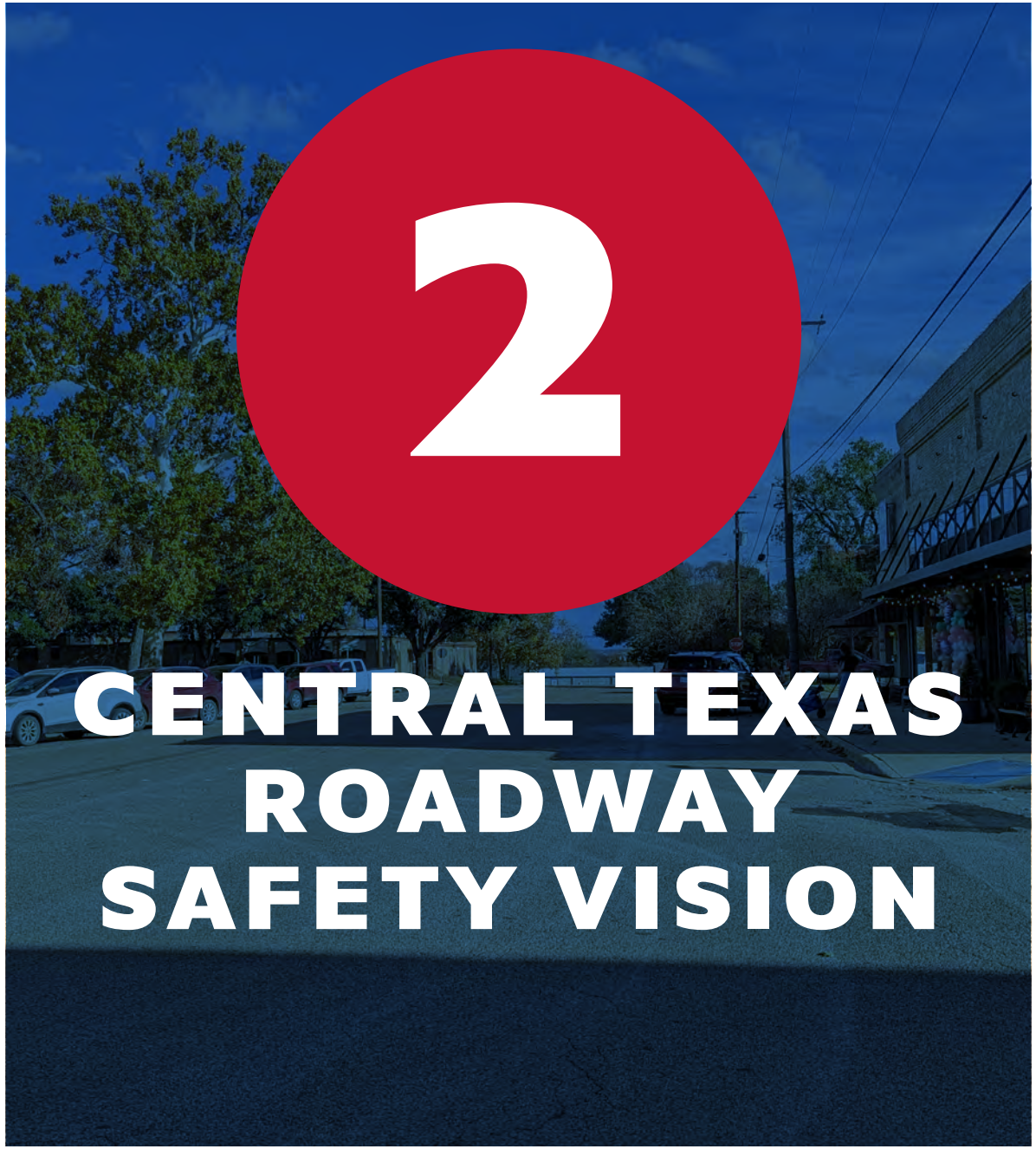
Most importantly, members of the public from throughout Central Texas provided input for the plan at 16 public engagement events as well as virtually via the project website: www.SS4ACentralTexas.org.

The project team also conducted targeted outreach and analysis to identify safety needs and opportunities within underserved and economically disadvantaged communities and with vulnerable populations. This included meeting with bicycle and pedestrian stakeholders and attending events for veterans and families with special mobility or learning needs.

The Central Texas Roadway Safety Action Plan synthesizes the regionwide data analysis and engagement input, establishing needs and opportunities for safety improvements across the region. From this analysis and input, the plan identifies and prioritizes potential implementation projects and potential policy changes that should result in tangible, immediate, and sustained roadway safety benefits.

Central Texas Roadway Safety Task Force

CTCOG and KTMPO convened the Central Texas Roadway Safety Task Force during the initial stages of plan development. This task force represented a variety of roadway stakeholders from across Central Texas that met monthly to advise on plan development. CTCOG and Kimley-Horn staff guided task force discussions and reviewed all input. Task force members included engineering, planning, and public safety staff from CTCOG member agenices. The task force also included representatives from the Texas Department of Transportation (TxDOT), equity-focused mobility organizations such as the Hill Country Transit District (HCTD) and Heart of Central Texas Independent Living (HOCTIL), and public health experts from Baylor Scott & White Health. The full list of representatives and agencies that participated on the task force is included in the acknowledgments at the beginning of this plan.



2 CENTRAL TEXAS ROADWAY SAFETY VISION

Central Texas envisions a future without deaths or serious injuries on our roadways. The Central Texas Roadway Safety Action Plan outlines opportunities for the region to work toward that vision.

Regional Leadership Commitment

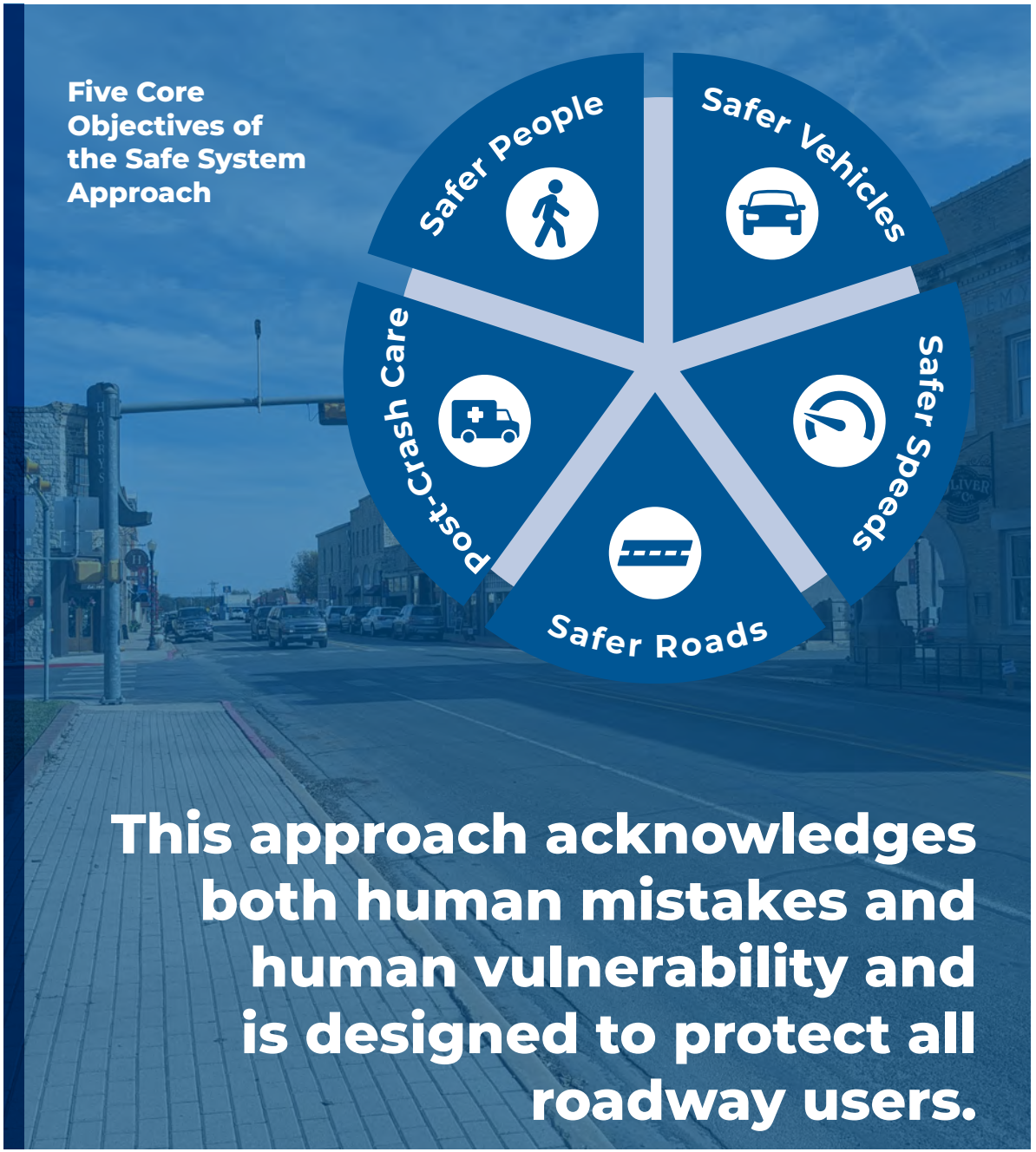
The Central Texas Roadway Safety Action Plan includes a bold commitment towards roadway safety improvement. The KTMPO Transportation Planning Policy Board and the CTCOG Executive Committee have both adopted a resolution that affirms Central Texas' commitment to working toward eliminating fatalities and serious injuries on Central Texas roads. Both governing bodies also included in their resolution several safety targets meant to benchmark progress towards the region's goal.

The policy commitment is a
50% reduction
in roadway fatalities and serious injuries by the year 2050.

The Safe System Approach

The Safe System Approach is the foundation that will support Central Texas in achieving its vision of eliminating fatal and serious injury crashes on Central Texas roadways. As part of the National Roadway Safety Strategy released in January 2022, USDOT adopted the Safe System Approach as its guiding paradigm to address roadway safety challenges nationwide. This approach acknowledges both human mistakes and human vulnerability and is designed to protect all roadway users.

The Safe System Approach is built around six guiding principles that summarize the safety planning framework that the Central Texas Roadway Safety Action Plan has adopted. The Safe System Approach also has five core objectives that correspond to each element of the roadway system, and this plan's recommendations are directed toward one or more of these objectives.



Guiding Principles

Death and Serious Injuries are Unacceptable.

The Safe System Approach prioritizes the elimination of crashes that result in death and serious injuries on roadways. Minor crashes that only cause property damage may be an acceptable outcome if a project reduces the overall crash severity.

Humans Make Mistakes.

People will inevitably make mistakes and decisions that can lead or contribute to crashes, but the transportation system can be designed and operated to accommodate certain types and levels of human mistakes, and avoid death and serious injuries when a crash occurs.

Humans are Vulnerable.

People have physical limits for tolerating crash forces before death or serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates physical human vulnerabilities.

Responsibility is Shared.

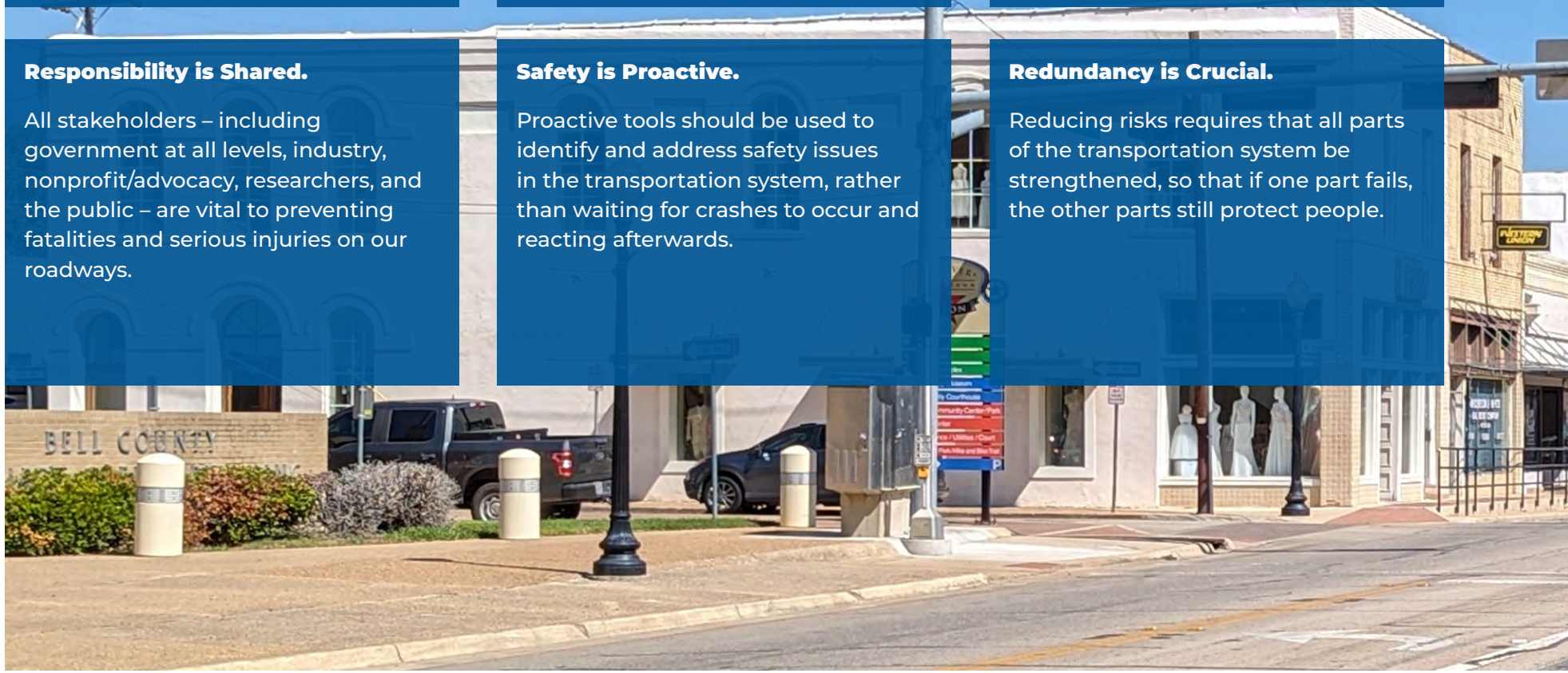
All stakeholders – including government at all levels, industry, nonprofit/advocacy, researchers, and the public – are vital to preventing fatalities and serious injuries on our roadways.

Safety is Proactive.

Proactive tools should be used to identify and address safety issues in the transportation system, rather than waiting for crashes to occur and reacting afterwards.

Redundancy is Crucial.

Reducing risks requires that all parts of the transportation system be strengthened, so that if one part fails, the other parts still protect people.



Objectives

Safer People.

Encourage safe, responsible behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed.

Safer Roads.

Design roadway environments to mitigate human mistakes and account for injury tolerances, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users.

Safer Vehicles.

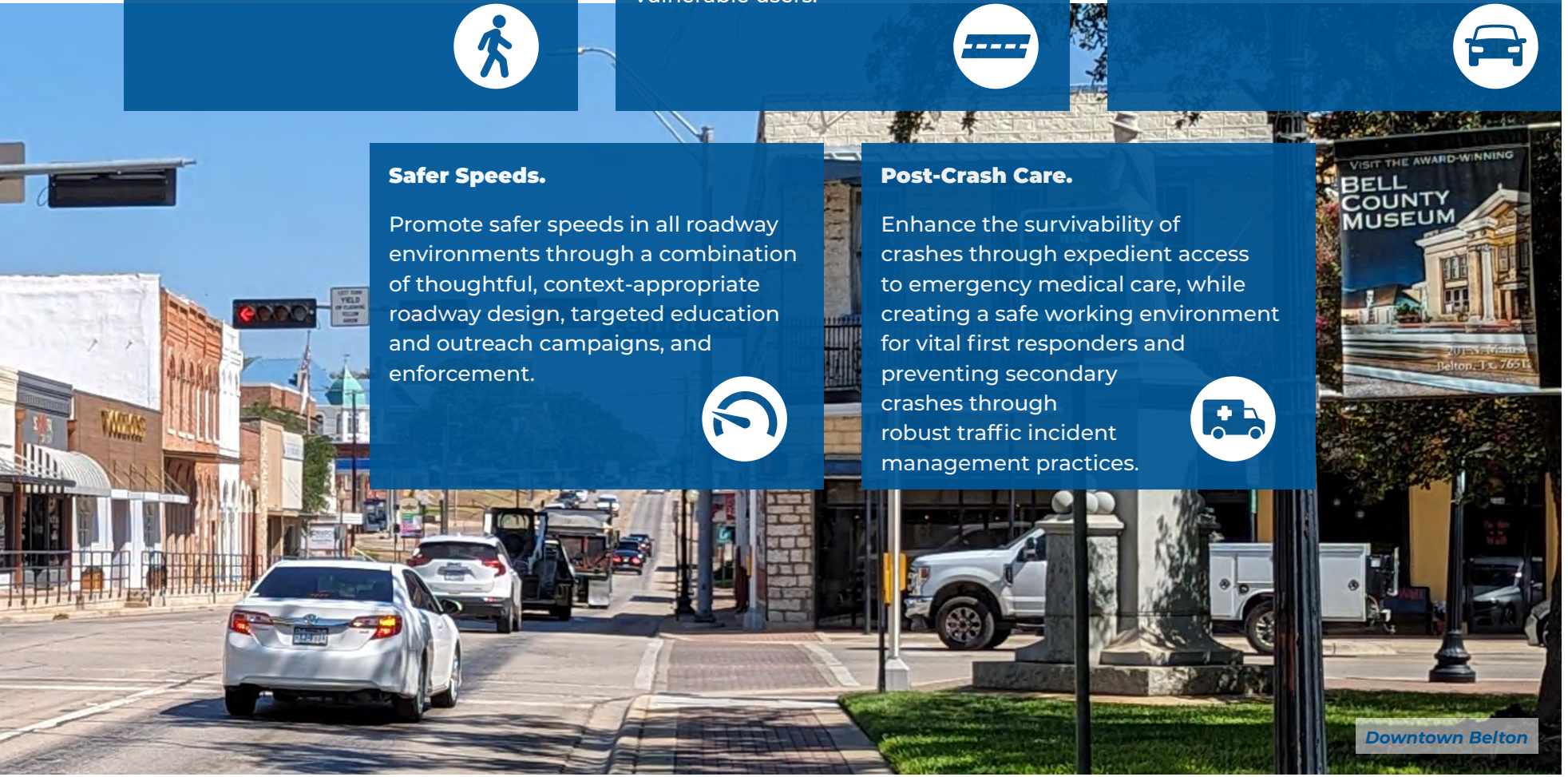
Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact of crashes on both occupants and non-occupants.

Safer Speeds.

Promote safer speeds in all roadway environments through a combination of thoughtful, context-appropriate roadway design, targeted education and outreach campaigns, and enforcement.

Post-Crash Care.

Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices.



Downtown Belton

Safety Action Plan Goals

The Central Texas Roadway Safety Task Force developed six goals for the Central Texas Roadway Safety Action Plan:

1

Ensure that Safety Action Plan outcomes ALIGN with the goals identified in the National Roadway Safety Strategy, the Texas Strategic Highway Safety Plan (SHSP), the region's Metropolitan Transportation Plan (MTP), and other local agency plans, reflecting a context sensitive approach.

The Central Texas Roadway Safety Action Plan was developed using guidance from national, statewide, and local safety planning best practices and established priorities. This Safety Action Plan adopts the Safe System Approach and includes recommendations that meet objectives outlined in the National Roadway Safety Strategy. Similarly, this Safety Action Plan targets needs and opportunities related to the priority crash types and trends identified in the 2022-2027 Texas SHSP.

This Safety Action Plan supports both local and regional planning efforts and implementation projects. The recommendations in this Safety Action Plan align with the safety and security strategies in the KTMPO 2050 Metropolitan Transportation Plan. This Safety Action Plan also aids in the development of individual city and county vulnerable road user safety plans or similar components included in a locally-developed comprehensive plan, mobility plan, or thoroughfare plan.

2

Foster COLLABORATION AND TRANSPARENCY by clearly communicating the roles and responsibilities of our stakeholders, involving roadway users in our planning, and providing updates on the progress toward our shared goals.

Collaboration and transparency are fundamental elements of effective roadway safety planning and a required component of the SS4A program. Transparency within this framework involves public access to this Safety Action Plan and to comprehensive progress reports detailing the status of the plan's goals and project implementation.

Many stakeholders – from engineers and planners, to law enforcement and emergency responders, to policymakers and public health officials – make decisions that influence roadway safety. These stakeholders participated in meetings with the project team to communicate the safety needs of their communities, provide input, and assist in developing projects and policies for implementation.

The project team also conducted meaningful and accessible community engagement to connect with members of the public across Central Texas. Team members went into local communities to reach people at local events and gathering places such as local events or community gathering places such as holiday festivals, barbecue cookoffs, and farmers markets. Our approach focused on authentic engagement, encouraging participation from the public by providing large maps for people to annotate, online maps for leaving comments, guided activities, surveys, and time with the project team to facilitate honest conversations.

3

Prioritize EQUITY as a core principle, showing mutual concern, and striving to advance transportation decision making processes while tackling the roadway safety challenges facing underrepresented and vulnerable groups.

Equity lies at the heart of the Safe Streets for All approach. This Safety Action Plan aims to improve safety for all road users, transportation modes, and communities, regardless of income, race, language, age, or ability. To make progress, it is important to understand the overlapping dimensions of inequality and their impacts on roadway safety. For example, from 2018-2022 there were 1,665 fatal or serious injury crashes in Central Texas. Among these crashes, 203 (12.2 percent) involved bicyclist or pedestrian road users, and of those 203 fatal or serious injury crashes, 121 (59.6 percent) occurred within USDOT equity priority census tracts.

We incorporated equity considerations at various stages of Safety Action Plan development, including an equity overlay as part of the High Injury Network, adding equity indicators in project prioritization and scoring, and dedicating targeted public outreach resources to underrepresented groups. By prioritizing equity, this Safety Action Plan identifies opportunities to reduce fatalities and serious injuries among these groups where negative safety outcomes are currently overrepresented.

4

Establish a SAFETY LEADERSHIP GROUP tasked with championing roadway safety project opportunities, providing constructive feedback sensitive to the needs of the communities they represent, informing proposed actions, and maintaining active participation in roadway safety planning.

Central Texas has formed a task force of representatives from cities and counties involved in the development of the Safety Action Plan as well as key advocacy groups and regional partners, such as members from Baylor Scott & White and TxDOT. Stakeholder input from monthly task force meetings has guided plan development. These monthly meetings provided a platform for task force members to share feedback on identified project opportunities, review plan documentation, share the needs of their community, interpret safety data and related analysis, and tailor localized outreach strategies.

This safety leadership group will continue to meet regularly to provide updates on safety project and policy implementation, assess progress toward reductions in fatalities and serious injuries, reevaluate roadway safety needs and priorities, and plan future roadway safety investments across the region. The safety leadership group will also work closely with policymakers at CTCOG and KTMPO to advance roadway safety needs through established regional transportation planning processes.

5

Select IMPACTFUL PROJECTS, supported by thorough data analysis, stakeholder input, and public feedback, that will be feasible and appropriate to the specific context of each project location.

The selection of impactful projects is critical as it increases the likelihood that roadway safety projects are not only effective at reducing deaths and serious injuries on Central Texas roadways, but also desirable and feasible given the unique context of each project location. Data analysis and public feedback guides this Safety Action Plan's recommendations so that stakeholders can be confident that those recommendations have a high chance of success once they are implemented. This approach to project selection also cultivates a sense of ownership among every party involved, fostering community wide commitment to safety initiatives, and leading to sustained impacts in the form of fewer deaths and serious injuries on our roads.

To select the most impactful projects, this Safety Action Plan first identified a large number of project opportunities. These project opportunities were then prioritized consistently through an evaluation process that analyzed both hard data and stakeholder and public feedback. A list of prioritized projects was identified and prepared for each county within Central Texas.

6

Invest in the long-term safety of Central Texas by implementing POLICY recommendations designed to encourage shared responsibility among all users and establish a ROADWAY SAFETY CULTURE.

This Plan includes recommendations that enhance safety policies, processes, and practices among agencies in Central Texas. Engineering-focused safety policy changes impact how roads are designed or maintained so that users are able to travel on them more safely. Education-oriented safety policy initiatives aim to influence behavior, encouraging drivers to recognize and address human factors contributing to crashes. Enforcement-centered safety policy integrates the efforts of local police departments with proposed ordinances targeting less safe driving behaviors. Policy addressing emergency response prioritizes post-collision care for affected road users, with a significant focus on emergency responders, whose responsibilities require them to be on the road.

North 4th Street in Killeen

3 REGIONAL SAFETY DATA ANALYSIS

The results of the regional safety data analysis serves as a basis for the project recommendations and policy and process improvement recommendations that are identified as part of this plan.

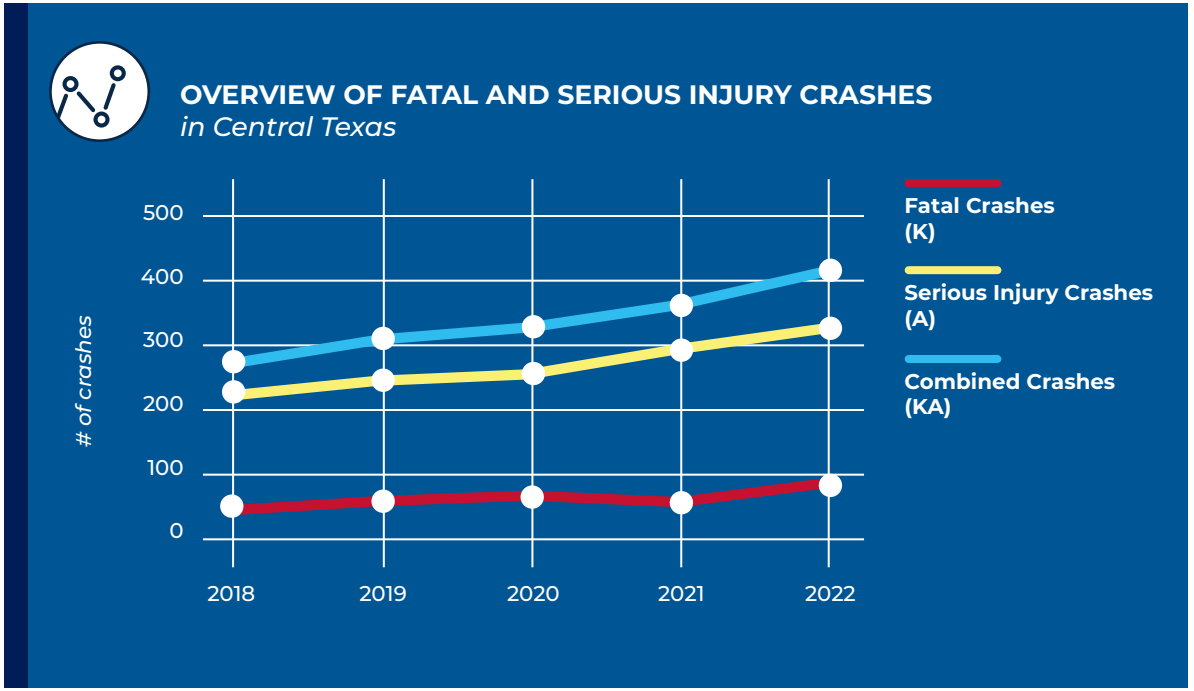
Regionwide Safety Data Analysis

From 2018 to 2022, travelers drove an average of 13.68 million miles per day in Central Texas with a total of 1,665 combined fatal (K) and serious injury (A) crashes occurring. For each 100 million vehicle miles traveled (VMT) in Central Texas, 1.50 fatal crashes occurred, and another 5.16 serious injury crashes occurred.

From 2018 to 2022, an average of 0.89 fatal and serious injury crashes occurred each day. Across this time period, the total number of KA crashes in the region increased each year. Specifically, the

number of serious injury crashes increased each year, and the number of fatal crashes increased each year except for in 2021, when fatal crash totals declined slightly from 2020. From 2018 to 2022 the overall number of KA crashes in the region increased by 44%. In terms of crash totals, this meant that 122 more KA crashes occurred in 2022 than in 2018 within the region.

The table below and on the following pages show the overall numbers and rates of fatal and serious injury crashes within Central Texas. The tables outline the total numbers and rates of fatal and serious injury crashes from the years 2018 to 2022 as well as their combined totals. The full Safety Analysis Memo for this plan is included in ***Appendix B.***



Overview of Fatal and Serious Injury Crash Rates *in Central Texas*

Year	Daily Vehicle Miles Traveled (DVMT)	Annual Vehicle Miles Traveled (VMT) (100,000,000 Miles)	Number of Fatal Crashes per 100,000,000 VMT	Number of Serious Injury Crashes per 100,000,000 VMT	Total Number of Serious and Fatal Crashes per 100,000,000 VMT
2018	13,640,853	49.79	1.25	4.38	5.62
2019	14,220,439	51.90	1.39	4.51	5.90
2020	12,663,735	46.22	1.69	5.21	6.90
2021	13,855,762	50.57	1.40	5.67	7.08
2022	14,050,735	51.29	1.79	6.04	7.84
5-Year Total	**68,431,523**	**249.78**	**1.50**	**5.16**	**6.67**

Safety Focus Area Analysis

The Texas SHSP identifies ten focus areas and categorizes crashes into each focus area based on certain criteria (see right). If a single crash meets multiple focus area definitions, that crash is categorized as counting for all applicable focus areas.

In Central Texas, KA crashes from 2018 to 2022 increased in every SHSP Focus area except Impaired Driving. These three crash types (roadway departures, crashes involving younger drivers, and crashes at intersections) were the most common in Central Texas between 2018 to 2022 and had the highest rate of increase over that time period.

KA crashes involving older drivers were decreasing until 2020 when they began to increase. KA crashes involving pedalcyclists have been decreasing since 2019, but these crashes are still occurring at a higher rate than they were in 2018.

Roadway Departures: A crash is defined this way if one of the following two situations occur:

1. A single vehicle crash where the first harmful event occurred in the median, on the shoulder, or off the roadway.
2. A crash involving two vehicles both traveling straight in opposite directions, and one was going the wrong way in the lane, but not trying to pass another vehicle.

Speeding Related: A crash is defined this way if law enforcement included one or more of the following as a contributing crash factor:

1. Speeding (over the limit)
2. Unsafe speed
3. Failure to control speed

Intersections: A crash is defined this way if the intersection location field is coded as either “At Intersection” or “Intersection-Related”.

Younger Drivers: A crash is defined this way if a driver between the ages of 15 and 20 years old was involved in the crash (regardless of whether the younger driver was at fault).

Older Drivers: A crash is defined this way if a driver age 65 years old or older was involved in the crash (regardless of whether the older driver was at fault).

Occupant Protection: A crash is defined this way if an injury or death occurs to a vehicle driver or occupant (where restraint usage is known and applicable) who was not restrained. This crash definition applies both to lack of seatbelt use and lack of child car seat use.

Impaired Driving: A crash is defined this way if the crash involves at least one driver under the influence of alcohol or some other drug that impairs driving ability.

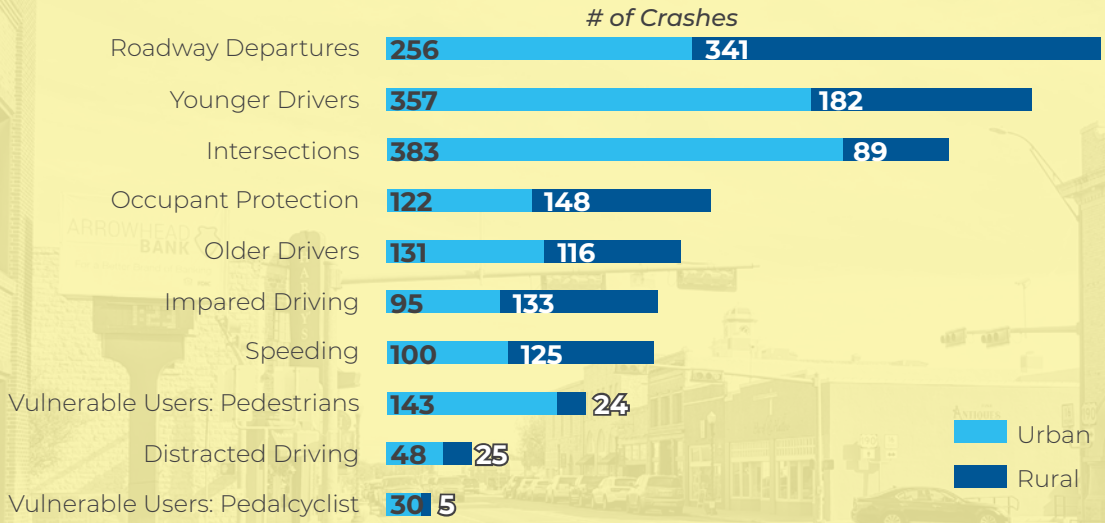
Distracted Driving: A crash is defined this way if law enforcement included one or more of the following as a contributing crash factor:

1. Distraction in vehicle
2. Driver inattention
3. Cell/mobile phone use

Pedestrian: A crash is defined this way when it involves at least one pedestrian and one motor vehicle.

Pedalcyclist: A crash is defined this way when it involves at least one pedalcyclist and one motor vehicle.

Urban and Rural Fatal and Serious Injury Crash Totals
in Central Texas (2018-2022)



Comparing Urban and Rural Portions of Central Texas

The project team also compared focus area KA crash data for the urban and rural portions of Central Texas to identify whether certain types of crashes were more common in one of the two environments. To complete this analysis, VMT data and KA crash data from 2018 through 2022 were both separated into urban and rural datasets. The above figure depicts the total number of crashes in Central Texas from 2018-2022 split up by urban and rural designations and SHSP focus area.

Analysis Results for Urban Areas

The three SHSP focus areas with the highest KA crash totals in urban areas are intersections, younger drivers, and roadway departures. Within urban areas of Central Texas, SHSP focus area KA crash totals are all trending upwards, except for distracted driving. Younger drivers, intersections, and crashes involving pedestrians are the SHSP focus areas with the highest trendline rate of increase in crashes per year from 2018-2022 in urban areas.

Analysis Results for Rural Areas

Within rural areas of Central Texas, SHSP focus area crash totals are all overall trending upwards, except for impaired driving. Impaired driving KA crash totals have decreased each year since 2018. The three SHSP focus areas with the highest total number of KA crashes in rural areas are roadway departures, younger drivers, and occupant protection. Intersections, roadway departures and younger drivers are the SHSP focus areas with the highest trendline rate of increase in crashes per year from 2018-2022 in rural areas.

Comparing Central Texas to Texas Overall

The project team looked at Central Texas KA crash rates per 100 million VMT for each SHSP focus area and compared them to the statewide KA crash rates for the same focus areas. The table on the right outlines which SHSP Focus areas are overrepresented or underrepresented when compared to statewide KA crash rates. Overrepresentation occurs when crash rates in Central Texas for a given SHSP focus area are higher than statewide crash rates for that same focus area. Notably, several of the most overrepresented focus areas in Central Texas relate to choices or behaviors, such as speeding or impaired driving.

Top 3 Focus Areas

Central Texas

- Speeding related
- Older driver
- Impaired driving

Urban Areas

- Speeding related
- Pedalcyclist
- Older driver

Rural Areas

- Impaired driving
- Speeding related
- Older driver

Percent of Overrepresentation of Central Texas KA Crash Rates Compared to Statewide Crash Rates, by SHSP Focus Area *(2018-2022)*

SHSP Focus Areas	Central Texas	Urban	Rural
Speeding Related	59.6% ↑	61.7% ↑	35.5% ↑
Older Drivers	21.1% ↑	11.8% ↑	26.8% ↑
Impaired Driving	19.4% ↑	-10.7% ↓	42.1% ↑
Roadway Departures	18.9% ↑	1.4% ↑	21.4% ↑
Occupant Protection	15.3% ↑	6.6% ↑	8.7% ↑
Baseline All Fatal and Serious Injury Crashes	8.1% ↑	6.5% ↑	10.8% ↑
Vulnerable Users: Pedalcyclist	3.8% ↑	14.4% ↑	-0.6% ↓
Younger Drivers	-2.3% ↓	-1.1% ↓	4.2% ↑
Intersections	-3.2% ↓	10.8% ↑	-21.0% ↓
Vulnerable Users: Pedestrians	-3.8% ↓	7.8% ↑	-5.8% ↓
Distracted Driving	-23.8% ↓	-24.9% ↓	-11.1% ↓

Legend ↑ Central Texas crash rates are higher than statewide crash rates ↓ Central Texas crash rates are lower than statewide crash rates

Percentages shown in table represent the difference between the crash rate in Central Texas and the crash rate statewide for each focus area. Urban and rural percentages represent differences between crash rates in that portion of Central Texas compared to similar urban or rural areas statewide.

6th Avenue, Belton

Compared to statewide crash rates, the urban areas of the Central Texas region are overrepresented the most in speeding related, pedalcyclist, and older driver crashes. The rural areas of Central Texas are overrepresented the most in impaired driving, speeding related, and older driver crashes.

Avenue D and North 2nd Street in Killeen

The Central Texas Regional High Injury Network

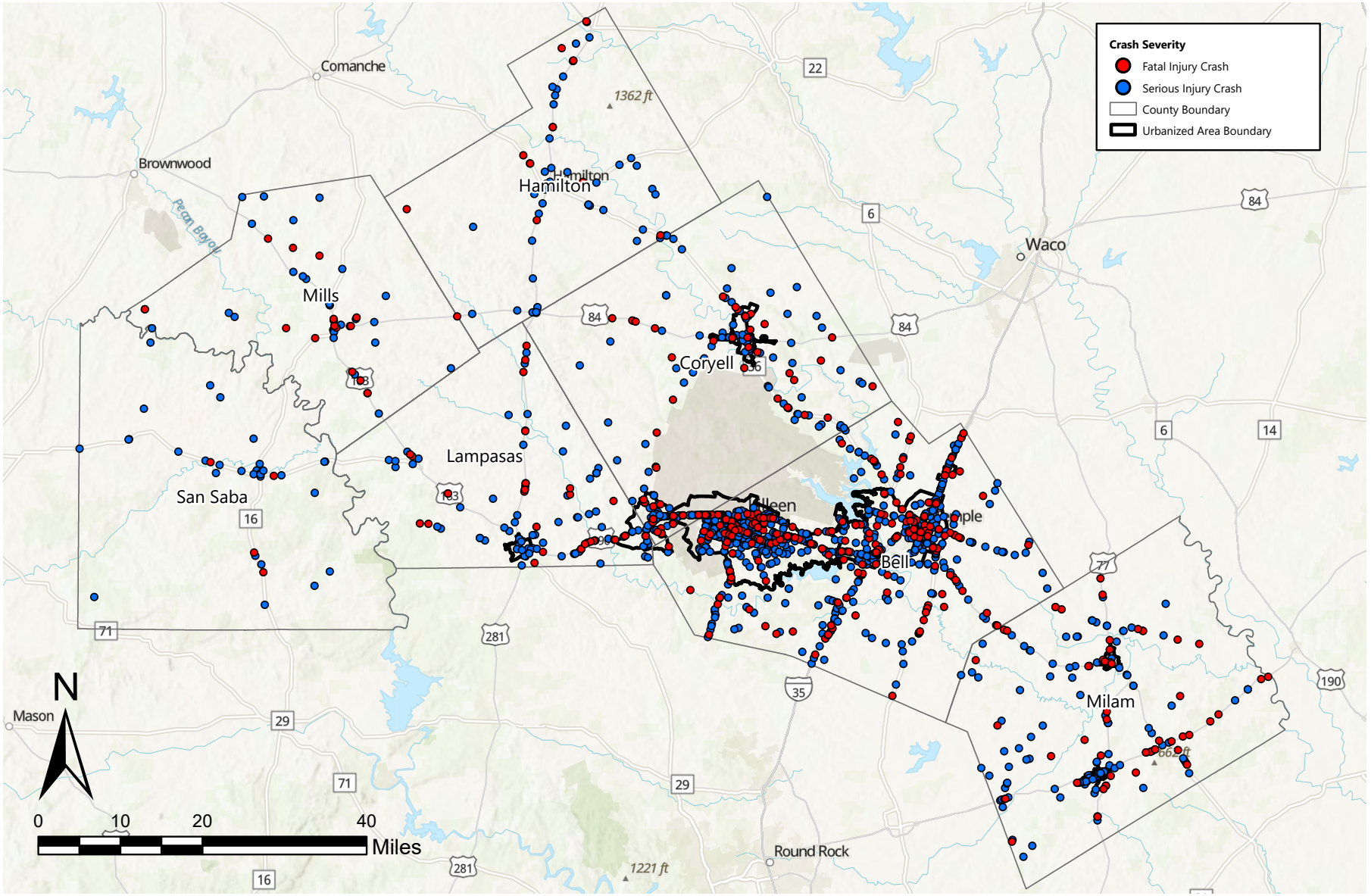
The project team collected and analyzed fatal (K) and serious injury (A) crash data from 2018 through 2022 for all of Central Texas to develop the regional High Injury Network (HIN). The map on the following page displays all Central Texas KA crashes. Customizable crash data views are available via the crash data dashboards available on CTCOG and KTMPO websites.

The regional HIN, shown on page 26, covers only 14 percent of roadway miles within Central Texas but accounted for approximately 60 percent of KA crashes from 2018 through 2022. Interstates and freeways were excluded from the analysis. The regional HIN is divided into urban and rural HINs.

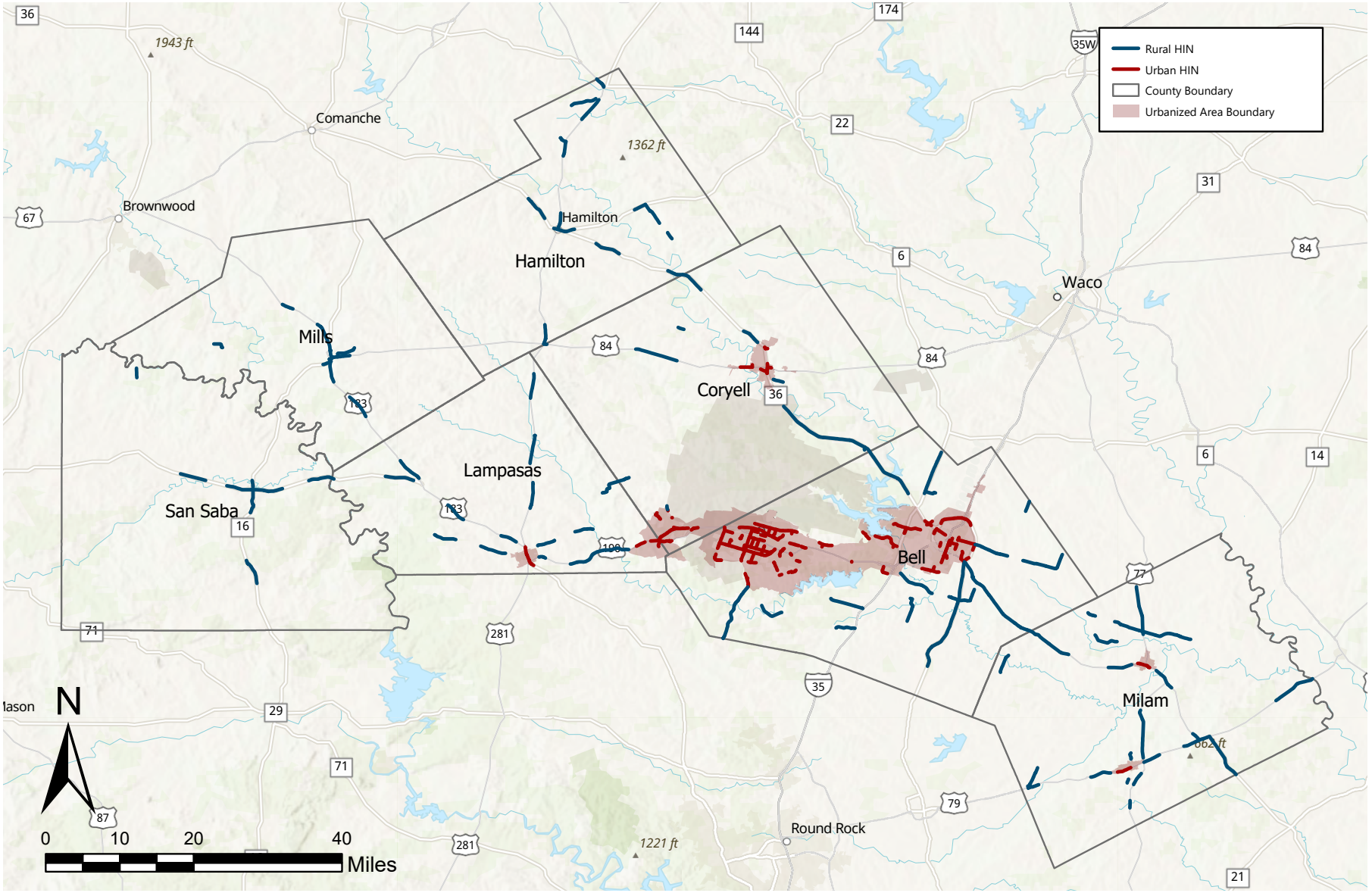
Urban HIN segments make up 26.9 percent of the entire regional HIN, by road mileage. 37.6 percent of the urban HIN segments contain a fatal or serious injury crash involving a pedestrian. 10.2 percent of the urban HIN segments contain a fatal or serious injury crash involving a pedalcyclist. 75.1 percent of the urban HIN segments are within, partially in, or located along a disadvantaged census tract.

Rural HIN segments make up 73.1 percent of the entire regional HIN, by road mileage. 10.9 percent of the rural HIN segments contain a fatal or serious injury crash involving a pedestrian. 1.1 percent of the rural HIN segments contain a fatal or serious injury crash involving a pedalcyclist. 46.5 percent of the rural HIN segments are within, partially in, or located along a disadvantaged census tract.

All Central Texas Fatal and Serious Injury Crashes (2018-2022)



The Central Texas Regional High Injury Network (2018-2022)



Note: *For detailed views of the HIN in each county and city, refer to Section 7.*

Downtown Hamilton

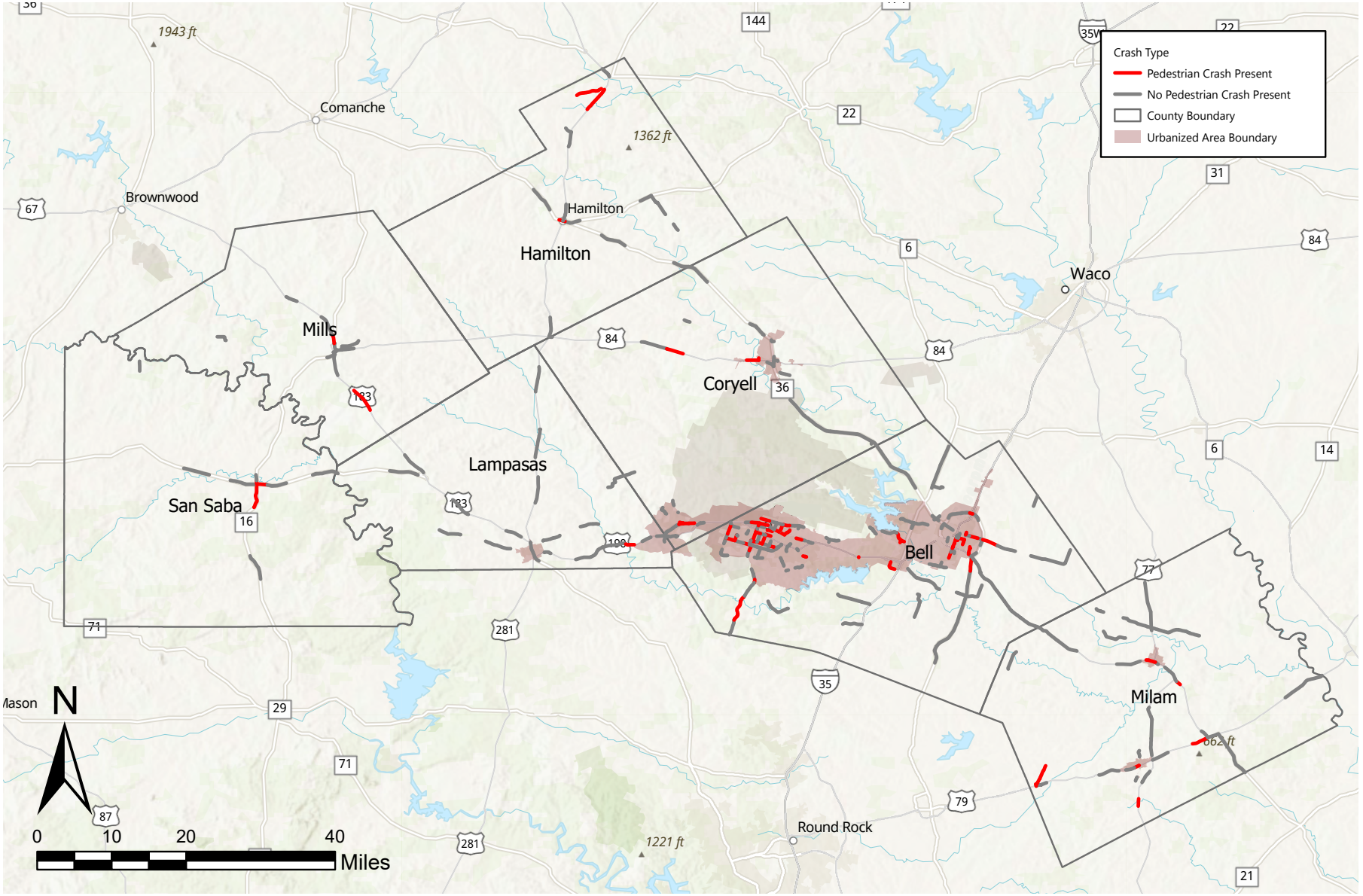
High Injury Network Overlays

The map on the next page shows the regional HIN segments that contain fatal and serious injury crashes involving a pedestrian. 17.2 percent of the regional HIN segments contain a KA crash involving a pedestrian. The regional HIN contains 79 percent of all reported KA crashes involving pedestrians that occurred within Central Texas between 2018 and 2022. 52 percent of the regional HIN segments with crashes involving pedestrians are in Bell County, 14 percent are in Milam County, and another 10 percent are in Hamilton County.

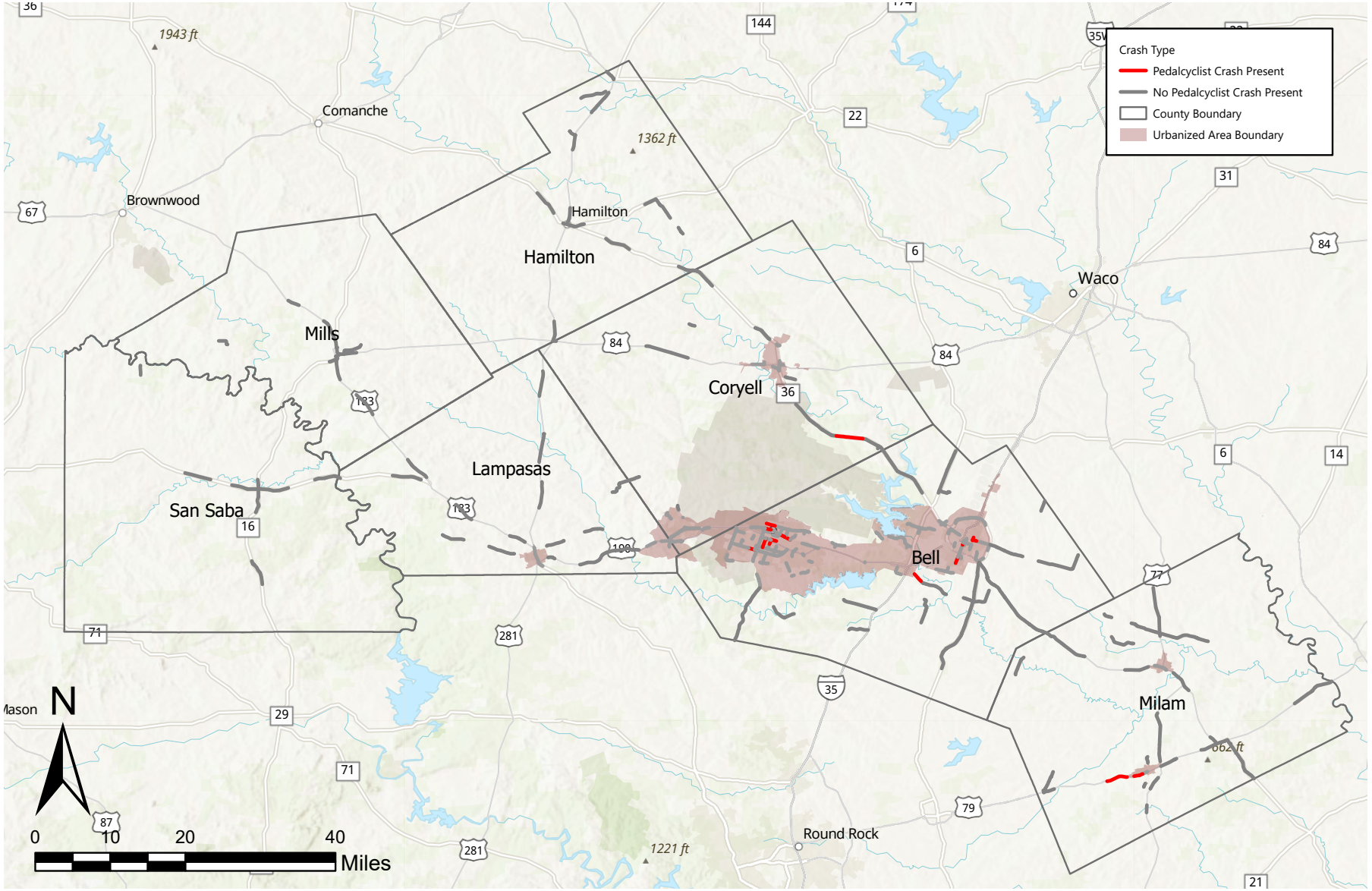
The map on page 29 shows the HIN segments that contain KA crashes involving a pedalcyclist. 3.2 percent of the regional HIN segments contain KA crash involving a pedalcyclist. The regional HIN contains about 64 percent of all reported KA crashes involving pedalcyclists that occurred within Central Texas from 2018 through 2022. 59 percent of the regional HIN segments with crashes involving pedalcyclists are in Bell County, 22 percent are in Milam County, and 19 percent are in Coryell County.

The map on page 30 shows the HIN segments that are within, partially in, or located along a disadvantaged census tract as defined by the US Department of Transportation. 51 percent of the regional HIN segments meet these criteria, and two thirds of the segments that do are located within rural areas.

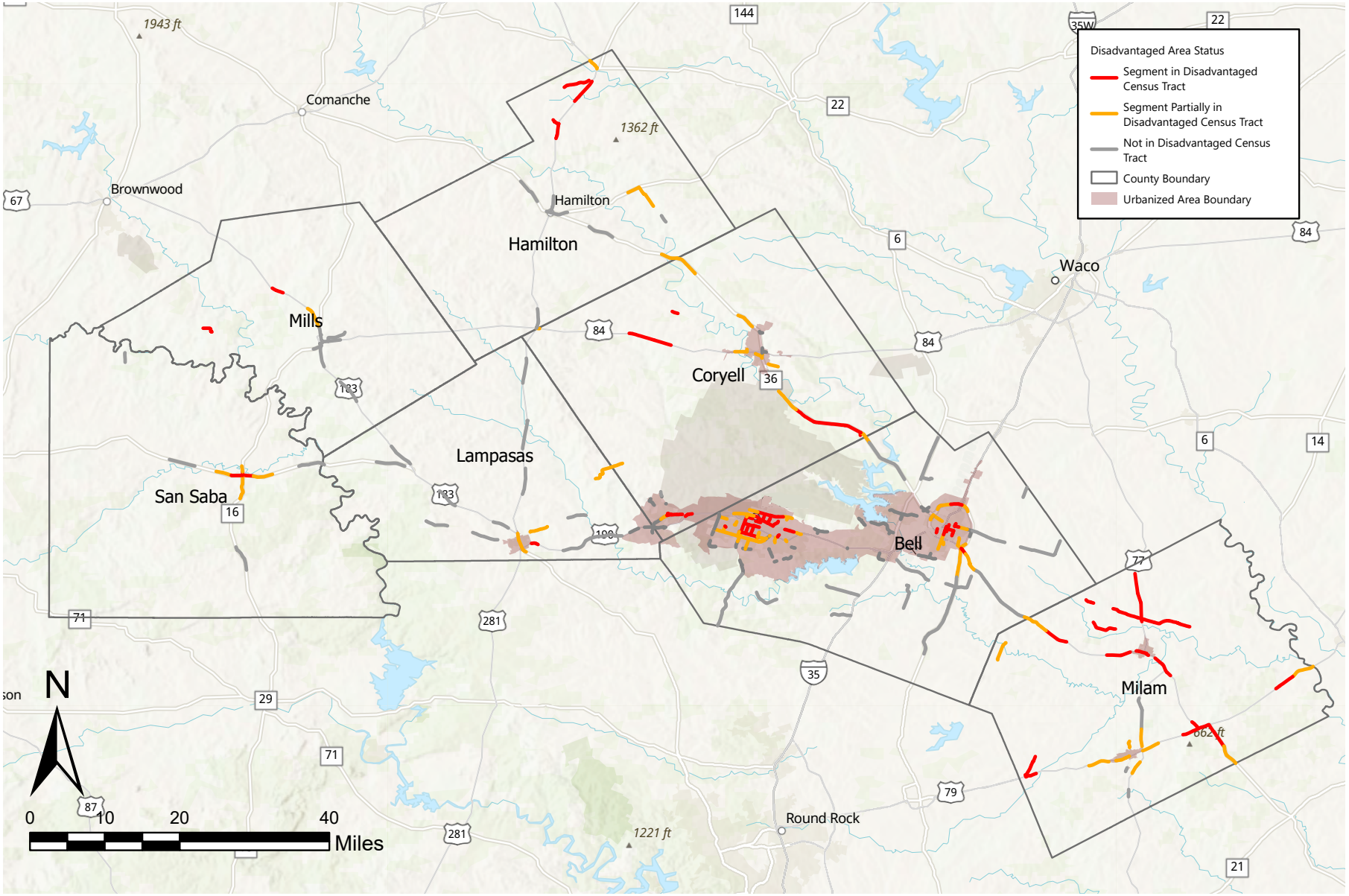
High Injury Network Pedestrian Emphasis Segments (2018-2022)



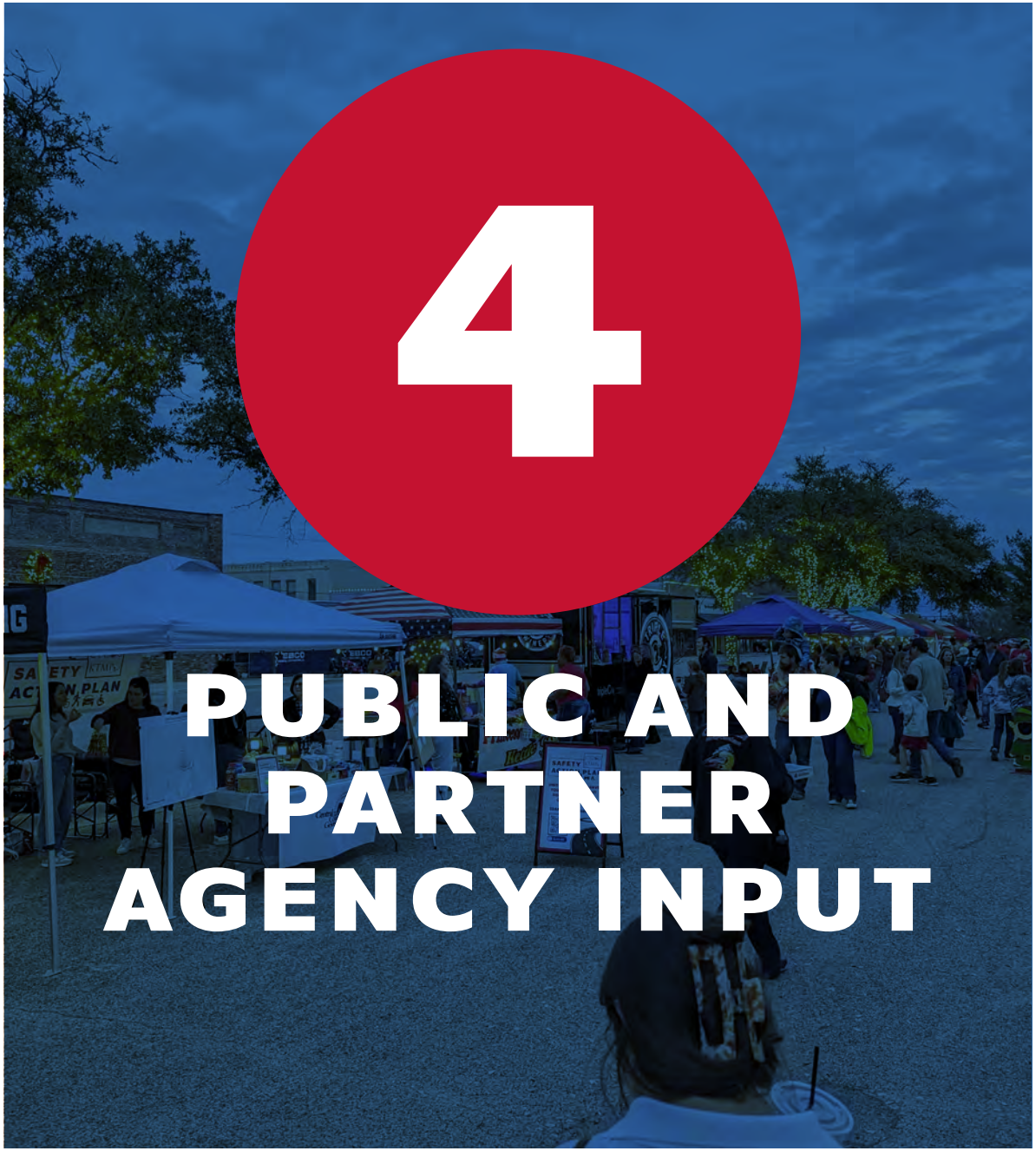
High Injury Network Pedalcyclist Emphasis Segments (2018-2022)



High Injury Network Equity Emphasis Segments (2018-2022)



Downtown Cameron



4

PUBLIC AND PARTNER AGENCY INPUT

Members of the public provided input to the plan through public events as well as online interactions via the project website: SS4ACentralTexas.org. Partner agencies provided input to the plan through a regional summit, individual partner agency meetings, and review of project deliverables.

A project timeline of all public engagement and partner agency activities is included on the following page.

A full summary of engagement for this plan is provided in the Engagement Memo in ***Appendix C.*** A table of all public comments received and summary statistics regarding online engagement is provided in ***Appendix D.***

Pop-up booth at Harker Heights Frost Fest 2023

Public and Partner Agency Engagement Timeline

Wave 1 Public Engagement: Safety Needs and Ideas

Wave 2 Public Engagement: Safety Needs and Ideas

Wave 3 Public Engagement: Draft Plan Review

Public Engagement Activities

Fall 2023 → **Winter 2024** → **Spring 2024** → **Summer 2024** → **Fall 2024** → **Winter 2025**

Partner Agency Engagement Activities
(Task Force Meetings Ongoing)

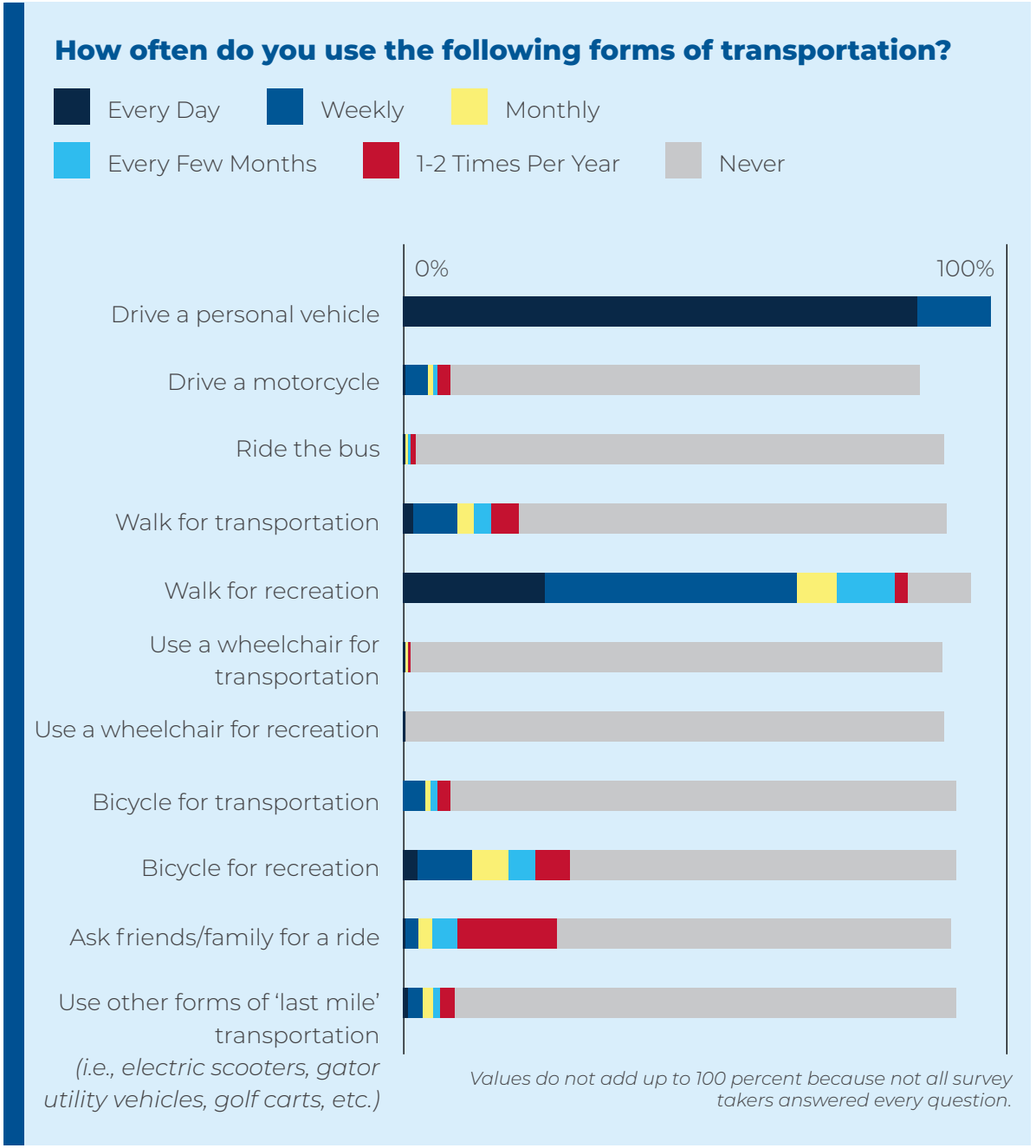
- Regional SS4A Summit
- Leadership Engagement Meetings
- Partner Agency Meetings
- Project Development Meetings
- **PLAN ADOPTION**

Online Public Engagement

The project website, www.SS4ACentralTexas.org, opened to the public for viewing and feedback in November 2023. The website remained live for the duration of the project, and included both a survey and an interactive map where visitors could leave feedback about roadway safety in Central Texas.

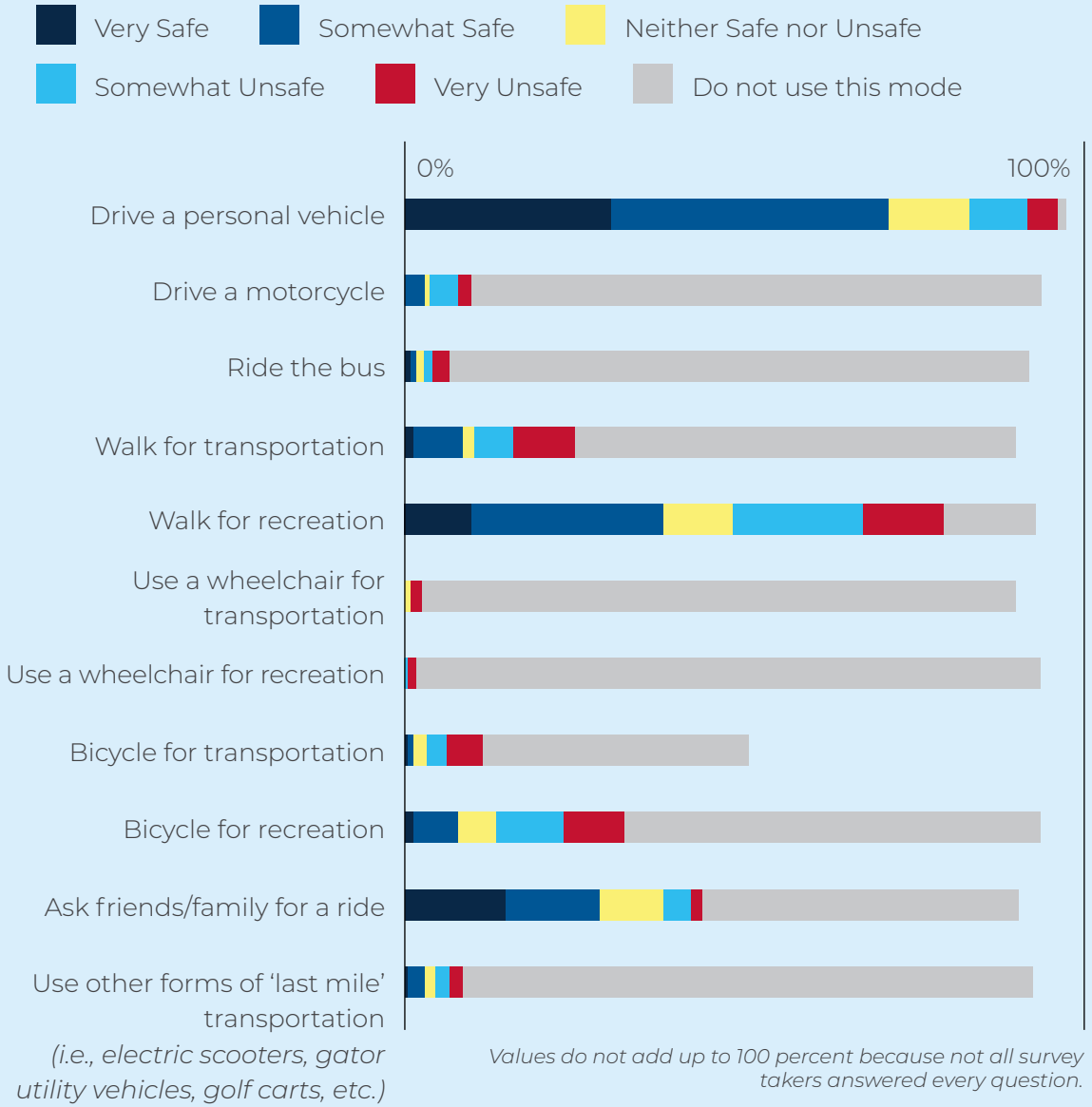
The public engagement survey included 19 questions that gathered respondent demographic information, travel preferences, roadway safety perceptions, and ideas and priorities related to roadway safety. While several open-ended questions allowed respondents to identify location-specific needs, many of the questions were phrased to gather general roadway safety perception and priority information. **A total of 252 survey responses were received from across Central Texas.**

Survey respondents were asked how often they use several different modes of transportation. The two modes with the highest number of participants reporting that they use them "Every Day" or "Weekly" were "Drive my personal vehicle" and "Walk for recreation." The modes with the greatest range of usage frequencies reported were "Bicycle for recreation" and "Walk for recreation."



Survey respondents were then asked how safe they felt using several different modes of transportation. As shown in the graphs on the right, survey respondents answered this question for each mode of transportation. The most widely used modes of transportation were "Drive my personal vehicle" and "Walk for recreation." Of those survey respondents that drive a person vehicle, the majority answered that they feel "Very Safe" or "Somewhat Safe" using this mode of transportation. The two modes where the largest percentage of participants answered that they felt "Somewhat Unsafe" or "Very Unsafe" were "Walk for Recreation" and "Bicycle for Recreation."

How safe do you feel using the following forms of transportation?



Values do not add up to 100 percent because not all survey takers answered every question.

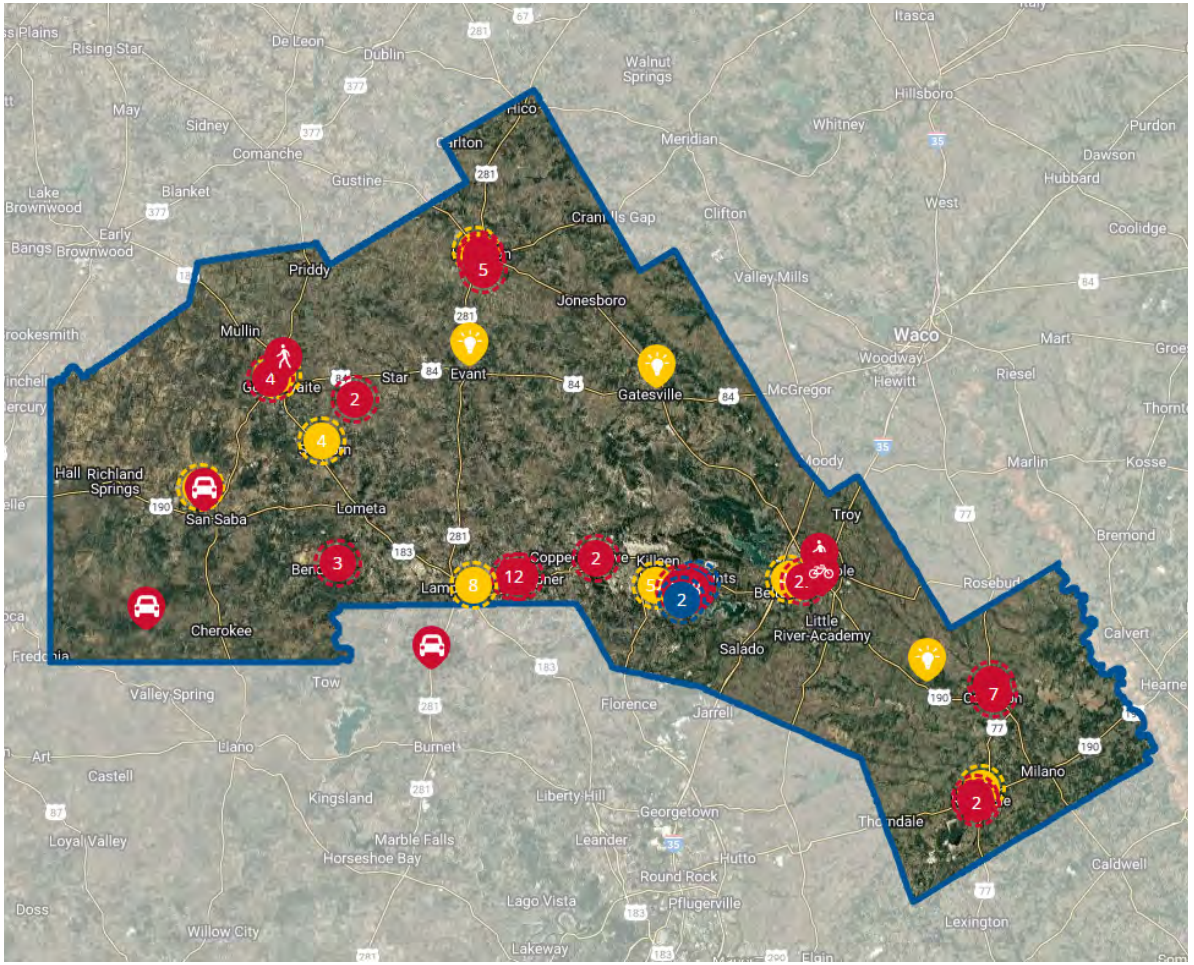
The survey asked participants to rank their top three traffic safety concerns. The top safety concerns selected by the majority of survey respondents were related to driver behavior and included “People ignoring traffic laws while driving” and “High vehicle speeds.” Those two responses were well above the next tier of three responses receiving approximately the same level of interest: “Aggressive driving,” “Poorly maintained roads,” and “Narrow, broken, or missing sidewalks.”

What are your top three traffic safety concerns for Central Texas?

- 42% People ignoring traffic laws while driving
- 40% High vehicle speeds
- 23% Aggressive Driving
- 22% Poorly maintained roads
- 22% Narrow, broken, or missing sidewalks
- 17% Red light running/not stopping at stop signs
- 15% Pedestrian safety in school zones
- 11% Not enough street lighting
- 10% View blocked when turning
- 7% Missing or inadequate bike lanes or paths
- 7% Drivers failing to yield to pedestrians and cyclists
- 4% Not enough crosswalks
- 4% Lack of turn lanes
- 2% Lack of access for people with disabilities
- 1% Not enough time to cross the street
- 1% Animals/wildlife in street

The public interactive map allowed website visitors to zoom to their communities and leave feedback on places where they feel safe or unsafe driving, walking, or biking. Visitors could also use a separate icon to post a project idea in a specific location. For any comments added to the map, visitors could also upload a photo to provide more context for the roadway safety comment. A total of **163 mapped comments** were received online from across the region as well as **255 mapped comments** gathered at in-person events.

Three key themes emerged from the comments left by participants on the interactive map. The first theme identified was a need for more safety features on roadways, such as signage, speed bumps, and traffic lights. The second most common theme found was a lack of sidewalks, or respondents wanting sidewalks built to improve safety for pedestrians. This theme corresponded with the survey results, where sidewalk concerns were in the top five safety concerns for Central Texas. The third most common theme found was improving current roads and pointing out unsafe road conditions.



Public Interactive Map Screenshot

In-Person Public Engagement

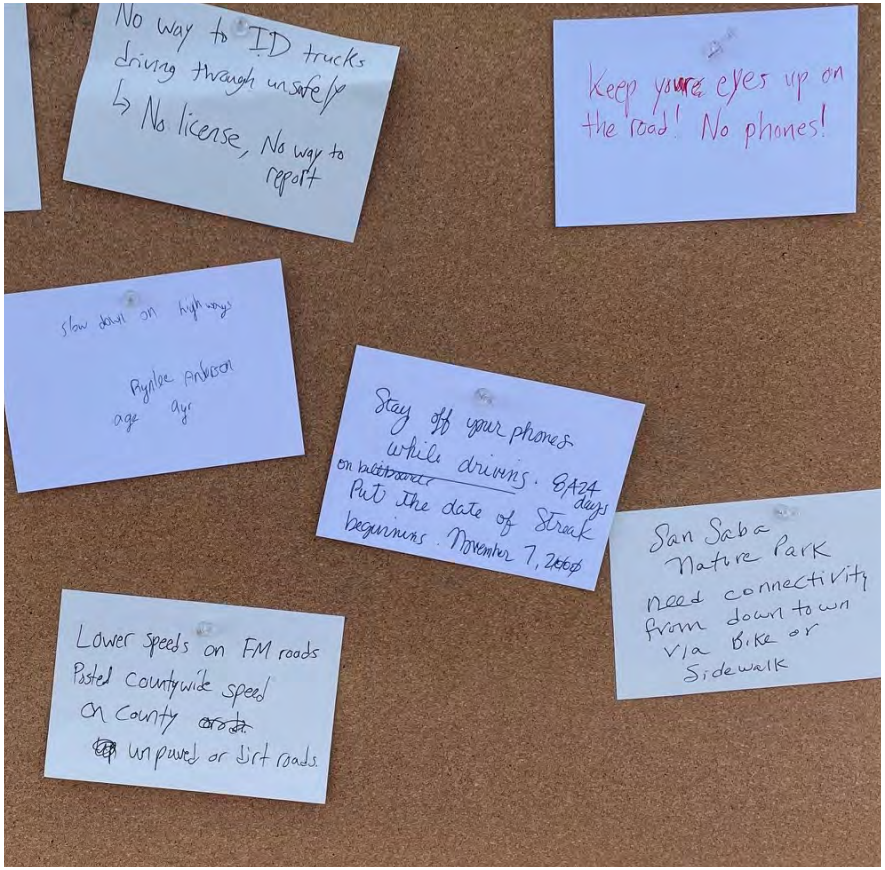
In addition to online public engagement, the project team gathered public feedback at in-person engagement events held throughout Central Texas. At least one event was held in each Central Texas county, except for Coryell County, which conducted its own public engagement efforts as part of their county safety action plan. As opposed to dedicated project meetings, the project team set up pop-up engagement booths at established community events to collect input and direct people to the project website to leave additional feedback.

At each pop-up event, people could leave a Post-it note that corresponded with a numbered sticker on a large roll plot map. People could also write their idea for making Central Texas roads safer on a card and place it on a display board that others could see and comment on as well. All of these comments were scanned in and filed alongside comments received via the project website. People also had the option of filling out paper versions of the online survey, and children had the option of completing related roadway safety coloring book activities.

The project team also identified two equity-focused events for gathering input from target audiences that could provide unique and crucial perspectives on safety needs. The first event was held in Temple and attendees included families of children with developmental disabilities. As part of this event, the engagement team created custom activities to engage with children while families provided input on roadway safety needs in the region as seen in the images on the right. The second event was scheduled in Temple to gather input from Veterans as part of a fundraiser march, but the event was cancelled due to storms in the area.

Public Engagement Event Pop-Up Booth Setup in San Saba

As opposed to dedicated project meetings, the project team set up pop-up engagement booths at established community events to collect input and direct people to the project website to leave additional feedback.



Idea Board from Public Engagement Event

Children's Activity at Equity-Focused Engagement Event

Public engagement events were conducted in three waves over the duration of the project. The first wave of events was held in December 2023 to gather initial safety priority and project idea feedback from residents in Bell, Milam, and San Saba counties. The second wave of events was held from April through August 2024 and focused on gathering additional input in Bell, Milam, and San Saba counties as well as safety priority and project idea feedback from residents in Hamilton, Lampasas, and Mills counties. (Engagement events in Coryell County were conducted separately as part of the Coryell County Safety Action Plan.) The third wave of events was held from November through December 2024 to gather feedback on the draft version of the Central Texas Roadway Safety Action Plan and its identified policy and project recommendations.

Public Engagement Event Schedule

Event Date	Event County	Event Details
12/2/2023	San Saba	Pecan Trade Days, San Saba, TX
12/7/2023	Milam	Christmas Festival, Cameron, TX
12/8/2023	Bell	Frost Fest, Harker Heights, TX
12/9/2023	Bell	A Very Special Christmas, Temple, TX
4/27/2024	Mills	BBQ and Goat Cookoff, Goldthwaite, TX
5/11/2024	Hamilton	Hamilton May Days, Hamilton, TX
7/6/2024	Bell	Red, White, and Blues Fest, Killeen, TX
7/13/2024	Lampasas	Spring Ho Festival, Lampasas, TX
7/14/2024	Milam	Sesquicentennial Celebration, Rockdale, TX
8/1/2024	Bell	Farmers Market, Temple, TX
12/1/2024	Bell	Tri-County Toy Run, Temple, TX
12/5/2024	Milam	Christmas Festival, Cameron, TX
12/14/2024	Bell	Farmers Market, Harker Heights, TX
12/14/2024	Bell	Christmas Stroll, Salado, TX

Downtown Killeen

Partner Agency Stakeholder Engagement

In addition to public engagement events, the project team met directly with partner agencies to identify needs, priorities, and project opportunities for the Central Texas Roadway Safety Action Plan. Partner agency engagement began with a regional summit in November 2023, and continued with agency-specific meetings and monthly recurring Central Texas Roadway Safety Task Force meetings throughout 2024. The project team also presented project updates at several CTCOG Executive Committee meetings and KTMPO Transportation Planning Policy Board meetings. A list of all partner agencies that participated in at least one meeting to support the development of this plan is shown to the right. Full lists of meetings along with dates and meeting purposes are included in ***Appendix E.***

Regional Safe Streets for All Summit

To formally kick off the development of the Central Texas Roadway Safety Action Plan within the region, the project team invited partner agencies to attend a Regional Safe Streets for All Summit on November 6, 2023. In addition to CTCOG staff and summit facilitators, fifteen partner agency staff and elected officials attended the summit, including city and county staff, TxDOT staff, and representatives from the Hill Country Transit District.

At the summit, the project team met with partner agencies from across the region to introduce the Safety Action Plan process, discuss regionwide and localized safety needs and project opportunities, and engage in a vision casting activity to help the project team develop draft plan goals. The summit also provided attendees with the opportunity to exchange contact information, recommend additional agencies for future outreach efforts, and share ideas for public engagement activities in their communities by identifying upcoming community events.

Participating Partner Agencies

Baylor Scott & White Health
Bell County Precinct 2
Bell County Precinct 3
Cameron Rotary Club
City of Bartlett
City of Belton
City of Cameron
City of Copperas Cove
City of Goldthwaite
City of Harker Heights
City of Killeen
City of Lampasas
City of Little River-Academy
City of Nolanville
City of Rockdale
City of Rogers
City of Temple
City of Troy
Coryell County
Fort Cavazos
Hamilton County
Heart of Central Texas Independent Living
Hill Country Transit District
KTMPO Bicycle and Pedestrian Advisory Committee
Lampasas County
Milam County
Mills County
San Saba County
Texas Appleseed
TxDOT Bryan District (Bryan Area Office)
TxDOT Waco District

Central Texas Roadway Safety Task Force Meetings

SS4A requirements include establishing a task force or similar body of representatives from across the region responsible for oversight of the development, implementation, and monitoring of the Safety Action Plan. To meet this planning structure requirement, CTCOG and KTMPO convened a Central Texas Roadway Safety Task Force comprised of city and county representatives, public health officials, law enforcement representatives, transit agency representatives, and TxDOT staff. The task force met virtually every 1-2 months beginning in December 2023 and continuing through Final Safety Action Plan development. Task force members are listed in the plan acknowledgements.

County- and City-Level Leadership Engagement Meetings

The project team met with leadership from counties and cities during the early stages of the project to share details about the development process, discuss roadway safety needs and priorities, and gather initial project ideas and areas of focus for the plan. The project team tailored every meeting to address the specific needs of each agency's leadership, resulting in a variety of formats for these leadership engagement sessions. These included council meeting presentations, workshops for key staff, and one-on-one meetings with county judges.

Partner Agency Meetings

In addition to the leadership engagement meetings, the project team also met with additional partner agencies from across the region to gather roadway safety needs and project ideas. These partner agency meetings often served as follow-up discussions after leadership engagement meetings, giving city staff an opportunity to elaborate on safety priorities communicated by city leadership. These partner agency meetings also provided an opportunity

As part of the Central Texas Roadway Safety Action Plan, stakeholders from across the region identified high-impact safety projects that would be strong candidates for funding.

for the project team to meet with regional roadway safety agencies, including transit providers, public health specialists, and equity-focused organizations, that provide support to many of CTCOG's and KTMPO's member agencies.

Regional Policy Board and Executive Committee Meeting Presentations

The project team presented project updates to the CTCOG Executive Committee and KTMPO Transportation Planning Policy Board (TPPB) over the course of the project, first to describe project details and goals, then to present high-priority projects identified throughout the region, and finally to secure a commitment from regional leadership for a reduction in roadway fatalities and serious injuries as part of Central Texas Roadway Safety Action Plan review and adoption.

Project Development Engagement Activities

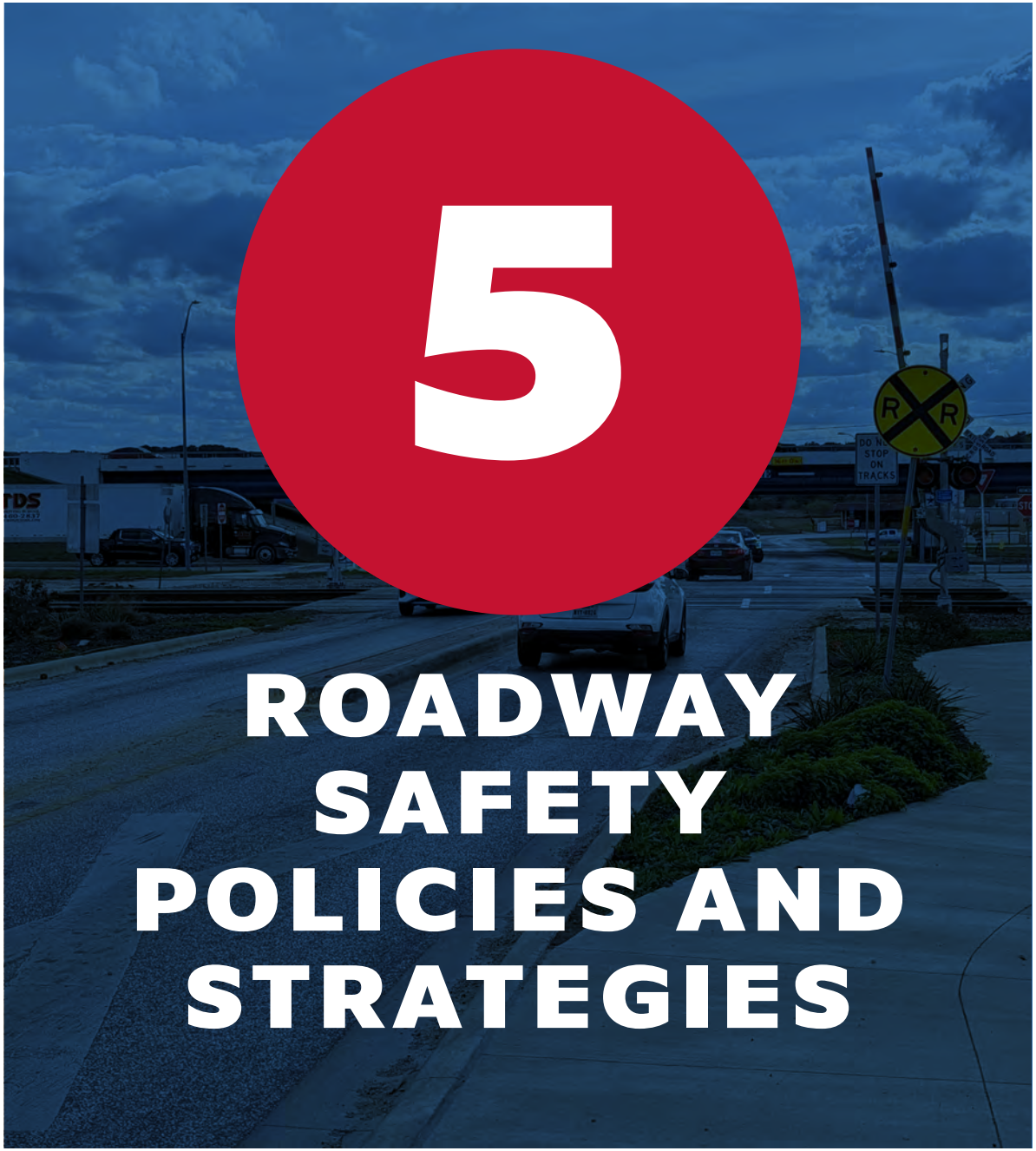
As part of the Central Texas Roadway Safety Action Plan, partner agencies from across Central Texas identified high-impact safety projects that would be strong candidates for funding. In many cases, especially for SS4A candidate projects, partner agencies identified areas within their community where equity needs were most prevalent. The project team collaborated with partner agencies to develop detailed safety analyses and conceptual designs.

Depending upon the details of each project, the project team then worked with partner agencies to develop materials supporting either an SS4A grant application or a Highway Safety Improvement Program (HSIP) application. For both application material development tracks, identified project opportunities were reviewed by partner agencies, CTCOG staff, and the Central Texas Roadway Safety Task Force for concurrence. The reviewed project lists were then presented to the CTCOG Executive Committee and KTMPO TPPB for approval before project development activities began.

The development of projects identified for SS4A and HSIP grant application support began with a virtual project kickoff meeting to review the study corridor and vetted needs and opportunities identified in initial partner agency meetings and public engagement events. As part of the meeting, attendees discussed desired types of countermeasures and overall desired scope of safety improvements.

Following the project kickoff meeting, the team scheduled a multidisciplinary field review to document existing conditions and allow for additional discussion of potential improvements and constraints as observed while in the field. Once field reviews were completed, the project team developed application support materials for each project. Finally, once draft materials were reviewed and comments were addressed, the final application materials were submitted to partner agencies for their use.

Map-Based Input Activity at Regional Safe Streets for All Summit



5 ROADWAY SAFETY POLICIES AND STRATEGIES

Interviews with partner agencies, feedback from the public, and reviews of crash data led to the identification of many safety needs across Central Texas.

This input also identified many opportunities for both localized and regionwide policy or strategy investments that could have positive impacts on both roadway safety and overall quality of life in Central Texas.

While the local project and strategy opportunities are included in individual County Safety Action Plans as part of the Central Texas Roadway Safety Action Plan, many of the roadway safety themes heard repeatedly across the region became focal points in identifying opportunities for regional action on roadway safety.

Commonly Cited Roadway Safety Needs *for Central Texas Stakeholders*

Improved safety for those walking or biking to school	**Building out both community-scale and regional sidewalk and trail networks**	**Better roadway design and speed control near roadway curves, especially when approaching rural communities**	**Better lighting along roadways and at intersections in rural areas**	**Preserving roadway safety as cities develop and traffic volumes grow**
Preserving crash access for emergency responders	**Education and enforcement campaigns related to seat belt use, aggressive driving, and distracted driving**	**Better drainage and flood warning infrastructure to keep drivers safe during rain events**	**Better access to funding to address safety engineering and enforcement needs**	**Managing speeds along freeway frontage roads in partnership with TxDOT**

In addition to the recommended regional strategies developed for Central Texas in this section, agencies should also reference existing federal and state resources that include best practices for roadway safety engineering, education, enforcement, and emergency response. ***Much of the detail from recommended regional activities came from resources including:***

- **Federal Highway Administration (FHWA) Proven Safety Countermeasures:** An FHWA guide to engineering and planning countermeasures with proven success in reducing fatal and serious injury crashes.
- **NHTSA Countermeasures That Work:** A collection of education and enforcement countermeasures with proven success at addressing behavioral roadway safety issues that contribute to crashes.
- **TxDOT Safety Resources:** A collection of resources that TxDOT and its partner agencies in Texas have used to address roadway safety challenges.
- **Rural Unintentional Injury Prevention Toolkit:** An online tool designed to help agencies implement programs aimed at preventing unintentional injuries such as motor vehicle crashes in rural areas, including program recommendations for post-crash care.

Recommended Regional Activities

Demonstration and supplemental planning activities involve temporary safety initiatives, improvements, or studies that inform a safety action plan (such as the Central Texas Roadway Safety Action Plan). These activities are often used to evaluate the potential implementation of a recommendation or countermeasure that is identified in the plan. Demonstration activities must incorporate the use of data collection and evaluation to assess their effectiveness in achieving potential benefits. Demonstration activities are meant to be easily implemented and reversible and should not involve any permanent roadway reconstruction. Based upon the evaluation of data from a demonstration activity deployment, outcomes can determine future benefits and future scope of the demonstration activity if it were applied more widely across the region.

Supplemental planning activities are ones that contribute to the development of a new or existing safety action plan. These activities could include the development of complementary safety plans, additional data collection and analysis, additional stakeholder engagement or collaboration activities, road safety audits, or the development of a more focused safety plan that targets specific safety challenges.

Partner agencies identified ten demonstration or supplemental planning opportunities for Central Texas based on documented community needs.

The table on the next page introduces the identified demonstration/supplemental projects as well as a brief description. Since each activity has a different geographic scope and target crash type, no priority among projects is implied. Note that detailed writeups for the Bell County and Milam County projects are included in County-level plans.

Key Policy Themes

Throughout conversations with the public and with partner agencies across Central Texas, several persistent safety challenges were repeatedly mentioned as the top issues for the Central Texas Roadway Safety Action Plan. People consistently cited speeding, aggressive driving, and school zone safety as safety challenges that could not be addressed through a succinct project or policy alone, but nonetheless needed to be considered for the safety action plan to comprehensively describe the region's safety challenges.

The Central Texas Roadway Safety Action Plan addresses these persistent safety challenges through a combination of projects and policies. For example, speeding and aggressive driving are addressed in part through policy recommendations like Neighborhood Traffic Calming Best Practices and the Milam County Nighttime Driving Behavioral Pilot Program. Similarly, school zone safety is addressed in part through the recommendations for Leading Pedestrian Intervals at School-Adjacent Intersections and School Crossing Safety Near Major Roadways.

Many other potentially effective policies exist for addressing these issues, however. The NHTSA Countermeasures That Work site introduced on Page 45 includes many of these for speeding and aggressive driving. School zone safety best practices are compiled in the Safe Routes to School Guide available at http://guide.saferoutesinfo.org/index.cfm. Central Texas partner agencies should also review these best practices to identify additional policy opportunities that could be useful to implement within their communities.

Regional Planning Activity	Description
Regionwide Activities	
Sidewalk and Trail Master Plan Development	Sidewalk and Trail Master Plan Development is the process of creating a plan for the improvement of sidewalks and trails within a community or region to increase safety and connectivity. The goal is to improve pedestrian and pedalcyclist safety.
Development of a Regional Road Safety Audit (RSA) Program	Road Safety Audits allow a multidisciplinary team to review a study roadway to develop safety-focused recommendations for the road owner.
Drainage-Focused Safety Improvements	Water ponding on roadways and other poor drainage in the region can pose safety risks to travelers, and changes to designs and operations procedures can help to reduce ponding and related safety impacts.
Growth-Focused Roadway Safety Best Practices	Many cities in the region are experiencing sustained and rapid growth. FHWA includes several proven safety countermeasures that cities should keep in mind as they grow and develop.
Urban Central Texas Activities	
Leading Pedestrian Intervals (LPIs) at School-Adjacent Intersections	LPIs are a change in pedestrian intersection timing to give pedestrians headway in front of turning vehicles. The goal is to improve pedestrian safety at intersections.
Neighborhood Traffic Calming Best Practices	Neighborhood traffic calming best practices are a set of strategies and approaches to decrease speed, cut through traffic, and safety along neighborhood streets. The goal is to create a baseline framework of these practices for cities or regions to follow.
Rural Central Texas Activities	
Education and Enforcement Programs for Seatbelt and Child Restraint Use	Several proven programs exist to educate drivers and enforce the use of seatbelts and proper child restraints. Lack of proper restraint use is highly correlated with fatal and serious injury crashes in the region.
School Crossing Safety Near Major Roadways	Many schools, especially in rural areas of Central Texas, are located near major highways that facilitate high traffic speeds and volumes. Several strategies exist to help improve the safety of students crossing these facilities to get to school.
County-Specific Activities	
FM 439 Corridor Safety Study (Bell County)	Corridor safety studies evaluate the safety conditions along a particular corridor by collecting and analyzing data. The goal is to identify potential safety concerns and make recommendations based on findings.
Nighttime Driving Behavioral Pilot Program (Milam County)	Nighttime driving programs are policy initiatives or enforcement and education-focused countermeasures implemented to reduce the likelihood of nighttime crashes by addressing behavioral risk factors.

Sidewalk and Trail Master Plan Development

Introduction and Addressing the Need

From 2018 to 2022 Central Texas had a total of 571 reported pedalcyclist or pedestrian-related crashes. Of those crashes, 35.9 percent were KA crashes and 40.1 percent were minor injury (B) crashes. In brainstorming potential demonstration projects to mitigate these types of crashes, stakeholders repeatedly mentioned wanting to prioritize connectivity from various neighborhoods through trail and sidewalk development. This development would provide safer pathways for pedestrians and pedalcyclists, eliminating the need to encounter motor vehicles in certain areas.

Analysis

The project team looked at crash data from 2018 to 2022 for Central Texas considering only KAB crashes to identify the number of pedalcyclist and pedestrian-related crashes. The project team then researched case studies to determine strategies to reduce the number of those types of crashes.

In May of 2014, a report ('Nonmotorized Transportation Pilot Program – Continued Progress in Developing Walking and Bicycling Networks') was published by FHWA outlining the results of a nonmotorized transportation pilot program. This initiative allocated funding to four communities across the United States to demonstrate the impact of providing infrastructure for pedestrians

Avenue H near Jones Park in Temple

and pedalcyclists on the rate of people walking and biking. Throughout the program, the number of KA crashes were monitored and evaluated.

Although the four communities witnessed an increase in the number of pedestrian and pedalcyclist trips between 2002 and 2012, the communities also saw a decrease in KA crashes involving pedestrians and pedalcyclist on roadways. All four communities observed a decrease in the number of fatal crashes ranging from a 20 percent to 28.6 percent. All four communities also experienced a significant reduction in serious injury crash rates (crashes per number of trips) for pedestrians and cyclists on roadways, ranging from 8.6 percent to 55.1 percent.

Recommendations and Implementation Guidance

The findings in this study support building more sidewalks/trails to increase pedestrian safety. The project team recommends the development of sidewalk/trail master plans in communities that have identified pedestrian safety as a major need. These communities include the cities of San Saba, Nolanville, Killeen, Temple, Cameron, Rockdale, and Belton. Typical plans identify goals, current programs and policies, prioritized project locations, and estimate the cost required for the implementation of recommended projects. Outlining these elements would aid in the development of a year-by-year implementation plan.

Typical Sidewalk and Trail Master Plans are developed using the following steps:

1. Data collection and analysis
2. Stakeholder engagement
3. Gap analysis and prioritization
4. Design guidelines and standards
5. Cost analysis
6. Implementation strategies
7. Monitoring and evaluation

Projects that are typically recommended through Sidewalk and Trail Master Plans are the development of new infrastructure and maintenance or updates to existing infrastructure. In urban areas, these sidewalks and trails should be redundant to existing routes to minimize usage along or in roadways. In both rural and urban areas, these sidewalks and trails should focus on connectivity between frequented places or areas in which residents may not have vehicular access. Often, a clear path or “desired path” will emerge between these frequented places, indicating a good location for a potential sidewalk.

These places often include but are not limited to:

1. Amenity centers
2. Transit hubs
3. Senior Centers
4. Grocery Stores
5. Parks
6. Schools
7. Major Shopping Centers

Following implementation of plan recommendations, the number of crashes involving pedestrians and pedalcyclists in the subject areas can be documented and analyzed to gauge effectiveness.

Stakeholders and key partners for this implementation include:

- Transit Agencies
- Schools
- Engineers/planners from cities participating in plan development
- Local advocacy groups
- Residents

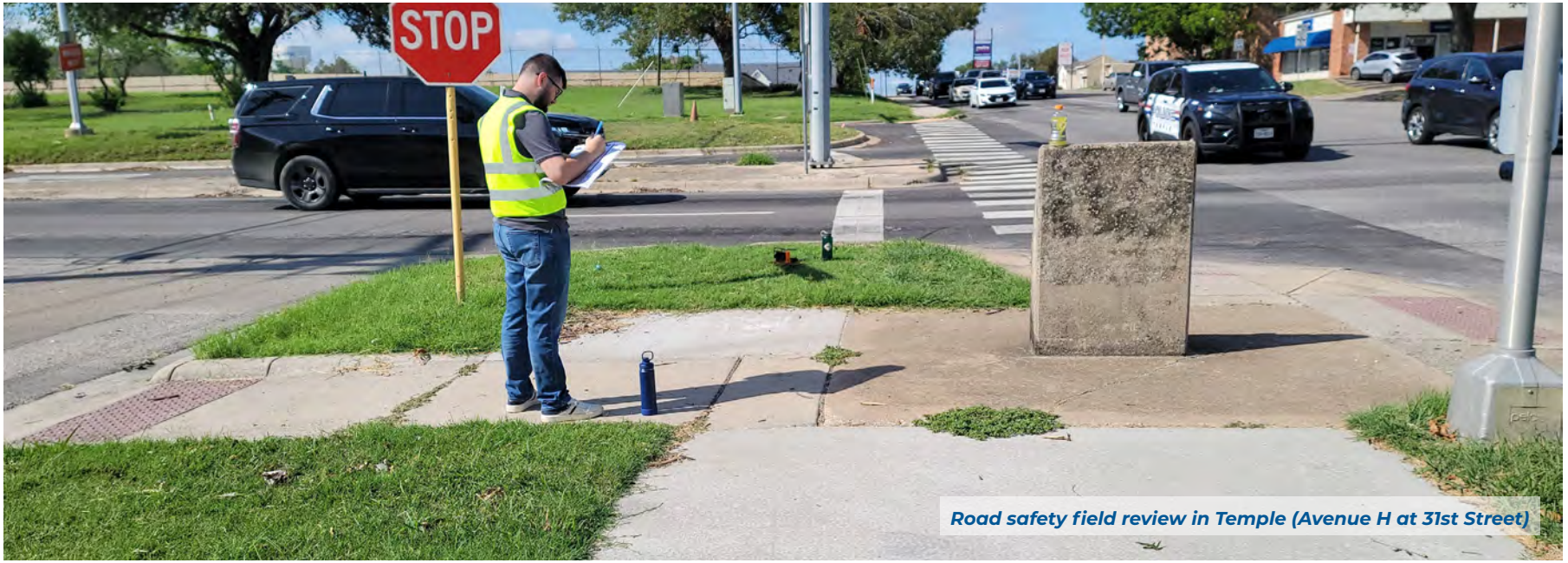
Development of a Regional Road Safety Audit Program

Introduction and Addressing the Need

A Road Safety Audit (RSA) is an important process aimed at enhancing the safety of roads and intersections for all potential road users. It entails a comprehensive evaluation of existing or future road infrastructure by a diverse team of independent experts. The main objective of an RSA is to identify potential safety issues and propose improvements to address or mitigate those safety issues.

According to FHWA, the benefits of RSAs include:

1. ***Increased safety:*** Improvements identified through RSAs can help prevent crashes and reduce the severity of injuries in the event of a crash.
2. ***Reduced costs:*** Correcting safety issues before projects are built through pre-construction RSAs can help avoid costly redesigns later on.
3. ***Increased safety awareness:*** Designing with safety in mind helps raise awareness of safer roadway practices among all stakeholders, including designers, engineers, and users. This can lead to an enhanced culture of safety and encourage the adoption of safe design practices in future projects.
4. ***Integration of multimodal safety:*** Designing for safety should consider all modes of transportation, not just motor vehicles. This means accounting for the needs and safety concerns of pedestrians, cyclists, and public transportation users. By integrating multimodal safety concerns through RSAs that consider these users, RSA teams can create a more inclusive and safer transportation network.



Road safety field review in Temple (Avenue H at 31st Street)

5. ***Consideration of human factors:*** Understanding human behavior and cognitive abilities is crucial in designing safer roadway infrastructure. By considering human factors in all facets of design, such as visibility, signage, and user experience, RSA teams identify improvements that make roadways more intuitive and easier to navigate, reducing the likelihood of crashes caused by human error.

Overall, incorporating safety considerations from RSAs can help create infrastructure that is safer, more cost-effective, and more accommodating to all roadway users.

Analysis

The project team examined existing documentation in order to identify the benefits and best practice processes for conducting an RSA. According to FHWA, there are eight major steps involved in conducting an RSA. Steps 3-6 are led by an independent, multidisciplinary RSA team, while the remaining steps are led by the roadway owner.

Step 1: Identify project or existing road to be audited. The first step in conducting an RSA is to determine the project or existing road that will be audited. This can be done from a review of crash data or through stakeholder requests.

Step 2: Select RSA Team. Once the project or road has been identified, the next step is to assemble an RSA team. This team should consist of independent, qualified, and multidisciplinary experts who are familiar with the type of location under study.

Step 3: Conduct a pre-audit meeting to review project information. Before conducting the actual audit, it is important to hold a pre-audit meeting. This meeting brings together the roadway owner or design team, and the RSA review team to discuss the scope of the RSA and existing conditions at the study location. This meeting also allows attendees to prepare for the field reviews.

Step 4: Perform field reviews under various conditions. The next step is to perform field reviews of the project or existing road under various conditions (daytime, nighttime, weekday, weekend, etc.). The objective of this step is to gain insight into the project and identify areas of safety concerns. The field visit allows for a firsthand assessment of the project and further verification or identification of safety concerns.

Step 5: Conduct audit analysis and prepare report of findings. After the field reviews, the audit team analyzes the findings and prepares a report. This step involves identifying and prioritizing safety issues and suggesting measures to reduce safety risks. The results of the RSA are then summarized in a formal RSA report.

Step 6: Present audit findings to Project Owner/Design Team. In this step, the audit team presents the key findings of the RSA to the roadway owner or design team. The goal is to facilitate their understanding of findings and recommendations from the field reviews.

Step 7: Prepare formal response. Once the audit findings have been presented, the roadway owner or design team prepare a formal response. This response outlines the actions they will take regarding each safety issue identified in the RSA report. It also explains any reasons why some of the RSA suggestions may not be implemented.

Step 8: Incorporate findings into the project when appropriate. The final step is to implement the findings of the RSA when appropriate. This ensures that the corrective measures outlined in the response report are implemented within the designated time frame identified in the formal response.

Recommendations and Implementation Guidance

The project team recommends that an RSA program be created for Central Texas, where a set number of roadway segments from across the region are reviewed each year by a consistent multidisciplinary RSA team assembled of interested local roadway safety advocates. This program outline may be used as a shared resource or starting point among areas within the region.

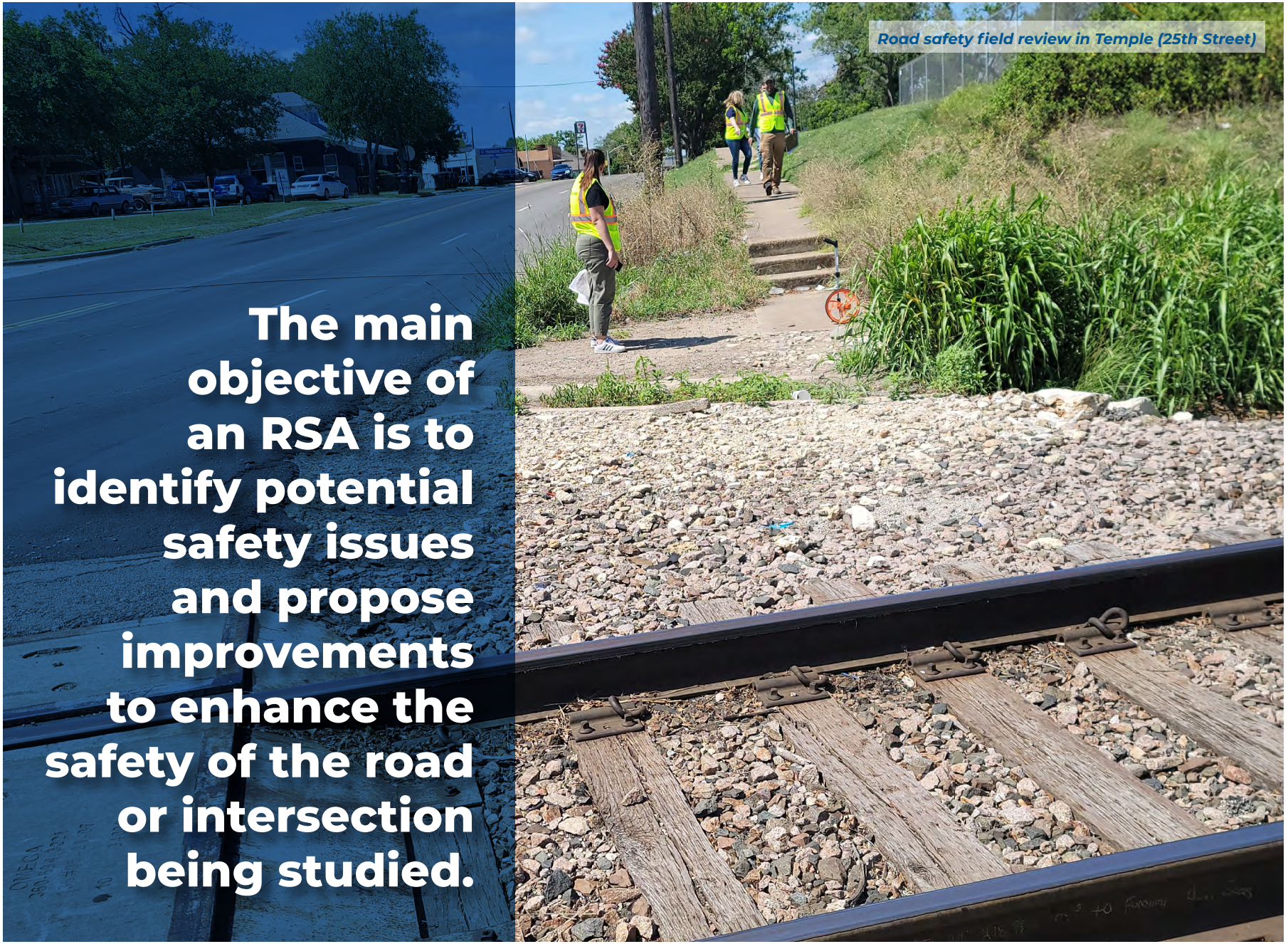
Central Texas should establish an RSA program that follows the eight-step process listed above. Additional guidance for select steps with respect to establishing a regional program includes:

Regional Guidance for Step 1. To prioritize which corridors would benefit from an RSA, agencies should consider public feedback, such as formal letters or applications highlighting initial traffic issues, as well as safety data such as the history of reported crashes related to a potential study corridor. Central Texas stakeholders should develop a shortlist of RSA candidate roadways within their agency's jurisdiction, and CTCOG should maintain a regionwide list that includes an approach for prioritization among potential RSA locations so that several locations can be selected each year.

Regional Guidance for Step 2. A diverse team of regional stakeholders should be identified to serve as the basis for the Regional RSA review team. Having a multidisciplinary team with different areas of expertise (such as planning, engineering, emergency response, enforcement, and public health) ensures a comprehensive and thorough audit. Members of the team are encouraged to take an RSA or Road Safety Audit Reviews (RSAR) training course offered through FHWA to familiarize themselves with techniques and approaches to conducting a successful field review. As RSA corridors are identified, the review team list should be assessed to determine whether additional review members should be added based on unique crash history or safety concerns related to the list of candidate RSA corridors.

Regional Guidance for Steps 3-5. The RSA kickoff, field review, and analysis process should be customized for each RSA location to identify the various types of road users and uses that need to be considered from a roadway design and human factors perspective. Similarly, each roadway location will have unique conditions that might warrant field reviews occurring at specific times of day, days of week, or times of the year. For example, RSAs near schools should include a field review period during pick-up or drop-off times to observe conditions unique to these periods. CTCOG should develop a standard report template for the RSA team's use when preparing findings.

Regional Guidance for Steps 5-8. For the benefit of other regional stakeholders that may experience similar road safety challenges, the RSA team's presentation of findings could be done as part of regional safety stakeholder meetings that involve a larger group of practitioners, provided that the RSA road owner consents to the sharing of RSA findings with other professionals. CTCOG should develop a standard report or form template for the roadway owner's use as they prepare a formal response regarding the RSA team's safety findings. This template could include a progress checker that allows the roadway owner to update the status of recommendations as they are implemented.



Road safety field review in Temple (25th Street)

The main objective of an RSA is to identify potential safety issues and propose improvements to enhance the safety of the road or intersection being studied.

Drainage along Main Street in Little River-Academy

Drainage-Focused Safety Improvements

Introduction and Addressing the Need

From 2018 to 2022 Central Texas had a total of 47,322 crashes. Out of these crashes, 6,315 (7.5 percent) were reported to have occurred on wet surfaces or those with standing water. 902 of these crashes were KAB crashes and 439 of them involved only one vehicle.

Analysis

The project team analyzed existing documentation in order to identify the main concern with drainage in relation to roadway safety. FHWA released a document called "Maintenance of Drainage Features for Safety" which acts as a guide for local street personnel. This document outlines how storm runoff and undersized drainage features affects roadway safety.

Some key points highlighted in the FHWA document include:

- Water on the road can cause hydroplaning for vehicles traveling as slow as 35 MPH which can make it difficult to steer or stop.
- Water pooling in wheel tracks or ruts is especially dangerous for motorcycles and bicycles.
- Intersections with water pooling can be particularly hazardous as vehicles may need more distance to come to a stop.
- Drainage features not properly designed for roadways may abruptly stop a vehicle, cause the driver to lose control, or result in a vehicle rollover.

Recommendations and Implementation Guidance

To mitigate these risks and improve roadway safety, the project team recommends the following measures for existing and proposed drainage features:

Railroad underpass along US 183 in Goldthwaite

- ***Installing crashworthy drainage features:*** Drainage features that are located near a roadway where vehicles, bicycles, or pedestrians may meet should be designed with safety in mind. Drainage features (including ditches, storm drains, culverts, and nearby reservoirs and detention basins) should be designed and tested for crashworthiness to ensure it does not abruptly stop a vehicle, cause the driver to lose control, or result in a vehicle rollover. TxDOT maintains lists of approved drainage feature types and specifications.
- ***Designing recoverable side slopes:*** Install side slopes or shoulders at a grade of 25 percent or less (1V:4H) to allow time to recover from runoff road crashes due to hydroplaning, especially in areas where standing water is common.
- ***Check for and remove debris:*** Pipe and culvert ends should be checked annually or after major storms. Debris that can divert water flow should be removed and eroded areas reestablished with soil/aggregate mixtures and reseeded.
- ***Protect drivers from drainage fixed objects:*** Remove, relocate, or safety treat all fixed objects, including the installation of guardrail for safety treatment of a large drainage structure along the roadway. For smaller drainage structures, object markers should be placed in both travel directions.
- ***Survey roadway conditions after major storms:*** Designate staff resources to rapidly survey local roads following major rainfall events to quickly identify water ponding and locations where pavement has been damaged. Prioritizing repairs and drainage improvements in these locations can limit the magnitude of damage caused by these rainfall events.
- ***Consider installation of pervious pavement in proper contexts:*** Consider installation of pervious pavements on local, lower-speed roadways with past documented drainage concerns. Pervious pavements allow for rainwater infiltration into the soil, reducing stormwater runoff and ponding. These pavements can also be used on sidewalks and driveways but should not be used on streets where heavy vehicle traffic is common.

By implementing these recommendations, cities in Central Texas can improve drainage infrastructure and promote safer road conditions for all users.

South 31st Street in Temple

Regionwide

Growth-Focused Roadway Safety Best Practices

Introduction and Addressing the Need

From 2012 to 2022 Central Texas saw its population grow by 13 percent. With this kind of growth already happening and projected to continue over the next 20 to 30 years, many of the existing cities in the region will likely grow larger, and many of the smaller towns will experience new development pressures and traffic challenges. With an increase in traffic comes new roadway safety challenges, but managing growth well will provide cities with an opportunity to dedicate new sources of funding to low-cost and impactful road safety strategies that are often considered as the nature of communities change.

Analysis

Very limited research exists that specifically addresses the unique roadway safety needs and challenges that small towns and cities tend to encounter as they rapidly grow. FHWA does however provide a list of proven safety countermeasures that are shown to reduce crashes, and many of these countermeasures are often items that city officials may consider as part of changing trends in the face of growth.

- ***Appropriate Speed Limits for All Road Users:*** As cities grow and development increases in scale or in intensity, increased traffic volumes and additional road users can provide opportunities for cities to revisit speed limits that have been unchanged for long periods.
- ***Walkways:*** Cities can review the need for walkways and other pedestrian infrastructure as they grow and can

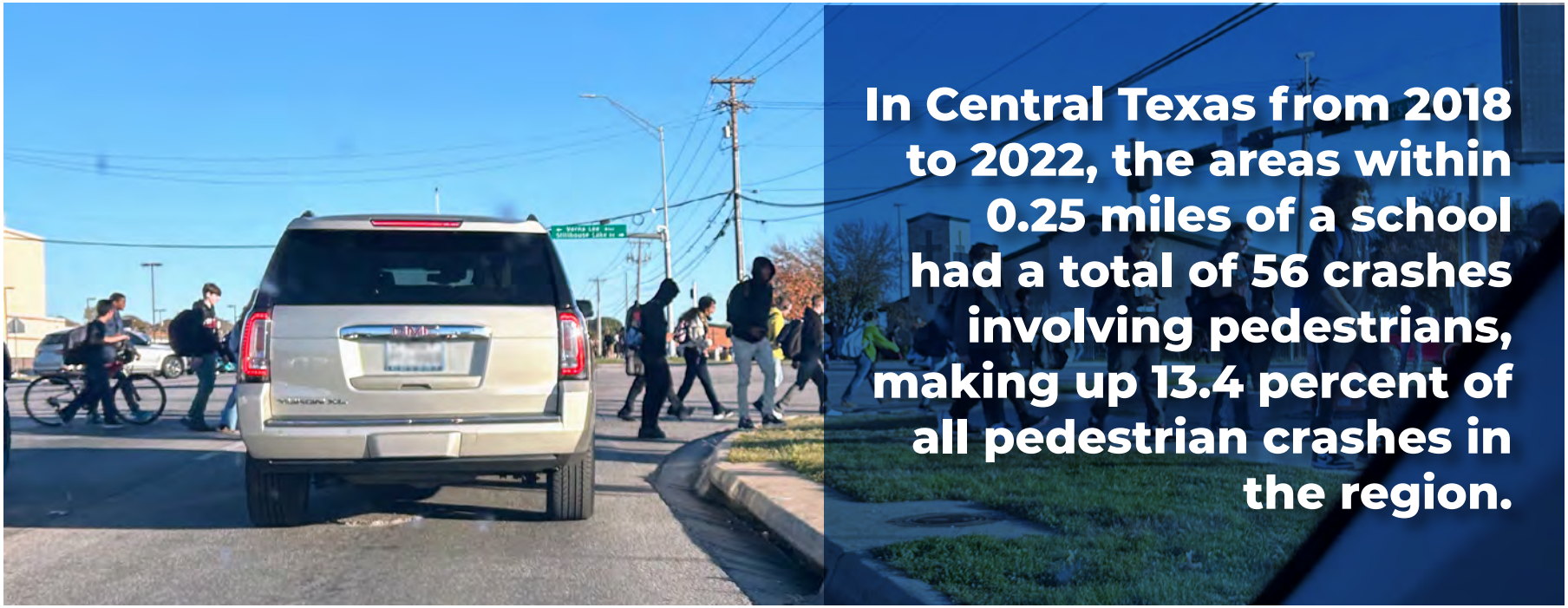
include designs for these as part of roadway improvements or can update development standards to encourage developers to include them as part of development plans. Providing walkways in new areas will also require consideration of elements such as crosswalks and pedestrian refuge islands.

- ***Dedicated Left and Right Turn Lanes at Intersections:*** As cities grow and traffic volumes increase, roadway capacity for turning vehicles at intersections can quickly be outpaced by increasing vehicular demand. Constructing dedicated turn lanes at intersections where one or two lanes were used previously without specific turning designations can reduce both delay and the risk and severity of rear end crashes at intersection approaches.
- ***Lighting:*** Growing cities often consider street lighting plans and implementation as part of public safety focused initiatives to reduce the likelihood of crime, but properly designed lighting can also provide enhanced roadway visibility and reduce the risk and severity of nighttime crashes.
- ***Local Road Safety Plans:*** As growing cities increase the availability of in-house staff to help with transportation and public works duties, these staff can dedicate time to developing local road safety plans that establish a consistent framework for identifying and prioritizing safety improvements, pivoting from an ad hoc or crash-responsive approach that many small towns must rely on due to a lack of staff availability.
- ***Corridor Access Management:*** As cities grow and private developments are established along major streets and in commercial centers, the addition of driveways can create new roadway safety concerns and conflict points. Access management, the process by which communities can plan and strategically locate driveway access points to reduce safety risks, can better facilitate walking and biking as well as reduce congestion in addition to improving safety. Developing standards related to minimum spacing between driveways and placement near intersections can help set developer expectations and preserve roadway safety along major arterial corridors.

Recommendations and Implementation Guidance

The project team recommends that CTCOG develops a checklist of proven safety countermeasures from FHWA and TxDOT guidance that provides cities some countermeasures to consider and incorporate as they grow and as they deliver roadway improvements. This checklist could include many of the countermeasures mentioned above as well as other regional examples of best practices related to areas of interest such as neighborhood traffic calming, school zone safety, and traffic signal system management (for cities that will grow past the 50,000 population threshold that would involve a traffic signal system takeover from TxDOT).

When analyzing effectiveness of different countermeasures, analyzing crash data and weighting the impact of crashes by severity can be a useful approach. This Equivalent Property Damage Only (EPDO) method allows local agencies to factor in a larger number of crashes when identifying local hotspots than by looking at fatal and serious injury crashes alone. When implementing countermeasures, a certain amount of property damage only crashes may be tolerable if the project helps reach the goal of reducing the probability of fatal and serious injury crashes. In this way, a project that eliminates or reduces fatal and serious injury crashes but increases the number of minor crashes may ultimately be considered as a positive outcome.



Leading Pedestrian Intervals at School-Adjacent Intersections

Introduction and Addressing the Need

From 2018 to 2022 Central Texas had a total of 417 pedestrian-related crashes. Of those crashes, 40.7 percent were KA crashes and 36.0 percent were B crashes. In prioritizing mitigation tactics for these types of crashes, stakeholders repeatedly identified school crossings and pedestrian safety around schools as a top priority.

Implementing Leading Pedestrian Intervals (LPIs) at intersections is one way to increase pedestrian safety near schools.

According to FHWA, LPI allows pedestrians to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication. Entering the crosswalk before the indicated green signal enhances the visibility of pedestrians prior to vehicle operators beginning to turn right or left. FHWA reported a 13 percent reduction in pedestrian-related crashes at intersections that incorporated LPIs. LPIs also provide the following benefits:

- Reduced conflicts between pedestrians and vehicles
- Increased likelihood of motorists yielding to pedestrians
- Enhanced safety for pedestrians who may be slower to start into the intersection
- Low-cost implementation, all that is required is an adjustment to a traffic signal timing plan

Analysis

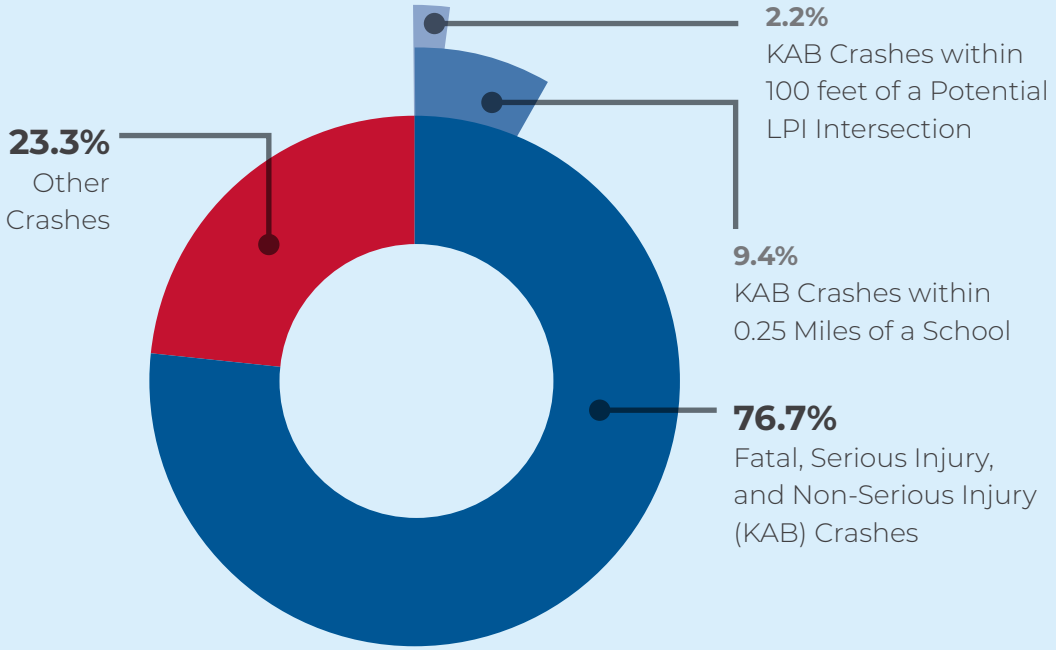
The project team analyzed Central Texas to identify potential LPI implementation locations. For this analysis and future

implementation, potential LPI locations are defined as signalized intersections within 0.25 miles of a school. Using a 0.25 mile buffer around a school targets intersections that are likely to be used by pedestrians who are also students and faculty. However, it is important to note that the crash data within this buffer may also include instances where pedestrians were traveling to other activity centers such as hospitals, parks, or major shopping centers located within the vicinity.

The project team then looked at pedestrian related crash data from 2018 to 2022 for Central Texas, considering only KAB crashes. For this analysis, (C) possible minor injury, (O) no injury, and (U) severity unknown crashes were not considered and will be referred to as "other" crashes. Central Texas pedestrian crash data was then separated by location, identifying crashes occurring within 0.25 miles of a school and within 100 feet of a potential LPI location. These crashes were chosen for evaluation because they most likely involved people using signalized intersection crosswalks, which is the type of crossing where an LPI would be effective. Intersections that fell under both buffers were categorized as a priority project location.

Between 2018 and 2022 there were 56 crashes in Central Texas within 0.25 miles of a school that involved a pedestrian.

Percentage of Crashes Involving Pedestrians by Severity and Area



These crashes made up 13.6 percent of all pedestrian crashes in the region and 39 of them were KAB crashes (69.6 percent).

There were 15 crashes involving pedestrians within 0.25 miles of a school and within 100 feet of an identified potential LPI location. These crashes made up 2.9 percent of all pedestrian crashes for the region. KAB pedestrian crashes occurring within 100 feet of an identified potential LPI location make up 2.2 percent of all pedestrian crashes in Central Texas, with 9 KAB crashes. The graphic above shows the percentage of representation of crash severity types within each area of Central Texas as well as their totals.

Top Eight Potential Leading Pedestrian Interval Locations

Intersection	Maintaining Agency	Location	Number of KAB Pedestrian Crashes at Intersection	Number of Other Severity Pedestrian Crashes at Intersection
25th & Avenue M	Temple	Temple, Bell County	1	0
31st & Avenue M	Temple	Temple, Bell County	1	0
31st & W Avenue R	Temple	Temple, Bell County	1	0
31st & Scott	Temple	Temple, Bell County	2	1
Loop 121 & FM 439*	TxDOT Waco District	Belton, Bell County	1	0
FM 2410 & FM 3481 / Verna Lee Blvd	TxDOT Waco District	Harker Heights, Bell County	2	1
6th & Blair St	TxDOT Waco District	Belton, Bell County	1	0
Trimmier & Elms	City of Killeen	Killeen, Bell County	1	0

** Ongoing construction to add channelized right turns may reduce the need for LPI implementation at this location*

Recommendations and Implementation Guidance

Central Texas has 45 signalized intersections within 0.25 miles of a school. Of the 45 potential LPI locations, eight had KAB crashes involving pedestrians, with 1-3 crashes occurring at each. The table on the left outlines the location of the eight priority LPI locations within Central Texas.

The top eight LPI locations are divided between three different maintaining agencies: City of Temple, TxDOT Waco District, and City of Killeen. To balance the number of LPI locations between the three agencies, the project team identified additional locations to be included. This provides each agency with at least four locations to monitor and consider for LPI implementation. The additional intersections as well as their reasons for being included are shown in the table on the following page.

After implementation, the three agencies should track the number of crashes involving pedestrians over the course of a year to monitor the success of the LPI implementation.

Additional Priority Leading Pedestrian Interval Locations

Intersection	Agency	Location	Reason for Choosing
25th & W Avenue R	Temple	Temple, Bell County	▸ This intersection is located within 0.25 miles of a school. ▸ Three intersections on the same block have been identified as priority LPI locations.
6th and Waco	TxDOT Waco District	Belton, Bell County	▸ This intersection is within 0.25 miles of two schools. ▸ There has been one crash within 200 feet of the intersection.
Trimmier & Lowes	City of Killeen	Killeen, Bell County	▸ This intersection is 0.25 miles from a school. ▸ There has been one crash involving a pedestrian within 125 feet of the intersection.
SH 201 (Clear Creek Rd) & Bell Tower	City of Killeen	Killeen, Bell County	▸ This intersection is 0.25 miles from a school. ▸ There have been two possible injury crashes involving a pedestrian within 100 feet of the intersection.
WS Young & Illinois	City of Killeen	Killeen, Bell County	▸ This intersection is 0.25 miles from a school. ▸ There has been one possible injury crash involving a pedestrian within 100 feet of the intersection.

East Main Street in Hamilton

Neighborhood Traffic Calming Best Practices

Introduction and Addressing the Need

Residential "cut-through" traffic is defined as the use of local or collector streets within a residential neighborhood by vehicles that do not originate from or have a destination within that neighborhood. Stakeholders in Temple, Killeen, and Harker Heights noted a need for mitigating residential cut-through traffic and residential vehicle speeds. This mitigation tactic could also be useful in other cities such as Belton, Cameron, Rockdale, and Lampasas. Traffic calming measures can be an effective way to reduce cut-through traffic and speeds on residential streets. While several Bell County cities have established traffic calming programs, many of these program features could be broadly useful to other cities and counties across the region that do not have such programs in place and may not have the resources available to implement a similar standardized program.

City of Temple Existing Policy

The City of Temple's 'Policy for Neighborhood Traffic Calming' identifies best practices for residential traffic calming within the City of Temple. The City of Temple implements traffic calming measures on a street-by-street basis when citizens apply for consideration along an eligible street.

To be eligible for traffic calming measure implementation, streets must meet the following criteria:

- The subject street must be classified as a collector or local street.
- The subject street may only have two travel lanes.
- The speed limit on the subject street must be 30 mph or less.
- Traffic volumes along the subject street must be less than 4,000 vehicles per day (VPD).

Once an eligible street has been identified, residents can submit an application to the city for a calming study. The study will determine eligibility as well as look at other factors such as crash data and proximity to schools, community facilities, and routes for school buses, emergency vehicles, and through trucks. Each of these factors is accounted for and rated in determining final eligibility. Based on the study results, the city will determine which types of calming measures can or should be implemented.

Examples of potential traffic calming measures to be implemented include:

- Increased signage
- Increase police presence/patrol
- Driver feedback signs
- Road narrowing
- Rumble strips
- Half closures
- Speed humps
- 4-way stop signs
- Chokers
- Neck-downs
- Turn restrictions using delineators

Following the implementation of the chosen traffic calming measures, an evaluation will be conducted by a Street Services Superintendent to determine the implementation's effectiveness in relieving traffic concerns. Additional measures will be considered if the traffic concerns have not been relieved.

Analysis

The project team looked at existing documentation from identified participating cities to outline best practices and standards for neighborhood traffic calming. Documentation was found for the City of Temple and the City of Killeen. Similar policies or programs were not found for other Central Texas cities. The project team looked at existing case studies to determine the potential effectiveness of implementation. A Texas Transportation Institute study aimed to assess the effectiveness of certain traffic control measures in school zones. Upon implementation, these measures resulted in an average decrease in vehicle speeds of 9 mph. Similar measures were implemented in Portland, Maine. Following implementation, Portland streets had either no change or a decrease in vehicle speeds and decreased annual average daily traffic in six out of nine locations.

City of Killeen Existing Policy

The City of Killeen's 'Neighborhood Traffic Management Program' identifies best practices for traffic calming within the City of Killeen. The City of Killeen integrates residential traffic calming measures by neighborhood. Once a neighborhood has identified traffic concerns, it can submit a letter to the city requesting a formal evaluation.

The city will prioritize projects based on the following criteria:

- Average daily traffic volume
- Percent of vehicles traveling over the speed limit
- Number of crashes
- Number of schools in neighborhood
- Number of pedestrian-oriented facilities within neighborhood
- Number of streets without adjacent sidewalks or pathways
- Number of streets designated as a bicycle route

If a project is chosen for the formal evaluation, the city will review existing conditions of traffic control measures within the neighborhood to determine a phase 1 traffic plan for the neighborhood. The phase 1 traffic plan will outline recommendations based on the findings from the evaluation.

Examples of potential phase 1 recommendations include:

- Neighborhood speed watch
- Speed radars
- Traffic safety campaigns
- Brush trimming
- Pavement markings
- Increased enforcement

After the implementation of the phase 1 traffic control plan, a second evaluation will be done to determine its effectiveness in relieving traffic concerns. If further action is needed a phase 2 traffic control plan will be made with new solutions.

Some examples of potential phase 2 recommendations include:

- Choker and curb extensions
- Traffic circles
- Partial closures
- Chicanes
- Entry treatments
- Raised intersections
- Medians
- Speed cushions

Recommendations and Implementation Guidance

The project team recommends that a framework be created for agencies in Central Texas that do not already have an existing program. This framework could outline best practices that may be used as a shared resource or starting point among areas within the region.

Baseline Neighborhood Traffic Calming Framework

This framework aids in the integration of residential traffic calming measures by neighborhood.

Agencies or cities may determine the eligibility of neighborhoods based on the following criteria:

1. ***Need:*** Neighborhoods must express concern and identify initial traffic concerns through a formal letter or application.
2. ***Volumes:*** The neighborhood will be evaluated to determine average daily traffic volumes for vehicles, pedalcyclists, and pedestrians.
3. ***Safety:*** The neighborhood will be evaluated to determine the history of reported crashes and safety concerns to further determine the need.
4. ***Proximity to Pedestrian Facilities:*** The neighborhood will be evaluated to determine proximity to pedestrian-oriented facilities such as local transit facilities, sidewalks, trails, rec centers, and community facilities.

If a neighborhood is determined eligible it will go through a formal evaluation. This formal evaluation will look at existing conditions to help identify specific streets within the neighborhood that pose the highest number of traffic concerns. Based on the study results, the city or agency can determine which types of calming measures can or should be implemented.

Examples of potential initial traffic calming measures to be implemented include:

- Increased signage
- Increase police presence/patrol
- Driver feedback signs
- Road narrowing
- Rumble strips
- 4-way stop signs
- Pavement markings
- Chokers
- Neck-downs
- Turn restrictions using delineators
- Speed radars
- Traffic safety campaigns
- Brush trimming

After the implementation of the initial traffic calming measures, a second evaluation will be conducted to determine effectiveness in relieving traffic concerns. If it is determined that the implementation was unsuccessful a second study and implementation will occur.

Along with adding additional lower-level traffic calming measures, cities or agencies may also recommend more intensive measures such as:

- Curb extensions
- Roundabouts
- Medians
- Speed humps
- Entry treatments

Stakeholders and key partners in implementation will include:

- Residents of local neighborhoods
- Cities without an existing framework for traffic calming best practices

East 3rd Street in Lampasas

Education and Enforcement Programs for Seatbelt and Child Restraint Use

Introduction and Addressing the Need

From 2018 to 2022 Central Texas had a total of 887 crashes (2.2 percent of all crashes in the region) in which a vehicle occupant was either unrestrained or restrained improperly. Of the 887 occupant protection crashes, 30.6 percent were KA crashes and an additional 27.4 percent were B crashes.

In determining the most effective strategies to reduce crashes in Central Texas, stakeholders from all counties have identified roadway safety education and enforcement related to seat belt and child restraint use as a top priority.

Analysis

The project team examined crash data from Central Texas, analyzing crashes of all severities. The crash data was then categorized by safety focus area and focused on KAB crashes. By utilizing this data, the project team was able to determine the percentage likelihood of a crash resulting in injury or death based on its safety focus area.

The table above provides a comparison of the likelihood that a crash related to a specific safety focus area will result in injury or fatality. Crashes involving improper occupant restraint had the highest likelihood of an injury or fatality, with this rate nearly doubling that of the next highest ranked risk factor.

Percent Likelihood a Crash Will Result in Injury or Fatality, by Safety Focus Area

Safety Focus Area	Number of KAB Crashes	Total Number of Crashes	Percent Likelihood a Crash Will Result in Injury or Fatality
Occupant Restraint	514	887	58%
Impaired Driving	519	1592	33%
Roadway Departures	2073	9533	22%
Speeding Related	725	3569	20%
Intersection related	2953	15731	19%
Distracted Driving	385	2628	15%

Recommendations and Implementation Guidance

The National Highway Traffic Safety Administration (NHTSA) released a document called “Countermeasures That Work: A Highway Safety Guide For State Highway Safety Offices.” This document is a reference with which the project team based their recommendations.

The table on the following page outlines the Top Five enforcement and education related countermeasures for crashes involving improper occupant restraint.

Separately, the state of Texas should also consider updating its crash data coding for the “Restraint Used” field to more specifically indicate which type of restraint should have been used based on passenger age in the cases where a restraint device was not used during a crash. Currently there are seven different codes to distinguish what type of restraint was in place, but only one catchall “None” category to indicate no restraint was used. Expanding the existing “None” category into several categories such as “None – Adult” and “None – Child”, for example, could allow public health officials to better identify behavioral interventions and target specific populations to encourage proper use of restraints.

Top Five Countermeasures for Crashes Involving Improper Occupant Restraint

Countermeasure	Description	Level of Cost	NHTSA Effectiveness Rating *(5 = High, 1 = Low)*
Short-Term, High-Visibility Seat Belt Law Enforcement	A strategy that involves conducting intense and highly publicized enforcement efforts to promote compliance with seatbelt restraint safety laws. These efforts typically last for a short duration, usually a few weeks, and involve activities such as checkpoints, saturation patrols, or enforcement zones. The goal is to increase awareness and enforcement of seatbelt and restraint laws, ultimately improving the safety of drivers and passengers in vehicles.	High	5
Short-Term, High-Visibility Child Passenger Safety Law Enforcement	A strategy that involves conducting intense and highly publicized enforcement efforts to promote compliance with child passenger safety laws. These efforts typically last for a short duration, usually a few weeks, and involve activities such as checkpoints, saturation patrols, or enforcement zones.	High	5
Nighttime, High-Visibility Seat Belt Law Enforcement	A targeted approach of enforcing seat belt laws during nighttime hours, when seat belt use tends to be lower compared to daytime. This strategy involves increased law enforcement presence and visibility during nighttime hours, such as conducting checkpoints or patrols specifically focused on seat belt enforcement.	High	4
Communication Strategies for Low-Belt-Use Groups as Part of High-Visibility Enforcement	This countermeasure involves targeted messaging and outreach to encourage seat belt usage. These strategies include tailored messaging that addresses the concerns and motivations of the target groups. These strategies aim to increase seat belt usage and improve road safety.	Low to High	4
Employer-based Programs	Employer-based programs for seatbelt use are initiatives implemented by employers to promote and encourage seatbelt usage among their employees. These programs aim to create a culture of safety within the workplace and on the roads.	Low to High	3

Stakeholders and key partners for this implementation include:

- Residents
- Commercial vehicle drivers
- Law enforcement
- Local advocacy groups
- Engineers, planners, and traffic safety specialists from TxDOT and local agencies

School Crossing Safety Near Major Rural Roadways

Introduction and Addressing the Need

Schools are high-traffic areas for motor vehicles, bicycles, and pedestrians as children arrive and depart school grounds. Pedestrian crashes are more likely to occur within one half mile of a school due to the increase in traffic in these areas and other potential conflicts that arise from atypical operations such as vehicle queues, pick-ups and drop-offs, and potentially distracted drivers and pedestrians. A 2009 study of motor vehicle-child crashes, for example, showed that the density of these types of collisions, and particularly fatal collisions, was highest in school zones and decreased as distance from school zones increased.

Many Central Texas stakeholders noted that vulnerable road user safety was a top priority for many of their constituents, and several specifically mentioned that existing schools are often located along major arterials and state or US highways with longer pedestrian crossing distances and higher vehicle speeds. These conditions contribute to increased risk to vulnerable road users trying to get to school and can discourage less comfortable users from accessing school via biking or walking.

Analysis

The project team analyzed existing documentation published by FHWA on school safety best practices. FHWA includes guidance on three best practice areas for communities to consider, especially for ones with schools near major roadways.

- ***Safe Routes to School (SRTS):*** Safe Routes to Schools is a program designed to encourage children to walk and bicycle to and from schools. These programs typically include education and encouragement programs targeted to families and drivers, as well as engineering interventions that provide better protection for pedestrians and bicyclists near schools. The National Center for Safe Routes to School maintains a compendium of guidance and case studies for cities and regions looking to establish a program. Other education and encouragement campaigns, such as Bike to School or Walk to School Days may also be opportunities to publicize and improve awareness of those who choose to bike or walk to school.
- ***Pedestrian-focused improvements:*** The FHWA recommends using ADA accessible sidewalks or walkways on both sides of streets and highways near schools, especially in urban areas. In rural areas, the FHWA encourages paved shoulders when sidewalks or walkways are not otherwise feasible.
- ***School area crossing guards, traffic control devices, and plans:*** The FHWA recommends using traffic control devices (which could include crossing guards) that are appropriate for the number and age of students using the crossing, the speed and volume of traffic, and the width of the street. These devices should be included in a school traffic control plan that school officials and other agencies can implement during school drop off and pick up.

Recommendations and Implementation Guidance

To mitigate these risks and improve roadway safety for school crossings near major roadways, Central Texas should consider the following best practices:

- ***Install crosswalk visibility enhancements at existing crosswalk locations.*** These enhancements consist of high-visibility striping for crosswalks, enhanced lighting and signage, and the use of flashing devices such as rectangular rapid flashing beacons or pedestrian hybrid beacons (PHBs).

- ***Provide medians or pedestrian refuge islands for crosswalks across major roadways.*** FHWA's Safety Office has encouraged the consideration of raised medians in curbed sections of multilane roadways particularly in areas with a combination of high volumes of traffic, a significant number of pedestrians, and intermediate or high travel speeds.
- ***Develop a Regional Safe Routes to School initiative from national best practice that includes education, encouragement, and engineering components.*** Use this program as a way to enable individual school districts within Central Texas to customize their own programs and develop supporting documentation such as school area traffic control plans.

Pedestrian Crossing Near School in San Saba

6 HIGH PRIORITY ROADWAY SAFETY PROJECTS

Over 100 safety project recommendations were included in the Central Texas Roadway Safety Action Plan. Project recommendations were identified through a combination of safety data review, stakeholder agency input, and public feedback.

Unlike the policy opportunities and systemic recommendations suggested for the entire region or a particular county, all safety project recommendations were developed to address needs at a specific roadway location or intersection.

Once project recommendations were identified, the Central Texas Roadway Safety Task Force determined a consistent approach to score each project as a way to prioritize different projects across Central Texas. The prioritization process

was consistently applied for all project recommendations, regardless of project location. Projects were then sorted to identify the highest-scoring roadway safety projects in Central Texas overall, and within each county and city in the region that participated in plan development.

Project maps and tables with key information are included in this section and in Section 7. A detailed matrix of all project locations and details is included in ***Appendix F.***

Project Prioritization

Regional corridor and intersection projects were each scored to prioritize projects that target locations with the greatest need for safety countermeasures. The scoring factors met key objectives of the SS4A Program by prioritizing projects on corridors and at intersections with the highest occurrence of crashes, locations that were in equity focus areas, and locations where vulnerable road users such a pedestrians and bicyclists are more likely to travel. The scoring factors also included an opportunity for agency stakeholders and members of the public to identify and prioritize projects within their jurisdiction.

To determine a project's priority, the prioritization process scores each project location based on several scoring factors. The maximum score a project can receive is 100 points. The scoring factor methodology was developed based on the Region's priorities and feedback from the Central Texas Roadway Safety Task Force, and the factors are described more below.

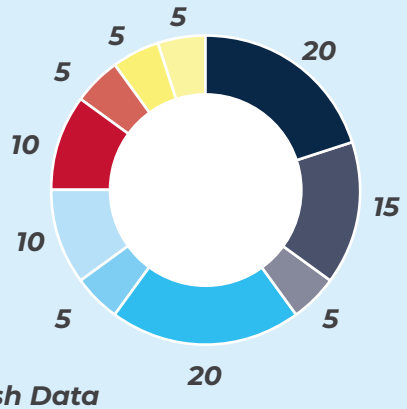
Crash Data *(Total of 40 Points)*

The crash data factor is the most heavily weighted scoring factor and is split into three components, each based on the characteristics of crashes that occurred in the vicinity of each project from 2018 through 2022, which was the most recent five-year set of data available at the outset of the safety planning process. This factor carries the most weight because crash history is often the primary indicator of safety need, and because crash history is also a factor in most transportation safety grant opportunities, including SS4A.

Fatal, Serious, and Minor Injury Crashes per Mile (20 Points)

The count of all KAB crashes per mile within each project area is the first component of the crash data factor. This component is intended to capture a broad cross section of crashes to identify hotspots both on major highways and local roads. It is also intended to align with the crash severities that are considered in TxDOT HSIP. This component awards points to projects on a sliding scale, with higher crash per mile values receiving a higher score.

Scoring Factor by Points



Crash Data

- # of KAB Crashes per Mile
- KA Crash Rate Normalized by Volume
- On HIN

Vulnerable Road Users

- On Ped/Bike HIN
- Existing Ped/Bike Facilities
- Proximity to Activity Centers

Stakeholder and Public Input

- Stakeholder Agency Priority
- Public Comments

Equity

- Percent Trips From Equity Focus Areas
- On Equity HIN

Normalized Crash Rate (15 Points)

The count of all KA crashes per mile normalized by traffic volume is a separate component of the safety data factor, so that projects at locations with a disproportionately high density of crashes relative to the vehicular volumes at the location receive a higher prioritization score. This component analyzes crashes considered as part of the USDOT SS4A program and focuses on prioritizing crash rates along major roadways where travel demand model-based traffic volume estimates are available, as these types of roadways are often strong candidates for SS4A implementation funding. This component awards points to projects on a sliding scale, with higher crash rates receiving a higher score.

High Injury Network (5 Points)

Projects receive points if they are on the HIN to further prioritize projects that target reducing crashes at locations with a high incidence of fatal and serious injury crashes. This component awards 5 points to projects if they are located along the HIN.

Vulnerable Road Users *(Total of 35 Points)*

The vulnerable road user factor is the second analysis factor and is also split into three components, each based on the crash history of vulnerable road users and the nature of their typical trip types. The Safe System Approach emphasizes the need to make roads safer for all road users, and pedestrians and bicyclists are typically the most vulnerable road users.

Pedestrian and Bicyclist High Injury Networks (20 Points)

This component considers whether each project is on the HINs comprised of crashes that involved a pedestrian or bicyclist to give priority to projects at locations with a history of frequent crashes involving vulnerable road users. Since there are separate bicycle and pedestrian HIN layers for the region, this component awards 10 points to projects if they are located along one of these HIN layers, and 20 points if they are located along both HIN layers.

Proximity to Activity Centers (10 Points)

This component considers whether each project is located near an activity center. This component prioritizes improving safety in the areas around schools, community centers, recreation centers, commercial centers, and medical facilities, as these locations are often where visitors are walking or rolling as their primary means of transportation. Many of these facilities also serve high proportions of vulnerable populations, such as children and the elderly. This component also helps target project opportunities that could improve connectivity to the places that the public walks or rolls to. Projects receive points if they are within a mile of an activity center, receiving more points the closer they are. Projects receive the full amount of points if they are less than a tenth of a mile away from an activity center. For the purpose of this analysis, partner agencies defined their own activity centers based on the general guidance provided in this section, so that agencies could define activity centers in a way that was appropriate to their community context.

Existing Pedestrian and Bicyclist Facilities (5 Points)

Projects at locations lacking pedestrian or bicycle facilities are awarded points to give priority to projects where vulnerable road users are currently more likely to travel in the roadway because facilities designed for them are not present. This component awards 5 points to locations without existing pedestrian or bicycle facilities, as well as half credit in locations where facilities are available for only one of those two travel modes.

Stakeholder and Public Input *(Total of 15 Points)*

The third factor awards points to projects that have been identified as needs by local agency stakeholders and the public. Significant effort was put into stakeholder and public outreach to gather input from those that maintain, operate, and use the

streets and roads in Central Texas on a regular basis.

Stakeholder Agency Priority (10 Points)

This component considers where stakeholder agencies have identified issues and expressed concern at each project location, and how the stakeholder agencies prioritize the projects within their jurisdiction. Each stakeholder agency was asked to rank each of their projects, with the highest-ranking project from each stakeholder agency receiving the maximum of 10 points and subsequently ranked projects receiving fewer points.

Public Comments (5 Points)

This component considers whether the public has identified issues and expressed concern at each project location. This component awards 5 points to a project if one or more public comments were recorded regarding the project location.

Equity *(Total of 10 Points)*

The final factor awards points to projects that serve communities located in equity focus areas. The equity component of the score is based on the USDOT Equitable Transportation Community (ETC) Explorer data. The USDOT ETC Explorer data identifies census tracts as disadvantaged using various factors including but not limited to transportation access, environmental burden, unemployment, weather risk, and health vulnerability. The equity factor awards points both to projects located on the HIN within equity census tracts as well as projects located along roads that residents of equity census tracts use in their daily travel.

Percent Trips From Equity Focus Areas (5 points)

This component considers whether the project location is utilized by trips originating from a disadvantaged census tract. Road users living in disadvantaged census tracts are more likely to have limited access to a vehicle for transportation, if at all, and therefore are more likely to bike or walk, making them a vulnerable road user in need of safer facilities to support their alternate mode of transportation. This component awards points on a sliding scale based on the percentage of trips passing through the project location that originate from an equity focus area, with higher percentage values resulting in more points for a project.

Equity High Injury Network (5 Points)

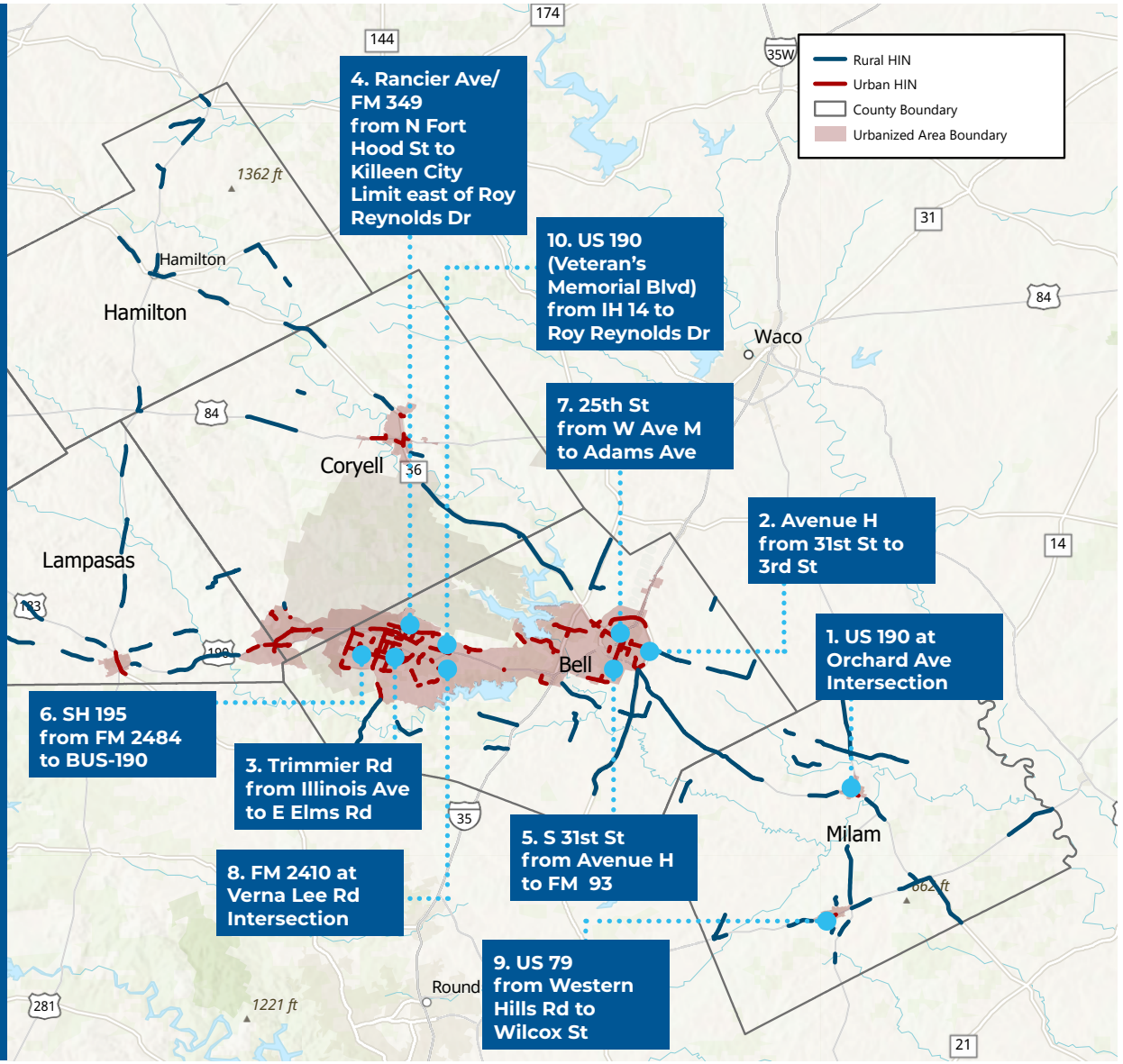
This component considers whether each project is on the subset of the HIN located within an equity focus area, which targets project opportunities with severe crash history that are also in equity focus areas. This component awards 5 points to projects if they are located along the equity HIN layer for the region.

US 190 in San Saba

Downtown Temple

Top 10 Regional Projects

The map and table in this section highlight the Top 10 highest scoring roadway safety projects in Central Texas, based on the prioritization process used to assess all projects. Among the top ten highest scoring projects, there are common project details. Eight of the Top 10 projects are located in the urban parts of Bell County, and the other two are located in cities in Milam County. Among these projects, vulnerable road user safety appears to be the most common safety concern, and looking at the crash history for these locations, there are fatal and serious injury crashes involving bicyclists or pedestrians at nearly every location on the Top 10 list. Most of these projects also focus largely on intersection improvements. Even the corridor-focused projects include recommendations related to systemic treatment of intersections along each corridor.



Note: *For detailed views of the HIN in each county and city, refer to Section 7.*

Location/Vicinity	HIN	City/County Sponsor	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
1 **US 190 at Orchard Ave** Intersection	Yes	Cameron	Drainage, Intersection	71.5	Orchard intersection appears to be a specific hotspot along this corridor. Lots of truck traffic and pedestrian use observed.	2 fatal (1 pedestrian) and 1 serious injury crash near Orchard Ave intersection.	Intersection Conflict Warning System or pedestrian infrastructure improvements at Orchard Ave, traffic calming for traffic coming into town, drainage study and improvements near railroad crossing, lowering speed limit.
2 **Avenue H** from 31st St to 3rd St	Yes	Temple	Intersection, Pedestrian-focused	71	From S 31st St to S 25th St, there is a massive median, making this almost two one way roads. Road has recently been repaved. Road is 35 mph, pretty hilly, no full sidewalk network here.	Lots of unsafe speed. Impaired driving is a problem along this street. Some rear end and intersection crashes as well.	Law enforcement focus enhancements to improve pedestrian and bicycle facilities along the corridor, and consideration of a road diet or TWLTL.
3 **Trimmier Rd** from Illinois Ave to E Elms Rd	Yes	Killeen	Intersection, Pedestrian-focused	69.5	Road is two lanes each way, with a two way left turn lane (TWLTL), 40 mph. Trimmier Rd generally has sidewalk on at least one side of the road through its entirety, no bicycle facilities.	Most of the crashes are intersection crashes or pedestrian crashes.	Review pedestrian and bike treatments along corridor, understand speeds better.
4 **Rancier Ave/FM 349** from N Fort Hood St to Killeen City Limit east of Roy Reynolds Dr	Yes	Killeen	Pedestrian-focused, Speed Management	66	Currently a four lane street with short segments, interrupted by frequent traffic lights. No center median, high driveway density.	A lot of crashes in this area, ped/bike crashes on frontage of park stand out significantly. Other types of collisions are head-on, opposite way.	Ped crossings, road diet. City was preparing grant to reduce this to 3 lane section. High concentration of head-on collisions and opposite way crash types on this roadway could also support access management.
5 **S 31st St** from Avenue H to FM 93	Partial	Temple	Access Management, Pedestrian-focused	66	Generally two lanes each direction with TWLTL. Segments broken up every couple blocks or so by traffic lights. High driveway density and wide lanes.	High concentration of KA crashes and crashes in general along this segment. Failure to stop, failure to yield ROW, bike injury, opposite way crashes.	The amount of ped/bike injuries could mean an opportunity for addition of some pedestrian crossings at the long stretches of roadway where there are no signals to protect pedestrians, or could mean a need for improved bike/ped facilities in general, especially along the commercial areas on the corridor. Concrete median to address the opposite way crashes, plus some access management opportunities.

Location/Vicinity	HIN	City/County Sponsor	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
6 **SH 195** from FM 2484 to BUS-190	Yes	Killeen	Operations-focused, Speed Management	63	Variable speeds, people fly through here. Two lanes in each direction, divided. Very freeway like conditions, no sidewalks, no bike lanes.	High number of crashes along length of corridor, likely related to speeding.	Lower speed limits, law enforcement. Also could focus on intersections and curves.
7 **25th St** from W Ave M to Adams Ave	Yes	Temple	Intersection, Pedestrian-focused	62	Speed Limit is mostly 30 mph, there's curb and gutter, and some sidewalk (not through all of it), no bike facilities, traffic signals are very basic and appear to run two phases. Concern that there is a left turn bay on Ave M & 25th, and Ave H & 25th and no protected left turn.	Mostly intersection crashes, 1 pedestrian crash (A crash), 1 bike crash (B crash).	Road diet to improve bike/ped facilities and add a TWLTL, signalized intersection improvements to signals and approaches.
8 **FM 2410 at Verna Lee Rd** Intersection	Yes	Harker Heights	Pedestrian-focused	59.5	The striping from the aerial view seems relatively new at the intersection. 15-foot TWLTL, 45 mph.	Several crashes at intersections and surrounding driveways.	Medians for access management would provide pedestrian refuges along school zone.
9 **US 79** from Western Hills Rd to Wilcox St	Yes	Rockdale	Pedestrian-focused, Speed Management	59	Extremely wide street (US-79) running through the town. 14.5-foot TWLTL, 13-foot lanes. There are no bicycle facilities in this area.	Data shows there are 5 KA bike/ped related crashes here. Most of these crashes occurred in dark, nighttime conditions.	Ped crossings, bike/ped focused improvements, speed calming, improved lighting.
10 **US 190 (Veteran's Memorial Blvd)** from IH 14 to Roy Reynolds Dr	Yes	Harker Heights	Access Management, Speed Management	59	Five lanes, 45 mph speed limit with higher travel speeds, poor access control.	Distracted driving, drugs/ alcohol and fatigued driving crashes at several points along this stretch of roadway. Also 2 pedestrian KA crashes.	Wrong way reflectors, median barrier or raised median, close some driveways, limit access.

SS4A and HSIP Candidate Projects

Additionally, to allow for additional geographic diversity in the projects that were highlighted as regionally significant, the project team reviewed crash history, equity data, and safety countermeasure recommendations to identify high quality candidate projects for SS4A and HSIP project calls. Six projects were identified for SS4A and ten projects for HSIP. These project opportunities spanned across 5 counties and were supported by sponsors for a grant application.

SS4A and HSIP Grant Analysis Factors by Project Type

Project Type	Then
Corridor	▸ **SS4A Implementation Grant** could be appropriate if high KA crash rate exists, project is located in equity focus area, project includes FHWA proven safety countermeasures, and project cost is high ($5 million or more). ▸ **SS4A Demonstration Grant** could be appropriate if project cost is low to moderate (less than $5 million) and project does not involve permanent construction. ▸ **Local HSIP Grant** could be appropriate if project is on local roads, KAB crash history exists, project cost is low to moderate (less than $5 million), and project includes TxDOT HSIP countermeasures.
Spot Location or Intersection	▸ **SS4A Implementation Grant** could be appropriate if high KA crash rate exists, project is located in equity focus area, intersection is operationally complex, project includes FHWA proven safety countermeasures, and project cost is high. ▸ **SS4A Demonstration Grant** could be appropriate if project cost is low to moderate and project does not involve permanent construction. ▸ **Local HSIP Grant** could be appropriate if project is on local roads, KAB crash history exists, project cost is low to moderate, and project includes TxDOT HSIP countermeasures related to intersection safety or pedestrian safety.
Systemic	▸ **SS4A Implementation Grant** could be appropriate if locations included have a high K/A crash rate and a majority of locations are in equity focus areas, project includes systemic application of FHWA proven safety countermeasures, and project cost is high ($5M+). ▸ **Local HSIP Grant** could be appropriate if project cost is low to moderate and project involves systemic application of TxDOT HSIP countermeasures on local roads.
Behavioral or Planning	▸ **SS4A Implementation Grant** could be appropriate if identified behavioral or planning-focused project elements are included as part of a grant application that focuses on other complementary constructed project elements. ▸ **SS4A Supplemental Planning or Demonstration Grant** could be appropriate if project cost is low to moderate and project addresses relevant needs identified in the region's safety action plan.

SS4A Project Reference Table

SS4A Candidate Project	Location	County Plan Project Code
Rancier Ave/FM 349 from N Fort Hood St to Killeen City Limit east of Roy Reynolds Dr	Killeen	KI-2
S 31st St from Avenue H to FM 93	Temple	TE-2
US 79 from Western Hills Rd to Wilcox St	Rockdale	RO-1
US 84 from FM 2005 to US 183	Goldthwaite	GO-1
FM 93 (E 6th Ave) & Taylors Valley Rd Intersection	Belton	BE-5
US 281 & US 84 Interchange	Hamilton County	HC-2
US 281 from CR 121 to CR 123	Hamilton County	HC-3

HSIP Project Reference Table

HSIP Candidate Project	Location	County Plan Project Code
Avenue H from 31st St to 3rd St	Temple	TE-1
25th St from W Ave M to Adams Ave	Temple	TE-3
Sparta Rd from FM 439 to Water Works Rd	Bell County	BC-1
San Gabriel St from Belton Ave to Bell Ave	Rockdale	RO-2
Belton Ave & Scarborough St Intersection	Rockdale	RO-4
Chaparral Rd from Featherline Rd to Taylor Renee Dr	Killeen	KI-9
Old Nolanville Rd from Biles St to Nolanville Elementary School	Nolanville	NO-3
Fuller Ln from FM 3481 to Tye Valley Rd	Harker Heights	HH-8
CR 215A & CR 202A Intersection	Milam County	MI-6
CR 3300 from Juanita Cove to Binnion Creek	Lampasas County	LC-2
CR 3010 from Private Road 3011 to Sulphur Creek	Lampasas County	LC-3

7

COUNTY SAFETY ACTION PLANS

Downtown Lampasas

BELL COUNTY

CRASH TOTALS AND RATES

From the years 2018 to 2022, Bell County had a total of 1,043 fatal and serious injury (KA) crashes. In 2022, there were 202 serious injury crashes and 53 fatal crashes, making it the year with the highest recorded number of these crashes in Bell County. The total number of KA crashes has increased each year from 2018 to 2022. Overall, Bell County's total number of KA crashes increased by 59.4 percent from 2018 to 2022.

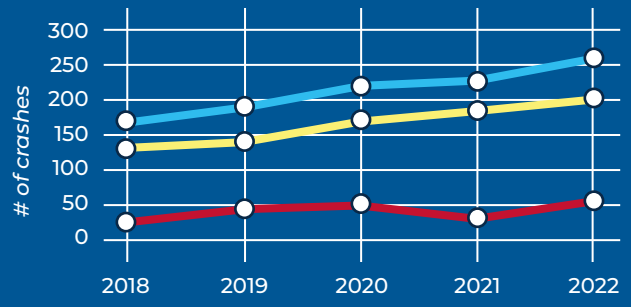
Serious injury crashes occurred more frequently than fatal crashes, at an average ratio of 3.87:1. The graphs below show the annual number of fatal and serious injury crashes within Bell County from 2018 through 2022, as well as a comparison of Bell County KA crash rates to regionwide crash rates.

From 2018 to 2022, the rate of KA crashes per 100 million vehicle miles traveled (VMT) were calculated for Bell County and compared to Central Texas's crash rates. Regionwide crash rates have been consistently higher than Bell County crash rates within the five-year study window.

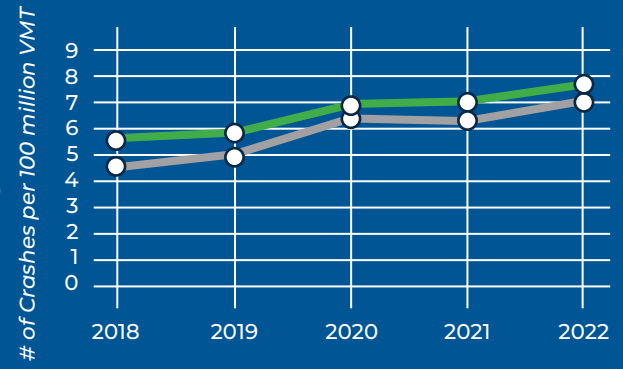
The crash rates for Bell County from 2018 to 2022 follow a similar trend as Central Texas crash rates. Bell County's KA crash rates increased each year from 2018 to 2022, except for a slight decrease in 2021.

The graphic to the right summarizes Bell County's safety priorities and summary data about the county's High Injury Network (HIN).

BELL COUNTY KA CRASH TOTALS BY YEAR



BELL COUNTY AND CENTRAL TEXAS KA CRASH RATES BY YEAR



BELL COUNTY
SAFETY PRIORITIES

TOP 3 SAFETY FOCUS AREAS

1. Younger Drivers
2. Intersections
3. Roadway Departures

TOP 3 PUBLIC CONCERNS

1. Distracted Driving
2. People Ignoring Traffic Laws While Driving
3. High Vehicle Speeds

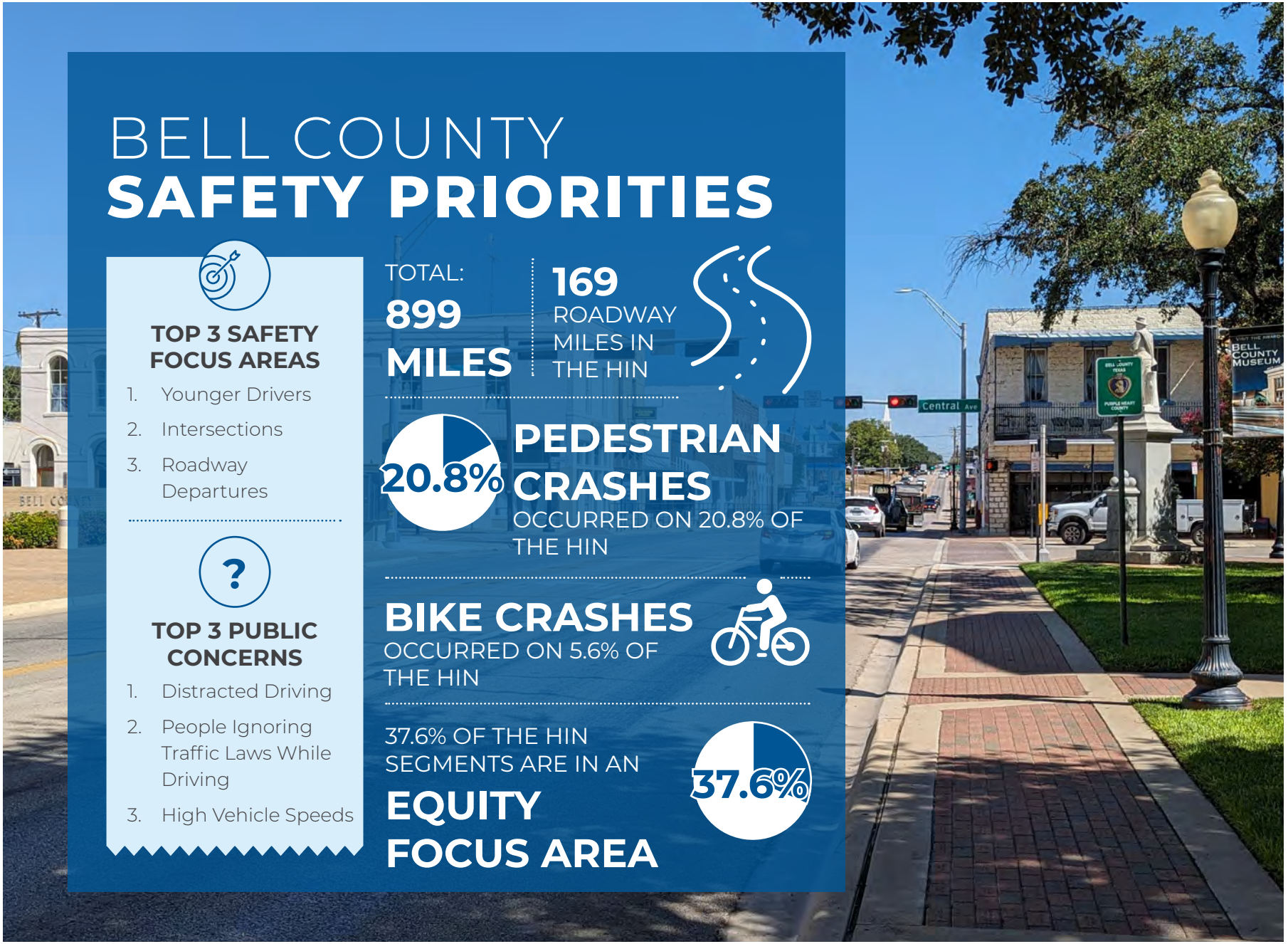
TOTAL:
899 MILES

169 ROADWAY MILES IN THE HIN

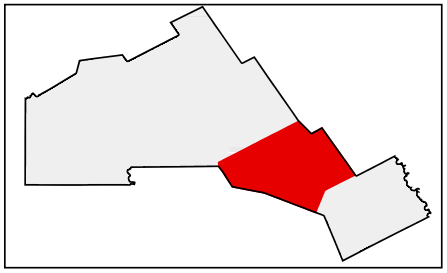
20.8% **PEDESTRIAN CRASHES** OCCURRED ON 20.8% OF THE HIN

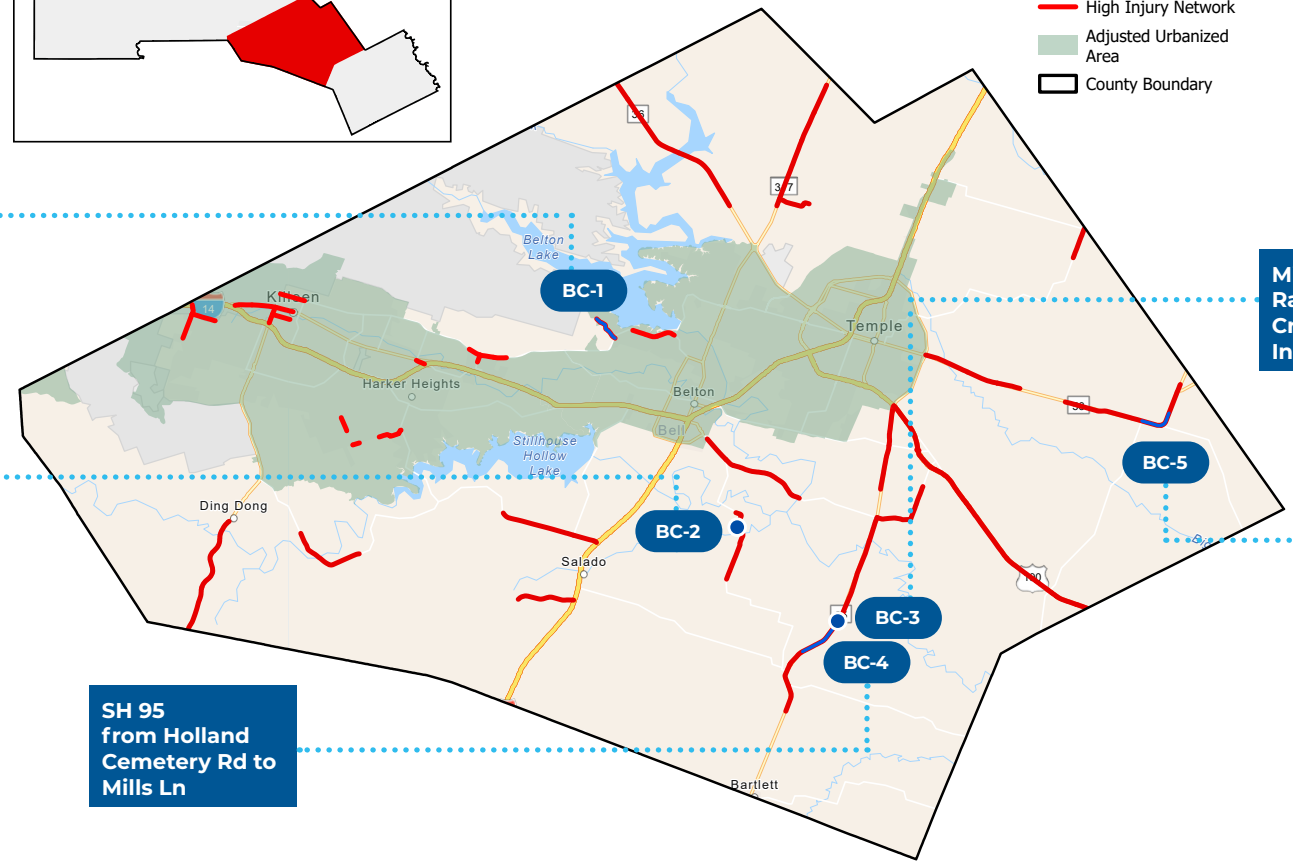
BIKE CRASHES OCCURRED ON 5.6% OF THE HIN

37.6% OF THE HIN SEGMENTS ARE IN AN **EQUITY FOCUS AREA**



BELL COUNTY
ROADWAY SAFETY PROJECTS





Sparta Rd from FM 439 to Water Works Rd

FM 1123 & Summers Mill Rd Intersection

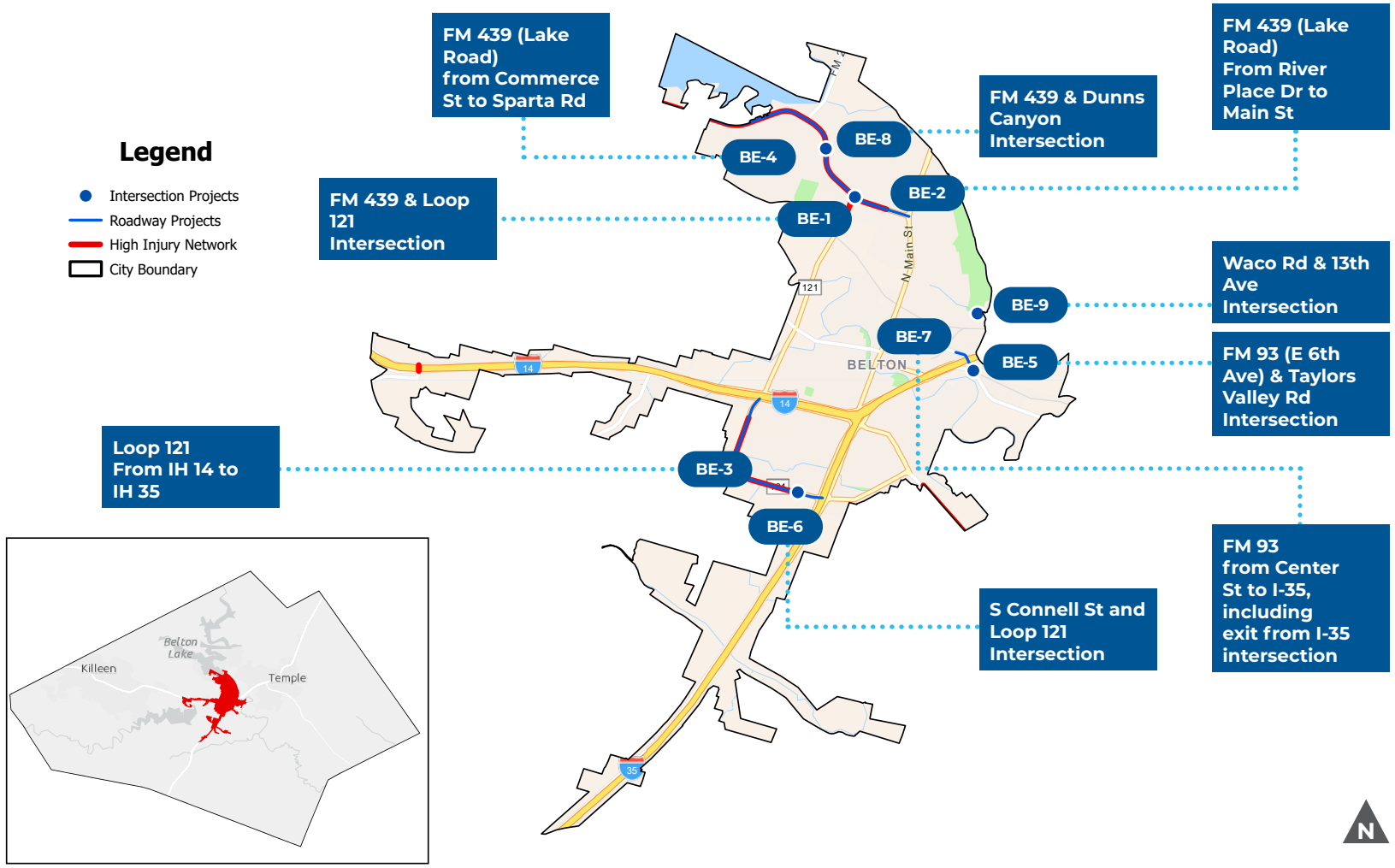
SH 95 from Holland Cemetery Rd to Mills Ln

Mills Ln & Railroad Crossing Intersection

SH 53 from FM 437 to N Elm Loop

Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data (2018-2022)	Potential Project Details
BC-1 **Sparta Rd** from FM 439 to Water Works Rd	Yes	Roadway Departure	54.5	Very curvy road, entrance to Belton Lake Outdoor Recreation Area, "party spot", also back entrance into Fort Cavazos.	Most crashes are people going too fast, impaired driving, trying to pass. 1 K and 5 A crashes along this segment.	Enhance delineation or add shoulders, more police enforcement in this area to reduce drinking and driving.
BC-2 **FM 1123 & Summers Mill Rd** Intersection	Yes	Intersection, Roadway Departure	52	Intersection in the middle of high speed curve, 40mph around curve, no shoulder present.	5 crashes at this location, all in relation to speeding.	Curve delineation, adding shoulder and rumble strips, additional curve warning and striping focused on speed reduction.
BC-3 **Mills Ln & Railroad Crossing** Intersection	No	Operations-focused	30	No train gate, speed limit is 45mph, no pavement striping.	1 fatal and 1 serious injury crash, both with train.	Install railroad crossing gate.
BC-4 **SH 95** from Holland Cemetery Rd to Mills Ln	Yes	Speed Management	24.5	Two travel lanes with a passing lane, and with a shoulder and rumble strips on either side and between opposite direction lanes. Speed limit ranges from 45-60mph, current construction (road widening) along corridor reduces roadway to one travel lane in certain sections.	Hotspot near Mills Rd, many contributing factors are "other" or "none". 11 total KAB crashes, many crashes occurred in the dark.	Corridor safety study, intersection lighting improvements, signing and striping to support traffic calming.
BC-5 **SH 53** from FM 437 to N Elm Loop	Yes	Intersection, Speed Management	22	SH 53 turns from going east to north with high speeds of 60 mph around bend, FM 485 also cuts in at the middle of the high speed curve.	4 crashes, 3 of which were caused by failure to yield or stop.	Curve delineation, lowering speeds along curve, intersection warning, potential roundabout at intersection with FM 485.

CITY OF BELTON
ROADWAY SAFETY PROJECTS



Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
BE-1 **FM 439 & Loop 121** Intersection	No	Intersection	58.5	Four way intersection, currently under construction. Traffic signal in place.	4 crashes, including 1 K crash, 1 A crash involving a pedestrian, all mixed contributing factors.	Pedestrian signal timing, intersection realignment, split signal phasing.
BE-2 **FM 439 (Lake Road)** from River Place Dr to Main St	Yes	Intersection, Pedestrian-focused	57.5	Two travel lanes in each direction with center two-way left turn lane. Sidewalks on both sides but no pedestrian crossings present except at either end of the corridor.	20 crashes total: 1 K crash, 3 A crashes, 16 B crashes (6 of which occurred in 2023).	Intersection improvements such as roundabouts (multi-lane) at Lake Rd/ River Place Dr and Lake Rd/Main St, protected mid-segment pedestrian crossing.
BE-3 **Loop 121** From IH 14 to IH 35	Yes	Pedestrian-focused, Speed Management	57	Two-lane road with paved shoulders and no other pedestrian or bike infrastructure. Combination of residential, industrial, and institutional land use (medical, prison). TxDOT project planned at this location for 2029-2034.	21 crashes total: 1 K crash, 3 A crashes (all pedestrian crashes), 17 B crashes (7 of which occurred in 2023).	Install sidewalks corridor-wide with regular pedestrian crossings, include sidewalk network tie-ins to nearby neighborhoods and government facilities.
BE-4 **FM 439 (Lake Road)** from Commerce St to Sparta Rd	Yes	Intersection, Speed Management	55	To Lake Ridge Dr, there is no median, one lane both way, no shoulder .	12 KA crashes along this segment, 10 at intersections.	Roundabouts or other intersection reconfiguration, traffic calming, access management, sight distance improvement.
BE-5 **FM 93 (E 6th Ave) & Taylors Valley Rd** Intersection	No	Access Management, Intersection	43	Skew intersection with large channelized right turns. Two way stop control along Taylors Valley Rd. Gas station with driveways along northeast corner of the intersection.	3 A crashes, 15 B crashes at intersection and in vicinity. Note that half of these crashes occurred in 2023.	Intersection realignment to improve approach angles, or potential roundabout (multi-lane) or signalization location, access management improvements at nearby driveways.
BE-6 **S Connell St and Loop 121** Intersection	Yes	Operations-focused	41	Obvious horizontal curve, Speeds range from 45 to 50 mph along this stretch of roadway. AADT data on volume trends show a significant increase in annual growth by S Connell St. TxDOT project planned at this location for 2029-2034.	No crash history at intersection.	There is a vertical horizontal curve Huey St. Install offset right turn lane, if sight distance is an issue. At a glance, it seems like Loop 121 has poor lighting.
BE-7 **FM 93** from Center St to I-35, including exit from I-35 intersection	No	Intersection	27	Potentially confusing intersection design with high vehicle speeds. Forrest Dr left turns seem discouraged, but enabled. House at outside edge of curb has put up concrete barriers to protect itself.	Crash data does not indicate that there are very many KA crashes at this location, but there is a good concentration of lower severity crashes here.	Roundabouts/traffic circle downstream with TxDOT collaboration to slow speeds for those approaching northbound. Potential realignment of the road to have the sharp horizontal curve appear before the residences; access to be removed from existing Forrest Dr. Could also install some barrier to prevent roadway departure.
BE-8 **FM 439 & Dunns Canyon** Intersection	No	Intersection	26.5	T intersection going into five lane road. Skew crosswalk requires right turn stop bar to be set back, making right turn on red difficult.	1 intersection related B crash.	Restripe intersection to remove crosswalk skew and make stop bars consistent at all approaches. Reconstruct pedestrian ramps.
BE-9 **Waco Rd & 13th Ave** Intersection	No	Intersection	26	Unsignalized intersection, with two minor lane approaches (one right and one left).	1 intersection related B crash.	Reconfigure intersection to allow stop bars to be at same locations for both turning directions from 13th Ave.

CITY OF HARKER HEIGHTS
ROADWAY SAFETY PROJECTS

US 190 (Veteran's Memorial Blvd) from IH 14 to Roy Reynolds Dr

Indian Trail Dr From IH 14 to Business US 190

FM 2410 at Verna Lee Rd Intersection

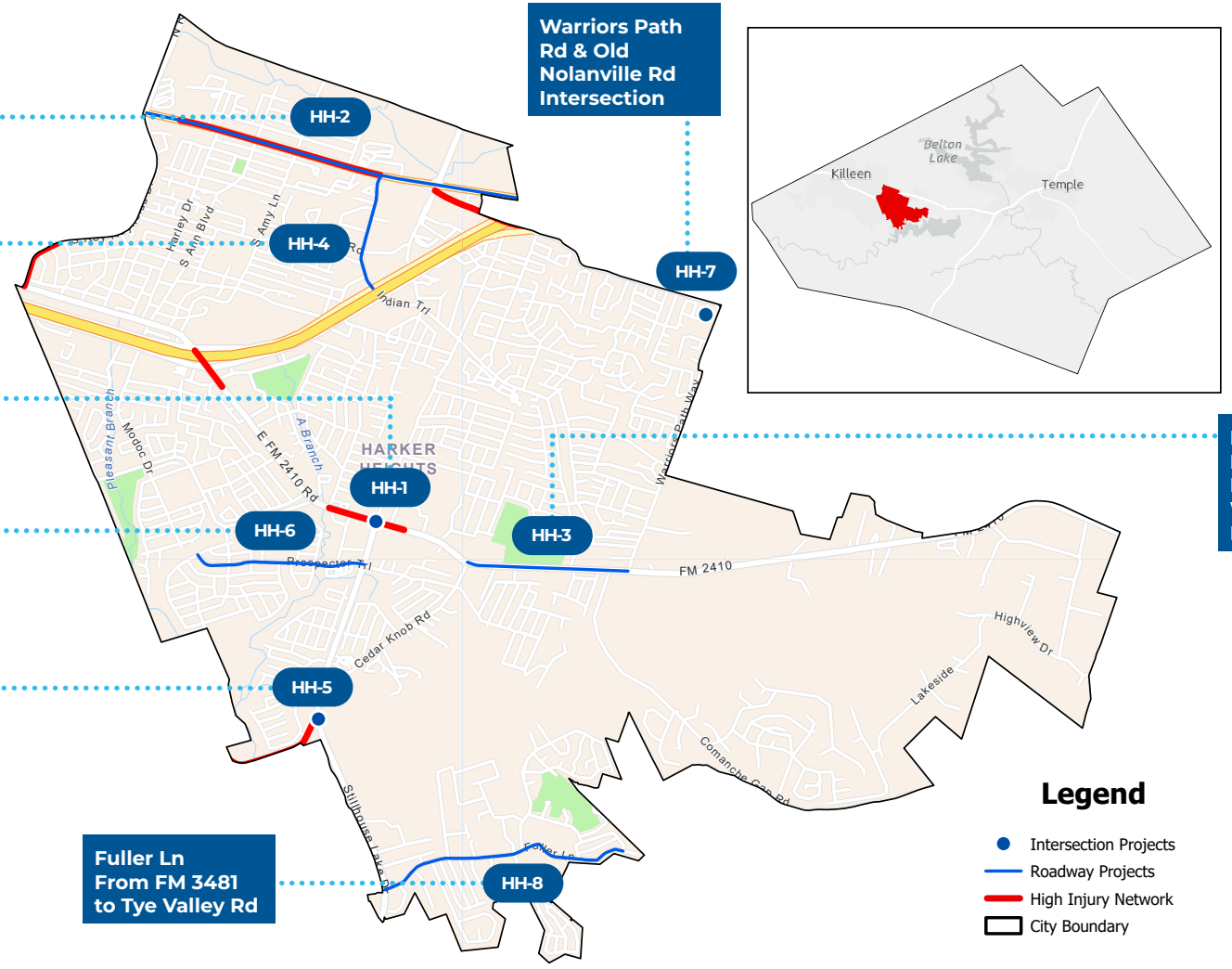
Prospector Tr From FM 3481 to Cattail Cove

Chaparral Rd & FM 3481 (Stillhouse Lake Dr) Intersection

Fuller Ln From FM 3481 to Tye Valley Rd

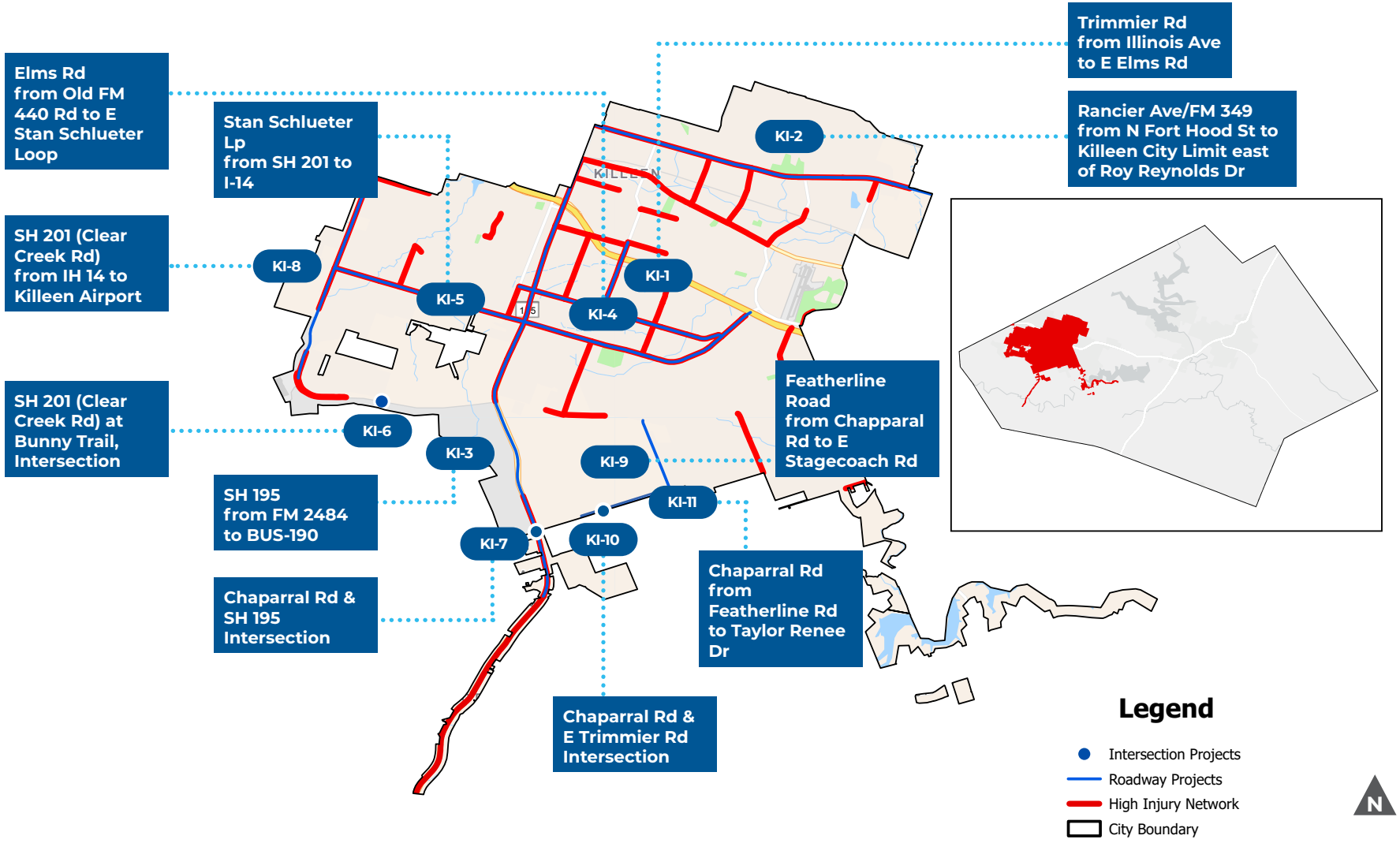
Warriors Path Rd & Old Nolanville Rd Intersection

FM 2410 From Cedar Knob Rd to Warriors Path Rd



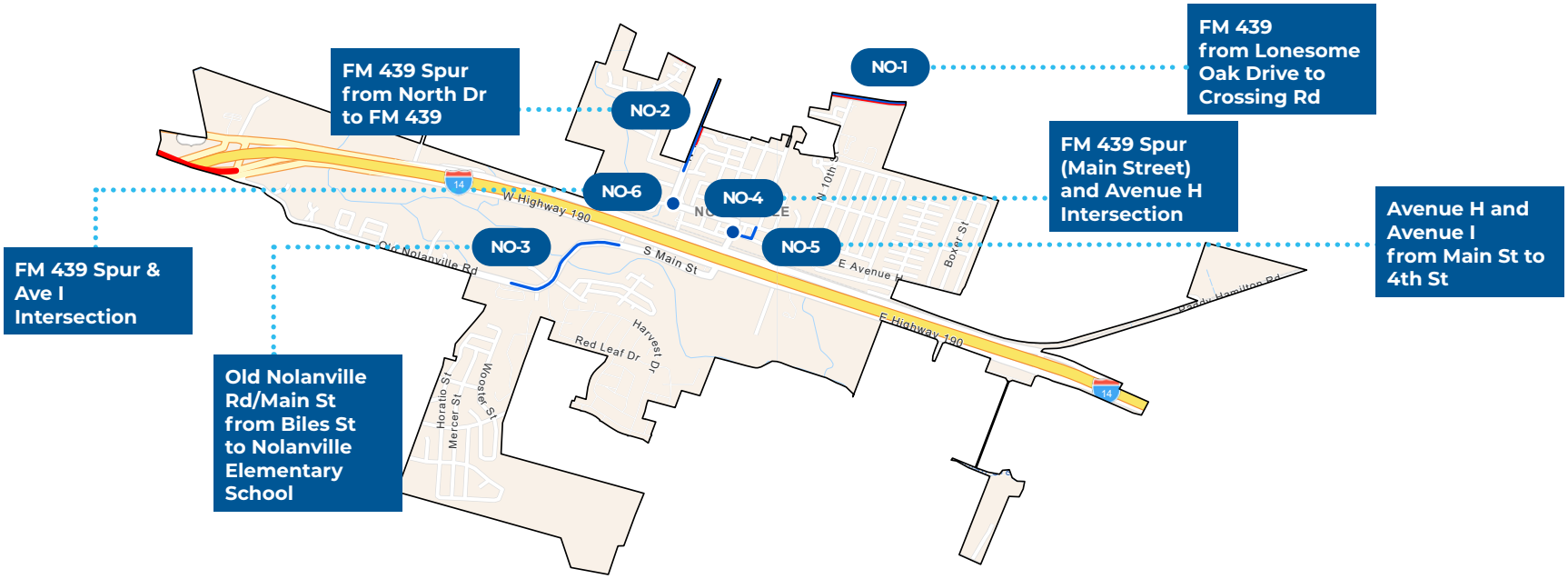
Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
HH-1 **FM 2410 at Verna Lee Rd** Intersection	Yes	Pedestrian-focused	59.5	The striping from the aerial view seems relatively new at the intersection. 15-foot TWLTL, 45 mph speed limit.	Several crashes at intersections and surrounding driveways.	Medians for access management would provide pedestrian refuges along school zone.
HH-2 **US 190 (Veteran's Memorial Blvd)** from IH 14 to Roy Reynolds Dr	Yes	Access Management, Speed Management	59	Five lanes; 45 mph speed limit with higher travel speeds, poor access control.	Distracted driving, drugs/ alcohol and fatigued driving crashes at several points along this stretch of roadway. Also 2 pedestrian KA crashes.	Wrong way reflectors, Median barrier or raised median, close some driveways, limit access.
HH-3 **FM 2410** from Cedar Knob Rd to Warriors Path Rd	No	Pedestrian-focused, Speed Management	49	Three-lane road segment (including TWLTL) near community park and high school. Incomplete sidewalk network along segment and no crosswalks.	9 crashes total (2 A crashes, 7 B crashes). Both A crashes at intersections. 1 B crash involved a bicycle.	Fill in sidewalk gaps, add crosswalks at key locations including pedestrian protection such as median refuge islands, signage, and elements such as RRFB or PHB signal.
HH-4 **Indian Trail Dr** from IH 14 to Business US 190	No	Intersection, Pedestrian-focused	48	Two-lane road with center left turn lane and striped shoulder currently used for bicycle and pedestrian activity. Many driveways along road.	1 A crash, 8 B crashes. Most crashes occurred at intersections. A injury crash may have involved vulnerable road user.	Added sidewalks, enhanced intersection warning and visibility, speed management through enhanced signing/striping.
HH-5 **Chaparral Rd & FM 3481 (Stillhouse Lake Dr)** Intersection	Yes	Intersection	43	Two travel lanes, median, TWLTL, right turn lane that obstructs sight distance when occupied. Speeds of 50mph on Stillhouse Lake Road.	1 A crash at this location, a couple of other crashes.	Right turn lane is obstructing view of vehicles on Chaparral Rd trying to turn into Stillhouse Lake Dr. Add positive offset to the existing turn lane to improve sight distance.
HH-6 **Prospector Tr** from FM 3481 to Cattail Cove	No	Pedestrian-focused, Speed Management	36	Two-lane road without striping, transitions from industrial land use near FM 3481 to resedential uses further west.	2 A crashes, 5 B crashes. (1 A crash and 1 B crash in 2023). Both A crashes involved pedestrians.	Lighting, pedestrian infrastructure, and striping to constrict lane width and control speeds entering the neighborhood from FM 3481.
HH-7 **Warriors Path Rd & Old Nolanville Rd** Intersection	No	Intersection, Pedestrian-focused	31	Intersection of two-lane roads without turn lanes. Stop-controlled on the Warriors Path Rd approach. Sidewalk currently only along the south side of Old Nolanville Rd.	1 intersection related B crash.	Add turning lanes at intersection, conduct drainage improvements, and add sidewalks.
HH-8 **Fuller Ln** from FM 3481 to Tye Valley Rd	No	Speed Management	21	Two-lane road with inconsistent centerline striping, sharp curves after centerline ends. Residential access.	2 B crashes, both in 2023 (1 at FM 3481 intersection, 1 along curve).	Speed control, striping, and curve warning signage along Fuller Ln, intersection approach treatments near FM 3481.

CITY OF KILLEEN
ROADWAY SAFETY PROJECTS



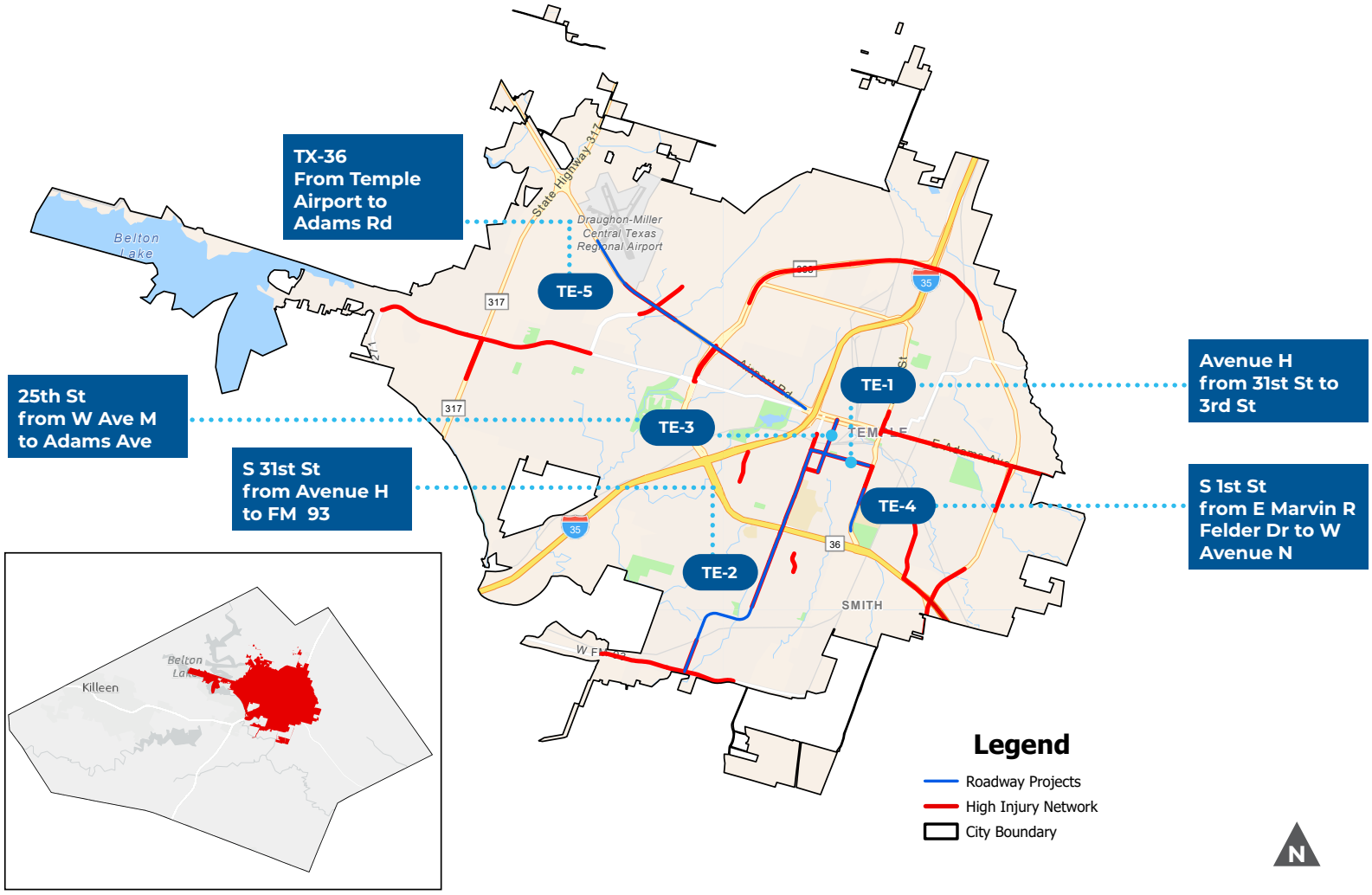
Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data (2018-2022)	Potential Project Details
KI-1 **Trimmier Rd** from Illinois Ave to E Elms Rd	Yes	Intersection, Pedestrian-focused	69.5	Road is two lanes each way, with a TWLTL, 40 mph, Trimmier generally has sidewalk on at least one side of the road through its entirety, no bicycle facilities.	Most of the crashes are intersection crashes or pedestrian crashes.	Review pedestrian and bike treatments along corridor, understand speeds better.
KI-2 **Rancier Ave/FM 349** from N Fort Hood St to Killeen City Limit east of Roy Reynolds Dr	Yes	Pedestrian-focused, Speed Management	66	Currently a four lane street with short segments, interrupted by frequent traffic lights. No center median, high driveway density.	A lot of crashes in this area, ped/bike crashes on frontage of park stand out significantly. Other types of collisions are head-on, opposite way.	Pedestrian crossings, road diet. City was preparing grant to reduce this to three lane section. High concentration of head-on collisions and opposite way crash types on this roadway could also support access management.
KI-3 **SH 195** from FM 2484 to BUS-190	Yes	Operations-focused, Speed Management	63	Variable speeds, people speed on this corridor often. Two lanes in each direction, divided. Very freeway like conditions, no sidewalks, no bike lanes.	High number of crashes along length of corridor, likely related to speeding.	Lower speed limits, law enforcement. Also could focus on intersections and curves.
KI-4 **Elms Rd** from Old FM 440 Rd to E Stan Schlueter Loop	Yes	Roadway Lighting, Pedestrian-focused	56.5	Five lane corridor with TWLTL, no shoulder, sidewalk gaps along corridor.	70 KAB crashes along corridor, 5 pedestrian crashes.	Install pedestrian infrastructure, consistent signed and protected crosswalks and refuges, and corridor lighting.
KI-5 **Stan Schlueter Lp** from SH 201 to I-14	Yes	Intersection, Pedestrian-focused	54	This is a 55 mph roadway, with two lanes in each direction, a TWLTL, and an incomplete sidewalk network. At Old FM 440, there are three KA crashes, and the light allows for permissive left turns on flashing yellow.	Lots of failed to yield ROW, a couple of wrong side drivers, some speeding crashes.	Rumble strips, median. This is an extremely wide corridor, might be worth reviewing lane widths and looking at improved pedestrian crossing and intersection control.
KI-6 **SH 201 (Clear Creek Rd) at Bunny Trail,** Intersection	Yes	Intersection, Speed Management	52	Four lanes, raised median, there is a signal warning sign here.	Two A crashes at this intersection.	Advanced signal warning signage with flashing beacon, doubled up signs, retroreflective sheeting on signs and on signal ahead warning signs.
KI-7 **Chaparral Rd & SH 195** Intersection	Partial	Intersection	46	This intersection is currently signalized. High speeds on SH 195 (70 mph roadway). Right turn yield with no acceleration lane onto SH 195. Existing advanced warning system in place for signal at appropriate location.	Six KA crashes at this intersection, many B crashes. 18 were angle or opposite direction crashes. The top two contributing factors were failure to stop or yield to right of way.	Remove the free right turn into a non-protected lane on a high speed road. Add acceleration lane for the right turners to merge onto SH 195 eventually. Speed limit reduction. Consider grade separation of intersection.
KI-8 **SH 201 (Clear Creek Rd)** from IH 14 to Killeen Airport	Partial	Operations-focused	45.5	Two lanes in each direction plus a center TWLTL, lacking signage along the whole corridor.	A lot of cars that failed to stop at traffic signals. Some opposite direction crashes (at intersection of Stan Schlueter Lp & CR 201).	Add warning signage ahead of curves and signals. Place wrong way reflectors, rumble strips, or other lane departure mitigation.
KI-9 **Featherline Road** from Chapparal Rd to E Stagecoach Rd	No	Pedestrian-focused, Speed Management	44.5	Speed limit 40 mph, corridor is located near an elementary and middle school. No pedestrian facilities.	There were 18 KAB crashes along this corridor, 13 of which were opposite direction crashes.	Develop pedestrian facilities for access to school, conduct study to identify intersection improvements along corridor. Implement intersection capacity improvements at either end of corridor.
KI-10 **Chaparral Rd & E Trimmier Rd** Intersection	Partial	Intersection	38	Existing four way stop intersection, with no crosswalks or pedestrian facilities present.	4 KAB crashes, 3 of which involved trouble turning or disregarding signs.	Install roundabout and pedestrian facilities near intersection.
KI-11 **Chaparral Rd** from Featherline Rd to Taylor Renee Dr	No	Intersection, Pedestrian-focused	35	Chaparral Rd lacks shoulder, edge striping, and pedestrian facilities. Both intersections at corridor ends are minor street stop controlled in SB direction. Currently all approaches to intersections are single lane.	11 B crashes along corridor.	Roundabout, traffic signal, sidewalks, pedestrian facilities, and turning lanes at intersection approaches.

CITY OF NOLANVILLE
ROADWAY SAFETY PROJECTS



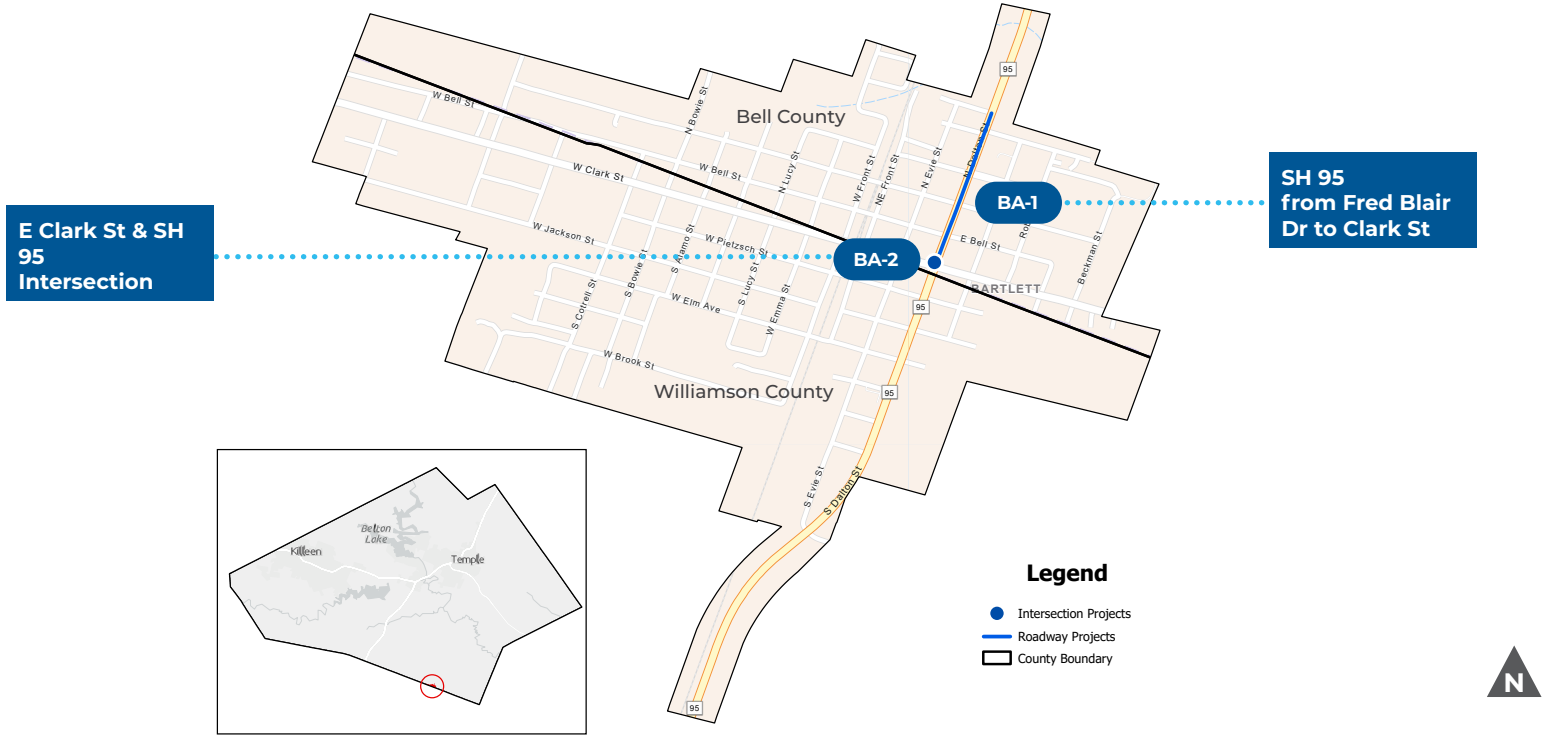
Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
NO-1 **FM 439** from Lonesome Oak Drive to Crossing Rd	Yes	Intersection, Pedestrian-focused	39.5	One lane in each direction, no sidewalks, no bike lanes, very thin, nearly non-existent shoulder, high speeds along FM 439.	1 A crash at intersection.	Add flashing beacons to allow some of the traffic to turn into 439 from 7th St. Consistent roadway design along FM 439.
NO-2 **FM 439 Spur** from North Dr to FM 439	Yes	Access Management, Speed Management	38	One lane in each direction, stop controlled @ FM 439, no sidewalks, no bike lanes, very thin, nearly non-existent shoulder.	1 A crash, speeding.	Increase visibility at FM 439 intersection approach and add approach warning signs, traffic calming/rumble strips at curve.
NO-3 **Old Nolanville Rd/Main St** from Biles St to Nolanville Elementary School	No	Roadway Departure	31	Sharp curve approaching I-14.	Shows 1 A crash, 5-6 B crashes.	Rumble strips or profile pavement markings, curve warning signage, curve visibility and speed management.
NO-4 **FM 439 Spur (Main Street) and Avenue H** Intersection	No	Pedestrian-focused	14.5	Crosswalk on Main Street with no pedestrian signal or warning signs.	No KAB crashes at this location.	Install pedestrian warning signs with beacons at crosswalk approaches.
NO-5 **Avenue H and Avenue I** from Main St to 4th St	No	Operations-focused	13	All existing roads in project extents are currently two lane roads, with one lane in each travel direction.	No KAB crashes at this location.	Convert Avenue H and Avenue I in project extents to one-way pair with Avenue H one-way eastbound and Avenue I one-way westbound. Update signing and striping configurations to match one-way configuration.
NO-6 **FM 439 Spur & Ave I** Intersection	No	Intersection	12	Intersection in the middle of a curve. No signage indicating the non-standard 3-way stop condition.	No KAB crashes at this location.	Install stop sign at northbound approach to make intersection a four-way stop.

CITY OF TEMPLE
ROADWAY SAFETY PROJECTS



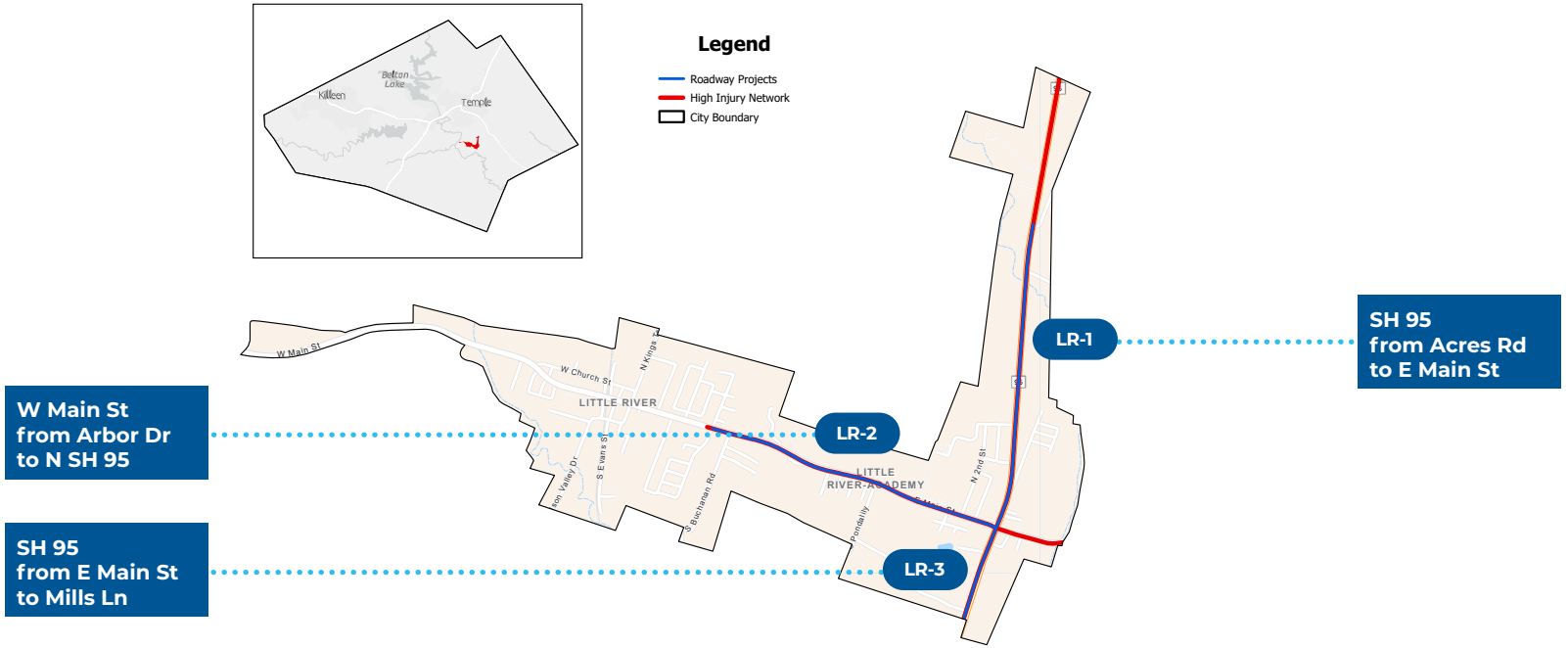
Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
TE-1 **Avenue H** from 31st St to 3rd St	Yes	Intersection, Pedestrian-focused	71	From S 31st St to S 25th St, there is a large median, making this almost two one way roads. Road has recently been repaved. Road is 35 mph, pretty hilly, no full sidewalk network here.	Lots of unsafe speed. Impaired driving is a problem along this street. Some rear end and intersection crashes as well.	Law enforcement focus, enhancements to improve pedestrian and bicycle facilities along the corridor, and consideration of a road diet or TWLTL.
TE-2 **S 31st St** from Avenue H to FM 93	Partial	Access Management, Pedestrian-focused	66	Generally two lanes in each direction with a center TWLTL. Segments broken up every couple blocks or so by traffic lights. High driveway density and wide lanes.	High concentration of KA crashes and crashes in general along this segment. Failure to stop, failure to yield right of way, bike injury, opposite way crashes.	The amount of ped/bike injuries could mean an opportunity for addition of some pedestrian crossings at the long stretches of roadway where there are no signals to protect pedestrians, or could mean a need for improved bike/ped facilities in general, especially along the commercial areas on the corridor. Concrete median to address the opposite way crashes, plus some access management opportunities.
TE-3 **25th St** from W Ave M to Adams Ave	Yes	Intersection, Pedestrian-focused	62	Speed limit is mostly 30 mph, with curb and gutter, and some sidewalk (not through all of it), no bike facilities, traffic signals are very basic and appear to run two phases. Concern that there is a left turn bay on Ave M & 25th, and Ave H & 25th and no protected left turn.	Mostly intersection crashes, 1 pedestrian crash (A crash), 1 bike crash (B crash).	Road diet to improve bicycle and pedestrian facilities and add a TWLTL, signalized intersection improvements to signals and approaches.
TE-4 **S 1st St** from E Marvin R Felder Dr to W Avenue N	Partial	Pedestrian-focused	55.5	Four lane segment without median, existing sidewalk along road.	1 K pedestrian crash, 1 single vehicle A crash.	Widen current pedestrian facilities, add striping to designate path for wheelchairs. Consider additional crosswalks along corridor.
TE-5 **TX-36** from Temple Airport to Adams Rd	Partial	Speed Management	35.5	Five lane segment (with TWLTL) varying between curb and paved shoulder sections. Future development planned along corridor.	9 KA crashes along corridor. Most crashes involve turning vehicles.	Driver speed feedback signs along this road. Better protection for turning vehicles.

CITY OF BARTLETT
ROADWAY SAFETY PROJECTS



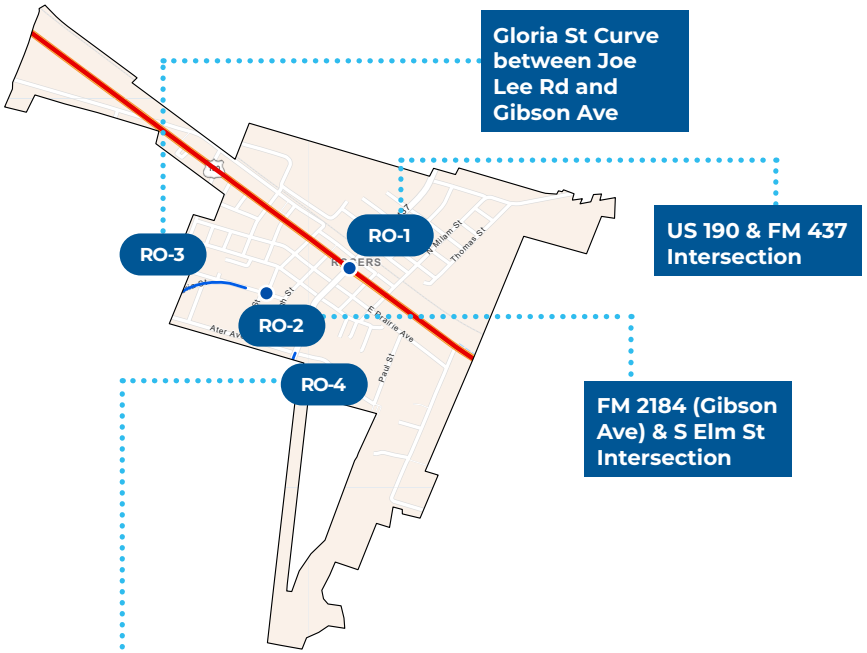
Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
BA-1 **SH 95** from Fred Blair Dr to Clark St	No	Pedestrian-focused	36	Unmaintained sidewalks along corridor, sidewalk gaps, and lack of crosswalks.	1 K crash involving drugs.	Sidewalk construction, intersection improvements, protected pedestrian crossings.
BA-2 **E Clark St & SH 95** Intersection	No	Intersection	25	Unsignalized intersection with stop signs in east and west direction. Poles in clear zone without curb protection present crash object hazards.	No crash data at intersection.	pole relocation, installing traffic signal and providing crosswalks.

CITY OF LITTLE RIVER-ACADEMY
ROADWAY SAFETY PROJECTS



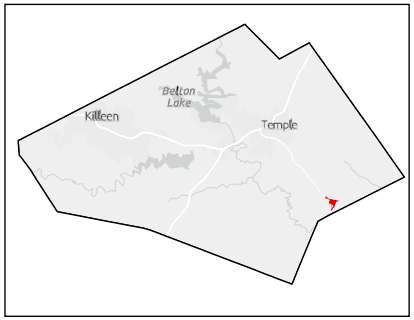
Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
LR-1 **SH 95** from Acres Rd to E Main St	Yes	Intersection, School Operations	47.5	Three lane roadway with shoulder and middle TWLTL through town, narrowing to two lanes north of town. Rumble strips along shoulder and in between lanes north of town.	5 total crashes, 2 A, 3 B. All of which occurred at or near an intersections.	Intersection improvements, operations improvements near school.
LR-2 **W Main St** from Arbor Dr to N SH 95	Yes	Drainage, Intersection	32.5	$4 million grant and some bus stop work planned to update existing trail along north side of Main Street.	2 A crashes at Main/ SH 95, 3 B crashes on corridor.	Drainage study and related improvements, intersection visibility improvements such as retroreflective backplates at SH 95/Main Street.
LR-3 **SH 95** from E Main St to Mills Ln	Yes	Speed Management	31.5	Two lane roadway with shoulder, rumble strips along shoulder and in between lanes, roadway construction currently underway to widen road.	10 crashes occurred in 2022.	Corridor Study focused on speeds, roadway departures, driveways, and intersections.

CITY OF ROGERS
ROADWAY SAFETY PROJECTS



Legend

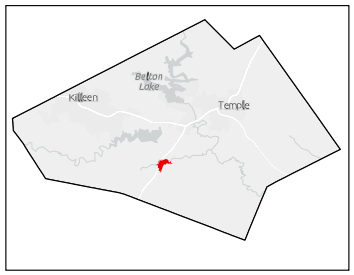
- Intersection Projects
- Roadway Projects
- High Injury Network
- City Boundary



N

Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
RO-1 **US 190 & FM 437** Intersection	Yes	Intersection	33.5	Intersection with existing signal in place. 45 mph speed limit. No turn lanes.	4 B crashes: all failure to yield, stop, or read signage.	Signal timing, speed limit reduction, advanced warning signs, turn lanes, signal pole improvements.
RO-2 **FM 2184 (Gibson Ave) & S Elm St** Intersection	No	Intersection, Pedestrian-focused	21	T intersection with stop sign, no pedestrian crossing markings or warning.	No crash data.	Advanced warning signs, lower speed limit, protected crosswalk and pedestrian infrastructure.
RO-3 **Gloria St Curve** between Joe Lee Rd and Gibson Ave	No	Speed Management	21	Two lane curve through residential area, speed limit is 55 mph.	No crash data.	lowered speed limit, curve delineation and warning, enforcement.
RO-4 **FM 437** from Rogers City Park to Ater Ave	No	Pedestrian-focused	21	Rogers City Park is just over a mile away from the Rogers elementary, middle, and high school. No pedestrian infrastructure currently exists.	2 B crashes along FM 437.	Install trail and pedestrian facilities along FM 437 between schools and City Park.

VILLAGE OF SALADO
ROADWAY SAFETY PROJECTS



Legend

- Intersection Projects
- Roadway Projects
- High Injury Network
- City Boundary

N

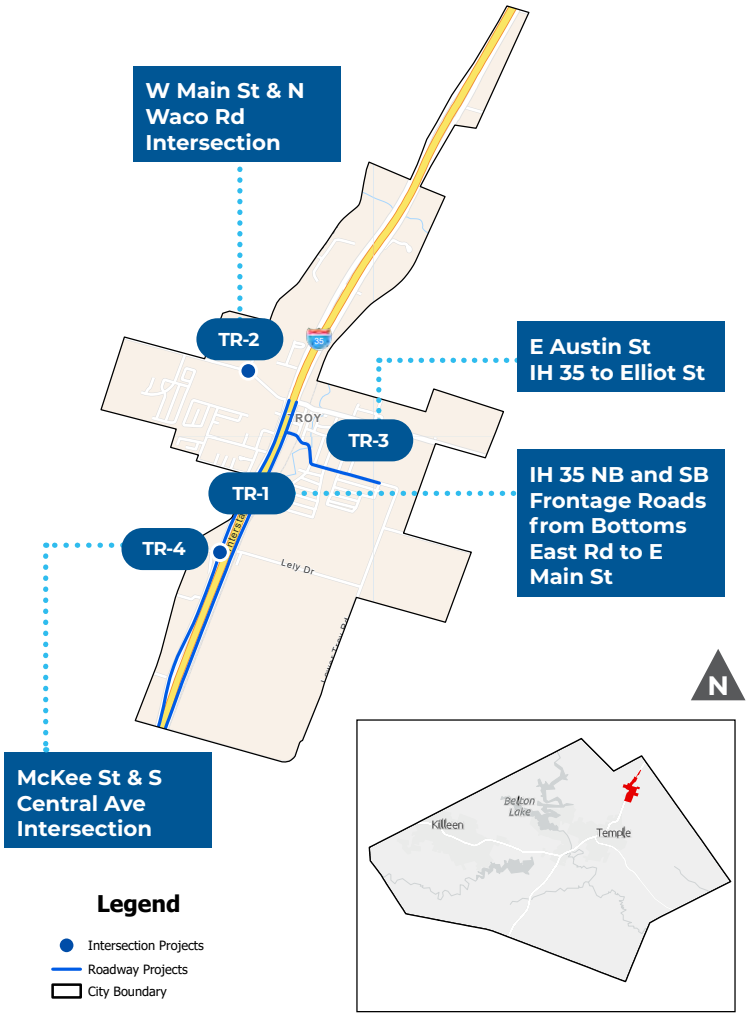
FM 2484 from Hodge Canyon Dr to Lark Trail

Thomas Arnold Rd & W Village Rd Intersection

FM 2484 & FM 1670 Intersection

Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
SA-1 **FM 2484 & FM 1670** Intersection	Yes	Intersection	42	Currently a two-way stop control intersection. High through speeds on FM 2484.	5 crashes at this location.	Installing traffic signal, intersection warning, speed reduction through signing and striping.
SA-2 **FM 2484** from Hodge Canyon Dr to Lark Trail	Yes	Intersection	35.5	No lighting here, no shoulder, no sidewalk.	5 KA crashes, all at intersections/driveways. All these crashes were in morning or evening rush hour.	Traffic calming through area increases time for turning, improved lighting or signalization may also help, roundabout may also be an option.
SA-3 **Thomas Arnold Rd & W Village Rd** Intersection	No	Intersection, School Operations	23	Adjacent to Thomas Arnold elementary school, unsignalized four way intersection with I-35 SB frontage road. Pedestrian activity near schools without clear pedestrian facilities.	1 B crash.	Installing traffic signal, reducing intersection size, providing additional pedestrian infrastructure, pavement and striping improvements.

CITY OF TROY
ROADWAY SAFETY PROJECTS



Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
TR-1 **IH 35 NB and SB Frontage Roads** from Bottoms East Rd to E Main St	No	Operations-focused, Speed Management	54	Speed limit is 45 to 30 mph along frontage road, multiple residential and commercial drives right off frontage road.	38 crashes along this corridor (includes main lane crashes).	Traffic calming, reduce speed limits, access management improvements.
TR-2 **W Main St & N Waco Rd** Intersection	No	Intersection, School Operations	30	Stop controlled T intersection in the middle of a horizontal curve.	No crashes at this location.	Installing traffic signal or increased intersection signage, focus on school ingress and egress near intersection.
TR-3 **E Austin St** IH 35 to Elliot St	No	Pedestrian-focused	24	Partial sidewalk existing on single side of road, but many sidewalk gaps along corridor.	No KAB crashes at this location.	Install sidewalks and crosswalks along corridor connecting to key waypoints.
TR-4 **McKee St & S Central Ave** Intersection	No	Intersection, Operations-focused	13	Intersection entrance for a Loves Travel Stop. Trucks have the ability to go directly to the on ramp of IH 35 at this location, which is creating merging conflicts..	No KAB crashes at this intersection.	Restricting movements at intersection through access management, intersection improvements, delineation, truck-focused wayfinding.

FM 439 Corridor Safety Study

Introduction and Addressing the Need

The FM 439 corridor maintained by TxDOT spans from Killeen to Belton, passing through Harker Heights, Nolanville, and unincorporated areas of Bell County. Sections of the FM 439 corridor saw an annual average daily traffic (AADT) count of up to 17,076 vehicles per day from 2018 to 2022. The section with the highest AADT is on the west end near Killeen. FM 439 is often used as a relief route as it runs parallel to I-14/Central Texas Expressway. From 2018 to 2022, Bell County had a total of 29,877 crashes. Of those crashes, 719 occurred on the FM 439 corridor from the intersection of 38th St in Killeen to the intersection of Main St in Belton. In prioritizing mitigation tactics for crashes along this corridor, agency stakeholders including city and county staff, the TxDOT Waco District, and KTMPO staff identified conducting a corridor study with a significant safety component as a potential supplemental planning activity.

Analysis

The project team looked at crash data from 2018 to 2022 for the FM 439 corridor in Bell County considering only KAB crashes. The team then split the data by contributing factors to identify trends along FM 439.

Contributing Factors	Number of KA Crashes	Number of B Crashes	KAB Crashes	% of all FM 439 KAB Crashes
Intersection Related	16	74	90	55.5%
Younger Drivers	15	56	71	43.8%
Failure to Yield Right of Way	9	53	62	38.3%
Speeding Related	5	34	39	24.1%
Older Drivers	7	22	29	17.9%
Impaired Driving	6	9	15	9.3%

From 2018 to 2022, the FM 439 corridor had 41 KA crashes and 121 B crashes. The table above shows the top six contributing factors for crashes along FM 439.

Recommendations and Implementation Guidance

The project team recommends that Bell County and other relevant stakeholders conduct a corridor safety study along FM 439. Based on initial research and analysis, the project team recommends that intersection related crashes, crashes caused by younger drivers, and crashes caused by failure to yield to the right of way be focus points in the study. The study can delve further into these focus areas identifying specific locations and causes in which these crash types occur.

As a baseline, the corridor study for FM 439 should include the following:

- Examine existing conditions to pinpoint hotspots or additional safety concerns.
- Gather feedback from stakeholders/ public to determine prioritized issues.
- Outline opportunities along corridor to address safety issues and concerns.

Stakeholders and key partners in implementation should include:

- Residents of local neighborhoods
- Cities along the corridor
- Commuters
- TxDOT
- Fort Cavazos
- KTMPO advisory committees

Aerial of FM 439 West of Belton

CORYELL COUNTY

CRASH TOTALS AND RATES

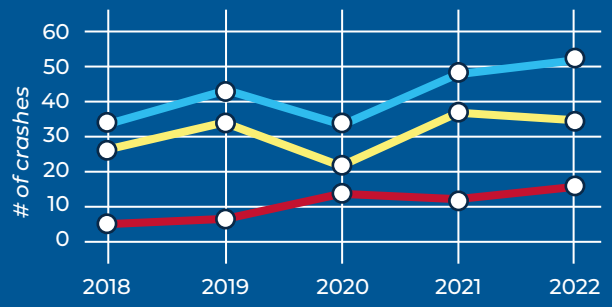
From the years 2018 to 2022, Coryell County had a total of 205 fatal and serious injury (KA) crashes. In 2021, a total of 37 serious injury crashes were recorded in Coryell County, making it the year with the highest number of serious injury crashes. As for fatal crashes, 2022 had the highest number, with a total of 15 crashes. From 2018 to 2022, Coryell County's total number of KA crashes increased by 59.4 percent.

Serious injury crashes occurred more frequently than fatal crashes, at an average ratio of 3.02:1. The graphs below show the annual number of fatal and serious injury crashes within Coryell County from 2018 through 2022, as well as a comparison of Coryell County KA crash rates to regionwide crash rates.

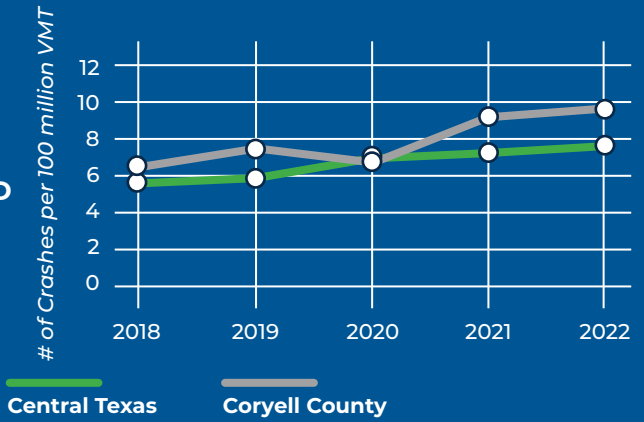
For the years 2018 to 2022, the rate of KA crashes per 100 million vehicle miles traveled (VMT) were calculated for Coryell County and compared to Central Texas's crash rates. The number of crashes per 100 million VMT follows a similar pattern as the annual crash totals. Regionwide crash rates have been lower than Coryell County rates within the five-year study window in every year except 2020. Coryell County's KA crash rates increased each year from 2018 to 2022 except for a slight decrease in 2020.

The graphic to the right summarizes Coryell County's safety priorities and summary data about the county's High Injury Network (HIN).

CORYELL COUNTY KA CRASH TOTALS BY YEAR



CORYELL COUNTY AND CENTRAL TEXAS KA CRASH RATES BY YEAR



CORYELL COUNTY
SAFETY PRIORITIES

TOP 3 SAFETY FOCUS AREAS

1. Younger Drivers
2. Roadway Departures
3. Intersections

TOP 3 PUBLIC CONCERNS

1. Distracted Driving
2. People Ignoring Traffic Laws While Driving
3. Narrow, Broken, or Missing Sidewalks and Bike Paths

TOTAL:
401 MILES

39 ROADWAY MILES IN THE HIN

15.3%

PEDESTRIAN CRASHES
OCCURRED ON 15.3% OF THE HIN

BIKE CRASHES
OCCURRED ON 7.7% OF THE HIN

83.3% OF THE HIN SEGMENTS ARE IN AN

EQUITY FOCUS AREA

83.3%

Coryell County developed a separate County-level safety action plan to include as part of the Central Texas Roadway Safety Action Plan. The full Coryell County Safety Action Plan is included in Appendix A.

HAMILTON COUNTY

CRASH TOTALS AND RATES

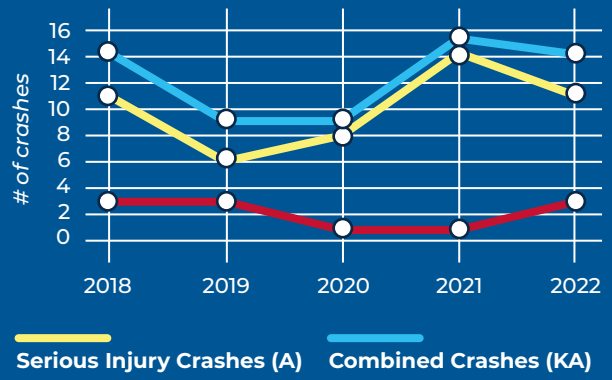
From the years 2018 to 2022, Hamilton County had a total of 61 fatal and serious injury (KA) crashes. Hamilton County recorded a total of 14 serious injury crashes in 2021, making it the year with the highest number of serious injury crashes. The years 2018, 2019, and 2022 had the highest total number of fatal injury crashes, with 3 such crashes each year. Comparing the year 2018 to 2022, Hamilton County's KA crash total remained at 14 crashes in both years.

Serious injury crashes occurred more frequently than fatal crashes, at an average ratio of 4.55:1. The graphs below show the annual number of fatal and serious injury crashes within Hamilton County from 2018 through 2022, as well as a comparison of Hamilton County KA crash rates to regionwide crash rates.

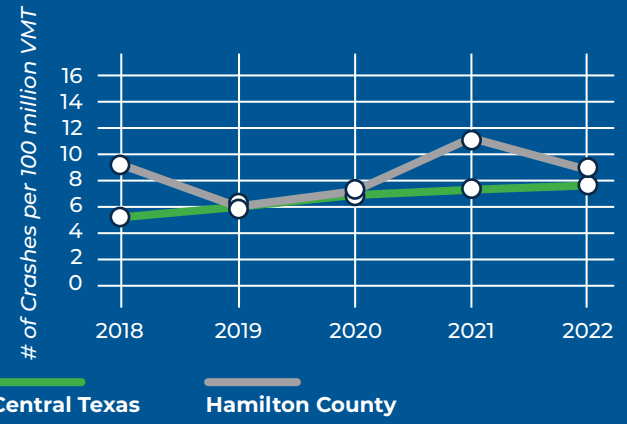
For the years 2018 to 2022, the rate of KA crashes per 100 million vehicle miles traveled (VMT) were calculated for Hamilton County and compared to Central Texas's crash rates. Regionwide crash rates have been lower than Hamilton County rates in each year of the five-year study window except for 2019.

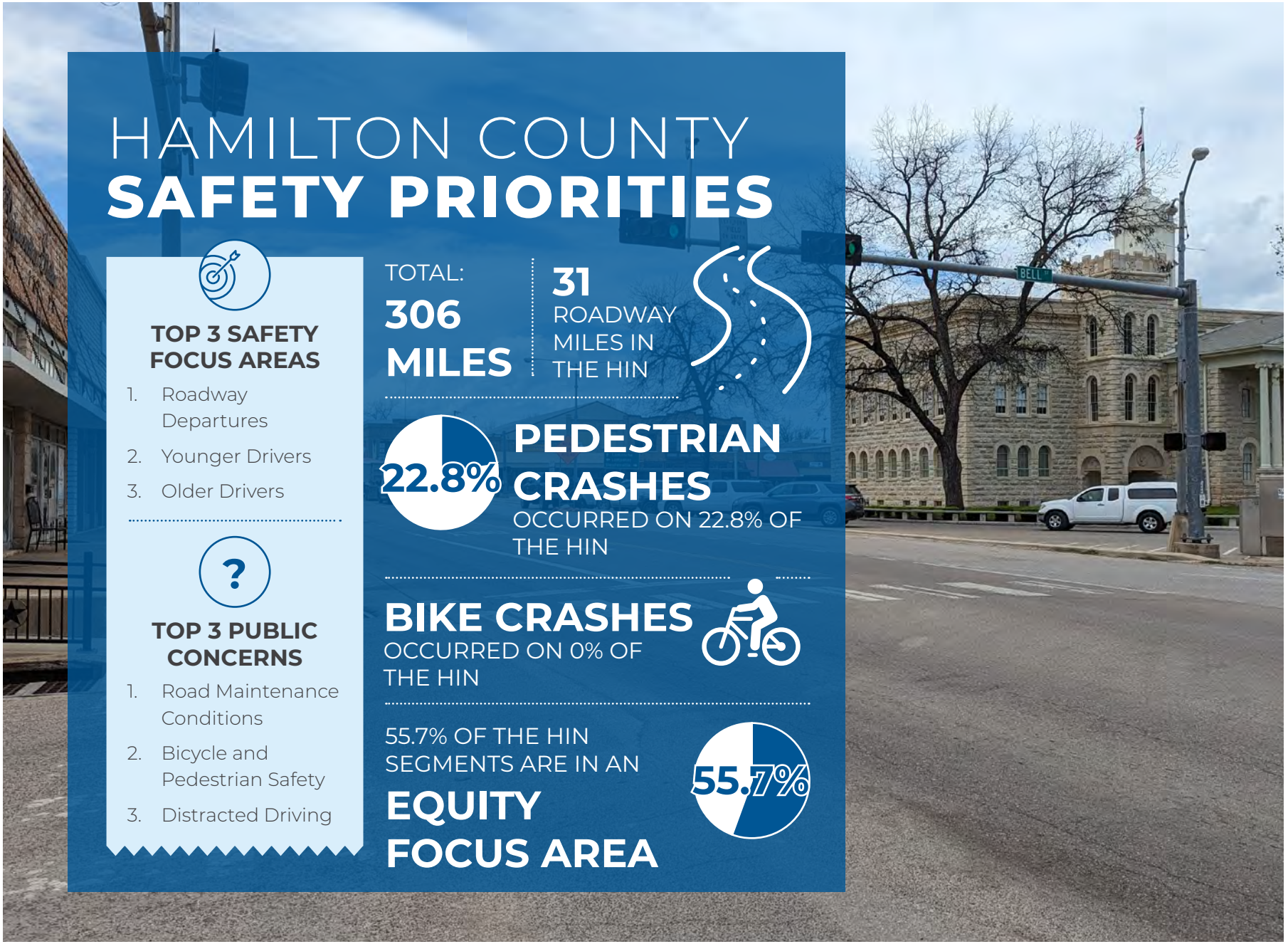
The graphic to the right summarizes Hamilton County's safety priorities and summary data about the county's High Injury Network (HIN).

HAMILTON COUNTY KA CRASH TOTALS BY YEAR



HAMILTON COUNTY AND CENTRAL TEXAS KA CRASH RATES BY YEAR





HAMILTON COUNTY
SAFETY PRIORITIES

TOP 3 SAFETY FOCUS AREAS

1. Roadway Departures
2. Younger Drivers
3. Older Drivers

TOP 3 PUBLIC CONCERNS

1. Road Maintenance Conditions
2. Bicycle and Pedestrian Safety
3. Distracted Driving

TOTAL:
306 MILES

31 ROADWAY MILES IN THE HIN

22.8%

PEDESTRIAN CRASHES
OCCURRED ON 22.8% OF THE HIN

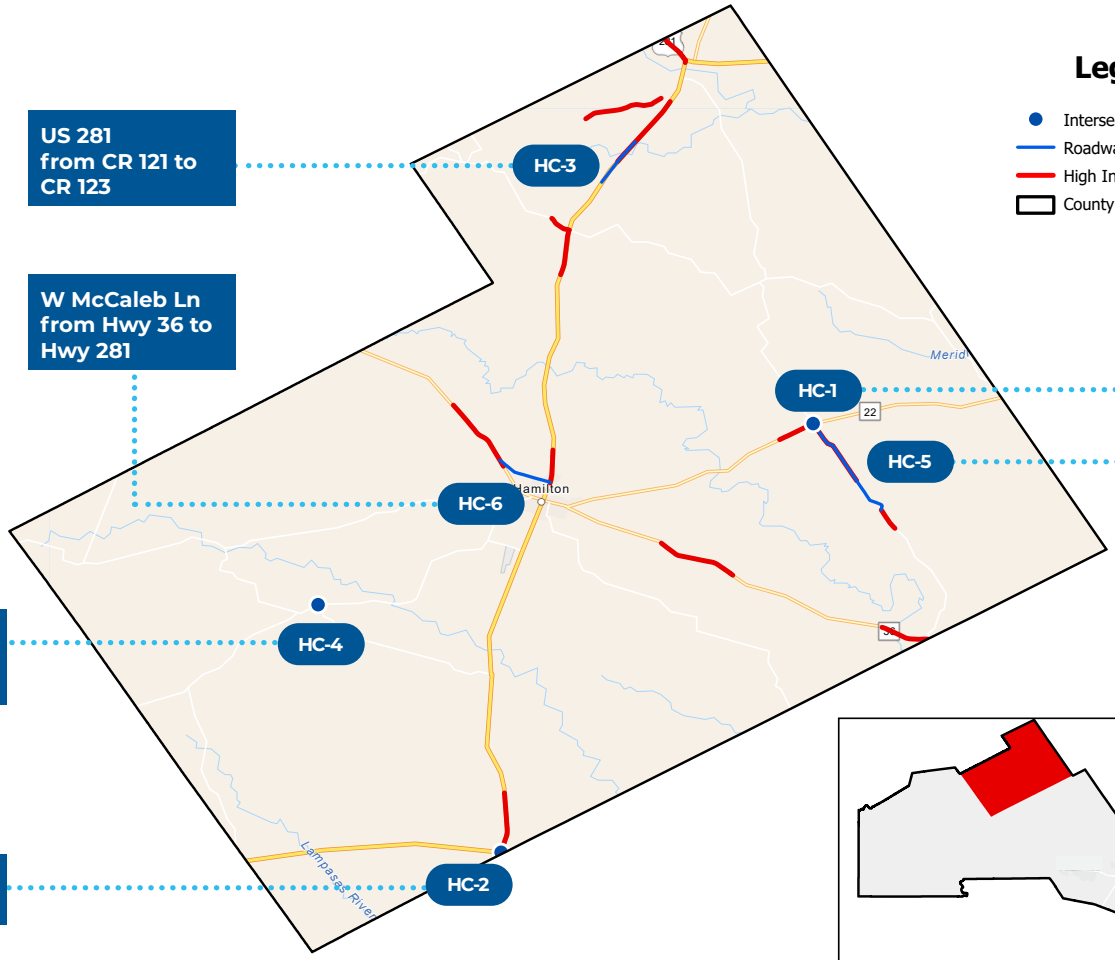
BIKE CRASHES
OCCURRED ON 0% OF THE HIN

55.7% OF THE HIN SEGMENTS ARE IN AN

EQUITY FOCUS AREA

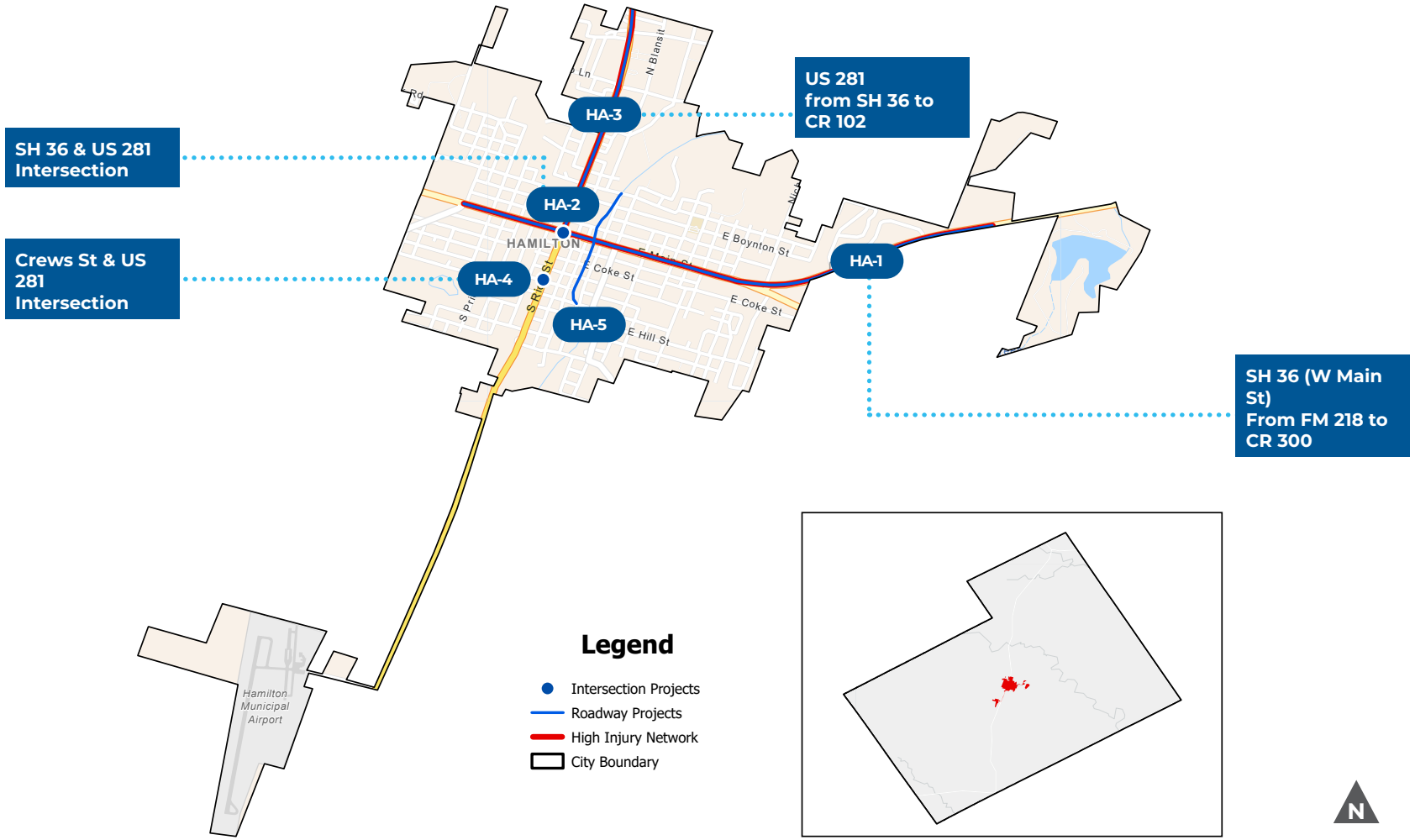
55.7%

HAMILTON COUNTY
ROADWAY SAFETY PROJECTS



Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
HC-1 **FM 1602 & SH 22** Intersection	Yes	Intersection	50.5	Intersection at the bottom of a hill with stop control along FM 1602, speed limit Is 60 mph.	4 total KAB crashes at this intersection.	Signage and striping enhancements at intersection to improve awareness of intersection, sight distance improvements.
HC-2 **US 281 & US 84** Interchange	Yes	Intersection	36.5	Unconventional grade separated interchange with forked ramps for turning vehicles, right at border of county. TxDOT project planned at this location for 2029-2034.	3 A crashes within interchange.	Demonstration project focused on enhanced striping and signing at interchange conflict points.
HC-3 **US 281** from CR 121 to CR 123	Yes	Speed Management	30	2 lane US highway near Honey Branch water crossing, rumble strips and striping present	1 wrong-way K crash, 2 head-on A crashes.	Demonstration project focused on enhanced striping, signing, and delineation in vicinity of creek crossing.
HC-4 **FM 2005 & FM 221** Intersection	No	Intersection	25	Unsignalized intersection, merging traffic from multiple directions with combination of stop and yield control at approaches.	1 A crash at this location.	Intersection traffic control reconfiguration, potential roundabout location, warning signage.
HC-5 **FM 1602** from SH 22 to Pleasant Valley Rd	Yes	Roadway Departure	23.5	60 mph speed limit with two travel lanes, no shoulders.	2 A crashes, both roadway departure related.	Add rumble strips and shoulders, enhance delineation and striping along roadway.
HC-6 **W McCaleb Ln** from Hwy 36 to Hwy 281	No	Operations-focused	22	Unpaved dirt road with minimal signing and no shoulder west of Old Stephenville Road.	2 B crashes.	Repaving of road along with adding striping and signage.

CITY OF HAMILTON
ROADWAY SAFETY PROJECTS



Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
HA-1 **SH 36 (W Main St)** from FM 218 to CR 300	Yes	Speed Management	41	2 travel lanes with speed limit of 30 mph through town center. Aerials show lots of truck traffic. Project sponsor noted high speeds from semi trucks traveling on this road through town, and several busy cross streets.	3 A crashes, 2 B crashes, all three A crashes were speeding related.	Distracted driving behavioral countermeasures, increased enforcement, traffic calming focused signing and striping.
HA-2 **SH 36 & US 281** Intersection	Yes	Intersection, Operations-focused	40.5	Intersection of 2 major highways, fairly narrow roads with heavy truck traffic. Some trucks currently bypass this intersection and travel on other routes around the downtown square. With limited widths, turning trucks often force all other traffic to stop.	1 B crash.	Signal timing and coordination along US 281 and SH 36, signing and striping to guide truck turning movements and other wayfinding needs.
HA-3 **US 281** from SH 36 to CR 102	Yes	Intersection, Operations-focused	30.5	Major highway with commuter and large vehicle traffic. There is a large influx of traffic on Fridays and Saturdays, when traffic can back up for more than a mile. Project sponsor also noted it is difficult to cross at crosswalks due to striping condition.	8 crashes, 1 of which was classified as involving a truck.	Signal timing change to reduce queuing, turn lane capacity enhancements, potential corridor study to identify specific improvement locations for operations and safety.
HA-4 **Crews St & US 281** Intersection	No	Pedestrian-focused, School Operations	23.5	Intersection that crosses major highway, speed limit along US 281 is 35 mph (25mph during school hours). Intersection located 2 blocks away from schools. Project sponsor also noted issues with speeding and distracted driving.	No reported KAB crashes at this location.	Enhance pedestrian crossing with signing, striping, or pedestrian signal. Provide speed feedback signs at approaches along corridor and increase enforcement for distracted driving and speeding.
HA-5 **Hike and Bike trail** along Pecan Creek E Standifer St to E Gentry St	No	Bicycle-focused, Pedestrian-focused	21	Hike and Bike Trail runs along Pecan Creek. Existing trail crossings have basic crosswalk markings and warning signage, but these countermeasures are faded in some locations. Some use of the trail occurs in dusk and at night.	No reported KAB crashes along this trail.	Enhance crosswalk markings and upgrade warning signage protection at trail crossings. Improve trail approach and crosswalk visibility for oncoming drivers.

LAMPASAS COUNTY

CRASH TOTALS AND RATES

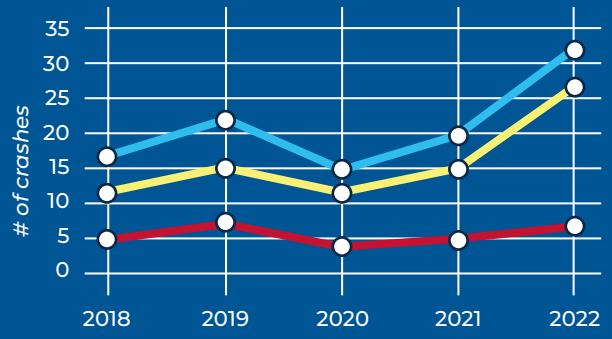
From the years 2018 to 2022, Lampasas County had a total of 106 fatal and serious injury (KA) crashes. In 2022, a total of 26 serious injury crashes were recorded in Lampasas County, making it the year with the highest number of serious injury crashes. In terms of fatal crashes, 2019 had the highest total of any year with 7 crashes. From 2018 to 2022, Lampasas County saw a year-over-year increase in the total number of KA crashes in every year except 2020. Overall from 2018 to 2022, Lampasas County's total number of KA crashes doubled.

Serious injury crashes occurred more frequently than fatal crashes, at an average ratio of 2.93:1. The graphs below show the annual number of fatal and serious injury crashes within Lampasas County from 2018 through 2022, as well as a comparison of Lampasas County KA crash rates to regionwide crash rates.

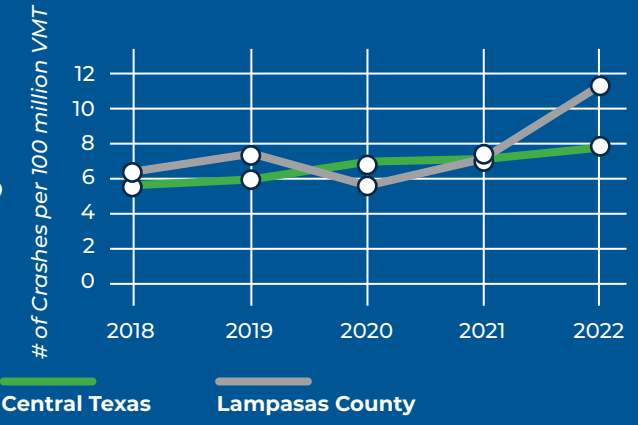
For the years 2018 to 2022, the rate of KA crashes per 100 million vehicle miles traveled (VMT) were calculated for Lampasas County and compared to Central Texas's crash rates. Regionwide crash rates have been lower than Lampasas County rates within the five-year study window in every year except 2020.

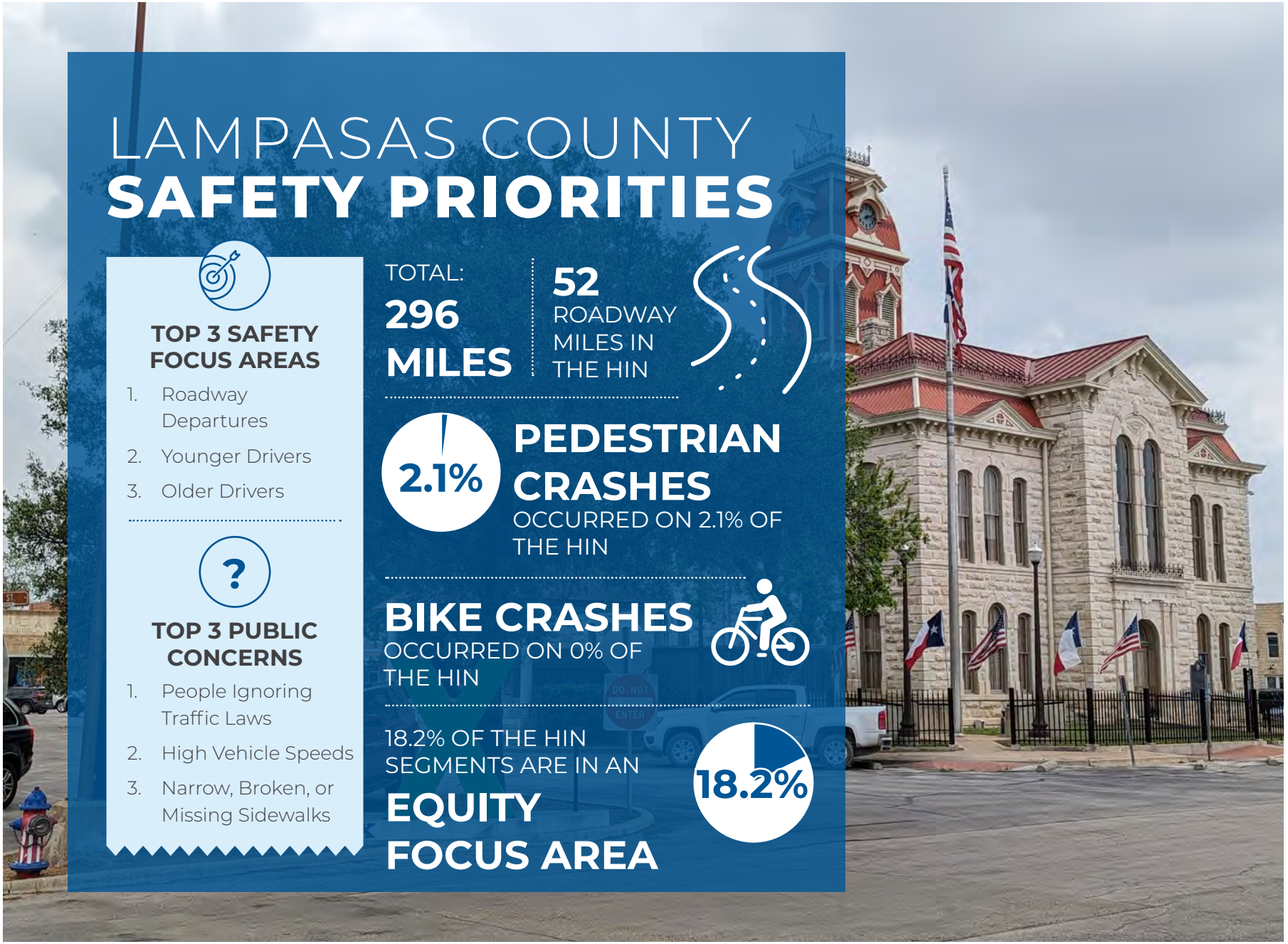
The graphic to the right summarizes Lampasas County's safety priorities and summary data about the county's High Injury Network (HIN).

LAMPASAS COUNTY KA CRASH TOTALS BY YEAR



LAMPASAS COUNTY AND CENTRAL TEXAS KA CRASH RATES BY YEAR





LAMPASAS COUNTY
SAFETY PRIORITIES

TOP 3 SAFETY FOCUS AREAS

1. Roadway Departures
2. Younger Drivers
3. Older Drivers

TOP 3 PUBLIC CONCERNS

1. People Ignoring Traffic Laws
2. High Vehicle Speeds
3. Narrow, Broken, or Missing Sidewalks

TOTAL:
296 MILES

52 ROADWAY MILES IN THE HIN

2.1%

PEDESTRIAN CRASHES
OCCURRED ON 2.1% OF THE HIN

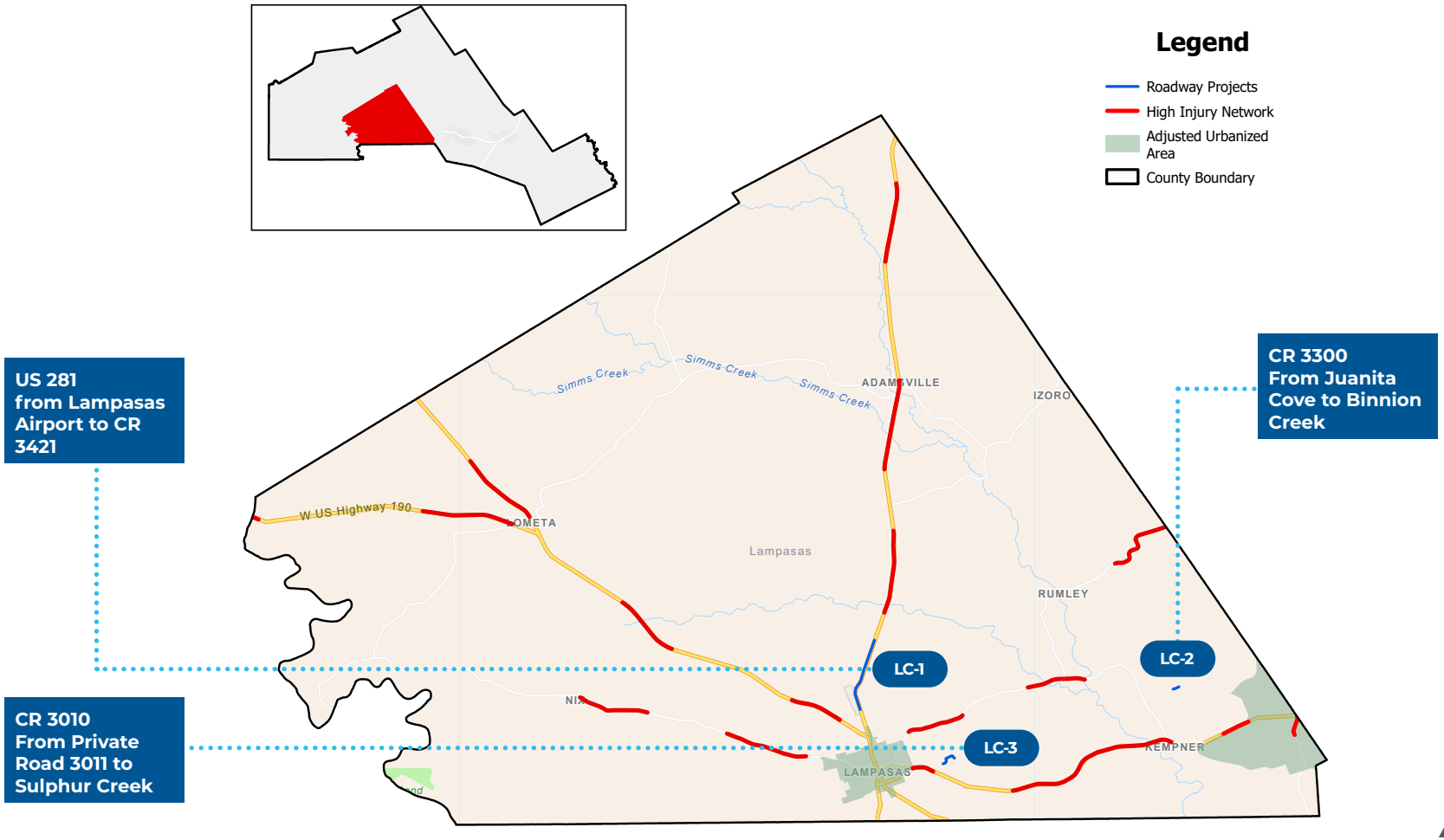
BIKE CRASHES
OCCURRED ON 0% OF THE HIN

18.2%

18.2% OF THE HIN SEGMENTS ARE IN AN

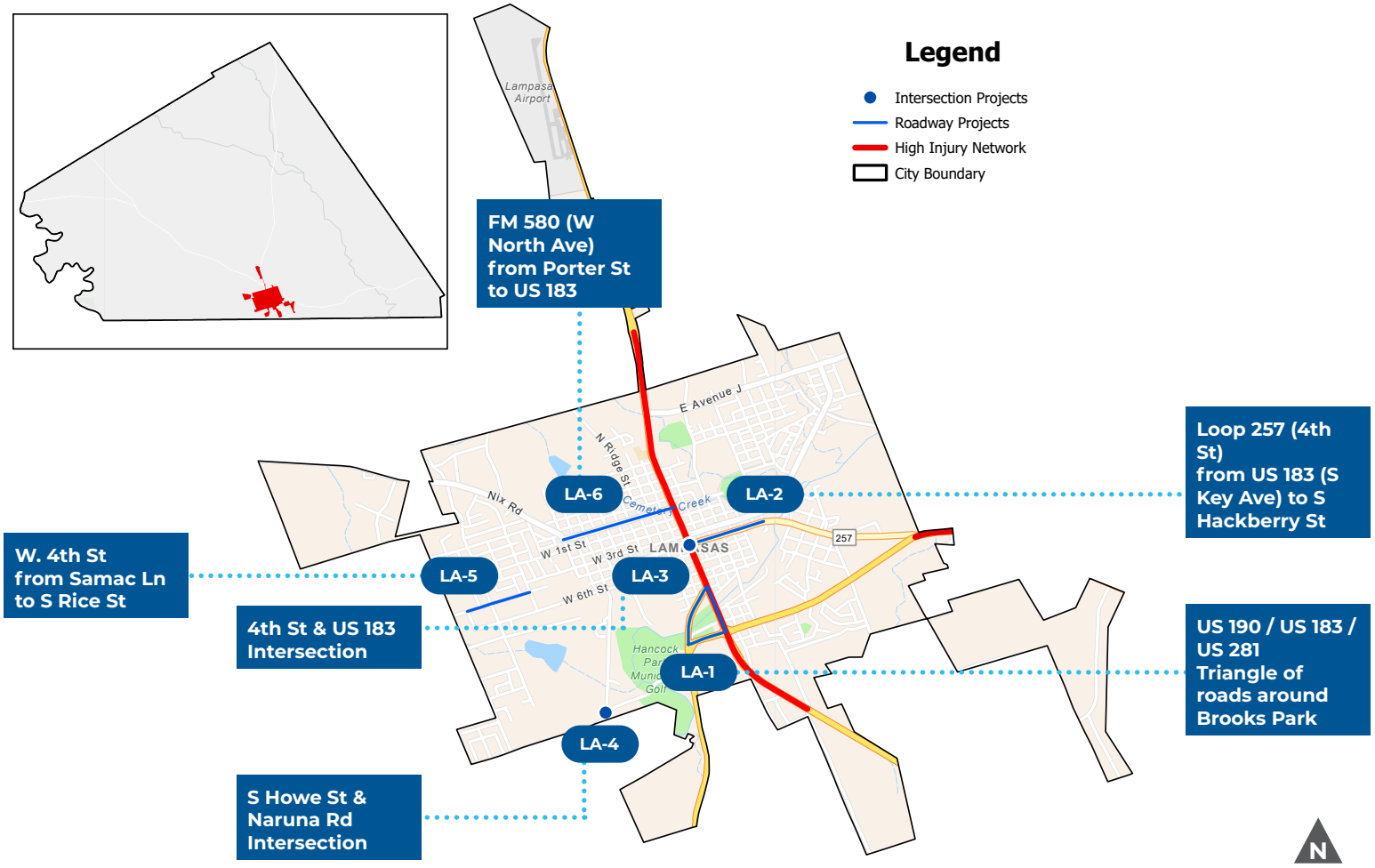
EQUITY FOCUS AREA

LAMPASAS COUNTY
ROADWAY SAFETY PROJECTS



Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
LC-1 **US 281** from Lampasas Airport to CR 3421	No	Intersection, Speed Management	18.5	US 281 speed limit is 75 mph, and sight distance limitations on nearby roads make turning onto US 281 difficult due to proximity to bridge over railroad. TxDOT project planned at this location for 2025-2028.	4 crashes, 3 of which caused by speeding.	Intersection sight distance improvements, speed reduction through signage, advance warning, and pavement markings.
LC-2 **CR 3300** from Juanita Cove to Binnion Creek	No	Roadway Departure	13	Paved road without striping or shoulder, trees on inside of curve limit sight distance.	2 B crashes - roadway departure. Note 1 crash occurred in 2023.	Curve signing and delineation, potential superelevation modifications.
LC-3 **CR 3010** from Private Road 3011 to Sulphur Creek	No	Roadway Departure	11	Unpaved road with frequent driveways along curved section of roadway.	3 B crashes - roadway departure. All occurred in 2023.	Curve signing and delineation, potential superelevation modifications.

CITY OF LAMPASAS
ROADWAY SAFETY PROJECTS



Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
LA-1 **US 190 / US 183 / US 281** Triangle of roads around Brooks Park	Partial	Intersection, Operations-focused	36	Triangular section of roads, five lanes with center turn lane and left turn and right turn lanes for US 183 and US 190. Lots of access desired to Brooks Park.	12 crashes, 9 of which are at intersections or intersection related.	Signal timing changes and coordination, intersection restriping and guide signage.
LA-2 **Loop 257 (4th St)** from US 183 (S Key Ave) to S Hackberry St	No	Intersection, Pedestrian-focused	29.5	Several driveways along this corridor, speed limit 30 mph, two travel lanes with sidewalks on either side, lacking crosswalks along much of corridor.	3 B crashes, mixed contributing factors.	Increase crosswalk density and visibility, verify and improve intersection sight distance where needed.
LA-3 **4th St & US 183** Intersection	Yes	Intersection, Operations-focused	24.5	Existing traffic signal and crosswalks/ sidewalks at intersection.	1 B crash, distracted driving.	Signal timing changes and signing updates.
LA-4 **S Howe St & Naruna Rd** Intersection	No	School Operations, Speed Management	22	Unsignalized T intersection with desire for extension of road to provide high school access.	No reported KAB crashes.	Road extension to High school, including addition of pedestrian facilities.
LA-5 **W. 4th St** from Samac Ln to S Rice St	No	Drainage, Pedestrian-focused	21	Road located adjacent to school and residential neighborhood. Sidewalks on cross streets but none along 4th Street.	No reported KAB crashes.	Install sidewalks along 4th Street and add crosswalks and signage, conduct drainage study and implement identified improvements.
LA-6 **FM 580 (W North Ave)** from Porter St to US 183	No	Pedestrian-focused, Speed Management	21	two travel lanes with shoulders on either side for parking and walking or biking. Residential driveways along corridor. 35 mph speed limit.	1 B crash.	Add pedestrian infrastructure and signage and striping focused on speeding reduction.

MILAM COUNTY

CRASH TOTALS AND RATES

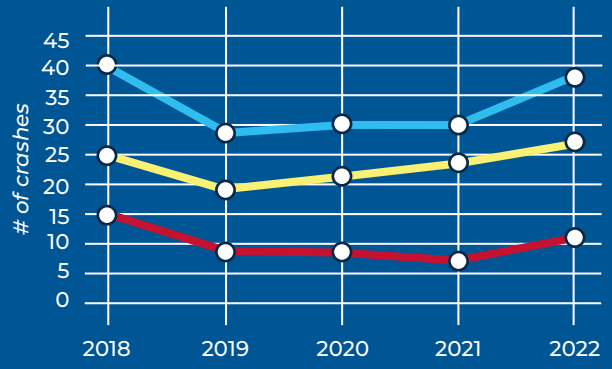
From the years 2018 to 2022, Milam County had a total of 166 fatal and serious injury (KA) crashes. In 2022, a total of 27 serious injury crashes were recorded in Milam County, making it the year with the highest number of serious injury crashes. In terms of fatal crashes, 2018 had the highest total overall with 15 crashes. From 2018 to 2022, Milam County saw a slight overall decrease in the total number of KA crashes.

Serious injury crashes occurred more frequently than fatal crashes, at an average ratio of 2.25:1. The graphs below show the annual number of fatal and serious injury crashes within Milam County from 2018 through 2022, as well as a comparison of Milam County KA crash rates to regionwide crash rates.

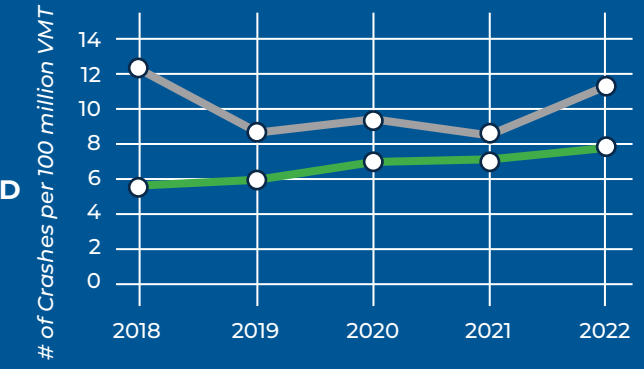
For the years 2018 to 2022, the rate of KA crashes per 100 million vehicle miles traveled (VMT) were calculated for Milam County and compared to Central Texas's crash rates. Regionwide crash rates have consistently been lower than Milam County rates within the five-year study window.

The graphic to the right summarizes Milam County's safety priorities and summary data about the county's High Injury Network (HIN).

MILAM COUNTY KA CRASH TOTALS BY YEAR



MILAM COUNTY AND CENTRAL TEXAS KA CRASH RATES BY YEAR



MILAM COUNTY
SAFETY PRIORITIES

TOP 3 SAFETY FOCUS AREAS

1. Roadway Departures
2. Younger Drivers
3. Occupant Protection

TOP 3 PUBLIC CONCERNS

1. Poorly Maintained Roads
2. Narrow, Broken, or Missing Sidewalks
3. Red Light Running / Not Stopping at Stop Signs

TOTAL:
378 MILES

73 ROADWAY MILES IN THE HIN

12.6%

PEDESTRIAN CRASHES
OCCURRED ON 12.6% OF THE HIN

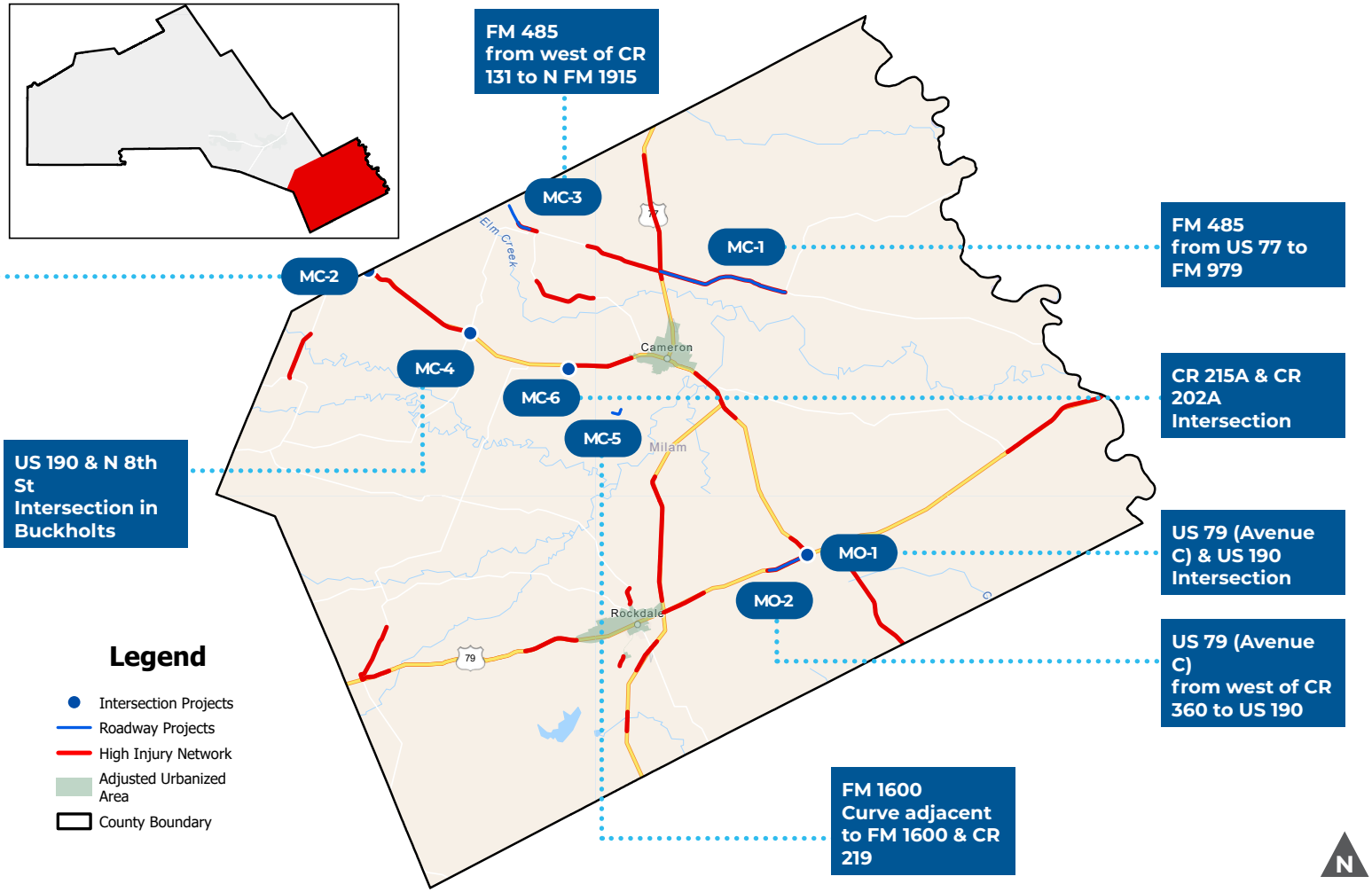
BIKE CRASHES
OCCURRED ON 4.7% OF THE HIN

91.0% OF THE HIN SEGMENTS ARE IN AN

EQUITY FOCUS AREA

91.0%

MILAM COUNTY AND CITY OF MILANO
ROADWAY SAFETY PROJECTS



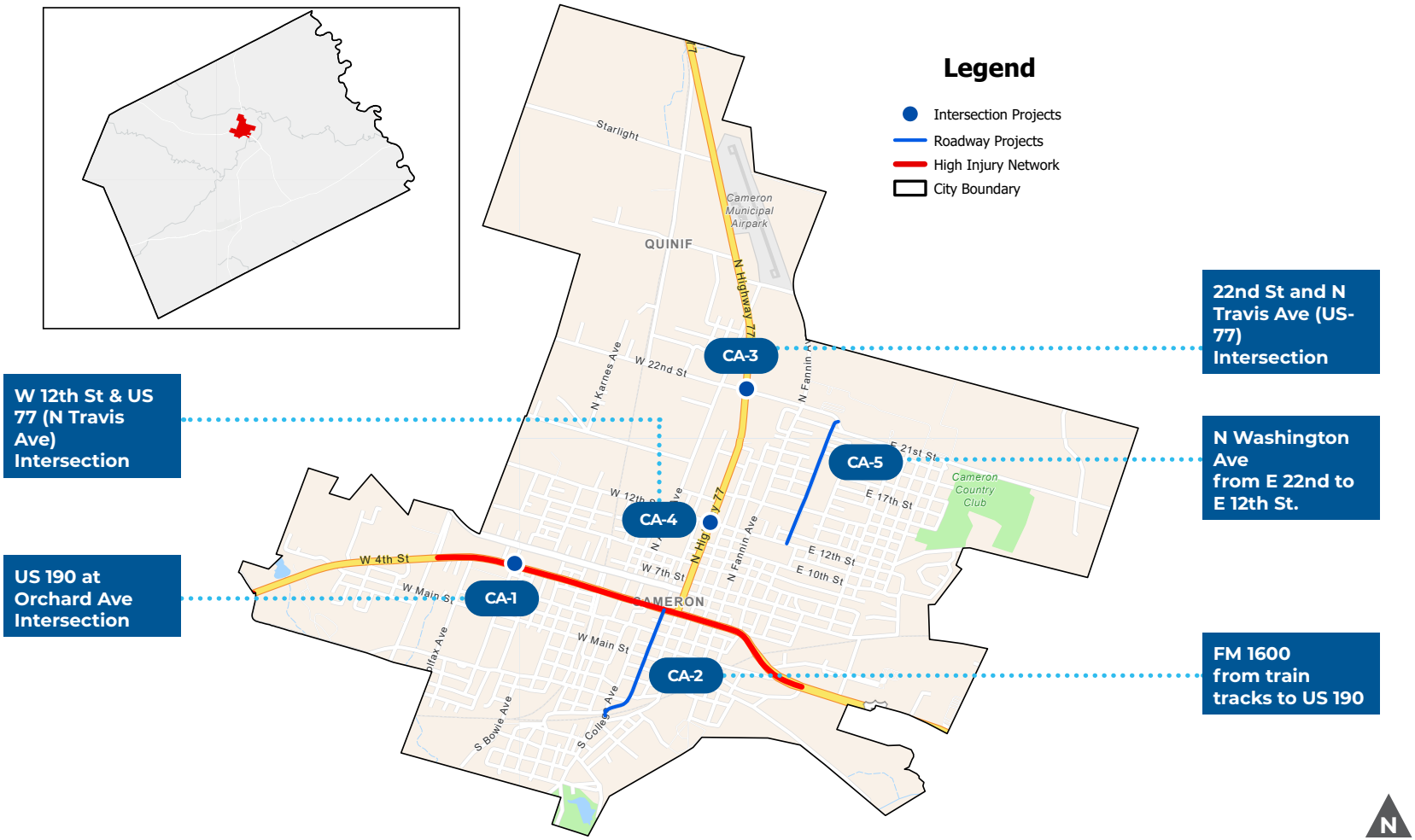
Milam County

Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data (2018-2022)	Potential Project Details
MC-1 **FM 485** from US 77 to FM 979	Yes	Intersection, Speed Management	38	This corridor consists of high speed roads with several curves, many rural intersections. TxDOT plans to add passing lanes to this corridor. TxDOT project planned at this location for 2027.	13 crashes are roadway departure related, 17 at intersections.	Curve delineation, speed reduction, intersection improvements, grade separation at major intersections, addition of passing lanes.
MC-2 **US 190 & Railroad Underpass** in Bowers, near CR 125	Yes	Drainage	30.5	Two-lane highway under a railroad. The roadway is situated between two hills, the railroad has downspouts/drainage directly flowing onto hills and roadway. Guardrails and support structures on either side.	1 serious injury crash at underpass - alcohol involved.	Drainage study and improvements to underpass.
MC-3 **FM 485** from west of CR 131 to N FM 1915	Yes	Roadway Departure, Speed Management	28	Two-lane highway, rumble strips present, vertical crest curve near east end of horizontal curve.	1 K crash and 1 A crash, both single vehicle crashes.	Curve delineation and warning, speed reduction.
MC-4 **US 190 & N 8th St** Intersection in Buckholts	No	Pedestrian-focused	26	There is a signed school crosswalk without any other supporting protection for pedestrians. No sidewalks in town providing access along US 190 or to school. US 190 speed limit through town is 50 mph (with 35 mph school zone).	No KAB crashes at this location.	Lower speed limit and school zone speed limit along US 190 through town, install enhanced pedestrian crossing protection signing or striping, install sidewalks along US 190 and 8th St to provide school access.
MC-5 **FM 1600** Curve adjacent to FM 1600 & CR 219	No	Roadway Departure, Speed Management	15	Sharp curve with two intersecting streets, multiple conflict points.	3 B crashes, 2 with "other" as primary contributing factor.	Curve delineation and warning, speed reduction.
MC-6 **CR 215A & CR 202A** Intersection	No	Intersection	13	Unpaved roads leading to T intersection. CR 202A widens at intersection approach.	3 B crashes total – 2 intersection related, 1 speeding. Note 2 of these crashes occurred in 2023.	Intersection signing, striping, and visibility enhancements, advance warning signing for speed management.

City of Milano

Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data (2018-2022)	Potential Project Details
MO-1 **US 79 (Avenue C) & US 190** Intersection	Yes	Drainage, Intersection	56	T intersection with high speeds coming from US 190. TxDOT project planned at this location for 2025.	Crash caused by speeding or disregard of signage.	Reduce speed limit, drainage improvements, intersection visibility improvements.
MO-2 **US 79 (Avenue C)** from west of CR 360 to US 190	Yes	Roadway Departure	45.5	Five lane corridor with middle TWLTL at US 190, narrows to two lanes further west with wide shoulders and S curve.	8 one motor vehicle crashes (5 at nighttime), 1 pedestrian crash.	Nighttime driving behavioral project, curve delineation, speed management.

CITY OF CAMERON
ROADWAY SAFETY PROJECTS



Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
CA-1 **US 190 at Orchard Ave** Intersection	Yes	Drainage, Intersection	71.5	Orchard intersection appears to be a specific hotspot along this corridor. Lots of truck traffic and pedestrian use observed.	2 K (1 pedestrian) and 1 A crash near Orchard Ave intersection.	Intersection Conflict Warning System or pedestrian infrastructure improvements at Orchard Ave, traffic calming for traffic coming into town, drainage study and improvements near railroad crossing, lowering speed limit.
CA-2 **FM 1600** from train tracks to US 190	No	Operations-focused	31	Current through traffic northbound has to jog over one block to continue north on SH 77.	No KA crash history along this segment	Right-of-way acquisition, roadway realignment.
CA-3 **22nd St and N Travis Ave (US-77)** Intersection	No	Pedestrian-focused	30	No crosswalks, unclear sidewalks, signalized intersection.	Some angle crashes but no KA crashes.	Sidewalk and crosswalk improvements at intersection.
CA-4 **W 12th St & US 77 (N Travis Ave)** Intersection	No	Intersection, Pedestrian-focused	27	Intersection currently has an overhead beacon and stop control along 12th St. Crosswalks and ramps not connected to sidewalks. Nearby trees may limit sight distance.	2 B crashes relating to not being able to stop or yield.	Intersection improvements for pedestrian safety, intersection sight distance improvements, sidewalk connectivity project.
CA-5 **N Washington Ave** from E 22nd to E 12th St.	No	Pedestrian-focused	25	No crashes along corridor, but located between two schools.	No crashes along corridor.	Construction of sidewalk and/or trails through neighborhood and around schools.

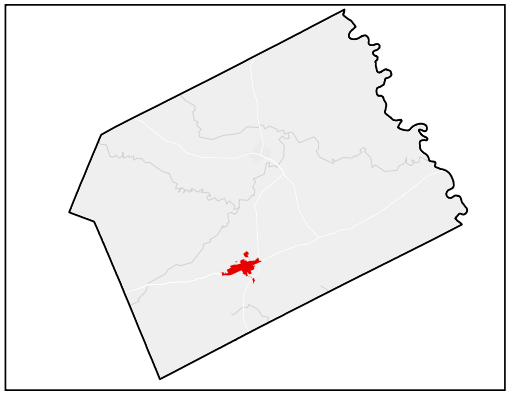
CITY OF ROCKDALE
ROADWAY SAFETY PROJECTS

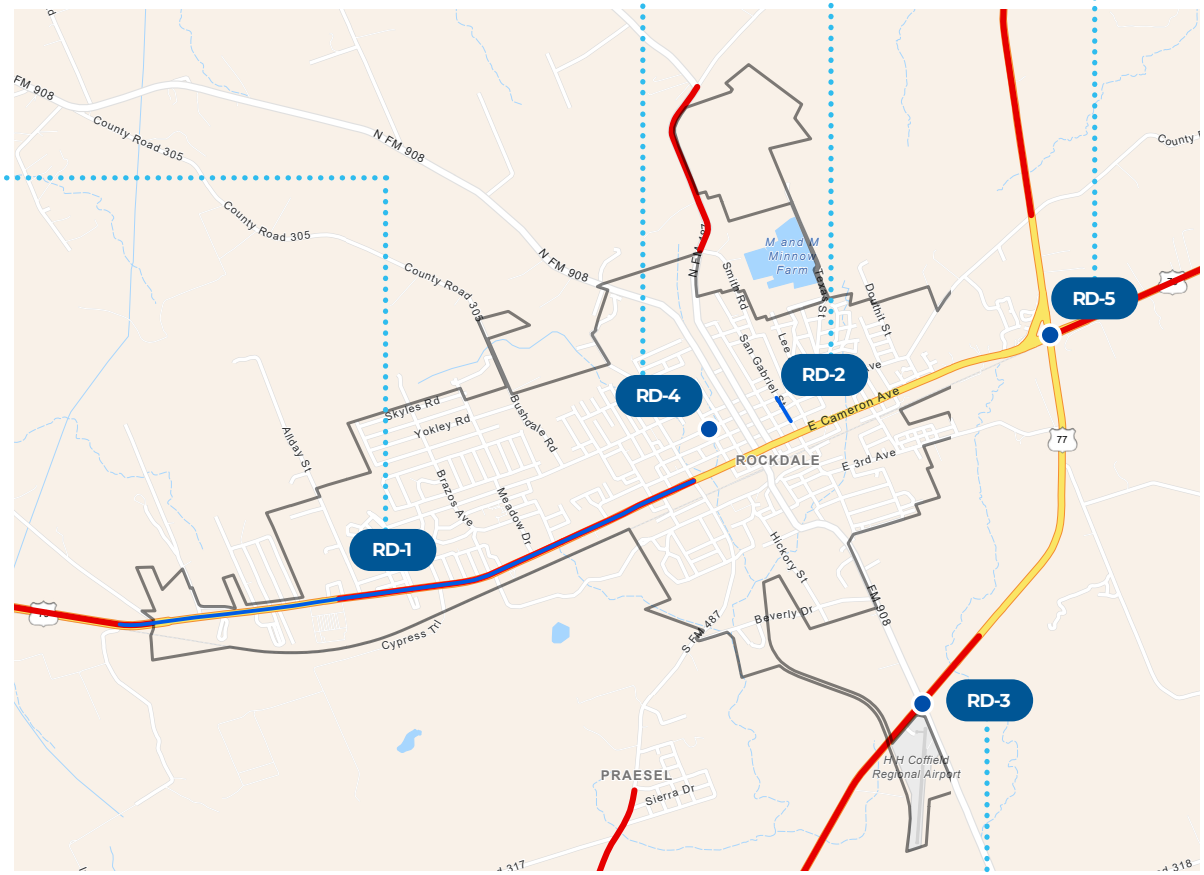
Belton Ave & Scarborough St Intersection

San Gabriel St From Belton Ave to Bell Ave

Cameron Ave & US 77 Intersection

US 79 from Western Hills Rd to Wilcox St





FM 908 (Main St) & US 77 Intersection

Legend

- Intersection Projects
- Roadway Projects
- High Injury Network
- City Boundary

N

Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data *(2018-2022)*	Potential Project Details
RD-1 **US 79** from Western Hills Rd to Wilcox St	Yes	Pedestrian-focused, Speed Management	59	Wide street (US-79) running through the town. 14.5-foot TWLTL, 13-foot lanes. There are no bicycle facilities in this area. TxDOT project planned at this location for 2026.	Data shows there are 5 KA bike/ped related crashes here. Most of these crashes occurred in dark, nighttime conditions.	Pedestrian crossings, bike/ped focused improvements, speed calming, improved lighting.
RD-2 **San Gabriel St** from Belton Ave to Bell Ave	No	Intersection	45	No existing striping, minor approach yield control.	2 A crashes along San Gabriel Street (at Belton and at Bell), both intersection crashes.	Intersection signing, striping, and visibility enhancements.
RD-3 **FM 908 (Main St) & US 77** Intersection	Yes	Intersection	43.5	Existing overhead beacon is a blinking flashing yellow along HWY 77 and stop signs with blinking flashing red along FM 908.	Crashes caused by failure to yield right-of-way.	Additional intersection warning signs, speed limit reduction, improve sight distance or intersection angle.
RD-4 **Belton Ave & Scarborough St** Intersection	No	Intersection	38	No existing striping, minor approach yield control, potential sight distance limitation.	2 crashes (A, B) at Belton Ave and Scarborough, both intersection crashes.	Intersection signing, striping, and visibility enhancements.
RD-5 **Cameron Ave & US 77** Intersection	Partial	Intersection	23	Partial interchange with vertical geometry challenges and skew angles limiting sight distance onto US 77.	No K or A crash history at this intersection, 2 of 3 crashes are not intersection related.	Interchange reconfiguration to improve sight distance.

Nighttime Driving Behavioral Pilot Program

Introduction and Addressing the Need

From 2018 to 2022 Milam County had a total of 2,012 crashes. Of those crashes, 753 (37.4 percent) occurred during nighttime. The table on the right shows the comparison to other counties in Central Texas.

Milam County has the highest percentage of nighttime crashes of the seven Central Texas counties. Implementation of a nighttime driving behavioral program can educate the public and reduce the number of crashes. Stakeholders have emphasized the need to address these nighttime crashes within Milam County.

Analysis

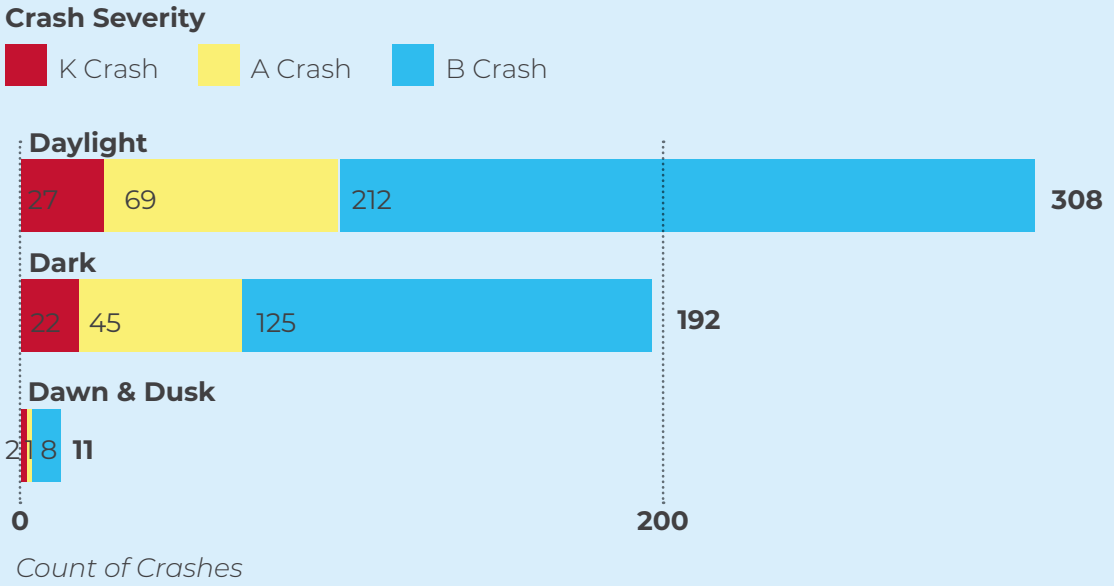
The project team analyzed Milam County crash data to identify nighttime crashes. For this analysis, nighttime crashes are defined as crashes occurring during the hours of dawn, dusk, and darkness.

The project team then looked at crash data from 2018 to 2022 for Milam County considering only KAB crashes. Milam County crash data was then separated by contributing factor. Using this data, the project team was able to identify prioritized categories in which a behavioral pilot program should focus.

Of the 753 nighttime crashes within Milam County from 2018 to 2022, 70 (9.3 percent) were KA crashes and 133 (17.6 percent) were B crashes. Daytime KAB crashes occurred at a frequency ratio of 1.5:1 compared to nighttime crashes. A large portion of these crashes occur on US Highway 79, State Highway 36, US Highway 77, FM 485, FM 486, FM 487, and FM 2095. The graph below displays the breakdown of all KAB crashes in Milam County by light condition.

County	Number of Daytime or Other Crashes	Number of Nighttime Crashes	Percent Likelihood of Nighttime Crash Occurring
Milam	1259	753	37.4%
Mills	319	161	33.5%
Bell	20129	9748	32.6%
Coryell	2942	1269	30.1%
Hamilton	450	194	30.1%
San Saba	280	114	28.9%
Lampasas	1138	419	26.9%

Total Crashes by Light Condition



The table on the right shows the breakdown of the top contributing factors for the KAB nighttime crashes in Milam County between the years 2018 and 2022.

Crash types are defined by the following:

- ***Speeding related:*** A crash is defined this way if law enforcement included one or more of the following as a contributing crash factor:
  - Speeding
  - Failure to stop or control speed
- ***Animal on road:*** A crash is defined this way when caused by an animal in the road, whether they hit the animal or swerved to avoid the animal.
- ***Impaired driving:*** A crash is defined this way if the crash involves at least one driver under the influence of alcohol or some other drug that impairs driving ability. This crash definition is met either through the use of applicable contributing factor code fields:
  - Intoxicated – alcohol or drugs
  - Had been drinking
  - Taking medication

Top Five Crash Types Contributing to Nighttime Driving Crashes in Milam County, 2018 to 2022

Contributing Factors	Number of Nighttime KA Crashes	Number of Nighttime B Crashes	Nighttime KAB Crashes	% Likelihood of KAB Crash with This Factor Occurring at Nighttime
Speeding Related	10	31	41	33.3%
Animal on Road	8	23	31	77.5%
Impaired Driving	8	19	27	67.5%
Distracted Driving	4	19	23	62.2%
Fatigued or Asleep	6	9	15	60.0%

- ***Distracted Driving:*** A crash is defined this way if the crash involved at least one driver who was distracted, inattentive, or using a cell phone. A crash is defined this way if law enforcement includes one or more of the following as a contributing crash factor:
  - Distraction in vehicle
  - Driver inattention
  - Cell/mobile phone use (Talking, texting, other)
- ***Fatigued or Asleep:*** A crash is defined this way if the crash involved at least one driver that was fatigued or asleep. A crash is defined this way if law enforcement included fatigued or asleep as a contributing crash factor.

Recommendations and Implementation Guidance

NHTSA released a document called "Countermeasures That Work: A Highway Safety Guide For State Highway Safety Offices." This document is a reference with which the project team based their recommendations.

The project team recommends that Milam County implements countermeasures for crashes caused by speeding (related), animals on roads, impaired driving, distracted driving, and fatigue/falling asleep.

The table on the following page outlines the Top Three countermeasures for nighttime crashes in Milam County.

Top Three Countermeasures for Nighttime Crashes in Milam County

Focused Crash Type	Countermeasure	Description	Cost	NHTSA's Effectiveness Star Rating (1-5)
Impaired Driving	Alcohol Ignition Interlocks	An alcohol ignition interlock device prevents a vehicle from starting or being operated unless the driver provides a breath sample with a blood alcohol concentration (BrAC) lower than a predetermined level, typically .02. These interlocks are often required as a condition of probation for individuals convicted of driving while impaired (DWI), ensuring that they cannot drive while under the influence of alcohol even after their driver's licenses have been reinstated.	Med	5
Speeding Related	Dynamic Speed Display	Unstaffed speed display devices, also known as speed feedback signs, can be either portable or permanently installed. They are designed to inform drivers if they are exceeding the speed limit and may encourage them to slow down. These signs, equipped with radar to detect speeds, can also give drivers the impression that their speeds are being monitored or that law enforcement is nearby. Another similar device is the portable changeable message sign (PCMS), which can be triggered by speeding and display a message such as "Slow Down Now."	Low	5
Fatigued or Asleep	Graduated Drivers' Licensing Intermediate License Nighttime Restrictions	Young and new drivers would face restrictions on nighttime driving.	Low	5

Stakeholders and key partners for this implementation include:

- Milam County residents
- Schools
- Commercial vehicle drivers
- Local advocacy groups
- Engineers/planners from TxDOT, Milam County, and local agencies

MILLS COUNTY

CRASH TOTALS AND RATES

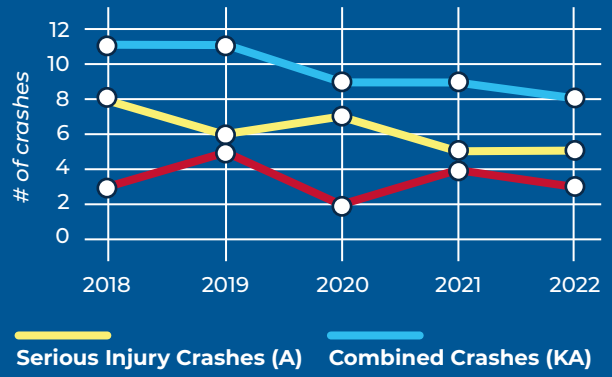
From the years 2018 to 2022, Mills County had a total of 48 fatal and serious injury (KA) crashes. In 2022, a total of 7 serious injury crashes were recorded in Mills County, making it the year with the highest number of serious injury crashes. In terms of fatal crashes, 2019 had the highest total overall with 5 crashes. From 2018 to 2022, Mills County's KA crashes decreased by 27.27 percent.

Serious injury crashes occurred more frequently than fatal crashes overall, at an average ratio of 1.82:1. The graphs below show the annual number of fatal and serious injury crashes within Mills County from 2018 through 2022, as well as a comparison of Mills County KA crash rates to regionwide crash rates.

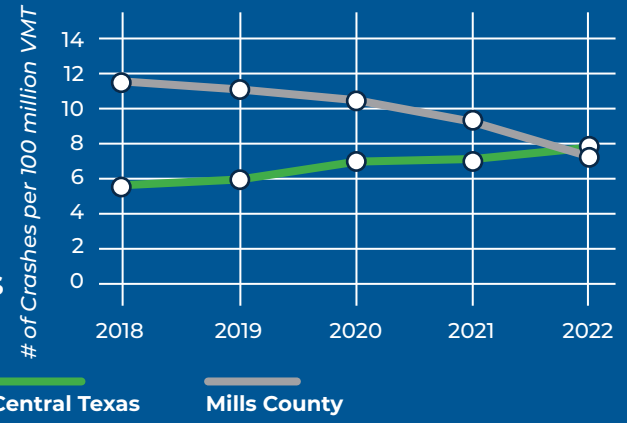
For the years 2018 to 2022, the rate of KA crashes per 100 million vehicle miles traveled (VMT) were calculated for Mills County and compared to Central Texas's crash rates. Central Texas crash rates have been lower than Mills County crash rates within the five-year study window every year except for 2022. While the crash rates for Central Texas increased each year from 2018 to 2022, Mills County experienced the opposite trend with crash rates decreasing each year from 2018 to 2022.

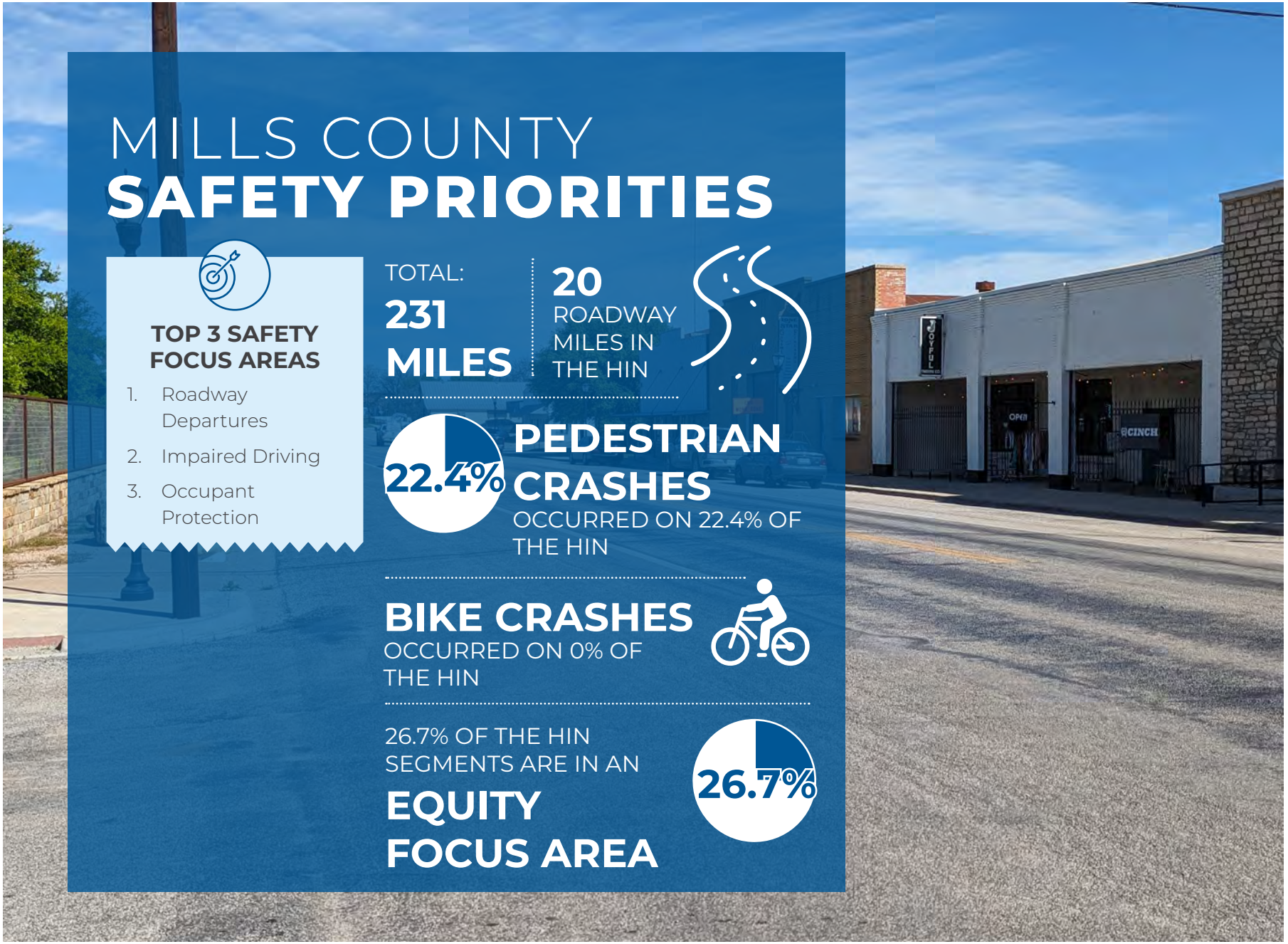
The graphic to the right summarizes Mills County's safety priorities and summary data about the county's High Injury Network (HIN).

MILLS COUNTY KA CRASH TOTALS BY YEAR



MILLS COUNTY AND CENTRAL TEXAS KA CRASH RATES BY YEAR





MILLS COUNTY
SAFETY PRIORITIES

TOP 3 SAFETY FOCUS AREAS

1. Roadway Departures
2. Impaired Driving
3. Occupant Protection

TOTAL:
231 MILES

20 ROADWAY MILES IN THE HIN

22.4%

PEDESTRIAN CRASHES
OCCURRED ON 22.4% OF THE HIN

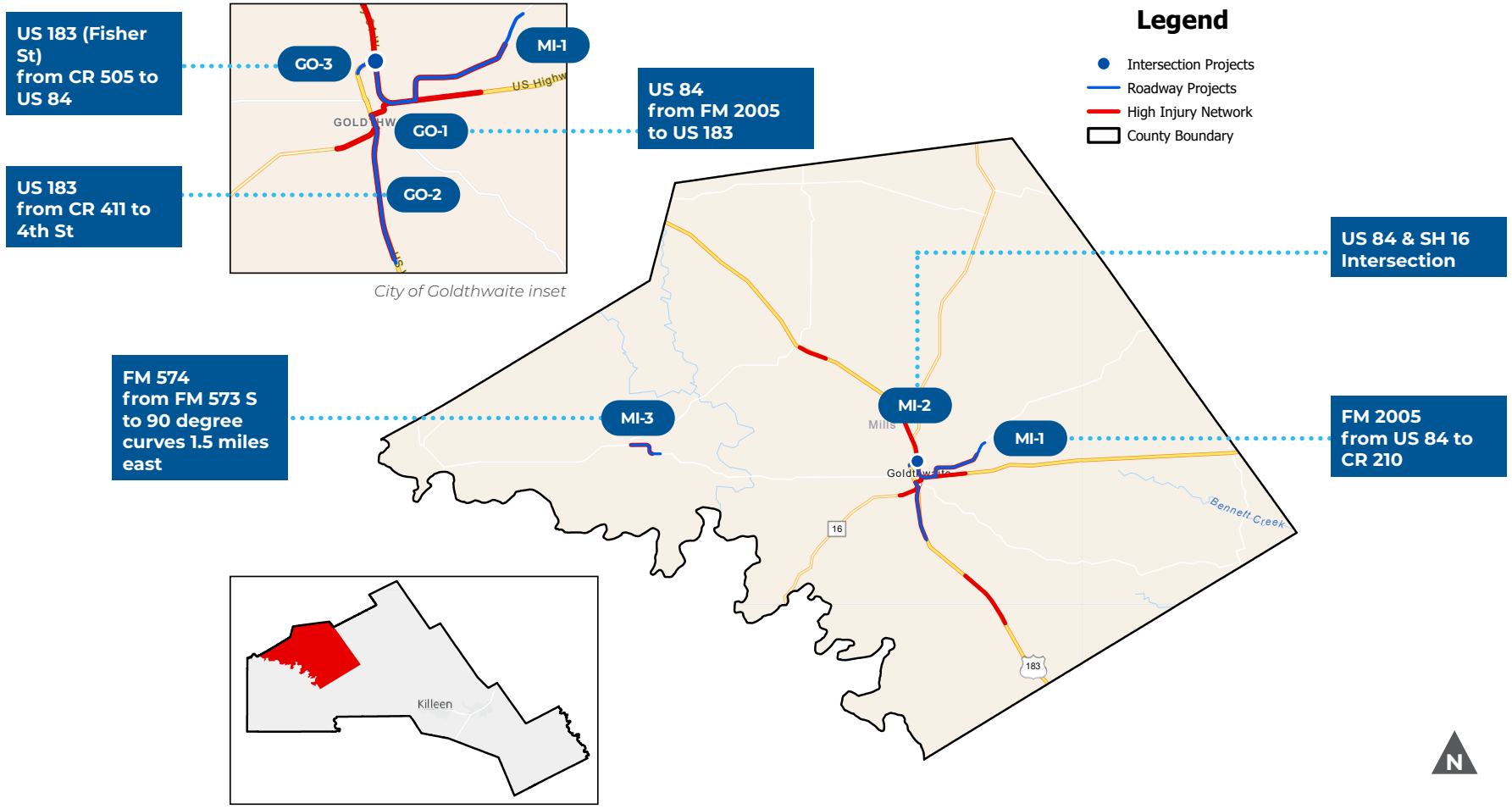
BIKE CRASHES
OCCURRED ON 0% OF THE HIN

26.7% OF THE HIN SEGMENTS ARE IN AN

EQUITY FOCUS AREA

26.7%

MILLS COUNTY AND CITY OF GOLDTHWAITE
ROADWAY SAFETY PROJECTS



Mills County

Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data (2018-2022)	Potential Project Details
MI-1 **FM 2005** from US 84 to CR 210	Yes	Speed Management	42.5	Two-lane highway, 60 mph speed limit with 40 mph advisory speed limit along curves, no shoulders.	K crash and A crashes, contributing factor unknown.	Enhanced delineation and signage at curve approaches, addition of road shoulder, traffic calming signage and striping.
MI-2 **US 84 & SH 16** Intersection	Yes	Intersection	37	SH 16 approach is stop controlled with warning signs and flashing beacons on signs and overhead. TxDOT project planned at this location for 2029-2034.	5 B crashes at this intersection.	Double post warning and stop signs at SH 16 approach.
MI-3 **FM 574** from FM 573 S to 90 degree curves 1.5 miles east	Yes	Roadway Departure, Speed Management	36.5	Two 90 degree curves along a high speed FM road without edge striping or road shoulders.	1 A crash from animal on road, and 2 B crashes with speeding as a factor.	Curve delineation edge striping, warning signs, road shoulder.

City of Goldthwaite

Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data (2018-2022)	Potential Project Details
CO-1 **US 84** from FM 2005 to US 183	Yes	Intersection, Speed Management	52.5	Challenging intersection geometry and tight, higher speed 90 degree curve. Vertical geometry challenges along Loop 15. Hillside limits curve sight distance.	3 K crashes and 1 A crash at intersections or along curve.	Roadway and intersection reconfigurations, enhanced speed reduction measures, and sight distance improvements.
CO-2 **US 183** from CR 411 to 4th St	Yes	Speed Management	37	Four-lane highway, speed limit 70 south of town dropping to 55 and then 40 when passing through Goldthwaite.	3 total KAB crashes, 2 A crashes had the contributing factor listed as failure to yield at different locations.	Beginning lower speed zones further south on US 183, sight distance improvements at side street and intersection approaches.
CO-3 **US 183 (Fisher St)** from CR 505 to US 84	No	Speed Management	29	Two-lane road with guardrails on either side at underpass location, major truck route.	No reported KAB crashes.	Warning signs, curve delineation, rumble strips.

SAN SABA COUNTY

CRASH TOTALS AND RATES

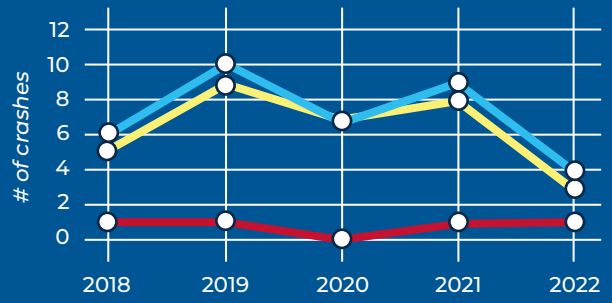
From the years 2018 to 2022, San Saba County had a total of 36 fatal and serious injury (KA) crashes. In 2019, a total of 9 serious injury crashes were recorded in San Saba County, making it the year with the highest number of serious injury crashes. There was never more than one fatal crash in any year in San Saba County. From 2018 to 2022, San Saba County's total number of KA crashes decreased by 33.3 percent.

Serious injury crashes occurred more frequently than fatal crashes, at an average ratio of 8.00:1. The graphs below show the annual number of fatal and serious injury crashes within San Saba County from 2018 through 2022, as well as a comparison of San Saba County KA crash rates to regionwide crash rates.

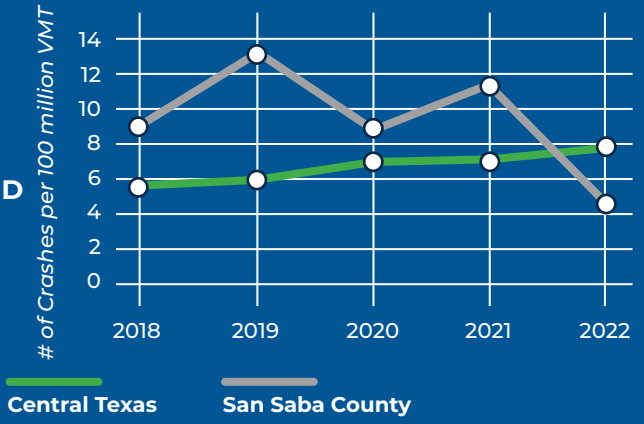
For the years 2018 to 2022, the rate of KA crashes per 100 million vehicle miles traveled (VMT) were calculated for San Saba County and compared to Central Texas's crash rates. Regionwide crash rates have been lower than San Saba County crash rates within the five-year study window in every year except for 2022.

The graphic to the right summarizes San Saba County's safety priorities and summary data about the county's High Injury Network (HIN).

SAN SABA COUNTY KA CRASH TOTALS BY YEAR



SAN SABA COUNTY AND CENTRAL TEXAS KA CRASH RATES BY YEAR



SAN SABA COUNTY
SAFETY PRIORITIES

TOP 3 SAFETY FOCUS AREAS

1. Roadway Departures
2. Speeding Related
3. Impaired Driving

TOTAL:
295 MILES

19 ROADWAY MILES IN THE HIN

23.5%

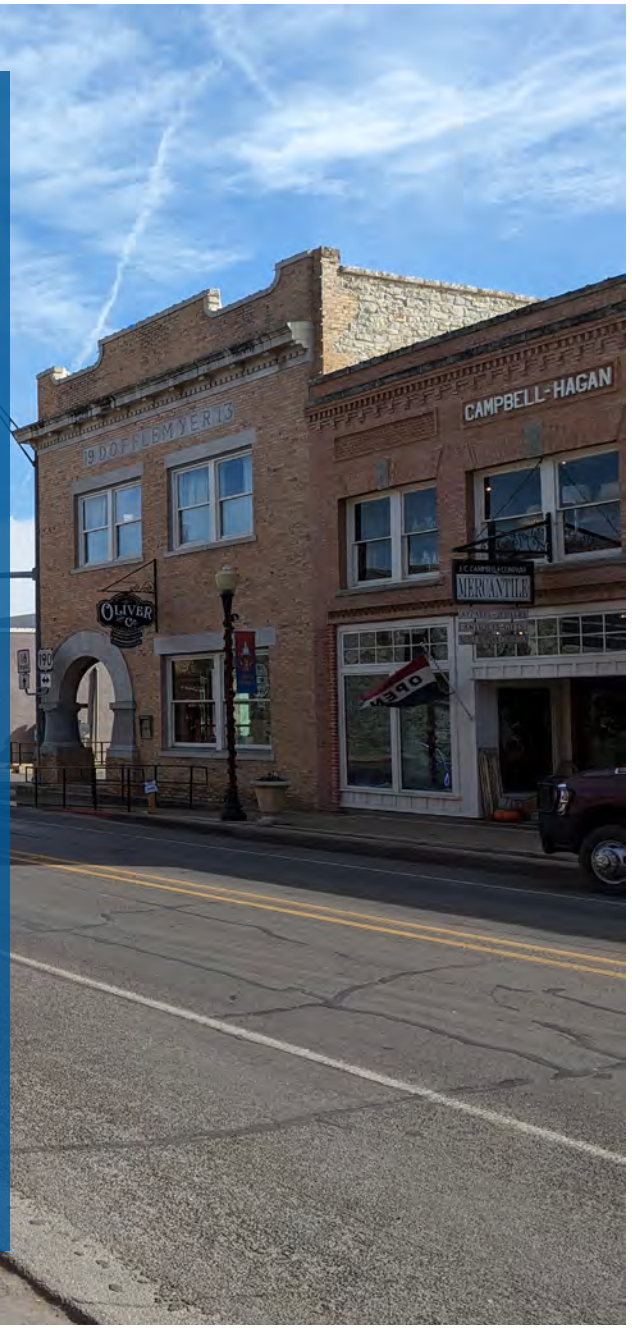
PEDESTRIAN CRASHES
OCCURRED ON 23.5% OF THE HIN

BIKE CRASHES
OCCURRED ON 0% OF THE HIN

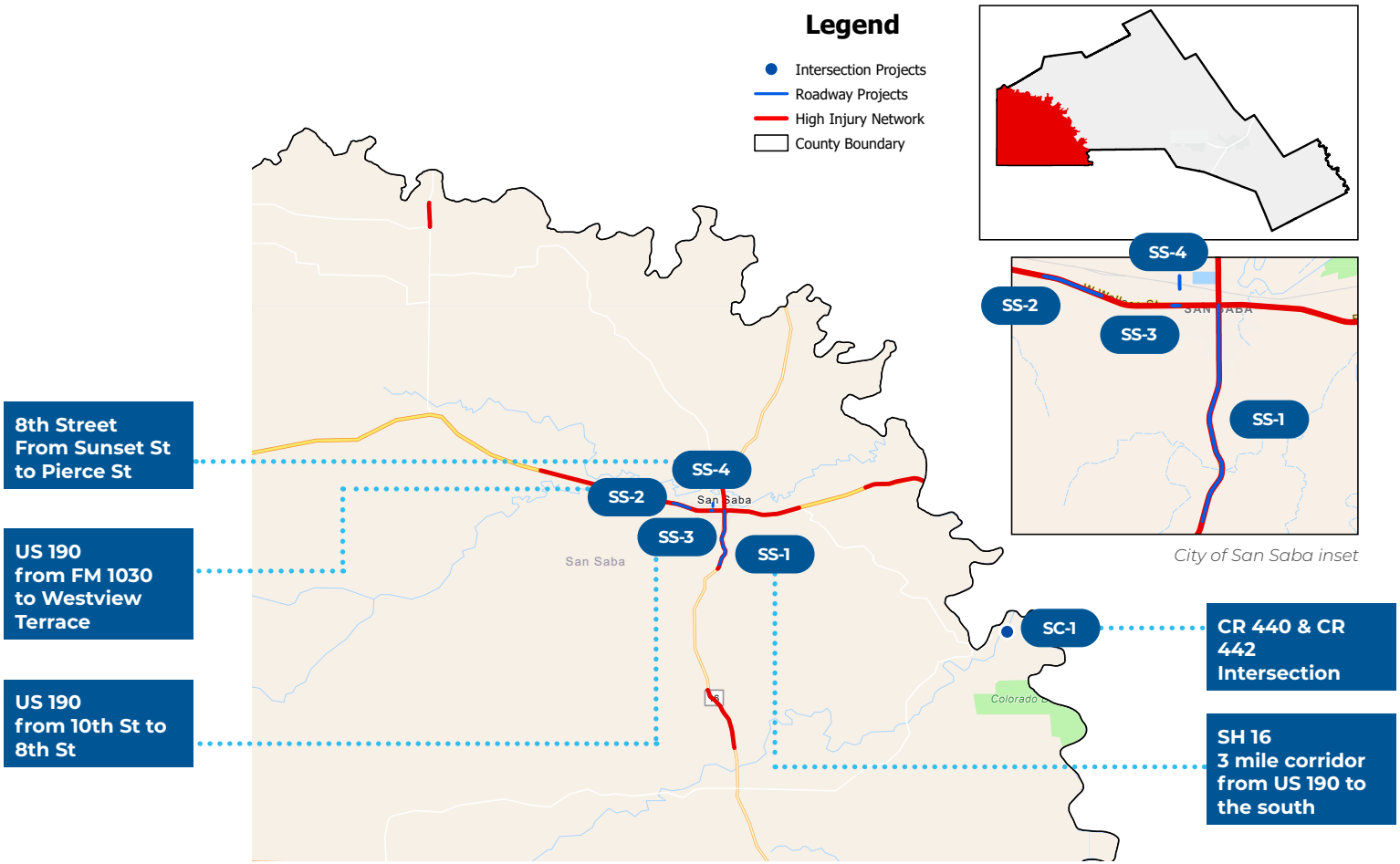
50.7% OF THE HIN SEGMENTS ARE IN AN

EQUITY FOCUS AREA

50.7%



SAN SABA COUNTY AND CITY OF SAN SABA
ROADWAY SAFETY PROJECTS

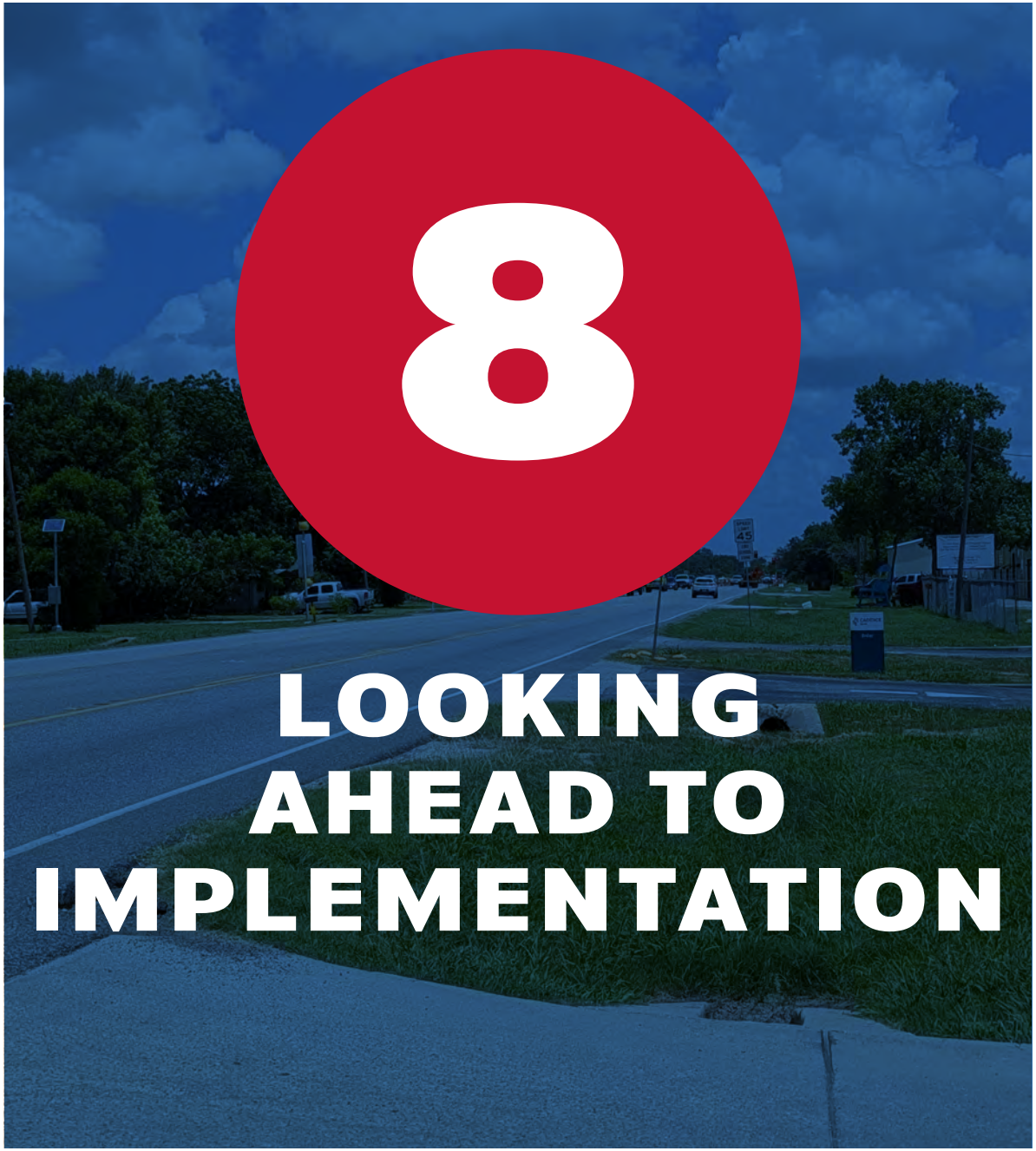


San Saba County

Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data (2018-2022)	Potential Project Details
SC-1 **CR 440 & CR 442** Intersection	No	Drainage, Intersection	11	Limited sight distance around curve near intersection, no striping and limited warning signage.	No KAB crashes at this location.	Drainage improvements, intersection sight distance and signing/striping improvements, wayfinding for state park.

City of San Saba

Location/Vicinity	HIN	Project Type	Project Score	Existing Conditions	Crash Data (2018-2022)	Potential Project Details
SS-1 **SH 16** 3 mile corridor from US 190 to the south	Yes	Pedestrian-focused, Roadway Departure	58	Two-lane highway with intermittent passing lanes south of town. Unsignalized intersections in town lack pedestrian crossings. US 190 intersection truck turning traffic can hit signal heads and impact curbs at times.	8 crashes along corridor, 7 of which were only involving one motor vehicle.	Rumble strips and curve delineation in rural portion, pedestrian and intersection improvements in San Saba City, speed management throughout corridor.
SS-2 **US 190** from FM 1030 to Westview Terrace	Yes	Pedestrian-focused, Speed Management	40	High speed road on the way into town, 50 mph roadway. No sidewalks, open channel drainage.	1 opposite direction crash.	Pedestrian crossings, Pedestrian focused illumination, PHB. Since speed was also a concern, lower speed limit starting 2 miles west of project location (west of where current SL change takes place).
SS-3 **US 190** from 10th St to 8th St	Yes	Pedestrian-focused, Speed Management	33	The street is not very wide. There are warning signs for the pedestrian crossings. Pedestrian facilities along this segment are in need of maintenance. Some driveways are less than 20' away from an adjacent street.	1 ped/bike related crash recorded in downtown San Saba. 1 A Injury crash at 190/Hope. 0 KA crashes in front of school.	Pedestrian crossings, PHB may be considered here (school zone already exists), pedestrian refuge islands.
SS-4 **8th Street** from Sunset St to Pierce St	No	Intersection	14	No existing striping, minor approach yield control, pavement raveling along corridor, railroad at grade crossing within corridor.	2 intersection related B crashes. Note 1 crash occurred in 2023.	Intersection signing, striping, and visibility enhancements.



8

LOOKING AHEAD TO IMPLEMENTATION

Success of the Central Texas Roadway Safety Action Plan will rely on the ability for stakeholders across the region to implement its recommendations. CTCOG, KTMPO and its member agencies have committed to a regionwide goal for reducing fatal and serious injury roadway crashes in Central Texas and have committed to reporting on roadway safety progress in a transparent way.

Completion of the Safety Action Plan and adoption of a regionwide roadway safety policy commitment allows CTCOG, KTMPO and its member agencies to pursue additional funding for implementation through the USDOT SS4A Program. This implementation funding will be key to Central Texas meeting its roadway safety goals, but funding and willpower will need to come from other sources as well. ***Appendix G*** includes a broad matrix of potential federal, state, and other funding opportunities for the types of projects identified in this plan.

Central Texas needs to include safety in prioritization of projects at the local, regional, and state level. This ensures both individual cities and counties as well as regional and state transportation agencies such as KTMPO and TxDOT need to continue considering roadway safety impacts of all projects, prioritize projects that improve safety, and proactively mitigate the impacts of projects that could introduce new roadway safety challenges to the region.

KTMPO included safety as a central component of its 2050 Metropolitan Transportation Plan (MTP) and used Section 9 of that document to set annual safety performance target and describe ongoing safety efforts. The results of the Central Texas Roadway Safety Action Plan will support KTMPO's ongoing safety efforts, and safety projects and policies from this plan within the KTMPO boundary will be incorporated into future MTP updates and project calls.

Serious commitment from all leaders in Central Texas could mean a dramatic decrease in fatal and serious injury crashes in the coming years. And by achieving the policy commitment the region has set and showing a significant reduction in fatalities and serious injuries is possible, the goal of a future with zero fatal and serious injury crashes will seem more achievable than ever.

Regular reporting and communication of progress towards Central Texas' goal is necessary to maintain public support and understanding on the long road to zero fatal and serious injury crashes. Close tracking of the Region's accomplishments (and setbacks) will be important to document every year. By CTCOG providing this information through a user-friendly dashboard or annual safety report, the public can stay informed about the efforts being made to improve roadway safety in Central Texas. In addition to the dashboard reporting, fatal and serious injury crashes in Central Texas will be tracked annually by CTCOG, TxDOT, and KTMPO and will be reported as part of annual state and MPO performance measurement requirements.

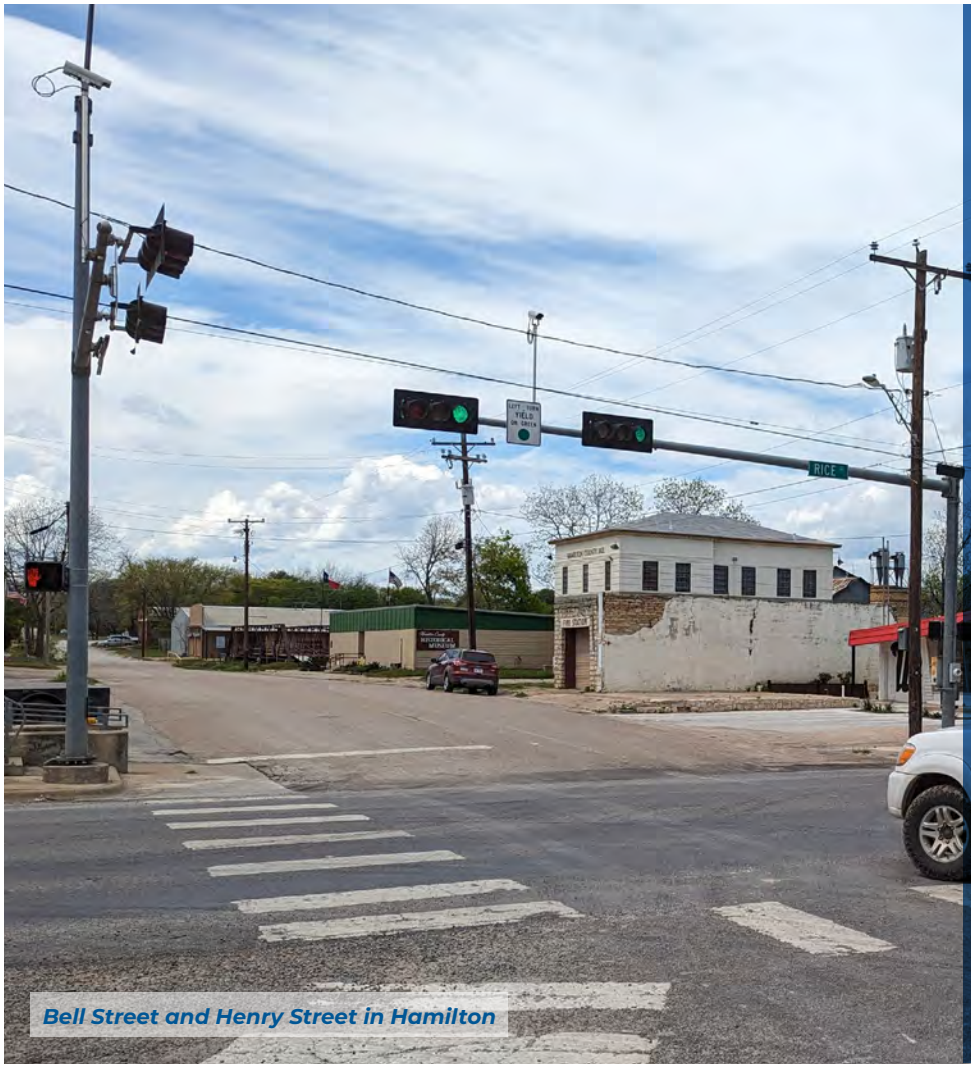
The Central Texas Roadway Safety Action Plan is a living document and will require updates by CTCOG and KTMPO at least once every five years to identify new roadway safety needs, priorities, and project opportunities. The HIN and systemic safety analysis should be updated with each edition of the Safety Action Plan to ensure safety priorities are aligned with the most current crash data. Additional stakeholder and public engagement will be another essential part of any future roadway safety planning efforts in Central Texas.

The table on the next page outlines the ongoing, short- , mid- , and long-term actions that can be taken by CTCOG, KTMPO, and its partner agencies across Central Texas to implement this safety action plan.

Central Texas Roadway Safety Action Plan Recommended Implementation Activities

Activity Type	Activity Description	Cadence
Ongoing Activities	**Continue Roadway Safety Task Force Meetings.** Meetings will focus on implementing projects and policies and finding new ways to champion road safety in Central Texas.	Meetings 4-6 times per year
	Continue Annual Reporting of Safety Data. Report annual safety data as part of required MPO reporting and via a regularly updated safety dashboard or annual safety report.	Annual
Short-Term Activities (Years 1 to 3)	**Support Submittal of Developed Safety Projects for SS4A and Other Implementation Funding Opportunities.** Certain projects for which detailed conceptual development is already complete may be ready for grant applications, meaning these projects could be implemented sooner than others.	Annual
	Implement High-Priority Demonstration Projects. Several demonstration projects identified in the safety action plan could be implemented at a very low cost in partnership with TxDOT and municipal staff.	Annual
	Prioritize and Begin Development of Recommended Policy Guidance. Section 5 of the safety action plan includes policy development recommendations that could be conducted with supplemental planning funds and whose results could benefit partners across Central Texas.	Every 1-3 years
Mid-Term Activities (Years 4 to 5)	**Update Central Texas Roadway Safety Action Plan.** Conduct a full update of the plan to identify new safety needs, priorities, and project opportunities.	Every 5 years
	Assess Federal Reauthorization of Infrastructure Funding. A new federal infrastructure bill is anticipated in 2027, and it will likely include new safety funding opportunities that should be assessed for applicability to safety projects.	Following passage of new legislation
	Begin Full Implementation of Successful Demonstration Projects. Once demonstration projects have been evaluated, partners can adjust designs to permanently implement those low-cost projects more broadly throughout Central Texas.	As needed following assessment of demonstration projects
Long-Term Activities (Year 6 and beyond)	**Conduct Before-and-After Studies for Implemented Safety Projects.** Before-and-after studies identify which strategies are most effective at improving safety outcomes and can guide future project development.	As needed following implementation of projects
	Review KTMPO Safety Project Scoring as Part of MTP Update. As part of the next MTP update, review and draw upon Safety Action Plan recommendations to make desired adjustments to KTMPO project scoring approaches for safety projects.	Every 5 years

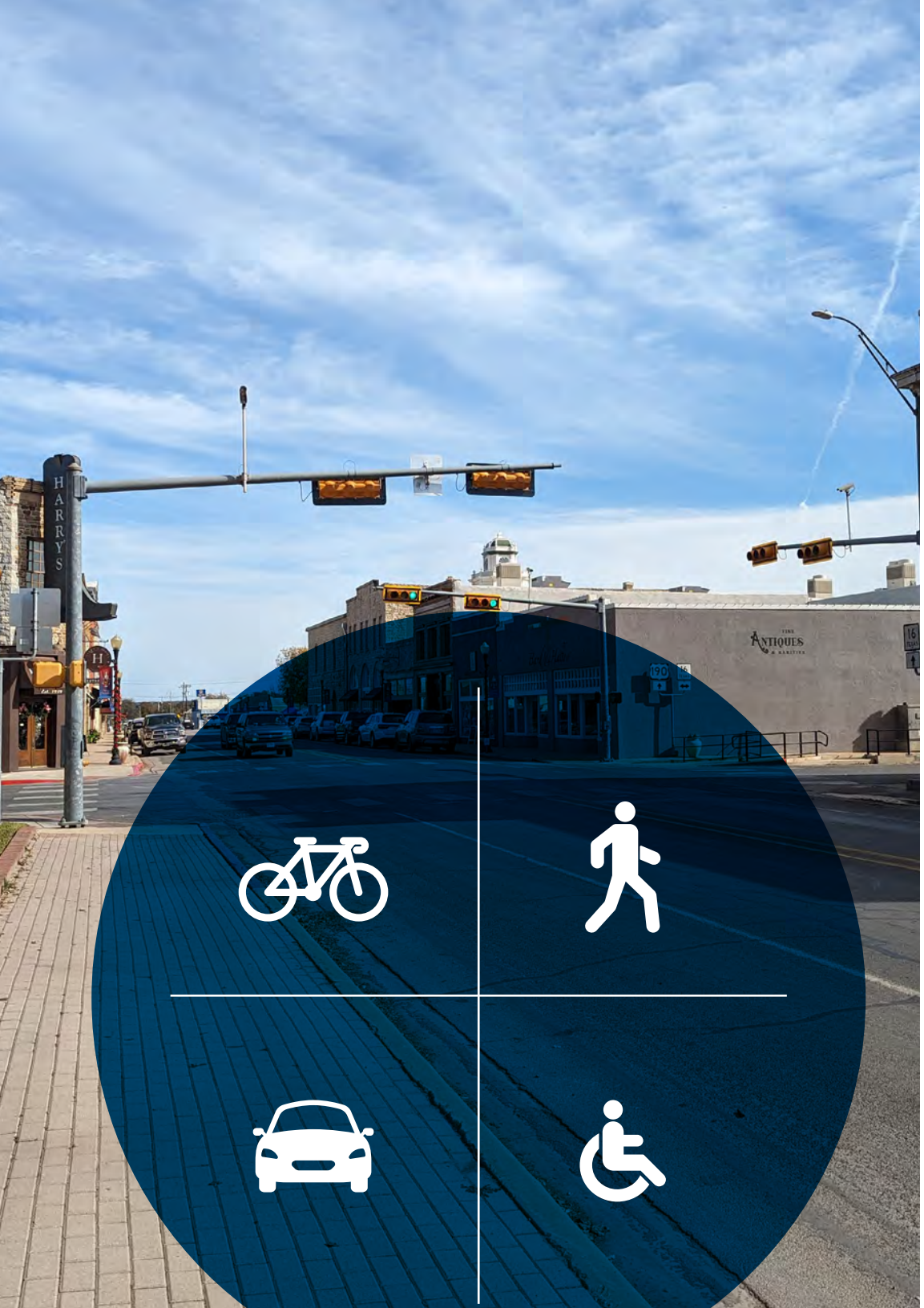
Note: *Recommended Implementation Activities are not required, but they are suggested to support the overall implementation of the plan.*



Bell Street and Henry Street in Hamilton

The policy commitment is a
50% reduction
in roadway fatalities and serious injuries by the year 2050.

Serious commitment from all leaders in Central Texas could mean a dramatic decrease in fatal and serious injury crashes in the coming years.



CTCOG
KTMPO

SAFETY ACTION PLAN