

CITY OF SALINA COMPREHENSIVE SAFETY ACTION PLAN

September 2025

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Special thanks to the hundreds of Salina Residents who offered feedback and guidance while putting this plan together.

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Information contained in this document is for planning purposes and should not be used for final design of any project. All results, recommendations, concept drawings, cost opinions, and commentary contained herein are based on limited data and information and on existing conditions that are subject to change.

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EXECUTIVE SUMMARY

Executive Summary

In the traditional approach to roadway safety, traffic deaths are typically understood as inevitable. However, Salina is joining an ever-growing number of cities throughout the country and world who are committed to eliminating these transportation-related fatalities and serious injuries. This Comprehensive Safety Action Plan (CSAP) lays out the steps the City will take to reach their goal of zero deaths and serious injuries in Salina.

Over the past five years, the number of fatal crashes has remained relatively stable at about two per year. In addition, more than 200 crashes occur each year where at least one person is injured, sometimes seriously. These injuries can be life-changing and account for a significant burden on first responders, healthcare workers, family, and friends. To reduce the number of fatal and serious injury crashes, the City and its partners need to work proactively to address the root causes for these incidents.

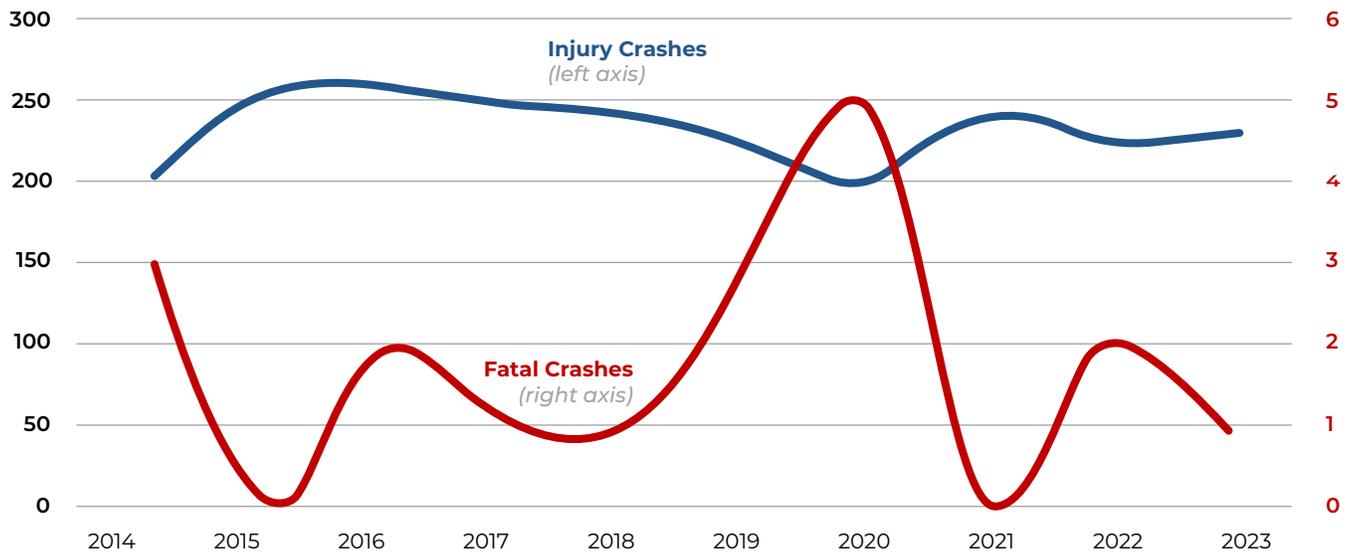


FIGURE 1 Fatal and Injury Crashes in Salina

Salina Vision Zero Goal

Vision Zero is a strategy to eliminate all fatalities and serious injuries and in doing so create a stronger transportation system that provides more freedom of travel for everyone, including those who would prefer to walk, bike, roll, or take transit. Vision Zero is centered on the Safe System Approach, which works by building and reinforcing multiple layers of protection to both prevent crashes from happening in the first place and minimize the harm caused to those involved when crashes do occur.¹

With this Plan, Salina seeks to eliminate all fatalities and serious injuries within the next decade, by 2035.

Learn more about Vision Zero and the Safe System approach in Chapter 1 or by going to [Zero Deaths and Safe System | FHWA](#)

¹ <https://www.transportation.gov/safe-system-approach>

Community Outreach

To ensure this Plan meets the needs of Salina residents and visitors, a robust community engagement process helped inform plan development. Stakeholders and the public were provided opportunities to share their experience and ideas both online and in person. These conversations with the community provided the Plan development team with the opportunity to learn key information directly from those who know the community best. More details about the engagement efforts for this Plan are included in Chapter 2.

Key themes from engagement included:

- Eliminating transportation related deaths and serious injuries is important to Salina residents.
- Most participants indicated they are willing to change their behavior on the roadway if it helps improve safety.
- There is a desire for an improved sidewalk network and comfortable bicycling facilities.
- Driver behavior is a safety issue in Salina - distracted driving, aggressive driving, and driving under the influence were noted as key concerns.

A more robust engagement summary is provided in Chapter 2 and Appendix B.

Crash Data Analysis

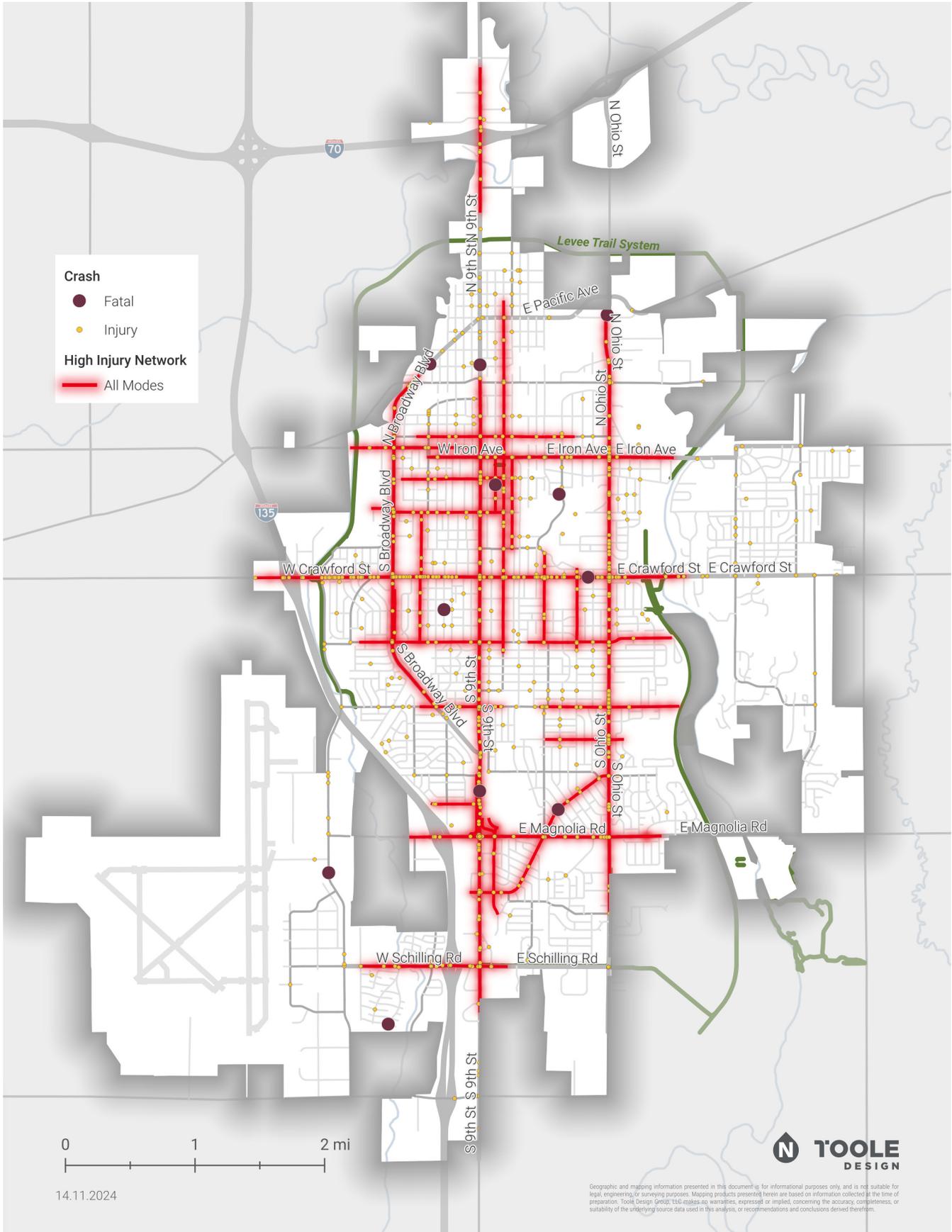
The project team analyzed the Kansas Department of Transportation (KDOT) crash data from the most recent five years available (2019-2023) to identify safety issues in Salina. This analysis included a broad look at crash characteristics and contributing factors to detect trends in Salina and discovered an overrepresentation of pedestrian- and bicyclist-involved fatal and injury crashes. Of these crashes, a particularly high number occurred at mid-block locations indicating a need for safe mid-block crossing locations or better sidewalks or bike lanes. The analysis also revealed that 60% of fatal and injury vehicle crashes were angle (T-bone) crashes. These crashes tended to be more severe than other vehicle crash types.

A High-Injury Network analysis determined that **14% of Salina's roadway miles accounted for 76% of fatal and injury crashes over the past five years**, meaning properly addressing safety issues on a relatively small number of roadways can prevent a large number of crashes. As shown in the map on the following page, the key corridors and intersections of concern include:

- Ohio Street
- Iron Avenue
- 9th Street
- Magnolia Road
- Crawford Street
- Santa Fe Avenue



FIGURE 2 High Injury Network Map (All Modes)



High Injury Networks are valuable tools that can point to problem locations. However, where crashes have occurred in the past doesn't necessarily indicate where they will occur in the future. The project team also developed a **High Risk Network** analysis to understand where crashes are more likely to occur in the future.

Between 2019-2013, Salina had 11 fatal crashes and 1,117 injury crashes.



Community Needs Analysis

Transportation safety impacts people in different ways and different users have varying levels of vulnerability. For example, a wheelchair-bound person trying to cross the street is at greater risk of being injured or killed than someone driving a vehicle. To better understand these differences, the project team analyzed data, reviewed city plans and policies, spoke with those who walk and bike around the city, and used census data to identify heightened crash risk. Several of those interviewed highlighted gaps in the sidewalk network and difficulty crossing busier roadways as key safety concerns.



Plan and Policy Review

A thorough review of Salina's existing plans and policies was conducted to identify opportunities to enhance safety in Salina. Potential gaps, inconsistencies, and opportunities within current frameworks were evaluated to align with best practices in transportation safety. The review encompassed local and county documents, aiming to integrate actionable strategies into the CSAP recommendations. Our review included the following documents:

- Salina Comprehensive Plan
- Saline County Local RSP
- City of Salina Bicycle Master Plan
- City of Salina Traffic Studies Technical Memo
- Other corridor plans and documented processes used by the City of Salina.

Safety Actions

This Plan identifies clear actions and strategies the City can take to prevent fatal and serious injury crashes moving forward. These actions and strategies are deeply rooted in the robust outreach, engagement, and data analysis performed as part of this process and are designed to have the most profound effect on reducing fatal and serious injury crashes in Salina. Following the Safe System Approach, this Plan helps:

- Create a community that prioritizes safety for all road users
- Take a proactive approach to roadway safety to prevent crashes before they occur
- Prioritize safety in City policies, processes, and programs
- Create safe and comfortable opportunities for walking and biking on Salina's Roadways

Treatments, Countermeasures, and Prioritization

There are many roadway treatments and safety countermeasures that have been proven to either prevent crashes from occurring or to reduce crash severity. This Plan includes a **safety countermeasure toolbox** that outlines recommended treatments, including how, where, and when they should be deployed and what effect they have on roadway safety. The Plan also outlines a process the City will use to decide which actions and strategies should be prioritized.

Performance

As part of their ongoing efforts to improve safety, the City of Salina will continue to monitor the number of fatal and injury crashes to understand the effectiveness of roadway safety improvement efforts. This performance evaluation will help the City continue to improve safety countermeasure selection and progress toward the ultimate goal of zero fatalities and serious injuries.



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CHAPTER 1: **OUR VISION**

Vision

The City of Salina is committed to eliminating traffic fatalities and serious injuries through a proactive, impartial, and data-driven approach to transportation safety. The goal is to eliminate all fatalities and serious injuries by 2035.

This Comprehensive Safety Action Plan (CSAP) builds on Salina's role as a regional hub and leverages community perspectives and values to prioritize the safety of all roadway users—whether walking, biking, rolling, driving, or using transit. This is not the first time Salina has worked to reduce fatalities and serious injuries, it is just the first plan specifically developed to comprehensively address safety.

Salina's current **Comprehensive Plan** outlines major goals involving connectivity and movement in Salina, and notes that “providing multiple modes of transportation will further accommodate the city's youth and seniors that are not able to drive. A multimodal transportation system that includes walking, bicycle, transit, and the automobile provides a choice for mobility and connections within the community, for all citizens of Salina. A multimodal transportation system will provide the opportunity to travel within the City, as well as connectivity to the region.”

The Comprehensive Plan also outlined the following themes:

- **Complete Streets** – Ensuring that multimodal considerations are incorporated into transportation network planning and street design. A complete street is inherently a safe street.
- **Impact Streets** – Elevating the street design including amenities and visual quality to improve the appeal and interest for those streets most traveled by visitors and residents.
- **Community Gateways** – Creating a hierarchy of entrance features at key nodes in the network.

Overview of Salina

Located at the crossroads of I-70 and I-135 in central Kansas, Salina serves as an important hub with a diverse population and plays a key role in regional commerce, culture, education, and health care. As the city continues to grow and evolve, ensuring safe and accessible transportation options is key to attracting and retaining residents, sustaining economic vitality, and improving quality of life.



Regional access to the city is provided by two interstates, I-70 and I-135. The local roadway network is organized in a grid system, with major arterial streets located in one-mile increments and collectors and local streets providing access to diverse land uses. Vision Zero and Safe System Approach

This Plan is grounded in the principles of Vision Zero and the Safe System Approach: it recognizes that “zero” is the only acceptable goal for traffic fatalities, that everyone has a shared responsibility to make streets safer, that human error is inevitable, and that fatalities and serious injuries are preventable through safer system design.

The Complete Streets approach established in Salina's Comprehensive Plan complements the Vision Zero and Safe System Approach utilized throughout this safety plan. Complete Streets aim to balance the street right-of-way to provide safe and comfortable space for users of all modes.

Vision Zero

First implemented in Sweden in the 1990s, Vision Zero is a value-based strategy to eliminate all traffic fatalities and serious injuries while increasing safe, healthy, and equitable mobility for all. The Vision Zero movement views traffic crashes as a systemic issue, instead of blaming individual users. Vision Zero pivoted from the acceptance of death and serious injuries as just the “cost” of having an efficient transportation system to stating that absolutely no one should be killed or seriously injured on our streets due to traffic related causes.

These concepts serve as the underpinning of the Safe System Approach and the Safe Streets for All (SS4A) program. More information about Vision Zero can be found at <https://visionzeronetwork.org/>.



Safe System Approach

The Safe System Approach is the process for implementing Vision Zero principles. It recognizes that humans make mistakes, and streets should be designed to minimize the impacts of those mistakes. To achieve zero roadway deaths and serious injuries, safety should be considered for all elements of the transportation system. That includes roads, intersections, people, speeds, vehicles, visibility, lighting, and post-crash care.

Addressing all elements creates redundancy, so even if one element “fails,” multiple other elements will ensure that no one is seriously injured or killed. The following six principles form the foundation of the Safe System Approach:

- Death and Serious Injuries Are Unacceptable
- Humans Make Mistakes
- Humans Are Vulnerable
- Safety Is Proactive
- Responsibility Is Shared
- Redundancy Is Critical

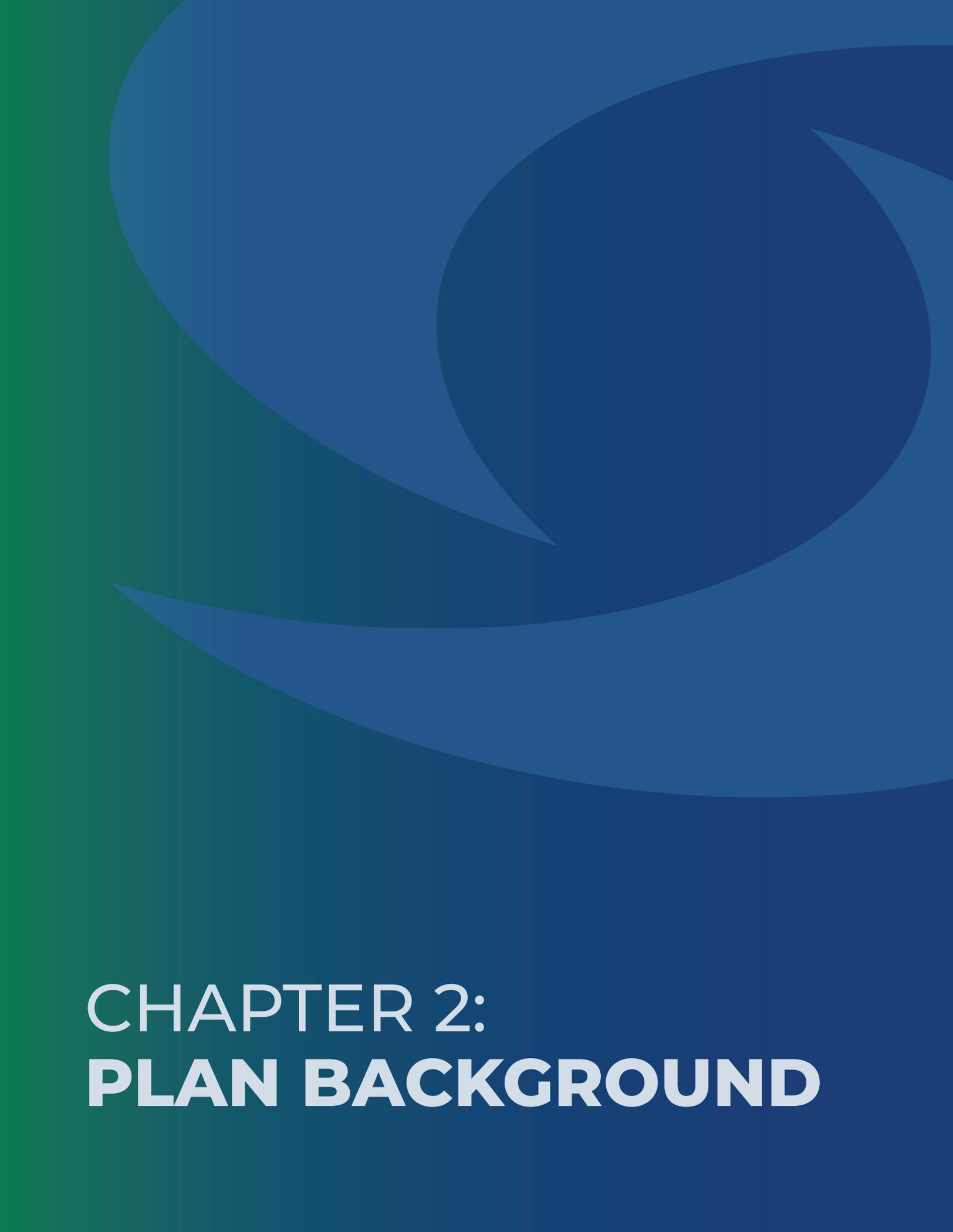
More information about the Safe System Approach can be found at <https://www.transportation.gov/safe-system-approach>.



Purpose of the Plan

The Plan provides a roadmap for implementing projects and programs that reduce crash risk and prevent fatal and serious injury outcomes. The table below outlines the key required elements of an SS4A-eligible CSAP and how this Plan meets those requirements.

SS4A ELEMENT	PURPOSE	CHAPTER/SECTION
Robust data analysis, including contextual and crash data	Provides an overview of existing conditions in Salina, including quantitative and qualitative data collection methods. The existing conditions section informs plan recommendations.	Chapter 3: Transportation Safety in Salina
Crash risk factor identification to target high-impact strategies	Provides a better understanding of underlying safety issues and risk factors on Salina’s roadways. The identification of risk factors aids in creating a systematic approach to addressing safety issues.	Chapter 3: Transportation Safety in Salina
Community-focused analysis considering land use, disadvantage, and vulnerable populations	Provides a sociodemographic understanding of Salina’s history and existing conditions. Understanding the needs of underserved communities in Salina could reveal correlations between the roadway network and crash risk.	Chapter 2: Plan Background
Extensive public and stakeholder engagement to align priorities	Provides an opportunity to both learn from and educate the public about transportation safety issues and potential solutions. Ensures that the project team has a deep understanding of the community’s feelings and experiences with the transportation network.	Chapter 2: Plan Background
Policy and process review to address systemic barriers to safety	Provides a foundation for planning for the future. Understanding previous planning efforts creates a jumping off point to implement the Safe System Approach in Salina’s programs and policies.	Chapter 2: Plan Background
Strategy and project selection outlining short-, mid-, and long-term strategies, countermeasures, and recommendations to guide City staff in implementing safety projects and ongoing campaigns collaboratively	Identifies a comprehensive set of projects and strategies—shaped by data, the best available evidence and noteworthy practices, and stakeholder input—that will address the safety problems described in the Action Plan.	Chapter 4: Actions and Strategies

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CHAPTER 2: **PLAN BACKGROUND**

Plan Background

Eliminating fatalities and serious injuries from Salina's roadways is not an easy task. It will take time, effort, and funding to tackle the infrastructural and behavioral challenges that lead to these incidents. Due to historical patterns, policies, and trends, much of the transportation system in Salina, in Kansas, and across the nation has been designed specifically to move high volumes of vehicles at high speeds and with minimal delays at intersections.

Previous Efforts

This section highlights previous planning and engineering efforts by the City that predate this Plan's development. Previous plans like the City's Comprehensive Plan have recognized the need for a safe transportation system; however, they included safety as a consideration whereas this CSAP Plan focuses entirely on transportation safety. Reviewing existing City plans and policies provides an opportunity to recommend further safety considerations when those plans are updated. Table 1 provides a list of the plans, policies, and documents that were reviewed as part of this process. A full review of these documents is provided in Appendix C.

While this Plan is Salina's first comprehensive examination of roadway safety issues and solutions, it is not the City's first step towards safer streets for all Salina residents and visitors. City staff have taken steps to improve safety on the city's streets through planning and engineering efforts. Some highlighted examples from 2024 include:

- Added guardrail to the Centennial Road/I-135 overpass.
- Added a Rectangular Rapid Flashing Beacon (RRFB) at 9th Street and Park Street.
- Retroreflective Signal Backplate Program: Completed 10 intersections by the end of 2024 and plan to do five additional intersections annually.
- Painted all median bullnoses traffic yellow.
- Installed RRFBs on 5th Street to improve crossings to the Salina Fieldhouse.

Many additional safety projects have been programmed into City budgets even before this Plan was completed, showcasing Salina's commitment to safer roads. Projects include enhanced visibility crosswalks, pedestrian access improvements at bridges, new roundabouts, railroad crossing improvements, and more. This Plan aims to organize these efforts and future ones into a comprehensive approach.



TABLE 1 Salina Plans and Policies and Applicability to Roadway Safety

DOCUMENT	YEAR	SAFETY VISION OR GOALS	SAFETY DATA ANALYSIS	EQUITY / PUBLIC INPUT / WORKSHOP	ROADWAY DESIGN / SAFETY COUNTERMEASURES	PROJECTS / PRIORITY CORRIDORS OR SEGMENTS	FUNDING / IMPLEMENTATION
Saline County Local Road Safety Plan	2022				X		
City of Salina Traffic Studies Technical Memo	2023		X	X	X	X	
City of Salina Bicycle Master Plan Map	2016						
Salina Kansas Comprehensive Plan	2010				X	X	X
Five-Way Corner Road Safety Assessment	2024			X			
Kansas Wesleyan University Traffic Impact Study	2023		X				
Kansas Vulnerable Road User Priority Corridors Map	2024					X	
Engineering City Commission Information Memorandum	2024					X	X
Sidewalk Gap Funding Decision Matrix	2023		X				
SS4A Vulnerable Road User Priority 1 Corridors	2024	X			X	X	
W Magnolia Road Project Fact Sheet: Project Overview	2023				X		

Plan Development

This Plan was developed under a coordinated effort by the City of Salina, community members, organizations, and other local stakeholders. The process began in late summer of 2024 and completed in the summer 2025.



Community Outreach and Feedback

A major goal for this Plan was to engage with community members to get their perspectives regarding safety issues they experience in Salina. Plan development included the following engagement activities:

- Stakeholder engagement
 - Listening sessions (3)
 - Walk audits (2)
 - Working Group meetings (4)
 - Study Sessions with the City Commission (2)
- Community-wide outreach
 - Pop-up events (4)
 - Online Survey and Webmap (1)
 - Website (with 2 updates)
 - Occupational Center of Central Kansas (OCCK) Mobility Group (1)



FIGURE 3 Outreach Pop-Up Events and Walk Audits

Online Survey and Map

Information gathered through the online survey and webmap indicated that:

- **89%** of respondents agree Salina should prioritize eliminating transportation related deaths and injuries
- **78%** of respondents agree Salina should prioritize providing safe spaces for walking, biking, and rolling
- **86%** of respondents agree reducing risk of serious and fatal injuries is more important than minimizing travel time
- **87%** of respondents are willing to change behavior to help reduce serious crashes

The online map received over 600 location-specific comments. Summary maps of this input are provided below:

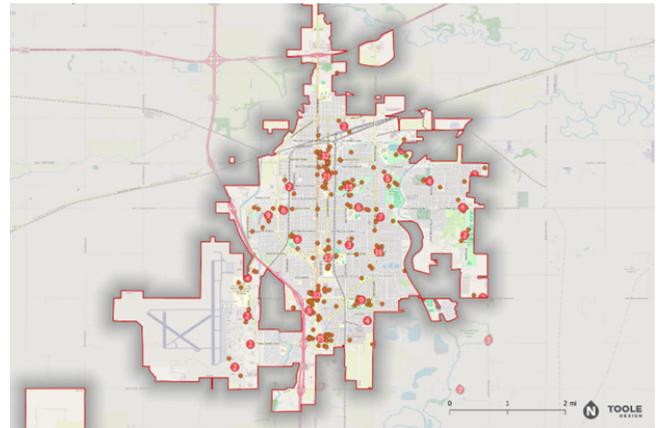


FIGURE 4 Places Where Survey Respondents Indicated They Wanted to Go (numbers in the maps represent clusters of points from the webmap)

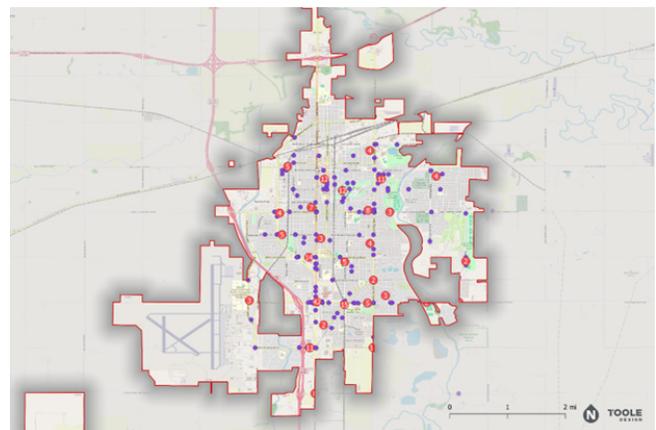


FIGURE 5 Places Where Survey Respondents Reported Feeling Unsafe

Advisory Team

An Advisory Team was formed of key stakeholders including Salina city staff, Occupational Center of Central Kansas (OCCK) transportation staff, Salina Police Department, and Saline County staff. This Advisory Team met regularly throughout the planning process to inform both the understanding of existing conditions and identify solutions that the City and community will implement.

Listening sessions

Listening sessions were conducted to solicit input from key stakeholder groups. These structured conversations allowed the participants to share many transportation safety related topics that may otherwise not have been captured. Stakeholder groups included: City of Salina staff, Saline County staff, OCCK transportation staff, Salina Police Department, K-State staff and Police, the Bicycle Advisory Group, Downtown Salina Inc., and the Salina Food Bank.

Listening Sessions: Key Takeaways & Common Concerns

- **Speeding & Unsafe Driving:** Residential areas impacted by high speeds.
- **Pedestrian & Bicycle Safety Issues:** Missing sidewalks, unsafe crossings, lack of pedestrian and bicycle infrastructure at important locations like bus stops.
- **Traffic Signal Coordination Problems:** Inefficiencies with the current signal timing causing congestion and increasing potential safety risk.
- **Industrial Traffic:** Growing warehouse truck traffic in the southwest
- **Walking, biking, and rolling to school:** School district and parent concerns over the safety of children walking, biking, or rolling to school with vehicle traffic.
- **Infrastructure Needs:** Calls for roundabouts, bike lanes, and improved street designs.
- **Older Population Safety Considerations:** Need for pedestrian-friendly design near retirement communities.

Pop-up Events

Four “pop-up events” were also held at community events and at locations which encouraged participation of people who might not typically attend meetings or fill out surveys.

Community Needs and Context

Transportation safety does not affect everyone in the same way. Understanding how groups like the elderly, disabled, or very young may be affected by transportation infrastructure and policy decisions ensures that solutions are well thought out and do not negatively impact Salina residents. For any CSAP, it is critical to recognize that people who cannot (due to many varying factors) or choose not to drive a vehicle are at greater risk of suffering a fatal or serious injury on the roadway. Though these populations may be relatively small in central Kansas communities, they are overrepresented in crash data and it is important to understand and address their needs. Resident surveys also showed a desire to provide comfortable and safe walking and biking options in Salina.

The project team took the following steps to understand different experiences:

- Gathered information to understand the City’s historical context and inform future efforts and engagement,
- Performed a full demographic analysis that identified key populations who may be at greater risk of transportation related injuries,
- Integrated these findings into the greater Plan and provided strategies to advance safety in Salina.

Examining community needs also helps determine where safety countermeasures may have the greatest positive impact based on the number of people likely to make trips by walking or bicycling. This understanding means decision makers and City staff can most effectively allocate spending on countermeasures and treatments.

Historical Context

Highways - I-135 runs north-south, to the west of Salina. There are multiple major employers and educational facilities (K-State Salina) on the west side of the highway while most housing and retail development is on the east side. Listening session participants shared that the area south of the Salina Regional Airport is a major growth area for logistics/warehousing. I-135 can be a barrier for people trying to get to work at these major employers on foot, by bicycle, or by transit.

I-70 is a major interstate and primary east-west gateway to the city. N Ohio St and N 9th St serve as the primary arterials that link traffic from I-70 to the city (along with the I-135 interchange).

Railways - A major railyard cuts through the center of the city, bisecting north and south Salina. The railroad runs through some of the most urbanized areas of the community, creating several at-grade crossings. Salina's 2010 Comprehensive Plan mentions the possibility of realigning the railyard to be west of the airport to remove them from the heart of the community and reduce conflicts with other travel modes.

Transit - In the listening sessions (one of which included OCCK transit) the project team learned that many transit riders have difficulty crossing streets near transit stops, and there are large gaps in the sidewalk network near some stops. Though transit coverage in Salina is comprehensive, the first-and-last mile infrastructure connecting transit to destinations can be improved. The city's sidewalk scoring matrix which is used to prioritize sidewalk improvements each year prioritizes network gaps near OCCK bus stops.

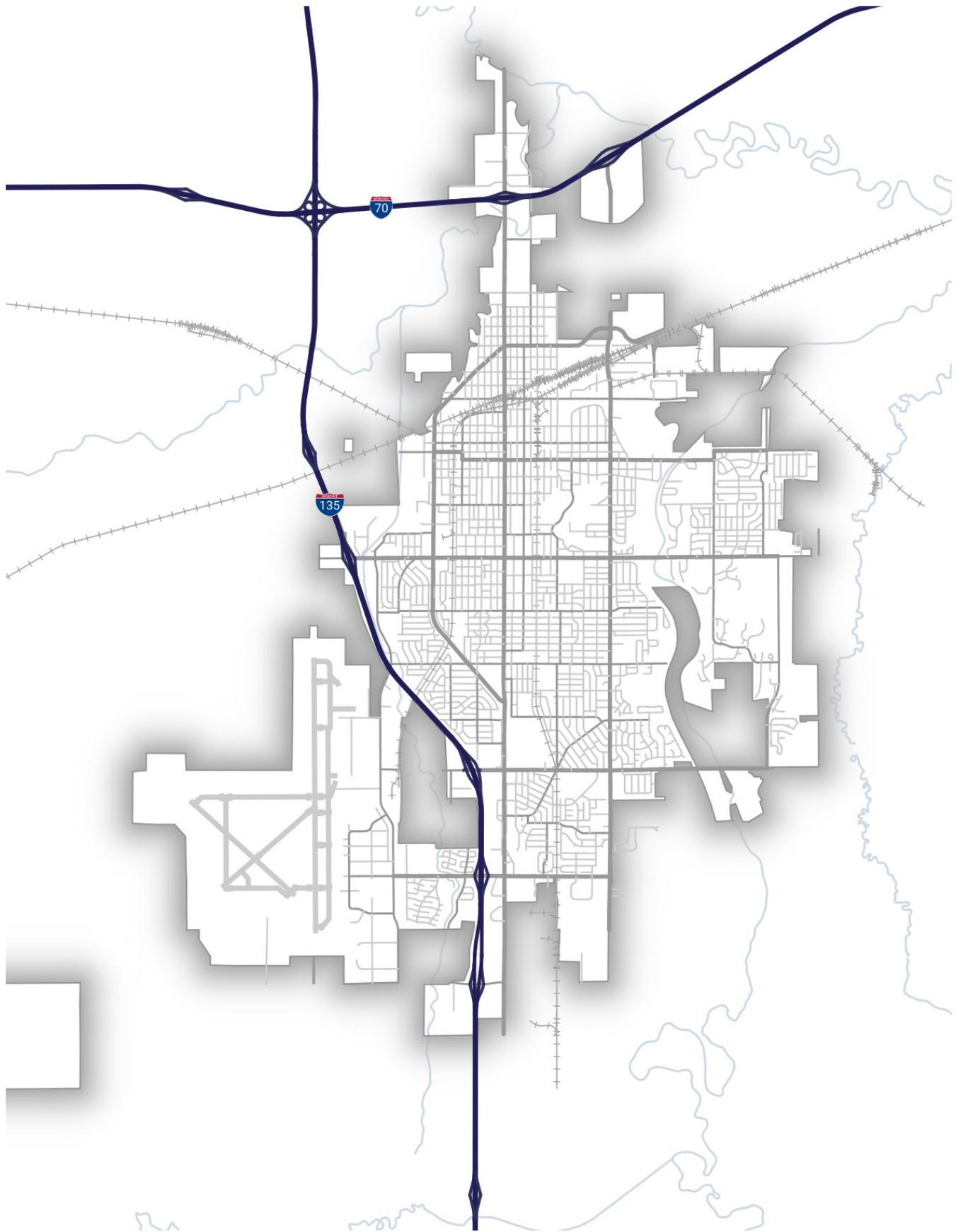
Sidewalks - The 2010 Comprehensive Plan states that developing a complete sidewalk network is a priority, and that all new development should consider sidewalk implementation. A more recent analysis from 2023 estimates the city currently has about 30 miles of sidewalk gaps that they plan to address. This analysis also established a scoring process to prioritize sidewalk maintenance and enhancements based on a number of factors like proximity to schools, parks, and transit.

Bike Facilities - The Salina bikeway network is comprised of linear parks, multi-use paths, bike paths, and shared roadways (many marked by bike symbols known as "sharrows"). The 2010 Comprehensive Plan guides the development of the citywide bikeway network, which is also highlighted and refined in the Bicycle Master Plan (2016). It is noteworthy that bike share is available in Salina through KANcycle, which is administered through OCCK. Many of the more frequently used bus stops have bikeshare available.



FIGURE 6 Bikeshare at Broadway Boulevard and Crawford Street.

FIGURE 7 City of Saline Transportation System



Demographic Analysis and Mapping

Several maps were developed to better understand the spatial demographic context of Salina. These maps identify areas where disadvantaged communities are located. The series of maps in this section helps identify demographic patterns which can then be spatially compared to various transportation outcomes. As can be seen in Figure 7, there is a close relationship between areas of disadvantage and the roadways which have experienced the highest number of crashes as identified by the High Injury Network.

Full maps for each of the demographic categories below are provided in Appendix D.

- **Households in Poverty** - This community is largely concentrated north and south of the railroad tracks. There is also a pocket of households in poverty located east of 9th Street and south of Cloud Street, just south of the Kansas Wesleyan University campus.

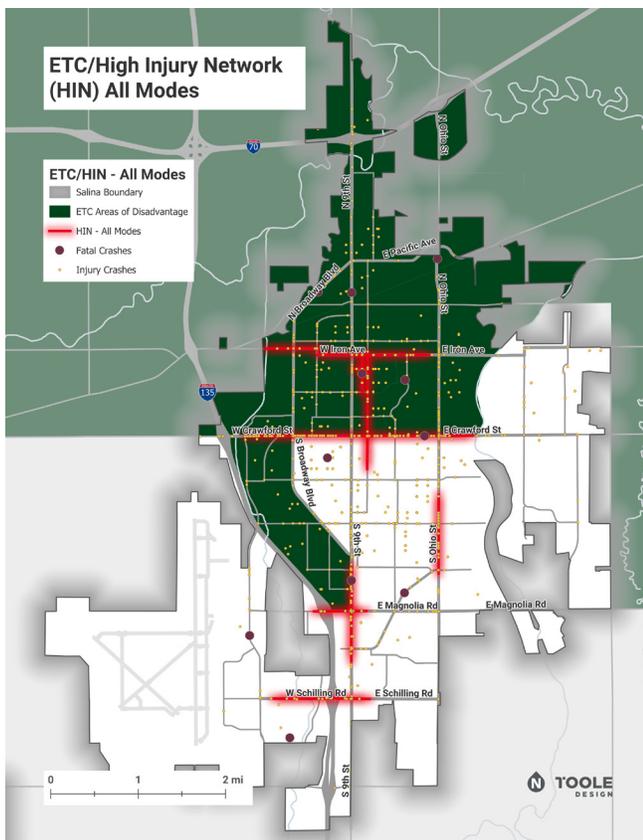


FIGURE 8 Disadvantaged areas with the High Injury Network

- **Cost Burdened Households (Households spending more than 30% of income on housing)** - There are concentrations of these households in north central Salina. Most of these areas are nearby the railroad or the highway.
- **Unemployed Population** - There is one area with a higher concentration of unemployed populations south of the railroad, with the highest concentration on the west side of 9th Street.
- **Limited English Proficiency** - The highest concentration of limited English population is located near the Indian Rock Park in eastern Salina.
- **Older Adults** - Most of the city's census tracts have at least 5% elderly population. There are some higher concentrations of older adults along 9th Street.
- **Youth** - There are many youth populations outside of the city limits which may create situations where children must rely on older family members more to get where they need to go.
- **Carless Households** - The census tracts in central Salina just south of the railroad have as much as 62% of households with no access to a vehicle.

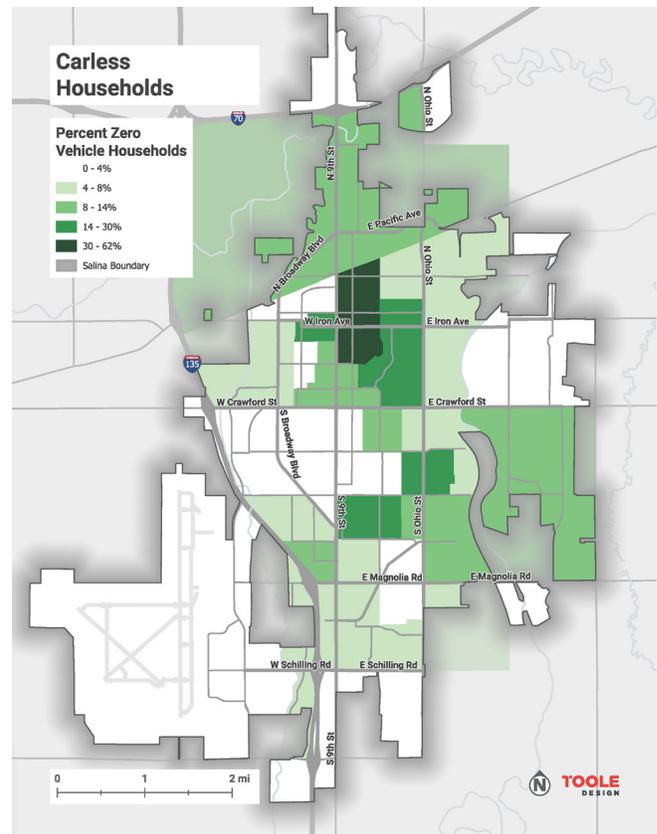
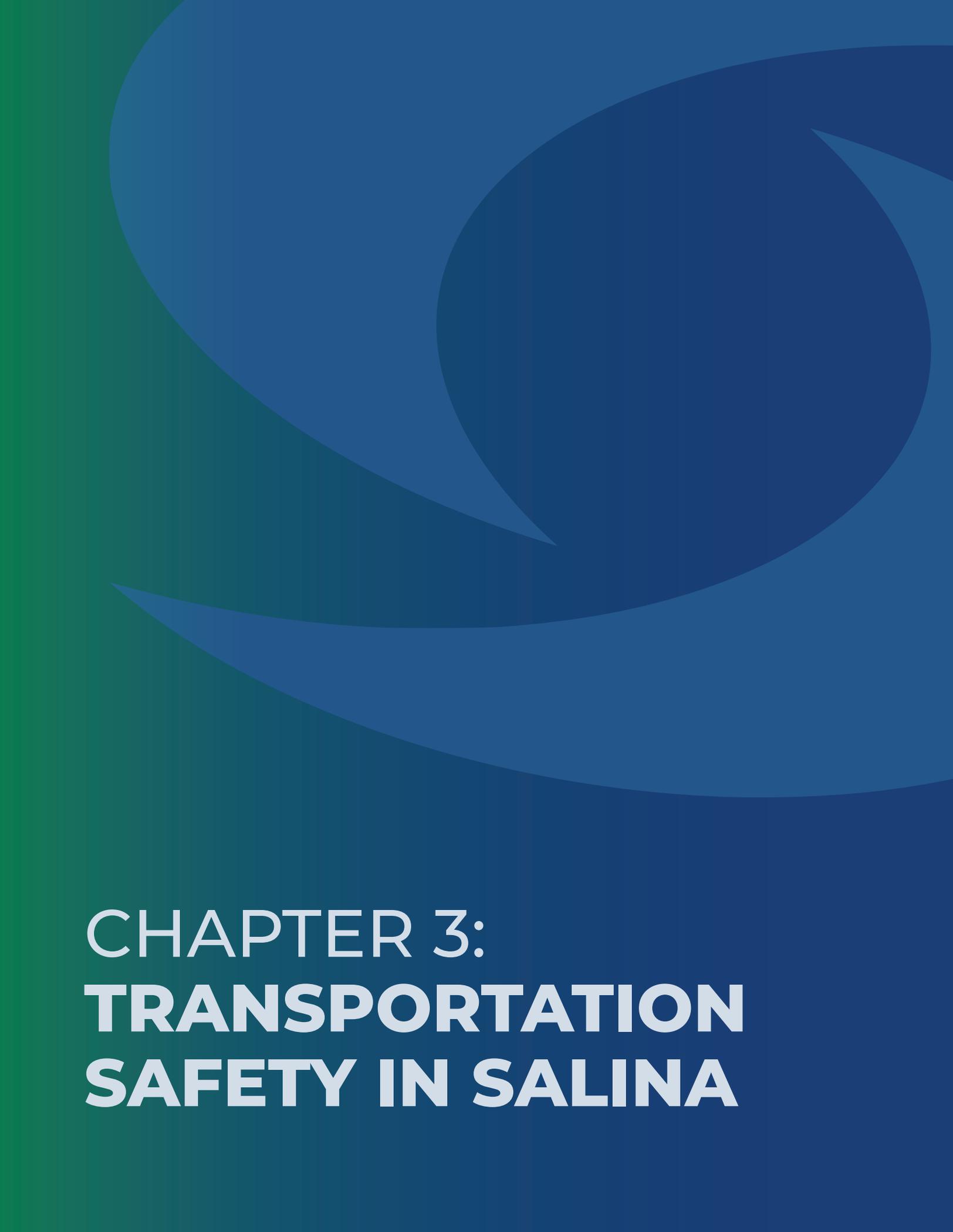


FIGURE 9 Percentage of households without access to at least one vehicle

- **Disability** - There are concentrations of this population in central Salina, around the airport, and a pocket of the highest concentration between Cloud Street and Republic Avenue.
- **Population without a High School Diploma** - The highest concentration of those without a high school diploma is located just south of the railroad in the eastern portion of the city. There is also a small concentration of this population south of Broadway Boulevard.

While there is not an area of Salina which features prominently in every demographic measure used to identify areas of disadvantage in this plan, people living in poverty, cost burdened households, and unemployed persons tended to be located in the northwest part of the city. Other populations like older adults and youths tended to be more equally spread across the city. Those without access to a personal vehicle were located centrally.



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CHAPTER 3: TRANSPORTATION SAFETY IN SALINA

Transportation Safety in Salina

There were 4,222 reported traffic crashes in Salina during the five-year study period 2019-2023. The majority of these crashes did not cause any injuries, but 1,117, or about **one out of every four crashes—did result in an injury (86 of which were serious injuries) and 11 crashes were fatal, including one pedestrian and one bicyclist.**



Ninety-eight percent (98%) of all crashes in Salina during the study period involved only motor vehicles. While the total number of pedestrian and bicyclist injuries is comparatively low, these crashes tend to be much more severe. All but one crash involving a pedestrian and all crashes involving a bicyclist resulted in an injury or fatality.

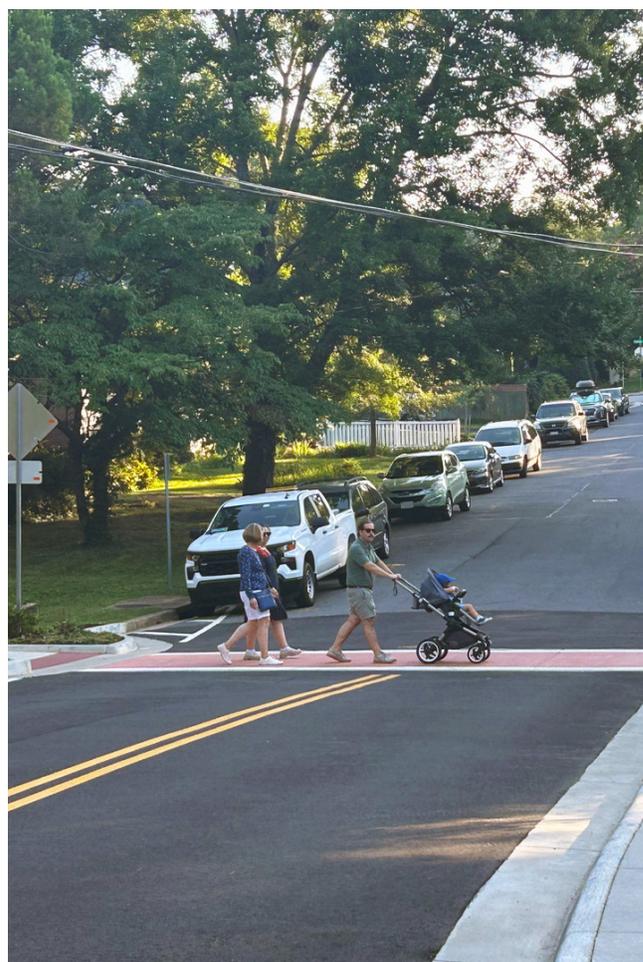


TABLE 2 Crashes by Severity and Road User, 2019-2023

SEVERITY	MOTORIST		PEDESTRIAN		BICYCLE		ALL MODES	
	Number of crashes	Percent of Total						
Fatal	9	0.22%	1	2.13%	1	1.85%	11	0.26%
Injury	1,019	24.73%	45	95.74%	53	98.15%	1,117	26.46%
Property Damage Only	3,093	75.05%	1	2.13%	0	0.00%	3,094	73.28%
Total	4,121	100%	47	100%	54	100%	4,222	100%

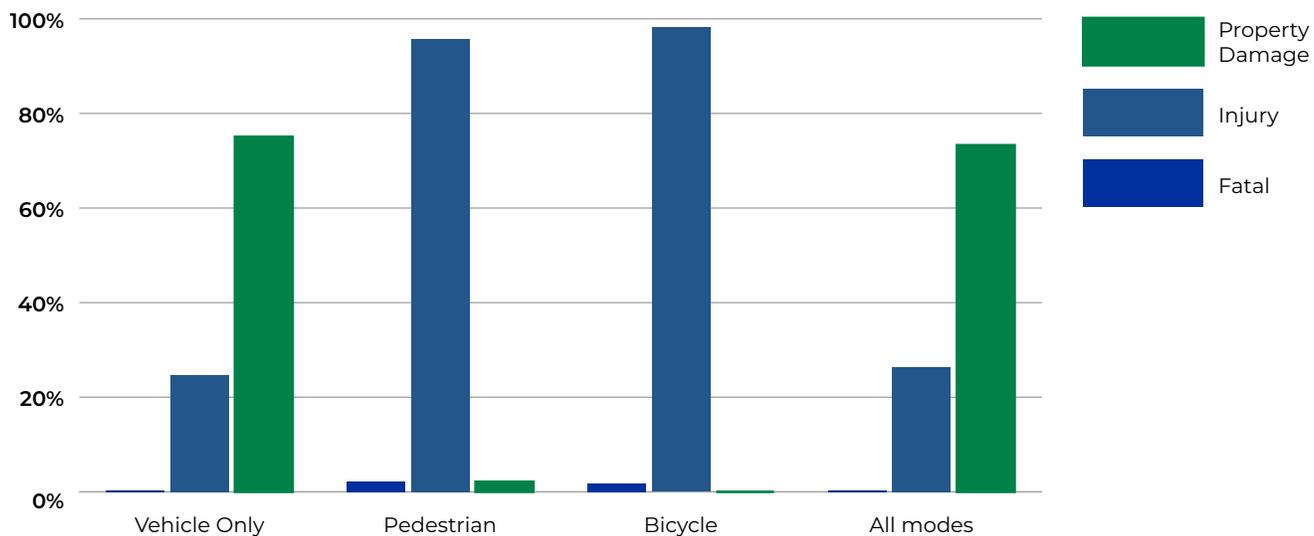


FIGURE 10 Crashes by Mode, 2019–2023

Slightly more than half of pedestrian crashes during the study period occurred at non-intersection locations. - The prevalence of non-intersection or mid-block locations suggests that a lack of safe crossing opportunities along major roads is resulting in pedestrians crossing at locations other than indicated crossings.



FIGURE 11 Mid-Block Bicycle and Pedestrian Crashes (2019-2023)

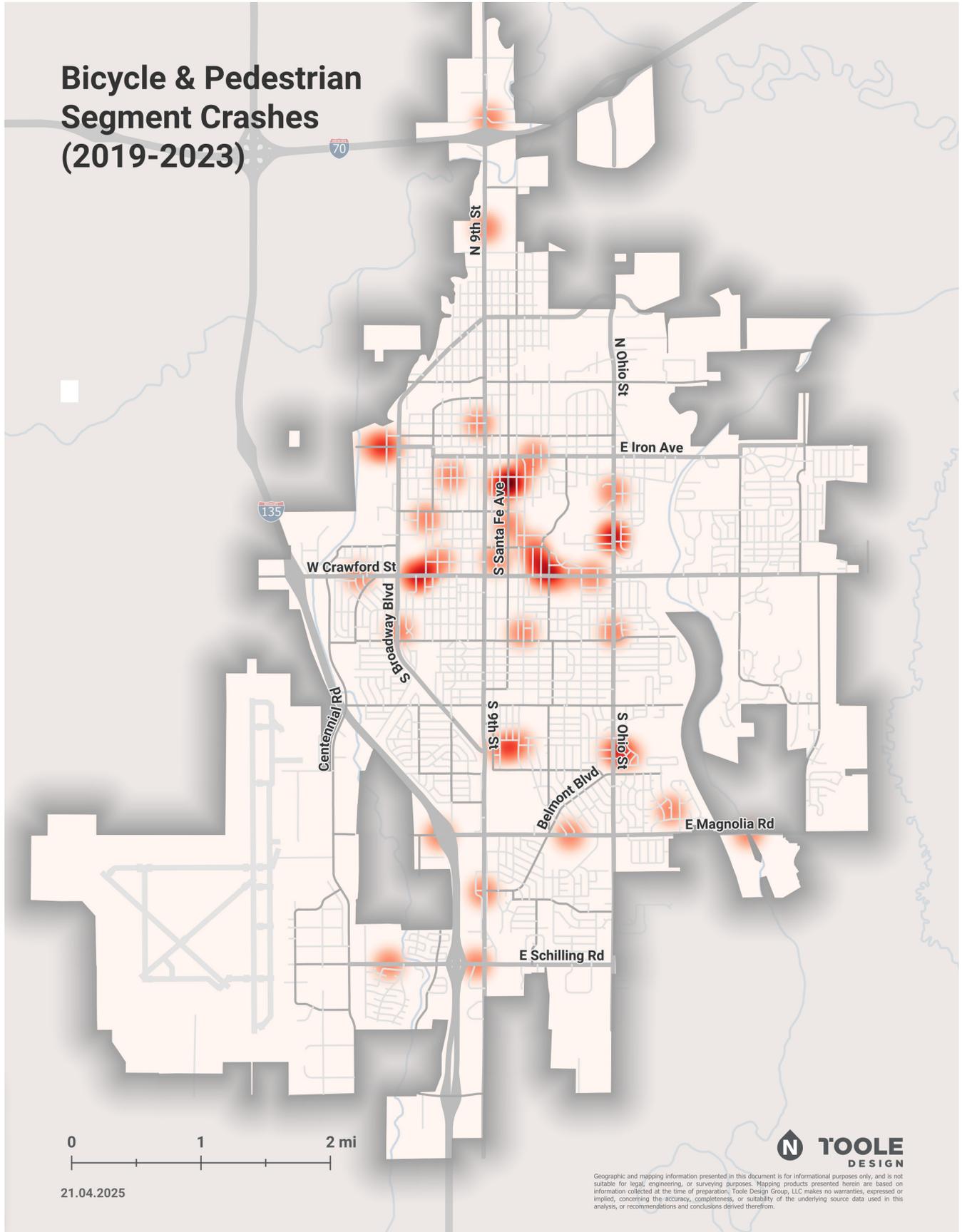
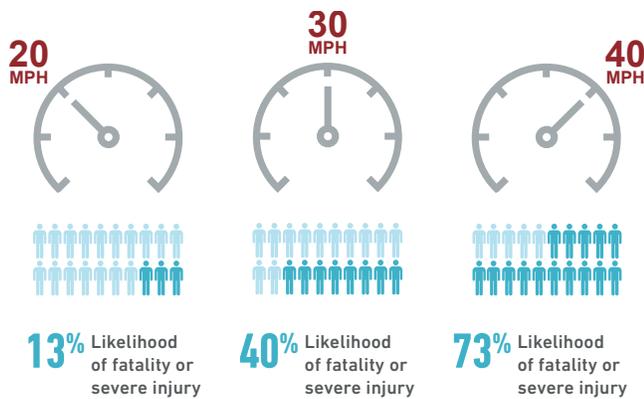


TABLE 3 Collision Location of Pedestrian and Bicycle Crashes, 2019–2023

LOCATION	PEDESTRIAN CRASHES	BICYCLE CRASHES
Intersection	19	30
Mid-block	23	16

There are many factors that contribute to crashes: excessive speeds, roadway geometry and conditions, visibility, and human behaviors like driver distraction, impairment, or failure to follow traffic laws. However, **crashes resulting in serious injury or death are frequently caused by excessive vehicle speed.**¹



Data Citation: Tefft, B.C. (2011). *Impact Speed and a Pedestrian's Risk of Severe Injury or Death* (Technical Report). Washington, D.C.: AAA Foundation for Traffic Safety.

Most streets in Salina have posted speed limits of 30 miles-per-hour (mph) or less. While these streets account for 84% of roadway mileage in the city, only about 42% of fatal and injury crashes occur on these roadways. By contrast, **Salina streets with posted speed limits of 35 mph or higher make up just 14% of city streets but account for nearly 58% of fatal and injury crashes in Salina.** There is a clear relationship between higher speed limits and crash severity. This finding was confirmed in our High-Risk Network analysis, which identifies dangerous roadways based on roadway characteristics including speed limit.²

Major Findings

The city-wide analysis of crash causes and contributing factors revealed the following summary results.

Overrepresentation of bicyclist and pedestrian involved fatal and injury crashes

High number of bicycle and pedestrian crashes at non-intersection locations (midblock)

Crash severity generally rises with higher speed limit

Angle crashes (T-bone) account for 60% of fatal and injury crashes, these crashes tend to be more severe than other crash types

¹ <https://highways.dot.gov/safety/speed-management>

² In the absence of speed data, speed limits were used with the understanding that actual speeds vary.

The High Injury Network

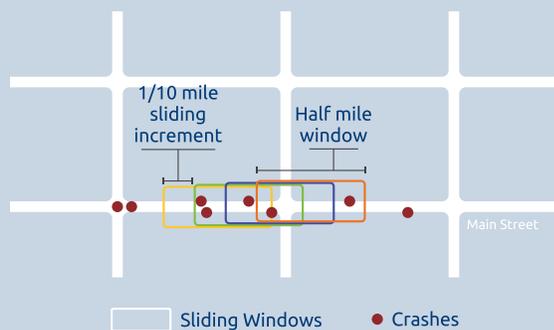
The High Injury Network (HIN) shown in Figure 11 identifies which roadway segments in Salina have had the most fatal and injury crashes in the past five years. This analysis was conducted for all crashes and repeated to show which roadway segments had the most fatal and injury crashes by individual travel mode for vehicles, pedestrians, and bicyclists. A thorough explanation of the HIN development methodology is available in Appendix A.

In Salina, the High Injury Network³ represents 40 miles of city streets—just 14% of the city's roadways—which account for 3 out of 4 fatal and injury crashes in the city. Identifying this subset of street segments is useful in helping city staff, residents, and stakeholders identify and prioritize investment locations where changes to street design are most appropriate to address existing safety issues.

Sliding Window Analysis Methodology

A sliding window analysis helps us understand crashes throughout a transportation network and identify segments with the highest crash density, weighted by crash severity. For Salina, the analysis is done by determining the number and severity of crashes in a half-mile window on a roadway and shifting that virtual “window” along the roadway 1/10 of a mile at a time, counting the number of crashes by severity and road user that occurred within each successive half-mile segment. An example of a sliding window analysis is shown in Figure 11.

FIGURE 12 Example of the Sliding Window Analysis (Source: Toole Design Group)



3 All travel modes



FIGURE 13 High Injury Network - All Modes

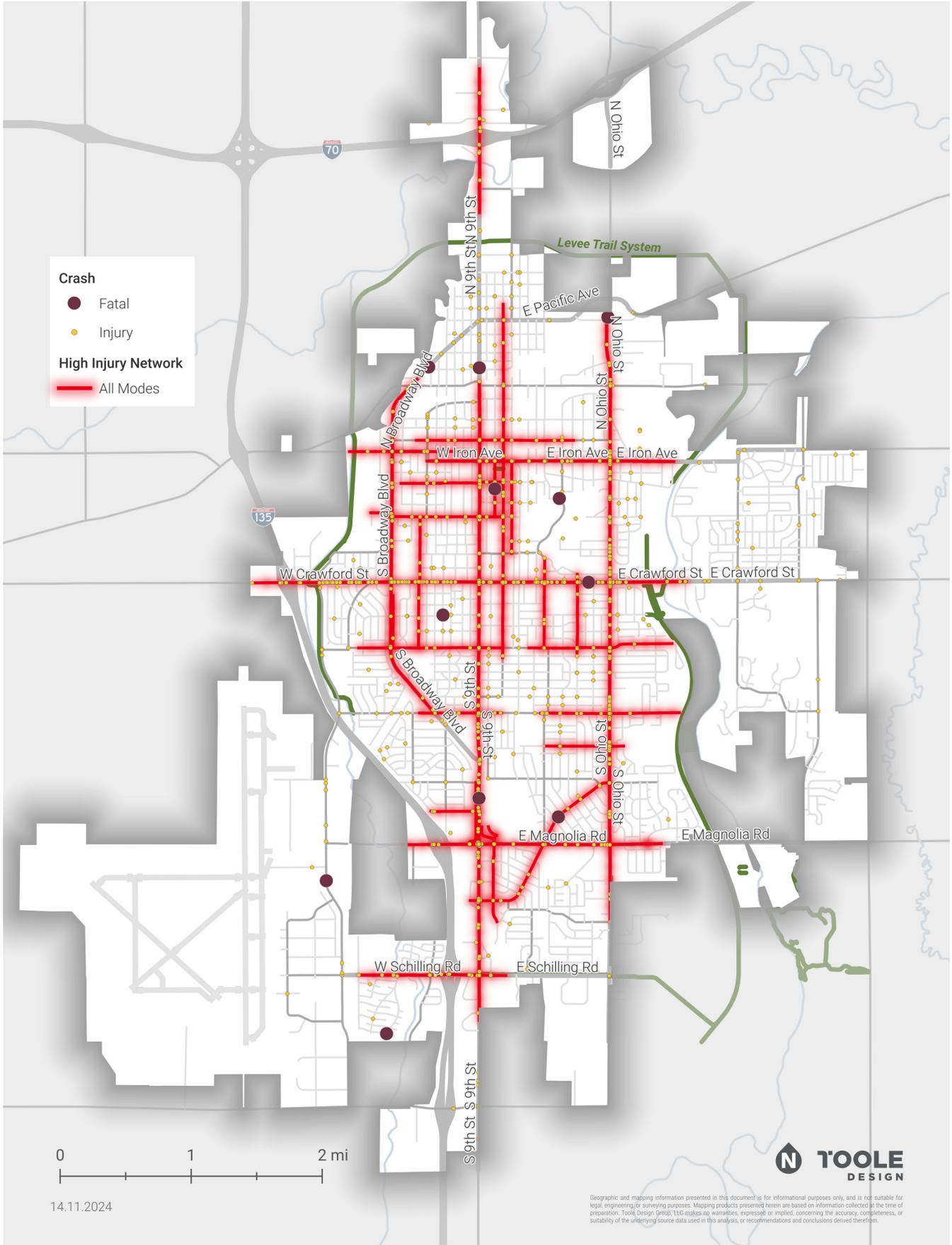
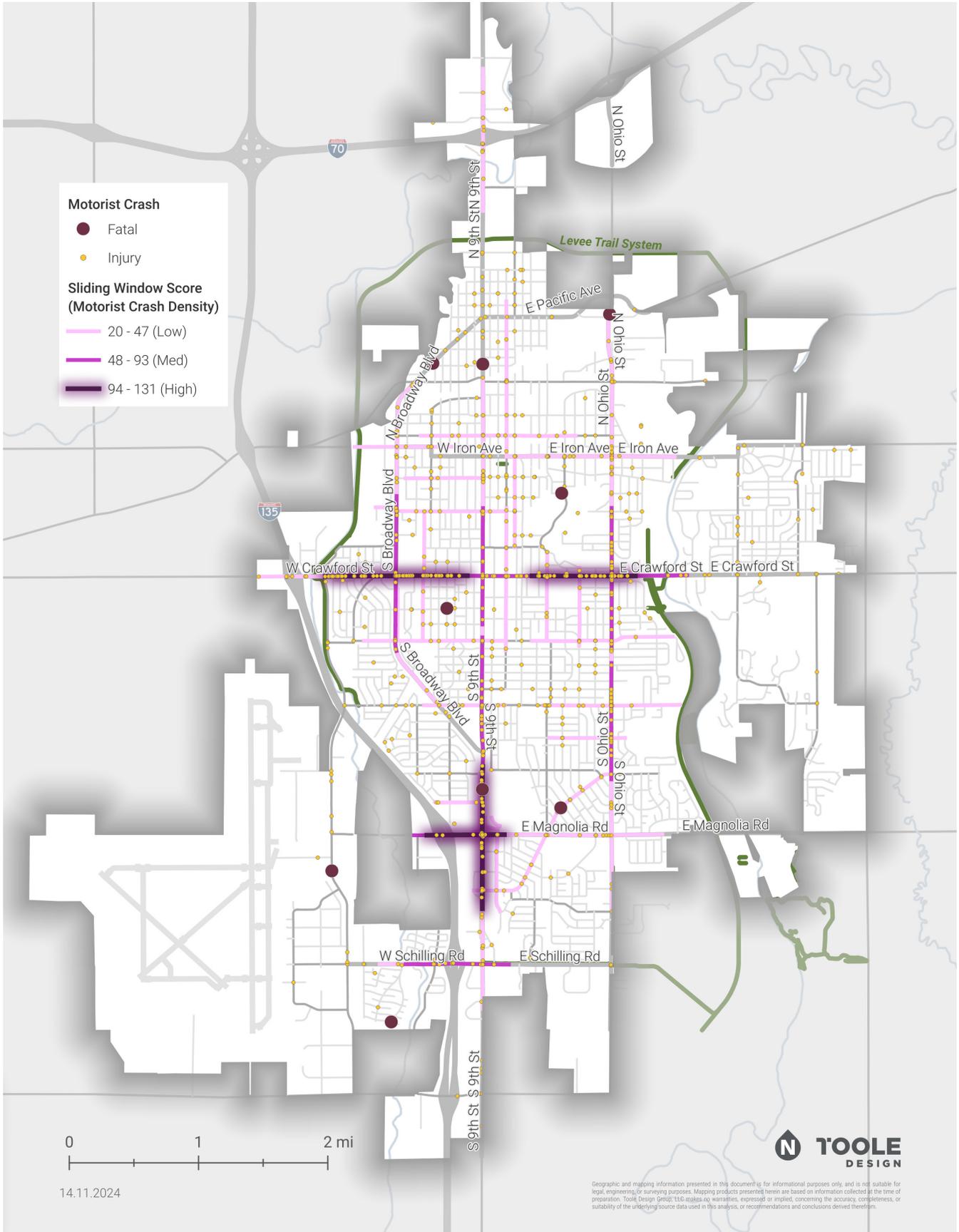


FIGURE 14 Sliding Window Analysis - Vehicle Crashes



The High-Risk Network

The High-Risk Network identifies roadway segments in Salina that possess the same or similar roadway characteristics as those where severe injury or fatal crashes have occurred in the past. In other words, the roadway segments identified in this analysis may not have a history of injury and fatal crashes, but they have a similar **potential for crashes** as roadways that do have a history of crashes.

The analysis considers roadway characteristics like the number of lanes, speed limit, and functional classification (e.g., Arterial, Collector, Local Street) and assigns roadway segments to one of five tiers: Critical, High, Medium, Low, or Minimal. Each tier represents a group of attributes correlated with differing frequencies of fatal and injury crashes.

About 66% of fatal and injury crashes in Salina are on critical, high, and medium tier facilities. Yet, these facilities only represent 13.7% of the total roadway miles in the city. Examining only the Critical tier facilities shows that **2.5% of the total roadway miles in Salina account for 21% of fatal and injury crashes**. Figure 16 compares the share of roadway miles in each risk tier to the percent of crashes occurring in each tier.

FIGURE 17 High Risk Network Comparison of Percentage of Total Crashes to the Percentage of Total Roadway Miles

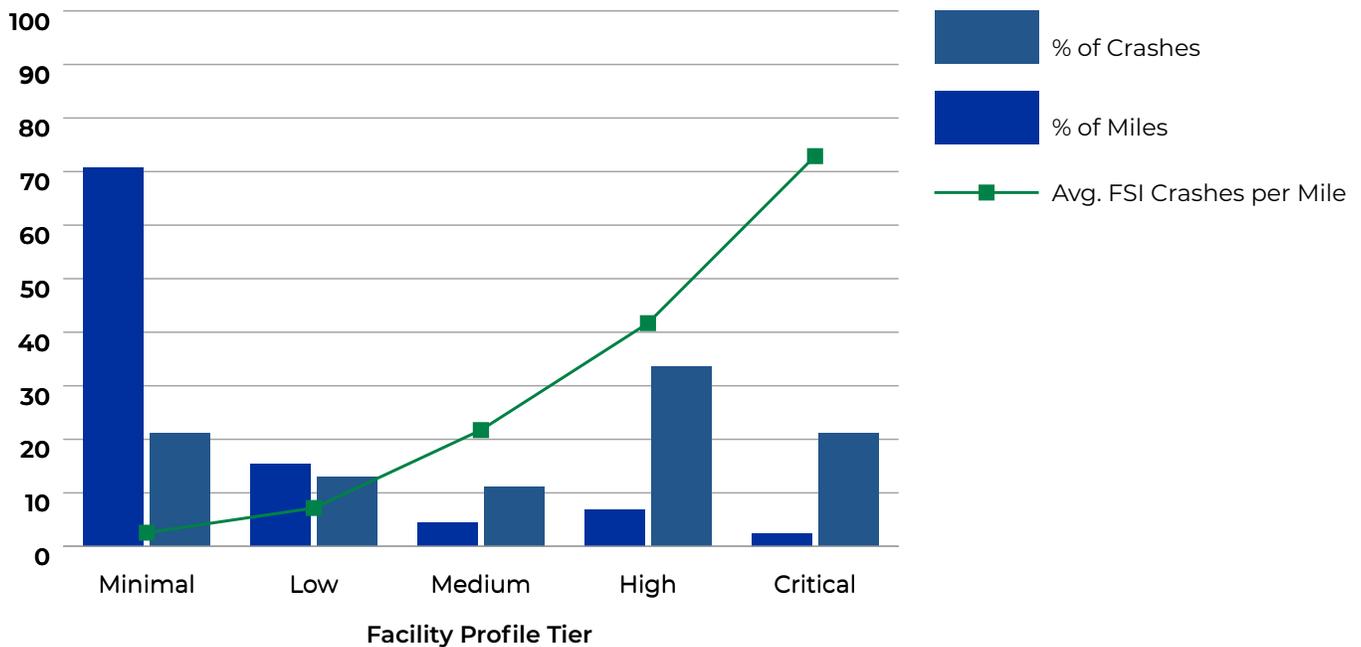
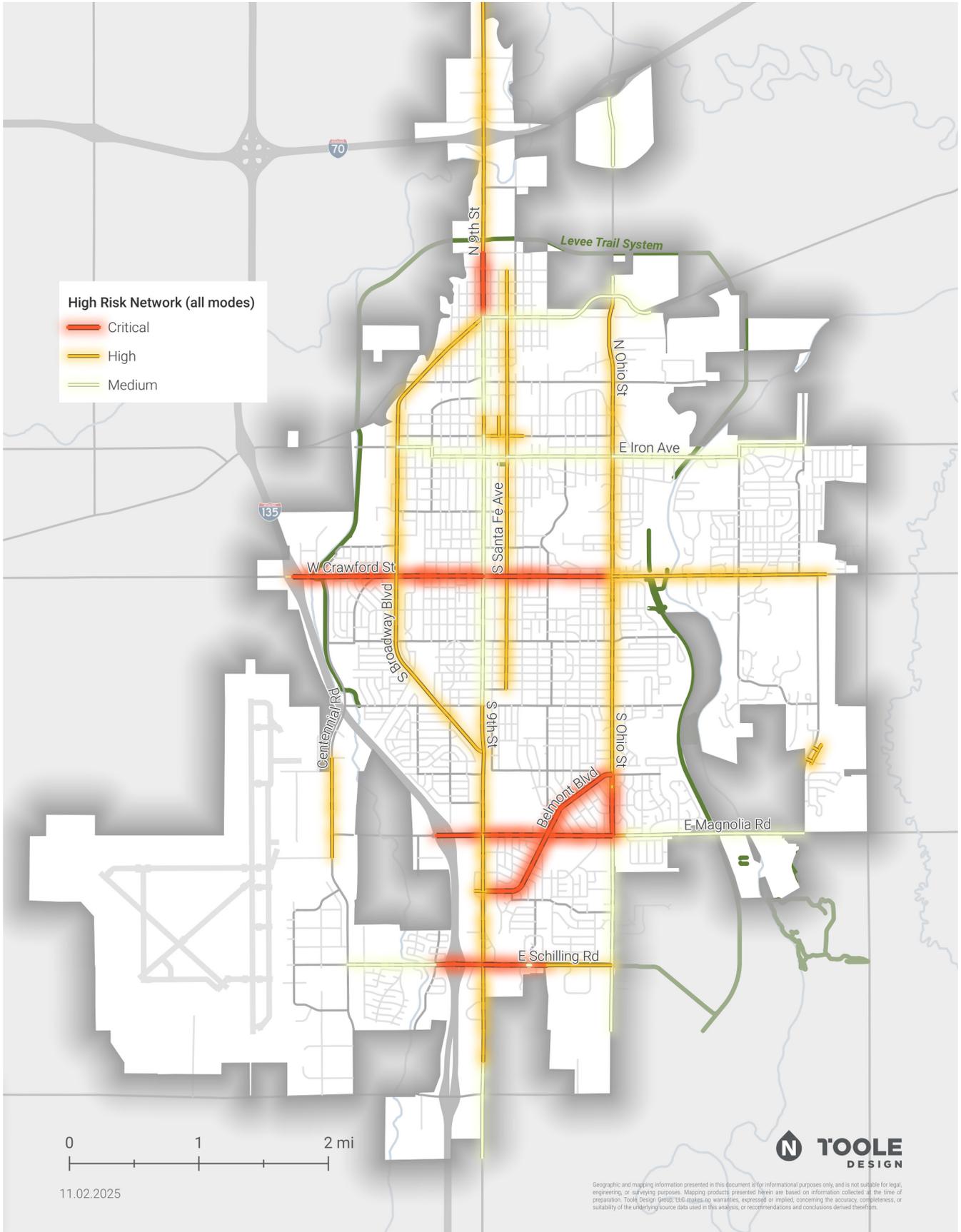


FIGURE 18 High Risk Network - All Modes



The following streets are considered high-risk corridors due to their safety concerns. There is significant overlap between the roadways which appear on the High Injury Network and High Risk Network, meaning addressing the safety issues on these roadways can work to significantly reduce the number and severity of crashes that have occurred in the past five years and work towards reducing future risk of crashes.

- Ohio Street
- Crawford Street
- Magnolia Road
- Schilling Road
- Broadway Boulevard
- Santa Fe Avenue
- Belmont Street

Project Identification and Prioritization

The mission of Vision Zero requires changing how we design and operate our transportation system. The Safe System Approach is the foundation for this change. While considerations such as speed and throughput on Salina's roadway network are important, the safety of all road users should be paramount. Transportation safety should be featured in city plans, policies, and programs and ultimately become part of the city's culture.

Through this Plan's analysis, some roadways have been identified in the High-Injury Networks and High-Risk Network as being particularly dangerous or having the potential to be dangerous. These roadways should be prioritized for proven safety countermeasures and roadway treatments that:

- Reduce vehicle conflicts at intersections
- Reduce vehicle speed, especially in areas with active or anticipated pedestrian and bicyclist activity
- Create safe and comfortable networks for pedestrians, bicyclists, and transit users of all ages and abilities

To help City of Salina staff and decision makers select and prioritize safety projects, the project team put together a safety countermeasure toolbox and decision matrix which identifies effective strategies to prevent crashes in different contexts. This Toolbox is available through the City of Salina.

Corridor Profiles

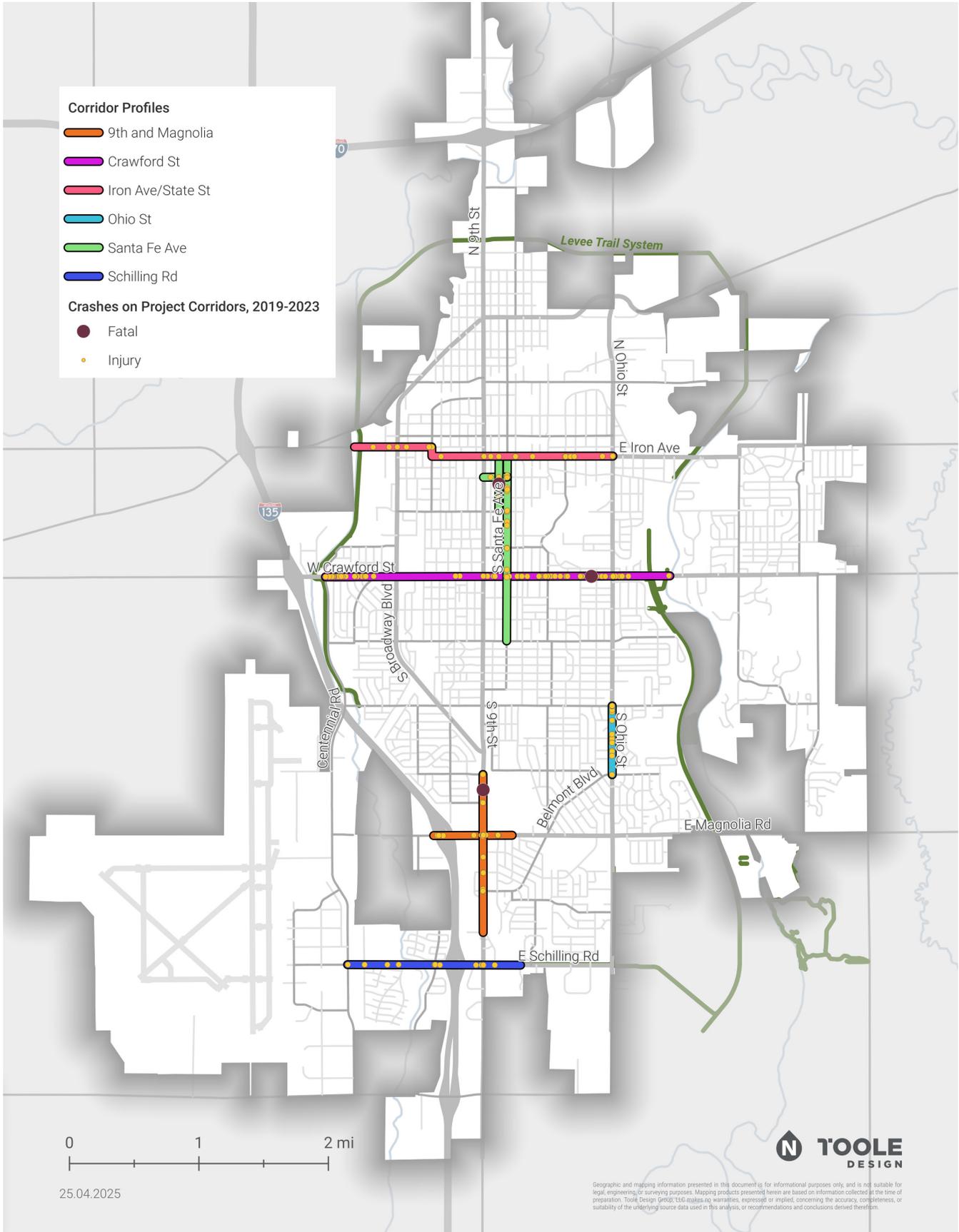
Moving from plan development to implementation is a daunting process. To streamline this transition, the project team took the crash analysis performed as part of plan development (including the HIN and HRN) to identify the top corridors where fatal and injury crashes most frequently occur.

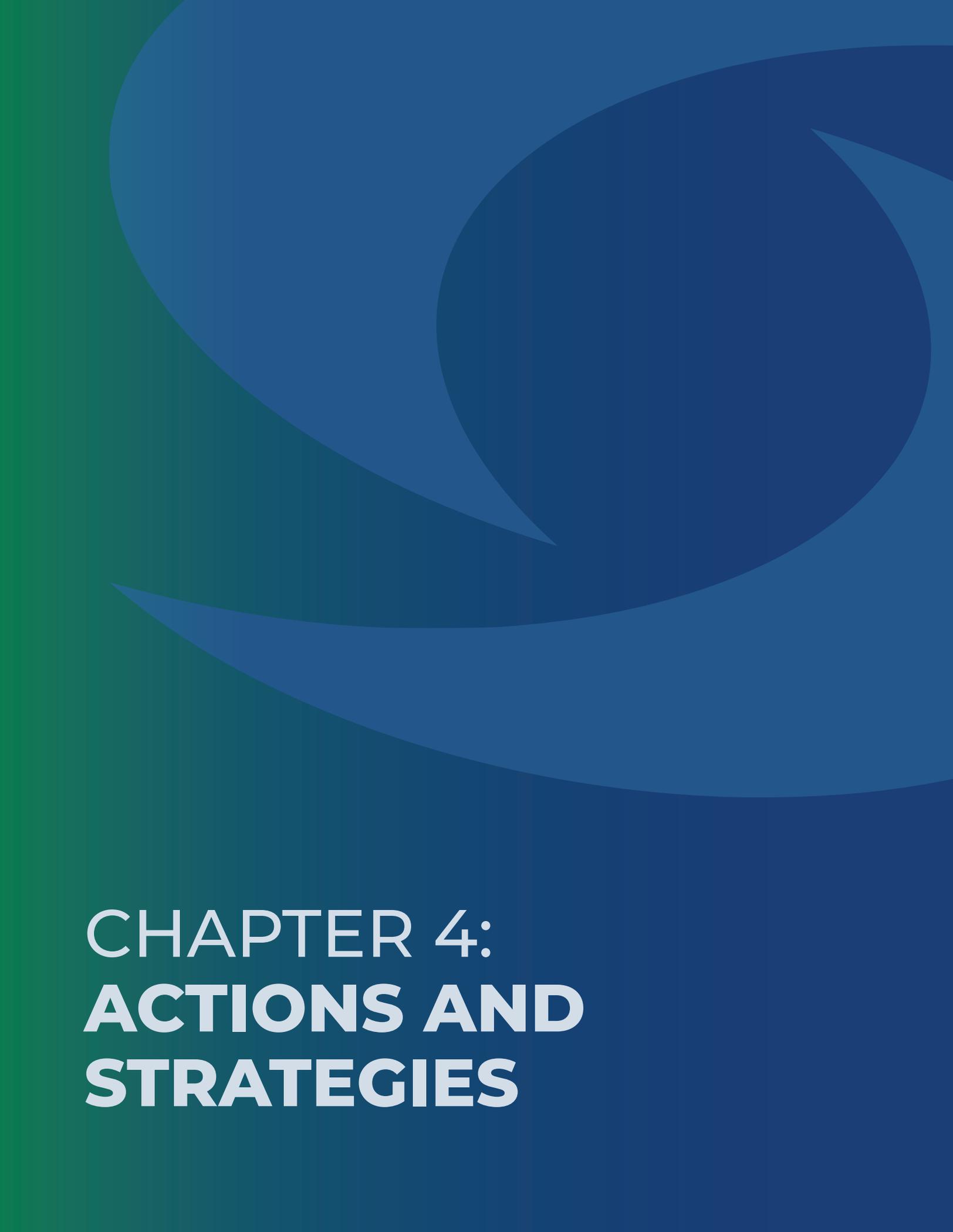
TABLE 4 Top Corridors by Number of Crashes

	CORRIDOR	FATAL	INJURY
1	Crawford St from Centennial Rd to Smokey Hill River	1	134
2	The intersection of 9th St and Magnolia Rd (9th St from Otto Ave to Sullivan Dr and Magnolia Rd from the W side of 135 to Rockhurst)	1	93
3	W Schilling Rd from Centennial Rd to Enterprise Dr	0	38
4	Ohio St from E Wayne Ave to E Cloud St	0	25
5	Santa Fe Ave from Iron Ave to E Republic Ave (include the portions of Walnut St from 9th St to Santa Fe Ave and 7th St from Iron Ave to South St in the same corridor)	1	21
6	Iron Ave/State St from the W City line to Ohio St	0	40

Corridor profiles were constructed for each of these segments to identify the existing safety issues and to provide specific countermeasures and roadway treatments proven to prevent fatal and injury crashes from occurring in the future. These recommendations were further refined by public and stakeholder feedback received as part of the outreach and engagement portion of this plan. Appendix E showcases each of these corridor profiles.

FIGURE 19 Corridor Profile Segments



The background features a large, abstract graphic composed of overlapping, curved shapes in various shades of blue and green. The shapes are layered, creating a sense of depth and movement. The colors transition from a vibrant green on the left to a deep blue on the right.

CHAPTER 4: ACTIONS AND STRATEGIES

Actions and Strategies

This chapter identifies specific actions and strategies designed to achieve the goals of this Plan and address the roadway safety issues identified throughout the planning process.

Clear tasks and responsibilities create an environment where city staff and partners can work together to achieve the larger plan goals of reducing traffic deaths and serious injuries on Salina's roadways through a series of discrete defined actions.

Recommended Actions and Strategies

Based on the goals established earlier in the first chapter of this plan, the City of Salina generated specific, measurable objectives that can be achieved through the actions outlined below. For each action, responsible partners, timelines, and rough order of magnitude costs are identified.



CREATE A COMMUNITY THAT PRIORITIZES SAFETY FOR ALL ROAD USERS	
1	If a fatal crash occurs, hold a debrief meeting with city staff, first responders, and others to identify what happened and what could have prevented the incident
2	Develop Salina Vision Zero signage to display during and after construction projects that include significant safety components
3	Continue to regularly engage with the public to identify safety needs
4	Update the city's communication and education materials relating to sidewalk maintenance and snow removal
5	Continue to monitor and publish crash statistics to show progress towards Vision Zero goals
6	Ensure safety is communicated when talking with the public about transportation projects and programs
7	If a crash occurs, work with media to avoid blaming the victim in reports and mention Vision Zero efforts
8	Partner with youth organizations to create peer anti-distraction, anti-speeding, and pro-seatbelt messaging campaigns
9	Create a behavioral campaign to improve vehicle yield rates (yielding to pedestrians in crosswalks)

TAKE A PROACTIVE APPROACH TO ROADWAY SAFETY TO PREVENT CRASHES BEFORE THEY OCCUR	
1	Establish a Vision Zero board or commission to lead ongoing efforts to prevent fatalities and serious injuries
2	Set a goal to complete one safety infrastructure project per year
3	Study speed limit reductions citywide (especially on residential roadways and roadways marked with sharrows)
4	Develop a systemwide approach to reducing vehicle operating speeds
5	Create/Update engineering design standards to include safety countermeasures and treatments from the Countermeasures Toolbox
6	Inventory and evaluate lighting along High Injury Network (HIN) roadways, especially pedestrian and bicyclist HINs
7	Coordinate with Salina Police Department to enforce speed on High Injury Network Corridors
8	Work with trucking industry to identify truck routes and specific needs of large vehicles
9	Work with KDOT to perform one Road Safety Audit (RSA) per year

PRIORITIZE SAFETY IN CITY POLICIES, PROCESSES, AND PROGRAMS	
1	Update the Safety Action Plan, High Injury Network, and safety goals every five years
2	Create/Update engineering design standards to include safety countermeasures and treatments from the Countermeasures Toolbox
3	Establish permanent, dedicated local funding to implement safety improvements
4	Apply for Federal and State grant funding and provide local match as needed to implement safety projects and programs
5	Dedicate staff time and resources to learn more about safety countermeasures, implementation, and best practices
6	Conduct roadway safety training and Complete Streets training for City staff, consultants, and contractors working on Salina's roads
7	Increase funding for sidewalk cost share program to repair missing or broken sidewalks
8	Incorporate the Safe System Approach into Capital Improvement Plan (CIP) project prioritization and the City's Comprehensive Plan by updating project scoring criteria
9	Develop a process to evaluate the effectiveness of safety improvements after they are implemented

CREATE SAFE AND COMFORTABLE OPPORTUNITIES FOR WALKING AND BIKING ON SALINA'S ROADWAYS	
1	Study the feasibility of adding a buffer or physical separation from vehicle traffic for bike facilities on roads with speed limits >30 mph and traffic volumes >3,000 vehicles per day
2	Enhance transit stop accessibility and shelters to make transit a safer and more accessible option for all users
3	Evaluate the need for mid-block pedestrian crossings along roadways where there are no intersection crossings for >700 ft. ¹
4	Prioritize bicycle and pedestrian projects in areas where persons may not have access to a vehicle and are forced to walk or bike
5	Complete a review of sidewalks and crossings within 300 ft of transit stops
6	Update the Bicycle Master Plan
7	Develop Safe Route to School Plans
8	Enhance high-visibility crosswalk markings at intersections and mid-block crossings along the bicyclist and pedestrian high injury networks
9	Adopt a Complete Streets Policy to consider bicycle, pedestrian, and transit needs for all construction and maintenance projects

1 <https://www.ksdot.gov/home/showpublisheddocument/1691/638739071671330000>

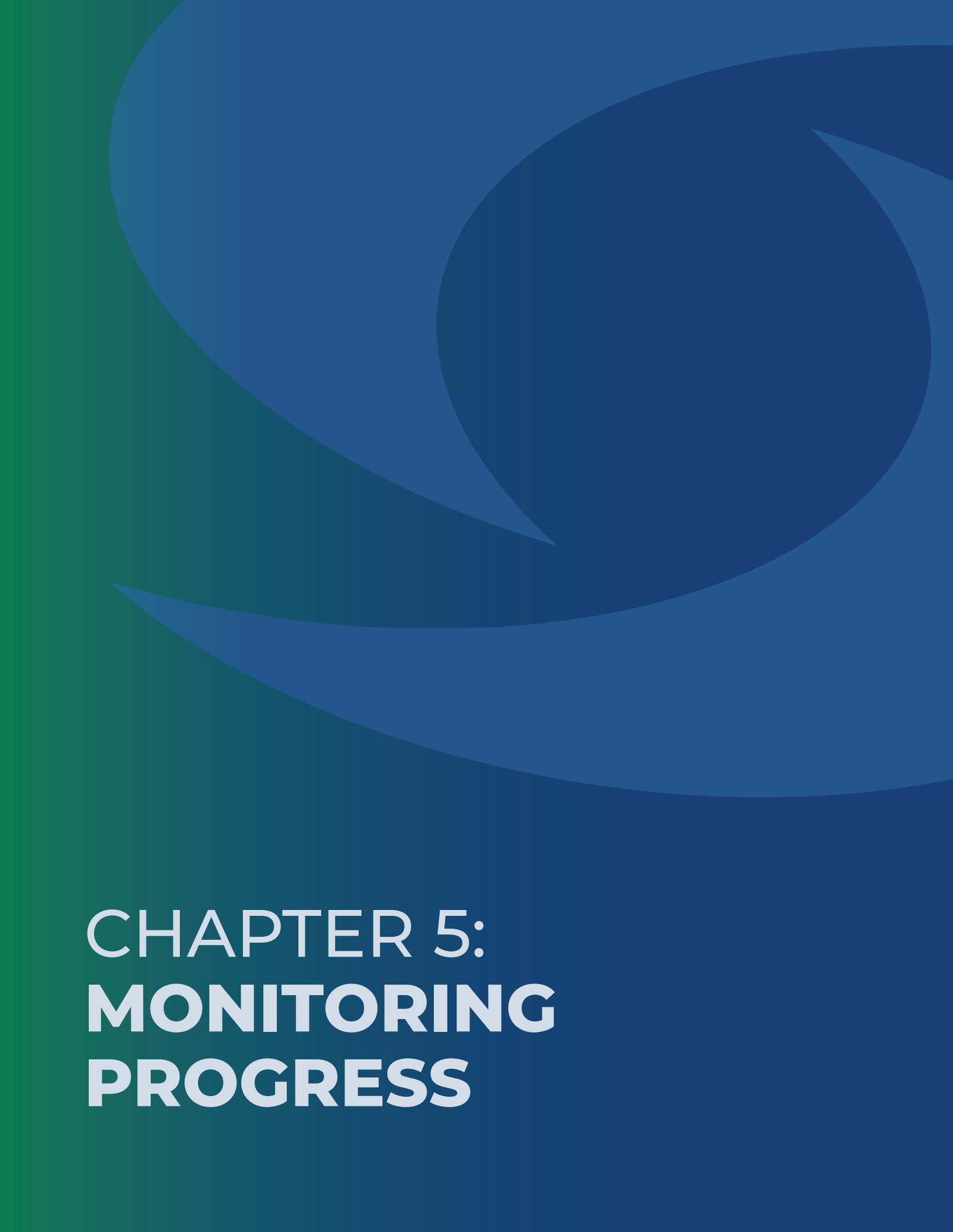
Safety Toolkit

Reducing deaths and serious injuries on Salina roadways requires design changes which address the factors contributing to unsafe roadway conditions. The Safety Countermeasures Toolbox (separate from this document) is a collection of street design treatments, or tools, aimed at lowering motor vehicle speeds and reducing crashes in Salina—particularly crashes involving serious injuries or fatalities. The toolkit is a resource for city staff, residents, and stakeholders, offering insight into a proven suite of tools customized for the City of Salina's specific issues and needs for improving traffic safety and enhancing the comfort of city streets.

Within the toolkit, each treatment is detailed on an individual page, outlining its purpose, common application areas, impact on roadway safety, design and placement considerations, expected crash reduction (when data is available), as well as rough estimates of costs and installation time.

Some countermeasures, like high-visibility crosswalks, can be adopted as part of Salina's routine street resurfacing. Others, like rectangular rapid flashing beacons (RRFBs) require additional study before installation at a given location. Refer to [KDOT's Crosswalk Guidance and Guide to Crosswalk Countermeasures](#) for more information.

Many safety countermeasures come from the Federal Highway Administration's (FHWA) Proven Safety Countermeasures guide which documents research on crash reduction benefits of particular tools.

The background features a large, abstract graphic composed of overlapping, curved shapes in various shades of blue and green. The shapes are layered, creating a sense of depth and movement. The colors transition from a vibrant green on the left to a deep blue on the right.

CHAPTER 5: MONITORING PROGRESS

Monitoring Progress

This Plan includes actions, strategies, and projects that will help move toward a goal of eliminating fatal and serious injuries by 2035 on Salina's roadways. This Plan should be used consistently in planning and decision-making. It is critical to track what is or isn't working and whether actions are resulting in safer streets so the Plan can be modified in future updates to continue progress toward a safer transportation system in Salina.

Performance Measures

Evaluation and regular reporting are essential in understanding how the approaches outlined in this Plan are working. Local and regional partners will also need to help monitor success and barriers. Often minor changes to how treatments are implemented can have larger impacts. If certain approaches are not working well, the City should assess and modify plans and projects as needed while still focusing on the elimination of fatal and serious injuries on all of Salina's roadways. Below is a list of recommended performance measures to help the city track progress towards a safer transportation network.

Measures

- Number of fatal crashes
- Number of serious injury crashes
- Number of large-scale safety projects
- Number of sidewalk segments repaired or replaced
- Number of sidewalk gaps filled in the network
- Number of separated/buffered bike lane miles
- Number of miles of roadways with reduced speed limits and/or traffic calming treatments

