City of Rockford
Traffic Safety Action Plan

Final Report
September 2025



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Traffic Safety Action Plan

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This document has been prepared by Region 1 Planning Council in collaboration with and on behalf of City of Rockford.

This report was prepared in cooperation with the following:

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The contents, views, policies, and conclusions expressed in this report are not necessarily those of the above agencies.

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PART 1:

Introduction

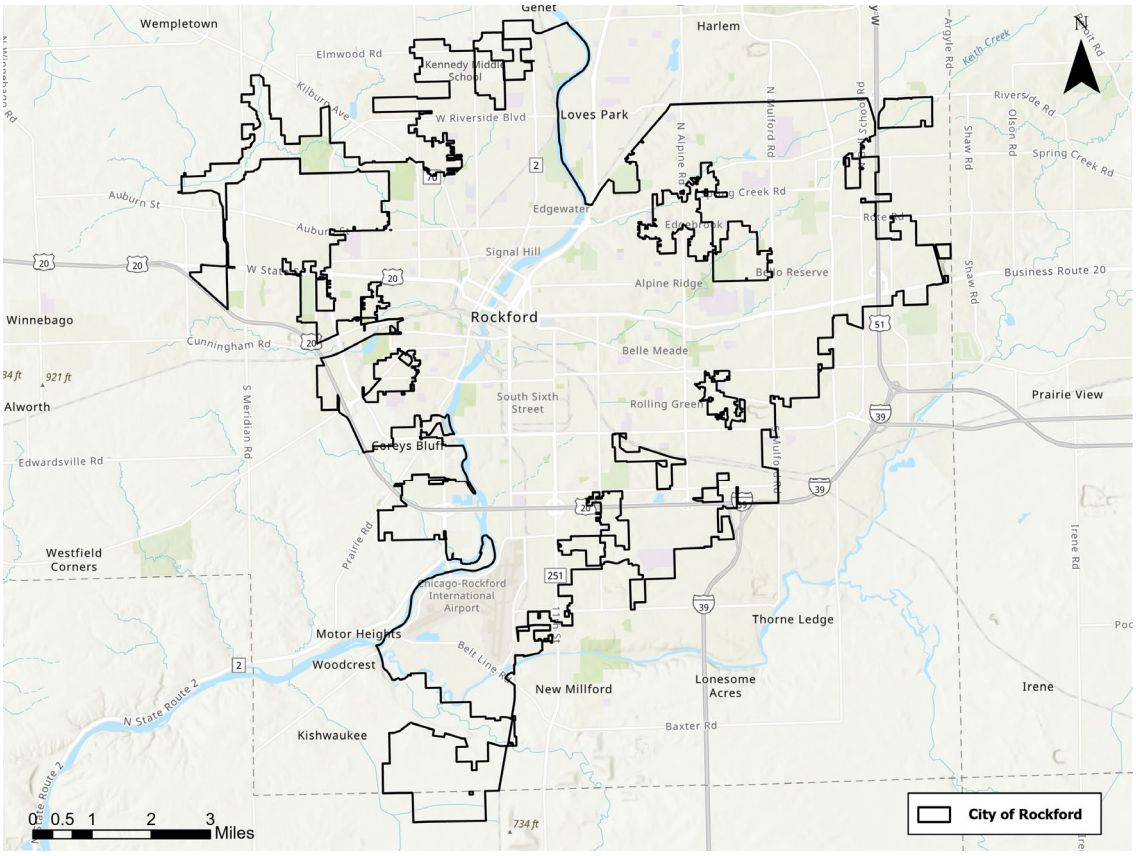
The United States is facing a traffic safety crisis. According to the United States Department of Transportation (USDOT), almost 95 percent of people who die using the nation's transportation networks are killed on streets, roads, and highways.[i] For perspective, 42,939 people lost their lives on roadways across the nation in 2021, the number of people that could fill the average baseball stadium.[ii] Forty percent of these crashes are happening on local roads. Traffic safety impacts the lives of individuals in every city throughout the United States, including in the City of Rockford.

As a means of addressing this issue, many local agencies are taking proactive steps in addressing traffic safety within their jurisdictions, including developing safety action plans, such as this one. These plans demonstrate a commitment to improving traffic safety and are proven to help reduce severe crashes on local road systems. Understanding the importance of addressing this issue, the City of Rockford has adopted this document, the Safety Action Plan for the City of Rockford. Its purpose is to (1) develop a comprehensive understanding of the state of traffic safety on the city's roadways; (2) identify local trends through extensive data analysis; (3) establish a vision, goals, and strategies to reduce the number of fatalities and serious injuries; and (4) create a framework for activities that can be implemented to improve traffic safety.

Study Area

The study area for this document is the City of Rockford municipal boundaries.

Figure 1-1: Map of the City of Rockford Boundaries



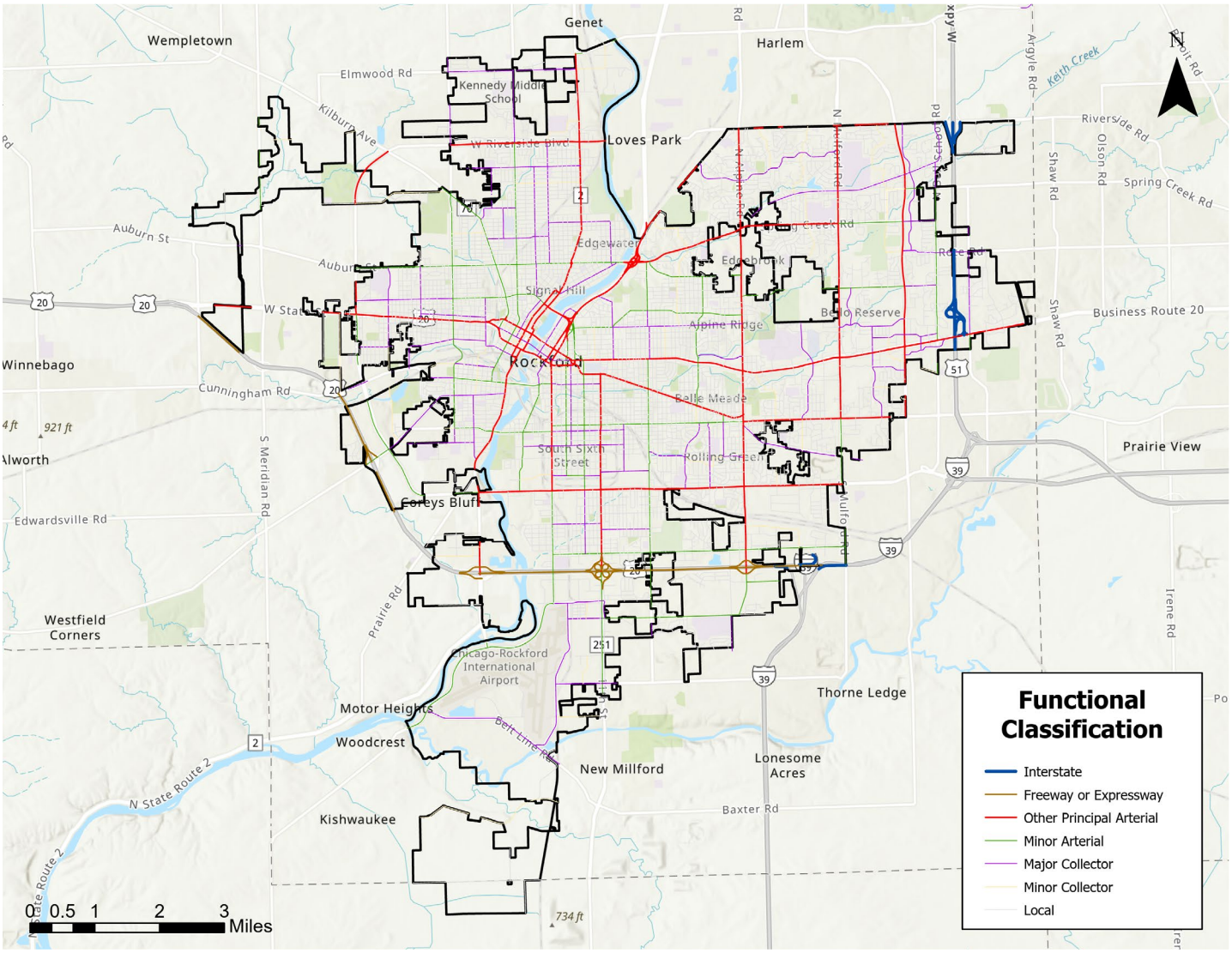
Source: Region 1 Planning Council

As shown in Figure 1-1, the City of Rockford covers a significant portion of the Rockford Urbanized Area. As of the 2020 Census, the City of Rockford had a population of 148,655. 48.73% of the population were White, 22.51% were Black or African American, 19.9% were Hispanic or Latino, 3.46% were Asian, and 5.4% were Mixed Race, Multiracial, or Other.[iii] According to the 2017 Illinois Roadway Analysis Database System, the City of Rockford had 684.8 total miles of roadways. A breakout of the functional classification of these roadways is shown in Figure 1-2. 1,300.63 miles of these roads are owned by the City of Rockford.

Safe System Approach

This action plan uses the Safe System Approach as the guiding paradigm to address roadway safety. The Safe System Approach addresses and mitigates risks in the transportation network by emphasizing multiple layers of protections to both prevent crashes from happening in the first place and minimize the harm caused to those involved when crashes do occur. It is a comprehensive approach that provides a guiding framework to make places safer for people.[iv] The traditional road safety strived to modify human behavior and prevent all crashes. Comparatively, the Safe System Approach refocuses transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity.

Figure 1-2: Map of the City of Rockford Roadways by Functional Classification



Source: Region 1 Planning Council

Table 1-1: Safe System Approach vs. Traditional Road Safety Practices

Traditional Road	Safe System
Prevent crashes →	Prevent deaths and serious injuries
Improve human behavior →	Design for human mistakes/limitations
Control speeding →	Reduce system kinetic energy
Individuals are responsible →	Share responsibility
React based on crash history →	Proactively identify and address risks

Whereas traditional road safety strives to modify human behavior and prevent all crashed, the Safe System approach also refocuses transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives.

Source: Federal Highway Administration

As shown in Figure 1-3, the Safe System Approach incorporates six core principles and five elements. Principles and elements of the Safe System Approach are incorporated throughout the document.

Figure 1-3: Safe System Approach



Source: Federal Highway Administration

More information on this approach can be found in Appendix B: National Roadway Safety Strategy.

Safe Streets for All

The City of Rockford Safety Action Plan has also been developed to align with the Safe Streets for All's Action Plan Components. Safe Streets for All (SS4A) is a federal discretionary grant program designed to support USDOT's National Roadway Safety Strategy. Under the SS4A, there are eight components that need to be included in the Action Plan for an applicant agency to be eligible for SS4A Implementation Grants and Supplemental Planning/ Demonstration Activities. These components include:

- Leadership Commitment and Goal Setting
- Planning Structure
- Safety Analysis
- Engagement and Collaboration
- Policy and Process Changes
- Strategy and Project Selections
- Progress and Transparency

Similar to the Safe System Approach, these eight components are incorporated throughout the document. The SS4A Self-Certification Eligibility Worksheet, included as Appendix G, notes where each of the components has been incorporated.

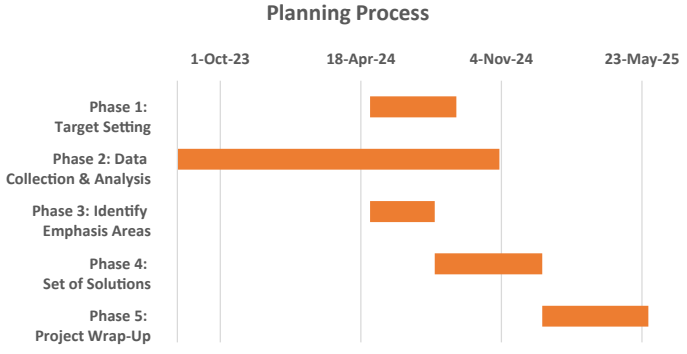
More information on the SS4A Grant Program can be found in Appendix B.

Planning Process

The City of Rockford Traffic Safety Action Plan was developed over a 24-month period between 2023 and 2025 using an overlapping phased process, as shown in Figure 1-4. This means that several of the phases started before the completion of the previous phase or were completed concurrently. This approach streamlined the process flow, reduced lead times, and maximized resources. It also allowed information used in one phase to inform or influence other phases. For example, the data collection and analysis phase informed the emphasis area phase and vice versa.

Stakeholder and public involvement occurred throughout the planning process and informed the development of various aspects of the plan. More information on outreach efforts can be found in Appendix C.

Figure 1-4: Planning Process



A description of work activities completed in each phase is detailed below.

Phase 1 – Target Setting: The initial phase of this project was to reach a consensus of the local stakeholders within the city on the target goal that demonstrates the city's commitment to significantly reduce the number of fatalities and serious injuries by a specific date.

Phase 2 – Data Collection & Analysis: The second step in the development of the Traffic Safety Action Plan was data collection and analysis. A variety of data was collected and analyzed from national and state sources that are readily available and reliable, and local agencies were consulted for more granular level data than what may be available at the national or state level. Some of these analyses included numeric data trends in crashes by year, the spatial analysis of crash locations, and the causes and contributing factors of crashes. More information on the data collected and the results of this phase can be found in Part 4. Data Analysis & Summary.

Phase 3 – Identify Emphasis Areas: The second phase was to develop a common understanding of the traffic safety concerns and issues that exist within the City of Rockford. In combination with the data analysis, these concerns and issues helped identify and prioritize a series of emphasis areas for the city. Emphasis areas represent contributing factors or populations that are overrepresented in the data, such as pedestrians, lane departures, impaired driving-related crashes, intersection crashes, and others. Stakeholder and public input were used in the prioritization of emphasis areas. A description of the emphasis areas, along with associated data, can be found in Part 5. Emphasis Areas.

Phase 4 – Set of Solutions: Once the current conditions and trends were identified, a set of solutions were developed that can be accomplished at a citywide level in order to greatly reduce fatalities and serious injuries on the roadway network. This set of solutions focuses around strategies and projects that reflect the Safe System Approach's five elements. The set of solutions include proven safety countermeasures, education and awareness campaigns, and enforcement strategies. The set of solutions is presented in a prioritized list with associated timeframes. The prioritized set of solutions is presented in Part 6. Strategies and Recommendations.

Phase 5 – Project Wrap-Up: The final step in the planning process was the development of the City of Rockford Traffic Safety Action Plan. When the draft document was complete, a 30-day public comment period was held to gather feedback from stakeholders and the members of the public. Following the public comment period, the Plan was presented to the Rockford City Council for recommendation and adoption.

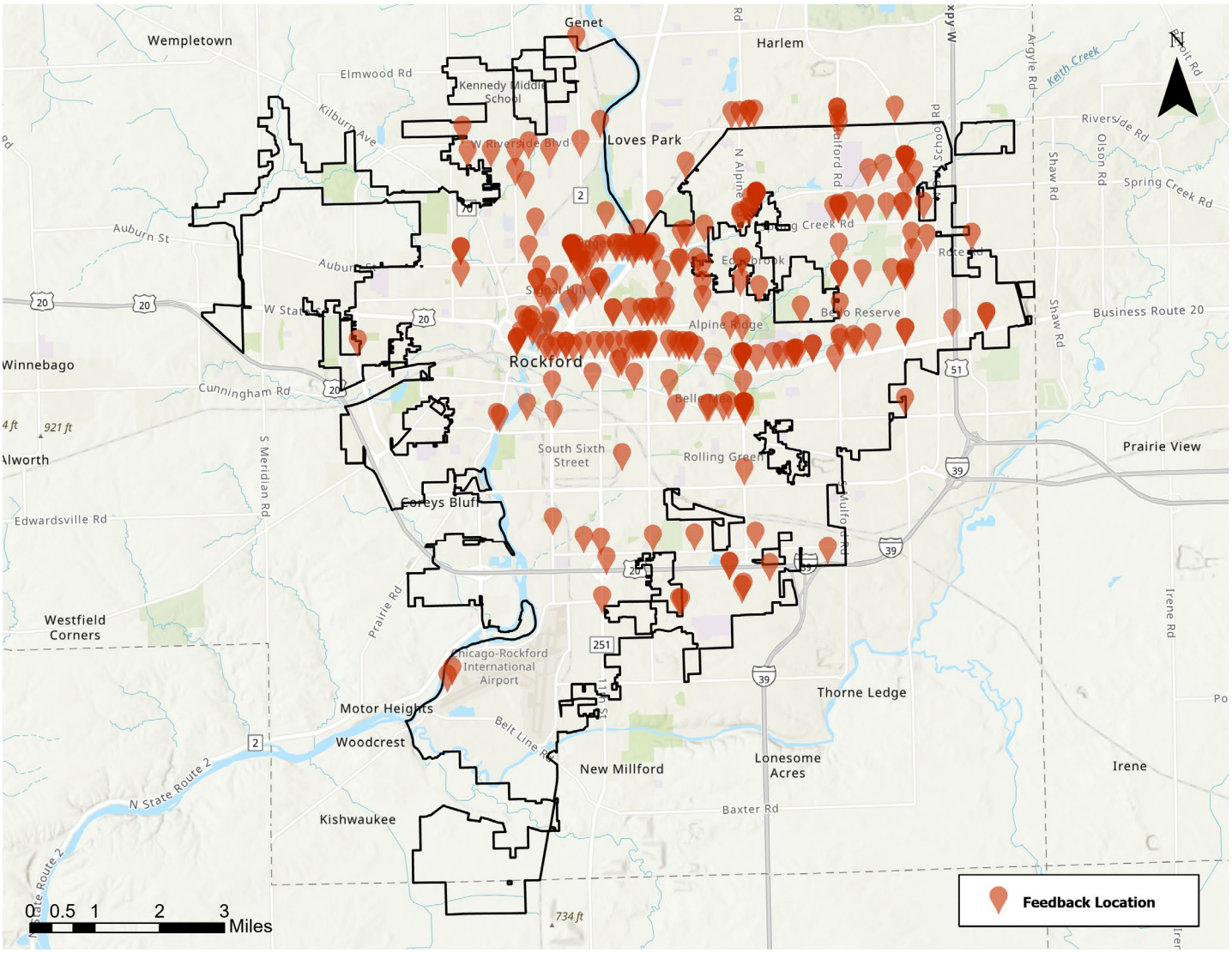
Safety Partners

Traffic safety should be approached from a holistic, multi-disciplinary perspective. As such, multiple partners, stakeholders, and members of the public came together to provide input into the development of this plan. The steering committee was made up of multiple partners working within the City of Rockford in positions that directly deal with or influence traffic safety. Members represented, but were not limited to, the City of Rockford Police Department, Rockford Public Schools (RPS), Rockford Mass Transit District (RMTD), I Bike Rockford, City of Rockford Public Works, and the Secretary of State's Office in Rockford.

In addition to guidance from the steering committee, input on traffic safety in the City of Rockford was also sought from members of the public. Region 1 Planning Council (R1) staff launched a project webpage for the safety plan on R1's engagement platform, Engage R1. On the platform, individuals could complete a traffic safety survey as well as provide location-specific feedback through an interactive map. The information gathered from the online engagement platform helped inform the emphasis areas and priority projects. The results of the interactive map are shown in Figure 1-5.

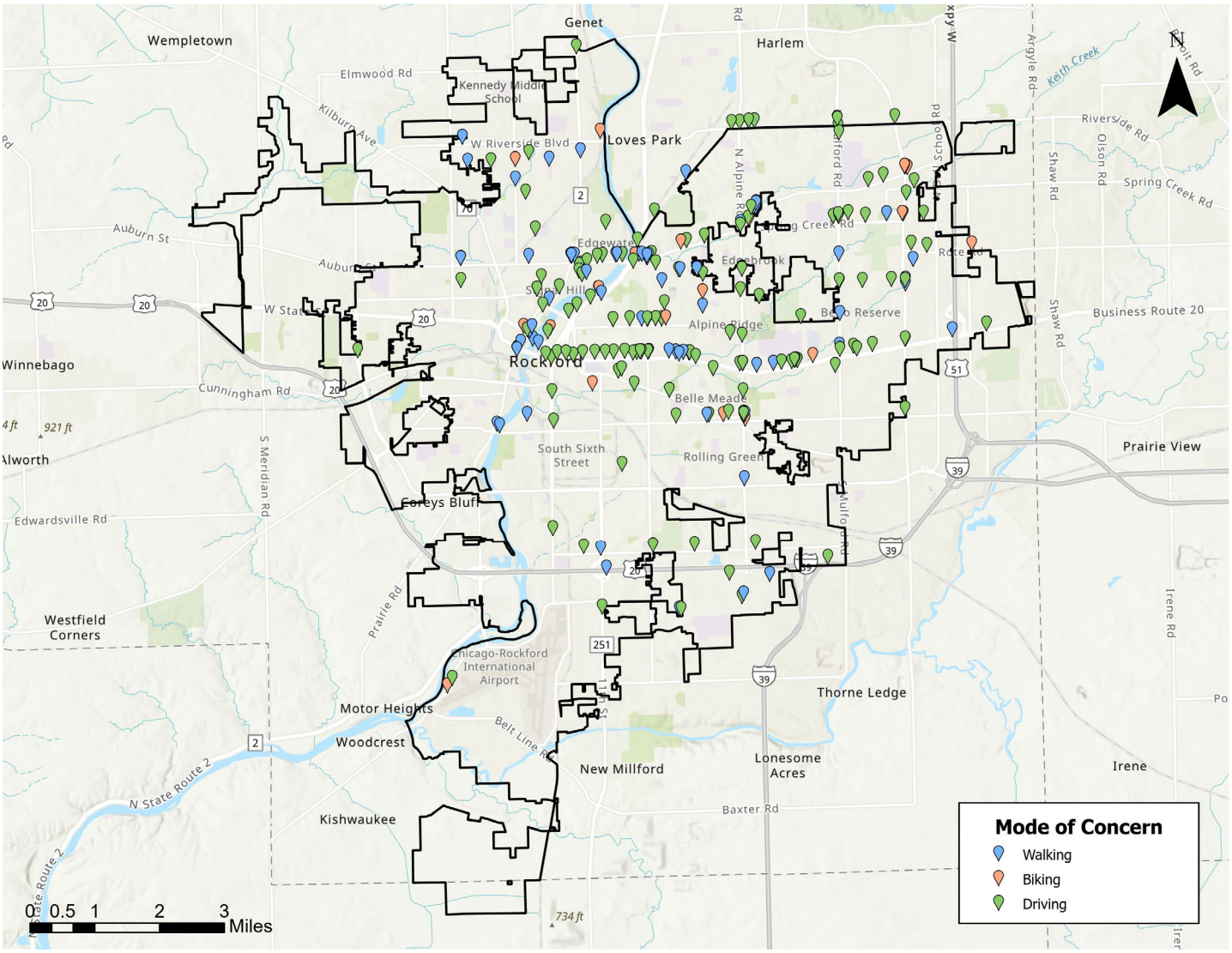
More information on the stakeholder and public engagement undertaken for this plan can be found in Appendix C: Public & Stakeholder Engagement.

Figure 1-5: Engage R1's Transportation Safety Map Results



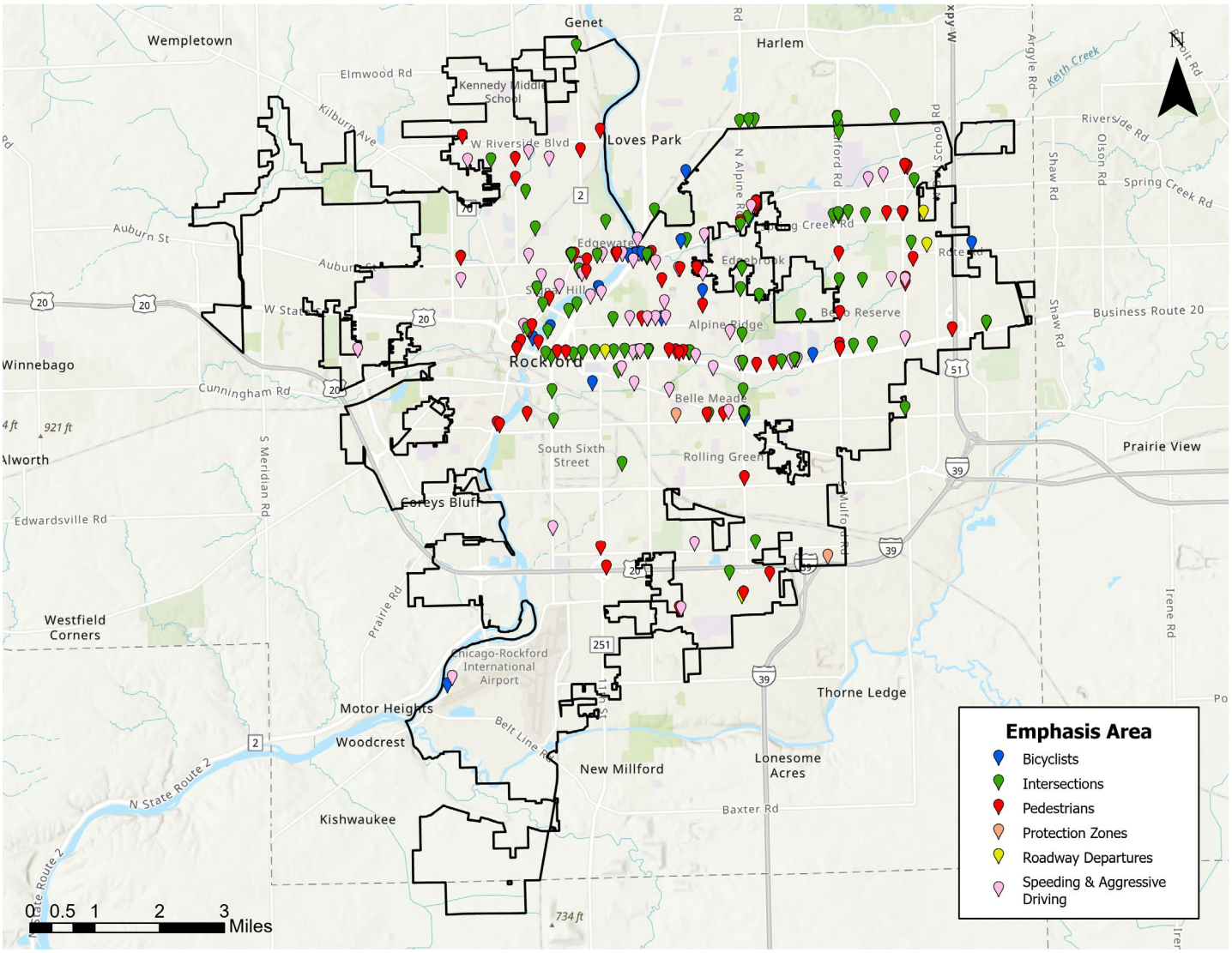
Source: Region 1 Planning Council

Figure 1-6: Engage R1 Submission Locations by Modes of Concern



Source: Region 1 Planning Council

Figure 1-7: Engage R1 Submissions Categorized by Emphasis Area



Source: Region 1 Planning Council



PART 2:

Vision, Mission, & Goals

Strategic direction plays a vital role in how the City of Rockford achieves a significant reduction of fatalities and serious injuries. The vision, mission, and goals of the City of Rockford Traffic Safety Action Plan helps align stakeholders, create a unified purpose in developing city-wide efforts, and set measurable targets for performance management. The elements outlined below present a framework to focus funding and resources to implement safety policies, programs, and projects that will best achieve the identified safety vision, mission, and goals.

The long-term vision for the City's action plan demonstrates the City's commitment to ensuring that all users of the road network in the city reach their destinations safely. The mission recognizes that a collaborative, multi-disciplinary approach that is both proactive and data-driven is needed to achieve a significant reduction in crashes that result in serious injury or fatality. The goals of the plan represent how the long-term vision will be achieved.

Vision

Eliminate traffic-related fatalities and serious injuries in the City of Rockford, while increasing safe and functional mobility for all.

Mission

Work collaboratively within the City of Rockford and with surrounding jurisdictions to emphasize a positive traffic safety culture and use a data-driven, proactive approach to prioritizing proven safety solutions effectively.

Goals

- Achieve a 50-percent reduction of traffic fatalities and serious injuries by 2050.
- Pursue funding opportunities for identified safety solutions.
- Prioritize and program needed roadway safety improvements.
- Increase awareness of road safety and risks through education and enforcement.
- Promote the use of high-value countermeasures.
- Communicate safety as a shared language.
- Bring attention to the safety of non-motorized roadway users.



PART 3:

State of Practice Review

The City of Rockford and its partner agencies prioritize traffic safety to protect all road users, including drivers, pedestrians, and cyclists. Working closely with City of Rockford agencies, Region 1 Planning Council (R1), the Metropolitan Planning Organization (MPO) for the Rockford Metropolitan Planning Area (MPA), has curated a list of current and proposed transportation system improvement projects, programs, and policies from across the city to assist in lowering crash rates and to encourage safer travel behaviors.

Projects are targeted safety enhancements focused on specific locations, while programs represent ongoing efforts or organized initiatives designed to improve traffic safety over time. Policies, in contrast, are formal guidelines, standards, and regulations established by governmental entities to shape and promote road safety systematically. The projects and programs described below illustrate the current state of the traffic safety practice in the City of Rockford. It should be noted that no policies were submitted for this section.

Projects

Projects are specific, tangible initiatives designed to address identified traffic safety issues in particular locations or along particular routes. Projects typically have a defined beginning and end and are often tied to physical construction or technological upgrades. Examples of traffic safety projects include installing roundabouts to reduce intersection collisions, upgrading traffic signals, adding pedestrian crosswalks, and enhancing roadway lighting. Projects may stem from safety audits, crash data analyses, or community input, and their completion can lead to measurable improvements in safety for specific areas.

City of Rockford

The City of Rockford completed a number of projects in recent years to address traffic safety issues within their jurisdiction. Four roadway rightsizing projects took place in the city between 2010 and 2023. These projects took places at:

- Sandy Hollow Road (From Kishwaukee Street to 9th Street)
- Sandy Hollow Road (From 20th Street to Merchandise Drive)
- North Rockton Avenue (From Auburn Street to Van Wie Avenue)
- Broadway (From 20th Street to East Gate Parkway)

Four roundabouts were also installed at intersections in Rockford to reduce speeds and conflict points at dangerous intersections. The following intersections were treated with a roundabout:

- North Main Street at Auburn Street
- College Avenue at Seminary Street
- Kishwaukee Street at Airport Drive
- Lyford Road at Mercy Way

The City also installed medians on Chelsea Avenue at Brendenwood Road to reduce conflict points. Right-in/right-out (RIRO) islands were installed on Palm Avenue at East State Street in 2022.

Rockford Park District

Rockford Park District (RPD) has commenced a gate installation project to improve safety and reduce access in multiple locations. RPD has also undertaken various security improvements including the installation of additional cameras, increased RPD Police activity, and the clearing of vehicular congregations during park closure hours.

Rockford Public Schools

Rockford Public Schools (RPS) recently completed projects at two of their middle schools aimed at improving the flow of traffic entering and exiting the school, particularly on foot. Lincoln and West Middle Schools' student drop off areas were redesigned to improve traffic flow and better protect students. Two left-turn lanes are also planned to be installed at Spring Creek Elementary School to improve safety while accessing the school from Spring Creek Road.

Programs

Programs are ongoing efforts or organized actions that aim to improve traffic safety over time through education, enforcement, and community engagement. They often target specific safety issues or demographics. For example, public education campaigns, such as those that promote seatbelt use or discourage impaired driving, are designed to influence long-term behavior change. Unlike one-time projects, programs are typically continuous, with the flexibility to adapt based on outcomes or emerging trends.

City of Rockford

The City of Rockford employed a number of different safety programs in recent years to improve traffic safety on their roads. Between 2006 and 2023, the City has removed 31 traffic signals from intersections where a traffic signal was not an appropriate treatment. The City also conducted a lane narrowing program using striping. In 2021 and 2022, 26 different sections of roadway received striping treatments intended to reduce speeds. Speed feedback signs that alert drivers if they are traveling in excess of the posted speed limit were placed on seven different roadways between 2013 and 2023.

Rockford Mass Transit District

Rockford Mass Transit District (RMTD) has conducted multiple programs aimed at reducing traffic safety risks. All RMTD hybrid and battery electric buses are equipped with an external speaker that alerts nearby roadway users that the bus is about to turn in a specific direction. Rockford Mass Transit District also performs ongoing reviews of stops and routes to make it safer for pedestrians to access stops.

Figure 3-1: RMTD Electric Bus



In March 2024, RMTD installed a software system that detects vulnerable roadway users through the use of intelligent vision sensors. The software then produces a flashing light to alert the driver of the presence of the vulnerable roadway user. The software tracks the locations of where the warnings are triggered; areas where warnings are frequently triggered can then be further evaluated for safety enhancements. The software also provides drivers with a passive alert if they are not observing a safe following distance.

Rockford Park District

The Park District is undertaking a Master Plan for Levings Park, which includes evaluating best practices to meet the needs for optimal traffic circulation, reducing vehicular speeds, and improving the availability of parking. Traffic-related items in Levings Park are also being evaluated in order to provide adequate EMS/Police response.



PART 4:

Data Analysis & Summary

An in-depth examination of vehicle-related crash data, focusing on the methodology used to identify, analyze, and prioritize areas within the High Injury Network (HIN) is critical to the understanding of roadway safety in the City of Rockford. These examination areas present a comprehensive look at how crash data is gathered, processed, and mapped to highlight areas of significant safety concern.

The criteria and analytical methods used to identify high-risk roadways and the ranking of these segments help to pinpoint specific locations with dangerous roadway conditions. This method ensures that safety improvements are targeted across communities, highlight potential concerns, and prioritize effective safety projects. Together, this analysis provides a data-driven foundation for informed decision-making in the development of targeted road safety measures.

Data Overview

Crash data provides the information necessary to identify system-wide and site-specific crash details. Analysis of such data identifies contributing factors and trends to which proven safety solutions and countermeasures are determined, recommended, and implemented. The data analysis conducted in this plan is based on crash tables and trees, as well as an analysis of the transportation network's high injury corridors.

Data tables developed from annually reported crash statistics give an overview of the total number, severity, and additional factors of all crashes. The data tables show yearly totals, five-year totals, and overall totals for the analysis period. Factors were all included as individual sets of tables, such as weather condition, collision type, road surface conditions, class of trafficway, day of week, time of day, lighting conditions, road defects, traffic control, roadway features, and driver condition.

Data trees also provide a high-level overview of all crashes that occurred in the City of Rockford during the study period. The data trees include information on intersection versus non-intersection, signalized versus non-signalized, and collision type, grouped into similar categories where appropriate. Additionally, crashes with severe outcomes, including serious injuries and fatalities, are shown to provide context to the type and general location of these crashes.

Crash data for the analysis period of 2017-2022 sourced from Illinois Department of Transportation (IDOT) for the City of Rockford was the primary dataset used for the analyses. Following the conclusion of the crash data analyses, the 2023 IDOT crash data became publicly available. However, the study period for this plan will remain between the years 2017 and 2022.

This crash data originates from law enforcement crash reports specific to each crash site. IDOT crash extract files included, but were not limited to, information such as a unique crash identifier (crash ID), crash severity, and causes. The person extract files corresponded with each unique crash ID and included additional details such as driver condition, seat belt use, and pedestrian prior action. Vehicle extract files gave information on vehicle type, condition of vehicles, and other pertinent information.

Crash extracts were used to determine contributing factors leading to crashes resulting in serious injuries (A) and fatalities (K). Additionally, spatial data with the location of each crash were also sourced from IDOT for the analysis period and were utilized in conducting the various analyses contained within the plan.

Analysis

The goal of this Traffic Safety Action Plan is to mitigate instances of serious injuries and fatalities by distinguishing factors that lead to severe outcomes and providing strategies that have shown to lower severe crashes. Understanding the types of crashes and contributing factors assists in determining locations to focus safety efforts. The following section provides a detailed summary of the types of safety analyses conducted and relative findings.

Statistics

While the analysis for this study focused on crashes resulting in serious injuries or fatalities from within the City of Rockford, the initial phase of data collection and analysis provides a high-level overview of all crashes that occurred in the area during this timeframe.

The Model Minimum Uniform Crash Criteria (MMUCC) provides updated scales for the severity of a crash through a "KABCO scale." The scale title is related to the individual codes associated with each outcome. Fatal crashes, otherwise known as 'K' crashes, are any crashes that involve a fatal injury: any injury that results in a death within 30 days after the motor vehicle crash in which the injury occurred. Serious injuries, otherwise known as 'A' crashes, are any crashes that involve a suspected serious injury.

Minor injuries, otherwise known as 'B' crashes, are any crashes that involve a suspected minor injury: any injury that is evident at the scene of the crash, other than fatal or serious injuries. Possible injuries, otherwise known as 'C' crashes, are any crashes that involve a possible injury: any injury reported or claimed which is not a fatal, suspected serious or suspected minor injury. Lastly, no apparent injuries, otherwise known as 'O' crashes, are any crashes where there is no reason to believe that any person received any bodily harm from the motor vehicle crash.[v] During the 6-year analysis period, there were 93 'K' crashes, 364 'A' crashes, 18,302 'O' crashes, and 4,790 'B and C' crashes.

Crashes resulting in severe outcomes are denoted by the crashes that include a serious injury ('A' on KABCO scale) or fatal injury ('K' on KABCO scale). All of the remaining data analysis completed for this study focuses specifically on the crashes within the city resulting in severe outcomes from 2017 to 2022.

Figure 4-1: Fatal Crashes and Total Number of Fatalities (2017-2022)

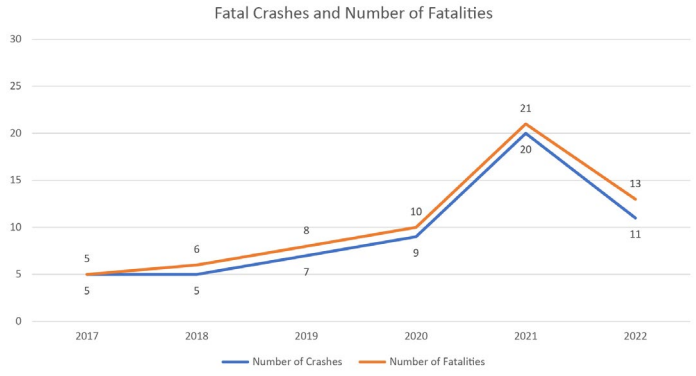


Figure 4-2: Serious Injury Crashes and Total Number of Serious Injuries (2017-2022)

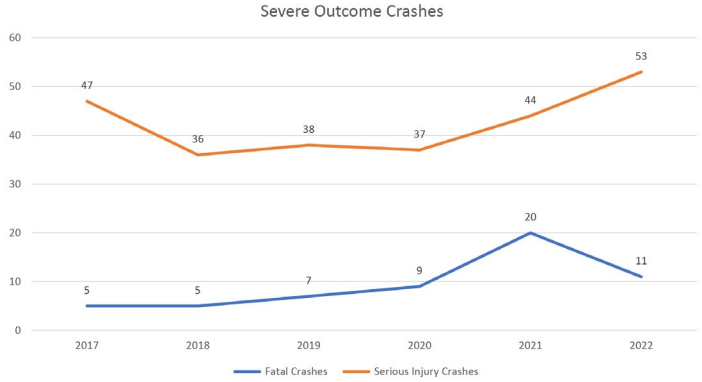
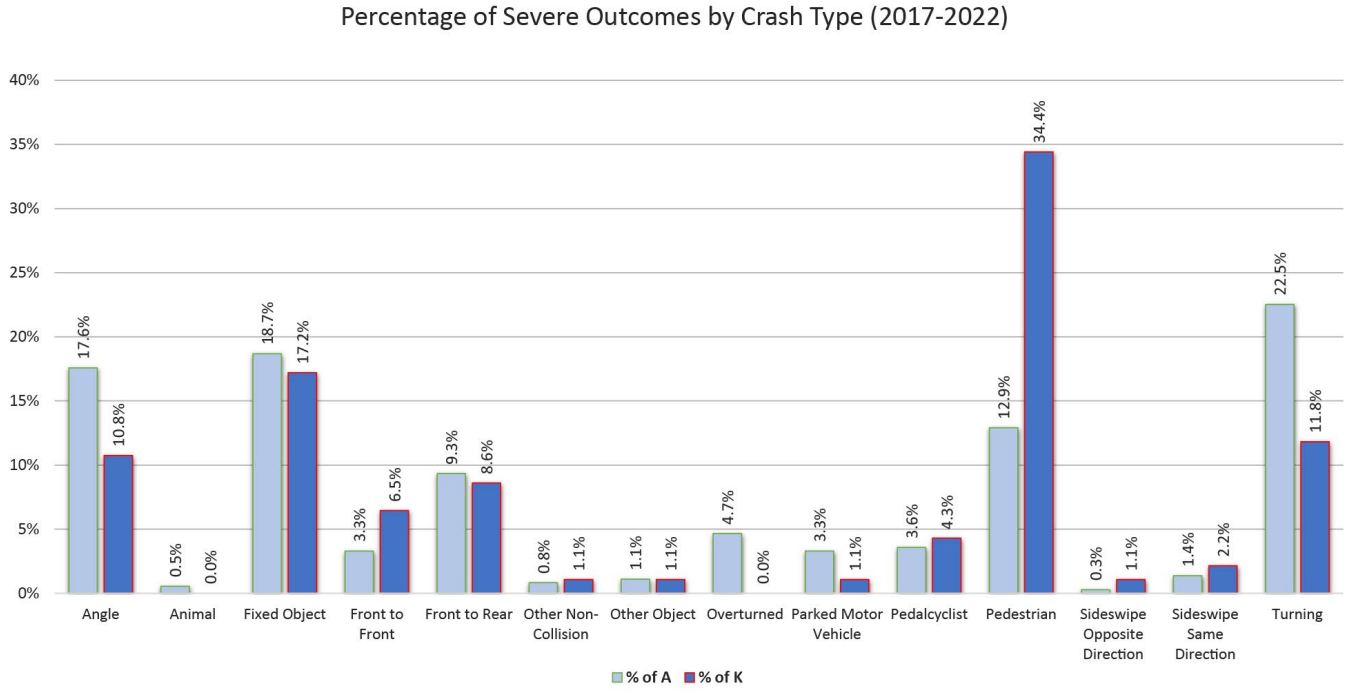


Figure 4-3: Percentage of Severe Outcome Crashes by Type (2017-2022)



Serious Injuries (A):

Any injury other than fatal which results in one of more of the following:

- Sever laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood
- Broken or distorted extremity (arm or leg)
- Crush injuries
- Suspected skull, chest or abdominal injury other than bruises or minor locations
- Significant burns (second and third degree burns over 10 percent or more of the body)
- Unconsciousness when taken from the crash scene
- Paralysis

Trends

While the number of crashes within the City of Rockford, as well as the types of crashes, have remained fairly consistent over the analysis period, there are some unnatural breaks in the data to be noted. Similar to many cities across the world, there was a drop in crashes during the COVID-19 pandemic in 2020, most likely due to less travel during that period. Despite the pandemic in 2020, crashes involving pedestrians and pedalcyclists continued to account for a large share of fatal crashes during the analysis period. Lastly, the number of crashes occurring in snowy weather has continued to be lower since pre-pandemic years.

Crashes occurring at intersection and non-intersection locations were mildly divided within the City of Rockford. Fifty-six percent (56) of all recorded crashes were classified at intersections and 44 percent were classified at non-intersection locations. Additional examination of intersection-related crashes yielded that a majority, 59 percent, occurred at signalized intersections. Other/ Unknown intersection types represented 25 percent and non-signalized intersections accounted for 16 percent of crashes occurring at intersection locations.

Crash Severity Trends

Throughout the analysis period, there was a total of 457 crashes resulting in serious injuries or fatalities. Of the 457 total crashes, 93 of these resulted in fatalities and 364 resulted in serious injuries. While the annual number of fatal crashes in the city has often averaged to 13 per year for the analysis period, there was an increase in 2021 which had 30 fatal crashes. Serious injury crashes lessened during the pandemic year of 2020, but have since been increasing to pre-pandemic levels.

Data Summary

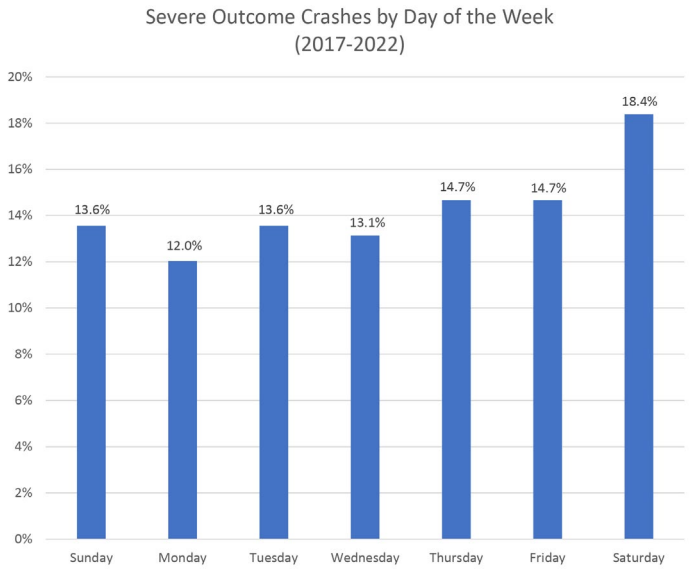
The crash data from IDOT allow for the analysis of factors that influence the frequency of severe injury crashes in the City of Rockford. By examining these incidents across several key scenarios—Time of Day and Week, Lighting and Visibility, Vehicle Type, Weather Condition, Traffic Control Devices, and Driver Condition—specific contributing factors become clear. Such a data-driven approach highlights patterns and potential risk factors associated with high-injury incidents, providing valuable insights into road safety elements and showcasing critical areas for targeted intervention.

Time of Day and Week

The factors contributing to crashes fluctuate based on the time of day and the day of the week, reflecting variations in traffic volume and driver behavior. For instance, roadway traffic peaks during weekday mornings and early evenings as these are the primary hours for commuting to and from work or school.

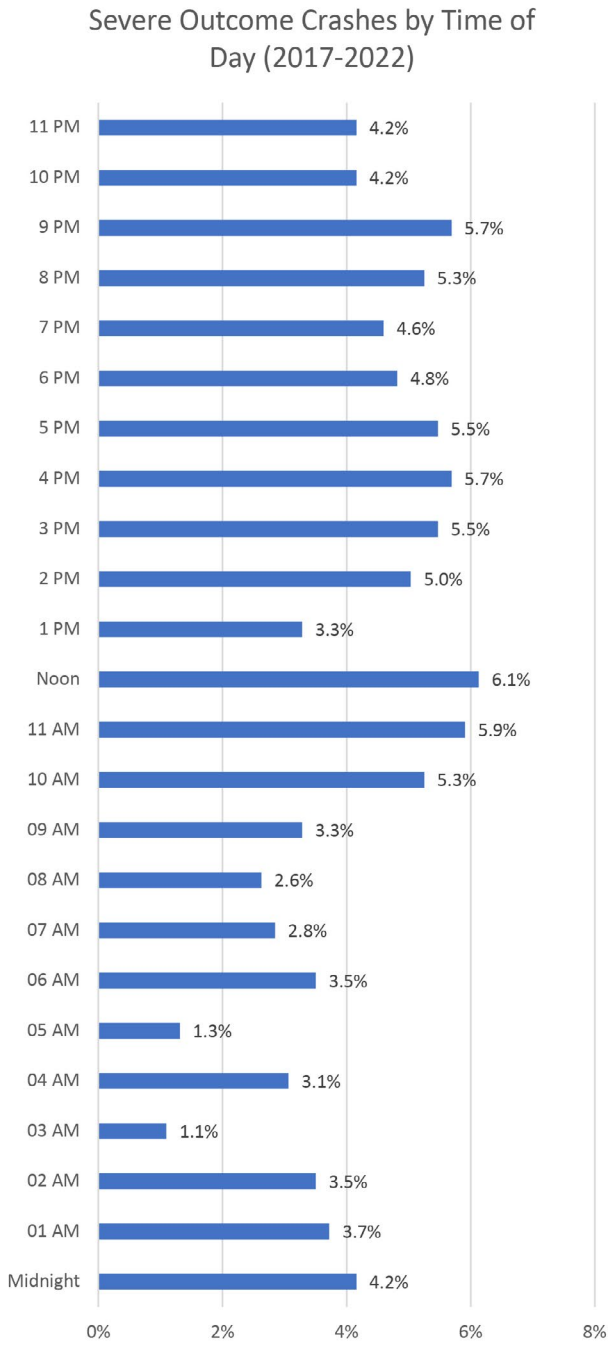
Crashes resulting in serious injury or fatality happen at higher frequencies on certain days of the week. During the study period, Monday saw the highest rate of fatal crashes (18 percent), followed by Saturday (17 percent). Saturday also had the highest rate of serious injury crashes at 19 percent. A disproportionately high amount of severe outcome crashes took place on Fridays and Saturdays, with approximately 33 percent of both fatal and serious injury crashes occurring then. The data suggest that the increased frequency of serious outcome crashes could be related to the presence of impaired drivers on the roadways on Friday and Saturday nights.

Figure 4-4: Severe Outcome and Fatal Crashes by Day of the Week (2017-2022)



Occurrences of serious outcome crashes also peak at specific times of the day. The period from 10:00 a.m. and 1:00 p.m. has the highest rate of serious injury crashes on average. However, multiple time periods have equally high rates of fatal crashes, with 12:00 a.m. having the highest rate for a single hour with 9 percent occurring then. Fatal crashes spike later in the day, with over 40 percent occurring from 4:00 p.m. until 12:00 a.m. Despite having fewer cars on the road, the early morning hours of 12:00 a.m. until 3:00 a.m. account for another 20 percent of fatal crashes. Changes in visibility during these periods could be a contributing factor to the increased rates of fatal crashes.

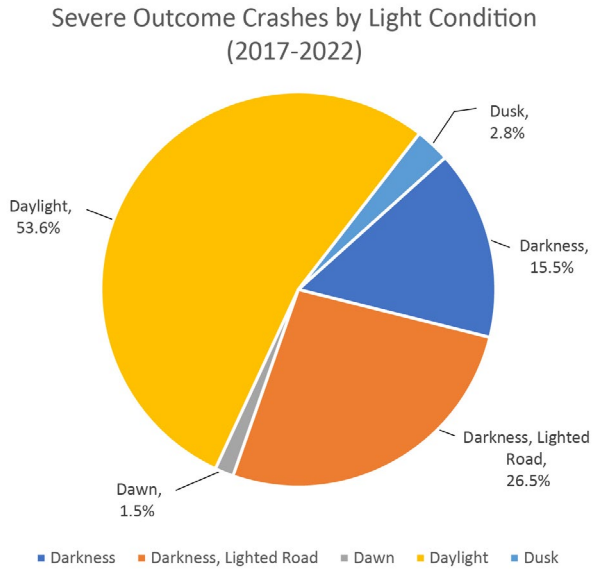
Figure 4-5: Severe Outcome Crashes by Time of Day (2017-2022)



Lighting and Visibility

As shown in the time of day analysis, the presence or lack of lighting on a roadway can impact a roadway user's ability to avoid crashes. Good visibility, typically present during daylight hours or on well-lit roadways, enables users to detect vehicles, vulnerable roadway users, fixed objects, and the roadway's edge. When visibility is limited, individuals may struggle to fully assess their surroundings, increasing the risk of collisions. Visibility can be compromised on unlit roads and during transitional periods such as dawn and dusk. Figure 4-6 shows the light condition at all fatal and serious injury crashes during the six-year study period.

Figure 4-6: Severe Outcome Crashes by Light Condition (2017-2022)



Vehicle Type

An assessment was conducted on the vehicle types involved in crashes resulting in serious injury or fatality in the city. Different types of vehicles pose varying levels of risk in crashes. Motorcycles and bicycles, for example, lack the structural protections of other motorized vehicles, while larger and heavier vehicles can inflict serious damage on smaller and lighter vehicles. When combined, pedestrians and pedalcyclists accounted for nearly 40 percent of all fatal crashes in the city. Vehicles, including cars and trucks, were involved in the majority of crashes resulting in serious outcomes. More information on pedestrians, pedalcyclists, and heavy vehicles can be found in Part 5. Emphasis Areas.

Figure 4-7: Fatal Crashes by Vehicle Type (2017-2022)

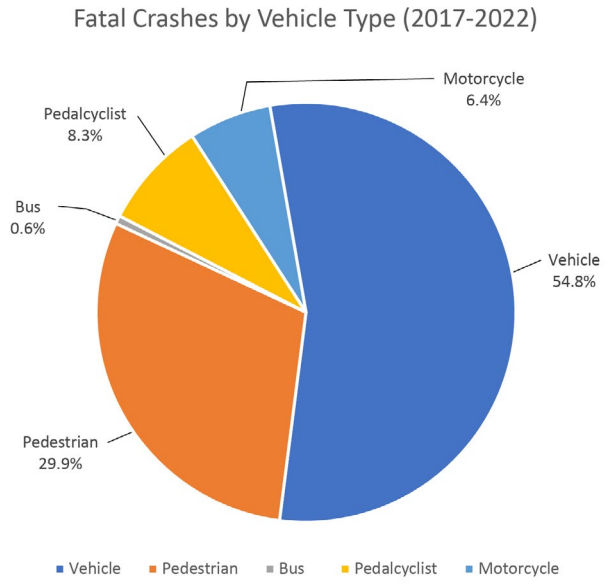
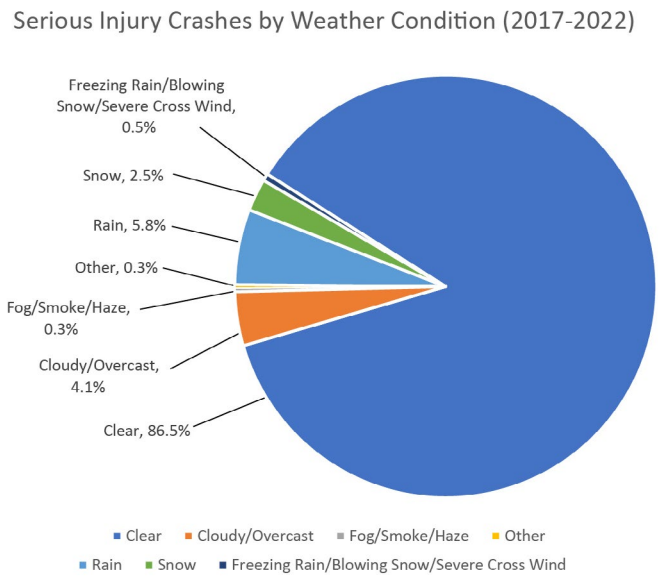


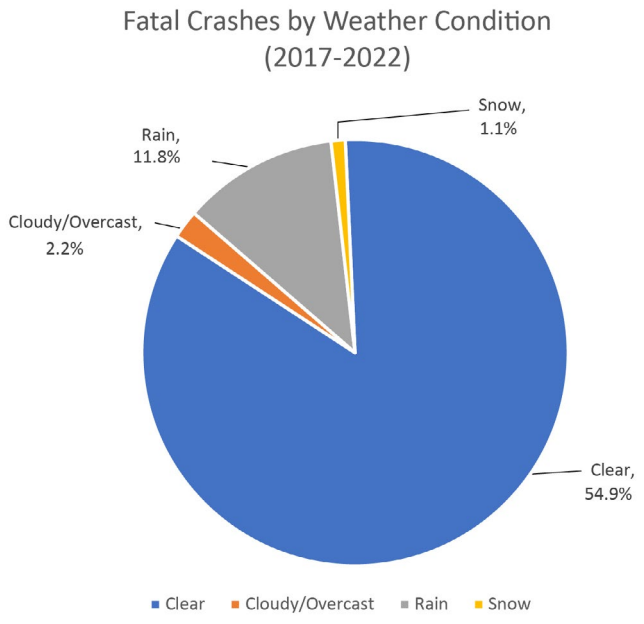
Figure 4-9: Serious Injury Crashes by Weather Condition (2017-2022)



Weather Condition

Weather condition can have a significant impact on a person's ability to safely travel to a destination, and it is a contributing factor for many of the serious outcome crashes that took place throughout the city between 2017 and 2022. Inclement weather conditions, such as rain or snow, can reduce traction and impair visibility, thereby increasing the risk of a collision. Due to its geographic location in the Midwest, the City of Rockford experiences several types of extreme and inclement weather. Figures 4-8 and 4-9 show the weather condition at the time of fatal and serious injury crashes in the city, respectively.

Figure 4-8: Fatal Crashes by Weather Condition (2017-2022)



Traffic Control Devices

Traffic control devices, such as traffic signals and stop signs, inform road users of the required actions to be taken on the roadway. Traffic control devices also provide warning and guidance of potential risks on the roadway; a sign can alert motorists of an upcoming horizontal curve or pedestrian crossing. These devices facilitate traffic control at intersections and contribute to the reduction of serious outcome crashes; their absence, however, can elevate the risk of collision. Figure 4-10 and Figure 4-11 show the presence of traffic control devices at locations where fatal and serious injury outcome crashes occurred in the City of Rockford between 2017 and 2022.

Figure 4-10: Fatal Crashes by Traffic Control Device Present (2017-2022)

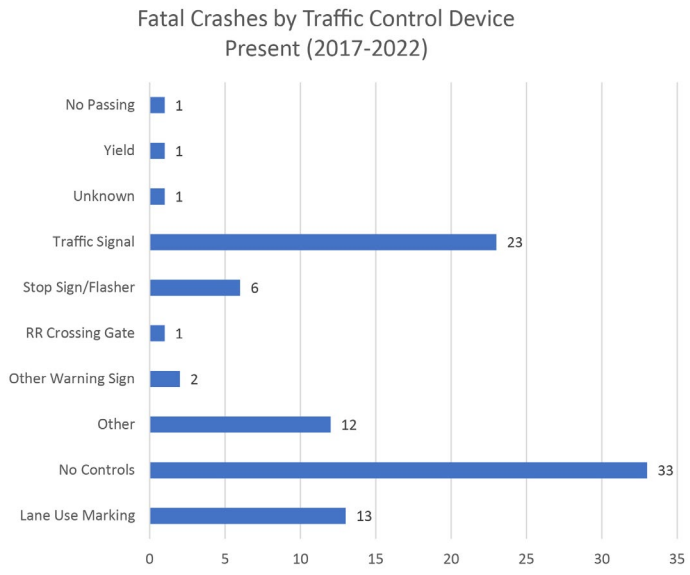


Figure 4-11: Serious Injury Crashes by Traffic Control Device (2017-2022)

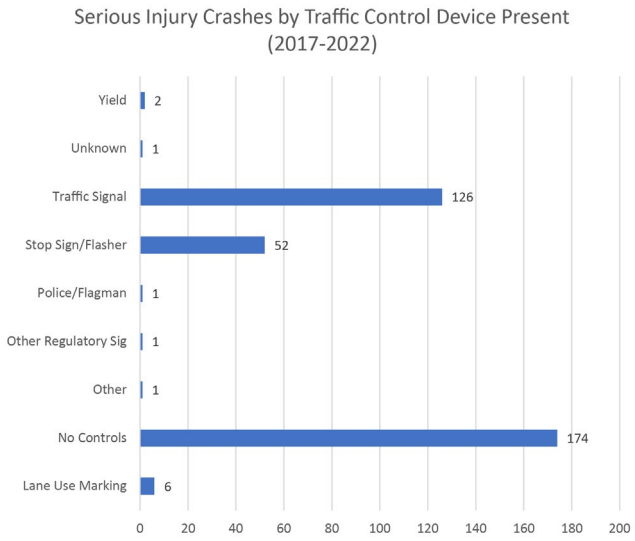


Figure 4-12: Fatal Crashes: Driver Condition

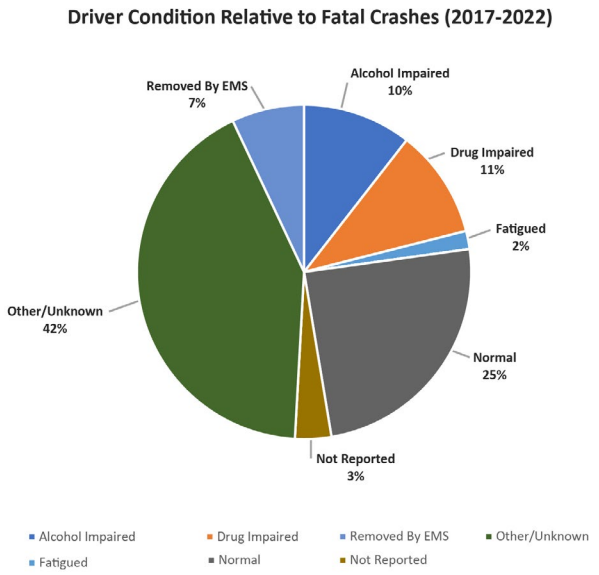
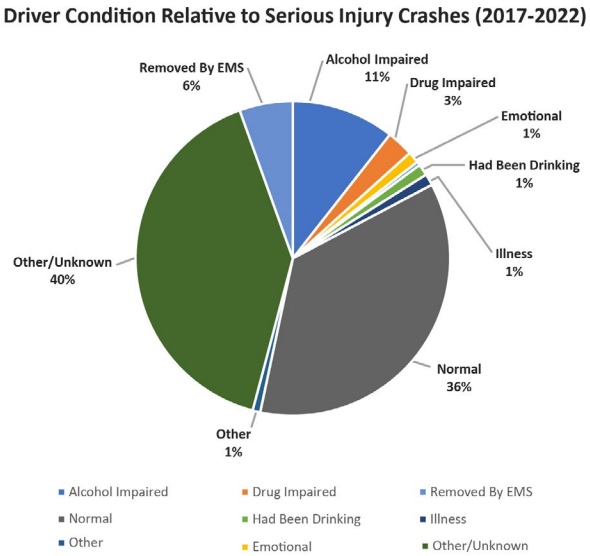


Figure 4-13: Serious Injury Crashes: Driver Condition



Driver Condition

Driver condition is a significant contributing factor to severe outcome crashes throughout the city. Using crash data extracts provided by IDOT, a driver condition was assigned to over 99 percent of severe outcome crashes that took place across the city during the analysis period. In 26 percent of fatal outcome crashes, one or more of the drivers was classified as an impaired driver. This figure was lower for serious injury crashes, at 15 percent.

Per the Illinois Department of Motor Vehicles (DMV), under Illinois' driving under the influence (DUI) laws, it is illegal for the following driver classifications to operate a motor vehicle when they exceed the following blood alcohol content percentages:

- Drivers under age 21: 0.00 percent
- School bus drivers: 0.00 percent
- Commercial driver's license holders: 0.04 percent
- Drivers age 21 and over: 0.08 percent

Drivers can also be impaired if they are under the influence of narcotics or marijuana. Several crashes also took place across the city where a driver's condition was described as emotional or fatigued.

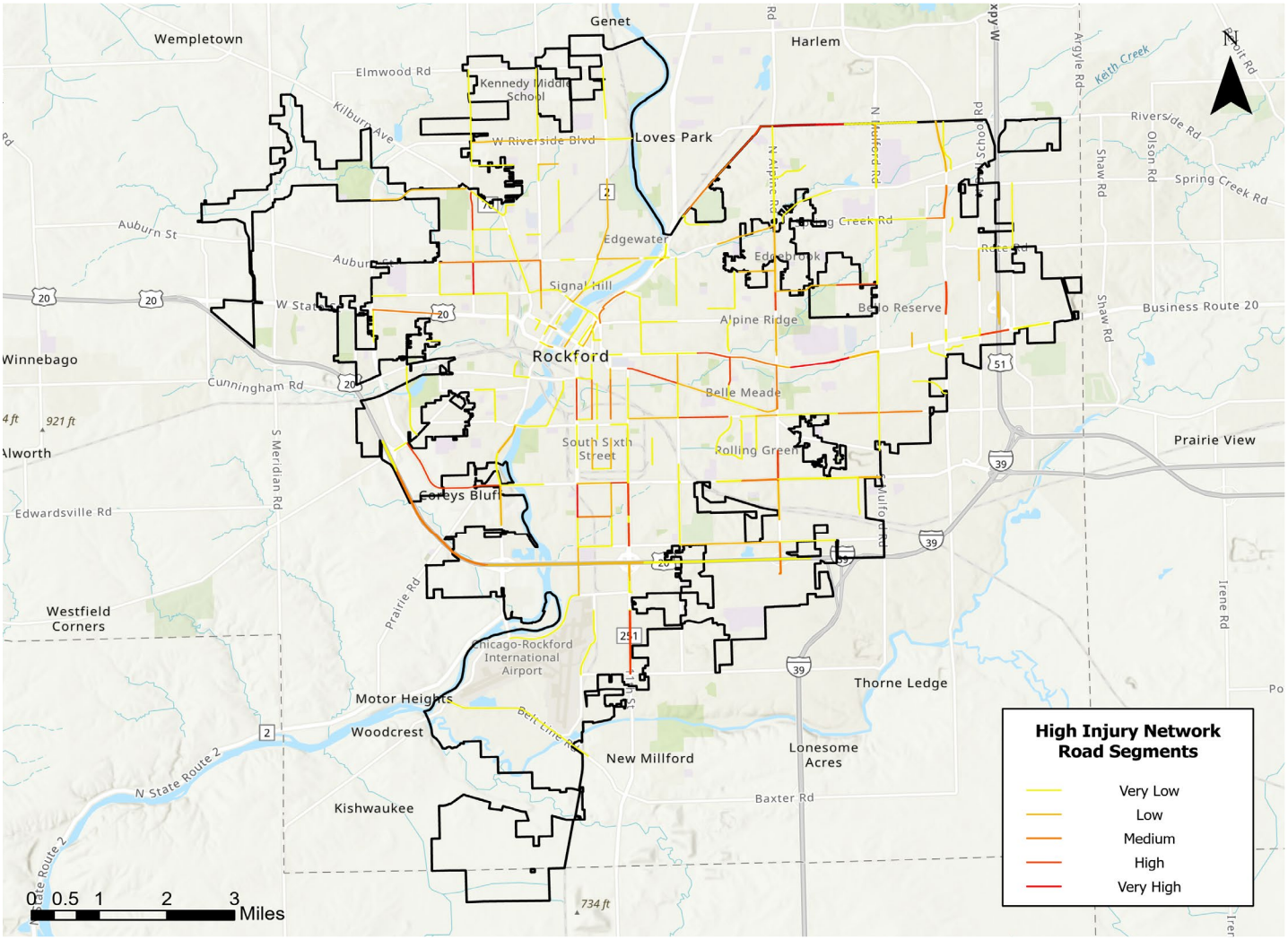
Identification of High Injury Network

The High Injury Network (HIN) is a set of roadway corridors where severe crashes occur at a higher rate, aided by the use of Geographic Information Systems (GIS) shapefiles provided by IDOT. A geospatial analysis was performed to identify areas of significance where crashes may be concentrated.

The HIN allows the safety of the entire roadway system to be analyzed. It expands upon the crash-specific data provided by the data tables and trees, allowing the unique context of each crash to be noted. Analyzing each crash in the context of the entire system reveals roadway corridors where crashes occur at a higher rate than the majority of the system. The HIN reveals where crashes are likely to continue occurring in the future, due to their specific roadway characteristics.

The spatial analysis provided by the HIN serves to identify locations within the city, including arterial collectors and local roads, that have a high potential for future crashes. This potential is illuminated by historic crash rates and patterns, as well as the presence of characteristics of the roadway that contribute to the occurrence of crashes. Identifying these roadways allows them to be prioritized as decision-makers implement the strategies included in this plan for addressing traffic safety concerns.

Figure 4-14: City of Rockford High Injury Network

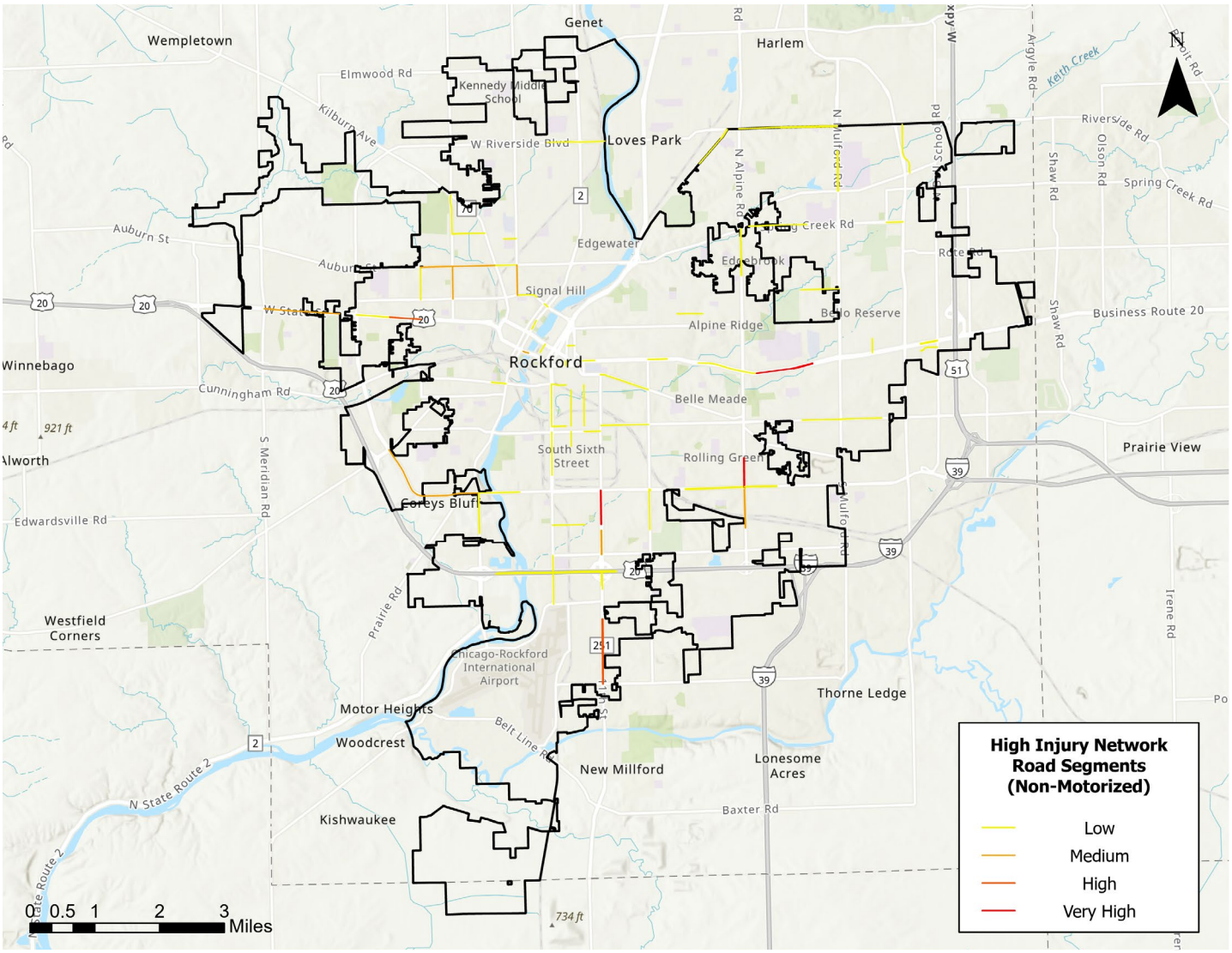


Source: Region 1 Planning Council

Table 4-1: City of Rockford High Injury Roadway Segments

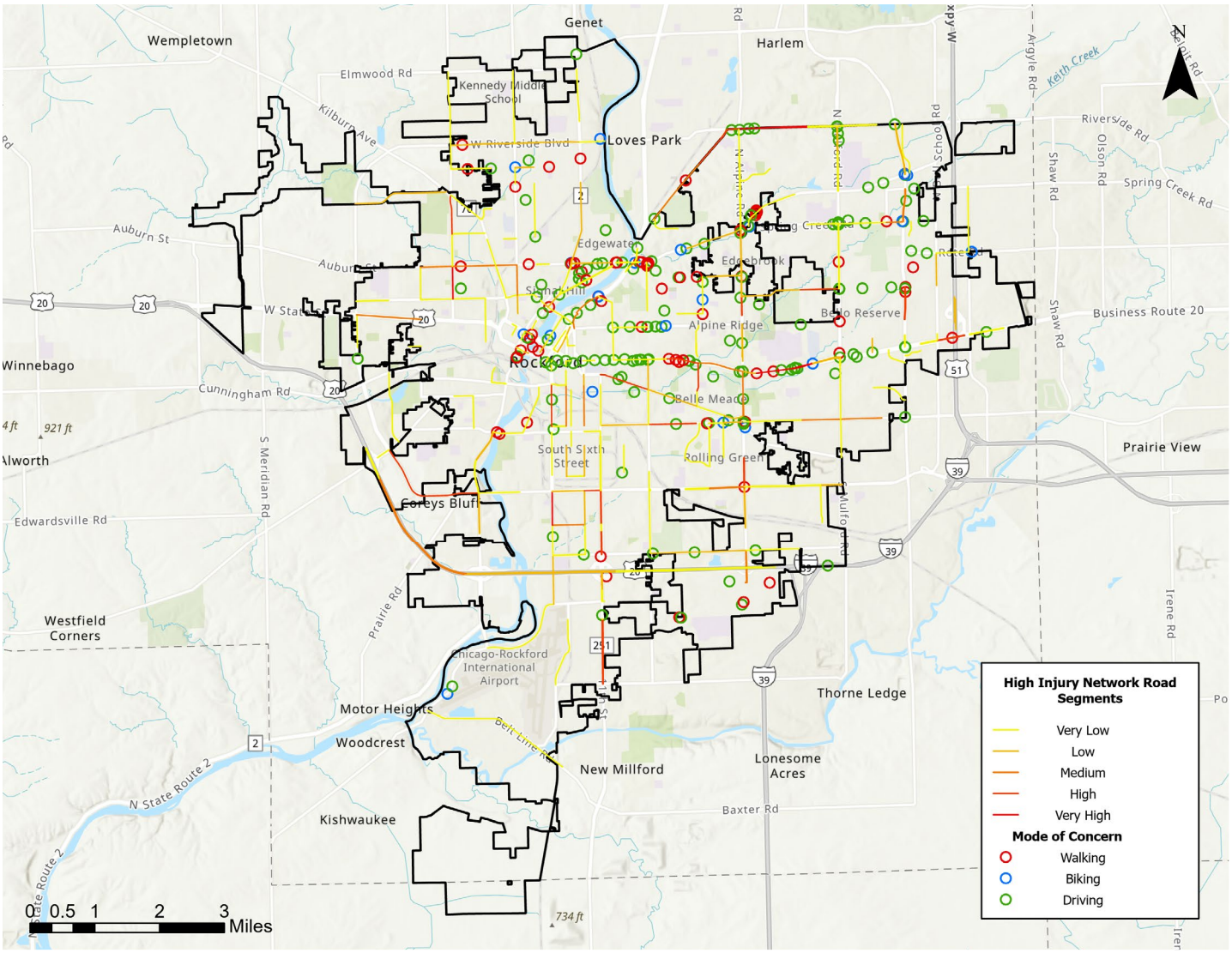
Roadway Name	From	To	Length (mi)	Jurisdictional Ownership	Functional Classification	Severe Outcome Crashes	Crash Rates (severe outcome per 100m VMT)
Kishwaukee St	Brooke Rd	Harrison Ave	0.52	City of Rockford	Minor Arterial	8	75.95
11th St	Blackhawk Rd	Samuelson Rd	1.01	IDOT	Minor Arterial	7	41.64
E State St	Dempster Rd	Arnold Ave	0.88	IDOT	OPA	6	10.47
N Central Ave	School St	Auburn St	0.6	City of Rockford	Minor Arterial	6	81.18
E Riverside Blvd	N Alpine Rd	Applewood Ln	1.07	Winnebago County	OPA	6	10.89
Springfield Ave	Montague Rd	S Main St	1.78	Winnebago County	Minor Arterial	5	20.27
S Alpine Rd	Harrison Ave	Florida Dr	0.44	IDOT	OPA	5	9.12
Broadway	20th St	31st St	0.74	City of Rockford	Minor Arterial	5	31.91
Charles St	11th St	S Rockford Ave	0.78	City of Rockford	OPA	5	17.98
Forest Hills Rd	Pepper Dr	E Riverside Blvd	0.69	Winnebago County	OPA	5	17.69
11th St	Sandy Hollow Rd	Pershing Ave	0.38	City of Rockford	Minor Arterial	4	29.27

Figure 4-15: City of Rockford High Non-Motorized Crash Network



Source: Region 1 Planning Council

Figure 4-16: Engage R1 Submissions & High Injury Network



Source: Region 1 Planning Council

Spatial Analysis

A comprehensive spatial analysis of IDOT crash data from 2017 to 2022 was conducted to identify roadways with a higher prevalence of severe crashes. This analysis pinpointed 11 roadway corridors within the city as critical components of the HIN. Although these corridors represent under nine centerline miles, they account for about 14 percent of all severe crashes during the study period. By identifying these high-risk corridors, the HIN provides a foundation for safety planning and prioritization, guiding the implementation of targeted safety initiatives to reduce the frequency and severity of crashes.

The analysis also examined crash patterns through geospatial networks, highlighting the frequency of severe crashes, including those involving non-motorized users, and identifying intersections with the highest rates of severe outcomes. Additionally, public input was incorporated through an online engagement activity where community members were invited to identify locations of concern, further enriching the analysis and ensuring community-driven safety planning.

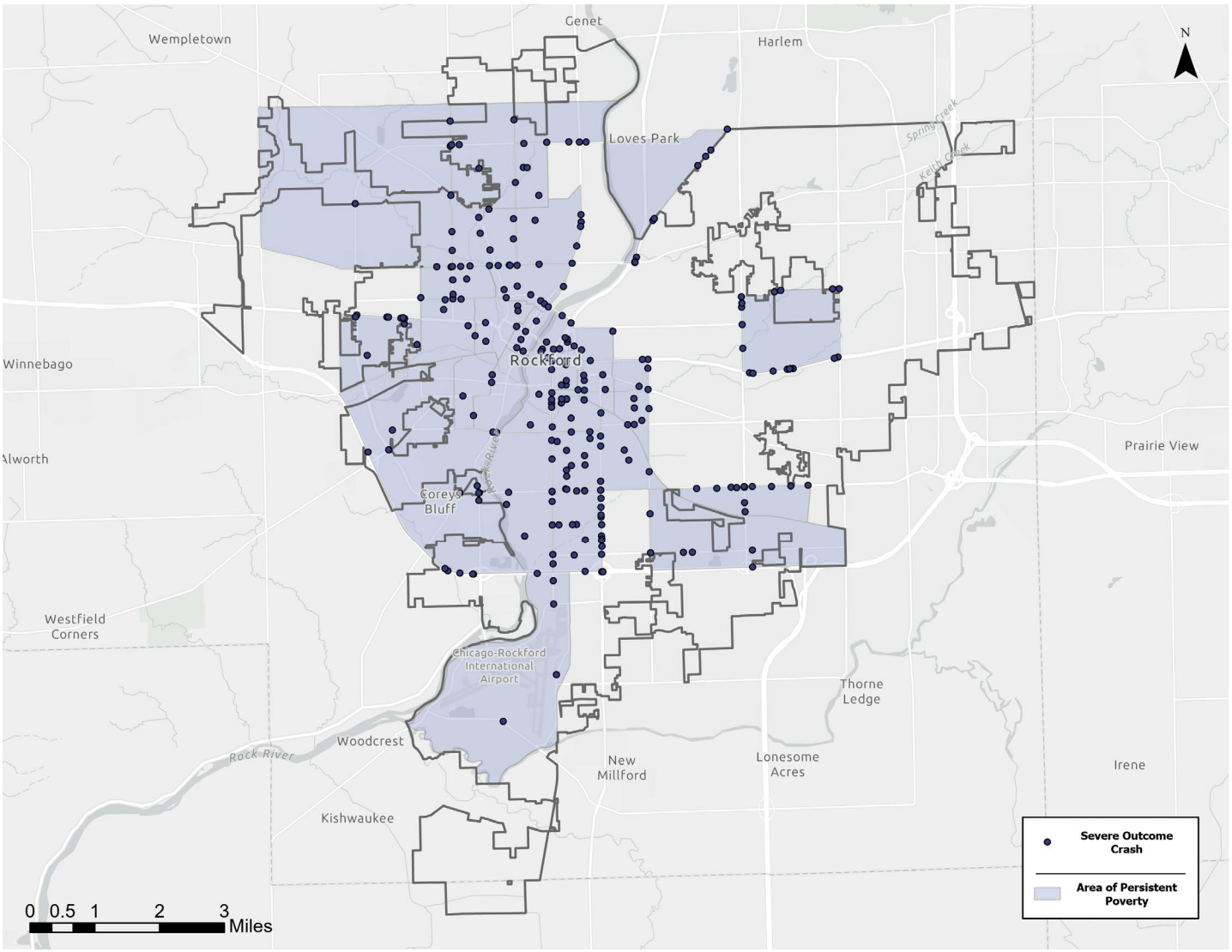
Areas of Persistent Poverty Considerations

To assess the relationship between communities with limited access to resources and traffic safety issues, an analysis was conducted. The analysis utilized data from the 2014-2018 five-year American Community Survey (ACS), specifically indicators showing the proportion of census tracts living in poverty. Census tracts within which 20 percent or more of residents are living in poverty are defined as areas of persistent poverty, or disadvantaged areas. This statistical definition is based on the guidance for determining disadvantaged areas provided in the SS4A Programs FY2025 Notice of Funding Opportunity. In the City of Rockford, there are 29 census tracts within which 20 percent or more of residents live in poverty. These areas can be referred to as disadvantaged, or areas of persistent poverty.

Of the 457 crashes resulting in serious injury or fatality that took place in the City of Rockford between 2017 and 2022, 294 crashes occurred in areas of persistent poverty. Of the 294 total crashes, 63 resulted in at least one fatality, while 231 resulted in at least one serious injury.

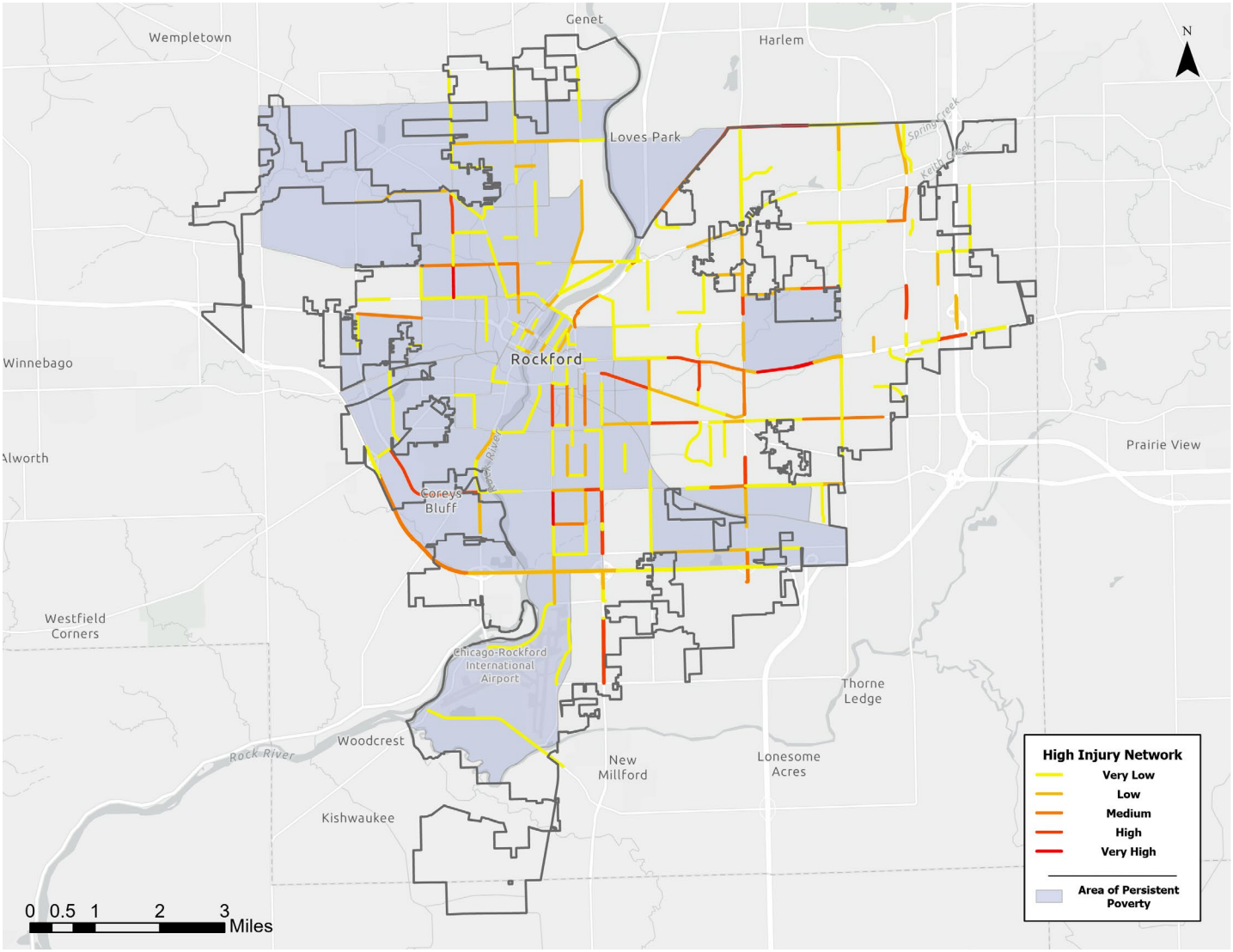
The results of the High Injury Network analysis were also compared against the identified disadvantaged census tracts. A total of 244 roadway segments in the City of Rockford were categorized as part of this plan's High Injury Network. Approximately 71 percent, or 174 of these segments are located within or abutting a disadvantaged census tract. These segments are shown in Figure 4-17. Of the four roadway segments with "very high" occurrences of severe outcome crashes, three of the segments are located within a disadvantaged census tract.

Figure 4-17: Areas of Persistent Poverty Severe Outcome Crashes



Source: Region 1 Planning Council

Figure 4-18: Areas of Persistent Poverty and High Injury Network



Source: Region 1 Planning Council



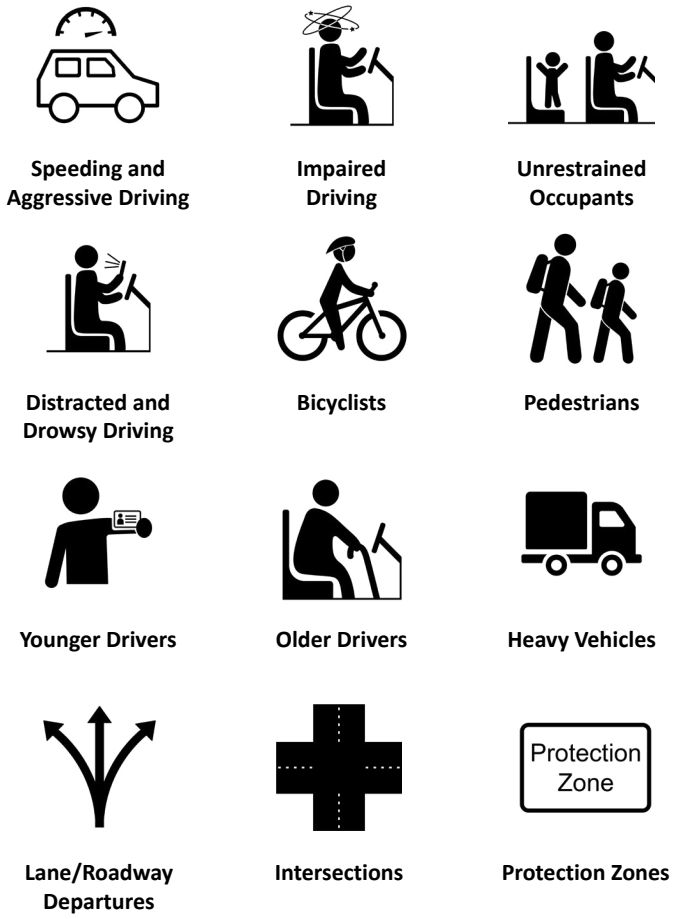
PART 5:

Emphasis Areas

The City of Rockford Traffic Safety Action Plan contains 11 emphasis areas, shown in Figure 5-1. Safety emphasis areas describe issues where there is opportunity to improve. Addressing these safety emphasis areas will provide the City of Rockford with the opportunity to significantly reduce instances of fatal and serious injury crashes and achieve the vision and goals of this plan. The emphasis areas included in this chapter were identified by the plan's steering committee members and are supported by the results of the data analysis. Furthermore, each of the emphasis areas align with the Safe System Approach. In this chapter, each of the 11 safety emphasis areas is accompanied by a description of the issue and its components, a summary of the data and input that supported its inclusion, and countermeasures that can be deployed to remedy the concern.

- Speeding and Aggressive Driving
- Impaired Driving
- Unrestrained Occupants
- Distracted and Drowsy Driving
- Bicyclists
- Pedestrians
- Younger and Older Drivers
- Heavy Vehicles
- Lane/Roadway Departures
- Intersections
- Protection Zones

Figure 5-1: Safety Emphasis Areas



Speeding & Aggressive Driving

Speeding is legally defined in terms of a "basic speed rule" and statutory maximum speed limits. The basic speed rule requires drivers to operate a vehicle at a speed that is reasonable and prudent for roadway conditions. Statutory speed limits set maximum limits for different types of roads and generally apply to all roads of that type even when the limits are not posted.[vi]

Speeding becomes part of aggressive driving when a vehicle significantly surpasses the flow of other traffic and combines with other unsafe behaviors, such as tailgating, weaving between lanes, or making abrupt lane changes. Speeding and aggressive driving typically occur together and become even more dangerous when drivers are not wearing a seatbelt, driving during bad weather events such as snow and rain, and passing through work zones and areas with high non-motorist crashes.

Due to this, speeding and aggressive driving often result in high-severity crashes.[vii] In Illinois, speeding is the most frequent contributing factor in severe crashes that is not already being addressed by specific, statewide, multidisciplinary, ongoing working groups in Illinois.

Aggressive and risky driving behaviors are perceived as common, though they are hard to measure accurately. A 2014 AAA Foundation for Traffic Safety (AAAFTS) conducted a nationwide survey that indicated a rise in angry and aggressive driving, with over 78 percent of drivers admitting to at least one instance in the previous year. Examples include tailgating to force others to speed up (51 percent), preventing vehicles from merging (24 percent), or deliberately cutting someone off (12 percent). Nearly four percent admitted to engaging in road rage incidents.[viii]

In 2018, a national survey[ix] was conducted by the National Highway Traffic Safety Administration (NHTSA) on driver attitudes and speeding behaviors. Of the drivers surveyed, 30 percent were classified as "frequent" speeders, 40 percent as "sometime" speeders, and 30 percent as "non-speeders." Drivers were also asked about the behaviors of other motorists. Two-thirds of drivers strongly agreed that "it is unacceptable to exceed the limits by more than 20 mph," and 91 percent agreed that "everyone should obey the speed limit because it's the law." Yet, 82 percent agreed that "people should keep up with the flow of traffic," and 51 percent agreed that speeding tickets have more to do with raising money than they do with reducing speeding. A majority of speeders tend to be younger than non-speeders and sometimes speeders.

Research has indicated that higher vehicle speed is directly related to an increased crash and injury risk at both the individual driver level, and at a road section level.[x] Small changes in average roadway speed can have a large impact on safety[xi] for all crash types. The higher the impact speed, the greater the fatality and injury risk to vehicle passengers, pedestrians, and other non-motorists. This injury risk starts rising dramatically at speeds above 20 to 25 mph.[xii]

Speeding-related crashes are difficult to accurately account for, and have therefore been omitted from the data analysis of this plan. However, the nationwide and state metrics portray the stark reality of the dangers such driving behaviors can create. Understanding the drastically increased risks versus the meager time savings may help create a driving culture shift towards driving at appropriate speeds in the City of Rockford.



Impaired Driving

Impaired driving, whether due to alcohol or drugs, presents significant challenges to transportation safety and public health. Alcohol-impaired driving has long been recognized as a major contributor to traffic accidents and fatalities, with extensive research documenting its effects on driving ability and risk levels. In recent years, the focus has also broadened to include drug-impaired driving, encompassing both legal medications and illicit substances. As the prevalence of both alcohol and drug use among drivers persists, understanding their combined and individual impacts on road safety is crucial for developing effective prevention strategies and policies to protect all road users.

In 2021, there were 13,384 fatalities in crashes involving alcohol-impaired drivers in the United States, defined as those with a blood alcohol concentration (BAC) of .08 grams per deciliter (g/dL) or higher. This marked a 14.2 percent increase from the 11,718 fatalities recorded in 2020, according to NHTSA's National Center for Statistics and Analysis (NCSA).[xiii] These alcohol-impaired driving fatalities accounted for nearly one-third (31 percent) of all motor vehicle deaths in the United States.

Historically, alcohol-impaired driving incidents decreased consistently from the early 1980s to the present day. Research attributes this decline to a combination of factors, including the implementation of alcohol-related legislation (such as the .08 BAC limit), administrative license revocation policies, minimum drinking age laws, and demographic shifts like an aging population and a higher proportion of female drivers.[xiv]

In addition to alcohol, many drugs—both legal and illegal—are known or suspected to impair a driver's ability to safely operate a motor vehicle.[xv] While the impairing effects of alcohol and the risks of drinking and driving are well-documented, there is significantly less research on the potential impairing effects of other drugs on driving performance. During the study period, 26 percent of all driving fatalities were as a result of an impaired driver in the City of Rockford.

Table 5-1: Severe Outcome Impaired Driving Crashes (2017-2022)

Emphasis Area	Number of A	Percent of A	Number of K	Percent of K	Number of KA	Percent of KA
Impaired Driving	56	15.4%	24	25.8%	80	17.5%

Figure 5-2: Impaired Driving Severe Outcome Crashes by the Day of Week (2017-2022)

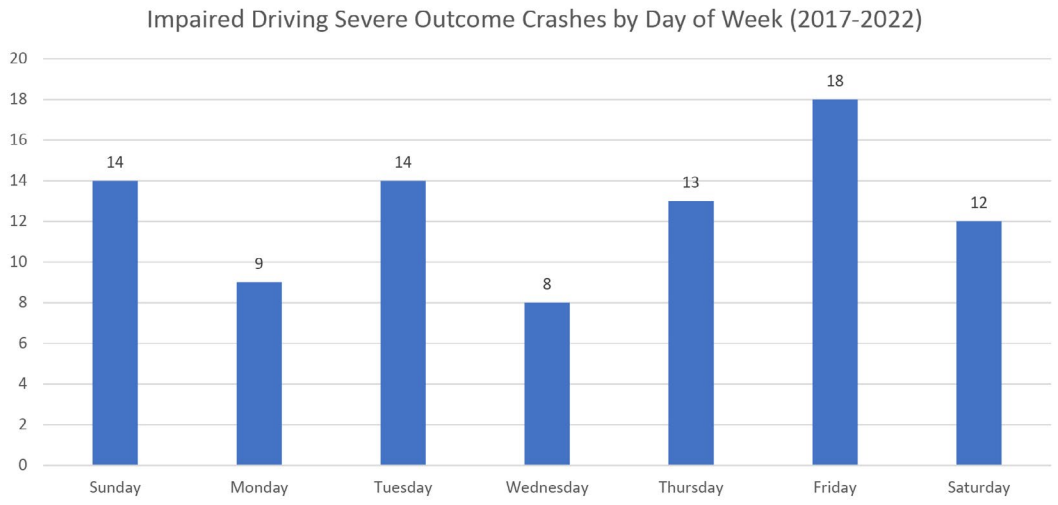
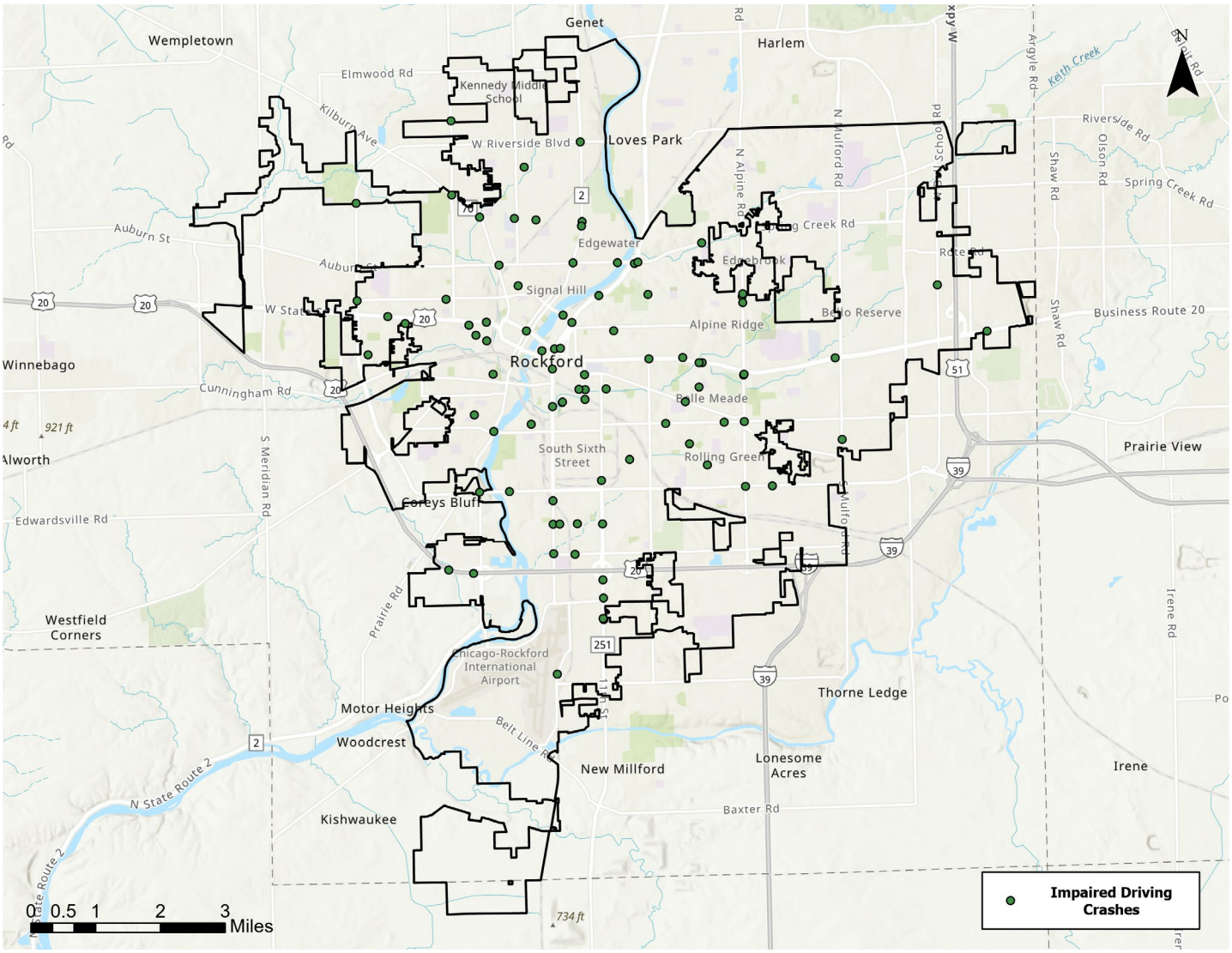


Figure 5-3: Severe Outcome Impaired Driving Crash Locations (2017-2022)





Unrestrained Occupants

Research shows that proper use of a seat belt or child restraint is the single most effective way to reduce traffic-related deaths and injuries. Despite this proven safety measure, select individuals still drive or ride in vehicles unrestrained. In 2022, 63 percent of U.S. passenger vehicle occupants ages 18-34 who were killed in nighttime crashes were unrestrained. Additionally, more than 11,000 passenger vehicle occupants killed in crashes in 2022 were unbelted, and 57 percent of those killed were unbelted in nighttime crashes.[xvi] Choosing not to use seat belts or child restraints can cause occupants to be ejected from their vehicle during a crash, an event that often has fatal results. Seat belts also act as a complement to air bags, as the force of air bags can seriously injure or even kill unrestrained occupants.[xvii]

Many drivers may feel confident in their driving ability and therefore are less worried about a crash. However, defensive drivers are still at risk of being hit by another driver. Seat belts are the best defense against impaired, aggressive, and distracted drivers.[xviii] The use of lap and shoulder combination seat belts reduces the risk of fatal injury to front-seat passenger car occupants by 45 percent and the risk of moderate-to-critical injury by 50 percent. Correct use of child restraints reduces fatalities by 71 percent for infants younger than one year old and by 54 percent for children one to four years old in passenger cars.[xix] For children four to eight years old, the use of booster seats in combination with seat belts is most effective.

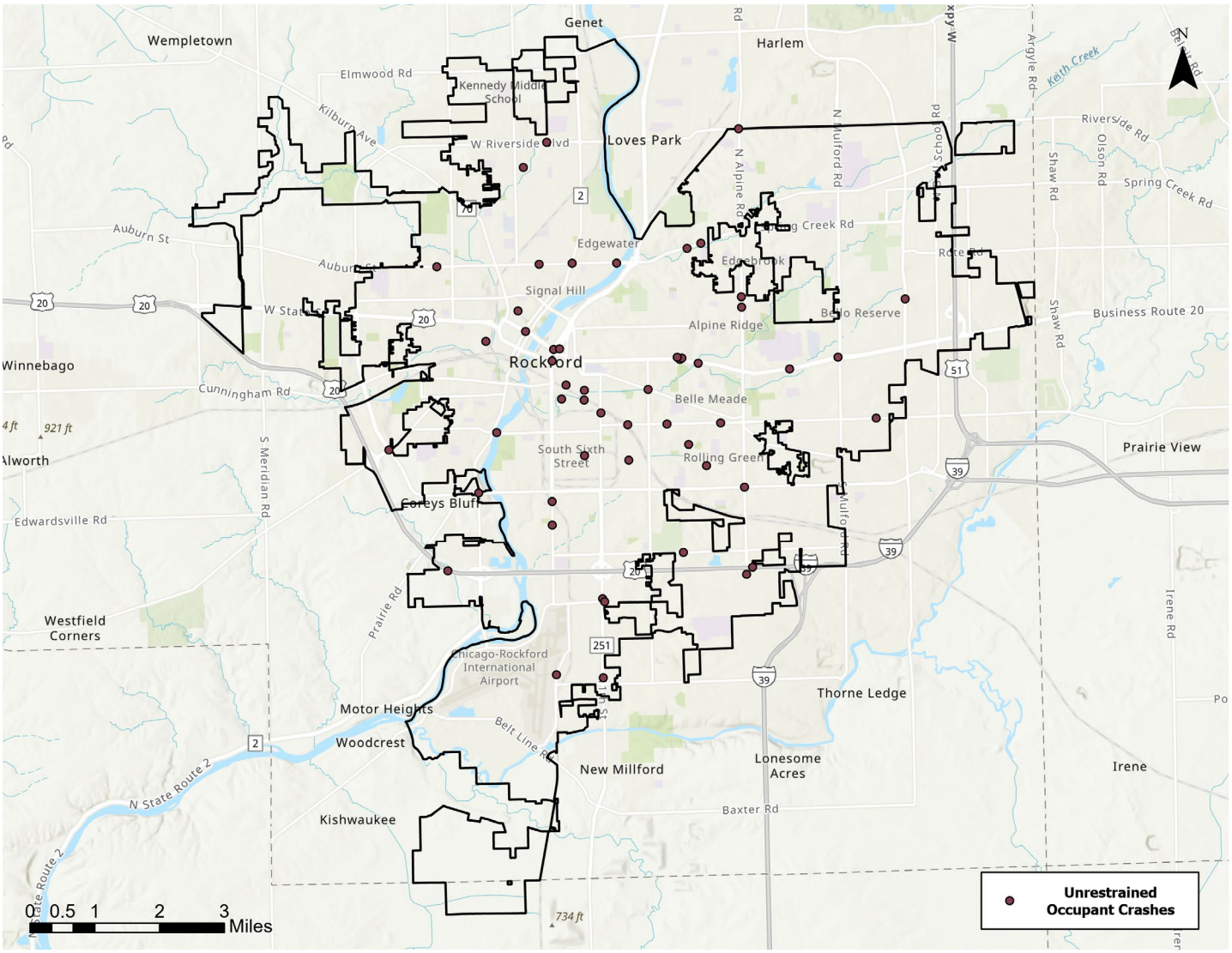
Following the introduction of seat belt laws across the nation in the early 1980s, average use among drivers and passengers has risen significantly. Current data shows that observed daytime seat belt use nationwide was 91.6 percent in 2022 for adult drivers and right-front seat passengers combined.[xx] Therefore, many vehicular occupants still do not always use seat belts and child restraints. Additionally, the national seat belt use rate only accounts for use in the daytime. In 2021, 57 percent of passenger vehicle occupants killed in crashes at nighttime were unrestrained. In contrast, 43 percent of fatally injured passenger vehicle occupants in daytime crashes were unrestrained.

In the City of Rockford, from 2017-2022, approximately 11 crashes resulting in a fatality involved an unrestrained occupant. Additionally, 41 severe injury crashes involved an unrestrained occupant during that same period.

Table 5-2: Severe Outcome Unrestrained Occupant Crashes (2017-2022)

Emphasis Area	Number of A	Percent of A	Number of K	Percent of K	Number of KA	Percent of KA
Unrestrained Occupants	41	11.3%	11	11.8%	52	11.4%

Figure 5-4: Severe Outcome Unrestrained Occupant Crash Locations (2017-2022)





Distracted & Drowsy Driving

Distracted and drowsy driving behaviors significantly impact the transportation system, posing safety risks and leading to a considerable number of traffic accidents each year. These behaviors, often resulting from modern lifestyle patterns and technological distractions, compromise the alertness and reaction times of drivers. Consequently, they increase the likelihood of collisions, injuries, and fatalities on the road. The widespread prevalence of these issues not only endangers individual drivers and passengers, but also strains emergency services, healthcare systems, and infrastructure maintenance efforts. Addressing distracted and drowsy driving is crucial for enhancing road safety, reducing accident-related costs, and ensuring the overall efficiency and reliability of the transportation system.

Drowsy driving is a significant safety concern arising from lifestyle habits. In 2021, approximately 684 people were killed in crashes involving a drowsy driver, accounting for 1.6 percent of all motor vehicle traffic fatalities in the United States.[xxi] From 2017 to 2021, drowsy driving was implicated in 1.8 percent of fatal crashes. Historically, research and attention on drowsiness have primarily focused on commercial truck drivers, but the issue is much more widespread.[xxii] In 2014, over one-third of 444,306 respondents aged 18 and older in the United States reported sleeping less than 7 hours a day—the minimum recommended for optimal well-being.[xxiii] The 2017 AAA Traffic Safety Culture Index revealed that over 40 percent of 2,613 drivers reported getting less than 6 hours of sleep a night during a typical week.[xxiv]

Distracted driving has garnered considerable attention over the past decade. While much of this focus has been on cell phones and texting, those are just a few examples of the many potential distractions behind the wheel. The National Highway Traffic Safety Administration (NHTSA) defines distracted driving as "any activity that diverts attention from driving, including talking or texting on your phone, eating and drinking, conversing with passengers, adjusting the stereo, entertainment, or navigation systems—anything that takes your focus away from the task of safe driving."[xxv] Distractions can manifest in various forms: visual distractions, which take a driver's eyes off the road; cognitive distractions, which shift their mental focus away from driving; and manual distractions, which remove their hands from the wheel. Some activities, such as texting, can combine all three types of distraction. In 2021, NHTSA estimates that distracted driving was a factor in 3,522 fatalities, accounting for 8 percent of all traffic deaths.[xxvi]

People perceive the use of hands-free devices as less risky than handheld devices. Nearly half (47 percent) of the respondents in the NHTSA survey reported feeling safe if the driver was using a hands-free cell phone to make or answer calls, compared to just 35 percent for handheld phones.[xxvii] Each year, NHTSA conducts a nationwide observational survey of driver electronic device use. Observations are conducted by trained data collectors from 7 a.m. to 6 p.m. During 2021, an estimated 7.6 percent of drivers were using some type of phone (handheld or hands-free) at any given moment during the daytime.[xxviii]

Similar to speeding and aggressive driving, accurately accounting for instances of distracted driving prior to a vehicular crash can be difficult. Therefore, statistics for distracted drivers were not included in the crash data analysis for the City of Rockford. Given the estimates from NHTSA and self-reported cases, distracted driving continues to be a problem across the country. Incorporating effective countermeasures and encouraging responsible driving can help mitigate the risk of crashes resulting from distracted driving in the City of Rockford.



Bicyclists

Bicyclists are vulnerable roadway users; a bicycle offers no protection to its rider when impacted by a motor vehicle. While some parts of the United States provide bicyclists with their own facilities, many do not, forcing bicyclists to ride in the roadway with larger motor vehicles. When crashes between a bicycle and motor vehicle do occur, there is a high risk of fatality or serious injury due to the size and weight discrepancy between the two vehicle types. Like pedestrian crashes, bicycle crashes resulting in fatality have steadily increased over the last decade. There were 623 bicyclist fatalities in the United States in 2010; this figure increased to 966 in 2021.[xxix] In the City of Rockford, between the years of 2017 and 2022, there were four recorded bicyclist fatalities.

The Federal Highway Administration (FHWA) defines a bicycle crash as any event where a bicyclist hits the ground, a motor vehicle, or any other solid object in a way that can result in bodily harm or property damage.[xxx] The increase in bicycle crashes in the United States has coincided with an increase in the number of people riding bicycles; in 2020, bicycle use grew by 4 percent.[xxxi] An increased emphasis has been placed on bicycle safety as a result of the increase in the mode's use. Many safety practitioners support the theory that an increase in the volume of bicyclists will improve their safety. Developing infrastructure to support the use of bicycles in unison with strategies to improve road users' behaviors can help to address the safety concerns associated with this mode of transportation.

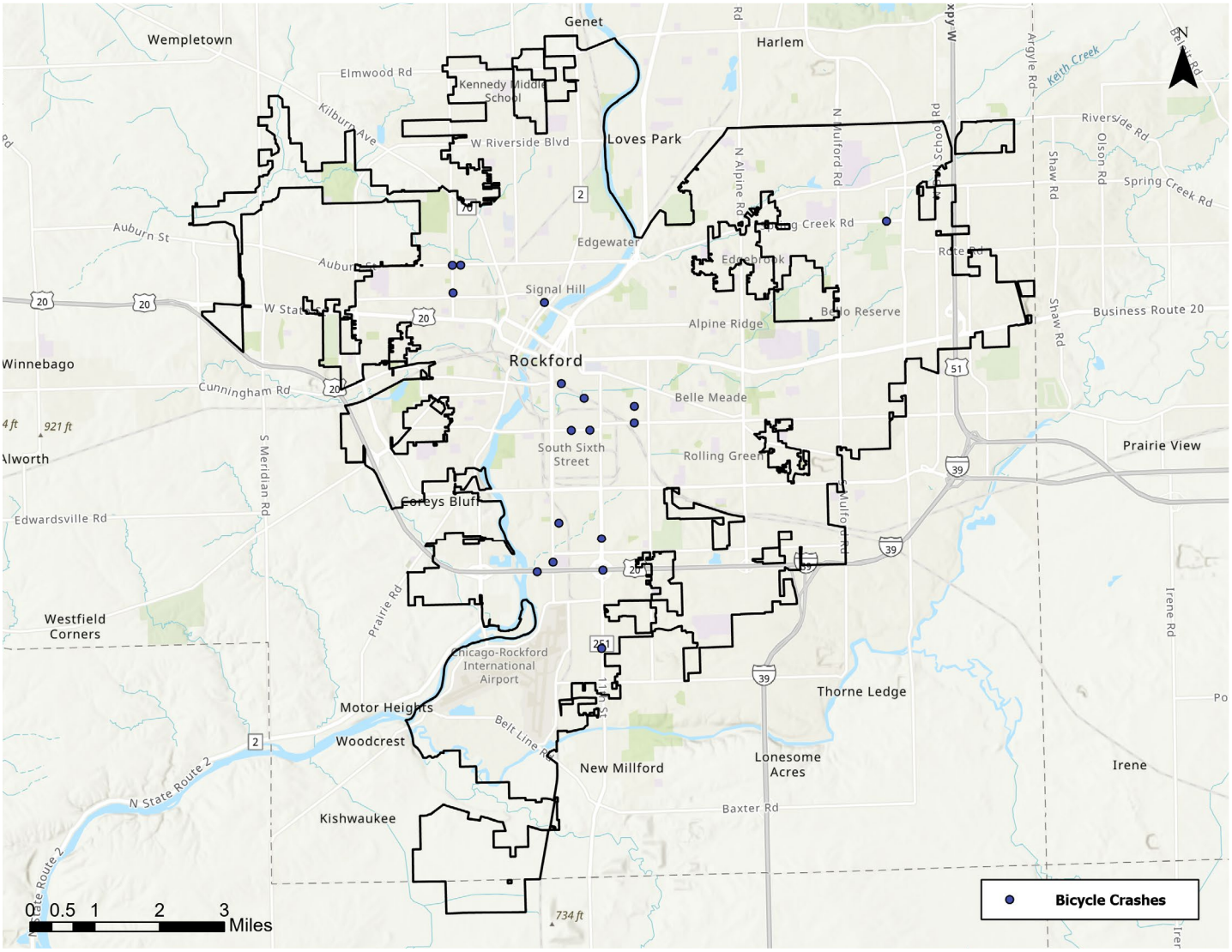
The National Highway Traffic Safety Administration has determined that the elimination of conflicts with motor vehicles is the most effective way of protecting bicyclists. Bicycle facilities, such as protected bicycle lanes and shared use paths and trails, accomplish this goal by separating bicyclists from the vehicle right-of-way (ROW). Reducing vehicle-bicycle conflicts mitigates the risks imposed on bicyclists by vehicle movements and driver behavior. The risks for bicyclists are greatest in urban areas where the concentration of moving and parked vehicles, intersections, and driveways is highest.

Fatal bicycle crashes are most likely to occur when a vehicle attempts to overtake a bicyclist on a roadway. These movements are made even more dangerous when the driver is distracted. A 2018 national study revealed that in 1 of every 13 overtaking events, the motorist is actively using a cellular device.[xxxii] Given the extreme vulnerabilities a bicyclist has, these distracted motorists can often cause fatal outcomes for bicyclists. Impairment is also strongly correlated with bicyclist crashes, as 34 percent of all fatal bicycle crashes in 2020 involved alcohol consumption by either the motorist or bicyclist. Speed is another significant factor in bicycle crashes. Similar to pedestrian crashes, higher vehicle speeds at impact are associated with a higher likelihood of a fatal or serious injury outcome for the bicyclist.

Table 5-3: Severe Outcome Bicyclist Crashes (2017-2022)

Emphasis Area	Number of A	Percent of A	Number of K	Percent of K	Number of KA	Percent of KA
Bicyclists	13	3.6%	4	4.3%	17	3,7%

Figure 5-5: Severe Outcome Bicyclist Crash Locations (2017-2022)





Pedestrians

Pedestrian safety in the United States has risen to the level of a crisis in the last decade. Pedestrian fatalities each year declined steadily for four decades until 2009, when the trend reversed. Between 2017 and 2021, roughly 32,500 pedestrians were killed on American roadways. Of the over 32,500 pedestrian-related traffic fatalities, 47 of these incidents occurred on roadways within the City of Rockford. During this five-year period, pedestrian fatalities accounted for approximately 17 percent of all traffic fatalities.[xxxiii] An additional 60,577 pedestrians were injured in traffic crashes in 2021. In 2022, 7,522 pedestrians were killed, representing a 68 percent increase from 2011. This number of deaths equates to more than three Boeing 737s falling from the sky every month for a year.[xxxiv]

The Federal Highway Administration (FHWA) and NHTSA define pedestrian crashes as any motor vehicle crash involving a person on foot, walking, running, jogging, hiking, sitting, or lying down.[xxxv] Pedestrian safety has become an area of significant focus for both of these agencies as well as state and local transportation agencies in recent years due to the trends discussed above.

Transportation decision-makers across the country are looking for solutions to this crisis. The United States Department of Transportation's (USDOT) Safe System Approach, which is adopted by this plan and many others across the nation, is seen as a path toward establishing a transportation system that is safe for all roadway users, including pedestrians.

The National Highway Traffic Safety Association has identified that roadway environment, vehicle type and design, weather, and road user behaviors are contributing factors for pedestrian crashes. The speed of a vehicle as it impacts a pedestrian has a significant impact on the likelihood of a fatal outcome; the risk of fatality is 8 percent at 31 miles per hour (mph) but increases to 50 percent at 47 mph. Alcohol also plays a role in many pedestrian crashes; 43 percent of all pedestrian crashes in 2021 involved a driver or pedestrian with a BAC of 0.08 or higher.[xxxvi] The majority of pedestrian crashes also take place at night; 77 percent of nationwide pedestrian fatalities occurred in the dark. From 2017 to 2022, 27 of the total 32 pedestrian fatalities took place while it was dark in the City of Rockford.

The trend reversal in pedestrian crashes in 2009 prompts the question: what changed? One potential factor is an increase in the size and weight of the average vehicles on the roadway. From 2009 to 2016, the number of fatal pedestrian crashes in the United States involving SUVs increased by 81 percent.[xxxvii] The number of potential distractions for roadway users has also increased in the last 15 years. Smart phones have become widely available and can serve as a distraction to both drivers and pedestrians, as demonstrated by numerous studies. Newer vehicles also contain "infotainment" displays that can be an additional distraction for drivers.

The rise in pedestrian crashes nationwide can be attributed to multiple factors, making it a challenge to determine which factors to focus the most resources on. Addressing this issue will require the use of strategies targeting a variety of factors.

Table 5-4: Severe Outcome Pedestrian Crashes (2017-2022)

Emphasis Area	Number of A	Percent of A	Number of K	Percent of K	Number of KA	Percent of KA
Pedestrians	47	12.9%	32	34.4%	79	17.3%

Figure 5-6: Light Condition: Severe Outcome Pedestrian Crashes (2017-2022)

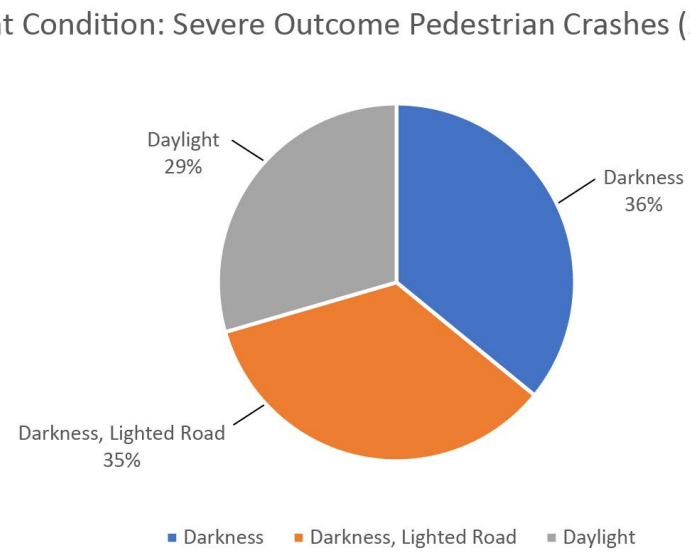
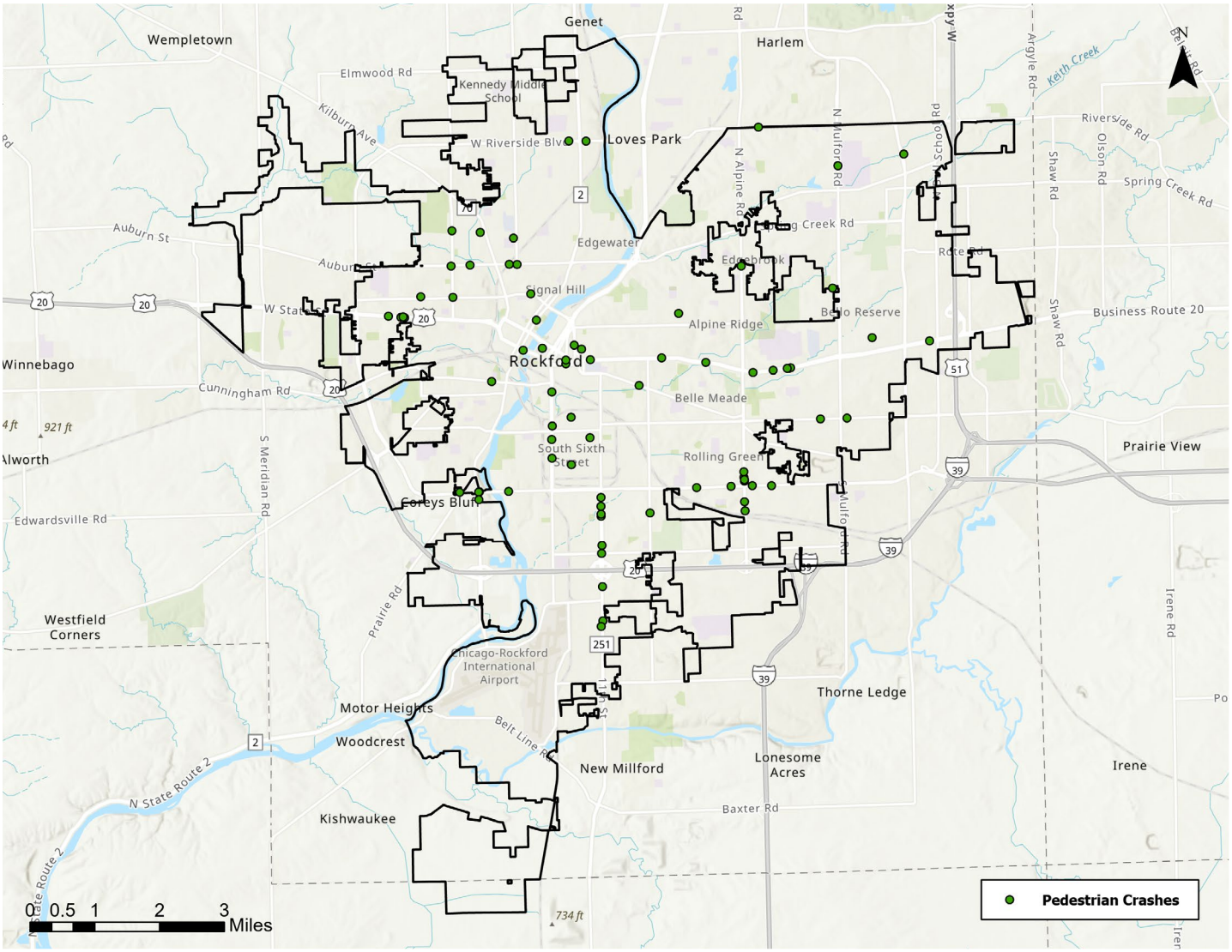


Figure 5-5: Severe Outcome Pedestrian Crash Locations (2017-2022)



Younger & Older Drivers

Younger and older drivers are often overrepresented in crash statistics when compared to other age groups in between. Driving behaviors among these groups differ but can pose similar risks to themselves and the transportation network. Age ranges for younger drivers vary slightly, but many reference 15- to 20-year-olds as the primary group. Older drivers are typically defined as any individual over the age of 65.

Crash risks for younger drivers are typically due to a lack of experience driving, as well as an increase in risk-taking behaviors during normal adolescent development.[xxxviii] Additionally, research on adolescent development shows that the parts of the brain responsible for decision-making and judgment continue to develop beyond adolescence.[xxxix] In 2021, over 2,000 drivers aged 15 to 20 years old were killed in motor vehicle crashes.[xl] A lack of experience combined with distractions, such as cell phones or other passengers, increases the vulnerability of younger drivers getting into a crash. While there is an increased risk for all drivers, other factors, such as driving at night, under the influence of alcohol/drugs, or without a seatbelt, can be especially dangerous for younger drivers. A study conducted by the Centers for Disease Control and Prevention (CDC) in 2019 showed that 7.8 percent of younger drivers self-reported instances of driving while alcohol-impaired.[xli]

Older drivers continue to be more abundant on U.S. roadways than ever, especially as the median age continues to rise. In 2021, more than 20 percent of licensed drivers in the U.S. were over the age of 65.[xlii] Although age is not a direct determinant of driving ability, adjustments to physical and mental abilities as individuals age can influence the risk of crashing. Without adequate and diverse mode options for older individuals, driving continues to be a necessity for daily lifestyle habits. In 2021, 8,209 traffic fatalities involved an older driver.[xliii] Certain driving behaviors among older drivers have been observed to be safer compared to other groups, such as higher seatbelt use, less impaired driving, and often choosing safer times of

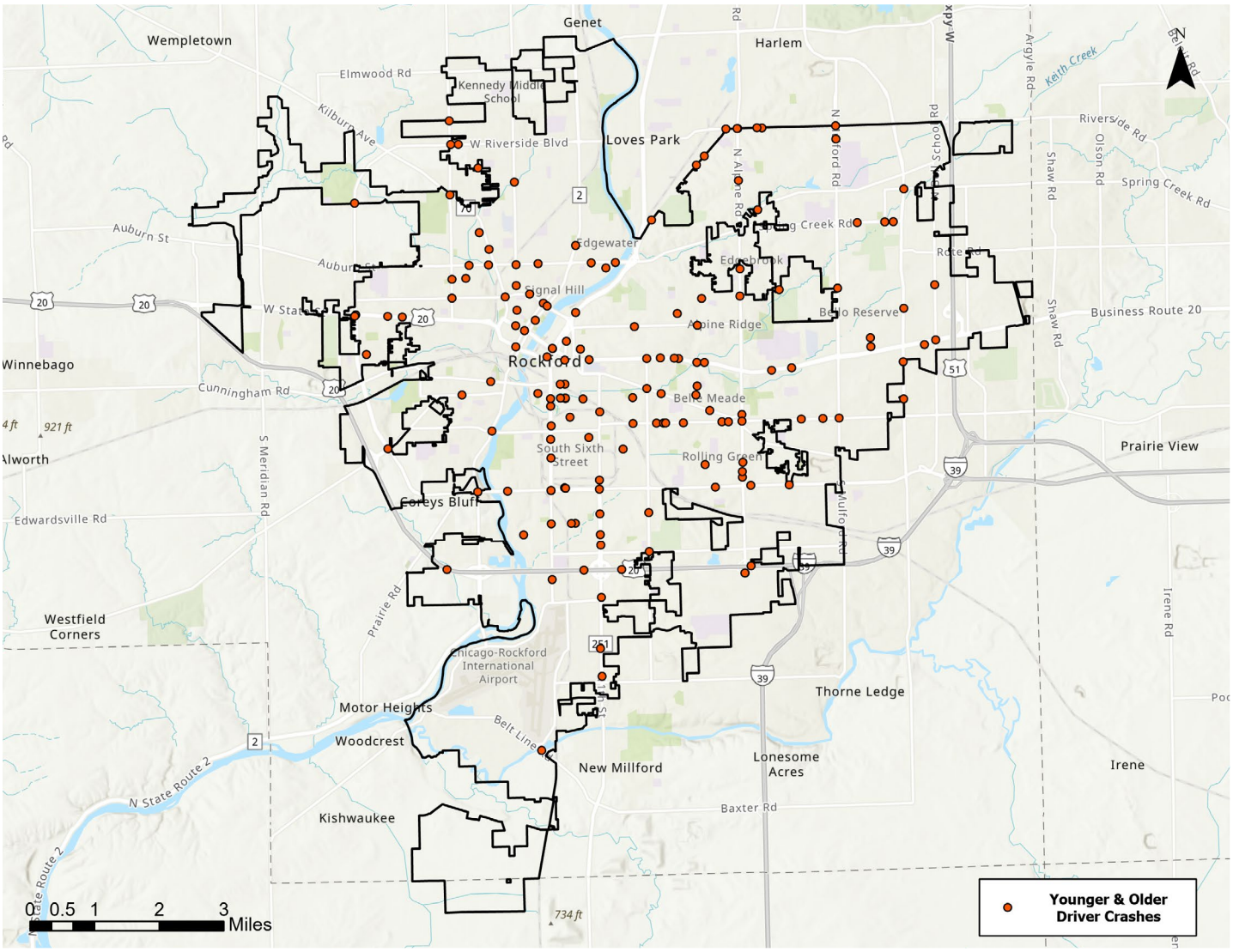
the day to drive. However, most older drivers are required to take medicine that could lead to drowsiness or affect driving in other ways. In fact, over 90 percent of older drivers take prescription medications.[xliv] Lastly, older drivers are less likely to drive aggressively or speed. However, they may exhibit other risky behaviors, such as driving more slowly than prevailing traffic or failing to detect or accurately judge the speed of an oncoming vehicle while making an unprotected left turn.[xlv]

In the City of Rockford, there were 32 fatal crashes during the study period that involved a younger or older driver. Additionally, there were 139 serious injury crashes with a younger or older driver. This accounts for over 37 percent of all severe outcome crashes in the city during that time.

Table 5-5: Severe Outcome Younger & Older Drivers Crashes (2017-2022)

Emphasis Area	Number of A	Percent of A	Number of K	Percent of K	Number of KA	Percent of KA
Younger & Older Drivers	139	38.2%	32	34.4%	171	37.4%

Figure 5-6: Severe Outcome Younger & Older Drivers Crash Locations (2017-2022)



Heavy Vehicles

Heavy vehicles pose a safety risk to lighter vehicles and vulnerable roadway users, as their weight means they exert more force upon impact. The weight of a heavy vehicle provides safety benefits to its occupants but increases the risks for other roadway users. Heavy vehicles are defined as buses with a capacity for up to 15 passengers, buses with a capacity for 15 passengers or more, single-unit trucks, tractors with or without a semi-trailer, and farm equipment.

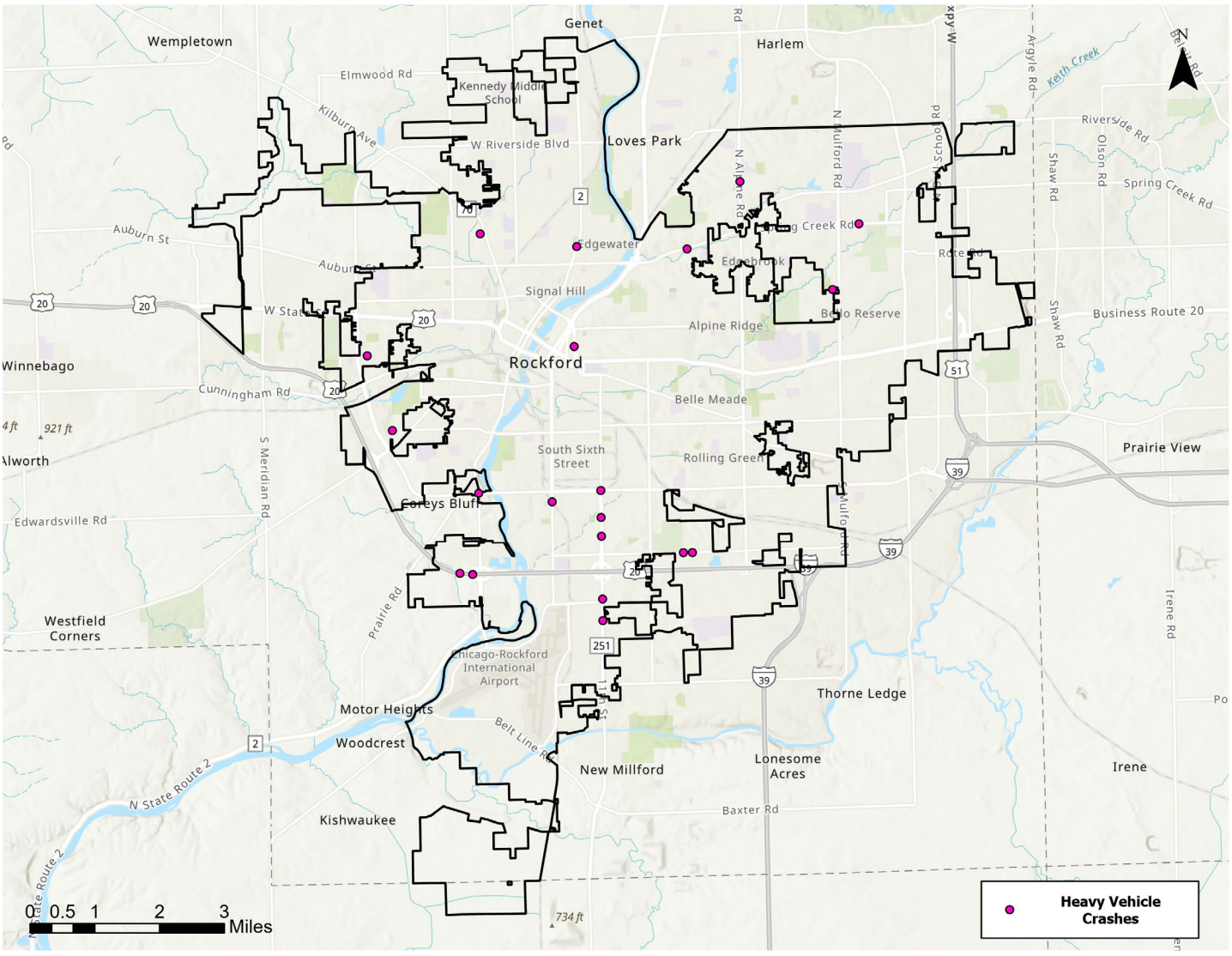
These vehicles play important roles in the transportation system, transporting large amounts of people and goods, but their weight makes them a danger to lighter vehicles and vulnerable roadway users. Heavy vehicles typically have limited sight-lines and can struggle to stop or maneuver quickly due to their weight. Developing an understanding between heavy vehicle operators and other roadway users of how heavy vehicles behave on the roadway can help all roadway users safely coexist. Additionally, these risks can also be mitigated through infrastructure enhancements.

When a vehicle is involved in a collision with another vehicle that is 1,000 pounds heavier, the fatality risk for the occupants of the lighter vehicle increases by 40 to 50 percent, compared to a collision with a vehicle of similar weight.[xlvi] In 2021, crashes involving trucks weighing 10,000 pounds or more resulted in 5,788 fatalities in the United States, marking a 17 percent increase compared to 2020.[xlvii] Nationally, the involvement rate for large trucks per 100 million miles traveled has risen by 24 percent since 2012. In 2022, large trucks accounted for six percent of all vehicles involved in fatal crashes in the United States.[xlviii] From 2017 to 2022, just under ten percent of all fatal crashes involved a heavy vehicle in the City of Rockford.

Table 5-6: Severe Outcome Heavy Vehicle Crashes (2017-2022)

Emphasis Area	Number of A	Percent of A	Number of K	Percent of K	Number of KA	Percent of KA
Heavy Vehicles	12	3.3%	9	9.7%	21	4.6%

Figure 5-7: Severe Outcome Heavy Vehicle Locations (2017-2022)



Lane/Roadway Departures

Lane and roadway departure crashes are defined by FHWA as crashes in which a vehicle crosses an edge line, centerline, or otherwise leaves the traveled way.[xlix] This emphasis area encompasses two crash types pertaining to difficulties with lane keeping: single motor vehicles that run off the road and head-on collisions. Single-motor-vehicle departing-the-roadway crashes typically involve only one vehicle, with the vehicle impact occurring typically on the shoulder, beyond the shoulder, or in the median of the roadway. Head-on crashes involve two motor vehicles traveling straight and in opposite directions prior to impact.[l]

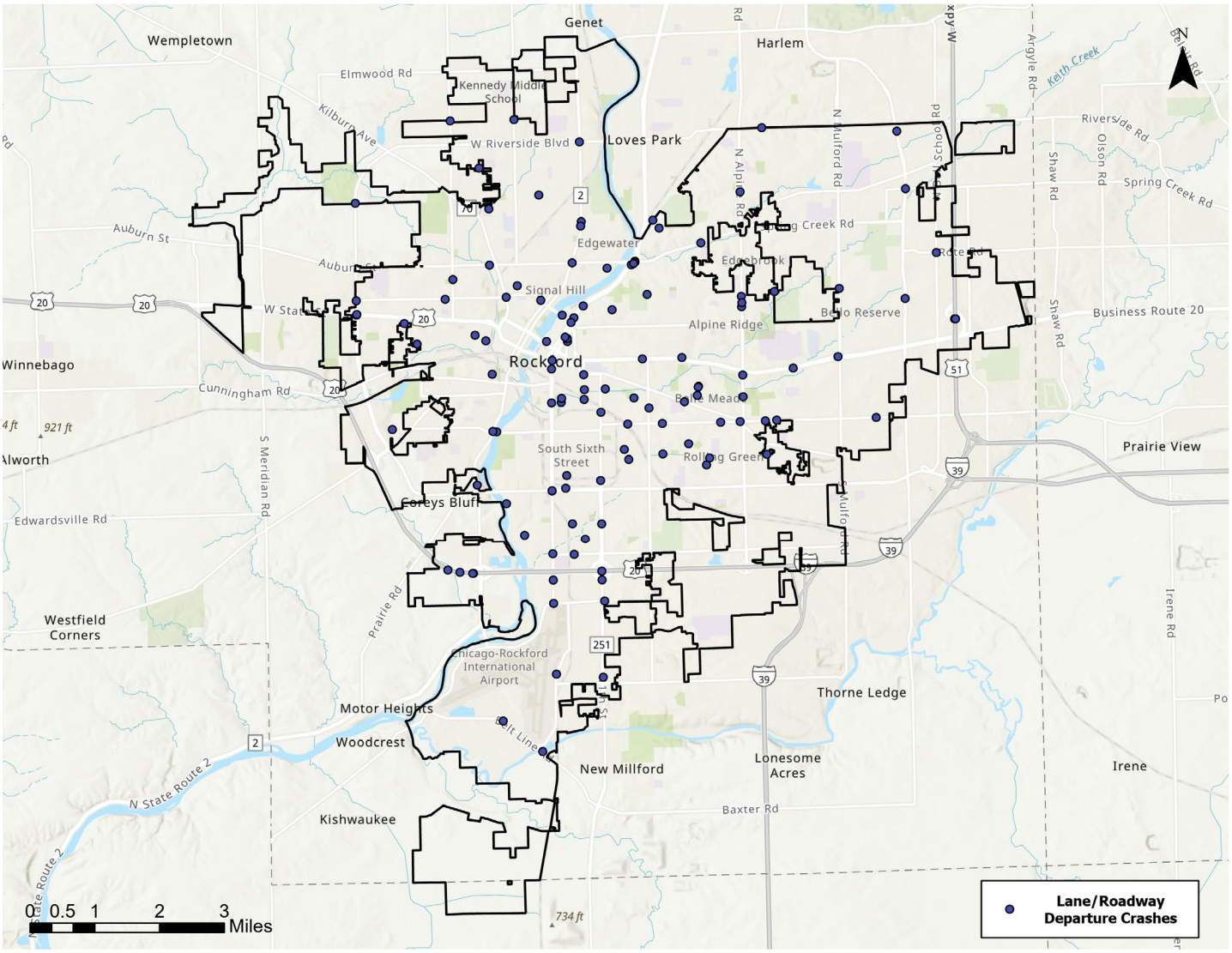
Between 2016 and 2018, an average of 19,158 fatalities annually resulted from roadway departures, accounting for 51 percent of all traffic deaths in the United States. Of these, approximately 12,000 fatalities occurred on rural roads when vehicles veered out of their lanes. The City of Rockford has the same concerning problem when it comes to lane/roadway departures. In the six-year analysis period, the city saw 23 fatalities from roadway departures. This highlights the significant risk posed by roadway departures. A systemic approach to reducing lane/roadway departures can be challenging because "roadway departure crash locations are random and tend to change from year to year."[li]

To address lane/roadway departures and serious crashes, the Federal Strategic Highway Safety Plan has identified three related emphasis areas: keep vehicles on the roadway, minimize the consequences of leaving the roadway, and reduce head-on and across-median crashes.[lii] To mediate these emphasis areas, FHWA has suggested the following countermeasures: ensure adequate pavement friction, install rumble strips, focus on horizontal curve safety, and increase nighttime visibility.[liii] By eliminating hazardous conditions and ensuring the required clear zone is in place for each road type, the severity of a roadway departure can be dramatically reduced.

Table 5-7: Severe Outcome Lane/Roadway Departure Crashes (2017-2022)

Emphasis Area	Number of A	Percent of A	Number of K	Percent of K	Number of KA	Percent of KA
Lane/Roadway Departure	98	26.9%	23	24.7%	121	26.5%

Figure 5-8: Severe Outcome Lane/Roadway Departure Crash Locations (2017-2022)



Intersections

Despite the small percentage of roadway occupied by intersections, the crossing of traffic, fluctuations in speed, changes in direction, and presence of pedestrians can make intersections particularly hazardous to traverse for all users. Intersections are natural areas of conflict for vehicles, as they involve the passing of vehicles traveling in opposing directions. Intersections can be categorized into signalized and non-signalized groupings. Traffic control devices seek to mitigate the heightened risk of intersections by directing vehicles through at different intervals. However, drivers can still misjudge these signs or ignore them, putting themselves and other drivers at a heightened risk of collision. In 2021, there were about 11,800 traffic fatalities involving an intersection nationwide.[liv] The disproportionate danger posed by intersections compared to their share of total roadway is a consistent trend across the City of Rockford, as evidenced by 32 fatalities recorded during the six-year study period.

Signalized intersections utilize traffic signals that are meant to move higher levels of traffic in efficient intervals. About one-third of all intersection fatalities occur at signalized intersections, and in 2021 there were over 4,000 traffic fatalities involving a signalized intersection nationwide. Red-light running is a risky driving behavior that is the main cause of many traffic fatalities at signalized intersections. In 2021, there were over 1,200 traffic fatalities nationwide that were the result of red-light running.[lv]

Unsignalized intersections are made up of stop sign-controlled, yield sign-controlled, and uncontrolled. The number of stop or yield signs varies by intersection but always includes at least one, except in the case of uncontrolled intersections. Since they are the most common intersection type throughout the nation, crashes frequently occur at unsignalized intersections. There were over 7,700 traffic fatalities at unsignalized intersections nationwide in 2021.[lvi] Similar to red-light running, when drivers disobey traffic signs at unsignalized intersections, the consequences can be severe.

Certain crash types are most common at both signalized and unsignalized intersections. These include angle, turning, and pedestrian crashes. Angle crashes are a collision between two motor vehicles approaching a location, such as an intersection, at an angle to each other where the intent of both motor vehicles is to go straight (forward only).[lvii] Turning crashes involve at least one vehicle in the process of performing a turning maneuver. Pedestrian crashes occur when a vehicle's first contact point is the pedestrian in the event of a crash. In 2021, there were about 1,800 pedestrian fatalities at signalized and unsignalized intersections.[lviii]

Table 5-8: Severe Outcome Intersections Crashes (2017-2022)

Emphasis Area	Number of A	Percent of A	Number of K	Percent of K	Number of KA	Percent of KA
Intersections	194	53.3%	32	34.4%	226	49.5%

Figure 5-9: Severe Outcome Intersection Crashes: Signalization

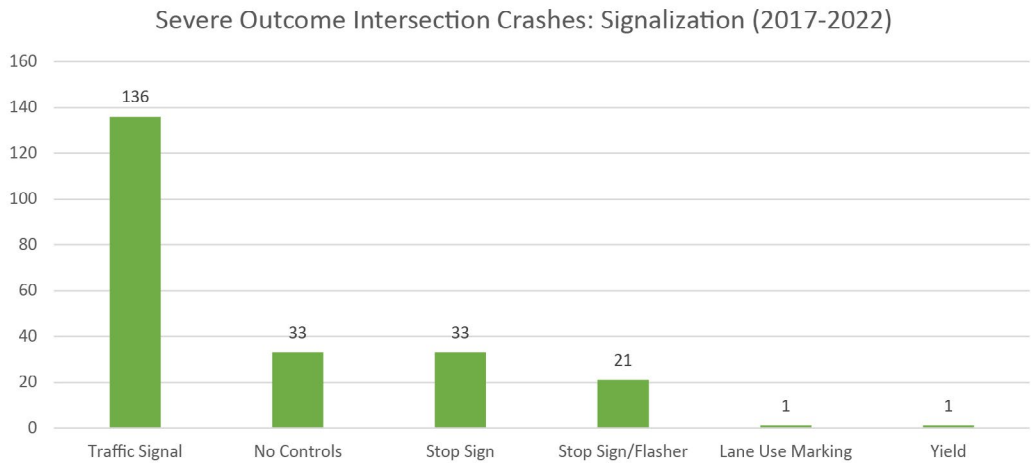
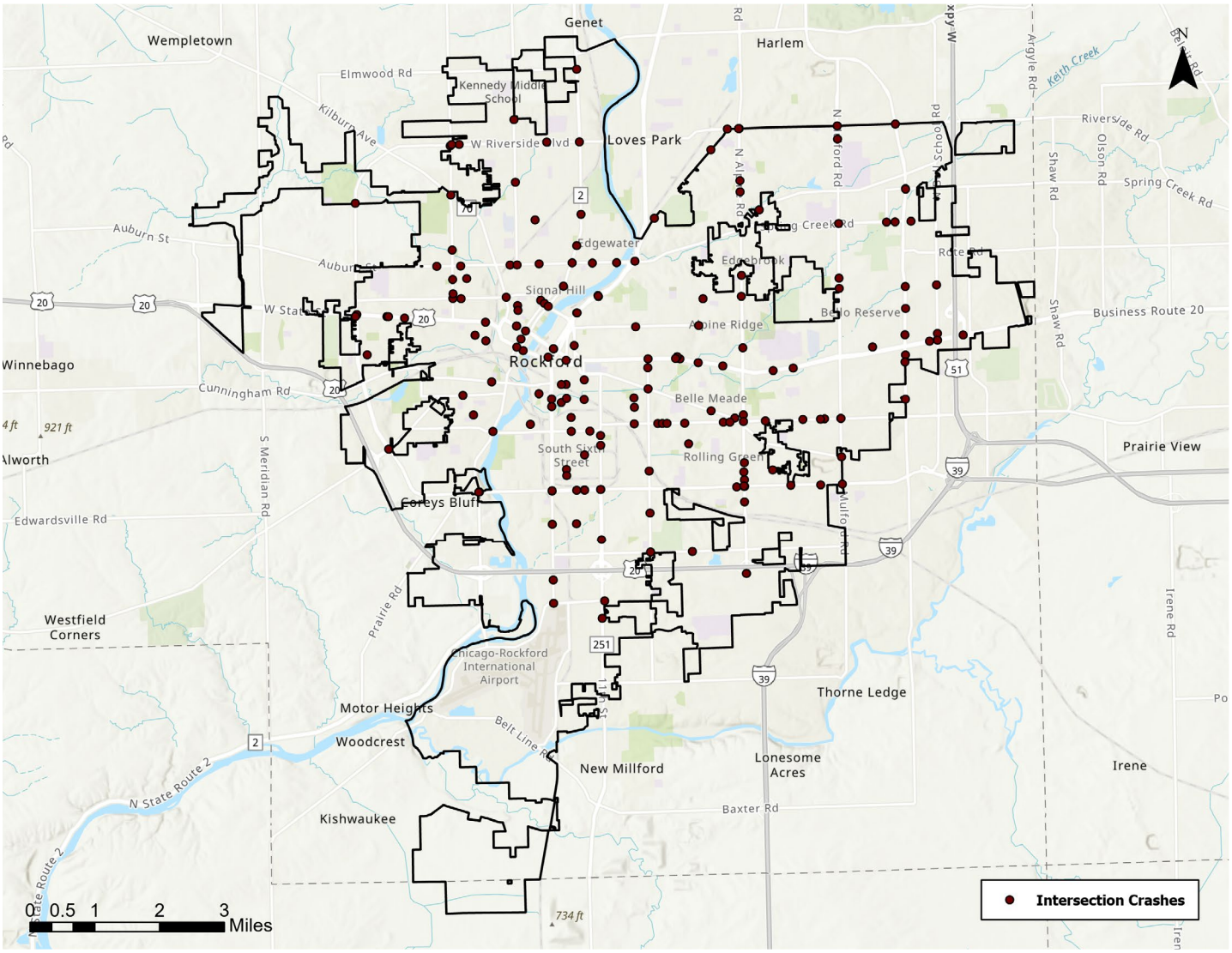


Figure 5-10: Severe Outcome Intersection Crash Locations (2017-2022)



Protection Zone

Protection Zones

This plan uses the term "Protection Zones" to refer to special traffic areas, such as work zones and school zones. These special zones require their own traffic rules and regulations on the road to protect individuals that may be present in those areas. Protection zones are designated to reduce severe outcome conflicts between vehicles and pedestrians. These zones commonly have a higher volume of vulnerable road users, such as children on their way to and from school, or road crews working closely with traffic.

School zones are defined by the State of Illinois as any public right-of-way situated immediately adjacent to school property, including but not limited to any stretch of highway within 100 feet of an entrance to school property. School zones in Illinois enforce a 20 miles per hour (mph) speed limit and use increased signage among other devices, especially around crossings within a school zone. These mitigation efforts are aimed at protecting young pedestrians from vehicles, particularly by alerting drivers to possible pedestrians near the road within the school zone.

Work zones are characterized by changes in traffic patterns, narrowed rights-of-way, construction workers, and construction vehicles, according to FHWA.[lix] Work zones attempt to separate traffic from active construction work and equipment to ensure a safe environment for travelers and those working on the road. Work zones can cause higher congestion and increased driver frustration that leads to potential conflicts in narrow areas where road work may be ongoing. In 2022, 6,775 total crashes and 37 fatalities were reported inside work zones by the Illinois Department of Transportation. The implementation of signage and a reduction in speed can alert drivers to workers who may be on the road during construction periods.



PART 6:

Strategies & Recommendations

A specific set of strategies and action items must be identified in order for the City of Rockford to achieve Vision Zero—the elimination of traffic fatalities. Based upon input from stakeholders around the city and the results of this plan's data analysis, which identified key contributing factors to severe outcome crashes as well as roadways with high rates of severe outcome crashes, 11 safety emphasis areas were identified. A thorough review of proven practices and countermeasures to address these specific concerns and further conversations with traffic safety stakeholders led to the identification of the safety strategies and recommendations below.

Under the structure of the Safe System Approach, this plan recommends multiple actions and projects to reduce severe outcome crashes related to the plan's 11 emphasis areas. The implementation of the following actions items will bring the City of Rockford closer to its crash reduction goals. While each emphasis area is associated with the Safe System Approach element it most closely relates to, action items that relate to multiple objectives are indicated as such. Each action item is also accompanied by a list of potential partners, a description of the location or locations at which its implementation is recommended, and a timeframe for implementation. The timeframe lengths are defined as:

- **Short**: Zero to one year to implementation
- **Medium**: One to five years to implementation
- **Long**: Five or more years to implementation

In each emphasis area group of the action matrix, projects are organized according to priority. Projects that target specific locations on roadways identified in the plan's High Injury Network (HIN) are prioritized at the top, as these address the highest-risk areas. When multiple projects within an emphasis area fall under the HIN, their order of priority is further determined by their classification within the network. The second priority tier is assigned to actions endorsed by either the Federal Highway Administration's (FHWA) *Proven Safety Countermeasures* or the National Highway Traffic Safety Administration's (NHTSA) *Countermeasures that Work* guidebook, as these initiatives are recognized for their effectiveness in enhancing safety. Any additional action items listed after these two priority groups will receive a lower level of priority.

Objective #1. Safer Speeds

Encouraging safer speeds across all roadway environments by employing a combination of well-considered, context-sensitive roadway designs with targeted education, outreach campaigns, and enforcement efforts will support a reduction in severe outcome crashes in the City. This action plan and the Safe System Approach attempt to recognize the importance safe speeds play in providing a safe transportation network. Both exceeding posted speed limits and driving too fast for conditions are key factors in speeding-related crashes. A reduction in instances of speeding and aggressive driving will result in a reduction of severe outcome crashes, as less kinetic energy will be transferred between vehicles, roadway users, and other objects when crashes do occur.

Emphasis Area: Speeding & Aggressive Driving

The primary objective of this emphasis area is to reduce the severity of crashes by lowering average vehicle speeds. This can be accomplished through a combination of strategies, including enhanced law enforcement, public awareness campaigns, and improvements to roadway design that encourage safer driving behavior. Specific countermeasures aimed at addressing speeding and aggressive driving are outlined below.

Appropriate Speed Limits

- **Potential Partners:** Winnebago County Highway Department and Illinois Department of Transportation (IDOT)
- **Location(s)**: Citywide
- **Timeframe:** Medium

Variable Speed Limits

- **Potential Partners**: Winnebago County Highway Department and IDOT
- **Location(s)**: Citywide
- **Timeframe:** Medium

Traffic Calming Measures

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Urban environments
- **Timeframe:** Long

Dynamic Speed Feedback Displays

- **Potential Partners:** Winnebago County Highway Department, Winnebago County Sheriff's Office, and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Short

Speed Safety Cameras

- **Potential Partners:** Winnebago County Highway Department, Winnebago County Sheriff's Office, and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Medium

Always on Radar

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Medium

High-Visibility Enforcement

- **Potential Partners**: Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Short

Objective #2. Safer People

This objective of the Safe System Approach aims to promote safe, responsible driving and behavior among road users while fostering conditions that prioritize safe arrival at their destinations. Recommended actions under this objective will encourage safer behaviors by all road users, including everyday drivers, vulnerable roadway users, and commercial operators. While most individuals use the roadway system safely on a typical trip, errors, lapses in judgment, and riskier behaviors can still occur. The action items below attempt to instill positive behavior among roadway users as it relates to alcohol and drugs, distractions and drowsiness, and seat belt restraints, while also addressing factors such as age and cognitive functioning that can impact traffic safety.

Emphasis Area: Impaired Driving

The goal of the actions under this emphasis area is to reduce instances of driving under the influence by increasing public awareness of the risks involved. This includes raising the perceived likelihood of arrest and highlighting the potential physical consequences, such as severe injury or death, for both the driver and other road users. Efforts in this area aim to change behaviors through a combination of enforcement, education, and public awareness campaigns that underscore the dangers of impaired driving. Specific countermeasures aimed at addressing impaired driving are outlined below.

Mass Media Campaigns

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Short

Lower Blood Alcohol Concentration (BAC) Limits

- **Potential Partners:** Federal and State Governments
- **Location(s)**: City/Statewide
- **Timeframe:** Long

Administrative License Revocation or Suspension

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Long

Publicized Sobriety Checkpoints

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide, Nightlife & Entertainment Districts
- **Timeframe:** Short

High-Visibility Saturation Patrols

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Medium

Alcohol-Measurement Devices

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Medium

Passive Alcohol Sensors

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Medium

Enforcement of Drug-Impaired Driving Laws

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Medium

Alcohol Problem Assessment and Treatment

- **Potential Partners:** Community organizations and medical providers
- **Location(s):** Citywide
- **Timeframe:** Medium

Alternative Transportation Options

- **Potential Partners:** Rockford Mass Transit District (RMTD), Bird Scooters, Bikeshare Companies
- **Location(s):** Citywide
- **Timeframe:** Medium

Emphasis Area: Unrestrained Occupants

The primary objective of the actions in this emphasis area is to increase rates of consistent use of seatbelts and child restraints every time someone enters a vehicle. This will be achieved in part through a robust public outreach campaign aimed at raising awareness of the lifesaving benefits of proper restraint use. The campaign will emphasize the importance of making seatbelt use a routine habit for all passengers while educating the public on the implications of failing to use seatbelts and child safety seats. The use of enforcement tactics will also support more consistent belt use in the county. Success in this emphasis area will lead to significant reductions in severe outcomes crashes.

Short-Term High-Visibility Enforcement

- Potential Partners: Winnebago County Sheriff's Office and City of Rockford Police Department
- Location(s): Citywide
- Timeframe: Short

Communication Strategies for Low-Belt-Use Groups

- **Potential Partners:** Winnebago County Sheriff's Office, City of Rockford Police Department, and Winnebago County Highway Department's public engagement teams
- **Location(s):** Citywide
- **Timeframe:** Short

Child-Passenger Safety Law Enforcement

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Long

Child Restraint Inspection Programs

- **Potential Partners:** Winnebago County Sheriff's Office, City of Rockford Police Department, and City of Rockford Fire Department
- **Location(s):** Law enforcement offices and/or fire stations city-wide
- **Timeframe:** Short

Emphasis Area: Distracted & Drowsy Driving

The action items associated with the distracted and drowsy driving emphasis area will raise awareness of the serious dangers associated with driving while distracted or when cognitive function is impaired by fatigue. Reducing occurrences of distraction caused by a mobile device is central to the success of this objective. By enhancing the public's understanding of these risks, this effort aims to discourage distracted and drowsy driving behaviors. Actions such as targeted education campaigns, public outreach, and enforcement strategies are designed to highlight the life-threatening consequences of divided attention and driver fatigue and to change driver behavior.

High-Visibility Cell Phone Enforcement

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Short

Communication & Outreach

- **Potential Partners:** Winnebago County Sheriff's Office, City of Rockford Police Department, and Winnebago County Highway Department's public engagement teams
- **Location(s):** Citywide
- **Timeframe:** Short

Emphasis Area: Younger & Older Drivers

The goal of this emphasis area is to educate both younger and older drivers on the dangers of driving, and to instill safe driving behaviors and habits to help them avoid involvement in crashes. This emphasis area aims to promote safe driving habits and increase awareness of traffic laws and regulations that impact these age groups. Educational initiatives will be designed to address the unique challenges and risks faced by younger, often inexperienced drivers prone to risky behaviors, and older drivers, who may face age-related changes in cognitive and physical abilities. Through targeted outreach and training, this emphasis area seeks to foster safer driving practices and reduce crash involvement among these populations. Specific countermeasures aimed at younger and older drivers are outlined below.

Enforcement of Graduated Driver Licensing (GDL)

- **Potential Partners:** Winnebago County Sheriff's Office and City of Rockford Police Department
- **Location(s):** Citywide
- **Timeframe:** Medium

Advanced Driver Training Course, including Formal Courses for Older Drivers

- **Potential Partners:** State Administration
- **Location(s):** Rockford Public Schools
- **Timeframe:** Medium

License Screening, Testing, and Restrictions

- **Potential Partners:** State Administration
- **Location(s):** Statewide
- **Timeframe:** Long

Objective #3. Safer Vehicles

This objective of the Safe System Approach is aimed at expanding the availability of vehicle technologies and systems designed to prevent crashes and reduce the severity of their impact on both occupants and non-occupants. The next generation of vehicles will increasingly incorporate advanced technologies that can not only prevent certain types of crashes but also minimize harm to pedestrians, cyclists, and others outside the vehicle. Within the context of this plan, the emphasis areas and action items assigned to this emphasis area are focused on addressing the unique safety concerns around two common vehicle types: bicycles and heavy vehicles. These vehicle types are either at increased risk or place other roadway users at an increased risk of being involved in a severe outcome crash, necessitating the inclusion of the action items listed below.

Emphasis Area: Bicyclists

The primary goal of this emphasis area is the implementation of dedicated bicycle infrastructure that separates bicyclists from motor vehicles whenever possible, thereby reducing the risk of collisions. In situations where full separation is not feasible, efforts will focus on increasing the visibility of bicyclists in shared roadway environments. This may include the addition of bike lanes, protected intersections, enhanced signage, and improved lighting. Public education campaigns and driver awareness initiatives will complement these infrastructure improvements, fostering safer interactions between cyclists and motorists. These action items will support bicycling throughout the City and will protect the safety of both vulnerable roadway users and vulnerable communities.

Bicycle Lanes, Bicycle Signal Heads, Bicycle Friendly Lighting, or Bicycle Boxes

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Existing bicycle facilities city-wide
- **Timeframe:** Medium

Roadway Right-Sizing

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Long

Bicycle Helmet Laws

- **Potential Partners:** State Administration
- **Location(s):** Statewide
- **Timeframe:** Long

Emphasis Area: Heavy Vehicles

Heavy vehicles, such as trucks and buses, carry a heightened risk of severe outcomes when they are involved in a crash. To mitigate the risks imposed by their weight, efforts will focus on improving roadway geometry and design, ensuring that infrastructure can accommodate the unique challenges posed by larger vehicles. This includes implementing measures such as appropriate lane widths, enhanced turning radii, and dedicated truck routes to facilitate safer navigation.

Appropriate Functional Classification

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Medium

Vehicle Weight Monitoring

- **Potential Partners:** IDOT
- **Location(s):** Citywide
- **Timeframe:** Medium

Dedicated Travel Lanes

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Medium

Road Widening

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Long

Objective #4. Safer Roads

The design of roadways has a significant impact on the safety of the roadway users making trips upon them. Each roadway has its own unique context, which in many cases can threaten the safety of roadway users. The surrounding environment, including land use and the intersections of highways, roads, and streets with other transportation modes, like transit, plays a crucial role in determining the safety risks faced by the traveling public. Placing safety at the forefront when evaluating the design of a new or existing roadway can reveal necessary changes to better protect roadway users from threats imposed on them. The actions items under this objective will address roadway safety at intersections, along rural roadways, for pedestrians, and within work and school zones across various road settings, ranging from high-volume freeways to two-lane rural roads. By addressing these factors comprehensively, the goal is to create safer roadways for everyone.

Emphasis Area: Lane/Roadway Departures

The primary objective of this emphasis area is to optimize roadway geometry and design features to reduce the risk of vehicles leaving the roadway, veering into adjacent lanes, or colliding with fixed objects. This includes implementing design improvements such as wider lanes, improved shoulder designs, safety-focused design at horizontal curves, and better signage to guide drivers and maintain their vehicle's position. Additionally, incorporating safety features like rumble strips, barriers, and protective guardrails can help prevent vehicles from straying off course and mitigate the impact of potential collisions.

Roadway Improvements such as Rumble Strips/Stripes, Safety Edge, Median Barriers, Guardrails, Wider Edge Lines

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Medium

Pavement Friction Management

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Medium

Post-Crash Care

- **Potential Partners:** Winnebago County Sheriff's Office, Rockford Police Department, and Winnebago County Emergency Department
- **Location(s):** Citywide
- **Timeframe:** Short

Emphasis Area: Intersections

The primary objective of this emphasis area is to implement comprehensive, system-wide improvements designed to reduce the incidence of red-light violations, angle crashes, turning collisions, and other challenges at two-way stop intersections. This effort will involve a combination of engineering, education, and enforcement strategies. Recommended actions include upgrading traffic signals, enhancing signage, and improving roadway markings to help clarify right-of-way rules and reduce confusion for drivers. Many intersections were revealed by the data analysis to have high rates of severe outcome crashes. Safety audits can be performed at these locations, revealing what countermeasures are most appropriate for each specific intersection. Additionally, the installation of advanced signal technologies, such as countdown timers and red-light cameras, can discourage violations and enhance compliance with traffic signals.

Infrastructure Improvements such as Reflective Backplates, Yellow Change

Intervals and Improved Signage

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Medium

Intersection Reconfiguration such as Roundabouts, Dedicated Turn Lanes

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Long

Corridor Access Management

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Medium

Conduct Safety Audits at Intersections of Concern, and Implement Findings

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Short

Intersection Safety including Red-Light Cameras and Reduced Left-Turn Conflict Intersections

- **Potential Partners:** Winnebago County Sheriff's Office, Rockford Police Department, Winnebago County Highway Department, and IDOT.
- **Location(s):** Citywide
- **Timeframe:** Medium

Emphasis Area: Protection Zones

Safe travel behavior and increased awareness of traffic laws within protection zones are imperative to ensuring the safety of children and workers. Recommended efforts under this emphasis area include enhanced enforcement of traffic laws in protection zones, education campaigns so that drivers can be better informed on laws related to protection zones, and improved ingress and egress plans at schools. Additionally, pedestrian safety training for school-aged children and safer layouts of work zones can help address the emphasis area.

Ingress and Egress Plans for School Zones

- **Potential Partners:** Winnebago County Highway Department, IDOT, and Rockford Public Schools
- **Location(s):** Rockford Public Schools
- **Timeframe:** Short

Speed Safety Cameras in Work Zones

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Short

Enhanced Delineation of Protection Zones

- **Potential Partners:** Winnebago County Highway Department, IDOT, and Rockford Public Schools
- **Location(s):** School and work zones citywide
- **Timeframe:** Medium

Emphasis Area: Pedestrians

To promote greater safety for all individuals in the transportation system, the pedestrian emphasis area is a key focus. The primary goal is to expand and improve pedestrian infrastructure and roadway design, making drivers more aware of the most vulnerable road users—pedestrians. This effort also seeks to encourage safer behaviors among pedestrians themselves. By enhancing crosswalks, sidewalks, lighting, and signage, as well as implementing traffic-calming measures, the emphasis area aims to reduce pedestrian-related crashes. Public outreach and education campaigns will complement these physical improvements to foster a shared responsibility between drivers and pedestrians for safer interactions on the road. Specific countermeasures aimed at addressing pedestrian safety are outlined below.

Sidewalks/Walkways

- **Potential Partners:** Winnebago County Highway Department
- **Location(s):** Citywide
- **Timeframe:** Medium

Crosswalk Visibility Enhancements

- **Potential Partners:** Winnebago County Highway Department
- **Location(s):** Citywide
- **Timeframe:** Short

Leading Pedestrian Intervals

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Short

Pedestrian Hybrid Beacons and/or Rectangular Rapid Flashing Beacons (RRFB)

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Citywide
- **Timeframe:** Medium

Pedestrian Safety Zones (i.e., Refuge Islands or Curb Extensions)

- **Potential Partners:** Winnebago County Highway Department and IDOT
- **Location(s):** Pedestrian safety risk areas
- **Timeframe:** Long

Safe Routes to School (SRTS)

- **Potential Partners:** Winnebago County Highway Department and Region 1 Planning Council (R1)
- **Location(s):** Citywide
- **Timeframe:** Medium



PART 7:

Implementation & Evaluation

The City of Rockford Traffic Safety Action Plan is developed to provide measures that target dangerous traffic actions and behaviors occurring within the city, focusing on strategies to reduce serious and fatal traffic crashes. Public outreach plays a key role in this effort, providing planners with valuable feedback on locations of concern for road users. This input is vital for developing an effective and responsive action plan that meets the city's needs.

The successful implementation of this plan relies on coordinated efforts among local public agencies, the Illinois Department of Transportation (IDOT), and the United States Department of Transportation (USDOT). These agencies will collaborate to secure funding for critical safety improvements, including enhanced roadway design and high-value countermeasures to address the city's key traffic safety challenges.

This plan is intended to be a living document, updated as new data and community feedback emerge. This flexibility ensures that the plan remains relevant and responsive to evolving safety needs. The City of Rockford in conjunction with Region 1 Planning Council (R1) will annually review the plan's progress, offering an opportunity for community stakeholders and the public to assess the effectiveness of implemented measures and propose necessary updates.

Furthermore, additional planning efforts will be necessary to implement the City of Rockford Traffic Safety Action Plan. This includes the identification and prioritization of safety projects within the city, many of which will be programmed into the City of Rockford's corridor plans and Capital Improvement Program (CIP). Corridor Plans are prospective projects that seek to improve specific sections of corridors throughout the city, often enhancing safety, connectivity, economic development, and more. The CIP is a multi-year, comprehensive program of infrastructure investment throughout the city.

Implementing the City of Rockford Traffic Safety Action Plan will rely on a continual data-driven process that integrates project prioritization, target setting, and performance monitoring, ensuring that safety goals are met and that the effectiveness of implemented strategies can be evaluated over time. Continuous commitment and cooperation between the City and other community stakeholders are essential to maintaining consistency across priorities within the city and ensuring the achievement of the determined safety goals on the City's transportation network.

The following chapter will detail the implementation process, including the connection of safety projects in corridor plans and the CIP, fostering transparency, and monitoring the progress of safety initiatives. It will also address how the plan will be periodically updated to reflect emerging opportunities and safety priorities in the city.

Additional Planning Efforts

While the City of Rockford Traffic Safety Action Plan provides the framework for identifying key traffic safety priorities, additional planning work is often necessary following its adoption to address the unique characteristics of various safety issues and transportation modes. These planning efforts are crucial for developing targeted safety strategies and ensuring the effective implementation of the plan's goals. Additional planning efforts typically include the development of feasibility and corridor studies, technical reports, and modal plans, as well as additional data analyses and scenario planning to monitor traffic safety trends.

The following outlines the planning activities that R1, the Metropolitan Planning Organization (MPO) for the Rockford Metropolitan Planning Area (MPA), will undertake in support of the City of Rockford Traffic Safety Action Plan's implementation. The adoption of this plan marks a new cycle of documents and initiatives aimed at addressing traffic safety concerns within the city. These efforts fall into two main categories: (1) corridor and intersection studies, and (2) special studies and modal plans.

Corridor and Intersection Studies

Corridor and intersection studies provide a detailed examination of roadways and their surrounding areas. These studies focus on safety but may also address factors such as travel reliability and economic development. By scrutinizing roads, these studies help identify areas where safety improvements are needed and may also address

factors contributing to crash severity. The City of Rockford Traffic Safety Action Plan highlights several corridor and intersection projects in the city, with the following examples serving as priority projects:

- The Auburn Street corridor in the City of Rockford, stretching from Springfield Avenue to IL Route 2, serves as a primary east-west route and connects to multiple local schools, businesses, and residencies. The corridor has been identified as a traffic safety concern in regards to speeding, pedestrian and bicyclist safety, and lack of lighting. The City of Rockford completed a Corridor Study for this location in 2022.
- In the City of Rockford, 11th Street from Blackhawk Road to Charles Street sees high volumes of traffic across 4-lanes with speed limits up to 50 mph. The corridor connects to multiple amenities, businesses, residencies, and other major roads/highways. A Corridor Study completed by the City of Rockford in 2021 cited safety concerns for motorists, bicyclists, and pedestrians.

MPO Special Studies and Modal Plans

Lastly, special studies, programs, and modal plans undertaken by R1 can support the implementation of the strategies and action items recommended in the City of Rockford Traffic Safety Action Plan. While the focus of these studies, programs, or plans may not be primarily centered on traffic safety, there are opportunities for alignment with the goals and strategies set forth in this plan. Studies, programs, and modal plans R1 intends to undertake that overlap with the aims of this action plan in the next five years include, but are not limited to:

- Bus Stop Accessibility and Safety Assessment
- State of the Trails Report
- Bicycle and Pedestrian Plan (update)
- Greenways Plan (update)
- Resiliency Improvement Plan

Planning Linkages

As mentioned earlier, the City of Rockford Traffic Safety Action Plan is closely linked to the corridor plans, CIP, and Transportation Improvement Program (TIP). These plans and programs seek to create a comprehensive approach to improving traffic safety across the City.

Transportation Improvement Program (TIP)

The purpose of a TIP is to document infrastructure (e.g., road safety improvements) and non-infrastructure transportation projects (e.g., educational campaigns or enforcement programs) programmed within the MPA of the respective MPO for the next four fiscal years. The City of Rockford is serviced by R1, the MPO for the Rockford MPA, which is required to produce a TIP at least every four years, as this is a federal requirement for all MPOs.

All surface transportation projects receiving Federal or State funding and/or deemed to be regionally significant, as well as capital and/or operating expenses for public transportation providers, must be documented within the respective MPO's TIP. This includes traffic safety projects, which are deemed to be regionally significant by R1 regardless of the functional classification of the roadway on which they occur or of their funding source. In order to receive federal or state highway, transit, or other transportation-related funds, a project must be listed in the current TIP. As the SS4A program is a federal program, projects awarded an SS4A Implementation Grant must be listed within the TIP, provided they are taking place within the MPA.

Budgets & Capital Improvement Programs (CIPs)

The budget and CIP of the City of Rockford contain traffic safety projects programmed by the City. Recently, the City of Rockford published a five-year CIP update, which is updated annually. Its current programming is outlined in the City of Rockford budget. Programmed traffic safety projects included within City budgets and the CIP should also be included in the City of Rockford Traffic Safety Action Plan moving forward. Additional consideration should also be given to the overall budget of the City, as this will dictate the allocation of funds for publicly funded enforcement, education, and outreach efforts to mitigate traffic safety threats.

Collaboration and Coordination

The successful implementation of the City of Rockford Traffic Safety Action Plan will require extensive collaboration and coordination among various stakeholders to ensure alignment with local, state, and national safety priorities. Given the significant role that traffic safety plays in the City of Rockford, this plan involves the collective efforts of the Rockford MPO and state agencies. Highlighted below is a breakdown of the roles and responsibilities of these agencies in the implementation of this plan.

Metropolitan Planning Organization (MPO)

The Rockford MPO, R1, facilitates decision-making for traffic safety and plays an essential role in coordinating efforts across the MPA, including in the City of Rockford. The MPO will work to ensure that the goals and strategies of the City of Rockford Traffic Safety Action Plan are integrated into broader regional transportation planning processes. This includes helping to prioritize safety improvements, supporting data collection and analysis, and providing technical assistance. The MPO will also help track progress toward achieving the plan's goals, which include reducing fatalities and serious injuries by 50 percent by 2050, and will update the plan as needed, based on evaluation and feedback from stakeholders.

Illinois Department of Transportation (IDOT)

IDOT plays a critical role in supporting the implementation of safety initiatives outlined in the City of Rockford Traffic Safety Action Plan. IDOT is responsible for maintaining the state highway system, which represents a significant portion of the roadways in the City. This department will provide technical guidance, assist in the design and funding of safety projects, and ensure that state-level policies and procedures are aligned with the safety goals of this plan. IDOT will also help integrate the City of Rockford Traffic Safety Action Plan with the Illinois Strategic Highway Safety Plan (SHSP), which shares many of the emphasis areas in the City of Rockford Traffic Safety Action Plan, such as speeding, impaired driving, and pedestrian safety.

Additional Considerations

While the implementation of traffic safety improvements is primarily the responsibility of the various units and agencies of government identified above, it also depends on the cooperation of private entities. These private sector interests range from businesses, developers, builders, and engineering and design consultants—who have a major influence on development patterns in the City—to private conservancy groups, who play an increasingly important role in the protection and management of environmentally significant open spaces. These groups may not directly relate to traffic safety, but their interests are likely to overlap on major safety infrastructure projects.

Furthermore, a holistic approach to collaboration and coordination is essential for the success of this plan. This means that all stakeholders, including members of the public, should be actively involved in the entire planning and implementation process. Early and ongoing public involvement will help ensure that the safety concerns of all community members, including those from disadvantaged populations, are addressed. Public input will be particularly important for identifying and prioritizing emphasis areas, such as pedestrian safety, impaired driving, and speeding, which have been highlighted as significant issues in the City of Rockford.

Meaningful public involvement should be a continuous process, ensuring that community members are not only heard but that their input is integrated into the safety planning and decision-making processes.[lx] Meaningful public involvement can:

- Increase trust between the agency and the community;
- Increase the likelihood that projects, programs, or plans will be accepted;
- Create more effective solutions;
- Improve a community's knowledge of the project, program, or plan;
- Empower people from different backgrounds to become involved in transportation safety decision-making;
- Deliver a better project, program, or service with diverse ideas; and
- Increase compliance with authorities such as National Environmental Policy Act (NEPA), and American with Disabilities Act (ADA) that require public input.



Meaning Public Involvement:

A process that proactively seeks full representation from the community, considers public comments and feedback, and incorporates that feedback into a project, program, or plan when possible.

Source: U.S. Department of Transportation

Engaging Overburdened Communities

Engaging individuals from disadvantaged, and overburdened communities early on in the process helps to identify specific barriers to safety and to develop targeted strategies to address them. Thoughtful engagement with these communities, while being mindful of cultural differences and needs, not only helps ensure that safety solutions are effective but also foster greater trust and cooperation with transportation agencies. This collaboration will contribute to more effective, widespread safety interventions and help build a transportation system where all users can safely reach their destinations.[lxi]

Monitoring Progress

The Rockford MPO, in collaboration with the City of Rockford, is responsible for monitoring the performance of this plan and evaluating the overall progress toward achieving the plan's safety goals. This process is grounded in a Performance-Based approach to Planning and Programming (PBPP), which links performance measures to the established goals and strategies of the City of Rockford Traffic Safety Action Plan through target-setting. PBPP provides a framework for evaluating the effectiveness of safety initiatives and helps communicate progress to stakeholders and the public. The goal is to ensure that safety improvements, both in the long-term planning process and in the short-term project programming, are made based on their ability to meet the City's objectives for reducing traffic fatalities and serious injuries.[lxii] The framework below visualizes how PBPP fits within the traffic safety planning process.

The implementation and evaluation of the plan's success will focus on monitoring, assessing, and reporting on system performance to answer the critical question: "How did we do?" These three key components of PBPP are outlined below.

- **Monitoring System Performance.** Tracking the performance of the system, typically in terms of goals, objectives, measures, and targets that have been set in the planning process.
- **Evaluating Programs and Projects.** Interpreting results to understand the impacts that investments and policies have had on performance.
- **Reporting Performance Results.** Communicating information about system performance and the effectiveness of plans and programs to policymakers, stakeholders, and the public.

To monitor the City's progress toward the target goals set forth in Part 2. Vision, Mission, and Goals, the City will continue to rely on technical assistance provided by R1 in the development of this plan. Monitoring will focus on two main components of transportation safety: overall system safety and safety at locations where countermeasures have been implemented.

As IDOT crash data becomes available each year, periodic updates to the data files used to conduct the data analyses presented in this plan will be performed. Every two years, R1 staff will compile the two most recently released IDOT crash data files and assess them to determine the amount, location, and type of severe outcome crashes occurring within the City of Rockford. This process will be triggered upon the release of 2024 crash data by IDOT.

To assess the overall safety of the City's roadway network, the number of severe outcome crashes will be compared against both the previous year's data and the 2022 data. Comparison against the previous year's data will allow for trends in crashes to continue to be identified, while comparison to the 2022 data will allow for the progress toward the plan's vision and reduction target, shown below, to be assessed:

- **Vision.** Eliminate traffic-related fatalities and serious injuries in the City of Rockford, while increasing safe and functional mobility for all.
- **Target Goal.** Achieve a 50-percent reduction of traffic fatalities and serious injuries by 2050.

As appropriate, system-wide analyses into specific crash types, such as pedestrian and bicyclist crashes, can be conducted to support the development of future strategic investments. Should traffic safety conditions in the City change dramatically, in the form of either an increase or decrease in the number of severe outcome crashes, it may be necessary to adjust the cycle by which new crash data is analyzed.

A more focused monitoring process will be employed to determine the success of location-specific traffic safety investments. Utilizing annual traffic safety data from 2017 through the most recently analyzed data at the time of assessment, conditions before and after investment will be compared to determine if the proper safety countermeasures were implemented. For example, if an intersection receives a safety improvement in 2025, planners will compare annual crash data at that location from 2017 to 2025 against annual crash data from all future years as that data becomes available. These analyses will help support future traffic safety investments by providing empirical data to assess the success of countermeasures in the city.

Amending the Plan

The City of Rockford Traffic Safety Action Plan is a living document that will be reviewed periodically to stay responsive to the City of Rockford's evolving safety needs. While it provides long-term guidance, updates may be made between reviews due to unexpected events or changes.

The City of Rockford and R1 staff will assess the plan's goals annually to evaluate safety measures and address emerging issues. The City of Rockford City Council will monitor progress and determine when updates or changes are needed.

The regular development of an updated traffic safety action plan is not currently required by USDOT or IDOT; however, changes in federal and state policy or in traffic safety conditions in the city may necessitate updating this plan. Changes in traffic safety conditions, as shown by data analyses, and future actions determined necessary as a result of changing conditions can serve as justification for updating the plan. The plan may also be updated in the short term to comply with the guidelines of federal and state grant programs.

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Appendix A: Acronyms and Glossary

Acronyms & Abbreviations

A

A: Suspected Serious Injury/A-Injury (KABCO Injury Scale)

ADA: Americans with Disabilities Act

AAAFTS: AAA Foundation for Traffic Safety

B

B: Suspected Minor Injury (KABCO Injury Scale)

BAC: Blood Alcohol Concentration

C

C: Possible Injury (KABCO Injury Scale)

CDC: Center for Disease Control (CDC)

CIP: Capital Improvement Program

D

DMV: Department of Motor Vehicles

DUI: Driving Under the Influence

F

FHWA: Federal Highway Administration

FMVSS: Federal Motor Vehicle Safety Standards

G

GIS: Geographic Information Systems

GDL: Graduated Driver Licensing

H

HIN: High Injury Network

I

IDOT: Illinois Department of Transportation

K

K: Fatality (KABCO Injury Scale)

KA: Fatal and Injury Crashes (KABCO Injury Scale)

KABCO: All Crashes (KABCO Injury Scale)

L

LEP: Limited English Proficiency

LPA: Local Public Agency

LPI: Leading Pedestrian Interval

LRSP: Local Road Safety Plan

M

MCAT: Major Crash Assistance Team

MMUCC: Model Minimum Uniform Crash Criteria (KABCO Injury Scale)

MPA: Metropolitan Planning Area

MPO: Metropolitan Planning Organization

N

NCSA: National Center for Statistics and Analysis

NEPA: National Environmental Policy Act

NHTSA: National Highway Traffic Safety Administration

O

O: No bodily harm injury (KABCO Injury Scale)

P

PBPP: Performance-Based Planning and Programming

PSC: Proven Safety Countermeasure (Identified by FHWA)

R

R1: Region 1 Planning Council

ROW: Right-of-Way

RPD: Rockford Park District

RPS: Rockford Public Schools

RMTD: Rockford Mass Transit District

RTH: Rockford Township Highway

RRFB: Rectangular Rapid Flashing Beacon

S

SHSP: Strategic Highway Safety Plan

SRTS: Safe Routes to School

SS4A: Safe Streets and Roads for All

STEP: Saturated Traffic Enforcement Program

U

USDOT: United States Department of Transportation

UZA: Urbanized Area

V

VMT: Vehicle Miles Traveled

W

WCHD: Winnebago County Highway Department

WSCO: Winnebago County Sheriff's Department

Glossary of Terms

A

Accessibility: May refer to the ease of reaching valued destinations, such as jobs, shops, schools, entertainment, and recreation for users regardless of ability or disability. May also refer to other forms of accessibility including language, economic, or social.

Source: Federal Highway Association (Adapted)

Alternative Transportation: Any mode of personal transportation other than a single-occupant vehicle, including biking, walking, carpooling, and public transportation.

Source: MPO Alternative Transportation Committee Bylaws

Area of Persistent Poverty: Census tracts that have a poverty rate of at least 20 as measured by the 2014-2018 5-year data series available from the American Community Survey of the Bureau of the Census.

Source: U.S. Department of Transportation

Arterial: Roads that provide the highest level of mobility and the highest speeds over the longest uninterrupted distance.

Source: Federal Highway Administration

Average Annual Daily Traffic (AADT): The total volume of traffic on a highway segment for one year, is divided by the number of days in the year.

Source: Federal Highway Administration

C

Capacity: The maximum hourly flow rate of persons or vehicles under prevailing conditions.

Source: Federal Highway Administration

Centerline Miles: The total length of a given road from its starting point to its endpoint, and does not take the width or number of lanes into account.

Source: Texas Department of Transportation

Collector: Major and minor roads that connect local roads and streets with arterials.

Source: Federal Highway Administration

F

Functional Classification: Classification of roadways based on the type of service the road provides to the motoring public.

Source: Federal Highway Administration

I

Intermodal: The ability to connect, and the connections between, modes of transportation.

Source: Federal Highway Administration

J

Jurisdiction: The authority and obligation to administer, control, construct, maintain and operate a highway subject to the provisions of the Illinois Highway Code.

Source: Illinois Department of Transportation

L

Land Use: Land use is a term used to describe the human use of land. It represents the economic and cultural activities (e.g. agricultural, residential, industrial, mining, and recreational) that are practiced at a given area.

Source: U.S. Environmental Protection Agency

Lane Miles: Calculated by multiplying the centerline mileage of a road by the number of lanes it has.

Source: Texas Department of Transportation

Local Road: Roads that provide limited mobility and are the primary access to residential areas, businesses, farms, and other local areas.

Source: Federal Highway Administration

M

Metropolitan Planning Area (MPA): The geographic area in which the metropolitan transportation planning process required by 23 U.S.C. 134 and section 8 of the Federal Transit Act (49 U.S.C. app. 1607) must be carried out.

Source: Federal Highway Administration

Metropolitan Planning Organization (MPO): A regional policy body, required in urbanized areas with populations over 50,000, and designated by local officials and the governor of the state to carry out the metropolitan transportation requirements of federal highway and transit legislation.

Source: Federal Highway Administration

Metropolitan Transportation Plan (MTP): The official intermodal transportation plan is developed and adopted through the metropolitan transportation planning process for the metropolitan planning area.

Source: Federal Highway Administration

N

National Highway System (NHS): The system of highways is designated and approved in accordance with the provisions of 23 U.S.C. 103b.

Source: Federal Highway Administration

P

Performance Measure: Indicators of how well the transportation system is performing with regard to such things as average speed, reliability of travel, and accident rates. Used as feedback in the decision-making process.

Source: Federal Highway Administration

Programming: Prioritizing proposed projects and matching those projects with available funds to accomplish agreed upon, stated needs.

Source: Federal Highway Administration

R

Right-of-Way (ROW): The land owned by the roadway entirety and devoted to transportation purposes.

Source: Federal Highway Administration

S

Shared Use Path: A bikeway is physically separated from motor vehicle traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way.

Source: National Association of City Transportation Officials

Stakeholders: Individuals and organizations involved in or affected by the transportation planning process. Include federal/state/local officials, MPOs, transit operators, freight companies, shippers, and the general public.

Source: Federal Highway Administration

Surface Transportation: Transportation by road, rail, or pipeline.

Source: University of Cornell

T

Transportation Resiliency: The ability for a transportation system to adapt to, recover from, and respond to threats of all kinds.

Source: Region 1 Planning Council

U

Urban Area: A collective term referring to urbanized areas and urban clusters.

Source: U.S. Census Bureau

Urbanized Area: To qualify as an urban area, the territory identified according to criteria must encompass at least 2,500 people, at least 1,500 of which reside outside institutional group quarters.

Source: U.S. Census Bureau

Appendix B: National Roadway Safety Strategy

The United States Department of Transportation (USDOT) National Roadway Safety Strategy (NRSS) sets a vision and goal for the safety of the Nation's roadways and adopts the Safe System Approach principles. The purpose of the NRSS and its adoption of the Safe System Approach is to address contributing factors from all angles and build layers of prevention, protection, and mitigation. These principles guide safety actions, and identify critical and significant actions USDOT will take in pursuit of five core objectives:

1. **Safer People:** Encourage safe, responsible behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed.
2. **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.
3. **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.
4. **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.
5. **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.[lxiii]

Information identified in the following section elaborates on requirements and elements which aligned the development of the MPA Traffic Safety Action Plan to national safety frameworks as the National Roadway Safety Strategy (NHSS), Safe System Approach (SSA), and the Safe Streets and Roads for All (SS4A) program.

Safe Streets and Roads for All (SS4A) program

Safe Streets and Roads for All (SS4A) is a discretionary program designed to support the U.S. Department of Transportation's (USDOT) National Roadway Safety Strategy and its goal of zero roadway deaths. SS4A was established by the Bipartisan Infrastructure Law (BIL) with five billion dollars in appropriated funds being available from 2022 through 2026. Counties, cities, towns, transit agencies, MPOs, and federally recognized Tribal governments are all eligible for SS4A grants.

There are two types of SS4A grants: Planning and Demonstration Grants and Implementation Grants. Planning and Demonstration Grants provide federal funds to develop a comprehensive Safety Action Plan. A Safety Action Plan's goal is to prevent fatalities and serious injuries through the development of a holistic and well-defined strategy.

The second type of grant is the Implementation Grant. In order to apply for an Implementation Grant, the agency, body, or jurisdiction must already have a Safety Action Plan in place. The funds provided by this grant can be used to tackle roadway safety problems through the implementation of the projects and strategies discussed in the Safety Action Plan. These projects and strategies can have an infrastructure, behavioral, or operational focus. Funds can also be put towards demonstration activities, supplemental planning, and project-level planning, design, and development.

Safe System Approach (SSA)

The Safe System Approach differs significantly from a conventional safety approach in that it acknowledges both human mistakes and human vulnerability, and designs a redundant system to protect everyone. USDOT recognizes the Safe System Approach as encompassing all the roadway safety interventions required to achieve the goal of zero fatalities, including safety programs focused on infrastructure, human behavior, responsible oversight of the vehicle and transportation industry, and emergency response. The Safe System Approach and roadway safety policy are comprehensive for all roadway users in all communities and the many people who use the roads and streets outside of motor vehicles. The Safe System Approach is also intended to be iterative and adapt to how people use the Nation's highways, roadways, and streets. The principles of this approach are:

- **Death and Serious Injuries Are Unacceptable.** While no crashes are desirable, the Safe System Approach prioritizes the elimination of crashes

that result in death and serious injuries since no one should experience either when using the transportation system.

- **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, non-profit, 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. 6. 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.

There are a number of SS4A requirements that the Action Plan must fulfill in order to make the City of Rockford eligible for SS4A implementation funding. The Action Plan must include a safety analysis that establishes a baseline of crashes in the city that result in serious injuries or fatalities, as well as identifying the location and cause of these crashes. Detailed crash data was gathered and analyzed during the development of the Plan, and can be found later in the Plan. Intersectional analyses, corridor studies, urban versus rural roadway comparisons, and comparisons to the state and nation are examples of data analyzed.

- The Action Plan must include a comprehensive set of projects and strategies to address the safety concerns identified through the safety analysis. Countermeasures are discussed thoroughly in the document, and a timeline for when and where these strategies will be implemented accompanies them. Strategy timeline and project prioritization criteria are also requirements and are addressed through a strategies and recommendations matrix.
- Engagement, collaboration, and coordination in the development of the plan are also requirements of the SS4A program. A steering committee composed of a number of local agencies, through the MPO Technical Committee, coordinated the plan, fulfilling the requirement of inter- and intra-governmental cooperation and collaboration. Coordination with elected and community leaders, traffic safety groups, and other stakeholder groups is also a key aspect. The public was engaged through an interactive project website, public survey, community workshop, and MPO committee meetings. The steering committee, and input received from outreach to stakeholders and the public, aided in the determination of safety emphasis areas identified in this plan.

Appendix C: Public & Stakeholder Engagement

Effective transportation safety planning requires meaningful collaboration between planners, the public, and key stakeholders. Region 1 Planning Council (R1) recognizes that the success of its initiatives depends on understanding and addressing the unique challenges faced by the community. To achieve this, R1 implemented a robust public and stakeholder engagement strategy as part of its efforts to enhance traffic safety across the City of Rockford.

This strategy aimed to ensure a wide range of voices informed the development of the City of Rockford's Safety Action Plan. By leveraging tools like Engage R1, R1's online platform for public involvement, and by fostering collaboration with stakeholders, R1 gathered critical insights into traffic safety concerns, identified priority areas for intervention, and built widespread support for its initiatives. Survey responses highlighted recurring concerns such as speeding, limited visibility, and insufficient pedestrian and cyclist infrastructure, while stakeholders contributed perspectives on practical solutions and implementation feasibility.

Traffic Safety Workshop

In February of 2024, R1 hosted a Traffic Safety Workshop at Rockford Mass Transit District's (RMTD) East Side Transfer Center. This meeting was held early in the development process of the City of Rockford Traffic Safety Action Plan, as it was primarily intended to support the development of the Regional Traffic Safety Action Plan. The 40 plus attendees of the workshop primarily included traffic safety stakeholders in Boone and Winnebago County, such as traffic engineers and education administrators, but members of the public were also in attendance.

Region 1 Planning Council staff began the workshop by providing attendees with background on the Safe Streets and Roads for All (SS4A) program and the planning process for the four safety plans being developed by R1. The remainder of the workshop consisted of breakout group discussion about traffic safety threats currently imposed on the Rockford Region's roadway users. Several guiding questions were used by breakout group facilitators; they include:

- What traffic safety issues are your priority?
- Where are you observing these issues?
- Who is most vulnerable to the traffic safety issues?
- What can be done to address your identified traffic safety concerns?

The contents of the breakout discussions were shared out to all workshop attendees, and notes summarized by R1 helped to provide a baseline level of understanding as the planning process for the City of Rockford Traffic Safety Action Plan began.

Transportation Safety Map & Survey

As part of this engagement effort, R1 introduced the Transportation Safety Map and Survey, which ran for 120 days starting in May 2024 and ending in September 2024. The survey was designed to capture community feedback on traffic safety challenges, and the map enabled respondents to pinpoint specific areas of concern on an interactive map and provide comments about those locations. The initiative aimed to guide the development of the City of Rockford's Safety Action Plan by directly incorporating the voices of those most affected by transportation issues.

The survey targeted residents across the City of Rockford, focusing on both pedestrian and vehicular safety. By collecting input from a wide cross-section of the community, the survey served as a vital tool for identifying priority areas for intervention and improvement.

Map Engagement Results

Responses from the public on the Engage R1 map for the City of Rockford centered around three concerns: intersections, pedestrians, and speeding/aggressive driving. These three categories made up 91 percent of all survey responses.

The most prevelant category was intersections, which made up approximately 38 percent of all map responses. Comments pointed towards concerns for safety at the specified intersections, whether due to driving behaviors, traffic control devices, or visual barriers. Additionally, many concerns were raised about frequent red-light running at multiple intersections throughout the city. Some respondents mentioned the long wait times at intersections such as Mulford Road and Alpine Road potentially contributing to more occurrences of red-light running. Lastly, there was positive and negative feedback regarding the new roundabout at Auburn Street and North Main Street.

Following intersections, the second-most common concern revolved around speeding and aggressive driving. This category accounted for approximately 28 percent of all map

responses. While multiple roadway segments throughout the city were cited for speeding safety concerns, the roadways that were overrepresented were East State Street, Rural Street, Auburn Street, Spring Creek Road, and Spring Brook Road. Some respondents cited the increased risk to pedestrians and bicyclists, while others pointed to these roadways being treated like highways by drivers. Some aggressive driving behaviors mentioned in responses included tailgating, unlawful passing, and ignoring traffic signs/signals. Many respondents cited a lack of enforcement being a potential reason for excessive speeding and aggressive driving behaviors.

Another raised concern was the safety of pedestrians, which was mentioned in 25 percent of all map responses. Similar to other concerns, pedestrian safety was noted at multiple locations throughout the city. However, locations that showed up the most include East State Street and Auburn Street. A general lack of sidewalks was mentioned on a majority of the responses, which many believe forces pedestrians to navigate the roadway unsafely. Other comments expressed concerns in winter with sidewalks not being plowed/shoveled, a lack of adequate pedestrian leading intervals at crosswalks, and a general lack of crosswalks at intersections.

Lastly, some concerns regarding protection zones were submitted, specifically around schools throughout the City, as well as increased risk for bicyclists along various corridors.

Steering Committee

A steering committee, composed of various traffic stakeholders in the City of Rockford, was first convened in Spring 2024 and met three times during the planning process. Members of the steering committee are shown in Table C-1. Representatives were chosen due to their unique perspective on traffic safety in the City of Rockford, with representatives from law enforcement, emergency management, education, and public works all being present. The steering committee meetings allowed members the opportunity to share their expertise, as well as to guide the development of various components of the plan. A summary of each of the three steering committee meetings is provided below.

- **May 23rd, 2024 Meeting:** The first steering committee meeting began with a summary of the SS4A program and an explanation of what a local road safety is. The planning process for the City of Rockford Traffic Safety Action Plan was described in detail, as was the Safe System Approach. An overview of the results of the data analysis conducted to that point was also provided. Staff then provided the committee members with an opportunity to discuss their traffic safety concerns. Many concerns were identified, including specific locations, roadway characteristics, and driver behaviors. These identified concerns helped to identify the safety emphasis areas described in Part 5 of this plan.
- **July 10th, 2024 Meeting:** At the second committee meeting, R1 staff presented the plans drafted vision, mission, and goals to the committee for approval. The committee approved these, and then ranked the emphasis areas identified in the previous meeting in order of priority. The R1 staff member facilitating the meeting then presented on the Federal Highway Administration's (FHWA) Proven Safety Countermeasures and the National Highway Traffic Safety Administration's (NHTSA) Countermeasures that Work. This presentation was used to facilitate a discussion that allowed for existing actions to address safety concerns in the City of Rockford to be identified, informing the contents of Part 3 of this plan.
- **August 21st, 2024 Meeting:** The third and final steering committee began with a presentation of the public engagement feedback received from the Engage R1 map and survey. Committee members then discussed potential action items to include in the plan, based on the data, public feedback, and previous meetings. These action items included policies, programs, and projects that were aimed at addressing traffic safety concerns at specific locations in the City of Rockford.

Table C-1: City of Rockford Safety Action Plan Steering Committee Members

Agency	Representative	Contact
City of Rockford	Engineering	Jeremy Carter
City of Rockford	Engineering	Kerry Lin
Rockford Police Department	Enforcement	Brain Strawser
Rockford Mass Transit District	Public Transportation	Dan Engelkes
I Bike Rockford	Active Transportation	Ashley Sarver
PCI Logistics	Logistics	Stephan DePauw
City of Rockford	Planning	Colin Belle
Rockford Fire Department	Emergency Response	Christopher Tumeo
IL Secretary of State's Office	Education	Davis Stoltz
Rockford Public Schools	Education	Michael Slife

Appendix D: Public Comment

The public comment and review period for the draft City of Rockford Traffic Safety Action Plan was open from July 24 through August 23, 2025. The draft plan, along with supporting project information, was made available for review via R1's Engage R1 website. During the public comment period, the plan was presented at the City of Rockford City Council Committee Meeting on August 11, 2025. In addition, the plan received media coverage from a local news station, which encourage viewers to review the draft and submit feedback via the Engage R1 project page.

Comments Received

During the public comment period there were three responses received. Responses mentioned additional traffic safety concerns similar to the survey and interactive map results mentioned in Appendix C. None of the comments received mentioned anything about the content of the City of Rockford Traffic Safety Action Plan.

Appendix E: Spatial Analysis Methodology

The High Injury Network is a visual representation of the roadways that carry the greatest threat to traffic safety; actions must be taken to mitigate the traffic safety concerns on these roadways. The development of this process took place over the course of several months as staff attempted to find a concrete methodology that satisfies the requirements of the SS4A program. The information below details the methodology used to determine the plan's High Injury Network.

The information listed below outlines the methodology used to classify roadways on which a severe outcome crash took place during the six-year study period into one of five categories—Very High, High, Medium, Low and Very Low—by leveraging quantile calculations. Quantiles are a statistical measurement that indicates the relative standing of a value within a dataset. In this context, quantiles are used to rank roadway segments and categorize them into one of the five categories based on their position within the overall distribution.

The High Injury Network was developed with two key criteria in mind: logical termini and the location of severe outcome crashes. Logical termini within the network allows for specific roadway segments in need of addressing to be clearly identified. Focusing on instances of severe outcome crashes means the network will place greater emphasis on the segments where the most serious injuries and fatalities are taking place. This emphasis aligns the High Injury Network and with the Safe System Approach, the guiding paradigm for both this plan and the SS4A program.

Calculation of High Injury Network Categories

The specific steps used to determine the High Injury Network are described below.

Step 1 – Data Preparation: To create a network with logical termini, a new roadway segment layer had to be created. This layer was created through the use of spatial roadway files created and maintained by WinGIS. Roadway segments in between two intersections where both approaches were functionally classified as minor collector or above were joined together to create one contiguous segment between the two intersections. This led to the removal of all local roads from the layer. Using this criteria allowed for segments to be of relatively uniform length; segments commonly share characteristics between intersections of this type.

Crashes resulting in serious injury or fatality between 2017 and 2022 within the geographic boundaries of the study area were then assigned to the closest segment. Crashes located more than 150 feet from any segment were not assigned to any of the segments, as they occurred on a local road or in an alley or parking lot. The output of this spatial join was a GIS layer containing all roadway segments in between intersections where all approaches were at least minor collector or above at which a severe outcome crash occurred during the study period.

Retroactively, local roads that saw two or more severe outcome crashes take place on a segment between two minor collectors or above were added to segment layer. Local roads with one severe outcome crash were not included as there was no indication the roadway segment had a pattern of severe outcomes. Minor collector and above roadway segments with one crash were retained in the dataset as they often were connected to segments with higher frequencies, showing a continuing threat to safety along a series of segments.

Step Two – Quantile Calculation: Quantiles were selected as the statistical analysis tool for this classification. Quantiles break the data into percentile groups and reduce the skewed nature of data. Each quantile group is equal in size to the others, showing a clear distribution of all segment's instances of severe outcome crashes. Five quantile groups were used for this analysis to show the frequency of severe outcome crashes across the study area's roadway segments.

Very Low: 1st to 20th percentile (1 Severe Outcome Crash)

Low: 21st to 40th percentile (2 Severe Outcome Crashes)

Medium: 41st to 60th percentile (3 Severe Outcome Crashes)

High: 61st to 80th percentile (4-5 Severe Outcome Crashes)

Very High: 81st to 100th percentile (6-8 Severe Outcome Crashes)

Step 3 – Classification: Based on the calculated quantiles, each road segment was categorized into one of the five categories: Very High Crash Frequency, High Crash Frequency, Medium Crash Frequency, Low Crash Frequency, or Very Low Crash Frequency.

All segments included in the High Injury Network, regardless of the level of classification, are considered to be roadways where public safety is threatened. Figure 4-14, City of Rockford High Injury Network in Part 4. Data Analysis & Summary shows the City of Rockford's High Injury Network.

Appendix F: Traffic Safety Action Plan Toolkit

Introduction

This Traffic Safety Toolkit provides a summary of Federal Highway Administration proven safety countermeasures and their potential effects of implementation. The strategies offered by these countermeasures are aimed at reducing fatalities and serious injuries to motorists, pedestrians, and all other road users. These countermeasures are viable to be used on all roads, from high volume urban routes to rural two-lane highways. Each countermeasure will have a brief description of what it is and where they are to be located or housed within the transportation system. Within this toolkit there will be examples of implementation options for each countermeasure showcasing what low-cost versus high-cost measures may look like. Within each countermeasure there are different strategies in reducing crash rates showcasing the malleability of some strategies to fit desired needs. Each countermeasure will have information on:

- **Crash Type -** Which type of crashes the countermeasure aims to mitigate with its implementation.
- **Percentage of Crash Reduction Factor (CRF) -** The expected reduction in crash rates of specific crash type due to the implementation of a countermeasure.
- **Percentage of Federal Match Funding -** The percentage of funding that federal government will match based on the project type.
- **Life Expectancy of Countermeasure –** How long to expect the countermeasure to remain in use and viable before materials need updates.
- **Cost –** Using prior costs and background information on previous projects will lead to an informed decision on whether a project is high, medium, or low.
- **CMF ID Number –** To direct users to specific types of projects within each countermeasure.

This toolkit uses data and research from FHWA, Crash Modification Factors Clearinghouse (CMF), and Region 1 Planning Council (R1) to build a log of the necessary information for engineers and planners to use as a guide to make better-informed decisions on which countermeasures best fit their community's safety needs.

Statement on Life Expectancy Category

The life expectancy of a countermeasure is an important factor when determining whether, a countermeasure is a good fit to be implemented. Using information from FHWA and industry leaders, an accurate estimate of the lifecycle of materials and technology that make up these countermeasures was gathered. Industry leaders spanned from construction consultants that gauge the life expectancy of materials, such as asphalt or thermoplastic pavement markings, or manufacturers who develop technologies such as LED lighting systems or traffic control hardware. The information provided by these leaders, along with FHWA standards, helped develop a lifecycle of effectiveness for each countermeasure listed.

Statement on Cost Category

To determine whether a cost was high, medium, or low for a given countermeasure, projects were selected to average their total cost.

- **High –** Generally will require high equipment, labor, and material costs that are typical of a larger scale project and can be difficult to implement because of all these factors. Projects that exceed $950k are considered high cost.
- **Medium –** Projects that fall in the medium cost category will typically have varying costs due to the scale in which the countermeasures are chosen to be implemented. Using higher quality materials like steel instead of concrete for a median barrier will also lead to a larger variation in the cost of a project. Projects in the medium cost category will fall between $250k and $949k for total cost.
- **Low –** The projects that fall within the low category are easy additions to the transportation system and require less labor and equipment to be successful. Projects that are under $250k are considered low cost.

To gather an average cost of a countermeasure, five projects were selected for each countermeasure to give a relative average cost based on previous implementation.

The lifecycle and materials used for a countermeasure were also considered when determining the cost of a countermeasure's implementation to provide better background information. The averages were then broken into three categories based on their relative cost to the other countermeasures. Using educated discretion from the average cost of projects and background research allowed for determining which of the three categories the countermeasure would be placed in.

Countermeasures

Traffic safety countermeasures are essential components of any effort to reduce roadway injuries and fatalities. Within the framework of the Regional Traffic Safety Action Plan Toolkit, these measures are designed to address key risk factors and adapt to the unique needs of local communities. This chapter explores the variety of countermeasures outlined in the toolkit, emphasizing their potential to mitigate high-risk behaviors, improve roadway infrastructure, and foster safer travel environments. Each countermeasure is grounded in evidence-based practices, ensuring its effectiveness in addressing the specific challenges identified in regional traffic data.

From engineering solutions, such as road reconfigurations and pedestrian safety enhancements to educational campaigns that influence driver behavior, the toolkit provides a holistic approach to reducing crashes. Additionally, enforcement strategies and policy adjustments also play a crucial role in complementing these efforts.

1. Intersection Lighting

A street light or street lamp is often mounted on a lamp column or pole, or suspended on a wire across a road. Applicable to intersections that have a disproportionate number of nighttime crashes and do not currently provide lighting at the intersection or its approach. The addition of lighting to an intersection can also help motorists identify pedestrians and other non-motorists at nighttime. An easy and cheaper option for improving lighting at intersections would be general updates to possible outdated lighting systems to improve the visibility of all road users near intersections. An enhanced and more expensive option would be to extend lighting in road segments to provide more continuous lighting during travel to aid drivers in nighttime trips.

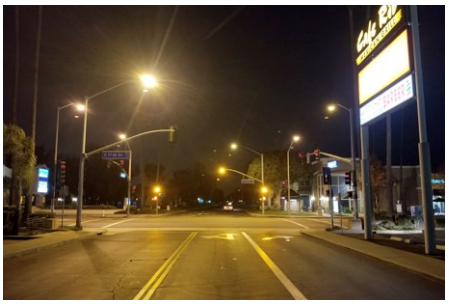


Table F-1: Intersection Lighting Countermeasure

Crash Type	Pedestrian and Night
CRF%	35%
Federal Eligibility Funding (%)	90% to 100%
Expected Life (Years)	20
Cost	Low
CMF ID	436, 433, 192, 2376

2. Leading Pedestrian Interval (LPI)

Implementing modified signal phasing at intersections with high vehicle turning volumes will enhance traffic flow and safety. A Leading Pedestrian Interval (LPI) would allow pedestrian travelers to establish themselves in the crosswalk 3 to 7 seconds before a vehicle is given a signal. This increases pedestrians' presence in the crosswalk before vehicles can turn left or right. Giving a head start would lead to vehicles yielding to pedestrians at higher rates and allow those pedestrians who move slowly to move through a conflict area more quickly. This is a low-cost option as it only requires changing the timing between walk signals and traffic signals.



Table F-2: Leading Pedestrian Interval Counter

Crash Type	Pedestrian and Bicycle
CRF%	13%
Federal Eligibility Funding (%)	90% to 100%
Expected Life (Years)	20
Cost	Low
CMF ID	9918

3. Longitudinal Rumble Strips and Stripes

Rumble strips are textured sections of pavement that alert drivers to the edge of the travel lane. When the car tire goes over the rumble strip, it will cause vibration and sound to alert the driver to a possible departure from the road. Typically rumble strips are located on the edge of roads or the centerline of a two-lane road. Implementation of rumble strips is relatively low-cost and offers different versions such as “mumble strips” that are quieter and can be used in road segments with noise restrictions around it. Rumble strips are an easy addition to any road that is being repaved or an easy addition to existing roadsides.



Table F-3: Longitudinal Rumble Strips and Stripes Countermeasure

Crash Type	Roadway Departures, Intersections, & Pedestrians
CRF%	38.50%
Federal Eligibility Funding (%)	90% to 100%
Expected Life (Years)	20
Cost	Low
CMF ID	10342, 10333, 2259

4. Roundabouts

Roundabouts can be installed at two-way stop-controlled intersections or signalized intersections. They channel traffic through curved approaches to reduce vehicle speed as it enters circulating traffic. Roundabouts are effective in managing high traffic speeds in rural or urban settings while being able to effectively manage traffic flow all while creating a significant reduction in conflicts that arise at traditional intersections. The benefit of roundabouts, to counter their high costs, is that they can be implemented across all road types and remain as effective.



Table F-4: Roundabouts Countermeasures

Crash Type	Intersections
CRF%	80%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	20
Cost	High
CMF ID	211, 226

5. Pedestrian and Refuge Island

Pedestrian refuge islands are installed to help guide and protect pedestrians across intersections. The implementation of refuge islands can also lead to traffic calming effects and placemaking efforts in certain settings. Pedestrian islands improve safety by reducing the distance to refuge for those crossing and shifting the focus of pedestrians to one lane of traffic at a time. This low-cost solution helps make crossing larger and more popular corridors easier, and elderly or disabled individuals have to cover less ground to safety.



Table F-5: Pedestrian and Refuge Islands Countermeasure

Crash Type	Pedestrian and Intersection
CRF%	56%
Federal Eligibility Funding (%)	90% to 100%
Expected Life (Years)	20
Cost	Low
CMF ID	175

6. Speed Safety Cameras

Speed safety cameras (SSC) are a technological supplement to speed enforcement. By detecting high speeds, SSCs will log video or photos of the vehicles breaking set speed enforcement measures. Introducing SSCs to intersections or high-speed roads can deter drivers from exceeding speed limits to improve road safety. This high-cost countermeasure would work as a strong enforcement technique to prevent aggressive driving behaviors like speeding. Speed Safety Cameras can be deployed in targeted sections of roads that experience higher rates of aggressive driving to correct driving behavior.



Table F-6: Speed Safety Cameras Countermeasure

Crash Type	All
CRF%	37%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	20
Cost	High
CMF ID	7718, 2915, 2921, 7582

7. Bicycle Lanes

Bicycle lanes are developed from refitting streets to accommodate a part of the road for cyclists or building off-road paths. Dedicating protected space to cyclists can mitigate conflicts between cars and promote an increase in bicycle ridership. The size and speed disparity between the modes of transportation makes bicycle travel inherently more dangerous without dedicated infrastructure for protection. A higher cost bike lane project could include a two-way separated bike lane with barrier protections and traffic controls. Lower cost projects may just include extending road shoulders in rural areas to allow for bicycle traffic or road dieting to make available room for an unprotected bike lane.



Table F-7: Bicycle Lanes Countermeasure

Crash Type	Bicycles
CRF%	41.50%
Federal Eligibility Funding (%)	90% to 100%
Expected Life (Years)	20
Cost	Medium
CMF ID	11296, 10738, 10742

8. School Zones

A school zone is an area directly near schools or other educational establishments that experience a high volume of school children and young pedestrians. School zones will have signage corresponding to parking, road speeds, and pedestrian crossings. Countermeasures in school zones are low cost and increase awareness in the area to alert drivers to possible young pedestrians near the road. Some typical countermeasures in school zones are high visibility signage, high visibility crossings, and reduced traffic speeds. These actions work cohesively to make drivers more aware of their surroundings.



Table F-8: School Zones Countermeasure

Crash Type	Pedestrian
CRF%	17%
Federal Eligibility Funding (%)	90% to 100%
Expected Life (Years)	10
Cost	Low
CMF ID	N/A

9. Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections

This strategy involves developing low-cost countermeasures at stop-controlled intersections to generate safer crossings for all road users. By using low-cost methods such as increased signage, enhanced edge lines, or flashing beacons increases the amount of intersections that can be enhanced. Simple changes in rural areas such as cutting back vegetation near intersections to increase visibility on an approach can be effective and low-cost. Using simple countermeasures across several locations will lead to mitigating conflicts at intersections within the transportation system.



Table F-9: Systemic Application of Multiple Low-Cost Countermeasures

Crash Type	Intersection
CRF%	18.50%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	10
Cost	Low
CMF ID	8867, 8870, 8874, 8893

10. Roadway Reconfiguration

Roadway reconfiguration is the process of changing the traffic surface elements in an effort to improve safety and provide better mobility for all road users. By reconfiguring, a road can be made to suit the safety needs of a particular segment and develop a cohesive complete streets environment for all road users. The use of road dieting techniques can be viewed as high cost because of the overhaul requires such as labor and equipment that is used to reconfigure the road. Road dieting can open opportunities to implement other safety measures as well as enhance the safety of the current transportation system.



Table F-10: Roadway Reconfiguration Countermeasure

Crash Type	All
CRF%	33%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	20
Cost	High
CMF ID	5554, 2841

11. Rectangular Rapid Flashing Beacons (RRFB)

Rectangular Rapid Flashing Beacons (RRFB) are bright yellow rectangular signs with a flashing LED light to alert drivers to other road users. These work as enhanced visual aids for drivers at all times of the day and can lead to reduced conflicts at crossings. These effective low-cost enhancements can be easily added to existing signs at crossings or intersections. The implementation of RRFBs aim to alert drivers to curb incidents between vehicles and pedestrians in areas like mid-street crossings or high pedestrian traffic intersections.



Table F-11: Rectangular Rapid Flashing Beacons (RRFB) Countermeasure

Crash Type	Pedestrian
CRF%	47%
Federal Eligibility Funding (%)	90% to 100%
Expected Life (Years)	10
Cost	Low
CMF ID	9024

12. Wider Edge Lines

Wider edge lines are implemented to aid drivers in the visibility of travel lanes. By adding a minimum of four inches to existing edge lines, they become "wider" and enhanced. Adding wider edge lines can be beneficial as vehicles begin to incorporate more sensors to guide vehicular travel, making road edges easier to be picked up by vehicle sensors especially at night. Enhancing edge lines is a relatively cheap addition to roads; however using better quality materials can increase the initial cost but extend the lifecycle. The addition of enhanced wider edge lines leads to a mitigation in roadway departures.



Table F-12: Wider Edge Lines Countermeasure

Crash Type	Roadway Departures
CRF%	29.50%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	5
Cost	Low
CMF ID	4737

13. Enhanced Delineation for Horizontal Curves

A series of countermeasures can be implemented to reduce roadway departures before or within curves and to alert drivers to upcoming curves at night. Countermeasures can be in the form pavement markings, radar feedback, and increased signage warning that there of a curve. There are many strategies that can be implemented at a low-cost, however it is easy to increase the cost by adding several strategies together at curves. For example, adding only reflective pavement markers would be relatively low-cost. However, adding those along with a speed radar feedback sign and additional reflective signage before and in the curve can drive up the costs.



Table F-13: Enhanced Delineation for Horizontal Curves Countermeasure

Crash Type	Roadway Departures and Night
CRF%	37.50%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	10
Cost	Medium
CMF ID	2439, 2431, 2438, 10362, 10312, 9167

14. Walkways

Walkways are essential to pedestrian mobility and healthy communities. Providing safe access to walkways that shield users from traffic and connect communities to essential locations is imperative, but countermeasure can range in cost. For example, building dedicated shared-use paths in urban corridors can be a high cost project. In rural areas where pedestrians may be sparse, paved shoulders on rural highways are a cheap way to add paved walkways for pedestrians in those areas. Walkways are essential for meeting the needs of all pedestrians and providing safe routes for travel.

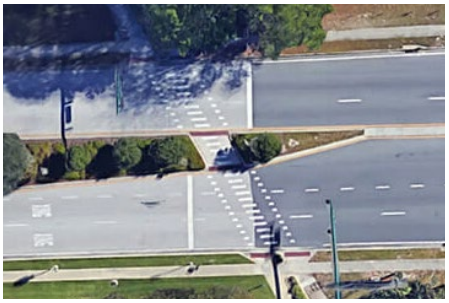


Table F-14: Walkways Countermeasure

Crash Type	Pedestrian
CRF%	77%
Federal Eligibility Funding (%)	90% to 100%
Expected Life (Years)	20
Cost	Medium
CMF ID	N/A

15. Median Barriers

Barriers are implemented to separate opposite flows of traffic on roadways and prevent head-on collisions from opposing traffic flows. Medians also help prevent accidents from spilling over to the opposite side of traffic to interfere with the traffic flow of an entire road. Using barriers on the outside edge of roads can help prevent roadway departures as well. The cost of implementing median barriers can be low cost, but the cost can rise depending on the materials used. Concrete medians are relatively low cost to use; however, barriers can be made of steel or steel cables, which is a more expensive product.

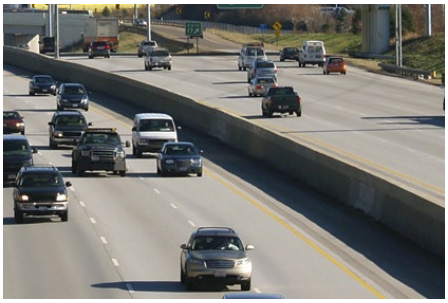


Table F-15: Median Barriers Countermeasure

Crash Type	Roadway Departures
CRF%	97%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	20
Cost	Medium
CMF ID	7040

16. Dedicated Turn Lanes at Intersections

Creating dedicated right-or-left turn lanes helps improve the overall flow of traffic on high-traffic roads or turning from minor roads on to high traffic roads. Dedicated turn lanes help prevent head-on collisions by providing better lines of sight to vehicles turning, they also prevent rear-end collisions that occur from traffic stopping or slowing in travel lanes. These can be implemented at intersections that experience an increase in turning-related collisions to help curb rates of injuries and fatalities. Creating offset turn lanes helps to create protected space for turning vehicles and creates improved sightlines for left turning vehicles to prevent the need for a protected turn light. The cost of this project can be low depending on how many lanes are being added and how large the lane is being made. More lanes for longer stretches can raise the overall price of the project.

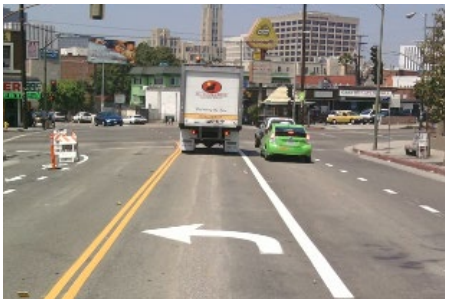


Table F-16: Dedicated Turn Lanes at Intersections Countermeasure

Crash Type	Intersections
CRF%	31%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	20
Cost	Medium
CMF ID	260, 268, 285, 289, 6096

17. Reduced Left-Turn Conflict Intersections

Reduced left-turn conflict intersections are geometrically designed to change how left turns are performed by drivers. They ease drivers into a left turn by utilizing space between opposing directions of traffic which does not require a large amount of space to utilize. There are two types of systems that can be built, Restricted Crossing U-turn and Median U-turn. Both help reduce the distance it takes to cross traffic while making a left turn and ease decision making for drivers. These road designs help reduce the severity of crashes that occur near high-volume intersections.



Table F-17: Reduced Left-Turn Conflict Intersections Countermeasure

Crash Type	Intersections
CRF%	42.50%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	20
Cost	Medium
CMF ID	5556, 9985, 4884, 10867

18. Crosswalk Visibility

Crosswalk visibility improvements consist of different elements such as pavement markings, increased signage, and flashing lights. These elements are essential especially if the crosswalk is a midblock crossing. These enhancements help alert drivers to pedestrians and reduce speeds near crossings to mitigate potential conflicts. These countermeasures are low-cost additions such as improved lighting, high-visibility crosswalks, and pavement markings. These are essential measures to take a non-traditional crossings to ensure that vehicles are aware of possible pedestrian activity.



Table F-18: Crosswalk Visibility Countermeasure

Crash Type	Pedestrian and Intersection
CRF%	35.50%
Federal Eligibility Funding (%)	90% to 100%
Expected Life (Years)	10
Cost	Low
CMF ID	4123, 436, 9017

19. Pavement Friction

Pavement friction is a critical part of roadway safety, it plays a crucial role in how vehicles interact with the physical road. Areas where vehicles turn, slow down, or stop can be areas of concern over worn pavement. When compiling a list of locations with high crash rates, whoever has jurisdiction over roads should be checking pavement friction to see if it is a possible contributor to crashes. High friction surface treatment is used to reinforce or restore the friction of the road, it is particularly effective near areas such as steep downgrades and curves where tire performance is essential to safety. This can be a low-cost countermeasure if it is used in particular sections of roads, but higher quality treatments or use on larger sections of roads can raise the cost of implementing this countermeasure.



Table F-19: Pavement Friction Countermeasure

Crash Type	All
CRF%	41.50%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	10
Cost	Medium
CMF ID	10342, 10333, 2259

20. Pedestrian Hybrid Beacon (PHB)

Pedestrian Hybrid Beacons (PHB) serve as a light signal for pedestrians crossing high-speed roadways. Pedestrians activate a light series to signal drivers that they will be crossing, alerting vehicles to slow down and be aware of pedestrians crossing. Similar to a traffic signal, it will start a blinking yellow light to alert drivers to an impending red stop light to allow pedestrians to cross safely. These signals are effective for popular crossings on high-speed roads or extended distances in crossings. The signals ensure pedestrian safety and reduce poor decisions by pedestrians to cross high-speed traffic. Pedestrian Hybrid Beacons are a low-cost implementation that can be added to traffic systems in locations where concerns for pedestrian crossings is high.



Table F-20: Pedestrian Hybrid Beacon (PHB) Countermeasure

Crash Type	Pedestrian
CRF%	35%
Federal Eligibility Funding (%)	90% to 100%
Expected Life (Years)	10
Cost	Low
CMF ID	9020, 2911, 2917

21. Roadside Design Improvements at Curves

Roadside curve enhancements involve improving the safety of the edge of roads on curves. These safety designs are implemented to reduce severe crashes, allow vehicles an opportunity to recover safely and prevent total roadway departures. Strategies can vary from changing the environment on the shoulder of roads to placing barriers on curves. Flattening sloped edges off the road or extending shoulders gives drivers the ability to recover their vehicle in the event of a roadway departure. Using median like barriers such as concrete or steel guardrails to prevent total roadway departures all together. Reducing roadway departures, as well as making them less dangerous or recoverable for drivers, is the goal of these strategies. Cost may vary depending on which or how many of these strategies are implemented.



Table F-21: Roadside Design Improvements at Curves Countermeasure

Crash Type	Roadway Departures
CRF%	26%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	20
Cost	Medium
CMF ID	4627, 4632, 35, 36

22. SafetyEdge

SafetyEdge is implemented during road construction and re-pavement and creates a 30-degree slant at the edge of pavement. This enhancement reduces the chances of a vertical drop-off from vehicles, reducing road departures and increasing control for drivers. Adding a SafetyEdge design to roads is a low-cost countermeasure that can be added to any road that does not have any barrier on the edge, and would allow the driver to ride the slanted edge back onto the roadway.



Table F-22: SafetyEdge Countermeasure

Crash Type	Roadway Departures
CRF%	16%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	20
Cost	Low
CMF ID	9205, 9211, 9217

23. Backplates with Retroreflective Borders

Backplates offer improved visibility to drivers, especially at night. The backplates accentuate the signal light better with the contrasting reflective yellow metal against the night sky. Frames are typically one to three inches thick around an entire traffic light. These are low-cost implementations that can be easily added to all traffic signals to improve nighttime visibility of intersection signaling. Rural areas can implement these as intersections in rural areas may not have any lighting and drivers may have difficulties identifying critical traffic signs at intersections.

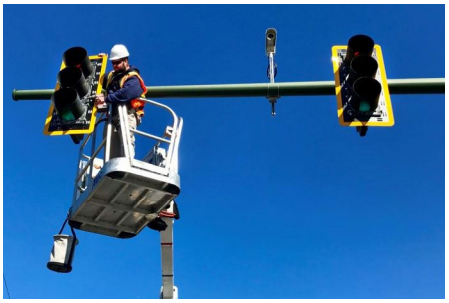


Table F-23: Backplates with Retoreflective Borders Countermeasure

Crash Type	Intersection and Night
CRF%	15%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	10
Cost	Low
CMF ID	1410

24. Yellow Change Intervals

Manipulating the yellow change interval at intersections can be done to extend the time a yellow light is active to prevent high-speed traffic from running red lights or causing rear-end collisions. This can be used at high-speed intersections that experience higher rates of intersection collisions and severe crashes. With a retiming of yellow lights at specific intersections based on traffic and crash data, this is a low-cost strategy to implement.



Table F-24: Yellow Change Intervals Countermeasure

Crash Type	All
CRF%	11%
Federal Eligibility Funding (%)	80%
Expected Life (Years)	20
Cost	Low
CMF ID	380, 384

Appendix G: SS4A Self-Certification

The USDOT requires the self-certification worksheet for all SS4A Implementation Grant applications and any Planning and Demonstration Grant applications.

The worksheet can be found at https://www.transportation.gov/grants/ss4a/how-to-apply

Figure G-1: SS4A- USDOT Self Certification Checklist

S|S
4|A Safe Streets and Roads for All

Self-Certification Eligibility Worksheet

All applicants should follow the instructions in the NOFO to correctly apply for a grant. See the SS4A website for more information.

Table 1 of the SS4A NOFO describes eight components of an Action Plan, which correspond to the questions in this worksheet. Applicants should use this worksheet to determine whether their existing plan(s) contains the required components to be considered an eligible Action Plan for SS4A.

This worksheet is required for all SS4A **Implementation Grant** applications and any **Planning and Demonstration Grant applications to conduct Supplemental Planning/Demonstration Activities only**. Please complete the form in its entirety, do not adjust the formatting or headings of the worksheet, and upload the completed PDF with your application.

Eligibility

An Action Plan is considered eligible for an SS4A application for an Implementation Grant or a Planning and Demonstration Grant to conduct Supplemental Planning/Demonstration Activities if the following two conditions are met:

- You can answer "YES" to Questions **3, 7,** and **9** in this worksheet; *and*
- You can answer "YES" to **at least four of the six remaining** Questions, **1, 2, 4, 5, 6**, and **8.**

If both conditions are not met, an applicant is still eligible to apply for a Planning and Demonstration Grant to fund the creation of a new Action Plan or updates to an existing Action Plan to meet SS4A requirements.

Applicant Information

Lead Applicant: _____ **UEI:** _____

Action Plan Documents

In the table below, list the relevant Action Plan and any additional plans or documents that you reference in this form. Please provide a hyperlink to any documents available online or indicate that the Action Plan or other documents will be uploaded in Valid Eval as part of your application. Note that, to be considered an eligible Action Plan for SS4A, the plan(s) coverage must be broader than just a corridor, neighborhood, or specific location.

Document Title	Link	Date of Most Recent Update

U.S. Department of Transportation

SS4A Self-Certification Eligibility Worksheet | Page 1 of 5

Figure G-1: SS4A- USDOT Self Certification Checklist Contd.

Action Plan Components

For each question below, answer "YES" or "NO." If "YES," list the relevant plan(s) or supporting documentation that address the condition and the specific page number(s) in each document that corroborates your response. This form provides space to reference multiple plans, but please list only the most relevant document(s).

1. Leadership Commitment and Goal Setting

Are **BOTH** of the following true?

- A high-ranking official and/or governing body in the jurisdiction publicly committed to an eventual goal of zero roadway fatalities and serious injuries; and
- The commitment includes either setting a target date to reach zero OR setting one or more targets to achieve significant declines in roadway fatalities and serious injuries by a specific date.

☐ **YES**
☐ **NO**

Note: This may include a resolution, policy, ordinance, executive order, or other official announcement from a high-ranking official and the official adoption of a plan that includes the commitment by a legislative body.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

2. Planning Structure

To develop the Action Plan, was a committee, task force, implementation group, or similar body established and charged with the plan's development, implementation, and monitoring?

☐ **YES**
☐ **NO**

Note: This should include a description of the membership of the group and what role they play in the development, implementation, and monitoring of the Action Plan.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

Figure G-1: SS4A- USDOT Self Certification Checklist Contd.

3. Safety Analysis

Does the Action Plan include **ALL** of the following?

- Analysis of existing conditions and historical trends to provide a baseline level of crashes involving fatalities and serious injuries across a jurisdiction, locality, Tribe, or region;
- Analysis of the location where there are crashes, the severity, as well as contributing factors and crash types;
- Analysis of systemic and specific safety needs, as needed (e.g., high-risk road features or specific safety needs of relevant road users); and,
- A geospatial identification (geographic or locational data using maps) of higher risk locations.

☐ **YES**
☐ **NO**

Note: Availability and level of detail of safety data may vary greatly by location. The Fatality and Injury Reporting System Tool (FIRST) provides county- and city-level data. When available, local data should be used to supplement nationally available data sets.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

4. Engagement and Collaboration

Did the Action Plan development include **ALL** of the following activities?

- Engagement with the public and relevant stakeholders, including the private sector and community groups;
- Incorporation of information received from the engagement and collaboration into the plan; and
- Coordination that included inter- and intra-governmental cooperation and collaboration, as appropriate.

☐ **YES**
☐ **NO**

Note: This should be a description of public meetings, participation in public and private events, and proactive meetings with stakeholders.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

Figure G-1: SS4A- USDOT Self Certification Checklist Contd.

5. Equity Considerations

Did the Action Plan development include **ALL** of the following?

- Considerations of equity using inclusive and representative processes;
- The identification of underserved communities through data; and
- Equity analysis developed in collaboration with appropriate partners, including population characteristics and initial equity impact assessments of proposed projects and strategies.

☐ **YES**

☐ **NO**

Note: This should include data that identifies underserved communities and/or reflects the impact of crashes on underserved communities, prioritization criteria that consider equity, or a description of meaningful engagement and collaboration with appropriate stakeholders.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

6. Policy and Process Changes

Are **BOTH** of the following true?

- The plan development included an assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize safety; and
- The plan discusses implementation through the adoption of revised or new policies, guidelines, and/or standards.

☐ **YES**

☐ **NO**

Note: This may include existing and/or recommended Complete Streets policy, guidelines for community engagement and collaboration, policy for prioritizing areas of greatest need, local laws (e.g., speed limit), design guidelines, and other policies and processes that prioritize safety.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

Figure G-1: SS4A- USDOT Self Certification Checklist Contd.

7. Strategy and Project Selections

Does the plan identify a comprehensive set of projects and strategies to address the safety problems in the Action Plan, with information about time ranges when projects and strategies will be deployed, and an explanation of project prioritization criteria?

☐ YES
☐ NO

Note: This should include one or more lists of community-wide multi-modal and multi-disciplinary projects that respond to safety problems and reflect community input and a description of how your community will prioritize projects in the future.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

8. Progress and Transparency

Does the plan include **BOTH** of the following?

- A description of how progress will be measured over time that includes, at a minimum, outcome data.
- The plan is posted publicly online.

☐ YES
☐ NO

Note: This should include a progress reporting structure and list of proposed metrics.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

9. Action Plan Date

Was at least one of your plans finalized and/or last updated between 2019 and April 30, 2024?

☐ YES
☐ NO

Note: Updates may include major revisions, updates to the data used for analysis, status updates, or the addition of supplemental planning documents, including but not limited to an Equity Plan, one or more Road Safety Audits conducted in high-crash locations, or a Vulnerable Road User Plan.

If "YES," please list your most recent document(s), date of finalization, and page number(s) that corroborate your response.

Document Title	Date of Most Recent Update	Page Number(s)



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SS4A Self-Certification Eligibility Worksheet | Page 5 of 5

Endnotes

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