

MCHENRY COUNTY SAFETY ACTION PLAN

SAFETY. DESIGN. POLICY.



MCHENRY
COUNTY SAFETY
ACTION
PLAN



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GLOSSARY

AMERICANS WITH DISABILITIES ACT (ADA): FEDERAL LEGISLATION ENSURING EQUAL OPPORTUNITY FOR PERSONS WITH DISABILITIES IN PUBLIC ACCOMMODATIONS, EMPLOYMENT, TRANSPORTATION, STATE AND LOCAL GOVERNMENT SERVICES, AND TELECOMMUNICATIONS.

ANNUAL AVERAGE DAILY TRAFFIC (AADT): THE TOTAL VOLUME OF VEHICLE TRAFFIC ON A HIGHWAY OR ROAD FOR A YEAR DIVIDED BY 365 DAYS.

BASELINE: THE INITIAL SET OF DATA OR CONDITIONS USED AS A REFERENCE POINT FOR ASSESSING CHANGE OR PROGRESS IN ROAD SAFETY PERFORMANCE.

CENSUS TRACTS: SMALL, RELATIVELY PERMANENT STATISTICAL SUBDIVISIONS OF A COUNTY OR EQUIVALENT ENTITY, DESIGNED TO PROVIDE DETAILED DEMOGRAPHIC DATA.

CHICAGO METROPOLITAN AGENCY FOR PLANNING (CMAP): THE REGIONAL PLANNING ORGANIZATION FOR THE NORTHEASTERN ILLINOIS COUNTIES OF COOK, DUPAGE, KANE, KENDALL, LAKE, MCHENRY, AND WILL.

COMPLETE STREETS: STANDARDS OR POLICIES THAT ENSURE THE SAFE AND ADEQUATE ACCOMMODATION OF ALL USERS OF THE TRANSPORTATION SYSTEM, INCLUDING PEDESTRIANS, BICYCLISTS, PUBLIC TRANSPORTATION USERS, CHILDREN, OLDER INDIVIDUALS, INDIVIDUALS WITH DISABILITIES, MOTORISTS, AND FREIGHT VEHICLES.

CORRELATION: A STATISTICAL MEASURE THAT DESCRIBES THE STRENGTH AND DIRECTION OF THE RELATIONSHIP BETWEEN TWO VARIABLES, INDICATING HOW ONE VARIABLE MAY CHANGE IN RELATION TO THE OTHER.

COUNTERMEASURE TOOLKIT: A COMPREHENSIVE RESOURCE PROVIDING A RANGE OF PROVEN STRATEGIES AND INTERVENTIONS AIMED AT ADDRESSING SPECIFIC ROAD SAFETY ISSUES TO EFFECTIVELY REDUCE TRAFFIC FATALITIES AND INJURIES.

CRASH RATE: THE NUMBER OF CRASHES OCCURRING ON A SEGMENT OF ROAD OVER A SPECIFIC PERIOD, OFTEN EXPRESSED PER MILLION VEHICLE MILES TRAVELED.

CRASH RISK: THE PROBABILITY OR LIKELIHOOD OF BEING INVOLVED IN A TRAFFIC CRASH, INFLUENCED BY FACTORS LIKE ROAD CONDITIONS, DRIVER BEHAVIOR, AND VEHICLE TYPE.

CRASH SEVERITY: THE EXTENT OF INJURY OR DAMAGE RESULTING FROM A TRAFFIC CRASH, CATEGORIZED INTO LEVELS SUCH AS PROPERTY DAMAGE ONLY, INJURY, AND FATAL.

CRASH TYPE: CLASSIFICATION OF CRASHES BASED ON THE MANNER IN WHICH THE CRASH OCCURRED, SUCH AS REAR-END, SIDE-SWIPE, OR HEAD-ON COLLISIONS.

DATA-DRIVEN APPROACH: A METHODOLOGY THAT EMPHASIZES THE USE OF DATA IN MAKING DECISIONS, PARTICULARLY IN THE IDENTIFICATION OF PROBLEMS, THE SELECTION OF INTERVENTIONS, AND THE EVALUATION OF OUTCOMES.

FEDERAL HIGHWAY ADMINISTRATION (FHWA): A DIVISION OF THE UNITED STATES DEPARTMENT OF TRANSPORTATION THAT ADMINISTERS THE FEDERAL HIGHWAY PROGRAM.

FUNCTIONAL CLASSIFICATION: THE CATEGORIZATION OF ROADWAYS BASED ON THEIR INTENDED PURPOSE AND THE TYPE OF TRAFFIC THEY CARRY, SUCH AS LOCAL ROADS, ARTERIALS, AND HIGHWAYS.

INFRASTRUCTURE: THE FUNDAMENTAL FACILITIES AND SYSTEMS SERVING A COUNTRY, CITY, OR AREA, INCLUDING TRANSPORTATION SYSTEMS, COMMUNICATION NETWORKS, WATER SUPPLY, AND POWER LINES.

INJURY TYPES: INJURY TYPES FOR CRASHES ARE CATEGORIZED AS FOLLOWS: FATAL INVOLVES AT LEAST ONE DEATH, A (SEVERE INJURY) INCLUDES INCAPACITATING INJURIES LIKE BROKEN BONES OR SEVERE BLEEDING, B (MODERATE INJURY) REFERS TO VISIBLE BUT NON-INCAPACITATING INJURIES SUCH AS BRUISES OR CUTS, AND C (MINOR INJURY) COVERS COMPLAINTS OF PAIN WITHOUT VISIBLE INJURIES.

MODE SHARE: THE PERCENTAGE OF TRAVELERS USING A PARTICULAR TYPE OF TRANSPORTATION MODE, SUCH AS DRIVING, CYCLING, WALKING, OR PUBLIC TRANSIT.

PUBLIC ENGAGEMENT: THE PROCESS OF INVOLVING THE PUBLIC IN DECISION-MAKING AND POLICY FORMULATION, ENSURING THEIR INPUT IS CONSIDERED IN THE PLANNING PROCESS.

SAFE SYSTEM APPROACH: A HOLISTIC ROAD SAFETY FRAMEWORK FOCUSED ON DESIGNING FORGIVING ROAD SYSTEMS THAT CONSIDER HUMAN ERROR AND VULNERABILITY.

STAKEHOLDER ENGAGEMENT: THE PROCESS OF INVOLVING STAKEHOLDERS, INCLUDING COMMUNITY MEMBERS, LOCAL AUTHORITIES, AND INTEREST GROUPS, IN THE PLANNING AND IMPLEMENTATION OF PROJECTS.

TRAFFIC CALMING: MEASURES DESIGNED TO REDUCE VEHICLE SPEEDS AND IMPROVE SAFETY FOR PEDESTRIANS AND CYCLISTS, SUCH AS SPEED HUMPS, CHICANES, AND CURB EXTENSIONS.

VEHICLE MILES TRAVELED (VMT): A MEASURE OF THE TOTAL MILES DRIVEN BY ALL VEHICLES IN A SPECIFIED AREA OVER A SPECIFIC TIME PERIOD.

VULNERABLE ROAD USERS (VRUS): ROAD USERS WHO ARE AT GREATER RISK OF INJURY IN TRAFFIC CRASHES, INCLUDING PEDESTRIANS, CYCLISTS, AND MOTORCYCLISTS.

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EXECUTIVE SUMMARY

PURPOSE

The McHenry County Safety Action Plan (SAP) aims to establish a comprehensive and strategic approach to significantly reduce and ultimately eliminate traffic fatalities and severe injuries on our roadways. Through a data-driven process that incorporates community input, this plan aims to identify critical safety issues, prioritize intervention areas, and deploy effective countermeasures across the county. By focusing on vulnerable road users, high-risk locations, and systemic safety improvements, the SAP sets a clear roadmap for enhancing road safety for all users, fostering a safer transportation network that aligns with national safety goals and local priorities.

VISION & GOALS

The vision for the plan is to establish an all-encompassing and proactive approach to enhancing public safety, focusing on reducing traffic-related fatalities and severe injuries on all roadways. It aims to leverage data-driven strategies, community engagement, and technological advancements to create a safer, more resilient transportation network for pedestrians, cyclists, and motorists alike. By fostering collaboration among local agencies, stakeholders, and residents, the plan strives to achieve a zero-fatality future, making McHenry County a traffic safety model.

The main goals are listed below:

- 1 **Eliminate all fatalities and serious injuries.**
- 2 **Achieve safer speeds through design and education.**
- 3 **Strengthen roadway infrastructure for safety.**
- 4 **Promote active and safe transportation modes.**
- 5 **Increase the use of safety technologies.**

IMAGE 1: AERIAL OF IL ROUTE 47

IL 47 & MILL STREET, HUNTLEY



OVERVIEW, PURPOSE & SCOPE

The SAP adopts the **Safe System Approach**, recognizing that road safety is a shared responsibility among all road users and stakeholders. This approach underlines the necessity to create a road system that accommodates human error and is resilient to incidents, thereby minimizing the occurrences and consequences of traffic crashes, with priority for serious and fatal crashes. It emphasizes the importance of a proactive rather than reactive approach to road safety, integrating the needs of all users into the design, operation, and management of roadways. Traditional road safety strives to modify human behavior and prevent all crashes, while the Safe System Approach refocuses transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives.

DATA ANALYSIS

The McHenry County Safety Action Plan (SAP) is structured around key sections that address the county's unique safety challenges and opportunities for improvement. These sections include a **Safety Analysis**, which examines crash data trends and causes; and detailed recommendations tailored to the county's needs. By focusing on areas where McHenry County deviates from regional patterns or shows overrepresented crash types, the SAP provides a data-driven framework to enhance roadway safety and accessibility for all residents.

Analysis of the data reveals critical insights into McHenry County's safety challenges. Fixed-object crashes stand out as the most overrepresented crash type, accounting for 25.3% of serious injury and fatal incidents compared to 13.7% regionally. Overturn crashes are also disproportionately high, making up 6.4% of incidents versus 1.7% regionally, highlighting potential issues with road conditions and speed management. Front-to-rear collisions, at 15.0%, exceed the regional rate of 10.6%. However, McHenry County has notably lower pedestrian and pedalcyclist crash rates (5.4% and 3.0%, respectively) compared to regional averages of 16.5% and 5.3%, likely reflecting differences in land use and activity levels. These deviations emphasize the need for tailored interventions, such as improved roadway design and targeted enforcement strategies, to address overrepresented crash types while maintaining overall safety progress.

The SAP also highlights the influence of age groups and roadway types on crash dynamics in McHenry County. Young drivers, particularly those under 25, are disproportionately involved in crashes, reflecting national trends of inexperience and riskier driving behaviors. Older adults, though less frequently involved, often face more severe outcomes due to physical vulnerability. Many crashes occur on rural two-lane roads, which are overrepresented in serious and fatal incidents. These roadways often lack shoulders, lighting, and separation between opposing traffic, increasing the likelihood of severe crashes such as fixed-object or overturn incidents.

IMAGE 2: MOBILITY AND SAFETY FOR ALL



PREFACE

WHAT IS THE PURPOSE OF THE SAFETY ACTION PLAN FOR MCHENRY COUNTY?

The safety action plan (SAP) is designed to enhance roadway safety across McHenry County. Its primary goal is to reduce and eliminate serious injuries and fatalities on our roads by implementing a data-driven and comprehensive approach to identify safety risks and deploy targeted countermeasures.

WHY WAS THE SAFETY ACTION PLAN DEVELOPED?

McHenry County worked with the Chicago Metropolitan Agency for Planning (CMAP) to create its safety action plan. CMAP was awarded nearly \$4 million from the federal Safe Streets and Roads for All (SS4A) grant program to develop a first-of-its-kind traffic safety framework for northeastern Illinois. CMAP, the Illinois Department of Transportation (IDOT), and Metra are partnering with six participating counties, including McHenry County, who has contributed funds for the required local match. By planning together, this regional initiative can maximize the impact of system-wide traffic safety improvements.

WHO WAS INVOLVED IN THE DEVELOPMENT OF THE SAFETY ACTION PLAN?

The McHenry County SAP was spearheaded by a Project Team consisting of McHenry County Department of Transportation (MCDOT) staff, consultants from Epstein and WSP, CMAP staff, a regional PMO led by AECOM, and the Engagement Consultant, Daylight, ensuring a multidisciplinary approach to the plan's development. This team collaborated closely with a Steering Committee, which brought together a wide array of community stakeholders, including representatives from local government, health departments, townships, law enforcement, fire rescue services, bicycle advocates, school districts, senior care networks, and the agricultural sector. The plan's leadership actively sought input from a broad spectrum of community members, including advocates, residents, business owners, and other stakeholders.

HOW DID THE COMMUNITY CONTRIBUTE TO THE SAP?

Individuals participated in awareness campaigns, provided feedback on safety concerns, attended public meetings, and engaged with local government and planning committees to share insights and suggestions for safety improvements.

HOW DOES THE SAP DIFFER FROM PREVIOUS TRANSPORTATION PLANS?

The SAP differs from previous transportation plans by focusing more intensively on safety with a proactive, data-driven approach. It incorporates the Safe System Approach, which emphasizes reducing risks through system-wide changes. This plan typically involves greater cross-sector collaboration, employing cutting-edge technology and analytics to predict and mitigate safety issues before they result in crashes, setting it apart from earlier plans that might have been more reactive and less integrated.

WHAT IS A SAFETY ACTION PLAN? HOW WILL IT HELP MY COMMUNITY? WHAT CAN I EXPECT DURING THE PLANNING PROCESS? WHAT IS THE EXPECTED OUTCOME?

WHAT KIND OF OUTCOMES SHOULD RESIDENTS EXPECT?

The expected outcome of the McHenry County SAP is a significant improvement in road safety throughout the county, leading to a measurable reduction in traffic fatalities, serious injuries, and crashes. By implementing targeted strategies and countermeasures identified through data analysis, the plan aims to create safer road environments for all users.

The plan sets forth a framework for continuous improvement by establishing performance measures and regular evaluation metrics. By prioritizing projects and aligning them with strategic funding sources, McHenry County aims to leverage resources efficiently, maximizing the impact of every initiative. Ultimately, the SAP envisions a future where road travel in McHenry County is safer, contributing to its residents' overall well-being and quality of life.

WHAT ARE THE NEXT STEPS FOR IMPLEMENTATION?

As a living document, the plan is designed to evolve, ensuring that McHenry County and its municipalities can adapt to emerging safety needs and leverage ongoing support for implementing high-priority safety initiatives and solutions. This process is integral to the plan's dual purpose: it outlines a path for boosting roadway safety with specific interventions and ensures eligibility for Federal Highway Administration's (FHWA) Safe Streets and Roads for All (SS4A) implementation grants by fulfilling the action planning requirements. Such grants are pivotal for actualizing the plan's safety strategies, facilitating a range of enhancements from infrastructure improvements to community programs.

WHY ARE THE BOUNDARIES OF THE STUDY AREA BEYOND MCHENRY COUNTY?

The boundaries of the study area extend beyond McHenry County as part of the regional Safe Travel for All program's effort to ensure accurate crash analysis. Municipalities located on the county borders have been assigned to either McHenry County or neighboring counties to prevent the double-counting of crashes that could skew data. By clearly defining study boundaries, the program ensures that each crash is only counted once, leading to more precise insights and resource allocation for road safety improvements. For the purpose of this study, the border municipalities of Fox River Grove, Huntley, and Algonquin have been assigned to McHenry County.

WHAT IS THE LEGALITY OF THE SAP?

The observations, findings, conclusions, and recommendations of this report are protected under 23 CFR 407, which states these shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in this report or documents associated with this review.

Disclaimer: Results of the analyses are based on data that was received from the Illinois Department of Transportation. Crash data represents years 2018 to 2022 and was obtained from the state police and other enforcement agencies. The data was used "as is" for analysis purposes and should be interpreted accordingly.

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OVERVIEW

IN THIS CHAPTER, READERS CAN EXPECT A DETAILED EXPLORATION OF MCHENRY COUNTY'S TRANSFORMATION OVER TIME, ITS CURRENT TRANSPORTATION DYNAMICS, AND THE OVERARCHING GOALS OF THE SAFETY ACTION PLAN TO IMPROVE ROADWAY SAFETY. IT OUTLINES THE COUNTY'S APPROACH TO BALANCING GROWTH WITH PRESERVATION, ADDRESSING TRANSPORTATION NEEDS, AND ENGAGING THE COMMUNITY IN EFFORTS TO CREATE A SAFER FUTURE.



BACKGROUND

McHenry County has evolved from its agricultural beginnings into a blend of rural and suburban life, maintaining its unique character through a commitment to preserving natural landscapes and development. The county's history, characterized by the growth of transportation networks, has solidified its significant role within the Chicagoland area.

COMMUNITY BACKGROUND

McHenry County, established in 1836 and named after Major William McHenry, has evolved from a primarily agricultural region to a suburban area in the east and agricultural in the west. The county's growth is characterized by the preservation of its natural landscapes and the promotion of development, balancing farmland conservation with residential and commercial expansion. This unique blend supports local industries and preserves the county's distinctive identity. As an integral part of the Chicagoland area, McHenry County reflects its rich agricultural heritage amidst modern suburban growth, fostering a community committed to both preserving its past and embracing future development.

TRANSPORTATION NETWORK

Transportation has been pivotal to McHenry County's growth, with its network of approximately 2,400 miles of paved roadways, commuter rail services, and regional trails bridging its agricultural past with its suburban present. Historically, railroads and road networks shaped the county, transforming it from bustling town centers to sprawling suburbs. However, system gaps and a reliance on personal vehicles for longer commutes persist, underscoring the challenges in enhancing public transit. Recent improvements, such as roundabouts and enhanced bike and pedestrian paths, aim to balance population needs.

The county's infrastructure supports a mobile workforce, enabling residents to engage with a broad employment landscape and inviting workers from surrounding areas, fostering economic exchange. However, with an aging population and a projected 45% increase in vehicle miles traveled by 2050, the county faces growing demands on its transportation network. This shift emphasizes the need for continued variety of commuting options, including public transit and biking.

MCHENRY COUNTY QUICK FACTS

Population (2022 ACS 5-Year Estimates)	311,133 (sixth in Chicago region)
Area	611 sq. mi.
Population Density	514.1 people/sq. mi.
Households	114,282
Median Age	40.4

MCHENRY COUNTY: NETWORK SUCCESSES & CONCERNS

4

DIFFERENT METROPOLITAN AREAS ARE WITHIN 35 MILES OF MCHENRY COUNTY

County residents have access to Rockford, Janesville-Beloit, Chicago, and Racine within 35 miles.

≈2,400

MILES OF PAVED ROADS IN THE COUNTY

Municipal (1,182), township (794), county (218), state (192), and toll roads (9) comprise the total mileage.

41

MILES OF BICYCLE TRAILS AND PATHS

McHenry County boasts an extensive network of bike trails, enhancing non-motorized transportation options.

45%

INCREASE IN COUNTY'S VMT IS ANTICIPATED BY 2050

The projected increase highlights the need for strategies to provide other suitable modes and managing congestion.

72%

OF THE COUNTY'S FATAL CRASHES OCCURRED AT INTERSECTIONS

Almost 3,700 crashes in the past 5 years occurred at an intersection.

73%

OF ROADWAYS IN THE COUNTY DO NOT HAVE SIDEWALKS ON EITHER SIDE

The absence of sidewalks on a majority of roadways raises concerns about pedestrian safety and accessibility.

IMAGE 3: MCHENRY COUNTY ROADWAY INFRASTRUCTURE

MAP OVERVIEW

This map provides a detailed representation of the roadway hierarchy throughout McHenry County, highlighting the structured network of roads based on their importance and function. It includes road shields that feature numbers corresponding to specific roadways, aiding in easy identification and navigation. These numbers are systematic, with each shield indicating the route number which helps travelers understand the main arterial routes through and around the county. The map also displays various major roadways, including Interstate 90, which traverses the southwest corner of the county, serving as a critical connector to broader regional and national road networks.

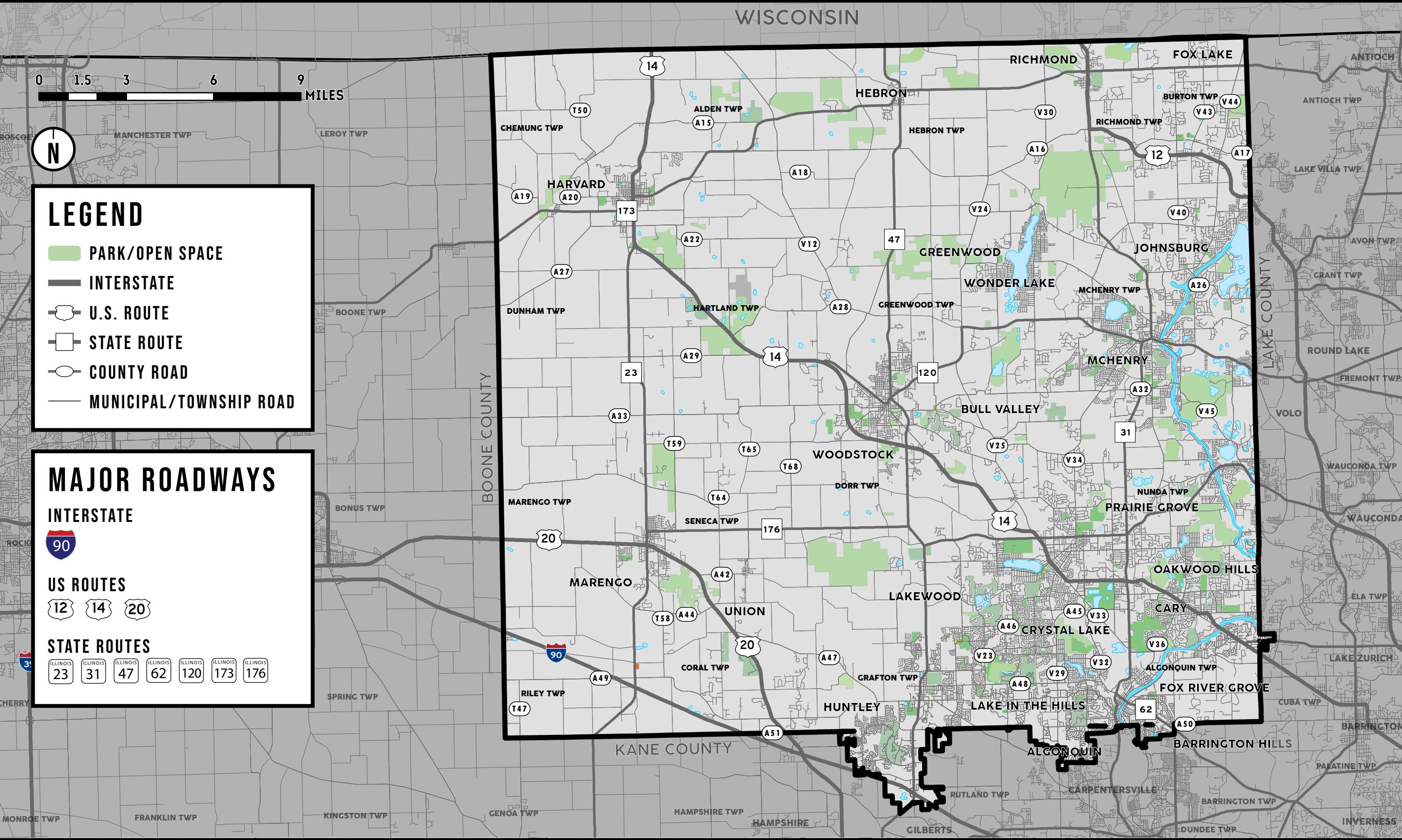


IMAGE 4: MCHENRY COUNTY ACTIVE TRANSPORTATION NETWORK

MAP OVERVIEW

This map displays McHenry County's active transportation network, including regional trails, park bike trails, hiking trails, snowmobile trails, and equestrian trails. Regional trails connect communities across the county for longer bike or foot travel, while park bike trails offer shorter, recreational routes within local parks. Hiking trails provide footpaths through natural areas, snowmobile trails support winter recreation, and equestrian trails designate safe paths for horseback riding. Many of these trails are concentrated in the eastern and southeastern parts of the county, enhancing accessibility and supporting year-round recreational and transportation options in these area

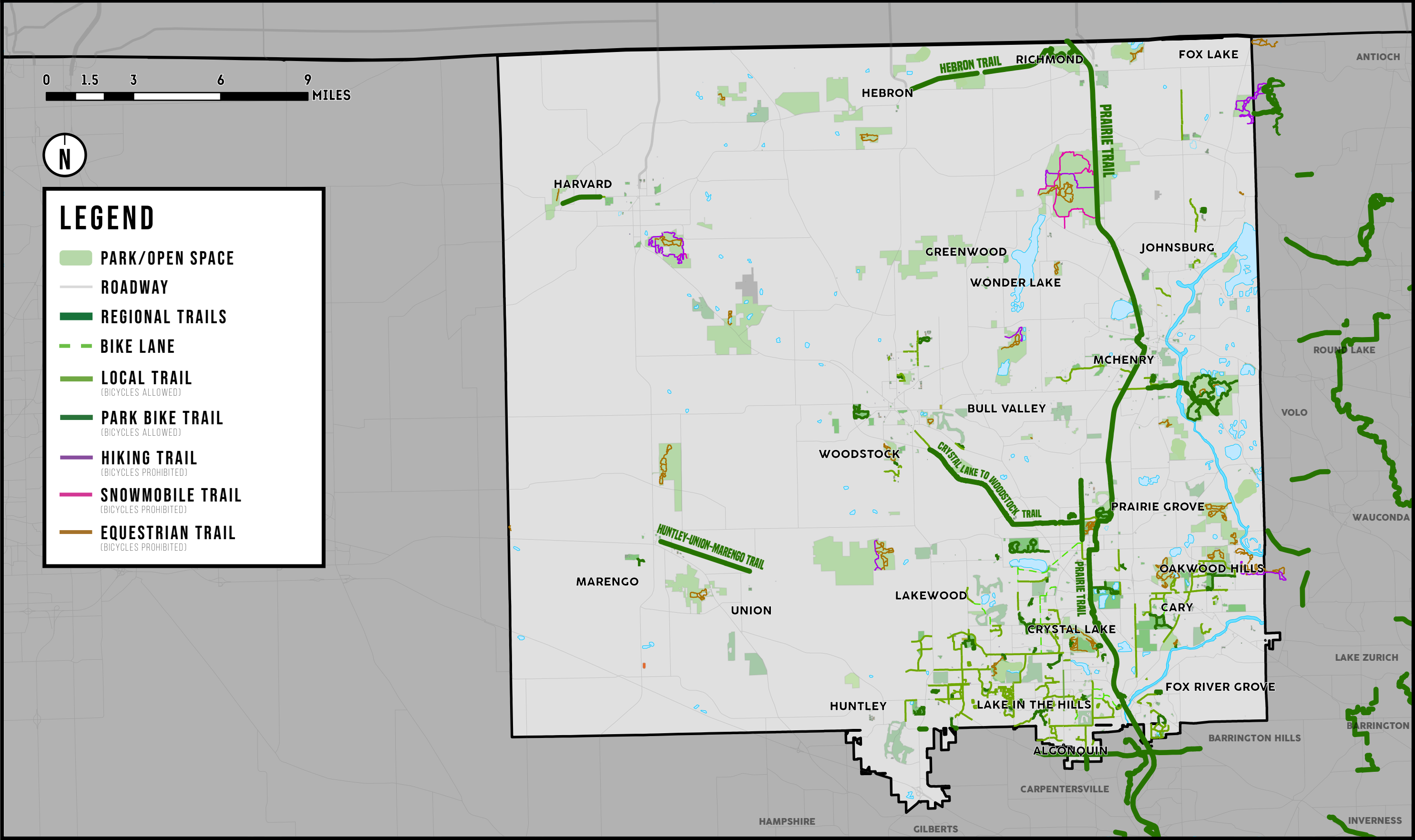
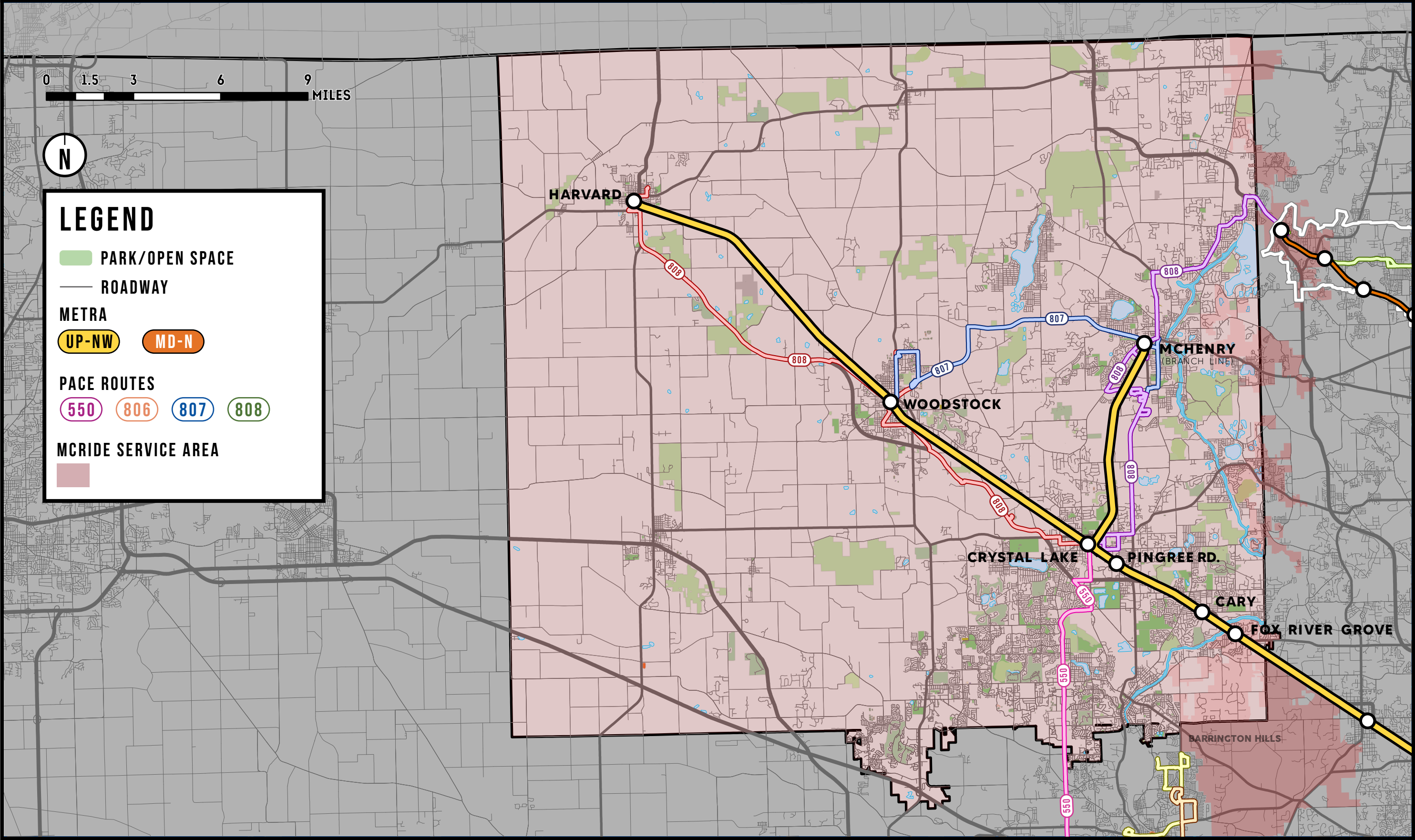


IMAGE 5: MCHENRY COUNTY PUBLIC TRANSPORTATION NETWORK

MAP OVERVIEW

This transit map highlights McHenry County's public transportation network, featuring Metra rail service, Pace fixed bus routes, and MCRide, an on-demand bus service. The Metra stations in Harvard, Crystal Lake, Pingree Road (Crystal Lake), Cary, Fox River Grove, McHenry, and Woodstock form the county's backbone for regional rail access, connecting residents to downtown Chicago and surrounding areas. Fixed Pace Bus routes provide essential connections between towns, business districts, and key destinations, enhancing mobility within the county. Complementing these services, MCRide offers flexible, on-demand bus service for locations not directly served by Metra or fixed bus routes, giving residents increased access to jobs, healthcare, and shopping.



PURPOSE & SCOPE

This plan is designed to systematically reduce traffic-related fatalities and serious injuries by implementing data-driven strategies and fostering a safety-conscious community culture. Its scope includes data collection and analysis, identification of emphasis areas, development of countermeasures, stakeholder engagement, and implementation and evaluation framework to ensure the effectiveness of safety interventions.

PURPOSE

The McHenry County SAP is strategically designed to systematically decrease traffic-related fatalities and serious injuries. The overarching goal is to foster a safer, more dependable transportation network by tackling safety challenges through data-informed strategies and incorporating the community's input in planning. However, the plan's impact will go beyond upgrading physical infrastructure by providing strategies for cultivating a pervasive safety culture among all road users, including drivers, pedestrians, and cyclists.

By aligning its objectives with broader national safety goals and customizing its approaches to meet the specific demands and characteristics of McHenry County, the SAP is geared towards effecting a substantial and lasting decrease in traffic crashes. The aim is to progressively reduce and ultimately eliminate fatalities and severe injuries on the roads of McHenry County.

SCOPE

The SAP includes several critical components to enhance roadway safety. **Data Collection & Analysis** involves gathering extensive traffic and crash data to identify trends, high-risk areas, and key factors contributing to incidents. **Emphasis Areas** are specific locations or issues, such as dangerous intersections or impaired driving, that require targeted interventions. **Strategies and Countermeasures** include engineering improvements, policy changes, educational campaigns, and increased enforcement to address identified risks. **Stakeholder Engagement** ensures community involvement by collaborating with local governments, law enforcement, public health organizations, schools, businesses, and residents. The **Implementation Plan** involves rolling out safety measures, continuously monitoring their effectiveness, and making adjustments based on feedback and observed outcomes to keep the SAP dynamic and responsive to evolving needs.

IMAGE 6: BIKING IN MCHENRY COUNTY



Source: Naturally McHenry County

DATA COLLECTION & ANALYSIS

Comprehensive gathering and examination of traffic data, crash statistics, and road usage patterns to identify high-risk areas, vulnerable user groups, and prevailing safety issues that need addressing within the plan's scope.

EMPHASIS AREAS

Determination of specific safety concerns or emphasis areas such as pedestrian safety, speed management, and bicycle infrastructure enhancement, based on the insights gained from data analysis.

STRATEGIES & COUNTERMEASURES

Formulation of targeted strategies and countermeasures, incorporating engineering solutions, enforcement actions, educational initiatives, and emergency response improvements.

STAKEHOLDER ENGAGEMENT

Inclusion of a broad range of stakeholders in the planning process, from local government agencies to community groups and the public to ensure different perspectives are incorporated.

IMPLEMENTATION PLAN & EVALUATION

Creation of a detailed implementation plan outlining project priorities, timelines, and resource allocation, paired with established performance metrics and evaluation processes to monitor effectiveness over time.

SAFE SYSTEM APPROACH

The Safe System Approach advocates for a holistic road safety strategy that acknowledges human error and vulnerability, emphasizing the need for protective road infrastructure, effective speed management, and post-crash care. It fosters collaboration among various stakeholders to create a forgiving road system that minimizes the consequences of crashes.

McHenry County's SAP, guided by the Safe System Approach, embodies a transformative strategy for enhancing road safety. This approach, adopted by the U.S. Department of Transportation, builds upon the principle that while human errors are inevitable, systems and infrastructure can be designed to prevent crashes or significantly reduce their severity. It promotes the integration of multiple layers of protection, from safer road designs to advanced vehicle technologies. By prioritizing the elimination of deaths and serious injuries and recognizing human vulnerability, the plan aims to create a more forgiving roadway environment that accommodates human mistakes.

The Safe System Approach within McHenry County's plan is structured around six fundamental principles, including the unacceptability of deaths and serious injuries, the acknowledgment of human error, and the critical need for redundancy in safety measures. It stresses shared responsibility across all stakeholders - from government agencies to individual road users - to foster a culture of safety. By being proactive rather than reactive, the plan seeks to identify and mitigate potential risks before they lead to crashes.

Specific objectives of the SAP align with the Safe System Approach's five elements: Safer Roads, Safer Speeds, Safer Vehicles, Safer People, and Post-Crash Care. Key components include initiatives to encourage safe driving behaviors, roadway designs that mitigate crash impacts, and ensure vehicles are equipped with the latest safety features. The plan also emphasizes the importance of managing travel speeds and providing an effective emergency medical response to improve crash survivability. These comprehensive measures are designed to work in concert to reduce the likelihood and severity of crashes.

At the heart of McHenry County's Safety Action Plan is a commitment to a future where roadway fatalities and serious injuries are eliminated. By embracing the Safe System Approach, the plan represents a significant shift towards a more holistic understanding of road safety, one that acknowledges the complex interplay of factors contributing to road safety and leverages a multi-faceted strategy to address them. Through continuous evaluation and adaptation, McHenry County aims to create a safer, more resilient transportation system for all users.

HOW DOES IT DIFFER FROM PREVIOUS SYSTEMS?

Standard Approaches

Traditional road safety strategies have emphasized the three E's: Engineering, Enforcement, and Education. These methods focus on modifying infrastructure to improve road safety, enhancing law enforcement to ensure compliance with traffic laws, and educating drivers about safe driving practices. While these approaches have been somewhat effective in mitigating crashes, they primarily rely on individual road users to avoid errors and often overlook systemic factors contributing to road safety risks.

Safe System Approach

The Safe System Approach marks a significant shift by acknowledging human vulnerability and potential for error within road traffic systems. It aims to integrate safety measures—safe roads, speeds, vehicles, and road use—that provide multiple layers of protection. If one element fails, others will still protect road users, aiming to prevent severe injuries and fatalities by accommodating human error and promoting shared responsibility among all stakeholders in road safety.

FIVE ELEMENTS OF THE SAFE SYSTEM APPROACH



SAFER ROADS

The focus of this strategy is on creating road environments that inherently minimize risks through thoughtful design and ongoing maintenance, ensuring roads accommodate all users safely. The approach calls for regular safety audits of existing infrastructure to identify and rectify potential hazards before crashes occur. Collaboration with planners and engineers to incorporate safety into the earliest stages of roadway design, considering the needs of the most vulnerable road users. Safer Roads also involves updating signage and road markings to improve navigability and clarity for all users.



SAFER SPEEDS

Managing vehicle speeds is critical for reducing the severity of crashes and improving road safety overall. This initiative involves a comprehensive strategy that combines road design, speed limit enforcement, and public education to encourage adherence to safe speeds. Traffic calming measures, such as roundabouts and speed humps, are implemented to reduce vehicle speeds in high-risk areas naturally. Educational campaigns focus on raising awareness about the dangers of speeding and its impact on crash outcomes. Law enforcement plays a key role, utilizing both traditional and technological means to monitor speeds and enforce limits.



SAFER VEHICLES

This priority advocates for the incorporation of advanced safety technologies in vehicles to prevent crashes or mitigate their severity. It involves collaboration with vehicle manufacturers to standardize safety features such as autonomous emergency braking, lane-keeping assistance, and pedestrian detection systems, as well as the overall size, weight, and design of the vehicle. Regulatory efforts aim to ensure that all new vehicles meet stringent safety criteria, protecting not just the occupants but also those outside the vehicle. Public awareness campaigns promote the benefits of these technologies, encouraging consumers to prioritize safety in their vehicle choices. By enhancing vehicle safety standards, the goal is to equip cars with the tools needed to protect lives in the event of a crash.



SAFER PEOPLE

This element champions the enhancement of road user behavior to reduce the likelihood of crashes and violations on the road. Educational initiatives, targeted enforcement, and community engagement campaigns are integral, aiming to instill safe driving practices, such as the consistent use of seat belts, avoiding driving under the influence, and adherence to speed limits. It underscores the importance of pedestrian and cyclist safety, encouraging vigilance and respect for all users sharing the road. Training programs for young and inexperienced drivers, and re-education courses for repeat traffic offenders are also emphasized.



POST-CRASH CARE

Effective post-crash response and care are vital for minimizing the consequences of traffic crashes. This component emphasizes the importance of swift and efficient emergency medical services, ensuring that crash victims receive prompt and appropriate medical attention. It involves training first responders and improving communication systems to reduce response times, especially in rural areas. Analyzing crash locations helps identify patterns and inform targeted safety improvements. By addressing specific factors through countermeasures, future crashes can be prevented, creating a safer transportation network.

GOVERNANCE

The Governance section of the Safety Action Plan defines the hierarchy and roles of key personnel tasked with guiding the plan's implementation, from strategic oversight to technical advice. It emphasizes the importance of strong, committed leadership in driving the plan's success, ensuring that safety initiatives are effectively managed and aligned with the overarching goals of enhancing road safety in McHenry County.

OVERVIEW

The implementation of the SAP in McHenry County is a collaborative effort involving various agencies and municipalities, with MCDOT serving as the plan's strategic coordinator. The success of the SAP relies on the active participation of municipalities and townships, which can apply for funding to support the plan's initiatives.

In McHenry County, eligibility for Safe Streets and Roads for All (SS4A) grants includes MCDOT, municipalities, townships, and multi-jurisdictional partnerships. To qualify for an Implementation Grant, applicants must either own or maintain a roadway network, have roadway safety responsibilities, or have an agreement with the responsible entity.

MULTI-AGENCY IMPLEMENTATION

The multi-agency implementation of the McHenry County SAP employs a collaborative approach to enhance road safety by engaging local municipalities, law enforcement, public health departments, and transportation authorities. This strategy ensures that initiatives are comprehensive and tailored to the unique needs of different areas within the county.

Success hinges on clear communication and decision-making processes that respect each entity's autonomy while maintaining a unified direction. Regular coordination meetings, joint training sessions, and shared data platforms foster synergy and transparency among stakeholders, allowing for the sharing of best practices and pooling of resources for more impactful projects, thereby strengthening community trust and support for road safety initiatives.

WHAT ARE THE MAJOR DIFFERENCES IN JURISDICTIONS?

State (IDOT)	The state government manages major transportation infrastructure, sets statewide policies and safety standards, and administers federal transportation funds.
County (MCDOT)	The county government oversees the construction and maintenance of county roads and bridges, implementing safety programs, and coordinating public transportation and regional transportation projects.
Municipalities	Municipal governments handle local streets and sidewalks, enhancing pedestrian and bicycle infrastructure, and enforcing local traffic regulations.
Townships	Townships manage rural road maintenance and safety, working with county and state agencies to address specific local needs and maintain agricultural routes.

ALL LISTED AGENCIES ARE INVITED AND ELIGIBLE TO PARTICIPATE IN THE IMPLEMENTATION OF THE SAFETY ACTION PLAN, ENSURING A COMPREHENSIVE AND COLLABORATIVE EFFORT TOWARDS ENHANCING ROAD SAFETY IN MCHENRY COUNTY:

COUNTY AGENCIES

McHenry County Division of Transportation (MCDOT)

MUNICIPALITIES

Algonquin | Barrington Hills | Bull Valley | Cary | Crystal Lake | Fox Lake | Fox River Grove | Greenwood | Harvard | Hebron | Holiday Hills | Huntley | Island Lake | Johnsburg | Lake in the Hills | Lakemoor | Lakewood | Marengo | McCullom Lake | McHenry | Oakwood Hills | Port Barrington | Prairie Grove | Richmond | Ringwood | Spring Grove | Trout Valley | Union | Wonder Lake | Woodstock

TOWNSHIPS

Alden | Algonquin | Burton | Chemung | Coral | Dorr | Dunham | Grafton | Greenwood | Hartland | Hebron | Marengo | McHenry | Nunda | Richmond | Riley | Seneca

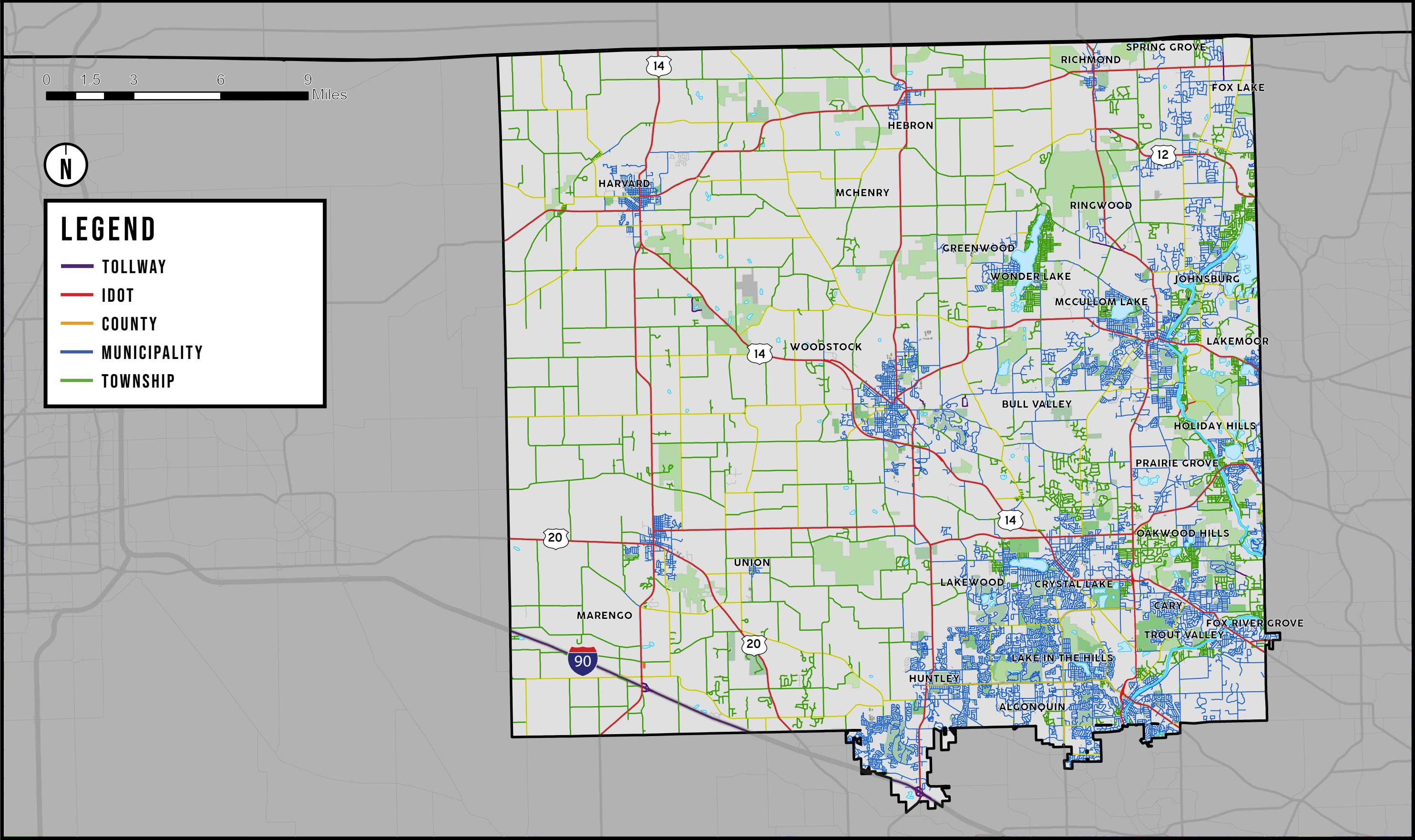
MULTI-AGENCY

A multi-jurisdictional group of entities from the ones described above

IMAGE 7: MCHENRY COUNTY ROADWAY JURISDICTION

MAP OVERVIEW

This map displays the roadway jurisdiction throughout McHenry County, indicating which local, state, or federal authorities are responsible for maintenance, improvements, and regulatory compliance of various roadways. Managing multiple jurisdictions can introduce challenges, especially when roadways fall under different authorities at various segments, leading to complications in coordination, consistency in road quality, and safety measures. These complexities require effective communication and collaboration between different governmental levels to ensure smooth funding, priority setting, and execution of transportation projects, thereby maintaining efficient and safe roadways for public use.



2

VISION, MISSION, & GOALS

THIS CHAPTER OUTLINES A STRATEGY AIMED AT ELIMINATING FATALITIES AND SERIOUS INJURIES ON ALL ROADWAYS IN MCHENRY COUNTY. ADDITIONALLY, IT HIGHLIGHTS THE VISION AND GOALS, SETTING THE FOUNDATION FOR SAFETY EFFORTS, ALONGSIDE EMPHASIS AREAS THAT IDENTIFY KEY PRIORITIES FOR TARGETED ACTION AND IMPROVEMENT.



VISION & GOALS

The Vision, Mission, and Goals section of the McHenry County Safety Action Plan articulates a clear and ambitious roadmap for enhancing roadway safety. Together, these concepts establish a framework for reducing traffic fatalities and injuries through community collaboration, data-driven initiatives, and technological advancements, with the ultimate goal of creating a zero-fatality future in McHenry County.

The vision for the McHenry County Safety Action Plan is to establish a comprehensive and proactive approach to enhancing public safety, focusing on reducing, and eventually eliminating, traffic-related fatalities and serious injuries on all roadways. It aims to leverage data-driven strategies, community engagement, and technological advancements to create a **safer, more resilient transportation network** for people walking, biking, rolling, and driving. By fostering collaboration among local agencies, stakeholders, and residents, the plan strives to achieve a **zero-fatality future**, making McHenry County a model for traffic safety.

01

GOAL: ELIMINATE ALL ROADWAY FATALITIES

In alignment with the Safe System Approach, this goal focuses on eradicating deaths and serious injuries on McHenry County roadways. McHenry County passed a resolution to eliminate roadway fatalities by 2040. Through proactive safety measures, infrastructure improvements, and community education, we aim to create a transportation environment where crashes do not result in severe human harm.

02

GOAL: ACHIEVE SAFER SPEEDS THROUGH DESIGN & EDUCATION

This goal addresses the critical issue of speeding, which significantly increases crash severity. By employing a multifaceted approach that includes redesigning roads to naturally calm traffic, setting appropriate speed limits, and conducting targeted education and enforcement campaigns, we aim to cultivate a culture of safe speeds in McHenry County.

03

GOAL: STRENGTHEN ROADWAY INFRASTRUCTURE FOR SAFETY

This goal commits to redesigning and upgrading the road network in McHenry County to forgive human errors and protect vulnerable road users. Emphasizing safer roads, MCDOT and partner agencies will implement proven safety countermeasures, enhance crosswalk visibility, and create pedestrian refuge islands, among other interventions, to accommodate human vulnerabilities and mistakes.

04

GOAL: PROMOTE ACTIVE AND SAFE TRANSPORTATION MODES

By prioritizing the safety and accessibility of non-motorized transportation options, this goal seeks to encourage healthier travel choices while ensuring the protection of all road users. It involves strategic planning to develop safe pathways and educational initiatives aimed at raising awareness about the benefits of active transportation.

05

GOAL: INCREASE THE USE OF SAFETY TECHNOLOGIES

This goal focuses on incorporating innovative technologies to enhance protective measures and reduce the likelihood of crashes. Through the integration of automated warning systems and intelligent design, the aim is to build a transportation ecosystem where safety mechanisms are seamlessly embedded, mitigating risks before they lead to serious incidents.

RESOLUTION

A Resolution of the County Board of McHenry County Adopting a Vision Zero Policy to Eliminate Roadway Fatalities Within McHenry County by the Year 2040.

WHEREAS, a single death on our roads is one too many; and

WHEREAS, crashes that result in death or serious injury are not inevitable but largely preventable, and steps can be taken by using a proactive approach that prioritizes traffic safety and treats severe crashes as a public health issue; and

WHEREAS, a commitment to Vision Zero is a commitment to life and opportunity for the residents and visitors of McHenry County; and

WHEREAS, it is the role of government to do its part to serve and protect the populace; and

WHEREAS, the Illinois Department of Transportation (IDOT), through its Strategic Highway Safety Plan, has the goal of eliminating roadway fatalities in the State of Illinois; and

WHEREAS, McHenry County has a strong commitment to prioritizing roadway safety as demonstrated by the ongoing development of the McHenry County Safety Action Plan; and

WHEREAS, on average 23 people die each year in McHenry County as a result of a traffic crash, with 160 more sustaining a serious injury requiring hospitalization; and

WHEREAS, the COVID-19 pandemic resulted in an increase in injury crashes, reversing steady progress made over many years; and

WHEREAS, eliminating fatal crashes in McHenry County will require a comprehensive Safe Systems Approach that acknowledges human error and vulnerability, emphasizing the need for protective road infrastructure, effective speed management, and post-crash care; and

WHEREAS, McHenry County, through its Division of Transportation, is prepared to embrace the Safe Systems Approach, setting an example that other roadway jurisdictions can follow; and

WHEREAS, the principles of a Vision Zero commitment are supported in the McHenry County Moves 2050 Transportation Plan, which was approved by the County Board on June 18, 2024; and

WHEREAS, implementing a Vision Zero commitment will require the continued support of the County’s Health Department, Sheriff’s Office, Planning and Development Department, State’s Attorney Office, and Coroner’s Office; and

WHEREAS, the support of residents, business owners, students, and visitors to McHenry County, acting as individuals and collectively through neighborhood or advocacy organizations, will be important to improve the safety, comfort, and usability of roads and streets for all users; and

WHEREAS, McHenry County will join other jurisdictions across the state and nation in their commitment to eliminate traffic deaths; work which has demonstrated success when coupled with adequate funding and staffing levels for its implementation; and

WHEREAS, approving a Vision Zero Policy will allow McHenry County to apply for federal safety grants, thereby reducing the burden on local taxpayers.

NOW, THEREFORE BE IT RESOLVED, by this County Board of McHenry County, Illinois, that it hereby commits to a goal of zero deaths that are a result of roadway crashes by the year 2040; and

BE IT FURTHER RESOLVED, that the McHenry County Safety Action Plan will provide a blueprint to achieve this zero-fatality goal, with concrete steps and strategies proven to reduce the severity of future crashes; and

BE IT FURTHER RESOLVED, that the County Clerk is hereby authorized to distribute a certified copy of this resolution to the County Administrator, the County Sheriff, the County Coroner, the Public Health Administrator, and the Director of Planning and Development, and an electronic copy to the Director of Transportation/County Engineer.

DATED at Woodstock, Illinois, this 20th day of May, A.D., 2025.

SELF-COMPLIANCE CHECKLIST

This self-certification worksheet acts as a checklist to ensure all necessary conditions are met to confirm the safety action plan contains the required components to be considered complete and eligible for SS4A implementation grants.

TABLE 1: SS4A SELF COMPLIANCE WORKSHEET

1: Leadership Commitment and Goal Setting		
A high-ranking official and/or governing body in the jurisdiction publicly committed to an eventual goal of zero roadway fatalities and serious injuries.	✓	Chapter 2
The commitment includes either setting a target date to reach zero OR setting one or more targets to achieve a reduction in roadway fatalities and serious injuries by a specific date.	✓	Chapter 2
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?	✓	Chapter 1
3: Safety Analysis		
Analysis of existing conditions & historical trends to provide a baseline level of crashes involving fatalities & serious injuries across a jurisdiction, locality, Tribe, or region.	✓	Chapter 4
Analysis of the location(s) of crashes, the severity, contributing factors, and crash types.	✓	Chapter 4
Analysis of systemic and specific safety needs, as needed (e.g., high-risk road features or specific safety needs of relevant road users).	✓	Chapter 4
A geospatial identification (geographic or locational data using maps) of higher risk locations.	✓	Chapter 4
4: Engagement and Collaboration		
Engagement with the public and relevant stakeholders, including the private sector and community groups.	✓	Chapter 3
Incorporation of information received from the engagement and collaboration into the plan.	✓	Chapter 3
Coordination that included inter- and intra-governmental cooperation and collaboration, as appropriate.	✓	Chapter 3
5: Policy and Process Changes		
The plan development included an assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize safety.	✓	Chapter 7
The plan discusses implementation through the adoption of revised or new policies, guidelines, and/or standards.	✓	Chapter 7; Appendix
6: Strategy and Project Selection		
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?	✓	Chapter 8
7: Progress and Transparency		
A description of how progress will be measured over time that includes, at a minimum, outcome data.	✓	Chapter 9
The plan is posted publicly online.	✓	-
8: Action Plan Date		
Was at least one of your plans finalized and/or last updated between 2020 and June 26, 2025?	✓	-

3

PUBLIC & STAKEHOLDER ENGAGEMENT

THE PUBLIC AND STAKEHOLDER ENGAGEMENT CHAPTER OUTLINES THE COMPREHENSIVE EFFORTS TO INVOLVE A VARIETY OF VOICES IN SHAPING THE MCHENRY COUNTY SAFETY ACTION PLAN. IT DETAILS THE METHODS USED TO GATHER INPUT AND KEY INSIGHTS FROM FOCUS GROUPS AND PUBLIC MEETINGS.



PURPOSE & STRATEGY

The project's Public and Stakeholder Engagement chapter outlines a comprehensive approach to involving the community and stakeholders throughout the planning process. This section details the purpose of engagement, strategies employed, and the timeline of activities, providing a clear view of how public input was integrated into the project.

PURPOSE

The purpose of Public and Stakeholder Engagement was to ensure that the McHenry County Safety Action Plan reflected the needs, experiences, and priorities of the entire community by integrating an array of perspectives into every phase of the project's development. This process emphasized meeting people where they were—both physically and figuratively—by tailoring outreach methods to reach individuals in their own communities, through familiar settings, and with culturally appropriate communication.

A deliberate effort was made to engage vulnerable and underserved populations, recognizing that these groups often experience the greatest challenges with roadway safety but are frequently underrepresented in planning processes. By partnering with local organizations, advocates, and trusted community leaders, the project team built relationships and fostered trust to better understand the unique needs and lived experiences of these residents. Language accessibility, flexible meeting times, and virtual participation options were key strategies to remove barriers and facilitate meaningful engagement.

STRATEGY

The engagement strategy was designed to maximize accessibility and meaningful interaction with the community through a combination of virtual and in-person approaches. Virtual platforms, such as online surveys, interactive maps, and virtual open houses, were prioritized to allow broad participation across demographics while also accommodating those with limited mobility or availability. These were complemented by in-person events, focus groups, and public open houses to ensure direct and tangible interaction with community members.

A key element of the strategy was clear, consistent communication that kept stakeholders informed and engaged throughout the project. This included providing regular updates on progress, explaining how feedback was incorporated, and ensuring transparency in decision-making processes. The use of multilingual materials and targeted outreach further enhanced engagement across McHenry County.

THE ENGAGEMENT FOR THIS PLAN COMPRISED OF THE FOLLOWING METHODS:

STEERING COMMITTEE MEETINGS

Regularly scheduled meetings with a group of stakeholders, including municipal staff, community leaders, and safety advocates, to collaboratively guide the development and review of the Plan.

OPEN HOUSE

Virtual public forum designed to provide an overview of the Safety Action Plan, engage in discussions about roadway safety challenges, and collect valuable feedback on potential solutions.

SURVEY & INTERACTIVE MAP

Online engagement tools designed to collect broad community input by allowing residents to voice concerns, prioritize safety needs, and identify specific problem areas using map-based feedback mechanisms.

FOCUS GROUPS

Facilitated, small-group discussions tailored to specific community demographics or interest groups to gain in-depth insights into localized roadway safety concerns and gather recommendations for improvements.

TIMELINE

This section outlines the different stages of the public engagement process, which took place from Spring 2024 to Winter 2025.

STAGES

The public engagement process for the McHenry County Safety Action Plan was thoughtfully structured into distinct stages to ensure comprehensive community involvement and actionable outcomes.

AWARENESS AND OUTREACH

The planning process commenced with an inaugural steering committee meeting aimed at defining the plan's objectives and fostering collaboration among stakeholders. To maximize public involvement, the team launched a robust outreach campaign that emphasized the importance of community input in shaping the plan. This included promotional efforts for a June 2024 virtual open house, where residents could learn about the initiative and share their insights.

DATA COLLECTION AND FEEDBACK

Surveys and the Safety Hotspots Map were key tools in gathering detailed community feedback, revealing critical safety concerns and priorities across McHenry County. The 79 survey responses and 262 map pins provided a comprehensive picture of high-risk locations, connectivity challenges, and pressing issues for vulnerable road users. These data points became the foundation for identifying trends and informing targeted recommendations.

INTERACTIVE ENGAGEMENT AND ANALYSIS

The fall phase included targeted focus groups, workshops, and a student-led initiative at Cary-Grove High School to analyze community feedback. Discussions highlighted specific challenges such as connectivity gaps between municipalities, safety on rural roadways, and hazards near schools that endanger children and other vulnerable populations. These interactive sessions enabled stakeholders to collaborate on solutions and explore innovative strategies tailored to local needs.

FEEDBACK VALIDATION AND PRIORITIZATION

Stakeholders reconvened to review findings from the earlier phases, ensuring that recommendations aligned with community needs and priorities. The validation process emphasized critical areas for intervention, such as enhancing pedestrian and cyclist safety, addressing school zone hazards, and mitigating risks at high-injury locations. By prioritizing these projects, the group sought to create a clear roadmap for actionable improvements that could generate immediate and long-term benefits.

IMPLEMENTATION AND CONTINUOUS ENGAGEMENT

The final steering committee meeting served to finalize the plan's recommendations and outline actionable next steps for implementation. A framework was established to ensure solutions are feasible and adaptable to the evolving needs of the community.

AWARENESS & OUTREACH

SPRING 2024

The public engagement process began in May 2024 with the inaugural steering committee meeting, which introduced the plan's objectives and emphasized the need for traffic safety improvements. Outreach efforts included social media campaigns, email blasts, and community announcements to inform the public about upcoming engagement opportunities.



DATA COLLECTION

SUMMER 2024

During the summer months, the project team focused on gathering input through surveys and an interactive Safety Hotspots Map. The virtual open house allowed attendees to share their concerns, experiences, and ideas.



INTERACTIVE ENGAGEMENT

FALL 2024

In the fall of 2024, detailed discussions and workshops were conducted to analyze community feedback and identify key issues. Focus groups with specific stakeholder groups, such as cyclists, older adults, and the agricultural community, provided insights into unique safety challenges, while the Cary-Grove High School workshop involved students in collecting and analyzing traffic safety data.



FEEDBACK VALIDATION

WINTER 2024

By December 2024, the project team presented findings and prioritized safety issues with stakeholders and the public. Steering committee meetings and focus groups validated key recommendations, such as improving school zone safety, expanding bike and pedestrian infrastructure, and addressing high-injury locations.



IMPLEMENTATION & CONTINUOUS ENGAGEMENT

WINTER 2025

The public engagement process culminated in January 2025 with the final steering committee meeting to review recommendations and proposed projects. Discussions emphasized solutions, feasibility, and community ownership to ensure the long-term success of the Safety Action Plan.



EVENTS & ACTIVITIES

This section provides summaries of the events and activities that occurred throughout the safety action planning process to ensure the plan and its recommendations meet the needs of community members.

STEERING COMMITTEE MEETINGS

Three steering committee meetings were held throughout the safety action planning process to engage key community stakeholders and screen proposed recommendations.

PARTICIPANTS

The steering committee acted as a representation of stakeholders throughout McHenry County, who provided feedback and promoted engagement efforts during the safety action planning process. The steering committee was comprised of individuals from the following agencies and organizations:

- » City of Woodstock
 - » Community High School District 155
 - » Grafton Township
 - » Greenwood Township & Highway Commissioners of Illinois
 - » Home of the Sparrow
 - » HR Green
 - » IDOT
 - » IL Migrant Council
 - » McHenry County Bicycle Advocates
 - » McHenry County Council of Governments (MCCOG)
- » McHenry County Council of Mayors (MCCOM)
 - » McHenry County Department of Health
 - » McHenry County Sheriff’s Office
 - » McHenry Township
 - » Metra
 - » PFLAG McHenry
 - » Senior Services Associates
 - » The BREAK
 - » Village of Cary
 - » Village of Marengo
 - » Village of Richmond

IMAGE 8: POP-UP BOOTH AT CARY MAIN STREET FEST



MEETING SUMMARIES

MEETING #1

The first steering committee meeting for the McHenry County Safety Action Plan was held at the Community Foundation of McHenry County and virtually via Microsoft Teams. The meeting was held on May 29, 2024. The project team introduced the plan’s objectives, emphasizing the urgent need for safety measures due to rising traffic volumes and crash rates. Key goals were outlined, including eliminating fatalities, promoting active transportation, and enhancing roadway infrastructure to accommodate vulnerable road users (VRUs). The committee reviewed crash data insights, noting peak incidents during commuting hours and higher severity in rural areas. Strategies such as tactical urbanism demonstrations and a Vision Zero commitment were discussed as key steps toward safer roads.

During the discussion, stakeholders identified key safety concerns such as mid-block crosswalk enforcement, school zone safety, and the rise of electric scooters and e-bikes. Suggestions included leveraging partnerships with local organizations and engaging the public through interactive tools like maps and focus groups.

MEETING #2

The second steering committee meeting, conducted virtually on September 24, 2024, focused on presenting preliminary crash data findings, outlining engagement opportunities, and discussing the funding and implementation timeline. Using an interactive Mentimeter tool, the project team gathered input on priorities for community engagement and infrastructure improvements. Key feedback highlighted the need to involve focus groups, including students, older adults, low-income residents, and emergency services. Participants proposed using both digital (e.g., social media, dashboards) and physical (e.g., crash site signage) methods to communicate safety concerns effectively.

Committee members advocated for infrastructure enhancements like shared-use paths, bike lanes, and roundabouts, alongside policies such as lowering urban speed limits to 25 mph and incorporating emergency vehicle preemption systems. Specific locations requiring safety improvements, such as Cary-Algonquin Road and Three Oaks Road, were identified. The session concluded with a strong emphasis on designing roads for safer speeds and fostering community ownership of the plan through engagement.

MEETING #3

The third and final steering committee meeting was held virtually on January 22, 2025. The agenda included a summary of community engagement activities, survey results, and an analysis of the interactive map highlighting high-priority areas. Results from a high school workshop and an introduction to roadway typologies set the foundation for understanding local challenges. Discussions also focused on proposed project lists, prioritization criteria, and actionable policies and programs to address safety concerns across all transportation modes.

Key topics included safety concerns for pedestrians and cyclists, with survey respondents emphasizing the need for improved crosswalks, bike lanes, and traffic-calming measures. Infrastructure improvements such as better lighting, sidewalk connectivity, and speed management emerged as top priorities. The roadway typologies analysis highlighted specific issues on rural roads, residential collectors, and areas near schools, providing a framework for tailored safety solutions. The committee also reviewed findings from the Cary-Grove High School workshop, which underscored the importance of youth perspectives in addressing safety near schools. The meeting concluded with discussions on balancing feasibility and project prioritization.

VIRTUAL OPEN HOUSE

A virtual open house was held to introduce the McHenry County Safety Action Plan and collect feedback and concerns from community members.

To kickstart the McHenry County Safety Action Plan, the project team hosted a virtual open house on June 11th, from 4:00 p.m. to 7:00 p.m., inviting community members to contribute their perspectives and experiences regarding traffic safety in McHenry County. The virtual open house was designed to allow attendees the flexibility to join at any time during the event. It was advertised through social media, email blasts, newsletters, and mentions during meetings, ensuring broad awareness and accessibility. The session saw a turnout of eight attendees from the public, all of whom heard about the event through social media. The event featured three breakout rooms: Share Your Safety Story & Concerns, Vulnerable Road Users, and Chat with the Experts. Attendees were encouraged to visit each breakout room in order to provide comprehensive feedback, share their experiences, and engage in discussions with experts. Feedback was recorded using digital whiteboards, which were displayed for all participants to view.

In the Share Your Stories & Concerns breakout room, participants raised issues related to speed reduction, farm equipment interactions, accessibility for older adults and people with disabilities, lack of crosswalks, and unsafe road designs. Concerns included state highways prioritizing vehicles over vulnerable users, limited bicycle infrastructure, pedestrian safety at roundabouts, and lack of coordination between jurisdictions. Participants suggested improvements like traffic calming, more pedestrian crossings, better trail connections, protected bike lanes, promoting cycling culture, Vision Zero, and expanding public transit. Specific areas needing attention include downtown areas, unincorporated areas, and connections to parks and schools.

In the Vulnerable Road User Feedback breakout room, participants shared concerns from the perspective of pedestrians and bicyclists. Key issues included a lack of post-crash analysis, dangerous conditions for vulnerable road users across the county, and the need for education on roles, responsibilities, and the use of RRFBs. Safe routes to schools, like Cary-Grove High School, are also a challenge. Suggestions included campaigns like Stop Look Listen, more bike infrastructure, promoting cycling as transportation, and updating roadway design guides. Specific locations of concern were IL 47 (Woodstock), Tryon Grove Road & US 12, Three Oaks Road & Elden Drive, Silver Lake & Cary-Algonquin Road, and IL 176 & Walkup Avenue/ Main Street.

In the Chat with the Experts breakout room, discussion centered around the technical side of implementing countermeasures. Discussion points included exploring ways to reduce turning radii at intersections, considering banning right turns on red, encouraging people to switch to active transportation modes, emphasizing the cost savings from not driving, reducing speed limits, addressing issues with pedestrian crossings not working, and making crosswalks safer to inherently slow down cars. Other needs included enhancing connectivity county-wide, increasing and improving signage to bring attention to alternative transportation modes, implementing more pedestrian infrastructure, and extending crossing times for pedestrians. While the turnout was lower than expected, the extent of feedback far exceeded expectations. This provided the project team with a range of stories, concerns, and ideas to incorporate within the McHenry County Safety Action Plan. The most extensive conversation centered around expanding and bridging pedestrian and bicyclist connectivity through implementing new infrastructure and improving existing infrastructure, slowing down drivers through speed reduction and traffic calming measures, and shifting traditional perspectives on road design, designated road users, driving behaviors, mode shift, and general roadway safety to safer, multimodal standards.

SURVEY & INTERACTIVE MAP

A survey and interactive map were available on the project website for public input from Fall 2024 to Spring 2025.

COMMUNITY SURVEY

From September 2024 to March 2025, the survey received 95 responses, representing a range of communities within McHenry County. The majority of respondents provided zip codes in Huntley, Cary, Richmond, Crystal Lake, Woodstock, and Lake in the Hills, showcasing broad geographic representation across the county. Respondents overwhelmingly indicated they get around by car most of the time, with nearly all (96.8%) confirming reliable access to a car. Other transportation modes, such as biking, walking, or public transit, were significantly less common.

TRAFFIC SAFETY CONCERNS

Bicyclists and children emerged as the groups of highest concern for traffic safety in McHenry County, with nearly half of respondents rating these groups as "very concerned." Concerns for pedestrians and roadway workers also ranked highly, reflecting the community's emphasis on protecting vulnerable road users. In terms of personal safety, most respondents reported feeling safe while driving but unsafe while biking or scootering. Safety perceptions for walking varied, reflecting mixed experiences depending on local infrastructure.

When asked about specific traffic safety concerns while walking, using a mobility assistance device, or biking, the most frequently cited issues included:

- » Distracted or impaired driving (20.0%),
- » Speeding or aggressive driving (16.8%), and
- » Drivers not yielding the right of way to pedestrians (16.0%).

Similarly, the most common concerns while driving were:

- » Distracted or impaired driving (25.9%),
- » Speeding or aggressive driving (23.7%), and
- » Drivers not following traffic signals (16.4%).

These results point to a strong emphasis on driver behavior as a critical factor in improving roadway safety, regardless of how people are traveling.

PRIORITIES FOR SAFETY IMPROVEMENTS

Respondents identified the top three transportation safety priorities for McHenry County as:

- » More physical separation between people walking/biking and vehicles (16.2%),
- » Roadways designed to slow drivers and reduce serious crashes (14.7%), and
- » More sidewalks and safer crosswalks (13.6%).

In alignment with these priorities, the top-ranked safety initiatives included:

- » Maintenance of existing infrastructure (e.g., repairing roads, sidewalks, and bike lanes),
- » Expansion of infrastructure (e.g., building new bike lanes, sidewalks, and roads), and
- » Safety enhancements (e.g., improved signage, lighting, and crosswalks).

COMMUNITY FEEDBACK AND RECOMMENDATIONS

Survey comments emphasized the need for safer, separated, and connected pedestrian and bicyclist facilities. Gaps in the existing network, poorly maintained infrastructure, and insufficient enforcement of traffic laws were commonly cited as barriers. Specific areas, such as intersections lacking crosswalks or neighborhoods disconnected from key destinations, were frequently mentioned.

FOR FULL SURVEY RESULTS, VISIT  **APPENDIX A6: ENGAGEMENT RESULTS**

INTERACTIVE MAP

In total, there were over 388 comments in the interactive map, identifying safety concerns related to intersections, roads, sidewalks, and bike paths. These comments reflect the lived experiences of residents who regularly encounter hazardous conditions while walking, biking, or driving. The submissions span various categories such as unsafe intersections, speeding, and inaccessible infrastructure, and they highlight recurring issues like poor visibility, lack of traffic control, and disconnected or inadequate pathways.

DANGEROUS INTERSECTIONS

Dangerous intersections dominate the comments, appearing in over 150 entries. Specific hotspots include the intersection of IL 31 and IL 176, where visibility challenges and high-speed traffic create hazardous conditions. Route 14 at Main Street is another high-risk area frequently mentioned, with confusing lane markings and high speeds leading to numerous crashes and near-misses. Other locations, like the intersection of Pyott Road and Algonquin Road, are noted for poor signage and lack of pedestrian infrastructure, such as crosswalks or pedestrian signals.

SPEEDING AND TRAFFIC ENFORCEMENT

Speeding is a recurring theme, appearing in over 100 comments, with particular concerns raised in residential areas and school zones. Streets such as Miller Road, Sandbloom Road, and East Main Street are repeatedly highlighted for excessive speeding and a lack of enforcement. Route 14 and Cary-Algonquin Road are cited for high-speed traffic, particularly near intersections and blind curves. Contributors frequently request traffic-calming measures such as speed bumps, radar speed signs, and increased police enforcement, especially in areas frequented by children and cyclists.

INCOMPLETE AND UNSAFE BIKE PATHS

Comments about bike paths appear in approximately 75 entries, focusing on both incomplete connections and unsafe conditions. Locations such as Prairie Trail, Cary-Algonquin Road, and Three Oaks Road are identified as critical gaps in the bike network. Abrupt path endings, such as those at Hoffman Park or the Prairie Trail near Cary Lake, force cyclists onto busy roads like IL 31, which are unsafe due to high speeds and lack of bike lanes. Residents frequently suggest extending bike paths, adding protected bike lanes, and ensuring safer crossings at intersections.

INCOMPLETE AND UNSAFE BIKE PATHS

Over 80 comments highlight issues with pedestrian infrastructure, with specific focus areas including IL 31, Route 14, and Three Oaks Road. Sidewalks ending abruptly, such as on Edgewood Drive or Sandbloom Road, leave pedestrians navigating busy streets with little protection. Crosswalks are often absent or poorly marked, as seen at key intersections like IL 31 and Three Oaks or Cary-Algonquin Road and Klasen Road. Many residents call for improvements such as extending sidewalks, installing pedestrian signals, and adding protective barriers between sidewalks and traffic lanes, particularly near schools, parks, and commercial centers.

INCOMPLETE AND UNSAFE BIKE PATHS

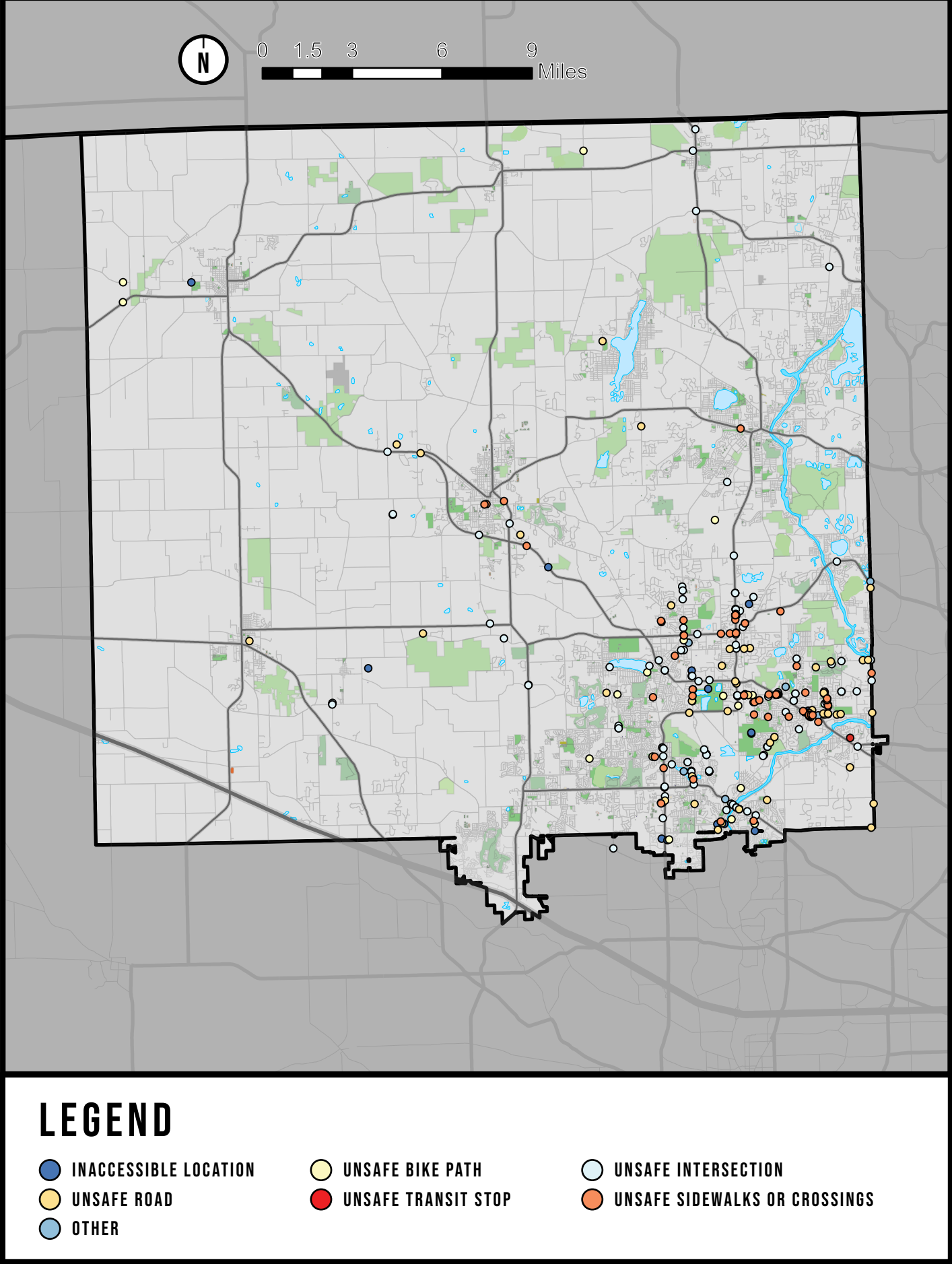
Approximately 60 comments focus on residential neighborhoods and school zones, highlighting unsafe conditions for children and families. Streets near schools, like Bunker Hill Road and Woodview Drive, often lack crosswalks or traffic-calming measures, making it dangerous for students to walk or bike. Residential streets such as Hilltop Drive and Leonard Parkway are noted for speeding and poor visibility due to landscaping or blind curves. Residents suggest adding flashing school zone signage, speed bumps, and stop signs.

LOCATIONS OF SPECIFIC INTEREST AND COMMUNITY FRUSTRATION

Certain locations receive repeated mentions across multiple themes, including the IL 31 and IL 176 intersection, Cary-Algonquin Road, and Route 14 at Main Street. These areas are highlighted not only for their dangerous conditions but also for community frustration over perceived inaction. Many comments express dissatisfaction with the lack of progress on promised safety improvements, such as the delayed installation of a traffic signal at a key intersection near Woodlore Estates. These recurring concerns underscore the importance of prioritizing these hotspots in future planning and communicating clearly with residents about steps being taken to address their safety needs.

FOR ALL MAP COMMENTS, VISIT [APPENDIX A6: ENGAGEMENT RESULTS](#)

IMAGE 9: INTERACTIVE MAP COMMENTS



FOCUS GROUPS

Focus groups occurred during the fall and winter of 2024 and consisted of small-group discussions tailored to specific community demographics or interest groups to gain in-depth insights into localized roadway safety concerns and gather recommendations for improvements.

HIGH SCHOOL SAFETY ACTION WORKSHOP

The project team initiated a safety action planning workshop for students in AP Human Geography and AP Statistics classes at Cary-Grove High School. The workshop provided students with the opportunity to identify safety risks and to propose countermeasures and interventions to make it safer to travel to, from, and around the school campus.

WORKSHOP KICKOFF & INTRODUCTION TO SAFETY PLANNING (OCTOBER 9, 2024)

The first day involved the AP Human Geography and AP Statistics classes to kick off the safety action workshop. The project team introduced the McHenry County Safety Action Plan, provided an overview of the workshop, and discussed roadway infrastructure, policies, and programs with the students. Provided with lunch, the students actively engaged in conversation on these topics, specifically interested in the countermeasures to decrease serious and fatal crashes.

SURVEY DESIGN & TRAFFIC COUNT ADMINISTRATION (OCTOBER 10, 2024)

On the second day of the workshop, the project team presented on types of survey questions, how to conduct a traffic count, and how to distill response data with the AP Statistics class. The students created online surveys and distributed to their fellow classmates, teachers, and school staff. The surveys received over 300 total responses. Later in the week, AP Statistics students administered traffic counts in increments of 30 to 45 minutes before and after school at several entrances around the school campus. The students provided summary statistics of the collected data, which the AP Human Geography class would then take to provide recommendations.

The traffic count data at Cary-Grove High School highlights significant vehicle and pedestrian activity during key times of the day, particularly around the faculty parking lot entrance, the main school entrance, and the intersection of First Street and Three Oaks Road. The highest volume of cars was observed during morning drop-off (6:45–7:30 a.m.) and lunch hours (11:35 a.m. – 12:20 p.m.), with counts exceeding 800 vehicles at certain locations. Pedestrian traffic peaked at the same times, especially at the main entrance, though bicycle usage remained minimal throughout the day, with counts rarely exceeding single digits. Trucks and buses also contributed to traffic, particularly near the First Street and Three Oaks Road intersection.

The survey results highlighted several key safety concerns and preferences among students, focusing on the immediate area around Cary-Grove High School. A significant number of students identified the intersection of Three Oaks Road and Elden Drive as a particularly unsafe location for pedestrians, with over one-quarter rating it as "very unsafe" or "somewhat unsafe." Additionally, many students reported unsafe situations in the school parking lots, citing instances of speeding and poor observance of right-of-way rules. Speeding along Three Oaks Road and First Street was another common concern, with many respondents noting vehicles frequently exceed safe speeds when leaving school. These observations emphasize the need for measures such as traffic calming and enhanced enforcement.

Students also expressed support for specific safety improvements. For example, over 60% of surveyed students favored adding buffered bike lanes on Three Oaks Road to encourage biking to school and reduce traffic congestion. A Rectangular Rapid Flashing Beacon (RRFB) was supported by 77.3% of respondents for the crosswalk near Holy Cross Lutheran Church, indicating strong enthusiasm for pedestrian-focused improvements. However, a majority opposed adding a roundabout at Three Oaks Road and First Street, instead favoring measures such as "No Turn on Red" policies and raised crosswalks. These findings underscore the need for targeted safety enhancements that align with student preferences and address high-risk areas effectively.

FINAL POLICY & INFRASTRUCTURE RECOMMENDATIONS (DECEMBER 4, 2024)

After several weeks of collecting and analyzing data and building out the recommendations, students presented their final policy and infrastructure recommendations to the project team, Village of Cary staff, and Community High School District 155 administration. Recommendations included buffered bike lanes on Three Oaks Road, No Right on Red policies at Three Oaks Road and First Street, raised crosswalks and RRFBs at student entrances, and automated speed enforcement. Students passionately shared their rationale behind the recommendations, including survey results and traffic counts, as well as why other recommendations did not make the cut. Overall, students provided a comprehensive strategy to improve traffic safety around Cary-Grove High School.

KEY RECOMMENDATIONS

Students from Cary-Grove High School emphasized the need for safer infrastructure around the school, especially for pedestrians and cyclists. One key recommendation was the installation of **buffered bike lanes on Three Oaks Road** and First Street, which received strong student support (over 60%) in surveys. Additionally, students suggested **raised crosswalks at key intersections such as Three Oaks Road/Elden Drive and Three Oaks/First Street**, as these intersections were deemed particularly unsafe. For instance, more than 25% of students rated the crossing at Elden Drive as either very unsafe or somewhat unsafe.

Students also advocated for implementing **automated speed enforcement within the school zone**, citing its potential to curb speeding without requiring law enforcement presence. Other recommendations included a **"No Turn on Red" policy at the Three Oaks Road and First Street intersection** to address pedestrian-vehicle conflicts and **installing a Rectangular Rapid Flashing Beacon (RRFB) between Holy Cross Lutheran Church and the school entrance**, which was supported by 77.3% of surveyed students.



MCHENRY COUNTY BICYCLE ADVOCATES

On October 23, 2024, a virtual focus group was hosted with members of the McHenry County Bicycle Club and McHenry County Bicycle Advocates to discuss cycling issues and advocate for safer, more accessible non-motorized transportation and recreation options across McHenry County. The session emphasized the unique challenges cyclists face as vulnerable road users, particularly the distinctions between cycling in urban and rural environments.

Discussion centered around the prominence of impaired driving in McHenry County, Complete Streets policies, bikeable shoulders, and regulating usage of e-bikes. Based on interest of the focus group, the McHenry County Bicycle Club was encouraged to reach out to local and state officials to advocate for changes to policy and infrastructure.

An overarching concern throughout the discussion was missing bicycle connections to municipalities and parks across the county. Specifically, the McHenry County Bicycle Club identified the following missing connections for cyclists:

- » Connections from Cary to Crystal Lake to Woodstock
- » Connections across Woodstock
- » Connect Lippold Park to Oak St. and McHenry County College
- » Connect New Haven Dr. to IL 31

Additionally, the McHenry County Bicycle Club identified the following intersections as safety concerns:

- » Algonquin Rd. & Longmeadow Pkwy.
- » IL 31 & Three Oaks Rd.
- » IL 47 & Lucas Rd.
- » IL 47 & Union Rd.

MCHENRY COUNTY CONSERVATION DISTRICT

On November 4, 2024, a virtual focus group was held with planning staff members from the McHenry County Conservation District (MCCD) to discuss safety and accessibility improvements for natural areas and trails across the county. The MCCD, which is dedicated to preserving, restoring, and managing natural areas and open spaces for current and future generations, represented the interests of trail users, including pedestrians, snowmobilers, equestrians, and drivers who visit nature preserves. Discussions focused on connecting trails, parks, and schools; improving safety at trailheads and conservation area entrances; and maintaining existing trail and park infrastructure.

MCCD staff emphasized the need for safer roadway entrances and trail crossings, along with general trail improvements such as adding lighting and wayfinding signage. Specific areas of concern included entrances to Exner Marsh, Fel-Pro RRR, Glacial Park, Kishwaukee Headwaters, Pleasant Valley, and The Hollows conservation areas, as well as critical trail crossings like the Hebron Trail at Lange Road, HUM Trail, Prairie Trail at Bull Valley Road, and Ridgefield Trace at US 14. Additionally, roadways and intersections such as Cary-Algonquin Road at Cold Springs and Klasen Roads, IL 173, and Pioneer Road were highlighted as safety priorities. These concerns underscored the need for targeted improvements to enhance safety and connectivity, ensuring natural spaces remain accessible and secure for all community members.

SENIOR CARE VOLUNTEER NETWORK

On November 5, 2024, a virtual focus group was hosted with representatives from the Senior Care Volunteer Network to address transportation concerns and challenges faced by older adults in McHenry County. The non-profit organization, whose mission is to support senior neighbors living independently, connects community volunteers with seniors requiring assistance to maintain their dignity and quality of life at no cost. This session provided valuable representation for older adults as transit users.

Transportation issues discussed centered on the challenges older adults face with the integration of technology for booking and paying for transit services. While advancements have streamlined processes for many, older adults and those without access to digital tools are often excluded as manual methods, such as phone-based booking, become less common. Retaining accessible booking options is critical, as many seniors prefer to call for services or lack the ability to navigate online systems. Additionally, outreach efforts should target the children of older adults, who often assist with scheduling transportation.

VILLAGE OF RICHMOND & VILLAGE OF RICHMOND POLICE DEPARTMENT

On November 7, 2024, a virtual focus group was held with representatives from the Village of Richmond and the Richmond Police Department. With a population of just over 2,000, Richmond is located in northern McHenry County near the Wisconsin border. Although Richmond does not experience a high number of roadway fatalities, it has one of the highest crash rates in the county. This focus group represented the unique concerns faced by smaller, high-traffic communities within the county, as well as the perspectives of emergency services.

The discussion centered on the need to slow traffic through downtown Richmond, collaborate with other jurisdictions to implement safety improvements, and advocate for additional resources for the village. Specific intersections identified as safety concerns included Broadway Road & IL 173, Tryon Grove Road & Prairie Trail crossing, US 12 & Burlington Road, and US 12 & IL 173.

MCHENRY COUNTY FARM BUREAU

On November 11, 2024, an in-person focus group was held in conjunction with the McHenry County Farm Bureau's regular Board meeting. The McHenry County Farm Bureau, a non-profit membership organization, advocates for its members on issues such as trade, transportation, education, renewable fuels, land use, taxes, and government regulation, while also offering educational events, seminars, and tours. This session provided valuable insights from the agricultural community, focusing on the unique transportation and safety needs of rural roadways.

Key recommendations from the meeting emphasized the importance of properly constructing roundabouts to accommodate farm equipment and large trucks, increasing road shoulder widths to enhance safety, and further enforcing speed limits on rural roads to reduce high-speed incidents. Participants also suggested creating pull-off areas for farm equipment to allow safer interactions between slow-moving vehicles and regular traffic. Additionally, they advocated for further education for drivers, particularly new and young drivers, on how to operate safely around farm equipment on the road. These recommendations address critical safety and operational needs, aiming to improve road safety and accommodate the unique demands of McHenry County's rural and agricultural areas.

SUN CITY WALKING & BICYCLING CLUB

On December 12, 2024, an in-person focus group was held at the Huntley Public Library with residents of Sun City, a 55+ community located in Huntley, including members of the Bicycle Club and other frequent walkers. The discussion addressed safety and connectivity concerns for pedestrians and cyclists within the community and surrounding areas. Participants expressed an overarching need for enhanced education on the rules of the road for all users, highlighting the importance of ensuring that everyone understands how to share roads and pathways safely.

A key topic was the lack of connectivity between the Huntley-Union-Marengo (HUM) Trail and Huntley, with participants advocating for the trail's extension to improve access and mobility. Concerns were also raised about the increasing presence of e-bikes and the need for clear regulations on their class and speed throughout the county. Participants supported the addition of speed and wayfinding signage to guide e-bike riders and promote safe interactions on shared paths.

Within Del Webb, residents called for a road diet on boulevards like Del Webb Boulevard, citing issues with speeding and blind intersections. They suggested that the reclaimed space could be used for separated pedestrian and bicycle infrastructure, pointing to Bunker Hill Road as a good model. The Sun City Walking & Biking Club also identified specific safety concerns, including intersections such as Cold Springs Drive/Farm Hill Drive to Regency Parkway to Princeton Drive, Huntley-Dundee Road & Kreutzer Road, and IL 47 & Del Webb Boulevard. Additional issues included the lack of a multi-use path connection on Longmeadow Parkway/Huntley-Dundee Road and the incomplete sidewalk network along Main Street near Reed Road. These areas were emphasized as priorities for safety improvements and infrastructure upgrades to better serve the Sun City community and neighboring areas.

WHAT WE HEARD

The What We Heard section highlights significant patterns and insights gathered through community feedback and public engagement, emphasizing prevalent safety concerns and high-risk areas within McHenry County. These insights reflect the voices of residents and stakeholders, serving as the foundation for developing targeted strategies and interventions to enhance traffic safety and reduce roadway incidents.

OVERVIEW

The McHenry County Safety Action Plan highlights significant safety concerns for pedestrians and bicyclists, with distracted driving, speeding, and inadequate infrastructure as top issues. Public feedback emphasized the need for safer crossings, separated bike lanes, and connectivity improvements, particularly in high-traffic areas. The plan aligns with Vision Zero principles, prioritizing targeted interventions, multimodal infrastructure, and solutions to reduce fatalities and enhance road safety for all users.

01

DISTRACTED DRIVING

Distracted driving emerged as the top safety issue across surveys and focus groups, with 70% of respondents identifying it as a critical concern. Participants highlighted that distractions like mobile phone use and in-vehicle technologies significantly increase crash risks, particularly in high-traffic and pedestrian-heavy areas.

02

RURAL ROAD CHALLENGES

Rural roads face unique safety challenges due to farm vehicles, narrow shoulders, and wildlife crossings, which contribute to a higher rate of severe crashes. Addressing these issues requires design solutions such as wider shoulders, pull-off areas for slow-moving vehicles, and better signage to warn drivers of potential hazards.

03

INTERSECTION SAFETY

Unsafe intersections were the most frequently identified issue on the Safety Hotspots Map, with specific concerns about high-speed traffic, poor visibility, and inadequate infrastructure for pedestrians and cyclists. Many intersections lack proper signalization or markings, making them difficult to navigate safely for all road users.

04

SPEEDING

Speeding was identified as a major issue in both urban and suburban areas, particularly near schools, residential neighborhoods, and downtown districts. Community members expressed that excessive speeds not only endanger pedestrians and cyclists but also increase the severity of crashes.

05

VULNERABLE ROAD USER SAFETY

Pedestrians and bicyclists were consistently viewed as the most at-risk road users, with significant concerns about their safety due to high vehicle speeds, distracted driving, and insufficient infrastructure. Focus groups emphasized the importance of protected bike lanes and well-lit, accessible pedestrian crossings to address these vulnerabilities.

06

ACTIVE TRANSPORTATION FACILITY CONNECTIVITY

Connecting trails and parks to surrounding neighborhoods and commercial areas was highlighted as a priority to enhance accessibility for recreational and transportation purposes. Participants stressed that gaps in the trail network discourage active transportation and limit opportunities for safe, enjoyable outdoor activities.

07

PUBLIC TRANSIT CONNECTIVITY

Older adults and low-income residents emphasized the challenges of accessing transit services, citing the need for simpler booking systems and better first- and last-mile connectivity. Many participants advocated for retaining phone-based systems and improving transit routes to serve rural areas more effectively.

08

TRAFFIC CALMING MEASURES

Traffic calming strategies were widely supported to address speeding and improve safety in neighborhoods and school zones. Suggestions included implementing speed humps, narrowing travel lanes, and constructing roundabouts to slow down vehicles and create safer environments for all road users.

09

EDUCATION AND AWARENESS CAMPAIGNS

Community members proposed educational campaigns to improve road safety by teaching drivers, cyclists, and pedestrians about their responsibilities and safe behaviors. They also emphasized promoting active transportation as a practical alternative to driving, particularly in urban and suburban areas.

10

HIGH-INJURY LOCATIONS

High-injury locations such as Cary-Algonquin Road, IL 47, and Three Oaks Road were repeatedly identified as priority areas for safety enhancements due to high crash rates and dangerous conditions for all road users. Participants emphasized the need for targeted interventions like better signalization, traffic calming measures, and improved pedestrian and cyclist infrastructure at these critical sites.

4

DATA COLLECTION & ANALYSIS

THIS CHAPTER WILL EXPLORE THE ANALYSIS OF EXISTING CONDITIONS, HISTORICAL CRASH TRENDS, AND SYSTEMIC SAFETY NEEDS ACROSS ALL ROADWAYS WITHIN A JURISDICTION, FOCUSING ON FATALITIES, SERIOUS INJURIES, CONTRIBUTING FACTORS, AND THE IDENTIFICATION OF HIGH-RISK LOCATIONS THROUGH A GEOSPATIAL HIGH-INJURY NETWORK.



TRAVEL PATTERNS

Analysis into the intricacies of how individuals move within McHenry County, offering insights into commuting habits, mode choices, and trip purposes. By analyzing these patterns, transportation planners can better understand the region's mobility needs and tailor interventions to enhance accessibility and efficiency.

31.3 MINUTES

is the average commute time for McHenry County workers.

ONLY 29.8%

of workers live and work within the county.

50,000 USERS

travel on Randall Road daily.

15% OF FATALITIES

of all crashes are pedestrians and bicyclists, despite making up a small fraction of road users.

80% OF RESIDENTS

support increased investment in road safety measures.

Analyzing travel patterns is essential for enhancing transportation safety, providing crucial insights that help urban planners and policymakers make informed decisions. By delving into the specifics of how, when, and where people travel, these professionals can identify areas and times that are prone to crashes. Detailed data on commuting times, for instance, highlights the busiest travel periods, guiding the development of efficient traffic control systems and the optimization of public transit schedules to alleviate peak-time pressure. Additionally, understanding the preferred modes of commuting, such as car, carpool, or public transit, can help in tailoring infrastructure and services to better suit the needs of commuters. This kind of analysis not only assists in evaluating the current state of transportation infrastructure but also plays a pivotal role in planning for a future without roadway fatalities and serious injuries.

Looking at the tables on the following page, it shows there are significant differences in commuting behaviors across counties in the region. For example, McHenry County shows a balance between residents commuting in and out, with a substantial portion of its workforce commuting under 20 minutes, primarily by car or carpool. In contrast, Cook County, with a much larger workforce, has a higher reliance on public transit alongside a notable fraction commuting for 40 minutes or more.

Furthermore, the data points to the interconnectedness of neighboring counties, as seen from the numbers of commuters crossing county lines for work. In counties like DuPage and Lake, a large number of residents commute into other Illinois counties, suggesting that regional transportation strategies could be beneficial. Improving cross-county connectivity, perhaps through better public transit links or managed carpooling systems, could reduce travel times, alleviate road congestion, and ultimately contribute to a safer commuting environment. Such strategic planning must be informed by comprehensive travel data to ensure that resources are allocated effectively and that the solutions implemented truly reflect the needs of all roadway users.

TABLE 2: COMMUTING TIME & MEANS

In McHenry County, the majority of residents commute to work, with 97,326 people traveling to their jobs and only 7,955 working from home. Most commuters have short travel times; 46,041 people spend less than 20 minutes on their commute, while 33,358 spend between 20 and 39 minutes. The predominant commuting method is driving or carpooling, with 93,745 individuals using these modes. Fewer residents walk, bike, or use public transportation.

County	Total Workers in County	Work From Home	Commute to Work	Commuting Time (Minutes)			Means of Commuting			
				Less Than 20	20-39	40 or More	Car or Carpool	Walk/ Bicycle	Public Transit	Other
McHenry	105,281	7.6%	92.4%	43.7%	31.7%	17.0%	89.0%	2.0%	0.7%	0.7%
Cook	2,548,696	3.7%	96.3%	24.9%	36.4%	34.9%	71.3%	4.9%	18.8%	1.3%
DuPage	554,398	3.9%	96.1%	31.2%	37.2%	27.6%	92.7%	1.8%	0.8%	0.8%
Kane	209,339	5.3%	94.7%	39.5%	35.2%	20.0%	90.9%	1.8%	0.9%	1.2%
Kendall	29,781	8.0%	92.0%	43.4%	34.8%	13.8%	89.6%	1.1%	0.3%	1.0%
Lake	353,958	6.1%	93.9%	32.8%	34.7%	26.3%	87.9%	3.1%	1.9%	1.0%
Will	237,525	5.4%	94.6%	37.9%	36.6%	20.2%	91.5%	1.2%	0.8%	1.2%

TABLE 3: COMMUTING MIGRATION TRENDS

McHenry County's commuting patterns depict a dynamic interaction, with 77,111 of its 150,887 working residents remaining in McHenry County. The county has more working residents than jobs, with 28,170 entering and 70,659 exiting for work, underscoring its dual role mainly as a place to live but also as a job destination. This complex pattern highlights the need for tailored transportation strategies that address both local mobility and efficient regional connectivity to meet the commuting requirements of its residents.

County	Total Workers in County	Total Employed Residents	Work and Live in Resident County	Commute in From Out of the County				Commute Out of the County			
				From Other IL County	Indiana	Wisconsin	Other	To Other IL County	Indiana	Wisconsin	Other
McHenry	105,281	150,887	77,111	23,475	68	4,208	419	70,560	117	2,200	899
Cook	2,548,696	2,364,074	2,057,967	406,650	52,599	8,875	22,605	273,269	16,507	3,359	12,972
DuPage	554,398	461,643	274,956	271,986	2,690	1,275	3,491	181,817	747	539	3,584
Kane	209,339	242,560	127,424	80,341	195	438	941	112,808	206	481	1,641
Kendall	29,781	56,825	16,135	13,507	37	65	37	40,215	29	19	427
Lake	353,958	337,985	233,253	96,761	505	20,231	3,208	95,275	305	6,765	2,387
Will	237,525	316,970	150,329	81,147	4,755	173	1,121	161,648	2,852	207	1,934

SAFETY ANALYSIS

An examination of crashes within McHenry County, utilizing data-driven methods to identify patterns, high-risk areas, and demographic factors influencing road safety. This analysis forms the foundation for developing targeted interventions and policies aimed at reducing fatalities and injuries, ensuring a safer transportation environment for all community members.

OVERVIEW

The McHenry County Safety Analysis investigates traffic-related incidents from 2018 to 2022, highlighting prevalent crash types such as front-to-rear collisions and fixed-object crashes. It examines key factors contributing to these incidents, including speed, congestion, and failure to yield, and identifies that most crashes occur during daylight and on dry roads. Additionally, the analysis focuses on the High Injury Network (HIN) areas, which highlight where a disproportionately high number of serious injuries and fatalities occur on roadways.

PURPOSE

The primary purpose of the McHenry County Safety Analysis is to provide local government agencies, policymakers, and community stakeholders with critical insights into road safety conditions within the county. By identifying key areas and factors where interventions could reduce fatal and serious injury crashes, the analysis guides resource allocation and policy development, ensuring efforts are strategic and evidence-based. It emphasizes the importance of considering socio-economic factors in road safety planning, aiming to engage the community in the road safety improvement process. Additionally, the analysis establishes a benchmark for measuring the impact of future safety interventions, promoting continuous improvement in road safety strategies to create a safer transportation environment for all residents.

IMAGE 11: DOWNTOWN PEDESTRIAN CROSSING

MARENGO, IL



THE SAFETY ANALYSIS IS COMPRISED OF THE THREE FOLLOWING SECTIONS:

EXISTING CONDITIONS ANALYSIS

The Existing Conditions Analysis examines historical crash data to identify recurring issues and hotspots throughout the road network in McHenry County. This deep dive into patterns and trends provides essential insights into the factors contributing to road safety challenges, allowing for targeted solutions.

SYSTEMIC ANALYSIS

The Systemic Analysis takes a broader view by not only examining individual crash incidents but also investigating the underlying factors such as road design, physical infrastructure, and traffic flow. This approach helps uncover systemic issues that contribute to higher safety risks, offering a deeper understanding of how roadway characteristics and traffic management play a role in crash occurrences.

HIGH-INJURY NETWORK

The High-Injury Network specifically identifies areas where a disproportionately high number of serious injuries occur, guiding efforts to prioritize safety improvements. By focusing on these critical locations, this analysis directs resources toward addressing the most severe safety concerns, ensuring that interventions are targeted where they can have the greatest impact on reducing injuries and fatalities.

EXISTING CONDITIONS ANALYSIS

This section offers an in-depth examination of traffic incidents within McHenry County, pinpointing prevalent crash types and key contributing factors to guide the development of targeted safety measures. It plays a vital role in understanding the county's road safety challenges and crafting strategic interventions to minimize fatalities and injuries.

PURPOSE & NEED

The existing conditions analysis aims to provide a comprehensive understanding of traffic incidents within McHenry County, identifying patterns and trends that inform safety interventions. This analysis is crucial for developing targeted safety measures that address specific issues, reduce fatal and serious injury crashes, and enhance overall roadway safety. Understanding the spatial and demographic distribution of crashes enables the formulation of effective, data-driven strategies to mitigate risks and improve transportation safety for all county residents.

SUMMARY

The injury and fatal crash analysis data for McHenry County from 2018 to 2022 reveals significant trends in crash frequency and severity, totaling 22,359 crashes, including 766 serious injury and fatal (KA) crashes. The year 2019 saw the highest crash totals with 168 KA crashes, marking a peak in the analysis period. In the following years, crash totals fluctuated, with 2020 showing the most significant decline, with 139 KA crashes and 3,476 total crashes. This dip coincides with the COVID-19 pandemic and reduced roadway usage due to stay-at-home orders. As traffic volumes returned to pre-pandemic levels, crash totals rebounded in 2021 and 2022, highlighting the resilience of underlying safety issues and the need for ongoing intervention.

Key crash types and contributing factors provide deeper insights into McHenry County's safety challenges. Fixed-object crashes accounted for 25.3% of all serious injury and fatal crashes, significantly higher than the regional average of 13.7%. Overturn incidents also showed a disproportionate representation at 6.4%, compared to 1.7% regionally. These crash types are predominantly concentrated on rural and suburban roadways, where higher speeds, limited lighting, and narrow shoulders exacerbate crash severity.

The analysis also reveals notable trends in crash timing and conditions. A larger proportion of KA crashes occurred during daylight and clear weather than all crashes, challenging the perception that poor weather is a primary factor. Rear-end and turning collisions were prevalent, reflecting the impact of traffic flow and driver attention.

KEY STATISTICS NEEDED FOR SS4A IMPLEMENTATION FUNDING:

Total Count Motor Vehicle-Involved Roadway Fatalities in McHenry County from 2018 to 2022:

114

Total Average Annual Fatality Rate (per 100,000 Population) for McHenry County:

7.42

TABLE 4: CRASHES & SERIOUS INJURIES/FATALITIES BY COUNTY

The first table highlights fatal and serious injury (KA) crashes and total crashes from 2018 to 2022 across counties in northeastern Illinois. Cook County leads with 22,473 KA crashes and 763,731 total crashes, reflecting its dense urban environment and high traffic volumes. McHenry County reports the lowest numbers (766 KA crashes and 22,359 total crashes). Statewide totals show a dip in 2020, likely due to reduced traffic during the COVID-19 pandemic, followed by a rebound in later years.

The second table provides population-adjusted crash and fatality rates offering a clearer perspective on relative safety. Cook County, with high absolute numbers, shows the highest fatality rate (4.30 KA crashes per 1,000 residents), indicating elevated individual risk. Kane County also has a high fatality rate (3.30 per 1,000 residents). McHenry County's crash rate is notably low (2.46 per 1,000 residents) despite a comparable fatality rate (2.46).

County/ Region	2018		2019		2020		2021		2022		Total	
	KA	All	KA	All	KA	All	KA	All	KA	All	KA	All
McHenry	147	5,119	168	4,966	139	3,476	165	4,152	147	4,646	766	22,359
Cook	5,142	162,561	4,986	159,596	3,499	127,309	4,174	156,292	4,672	157,973	22,473	763,731
DuPage	554	20,782	439	18,973	348	12,432	387	15,442	351	16,520	2,079	84,149
Kane	512	11,010	329	10,278	259	7,777	267	9,380	340	9,980	1,707	48,425
Lake	476	14,059	444	13,572	378	9,382	440	11,174	465	12,069	2,203	60,256
Will	553	15,009	456	14,792	381	11,183	440	13,329	415	14,052	2,245	68,365
Illinois	8,785	319,145	8,772	312,988	7,965	246,752	8,793	295,604	10,068	298,347	44,383	1,472,836

TABLE 5: CRASH & FATALITY RATE BY COUNTY

County/Region	Population	Fatal & Serious Injuries (KA)	KA Rate per 1,000	Total Crashes	Crash Rate per 1,000
McHenry	311,133	766	2.46	22,359	71.86
Cook	5,225,367	22,473	4.30	763,731	146.16
DuPage	930,559	2,079	2.23	84,149	90.43
Kane	517,254	1,707	3.30	48,425	93.62
Lake	713,159	2,203	3.09	60,256	84.49
Will	696,774	2,245	3.22	68,365	98.12
CMAP Region	8,394,246	31,650	3.77	1,047,285	124.76
Illinois	12,757,634	44,383	3.48	1,472,836	115.45

Population Source: 2022 ACS 5-Year Estimates

TABLE 6: TYPES OF CRASHES (SERIOUS INJURY AND FATAL)

Over the past five years in McHenry County, serious injury and fatal crash data reveal a varying distribution of crash types, with Fixed Object collisions being the most prevalent, comprising 194 incidents (25.3% of total crashes), notably exceeding the regional average by 11.6%. Turning crashes ranked second, with 132 incidents (17.2%), slightly below the CMAP region average. Front-to-rear collisions accounted for 115 crashes (15.0%), surpassing the regional rate by 4.4%, while angle crashes made up 88 incidents (11.5%), slightly under the regional benchmark. Overturned vehicle crashes (49 incidents, 6.4%) and front-to-front collisions (44 incidents, 5.7%) exceeded regional averages, signaling specific areas of concern. Pedestrian and pedalcyclist crashes combined contributed 64 incidents (8.4%), significantly below the regional rates.

Crash Type	2018	2019	2020	2021	2022	Total	McHenry Co.	CMAP	Difference
Fixed Object	26	49	45	36	38	194	25.3%	13.7%	11.6%
Turning	28	26	23	28	27	132	17.2%	18.2%	-1.0%
Front to Rear	30	25	17	21	22	115	15.0%	10.6%	4.4%
Angle	24	20	12	20	12	88	11.5%	12.8%	-1.3%
Overturned	5	10	13	10	11	49	6.4%	1.7%	4.7%
Front to Front	9	10	6	11	8	44	5.7%	3.4%	2.3%
Pedestrian	10	6	5	11	9	41	5.4%	16.5%	-11.1%
Pedalcyclist	2	4	5	8	4	23	3.0%	5.3%	-2.3%
Sideswipe Opposite Direction	3	7	2	5	5	22	2.9%	1.1%	1.8%
Other Object	3	3	4	5	3	18	2.3%	1.3%	1.0%
Other Non-Collision	1	5	5	4	3	18	2.3%	1.0%	1.3%
Sideswipe Same Direction	2	2	1	3	1	9	1.2%	4.4%	-3.2%
Parked Motor Vehicle	3	1	0	2	3	9	1.2%	4.6%	-3.4%
Animal	1	0	1	1	1	4	0.5%	0.5%	0.0%
Total	147	168	139	165	147	766	100.0%	94.7%	-

TABLE 7: POTENTIAL CRASH CAUSE (SERIOUS INJURY AND FATAL)

The data reveals significant differences in crash causes when comparing fatal and serious injury (KA) crashes to total crashes, with some causes standing out for their higher impact on KA crashes despite lower overall occurrence. Notably, crashes involving alcohol or drugs account for 10.8% of KA crashes but only 5% of total crashes, indicating a disproportionate contribution to severe outcomes. Similarly, improper lane usage is linked to 7.3% of KA crashes but only 4.7% of total crashes, and disregarding stop signs makes up 5.1% of KA crashes compared to 2.9% of total incidents. These trends suggest that behaviors such as impaired driving and failure to follow traffic signals or signs, though less common overall, have a higher likelihood of resulting in serious injury or fatality. Conversely, following too closely and exceeding safe speeds, while more common in total crashes, are underrepresented in KA crashes. Each crash is categorized by its primary cause.

Crash Cause	2018	2019	2020	2021	2022	Total	McHenry Co.	CMAP	Difference
Failing to Yield Right of Way	33	35	26	25	22	141	18.4%	20.9%	-2.5%
Failing to Reduce Speed to Avoid Crash	19	31	22	32	36	140	18.3%	13.4%	4.9%
Under Influence of Alcohol/Drugs	12	17	22	19	13	83	10.8%	4.5%	6.3%
Improper Lane Usage	8	9	14	15	10	56	7.3%	5.4%	1.9%
Unable to Determine	10	9	6	9	10	44	5.7%	16.5%	-10.8%
Disregarding Stop Sign	8	9	6	8	8	39	5.1%	2.1%	3.0%
Driving Skills/Knowledge/Experience	4	6	9	7	4	30	3.9%	2.0%	1.9%
Physical Condition of Driver	9	8	2	5	3	27	3.5%	3.6%	-0.1%
Weather	5	7	1	4	4	21	2.7%	1.3%	1.4%
Had Been Drinking	2	4	2	3	8	19	2.5%	0.7%	1.8%
Disregarding Traffic Signals	3	4	2	4	3	16	2.1%	6.2%	-4.1%
Distraction - From Inside Vehicle	4	1	5	2	3	15	2.0%	0.9%	1.1%
Improper Turning/No Signal	5	2	1	4	3	15	2.0%	2.0%	-0.0%
Driving On Wrong Side/ Wrong Way	1	1	1	4	5	12	1.6%	1.7%	-0.1%
Improper Overtaking/ Passing	0	4	3	4	1	12	1.6%	1.7%	-0.1%
Operating Vehicle In Reckless Manner	0	4	2	4	2	12	1.6%	2.5%	-0.9%
Equipment-Vehicle Condition	1	2	2	2	4	11	1.4%	0.9%	0.5%
Exceeding Safe Speed For Conditions	6	5	0	0	0	11	1.4%	0.8%	0.5%
Distraction - From Outside Vehicle	1	3	0	3	0	7	0.9%	0.5%	0.4%
Total	131	161	126	154	139	711	92.8%	87.5%	-

Not included due to low crash counts: Animal, Exceeding Authorized Speed Limit, Following Too Closely, Road Engineering/Surface/Marking Defects, Disregarding Other Traffic Signs, Disregarding Road Markings, Evasive Action Due to Animal , Vision Obscured, Distraction Other Electronic Device (Navigation Dev), Road Construction/Maintenance, Cell Phone Use Other Than Texting, and Improper Backing.

TABLE 8: CRASH SEVERITY BY AGE GROUP

This crash data from McHenry County highlights age-specific trends in roadway safety, showing that younger age groups experience lower crash rates and fatality rates overall. The age group under 5, with a crash rate of 77.2 per 1,000 population, has the lowest involvement in serious incidents. Meanwhile, teens and young adults, particularly the 20-34 age group, have the highest crash and fatality rates, with a crash rate of 247.6 per 1,000 population, indicating a higher risk level. These findings align with established risk factors, as younger drivers are typically more prone to risky behaviors, less driving experience, and potentially greater exposure to high-speed or high-traffic scenarios. On the other hand, older adults (age 65 and up) show moderate crash rates.

Age Group	Population	Total People Involved in All Crashes	Crash Rate per 1,000
Under 5	16,458	1,270	77.2
5 to 19	62,831	10,056	160.0
20 to 34	54,009	13,375	247.6
35 to 49	60,814	9,914	163.0
50 to 64	68,736	8,665	126.1
65 to 74	29,666	3,214	108.3
75 to 84	13,403	1,482	110.6
85 and Over	5,216	340	65.2
Unknown	-	1,931	-
Total	311,133	50,247	-

Population Source: 2022 ACS 5-Year Estimates

TABLE 9: CRASH SEVERITY BY GENDER

This data on roadway safety for McHenry County reveals a gender disparity in both crash involvement and injury severity. Males, with a slightly larger population, show higher crash rates than females, with a crash rate of 170.5 per 1,000 population compared to 142.1 for females. This pattern aligns with broader national trends where men generally experience higher risk in roadway incidents, often attributed to more frequent high-risk driving behaviors, such as speeding and driving under the influence.

Gender	Population	Total People Involved in All Crashes	Crash Rate per 1,000
Female	155,200	22,057	142.1
Male	155,933	26,579	170.5
Unknown	-	1,611	-
Total	311,133	50,247	-

Population Source: 2022 ACS 5-Year Estimates

TABLE 10: CRASHES BY MUNICIPALITY

Smaller communities tend to have higher fatality rates per 1,000 residents despite experiencing fewer total crashes, likely due to factors like higher speeds or increased emergency response times. In contrast, larger communities typically see higher crash rates but lower fatality rates, suggesting that while crashes are more frequent, they tend to be less severe. These differences reflect the varying dynamics between urban and rural areas, where infrastructure and traffic volumes play significant roles in crash outcomes.

Municipality/ Area	Population	People Involved in KA Crashes	Total Crashes	KA Rate per 1,000	Crash Rate per 1,000
Bull Valley	1,248	17	111	13.6	88.9
Ringwood	779	4	64	5.1	82.2
Prairie Grove	1,967	8	72	4.1	36.6
Spring Grove	5,694	27	333	4.7	58.5
Woodstock	26,084	33	1,560	1.3	59.8
Fox River Grove	4,600	14	394	3.0	85.7
Johnsburg	6,387	7	340	1.1	53.2
Lakemoor	6,128	7	153	1.1	25.0
Lake In The Hills	28,958	34	1,190	1.2	41.1
Crystal Lake	40,463	72	3,312	1.8	81.9
McHenry	27,493	58	2,412	2.1	87.7
Harvard	9,705	23	563	2.4	58.0
Algonquin	29,888	57	2,235	1.9	74.8
Huntley	27,652	30	925	1.1	33.5
Cary	17,880	20	798	1.1	44.6
Richmond	2,266	10	369	4.4	162.8
Lakewood	4,698	12	281	2.6	59.8
Marengo	3,786	9	358	2.4	94.6
Barrington Hills	3,890	10	176	2.6	45.2
Island Lake	8,039	3	225	0.4	28.0
Wonder Lake	3,833	2	86	0.5	22.4
Fox Lake	10,798	7	48	0.6	4.4
Unincorporated	38,897	466	6,195	12.0	159.3
Total	311,133	943	22,359	3.0	71.9

Not included due to low crash counts: Oakwood Hills, Hebron, Greenwood, Union, McCullom Lake, Holiday Hills, Trout Valley, Lake Barrington, and Port Barrington.

Population Source: 2022 ACS 5-Year Estimates

TABLE 11: CRASHES BY VEHICLE TYPE

Table 11 shows the type and total number of vehicles involved in crashes in McHenry County from 2018 to 2022. Passenger vehicles account for over half vehicles involved in all crashes, reflecting their ample presence on the roads. SUVs are represented as 21.1% of vehicles involved in all crashes, while pickups are roughly half that. Motorcycles, though representing just 1.0% of vehicles involved in all crashes, see an increase in involvement in crashes from 2018 to 2022, highlighting their vulnerability on roadways.

Vehicle Type	2018	2019	2020	2021	2022	Total Vehicles Involved	Pct. All Vehicles
Passenger	4,886	4,873	3,353	4,033	4,436	21,581	55.6%
SUV	1,948	1,844	1,175	1,491	1,722	8,180	21.1%
Pickup	967	909	723	810	848	4,257	11.0%
Motorcycle	82	68	84	83	91	408	1.0%
Van/Mini-Van	529	485	306	345	389	2,054	5.3%
Semi-Tractor	102	111	83	93	111	500	1.3%
Other	80	59	34	58	61	292	0.8%
ATV	2	2	3	5	1	13	0.0%
Unknown	180	171	134	132	154	771	2.0%
Other Vehicle With Trailer	22	4	7	14	12	59	0.2%
Bus	31	34	9	29	39	142	0.4%
Recreational Off-Highway	0	1	0	0	4	5	0.0%
Moped or Motorized Bicycle	0	1	3	1	8	13	0.0%
Farm Equipment	4	3	5	1	7	20	0.1%
Single Unit Truck	104	117	80	95	125	521	1.3%
Autocycle	1	0	0	0	0	1	0.0%
Snowmobile	0	2	0	2	0	4	0.0%
Total	8,938	8,684	5,999	7,192	8,008	38,821	100%

Note: Motorcycles include motorcycles, motorcycles over 150cc, motor driven cycles, and motorcycles-3 wheeled moto.

TABLE 12: CRASHES BY ROADWAY TYPE

The analysis highlights significant differences in crash severity and frequency across roadway types. Major collectors show a high risk of severe crashes, with 64.7 KA crashes per million VMT, reflecting the heightened danger on lower-capacity roads. Interstates, despite a high VMT, have a lower severity rate of 0.9 KA crashes per million VMT, likely due to controlled access and safety features. Other principal arterials, which make up a large portion of McHenry County's roadway network, show a high rate (41.7) of severe crashes per 100 miles of roadway - providing a high level of mobility to major centers and rural areas.

Roadway Type	People Involved in KA Crashes	Total Crashes	Miles in McHenry Co.	VMT	KA Rate per 100 Miles	KA Rate per 1M VMT
Interstate	22	286	582.6	23,953,954	3.8	0.9
Local Road/Street	136	3,751	1,472.1	32,020,872	9.2	4.2
Major Collector	154	2,515	985	2,379,717	15.6	64.7
Minor Arterial	127	3,329	926.8	30,281,081	13.7	4.2
Minor Collector	34	523	539.3	6,231,191	6.3	5.5
Other Principal Arterial	399	9,179	968.6	23,288,367	41.2	17.1
Other/Unknown	71	2,776	-	-	-	-
Total	943	22,359	5,474.4	118,155,182	-	-

TABLE 13: BICYCLIST CRASHES

McHenry County's bicyclist and pedestrian crash patterns, though less frequent than in counties like Cook and DuPage, reveal important details about crash severity. For bicyclist crashes, McHenry's severe (KA) crash rate is 2.4%, lower than in Cook and DuPage but comparable to Kane and Will, with a total of 147 crashes from 2018 to 2022. In pedestrian crashes, McHenry has a 4.3% KA crash rate, aligning with nearby counties but well below Cook's 16.6%, indicating fewer high-severity incidents overall. However, these crashes still present notable risks to vulnerable road users. Compared to the CMAP region, McHenry's share of both types of crashes is lower, highlighting differences in crash patterns across urban and suburban areas, including the total number of people walking and biking.

County/ Region	2018		2019		2020		2021		2022		Total		Pct. KA Crashes	Pct. All Crashes
	KA	All	KA	All	KA	All	KA	All	KA	All	KA	All		
McHenry	2	24	4	24	5	32	8	28	4	39	23	147	2.4%	0.7%
Cook	199	1,697	210	1,728	190	1,360	209	1,595	220	1,736	1,028	8,116	4.9%	1.1%
DuPage	18	120	13	124	23	149	13	120	16	126	83	639	4.0%	0.8%
Kane	19	66	8	59	10	60	8	55	15	62	60	302	3.5%	0.6%
Lake	13	84	14	98	22	95	11	79	13	72	73	428	3.3%	0.7%
Will	16	65	9	58	10	53	8	53	5	47	48	276	2.1%	0.4%
Total	267	2,056	258	2,091	260	1,749	257	1,930	273	2,082	1,315	9,908	1.0%	0.2%

TABLE 14: PEDESTRIAN CRASHES

County/ Region	2018		2019		2020		2021		2022		Total		Pct. KA Crashes	Pct. All Crashes
	KA	All	KA	All	KA	All	KA	All	KA	All	KA	All		
McHenry	10	36	6	30	5	16	11	21	9	30	41	133	4.3%	0.6%
Cook	767	3,650	752	3,545	579	2,358	679	2,641	686	2,896	3,463	15,090	16.6%	2.0%
DuPage	36	142	41	130	19	67	30	112	28	93	154	544	7.4%	0.6%
Kane	37	102	26	75	16	66	24	61	14	59	117	363	6.9%	0.7%
Lake	45	139	35	110	32	83	24	76	28	111	164	519	7.4%	0.9%
Will	32	92	30	100	25	65	23	55	28	74	138	386	6.1%	0.6%
Total	927	4,161	890	3,990	676	2,655	791	2,966	793	3,263	4,077	17,035	2.0%	0.2%

IMAGE 12: BICYCLE & PEDESTRIAN CRASHES

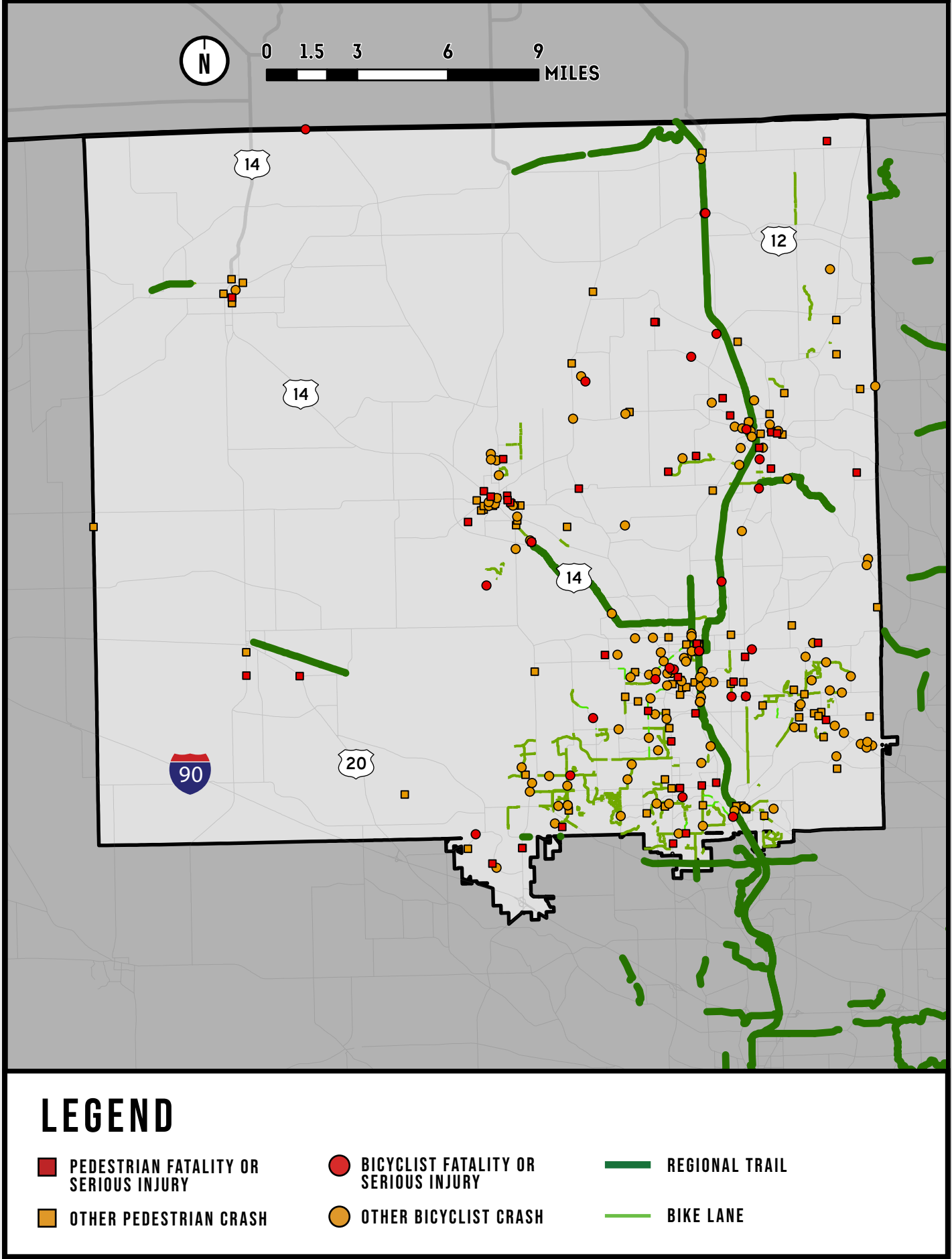


TABLE 15: CRASHES INVOLVING MOTORCYCLISTS

McHenry County has the lowest total number of motorcycle crashes in northeastern Illinois, with 118 KA crashes and 383 total crashes. Cook, DuPage, and Will Counties make up the bulk of motorcycle incidents. KA crashes make up the largest portion of all motorcycle crashes in Will County (34.5%), Lake County (33.8%), and McHenry County (30.8%), respectively. Motorcycle crashes in McHenry County are becoming more frequent, with steady increases from 2018 to 2022.

County/ Region	2018		2019		2020		2021		2022		Total		Pct. KA Motorcycle Crashes	Pct. All Motorcycle Crashes
	KA	All	KA	All	KA	All	KA	All	KA	All	KA	All		
McHenry	13	76	24	67	33	77	31	78	17	85	118	383	5.5%	4.8%
Cook	241	1,055	205	922	214	963	270	1,064	265	970	1,195	4,974	55.8%	62.5%
DuPage	44	179	48	132	45	142	43	162	43	138	223	753	10.4%	9.5%
Kane	23	84	25	93	31	89	30	111	27	99	136	476	6.4%	6.0%
Lake	38	118	27	91	34	112	43	117	56	147	198	585	9.3%	7.4%
Will	52	150	59	156	54	165	58	156	47	156	270	783	12.6%	9.8%
Total	411	1,662	388	1,461	411	1,548	475	1,688	455	1,595	2,140	7,954	100.0%	100.0%

TABLE 16: STATEWIDE CRASHES INVOLVING MOTORCYCLISTS

Statewide motorcycle crashes have shown an overall increase, with total crashes rising from 3,207 in 2018 to 3,542 in 2021, though slightly declining to 3,313 in 2022. Fatal crashes have also become more frequent, growing from 115 in 2018 to a peak of 168 in 2021, before dropping to 145 in 2022. 70.3% of motorcycle crashes result in fatalities or injuries.

Crash Severity	2018	2019	2020	2021	2022	Total
Fatal Crashes	115	137	153	168	145	718
Injury Crashes	2,088	1,927	2,172	2,381	2,212	10,780
Total Crashes	3,207	2,974	3,313	3,542	3,313	16,349

Note: Injury crashes include A, B, and C crashes.

IMAGE 13: MOTORCYCLIST CRASHES

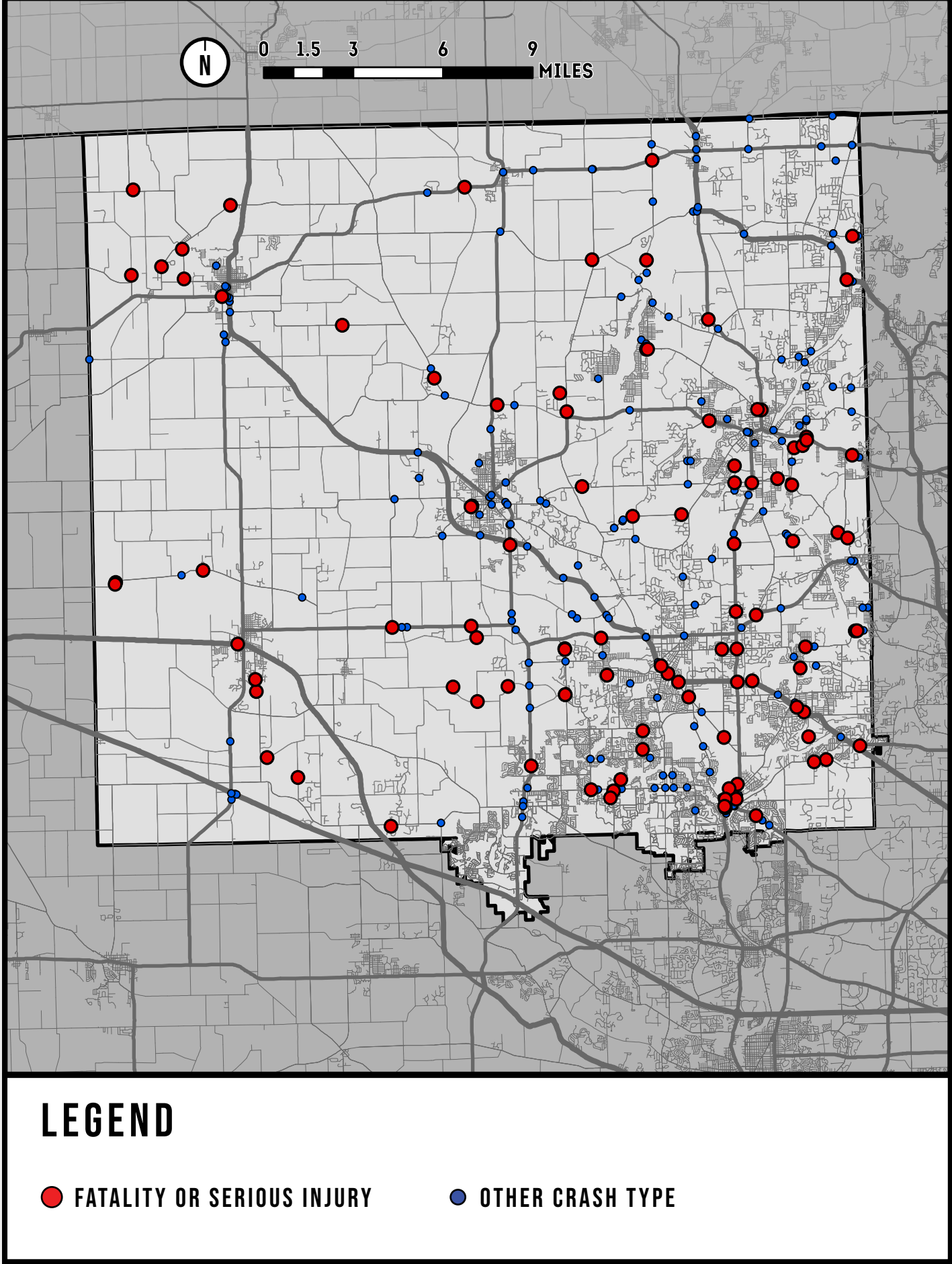


TABLE 17: CRASHES BY ROADWAY CONDITIONS

Crash Circumstances by Year - Roadway Conditions	2018		2019		2020		2021		2022		Total		Pct. KA Crashes	Pct. All Crashes
	KA	All	KA	All	KA	All	KA	All	KA	All	KA	All		
Dry	147	3,651	157	3,326	150	2,708	166	3,253	138	3,484	758	16,422	80.4%	73.4%
Ice	4	137	7	258	2	81	2	58	1	101	16	635	1.7%	2.8%
Other	0	6	0	12	0	7	0	6	0	13	0	44	0.0%	0.2%
Sand/Mud/Dirt	0	5	0	3	0	3	0	4	2	5	2	20	0.2%	0.1%
Snow or Slush	10	407	9	542	2	184	9	261	9	335	39	1,729	4.1%	7.7%
Unknown	1	77	0	68	0	35	0	43	1	67	2	290	0.2%	1.3%
Wet	31	836	30	757	20	458	20	527	25	641	126	3,219	13.4%	14.4%
Grand Total	193	5,119	203	4,966	174	3,476	197	4,152	176	4,646	943	22,359	100%	100%

TABLE 18: CRASHES BY WEATHER CONDITIONS

Crash Circumstances by Year - Weather Conditions	2018		2019		2020		2021		2022		Total		Pct. KA Crashes	Pct. All Crashes
	KA	All	KA	All	KA	All	KA	All	KA	All	KA	All		
Clear	158	3,997	167	3,754	148	2,831	172	3,407	144	3,703	789	17,692	83.7%	79.1%
Rain	15	457	21	400	11	270	7	274	12	315	66	1,716	7.0%	7.7%
Snow	8	358	11	521	4	174	8	220	7	339	38	1,612	4.0%	7.2%
Cloudy/Overcast	4	126	4	123	6	91	6	133	11	143	31	616	3.3%	2.8%
Fog/Smoke/Haze	6	49	0	28	4	16	2	26	1	26	13	145	1.4%	0.6%
Sleet/Hail	0	37	0	24	0	15	0	11	1	7	1	94	0.1%	0.4%
Unknown	1	81	0	63	0	36	1	48	0	62	2	290	0.2%	1.3%
Severe Cross Wind	1	4	0	25	0	4	0	10	0	15	1	58	0.1%	0.3%
Blowing Snow	0	0	0	6	0	2	1	12	0	19	1	39	0.1%	0.2%
Freezing Rain	0	0	0	7	0	26	0	4	0	9	0	46	0.0%	0.2%
Other	0	10	0	15	1	11	0	7	0	8	1	51	0.1%	0.2%
Grand Total	193	5,119	203	4,966	174	3,476	197	4,152	176	4,646	943	22,359	100%	100%

FIGURE 1: CRASH SEVERITY BY MONTH

In McHenry County, crash severity by month indicates that traffic incidents vary significantly throughout the year, with a noticeable peak during the summer months. January starts with 429 total incidents, including 5 fatalities, and the number of crashes increases as the year progresses, reaching a high in October with 560 incidents. Warmer months, particularly June through October, see the highest number of crashes, with over 500 total incidents each month, suggesting increased road activity possibly due to vacation travel and longer daylight hours. The total annual figures show 95 fatalities, 655 A-injuries, 2,291 B-injuries, and 2,531 C-injuries, leading to 5,572 total reported incidents. This data highlights not only the fluctuating nature of traffic crash severity across different months but also indicates potential seasonal impacts on road safety.

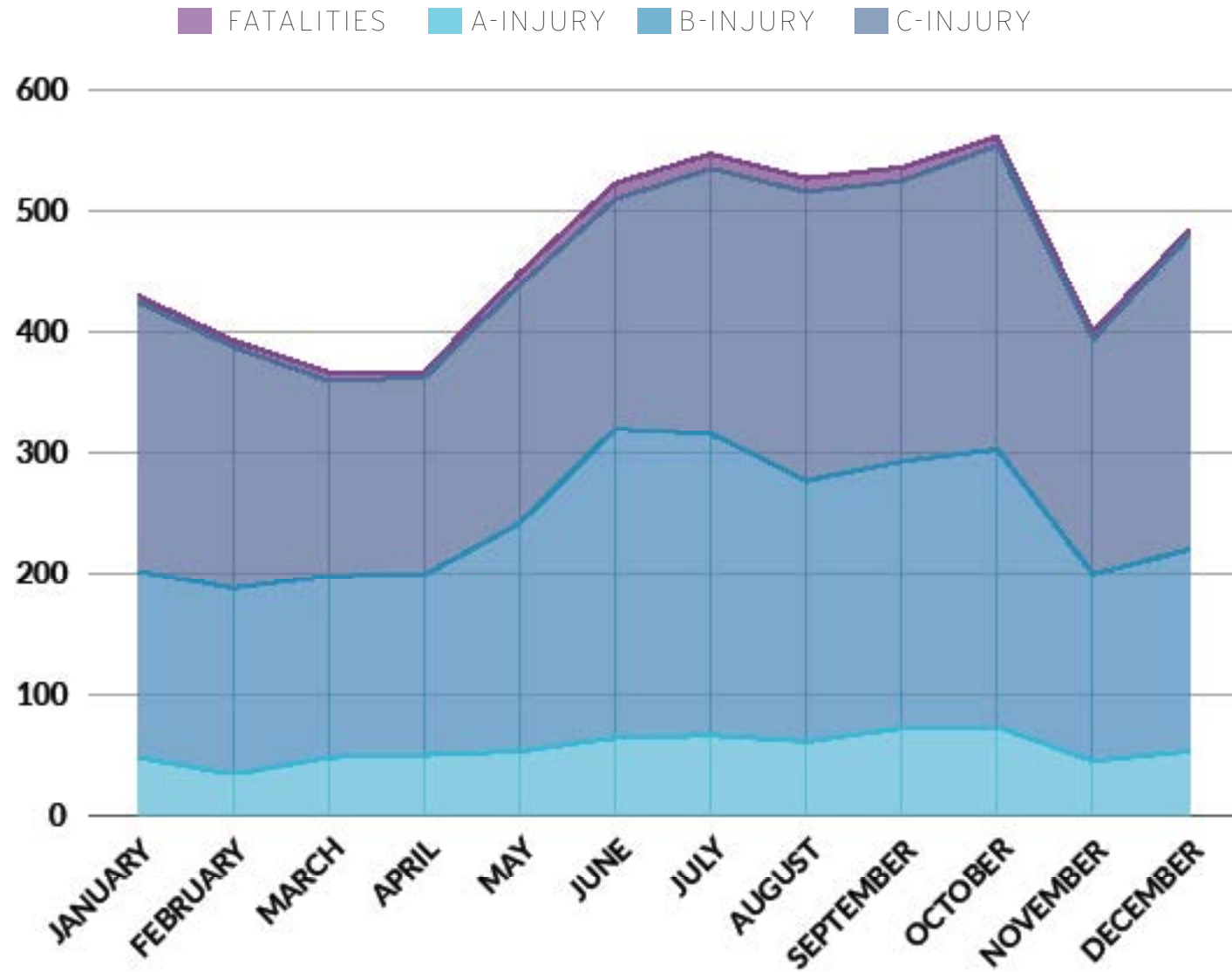
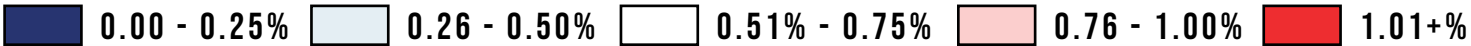


TABLE 19: ALL CRASHES - TIME OF DAY

An analysis of all crash data in McHenry County over the past five years reveals clear fluctuations in crash frequency based on the time of day. Evening rush hours, from 3 PM to 6 PM, consistently remain the most dangerous, accounting for 5% to 8% of all crashes, reflecting the increased traffic volumes during this period. Morning rush hours from 6 AM to 9 AM also exhibit higher crash frequency, comprising 4% to 7% of total crashes, aligning with the start of the workday and heavier road congestion.

Late-night crashes, particularly between 11 PM and 1 AM, have slightly decreased, now representing 2% to 4% of total incidents, while the early morning hours from 3 AM to 5 AM continue to show the lowest crash frequency, each accounting for less than 1% of total crashes.



Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight to 1 AM	0.40%	0.21%	0.12%	0.11%	0.14%	0.14%	0.21%
1 AM to 2 AM	0.33%	0.11%	0.11%	0.09%	0.19%	0.21%	0.37%
2 AM to 3 AM	0.35%	0.14%	0.21%	0.11%	0.12%	0.07%	0.37%
3 AM to 4 AM	0.28%	0.07%	0.23%	0.19%	0.09%	0.05%	0.28%
4 AM to 5 AM	0.14%	0.12%	0.14%	0.28%	0.23%	0.12%	0.23%
5 AM to 6 AM	0.11%	0.39%	0.28%	0.37%	0.32%	0.33%	0.16%
6 AM to 7 AM	0.26%	0.42%	0.61%	0.67%	0.58%	0.49%	0.23%
7 AM to 8 AM	0.35%	0.70%	0.77%	0.81%	0.90%	1.07%	0.32%
8 AM to 9 AM	0.28%	0.79%	0.54%	0.70%	0.72%	0.70%	0.40%
9 AM to 10 AM	0.42%	0.47%	0.54%	0.77%	0.39%	0.74%	0.61%
10 AM to 11 AM	0.61%	0.74%	0.67%	0.58%	0.49%	0.60%	0.77%
11 AM to Noon	0.65%	0.56%	0.63%	0.65%	0.88%	0.88%	1.19%
Noon to 1 PM	0.90%	0.79%	0.86%	0.77%	0.67%	1.02%	1.04%
1 PM to 2 PM	0.91%	1.02%	0.90%	0.81%	0.79%	0.84%	0.98%
2 PM to 3 PM	0.77%	1.05%	0.93%	1.07%	1.02%	1.16%	0.86%
3 PM to 4 PM	0.83%	1.28%	1.04%	1.46%	1.35%	1.53%	0.95%
4 PM to 5 PM	0.97%	1.26%	1.39%	1.21%	1.12%	1.48%	0.81%
5 PM to 6 PM	0.65%	1.26%	1.21%	1.37%	1.14%	1.33%	0.84%
6 PM to 7 PM	0.74%	0.72%	1.09%	0.93%	0.77%	1.02%	0.86%
7 PM to 8 PM	0.60%	0.60%	0.67%	0.65%	0.60%	0.60%	0.79%
8 PM to 9 PM	0.51%	0.56%	0.42%	0.32%	0.54%	0.51%	0.74%
9 PM to 10 PM	0.26%	0.30%	0.30%	0.39%	0.51%	0.68%	0.65%
10 PM to 11 PM	0.37%	0.19%	0.28%	0.26%	0.39%	0.42%	0.70%
11 PM to Midnight	0.25%	0.21%	0.19%	0.19%	0.23%	0.23%	0.42%

TABLE 20: FATAL & SERIOUS INJURY CRASHES - TIME OF DAY

The data on fatal and serious injury crashes reveals that Sundays show a significantly higher occurrence of crashes during late-night and early morning hours, particularly between midnight and 3 AM, compared to other days of the week. Additionally, Saturday evenings, from 4 PM to 11 PM, see particularly high crash frequencies. This trend points to increased risk during these times, potentially due to factors like reduced visibility, fatigue, and alcohol-related incidents.

Evening hours, particularly from 4 PM to 7 PM, also show higher crash frequencies across several days, notably on Fridays. This reflects the typical rush hour and weekend social activities, which increase traffic volumes and elevate the chances of serious crashes. Interventions targeting these high-risk periods, such as enhanced enforcement or improved lighting, could help reduce incidents during these times.

0.00 - 0.25% 0.26 - 0.50% 0.51% - 0.75% 0.76 - 1.00% 1.01+%

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight to 1 AM	1.43%	0.44%	0.44%	0.55%	0.22%	0.22%	0.55%
1 AM to 2 AM	0.55%	0.44%	0.22%	0.00%	0.33%	0.22%	0.55%
2 AM to 3 AM	1.87%	0.33%	0.00%	0.11%	0.33%	0.88%	0.33%
3 AM to 4 AM	0.77%	0.11%	0.55%	0.11%	0.11%	0.00%	0.44%
4 AM to 5 AM	0.00%	0.11%	0.11%	0.22%	0.22%	0.11%	0.44%
5 AM to 6 AM	0.00%	0.44%	0.00%	0.88%	0.55%	0.22%	0.33%
6 AM to 7 AM	0.33%	0.33%	0.77%	0.77%	0.33%	0.88%	0.77%
7 AM to 8 AM	0.55%	0.44%	0.55%	0.44%	0.33%	0.44%	0.22%
8 AM to 9 AM	0.11%	0.22%	0.11%	0.66%	0.00%	0.33%	0.22%
9 AM to 10 AM	0.11%	0.33%	0.22%	0.44%	0.11%	0.44%	0.66%
10 AM to 11 AM	0.77%	0.44%	0.11%	0.44%	0.11%	0.22%	0.66%
11 AM to Noon	0.55%	0.11%	1.21%	0.22%	0.55%	0.33%	0.99%
Noon to 1 PM	0.66%	0.44%	0.33%	0.88%	1.21%	0.99%	0.99%
1 PM to 2 PM	0.88%	1.43%	0.77%	0.55%	0.33%	0.66%	0.88%
2 PM to 3 PM	1.10%	1.10%	0.33%	0.66%	1.32%	0.55%	0.77%
3 PM to 4 PM	0.55%	1.10%	0.88%	0.88%	0.99%	1.87%	0.99%
4 PM to 5 PM	2.53%	0.77%	0.77%	1.32%	0.44%	1.10%	1.21%
5 PM to 6 PM	0.77%	1.21%	0.66%	0.77%	0.88%	1.21%	0.33%
6 PM to 7 PM	0.55%	0.44%	1.21%	1.32%	0.77%	1.43%	1.32%
7 PM to 8 PM	0.55%	0.77%	0.66%	1.21%	0.66%	0.88%	1.32%
8 PM to 9 PM	0.44%	0.99%	0.33%	0.55%	0.33%	0.55%	1.54%
9 PM to 10 PM	0.11%	0.33%	0.33%	0.66%	0.33%	0.77%	1.65%
10 PM to 11 PM	0.66%	0.22%	0.33%	0.22%	0.99%	0.11%	1.10%
11 PM to Midnight	0.44%	0.66%	0.11%	0.33%	0.33%	0.55%	0.44%

INTERSECTION SAFETY

Intersection safety is a critical aspect of road safety management due to the complex interactions that occur at these locations. Intersections are points where vehicles, pedestrians, and cyclists converge, leading to a higher potential for conflicts and crashes. A greater number of lanes and conflict points in an intersection can pose greater risk to safety. Safety considerations at intersections include proper signal timing, clear signage, unobstructed sight lines, well-maintained road markings, and the implementation of traffic calming measures to reduce vehicle speeds. Additionally, advanced technologies such as automated traffic signal control and real-time monitoring systems can enhance intersection safety by improving traffic flow and reducing the likelihood of crashes.

The data indicates that intersections are common locations for crashes, accounting for approximately 44% of total incidents, highlighting the need for targeted safety interventions at these points as they still represent a significant portion of total incidents. Segment crashes, which occur along stretches of road between intersections, make up about 56% of crashes, suggesting that these areas are more frequent crash sites than intersections. These figures align with the crash circumstances seen for KA crashes.

TABLE 21: LOCATION OF CRASH BY PART OF ROAD

Severe (KA) intersection crashes represents 42.2% of the total KA crashes from 2018 to 2022, while crashes on roadway segments make up the majority (57.8%).

Crash Circumstances	KA Crashes	Pct. KA Crashes
Intersection	323	42.2%
Roadway Segment	443	57.8%
Grand Total	766	100%

MAJOR CONSIDERATIONS - INTERSECTIONS VS. ROADWAYS

Intersections

At intersections, the primary focus is on conflict points, where multiple directions of traffic converge. This creates complex vehicle interactions that require attention to factors such as turning movements, stopping distances, and signal compliance.

Roadway Segments

Roadway segments present different considerations, often centered around vehicle speed, lane discipline, and traffic flow consistency. Analysts focus on speed limits, lane widths, and shoulder conditions to assess how well drivers maintain control and avoid hazards. Long, uninterrupted stretches can encourage higher speeds, increasing the risk of lane departure or run-off-road incidents. Another important factor is roadway geometry, such as curves and elevation changes, which impact driver visibility and reaction times.

IMAGE 14: INTERSECTION CRASHES

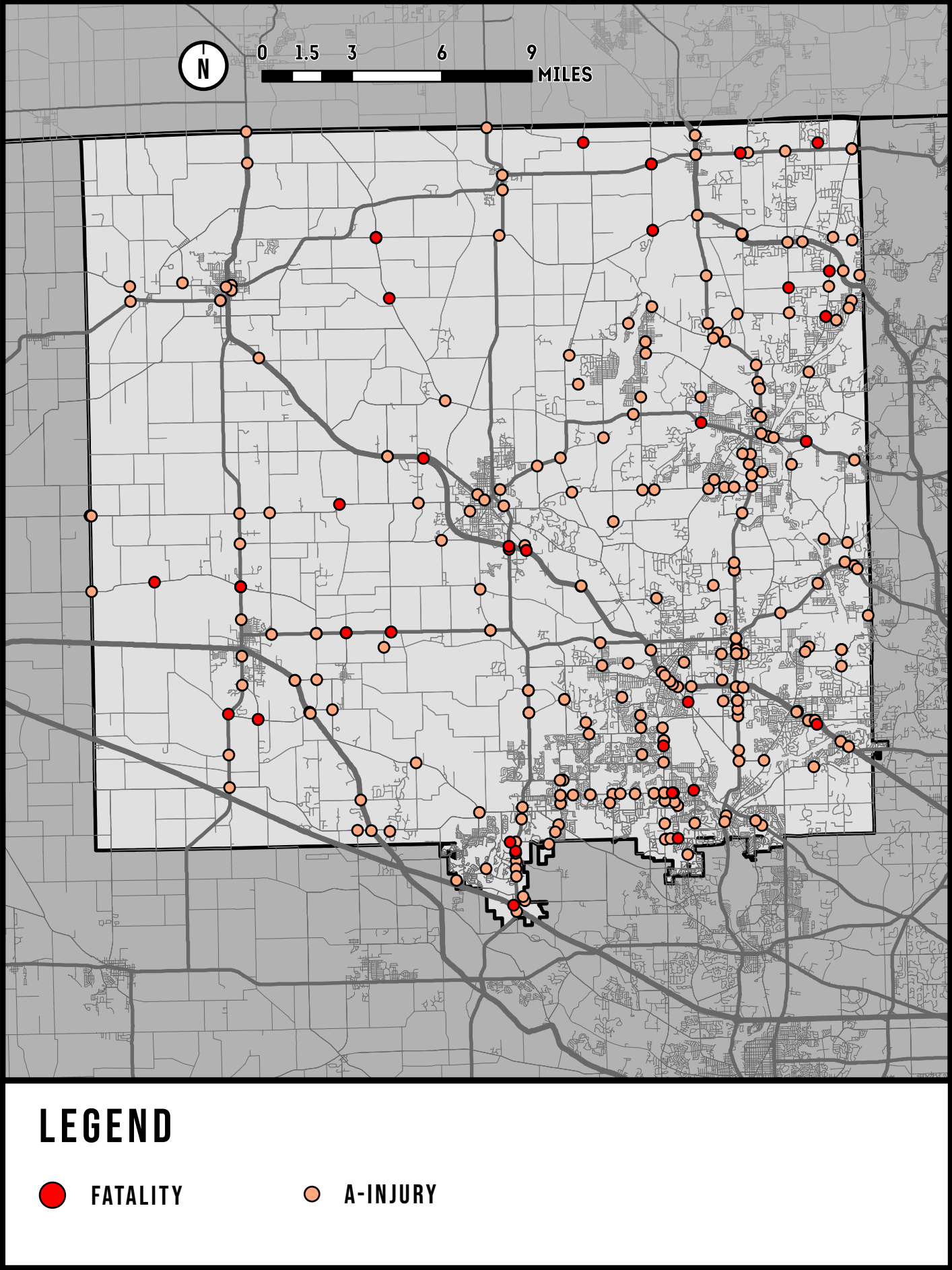
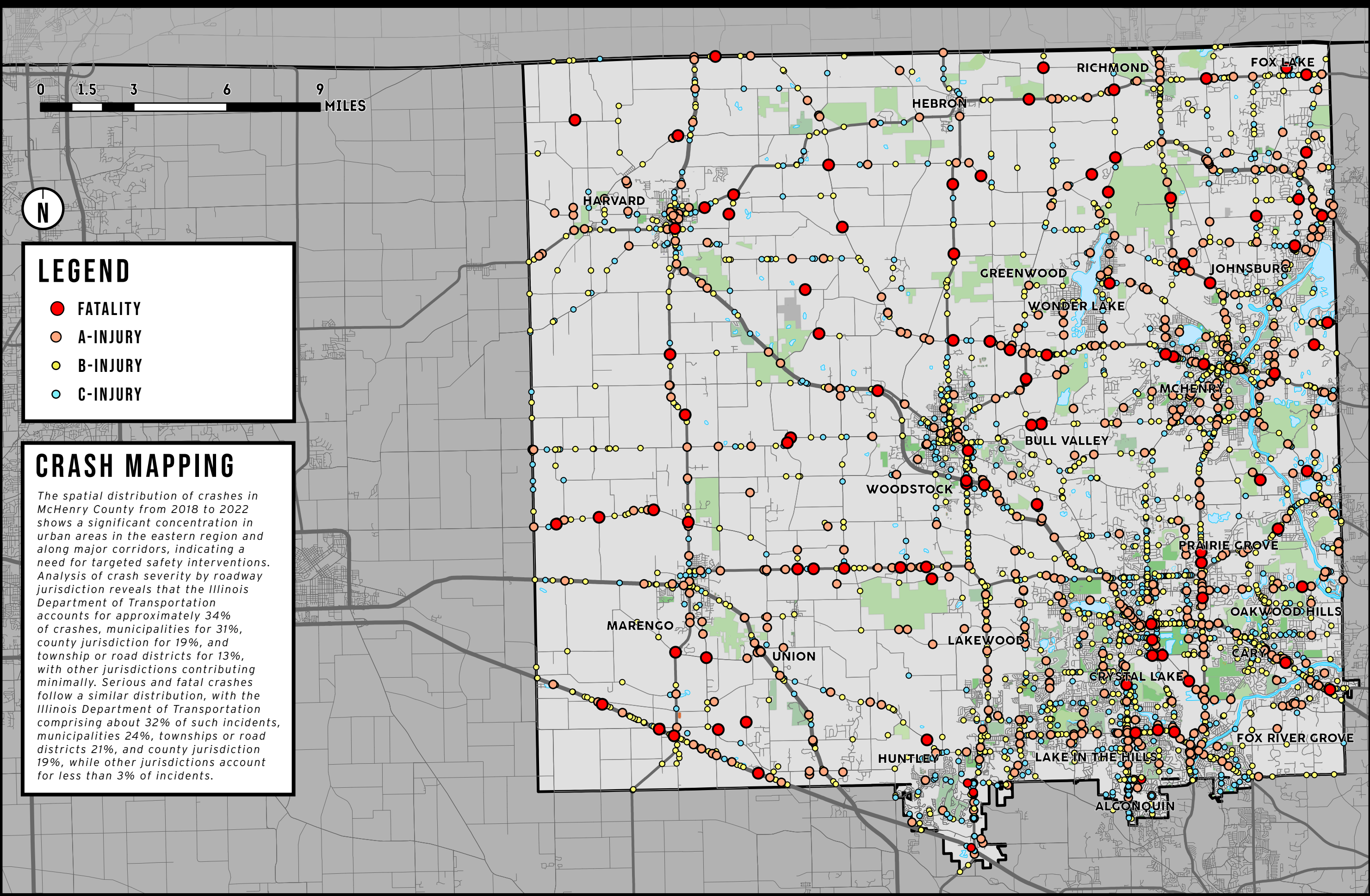


IMAGE 15: CRASH MAPPING



SYSTEMIC ANALYSIS

The systemic analysis is proactive based on the presence and representation rates of risk factors rather than crashes, allowing for risk-based prioritization. These factors may correlate specific locations with an increased likelihood of being involved in traffic incidents and facing higher safety risks, particularly for VRUs, even if there have been few crashes.

PURPOSE & NEED

The systemic analysis in McHenry County offers a holistic view of the road network's safety, focusing on the relationship between roadway attributes, land use, and the incidence of crashes. This approach diverges from traditional analyses that isolate crash locations, opting instead to uncover broader systemic issues that predispose certain areas to higher crash rates. By examining risk factors across the entire network, the analysis aims to pinpoint where and why disproportionate contributions to injury crashes occur, shedding light on the complex dynamics of road safety.

Key to this analysis is the categorization of crashes based on the severity of injuries, employing the KABCO scale. Each incident is assigned a category reflecting its severity, from fatal (K) to property damage only (O), and these categories are spatially associated with roadway segments. This process aggregates crash data to generate a comprehensive injury score for each identified risk factor, further refined through the calculation of a "Representation Ratio." This ratio compares the injury impact of crashes to the mileage of roadways linked to each risk factor, identifying areas where crashes are notably concentrated.

Special attention is given to vulnerable road users (VRUs), such as pedestrians and cyclists, who typically face greater risks on the road. A dedicated VRU-focused analysis contrasts their specific safety challenges with the broader all-mode systemic findings, pinpointing the roadway system's deficiencies that disproportionately affect these users. This targeted examination is crucial for developing strategies that enhance the safety of VRUs, addressing the unique hazards they encounter.



SYSTEMIC ANALYSIS: KEY TAKEAWAYS

MULTI-LANE ROADS

Roads with four or more lanes are approximately 2.8 times more likely to experience injury crashes.

AVERAGE DAILY TRAFFIC

Roads with 2,500 to 5,000 AADT see a heightened crash risk for vulnerable road users, compared to all modes.

TRANSIT PROXIMITY

Areas within 0.5 miles of Metra stations have twice the injury risk for all users and 7.6 times the risk for vru populations.

SPEED LIMITS

Roads with speed limits of 30-35 mph show the highest injury crash overrepresentation among all other speed limits.

TRUCK ROUTES

Injury crashes are 5.8 times more likely on truck routes, with VRU crashes 2.7 times more frequent.

STATE ROADWAYS

Roads under IDOT's jurisdiction, though only 8% of the network, are over four times more likely to have injury crashes.

SCHOOLS & COLLEGES

In areas within 0.5 miles of schools and colleges, VRU crashes are 1.9 times more likely.

SEVERITY & SPEED

Pedestrian fatalities increase with speed: at 23 mph, the risk is 10%, but at 42 mph, the risk rises to 50%, and at 58 mph, it's 90%.

FOR FULL ANALYSIS, VISIT [APPENDIX A1: SYSTEMIC ANALYSIS](#)

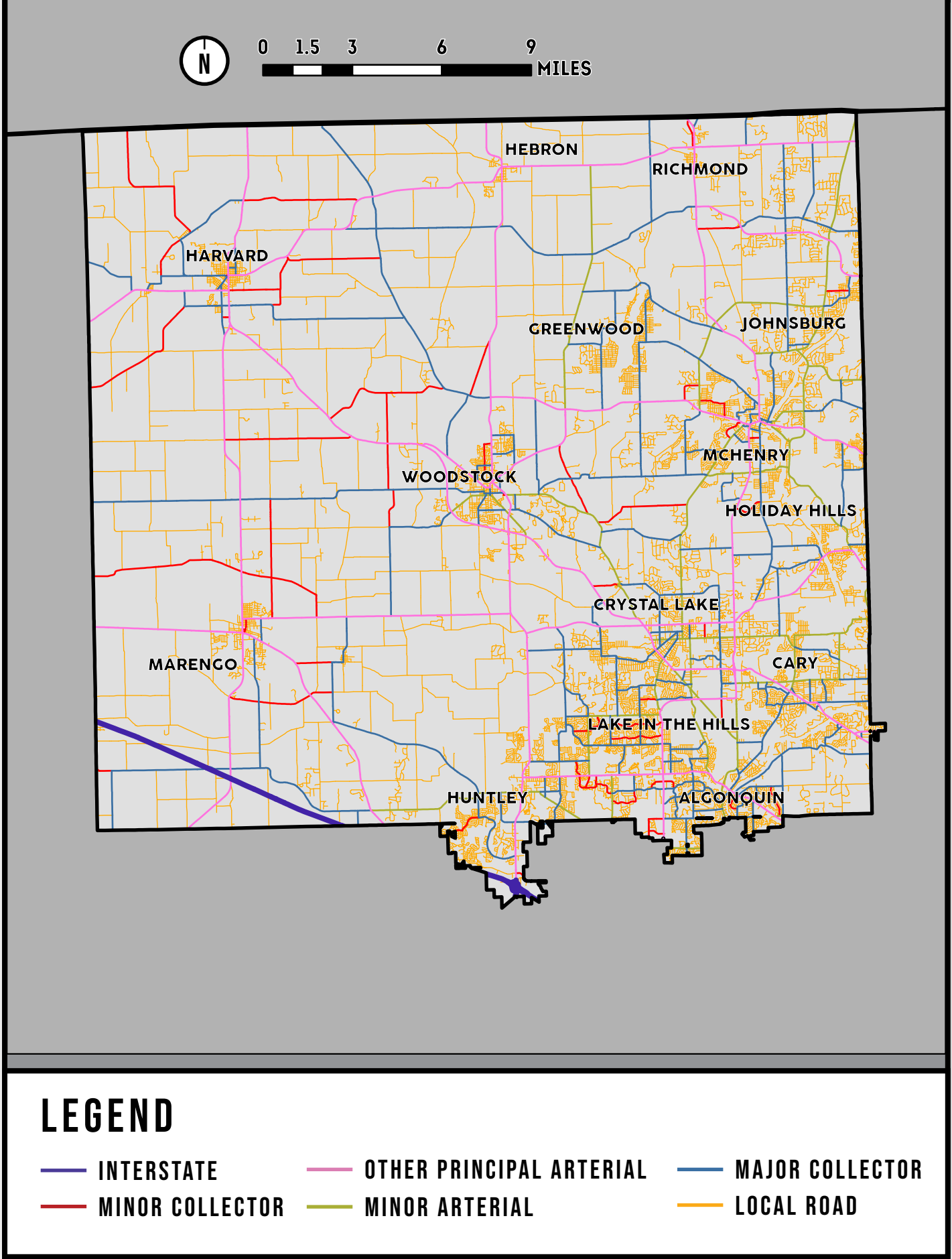
WHAT ARE THE FUNCTIONAL CLASSIFICATIONS?

Interstate	Highways that are part of the National System of Interstate and Defense Highways, typically characterized by high speeds, limited access, and controlled entry and exit points.
Other Freeways and Expressways	Roads with controlled access and high speeds, similar to interstates but not part of the National System of Interstate and Defense Highways.
Other Principal Arterial	High-capacity roads that provide interregional connections and serve major traffic movements, often linking urban centers and surrounding regions.
Minor Arterial	Roads that carry moderate to high traffic volumes within urban areas, providing connectivity between major arterials and local streets.
Major Collector	Roads that collect traffic from local streets and distribute it to arterials, often serving as primary routes for travel within neighborhoods and commercial areas.
Minor Collector	Roads that collect traffic from local streets and feed it into major collector roads, facilitating movement within residential areas.
Local	Typically low-traffic streets that provide access to residential neighborhoods and commercial areas within communities.

FOR FULL ANALYSIS, VISIT  **APPENDIX A1: SYSTEMIC ANALYSIS**



IMAGE 18:FUNCTIONAL CLASSIFICATION MAP



HIGH-INJURY NETWORK

The High-Injury Network (HIN) identifies road segments within McHenry County where a disproportionate number of fatal and serious injury crashes occur, highlighting areas that require urgent safety interventions. This network provides crucial data that helps prioritize roadway improvements and targeted enforcement strategies to enhance road safety for all users, particularly in regions identified as high-risk.

METHODOLOGY

Utilizing a data-driven approach, the development of the HIN involves a detailed analysis of all fatal and injury crashes recorded between 2018 and 2022.

To compute the injury score for each road segment, the frequency of severe crashes occurring on that segment are summed and then normalized by the road segment's length to ensure proportional representation across various segment sizes. To refine the accuracy of the injury scores, a modified sliding window methodology is employed. This involves averaging the injury score of the targeted road segment with the scores of four adjacent segments along the same route, enhancing the smoothness and continuity of the data analysis. This average becomes the score used to evaluate the safety level of each road segment. Lastly, averages were normalized relative to the highest ranked location to represent the final total score.

Road segments are stratified based on their calculated injury scores to determine their inclusion in the HIN. Segments with an injury score per mile of 10 or greater are classified as part of the HIN. To maintain consistency and reduce fragmentation in the network, segments shorter than 1,500 feet are excluded from the final HIN. This strategic classification and exclusion help prioritize areas that most urgently need interventions, enabling targeted and effective measures to enhance roadway safety in McHenry County.

DATA NOTATION & DEFINITIONS

Below are definitions for notations/variables described in the following section:

- » **Control Type:** Type of intersection control (e.g., signal or stop sign).
- » **Fatal & Serious Injuries:** The total number of crashes resulting in fatalities or severe injuries within a specific segment of the High Injury Network (HIN)
- » **Fatal & Serious Injuries per Mile:** The rate of fatal and serious injury crashes occurring per mile of a road segment, used to assess the severity and concentration of high-impact crashes along that segment.
- » **Fatal & Serious Injuries per One Million Vehicle Miles (VMT):** The rate of crashes resulting in fatalities or serious injuries per one million vehicle miles traveled within a given HIN segment. This metric provides a standardized measure to assess the severity of crashes relative to traffic volume on a specific HIN segment.
- » **Number of Legs:** The total number of intersecting roadways or approaches at a given intersection (e.g., a three-legged intersection is a T-junction, while a four-legged intersection is a standard crossroad).
- » **Rank:** The combined score for a road segment that incorporates crash frequency and severity, used to rank segments based on their overall risk level within the HIN.
- » **Total AADT:** Roadway AADT is the average number of vehicles traveling along a road segment each day, used to estimate traffic volume and roadway usage. The Total Intersection AADT is the combined average daily traffic from all approaching roadways at an intersection, representing the overall vehicle flow through the intersection each day.

IMAGE 19: HIGH-INJURY NETWORK

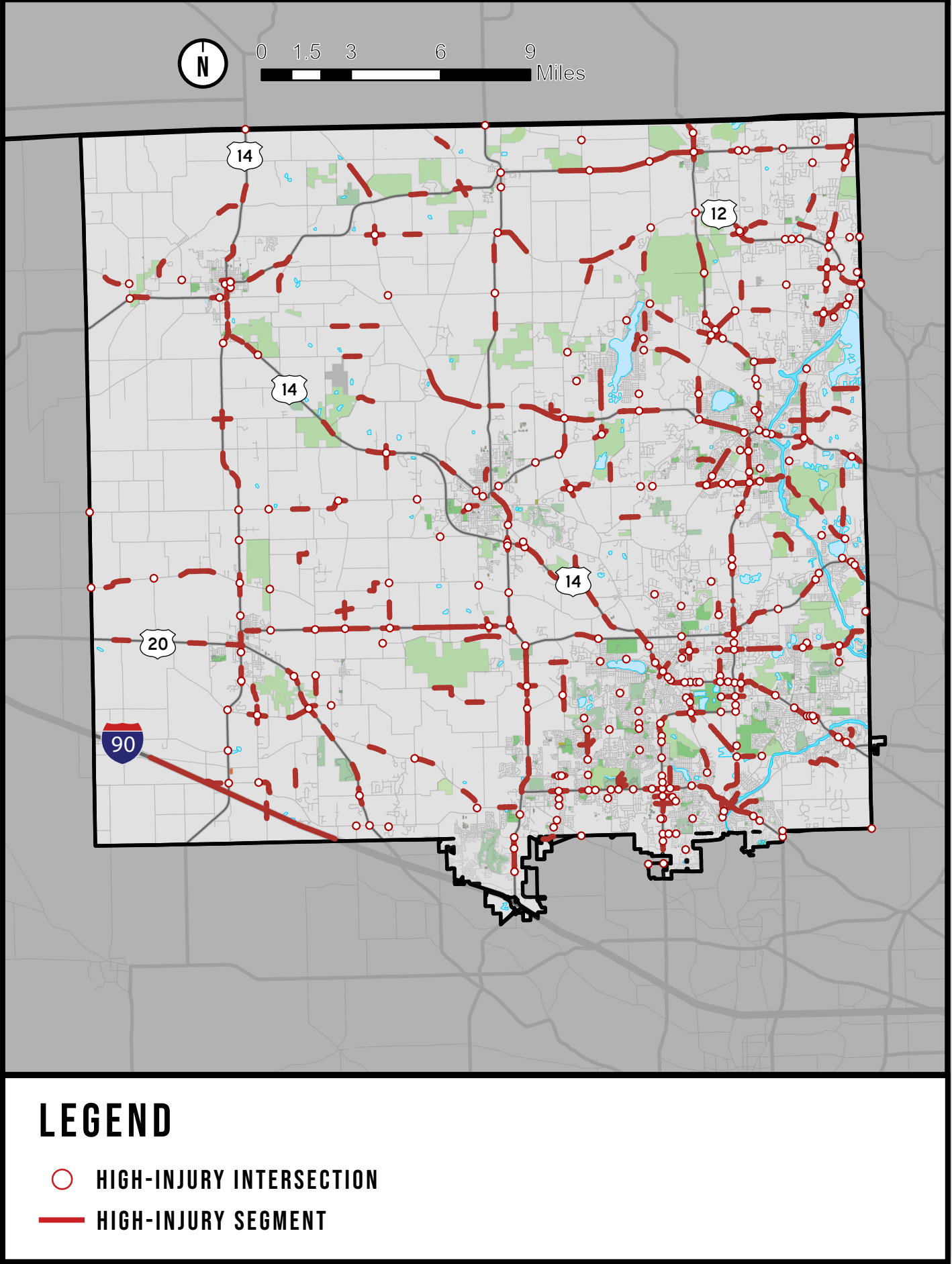


IMAGE 20: HIGH-INJURY INTERSECTIONS

MAP OVERVIEW

The map below also features High Injury Network (HIN) intersections, visually identifying the locations with the highest frequencies of fatalities and serious injuries in McHenry County. Each intersection is marked with a circle, and the labels within the circles display their rank, which is determined based on a scoring system described in detail later in the appendices.

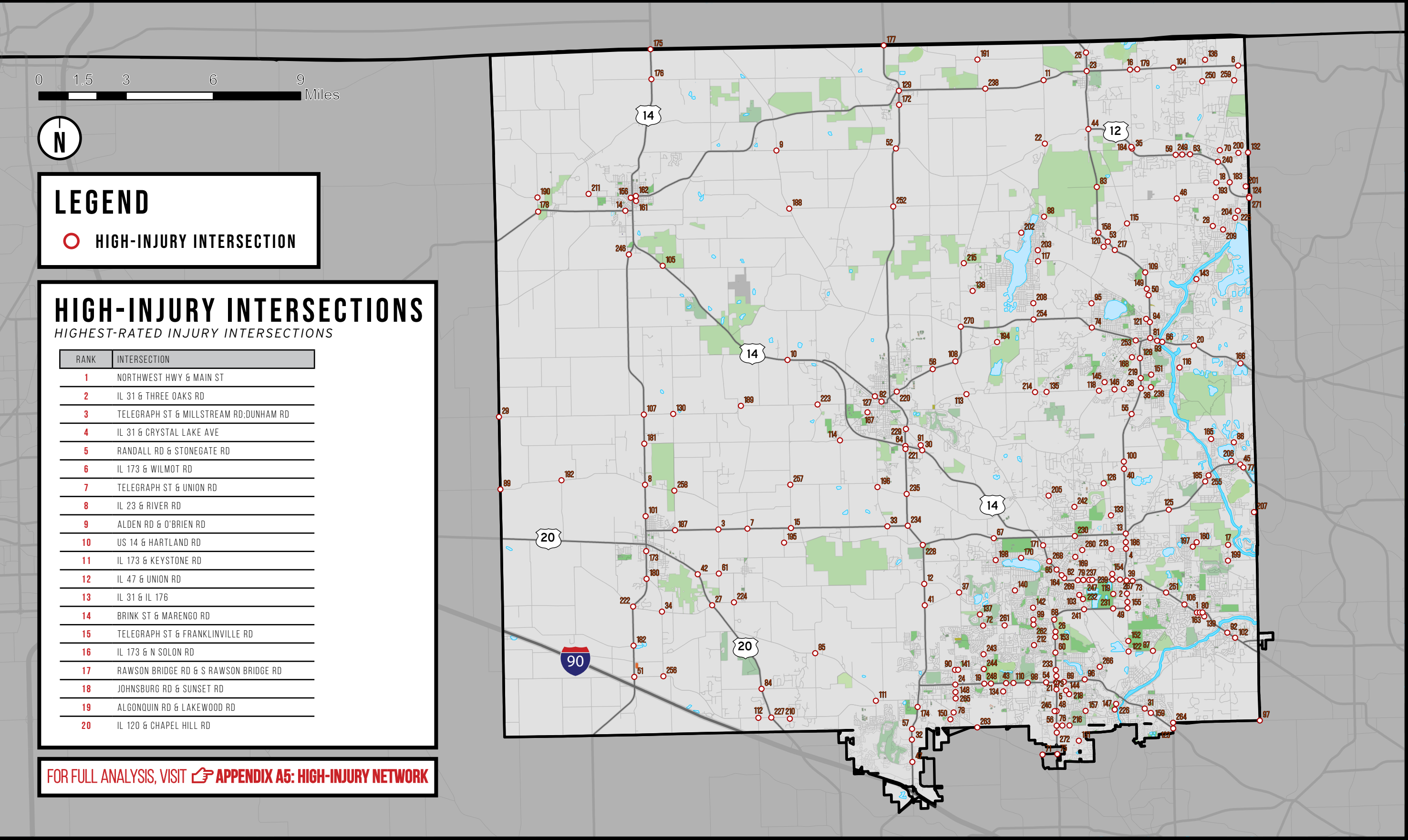


TABLE 22: HIGH-INJURY INTERSECTIONS

RANK	INTERSECTION NAME	CONTROL TYPE	TOTAL AADT	NUMBER OF LEGS	FATAL & SERIOUS INJURY CRASHES
1	NORTHWEST HWY & MAIN ST	SIGNAL	32,079	3	7
2	IL 31 & THREE OAKS RD	SIGNAL	36,712	4	5
3	TELEGRAPH ST & MILLSTREAM RD;DUNHAM RD	UNK	8,100	4	5
4	IL 31 & CRYSTAL LAKE AVE	SIGNAL	41,900	4	4
5	RANDALL RD & STONEGATE RD	SIGNAL	42,325	4	4
6	IL 173 & WILMOT RD	SIGNAL	15,839	4	4
7	TELEGRAPH ST & UNION RD	UNK	9,264	4	4
8	IL 23 & RIVER RD	UNK	7,656	4	4
9	ALDEN RD & O'BRIEN RD	UNK	2,200	4	4
10	US 14 & HARTLAND RD	UNK	9,150	4	3
11	IL 173 & KEYSTONE RD	UNK	5,925	4	3
12	IL 47 & UNION RD	UNK	18,750	4	3
13	IL 31 & IL 176	SIGNAL	43,461	4	3
14	BRINK ST & MARENGO RD	UNK	7,650	4	3
15	TELEGRAPH ST & FRANKLINVILLE RD	UNK	9,750	3	3
16	IL 173 & N SOLON RD	UNK	8,500	3	3
17	RAWSON BRIDGE RD & S RAWSON BRIDGE RD	ALL STOP	7,425	3	3
18	JOHNSBURG RD & SUNSET RD	UNK	4,400	4	2
19	ALGONQUIN RD & LAKEWOOD RD	SIGNAL	24,200	4	2
20	IL 120 & CHAPEL HILL RD	SIGNAL	34,337	4	2
21	RANDALL RD & ALGONQUIN RD	SIGNAL	69,350	4	2
22	TRYON GROVE RD & KEYSTONE RD	UNK	4,775	4	2
23	MAIN ST & KENOSHA ST	SIGNAL	19,864	4	2
24	ALGONQUIN RD & HALIGUS RD	SIGNAL	25,800	4	2
25	US 12 & BURLINGTON RD	UNK	16,900	3	2
26	RANDALL RD & ALEXANDRA BLVD	UNK	35,200	4	2
27	GRANT HWY & CORAL RD	UNK	10,323	4	2
28	JOHNSBURG RD & JOHNSBURG RD	ALL STOP	10,275	4	2
29	WOODSTOCK RD & COUNTY LINE RD	UNK	3,976	4	2
30	US 14 & LAKE AVE	SIGNAL	27,054	4	2
31	ALGONQUIN RD & SANDBLOOM RD COUNTRYSIDE DR	SIGNAL	45,950	4	2
32	IL 47 & REGENCY PKWY	SIGNAL	31,600	4	2
33	TELEGRAPH ST & DEAN ST	UNK	12,300	4	2
34	CORAL RD & MAPLE ST	UNK	2,225	4	2
35	US 12 & W SOLON RD	UNK	10,655	4	2
36	IL 31 & BULL VALLEY RD	SIGNAL	34,190	4	2
37	HALIGUS RD & CONLEY RD	UNK	4,701	3	2
38	BULL VALLEY RD & RIDGEVIEW DR	SIGNAL	16,275	4	2
39	NORTHWEST HWY & ACCESS ROAD	SIGNAL	20,700	2	2
40	IL 31 & AMES RD	UNK	22,675	3	2
41	IL 47 & CONLEY RD	UNK	18,200	3	2
42	GRANT HWY & UNION RD	UNK	10,901	3	2
43	ALGONQUIN RD & SQUARE BARN RD	SIGNAL	36,100	4	1
44	US 12 & TRYON GROVE RD	SIGNAL	17,715	4	1
45	IL 176 & RIVER RD	SIGNAL	25,840	3	1
46	SPRING GROVE RD & MILLER RD	UNK	6,362	4	1
47	IL 47 & DEL WEBB BLVD OAK CREEK PKWY	SIGNAL	32,250	4	1
48	RANDALL RD & HARNISH DR	SIGNAL	41,775	3	1
49	IL 31 & IL CENTRAL PARK DR	SIGNAL	50,011	4	1
50	RICHMOND RD & DIAMOND DR	SIGNAL	28,700	3	1

RANK	INTERSECTION NAME	CONTROL TYPE	TOTAL AADT	NUMBER OF LEGS	FATAL & SERIOUS INJURY CRASHES
51	IL 23 & HARMONY RD	UNK	4,500	4	1
52	IL 47 & VANDERKARR RD	UNK	5,324	4	1
53	IL 31 & RINGWOOD RD	SIGNAL	12,267	4	1
54	ALGONQUIN RD & HARVEST GATE	SIGNAL	25,600	4	1
55	IL 31 & PRIME PKWY;ALBANY ST	SIGNAL	28,600	4	1
56	RANDALL RD & COUNTY LINE RD	SIGNAL	40,825	4	1
57	IL 47 & KREUTZER RD	SIGNAL	43,400	4	1
58	IL 120 & QUEEN ANNE RD	UNK	9,297	4	1
59	US 12 & SPRING GROVE RD	SIGNAL	16,680	4	1
60	RANDALL RD & MILLER RD	SIGNAL	40,550	4	1
61	UNION RD & DUNHAM RD	UNK	3,300	4	1
62	VIRGINIA ST & DEVONSHIRE LN;KIETH AVE	SIGNAL	36,300	4	1
63	US 12 & BLIVIN ST;MEYER RD	UNK	15,650	4	1
64	IL 47 & US 14	SIGNAL	26,565	4	1
65	VIRGINIA ST & MCHENRY AVE	SIGNAL	45,800	4	1
66	ELM ST & RIVER RD	SIGNAL	25,343	4	1
67	IL 176 & BRIARWOOD RD	SIGNAL	12,177	4	1
68	JAMES R RAKOW RD & MCHENRY AVE	SIGNAL	39,700	4	1
69	ALGONQUIN RD & CRYSTAL LAKE RD	SIGNAL	36,975	3	1
70	WILMOT RD & MAIN ST	SIGNAL	11,800	4	1
71	HUNTLEY RD & LONGMEADOW PKWY;BOLTZ RD	SIGNAL	15,725	4	1
72	ACKMAN RD & LAKEWOOD RD	ALL STOP	12,700	4	1
73	NORTHWEST HWY & SANDS RD	SIGNAL	27,450	4	1
74	ELM ST & RINGWOOD RD CURRAN RD	SIGNAL	24,496	4	1
75	RANDALL RD & LONGMEADOW PKWY;BOLTZ RD	SIGNAL	34,750	4	1
76	COUNTY LINE RD & MERCHANT DR	UNK	6,401	3	1
77	IL 176 & NEWPORT CT	SIGNAL	23,600	3	1
78	HALIGUS RD & DUNDEE RD	SIGNAL	12,300	4	1
79	NORTHWEST HWY & MAIN ST	SIGNAL	44,594	4	1
80	NORTHWEST HWY & FIRST ST	SIGNAL	30,200	3	1
81	RICHMOND RD & ELM ST	SIGNAL	42,102	3	1
82	WASHINGTON ST & THROOP ST	SIGNAL	8,170	3	1
83	IL 31 & HARTS RD	UNK	7,787	4	1
84	GRANT HWY & CHURCH RD	UNK	8,662	4	1
85	MARENGO RD & SEEMAN RD	UNK	3,850	4	1
86	RIVER RD & DOWELL RD	UNK	3,050	3	1
87	CARY-ALGONQUIN RD & KLASEN RD	UNK	14,625	3	1
88	BARNARD MILL RD & WONDER LAKE RD	UNK	6,226	3	1
89	RIVER RD & COUNTY LINE RD	UNK	2,350	4	1
90	REED RD & HALIGUS RD	SIGNAL	11,000	4	1
91	LAKE AVE & CATALPA LN	SIGNAL	14,500	4	1
92	NORTHWEST HWY & LINCOLN RD;LINCOLN AVE	SIGNAL	30,550	4	1
93	ELM ST & RIVERSIDE DR	SIGNAL	26,020	4	1
94	RICHMOND RD & MCCULLOM LAKE RD	SIGNAL	30,100	4	1
95	RINGWOOD RD & FLANDERS RD	UNK	8,750	4	1
96	ALGONQUIN RD & HILLTOP DR	SIGNAL	39,600	4	1
97	LAKE COOK RD & RIDGE RD	UNK	11,095	3	1
98	ALGONQUIN RD & FAIRWAY VIEW DR	UNK	24,250	3	1
99	GOLF COURSE RD & AMBERWOOD DR	UNK	8,150	4	1
100	IL 31 & EDGEWOOD RD	UNK	23,600	3	1

TABLE 22: HIGH-INJURY INTERSECTIONS CONT.

RANK	INTERSECTION NAME	CONTROL TYPE	TOTAL AADT	NUMBER OF LEGS	FATAL & SERIOUS INJURY CRASHES
101	STATE ST & EIGHTH AVE	UNK	6,700	3	1
102	NORTHWEST HWY & SCHOOL DR	UNK	28,575	3	1
103	VIRGINIA RD & BERKSHIRE DR	SIGNAL	8,050	4	1
104	IL 173 & WINN RD	UNK	9,525	3	1
105	US 14 & WINDY HILL RD	UNK	5,838	3	1
106	NORTHWEST HWY & SILVER LAKE RD	UNK	29,825	3	1
107	KISHWAUKEE VALLEY RD & IL 23	ALL STOP	7,750	4	1
108	IL 176 & FLEMING RD	SIGNAL	11,950	3	1
109	RICHMOND RD & JOHNSBURG RD	SIGNAL	21,625	3	1
110	ALGONQUIN RD & FRANK RD	SIGNAL	31,650	4	1
111	MAIN ST & MARENGO RD	SIGNAL	11,325	3	1
112	HARMONY RD & HAMPSHIRE RD	UNK	3,451	3	1
113	FLEMING RD & BULL VALLEY RD	ALL STOP	5,300	4	1
114	STIEG RD & DAVIS RD	UNK	600	4	1
115	RINGWOOD RD & PIONEER RD	UNK	5,062	4	1
116	RIVER RD & MID OAK LN	UNK	8,550	3	1
117	HANCOCK DR & EAST DR	UNK	4,500	3	1
118	CRYSTAL LAKE RD & BULL VALLEY RD	SIGNAL	24,400	4	1
119	PINGREE RD & THREE OAKS RD	UNK	9,800	3	1
120	RINGWOOD RD & BARNARD MILL RD	ALL STOP	10,450	4	1
121	MCCULLOM LAKE RD & ORLEANS ST	UNK	6,850	3	1
122	IL 31 & KLASEN RD	SIGNAL	17,925	3	1
123	ALGONQUIN RD & ELGIN RD;HAEGERS BEND RD	SIGNAL	42,590	4	1
124	STATE PARK RD & NIPPERSINK PL	UNK	8,800	4	1
125	IL 176 & VALLEY VIEW RD	SIGNAL	18,954	4	1
126	PLEASANT HILL RD & PLEASANT HILL RD	UNK	2,125	3	1
127	WASHINGTON ST & WICKER ST;DANE ST	UNK	4,900	4	1
128	FRONT ST & LILLIAN ST;GROVE AVE	SIGNAL	22,000	4	1
129	MAIN ST & MAIN ST;MAPLE AVE	ALL STOP	9,250	4	1
130	KISHWAUKEE VALLEY RD & MENGE RD	UNK	4,862	4	1
131	SLEEPY HOLLOW RD & STONE RIDGE LN	UNK	5,200	3	1
132	STATE PARK RD & GOLFVIEW DR	UNK	1,708	4	1
133	TERRA COTTA RD & OLD WESTBURY RD	UNK	6,400	3	1
134	WHITEHALL LN & TWICKENHAM CT	UNK	1,281	3	1
135	BULL VALLEY RD & ORCHARD VALLEY DR	UNK	5,550	4	1
136	MICHIGAN DR & HURON DR	UNK	1,281	3	1
137	LAKEWOOD RD & PALMER DR	UNK	2,050	3	1
138	CREEKSIDE DR & BROOKSIDE WAY	UNK	1,281	3	1
139	HILL ST & CHERRY	UNK	1,281	3	1
140	WEDGEWOOD DR & WEDGEWOOD DR	UNK	1,281	3	1
141	REED RD & THORNTON WAY	UNK	6,550	3	1
142	GOLF COURSE RD & DARTMOOR DR	UNK	8,150	4	1
143	CHAPEL HILL RD & CHARNBROOK DR	UNK	11,900	3	1
144	STONEGATE RD & SALFORD DR	UNK	2,800	3	1
145	CRYSTAL LAKE RD & GLENBROOK TRL	UNK	14,000	4	1
146	BULL VALLEY RD & KRESSWOOD DR	UNK	13,200	3	1
147	MAIN ST & LA FOX RIVER DR	UNK	17,900	3	1
148	HALIGUS RD & EVENDALE RD	UNK	9,400	4	1
149	RICHMOND RD & RUNNING BROOK FARM BLVD	SIGNAL	28,700	3	1
150	HALIGUS RD & GRAND CAYON AVE	UNK	5,200	4	1

RANK	INTERSECTION NAME	CONTROL TYPE	TOTAL AADT	NUMBER OF LEGS	FATAL & SERIOUS INJURY CRASHES
151	GREEN ST & TURNBERRY DR	UNK	5,251	3	1
152	IL 31 & TRINITY DR	UNK	20,575	3	1
153	RANDALL RD & ANGELA LN	UNK	33,500	3	1
154	PINGREE RD & COG CIR	UNK	11,800	3	1
155	IL 31 & RAYMOND DR	UNK	33,275	3	1
156	AYER ST & SUMNER ST	UNK	5,950	4	1
157	HANSON RD & ZANGE DR	UNK	4,050	3	1
158	IL 31 & SCHOOL RD	UNK	7,738	3	1
159	ALGONQUIN RD & RYAN PKWY	UNK	39,350	4	1
160	VALLEY DR & SHERWOOD TR	UNK	1,281	3	1
161	JEFFERSON ST & CHURCH ST	UNK	376	4	1
162	DIGGINS ST & JEFFERSON ST	UNK	3,925	4	1
163	NORTHWEST HWY & SECOND ST	UNK	28,950	4	1
164	VIRGINIA ST & COVENTRY LN	UNK	30,275	3	1
165	SUNSET DR & HOLIDAY DR	UNK	1,281	3	1
166	RAND RD & LAKEVIEW DR	UNK	23,175	3	1
167	SOUTH ST & GERRY ST	UNK	4,001	3	1
168	LILLIAN ST & SIOUX LN	ALL STOP	3,200	3	1
169	WALKUP AVE & FRANKLIN AVE	UNK	2,950	4	1
170	NORTH SHORE & EAST END AVE	UNK	1,281	3	1
171	VIRGINIA ST & WOODSTOCK ST	SIGNAL	19,725	3	1
172	IL 47 & PRICE RD	UNK	4,425	4	1
173	STATE ST & FOREST ST	UNK	4,500	4	1
174	VINE ST & MILL ST	UNK	19,400	4	1
175	IL 14 & STATE LINE RD	UNK	5,568	3	1
176	IL 14 & HEBRON RD	UNK	5,651	4	1
177	IL 47 & STATE LINE RD	UNK	5,075	3	1
178	IL 173 & WHITE OAKS RD	UNK	5,950	3	1
179	IL 173 & LAKEVIEW RD	UNK	8,375	3	1
180	IL 23 & RATFIELD RD	UNK	4,500	4	1
181	IL 23 & COLLINS RD	UNK	4,242	3	1
182	IL 23 & GRANGE RD	UNK	3,337	3	1
183	US 12 & SUNSET RD	UNK	19,188	3	1
184	US 12 & N SOLON RD	UNK	9,100	3	1
185	IL 176 & BLOSSOM ST	UNK	15,700	3	1
186	IL 31 & STRONG RD	UNK	32,550	4	1
187	TELEGRAPH ST & DEERPASS RD	UNK	7,425	3	1
188	ALDEN RD & THAYER RD	UNK	2,739	3	1
189	KISHWAUKEE VALLEY RD & WYE	UNK	4,250	3	1
190	HUNTER RD & WHITE OAKS RD	UNK	1,575	3	1
191	LANGE RD & BURGETT RD	UNK	600	4	1
192	RIVER RD & THORNE RD	UNK	2,012	3	1
193	JOHNSBURG RD & MILLER RD	UNK	4,238	3	1
194	THOMPSON RD & HOGBAC RD	UNK	750	3	1
195	PLEASANT VALLEY RD & P & O RD	UNK	150	3	1
196	DEAN ST & LUCAS RD	UNK	2,625	3	1
197	WOODLAND RD & W RAWSON BRIDGE RD	UNK	4,050	3	1
198	BRIARWOOD RD & BALLARD RD	ALL STOP	2,350	3	1
199	S RAWSON BRIDGE RD & HICKORY NUT GROVE LN	UNK	3,450	3	1
200	MAIN ST & BUENA AVE	UNK	4,901	3	1

TABLE 22: HIGH-INJURY INTERSECTIONS CONT.

RANK	INTERSECTION NAME	CONTROL TYPE	TOTAL AADT	NUMBER OF LEGS	FATAL & SERIOUS INJURY CRASHES
201	MURIEL RD & MAPLE AVE	UNK	1,708	4	1
202	WILLOW DR & WEST WONDER LAKE DR	UNK	1,281	3	1
203	OAK ST & EAST DR	UNK	904	3	1
204	RINGWOOD RD & LEESIDE ST	UNK	5,351	3	1
205	RIGBY DR & CHESTERFIELD DR	UNK	1,281	3	1
206	PLUM ST & CHERRY AVE	UNK	0	1	1
207	ROBERTS RD & MAPLE ST	UNK	6,400	4	1
208	WONDER LAKE RD & LUCY DR	UNK	4,500	3	1
209	PAULSON ST & FLORENCE ST	UNK	1,281	3	1
210	PEREGRINE TR & MANDA DR	UNK	1,281	3	1
211	LAWRENCE SPUR & LAWRENCE RD	UNK	1,200	3	1
212	GOLF COURSE RD & VILLAGE RD	ALL STOP	5,625	4	1
213	PINGREE RD & TERRA COTTA RD	SIGNAL	20,625	4	1
214	BULL VALLEY RD & BULL VALLEY RD	ALL STOP	5,775	3	1
215	GREENWOOD RD & WONDERMERE RD	UNK	5,676	3	1
216	COUNTY LINE RD & STONEGATE RD	ALL STOP	7,575	4	1
217	IL 31 & BARNARD MILL RD BECK DR	UNK	13,687	4	1
218	HUNTINGTON DR N & BEDFORD CT	UNK	3,650	4	1
219	IL 31 & DARTMOOR DR;PARK PL	UNK	19,400	4	1
220	IRVING AVE & MCHENRY AVE IRVING AVE	UNK	12,750	4	1
221	IL 47 & DAVIS RD	UNK	16,650	4	1
222	IL 23 & CORAL RD PLEASANT GROVE RD	SIGNAL	4,681	4	1
223	KISHWAUKEE VALLEY RD & ROSE FARM RD	UNK	3,100	3	1
224	UNION RD & CORAL RD	UNK	2,400	4	1
225	FOX LAKE RD & BROADWAY RD	UNK	6,350	4	1
226	HUNTINGTON DR & S MAIN ST	SIGNAL	26,950	4	1
227	GRANT HWY & HARMONY RD	UNK	11,523	4	0
228	IL 47 & IL 176	SIGNAL	24,008	3	0
229	IL 47 & LAKE AVE	SIGNAL	25,482	4	0
230	IL 176 & WALKUP RD	SIGNAL	15,050	4	0
231	JAMES R RAKOW RD & PINGREE RD	SIGNAL	28,062	4	0
232	PYOTT RD & VIRGINIA RD	SIGNAL	21,450	4	0
233	RANDALL RD & POLARIS DR	SIGNAL	39,250	4	0
234	IL 47 & TELEGRAPH ST	SIGNAL	23,559	3	0
235	IL 47 & LUCAS RD	UNK	16,850	4	0
236	CHARLES J MILLER RD & BARREVILLE RD	SIGNAL	18,925	4	0
237	NORTHWEST HWY & CRYSTAL POINT DR	SIGNAL	31,400	3	0
238	IL 173 & GREENWOOD RD	UNK	4,950	3	0
239	NORTHWEST HWY & PINGREE RD	SIGNAL	38,042	4	0
240	US 12 & WILMOT RD	SIGNAL	19,504	4	0
241	JAMES R RAKOW RD & PYOTT RD	SIGNAL	38,100	4	0
242	WALKUP RD & HILLSIDE RD	SIGNAL	5,050	4	0
243	LAKEWOOD RD & MILLER RD	SIGNAL	17,450	4	0
244	LAKEWOOD RD & REED RD	SIGNAL	19,375	3	0
245	HARNISH DR & SHERMAN RD	UNK	3,000	3	0
246	IL 23 & MARENGO RD	UNK	3,725	3	0
247	NORTHWEST HWY & LIBERTY AVE	UNK	28,575	3	0
248	ALGONQUIN RD & WENTWORTH DR	UNK	25,626	3	0
249	US 12 & FINCH ST	UNK	13,800	4	0
250	RICHARDSON RD & ENGLISH PRAIRIE RD	UNK	1,600	4	0

RANK	INTERSECTION NAME	CONTROL TYPE	TOTAL AADT	NUMBER OF LEGS	FATAL & SERIOUS INJURY CRASHES
251	NORTHWEST HWY & THREE OAKS RD	SIGNAL	34,499	4	0
252	IL 47 & THAYER RD	UNK	4,887	4	0
253	ELM ST & CRYSTAL LAKE RD	SIGNAL	33,625	3	0
254	ELM ST & WONDER LAKE RD	SIGNAL	19,032	4	0
255	IL 176 & BURTON TRL	UNK	16,000	4	0
256	HARMONY RD & MAPLE ST	UNK	1,975	3	0
257	FRANKLINVILLE RD & GARDEN VALLEY RD	UNK	1,688	4	0
258	DEERPASS RD & RIVER RD	UNK	2,900	4	0
259	WILMOT RD & ENGLISH PRAIRIE RD	UNK	7,651	3	0
260	MAIN ST & CRYSTAL LAKE AVE	SIGNAL	24,050	4	0
261	ACKMAN RD & SWANSON RD	UNK	12,325	3	0
262	ACKMAN RD & GOLF COURSE RD	SIGNAL	17,925	4	0
263	HUNTLEY RD & KREUTZER RD	UNK	9,600	3	0
264	LAKE COOK RD & HAEGERS BEND RD	SIGNAL	14,825	4	0
265	HALIGUS RD & MAIN ST	ALL STOP	10,575	4	0
266	PYOTT RD & WILLOW ST	UNK	13,650	4	0
267	NORTHWEST HWY & MANOR RD	SIGNAL	34,600	4	0
268	VIRGINIA ST & DOLE AVE DOLE ST	SIGNAL	36,550	4	0
269	NORTHWEST HWY & TECKLER BLVD	SIGNAL	32,187	4	0
270	IL 120 & CHARLES RD;GREENWOOD RD	ALL STOP	19,403	4	0
271	RAND RD & STATE PARK RD;EAST ST	SIGNAL	41,500	4	0
272	RANDALL RD & COMMONS DR	SIGNAL	35,900	3	0
273	RANDALL RD & COMMERCIAL DR	SIGNAL	28,800	4	0

IMAGE 21: MCHENRY COUNTY HIGH-INJURY ROADWAYS

MAP OVERVIEW

The High Injury Network (HIN) within McHenry County, displayed in the map below, highlights roadways with a disproportionately high rate of fatalities and serious injuries, emphasizing critical areas where safety improvements are urgently needed. This network includes key corridors and intersections with a history of severe incidents, often linked to factors such as high traffic volumes, elevated speed limits, insufficient pedestrian infrastructure, or complex intersections.

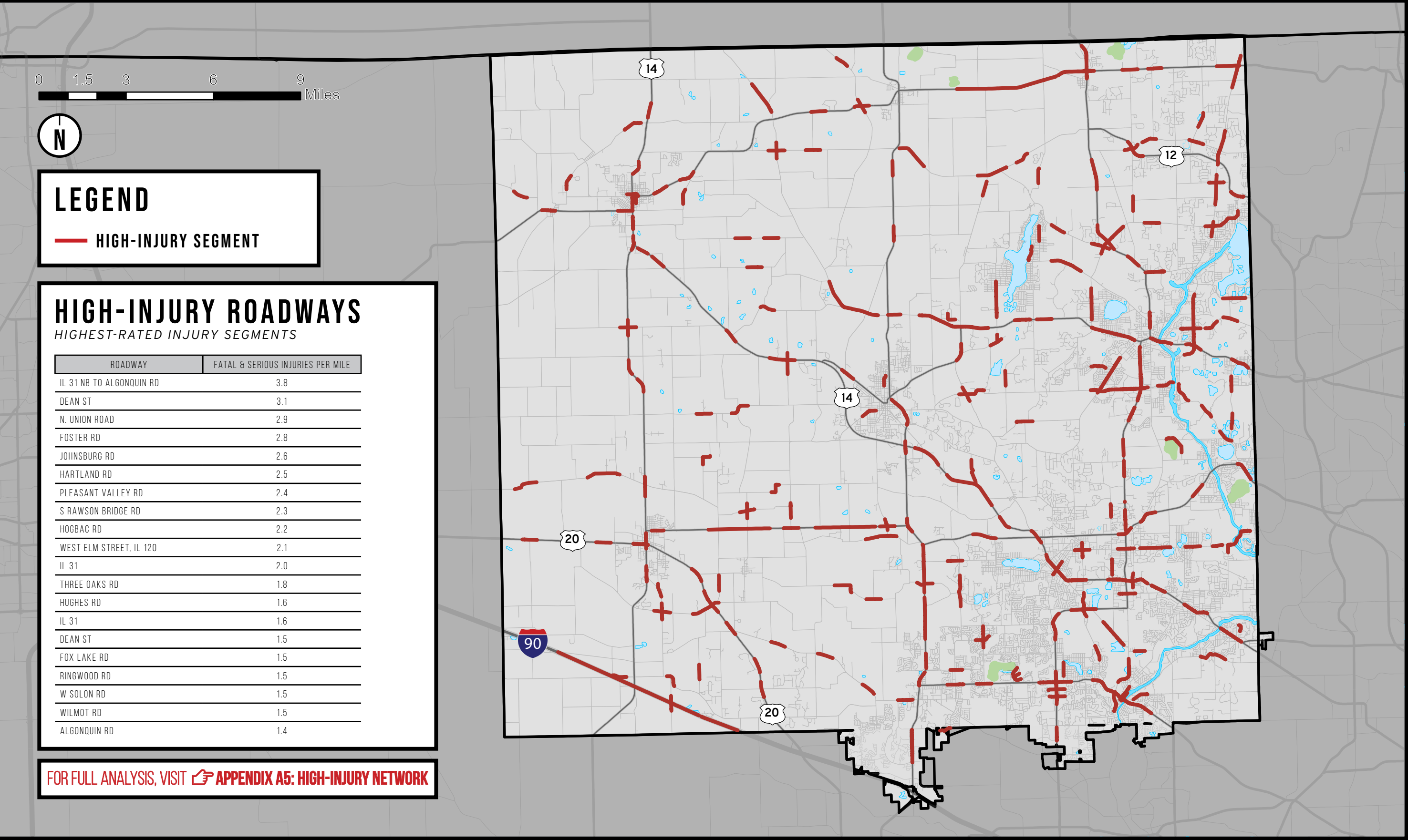


TABLE 23: HIGH-INJURY ROADWAY SEGMENTS

ROAD	MUNICIPALITY	AADT	MILES	FATAL & SERIOUS INJURY CRASHES	FATAL & SERIOUS INJURY CRASHES PER MILE
DEAN ST	LAKEWOOD	450	0.13	2	3.08
N. UNION ROAD	UNINCORPORATED	750	0.27	4	2.96
FOSTER RD	UNINCORPORATED	3,200	0.29	4	2.76
JOHNSBURG RD	SPRING GROVE	3,200	0.31	4	2.58
HARTLAND RD	UNINCORPORATED	1,550	0.24	3	2.5
PLEASANT VALLEY RD	LAKEWOOD	850	0.08	1	2.5
S RAWSON BRIDGE RD	UNINCORPORATED	2,950	0.26	3	2.31
HOGBAC RD	UNINCORPORATED	50	0.18	2	2.22
WEST ELM STREET, IL 120	UNINCORPORATED	11,050	0.28	3	2.14
THREE OAKS RD	CRYSTAL LAKE	9,083	0.56	5	1.79
IL 31	ALGONQUIN	11,114	0.91	8	1.76
HUGHES RD	UNINCORPORATED	1,650	0.49	4	1.63
W SOLON RD	UNINCORPORATED	300	0.26	2	1.54
FOX LAKE RD	UNINCORPORATED	5,950	0.13	1	1.54
RINGWOOD RD	JOHNSBURG	3,650	0.26	2	1.54
DEAN ST	UNINCORPORATED	2,083	0.26	2	1.54
WILMOT RD	SPRING GROVE	4,242	0.4	3	1.5
ALGONQUIN RD	BARRINGTON HILLS	3,250	0.57	4	1.4
STONEGATE RD	ALGONQUIN	1,700	0.57	4	1.4
RAWSON BRIDGE RD	UNINCORPORATED	6,517	0.73	5	1.37
MAIN ST	UNINCORPORATED	13,879	0.89	6	1.35
KENOSHA ST	UNINCORPORATED	6,828	0.77	5	1.3
RAWSON BRIDGE RD	PORT BARRINGTON	6,630	0.31	2	1.29
LINCOLN RD	MC HENRY	5,236	0.33	2	1.21
JOHNSBURG RD	UNINCORPORATED	4,479	1	6	1.2
DIVISION ST	UNINCORPORATED	11,942	0.5	3	1.2
NORTHWEST HWY	UNINCORPORATED	19,697	4.34	26	1.2
RAND RD	UNINCORPORATED	23,786	0.5	3	1.2
BRINK ST	UNINCORPORATED	5,361	0.51	3	1.18
JEFFERSON ST	HARVARD	400	0.34	2	1.18
US 12	UNINCORPORATED	13,613	1.55	9	1.16
BULL VALLEY RD	BULL VALLEY	1,900	0.87	5	1.15
CRYSTAL LAKE RD	UNINCORPORATED	9,400	0.18	1	1.11
MASON HILL RD	BULL VALLEY	2,000	0.37	2	1.08
SUNSET RD	SPRING GROVE	950	0.39	2	1.03
VIRGINIA ST	UNINCORPORATED	17,785	1.37	7	1.02
JOHNSBURG RD	JOHNSBURG	10,512	1	5	1
SOUTH FRONT STREET, IL 31	UNINCORPORATED	16,498	2.42	12	0.99
HALIGUS RD	LAKEWOOD	4,100	0.81	4	0.99
SOUTH EASTWOOD DRIVE, IL 47	UNINCORPORATED	14,683	0.41	2	0.98
REED RD	HUNTLEY	10,230	0.41	2	0.98
DIGGINS ST	UNINCORPORATED	5,383	0.21	1	0.95
OAK GROVE RD	UNINCORPORATED	583	0.64	3	0.94
E SOLON RD	UNINCORPORATED	1,090	0.64	3	0.94
O'BRIEN RD	UNINCORPORATED	630	1.07	5	0.93
PYOTT RD	CRYSTAL LAKE	11,633	0.43	2	0.93
LILY POND RD	UNINCORPORATED	1,730	0.43	2	0.93
ALGONQUIN RD	UNINCORPORATED	21,650	4.59	21	0.92
TERRA COTTA RD	UNINCORPORATED	3,700	0.44	2	0.91
CORAL RD	UNINCORPORATED	975	1.56	7	0.9

ROAD	MUNICIPALITY	AADT	MILES	FATAL & SERIOUS INJURY CRASHES	FATAL & SERIOUS INJURY CRASHES PER MILE
WILMOT RD	FOX LAKE	9,006	1.56	7	0.9
CRYSTAL LAKE AVE	UNINCORPORATED	8,396	1.61	7	0.87
LILY POND RD	WOODSTOCK	2,450	0.46	2	0.87
TELEGRAPH ST	UNINCORPORATED	6,829	5.62	24	0.85
IL 176	UNINCORPORATED	14,806	1.44	6	0.83
MAIN ST	ALGONQUIN	17,738	0.24	1	0.83
SANDS RD	CRYSTAL LAKE	2,600	0.49	2	0.82
LAKEWOOD RD	LAKE IN THE HILLS	7,717	0.73	3	0.82
CRYSTAL LAKE RD	MC HENRY	9,429	1.24	5	0.81
STANDISH RD	UNINCORPORATED	150	0.25	1	0.8
GRANT HWY	UNINCORPORATED	6,212	3.5	14	0.8
BULL VALLEY RD	MC HENRY	11,246	1.75	7	0.8
PLUM TREE RD	FOX RIVER GROVE	1,250	0.25	1	0.8
CHARLES RD	UNINCORPORATED	5,890	1.28	5	0.78
CHAPEL HILL RD	UNINCORPORATED	10,940	2.31	9	0.78
ELM ST	UNINCORPORATED	16,105	3.06	12	0.78
MAPLE ST	UNINCORPORATED	1,090	1.02	4	0.78
BARBERRY TRL	FOX RIVER GROVE	350	0.26	1	0.77
THOMPSON RD	UNINCORPORATED	700	0.52	2	0.77
BUNKER HILL DR	ALGONQUIN	6,117	0.26	1	0.77
WOODLAND RD	OAKWOOD HILLS	650	0.26	1	0.77
ALBRECHT RD	CRYSTAL LAKE	750	0.26	1	0.77
ALBRECHT RD	LAKE IN THE HILLS	1,150	0.26	1	0.77
FLEMING RD	BULL VALLEY	2,450	0.53	2	0.75
SOUTH ST	WOODSTOCK	2,925	0.53	2	0.75
PINGREE RD	CRYSTAL LAKE	9,477	0.53	2	0.75
CHARLES J MILLER RD	MC HENRY	8,275	0.8	3	0.75
ALDEN RD	UNINCORPORATED	2,379	2.68	10	0.75
EASTWOOD AVE	UNINCORPORATED	12,214	1.07	4	0.75
RICHMOND ROAD, IL 31	UNINCORPORATED	7,965	2.41	9	0.75
BOCKMAN RD	UNINCORPORATED	150	0.27	1	0.74
MCHENRY AVE	CRYSTAL LAKE	8,113	0.54	2	0.74
RICHMOND RD	UNINCORPORATED	12,868	0.54	2	0.74
HALIGUS RD	UNINCORPORATED	2,750	0.27	1	0.74
IL 23	UNINCORPORATED	4,312	3.01	11	0.73
RINGWOOD RD	UNINCORPORATED	5,190	2.22	8	0.72
HUNTINGTON DR N	ALGONQUIN	6,225	0.28	1	0.71
RAWSON BRIDGE RD	OAKWOOD HILLS	3,393	0.56	2	0.71
WILMOT RD	UNINCORPORATED	3,775	0.29	1	0.69
SADDLERBRED TR	UNINCORPORATED	200	0.29	1	0.69
JAMES R RAKOW RD	UNINCORPORATED	14,586	1.17	4	0.68
IL 47	UNINCORPORATED	14,864	5.41	18	0.67
KISHWAUKEE VALLEY RD	UNINCORPORATED	3,383	1.22	4	0.66
MCCULLOM LAKE RD	WONDER LAKE	3,425	0.61	2	0.66
RINGWOOD RD	RINGWOOD	4,420	1.23	4	0.65
LINCOLN RD	UNINCORPORATED	6,050	0.62	2	0.65
VINE ST	UNINCORPORATED	11,014	0.31	1	0.65
GREENWOOD ROAD, IL 120	UNINCORPORATED	9,025	0.63	2	0.63
BARNARD MILL RD	RINGWOOD	4,750	0.63	2	0.63

TABLE 23: HIGH-INJURY ROADWAY SEGMENTS CONT.

ROAD	MUNICIPALITY	AADT	MILES	FATAL & SERIOUS INJURY CRASHES	FATAL & SERIOUS INJURY CRASHES PER MILE
CHARLES RD	UNINCORPORATED	6,061	1.95	6	0.62
RANDALL RD	UNINCORPORATED	15,703	2.26	7	0.62
RIVER RD	UNINCORPORATED	1,264	1.98	6	0.61
IL 173	UNINCORPORATED	5,864	8.33	25	0.6
HARRISON ST	ALGONQUIN	900	0.34	1	0.59
RINGWOOD RD	MC HENRY	6,693	0.35	1	0.57
FRONT ST	UNINCORPORATED	14,200	1.06	3	0.57
SOUTH STATE ROUTE 31, IL 31	UNINCORPORATED	22,279	0.7	2	0.57
BLACKMAN ST	HARVARD	100	0.35	1	0.57
NELSON RD	UNINCORPORATED	350	0.36	1	0.56
DIVISION ST	UNINCORPORATED	8,833	0.71	2	0.56
CLAY ST	WOODSTOCK	550	0.36	1	0.56
KLASEN RD	ALGONQUIN	5,350	0.36	1	0.56
MAIN ST	UNINCORPORATED	9,375	0.36	1	0.56
THOMPSON RD	WONDER LAKE	3,850	1.09	3	0.55
FRANK RD	LAKE IN THE HILLS	6,600	0.37	1	0.54
STATE ROUTE 120, IL 120	UNINCORPORATED	11,564	1.52	4	0.53
BAY RD	UNINCORPORATED	9,330	0.78	2	0.51
KREUTZER RD	HUNTLEY	7,850	0.39	1	0.51
BALLARD RD	LAKEWOOD	1,050	0.41	1	0.49
JUSTEN RD	PRAIRIE GROVE	350	0.42	1	0.48
WEST STATE ROAD, IL 176	UNINCORPORATED	16,321	1.72	4	0.47
RIVER RD	UNINCORPORATED	7,667	1.75	4	0.46
US 14	UNINCORPORATED	7,964	6.14	14	0.46
HEMMINGSSEN RD	UNINCORPORATED	336	1.32	3	0.45
JUSTEN RD	UNINCORPORATED	400	0.45	1	0.44
NICHOLS RD	UNINCORPORATED	183	0.46	1	0.43
CRYSTAL LAKE RD	LAKE IN THE HILLS	1,850	0.47	1	0.43
VANDERKARR RD	UNINCORPORATED	1,000	1.45	3	0.41
BOULDER DR	LAKE IN THE HILLS	750	0.49	1	0.41
MCCULLOM LAKE RD	UNINCORPORATED	3,550	0.49	1	0.41
LILY LAKE RD	UNINCORPORATED	870	0.99	2	0.4
RICHARDSON RD	SPRING GROVE	1,917	0.51	1	0.39
GREENWOOD RD	UNINCORPORATED	2,750	0.51	1	0.39
MCGUIRE RD	UNINCORPORATED	1,650	1.02	2	0.39
FRANKLINVILLE RD	UNINCORPORATED	1,017	0.51	1	0.39
HUNTER RD	UNINCORPORATED	1,150	0.51	1	0.39
US RT 14	UNINCORPORATED	5,593	1.02	2	0.39
STREIT RD	UNINCORPORATED	50	0.51	1	0.39
SCHULTZ RD	UNINCORPORATED	500	0.51	1	0.39
VOSS RD	UNINCORPORATED	150	0.51	1	0.39
CRYSTAL LAKE AVE	CRYSTAL LAKE	6,310	0.51	1	0.39
GARDEN VALLEY RD	UNINCORPORATED	250	0.51	1	0.39
JOHNSON RD	UNINCORPORATED	283	0.51	1	0.39
KUNDE RD	UNINCORPORATED	117	0.51	1	0.39
KEYSTONE RD	UNINCORPORATED	1,050	0.51	1	0.39
S SOLON RD	UNINCORPORATED	1,200	0.51	1	0.39
MAIN STREET, IL 47	UNINCORPORATED	4,083	1.02	2	0.39
WASHINGTON ST	UNINCORPORATED	2,350	0.51	1	0.39
U.S. 20	UNINCORPORATED	6,275	1.02	2	0.39

ROAD	MUNICIPALITY	AADT	MILES	FATAL & SERIOUS INJURY CRASHES	FATAL & SERIOUS INJURY CRASHES PER MILE
LAKE SHORE DR	UNINCORPORATED	183	0.51	1	0.39
VALLEY HILL RD	BULL VALLEY	217	0.51	1	0.39
HARMONY RD	UNINCORPORATED	2,167	1.02	2	0.39
DARTMOOR DR	MC HENRY	3,017	0.51	1	0.39
BARNARD MILL RD	UNINCORPORATED	3,750	0.51	1	0.39
WONDER LAKE RD	UNINCORPORATED	1,750	0.51	1	0.39
UNION RD	UNINCORPORATED	400	0.52	1	0.38
MARENGO RD	UNINCORPORATED	2,717	1.56	3	0.38
OAK GROVE RD	UNINCORPORATED	550	0.52	1	0.38
VIRGINIA RD	LAKE IN THE HILLS	3,688	1.06	2	0.38
STATE ST	UNINCORPORATED	8,705	0.53	1	0.38
DUNHAM RD	UNINCORPORATED	400	0.53	1	0.38
HIGHLAND AVE	ALGONQUIN	1,300	0.54	1	0.37
MAIN ST	ALGONQUIN	2,680	0.54	1	0.37
BUNKER HILL RD	UNINCORPORATED	83	0.56	1	0.36
IL-31	LAKE IN THE HILLS	13,183	0.58	1	0.34
JANE ADDAMS MEMORIAL	UNINCORPORATED	25,640	6.64	11	0.33
TRYON GROVE RD	UNINCORPORATED	2,300	1.24	2	0.32
PYOTT RD	LAKE IN THE HILLS	12,950	0.71	1	0.28
LINCOLN RD	LAKEMOOR	5,564	0.75	1	0.27
MAIN ST	CRYSTAL LAKE	9,258	0.73	1	0.27
PLEASANT VALLEY RD	UNINCORPORATED	770	0.99	1	0.2
DEEP CUT RD	UNINCORPORATED	350	0.15	0	0
SUNSET RD	UNINCORPORATED	750	0.12	0	0
GETTY RD	UNINCORPORATED	950	0.51	0	0
MASON HILL RD	UNINCORPORATED	1,800	0.19	0	0
E SOLON RD	SPRING GROVE	1,083	0.12	0	0
MAIN ST	FOX LAKE	1,883	0.25	0	0
MAIN ST	SPRING GROVE	2,083	0.26	0	0
RINGWOOD RD	WONDER LAKE	8,050	0.01	0	0
BALLARD RD	UNINCORPORATED	1,250	0.1	0	0
<NULL>	UNINCORPORATED	9,650	0	0	0
RAND ROAD, IL-120	UNINCORPORATED	13,717	0.16	0	0
EAST TERRA COTTA	UNINCORPORATED	12,050	0.08	0	0
BARNARD MILL RD	UNINCORPORATED	12,650	0.21	0	0
THOROUGHbred TR	UNINCORPORATED	50	0.15	0	0
LILY LAKE RD	LAKEMOOR	950	0.04	0	0
BULL VALLEY RD	UNINCORPORATED	1,750	0.05	0	0
COLD SPRINGS RD	BULL VALLEY	2,250	0	0	0
PLUM TREE RD	BARRINGTON HILLS	1,050	0.16	0	0
RAWSON BRIDGE RD	UNINCORPORATED	3,300	0.03	0	0
MAIN ST	HUNTLEY	10,450	0.15	0	0
THOMPSON RD	UNINCORPORATED	2,850	0.14	0	0

5

EMPHASIS AREAS

IN THIS CHAPTER, READERS CAN EXPECT AN OVERVIEW OF THE EMPHASIS AREAS, WHICH ARE COMMON CRASH FACTORS SEEN IN MCHENRY COUNTY, IN ADDITION TO RECOMMENDATIONS TO REDUCE CRASHES RELATED TO THESE EMPHASIS AREAS.



EMPHASIS AREAS

IDOT has embraced the Safe System Approach (SSA) to guide the state’s efforts toward reducing roadway fatalities and serious injuries. In alignment with the SSA, the 2022-2026 Illinois SHSP defines eighteen Safety Emphasis Areas (EAs) that are designed to provide a framework for understanding contributing crash factors and identifying safety solutions.

OVERVIEW

Emphasis Areas are priority safety concerns identified through data analysis, community input, and regional trends that contribute significantly to crashes, fatalities, and serious injuries. These areas represent the most pressing safety challenges, such as animal-involved crashes, road departures, and motorcyclist safety. By focusing on specific crash types, user groups, or behaviors, emphasis areas enable targeted interventions that address underlying causes and high-risk factors. This approach ensures that safety resources are allocated effectively to reduce the most severe outcomes on McHenry County’s roadways and aligns with broader Vision Zero and Safe System principles.

While emphasis areas focus on overarching safety challenges, they are distinct from typologies, which describe specific roadway characteristics or settings, such as school entrances, residential collectors, or rural roads. Typologies provide a framework for understanding how safety concerns manifest within certain physical environments, whereas emphasis areas focus on the behavioral, situational, or systemic factors contributing to crashes. Together, these frameworks complement one another, with typologies guiding the application of countermeasures to the unique context of each roadway, and emphasis areas ensuring that interventions address the most critical safety priorities. This dual approach allows for comprehensive and context-sensitive safety planning.

ANALYSIS

The project team has identified four county-specific emphasis areas from the emphasis areas defined in the Illinois Strategic Highway Safety Plan (SHSP). These emphasis areas are selected based on the crash patterns, perceived safety risks and community need in McHenry County. The selected emphasis areas will guide the development of tailored safety programs to reduce fatalities and injuries on the road.

Figure 2 shows the share of KA crashes in McHenry County between 2018 and 2022 by SHSP emphasis area.

Figure 3 presents a comparison between the share of KA crashes and the share of total crashes. The comparison highlights certain emphasis areas that are significantly overrepresented in KA crash occurrences. For example, impaired driving accounts for only 5% of total crashes, yet it contributes to 25% of KA crashes, indicating that while these crashes are relatively infrequent, they tend to be far more severe and deadly.

To better understand the extent to which these emphasis areas are overrepresented, a representation ratio is introduced. This ratio compares the share of KA crashes to the share of total crashes, allowing for a clearer assessment of overrepresentation. Emphasis areas are ranked based on their representation ratio, as shown in Figure 4.

FIGURE 2: SHARE OF KA CRASHES BY EMPHASIS AREA (2018-2022)

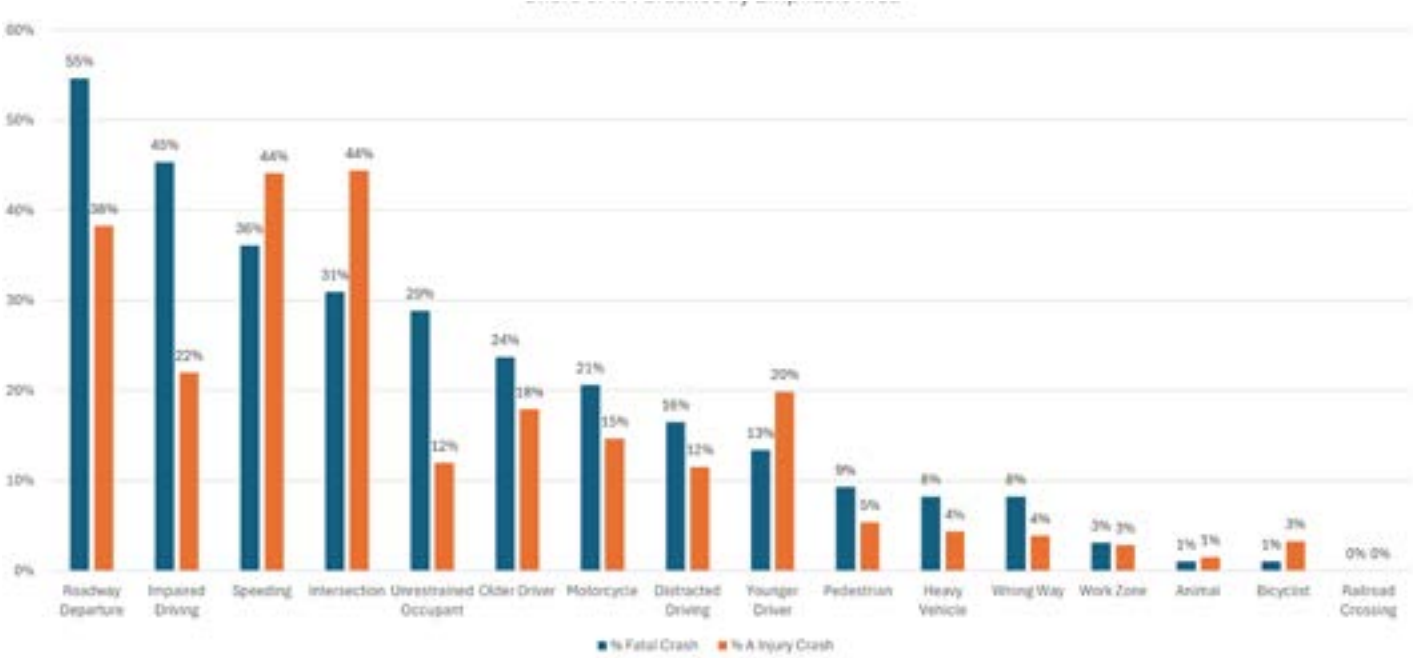


FIGURE 3: SHARE OF CRASHES BY EMPHASIS AREA (2018-2022)

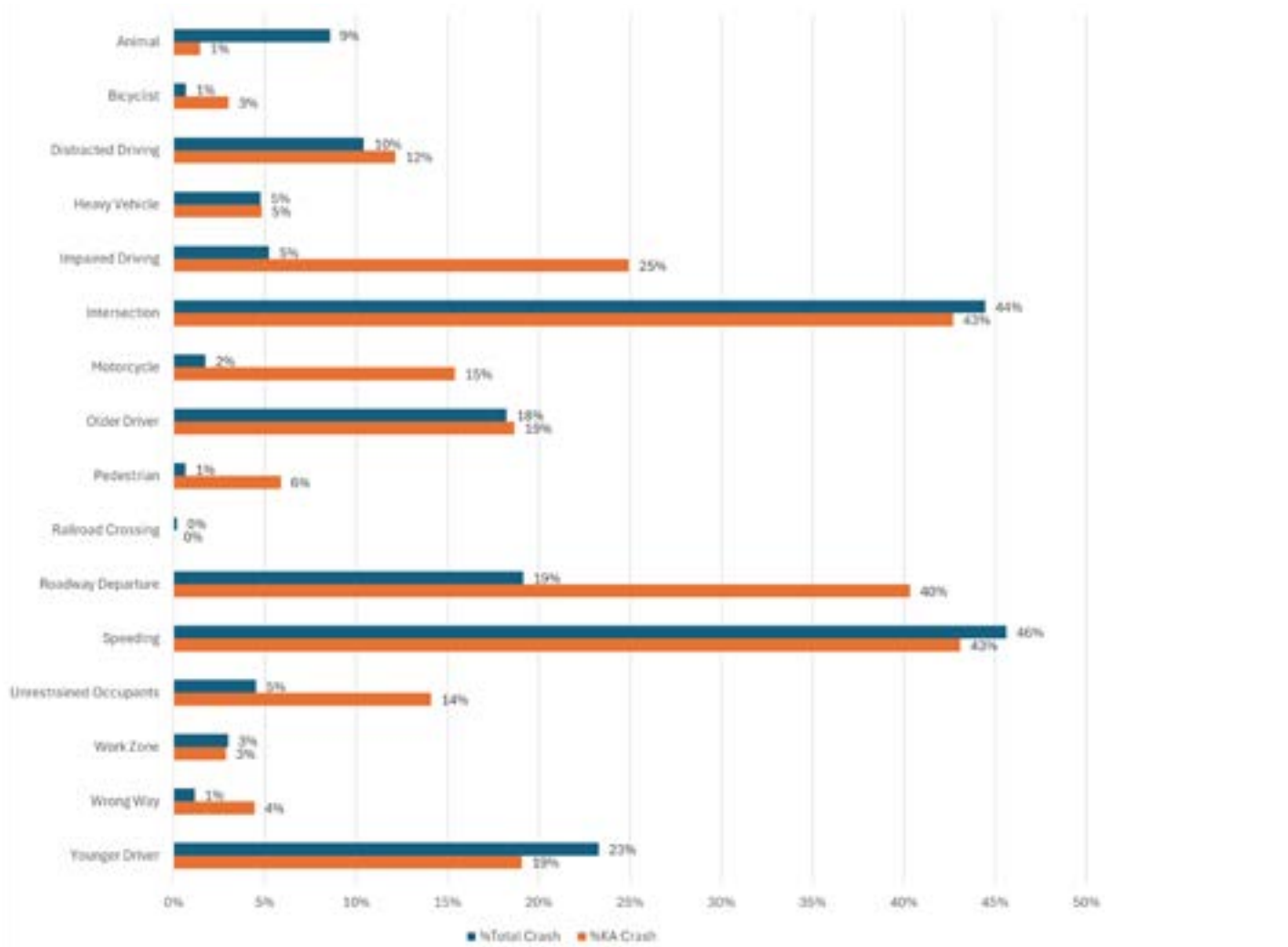
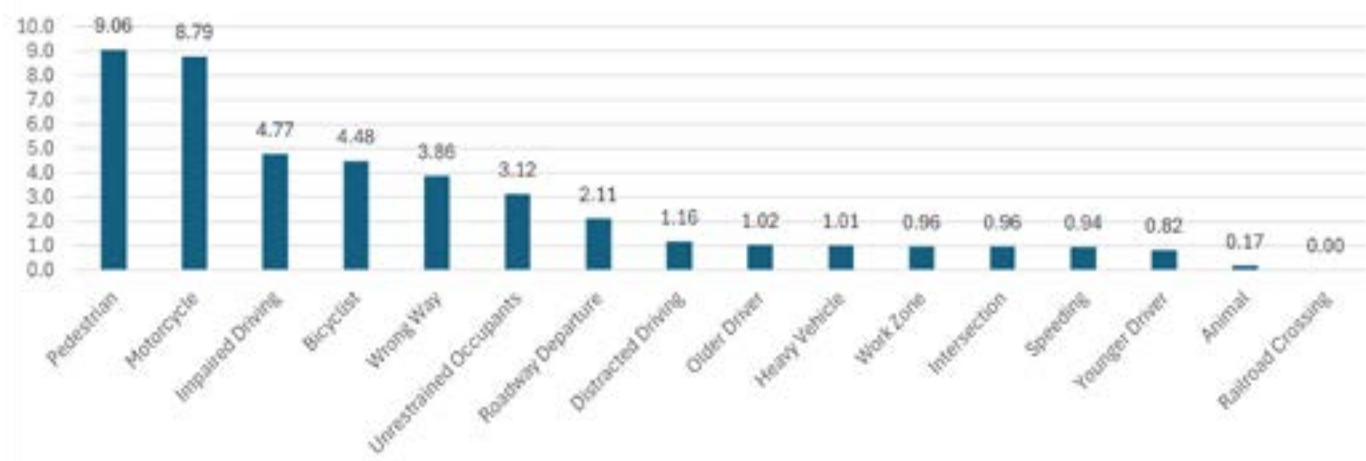


FIGURE 4: EMPHASIS AREA BY REPRESENTATION RATIO



SELECTED EMPHASIS AREAS

The most overrepresented emphasis areas include Pedestrian, Motorcycle, Impaired Driving, Bicyclist, Wrong Way, Unrestrained, and Roadway Departure. In each of these categories, the share of KA crashes is more than double the share of total crashes, highlighting their disproportionate impact on roadway safety.

Five emphasis areas are selected for an in-depth analysis for McHenry. These emphasis areas were selected based on two key criteria: (1) they are disproportionately overrepresented compared to their share of total crashes; (2) they account for a relatively large proportion of KA crashes.

The selected emphasis areas for McHenry County include Pedestrian, Motorcycle, Impaired Driving, Unrestrained Occupants, and Roadway departure. Each of these emphasis areas is discussed below.

PEDESTRIAN

Pedestrians are among the most vulnerable road users. In McHenry County, pedestrian-involved crashes have a stunningly high representation ratio of 9, which means they are 9 times more likely to result in a fatal or serious injury crash than other types of crashes. Unlike occupants of vehicles, pedestrians lack physical protection, making them highly susceptible to severe injuries and fatalities in collisions. These crashes often occur due to speeding, distracted driving, failure to yield, and poor visibility, particularly in urban areas and intersections.

To reduce pedestrian crashes, several countermeasures can be implemented. Improved crosswalk design, including high-visibility markings and pedestrian refuge islands, enhances safety at crossings. Traffic calming measures, such as lower speed limits and curb extensions, help slow vehicles in pedestrian-heavy areas. Additionally, enhanced lighting and signage improve visibility, especially at night. Automated enforcement, such as red-light cameras, discourages risky driving behaviors that endanger pedestrians.

MOTORCYCLE

Motorcycle crashes are a significant concern in roadway safety due to the lack of physical protection for riders, making them more vulnerable to severe injuries and fatalities. Unlike occupants of passenger vehicles, motorcyclists do not have the benefit of airbags or structural barriers, increasing the likelihood of life-threatening injuries upon impact. In McHenry County, motorcycle crashes account for less than 2% of total crashes but cause 15% of KA crashes, making it one of the most overrepresented emphasis areas.

To reduce motorcycle crashes, several countermeasures can be implemented. Helmet laws are one of the most effective strategies, as wearing a helmet significantly reduces the risk of head injuries. Improved roadway design, including better signage and high-friction surface treatments, helps motorcyclists navigate safely. Additionally, driver awareness campaigns encourage motorists to check blind spots and yield appropriately to motorcycles. Advanced rider training programs also play a crucial role in equipping motorcyclists with defensive riding techniques.

IMPAIRED DRIVING

Impaired driving due to alcohol or drugs significantly increases the risk of crashes, often resulting in serious injuries and fatalities. In McHenry County, impaired driving is involved in 5% of all crashes but accounts for 45% of fatal crashes and 22% of serious injury crashes, revealing its disproportionate role in severe crashes. Impaired drivers experience slower reaction times, poor judgment, and reduced coordination, leading to high-speed collisions, failure to yield, and loss of vehicle control.

To address this dangerous behavior, several countermeasures are implemented across the country, including sobriety checkpoints, public awareness campaigns and stricter enforcement of DUI laws. These proactive efforts aim to minimize impaired driving and encourage responsible behaviors, ensuring safer roads for all users.

UNRESTRAINED OCCUPANTS

Unrestrained occupant crashes are a major contributor to severe roadway injuries and fatalities. When drivers or passengers fail to wear seat belts, they are at a significantly higher risk of being ejected from the vehicle or suffering life-threatening injuries upon impact. The data suggests that, in McHenry County, crashes involving unrestrained occupants are 3 times more likely to cause fatalities and serious injuries.

To reduce these crashes, enforcement of seat belt laws, public awareness campaigns, and vehicle safety improvements (such as automatic seat belt reminders) are critical. Strengthening occupant protection measures can significantly lower the number of fatalities and serious injuries resulting from unrestrained crashes.

ROADWAY DEPARTURES

Roadway departure crashes occur when a vehicle veers out of its lane, either leaving the roadway or crossing into opposing traffic. In McHenry County, these incidents account for 55% of fatal crashes and 38% of serious injury crashes, making them a leading contributor to severe roadway outcomes. Notably, while roadway departures make up only 19% of total crashes, they contribute to 40% of KA crashes, highlighting their disproportionate severity. The high risk associated with roadway departures stems from factors such as high speeds, loss of control, and collisions with hazardous roadside objects.

To mitigate roadway departures, several safety measures can be implemented, including rumble strips to alert drivers, high-friction surface treatments to enhance traction, and guardrails and barriers to prevent vehicles from leaving the roadway. Additionally, enhanced signage and lighting are essential for improving visibility, particularly on curves and during nighttime driving. These interventions play a crucial role in reducing roadway departure crashes and improving overall traffic safety.

6

TYPOLOGIES

IN THE TYPOLOGY CHAPTER, READERS CAN EXPECT A DETAILED EXPLORATION OF VARIOUS ROADWAY TYPES WITHIN THE COUNTY, INCLUDING THEIR UNIQUE CHALLENGES AND CHARACTERISTICS. EACH TYPOLOGY WILL INCLUDE CRASH DATA, MAPPED LOCATIONS, PROPOSED COUNTERMEASURES, AND BEFORE-AND-AFTER RENDERINGS TO ILLUSTRATE POTENTIAL DESIGN SOLUTIONS TAILORED TO IMPROVE SAFETY AND FUNCTIONALITY.



TYPOLOGIES

Roadway typologies serve as a foundational element in developing context-sensitive safety strategies by categorizing roads based on shared characteristics and usage patterns. This section explores how identifying these typologies can lead to more effective interventions, better resource management, and improved safety.

OVERVIEW

Roadway typologies are essential for understanding the varied functions, design elements, and traffic patterns within a region, which directly inform effective safety strategies. A roadway typology categorizes roadways based on factors such as their role in the transportation network, the types of users they serve, and the surrounding land use context. Each typology will include crash data, mapping of the locations, and countermeasures, accompanied by before-and-after renderings to exemplify potential design solutions. These visual aids provide a clearer picture of how interventions can transform roadways into safer, more functional spaces.

PURPOSE

The purpose of identifying and addressing safety issues within the county's roadway typologies is to develop targeted solutions that respond to the unique risks associated with each type of roadway. Whether rural, suburban, or urban, each typology presents specific challenges, such as varying traffic volumes, speeds, or user behaviors. By analyzing crash patterns and systemic issues, planners can identify tailored interventions like traffic calming measures, enhanced signage, or improved pedestrian crossings. Including crash data, mapped locations, and visual renderings further illustrates the potential impact of these countermeasures. These tools not only reduce crash frequency but also help mitigate injury severity, thereby enhancing safety and efficiency across the county's transportation network.

SELECTION PROCESS

The selection of roadway typologies for the Safety Action Plan was designed to ensure comprehensive representation across the county. Each region was analyzed to include at least one roadway typology that reflects its unique conditions. This approach aimed to capture a wide range of road types, including urban, suburban, and rural roadways, to address safety challenges across the county. Additionally, the typologies were selected as representatives of general roadways seen in the county, as to provide a way for agencies to propose a project with and apply the outlined countermeasures. For example, roadways near a school entrance see a high KA representation ratio, leading to its selection as a typology. While two-lane rural roadways do not see as high of KA representation ratios, they are very common across McHenry County and should utilize best practices as outlined by the countermeasures and renderings, thus leading to its selection as a typology.

SCALABLE STRATEGIES

Using scalable strategies allows for the application of countermeasures on a case-by-case basis and to account for the existing conditions and any unique challenges that may be presented by a roadway or intersection. While roadways under the same typology are generally alike, the menu of countermeasures gives room for planners and engineers to best strategize for safety, using as many or as few of the recommended countermeasures, while accommodating any local or logistical considerations.

VISUALIZING SOLUTIONS

Incorporating crash data and systemic analysis into roadway typologies provides a foundation for identifying effective countermeasures, while mapping and before-and-after renderings offer a tangible way to visualize potential improvements. These renderings demonstrate how specific interventions can reshape roadways to enhance safety and functionality. By combining data-driven insights with clear visual examples, the Safety Action Plan ensures that stakeholders at all levels can understand and advocate for meaningful roadway improvements across the county.

THE FOLLOWING ROADWAY TYPOLOGIES HAVE BEEN SELECTED FOR THIS PLAN:

TWO-LANE RURAL ROADWAY

A low-traffic road in a rural area, typically without a median, designed for moderate speeds and often lacking dedicated infrastructure for pedestrians or cyclists.

ROADWAYS NEAR A SCHOOL ENTRANCE

Streets within a half mile of school buildings.

RESIDENTIAL COLLECTOR

A road that connects local streets to arterial roadways, balancing the needs of residential traffic with moderate through traffic.

MULTI-LANE INTERSECTIONS

An intersection where two or more roads with multiple through lanes in each direction converge, often involving signalized controls.

DOWNTOWN THOROUGHFARE

A busy road located in a dense urban area, accommodating a mix of vehicles, pedestrians, and transit, and often characterized by congestion and frequent intersections.

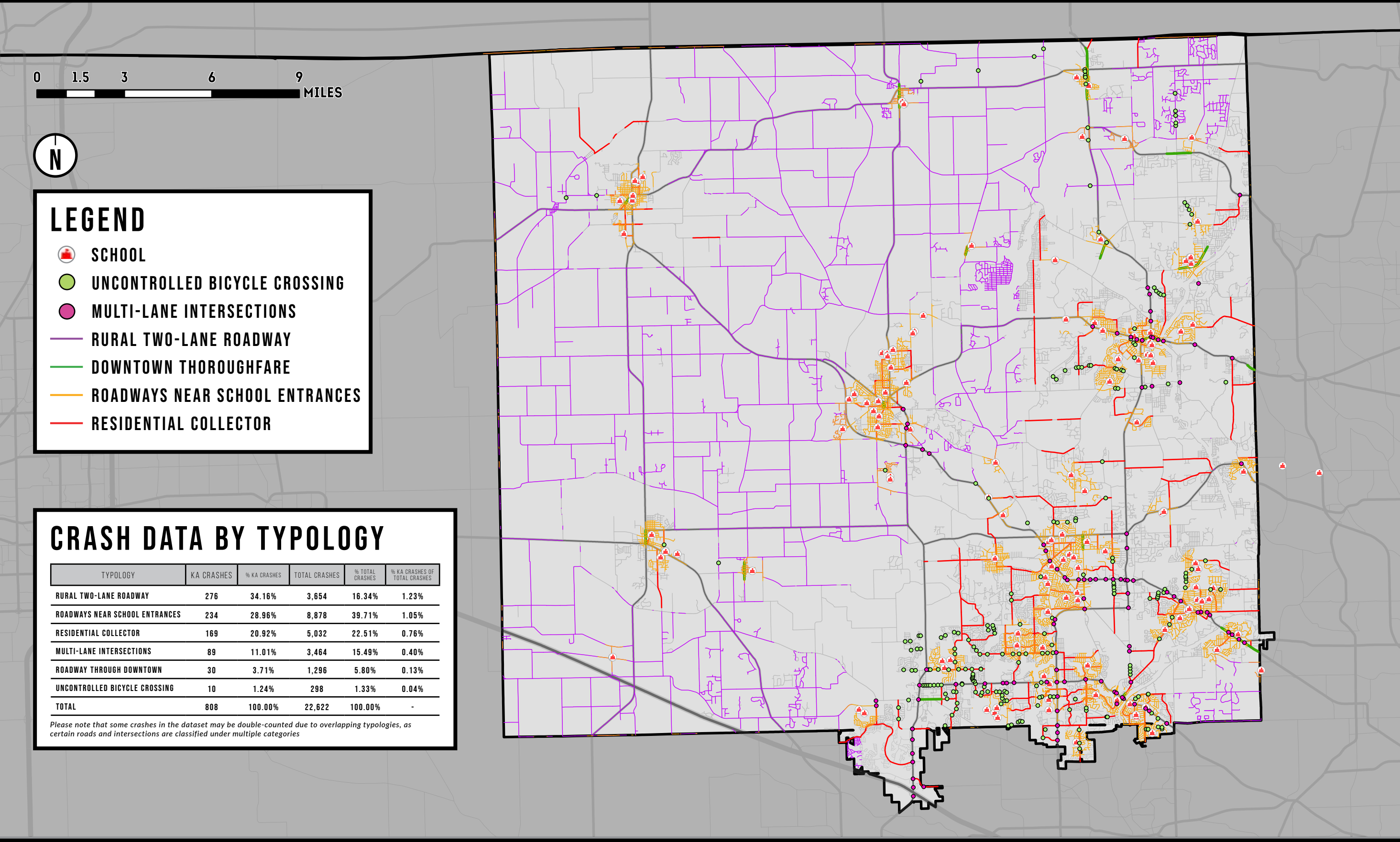
UNCONTROLLED BICYCLE CROSSINGS

A location where bicycles cross a road without traffic signals or stop signs, relying on motorists to yield, creating potential safety concerns for cyclists.

IMAGE 22: TYPOLOGY MAP

MAP OVERVIEW

The map highlights the distribution of selected roadway typologies across the area. It provides a detailed visualization of how these typologies intersect and overlap, as certain roadways, corridors, or intersections may fall under multiple categories based on their characteristics and functions. Additionally, the inclusion of crash data by typology offers valuable insights into safety challenges specific to each type of roadway, helping to prioritize areas for targeted interventions.



TWO-LANE RURAL ROADWAY

The Two-Lane Rural Roadway typology consists of two lanes, one in each direction, with lane widths typically ranging from 9 to 12 feet. Shoulders are generally narrow and unpaved, composed of asphalt, gravel, sand, or earth, and range from 2 to 8 feet, though some roads lack shoulders entirely. These roadways often follow winding or curving alignments to accommodate natural topography and feature drainage elements like ditches or culverts within the right-of-way. Right-of-way widths vary significantly due to natural and built environment constraints, reflecting the rural context of these roads.

Speed limits on Two-Lane Rural Roadways are generally higher, ranging from 35 to 55 mph. Traffic control devices are minimal, with stop or yield signs being the primary form of intersection management, while traffic signals are rarely present. Passing is allowed only where visibility is sufficient, indicated by broken centerlines, and prohibited in areas with curves, hills, or limited sight distance, marked by solid centerlines. Pedestrian and bicycle infrastructure is typically absent, forcing non-motorized users to share the road or use the shoulder, which may be unsuitable for those with mobility challenges. Lighting is sparse, further limiting visibility during nighttime or inclement weather.

These roadways dominate the western portion of the county, forming the majority of the transportation network in that area. They primarily serve local or regional traffic rather than high-volume through traffic and are surrounded by agricultural, residential, or open spaces, often in unincorporated areas. A wide variety of vehicles use these roads, including passenger cars, agricultural equipment, emergency vehicles, and bicycles. Intersections are few, but direct access points to farms, residences, and small businesses are common. This can create safety conflicts, particularly where sight lines or traffic control measures are insufficient.

Safety challenges on Two-Lane Rural Roadways include high speeds, limited visibility, narrow or no shoulders, lack of separation between motorized and non-motorized users, and delays in emergency response times following crashes. These factors highlight the importance of targeted strategies to mitigate risks and improve safety for all users.

IMAGE 23: RURAL INTERSECTION



Source: Google Maps

SAFETY CHALLENGES ON TWO-LANE RURAL ROADS:



HIGH SPEEDS WITHOUT ADEQUATE ENFORCEMENT

Two-lane rural roadways have posted speed limits that are often exceeded by drivers, increasing the likelihood and severity of crashes. For unposted rural roads, the speed limit is 55 mph - which may be unknown to drivers, or intentionally ignored. Without consistent enforcement, drivers may feel emboldened to travel at unsafe speeds, particularly on straight stretches of road. High speeds reduce reaction times for drivers encountering hazards like wildlife, farm equipment, or slower vehicles. Addressing this issue requires improved road design and increased enforcement presence to promote compliance.



LIMITED VISIBILITY ON CURVES AND HILLS

Sharp curves and steep hills are common on rural roadways and often obstruct sight lines, making it difficult for drivers to anticipate oncoming traffic or other hazards. Limited visibility can increase the risk of head-on crashes, particularly when drivers attempt to overtake slower vehicles. Poor signage or inadequate warning systems can exacerbate this issue, leaving drivers unprepared. Installing curve warning signs, reflective markings, and clearing vegetation around blind spots can help reduce crashes.



NARROW OR NON-EXISTENT SHOULDERS

Many two-lane rural roads lack adequate shoulders, forcing vehicles to operate close to the edge of the pavement. This leaves little room for error, especially if a driver needs to recover from a swerve or avoid an obstacle. Narrow shoulders also endanger cyclists, pedestrians, and stopped vehicles, increasing the likelihood of collisions. Expanding shoulders or incorporating pull-off areas could improve safety for all users.



CONFLICTS WITH ANIMALS AND WILDLIFE

Rural roads frequently pass through wooded or open areas, increasing the risk of wildlife crossing the roadway unexpectedly. These crashes can be severe, causing significant vehicle damage and endangering occupants. From 2018 to 2022, there were ten KA crashes in McHenry County involving an animal, four of which occurred on a rural two-lane road. Drivers may also swerve to avoid animals, leading to roadway or lane departure crashes. Wildlife crossing signs, fencing paired with wildlife crossings, and improved lighting can help mitigate these risks.



ROADWAY DEPARTURE CRASHES

Roadway departure crashes are a common occurrence on rural roads due to factors such as speeding, sharp curves, or driver inattention. In northeastern Illinois, McHenry County has the highest makeup of roadway departure crashes when it comes to all crashes (19.3%) and KA crashes (42.0%). Vehicles leaving the roadway can strike trees, ditches, or other fixed objects, often resulting in severe injuries. A lack of forgiving roadside design, such as clear zones or barriers, can exacerbate the severity of these crashes. Improved road design and maintenance can reduce these incidents.



LIMITED LIGHTING

Two-lane rural roadways and intersections often have little to no lighting, limiting nighttime visibility. Poor visibility increases the likelihood of collisions with pedestrians, cyclists, wildlife, and other vehicles. Installing streetlights or reflective road markers in appropriate locations can improve nighttime safety significantly, while minimizing the effects of light pollution. KA crashes occurring not in daylight on two-lane rural roadways represent roughly 3% less than all KA crashes occurring not in daylight in McHenry County.

TABLE 24: CRASH CAUSE (SERIOUS INJURY AND FATAL)

The top crash causes on two-lane rural roads highlight a mix of driver behavior and compliance issues. Failing to yield was the most common cause, with 43 crashes over five years, reflecting challenges with right-of-way at intersections and during turning movements. Failing to reduce speed accounted for 39 crashes, indicating problems with drivers adapting to road conditions or reacting to hazards. Disregarding stop signs caused 33 crashes, pointing to non-compliance at stop controlled intersections. Improper lane usage, with 30 crashes, suggests issues with drivers straying from their lane, potentially due to distractions or misjudgments. Lastly, crashes involving drivers under the influence of alcohol or drugs contributed to 22 incidents, emphasizing the ongoing need for enforcement and education to address impaired driving on rural roads.

Crash Cause	2018	2019	2020	2021	2022	Total KA	Total %
[N/A]	3	2	1	2	0	8	2.9%
Animal	0	0	2	1	0	3	1.1%
Disregarding Road Markings	1	0	0	0	0	1	0.4%
Disregarding Stop Sign	4	6	7	7	9	33	12.0%
Disregarding Traffic Signals	0	0	0	3	0	3	1.1%
Distraction - From Inside Vehicle	0	0	2	0	0	2	0.7%
Distraction - From Outside Vehicle	1	2	0	1	0	4	1.4%
Distraction - Other Electronic Device (Navigation Device / DVD Player / etc.)	0	0	0	0	1	1	0.4%
Driving On Wrong Side/Wrong Way	3	0	0	1	3	7	2.5%
Driving Skills/Knowledge/Experience	3	3	4	1	0	11	4.0%
Equipment-Vehicle Condition	0	1	0	0	3	4	1.4%
Evasive Action Due to Animal/Object/Non-Motorist	1	0	1	0	0	2	0.7%
Exceeding Authorized Speed Limit	1	1	0	0	0	2	0.7%
Exceeding Safe Speed For Conditions	3	2	0	0	0	5	1.8%
Failing to Reduce Speed to Avoid Crash	2	6	7	10	14	39	14.1%
Failing to Yield Right of Way	11	14	10	6	2	43	15.6%
Following Too Closely	2	0	0	0	0	2	0.7%
Had Been Drinking	1	3	2	2	1	9	3.3%
Improper Lane Usage	12	0	8	7	3	30	10.9%
Improper Overtaking/Passing	0	1	1	2	0	4	1.4%
Improper Turning/No Signal	4	0	0	1	0	5	1.8%
Operating Vehicle In Reckless Manner	0	1	2	2	1	6	2.2%
Physical Condition of Driver	4	2	0	3	2	11	4.0%
Road Construction/Maintenance	0	0	1	0	0	1	0.4%
Road Engineering/Surface/Marking Defects	1	0	1	1	0	3	1.1%
Unable to Determine	2	0	1	3	2	8	2.9%
Under Influence of Alcohol/Drugs	1	3	9	6	3	22	8.0%
Vision Obscured	0	0	1	0	0	1	0.4%
Weather	0	3	0	1	2	6	2.2%
Total	60	50	60	60	46	276	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

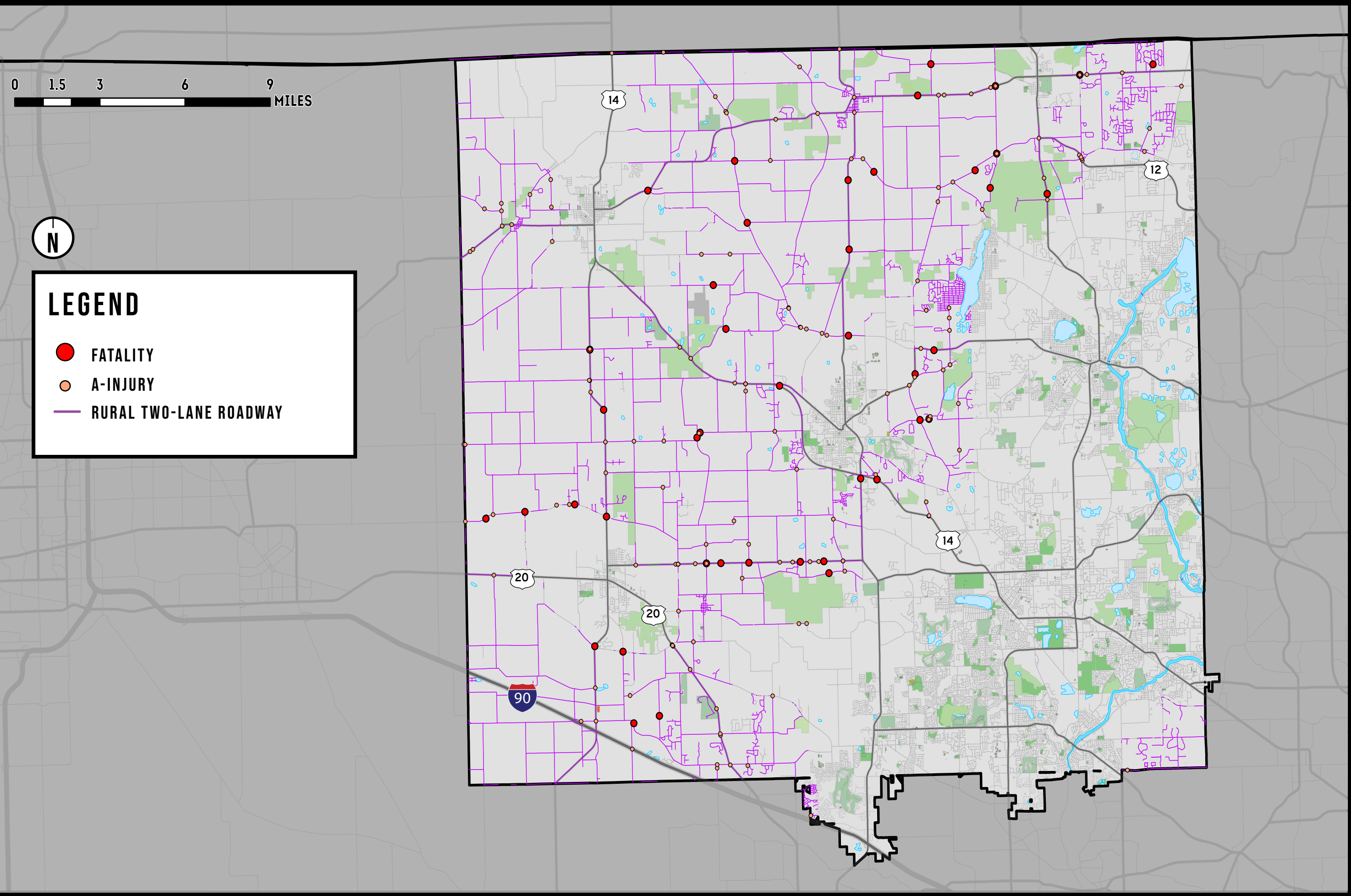
TABLE 25: TYPES OF CRASHES (SERIOUS INJURY AND FATAL)

The top crash types on rural two-lane roads reveal recurring patterns in collision dynamics. Angle crashes were the most frequent type, with 70 incidents over five years, often resulting from right-of-way violations at intersections. Fixed-object crashes, totaling 64, reflect the danger of vehicles leaving the roadway, often due to speeding, driver inattention, or poor road conditions. Turning crashes accounted for 33 incidents, highlighting risks associated with misjudged gaps or failure to yield during turning movements. Front-to-rear collisions, with 21 crashes, suggest issues with sudden stops and following too closely, especially in areas with unexpected slowdowns. Overturned vehicle crashes, with 20 incidents, indicate challenges with vehicle stability, often linked to high speeds, sharp curves, or uneven road surfaces.

Crash Type	2018	2019	2020	2021	2022	Total KA	Total %
Angle	17	13	11	18	11	70	25.4%
Animal	0	0	0	1	0	1	0.4%
Fixed Object	6	15	21	13	9	64	23.2%
Front to Front	0	2	8	3	4	17	6.2%
Front to Rear	0	5	5	1	10	21	7.6%
Head On	18	0	0	0	0	18	6.5%
Other Non-Collision	1	0	1	1	0	3	1.1%
Other Object	0	1	0	1	1	3	1.1%
Overturned	3	4	4	4	5	20	7.2%
Parked Motor Vehicle	1	0	0	0	2	3	1.1%
Pedalcyclist	1	0	2	2	0	5	1.8%
Pedestrian	0	1	0	1	0	2	0.7%
Rear End	9	0	0	0	0	9	3.3%
Sideswipe Opposite Direction	0	2	0	2	2	6	2.2%
Sideswipe Same Direction	0	0	0	1	0	1	0.4%
Turning	4	7	8	12	2	33	12.0%
Total	60	50	60	60	46	276	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

IMAGE 24: TWO-LANE RURAL ROADWAY CRASH MAP BY SEVERITY



STRATEGIZING FOR SAFER TWO-LANE RURAL ROADS

Strategizing for safety on rural two-lane roadways requires a comprehensive understanding of the dynamics unique to these areas. These roads often experience a mix of local and through traffic, slow-moving farm equipment, and limited visibility on curves and hills, leading to heightened safety concerns. Factors such as roadway geometry, seasonal traffic patterns, and proximity to schools, farms, and town centers add complexity to the safety landscape. Recognizing these variables allows planners and stakeholders to identify high-risk areas and prioritize locations where safety interventions will have the greatest impact.

KEY STAKEHOLDERS

Key stakeholders play a critical role in developing and implementing safety strategies for rural two-lane roadways. Townships, municipalities, and county DOTs contribute technical expertise and funding for context-sensitive solutions. The Farm Bureau and agricultural organizations offer insights into the unique needs of farm equipment operators and seasonal traffic, specifically emphasizing the importance of properly constructing roundabouts to accommodate farm equipment and large trucks, increasing road shoulder widths to enhance safety, and creating pull-off areas for farm equipment to allow safer interactions between slow-moving vehicles and regular traffic during harvest seasons. Law enforcement and public safety officials ensure compliance with traffic laws and provide data on incidents, while nonprofits and advocacy groups focused on traffic safety bring additional resources and outreach capabilities.



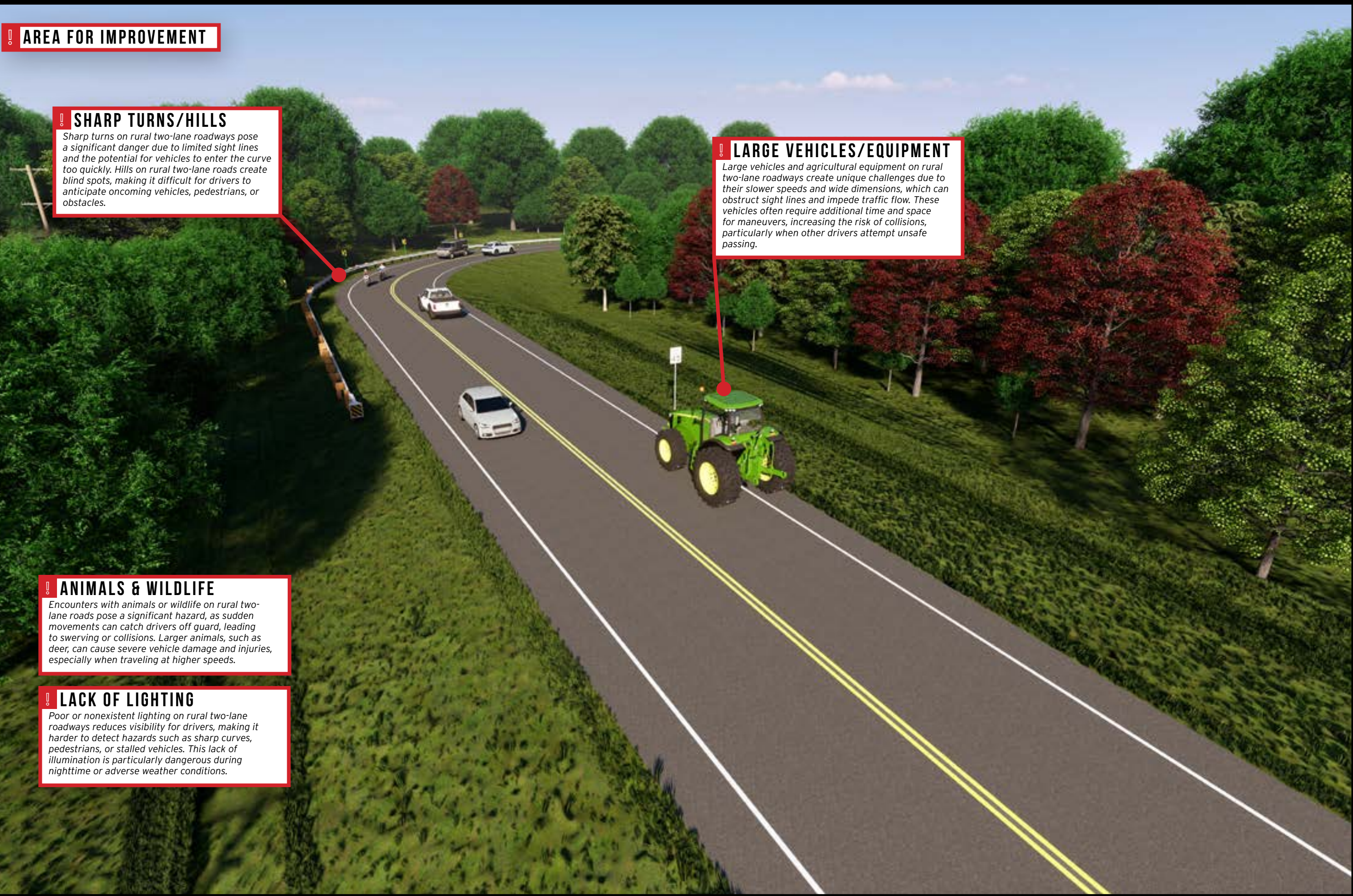
Source: Google Maps

TABLE 26: COUNTERMEASURES FOR TWO-LANE RURAL ROADWAYS

Countermeasures for two-lane rural roadways are targeted actions or strategies tailored to the unique dynamics of rural roadways, particularly in areas with agricultural traffic, limited sight lines, and intersections near schools or town centers - fostering safer environments for all users. For challenges such as high-speed travel, countermeasures focus on traffic calming, improved signage, and better lane delineation to reduce the likelihood of collisions. Measures to protect vulnerable road users prioritize enhancing visibility, creating safe shoulders or paths, and slowing vehicle speeds to ensure safer shared use of these roads.

Safety Issue	Countermeasures	Description	Classification	Toolbox ID
Roadway Departure & Curve-Related Crashes	Shoulder and Center Line Rumble Strips	Milled grooves on shoulders and center lines to alert drivers veering off the roadway, reducing roadway departure incidents.	Infrastructure	R.2
	Enhanced Clear Zones	Remove obstacles and flattening fore slopes to increase recoverability along the roadside to improve safety for errant vehicles.	Infrastructure	R.6
	High-Friction Surface Treatments	Implement high-friction surface treatments to prevent vehicles from slipping off of the road, especially during wet or icy conditions.	Infrastructure	R.5
	Paved Shoulders	Provide wider shoulders for safe bicycle and pedestrian use and as recovery zones for vehicles.	Infrastructure	R.7
	SafetyEdge	Use SafetyEdge to slope the edge of the pavement during the paving process to eliminate the potential for vertical drop-off and improve pavement durability.	Infrastructure	R.4
High Speeds	Curve Design & Delineation Enhancements	Add roadside barriers to reduce crash severity and reflective signage, chevrons, or pavement markings to improve visibility and guidance through curves.	Infrastructure	R.1
	Roundabouts	Replace stop-controlled intersections with roundabouts to reduce conflict points, slow speeds at approaches, and improve safety.	Infrastructure	R.14
	Widened Centerlines	Widen the space between the double yellow centerline markings as much as is permissible by MUTCD to narrow travel lanes to slow down traffic.	Infrastructure	R.11
	Dynamic Speed Feedback Signs	Install radar signs displaying vehicle speeds to encourage compliance with posted speed limits.	Infrastructure	R.10
	Targeted Speed Enforcement	Deploy enforcement teams to monitor and manage speeding in high-risk areas.	Program	-
	Automated Speed Enforcement	Use cameras or radar-based systems to enforce speed limits and discourage violations.	Policy	U.29
Visibility & Awareness	Streetlights	Add lighting in appropriate locations to improve visibility at intersections, curves, and other high-risk areas during low light.	Infrastructure	R.17
	Sidewalks or Sidepaths	Ensure continuous, wide sidewalks or sidepaths with adequate buffers from traffic to prioritize pedestrian safety and connectivity.	Infrastructure	U.15
	Raised Pavement Markers	Enhance visibility and delineation of lanes to guide drivers and prevent roadway departure.	Infrastructure	R.18
	Community Outreach Programs	Educate rural drivers about common risks and safe driving behaviors through local events and media.	Program	-
Farm Equipment & Animal-Related Crashes	Wildlife Crossing Signs	Install signs warning drivers of areas with frequent wildlife activity or with real-time animal detection to improve awareness and caution.	Infrastructure	R.15
	Animal Fencing and Crossings	Use fencing and overpasses/underpasses to guide wildlife safely across or under the roadway.	Infrastructure	R.16
	Separate Agricultural Routes	Design dedicated lanes or routes for farm equipment to minimize conflicts with faster-moving vehicles.	Policy	-

IMAGE 26: TWO-LANE RURAL ROADWAY RENDERING (BEFORE)



AREA FOR IMPROVEMENT

SHARP TURNS/HILLS
Sharp turns on rural two-lane roadways pose a significant danger due to limited sight lines and the potential for vehicles to enter the curve too quickly. Hills on rural two-lane roads create blind spots, making it difficult for drivers to anticipate oncoming vehicles, pedestrians, or obstacles.

LARGE VEHICLES/EQUIPMENT
Large vehicles and agricultural equipment on rural two-lane roadways create unique challenges due to their slower speeds and wide dimensions, which can obstruct sight lines and impede traffic flow. These vehicles often require additional time and space for maneuvers, increasing the risk of collisions, particularly when other drivers attempt unsafe passing.

ANIMALS & WILDLIFE
Encounters with animals or wildlife on rural two-lane roads pose a significant hazard, as sudden movements can catch drivers off guard, leading to swerving or collisions. Larger animals, such as deer, can cause severe vehicle damage and injuries, especially when traveling at higher speeds.

LACK OF LIGHTING
Poor or nonexistent lighting on rural two-lane roadways reduces visibility for drivers, making it harder to detect hazards such as sharp curves, pedestrians, or stalled vehicles. This lack of illumination is particularly dangerous during nighttime or adverse weather conditions.

IMAGE 27: TWO-LANE RURAL ROADWAY RENDERING (AFTER)

 RECOMMENDED IMPROVEMENT

 OPTIONAL IMPROVEMENT

 RUMBLE STRIPS

Installing rumble strips along edgelines and center lines alerts drivers who unintentionally drift out of their lane, helping to prevent roadway and lane departure crashes. Horizontal rumble strips placed ahead of curves serve as an advanced warning system, encouraging drivers to reduce speed before entering potentially hazardous turns.

 REDUCED SPEED LIMIT

Speeding is a leading cause of crashes. Reducing speed limits will encourage slower speeds, giving drivers more reaction time and helping reduce the severity of crashes.

 SHARED USE PATH

The addition of shared-use paths along rural two-lane roads offers a safe, separated space for pedestrians and cyclists, reducing conflicts with vehicles. These paths improve connectivity and accessibility in rural areas, making active transportation a safer and more viable option for residents.

 INCREASED LIGHTING

Adding overhead lighting to rural two-lane roads improves visibility for all road users, especially at intersections, curves, and hills. Proper lighting reduces the risk of nighttime crashes by making hazards, pedestrians, and other vehicles more visible, enhancing overall roadway safety.

 LIT CHEVRON SIGNS

Flashing or lit chevron signs are a recommended measure to guide drivers safely through sharp curves, especially during nighttime or poor visibility conditions. These signs provide an illuminated and attention-grabbing warning, encouraging drivers to reduce speed and navigate turns more cautiously.

 SPEED ENFORCEMENT CAMERA

Traffic enforcement cameras on rural two-lane roads are proposed to improve compliance with speed limits and stop sign adherence, addressing common causes of crashes. These cameras serve as a deterrent for unsafe driving behaviors such as speeding and red-light running, enhancing safety at high-risk areas.

 WIDE SHOULDERS

Widening shoulders allows space for large vehicles, like farm equipment, to pull over and allow other vehicles to pass, while also accommodating cyclists. Wide shoulders also give a chance for recovery should a vehicle depart the roadway.

IMAGE 28: TWO-LANE RURAL ROADWAY RENDERING (AFTER)



NIGHTTIME LIGHTING ON RURAL ROADS

Flashing or lighted chevron signs on curves are crucial for guiding drivers safely through sharp turns, particularly at night or in adverse weather. These illuminated signs provide clear, proactive warnings that reduce the risk of roadway departure crashes. Overhead lighting enhances visibility for all road users on rural roads, especially near curves, intersections, and hills where blind spots increase crash risks. Pedestrian-level lighting further improves safety by illuminating walkways and crossing areas, ensuring pedestrians and cyclists are visible to drivers. In combination, overhead and pedestrian-level lighting ensure both the road and its surroundings are well-lit, addressing the unique challenges of rural roads with limited infrastructure. **Due to the risk of light pollution, it is important for lighting to be context sensitive and be placed at appropriate locations, so as not to pollute adjacent properties.**

ROADWAYS NEAR A SCHOOL ENTRANCE

The Roadways near a School Entrance typology typically consists of two lanes, one in each direction, with school zone signage prominently displayed. These roadways may include additional features, such as turn lanes or bus loading and unloading zones near the school entrance. Standard lane widths range from 10 to 12 feet, with shoulder widths varying depending on the surrounding context. Within school campuses, there are often designated pull-in areas or lanes specifically designed for dropping off or picking up students. Additionally, many schools have separate bus zones to allow for safe loading and unloading away from general traffic flow.

Speed limits in school zones are commonly reduced to 15 to 25 mph during school hours or when students are present, creating a safer environment for pedestrians and bicyclists. Outside of school hours, these speed limits may increase, reaching up to 45 mph. To reinforce compliance, flashing lights and prominent school zone signs are used to alert drivers about reduced speed limits and the presence of students during active times.

For the purposes of this analysis, the roadways near school entrances are located within a half-mile radius (as the crow flies) of educational institutions, including preschools, elementary schools, middle schools, high schools, and colleges. In suburban areas, schools are often surrounded by residential or institutional land uses and tend to feature more developed pedestrian and bicycle infrastructure, such as sidewalks on both sides of the street and clearly marked crosswalks near entrances. In rural areas, schools are frequently surrounded by agricultural land and are less likely to have robust pedestrian or bicyclist infrastructure, aside from occasional side paths. Lighting is generally absent in rural settings until reaching the campus itself.

Safety challenges near school entrances commonly include vehicle speeds that exceed posted limits, reduced visibility caused by congestion or obstructions, the coexistence of multiple modes of transportation, and traffic bottlenecks during drop-off and pick-up times. Addressing these challenges requires a nuanced understanding of the specific conditions at each site to ensure that all road users can navigate safely.

IMAGE 29: HUNTLEY HIGH SCHOOL



Source: ForeFront Power

SAFETY CHALLENGES ON ROADWAYS NEAR SCHOOLS:

HIGH TRAFFIC VOLUMES DURING PEAK TIMES

Roadways near schools often experience significant traffic congestion during pick-up and drop-off times, creating chaotic and unpredictable conditions. Parents, buses, and student drivers all converge in a small area, often leading to double parking, unsafe lane changes, and blocked crosswalks. The high volume of vehicles makes it difficult for pedestrians and cyclists to navigate safely, particularly younger students who may not be fully aware of traffic rules. This congestion also increases the likelihood of crashes, as drivers may become impatient or distracted in their attempts to maneuver through crowded streets.

UNSAFE CROSSING AREAS FOR PEDESTRIANS

Many school zones lack properly designed pedestrian crossings, leaving students and families at risk when attempting to walk to and from school. Crosswalks may be poorly marked or located too far from key destinations, leading to jaywalking or crossing at unmarked locations. A lack of traffic calming measures, such as lane bumpouts, speed humps or signage, often result in drivers failing to yield to pedestrians, especially during busy times. Without crossing guards or well-placed signals, children are left to navigate complex traffic patterns, increasing their vulnerability to crashes. The systemic analysis found that KA crashes were 36% more likely to occur in school areas than non-school areas for all modes and 236% more likely for vulnerable road users.

DRIVER DISTRACTIONS AND NON-COMPLIANCE

Drivers near schools are frequently distracted by the presence of children, other vehicles, or their own mobile devices, leading to a higher risk of collisions. Non-compliance with school zone speed limits and traffic rules, such as ignoring crossing guards or stop signs, is a recurring problem. Parents in a hurry to drop off or pick up their children may exhibit risky behaviors, such as double parking or making illegal U-turns. These actions not only disrupt the flow of traffic but also create unexpected hazards for other drivers and students.

INSUFFICIENT ACTIVE TRANSPORTATION INFRASTRUCTURE

Roadways near schools often lack the necessary infrastructure to support safe walking and biking, discouraging these healthier modes of transportation. Sidewalks may be absent, narrow, or poorly maintained, forcing students to walk dangerously close to moving traffic. Bicycle lanes, if present, are often unprotected or poorly connected to residential neighborhoods, making cycling a less viable option. This lack of infrastructure forces more families to rely on cars, compounding traffic issues and reducing safety for those who do walk or bike.

INADEQUATE DROP-OFF AND PICK-UP ZONES

Roadways near schools often suffer from poorly designed or insufficient drop-off and pick-up zones, leading to chaotic and unsafe conditions. Parents may double park, block driveways, or stop in no-parking areas, creating unnecessary obstructions and increasing the risk of collisions. Without designated zones or clearly enforced traffic patterns, students may exit or enter vehicles in unsafe locations, such as the street or other high-traffic areas. This disorganization not only endangers students but also disrupts the overall flow of traffic, increasing stress for all road users.

TABLE 27: CRASH CAUSE (SERIOUS INJURY AND FATAL)

Failing to yield was the most frequent cause of crashes near schools, with 54 incidents over five years, reflecting issues with right-of-way conflicts in busy school zones. Failing to reduce speed was the second most common cause, contributing to 49 crashes, highlighting driver behavior problems during high-activity times. Impaired driving accounted for 27 crashes, underscoring a smaller but serious issue with alcohol or drug use near schools. Crashes classified as "unable to determine" (14) point to gaps in crash reporting, while disregarding traffic signals (10) was relatively infrequent but still significant in specific locations.

Crash Cause	2018	2019	2020	2021	2022	Total KA	Total %
[N/A]	0	0	0	5	1	6	2.6%
Cell Phone Use Other Than Texting	0	0	1	0	0	1	0.4%
Disregarding Other Traffic Signs	0	2	0	0	0	2	0.9%
Disregarding Road Markings	1	0	0	0	0	1	0.4%
Disregarding Stop Sign	0	0	2	4	3	9	3.8%
Disregarding Traffic Signals	3	2	1	2	2	10	4.3%
Distraction - From Inside Vehicle	1	1	0	0	2	4	1.7%
Distraction - From Outside Vehicle	0	0	0	2	0	2	0.9%
Driving On Wrong Side/Wrong Way	0	0	4	0	0	4	1.7%
Driving Skills/Knowledge/Experience	2	2	1	0	1	6	2.6%
Equipment-Vehicle Condition	0	0	1	0	0	1	0.4%
Evasive Action Due to Animal/Object/Non-Motorist	3	0	0	0	0	3	1.3%
Exceeding Authorized Speed Limit	1	0	0	0	0	1	0.4%
Exceeding Safe Speed For Conditions	1	1	0	0	0	2	0.9%
Failing to Reduce Speed to Avoid Crash	9	14	3	10	13	49	20.9%
Failing to Yield Right of Way	17	11	7	8	11	54	23.1%
Following Too Closely	0	1	0	0	0	1	0.4%
Had Been Drinking	2	4	0	0	0	6	2.6%
Improper Lane Usage	0	0	3	4	0	7	3.0%
Improper Overtaking/Passing	0	1	0	1	1	3	1.3%
Improper Turning/No Signal	2	1	1	2	2	8	3.4%
Operating Vehicle In Reckless Manner	0	1	0	0	1	2	0.9%
Physical Condition of Driver	3	2	1	0	1	7	3.0%
Road Engineering/Surface/Marking Defects	0	0	0	1	0	1	0.4%
Unable to Determine	5	2	1	3	3	14	6.0%
Under Influence of Alcohol/Drugs	5	10	8	3	1	27	11.5%
Vision Obscured	0	0	0	0	1	1	0.4%
Weather	1	1	0	0	0	2	0.9%
Total	56	56	34	45	43	234	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

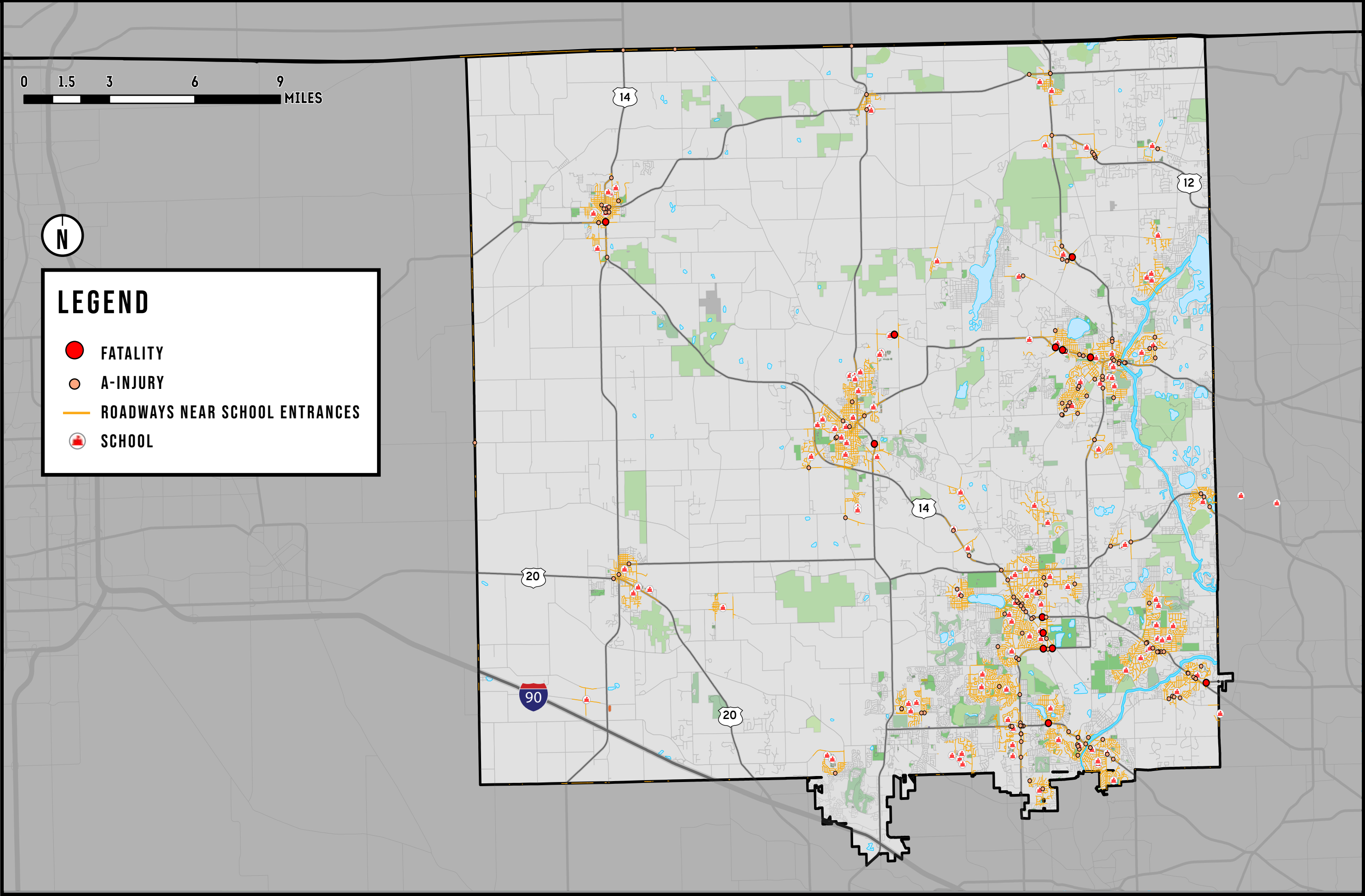
TABLE 28: TYPES OF CRASHES (SERIOUS INJURY AND FATAL)

Fixed-object crashes were the most common, with 50 incidents, indicating issues with roadway design or driver error leading to vehicles leaving the roadway. Turning crashes (45) were frequent, driven by conflicts at intersections or driveways near schools. Angle crashes (33) often involved failure to yield or poor visibility at intersections, while rear-end collisions (28) suggest congestion and sudden stops as key factors. Pedestrian and bicyclist crashes, each accounting for 13 incidents, emphasize vulnerabilities among non-motorized road users in school zones.

Crash Type	2018	2019	2020	2021	2022	Total KA	Total %
Angle	11	6	7	8	1	33	14.1%
Fixed Object	11	15	5	10	9	50	21.4%
Front to Front	0	2	2	2	5	11	4.7%
Front to Rear	0	16	2	5	5	28	12.0%
Head On	3	0	0	0	0	3	1.3%
Other Non-Collision	0	1	2	1	0	4	1.7%
Other Object	0	1	1	0	1	3	1.3%
Overtuned	0	1	3	0	2	6	2.6%
Parked Motor Vehicle	2	1	0	0	1	4	1.7%
Pedalcyclist	1	1	3	6	2	13	5.6%
Pedestrian	3	1	1	4	4	13	5.6%
Rear End	12	0	0	0	0	12	5.1%
Sideswipe Opposite Direction	1	1	4	1	0	7	3.0%
Sideswipe Same Direction	0	1	0	1	0	2	0.9%
Turning	12	9	4	7	13	45	19.2%
Total	56	56	34	45	43	234	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

IMAGE 30: SCHOOL ENTRANCE CRASH MAP BY SEVERITY



STRATEGIZING FOR SAFER ROADS NEAR SCHOOLS

Ensuring the safety of roadways near schools is a critical step in fostering a secure environment for students, staff, and families. Strategizing for safety near school entrances requires a comprehensive understanding of the unique dynamics at these locations. These areas experience high volumes of vehicular, pedestrian, and bicycle traffic during peak drop-off and pick-up times, often resulting in heightened safety concerns. Factors such as student age, traffic patterns, and proximity to major roadways all contribute to the complexity of ensuring safety.

TABLE 29: COUNTERMEASURES FOR SCHOOL ENTRANCES

Countermeasures are targeted actions or strategies implemented to address specific safety issues on roadways, often tailored to the unique challenges of each location. They are designed to mitigate risks, reduce crash frequency, and improve the overall safety and functionality of transportation networks. For traffic congestion and conflicts, countermeasures focus on improving traffic flow and separating different modes of transportation to reduce the potential for crashes. Pedestrian and cyclist safety measures prioritize visibility, slowing vehicle speeds, and providing dedicated infrastructure to protect vulnerable road users.

Safety Issue	Countermeasures	Description	Classification	Toolbox ID
Accommodating Multimodal Users	Sidewalks or Sidepaths	Ensure continuous, wide sidewalks or sidepaths with adequate buffers from traffic to prioritize pedestrian comfort and safety.	Infrastructure	U.15
	Buffered or Protected Bike Lanes	Provide dedicated bike lanes separated by physical barriers or marked buffers to ensure cyclist safety and reduce conflicts with vehicles.	Infrastructure	U.21
	Bike Facilities	Install bike racks, repair stations, and bike share hubs to support and encourage cycling as a viable transportation mode.	Infrastructure	-
	Trail Connections	Complete trail connections between cul-de-sacs and in areas with gaps to provide a safe bicycle route for students.	Infrastructure	-
	School Boundaries	Draw school boundaries at major barriers that are difficult for bicyclists and pedestrians to cross, i.e., rivers, railroads, and major roads,	Policy	-
	School Location	Locate schools near the residential areas they serve to minimize highway and multi-lane roadway crossings to encourage students to walk to school.	Policy	-
	Crash Review Committee	Create a crash review committee to prioritize crash prevention and to lead pick-up and drop-off safety discussions at school board meetings.Consider coordination with the Vision Zero Working Group.	Policy	-
	Safety Curriculum	Continue to implement or create a safety curriculum to educate students about bicycle and vehicular safety and best practices. Curriculum can include bike safety quizzes and events, e.g. the bike rodeo hosted by the McHenry County Health Department and McHenry School District 15.	Program	-
Reducing Traffic Congestion	Open Streets	Implement temporary or permanent street closures to vehicles, prioritizing pedestrian and bicycle use to create safe, active spaces.	Program	-
	Signal Timing Adjustments	Optimize signal timing to improve traffic flow, prioritizing transit, and include adaptive signals for dynamic traffic conditions.	Infrastructure	U.4
	Designated Loading Zones	Develop on-campus queuing for drop-offs and pick-ups to aid in maintaining roadways as means to get to campus, not as queuing locations.	Infrastructure	U.36

TABLE 29: COUNTERMEASURES FOR SCHOOL ENTRANCES CONT.

Safety Issue	Countermeasures	Description	Classification	Toolbox ID
Prioritizing Pedestrian Movement and Safety	Switching Traffic Modes	Encourage mode shifts through improved transit (including school bus service), bike, and pedestrian infrastructure to reduce vehicle demand.	Policy	-
	Signal Warrants	Implementing new study warrants for signal installations to identify intersections to improve traffic safety for all users.	Policy	-
	Crossing Guards and Safety Patrols	Use trained personnel to guide pedestrians and manage vehicle flow during peak times.	Program	-
	Staggered Start and End Times	Adjust school schedules to reduce the overlap of vehicle and pedestrian activity.	Policy	-
	Access Management	Limit or consolidate driveway access and control turning movements to minimize conflicts and improve vehicle flow.	Policy	-
	High-Visibility Crosswalks	Use reflective paint, textured pavement, or raised crossings to improve visibility and pedestrian priority at intersections.	Infrastructure	U.9
	Leading Pedestrian Intervals (LPI)	Provide pedestrians with a head start at intersections by timing the signal to allow them to enter the crosswalk before vehicles move.	Policy	U.18
	RRFBs	Install Rectangular Rapid Flashing Beacons to alert drivers to pedestrian activity at uncontrolled crosswalks.	Infrastructure	U.11
Reducing Speeds	Median or Pedestrian Refuge Island	Create a safe waiting space in the middle of the roadway for pedestrians crossing multi-lane streets.	Infrastructure	U.13
	School Zone Signage and Flashing Beacons	install signs with flashing lights to alert drivers to speed reductions and pedestrian activity in school zones.	Infrastructure	U.20
	Speed Enforcement	Enforcing speed and red light infractions to create slower, safer active transportation environments for students.	Policy	-
	Turning Radii	Reducing turning radii at driveways and intersections to encourage slower turning movements for automobiles.	Infrastructure	-

IMAGE 31: SCHOOL ENTRANCE RENDERING (BEFORE)



AREA FOR IMPROVEMENT

QUEUING LINES
Long queue lines during pick-up and drop-off times are dangerous because they can be unorganized and spill onto nearby roadways, causing traffic congestion, blocking crosswalks, and unsafe pedestrian crossings as children navigate between vehicles.

INADEQUATE CROSSINGS
Inadequate crossing infrastructure, often missing or poorly striped, increases the risk of crashes as pedestrians, especially children, may cross at unsafe locations or go unnoticed by drivers in busy school zones.

IMAGE 32: SCHOOL ENTRANCE RENDERING (AFTER)

 RECOMMENDED IMPROVEMENT

 OPTIONAL IMPROVEMENT

 **DESIGNATED ZONES**
Designated pickup and drop-off zones help streamline traffic flow and reduce safety risks by providing clearly marked, organized areas for student loading and unloading, minimizing conflicts between vehicles, pedestrians, and cyclists.

 **CROSSWALKS**
Ensuring safe crosswalks is essential for protecting pedestrians, especially in school zones, and can be achieved by implementing features like raised crosswalks, which naturally slow vehicle speeds, increase pedestrian visibility, and create a safer, more prominent crossing environment.

 **CROSSING SIGNALS**
Implementing RRFBs or pedestrian HAWK signals at key crossing points enhances visibility and alerts drivers to pedestrian activity, significantly improving safety at high-traffic or multi-lane roadways.

 **SHARED USE PATHS**
Designated spaces for pedestrians and cyclists, such as shared use paths, provide safe, connected pathways that promote walking, rolling, and biking to school.

 **PEDESTRIAN ISLANDS**
Adding pedestrian islands near school entrances enhances safety by providing a refuge for children crossing busy streets, reducing their exposure to traffic. These islands also calm traffic by narrowing lanes, encouraging drivers to reduce speeds in school zones, and improving overall pedestrian visibility.

 **BOLLARDS & PAINT**
When curb removal/replacement isn't feasible, utilizing bollards and pavement markings can effectively delineate space, creating safer, clearly defined areas for pedestrians and cyclists while maintaining traffic flow.

 **LIGHTING**
Proper overhead lighting is critical for ensuring the safety of both drivers and pedestrians, as it enhances visibility during low-light conditions, reduces the risk of collisions by making crosswalks and other roadway features more noticeable, and helps pedestrians navigate safely and confidently near traffic.

RESIDENTIAL COLLECTOR

Residential collectors are intermediate roads that link local streets to arterial roadways, balancing mobility and access for vehicles, pedestrians, and cyclists. These roads typically feature one travel lane in each direction, with lane widths ranging from 10 to 12 feet. They are designed to accommodate moderate traffic volumes, often serving as key routes through residential neighborhoods while providing access to homes, schools, parks, and community centers. Unlike arterials, residential collectors prioritize local connectivity over high-speed travel, making them critical to neighborhood safety and functionality.

Speeds on residential collectors generally range from 25 to 35 mph, though speeding is a common issue. These roads often lack traffic signals, relying on stop signs or yield signs to manage intersections. Pedestrian and bicycle infrastructure is typically present but may be inconsistent, with gaps in sidewalks, limited crosswalks, or a lack of dedicated bike lanes. The presence of driveways and on-street parking introduces additional conflict points, requiring careful design to minimize risks for all road users.

Lighting is generally limited but critical for enhancing visibility, especially in areas near schools or parks where pedestrian activity is high. Shoulders are often narrow or non-existent, further limiting space for non-motorized users. Surrounding land use is predominantly residential, though some roads may intersect with commercial areas or connect to larger transportation corridors. Safety challenges on residential collectors include speeding, limited pedestrian infrastructure, high driveway density, mixed traffic modes, and insufficient lighting. Addressing these challenges requires targeted interventions to ensure these roads remain safe and effective for all users.



Source: Huntley, IL Patch

SAFETY CHALLENGES ON RESIDENTIAL COLLECTORS:

ON-STREET PARKING CONFLICTS

On-street parking on residential collectors creates conflicts by reducing roadway width and limiting visibility. Drivers may struggle to see pedestrians or cyclists when pulling out of parking spaces, leading to potential collisions. Clearly marked parking areas and improved visibility measures can help alleviate these conflicts.

HIGH DRIVEWAY DENSITY

The frequent presence of driveways along residential collectors increases the number of conflict points between vehicles, pedestrians, and cyclists. Drivers entering or exiting driveways often face limited visibility, leading to potential collisions. This high density of access points creates unpredictable conditions for all road users.

INCONSISTENT BICYCLE & PEDESTRIAN INFRASTRUCTURE

Many residential collectors lack continuous sidewalks and many do not have bicycle infrastructure. This lack of infrastructure often forces pedestrians to walk on the roadway or in unsafe, uneven spaces, and bicyclists must share the roadway with automobiles with no pavement markings or curb protection. This creates unsafe conditions, particularly during peak traffic times or when drivers are traveling at higher speeds.

CUT-THROUGH TRAFFIC

Residential collectors often attract cut-through traffic as drivers use these streets to bypass congestion on larger roads. This increases traffic volumes and speeds beyond what the roads are intended to handle, compromising safety for local residents. The additional traffic also disrupts the intended residential character of these roadways.

HIGH SPEEDS OF TRAVEL

Speeding is a prevalent issue on residential collectors, where drivers often exceed posted limits to save time. This behavior increases crash severity and endangers pedestrians, cyclists, and residents who use these roads. The high speeds make it challenging for all users to safely share the roadway.

INTERSECTION SAFETY

Unsignalized or poorly marked intersections on residential collectors often lead to confusion and unsafe driving behaviors. Drivers may fail to yield, misjudge traffic gaps, or overlook pedestrians and cyclists crossing at these points. The lack of clear markings and controls makes these intersections particularly hazardous.

TABLE 30: CRASH CAUSE (SERIOUS INJURY AND FATAL)

Failing to yield was the leading cause of crashes, accounting for 57 incidents over five years, highlighting recurring issues with right-of-way compliance at intersections and during merging maneuvers. This pattern suggests a need for improved signage, driver education, and enforcement to address these violations. Failing to reduce speed contributed to 29 crashes, often exacerbating collision severity and indicating challenges with adapting to roadway conditions or sudden changes in traffic. Other significant causes, such as impairment from alcohol or drugs (14 crashes) and disregarding traffic signals (10 crashes), reflect impaired judgment and non-compliance as critical factors in crash occurrences.

Crash Cause	2018	2019	2020	2021	2022	Total KA	Total %
[N/A]	0	0	0	2	0	2	1.2%
Animal	0	0	1	0	0	1	0.6%
Disregarding Other Traffic Signs	0	2	2	0	0	4	2.4%
Disregarding Stop Sign	3	3	0	1	0	7	4.1%
Disregarding Traffic Signals	2	1	2	3	2	10	5.9%
Distraction - From Inside Vehicle	1	0	1	1	0	3	1.8%
Driving Skills/Knowledge/Experience	0	0	2	3	0	5	3.0%
Exceeding Authorized Speed Limit	2	0	0	0	0	2	1.2%
Exceeding Safe Speed For Conditions	2	2	0	0	0	4	2.4%
Failing to Reduce Speed to Avoid Crash	3	9	3	6	8	29	17.2%
Failing to Yield Right of Way	16	14	12	5	10	57	33.7%
Following Too Closely	0	1	0	0	0	1	0.6%
Had Been Drinking	0	1	0	0	0	1	0.6%
Improper Lane Usage	0	0	1	1	0	2	1.2%
Improper Overtaking/Passing	0	1	0	0	0	1	0.6%
Improper Turning/No Signal	0	1	0	2	1	4	2.4%
Operating Vehicle In Reckless Manner	0	0	0	2	0	2	1.2%
Physical Condition of Driver	1	1	0	0	0	2	1.2%
Road Construction/Maintenance	0	0	0	0	1	1	0.6%
Unable to Determine	4	4	1	0	4	13	7.7%
Under Influence of Alcohol/Drugs	0	0	0	2	0	2	1.2%
Weather	1	1	0	0	0	2	1.2%
Total	38	44	31	28	28	169	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

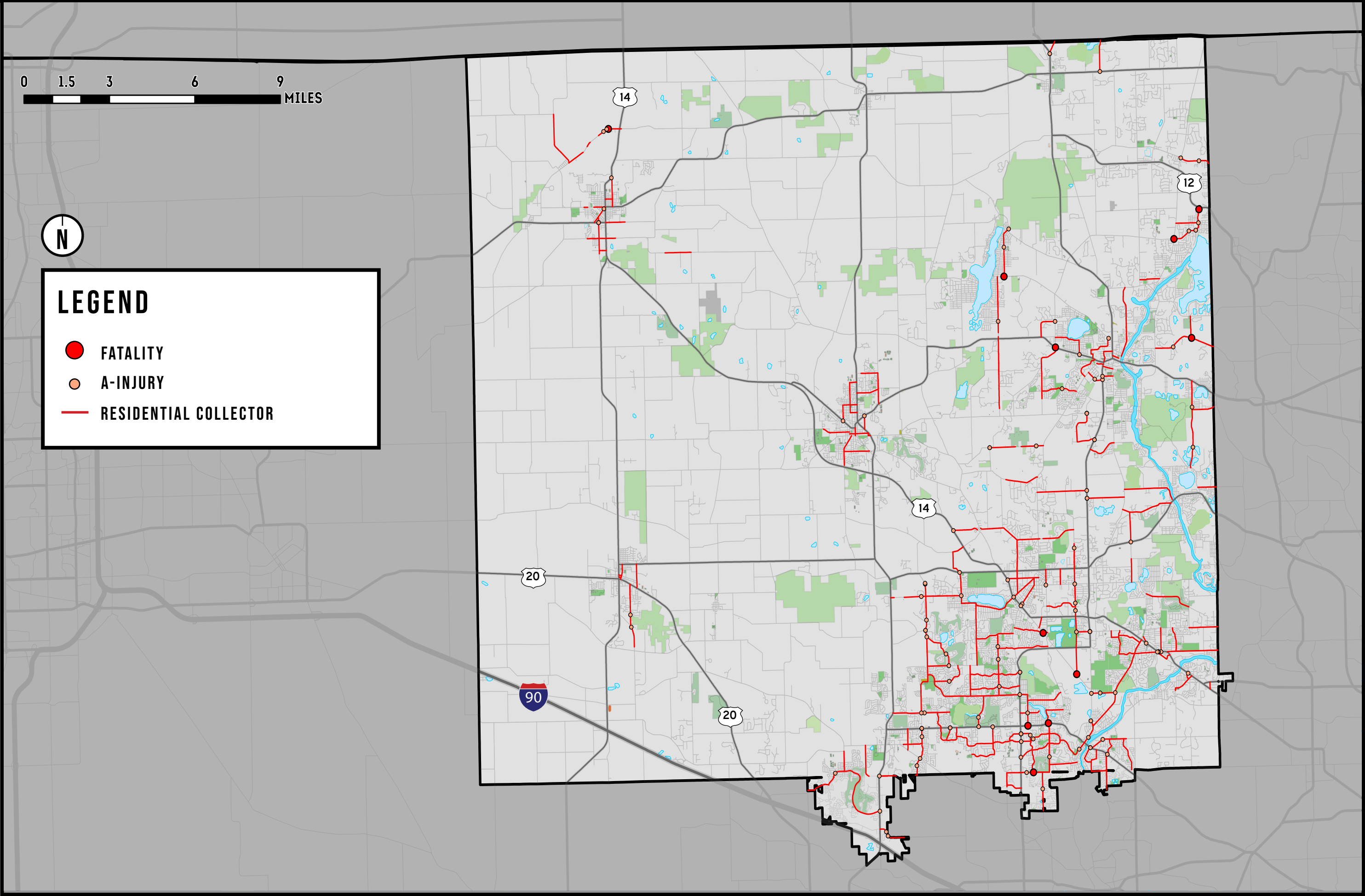
TABLE 31: TYPES OF CRASHES (SERIOUS INJURY AND FATAL)

Turning crashes were the most common type, with 52 incidents, indicating frequent conflicts during turning maneuvers. Fixed object crashes (32) and angle crashes (25) were also prominent, highlighting issues such as driver distraction, loss of control, speeding, or inadequate roadway design near obstacles, and frequent conflicts at intersections. These types of crashes emphasize the importance of better intersection design, clear lane markings, and signal optimization to reduce conflicts. Other types, such as front-to-rear collisions (16) and pedestrian-related crashes (9), underscore the need for speed management, enhanced visibility, and safer pedestrian infrastructure to mitigate risks for vulnerable road users.

Crash Type	2018	2019	2020	2021	2022	Total KA	Total %
Angle	11	6	3	4	1	25	14.8%
Animal	0	0	1	0	0	1	0.6%
Fixed Object	5	15	5	2	5	32	18.9%
Front to Front	0	1	2	1	2	6	3.6%
Front to Rear	0	5	2	5	4	16	9.5%
Head On	2	0	0	0	0	2	1.2%
Other Non-Collision	0	1	1	1	0	3	1.8%
Other Object	0	0	1	2	0	3	1.8%
Overtuned	0	0	1	2	1	4	2.4%
Parked Motor Vehicle	0	0	0	0	0	0	0.0%
Pedalcyclist	0	3	2	2	1	8	4.7%
Pedestrian	2	1	2	1	3	9	5.3%
Rear End	5	0	0	0	0	5	3.0%
Rear to Front	0	0	0	0	0	0	0.0%
Rear to Rear	0	0	0	0	0	0	0.0%
Rear to Side	0	0	0	0	0	0	0.0%
Sideswipe Opposite Direction	0	1	0	1	0	2	1.2%
Sideswipe Same Direction	0	1	0	0	0	1	0.6%
Train	0	0	0	0	0	0	0.0%
Turning	13	10	11	7	11	52	30.8%
Total	38	44	31	28	28	169	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

IMAGE 34: RESIDENTIAL COLLECTOR CRASH MAP BY SEVERITY



STRATEGIZING FOR SAFER ROADS ON RESIDENTIAL COLLECTORS

Strategizing for safety on residential collectors requires a comprehensive understanding of the unique dynamics at these locations. Factors such as a high number of access points, more bicycle and pedestrian activity, and variable vehicle speeds all contribute to the complexity of the roadways and ensuring safety. Recognizing these variables allows planners to identify critical areas for intervention and prioritize locations where safety measures will have the greatest impact.

KEY STAKEHOLDERS

For future transportation planning on residential collectors, coordination with local residents and neighborhood associations should be central to the process, as they bring firsthand knowledge of daily traffic patterns, safety challenges, and community priorities. Municipal officials, including planners and traffic engineers, are vital for providing technical expertise to develop context-sensitive solutions that balance mobility and access within residential areas. Law enforcement and public safety officials should contribute data on traffic violations and crashes, while also offering insights into enforcement strategies that can improve compliance with traffic laws.

TABLE 32: COUNTERMEASURES FOR RESIDENTIAL COLLECTORS

Countermeasures are targeted actions or strategies implemented to address specific safety issues on residential collectors, tailored to the unique challenges these roadways present. They are designed to mitigate risks, reduce crash frequency, and enhance overall safety for pedestrians, cyclists, and drivers. For improving visibility and driver awareness, countermeasures focus on better lighting, clear signage, and high-contrast pavement markings to ensure all users are aware of crossing points and shared spaces. Measures to protect vulnerable road users prioritize managing vehicle speeds, improving pedestrian and bicycle infrastructure, and reducing conflict points along these roadways. These strategies aim to create safer, more predictable, and accessible environments for all users in residential neighborhoods.

Safety Issue	Countermeasures	Description	Classification	Toolbox ID
High Vehicle Speeds	Speed Humps or Tables	Raised areas of pavement across roadways to reduce vehicle speeds.	Infrastructure	U.27
	Speed Cushions	Spaced humps allowing emergency vehicles to pass without slowing significantly.	Infrastructure	U.27
	Road Diets	Reducing the number of vehicle lanes to create space for pedestrians, cyclists, or other road users.	Infrastructure	U.26
	Reduced Lane Widths	Reduce lanes to 10'-11' to encourage slower speeds and create more roadway space for other users.	Infrastructure	U.30
	Roundabouts	Smaller circular intersections for lower-speed environments.	Infrastructure	U.2
	Chicanes	Curb extensions creating a serpentine path to slow vehicle speeds.	Infrastructure	U.28
	Curb Extensions (Bump-Outs)	Reductions in crossing distances for pedestrians at intersections.	Infrastructure	U.14
	Reduced Speed Limits	Lower speed limits on approaches to crossings with clear signage to improve reaction times for drivers.	Policy	-

TABLE 31: COUNTERMEASURES FOR RESIDENTIAL COLLECTORS CONT.

Safety Issue	Countermeasures	Description	Classification	Toolbox ID
Limited Visibility	Streetlights	Pole-mounted lighting to improve visibility during nighttime conditions.	Infrastructure	U.33
	Pedestrian-Scale Lighting	Install lighting along trails and at crossings to improve visibility during low-light conditions and indicate	Infrastructure	U.32
	Parking Restrictions at Corners	Limiting parking near intersections to improve sight lines for all users.	Policy	-
	Landscape Height Restrictions	Impose restrictions on the maximum height of landscaping within sight triangles to improve visibility.	Policy	-
Lack of Bicycle & Pedestrian Infrastructure	Pedestrian Space	Continuous walkways to separate pedestrians from vehicular traffic with sidewalks or pedestrian lanes.	Infrastructure	-
	Pedestrian Refuge Islands	Central median areas allowing pedestrians to cross one direction of traffic at a time.	Infrastructure	U.13
	High-Visibility Crosswalks	Enhanced markings and signage to improve pedestrian visibility at crossings.	Infrastructure	U.9
	Raised Crosswalks	Elevating the pedestrian path to increase visibility and slow traffic.	Infrastructure	U.17
	Safe Routes to School	Initiatives to improve walking and biking safety for children.	Program	-

MULTI-LANE INTERSECTIONS

Multi-lane intersections consist of more than one lane in each direction and are key components of road networks, designed to handle significant traffic volumes by incorporating multiple through-lanes and turn lanes (left, right, or both) in each direction. These intersections converge more than three lanes per direction, requiring careful design to ensure efficiency and safety. Standard lane widths range from 10 to 12 feet. Some intersections may also intersect with railroads, adding another layer of operational complexity.

The primary function of multi-lane intersections is to manage large volumes of traffic effectively, allowing multiple vehicles to navigate the intersection during each signal cycle. Specific turn lanes and adequate queue storage are critical for accommodating peak-hour demands, preventing spillback into through-lanes, and minimizing congestion. To enhance efficiency, these intersections often feature longer turn lanes or dual turn lanes in busy areas. Speeds at multi-lane intersections typically range from 35 to 45 mph, with some locations reaching up to 55 mph. Traffic signals, including phasing for protected left turns, are essential for controlling flow and reducing conflicts between turning vehicles and oncoming traffic. Adequate lighting is generally present to improve visibility during nighttime and adverse weather conditions.

Pedestrian and bicycle infrastructure at multi-lane intersections varies significantly. Due to the high traffic volumes and wide crossing distances, off-street facilities are common to separate non-motorized users from vehicles. Crosswalks with curb ramps, pedestrian signals, and safety features such as no-turn-on-red signs, raised medians, or refuge islands are often provided to enhance pedestrian safety. However, some intersections may lack sufficient pedestrian and bicycle accommodations or remain stressful to navigate due to the sheer number of lanes and traffic activity. Fixed-route transit services are frequently integrated into these intersections, further increasing multimodal interactions.

Per the systemic analysis, an increased number of lanes and higher speed limits, AADT, and arterial functional classification were all correlated with more fatal and serious injury crashes. Other safety challenges at multi-lane intersections include complex turning movements, conflicts between multiple travel modes, and limited visibility due to wide layouts and potential obstructions. These intersections require carefully designed infrastructure and operational strategies to balance efficiency and safety for all users.



Source: Northwest Herald

SAFETY CHALLENGES AT MULTI-LANE INTERSECTIONS:

HIGH-SPEED APPROACHES

Vehicles often approach multi-lane intersections at high speeds, which reduces reaction times and increases the severity of crashes. High-speed approaches also make it more difficult for drivers to safely judge gaps when turning or crossing multiple lanes. These dynamics are particularly dangerous for vulnerable road users like pedestrians and cyclists who rely on clear visibility and ample crossing time.

COMPLEX TURNING MOVEMENTS

Drivers often misjudge gaps or fail to yield, leading to side-impact collisions, which are among the most severe crash types. The complexity of these movements can also overwhelm inexperienced or distracted drivers, further increasing the likelihood of crashes.

WIDE CROSSING DISTANCES

Multi-lane intersections often require pedestrians and cyclists to traverse wide roadways, increasing their exposure time to traffic. This prolonged crossing time raises the likelihood of conflicts with turning vehicles or vehicles running red lights. Without features like pedestrian refuge islands or crossing signals, non-motorized users face heightened risks and stress when navigating these intersections.

DISTRACTED & INATTENTIVE DRIVERS

The complexity of multi-lane intersections, with multiple lanes, signals, and signage, can overwhelm drivers, increasing the risk of inattention blindness. Drivers may miss critical cues, such as lane markings or pedestrians in crosswalks, leading to sudden braking or lane changes. Distracted driving is also particularly dangerous in these environments, as the margin for error is reduced by the high volume of vehicles and turning movements.

UNEVEN LANE UTILIZATION

At multi-lane intersections, uneven usage of lanes can create bottlenecks and sudden lane changes as drivers try to move into shorter queues. This behavior increases the risk of sideswipe or rear-end collisions, particularly in high-speed environments. Uneven lane utilization most noticeably results near destinations with high travel demand, but the effects can be exacerbated by unclear signage, inconsistent markings, or inadequate lane designation.

INADEQUATE LIGHTING

Poor lighting at multi-lane intersections reduces visibility for drivers, pedestrians, and cyclists, especially during nighttime or inclement weather. Inadequate lighting makes it harder for drivers to see lane markings, signals, and other road users, increasing the likelihood of crashes. Well-lit intersections are critical to improving safety by enhancing visibility and reducing uncertainty for all users.

TABLE 33: CRASH CAUSE (SERIOUS INJURY AND FATAL)

The leading causes of crashes at multi-lane intersections include failing to yield (25 crashes), failing to reduce speed (16 crashes), and disregarding traffic signals (14 crashes). These issues highlight common right-of-way conflicts, sudden stops, and signal non-compliance, all of which contribute to severe incidents. Impaired driving (10 crashes) and improper turning or lack of signaling (7 crashes) further emphasize the need for targeted enforcement, better signage, and infrastructure improvements to address risky behaviors. A combination of enhanced signal visibility, speed management tools, and public education can significantly improve safety and reduce crash frequency at these complex intersections.

Crash Cause	2018	2019	2020	2021	2022	Total KA	Total %
[N/A]	0	0	0	2	0	2	2.2%
Disregarding Other Traffic Signs	0	0	3	0	0	3	3.4%
Disregarding Traffic Signals	4	3	2	3	2	14	15.7%
Exceeding Authorized Speed Limit	2	0	0	0	0	2	2.2%
Exceeding Safe Speed For Conditions	1	0	0	0	0	1	1.1%
Failing to Reduce Speed to Avoid Crash	3	3	2	7	1	16	18.0%
Failing to Yield Right of Way	4	8	3	4	6	25	28.1%
Improper Turning/No Signal	1	1	0	2	3	7	7.9%
Physical Condition of Driver	0	1	3	0	0	4	4.5%
Unable to Determine	3	1	0	0	0	4	4.5%
Under Influence of Alcohol/Drugs	2	2	4	1	1	10	11.2%
Weather	1	0	0	0	0	1	1.1%
Total	21	19	17	19	13	89	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

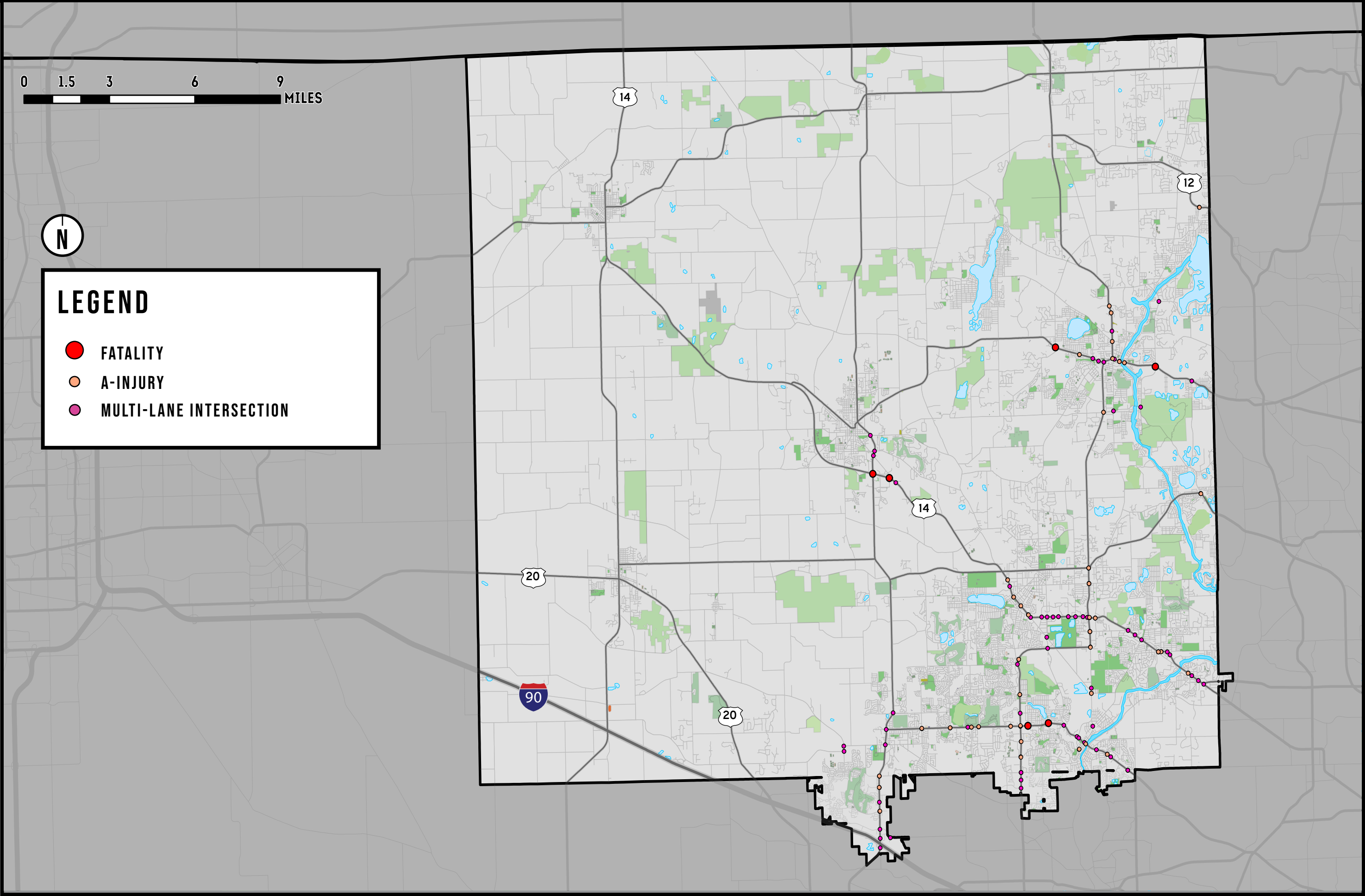
TABLE 34: TYPES OF CRASHES (SERIOUS INJURY AND FATAL)

The most frequent crash type at multi-lane intersections was turning crashes, with 39 incidents, reflecting the complexity and high conflict potential of these movements. Front-to-rear collisions accounted for 17 crashes, often stemming from abrupt stops and queuing issues in heavy traffic. Fixed-object crashes (8) and angle crashes (6) further underscore the challenges drivers face in navigating multi-lane intersections safely, while pedestrian crashes (5) highlight the risks for non-motorized users.

Crash Type	2018	2019	2020	2021	2022	Total KA	Total %
Angle	3	1	2	0	0	6	6.7%
Fixed Object	3	4	1	0	0	8	9.0%
Front to Front	0	1	0	1	0	2	2.2%
Front to Rear	0	3	5	8	1	17	19.1%
Head On	2	0	0	0	0	2	2.2%
Other Object	0	1	0	0	1	2	2.2%
Overturned	0	0	2	0	0	2	2.2%
Pedalcyclist	0	0	0	1	0	1	1.1%
Pedestrian	2	0	2	0	1	5	5.6%
Rear End	5	0	0	0	0	5	5.6%
Turning	6	9	5	9	10	39	43.8%
Total	21	19	17	19	13	89	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

IMAGE 36: MULTI-LANE INTERSECTIONS CRASH MAP BY SEVERITY



STRATEGIZING FOR SAFER MULTI-LANE INTERSECTIONS

Strategizing for safety at multi-lane intersections requires a deep understanding of their operational dynamics. These intersections often handle high-speed approaches, turning conflicts, and queuing issues that exacerbate crash risks and congestion. Factors such as signal phasing, surrounding land uses, and multimodal activity further complicate safety considerations. Planners and stakeholders must identify high-risk intersections and prioritize improvements that address the specific challenges of each location while accommodating user needs.

KEY STAKEHOLDERS

Engaging the community is crucial to effectively addressing the challenges of multi-lane intersections, as input from business owners, active transportation advocates, and local stakeholders provides valuable perspectives on safety and operational concerns. Collaborative discussions with these groups ensure that intersection designs and retrofits are tailored to community needs and integrate seamlessly into the broader transportation network. Key stakeholders, including municipalities, DOTs, law enforcement, transit agencies, and advocacy organizations, bring an array expertise to the table, from technical and funding support to insights on vulnerable road users and compliance with traffic laws.



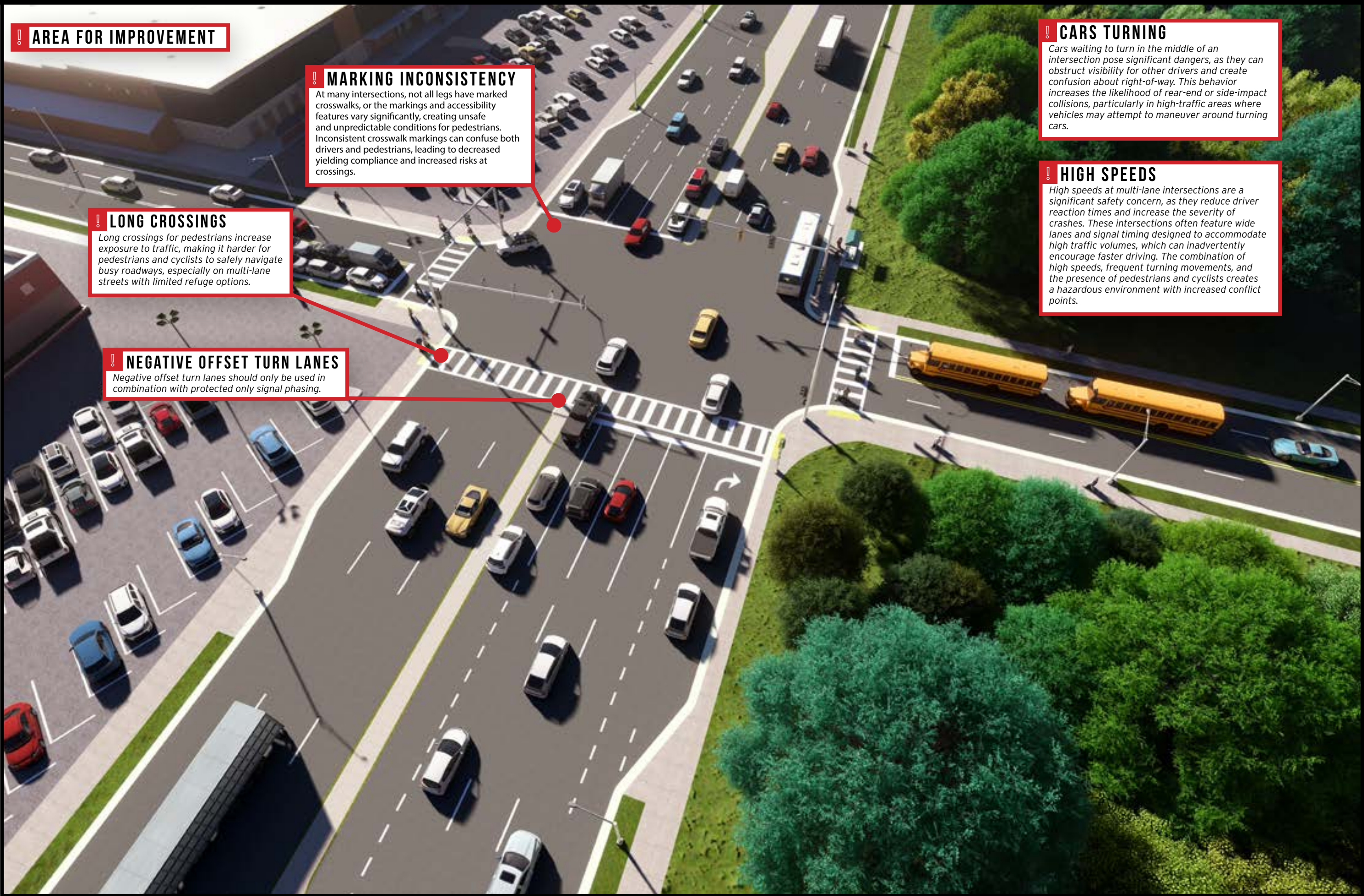
Source: McHenry County Division of Transportation

TABLE 35: COUNTERMEASURES FOR MULTI-LANE INTERSECTIONS

Countermeasures for multi-lane intersections are targeted actions designed to address the specific safety challenges these complex environments present. They aim to reduce crash frequency, mitigate risks, and enhance the overall safety and functionality of the intersection for all users. For challenges such as high vehicle speeds, heavy traffic volumes, and complex turning movements, countermeasures focus on signal optimization, traffic calming, and improved lane delineation to reduce conflicts. Measures to protect vulnerable road users, such as pedestrians and cyclists, emphasize enhancing visibility, providing dedicated crossing facilities, and reducing exposure times with features like refuge islands and raised crosswalks.

SAFETY ISSUE	COUNTERMEASURES	DESCRIPTION	CLASSIFICATION	TOOLBOX ID
Complex Turning Movements	Dedicated, Offset Turn Lanes	Add dedicated, offset turn lanes with clear markings and signals to reduce conflicts between turning and through traffic. Remove negative turn lane offsets.	Infrastructure	U.3
	Signal Phasing for Left Turns	Introduce protected left-turn phases to prevent conflicts with oncoming vehicles.	Infrastructure	U.5
	Longer Turn Lanes	Extend turn lanes to accommodate queuing vehicles and prevent blockages in through lanes.	Infrastructure	U.3
	Dynamic Queue Management	Implement adaptive signals to manage queuing during peak periods and reduce spillback.	Program	-
High Speeds	Roundabouts	Replace intersections with roundabouts to reduce conflict points and improve safety.	Infrastructure	U.2
	Road Diets	Where volumes permit, reconfigure roadways leading to multi-lane intersections by reducing travel lanes and reallocating space for pedestrians, cyclists, or transit.	Infrastructure	U.26
	Dynamic Speed Feedback Signs	Install radar signs displaying vehicle speeds to encourage compliance with posted speed limits.	Program	U.25
	Automated Speed Enforcement	Use cameras or radar-based systems to enforce speed limits and discourage violations.	Policy	U.29
Pedestrian & Bicyclist Safety	Pedestrian Refuge Islands	Provide refuge for pedestrians and cyclists at wide intersections, allowing safer crossing in stages.	Infrastructure	U.13
	Bicyclist Boxes	Painted areas ahead of vehicle stop lines at signalized intersections, providing a safe, visible space for cyclists to wait.	Infrastructure	U.22
	Two-Stage Queue Boxes	Designated waiting areas for cyclists at intersections, allowing them to make left turns in two stages safely and predictably.	Infrastructure	U.22
	Pedestrian Bridges	Construct pedestrian bridges or underpasses to create separated crossings for pedestrians and bicyclists.	Infrastructure	U.12
	Protected Intersections	Implement protected intersections to provide bicyclists and pedestrians a safer crossing experience.	Infrastructure	U.23
Signal Compliance	Signal Timing Adjustments	Optimize signal timing to reduce speed through the intersection and improve traffic flow.	Infrastructure	U.4
	Clearance Intervals	Review and adjust pedestrian, yellow, and all-red signal phases to allow all pedestrians and vehicles to clear the intersection before the next phase begins.	Infrastructure	U.4
	Red-Light Cameras	Deploy cameras to enforce compliance with traffic signals and deter violations.	Policy	U.31

IMAGE 38: MULTI-LANE INTERSECTION RENDERING (BEFORE)



AREA FOR IMPROVEMENT

MARKING INCONSISTENCY
At many intersections, not all legs have marked crosswalks, or the markings and accessibility features vary significantly, creating unsafe and unpredictable conditions for pedestrians. Inconsistent crosswalk markings can confuse both drivers and pedestrians, leading to decreased yielding compliance and increased risks at crossings.

LONG CROSSINGS
Long crossings for pedestrians increase exposure to traffic, making it harder for pedestrians and cyclists to safely navigate busy roadways, especially on multi-lane streets with limited refuge options.

NEGATIVE OFFSET TURN LANES
Negative offset turn lanes should only be used in combination with protected only signal phasing.

CARS TURNING
Cars waiting to turn in the middle of an intersection pose significant dangers, as they can obstruct visibility for other drivers and create confusion about right-of-way. This behavior increases the likelihood of rear-end or side-impact collisions, particularly in high-traffic areas where vehicles may attempt to maneuver around turning cars.

HIGH SPEEDS
High speeds at multi-lane intersections are a significant safety concern, as they reduce driver reaction times and increase the severity of crashes. These intersections often feature wide lanes and signal timing designed to accommodate high traffic volumes, which can inadvertently encourage faster driving. The combination of high speeds, frequent turning movements, and the presence of pedestrians and cyclists creates a hazardous environment with increased conflict points.

IMAGE 39: MULTI-LANE INTERSECTION RENDERING (AFTER)

RECOMMENDED IMPROVEMENT

OPTIONAL IMPROVEMENT

AREA FOR IMPROVEMENT

PEDESTRIAN BRIDGE
Installing a pedestrian bridge provides a safe, grade-separated crossing for pedestrians and cyclists, eliminating conflicts with vehicular traffic and significantly reducing the risk of crashes. These structures are particularly beneficial in high-traffic areas, near schools, or over multi-lane roadways where crossing at grade would be unsafe or impractical.

NEGATIVE OFFSET TURN LANES
Negative offset turn lanes should only be used in combination with protected only signal phasing.

BUS BOARDING
Bus boarding creates a safe, designated space for buses to pick-up and drop-off riders. Buses do not have to leave the travel lane when pulling over or wait to pull back in to traffic, creating safer conditions for other roadway users.

ACCESSIBILITY UNIFORMITY
Ensuring crossings meet accessibility requirements, such as tactile paving, curb ramps, and proper surface grading, enhances safety and usability for individuals with disabilities while also signaling the presence of the crossing to all users, promoting a more intuitive environment.

ROAD DIET
Road diets can be helpful for multi-lane intersections by reducing conflict points, calming traffic speeds, and creating space for dedicated turn lanes, bike lanes, or pedestrian refuge islands, which enhance safety and efficiency for all users.

RED LIGHT CAMERA
Where allowed by state law, red light cameras at multi-lane intersections are an effective tool for improving safety by deterring drivers from running red lights. These cameras automatically capture violations, creating a strong incentive for compliance with traffic signals and reducing the likelihood of angle and side-impact crashes, which are often severe.

ON-STREET FACILITIES
Implementing on-street facilities like bike boxes and two-stage turn queue boxes enhances cyclist safety and visibility by providing dedicated spaces for cyclists to wait at intersections and navigate turns predictably, reducing conflicts with motor vehicles.

SEPARATED FACILITIES
Creating separated bicycle lanes or paths and dedicated walking areas or sidewalks in high-traffic areas provides safe, clearly defined spaces for non-motorized users, including e-bikes and other micromobility vehicles. This reduces conflicts with vehicles and between pedestrians and cyclists, offering a safer, more organized environment for all road users. This approach is particularly valuable in areas unsuitable for on-street facilities, ensuring safer and more comfortable travel for vulnerable and micromobility users while maintaining efficient vehicle flow.

DOWNTOWN THOROUGHFARE

The Downtown Thoroughfare typology handles substantial vehicle traffic, often linking major arterials or serving as key routes through a municipality's central district. These roadways typically include up to two travel lanes in each direction, with some lanes designated for turning movements. Traffic signals manage intersections, balancing vehicle flow and pedestrian safety. Signal timing may be optimized for traffic flow, with specific phases for transit or turning vehicles. High-volume roads are defined by an AADT of 6,000 or more.

Speeds on these roadways range from 20 to 40 mph. While pedestrian and bicycle infrastructure is usually present, the road environment is often stressful for people trying to use it. Transit services are commonly available, and railroads may either intersect or run parallel to the roadway. High-volume downtown roadways are dispersed throughout the county, with a concentration in the southeastern region. Adjacent land uses include commercial, residential, and open space, with downtown streets typically lined by retail shops, offices, restaurants, and cultural institutions, some within mixed-use developments. Street design must prioritize access to businesses for pedestrians, vehicles, and delivery operations.

IMAGE 40: DOWNTOWN RICHMOND



IMAGE 41: DOWNTOWN HARVARD



Source: Naturally McHenry County

SAFETY CHALLENGES ON A DOWNTOWN THOROUGHFARE:

HIGH VEHICLE SPEEDS IN PEDESTRIAN-FOCUSED AREAS

High vehicle speeds through downtown areas conflict with the slower-paced, pedestrian-oriented environment of traditional main streets. Drivers traveling at excessive speeds may struggle to stop for pedestrians or unexpected obstacles, increasing the risk of crashes. Additionally, higher speeds reduce the perception of safety for pedestrians and cyclists, discouraging active transportation and affecting the vibrancy of the downtown area. Effective speed management is essential to balance the needs of all users.

PARKING AND LOADING CONFLICTS

Downtown areas with traditional main streets often feature on-street parking and loading zones, which can create conflicts with through traffic and reduce visibility for drivers and pedestrians. Vehicles entering and exiting parking spaces can disrupt traffic flow, while delivery vehicles may double park, forcing other drivers to navigate around them. These conflicts can lead to unexpected hazards and congestion, detracting from the overall functionality and safety of the street.

INADEQUATE PEDESTRIAN CROSSINGS

Traditional main streets often have high pedestrian activity but may lack sufficient safe crossing options, such as well-marked crosswalks, pedestrian signals, or refuge islands. Inadequate crossing infrastructure forces pedestrians to cross at unsafe locations, increasing the likelihood of vehicle-pedestrian conflicts. This is particularly dangerous during peak traffic hours, when high vehicle volumes and limited gaps in traffic make crossing more challenging. Providing frequent and visible crossings is critical to enhancing pedestrian safety.

NIGHTTIME VISIBILITY & LIGHTING

Poor lighting in downtown areas can reduce visibility for drivers, pedestrians, and cyclists, making it harder to spot potential hazards and increasing the risk of crashes. This issue is particularly critical on roadways with fast-moving vehicles which require ample reaction time to avoid collisions. Inadequate lighting can also create perceptions of insecurity, discouraging people from walking or cycling at night. Well-designed lighting systems are necessary to enhance safety and foster a sense of security for all users.

BICYCLE NETWORK GAPS

High-volume roadways through downtown areas frequently lack dedicated bicycle lanes, forcing cyclists to share the roadway with vehicles. This can create unsafe conditions, particularly on narrow streets where drivers may not leave adequate space for cyclists. Without proper infrastructure, cyclists are more likely to use sidewalks, increasing conflicts with pedestrians and further complicating the downtown environment. Safe and connected bicycle facilities are crucial to accommodate all users.

TABLE 36: CRASH CAUSE (SERIOUS INJURY AND FATAL)

Unknown factors and failing to yield were the leading cause of serious injury and fatal crashes, with six incidents each, pointing to gaps in reporting and investigation, and issues with right-of-way compliance. Failing to reduce speed (four incidents) highlight issues with driver behavior in dynamic traffic conditions. Impaired driving also caused four crashes, emphasizing the dangers of alcohol or drug use. Disregarding stop signs(four incidents) and disregarding traffic signals (three incidents) reveals compliance issues at unsignalized intersections, suggesting opportunities for enhanced visibility and signage.

Crash Cause	2018	2019	2020	2021	2022	Total KA	Total %
[N/A]	0	0	0	5	1	6	20.0%
Disregarding Stop Sign	1	0	0	3	0	4	13.3%
Disregarding Traffic Signals	1	1	1	0	0	3	10.0%
Failing to Reduce Speed to Avoid Crash	1	2	0	0	1	4	13.3%
Failing to Yield Right of Way	3	2	1	0	0	6	20.0%
Improper Turning/No Signal	0	0	1	0	0	1	3.3%
Under Influence of Alcohol/Drugs	0	0	2	2	0	4	13.3%
Weather	0	1	0	0	0	1	3.3%
Physical Condition of Driver	0	1	0	0	0	1	3.3%
Total	6	7	5	10	2	30	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

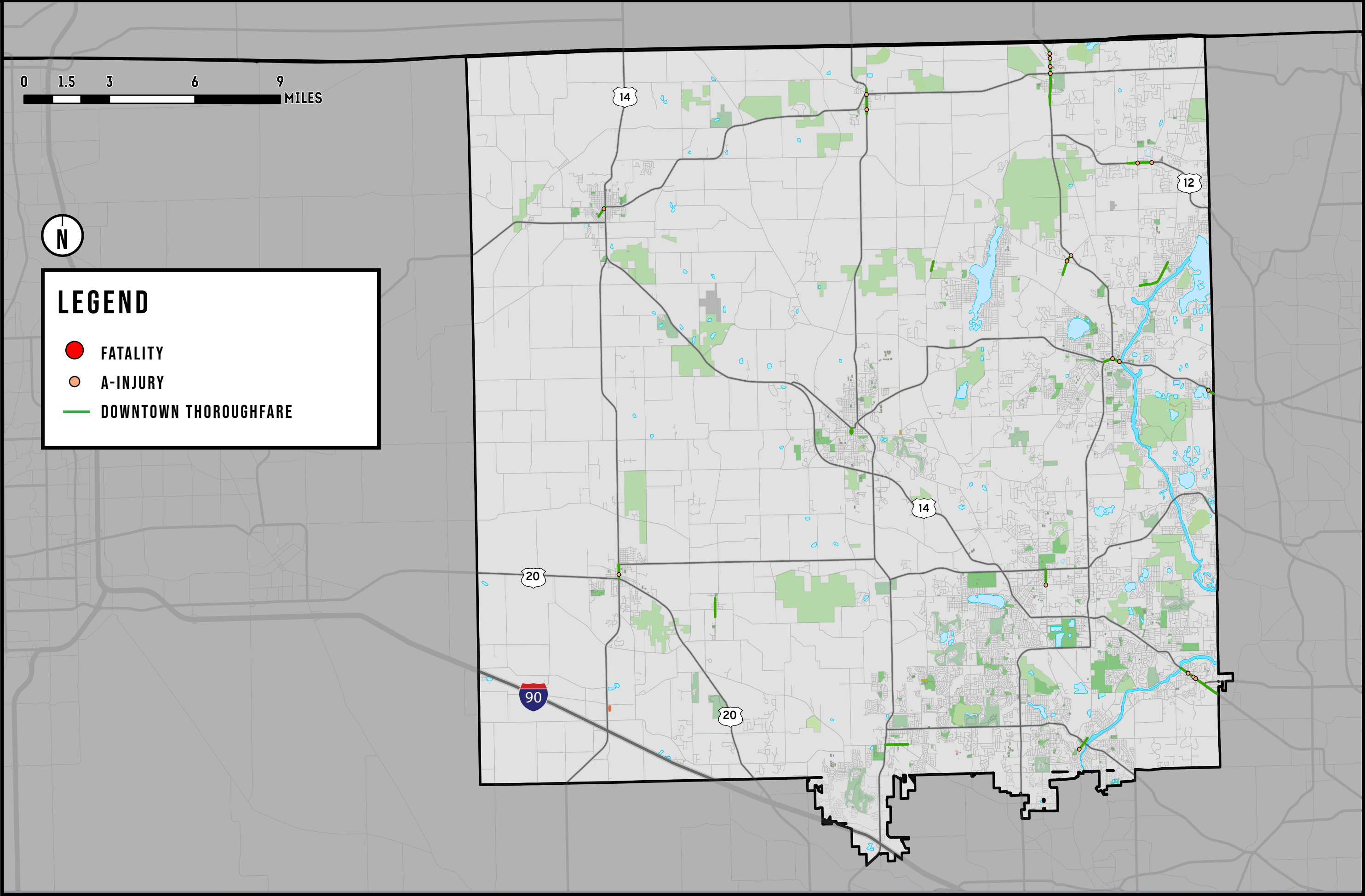
TABLE 37: TYPES OF CRASHES (SERIOUS INJURY AND FATAL)

The most frequent crash type is angle crashes, with 10 incidents, highlighting intersection safety issues. Front-to-rear, and turning collisions each caused six incidents, stemming from congestion and turning conflicts. Fixed-object crashes accounted for two incidents, reflecting occasional roadway design or vehicle control problems. Less frequent but critical types included crashes involving pedestrians, bicyclists, and sideswipes, highlighting the need for infrastructure improvements to protect vulnerable road users.

Crash Type	2018	2019	2020	2021	2022	Total	Total %
Angle	1	2	1	6	0	10	33.3%
Turning	3	0	2	0	1	6	20.0%
Front to Rear	0	2	0	3	1	6	20.0%
Fixed Object	0	1	0	1	0	2	6.7%
Other Object	0	0	1	0	0	1	3.3%
Bicyclist	0	1	0	0	0	1	3.3%
Pedestrian	1	0	0	0	0	1	3.3%
Sideswipe Opposite Direction	0	0	1	0	0	1	3.3%
Rear End	1	0	0	0	0	1	3.3%
Front to Front	0	1	0	0	0	1	3.3%
Total	6	7	5	10	2	30	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

IMAGE 42: DOWNTOWN THOROUGHFARE CRASH MAP BY SEVERITY



STRATEGIZING FOR SAFER DOWNTOWN THOROUGHFARES

Strategizing for safety on downtown roadways requires a comprehensive understanding of the unique dynamics at these locations. These areas can experience high traffic volumes and higher speeds. Factors such as traffic patterns, traffic volumes and speeds, and existing infrastructure contribute to the complexity of ensuring safer traffic conditions on downtown roadways. Recognizing these variables allows planners to identify critical areas for intervention and prioritize locations where safety measures will have the greatest impact.

KEY STAKEHOLDERS

Key stakeholders play a vital role in the successful development and implementation of safety strategies on downtown roadways. These include local business owners and employees, local residents, local government officials and staff, and local law enforcement and public safety officials. These stakeholders provide a variety of firsthand experience, technical expertise, and data to help communities select the appropriate countermeasures at different locations.

TABLE 38: COUNTERMEASURES FOR HIGH-VOLUME ROADWAYS IN DOWNTOWN AREAS

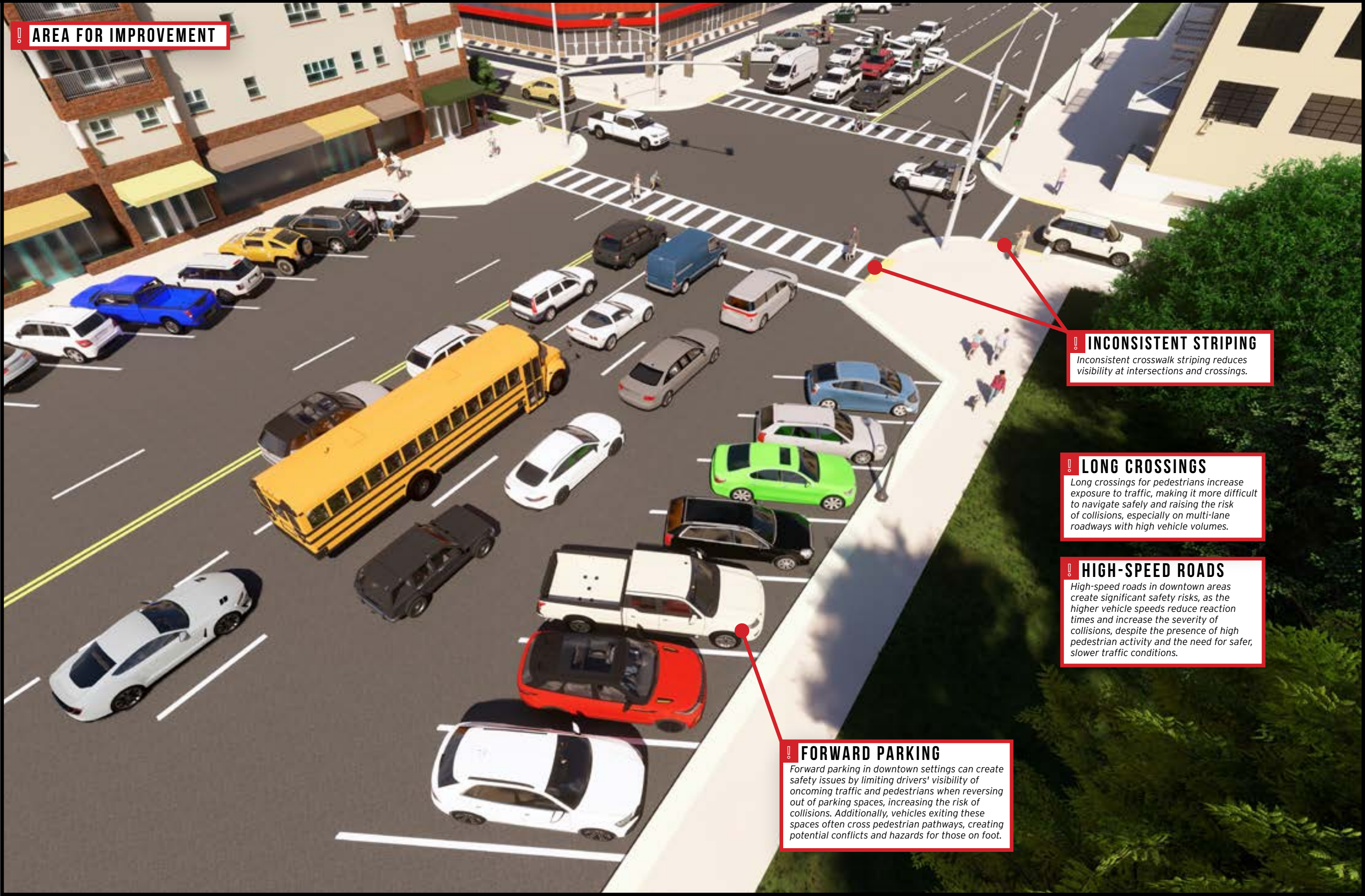
Countermeasures are targeted actions or strategies implemented to address specific safety issues on downtown roadways, often tailored to the unique challenges of each location. They are designed to mitigate risks, reduce crash frequency, and improve the overall safety and functionality of transportation networks. For traffic congestion and conflicts, countermeasures focus on improving traffic flow and separating different modes of transportation to reduce the potential for crashes. Pedestrian and cyclist safety measures prioritize visibility, slowing vehicle speeds, and providing dedicated infrastructure to protect vulnerable road users. These strategies collectively aim to create safer environments for all users.

Safety Issue	Countermeasures	Description	Classification	Toolbox ID
Traffic Congestion and Conflicts	Designated Loading Zones	Create clearly marked zones with signage and barriers for loading and deliveries to separate vehicular traffic from pedestrian areas.	Infrastructure	U.36
	Access Management	Limit or consolidate driveway access and control turning movements to minimize conflicts and improve vehicle flow.	Policy	-
	Roundabouts or Dedicated Turn Lanes	Replace intersections or add turn lanes to manage vehicular movements more predictably and safely.	Infrastructure	U.2 U.3
	Parking Study	Conduct a parking utilization study to determine which parking spaces can be removed, reducing conflicts between drivers parking and traffic.	Program	-
Reducing Speeds	Automated Speed Enforcement	Use cameras or radar-based systems to enforce speed limits and discourage violations.	Policy	U.29
	Speed Limit	Reduce speed limit through downtowns to 25 mph to slow automobiles to safer speeds.	Policy	-
	Road Diet	Reduce number of lanes on multi-lane roadways when feasible to encourage slower speeds.	Infrastructure	U.26
	Reduced Lane Widths	Narrow travel lanes to 10'-11' to encourage slower driving speeds.	Infrastructure	U.30
	Streetscaping	Add streetscape elements such as benches, bike parking, trees, and public art to slow down traffic.	Infrastructure	-
	Angled Parking	Convert parking spaces to angled parking where space allows to narrow roadway and slow down oncoming traffic.	Infrastructure	-
	Chicanes	Incorporate chicanes or narrowing measures near crossings to slow vehicle speeds and improve safety.	Infrastructure	U.28

TABLE 38: COUNTERMEASURES FOR HIGH-VOLUME ROADWAYS IN DOWNTOWN AREAS CONT.

Safety Issue	Countermeasures	Description	Classification	Toolbox ID
Pedestrian and Cyclist Safety	Speed Humps and Raised Crosswalks	Install vertical deflection features to force drivers to slow down.	Infrastructure	U.27 U.17
	Median or Pedestrian Refuge Island	Create a safe waiting space in the middle of the roadway for pedestrians crossing multi-lane streets.	Infrastructure	U.12
	Pavement Markings	Use highly visible, reflective paint for speed limits, crosswalks, and traffic flow arrows to increase driver awareness.	Infrastructure	-
	High-Visibility Crosswalks and Signals	Add pedestrian-activated signals, bold, reflective markings or paint, and different textures to enhance crosswalk visibility.	Infrastructure	U.9 U.10 U.35
	Mid-Block Crossings	Install mid-block crosswalks with bump-outs, signals, and lighting to improve pedestrian safety.	Infrastructure	U.16
	Separated Bike Lanes and Widened Sidewalks	Create dedicated bike lanes and widen sidewalks to separate non-motorized users from vehicular traffic.	Infrastructure	U.21
	Streetlights	Install adequate lighting to enhance visibility during early morning or evening hours.	Infrastructure	U.33
	Vegetation Management	Regularly trim trees and shrubs to maintain clear sight lines for drivers and pedestrians.	Program	-
	Outdoor Dining	Convert underutilized parking spaces to outdoor dining to create a more vibrant, separated space for pedestrians from traffic	Infrastructure	-
	Customer Travel Survey	Conduct a customer travel survey to determine how customers are traveling to businesses to better plan for safer routes and infrastructure.	Program	-

IMAGE 43: HIGH-VOLUME ROADWAY IN A DOWNTOWN AREA (BEFORE)



AREA FOR IMPROVEMENT

INCONSISTENT STRIPING
Inconsistent crosswalk striping reduces visibility at intersections and crossings.

LONG CROSSINGS
Long crossings for pedestrians increase exposure to traffic, making it more difficult to navigate safely and raising the risk of collisions, especially on multi-lane roadways with high vehicle volumes.

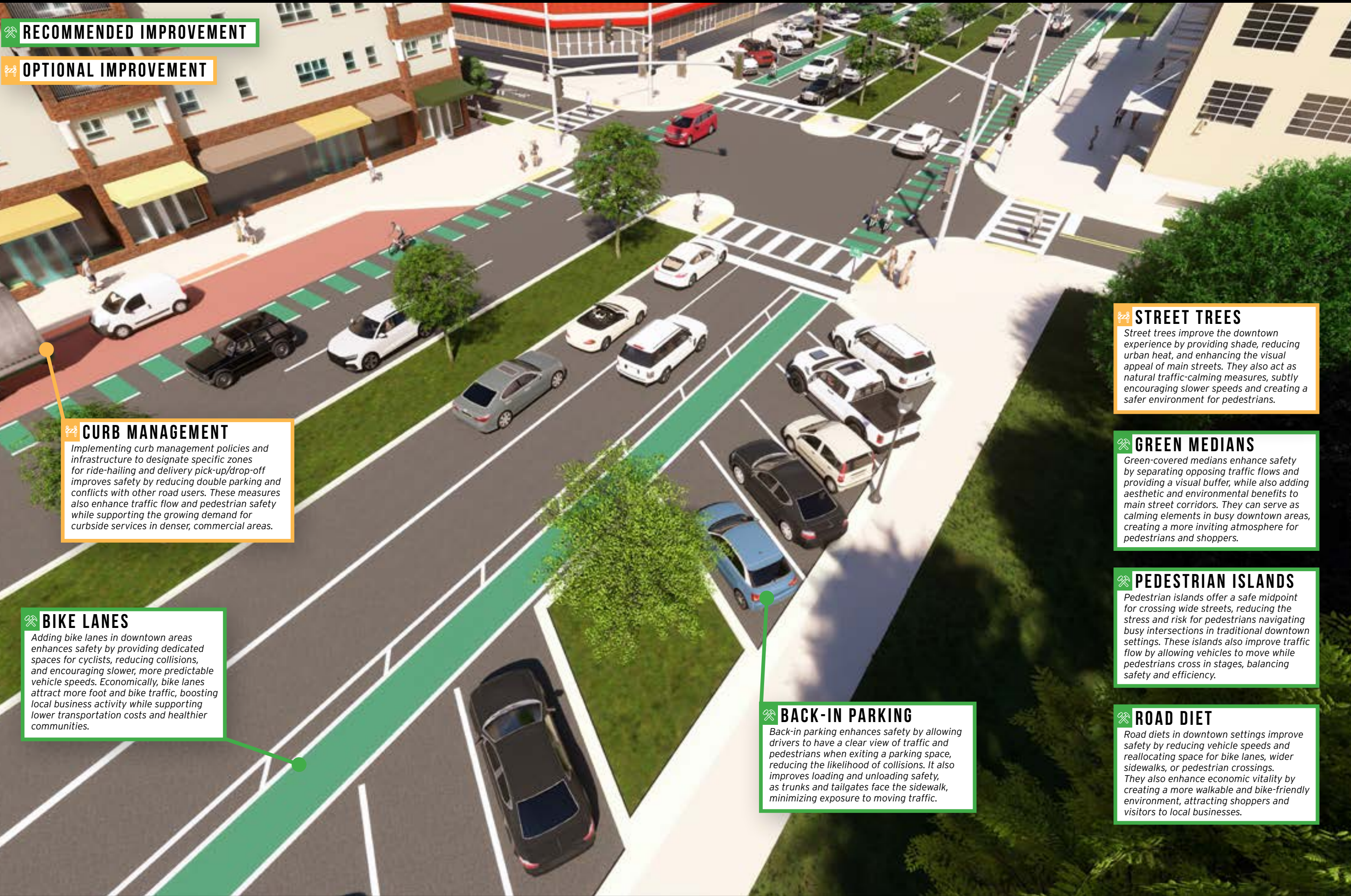
HIGH-SPEED ROADS
High-speed roads in downtown areas create significant safety risks, as the higher vehicle speeds reduce reaction times and increase the severity of collisions, despite the presence of high pedestrian activity and the need for safer, slower traffic conditions.

FORWARD PARKING
Forward parking in downtown settings can create safety issues by limiting drivers' visibility of oncoming traffic and pedestrians when reversing out of parking spaces, increasing the risk of collisions. Additionally, vehicles exiting these spaces often cross pedestrian pathways, creating potential conflicts and hazards for those on foot.

IMAGE 44: HIGH-VOLUME ROADWAY IN A DOWNTOWN AREA (AFTER)

 RECOMMENDED IMPROVEMENT

 OPTIONAL IMPROVEMENT



 CURB MANAGEMENT

Implementing curb management policies and infrastructure to designate specific zones for ride-hailing and delivery pick-up/drop-off improves safety by reducing double parking and conflicts with other road users. These measures also enhance traffic flow and pedestrian safety while supporting the growing demand for curbside services in denser, commercial areas.

 BIKE LANES

Adding bike lanes in downtown areas enhances safety by providing dedicated spaces for cyclists, reducing collisions, and encouraging slower, more predictable vehicle speeds. Economically, bike lanes attract more foot and bike traffic, boosting local business activity while supporting lower transportation costs and healthier communities.

 BACK-IN PARKING

Back-in parking enhances safety by allowing drivers to have a clear view of traffic and pedestrians when exiting a parking space, reducing the likelihood of collisions. It also improves loading and unloading safety, as trunks and tailgates face the sidewalk, minimizing exposure to moving traffic.

 STREET TREES

Street trees improve the downtown experience by providing shade, reducing urban heat, and enhancing the visual appeal of main streets. They also act as natural traffic-calming measures, subtly encouraging slower speeds and creating a safer environment for pedestrians.

 GREEN MEDIANS

Green-covered medians enhance safety by separating opposing traffic flows and providing a visual buffer, while also adding aesthetic and environmental benefits to main street corridors. They can serve as calming elements in busy downtown areas, creating a more inviting atmosphere for pedestrians and shoppers.

 PEDESTRIAN ISLANDS

Pedestrian islands offer a safe midpoint for crossing wide streets, reducing the stress and risk for pedestrians navigating busy intersections in traditional downtown settings. These islands also improve traffic flow by allowing vehicles to move while pedestrians cross in stages, balancing safety and efficiency.

 ROAD DIET

Road diets in downtown settings improve safety by reducing vehicle speeds and reallocating space for bike lanes, wider sidewalks, or pedestrian crossings. They also enhance economic vitality by creating a more walkable and bike-friendly environment, attracting shoppers and visitors to local businesses.

UNCONTROLLED BICYCLE CROSSINGS

Uncontrolled bicycle crossings present significant challenges for both cyclists and drivers, as the lack of traffic signals or signage creates uncertainty about right-of-way. Cyclists must rely on their ability to judge gaps in traffic, which can be difficult, especially on wide roadways or high-speed streets. Drivers, on the other hand, may not expect cyclists to enter the roadway, particularly if the crossing is poorly marked or lacks adequate visibility. This lack of clarity can lead to hesitation, erratic movements, or misjudgments, increasing the risk of conflicts and crashes. Additionally, the absence of clear infrastructure or warning mechanisms often leaves cyclists feeling unsafe, discouraging them from using the crossing and potentially pushing them to take longer, less direct routes. The majority of these crossings in McHenry County are concentrated in the southeastern region and often involve the Prairie Trail, a key regional bike route.

Environmental factors further exacerbate the risks at uncontrolled bicycle crossings. Poor lighting conditions during dawn, dusk, or nighttime hours make it harder for drivers to spot cyclists and for cyclists to accurately gauge approaching vehicles. Obstructions such as parked cars, vegetation, or roadway curves can limit sight lines for both drivers and cyclists, increasing the likelihood of unexpected conflicts. High vehicle speeds also compound the danger, as faster-moving traffic reduces reaction times and increases the severity of collisions. These issues are particularly pronounced at crossings along the Prairie Trail, where high-speed and high-volume roadways intersect this heavily used trail, creating dangerous conditions for cyclists and other non-motorized users.

The design and functionality of the crossing itself also play a critical role in safety outcomes. Crossings on wide, multi-lane roadways force cyclists to spend more time exposed to traffic, often without the benefit of refuge islands or phased crossing options. The lack of dedicated bicycle infrastructure, such as markings or crossing aids, leaves cyclists vulnerable and dependent on their own judgment. Meanwhile, inconsistent driver behavior—such as some yielding while others do not—creates confusion and unpredictability for all road users. Addressing these issues, particularly along the Prairie Trail and its intersections in southeastern McHenry County, requires a combination of infrastructure improvements, such as high-visibility markings, refuge islands, and traffic-calming measures, alongside education and enforcement efforts to foster safer interactions between cyclists and drivers.

The Uncontrolled Bicycle Crossing typology has fewer reported crashes compared to other typologies. However, residents still perceive these crossings as unsafe. Feedback from focus groups and online public comments consistently highlights that residents feel unsafe using these crossings.

IMAGE 45: BOONE CREEK CONSERVATION AREA



Source: Openlands

SAFETY CHALLENGES AT UNCONTROLLED BICYCLE CROSSINGS:

👁️ POOR VISIBILITY AND SIGHT LINES

Obstructions such as parked cars, vegetation, or curves in the road can limit visibility at uncontrolled crossings, making it harder for drivers and cyclists to see each other. Cyclists may have difficulty judging the speed and distance of oncoming vehicles, while drivers may fail to spot cyclists entering the crossing until it is too late. Poor lighting conditions during dawn, dusk, or nighttime further exacerbate this issue. Enhancing visibility through lighting, trimming vegetation, and ensuring unobstructed sight lines is crucial for safety at these crossings.

🚗 HIGH TRAFFIC VOLUMES AND SPEED

Uncontrolled crossings on roadways with high traffic volumes and speeds pose significant risks to cyclists, who must judge gaps and time their crossings carefully. Fast-moving traffic leaves little margin for error, and heavy congestion can obscure sight lines and reduce reaction times for both drivers and cyclists. These conditions are particularly hazardous on multi-lane roads, where cyclists must cross multiple streams of traffic. Effective mitigation strategies include traffic-calming measures, reduced speed limits, and the installation of crossing aids such as refuge islands or signals.

⚠️ INCONSISTENT DRIVER YIELDING BEHAVIOR

Drivers approaching uncontrolled crossings often exhibit inconsistent behaviors, with some yielding to cyclists while others proceed without stopping. This unpredictability creates confusion and increases the likelihood of collisions, as cyclists may misjudge whether it is safe to cross. Cyclists may also hesitate or rush through the crossing due to uncertainty, further complicating interactions. Improving driver consistency through education, enforcement, and crossing infrastructure, such as flashing beacons or stop signs, can reduce this risk.

🚶 WIDE, MULTI-LANE CROSSINGS

Uncontrolled crossings on wide, multi-lane roads increase exposure time for cyclists, making it challenging to find safe gaps in traffic. Cyclists must often cross several lanes of moving vehicles, each with its own flow and speed, which adds complexity and heightens risks. Without refuge islands or phased crossing designs, cyclists are forced to cross the entire roadway in one attempt, increasing their vulnerability. Wide crossings require enhanced infrastructure such as crossing aids and clearly marked lanes to ensure safety.

🔦 LACK OF LIGHTING AND SIGNAGE

The lack of proper lighting and signage at uncontrolled bicycle crossings poses a significant safety risk for both cyclists and drivers. Poor lighting conditions, especially during dawn, dusk, or nighttime hours, make it difficult for drivers to see cyclists entering or crossing the roadway, reducing reaction times and increasing the likelihood of collisions. Cyclists, too, struggle to accurately judge the speed and distance of approaching vehicles without adequate lighting, leading to unsafe crossing decisions. Cyclists should use lights when traveling at night, for their own sight, as well as to be visible to other road users. The absence of clear signage further compounds the problem, as drivers may be unaware of the crossing's existence or their responsibility to yield.

TABLE 39: CRASH CAUSE (SERIOUS INJURY)

The crash data for uncontrolled bicycle crossings shows 10 recorded serious crashes over a five-year period. Nine crashes were caused by drivers failing to yield, and another occurred in 2021 due to disregarding a stop sign. No fatal crashes occurred.

Crash Cause	2018	2019	2020	2021	2022	Total	Total %
Failing to Yield	4	1	1	3	0	9	90.0%
Physical Condition of Driver	1	0	0	0	0	1	10.0%
Total	5	1	1	3	0	10	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

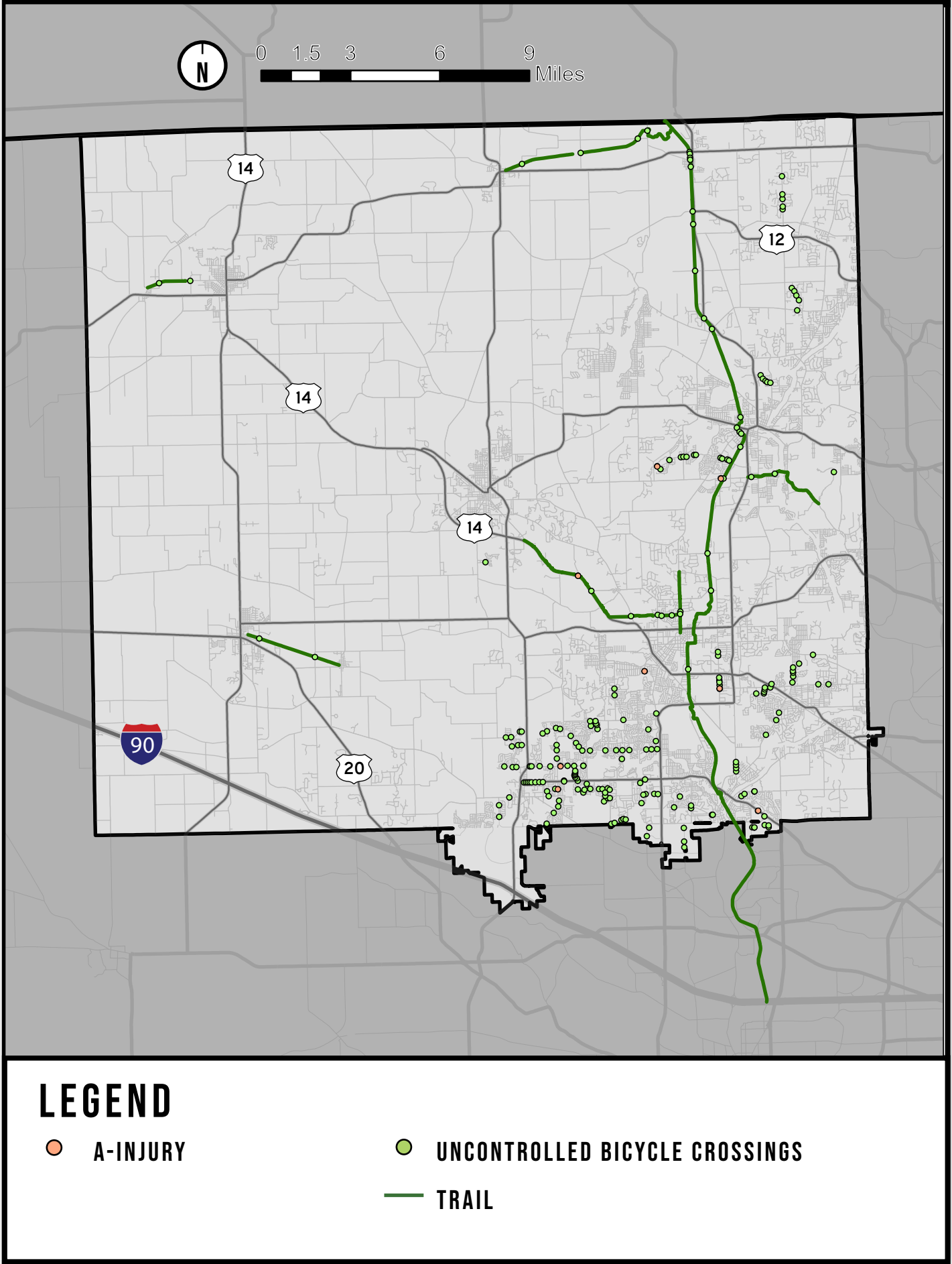
TABLE 40: TYPES OF CRASHES (SERIOUS INJURY)

The crash data indicates 10 recorded incidents at uncontrolled bicycle crossings, with three involving bicyclists and one involving a pedestrian. The majority of the crashes, six, were classified as turning crashes. The bicyclist and pedestrian-related crash highlights the vulnerability of non-motorized users in shared spaces, emphasizing the need for improved visibility and crossing infrastructure. The turning crashes suggests safety issues at intersections, underscoring the importance of improved intersection safety. No fatal crashes occurred.

Crash Type	2018	2019	2020	2021	2022	Total	Total %
Turning	4	0	1	1	0	6	60.0%
Bicyclist	0	1	0	2	0	3	30.0%
Pedestrian	1	0	0	0	0	1	10.0%
Total	5	1	1	3	0	10	100.0%

Please note that some crashes in the dataset may be double-counted due to overlapping typologies, as certain roads and intersections are classified under multiple categories

IMAGE 46: UNCONTROLLED BICYCLE CROSSINGS CRASH MAP BY SEVERITY



STRATEGIZING FOR SAFER UNCONTROLLED BICYCLE CROSSINGS

Strategizing for safety near uncontrolled bicycle crossings requires a comprehensive understanding of the unique dynamics at these locations. These areas often experience high volumes and speeds, poor visibility, and a lack of lighting. Other factors such as driver behavior, roadway geometry, and traffic patterns all contribute to the complexity of ensuring safety. Recognizing these variables allows planners to identify critical areas for intervention and prioritize locations where safety measures will have the greatest impact.

KEY STAKEHOLDERS

Key stakeholders play a vital role in the successful development and implementation of safety strategies at uncontrolled bicycle crossings. These include local residents and trail users; townships, municipalities, and DOTs; law enforcement and public safety officials; and nonprofits and advocacy groups, to contribute a variety of support including firsthand experience, technical expertise, compliance to traffic laws and data, and outreach capabilities.

TABLE 41: COUNTERMEASURES FOR UNCONTROLLED BICYCLE CROSSINGS

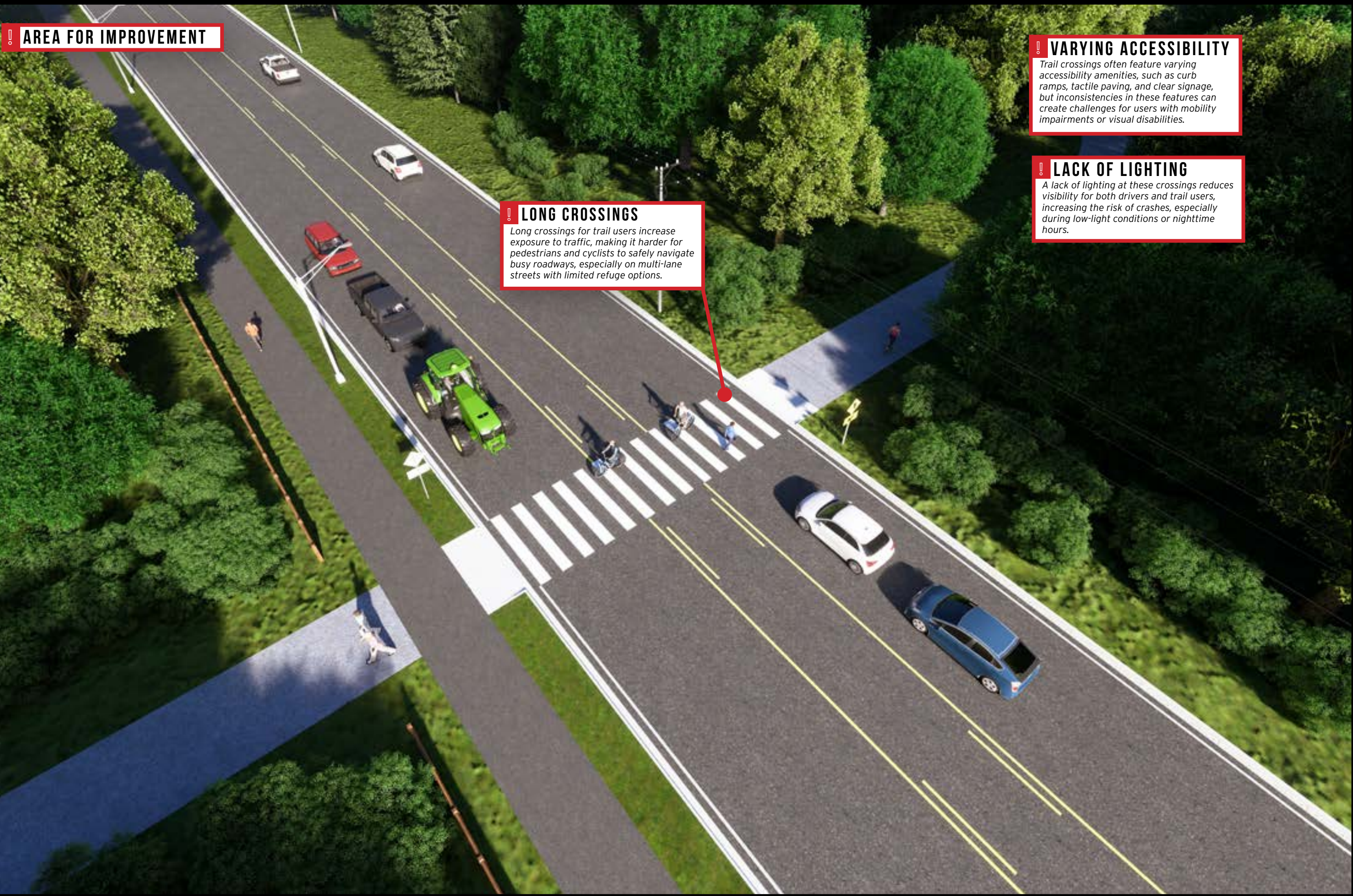
Countermeasures are targeted actions or strategies implemented to address specific safety issues at uncontrolled bicycle crossings, tailored to the unique challenges of each location. They are designed to mitigate risks, reduce crash frequency, and improve overall safety for cyclists and other road users. For visibility and driver awareness, countermeasures focus on improving lighting, signage, and pavement markings to ensure drivers are aware of crossing activity. Measures to protect cyclists emphasize slowing vehicle speeds, creating dedicated crossing infrastructure, and providing safe refuge areas on wider roadways. These strategies collectively aim to create safer and more accessible environments for cyclists, particularly in high-risk or high-traffic areas.

Safety Issue	Countermeasures	Description	Classification	Toolbox ID
Limited Visibility	High-Visibility Crosswalks	Use ladder or bar-pair markings to increase visibility for both cyclists and motorists, especially at midblock crossings.	Infrastructure	U.9
	Pedestrian-Scale Lighting	Install lighting along trails and at crossings to improve visibility during low-light conditions and indicate crossing locations.	Infrastructure	U.32
	Decorative Crosswalk	Add color and texture to pavement at crossings to alert drivers and make them aware of bicyclists and pedestrians crossing the roadway.	Infrastructure	U.35
	Vegetation Management	Regularly trim or remove vegetation near crossings to ensure clear sight lines for drivers and cyclists.	Program	-
High Vehicle Speeds	RRFBs (Rectangular Rapid Flash Beacons)	Enhance driver awareness by using flashing beacons at uncontrolled crossings, prompting drivers to yield to cyclists.	Infrastructure	U.11
	Pedestrian Bridges and Underpasses	Construct bridges and underpasses to provide separated passage for bicyclists and pedestrians to safely cross roadways.	Infrastructure	U.12
	Chicanes	Incorporate curb extensions creating a serpentine path to slow vehicle speeds.	Infrastructure	U.28
	Automated Speed Enforcement	Install speed cameras to encourage slower speeds at uncontrolled bicycle crossings.	Infrastructure	U.29
	Dynamic Speed Feedback Signs	Install radar signs displaying vehicle speeds to encourage compliance with posted speed limits.	Infrastructure	U.25
	Speed Cushions	Install speed cushions near crossings to reduce vehicle speeds while maintaining mobility for emergency vehicles.	Infrastructure	U.27
	Reduced Speed Limits	Lower speed limits on approaches to crossings with clear signage to improve reaction times for drivers.	Policy	-

TABLE 41: COUNTERMEASURES FOR UNCONTROLLED BICYCLE CROSSINGS CONT.

Safety Issue	Countermeasures	Description	Classification	Toolbox ID
Long Exposure Times	Medians and Pedestrian Refuge Islands	Provide a refuge for cyclists in the median, allowing safer staged crossing of multi-lane roads.	Infrastructure	U.13
	Staggered Signal Phasing	Add signal phasing for pedestrian and cyclist crossings to align with vehicle flow, reducing wait and exposure times.	Infrastructure	U.37
	Curb Extensions	Extend curbs at uncontrolled bicycle crossings to narrow the roadway and encourage slower speeds from oncoming automobiles.	Infrastructure	U.14
	Advanced Stop/Yield Lines	Add markings and signage in advance of crossings to inform drivers to stop or yield before the crossing.	Infrastructure	U.38
Complex Traffic Interactions	Pedestrian Hybrid Beacons (PHBs)	Use pedestrian-activated hybrid beacons to stop traffic temporarily, ensuring safe crossing opportunities.	Infrastructure	U.24
	Traffic Calming Measures	Incorporate traffic circles, chicanes, or narrowing measures near crossings to slow vehicle speeds and improve safety.	Infrastructure	-
Education and Encouragement	Signage	Add signage for cyclists to warn them of impending crossings.	Infrastructure	-
	Educational Outreach	Educate cyclists and drivers on safe interaction at crossings through community programs and materials.	Program	-
	Public Awareness Campaigns	Use media and local events to emphasize the importance of safe behavior at uncontrolled crossings.	Program	-

IMAGE 47: UNCONTROLLED BICYCLE CROSSING RENDERING (BEFORE)



AREA FOR IMPROVEMENT

LONG CROSSINGS
Long crossings for trail users increase exposure to traffic, making it harder for pedestrians and cyclists to safely navigate busy roadways, especially on multi-lane streets with limited refuge options.

VARYING ACCESSIBILITY
Trail crossings often feature varying accessibility amenities, such as curb ramps, tactile paving, and clear signage, but inconsistencies in these features can create challenges for users with mobility impairments or visual disabilities.

LACK OF LIGHTING
A lack of lighting at these crossings reduces visibility for both drivers and trail users, increasing the risk of crashes, especially during low-light conditions or nighttime hours.

IMAGE 48: UNCONTROLLED BICYCLE CROSSING RENDERING (AFTER)

 RECOMMENDED IMPROVEMENT

 OPTIONAL IMPROVEMENT

 **REFUGE ISLAND**
Installing a refuge island at uncontrolled bicycle crossings provides a safe midpoint for cyclists and pedestrians to wait, reducing their exposure to traffic and making crossings more manageable.

 **ACCESSIBILITY UNIFORMITY**
Ensuring crossings meet accessibility requirements, such as tactile paving, curb ramps, and proper surface grading, enhances safety and usability for individuals with disabilities while also signaling the presence of the crossing to all users, promoting a more intuitive environment.

 **TRAIL LIGHTING**
Placing pedestrian-level lighting on trails leading to road crossings enhances visibility for both drivers and trail users, improving safety during low-light conditions and indicating upcoming crossings to alert approaching traffic.

 **RRFB & SIGNALIZATION**
Adding Rectangular Rapid Flashing Beacons (RRFBs) or pedestrian signals increases visibility and alerts drivers to crossing activity, improving compliance and reducing conflicts at uncontrolled locations.

IMAGE 49: UNCONTROLLED BICYCLE CROSSING RENDERING (AFTER)



UNDERPASSES

Underpasses provide a safe, grade-separated option for cyclists and pedestrians to cross busy roadways, eliminating conflicts with vehicle traffic and significantly reducing the risk of collisions. They are especially beneficial in areas where high traffic volumes, complex intersections, or high-speed roads make at-grade crossings unsafe or impractical. Properly designed underpasses create uninterrupted pathways, enhancing connectivity and encouraging active transportation. To ensure safety, they should be well-lit, with clear sight lines and visibility to foster a sense of security. Additionally, thoughtful design can transform underpasses into inviting community spaces by incorporating elements such as seating and lighting. By addressing both safety and aesthetic considerations, underpasses can effectively serve as safe crossings while enhancing the urban environment.

7

POLICIES & PROGRAMS

THIS CHAPTER OUTLINES THE FRAMEWORKS THAT GUIDE DECISION-MAKING AND IMPLEMENTATION OF SAFETY INITIATIVES. READERS CAN EXPECT AN IN-DEPTH EXAMINATION OF EXISTING POLICIES, INNOVATIVE PROGRAMS, AND ESTABLISHED PROCESSES THAT PRIORITIZE ROADWAY SAFETY, ALONG WITH RECOMMENDATIONS FOR ENHANCING THESE STRATEGIES TO CREATE A MORE EFFECTIVE TRANSPORTATION SYSTEM.



EXISTING POLICIES & PROGRAMS

The Existing Policies and Programs section evaluates the current transportation safety framework, including local, regional, and state-level policies, plans, and initiatives. It identifies gaps and opportunities for improvement in areas such as data collection, roadway design, vulnerable road user accommodations, and post-crash care to inform the development of targeted strategies aligned with the Safe System Approach.

PURPOSE

The purpose of the Existing Policies and Programs section is to provide a comprehensive evaluation of McHenry County's current traffic safety strategies, frameworks, and initiatives. By identifying existing efforts at the local, regional, and state levels, this section aims to establish a baseline understanding of how safety is addressed across various transportation systems. This assessment is critical to ensuring that proposed policies and programs build on existing strengths while addressing gaps and inefficiencies.

Additionally, this section serves to highlight how existing policies align with the principles of the Safe System Approach. Understanding these alignments will enable the county to adopt recommendations that prioritize safety for all users, especially vulnerable road users. By examining these policies systematically, McHenry County can better position itself to address systemic safety challenges while optimizing resources.

Ultimately, this section lays the foundation for informed decision-making, enabling the development of targeted, actionable recommendations. Through this evaluation, the Safety Action Plan will bridge the gap between current practices and future needs, ensuring that McHenry County can achieve measurable safety improvements across its transportation network.

DIFFERENCES AND IMPACTS OF POLICIES & PROGRAMS

Policies

Policies provide the overarching framework that guides decision-making and prioritizes resources for safer transportation systems. Examples include Vision Zero commitments and complete streets policies, which establish long-term goals like eliminating traffic deaths and accommodating all road users. Their impact lies in setting consistent, strategic priorities, but their success depends on effective enforcement and integration into daily practices.

Programs

Programs are the actionable components of policies, focusing on specific safety initiatives like Safe Routes to School or automated enforcement. These efforts address localized issues, delivering measurable results through infrastructure changes, education, or data-driven interventions. Programs rely on sustained funding, collaboration, and public support, making regular evaluation essential for long-term success.

METHODOLOGY

The evaluation of existing policies and programs is grounded in a structured and data-driven methodology. This begins with a comprehensive review of local, regional, and state-level plans, such as transportation improvement programs, strategic safety plans, and ADA transition plans. These documents are analyzed to determine their goals, action items, timelines, and levels of implementation, providing a clear picture of how safety is currently prioritized.

Stakeholder engagement is a key component of this process. Interviews, surveys, and workshops with municipal staff, law enforcement, advocacy groups, and the public provide insights into the effectiveness and challenges of existing programs. These discussions help uncover gaps in implementation, such as barriers to funding or enforcement, while also highlighting successful practices worth expanding.

Finally, the evaluation uses a comparative analysis framework to align McHenry County's existing policies with national best practices and the Safe System Approach. This allows for the identification of opportunities to enhance safety outcomes through policy adjustments, program enhancements, and the introduction of proven countermeasures. The resulting findings form the basis for targeted recommendations to improve safety countywide.

EVALUATION

Table 42 details the existing plans, programs, and policies that municipalities and agencies in McHenry County have established. Each municipality and agency was evaluated for the following plans: active transportation plan, ADA transition plan, capital improvement program, Complete Streets policy, comprehensive plan, Safe Routes to School plan, speed management plan/policy, freight/intermodal plan, transit plan, ITS architecture or ITS plans, and access control and ROW management ordinance.

All municipalities in McHenry County were evaluated, but only those with one of the identified plans are listed in Table 42. Not all plans, policies, or programs are pertinent to or required for each municipality or agency. Additionally, some municipalities or agencies do not have the capacity to produce such plans. However, municipalities and agencies that have not established the identified plans, policies, or programs should consider future planning and implementation efforts for these topics to improve transportation safety, accessibility, and liveability across the county.

Townships were also evaluated for existing plans, policies, and programs. No townships in McHenry County have an active transportation plan, ADA transition plan, capital improvement program, Complete Streets policy, comprehensive plan, Safe Routes to School plan, or other transportation plans.

TABLE 42: EXISTING POLICIES & PLANS OVERVIEW

MUNICIPALITY/AGENCY	POLICY/PLAN/PROGRAM
Algonquin	  
Barrington Hills	
Bull Valley	
Cary	  
Crystal Lake	   
Fox Lake	
Fox River Grove	 
Harvard	 *  
Huntley	  
Island Lake	
Johnsburg	 
Lake in the Hills	
Marengo	 *
McHenry	
Port Barrington	
Richmond	
Spring Grove	
Wonder Lake	
Woodstock	   
Illinois Department of Transportation (IDOT)	         
McHenry County Conservation District (MCCD)	 
McHenry County Division of Transportation (MCDOT)	     

 = Active Transportation Plan,  = ADA Transition Plan,  = Capital Improvement Program,  = Complete Streets Policy,  = Comprehensive Plan,  = Subarea Plan,  = Access Management/Control Plan,  = Speed Management Plan/Policy,  = Freight/Intermodal Plan,  = Transit Plan,  = ITS Architecture or ITS Plans

* = Plan in progress

FOR MORE INFORMATION, VISIT  **APPENDIX B1: RESOURCES & POLICY GUIDANCE**

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PROPOSED POLICIES & PROGRAMS

This section proposes a variety of policies and programs aimed at helping the County and its municipalities achieve safe road users, safe vehicles, safe speeds, safe roads, and better post-crash care.

PURPOSE

Proposed policies and programs are essential for addressing systemic safety challenges and guiding the implementation of effective strategies across McHenry County. These proposals aim to align local, regional, and countywide safety efforts with best practices and emerging trends, creating a comprehensive approach to reducing traffic fatalities and serious injuries. By targeting behavioral, infrastructural, and procedural improvements, proposed policies and programs offer actionable pathways to enhance safety for all road users, particularly vulnerable populations such as pedestrians, cyclists, and motorcyclists.

These proposals also serve as tools for fostering innovation and collaboration among municipalities, townships, and other stakeholders. They provide a roadmap for integrating safety into planning, design, and operations while ensuring consistency with federal and state priorities. Proposed policies, such as Vision Zero commitments or Roadway Standards, set high-level goals and standards, while programs like educational campaigns focus on direct engagement and intervention. Together, these elements enable McHenry County to implement data-driven safety solutions tailored to its unique challenges.



Source: NPR

TABLE 43: PROPOSED POLICIES & PROGRAMS, BY SAFE SYSTEM PRINCIPLE

SAFE SYSTEM PRINCIPLE	POLICY/PROGRAM	DESCRIPTION
Safer People	Safety Educational Curriculum	Develop classroom-based programs teaching students safe walking, biking, and driving practices.
	Safe Ride Home Program	Provide free or subsidized transportation options, such as shuttles, taxis, or rideshares to prevent impaired driving and ensure safe travel home.
	Public Education Campaigns	Promote awareness of traffic safety issues through targeted media and community outreach.
Safer Vehicles	Fleet Safety Integrations	Equip government and vendor vehicles with advanced safety features and operator training.
Safer Speeds	Red-Light Camera Enforcement Program	Install highly visible automated red-light camera systems to reduce crashes at high-risk intersections based on methodology relating to crashes.
	Speed Limit Methodology	Adopt a data-driven approach for setting consistent and safer speed limits.
Safer Roads	Roadway Design Standards	Support the development of tailored roadway and intersection designs for all users to enhance safety based on road function and context. Possible designs include right-sizing roadways, roundabouts, and restricted turn intersections.
	Work Zone Safety Enhancements	Implements measures such as better signage and barriers to protect workers and road users in construction zones.
Post-Crash Care	Crash Form Standardization	Standardize crash reporting forms across jurisdictions ensures consistency in data collection and analysis.
	Bicycle & Pedestrian Crash Reporting System	Implement self-reporting system for bicyclists and pedestrians to report crashes not involving an automobile or law enforcement.
	Emergency Response Times	Support policies and infrastructure that improve emergency response times to ensure prompt medical service and post-crash care.
	Trauma Center Establishment	Support policies to streamline the establishment and certification of trauma centers in areas of McHenry County that currently do not have access to a Level I or II trauma center.
Safety Planning & Culture <i>NOT ONE OF FHWA'S SAFE SYSTEM PRINCIPLES</i>	Public Crash Dashboard	Launch a public platform to visualize crash data and trends for better community awareness.
	Vision Zero Working Group	Form a multi-disciplinary committee to review fatal crashes and develop strategies to eliminate traffic violence.

8

STRATEGIES & PROJECT SELECTION

THIS CHAPTER WILL EXPLORE THE COUNTERMEASURE TOOLBOX, WHICH PROVIDES AN ARRAY OF SAFETY STRATEGIES AVAILABLE TO USE ACROSS ROADWAYS IN MCHENRY COUNTY. THE METHODOLOGY AND CRITERIA USED TO PRIORITIZE SELECTED PROJECTS ARE ALSO INCLUDED.



COUNTERMEASURE TOOLBOX

The Countermeasure Toolbox section details the various safety strategies proposed throughout the plan, organized by the type of crash or safety behavior that the countermeasure best pertains to. Estimated implementation cost and effectiveness are also denoted for each countermeasure.

PURPOSE

The Countermeasure Toolbox serves as a practical resource to guide municipalities, townships, and regional agencies in selecting and implementing effective safety strategies tailored to their unique needs. Its primary purpose is to provide a curated list of proven interventions categorized by crash types, behaviors, and settings, enabling stakeholders to address specific safety challenges systematically. By organizing countermeasures based on their cost, effectiveness, and application, the toolbox ensures that decision-makers can identify feasible and impactful solutions to improve roadway safety for all users.

Each countermeasure is supported by data and research, offering evidence-based options for achieving measurable safety improvements. Whether addressing pedestrian conflicts, speeding-related crashes, or roadway departures, the toolbox equips planners and engineers with actionable solutions that align with both local and countywide priorities. Additionally, its structured approach fosters consistency and collaboration among agencies, ensuring resources are directed toward the most effective interventions.

The toolbox is also designed to promote accessibility by highlighting solutions that address the needs of vulnerable road users, such as pedestrians, cyclists, and individuals with disabilities. By categorizing interventions that target high-crash locations and priority corridors, the toolbox helps stakeholders prioritize safety enhancements where they are most needed. Moreover, the inclusion of cost categories and effectiveness ratings empowers communities with limited budgets to implement impactful measures, ensuring that all jurisdictions can contribute to the shared vision of safer roads in McHenry County.

IMAGE 51: PRAIRIE TRAIL OVERPASS

CRYSTAL LAKE, IL



EXPLAINING THE TOOLBOX

The **Urban/Suburban Countermeasure Toolbox** includes interventions tailored to higher population densities and multi-modal transportation needs. Pedestrian and cyclist safety are top priorities, with measures like protected bike lanes, high-visibility crosswalks, and pedestrian-scale lighting providing significant benefits. Interventions such as roundabouts and road diets are highly effective but require more substantial investment. Low-cost solutions, such as signal timing adjustments and speed humps, offer immediate improvements, particularly in neighborhood settings.

The **Rural Countermeasure Toolbox** addresses the unique challenges of less dense areas, such as high-speed roadways and fewer pedestrian facilities. Measures like rumble strips and curve warning signs provide cost-effective solutions to reduce roadway departures, while high-cost interventions such as guardrails and roundabouts focus on preventing severe crashes. Enhanced crosswalk markings and Rectangular Rapid Flashing Beacons address rural pedestrian safety in areas with limited infrastructure.

Short-term countermeasures, as described in the **Short-Term Countermeasure Toolbox**, are often referred to as tactical urbanism strategies, are quick-to-implement, low-cost solutions designed to address immediate safety concerns while testing the feasibility of long-term improvements. These interventions use temporary materials such as paint, signage, planters, or modular elements to improve pedestrian, cyclist, and driver safety in high-priority areas. By offering a flexible and adaptable approach, these measures enable stakeholders to evaluate their effectiveness in real-world conditions before committing to permanent infrastructure changes. Tactical urbanism projects also foster community engagement, as residents and stakeholders can provide direct feedback during the testing phase.

EFFECTIVENESS & COST BREAKDOWN

The cost categories in the Countermeasure Toolbox are designed to provide clarity on the financial investment required for each intervention, helping stakeholders prioritize projects within their budgets. Interventions categorized as **Low Cost** are those requiring less than \$25,000 per implementation, such as installing signage, pavement markings, or signal timing adjustments. These measures are quick to deploy and ideal for addressing immediate safety concerns or complementing larger projects. **Moderate Cost** interventions, ranging from \$25,000 to \$100,000, typically involve more complex installations such as Rectangular Rapid Flashing Beacons (RRFBs) or pedestrian-scale lighting, which offer significant safety benefits without requiring extensive construction. **High Cost** interventions, exceeding \$100,000, include infrastructure-intensive projects like roundabouts, which deliver transformative safety improvements but require careful planning and resource allocation.

Effectiveness is categorized into Low, Moderate, and High to reflect the proven impact of each countermeasure on reducing crashes, fatalities, and injuries. Low Effectiveness measures, such as dynamic speed feedback signs or no right turn on red, often yield incremental safety improvements with an estimated crash reduction of less than 20%, but are vital for reinforcing a broader culture of safety. Moderate Effectiveness measures, like advanced stop/yield lines or reduced lane widths, address specific crash types or risk factors, often requiring strategic placement to maximize their impact. Estimated crash reduction for these measures ranges from 20% to 39%. High Effectiveness measures, such as roundabouts or pedestrian hybrid beacons, consistently achieve significant reductions in crashes, particularly in high-risk settings - with an estimated crash reduction of 40% or more. By pairing cost and effectiveness categories, the toolbox enables stakeholders to make informed decisions about the most impactful and feasible safety interventions for their communities.

RESOURCE GUIDANCE

These recommendations were informed by national design guidance and best practices, including resources from the Federal Highway Administration (FHWA), National Association of City Transportation Officials (NACTO), and the American Association of State Highway and Transportation Officials (AASHTO). The strategies draw from evidence-based research and case studies outlined in documents such as the FHWA's Safe System Approach and NACTO's Urban Street Design Guide. Additionally, input from local and regional stakeholders, combined with insights from tactical urbanism initiatives nationwide, ensures that these countermeasures are both effective and adaptable to McHenry County's unique safety challenges.

TABLE 44: URBAN & SUBURBAN COUNTERMEASURE TOOLBOX

CRASH TYPE/SAFETY BEHAVIOR	COUNTERMEASURE	ESTIMATED IMPLEMENTATION COST	ESTIMATED EFFECTIVENESS	TYPOLOGIES	NOTES
Turning Crashes	U.1 Flashing Yellow Arrows	Moderate	Moderate (37% crash reduction)	    	Improves driver comprehension and reduces left-turn crashes.
	U.2 Roundabouts	High	High (78-82% crash reduction)	  	Reduces severe crashes and may improve traffic flow.
	U.3 Dedicated, Offset Turn Lanes	High	Moderate	 	Dedicates offset, extended lanes for turning vehicles to reduct conflicts with through traffic and prevent blockage.
	U.4 Signal Timing Adjustments	Low	Moderate (20% crash reduction)	   	Adjusts signals to manage queuing during peak hours and reduce spillback.
	U.5 Protected Left-Turn Phases	Moderate	High		Designates a phase for left turns, preventing conflicts with oncoming vehicles and people crossing the street.
	U.6 Reduced Turning Radii	Low	Moderate	 	Reduces turning radii to encourage slower turning movements for vehicles.
	U.7 Positive/Zero Offset Turn Lanes	Moderate	Moderate (36% crash reduction)		Enhances the sight distance to approaching vehicles that conflict with the turning movement.
Pedestrian Conflicts	U.8 No Right Turn on Red	Low	Low	 	Reduces conflicts at signalized intersections.
	U.9 High-Visibility Crosswalks	Low	High (40% crash reduction)	  	Enhances pedestrian visibility in high-traffic areas.
	U.10 Countdown Pedestrian Signals	Low	Low (9% crash reduction)	   	Improves pedestrian crossing safety by providing clear crossing time.
	U.11 Rectangular Rapid Flashing Beacons	Moderate	High (69% crash reduction)	    	Alerts drivers to pedestrian and bicyclist crossings.
	U.12 Pedestrian Bridges and Underpasses	High	High	 	Separates crossing for pedestrians and cyclists from vehicles.
	U.13 Medians and Pedestrian Refuge Islands	Moderate	High	    	Provides a refuge for pedestrians and cyclists as they cross a roadway.
	U.14 Curb Extensions	High	Moderate	    	Extends the curb to narrow the roadway and encourage slower speeds.
	U.15 Sidewalks & Sidepaths	High	High	    	Provides dedicated space for pedestrians and cyclists separated from vehicular traffic.
	U.16 Mid-Block Crossings	Moderate	Moderate	  	Provides a designated crossing for pedestrians between where vehicular intersections occur.
	U.17 Raised Crosswalks	Moderate	High	   	Dedicates space for pedestrians to cross and to be more visible to drivers.
	U.18 Leading Pedestrian Intervals	Low	Low	 	Provides pedestrian a head start when crossing at intersections to avoid conflict.
	U.19 Automatic Pedestrian Gates at Railroad Grade Crossings	High	High	    	Automatic gates prevent pedestrians from crossing the tracks when a train is approaching.
	U.20 School Zone Signage and Flashing Beacons	Moderate	Moderate		Alerts drivers of speed reductions and pedestrian activity during school hours.

 = MULTI-LANE INTERSECTION  = DOWNTOWN THOROUGHFARE  = ROADWAY NEAR A SCHOOL ENTRANCE  = RESIDENTIAL COLLECTOR  = TWO-LANE RURAL ROADWAY  = UNCONTROLLED BICYCLE CROSSING

TABLE 44: URBAN & SUBURBAN COUNTERMEASURE TOOLBOX CONT.

CRASH TYPE/SAFETY BEHAVIOR	COUNTERMEASURE	ESTIMATED IMPLEMENTATION COST	ESTIMATED EFFECTIVENESS	TYPOLOGIES	NOTES
Bicyclist Conflicts	U.21 Separated, Buffered, or Protected Bikes Lanes	High	High		Creates dedicated bike lanes to separate cyclists from vehicular traffic.
	U.22 Bicyclist Boxes	Low	Moderate		Provides a visible space for cyclists to wait at intersections ahead of vehicle stop lines.
	U.23 Protected Intersections	High	High		Provides bicyclists with a separated, protected crossing facility at intersections.
Speed-Related Crashes	U.24 Pedestrian Hybrid Beacons	High	High (69% crash reduction)	   	Pedestrian-activated signage stops traffic temporarily for safe crossings.
	U.25 Dynamic Speed Feedback Signs	Moderate	Low (5-7% crash reduction)	     	Provides immediate feedback to drivers to reduce speeding.
	U.26 Road Diets	High	Moderate (29% crash reduction)	 	Narrows lanes and reallocates road space to slow traffic.
	U.27 Speed Humps and Speed Cushions	Low	Moderate (20% crash reduction)	  	Slows down traffic in residential areas and near schools through vertical deflection.
	U.28 Chicanes	Moderate	Low	 	Version of curb extension with alternating horizontal curves to narrow a roadway and extend space for pedestrians.
	U.29 Automated Speed Enforcement	Moderate	High	 	Speed cameras record and ticket vehicles exceeding the speed limit.
	U.30 Reduced Lane Widths	Moderate	Moderate	 	Narrows travel lanes to 10'-11' and parking lanes to 7'-8' to slow traffic.
	U.31 Red-Light Cameras	Moderate	High		Records and tickets drivers who run a red light.
Visibility Issues	U.32 Pedestrian-Scale Lighting	High	High (50% crash reduction)	    	Provides lighting for pedestrians, allowing for clear, safe navigation.
	U.33 Streetlights	High	High (40% crash reduction)	    	Provides lighting for drivers and other road users, allowing for clear navigation.
	U.34 Parking Restrictions Near Crosswalks	Low	Moderate (20% crash reduction)	   	Enhances visibility for pedestrians and cyclists in urban/suburban settings.
	U.35 Decorative Crosswalks	Moderate	Low	  	Adds color and/or texture to crossings to alert drivers of crossings.
Conflict Reduction	U.36 Designated Loading Zones	Moderate	Low		Separates loading zones from vehicular traffic and pedestrian areas.
	U.37 Four Quadrant Crossing Gates and Medians at Railroad Grade Crossings	High	High	    	Blocks road users from entering and exiting the grade crossing while activated by an approaching train.
	U.38 Advanced Stop/Yield Lines	Low	Moderate (25% crash reduction)	 	Stops or yields vehicles further in advance of the intersection, allowing pedestrians to cross safely.

 = MULTI-LANE INTERSECTION

 = DOWNTOWN THOROUGHFARE

 = ROADWAY NEAR A SCHOOL ENTRANCE

 = RESIDENTIAL COLLECTOR

 = TWO-LANE RURAL ROADWAY

 = UNCONTROLLED BICYCLE CROSSING

TABLE 45: RURAL COUNTERMEASURE TOOLBOX

CRASH TYPE/SAFETY BEHAVIOR	COUNTERMEASURE	ESTIMATED IMPLEMENTATION COST	ESTIMATED EFFECTIVENESS	TYPESOLOGIES	NOTES
Roadway Departure Crashes	R.1 Dynamic Curve Signing	Moderate	Moderate		Enhances delineation in advance of a curve in the roadway.
	R.2 Rumble Strips	Low	High		Alerts drivers through vibration and sound their vehicle is crossing the shoulder or centerline.
	R.3 Guardrails	Moderate	High		Shields unmovable objects or steep embankments.
	R.4 SafetyEdge	Low	High		Slopes the edge of pavement to limit edge drop-offs and increase recoverability for vehicles.
	R.5 High Friction Surface Treatments	Moderate	High		Enhances friction and skid resistance for vehicles, leading to less roadway departure.
	R.6 Enhanced Clear Zones	Low	High		Removes obstacles and flattens fore slopes along the roadway to increase recoverability.
	R.7 Paved Shoulders	Moderate	High		Widens shoulders to use for pedestrians, cyclists, and as recovery zones for vehicles.
Pedestrian Conflicts	R.8 High-Visibility Crosswalks	Low	High (40% crash reduction)	     	Enhances pedestrian visibility in high-traffic areas.
	R.9 Rectangular Rapid Flashing Beacons	Moderate	High (69% crash reduction)	    	Alerts drivers to pedestrian crossings on multi-lane or high-speed roads.
Speeding-Related Crashes	R.10 Dynamic Speed Feedback Signs	Moderate	Low (5-7% crash reduction)	     	Provides immediate feedback to drivers to reduce speeding.
	R.11 Widened Centerlines	Low	Moderate		Widens the space between the double yellow centerline markings to narrow travel lanes.
	R.12 Reduced Lane Widths	Moderate	Moderate	 	Narrows lanes and reallocates road space to slow traffic.
Intersections	R.13 All-Way Stop	Low	High	   	Makes all drivers stop when approaching an intersection.
	R.14 Roundabouts	High	High (78-82% crash reduction)	    	Reduces severe crashes and may improve traffic flow.
Animal-Involved Crashes	R.15 Wildlife Crossing Signs	Low	Low		Warns drivers of areas with frequent wildlife activity.
	R.16 Animal Fencing and Crossings	High	High		Uses fencing and overpasses/underpasses to guide wildlife safely across the roadway.
Visibility Issues	R.17 Streetlights	High	High (40% crash reduction)	     	Provides lighting for drivers and other road users, allowing for clear navigation.
	R.18 Raised Pavement Markers	Low	Low		Enhance visibility and delineation of lanes to guide drivers and prevent roadway departure.
	R.19 Four Quadrant Crossing Gates and Medians at Railroad Grade Crossings	High	High	    	Blocks road users from entering and exiting the grade crossing while activated by an approaching train.
Turning Crashes	R.20 Dedicated Turn Lanes	High	Moderate	     	Dedicates lanes for turning vehicles to reduce conflicts with through traffic.

 = MULTI-LANE INTERSECTION

 = DOWNTOWN THOROUGHFARE

 = ROADWAY NEAR A SCHOOL ENTRANCE

 = RESIDENTIAL COLLECTOR

 = TWO-LANE RURAL ROADWAY

 = UNCONTROLLED BICYCLE CROSSING

TABLE 46: SHORT-TERM COUNTERMEASURE TOOLBOX

CRASH TYPE/SAFETY BEHAVIOR	COUNTERMEASURE	ESTIMATED IMPLEMENTATION COST	ESTIMATED LIFESPAN	NOTES
Pedestrian Conflicts	S.1 Temporary High-Visibility Crosswalks	Low	2–4 months	Accentuates crosswalks to be more visible to drivers.
	S.2 Painted Curb Extensions	Low	3–6 months	Creates curb extensions using paint, giving more space to pedestrians.
	S.3 In-Street Pedestrian Crossing Signs	Low	2–4 months	Brings attention to where pedestrians cross, alerting drivers.
Speeding-Related Crashes	S.4 Temporary Speed Feedback Signs	Low	1–3 months	Provides immediate feedback to drivers to reduce speeding.
	S.5 Pop-Up Roundabouts	Moderate	6–12 months	Turns an intersection into a roundabout using movable objects.
Cyclist Safety	S.6 Pop-Up Protected Bike Lanes	Low	6–9 months	Creates dedicated, temporary bike lanes to separate and protect cyclists from vehicular traffic.
	S.7 Temporary Shared-Use Paths	Moderate	6–12 months	Creates a temporary, dedicated path for pedestrians and cyclists, separated from vehicular traffic.
Intersection Safety	S.8 Painted Advance Stop Bars	Low	3–6 months	Stops vehicles further in advance of the intersection, allowing pedestrians to cross safely.
	S.9 Intersection Painting and Murals	Low	6–12 months	Introduces art into the streetscape and slows down drivers.
Nighttime Visibility	S.10 Temporary Pedestrian-Scale Lighting	Moderate	4–8 months	Provides lighting for pedestrians, allowing them to safely and visibly navigate.
Driver Behavior	S.11 Tactical Chicanes	Moderate	6–9 months	Introduces chicanes to narrow the roadway and extend space for pedestrians.
Roadway Departure	S.12 Temporary Edge Lines	Low	3–6 months	Changes the lane boundaries for vehicular travel,

PROJECT SELECTION CRITERIA

The Project Selection Criteria section outlines the approach used to identify project types eligible for implementation funding, as well as score and prioritize eligible roadway safety projects. Guided by the Safe System Approach, high-scoring projects are expected to have improved safety impacts, multimodal access, community support, and are generally cost effective and feasible.

PURPOSE

The project selection criteria identify key characteristics of roadway projects that align with county and regional safety efforts and goals, as outlined by the McHenry County Safety Action Plan and guided by the Safe System Approach. There are a range of eligible project types, from infrastructure improvements to education campaigns, for implementation funding through the Safe Streets and Roads for All (SS4A) program.

MCDOT, municipalities, steering committee members, focus groups, and other stakeholders were tasked with submitting roadway safety projects to be included in the SAP. With just over 100 projects eligible for funding, the plan scores which projects to prioritize. Priority projects will dictate where resources and funding efforts are directed. Project selection criteria focus on scoring projects that are most feasible to implement with the highest expected safety improvements, in addition to considering received community input and improving multimodal access across the county. Scores across the sub-criteria are weighted to compute the final score, which is compared and ranked across all projects. Safety is the largest sub-criterion, considering if the project is located in the high-injury network and if any proven safety countermeasures are enlisted.



TABLE 47: ELIGIBLE PROJECT TYPES FOR IMPLEMENTATION FUNDING

There are several project types that are eligible for federal funding through the Safe Streets and Roads for All (SS4A) program for implementation funding. Below is a summary of eligible project types:

PROJECT TYPE	DESCRIPTION
Low-Cost Safety Treatments	Projects implementing cost-effective safety solutions are eligible for funding. Examples include adding turn lanes at intersections, installing centerline and shoulder rumble strips, widening edge lines, applying high-friction surface treatments, and enhancing curve delineation with signage and lighting.
Network Risk Reduction	Addressing systemic safety risks across a network qualifies for funding. Examples include upgrading pedestrian crosswalks with high-visibility markings, improved lighting, and enhanced signage, particularly in areas near transit stops or along busy transportation routes.
Pedestrian Safety Enhancements	Eligible projects include filling pedestrian network gaps by adding sidewalks, installing raised or high-visibility crosswalks, implementing rectangular rapid-flashing beacons and pedestrian hybrid beacons, creating refuge islands, and introducing signal enhancements like leading pedestrian intervals and audible pedestrian signals. These measures improve safety for people walking, rolling, or using mobility devices.
Speed Management	Funding is available for projects that address speed-related crashes. Eligible activities include implementing traffic-calming designs, infrastructure improvements on speeding-prone corridors, conducting outreach and education campaigns, strategically using speed cameras, and setting context-sensitive speed limits.
Safe Routes to School and Transit	Creating safer connections to schools and public transit is an eligible activity. This includes infrastructure improvements, such as crosswalk enhancements and bike lanes, as well as safety programs that encourage walking, biking, and rolling.
Safety Technologies and Strategies	Introducing innovative safety technologies, such as intelligent transportation systems or adaptive signal controls, to protect vulnerable road users and manage interactions with commercial motor vehicles is eligible. These technologies are particularly beneficial in high-traffic areas.
Education Initiatives	Funding is available for public education campaigns that support infrastructure changes, such as roundabouts, pedestrian hybrid beacons, or newly established pedestrian zones. These initiatives ensure users understand and adapt to new safety features.
Roadway Departure Reduction	Projects that address roadway departure crashes through improved delineation, shoulder widening, rumble strips, and roadside safety measures qualify for funding. These treatments are essential for reducing crashes on rural roads and high-speed corridors.
Intersection Improvements	Enhancing intersection safety through innovative designs, improved sight lines, better delineation, and advanced warning systems is an eligible activity. These improvements focus on reducing crashes and conflicts at high-risk intersections.
Safety Strategies Identified in Other Plans	Projects and strategies from existing safety reports or plans may be eligible if they align with the MCSAP's goals and address identified safety problems. These projects must demonstrate safety benefits and be consistent with the recommendations in the Action Plan.

PROJECT SELECTION CRITERIA

The purpose of the project selection criteria is to rank eligible roadway safety projects, prioritizing projects that offer the greatest safety benefits and feasibility. Safety impact is the most significant factor, with higher priority given to projects located in or adjacent to high-injury network (HIN) corridors. Proven countermeasures that align with FHWA-approved safety strategies also receive additional consideration. Multimodal access ensures that pedestrian and bicycle infrastructure improvements, particularly near schools, transit stops, and employment hubs, are given precedence. Public support is another key factor, favoring projects backed by community input. The cost and feasibility of projects, including their current development phase, influence their ranking, ensuring efficient allocation of funds. Finally, funding availability is considered, with priority given to projects that have secured or likely sources of financial backing. Together, these criteria ensure that roadway safety projects are scored based on impact and practicality.

TABLE 48: PROJECT SELECTION CRITERIA

Below is a table explaining how projects score through the criteria categories and the sub-criteria with their maximum available points and descriptions:

CRITERIA CATEGORY	SUB-CRITERIA	MAXIMUM POINTS	DESCRIPTION
Safety Impact	High-Injury Network	35	Projects located in or adjacent to HIN corridors receive points.
	Proven Countermeasures	10	Projects incorporating FHWA-proven safety countermeasures receive points.
Network Gaps	Low-Income Community	15	Points given to projects located in census tracts with 10% or greater of population whose income in the past 12 months is below poverty level.
Multimodal Access	Pedestrian/Bicycle Facilities	15	Points given to projects that fill gaps or improve multimodal access, especially near schools, transit stops, or employment centers.
Public Support	Community Input	10	Projects identified through public engagement or surveys receive points.
Cost and Feasibility	Phasing Yet to begin: 0 points Phase I initiated: 1 point Phase I complete: 2 points Phase II initiated: 3 points Phase II complete: 4 points Construction initiated: 5 points	5	Projects closer to construction receive more points to support current safety-related initiatives.
	Funding Availability	10	Projects with secured or likely funding sources (e.g., grants, partnerships) receive points.

IMPLEMENTATION STEPS

With just over 100 eligible projects submitted for consideration for the McHenry County Safety Action Plan, the following steps were taken to score projects using the selection criteria:

- Data Compilation:** Gather relevant data on crashes, high-speed corridors, and multimodal infrastructure gaps.
- Project Evaluation:** Score each project for each sub-criterion. The project will score 0 if it does not incorporate said sub-criterion. The project will score 1 if it does incorporate said sub-criterion. Phasing is the exception, as noted in Table 48.
- Weight Application:** Multiply the score by the weight assigned to each sub-criterion.
- Prioritization and Categorization:** Rank projects by total scores and categorize them into short-term, medium-term, and long-term projects for phased implementation.

Table 49 provides a comparison of how two different roadway projects score, depending on their characteristics. Project A incorporates FHWA-proven countermeasures, incorporates pedestrian/bicycle facilities, has been identified as a priority through public engagement, has completed Phase I engineering, and has multiple agencies involved. Project A scores 47 points out of 100. Project B is located on the high-injury network, incorporates FHWA-proven countermeasures, is located in a census tract with a low median income, and incorporates pedestrian/bicycle facilities. Project B scores 75 points out of 100. Project B therefore should be prioritized over Project A. While Project B incorporates fewer sub-criteria than Project A, it is located on the high-injury network and should work to improve safety on that roadway.

TABLE 49: PROJECT SELECTION CRITERIA COMPARISON

Below is an example comparing how two different projects score across the criteria categories and how that affects the total score:

EXAMPLE PROJECT	SUB-CRITERIA	STATUS	MAXIMUM POINTS	SCORE
Project A	High-Injury Network	No	35	0
	Proven Countermeasures	Yes	10	10
	Low-Income Community	No	15	0
	Pedestrian/Bicycle Facilities	Yes	15	15
	Community Input	Yes	10	10
	Phasing	Phase I complete	5	2
	Funding Availability	Yes	10	10
Total				47
Project B	High-Injury Network	Yes	35	35
	Proven Countermeasures	Yes	10	10
	Low-Income Community	Yes	15	15
	Pedestrian/Bicycle Facilities	Yes	15	15
	Community Input	No	10	0
	Phasing	Yet to begin	5	0
	Funding Availability	No	10	0
Total				75

IMAGE 53: PROPOSED PROJECT MAP

MAP OVERVIEW

This map displays all of the proposed roadway safety projects, as well as the priority projects, in McHenry County. There are just over 100 proposed projects and five priority projects. The priority projects are located at high-ranking high-injury intersections.. Four priority projects are located in the City of Crystal Lake, and one priority project is located in the Village of Cary. Table 49 through Table 52 provide descriptions and scores for all the proposed projects, based on the project selection criteria. Note that the ID does not correspond to the score or rank of projects, but rather is used as an identifier.

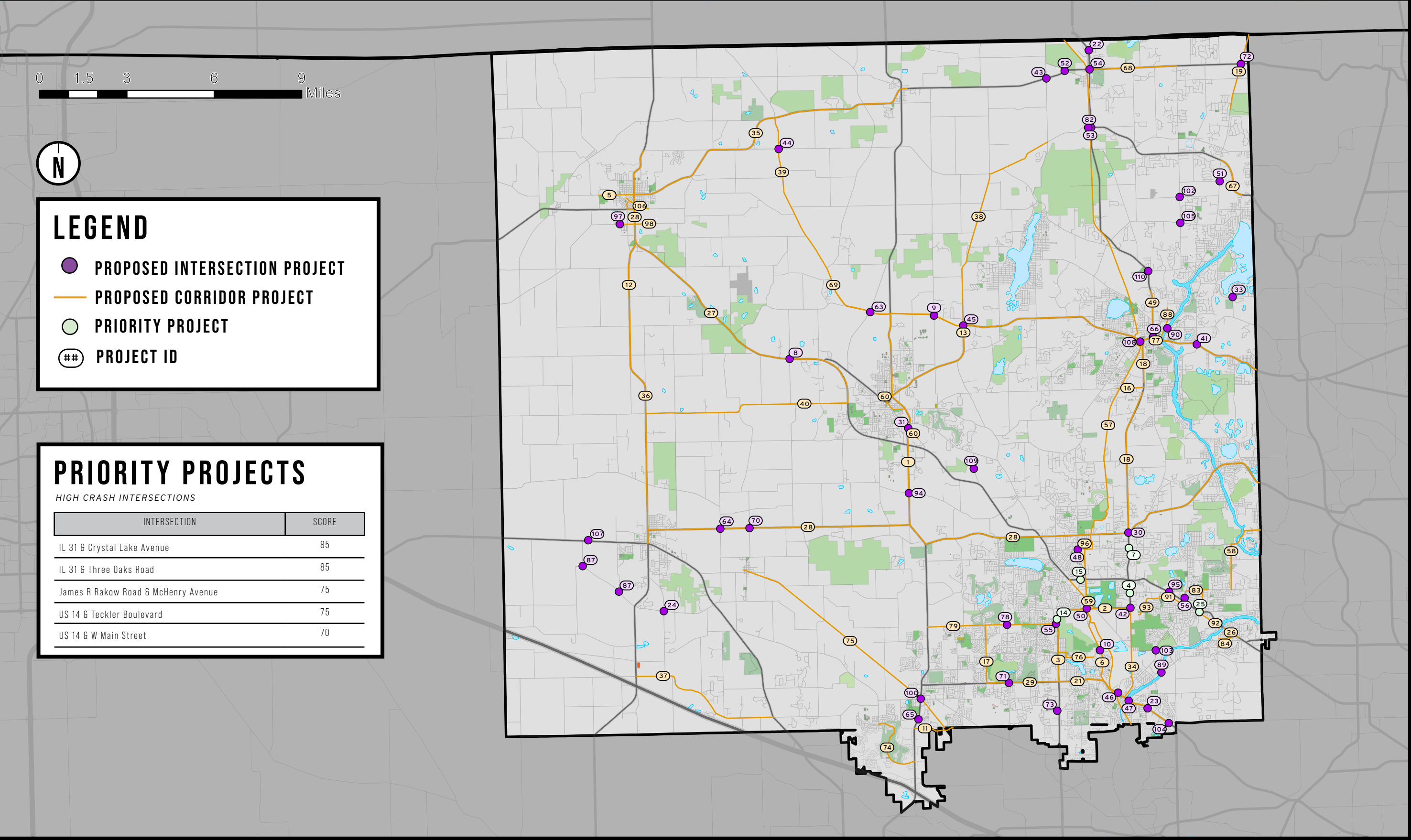


TABLE 50: PROPOSED PROJECTS

PROJECT ID	PROJECT	DESCRIPTION	PROJECT TYPE	JURISDICTION	MUNICIPALITY	SCORE
1	IL 47 Area Multi-Use Paths	Develop shared-use paths to create separation between modes.	Bike Network Development	IDOT	Woodstock	98
2	James R Rakow Road Bicycle and Pedestrian Path	Development of a bike path linking Ackman Road to the Prairie Trail.	Bike Network Development	MCDOT	Crystal Lake, Lake in the Hills	95
3	Randall Road Grade Separated Crossings	Adding grade-separated pedestrian crossings along Randall Road.	Pedestrian Safety	MCDOT	Village of Algonquin	85
4	IL 31 & Three Oaks Road	Intersection redesign and signal upgrades to enhance safety and multimodal access.	Intersection Safety	IDOT	Crystal Lake	85
5	Stone Mill Trail Extension	Extend the Stone Mill Trail into the downtown area to improve trail access and connectivity.	Bike Network Development	Harvard, MCCD	Harvard	85
6	Pyott Road Safety Improvements	Improve intersection design and traffic signal timings to address vehicular congestion and pedestrian safety concerns.	Complete Streets	MCDOT	McHenry County	85
7	IL 31 & Crystal Lake Avenue	Improve safety and operations at the intersection.	Intersection Safety	IDOT	Nunda Township	85
8	Charles Road at Queen Anne Road Intersection	Addressing safety concerns in critical safety tier intersection areas.	Intersection Safety	MCDOT	Unincorporated Greenwood	81
9	US 14 at Hartland Hughes	Improve safety and operations at the intersection.	Intersection Safety	IDOT	Hartland Township	80
10	Pyott Road at Oak Street	Intersection safety improvements including lighting and signalization.	Intersection Safety	MCDOT	Village of Lake in the Hills	75
11	Kreutzer Road Realignment	Reconstruction and widening, as well as building a multi-use path.	Roadway Departure Reduction	Huntley	Huntley	75
12	IL 23 Safety and Travel Improvements	Focuses on widening shoulders and adding safety enhancements along IL 23 for improved travel conditions.	Roadway Departure Reduction	IDOT	McHenry County	75
13	IL 120 Safety and Travel Improvements	Includes safety and operational enhancements along IL 120 to support regional mobility.	Roadway Departure Reduction	IDOT	McHenry County	75
14	James R Rakow Road & McHenry Avenue	Improve safety and operations at the intersection.	Intersection Safety	MCDOT	Crystal Lake	75
15	US 14 & Teckler Boulevard	Improve safety and operations at the intersection.	Intersection Safety	IDOT	Crystal Lake	73
16	Bull Valley Road Bicycle and Pedestrian Accommodations	Creating shared-use paths and crossings to enhance bike and pedestrian safety.	Bike and Pedestrian Safety	MCDOT	Multiple	72
17	Lakewood Road Corridor Complete Streets	Implementing a complete streets project for enhanced multimodal connectivity and safety.	Complete Streets	MCDOT	Village of Lakewood	71
18	IDOT IL 31 Improvements	Roadway widening and reconstruction to provide two lanes in each direction separated by a median, bicycle and pedestrian	Complete Streets	IDOT	Crystal Lake	71
19	Midwest Interstate Trail	Expansion of the interstate trail system to improve regional bike connectivity.	Bike Network Development	MCDOT	Countywide	71
20	Lakewood Road Bike Path	Construct a bike path along Lakewood Road to enhance safety and accessibility for cyclists.	Bike Network Development	MCDOT	Lake in the Hills	70
21	Algonquin Road Bike/Ped Accommodations	Enhancing sidewalks and shared-use paths for safer pedestrian and bike connectivity.	Bike and Pedestrian Safety	MCDOT	Village of Algonquin	70
22	Burlington Road & US 12	Roundabout and safety improvements at a high-crash intersection.	Intersection Safety	IDOT	Richmond	70
23	IL 62 & Sandbloom Road/Countryside Drive	Safety and accessibility improvements for vehicles and pedestrians.	Intersection Safety	IDOT	Algonquin	70
24	Maple Street at Coral Road	Intersection safety project to address high crash frequency and improve operations.	Intersection Safety	MCDOT	Unincorporated Area	70
25	US 14 & W. Main Street	Improve safety and operations at the intersection.	Intersection Safety	Cary	Cary	70
26	Downtown US 14 Streetscaping	Streetscaping improvements to enhance the downtown's pedestrian-friendly environment with decorative elements.	Complete Streets	IDOT	Fox River Grove	70
27	US 14 Sidepath to Woodstock	Create a shared-use path alongside US 14 to improve bike and pedestrian connectivity to Woodstock.	Bike Network Development	IDOT	Harvard	70
28	Ayer Street Sidewalk Improvements to Airport Road	Extend sidewalks along Ayer Street to Airport Road to increase pedestrian access.	Pedestrian Safety Enhancements	Harvard	Harvard	70
29	IL 176 Safety and Travel Improvements	Addresses safety concerns through lane widening and intersection upgrades on IL 176.	Roadway Departure Reduction	IDOT	McHenry County	70
30	IL 31 & IL 176	Safety and operational upgrades for this intersection.	Intersection Safety	IDOT	Crystal Lake	70
31	IL 47 & Lake Avenue	Safety and operational upgrades for this intersection.	Intersection Safety	IDOT	Woodstock	70
32	McHenry County Conservation District Entrance & Trail Crossing Improvements	Improvements to entrances to Exner Marsh, Fel-Pro RRR, Glacial Park, Kishwaukee Headwaters, Pleasant Valley, and The Hollows conservation areas and trail crossings.	Intersection Safety	MCDOT	McHenry County	70
33	Algonquin Road Travel Improvements	Optimize travel conditions with new lane configurations and multi-modal features, supporting commuter and local traffic.	Implementation Grant Activity	MCDOT	McHenry County	70
34	Bay Road at Cuhlman Road	Intersection improvements for safety and visibility enhancements.	Intersection Safety	MCDOT	Unincorporated McHenry Township	60

TABLE 51: PROPOSED PROJECTS

ID	PROJECT	DESCRIPTION	PROJECT TYPE	JURISDICTION	MUNICIPALITY	SCORE
35	IL 31 Fixed-Rou'te Bus Service	Implementation of a fixed-route bus service along IL 31 to enhance public transit options.	Safe Routes to School and Transit	IDOT, Pace	Algonquin, Cary	60
36	IL 173 Sidepath to Hebron	Extend a side path along IL 173 to link Hebron with regional trail systems.	Bike Network Development	IDOT	Harvard	60
37	IL 23 Sidepath to Marengo	Develop a side path along IL 23 to enhance pedestrian and cyclist safety and connectivity.	Bike Network Development	IDOT	Harvard	60
38	Harmony Road Freight Traffic Enhancements	Implement roadway improvements to support heavy freight traffic, including turn radii adjustments and shoulder widening to	Roadway Departure Reduction	MCDOT	McHenry County	60
39	Greenwood Road Safety Improvements	Add traffic calming measures and intersection enhancements to address high crash frequency and improve pedestrian and vehicular	Speed Management	MCDOT	McHenry County	60
40	Alden Road Safety Improvements	Upgrade road shoulders, implement signage, and realign intersections to mitigate frequent crash incidents and provide a safer roadway environment.	Low-Cost Safety Treatments	MCDOT	McHenry County	60
41	Kishwaukee Valley Road Safety Improvements	Enhance visibility, improve signage, and provide pedestrian accommodations along this safety-priority corridor.	Pedestrian Safety Enhancements	MCDOT	McHenry County	60
42	IL 120 & Chapel Hill Road	Safety and operational upgrades for this intersection.	Intersection Safety	IDOT	McHenry	60
43	James R Rakow Rd & IL 31	Safety and operational upgrades for this intersection.	Intersection Safety	IDOT	Crystal Lake	60
44	IL 173 at Keystone Road Intersection	Safety improvements for a high-crash intersection.	Intersection Safety	IDOT	Unincorporated Richmond Township	58
45	Alden Road at O'Brien Road Intersection	Safety improvements for intersection prone to crashes.	Intersection Safety	MCDOT	Alden Township	56
46	Charles Road at IL 120 Intersection	Addresses critical safety concerns at a high-injury intersection.	Intersection Safety	MCDOT	Village of Greenwood	56
47	IL 62 & IL 31	Safety and operational upgrades for a major intersection.	Intersection Safety	IDOT	Algonquin	55
48	IL 62 & River Road	Enhancements for safety and visibility.	Intersection Safety	IDOT	Algonquin	55
49	Roundabout at Walkup Avenue/Grant Street/Crystal Lake Avenue	Construction of a roundabout to reduce congestion and improve safety at key intersections in Crystal Lake.	Network Risk Reduction	Crystal Lake	Crystal Lake	55
50	IL 31 Reconstruction	Reconstructs Route 31 to improve capacity, safety, and traffic operations.	Roadway Departure Reduction	McHenry	McHenry	55
51	James R Rakow Road & Pyott Road	Safety and operational upgrades for this intersection.	Intersection Safety	MCDOT	Lake in the Hills	55
52	Johnsburg Road & Sunset Road	Safety and operational upgrades for this intersection.	Intersection Safety	Spring Grove	Burton Township	55
53	IL 173 & Broadway Road	Safety and operational upgrades for this intersection.	Intersection Safety	IDOT, Richmond	Richmond Township	55
54	Tryon Grove Road & Prairie Trail Crossing	Safety and operational upgrades for this intersection.	Intersection Safety	MCDOT	Richmond	55
55	US 12 & IL 173	Safety and operational upgrades for this intersection.	Intersection Safety	IDOT	Richmond	55
56	Randall Road at Ackman Road Improvements	Pedestrian facilities to improve accessibility and safety.	Intersection Safety	MCDOT	Crystal Lake	54
57	Cary-Algonquin Road & Silver Lake Road	Roadway redesign for safer vehicle and pedestrian movement.	Intersection Safety	Cary	Cary	50
58	Prairie Trail Improvement Projects	Enhancing trail connections and safety for users.	Bike/Pedestrian Safety	McHenry County Conservation	McHenry County	50
59	Rawson Bridge Bikeway	Development of bike facilites along Rawson Bridge Road to connect Cary and Port Barrington.	Bike Network Development	Cary	Cary	50
60	Virginia Road HSIP and Complete Streets Project	Safety improvements and multimodal accommodations.	Complete Streets	MCDOT	Crystal Lake	50
61	Woodstock IL 47 to Downtown & Beyond Walk-Bike Path	Construction of a 1.7-mile multi-use path to enhance the planned Rt. 47 project	Bike Network Development	Woodstock	Woodstock	50
62	Benton Street Streetscape Improvements	Enhance streetscape along Benton Street to improve pedestrian safety and aesthetic appeal, incorporating multi-modal design elements.	Complete Streets	Woodstock, Metra/UPRR	Woodstock	50
63	Charles Road at Lamb Road/Raycraft Road	Safety and operational upgrades for this intersection.	Intersection Safety	MCDOT	Greenwood Township	45
64	IL 176 & Millstream Road	Intersection redesign for improved traffic safety and reduced crash frequency.	Intersection Safety	IDOT	Seneca Township	45
65	Bus service on IL 47, IL 62, and I-90	Expand bus service along major corridors to improve transit options.	Safe Routes to School and Transit	Pace	Huntley	45
66	IL 31 and IL 120 Bypass Routes	Develops bypass routes to improve regional mobility and relieve congestion along IL 31 and IL 120.	Network Risk Reduction	McHenry, IDOT	McHenry	45
67	US 12 Travel Improvements	Improves US 12 with safety and capacity enhancements for regional connectivity.	Roadway Departure Reduction	IDOT	McHenry County	45
68	IL 173 Travel Improvements	Implements lane and shoulder widening along IL 173 to improve safety and accommodate increased traffic.	Roadway Departure Reduction	IDOT	McHenry County	45
69	Charles Road Modernization	Upgrade infrastructure to improve road reliability and incorporate safety features like rumble strips and improved shoulders.	Roadway Departure Reduction	MCDOT	Woodstock	45

TABLE 52: PROPOSED PROJECTS

ID	PROJECT	DESCRIPTION	PROJECT TYPE	JURISDICTION	MUNICIPALITY	SCORE
70	Telegraph Street & Union Road	Safety and operational upgrades for this intersection.	Intersection Safety	MCDOT	Seneca Township	45
71	Algonquin Road & Square Barn Road	Safety and operational upgrades for this intersection.	Intersection Safety	MCDOT	Algonquin	45
72	IL 173 & Wilmot Road	Safety and operational upgrades for this intersection.	Intersection Safety	IDOT	Fox Lake	45
73	Harnish Drive & Sherman Road	Safety and operational upgrades for this intersection.	Intersection Safety	Algonquin	Algonquin	45
74	Del Webb Boulevard Corridor	Road diet to decrease lanes, and adding protected bike lanes for bicyclists, pedestrians, and permitted electric vehicles.	Complete Streets	Huntley	Huntley	40
75	H.U.M. Trail Extension	Extend the H.U.M. Trail to connect communities, provide recreational opportunities, and create separation between modes.	Bike Network Development	MCCD	Huntley	40
76	Miller/Oak Street Path Gap Closure	Fill gaps in the east-west spine trail to create separation between modes.	Bike Network Development	Lake in the Hills	Lake in the Hills	40
77	Venice Avenue Reconstruction	Upgrades Venice Avenue with complete streets elements to support multimodal travel and streetscape improvements.	Complete Streets	McHenry	McHenry	38
78	Ackman Road & Swanson Road	Safety and operational improvements.	Intersection Safety	MCDOT	Lake in the Hills	35
79	Ackman Road Corridor Project	Corridor enhancements for multimodal connectivity.	Complete Streets	MCDOT	Crystal Lake, Lake in the Hills	35
80	Airport/McGuire Road Bike/Ped Accommodations	1.4-mile path with pedestrian crossing improvements at U.S. 14.	Bike Network Development	MCDOT	City of Harvard	35
81	First Street Bikeway	Buffered bike lane on a roadway leading to a high school, multi-family housing, and kindergarten.	Bike Network Development	Cary	Cary	35
82	Tryon Grove Road & US 12	Safety improvements at an intersection to address crash history, including a roundabout and other safety features.	Intersection Safety	IDOT	Richmond	35
83	Three Oaks Road Corridor Improvements	Buffered bikes lanes, new crossing infrastructure, and intersection safety policies.	Complete Streets	Cary	Cary	35
84	Sidewalk on Algonquin Road	Extend and enhance sidewalks to improve pedestrian connectivity along Algonquin Road, aligning with local plans.	Pedestrian Safety Enhancements	Fox River Grove	Fox River Grove	35
85	Sidewalk on Lincoln Avenue	Construct sidewalks along Lincoln Avenue to fill existing gaps and provide safer pedestrian access.	Pedestrian Safety Enhancements	Fox River Grove	Fox River Grove	35
86	Ayer Street (Park Street to Washington Street) Reconstruction	Reconstruct Ayer Street with enhancements for pedestrians, bicyclists, and vehicles.	Complete Streets	Harvard	Harvard	35
87	Intersection Realignments at Pleasant Grove/Meyer and Pleasant Grove/Blissdale	Improves geometrics and sight lines to enhance safety and traffic flow at critical intersections in Marengo.	Roadway Departure Reduction	Marengo, Riley Township	Marengo	35
88	Riverside Drive New Sidewalks	Adds sidewalks along Riverside Drive to improve pedestrian connectivity and safety.	Pedestrian Safety Enhancements	McHenry	McHenry	35
89	New Fox River Crossing North of IL 120	Develops a new river crossing to relieve congestion and improve regional mobility north of IL 120.	Network Risk Reduction	MCDOT	McHenry County	35
90	New Fox River Crossing North of IL 62	Construct a new bridge to provide enhanced connectivity across the Fox River, supporting regional traffic flow and access.	Network Risk Reduction	MCDOT	McHenry County	35
91	Industrial Drive	Improve bicycle and pedestrian safety on Industrial Drive.	Bike and Pedestrian Safety	Cary	Cary	25
92	Jandus Road	Incorporate bicycle facilities on Jandus Road.	Bike Network	Cary	Cary	25
93	New Haven Drive	Incorporate Complete Streets elements on New Haven Drive.	Complete Streets	Cary	Cary	25
94	IL 47 & Lucas Road	Intersection upgrades to improve traffic flow and pedestrian safety.	Intersection Safety	IDOT	Woodstock	25
95	US 14 & Three Oaks Road	Improve safety and operations at the intersection.	Intersection Safety	Cary	Cary	25
96	Crystal Lake Downtown Shared Street	Development of a shared or festival street to enhance walkability, economic activity, and community engagement.	Complete Streets	Crystal Lake	Crystal Lake	25
97	Bike/Ped Connection from Airport Road to IL 173	Build a bike and pedestrian connection to link Airport Road and IL 173, fostering active transportation options.	Bike Network Development	Harvard	Harvard	25
98	Multi-Use Path to Rush Creek Conservation Area	Construct a multi-use path connecting key areas to Rush Creek Conservation Area to support recreation and access.	Bike Network Development	Harvard, MCCD	Harvard	25
99	South Division Street Enhancements	Upgrade South Division Street with improved pedestrian crossings and roadway safety measures.	Complete Streets	IDOT	Harvard	25
100	Huntley Intermodal Transit Station	Establish a transit center to support multimodal connections, including buses, bikes, and trains.	Safe Routes to School and Transit	Huntley, IDOT, Metra/UPRR, Pace,	Huntley	25
101	Woodstock Active Transportation Plan Writing	Develop a comprehensive plan to prioritize walking, biking, and transit improvements across the region.	Planning Grant	Woodstock	Woodstock	25
102	Spring Grove Road and Miller Road Intersection Safety Project	Safety upgrades to reduce crashes and enhance operations.	Intersection Safety	MCDOT	Spring Grove	21
103	Cary-Algonquin Road & Klasen Road	Intersection safety improvements.	Intersection Safety	Cary	Cary	20
104	IL 62 & Compton Drive	Intersection upgrades for traffic flow and safety enhancements.	Intersection Safety	IDOT	Algonquin	10
105	Spring Grove Road at Ringwood Road Intersection	Addresses safety at a critical intersection with high crash frequency.	Intersection Safety	MCDOT	McHenry Township	10

TABLE 53: PROPOSED PROJECTS

ID	PROJECT	DESCRIPTION	PROJECT TYPE	JURISDICTION	MUNICIPALITY	SCORE
106	Metra/UPRR UPNW Line Track & Signal Improvements	Modernize track and signal systems along the Union Pacific Northwest Line to enhance safety and service efficiency.	Safety Technologies and Strategies	Metra/UPRR	Harvard	10
107	New Transit Station West of Ritz Road	Proposes a transit station to improve accessibility and encourage public transportation west of Ritz Road.	Safe Routes to School and Transit	Metra/UPRR, Pace	Marengo	10
108	Metra Extension and New Trainyard at Johnsburg	Supports future Metra service expansion and enhances operational capacity with a trainyard in Johnsburg.	Implementation Grant Activity	Johnsburg, Metra/UPRR	McHenry	10
109	New Metra station in East Woodstock	Develop a new Metra station to expand commuter rail service and improve regional connectivity.	Transit	Metra/UPRR	Woodstock	10
110	IL 31 at Johnsburg Road	Improve safety and operations at the intersection.	Intersection Safety	IDOT	Johnsburg	10
111	Williams Street (Metra Station)	Improve safety and operations on Williams Street and near the Crystal Lake Metra station.	Transit	Crystal Lake	Crystal Lake	10

9

EVALUATION & INTEGRATION

THIS CHAPTER OUTLINES THE FRAMEWORK FOR MONITORING PERFORMANCE METRICS, ASSESSING PROGRESS, AND EMBEDDING SAFETY STRATEGIES INTO LOCAL AND REGIONAL PRACTICES. READERS WILL GAIN INSIGHTS INTO HOW THE PLAN WILL TRACK ITS SUCCESS AND PROVIDES ACTIONABLE STEPS FOR MUNICIPALITIES, TOWNSHIPS, AND NEIGHBORHOODS TO IMPLEMENT DATA-DRIVEN SAFETY IMPROVEMENTS EFFECTIVELY.



PERFORMANCE MEASURES

The Performance Measures section outlines how the McHenry County Safety Action Plan will document progress made after the plan is approved. This is primarily achieved through measures of efficiency and effectiveness with a delineated timeframe and designated agency responsible for tracking the listed metrics.

PURPOSE

Performance measures serve as critical tools for monitoring and evaluating safety outcomes at statewide/regional, countywide, municipal/township, and neighborhood levels. At their core, these metrics provide a consistent framework for assessing progress toward reducing traffic fatalities and serious injuries, ensuring alignment with overarching safety goals such as Vision Zero. By addressing safety performance across different geographies, these measures enable stakeholders to adapt interventions to meet specific needs while maintaining consistency in tracking and reporting.

The use of performance measures also promotes accountability and transparency, allowing decision-makers, community leaders, and the public to evaluate the effectiveness of safety initiatives. At each spatial scale, from statewide networks to local neighborhoods, these measures highlight successes, identify areas needing improvement, and guide resource allocation to maximize impact. This structured and scalable approach ensures that strategies are both data-driven and context-sensitive, creating a safer transportation network for all users.

TYPES OF PERFORMANCE MEASURES

While existing performance measures provide a broad view of progress toward regional safety targets, they often lack the granularity necessary to address specific local challenges and the safety emphasis areas outlined in the MCSAP. To bridge this gap, the MCSAP will incorporate additional performance measures designed to provide annual updates on key metrics and track safety improvements since the plan’s inception. The MCSAP employs two categories of performance measures: *efficiency* and *effectiveness*.

TABLE 54: FEDERALLY-REQUIRED STATE PERFORMANCE MEASURES

The USDOT requires the tracking of five safety performance measures at the state-level. These measures should be used to evaluate the MCSAP primarily, in addition to the proposed performance measures. The table below provides McHenry County's baseline metrics from 2018 to 2022 and, most recently, 2023.

METRIC	DESCRIPTION	MCHENRY COUNTY METRICS		
		5-YEAR TOTAL (2018-2022)	ANNUAL AVG. (2018-2022)	BASELINE (2023)
Number of fatalities	The total number of persons suffering fatal injuries in a motor vehicle crash during a calendar year.	122	24.4	10
Rate of fatalities per 100 million VMT	The ratio of total number of fatalities to the number of vehicle miles traveled (VMT, in 100 Million VMT) in a calendar year.	-	1.038	0.413
Number of serious injuries	The total number of persons suffering at least one serious injury in a motor vehicle crash during a calendar year.	960	192.0	160
Rate of serious injuries per 100 million VMT	The ratio of total number of serious injuries to the number of VMT (in 100 Million VMT) in a calendar year.	-	8.169	6.607
Number of non-motorized fatalities and non-motorized serious injuries	The combined total number of non-motorized fatalities and non-motorized serious injuries involving a motor vehicle during a calendar year.	60	12.0	20

EFFICIENCY MEASURES

Efficiency measures provide real-time, quantifiable feedback on the implementation of safety strategies, such as tracking the installation of rumble strips or the completion of safety projects. While these measures offer valuable insights into resource utilization and progress, they do not directly assess outcomes like crash reduction, requiring careful contextual analysis to link actions to long-term results. Despite this limitation, efficiency measures are essential for identifying bottlenecks, assessing resource allocation, and ensuring that safety initiatives stay on track, even in dynamic environments influenced by multiple factors.

EFFECTIVENESS MEASURES

Effectiveness measures assess outcomes aligned with the MCSAP’s goals of reducing fatalities and serious injuries by evaluating trends in crash severity, roadway fatalities, and nonmotorized user safety. These metrics complement statewide performance measures and incorporate region-specific data, leveraging existing crash reporting systems to promote interagency collaboration and consistency. By analyzing data over a rolling three-year period or more, effectiveness measures provide a comprehensive understanding of trends and ensure safety strategies are achieving their intended results.

TABLE 55: MCHENRY COUNTY PERFORMANCE MEASURES

The following metrics represent the recommended and most effective measures for evaluating progress and determining success in implementing the McHenry County Safety Action Plan. These metrics are designed to provide a clear and comprehensive picture of safety outcomes, ensuring alignment with Vision Zero goals and addressing critical safety priorities. Agencies responsible for implementing the MCSAP should monitor these metrics consistently to track trends, assess the impact of interventions, and guide future safety strategies.

METRIC TYPE	METRIC	DESCRIPTION	TIMEFRAME	TRACKING AGENCY
Efficiency	Number of municipalities that pass Vision Zero or crash reduction commitments	Tracks the number of municipalities committing to Vision Zero or adopting goals to reduce crashes significantly.	Biennial	CMAP
	Number of municipalities that pass Complete Streets policies	Measures the adoption of Complete Streets policies to prioritize multi-modal safety and accessibility.	Annual	CMAP
	Number of installed projects addressing safety on the HIN	Measures safety interventions and their impact in identified high-crash corridors.	Annual	CMAP
	Miles of new sidewalks implemented	Tracks progress in adding or repairing sidewalks.	Annual	CMAP
	Miles of new bicycle facilities implemented	Tracks progress in developing and expanding bicycle networks to ensure safety for cyclists.	Annual	CMAP
	Number of schools offering bicycle and pedestrian safety curriculum	Tracks the number of schools incorporating bicycle and pedestrian safety education into their programs.	Annual	CMAP
Effectiveness	Crash rates by jurisdiction	Tracks crash rate and severity within specific jurisdictions to identify local safety needs.	Annual	IDOT, CMAP
	Speed-related crashes	Tracks crashes involving excessive speeding as a contributing factor.	Annual	IDOT, CMAP
	Alcohol and drug-related crashes	Monitors crashes where impairment is a factor.	Annual	IDOT, CMAP
	Crashes involving vulnerable road users	Tracks incidents involving children, older adults, or persons with disabilities.	Annual	IDOT, CMAP
	Crashes on roadway typologies	Analyzes crashes by roadway type (e.g., arterials, collectors, local roads) to identify trends and solutions.	Annual	IDOT, CMAP

PERFORMANCE MEASURE BREAKDOWN

The following performance measure breakdown provides a detailed explanation of each metric used to evaluate roadway safety progress under the McHenry County Safety Action Plan (MCSAP). These measures are designed to track critical safety outcomes, assess the effectiveness of interventions, and guide targeted resource allocation.

EFFICIENCY MEASURES

- » **Number of municipalities that pass Vision Zero or crash reduction commitments:** Tracks the number of municipalities committing to Vision Zero or adopting measurable goals to reduce crashes and fatalities. This encourages local governments to align with countywide goals, fostering a collective, long-term effort to reduce serious injuries and fatalities.
- » **Number of municipalities that pass Complete Streets policies:** Measures the adoption of Complete Streets policies aimed at improving multi-modal safety, accessibility, and infrastructure for all users. These policies promote accessible infrastructure design, benefiting vulnerable users and reducing crashes across all modes of transportation.
- » **Number of projects addressing safety on the HIN:** Tracks safety projects and interventions implemented in High Injury Network (HIN) corridors to reduce crash severity and frequency. Focusing resources on these dangerous corridors ensures targeted and effective safety improvements.
- » **Miles of new sidewalks implemented:** Monitors progress in adding or repairing sidewalks to improve pedestrian connectivity and safety. This enhances walkability, reduces pedestrian exposure to unsafe conditions, and supports active transportation.
- » **Miles of new bicycle facilities implemented:** Tracks the development and expansion of safe bicycle networks, including bike lanes and multi-use trails. These facilities provide safer options for cyclists, promote healthy transportation choices, and reduce conflicts with motor vehicles.
- » **Number of schools offering bicycle and pedestrian safety curriculum:** Measures the integration of bicycle and pedestrian safety education into school programs to promote safe behaviors. This builds lifelong safety awareness among students, reducing risky behaviors and creating safer future generations.

EFFECTIVENESS MEASURES

- » **Crash rates by jurisdiction:** Analyzes crash rates and severity within individual jurisdictions to identify local safety challenges and priorities. This empowers municipalities to address specific safety concerns, improving outcomes for their communities.
- » **Speed-related crashes:** Tracks crashes where excessive speed is identified as a contributing factor, informing speed management strategies. This metric highlights opportunities for enforcement and infrastructure changes to reduce severe crashes.
- » **Alcohol and drug-related crashes:** Monitors crashes where driver impairment (alcohol or drugs) plays a role, helping target enforcement and education programs. Addressing impairment directly reduces one of the leading causes of severe crashes.
- » **Crashes involving vulnerable road users:** Tracks incidents affecting pedestrians and bicyclists, highlighting the need for targeted safety interventions. This ensures safety improvements for the most at-risk populations.
- » **Crashes on roadway typologies:** Analyzes crashes based on roadway type (e.g., arterials, collectors, local roads) to guide design improvements and resource allocation. Tailoring solutions to specific roadway characteristics ensures targeted, effective safety outcomes.

MONITORING & EVALUATION

This plan is a dynamic, living document developed through collaborative efforts with stakeholders. Its purpose is to guide McHenry County and local agencies in implementing strategies, countermeasures, and policies to improve roadway safety.

LEADERSHIP AND COORDINATION

The MCSAP team, supported by MCDOT staff, Council of Mayors staff, and CMAP, will lead the implementation of the plan by promoting safety initiatives, convening stakeholders, and facilitating collaboration among municipalities, townships, and regional partners. This includes providing technical assistance, coordinating data sharing, and serving as a champion for roadway safety. Periodic stakeholder meetings will review progress, address challenges, and identify new opportunities for safety improvements. These meetings will focus on evaluating interventions, addressing safety emphasis areas, and updating the plan as needed based on new data or priorities. The county will also ensure alignment with other planning efforts, leveraging opportunities to integrate MCSAP goals into regional and statewide programs.

In addition, MCDOT staff, with assistance from Council of Mayors staff and CMAP, will actively support municipalities in implementing MCSAP strategies and pursuing grant opportunities to fund safety improvements. Further meetings could be held to address specific challenges, share updates on grant efforts, and explore collaborative opportunities to enhance implementation efforts. These ongoing interactions will ensure a coordinated, well-resourced approach to achieving the plan’s safety goals.

EVALUATION AND ADAPTATION

To track progress, MCDOT will conduct annual evaluations using crash data to assess the county’s success in reducing fatalities and serious injuries. This will include analyzing critical risk factors and publishing an annual safety report to maintain transparency and keep stakeholders informed. Updates to the plan will occur as necessary to reflect evolving safety needs and incorporate lessons learned. Additionally, the county will prioritize funding and resource alignment to support safety projects, encouraging municipalities and townships to integrate MCSAP priorities into transportation improvement projects. Comprehensive monitoring metrics will guide these efforts, fostering accountability and driving measurable outcomes for a safer transportation system.

IMAGE 54: SENIOR CARE VOLUNTEER NETWORK SUPPORTS TRANSPORTATION ACCESS & SAFETY



INTEGRATING INTO PRACTICE

This section shows how local agencies and organizations can implement performance measures and roadway safety efforts into their day-to-day practice, institutionalizing roadway safety as a forethought to actions, goals, and decisions.

PURPOSE

The McHenry County Safety Action Plan (MCSAP) aims to embed safety considerations into all aspects of transportation planning, programming, and operations. By integrating performance measures into practice, local agencies can systematically assess progress, identify areas for improvement, and implement targeted safety initiatives. This ensures that safety remains a core focus in decision-making, fostering a collaborative approach among stakeholders, municipalities, townships, and regional partners. The integration of these measures not only enhances accountability but also promotes consistency and alignment with countywide safety goals.

LOCAL AGENCY IMPLEMENTATION

Local agencies play a critical role in advancing the safety objectives outlined in the MCSAP. To effectively integrate performance measures into their practice, McHenry County, municipalities, and townships can consider the following actions:

- » **Conduct Targeted Safety Assessments:** Perform at least one crash assessment, targeted safety analysis, or speed study annually at priority locations identified through crash data or community input.
- » **Prioritize Safety in Local Projects:** Assign priority to projects that include safety criteria, such as addressing high-crash locations, reducing fatalities and serious injuries, or responding to public feedback.
- » **Foster Collaboration:** Partner with at least one new organization, such as law enforcement, emergency medical services, school districts, or public health departments, to address traffic safety challenges collaboratively.
- » **Update Design Standards:** Revise at least one local design guideline to incorporate safety improvements, such as Complete Streets policies or pedestrian-friendly infrastructure standards.

By adopting these actions, local agencies can build a strong foundation for implementing the MCSAP's goals. CMAP will support these efforts by serving as a regional convener, providing resources, technical assistance, and collaboration opportunities to advance safety across the county. This partnership-driven approach ensures that safety is a shared responsibility and delivers measurable progress toward reducing fatalities and serious injuries.

Further examples of implementation into local practice, whether by public or private agencies/organizations, are described on the next page.

EXAMPLES OF INTEGRATING INTO EXISTING PRACTICE:



ENGAGING LOCAL AGENCIES AND PLANNERS

Local agencies can use the MCSAP to integrate safety into zoning ordinances, subdivision regulations, and transportation design guidelines. By referencing the MCSAP's emphasis areas and goals, municipalities can prioritize safety investments in high-crash corridors, ensuring that limited resources are used where they are most needed.



MOBILIZING RESIDENTS AND ADVOCACY GROUPS

Advocacy groups and residents can leverage the data and strategies outlined in the MCSAP to push for safer pedestrian crossings, protected bike lanes, and improved public transit access. The plan provides a foundation for grassroots efforts, offering evidence-based solutions that resonate with policymakers and funders.



INCORPORATING SAFETY INTO PRIVATE-SECTOR PRACTICES

Employers and nonprofits can use the MCSAP to promote transportation safety within their networks, encouraging safer commuting practices among employees and advocating for infrastructure improvements near business locations. These efforts contribute to broader safety goals by influencing individual behaviors and community standards.



SUPPORTING CROSS-AGENCY COLLABORATION

The MCSAP fosters collaboration among county, municipal, and regional entities by establishing shared goals and performance metrics. For example, law enforcement can work with planners to identify enforcement hotspots, while emergency services can align deployment strategies with identified high-crash areas.



ALIGNING TRANSPORTATION FUNDING WITH SAFETY GOALS

State and local funding agencies can use the MCSAP to align grant criteria and budget allocations with safety priorities. By prioritizing projects that address high-crash locations or improve safety for vulnerable road users, funders ensure that investments directly contribute to the county's vision of zero traffic fatalities and serious injuries.



ENHANCING SAFETY FOR VULNERABLE ROAD USERS

Schools, municipalities, and advocacy groups can use MCSAP insights to expand Safe Routes to School initiatives and improve accessibility for vulnerable populations. By addressing hazards such as poorly lit crosswalks, inadequate sidewalks, or unsafe intersections, these programs create safer, more accessible environments for all road users.