SAFE TRAVEL FOR ALL

Kane County Safety Action Plan

Final Plan

May 23, 2025

Our Commitment to Safer Streets

This Kane County Safety Action Plan (SAP) was developed by the Kane County Division of Transportation (KDOT) in partnership with the Chicago Metropolitan Agency for Planning (CMAP). This SAP is a roadmap for improving traffic safety by reducing the risk of death and serious injury on roads within Kane County, particularly for people walking and biking, and for communities with disproportionately excessive crash rates.

By combining community experiences and data analysis, the SAP identified practical actions and innovative solutions to make roads within Kane County safer for all. KDOT's commitment to safer roads is grounded in the fundamental belief that traffic-related deaths and serious injuries are preventable. By the adoption of this proactive, data-driven SAP, KDOT aims to systematically address safety risks and promote a culture of safety across all transportation modes in Kane County.

CMAP and KDOT are committed to working together to improve traffic safety comprehensively within Kane County to achieve zero fatalities and serious injuries by 2050.

Acknowledgements

This plan would not be possible without the support of community members like you. Thank you for sharing your stories and experiences with us and helping to create a future of safer travel in Kane County.

Also, thank you to the institutions and organizations whose support made this plan what it is, including:

- AECOM
- City of Aurora
- City of Batavia
- Village of Carpentersville
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KEEP
RIGHT

Part One
Creating Context

An important part of determining how to address travel safety in the future is understanding how we've address travel safety in the past. This section of the report outlines the goals of the Kane County Safety Action Plan and discusses some of our past and current efforts to address roadway safety in Kane County.

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Part One
Chapter One

Introduction

This chapter introduces the concept of a Safety Action Plan and why we created one for Kane County. It also briefly discusses how we created the Kane County Safety Action Plan and the areas covered by the Plan.

What is a Safe Streets for All Plan?

Transportation plays a vital role in our daily lives, shaping how we access everyday destinations. The design of our transportation system also influences how we choose to access these destinations, whether by walking, biking, rolling, driving, or using public transit. Despite its importance, some travel routes pose disproportionate risks to users due to a variety of factors, including roadway design, adjacent land use, and traffic patterns.

To address these challenges and create safer, more accessible streets for all, the Kane County Division of Transportation (KDOT), the Chicago Metropolitan Agency for Planning (CMAP), and the Illinois Department of Transportation (IDOT) worked together to develop a Safe Streets for All Action Plan. This initiative establishes a comprehensive safety framework to guide future transportation safety improvements within Kane County.

The effort is part of a broader regional initiative spanning northeastern Illinois—including Cook, DuPage, Kane, Lake, McHenry, and Will counties. CMAP and IDOT secured $4 million in federal funding through the United States Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) grant program to support the development of these safety plans. However, as detailed in Chapter 2, complete streets policies, vision zero initiatives, and multi-modal planning have a long history in Kane County.

Vision Zero

This initiative aligns with the principles of Vision Zero, a global strategy that seeks to eliminate all traffic-related fatalities and serious injuries while increasing safe and healthy mobility for all. Vision Zero recognizes that traffic deaths and severe injuries are preventable, and it advocates for a proactive and data-driven approach to road safety. Through the implementation of the Vision Zero framework, there is a strong focus on vulnerable roadway users including cyclists, pedestrians, transit users, and those with sensory or mobility impairments who more often suffer from severe or fatal injury crashes.

By integrating Vision Zero into regional planning, this collaborative effort aims to transform the transportation systems to protect all road users—ultimately striving for a future where no one dies or is seriously injured in traffic crashes.

Vision Zero is...

built on the belief that human error is inevitable, but deaths and serious injuries are not.

It includes...

-Safer roadway design
-Smarter speed management
-Supportive policies and technology
-Focus on minimizing crash severity

And involves...

-Traffic Engineers
-Policymakers
-Public Health Experts
-Law Enforcement
-Community Stakeholders

Safe System Approach

The Safe System approach, adopted by the (USDOT), is a comprehensive roadway safety program designed to reduce risks across the transportation system. It aims to prevent crashes and minimize their severity by acknowledging human error and vulnerability. This approach addresses safety through multiple layers, including infrastructure design, human behaviour, industry oversight, and emergency response, as seen in **Figure 1.1** below.

Figure 1.1 - Safe System Approach

Source: US Department of Transportation, What is a Safe System Approach, 2025

Plan Areas & Goals

The main objective of the plan is to enhance roadway safety by lowering the number of fatalities and serious injuries. Its long-term aim is to completely eliminate roadway fatalities and serious injuries, aligning with the principles of Vision Zero. To do so, this plan covers several areas of safety action planning including;

- Evaluate policy and process developments within Kane County to build upon, rather than duplicate, efforts
- Data driven process to understand traffic safety patterns, emphasis areas, risk factors, crash trends, and high injury networks
- Set performance metrics and targets for Kane County to help reduce fatal and serious injury targets
- Collaboration among stakeholders, governmental bodies, and citizens in Kane County to understand priorities and build consensus on projects
- Analyse the impacts of traffic safety on vulnerable communities such as residents who experience low vehicle access or use assisted mobility devices
- Select eight showcase example project locations based on data, policy, and engagement analysis results and develop countermeasures and recommendations for those locations

Kane County Overview

Kane County, one of six counties in northeastern Illinois, encompasses a mix of urban, suburban, and rural areas, with the eastern portion being predominantly urban and the western portion largely rural. As shown in **Figure 1.2**, Kane County is projected to experience significant population growth in the coming decades, leading to changes in land use patterns and the transportation systems that support them.

As seen in the **Figure 1.3** below, the boundary of Kane County was adapted to include or exclude certain municipalities. Because this plan is part of a larger six county SS4A effort, municipalities that span county borders were assigned to one specific county to limit double counting of crashes and showcase projects. **Figure 1.3** illustrates which municipalities were designated as within Kane County's boundary and which were assigned to neighboring counties.

Plan Development

This plan was developed in collaboration between KDOT and CMAP. It builds off of previous KDOT safety efforts, such as the 2050 Long Range Transportation Plan which included a Complete Streets Policy calling for all new transportation projects to consider multi-modal elements that accommodate all modes of travel. As explored in future sections of this plan, such as **Chapter 2: Current Safety Plans and Initiatives**, KDOT has also participated in Vision Zero and multi-modal planning in the past. This plan is informed by this past work and seeks to elevate those initiatives.

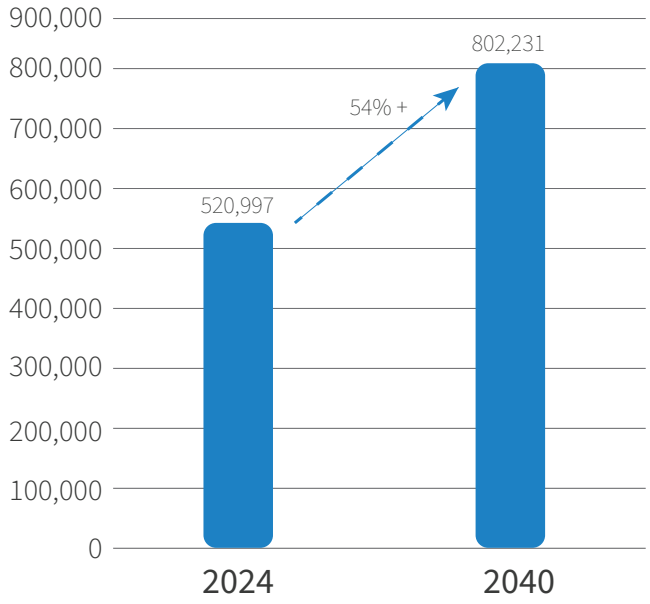

Figure 1.2 - Kane County Population Projection

Source: US Census, Population and Housing Unit Estimates, 2024 and Kane County *2040 Plan, Planning Framework, Figure 2, 2012*

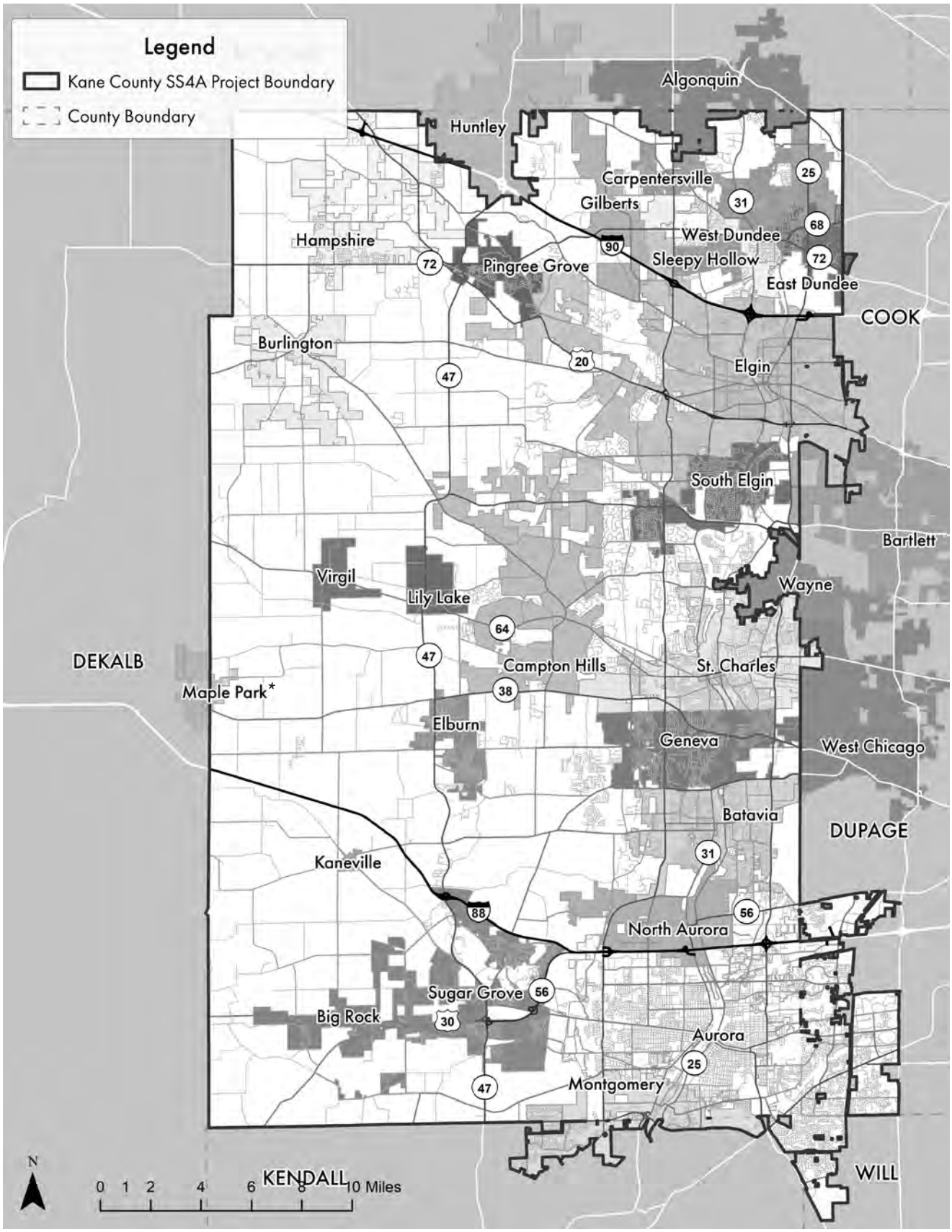

Figure 1.3 - Kane County SS4A Study Area*

*Please note, only the portion of Maple Park in Kane County was included and analyzed as a part of this plan as DeKalb County is outside of the project area.

Policy & Plan Review: To gain a clearer understanding of transportation initiatives throughout Kane County, the project team examined existing plans at the regional, county, and municipal levels. They also reviewed state wide policies to identify successful case studies that could be adapted for use in Kane County. Throughout this procss, the Kane County Safety Action Plan's ***key partner municipalities***, the ***City of Aurora***, the ***City of Batavia***, and the ***Village of Carpentersville***, provided invaluable insight and examples of municipal policies and priorities. Information regarding their plans and policies can be found in **Chapter 2: Current Safety Plans and Initiatives**. Information on the Project team's proposed new and modified plans and policies can be found in **Chapter 7: Policies and Programs for Safer Travel**.

Data Analysis: Data was collected from regional and local sources, including the Illinois Department of Transportation (IDOT), the Chicago Metropolitan Agency for Planning (CMAP), and the Kane County Division of Transportation (KDOT). The project team analyzed this data to better understand the context and spatial distribution of crashes across Kane County, with particular focus on incidents involving vulnerable road users such as pedestrians and cyclists. The analysis also explored contributing factors to crashes at specific locations, such as speeding, poor visibility, or inadequate roadway design. Additionally, the data was used to develop a High Injury Network, highlighting corridors and intersections with a disproportionately high number of crashes. A separate rail analysis was conducted to examine the unique impact of rail infrastructure on transportation safety within Kane County. More information can be found in **Chapter 3: Crashes in Kane County**, **Chapter 4: Crash Patterns and Factors**, and **Chapter 5: Community Impact Considerations**

Community Involvement: As part of this plan, the project team conducted several community engagement activities and held a series of steering committee meetings. These engagement efforts provided an opportunity to gather community input on transportation safety priorities in Kane County and to validate findings from the data analysis phase. Additional details are provided in **Chapter 6: Community Engagement**.

Showcase Projects & Recommendations: Based on findings from the policy and plan review, data analysis, and community involvement sections of plan development, the project team identified eight potential project locations that meet a set of criteria such as high crash rates and lack of existing or ongoing improvement projects. While there were several feasible options, the eight selected projects were chosen because of their ability to illustrate different approaches to roadway safety.

After their identification, the team reviewed and got approval from KDOT and the steering committee. The team then developed a set of recommendations and countermeasures for these project locations. Additional details are provided in **Chapter 9: Showcase Locations and Projects**.

Part One
Chapter Two

Current Safety Plans and Initiatives

This chapter discusses some of the past and current efforts to address travel safety in Kane County.

Summary of Previous Roadway Safety-Related Plans

Through collaborative planning and the development of informed policies, Kane County and its residents are united in their commitment to achieving safer roadway outcomes for everyone.

Roadway safety is a growing priority in Kane County. In response, the county and its municipalities are proactively implementing measures to enhance safety for pedestrians, cyclists, motorists, and transit users.

We reviewed 15 plans from state, county, and local sources while preparing the Kane County Safety Action Plan. This chapter focuses on the plans created by the Kane County Division of Transportation and the Kane County Safety Action Plan's key partner municipalities: The Cities of Aurora and Batavia and the Village of Carpentersville. The key municipal partners assisted the project team in analyzing safety concerns at a local municipal level.

Overall, every plan makes it a goal to better connect existing infrastructure by closing network gaps and enhancing the regional trail network. These improvements aim to create a better-connected Kane County with daily destinations easily accessed through various modes in a safe and efficient manner.

The Plans reviewed for the Kane County Safety Action Plan Include:

2008
- *City of Elgin Bikeway Master Plan*

2009
- *City of Aurora Bicycle and Pedestrian Plan*
- *Chicago Metropolitian Agency for Planning Northeastern Illinois Regional Greenways and Trails Plan*

2010
- *Kane County Division of Transportation 2040 Recommended Roadway Plan*

2011
- *Kane County Division of Transportation 2040 Long Range Transit Plan*

2012
- *Kane County Division of Transportation 2040 Transportation Plan Overview*
- » *Village of Carpentersville Old Town Plan*

2013
- *City of Geneva Downtown/ Station Area Master Plan*

2015
- *Village of Algonquin and Village of Carpentersville Fox River Corridor Plan*

2016
- *Kane County Division of Transportation Flashing Yellow Arrow Program*

2017
- *Kane County Division of Transportation ADA Transition Plan*

2018
- *City of Elgin Comprehensive Plan*

2019
- *Illinois Department of Transportation US 20 Study*

2020
- *City of Aurora Complete Streets Policy*

2021
- *Kane County Division of Transportation 2050 Long-Range Transportation Plan*

2022
- *Village of Carpentersville Comprehensive Plan*
- *Village of Burlington Comprehesnvie Plan*
- *Kane County Division of Transportation Randall Road at US Route 20 Study*
- *Kane County Division of Transportation Comprehensive Road Improvement Plan for Impact Fees*
- *Chicago Metropolitian Agency for Planning ON TO 2050*

2023
- *Kane County Division of Transportation Bicycle and Pedestrian Plan*
- *City of Batavia Bike and Pedestrian Plan*

2024
- *Village of Elburn Comprehensive Plan*

Please note that not every municipality in Kane County was inventoried as a part of this review.
All links and QR codes in Chapter 2 are active as of May 2025. However, some elements may not work in the future. All referenced plans can be found online.

Working Together: Chicago Metropolitan Agency for Planning's *ON TO 2050*

The Chicago Metropolitan Agency for Planning (CMAP) is Northeastern Illinois' regional urban planning body. It studies data trends surrounding issues relevant to the region's present and future, and outlines the goals that shape the region's investment in transportation, water, open space, and housing. *ON TO 2050* collects this information and defines the strategies that will bring the region close to its goals.

ON TO 2050 has five sections. Each section recommends strategies that achieve goals related to community, prosperity, environment, governance, and mobility. Like the Kane County Safety Action Plan, ON TO 2050 envisions a travel system that works better for everyone. One of the recommendation it makes to achieve this goal is to eliminate all traffic fatalities in Northeastern Illinois by:

- Updating roadway design to reduce speeding and crashes
- Investing in bike and pedestrian pathways, such as the recommendations in CMAP's 2009 *Northeastern Illinois Regional Greenways and Trails Plan*
- Expanding mobility data collection
- Improving driver education and regulation enforcement policies

Kane County is a part of CMAP's service area, and the Kane County Division of Transportation and several Kane County governments and institutions work together with CMAP to complete several Kane County transportation initiatives. To facilitate the funding and completion of future roadway safety projects, the Kane County Safety Action Plan is designed to be alignment with ON TO 2050's goals and priorities. **Chapter 1** contains more information about CMAP's role in developing the Kane County Safety Action Plan.

Read the 2022 Chicago Metropolitian Agency for Planning's ON TO 2050 Comprehensive Report

Highlighted Existing Kane County Division of Transportation Roadway Plans and Policies

2040 Recommended Roadway Plan (2010)

The 2040 Recommended Roadway Plan anticipates a significant increase in congestion for the entire highway system within the County. In 2009, 41% of the County experienced congestion while in 2040 it's anticipated to expand to 74%. This is due to increased development, particularly of single-family homes and light industrial establishments, within the County's interior.[1]

Read the Kane County 2040 Recommended Roadway Plan

2040 Transportation Plan Overview (2012)

In light of these concerns, the 2040 Long Range Transit Plan highlights the urgent need to enhance roadway efficiency and encourage a shift from vehicles to alternative modes of travel, such as transit, walking, biking.

It identified key corridors for multimodal improvements like Randall Road and Route 31 and completed a bus rapid transit feasibility study for the Randall Road and Orchard Road corridors. It also aims to improve County road design and focus on the needs of all transportation users by:

- Implementing of multi-use trails
- Constructing grade separations
- Closing network gaps
- Implementing traffic calming measures

Additionally, the plan recommends enhancing public transportation infrastructure by constructing transportation hubs, increasing route connectivity, and improving transit stops.[2]

Read the Kane County 2040 Transportation Plan Overview

Flashing Yellow Arrow (FYA) Program (2016)

Flashing Yellow Arrows (FYAs) are a type of traffic signal that uses a flashing yellow light to direct motorists to turn left when able to do so. Since 2016, the Kane County Division of Transportation has installed signals with FYAs at several County-controlled intersections. The arrows have several operational benefits and when they are added at intersections that previously did not have any traffic signal directing left-turning traffic, also create some safety benefits.

Overall, County and Local Plans focus on Regional Corridors

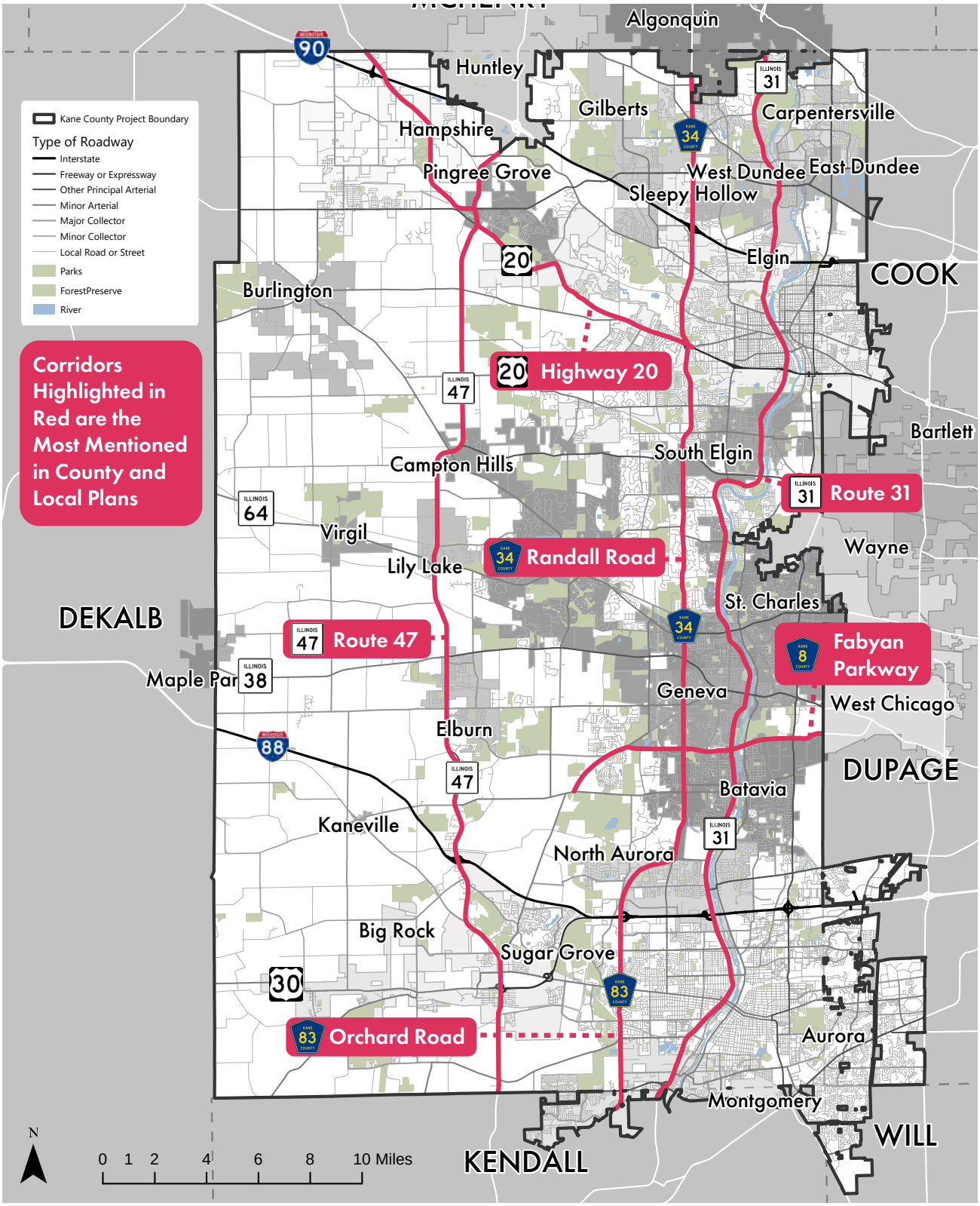

Figure 2.1 - Corridors Most Mentioned in County and City Plans

Source: Multiple County and Local Plans; See Endnote

Read the Kane County Division of Transportation's webpage about Flashing Yellow Arrows

2050 Long-Range Transportation Plan (2021)

The 2050 Long-Range Transportation Plan (2050 LRTP) creates a strong case for continuing to improve Kane County's transportation system. In a "No Build" scenario, where Kane County's population and employment grows as predicted and the Kane County government doesn't make any transportation improvements, predicted vehicle hour delays increase five-fold from 2015 levels. While the County and its partners will continue to improve Kane County's transportation system, increased traffic volumes and congestion was expected to lead to more collisions across the county. This situation raises safety concerns for all road users, but it is especially critical for everyone who doesn't use a vehicle while traveling (Vulnerable Road Users). Therefore, the plan outlines an urgent need for countywide roadway safety enhancements.

The 2050 LRTP advocates for the adoption of complete street designs to create safer travel conditions for vulnerable road users. It also recommends targeted traffic efficiency enhancements such as roundabouts, transportation system management strategies (like Intelligent Transportation Systems (ITS), the use of technology to facilitate travel), and

the integration of emerging technologies, such as Smart City Design.[3]

Read the 2050 Kane County Long-Range Transportation Plan

Bicycle and Pedestrian Plan (2023)

The 2023 Kane County Bicycle and Pedestrian Plan is a comprehensive plan that recommends the creation of a countywide bicycle and pedestrian (active transportation) network. This plan is an update of Kane County's 2012 Bicycle and Pedestrian Plan. It improves upon that plan by proposing 370 miles of new active transportation facilities and recommending the final completion of several regionally significant trails networks, including the Fox River Trail, Mid County Trail, and West Kane Corridor.[4]

Read the Kane County Bicycle and Pedestrian Plan

County Highway Access Restrictions

To reduce the number of potential conflicts between vehicles entering and exiting certain county highways, certain Kane County highways are designed "Limited Access Freeways." While all County-designated highways have some form of access restriction, the County board must approve the addition, modification, or removal of access points on Limited Access Freeways. Some Limited Access Freeways include:

- Randall Road (Orchard Road to McHenry County Line)
- Kirk Road (IL 56 to Dunham Road)
- Fabyan Parkway (Kaneville Road to DuPage County line)
- Orchard Road (US 30 to Randall Road)
- Stearns Road (Randall Road to DuPage County Line)
- Longmeadow Parkway (Huntley Road to IL 62)

Read more about Kane County Division of Transportation's Access Control Regulations

Key Partner Municipality Local Roadway Plans

City of Aurora

Bicycle and Pedestrian Plan (2009)

Aurora's 2009 Bicycle and Pedestrian Plan advocates for:

- Expanding traffic calming measures
- Establishing accessible and well-connected biking and walking networks
- Increased educational programs for active transportation
- Integration of Aurora's active transportation goals into future policy frameworks to ensure successful implementation.

The plan emphasizes the importance of creating connectivity to daily destinations like schools, parks, retail areas, employment centers, and transit facilities. It also recommends new active transportation facilities that address gaps in the existing network and improve active transportation links between Aurora and other adjacent communities.[5]

One of the facilities the plan recommended is the RiverEdge Park Pedestrian Bridge. The 900-foot long, 7-span concrete girder bridge opened on June 11, 2021 and creates an S-curve that connects RiverEdge Park on the east side of the Fox River to existing neighborhoods, redeveloped parks, and trails on the west side. The bridge was well received by the community and was named the 2022 Best Project in Landscape & Urban Development by Engineering News-Record Midwest West (ENRMW) Magazine.[6]

Aurora adopted a new Bicycle and Pedestrian Plan in May 2025. The new plan could not be reviewed for the Kane County Safety Action Plan, but will be available to view on the City of Aurora's website.[7]

Read the 2009 City of Aurora Bicycle and Pedestrian Plan

Read the 2025 City of Aurora Bicycle and Pedestrian Plan

Complete Streets Policy (2020)

Aurora's Complete Streets Policy integrates the goals of its 2009 Bicycle and Pedestrian Plan into the city's policies on transportation improvements. This policy mandates that every stage of transportation projects—ranging from planning to construction and maintenance—be viewed as an opportunity to enhance safety and accessibility for all road users.

The policy encourages incremental improvements of Aurora's roadway network and applies to new projects, privately funded developments, and the improvement of existing streets.[8]

Read the City of Aurora Complete Streets Policy

City of Batavia

Bike and Pedestrian Plan (2023)

The City of Batavia introduced its Bike and Pedestrian Plan in early 2023, reflecting a commitment to creating a safe, convenient, and comfortable active transportation network. This plan advocates for improved connectivity to key community destinations, including the Kane County Forest Preserves, Memorial Park, West Main Park, grocery stores, shopping centers, schools, healthcare facilities, and other points of interest. Recommended improvements target key corridors such as Randall Road, Route 31, Main Street, and Fabyan Parkway.[9]

Read the City of Batavia Bike and Pedestrian Plan

Complete Streets Policy (2020)

Complementing the Bicycle and Pedestrian Plan, Batavia's 2020 Complete Streets Policy applies to new roadway projects, public and private developments, and resurfacing efforts. This policy ensures that projects consider

complete streets infrastructure from the outset, including:

- Sidewalks
- Crosswalks and Pedestrian Refuge Islands
- Bike lanes
- Traffic calming measures, such as lane narrowing, road diets, or roundabouts

A recent application of Batavia's new complete streets policy is the Fall 2024 Illinois State Route 31/Batavia Avenue Road Diet project. The approximately 3-mile project extended from Fabyan Parkway to Mooseheart Road, excluding the section between Houston Street and Elm Street. Once completed, it transitioned the 4-lane road into a 2-lane road with a center left turn lane.

Read the City of Batavia's Complete Streets Policy

Village of Carpentersville

Old Town Plan (2012)

The Old Town Plan seeks to create a vibrant, mixed-use downtown with public access to the riverfront, increased recreational opportunities and, potential for new area retail. Key to the plan's strategy is its emphasis on transportation and connectivity for all modes of transportation. The plan recommends traffic and active transportation improvements along main streets and on the streets surrounding Old Town's Triangle Park.

It also proposes activating an abandoned train bridge across the Fox River to expand the area's trail network.[10]

Read the Village of Carpentersville Old Town Plan

Comprehensive Plan (2022)

Like Aurora and Batavia's plans, the 2022 Comprehensive Plan focuses on safer, more comfortable streets for all road users through incremental and implementable complete streets design and programming. The Plan recommends enhancing active transportation connectivity to key Village destinations, such as Old Town, the Fox River, commercial and employment centers, schools, and residential areas. It also identifies critical improvement along Kings Road, Williams Street, Route 31, Randall Road, Miller Road, and a proposed Fox River crossing at Carpenter Dam.

Additionally, the plan advocates for expanding transit services, including an extension of Pace Route 552 to Raceway Woods and Longmeadow Parkway. Improvements are similar to those mentioned above in Aurora and Batavia's plans and policies which focus on safer, more comfortable streets for all users through incremental and implementable complete streets design and programming[11].

Read the Village of Carpentersville Comprehensive Plan

Part Two

Roadway Safety in Kane County Today

This section of the report uses a combination of community engagement findings and state, local, and regional data sources to examine the state of travel safety in Kane County today.

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Part Two
Chapter Three

Crashes in Kane County

This chapter of the report analyzes Kane County crash data and discusses key findings about where crashes happen and the types of people and vehicles involved in crashes.

Overview

A core component of a Safety Action Plan includes an examination of the crashes by mode and other basic crash report variables, such as roadway characteristic or roadway ownership (jurisdiction). The analysis in the crash summary may be used by the County to help prioritize roadway safety investments in the future. The data was gathered from the Illinois Department of Transportation (IDOT) and supplemented by additional datasets from the Chicago Metropolitan Agency for Planning (CMAP). Using the attributes provided in the crash data and the other datasets provided by CMAP, an analysis of crash severity and factors associated with the crashes was conducted. This chapter provides a summary of the existing safety conditions (roadway and rail) in the County and will inform the risk factors analyzed in the systemic analysis, as described in Chapter Five.

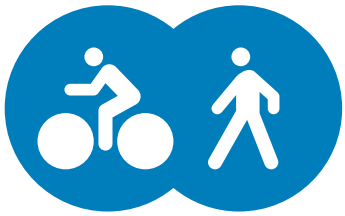
For a detailed report on the Existing Conditions, see **Appendix A**.

Crash Analysis Summary

Roadway Crashes

45,537 total crashes took place in Kane County between 2018 and 2022. 1,359 of those crashes resulted in at least one person involved resulting in a fatal or incapacitating injury (otherwise called severe injury). An analysis of these crashes was completed to identify crash trends among five modes: automobile, heavy automobile, pedestrian, bicycle, and motorcycle.

Figure 3.1 and **Figure 3.2** illustrate the number of collisions for all user types and vulnerable roadway users by year. The proportion of crashes resulting in fatal and incapacitating injury remained relatively consistent year-over-year. The sharp decline in total crashes in 2020 is likely attributable to the onset of the COVID-19 pandemic, which led to reduced traffic volumes due to global travel restrictions. As restrictions eased in 2021 and 2022, the number of collisions increased again, reflecting the return of traffic volumes to pre-pandemic levels.



Vulnerable Roadway Users (VRU) is defined as a subsection of overall road users which includes non-motorists such as pedestrians and bicyclists.

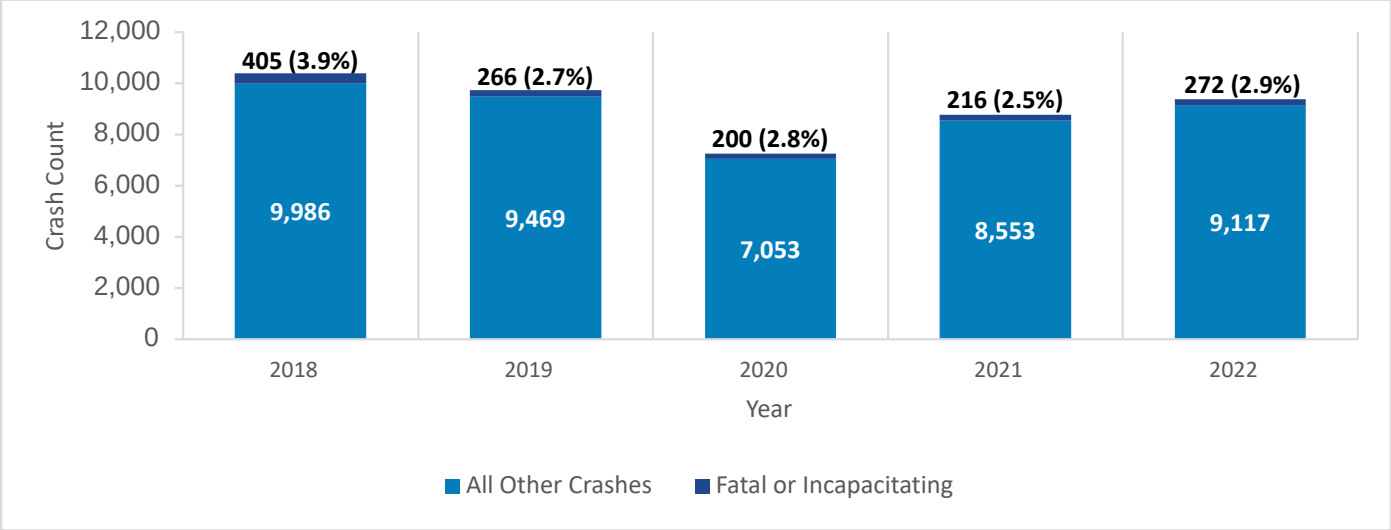


Figure 3.1 - Annual all-modes crash count by severity with fatal or incapacitating injury crash percentage of annual total called out

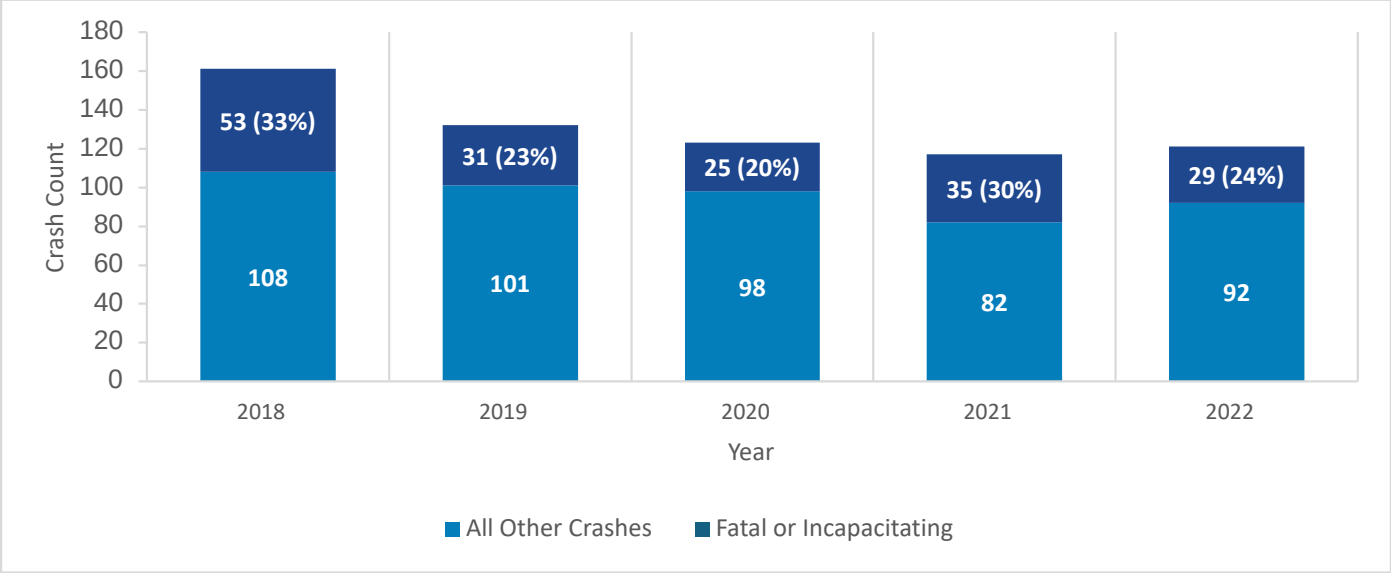


Figure 3.2 - Annual VRU crash count by severity with fatal or incapacitating injury crash percentage of annual total called out

Figure 3.3 shows the proportions of all crashes, fatal and incapacitating crashes (also known as severe crashes), vehicle-miles traveled (VMT), and centerline miles accounted for by each road owner. Municipal roads have the most severe crashes with 45% of all severe crashes, but this is disproportionately low compared to the 61% of roads that are owned by municipalities. State-, County-, and Tollway-owned roads, on the other hand, have disproportionately high proportions of severe crashes compared to their respective proportions of the road network in the County.

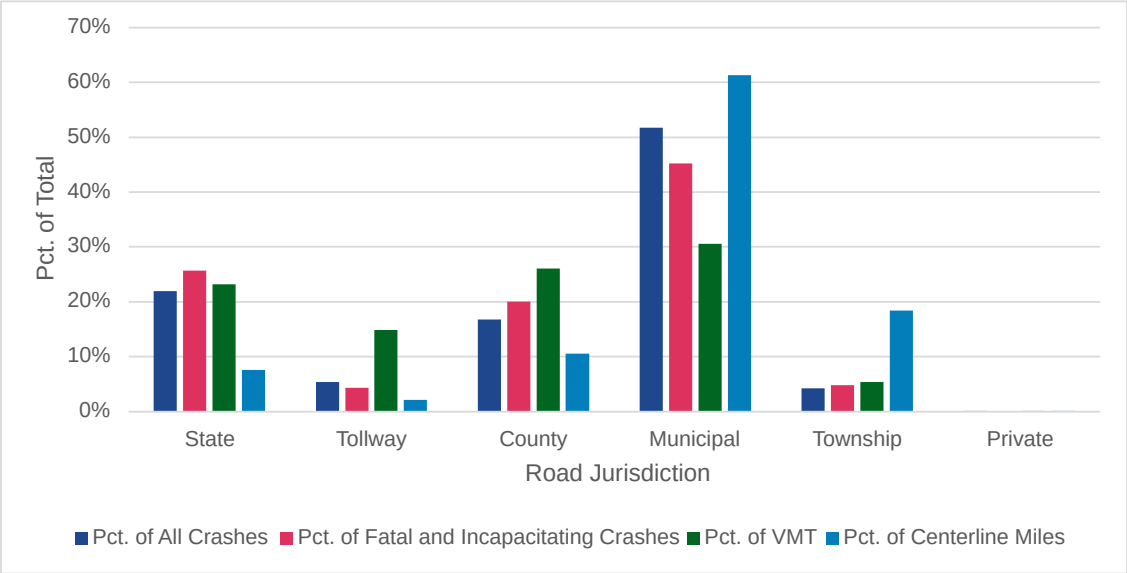
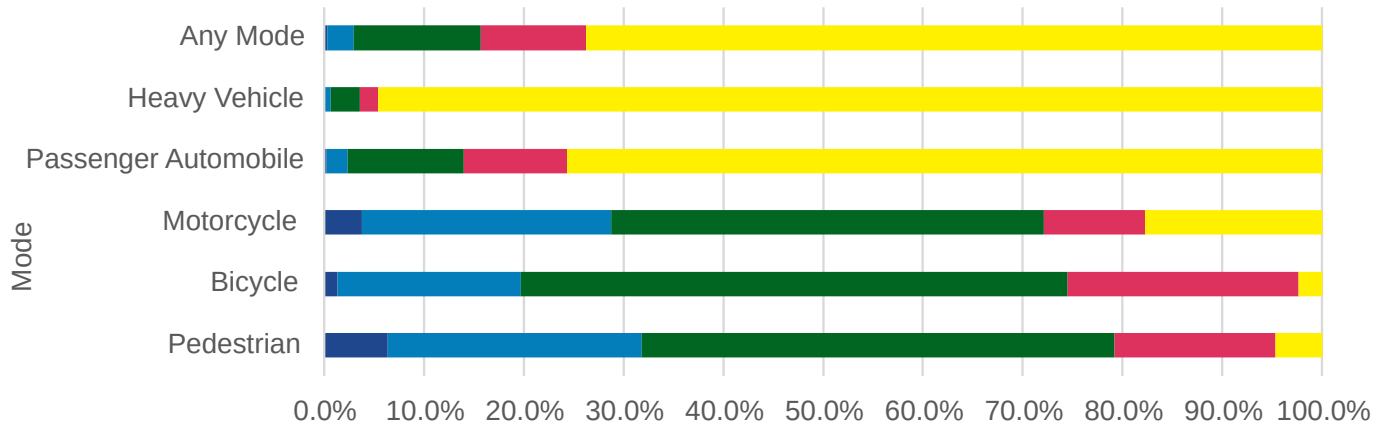


Figure 3.3 - Proportional comparison of crash frequencies, VMT, and centerline miles by road jurisdiction

As seen in **Figure 3.4**, approximately 3% of crashes that occurred in Kane County between 2018 and 2022 resulted in a fatal or incapacitating injury. Crashes are more likely to be fatal or incapacitating for pedestrians (31%), motorcyclists (29%), and bicyclists (19%) than they are for occupants of passenger automobiles (2%) and heavy vehicles (1%).



	Pedestrian	Bicycle	Motorcycle	Passenger Automobile	Heavy Vehicle	Any Mode
Fatal Injury	6.4%	1.4%	3.8%	0.2%	0.1%	0.3%
Incapacitating Injury	25%	18%	25%	2.1%	0.6%	2.6%
Non-incapacitating Injury	47%	55%	43%	12%	3.0%	13%
Possible Injury	16%	23%	10%	10%	1.8%	11%
None/PDO	4.7%	2.4%	18%	76%	95%	74%

Pct. of Modal Total (By Severity)

Figure 3.4 - Collision severity proportions for each mode of transportation

In Kane County, two thirds of crashes occurred at intersections compared to segments.

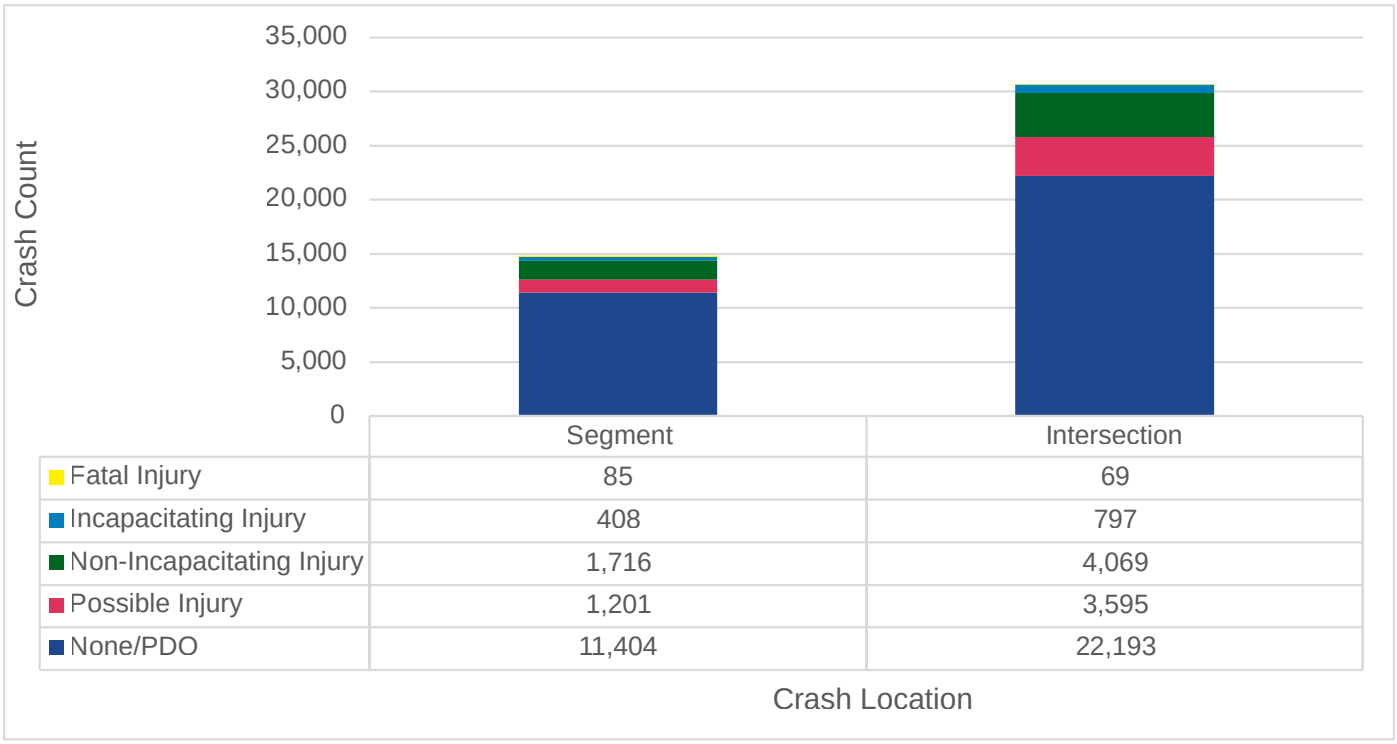


Figure 3.5 - Crash severity by crash location (segment or intersection)

Fatal and incapacitating injury crash densities for all modes are higher in urban areas, notably the southeast side of Aurora and throughout Elgin (**Figure 3.6**). The VRU map (**Figure 3.7**) also identifies a similar concentration of fatal and incapacitating injury crash densities concentrated in Elgin and Aurora.

Crashes by functional classification

Higher functional classification roads (minor arterials up to interstates) had disproportionately high shares of crashes on the network whereas collectors had more proportional representation and local roads had a disproportionately low share of severe crashes.

Crashes by roadway speed limit

30 MPH accounted for the majority of crashes but a disproportionately low percentage of severe crashes.

35 and 50 MPH had disproportionately high shares of severe crashes.

55 MPH or higher had more proportional shares of severe crashes.

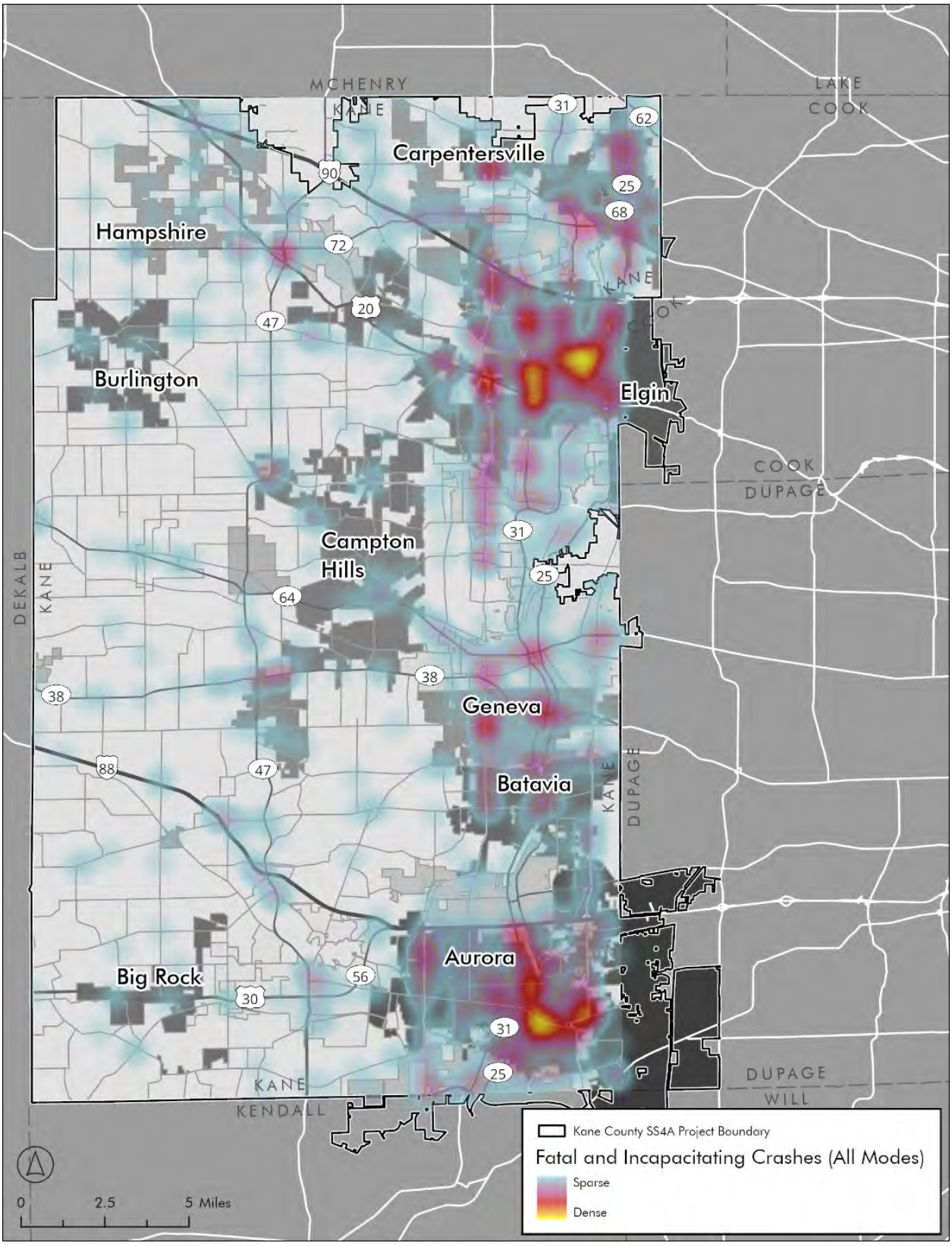


Figure 3.6 - Kane County heat map illustrating the density of crashes resulting in fatal or incapacitating injuries for any mode of transportation

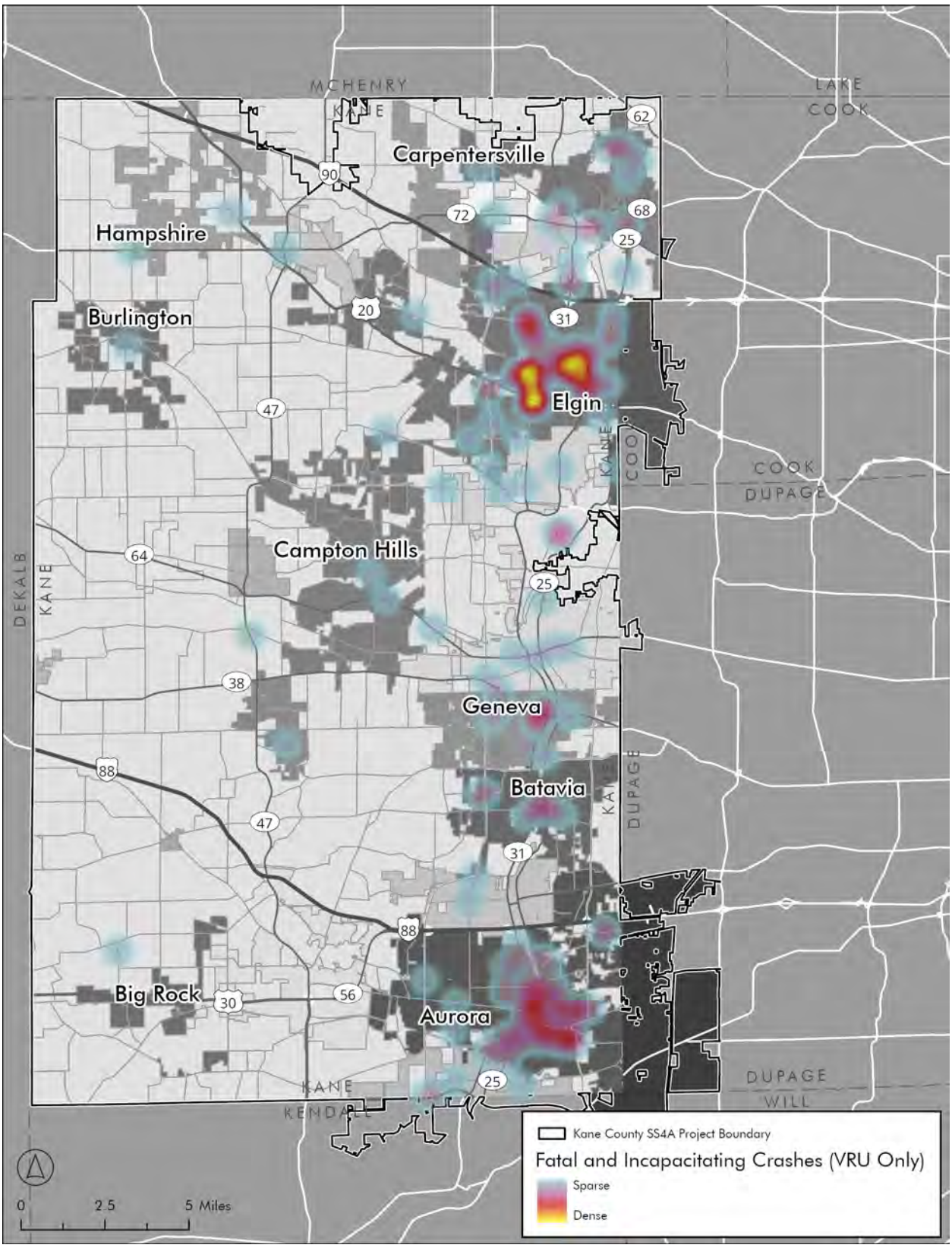


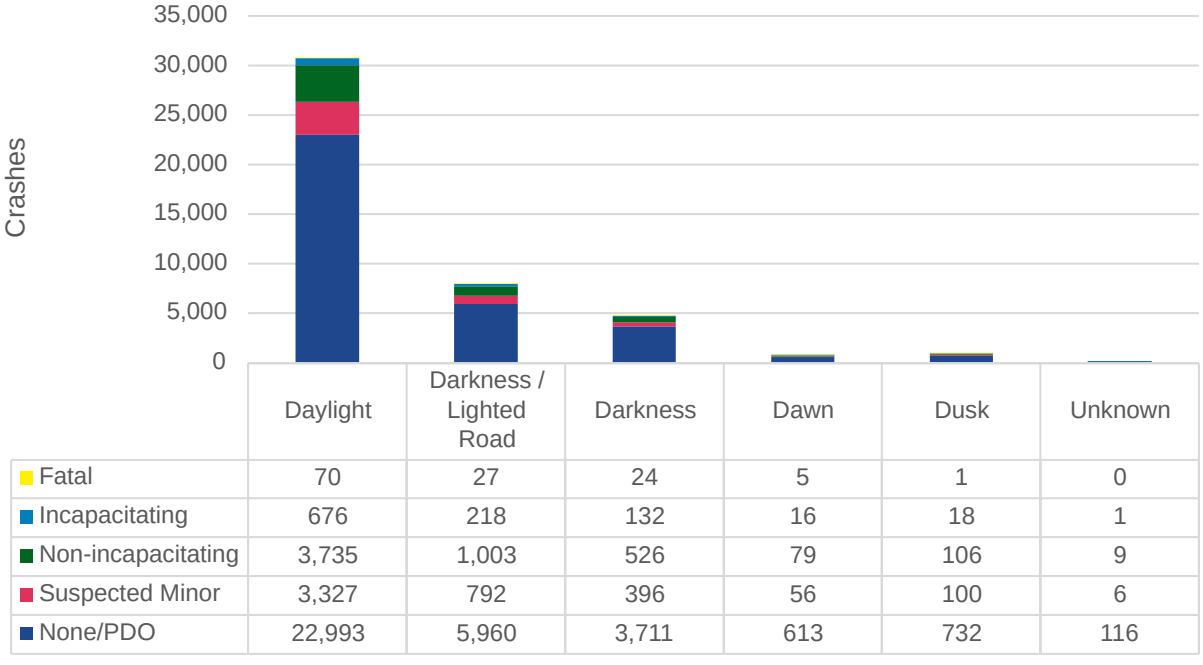
Figure 3.7 - Kane County heat map illustrating the density of crashes resulting in fatal or incapacitating injuries for VRUs

Crashes by Lighting Conditions

Pedestrian crashes are more frequent at night (compared to distribution of motor vehicle crashes)

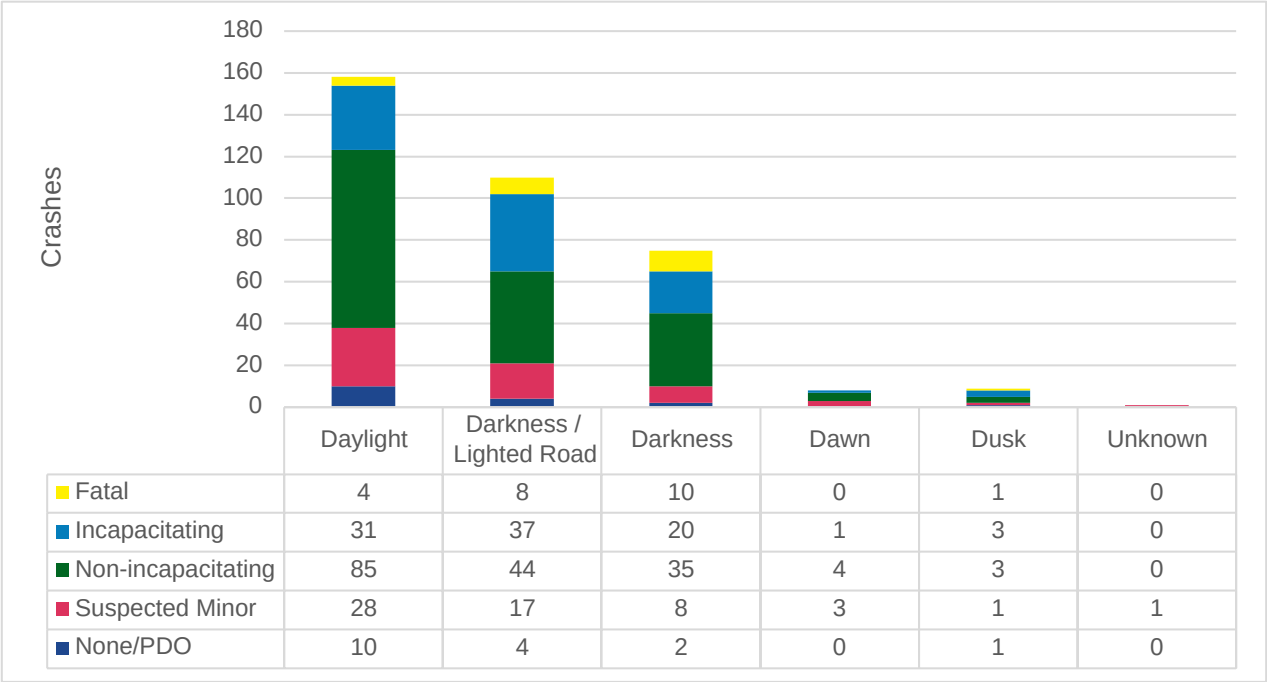
Pedestrian crashes are more likely to be fatal or incapacitating at night (compared to pedestrian daytime crashes)

Bike crashes are heavily concentrated during daylight hours



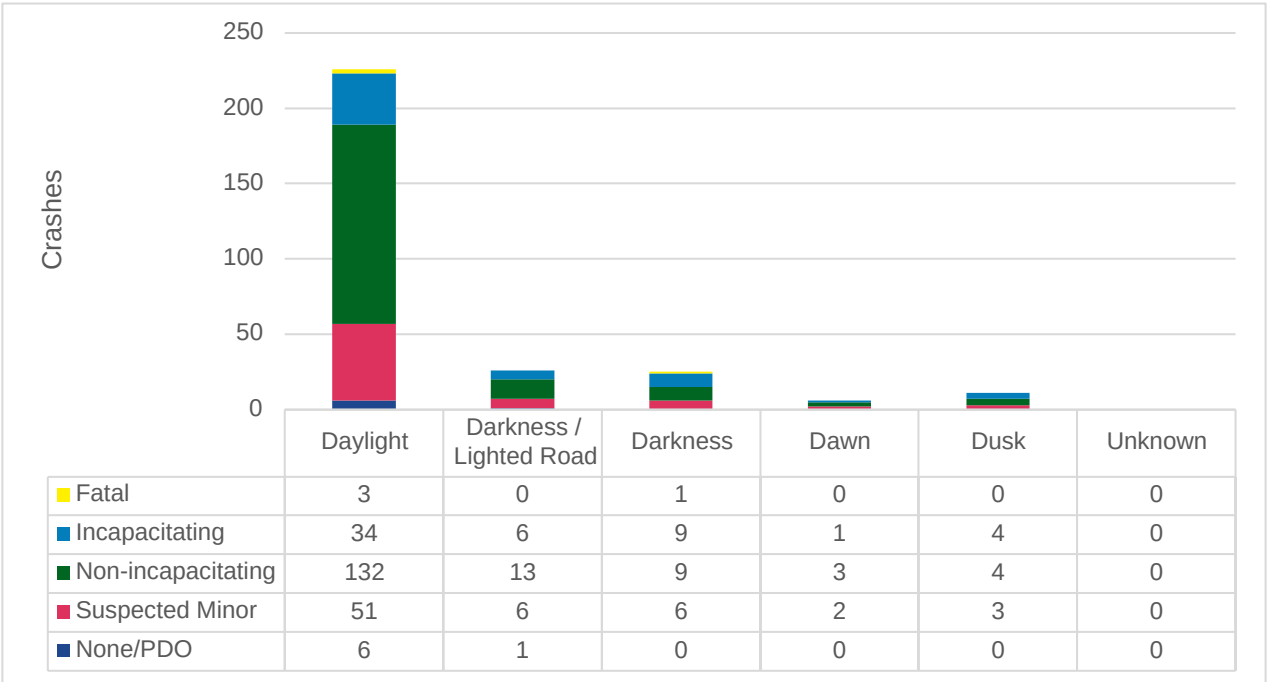
	Daylight	Darkness / Lighted Road	Darkness	Dawn	Dusk	Unknown
Fatal	70	27	24	5	1	0
Incapacitating	676	218	132	16	18	1
Non-incapacitating	3,735	1,003	526	79	106	9
Suspected Minor	3,327	792	396	56	100	6
None/PDO	22,993	5,960	3,711	613	732	116

Figure 3.8 - Motor vehicle crash severity by lighting condition



	Daylight	Darkness / Lighted Road	Darkness	Dawn	Dusk	Unknown
Fatal	4	8	10	0	1	0
Incapacitating	31	37	20	1	3	0
Non-incapacitating	85	44	35	4	3	0
Suspected Minor	28	17	8	3	1	1
None/PDO	10	4	2	0	1	0

Figure 3.9 - Pedestrian crash severity by lighting condition



	Daylight	Darkness / Lighted Road	Darkness	Dawn	Dusk	Unknown
Fatal	3	0	1	0	0	0
Incapacitating	34	6	9	1	4	0
Non-incapacitating	132	13	9	3	4	0
Suspected Minor	51	6	6	2	3	0
None/PDO	6	1	0	0	0	0

Figure 3.10 - Bicycle crash severity by lighting condition

Crashes by Time of Day

Figure 3.11 illustrates that Kane County experiences a lull in severe crashes between 1:00 AM and 5:00 AM and spikes in the number of **motor vehicle crashes** per hour during the morning commute (6:00 AM to 9:00 AM), around the noon hour (11:00 AM to 1:00 PM), and throughout the afternoon but especially **during the evening commute (5:00 PM to 7:00 PM)**. With 58 severe crashes, it is difficult to identify trends in the rate of severe bicycle crashes per hour. Pedestrian crashes follow a somewhat similar pattern to the motor vehicle crashes with peaks during the morning commute, noon hour, and evening commute, but rather than decreasing in frequency with the evening commute around 6:00 PM, **pedestrian crashes become more frequent, peaking around 8:00 PM and remaining high until midnight**.

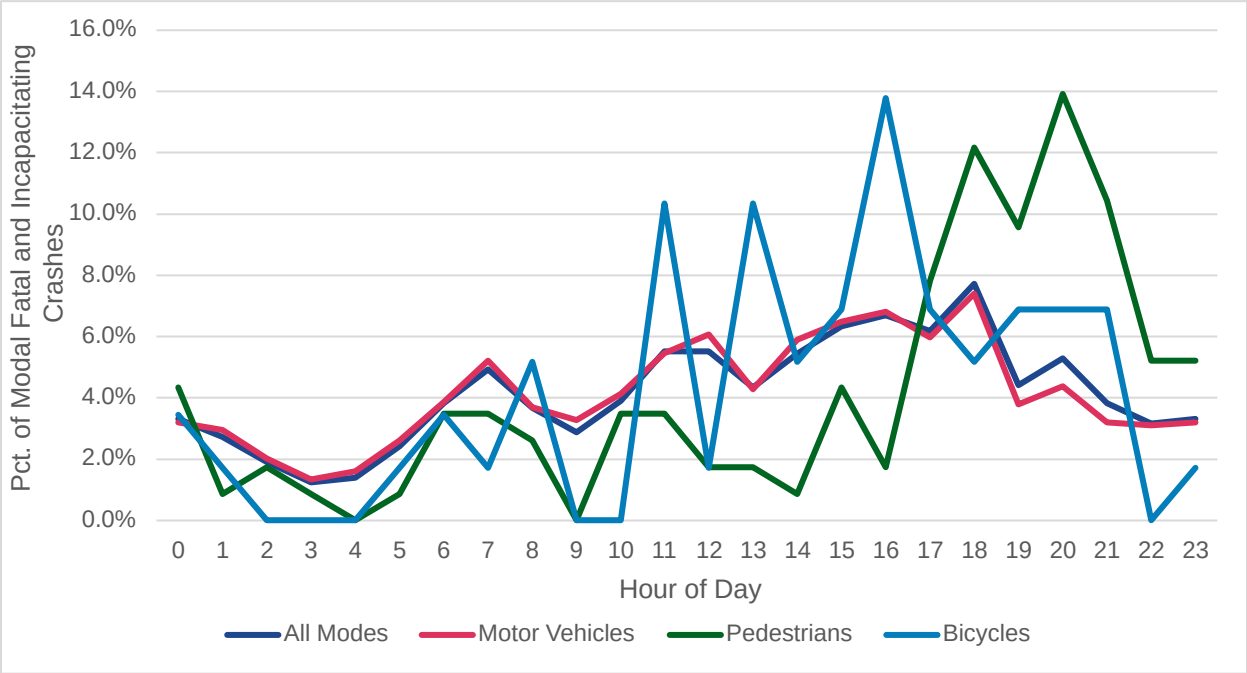


Figure 3.11 - Percentage of fatal and incapacitating injury crashes by mode and hour of day

Crashes By Emphasis Area

Both IDOT and CMAP provided collision data to supplement the analysis of Emphasis Areas (EAs), which are priority focus areas developed by IDOT to help identify underlying factors contributing to collisions. Some emphasis areas (EAs) include distracted driving, roadway departures, or younger drivers. Some of these EAs may overlap with previously analyzed collision types, such as pedestrian or bicyclist collisions. Each collision may be assigned to multiple EAs, as several factors may contribute to a single incident.

Observed differences between urban and rural

Intersection and Speeding are in most municipalities' top three emphasis areas with Younger Driver, Roadway Departure, and Older Driver featuring prominently as well. In the rankings for crashes anywhere in the County, in unincorporated parts of the County, and in municipalities within the County, the same three emphasis area flags appear in all three rankings – Intersection, Speeding, and Roadway Departure. It is noteworthy that Roadway Departure is approximately twice as common in unincorporated areas as it is in municipalities whereas Intersection exhibits the opposite trend. This pattern corresponds to the increased density of intersections in urban areas.

Table 3.1 compares the top three (highest percentage of crashes) EAs for municipal partners within Kane County. Countywide, Intersection, Speeding, and Roadway Departure are the three most frequent contributing factors that resulted in severe crashes.

Municipality	Fatal and Incap. Crashes	Top 3 Emphasis Areas (Pct. of All Fatal and Incapacitating Crashes)		
Elgin	311	Intersection (59%)	Speeding (44%)	Unrestrained Occupant (19%)
Aurora	252	Intersection (53%)	Speeding (49%)	Unrestrained Occupant (27%)
Geneva	71	Intersection (63%)	Speeding (35%)	Older Driver (27%)
St. Charles	60	Intersection (50%)	Distracted Driving (33%)	Speeding (32%)
Carpentersville	54	Intersection (69%)	Speeding (28%)	Younger Driver (26%)
South Elgin	54	Intersection (61%)	Speeding (52%)	Younger Driver (33%)
Batavia	46	Intersection (50%)	Speeding (28%)	Roadway Departure (24%)
Montgomery	29	Speeding (66%)	Intersection (48%)	Younger Driver (34%)

Municipality	Fatal and Incap. Crashes	Top 3 Emphasis Areas (Pct. of All Fatal and Incapacitating Crashes)		
West Dundee	26	Roadway Departure (42%)	Intersection (35%)	Impaired Driving (31%)
East Dundee	23	Intersection (43%)	Speeding (35%)	Roadway Departure (22%)
Campton Hills	21	Intersection (57%)	Speeding (24%)	Older Driver (24%)
Sugar Grove	20	Intersection (55%)	Older Driver (30%)	Roadway Departure (30%)
Elburn	18	Intersection (72%)	Distracted Driving (22%)	Older Driver (22%)
Pingree Grove	16	Intersection (56%)	Speeding (25%)	Younger Driver (25%)
Huntley	15	Roadway Departure (47%)	Older Driver (33%)	Intersection (33%)
North Aurora	14	Intersection (79%)	Speeding (21%)	Older Driver (21%)
Gilberts	13	Roadway Departure (38%)	Younger Driver (31%)	Intersection (23%)
Hampshire	12	Roadway Departure (50%)	Intersection (50%)	Speeding (33%)
All Municipalities	**1,105**	**Intersection (55%)**	**Speeding (40%)**	**Roadway Departure (23%)**
Unincorporated Areas	**254**	**Speeding (55%)**	**Roadway Departure (42%)**	**Intersection (28%)**
Countywide	**1,359**	**Intersection (50%)**	**Speeding (43%)**	**Roadway Departure (26%)**

Table 3.1 - Top 3 most common emphasis area flags for fatal and incapacitating crashes by municipality

Rail Safety

In addition to crashes involving automobiles, there is a second type of crash on the transportation network that results in injuries and fatalities in Kane County: crashes involving trains. The primary data source for the analysis is a version of the Illinois Commerce Commissions rail-related incident database. The dataset includes basic features of each rail-related incident that occurred in Illinois between 2012 and 2021. As seen in **Table 3.2**, Of the 37 incidents, 24 of them resulted in at least one fatal injury. Of the 24 people killed, 20 of them were pedestrians. Metra owns and operates four rail lines (Rock Island, Metra Electric, Milwaukee District North and Milwaukee District West) within the Chicago Metropolitan Agency for Planning area. Three Metra lines are operated by Metra employees over tracks owned by freight railroads through trackage rights or lease agreements (Heritage Corridor, North Central Service and SouthWest Service). Four additional Metra lines are operated directly by freight railroads through purchase-of-service agreements (BNSF, Union Pacific North, Union Pacific Northwest and Union Pacific West). Metra works cooperatively and collaboratively to implement proposed safety improvement projects with the lines that are owned by other railroads within Kane County. As seen in **Figure 3.12**, the most common incident type was one that occurred somewhere between grade crossings and resulted in a pedestrian being killed.

Figure 3.13 identifies locations with high concentrations of rail incidents in the county. While the information about each incident is limited, there are some common features among the incidents in the clusters as shown in **Figure 3.14**.

Mode	Fatality	Injury	PDO	Total
Automobile	1	1	1	3
Bicyclist	3	1	0	4
Pedestrian	20	8	2	30
Total	**24**	**10**	**3**	**37**

Table 3.2 - Rail incident severity by mode involved for all incidents in Kane County

Figure 3.12 - Rail incidents in Kane County (2012-2021) by mode, location, and severity

- Two of the seven clusters identified are located near homeless encampments which may generate pedestrian traffic along and/or across the tracks
- A lack of pedestrian infrastructure along and/or across the tracks could lead to some pedestrians choosing a deceptively dangerous route along or across the tracks.
- 26 of the 37 incidents in the County (all pedestrians) did not occur at grade crossings which suggests that a large number of people are crossing and/or traveling along railroads in the County. Determining their motivations for entering railroad ROW will be critical for developing strategies to eliminate this sort of risky behavior.

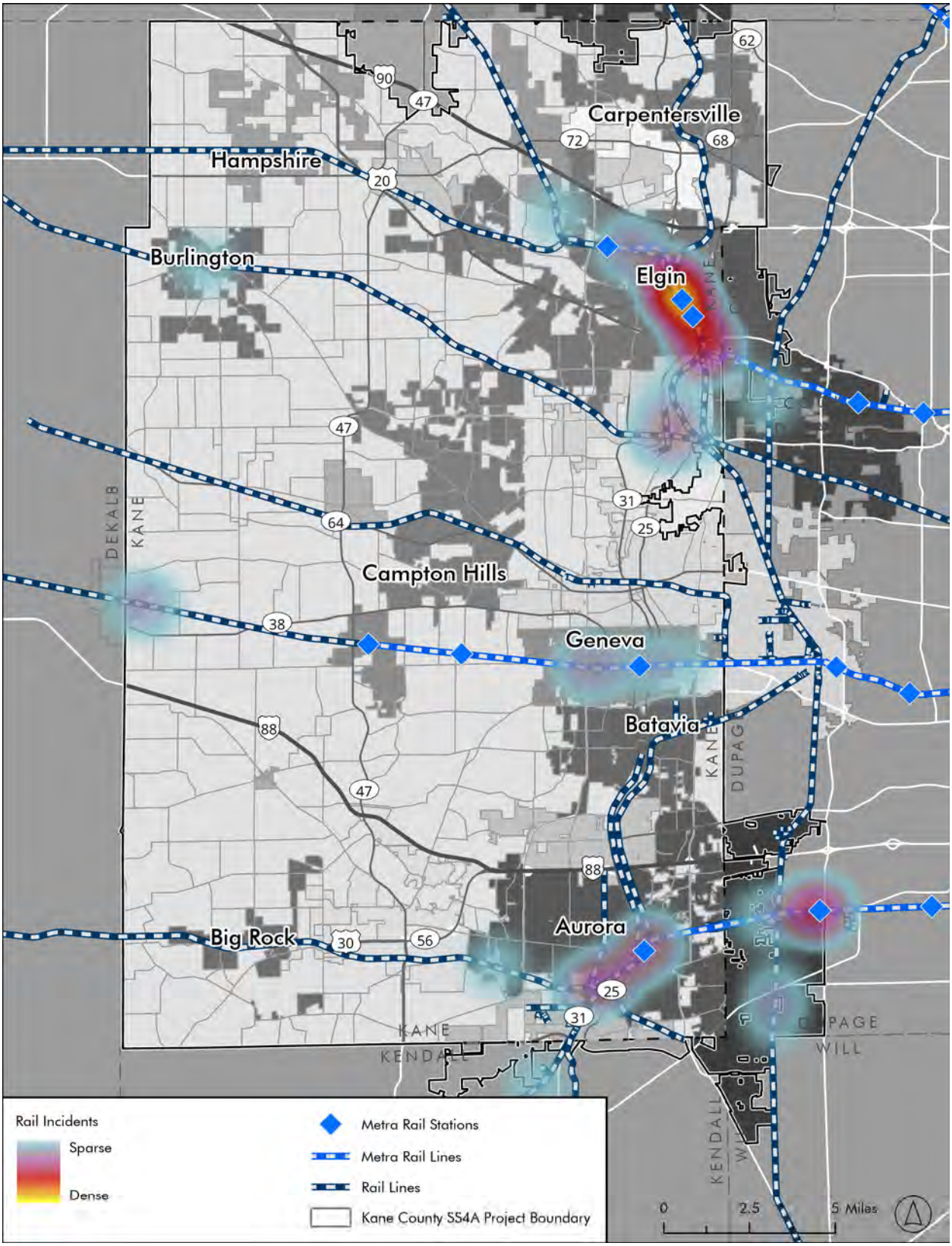


Figure 3.13 - Heatmap showing all rail incidents in Kane County and expanded analysis area

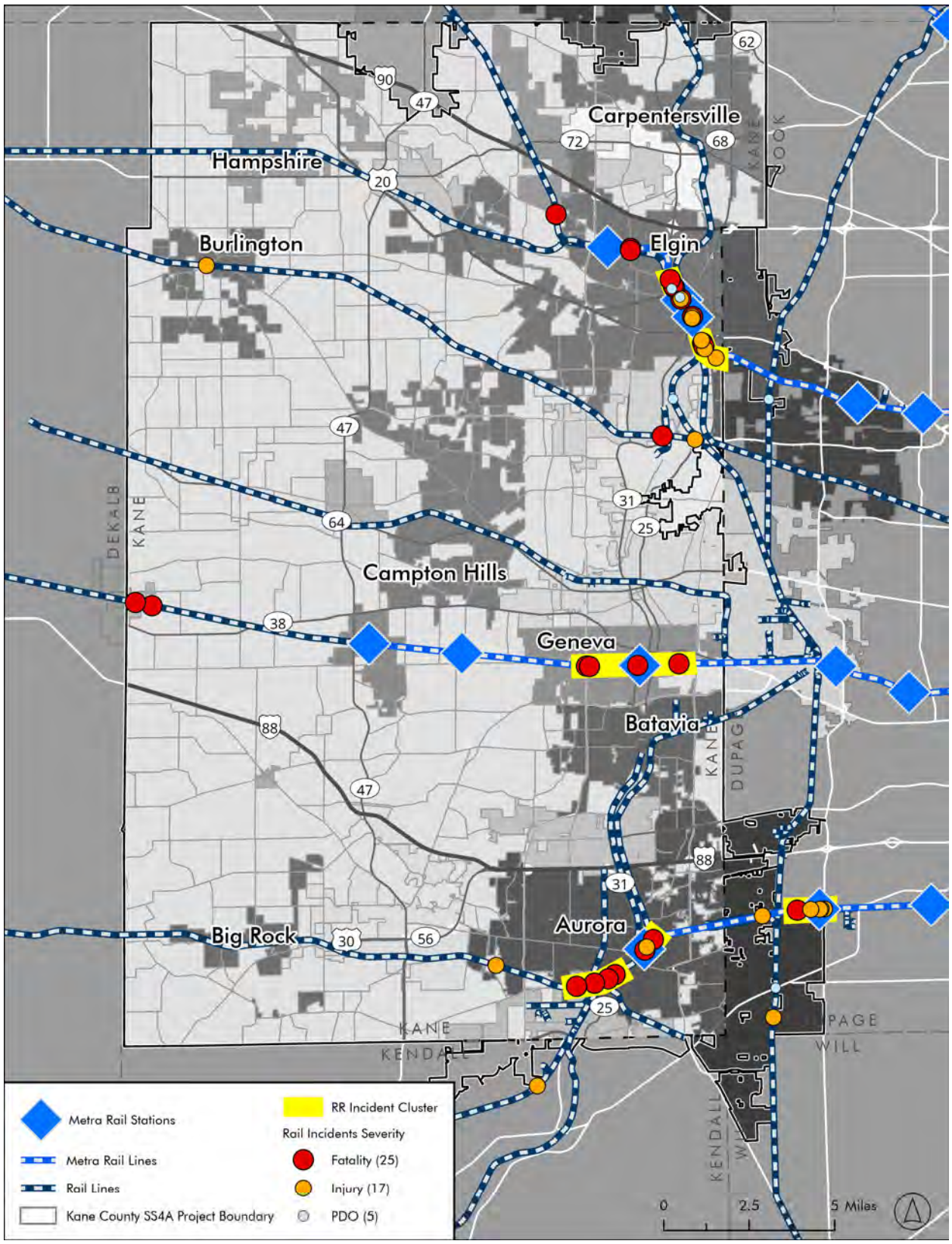


Figure 3.14 - Clusters of rail incidents in Kane County and expanded analysis area

High Injury Network

As a part of Kane County's crash analysis, a High Injury Network (HIN) was developed. As common for safety action plans created by regional or local agencies, the HIN included all roadways within the County, as shown in Figure 3.15 and Figure 3.16, except for freeways and limited-access highways. Besides their operational differences (higher speeds, volumes and access control), these roads are also not owned or maintained by local agencies. The final map (Figure 3.17) depicts the VRU HIN for Kane County.

What is a High Injury Network?

The HIN identifies streets or locations where a high number of severe crash concentrations have occurred along a corridor-level segment for a 5-year period (2018-2022). The High Injury Network represents a prioritized subset of Kane County's overall regional transportation network, focusing on streets with the highest prevalence of severe crashes. The HIN data is summarized in Table 3.3

Mode	Total network miles	Total injuries*	Proposed threshold	Network miles on HIN	Injuries* on HIN
All Modes (All Roads)	3,213	1,886	5.0	335.5 (10.4%)	1,467 (77.8%)
All Modes (All Non-Freeway Roads)	3,167	1,815	5.0	328.3 (10.4%)	1,443 (79.5%)
VRU (All Non-Freeway Roads)	3,167	569	2.0	319.6 (10.1%)	524 (92.1%)

*All-modes calculations include K and A injuries only, VRU-only calculations include K, A, and B injuries

Table 3.3 - Target metrics for all-modes and VRU-only HINs at proposed thresholds

The HIN for all modes accounts for 77.8% of fatal and incapacitating injury crashes on 10.4% of the county's network.

Non-freeway arterials and minor arterials are significantly overrepresented in both HINs whereas local roads are significantly underrepresented on both HINs but especially the all-mode HIN.

Speed limits between 35 mph and 55 mph are overrepresented in both HINs.

Rural roads are slightly underrepresented in the HINs, but they are also a small percentage of the Countywide network at only 11% of centerline miles.

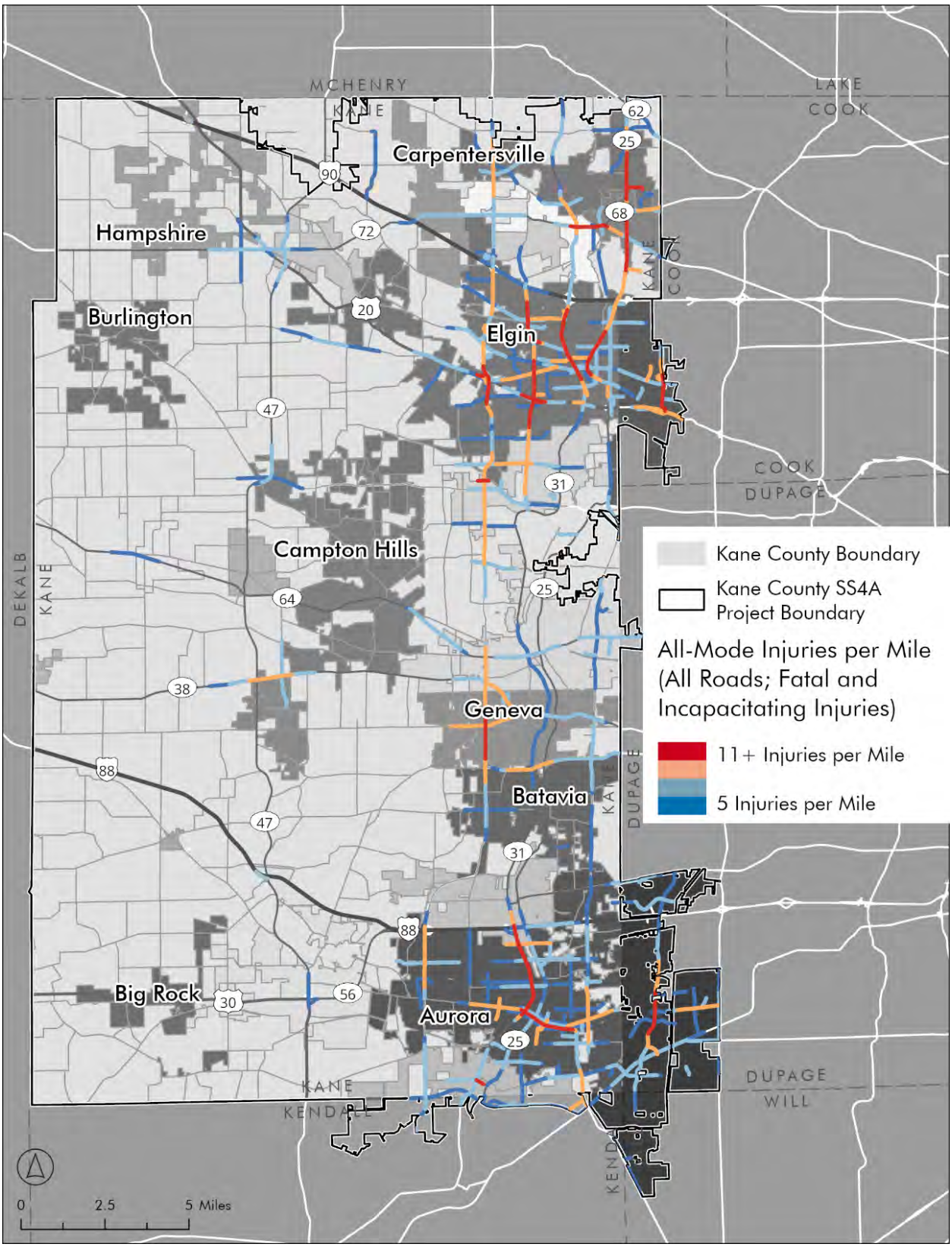


Figure 3.15 - Countywide (all roads) all-mode HIN using a threshold of 5.0 fatal or incapacitating injuries per mile

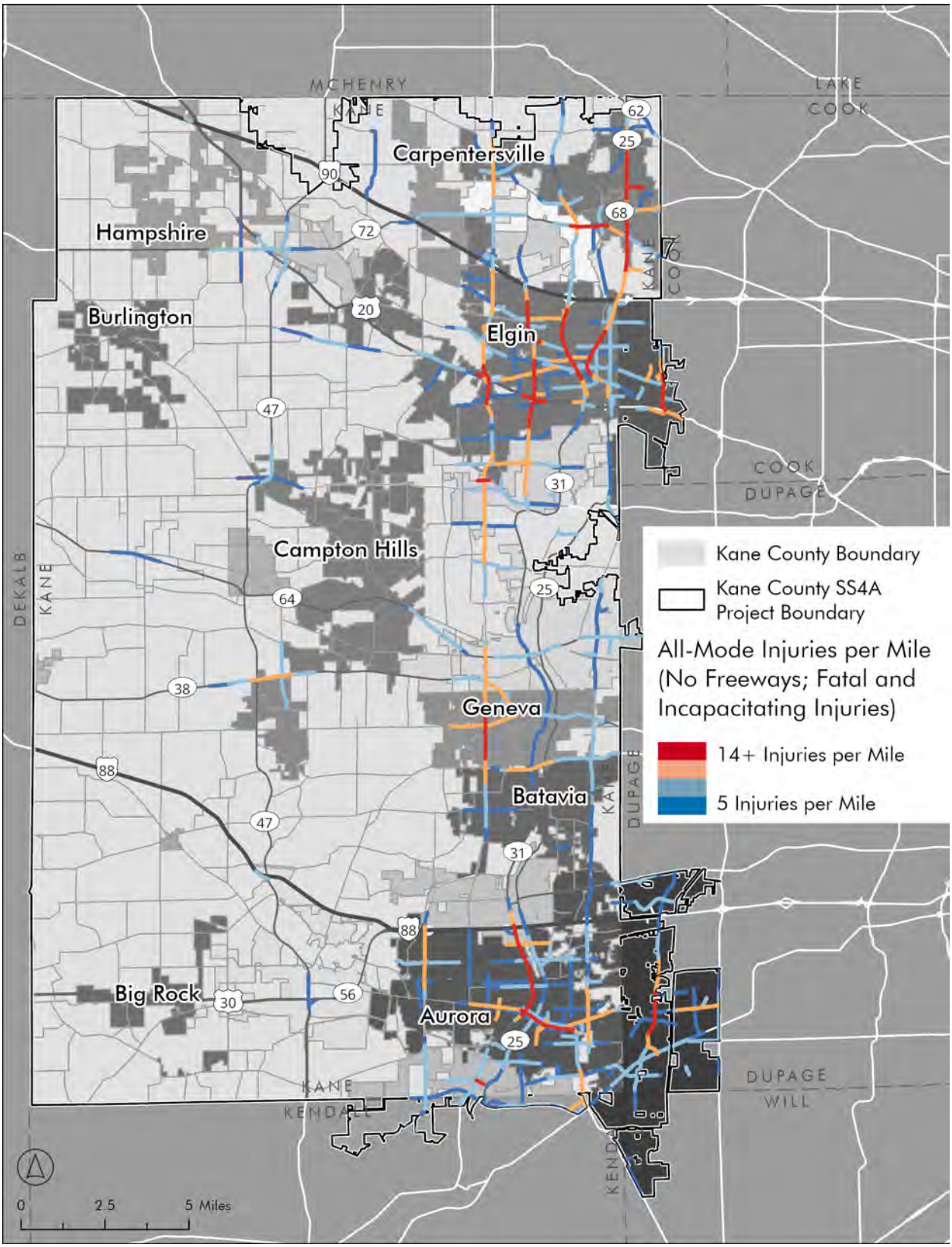


Figure 3.16 - Countywide (all non-freeway roads) all-mode HIN using a threshold of 5.0 fatal or incapacitating injuries per mile

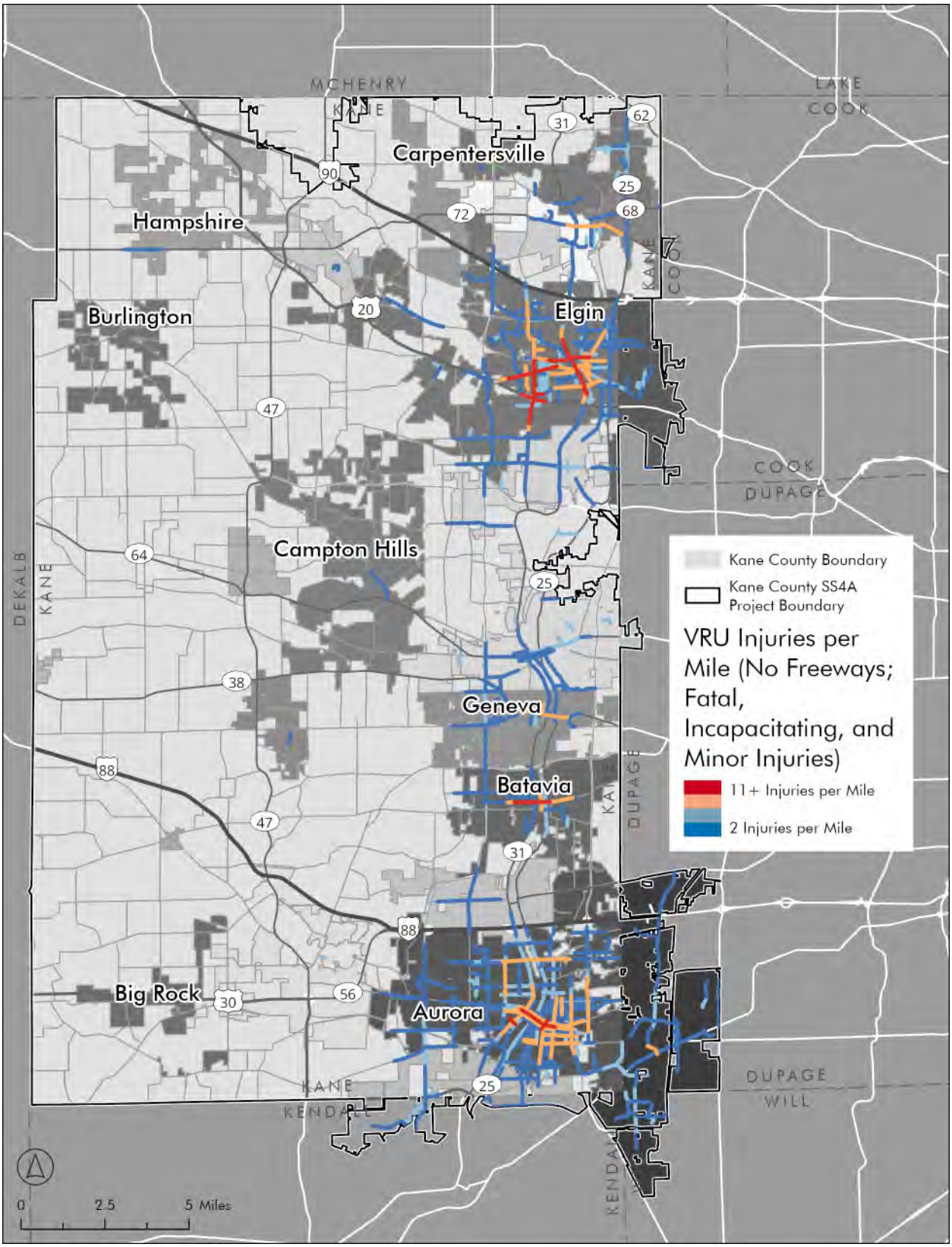


Figure 3.17 - Countywide (all non-freeway roads) VRU-only HIN using a threshold of 2.0 fatal, incapacitating, or non-incapacitating injuries per mile

Part Two
Chapter Four

Crash Patterns and Factors

This chapter discusses why crashes happen. It examines the primary cause of crashes and other potential factors that influence how, when, and where crashes happen.

Overview

What Is a Systemic Analysis?

While severe crashes may cluster around known hotspots, severe crashes often occur at seemingly random locations, particularly for vulnerable road users (pedestrians and bicyclists) in rural areas with low to moderate traffic. Especially when there are low volumes of crash statistics to review, taking a more proactive and system-wide look at risk factors as opposed to only reacting to specific instances at a specific location can be beneficial.

Take, for instance, the scenario of a serious crash involving a motorcyclist. While the rider may lose control of the motorcycle at any point, the likelihood of a severe crash increases when the rider encounters sharp turns, or roads with inadequate signage. The chances of sustaining a more severe injury are higher when the road is lined with hazardous features, like steep shoulders, as opposed to a road with clear sightlines and minimal obstacles.

Methodology

The Project team identified several types of crashes and particular areas of interest based on the findings in **Chapter 3**. Those focus crash types were defined using the most prevalent roadway, behavioral, or environmental factors identified in the analyses in that section.

The crash characteristics identified were then paired with roadway characteristics that they are related to, and the roadways were then broken down into intersection and segment subtypes that reflect the crash characteristics. Once the specific intersection and segment subtypes were identified, they were then ranked based on their respective rates of severe crashes. See **Appendix A: Existing Conditions Safety Report** for more detailed information on the methodology and findings.

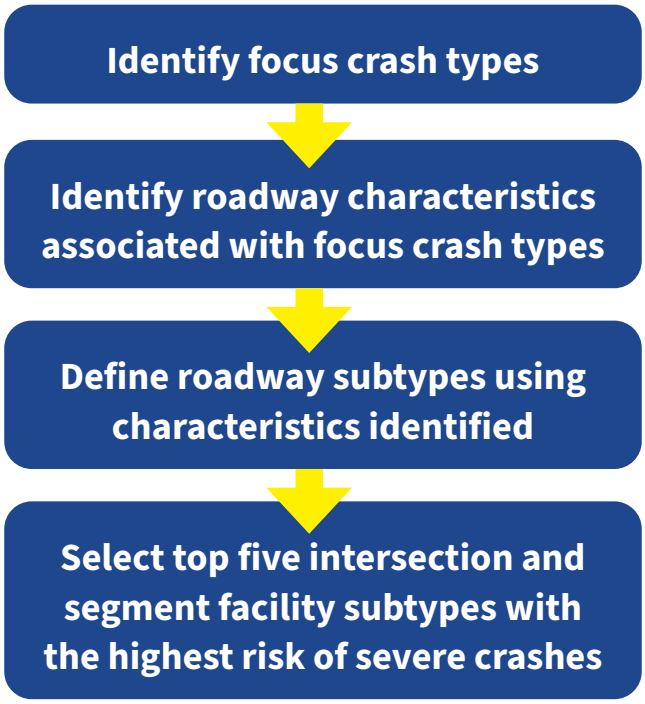


Figure 4.1 - Systemic analysis methodology

Understanding Functional Classes

Roadways in this chapter are grouped by their *functional class* - the role that a roadway plays in moving vehicles through a roadway network. In Illinois, there are seven different functional classes, ranked by the amount of access and mobility they provide to vehicles. Each roadway in Kane County is assigned to a functional class by evaluating its design, speed, capacity, and purpose in the overall travel network.

1 ***Interstate*** - Highways on the Interstate Highway System.

2 ***Freeway/Expressway*** - Highways designed to maximize mobility, usually by limiting access points.

3 ***Other Principal Arterial (OPA)*** - Roadways linking population centers and activity centers together.

4 ***Minor Arterial*** - Roads that connect higher hierarchy roads to local/ regional destinations or roads.

5 ***Major Collector*** - Roads that collect traffic from local streets, have less driveways, and are designed for larger traffic volumes.

6 ***Minor Collector*** - Roads that collect traffic from local streets and are designed to handle slower and lower traffic volumes.

7 ***Local*** - Roads that provide local access to homes and business.

Focus Facility Types

Focus Segment Facility Types

All of the segments across the County were categorized into subtypes based on five characteristics:

- **Urban vs Rural:** the context of the segment – whether it is in a municipality/urbanized area or in a rural area.
- **Functional Class:** For the Kane County Safety Action Plan, the analysis assigned roadways to functional classes by identifying which of the four types of roads (Freeways, Non-Freeway Arterials, Collectors, and Local Roads) segments fell into based on the number of intersections/interchanges, length of trips, and number of access points/driveways on the them.
  - Freeways have the fewest intersections (they only have interchanges, often miles apart), the longest trips, and no driveways along them.
  - Non-Freeway Arterials have intersections, but they are still quite spaced out, have longer trips, and very few driveways along them.
  - Collectors have more intersections than Non-Freeway Arterials, medium-length trips, and some driveways.
  - Local Roads have the most intersections, the shortest trips, and the most driveways along them.
- **Number of Lanes:** the typical number of lanes on the segment.
- **Speed Limit:** the speed limit (in MPH) on the segment
- **AADT:** the Annual Average Daily Traffic on the segment. This is the average number of vehicles using the segment per day.

Of the 256 possible segment subtypes, 82 of them are actually present in the County. Table 4.1 and Table 4.2 show the top 10 segment subtypes for all modes and VRUs only, respectively, ranked by their relative risk of severe crashes per mile. The severe crash count is the number of severe crashes that occurred on segments of a given subtype over the course of five years. Severe crashes include crashes that resulted in fatal or incapacitating injuries for the all-modes table or fatal, incapacitating, or non-incapacitating injuries for the VRU-only table. The number of severe crashes per mile is calculated by dividing the combined total number of severe crashes on a given segment subtype by the combined length of all segments in that subtype. The relative risk is calculated by dividing a subtype's number of severe crashes per mile by the countywide average (0.16 for all modes and 0.04 for VRUs). This means that a segment subtype with a relative risk of 8.0 would have 8 times more severe crashes per mile than the countywide average. The top 5 subtypes were selected as the Focus Segment Facility Types and the other 5 subtypes in the top 10 are simply included for reference.

Rank	Urban vs Rural	Functional Class	Num. Lanes	Speed Limit (MPH)	AADT (VPD)	Combined Length (mi.)	Severe Crash Count	Severe Crashes per Mile Relative Risk
1	Urban	Non-Freeway Arterial	4+	30 and Under	20K and Up	8.5	11	8.0
2	Urban	Non-Freeway Arterial	4+	30 and Under	2K to 20K	10.6	13	7.6
3	Urban	Freeway	4+	55 and Up	20K and Up	37.7	46	7.5
4	Urban	Non-Freeway Arterial	1 to 3	35 to 50	20K and Up	5.9	7	7.3
5	Urban	Non-Freeway Arterial	4+	35 to 50	20K and Up	67.5	55	5.0
6	Urban	Non-Freeway Arterial	4+	35 to 50	2K to 20K	38.1	25	4.1
7	Urban	Non-Freeway Arterial	1 to 3	55 and Up	2K to 20K	102.0	56	3.4
8	Urban	Non-Freeway Arterial	1 to 3	35 to 50	2K to 20K	131.4	61	2.9
9	Urban	Collector	1 to 3	55 and Up	2K to 20K	11.5	5	2.7
10	Rural	Freeway	4+	55 and Up	20K and Up	11.8	5	2.6

Table 4.1 - Focus Segment Facility Types for All Modes

Rank	Urban vs Rural	Functional Class	Num. Lanes	Speed Limit (MPH)	AADT	Combined Length (mi.)	Severe Crash Count	Severe Crashes per Mile Relative Risk
1	Urban	Non-Freeway Arterial	4+	30 and Under	20K and Up	8.5	7	19.7
2	Urban	Non-Freeway Arterial	4+	30 and Under	2K to 20K	10.6	5	11.3
3	Urban	Non-Freeway Arterial	1 to 3	35 to 50	20K and Up	5.9	2	8.1
4	Urban	Non-Freeway Arterial	1 to 3	30 and Under	2K to 20K	39.4	10	6.1
5	Urban	Non-Freeway Arterial	4+	35 to 50	20K and Up	67.5	10	3.6
6	Urban	Local	1 to 3	30 and Under	2K to 20K	62.0	9	3.5
7	Urban	Collector	1 to 3	55 and Up	2K to 20K	11.5	1	2.1
8	Urban	Non-Freeway Arterial	4+	35 to 50	2K to 20K	38.1	3	1.9
9	Urban	Non-Freeway Arterial	1 to 3	35 to 50	2K to 20K	131.4	9	1.6
10	Urban	Collector	1 to 3	30 and Under	2K to 20K	76.3	5	1.6

Table 4.2 - Focus Segment Facility Types for VRUs

Overall, urban non-freeway arterials with 4+ lanes had the highest relative risk. The two subtypes with the highest relative risks for all modes and for VRUs were urban arterials with 4+ lanes, a speed limit of 30 MPH or less, and an AADT between 2,000 and 20,000 VPD or an AADT above 20,000 vehicles per day (VPD).

	All Modes	VRU Only
Context Type (Urban vs. Rural)	**All of the focus segment subtypes are in urban areas.** Five of the top 5 subtypes are urban segments. Nine of the top 10 subtypes are urban segments.	**All of the focus segment subtypes are in urban areas.** Five of the top 5 subtypes are urban segments. Ten of the top 10 subtypes are urban segments.
Functional Classification	**Most of the focus segment subtypes are non-freeway arterials.** Four of the top 5 subtypes are non-freeway arterials and one of the top 5 is a freeway. Seven of the top 10 subtypes are non-freeway arterials, two are freeways, and one is a collector.	**All of the focus segment subtypes are non-freeway arterials.** Five of the top 5 subtypes are non-freeway arterials. Seven of the top 10 subtypes are non-freeway arterials.
Number of Lanes	**Most of the focus segment subtypes have 4+ lanes.** Four of the top 5 subtypes have 4+ lanes. Six of the top 10 subtypes have 4+ lanes.	**About half of the focus segment subtypes have 4+ lanes.** Three of the top 5 subtypes have 4+ lanes. Four of the top 10 subtypes have 4+ lanes.
Speed Limit (MPH)	**The focus segment subtypes have a variety of speed limits.**	**About half of the focus segment subtypes have speed limits at or below 30 MPH**. Three of the top 5 subtypes have a speed limit of 30 MPH or less and two of the stop 5 subtypes have a speed limit between 35 and 50 MPH. Five of the top 10 subtypes have a speed limit of 30 MPH or less and five subtypes have a speed limit between 35 and 50 MPH. People who walk, bike, and roll are more likely to use roadway facilities with lower speeds.
Volumes (AADT)	**Most of the focus segment subtypes have high vehicle volumes.** Four of the top 5 subtypes have AADTs above 20,000 VPD. Five of the top 10 subtypes have AADTs above 20,000 VPD.	**About half of the focus segment subtypes have high vehicle volumes.** Three of the top 5 subtypes have AADTs above 20,000 VPD and two subtypes have AADTs between 2,000 and 20,000 VPD. Three of the top 10 subtypes have AADTs above 20,000 VPD and seven subtypes have AADTs between 2,000 and 20,000 VPD.

Table 4.3 - Key findings of Focus Segment Facility Type analyses

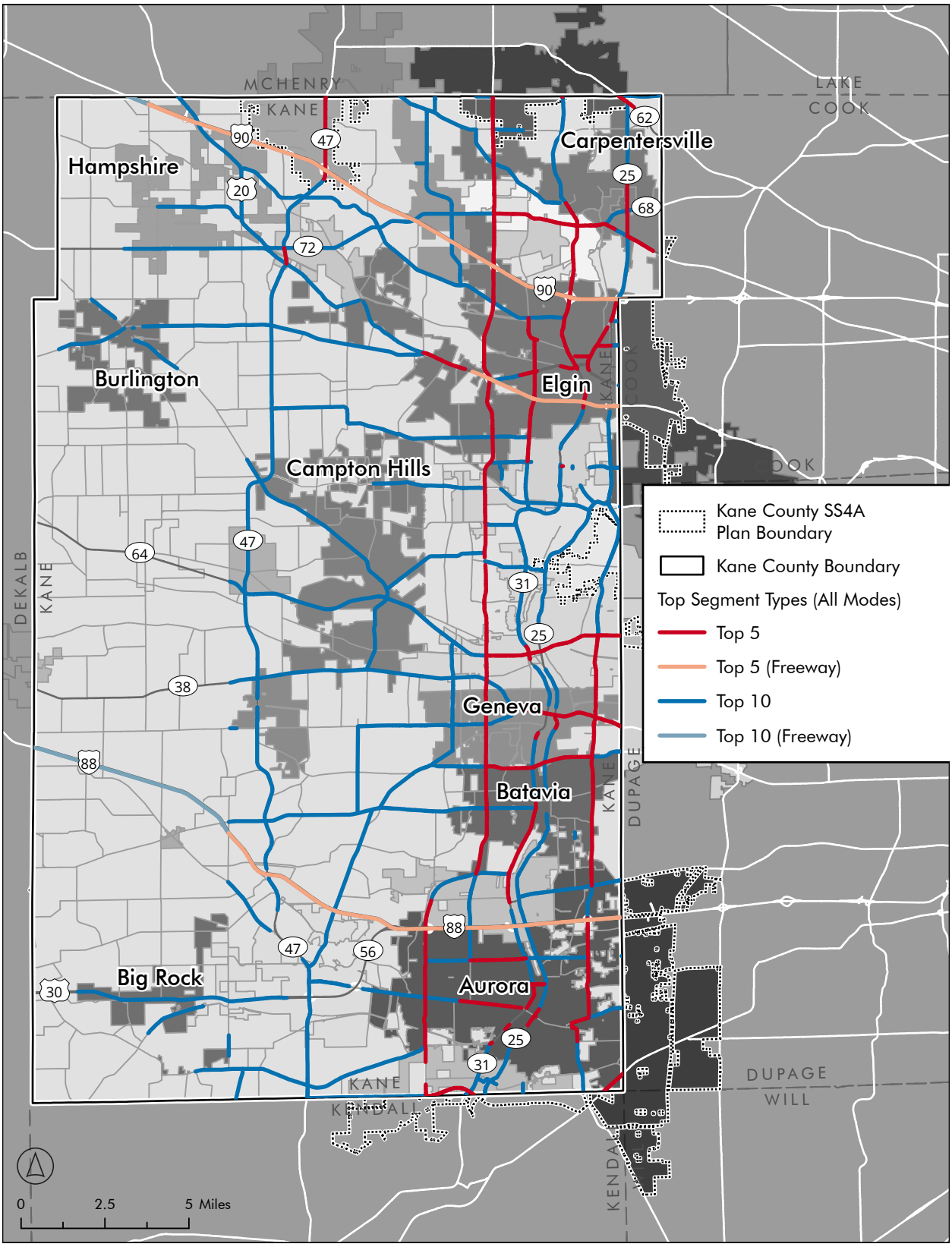


Figure 4.2 - Map of Focus Segment Facility Types for all modes

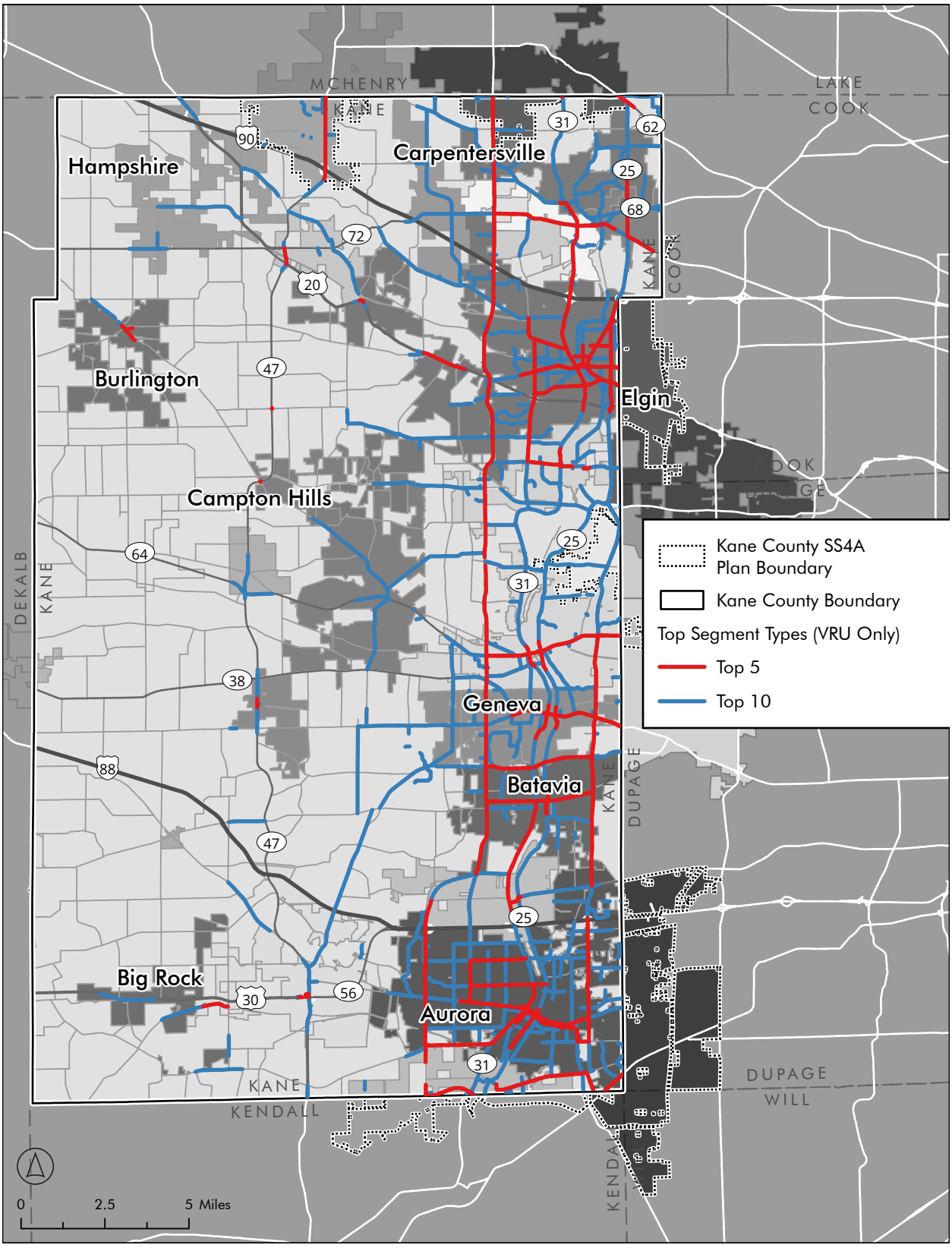


Figure 4.3 - Map of Focus Segment Facility Types for VRUs

Focus Intersection Facility Types

All of the intersections across the County were categorized into subtypes based on four characteristics:

- **Urban vs Rural:** the context of the segment – whether it is in a municipality/ urbanized area or in a rural area.
- **Functional Class:** the combination of the functional classes of the roads that meet at the intersection. For simplicity, the four functional classes used for categorizing segments were grouped into two categories – High (Freeways and Non-Freeway Arterials) and Low (Collectors and Local Roads).
- **Control Type:** the type of traffic control in place at the intersection. The control types are split into three categories – signal, all-way-stop, and other (includes two-way stop, yield, and uncontrolled).
- **Daily Entering Vehicles:** the total number of vehicles entering the intersection. This is calculated by adding the AADTs of the roads that meet at the intersection.

Of the 72 possible intersection subtypes, 34 of them are actually present in the County. Table 4.4 and Table 4.5 show the top 10 intersection subtypes for all modes and VRUs only, respectively, ranked by their relative risk of severe crashes per intersection. The severe crash count is the number of severe crashes that occurred at intersections of a given subtype over the course of five years. Severe crashes include crashes that resulted in fatal or incapacitating injuries for the all-modes table or fatal, incapacitating, or non-incapacitating injuries for the VRU-only table. The number of severe crashes per intersection is calculated by dividing the combined total number of severe crashes at a given intersection subtype by the number of intersections in that subtype. The relative risk is calculated by dividing a subtype's number of severe crashes per intersection by the countywide average (0.07 for all modes and 0.03 for VRUs). This means that an intersection subtype with a relative risk of 34.3 would have 34.3 times more severe crashes per intersection than the countywide average. The top 5 subtypes were selected as the Focus Intersection Facility Types and the other 5 subtypes in the top 10 are simply included for reference.

Rank	Urban vs Rural	Functional Class	Control Type	Daily Entering Vehicles	Intersection Count	Severe Crash Count	Severe Crashes per Intersection Relative Risk
1	Urban	High vs Low FC	Signal	40K+	24	54	34.3
2	Urban	High vs High FC	Signal	40K+	20	43	32.8
3	Urban	High vs High FC	Signal	10K to 40K	82	103	19.2
4	Urban	High vs Low FC	All-Way Stop	10K to 40K	10	9	13.7
5	Urban	High vs Low FC	Signal	10K to 40K	247	203	12.5
6	Urban	High vs Low FC	Signal	Under 10K	18	8	6.8
7	Urban	Low vs Low FC	All-Way Stop	10K to 40K	15	5	5.1
8	Urban	High vs High FC	Signal	Unknown	31	9	4.4
9	Rural	High vs Low FC	Two-Way Stop, Yield, or Uncontrolled	Under 10K	30	7	3.6
10	Urban	High vs Low FC	Two-Way Stop, Yield, or Uncontrolled	10K to 40K	815	180	3.4

Table 4.4 - Focus Intersection Facility Types for all modes

Rank	Urban vs Rural	Functional Class	Control Type	Daily Entering Vehicles	Intersection Count	Severe Crash Count	Severe Crashes per Intersection Relative Risk
1	Urban	High vs High FC	Signal	10K to 40K	82	38	16.2
2	Urban	High vs Low FC	Signal	10K to 40K	247	102	14.4
3	Urban	High vs Low FC	Signal	Under 10K	18	6	11.7
4	Urban	High vs Low FC	Signal	40K+	24	8	11.7
5	Urban	High vs High FC	Signal	40K+	20	6	10.5
6	Urban	Low vs Low FC	All-Way Stop	10K to 40K	15	3	7.0
7	Urban	High vs Low FC	All-Way Stop	10K to 40K	10	1	3.5
8	Urban	High vs Low FC	Two-Way Stop, Yield, or Uncontrolled	10K to 40K	815	68	2.9
9	Urban	Low vs Low FC	Two-Way Stop, Yield, or Uncontrolled	10K to 40K	126	10	2.8
10	Urban	High vs Low FC	Two-Way Stop, Yield, or Uncontrolled	Unknown	14	1	2.5

Table 4.5 - Focus Intersection Facility Types for VRUs

Overall, urban intersection subtypes that include at least one arterial road, particularly those that are signalized, pose the highest risk for all modes, including VRUs. The subtypes included in Focus Intersection Facility Types lists for all modes and for VRUs exclusively are largely the same, with the two lists sharing four of their five respective subtypes.

	All Modes	VRU Only
Context Type (Urban vs. Rural)	**All of the focus intersection subtypes are in urban areas.** Five of the top 5 subtypes are urban intersections. Nine of the top 10 subtypes are urban intersections.	**All of the focus intersection subtypes are in urban areas.** Five of the top 5 subtypes are urban intersections. Ten of the top 10 subtypes are urban intersections.
Functional Classification	**All of the focus intersection subtypes consist of at least one non-freeway arterial and about half consist of two non-freeway arterials.** Five of the top 5 subtypes consist of at least one non-freeway arterial and two subtypes consist of two non-freeway arterials. Nine of the top 10 subtypes consist of at least one non-freeway arterial and three subtypes consist of two non-freeway arterials.	**All of the focus intersection subtypes consist of at least one non-freeway arterial and about half consist of two non-freeway arterials.** Five of the top 5 subtypes consist of at least one non-freeway arterial and two subtypes consist of two non-freeway arterials. Eight of the top 10 subtypes consist of at least one non-freeway arterial and two subtypes consist of two non-freeway arterials.
Control Type	**Most of the focus intersection subtypes are signalized.** Four of the top 5 subtypes are controlled by a traffic signal. Six of the top 10 subtypes are controlled by a traffic signal.	**All of the focus intersection subtypes are signalized.** Five of the top 5 subtypes are controlled by a traffic signal. Five of the 10 subtypes are controlled by a traffic signal.
Volume (VPD)	**All of the focus intersection subtypes have moderate or high vehicle volumes.** Five of the top 5 subtypes have entering volumes above 10,000 VPD. Seven of the top 10 subtypes have entering volumes above 10,000 VPD.	**The focus intersection subtypes have a variety of vehicle volumes.**

Table 4.6 - Key findings of Focus Intersection Facility Type analyses

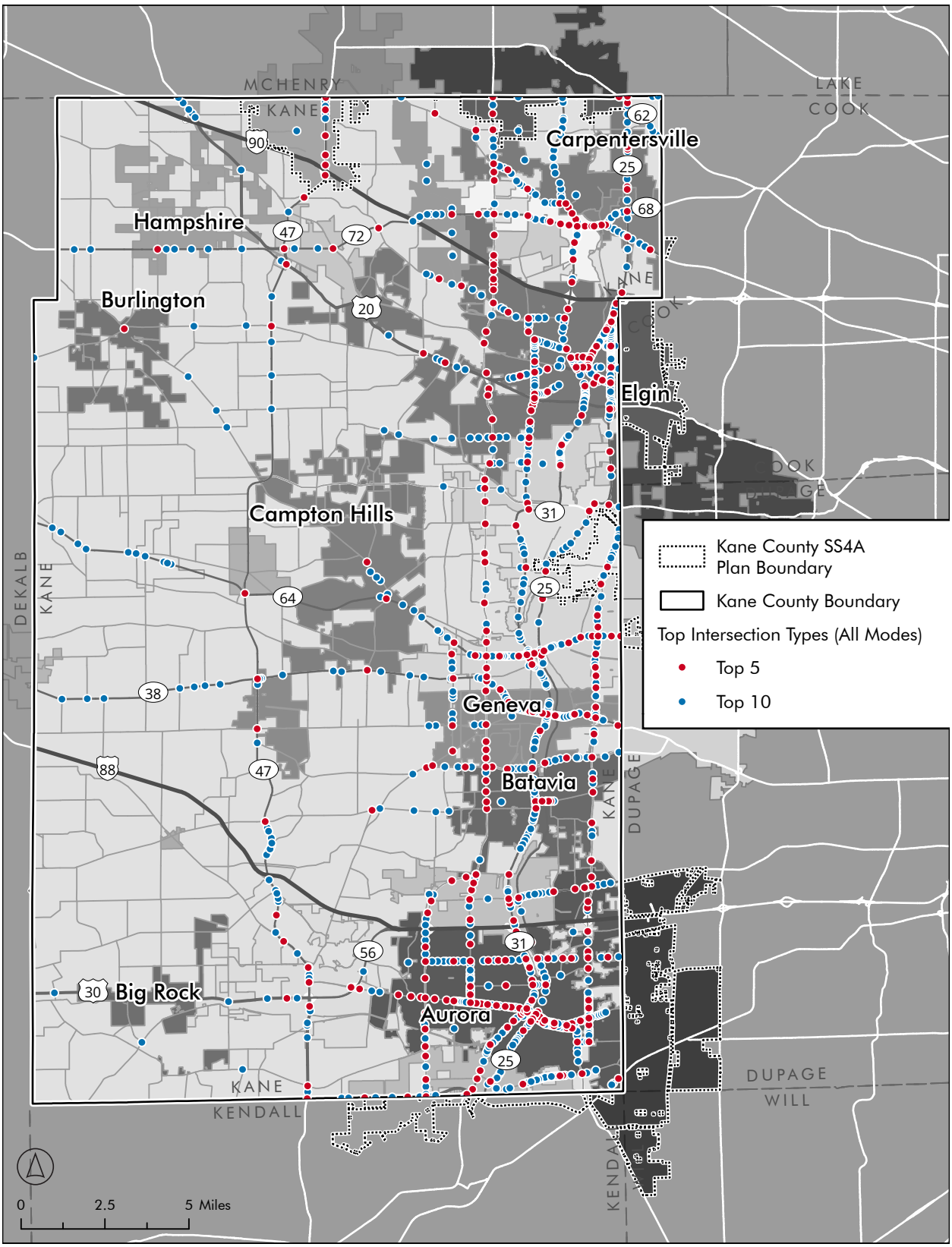


Figure 4.4 - Map of Focus Intersection Facility Types for all modes

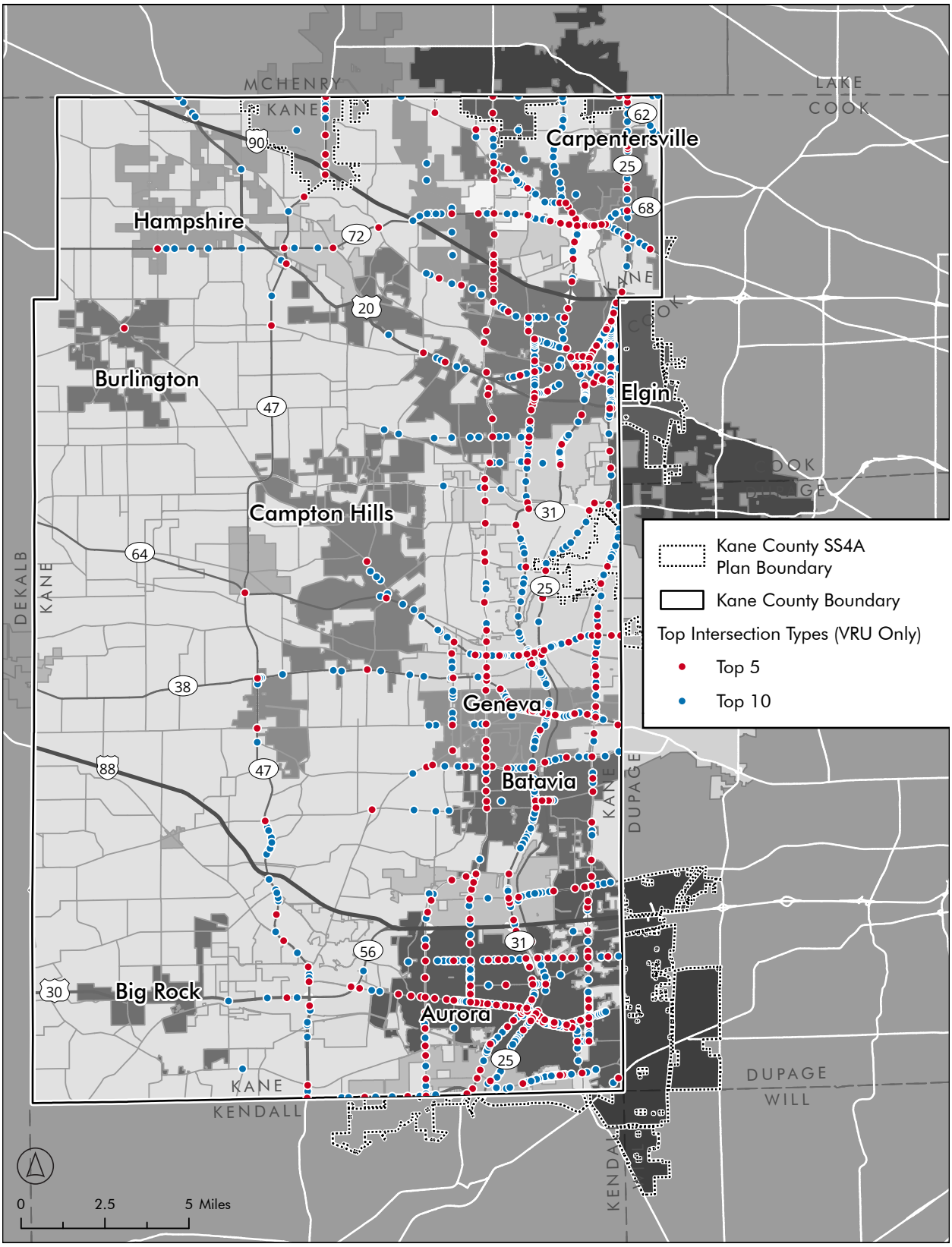


Figure 4.5 - Map of Focus Intersection Facility Types for VRUs

Part Two
Chapter Five

Community Impact Considerations

This chapter highlights the location of crashes in relation to communities with opportunities for socioeconomic investment.

Overview

Disparities in transportation safety remain a significant challenge, as infrastructure improvements often do not reach all communities, particularly those with higher levels of poverty or limited resources. Areas of Persistent Poverty (APPs) are characterized by consistently high poverty rates that span multiple decades.

Areas of persistent poverty (APPs), as defined by the federal government, include:

- Any County that has consistently had greater than or equal to 20 percent of the population living in poverty during the 30-year period preceding November 15, 2021, as measured by the 1990 and 2000 decennial census and the most recent annual Small Area Income Poverty Estimates as estimated by the Bureau of the Census
- Any Census Tract with a poverty rate of at least 20 percent as measured by the 2014 – 2018 5-year data series available from the American Community Survey of the Bureau of the Census
- Any U.S. Territories

These areas are often marked by limited access to resources and economic opportunities, including jobs, education, healthcare, and essential public services. Residents in these communities often face increased risk when navigating their transportation networks. These conditions can result in disproportionately high rates of severe and fatal crashes, particularly for vulnerable road users such as pedestrians, cyclists, and transit riders.

The identification of APPs allows decision-makers to prioritize resources where the risk is greatest, and the impact is most effective. By aligning safety investments with areas of persistent poverty, the County can better meet federal performance measures, support long-term goals, and position projects for competitive funding opportunities.

A spatial analysis was performed to deepen the understanding of the demographic composition of the County, resulting in the identification of APPs. Comparing the locations of the APPs to the findings in **Chapter 4** of the Plan shows that severe crashes are more likely to occur in APPs, as seen in **Table 5.1**. 15 percent of all severe crashes and 27 percent of VRU-only severe crashes took place in APPs, but only 12 percent of Kane County's residents and 3 percent of Kane County's land area are in APPs. Similarly, 9 percent of the roads on the all-mode HIN and 19 percent of the roads on the VRU-only HIN are in APPs, but only 8 percent of Kane County's roads are in APPs. Together, these comparisons show that a disproportionate number of severe crashes occur in APPs compared to the rest of the County, further highlighting the need for focused interventions to ensure that these communities aren't also burdened by disproportionately dangerous roads.

Metric	In APP*	Not In APP*
All-Mode Severe Crashes	202 (15%)	1,168 (85%)
VRU-Only Severe Crashes	47 (27%)	125 (73%)
Residents*	69,894 (12%)	530,839 (88%)
Land Area	15 sq. mi. (3%)	509 sq. mi. (97%)
All-Mode HIN	38 mi. (9%)	365 mi. (91%)
VRU-Only HIN	68 mi. (19%)	289 mi. (81%)
Roadway Network	223 mi. (8%)	2,665 mi. (92%)

*based on 2014-2018 American Community Survey

Table 5.1 - Table 1 – Representation of APPs in Kane County

The following figures highlight the areas of persistent poverty within Kane County (in yellow hatching) compared to the County's severe crash density (all modes in **Figure 5.1**and VRU-only in **Figure 5.2**). As shown in these figures, the APPs overlap significantly with the areas of higher crash densities.

15% of all severe crashes and 27% of VRU-only severe crashes occurred in an area of persistent poverty.

3% of Kane County's land area is in areas of persistent poverty.

9% of the All-Mode High Injury Network and 19% of the VRU-Only High Injury Network are in areas of persistent poverty.

12% of Kane County's population live in an area of persistent poverty.

8% of Kane County's roadway network is in areas of persistent poverty.

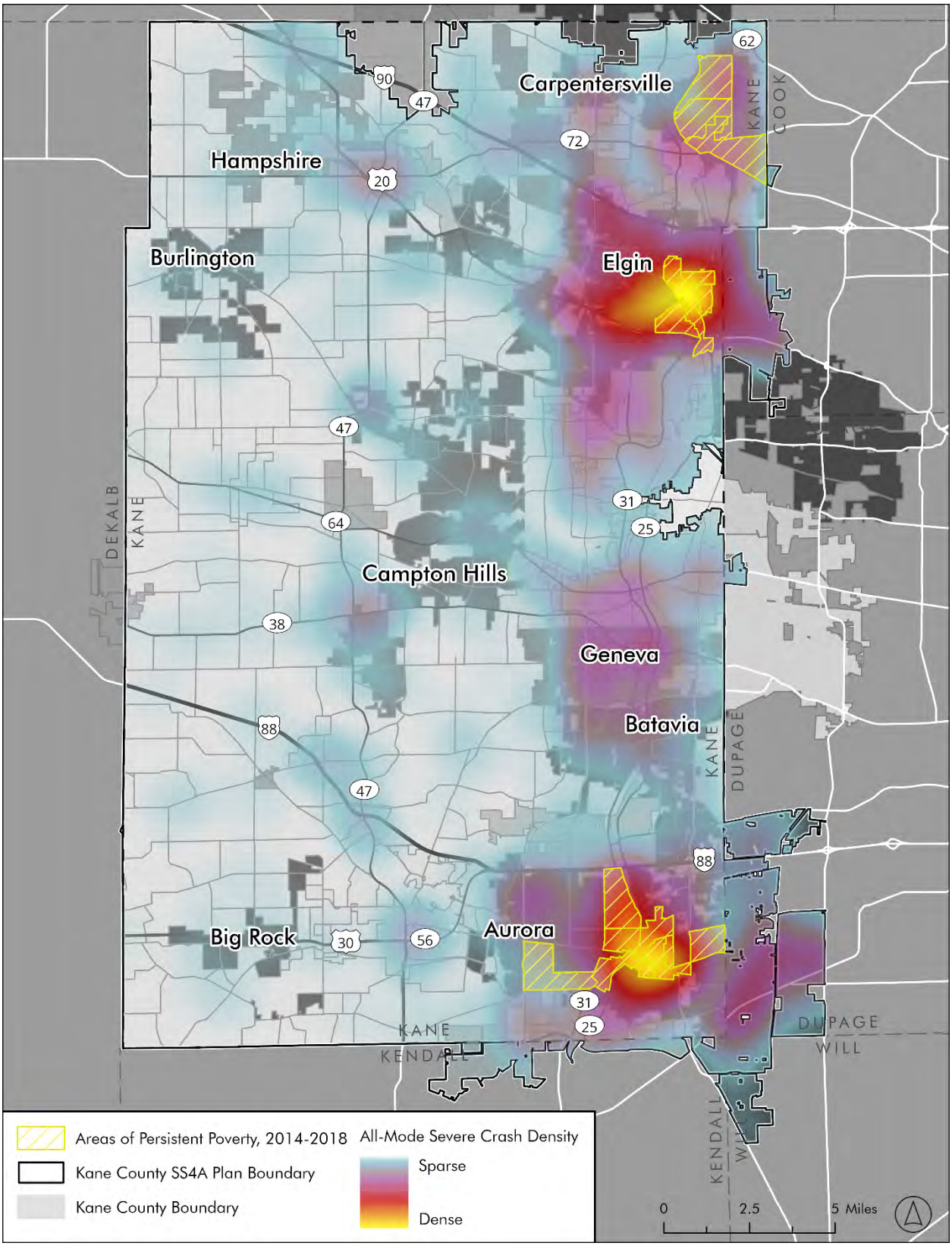


Figure 5.1 - Areas of Persistent Poverty and the density of all severe crashes in Kane County

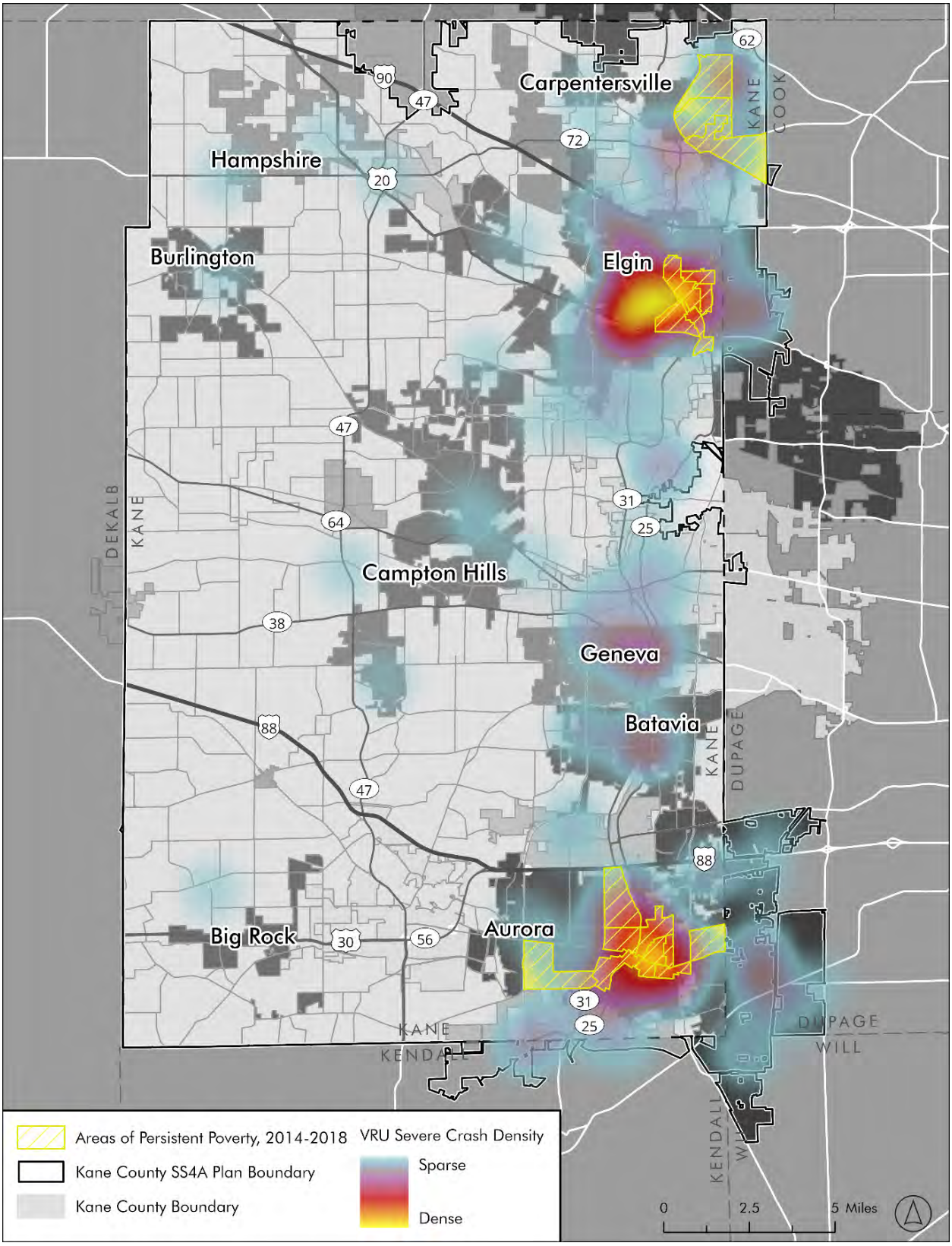


Figure 5.2 - Areas of Persistent Poverty and the density of VRU-only severe crashes in Kane County

Part Two
Chapter Six

Community Engagement

This chapter discusses how we collaborated with our Steering Committee and other Kane County community members to create the Kane County Safety Action Plan. It also provides a summary of the data we specifically collected from both of the above sources.

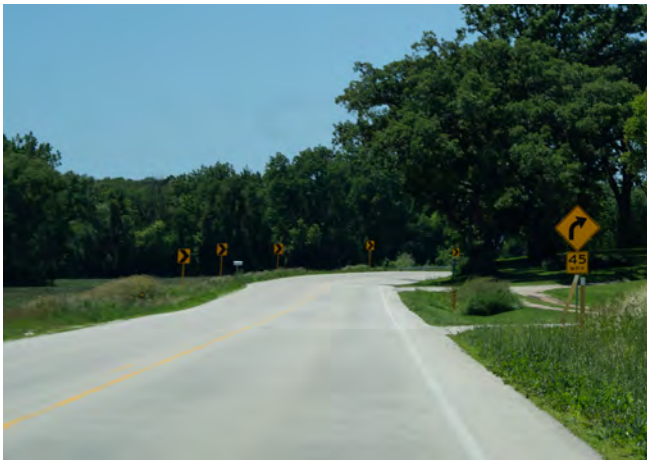
Overview

Comprehensive community engagement was a crucial component of this safety action plan's development. To better understand the County's traffic safety needs, the project team utilized a variety of engagement efforts in 2024 and 2025 to involve as many unique residents, municipalities, community-based organizations, and other County stakeholders as possible.

The data collected in this chapter is a key influence on **Part Three** of the Kane County Safety Action Plan. Specifically, the community engagement data helps inform:

- The policy recommendations in **Chapter 7**
- Potential roadway design strategies selected in **Chapter 8**
- The application of **Chapter 8's** design strategies at eight showcase locations selected in **Chapter 9**.

See each section of the report for more details about how the Project team's recommendations.



Steering Committee

The project team established the plan's Steering Committee in collaboration with KDOT during the summer of 2024. The Committee was comprised of representatives from three partner municipalities (the Cities of Aurora and Batavia, Village of Carpentersville) and local transportation, educational, social service, and advocacy groups. The Committee met four times throughout the project's duration and provided valuable insight into the following:

- June 26, 2024: Initial study findings, existing conditions, and community engagement opportunities
- October 30, 2024: Crash data, local traffic safety issues, and draft High Injury Network (HIN)
- April 2, 2025: Federal SS4A program changes, draft showcase project locations, and plan adoption requirements
- April 30, 2025: Showcase project updates and draft design strategies, benchmarks, and policy recommendations

Draft plan strategies were shared with the Committee in April 2025 for final review and feedback. Meeting minutes are included in Appendix C.

Community-Based Events

The project team hosted four community-based events during fall 2024 and winter 2025: one virtual public meeting, two pop-up activities, and one open house. These events are summarized below, with full meeting summaries included in Appendix C. All materials for these events were made available in both English and Spanish, as approximately 26% of County residents speak Spanish. The goals of these events were to:

- Engage with the public by meeting people where they were
- Educate residents and travelers about current traffic safety issues
- Promote safety action plan awareness, and
- Gather information on existing conditions and preliminary safety countermeasures

September 17, 2024: Virtual Public Meeting

The virtual meeting was held in the evening of September 17, 2024, to allow participation from across the county. The project team presented the following information:

- An overview of regional and County traffic data, the federal Safe Streets and Roads for All grant program, the State of Illinois Strategic Highway Safety Plan, and previous County and CMAP-sponsored safety studies and plans
- The plan's development process and schedule
- How members of the public can provide input and stay engaged with the project, especially by using the project website
- Initial safety findings, crash hotspot areas and intersections, and top crash causes
- Disproportionate impacts

After the presentation, the project team facilitated a group discussion about existing safety conditions using Mentimeter, an interactive online survey tool that displayed participant responses in real-time. Main takeaways include the following:

- Attendees agreed that initial safety findings align with their understanding of local traffic safety issues.
- Top areas for study investigation include speeding, IL 47 safety improvements, and enforcement.
- Participants identified pedestrians and bicyclists as the most vulnerable roadway users in Kane County.
- Top identified safety issues include speeding, distracted driving, and left turns/flashing yellow arrows.
- Last, attendees would like the study to result in the identification of specific improvement opportunities and funding sources, increased driver education and outreach, and improved safety for multimodal transportation users.

October 13, 2024: A.B.A.T.E. Toy and Food Run

The project team attended the DuKane Chapter of A.B.A.T.E. Illinois' 2024 Toy and Food Run on October 13, 2024, at the Sycamore Speedway. As A.B.A.T.E. is a motorcycle advocacy organization, the event provided the team with the opportunity to engage with a group of vulnerable roadway users. Additionally, the pop-up event was held in a rural portion of the County; this allowed the team to gather feedback about non-urban safety issues and locations.

As pictured in **Figure 6.1**, Project team members shared information about the County's plan and collected input from attendees about existing traffic problems and transportation safety priorities. Participants who completed the activities received project-branded giveaways. Approximately 10 members of the public provided feedback as summarized:

Figure 6.1 - Motorcyclist participates in a traffic safety countermeasure prioritization activity.

What are the biggest traffic safety issues in Kane County? (Open-ended response)

- People on cell phones (includes hands-free)
- Roads dark - no lighting
- IL 47 roundabout: bad/not safe, low visibility, no lighting
- Turning lanes are great
- Randall Roads near fairgrounds needs turning lane or flashing arrow
- Better traffic light timing/sensors (motion sensors vs. magnet sensors)
- Improved traffic flow
- Sidewalks and lighting and crosswalks

What do you think Kane County's highest transportation safety priorities should be? (Select your top three.)

- Passing harsher laws for distracted driving: 3 votes
- Better road maintenance: 2 votes
- Better lighting (roadways and intersections): 2 votes
- Roadway designs that slow drivers and reduce serious and fatal crashes: 2 votes
- More sidewalks and safer crosswalks: 1 vote
- More physical separation between people walking/biking and people driving: 1 vote
- More transit facilities: No votes
- More enforcement of traffic laws: No votes

December 14, 2024: Aurora Christkindlmarket

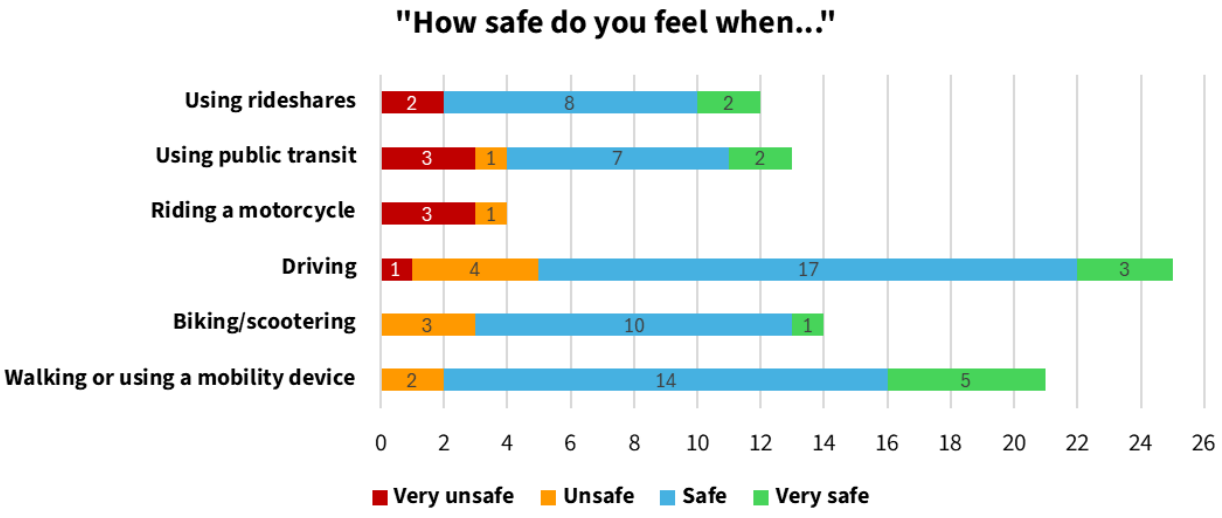
The project team held a pop-up event on December 14, 2024, at the Aurora Christkindlmarket, hosted by German American Events, LLC. This event was held near key economically distressed areas and gave the team an opportunity to engage with diverse County populations, as well as travelers from across the greater Chicago area and state.

Team members shared information about the County's Safety Action Plan and engaged with approximately 50 event attendees about existing safety issues and transportation safety priorities. Members of the public were asked to participate in two feedback activities. Participants who completed the activities received free project-branded giveaways.

Figure 6.2 - Members of the public rank their perceptions of traffic safety within Kane County based on transportation method.

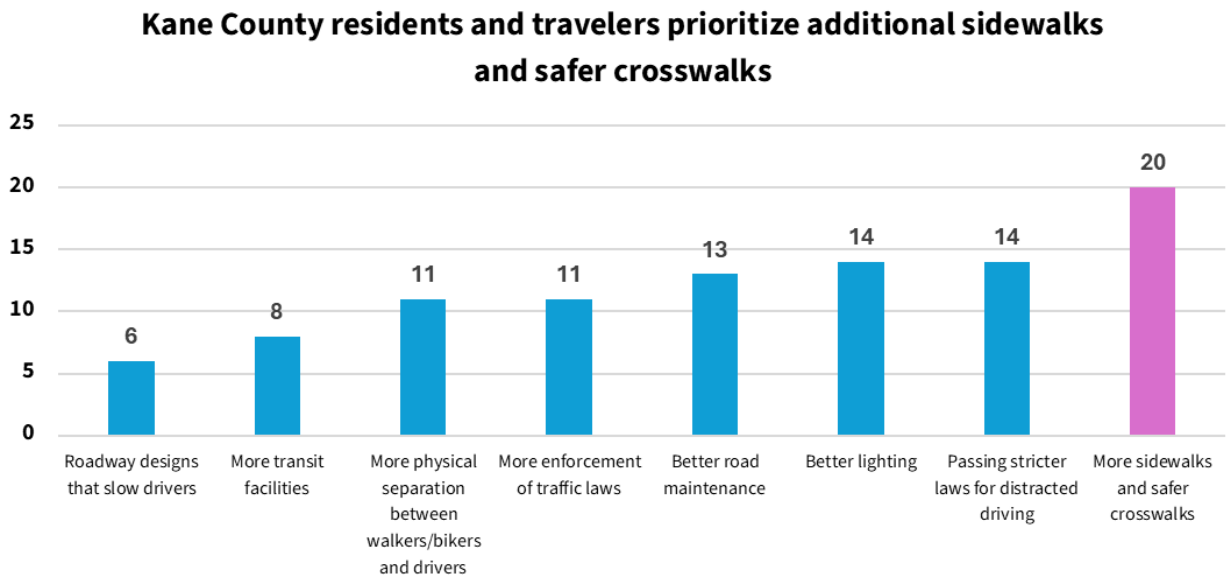
Activity one:

In Figure 6.2, the team is pictured asking participants to place a sticker in the appropriate rows and columns to indicate their agreement with the following question: "How safe do you feel while…" traveling by certain transportation methods:



Activity two:

The project team asked participants to identify their top three traffic safety priorities out of eight potential options.



Additional Comments/Feedback

Members of the public also provided the project team with the following feedback:

- It is challenging to walk in downtown Aurora, specifically when trying to cross IL 25 and by Phillips Park Zoo (1000 Ray Moses Dr, Aurora, IL 60505).
- The Illinois Prairie Path is very safe for walking and biking.
- Neighborhoods are generally safe for walking, but there aren't always sidewalks.
- Speeding is an issue throughout the county.
- Vehicles often run red lights and speed on Broadway/IDOT Route 25 in Aurora.
- Lack of lighting is also an issue. The Blackberry neighborhood in Montgomery was specifically mentioned as an area of concern.
- It is challenging to safely access McCarty Elementary School in Aurora. The school is close in proximity to Ogden Avenue/US Route 34, which does not have pedestrian crossings. Additionally, members of the public requested more school buses.
- Insight for other counties' safety action plans:
  - There were requests for additional sidewalks in Burr Ridge (DuPage and Cook Counties).

- There were multiple concerns about the unsafe intersection at US 34 and Wolf's Crossing Road in Oswego (Kendall County). According to the public, vehicles frequently speed there, and the intersection has a confusing design. A child on a bicycle was recently hit by a vehicle there.

February 22, 2025: Elgin Open House

In partnership with the Cook County Department of Transportation and Highways, KDOT and the project team hosted a joint, Kane-Cook County open house at the Centre of Elgin in Elgin, which is located near the counties' shared border. As seen in **Figure 6.3**, meeting attendees interacted with the team and County representatives, reviewed interactive exhibits, and shared feedback related to existing traffic safety concerns and barriers. A local bicycle group also had a table at the open house to share information about bicycle safety and the trails system with attendees.

Nine members of the public attended the event, and their feedback is summarized below:

Elgin Input Map

- Randall Road, North of Farm + Fleet– "Missing sidewalk/path."
- South Street between Long common Parkway and Nesler Road – "No crosswalks."

Downtown Elgin Zoomed in Maps

- Fox River near Kimball Street Bridge, Elgin – "December 2024 Kimball Evening."
- Highland Avenue between McLean Boulevard and Randall Road – "Has no sidewalks or bike lanes."
- Boulevard and Randall Road – "Has no sidewalks or bike lanes."

Figure 6.3 - Member of the public interacts with open house team member to locate an area of concern on a map of downtown Elgin.

Kane County Fatal and Serious Injury Crash Heat Map

- Hopps Road, Holan – "Good opportunity for biking, easy ride."
- Stevens, Stearns and McDonald roads/ Otter Creek Forest Preserve Trail – "Electrical R.O.W. mid Camty trail, dead ends there, mid Camty trail."
  - Project team note: This comment may be in reference to the James Pate Phillips State Park in South Elgin, which is off of Stearns Road. A ComEd substation is located near the park.
- IL 31 between Boncosky Road and Strom Drive – "Drivers drive very fast."
- Near the Villages of Sleepy Hollow and West Dundee – "Cars cut through our neighborhood and speed through."

Kane County Input Map Activity (2018-2022)

- IL 31, location not specified – "Often see people walking along 31, no sidewalks or streetlights to help with visibility."
- IL 31, location not specified – "This ---------->" (Response to previous comment).
- Elgin, location not specified – "My car got 2 flat tires last year due to potholes in Elgin."
- Location Not Specified – "Bike pod needed between communities."
- Location not specified – "Need sidewalks with lighting along road."
- Village of Streamwood and City of Elgin – "Biking connection needed between Streamwood & Elgin."
- Location Not Specified – "Pressure treated wood bridge over creeks, slippery when wet." (Note: The exact location of the comment is uncertain, but it was placed near West Chicago on the map.)

When traveling within my community, my main traffic safety concerns are:

- IL 25, near Ellis Middle School, Elgin – "Drivers do not stop for walking children."
- Providence neighborhood – "Drivers not stopping for school bus."
- South Elgin High School, Kenyon Woods Middle School, near IL 25 & Bartlett Road – "Have to cross IL 25, no crosswalk at light."
- Middle Street, South Elgin – "No crosswalk at light."
- IL 25 to Prairie Path, near Kenyon Road – "Not connected."
- Elgin, locations not specified
  - "Younger drivers ---> pre-teen education for drivers' education."
  - "Strangers and dead ends"
  - "Bus stops need benches with covers."
  - "Sidewalks connecting, visibility of pedestrians and cyclists."
  - "Bike facilities lacking."
  - "Bike Ped not all connected. More education for drivers, they don't know the rules of the road."
  - "The green bike lanes added to some roads really help, there should be more added."

Online Survey and Interactive Webmap

In the summer of 2024, the project team created a County-specific webpage on CMAP's website to share plan information and public engagement opportunities in both English and Spanish. The webpage also prominently featured a survey and an interactive safety hotspots map to gather community input on existing safety conditions. Along with a comprehensive review of Systemic Analysis and HIN data, proximity to key destinations, and other safety criteria, the team utilized survey and map results to determine the plan's suite of potential projects, policies, and recommendations which build upon and compliment past and ongoing efforts in the County. The page received over 1,800 total visits throughout the duration of the project.

Online Survey

The purpose of the online survey was to obtain feedback about current methods of travelling within the County, safety perceptions, and opinions on potential transportation safety priorities. It was made available in both English and Spanish. The project team collected 81 survey responses. The project team cross-checked the highest crash locations identified in the Systemic Analysis and HIN with the comments received.

Locations that received more comments on safety issues was one of the factors in identifying showcase project locations.

Interactive Safety Hotspots Map

The interactive hotspots map allowed the project team to gather location-specific feedback on areas perceived as dangerous or unsafe. Visitors could place pins anywhere on the map to highlight concerns, adding comments and photos. In total, 380 data points were submitted. The team analyzed these inputs to identify common themes and key locations, which helped inform the selection of example showcase projects and guided toolbox recommendations. Most comments focused on intersection safety, particularly issues like skewed intersections, high-speed approaches, poor visibility for pedestrians and cyclists, inadequate crossings, and challenging left turns. Some locations, such as US-20 at Shannon Parkway and Anderson Road, were flagged multiple times.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Part Three

Achieving Safe Travel for All

This section of the report uses the findings from Part One and Part Two to create recommendations for our streets, communities, and services that result in safer travel for everyone.

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Part Three
Chapter Seven

Policies and Programs for Safer Travel

This chapter discusses how Kane County and its townships, cities, and villages can implement or modify policies and programs in a way that bring us closer to eliminating severe injury and death on the County's roadways.

Summary

This chapter includes potential strategies to consider that could strengthen and expand the current collaborative efforts, leverage limited resources, formalize practices, and support legislative changes.

The Project team's policy reviews (detailed in Chapter 2) and stakeholder engagement (summarized in Chapter 6) helped identify opportunities to build on current policies, programs, and processes, some of which are best practices, and advance safety in Kane County and its communities. The policies and programs proposed in this chapter are designed to directly respond to this data and work together with roadway design strategies introduced in Chapter 8 to reduce and eliminate severe injury and fatal crashes in Kane County.

The estimated implementation timeline for each strategy is included under every proposed policy or program section. These dates are for reference only and are subject to change.

Designate a Committee to Monitor Safety Progress

Estimated Timeline: Medium-term (2-3 Years)

A Kane County Steering Committee was formed to develop this safety plan. Membership reflects the various transportation and law enforcement representatives from Kane County and its communities, public health, regional office of education, IDOT, transit, and other diverse stakeholder groups representing motorcyclists, pedestrians and bicyclists, and trucking. There are various other committees and commissions related to transportation and safety within Kane County and municipalities, as well.

Recommendations:

Progress monitoring of the Safety Action Plan should be designated to a specific committee or commission. One option would be transitioning the Steering Committee into a formal Kane County Safety Committee, which could institutionalize the on-going efforts and facilitate the implementation and monitoring of the Kane County Safety Plan. This would require a continued commitment from participating members and their organizations willing to continue in the effort. Alternatively, the role of progress monitoring could go to an existing committee or commission within the County. Collectively, this Committee can provide the advantage of leveraging limited resources, knowledge of existing and/or emerging safety issues, support of new initiatives or proposed legislation/ordinances, and pursuit of grant funding.

- A review of the Committee membership will determine where additional representation is needed to address areas of focus. For example, membership would be expanded to include a judicial representative (e.g., Kane County States Attorney) as successful adjudication of traffic safety laws is a challenge but

essential to changing driver behavior.

- Conduct regular meetings to collaborate on implementation activities, review traffic safety data, identify and direct critical resources, and pursue funding opportunities.
- Establish communication channels to regularly share crash data and road safety metrics with local agencies and community partners.
- Collaborate and provide support for grant writing efforts to facilitate implementation of the Kane County Safety Plan. This would overcome staffing challenges to develop grant applications.
- Prepare and release an annual safety plan report to document implementation progress to safety partners and the public.

Kane County Traffic Operations Safety Committee

Estimated Timeline: Short-term (1-2 Years)

The Kane County Division of Transportation (KDOT) has an established Traffic Operations Safety Committee, which is comprised of a diverse group of KDOT staff and meets monthly to discuss safety issues and/or concerns and how best to resolve them. The identified safety issues/concerns are generated through various avenues that include citizen input (online option is available) and County Board members. A lead person is assigned the task of addressing an identified issue/concern.

Recommendations:

This collaborative approach to addressing safety is a best practice that should be documented and have continued leadership support. This Committee can be a significant resource to the communities within Kane County, as well as the Kane County Safety Committee. The following recommendations are:

- Serve as the KDOT mechanism to facilitate implementation of the Kane County Safety Plan.
- Leverage the expertise and activities to provide support to the Kane County communities, sharing knowledge of crash trends and implementation results of safety strategies.
- Provide information and support to the Kane County Safety Committee.
- Document findings, resolutions, and common trends, using them to develop or revise guidelines and/or policies.
- Share common findings and resolutions, including new initiatives with local transportation agencies within Kane County to advance safety practices.

Kane County Accident Reconstruction Team (KCART)

Estimated Timeline: Medium-term (2-3 Years)

The Kane County Accident Reconstruction Team (KCART) is a specialized unit composed of trained law enforcement professionals

from various agencies within Kane County and operated by the Kane County Sheriff's Office. KCART responds to serious traffic crashes, particularly those involving fatalities or life-threatening injuries, when requested by municipalities that may lack in-house capabilities. Using advanced technology such as GPS, lasers, and crash analysis software, the team reconstructs collision scenes to determine causes and contributing factors. In addition to providing critical expertise, KCART allows local law enforcement officers to collaborate and gain valuable skills they can bring back to their home agencies, ultimately enhancing traffic safety across the region.

- The City of Batavia performs its crash reconstructions and provides 4 officers to KCART.
- The City of Elgin provides 2 officers.
- The Village of Carpentersville provides 2 officers.
- The Village of Huntley is a member of KCART.

Recommendations:

The overarching recommendation includes continuing to support and fund KCART, as this program provides significant support across multiple communities in Kane County. This would include:

- Support and fund crash reconstruction training.
- Fund and procure crash reconstruction equipment.

Kane County Accident Reconstruction Team (KCART)

- Comprised of ILETS-B certified crash reconstructionists from various communities across Kane County.
- Investigates fatal crashes for municipalities without capabilities.
- Available 24 hours/7 days per week.
- Reduces the need to train multiple officers and purchase all of the required equipment.
- Provides ability to work enough crash scenes to stay current on equipment and analysis.

- Share crash reconstruction report findings with transportation safety partners, especially when consistent patterns are frequently found. Information from KCART can be utilized as supporting materials for grant funding applications.
- Partner with Kane County Chiefs of Police Association to support this program.

Potential Implementation Partners:

- Illinois State Police (ISP) Traffic Crash Reconstruction Unit-North Sector
- Illinois Association of Technical Accident Investigators (IATAI) is a non-profit

organization dedicated to improving the field of crash reconstruction by offering quality training to its members.

- Accreditation Commission for Traffic Accident Reconstruction (ACTAR) provides national accreditation.
- Institute of Police Technology and Management (IPTM) which is a branch of the University of North Florida
- Illinois Law Enforcement Training and Standards Board (ILETS-B)

Consider Formalizing Standard Practices into Policies and Guidance Documents to Ensure Consistent and Effective Implementation

Estimated Timeline: Short-term (1-2 Years)

Kane County has implemented several effective safety strategies on its roadway system. These include items such as 6-inch-wide pavement markings, grooved-in longitudinal pavement markings, roundabouts, flashing yellow arrows, recessed reflective pavement markers, contrast pavement markings, and rumble strips. While several of these items are mentioned in the Kane County Traffic Design Guidance, specific details as to when and where they should be implemented are not defined.

Recommendations:

Defined guidance on the application of commonly implemented effective safety strategies can ensure consistent and expanded application across Kane County. It also allows local agencies within Kane County to adopt, implement, and further expand, consistent application of the treatments across the transportation system.

Kane County uses rumble strips, a FHWA-proven safety countermeasure, most commonly under the edge line at the shoulder or on the shoulders to alert motorists through noise and vibration should they leave their lane of travel. These are effective at reducing roadway departure crashes. Where there are documented cases of head-on crashes, transportation agencies may use center line rumble strips. Because of noise issues near residences, these are not often used in urban areas. KDOT is transitioning to rumble strips on two-lane and multi-lane roadways.

Modernized rumble strips use sinusoidal wave pattern ground into the pavement to lessen the external noise produced when vehicles travel across them. The application of this newer treatment is ideal for addressing roadway departure crashes, especially in suburban and urban areas of Kane County and its communities where noise is a concern. The County also uses roundabouts at some intersections where space and traffic flow is appropriate to calm traffic and reduce crashes typical of traditional signalized intersections such as failing to yield the red light or right of way. Roundabouts should continue to be constructed where roadway context allows to reduce frequency of intersection crashes.

Develop Policies that can be Tailored to a Community

Estimated Timeline: Short-term (1-2 Years)

Several communities have shown interest in creating policies specifically focused on bicycle and pedestrian safety. The Kane County Bicycle and Pedestrian Plan offers a foundational set of design policies and guidelines that municipalities can use as a starting point. This existing framework could be updated, expanded, and more widely promoted to encourage use by municipalities. Additionally, new policies and guidelines could be developed to give communities the flexibility to adapt them to their unique needs. Such efforts would support the implementation of targeted safety countermeasures, particularly those aimed at protecting vulnerable road users.

Recommendations:

- Update, promote or develop bicycle and pedestrian design policies based on the existing Kane County Bike and Pedestrian Plan.
- Develop a pedestrian safety toolbox.
- Develop a bicycle route safety countermeasure application toolbox.

Speed Management

Estimated Timeline: Medium-term (2-3 Years)

Speed represents a major contributing factor associated with the frequency and severity of crashes in Kane County. Research has shown that as vehicle speeds increase, the survivability of a crash decreases, especially when pedestrians and bicyclists are involved.

Speed management supports the Safe System Approach element, Safe Speeds, as it is effective at reducing fatal and serious injury crashes. It can be accomplished through engineering, enforcement, and education/outreach efforts. IDOT is currently reviewing and revising its speed limit setting policy to potentially adopt some of the findings in the National Cooperative Highway Research Program (NCHRP). This would potentially introduce a matrix based on roadway type and roadway context to establish whether the 85th percentile or 50th percentile speed should be used as the baseline for speed studies.

Recommendations:

Local agencies are not mandated to follow IDOT's speed limit setting policy, but it is encouraged since it is an established procedure and promotes uniformity in establishing speed limits for all roads in Illinois.

- Consider adopting and implementing IDOT's new speed limit setting policy.
- Consider assessing and evaluating speed limits on roadways where speeding is a factor and also where there is higher pedestrian and bicyclist activity, especially in areas where there are pedestrian generators (e.g., restaurants, hospitals, shopping areas, convenience stores).
- Consider developing a Speed Display policy/guidance document reflecting implementation, enforcement, and outreach approach. A framework could be developed to be modified and used by the various local agencies. This would be particularly beneficial on roadways where speed limits have been reduced.
- Consider supplementing reduced speed limits with enforcement and education/outreach efforts.
- Consider supporting legislation to allow the use of speed safety cameras in Kane County.

While some of these legislative actions ultimately fall under the jurisdiction of state legislators, municipalities and the County are encouraged to support and collaborate with state representatives on safety-related legislative reforms, in alignment with the Safety Action Plan which serves as a countywide framework intended to guide action by all local governments in Kane County."

Electric Bicycles, Scooters, and Mopeds

Estimated Timeline: Medium-term (2-3 Years)

The popularity of electric bicycles, scooters, mopeds, and other micromobility modes of transportation continues to increase. Laws and ordinances are in place that govern the use of these devices; however, the technology is changing much more rapidly than the laws/ordinances. For example, electric bikes do not require a driver's license or vehicle registration, and they can travel at speeds of 30 miles per hour. At this higher rate of speed, it is difficult for these road users as well as other road users to react quickly to changing conditions (e.g., pedestrians crossing, motorists turning).

Recommendations:

- Consider review of ordinances and laws associated with electric bikes, scooters, mopeds, and motorcycles. This would include items such as licensing, registration, speed, and technology.
- Consider developing an education program that will highlight safe use (e.g., speed, helmets, awareness of other road users) of these micromobility modes of transportation.

Law Enforcement Staffing and Training

Estimated Timeline: Long-term (3+ Years)

Training and specialty equipment continue to

evolve to thoroughly investigate and enforce traffic safety laws. Impaired (alcohol and drug) driving detection and enforcement are areas of expertise that require specialized training. Staffing, training needs, and equipment continue to impact the ability to properly enforce traffic safety laws in Kane County and its communities. The northern Illinois region is fortunate to have access to many organizations that provide training; however, the demand often exceeds the availability of the necessary courses. This is further exacerbated by the limited availability of instructors for these courses. Law enforcement agencies have difficulty covering gaps in shifts when officers are away for the training. Funding for all of these items also influences this overall issue.

Recommendations:

- Consider coordinating with various law enforcement training organizations and implementation partners to increase the number of instructors and available courses to increase access to trainings for officers.
- Consider identifying and pursuing increased funding to support training.
- Consider working with Suburban Law Enforcement Academy (SLEA), Illinois Law Enforcement and Standards Board (ILETSB), and North East Multi Regional Training (NEMRT) to provide additional instructors and classes for Drug Recognition Expert (DRE) and Advanced Roadside Impaired Driving Enforcement (ARIDE). This is particularly important to address impaired driving (alcohol and drug/marijuana).
- Consider regular training for incident report writing. Accurate crash reporting is important as the data obtained is used in analysis to determine where, what, and why crashes are occurring, and the appropriate mitigation measures.

Potential Implementation Partners:

- Kane County Chiefs of Police Association conducts an annual fund-raising event to support KCART
- Illinois State Police (ISP)
- Illinois Law Enforcement Training and Standards Board (ILETS-B)
- Suburban Law Enforcement Academy (SLEA), College of DuPage
- North East Multi-Regional Training (NEMRT), (annual fee required)

Consider Supporting Legislation for Increased Penalties Associated with Fatal Crashes

Estimated Timeline: Long-term (3+ Years)

According to NHTSA, stricter laws are a deterrent to higher-risk driving behaviors. Reckless homicide is established by Illinois State statute (720 ILCS 5/9-3(a)) and is defined as the unintentional killing of an individual while operating (lawfully or unlawfully) a motor vehicle with reckless conduct. It includes driving a vehicle on an incline in a roadway (e.g.,

hill, railroad crossing, bridge), and the vehicle becomes airborne. Typically, for an individual to be charged with reckless homicide (a felony charge) should a fatal crash occur, the motorist would be required to have violated at least three moving law violations (e.g., speeding, distracted driving, and disobeying a traffic control device). The Illinois Vehicle Code does not provide any penalty beyond a traditional traffic citation if recklessness is not involved.

Recommendations:

Establishing a law for negligent driving (e.g., less than three moving law violations) that results in a fatal crash death could fill the gap between reckless homicide and a standard traffic violation. Providing for stricter penalties (e.g., misdemeanor) can be a deterrent against high-risk behaviors (e.g., distracted driving and speeding). The support of legislation by Kane County and its communities can facilitate the establishment of law, ultimately reducing fatal and serious injury crashes. While these legislative actions ultimately fall under the jurisdiction of state legislators, municipalities and the County are encouraged to support and collaborate with state representatives on safety-related legislative reforms, in alignment with the Safety Action Plan which serves as a countywide framework intended to guide action by all local governments in Kane County.

Rail Safety and Suicide Prevention

Estimated Timeline: Long-term (3+ Years)

Every year, lives are tragically lost on railroad tracks due to a range of incidents including trespassing, using the tracks as shortcuts, and suicide. These incidents not only affect the individuals involved but also deeply impact families, communities, and railway personnel. As explored in Chapter 3, Rail Safety analysis, between 2012 and 2021, 37 rail incidents occurred along Kane County's 128.9 miles of rail with 24 of those incidents resulting in a fatality. Fostering greater understanding of rail safety and promoting mental health resources, Kane County may be able prevent future tragedies.

Recommendations:

- Collaborate with Metra to identify and prioritize potential engineering improvements aimed at reducing collisions, injuries, and fatalities at highway-rail crossings.
- Collaborate with Metra to expand its comprehensive suicide prevention program into Kane County communities, particularly in areas with known incident clusters or in urbanized communities. This initiative trains engineers, conductors, and station agents to recognize signs of distress or suicidal behaviour and equips them with guidance on appropriate intervention strategies.
- Explore the development of a local suicide

prevention initiative modelled after the successful DuPage County Railroad Safety Council[1] and/or integration of the USDOT Trespass and Suicide Prevention Toolkit[2], tailored to the specific needs of Kane County's communities and rail infrastructure.

- Collaborate with Illinois Operation Lifesaver (IL OL) to enhance education, engineering improvements, and enforcement efforts aimed at reducing collisions, injuries, and fatalities at highway-rail crossings.
- Continue working with the Illinois Commerce Commission and IL Operation Lifesaver to offer free safety seminars for emergency responders focusing on proper safety protocols when responding to grade crossing collisions or trespasser incidents to ensure first responders have the knowledge needed to safely investigate and respond to rail-related incidents.
- Partner with news media outlets to promote responsible reporting on rail-related suicides. Responsible media collaboration avoids sensational or graphic coverage and should help raise awareness, provide accurate mental health information, and encourage those at risk to seek help.

Explore Legislation for Expanding Blood Draw Tests to Detect Impairment

Estimated Timeline: Long-term (3+ Years)

Impaired driving, whether caused by alcohol, marijuana, or other drugs, is serious problem in the United States with nearly one third of all traffic fatalities involving impaired driving as reported by the National Highway Traffic Safety Administration (NHTSA)[3]. In Kane County alone, there were over 2,300 crashes between 2019-2023 involving impaired driving. As drug policies change and certain substances become more widely available, the nature of impaired driving is also shifting. Marijuana, in particular, is becoming increasingly accessible likely contributing to a rise in marijuana-related impairment and serious/fatal injury crashes[4]. Between 2019 and 2021, 56% of people injured or killed in crashes on U.S. roads tested positive for alcohol and/or drugs, with cannabis being the most frequently detected substance at 25%, followed by alcohol at 23%[5]. Research from NHTSA also shows that marijuana impairs motor skills, lane tracking, and multitasking which are key abilities needed for safe driving[67]. Over the course of the Kane County safety action planning process, the project team conducted interviews with various agencies on the front lines of transportation safety and law enforcement. During an interview with Illinois State Police, officers cited impaired driving, and more specifically marijuana use, as a key area of concern. However, they also noted that this was a difficult area of enforcement and detection.

Tetrahydrocannabinol (THC) concentration in a driver's blood is used to determine the level of impairment with marijuana use. THC levels generally peak and exit the bloodstream in less than a few hours; however, according to research from the University of Syndey, the "window of impairment" can last between 3 to 10 hours. The variability is due to the dosage of THC, if it was inhaled or taken orally, whether they are a regular or occasional user and the demands of the tasks being performed while intoxicated[8]. This means a blood test taken after a DUI traffic stop may fail to identify impairment due to marijuana use. While police officers can use mouth swabs that detect whether someone has used marijuana, these swabs do not show the blood level of marijuana. Motorists suspected of being marijuana-impaired who refuse a mouth swab must have must have a trained professional administer a more invasive type of test which requires a search warrant. Currently, Illinois statute requires law enforcement officers to obtain blood draws/tests within two hours of an incident to establish intoxication. This can be difficult due to delays in notification and arrival of a law enforcement officer and transfer to a medical facility for the testing.

Recommendations:

According to researcher J. C. Fell of the National Opinion Research Center (NORC) at the University of Chicago, reducing serious and fatal crashes involving impaired drivers requires a comprehensive, systemic approach. One effective strategy is the use of well-publicized and consistently implemented enforcement measures, such as sobriety checkpoints. During agency interviews with first responders and law enforcement, marijuana blood tests were cited as a potentially effective enforcement and detection of marijuana impaired driving based on past difficulties detecting impairment in the field. EMTs are often the first responders to a crash scene, initiating the necessary medical treatment to stabilize and transport injured individuals. Establishing a law that allows for trained and certified professionals (e.g., emergency medical technician) to obtain blood would expedite this process. This may deter risky driving behavior and allow for better adjudication of impaired driving laws.

Additionally, the County could explore public education campaigns, additional law enforcement training such as Standardized Field Sobriety Test (SFST) Training or Drug Recognition Expert (DRE) Training , or DUI courts. Since 2008, the County has participated in no-refusal search-warrant programs to mandate chemical testing for impaired driving when probable cause is present[9]. The County could explore the effectiveness of this program and its potential expansion. Various funding sources for this work exist including Sustained Traffic Enforcement Program (STEP) and State and Community Highway Safety/National Priority Safety Program; Non-Enforcement. While some of these legislative actions ultimately fall under the jurisdiction of state legislators, municipalities and the County are encouraged to support and collaborate with state representatives on safety-related legislative reforms.

Endnotes

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Part Three
Chapter Eight

Designing Safer Roads

This chapter discusses how Kane County governments can create and modify roadways, sidewalks, and bike infrastructure in a way that brings us closer to eliminating severe injury and deaths on Kane County's roads.

Toolbox for Safer Streets

The Kane County Safety Action Plan is a resource that can be used to create safer communities throughout Kane County. This chapter introduces the toolboxes that agencies can use to propose and design safer streets within their unique communities.

In **Chapter 4**, the Project team conducted a *systemic analysis*, or analyzed crash data and traffic volumes on roadways within Kane County, to determine which intersections and road corridors have higher incidences of severe and fatal crashes. Because of Kane County's diversity of road types and urban, suburban, and rural settings, it's difficult for the Kane County Safety Action Plan to identify strategies for every type of community and roadway. However, there are *countermeasures*, specific design strategies, that local and regional governments can utilize to address traffic safety.

This chapter collects these design strategies into *countermeasure toolboxes*, which are curated sects of design strategies for different types of roadway corridors and intersections prone to severe and fatal crashes. While not specific to any location, the countermeasure toolbox can be used to improve safety at any similarly designed locations in Kane County. For examples of the countermeasures in the countermeasure toolboxes in practice, see **Chapter 9: Showcase Locations and Projects**.

Systemic Countermeasures? Functional Class? A Glossary of Terminology Found in Chapter Eight

Countermeasure - Any design feature or strategy taken to reduce the risk of crashes.

Countermeasure toolbox - A collection of countermeasures that can address roadway safety at and along different types of intersections and roadway segments

Systemic Analysis - A systemic analysis examines the crash and travel statistics at or along a particular type of intersection or roadway. This is opposed to a traditional approach, which may focus on individual locations or prioritize other factors.

Systemic Countermeasures - Countermeasures to be used for a specific facility type (see "facility type" below).

Functional class - the role a given roadway has in moving vehicles through a network of highways.

Facility type - The typical design characteristics for a given intersection or roadway segment.

Risk factor - The type of road user (driver, cyclist, etc.) or situation a countermeasure toolbox is intended to address/protect.

A Refresher on Roadway Functional Classes

Introduced in Chapter 4, roadways in this chapter are grouped by their *functional class* - the role that a roadway plays in moving vehicles through the overall travel network. The infographic below provides a quick overview of each of Illinois' seven functional classes.

1 ***Interstate*** - Highways on the Interstate Highway System.

6 ***Minor Collector*** - Roads that collect traffic from local streets and are designed to handle slower and lower traffic volumes.

7 ***Local*** - Roads that provide local access to homes and business.

5 ***Major Collector*** - Roads that collect traffic from local streets, have less driveways, and are designed for larger traffic volumes.

3 ***Other Principal Arterial (OPA)*** - Roadways linking population centers and activity centers together.

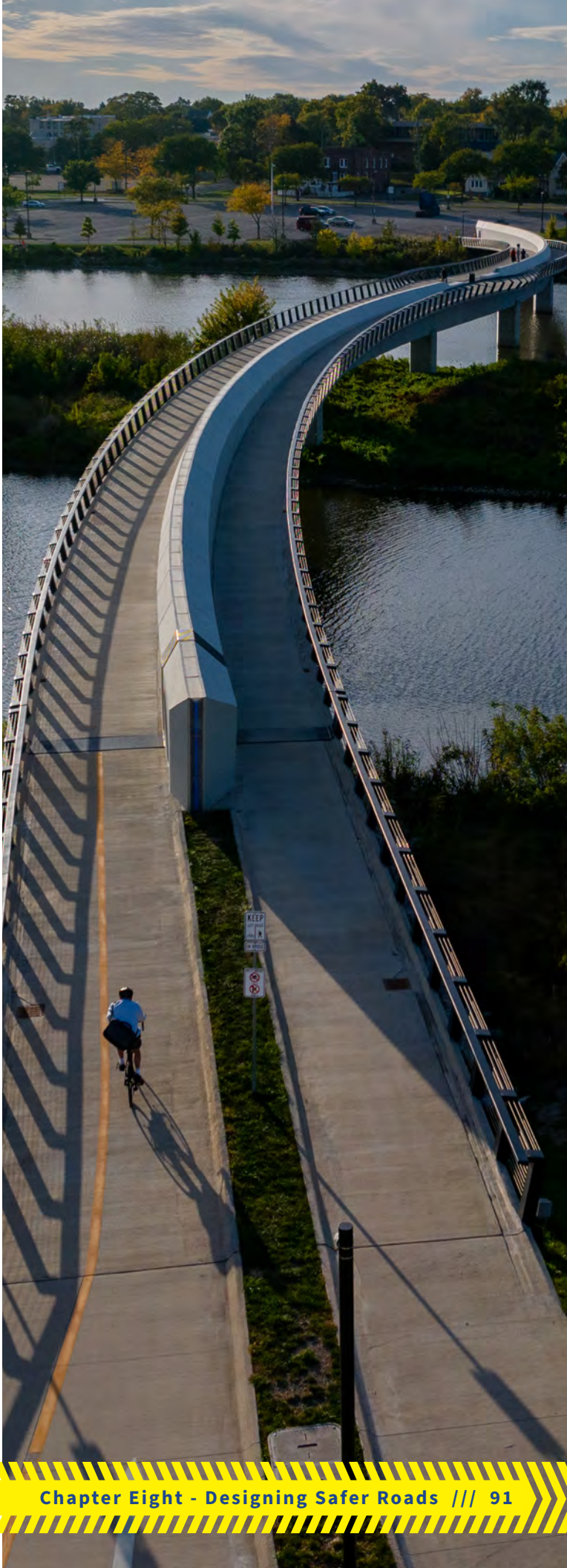
2 ***Freeway/Expressway*** - Highways designed to maximize mobility, usually by limiting access points.

4 ***Minor Arterial*** - Roads that connect higher hierarchy roads to local/ regional destinations or roads.

Special Considerations

The strategies in this chapter are meant to be applied in tandem with the policy recommendations in **Chapter 7** to reduce and eventually eliminate severe crashes and traffic fatalities on Kane County's roadways. While the general recommendations in this Chapter's countermeasure toolboxes can be applied in several similar-but-specific situations, this chapter is intended to act as general guidance on improving roadway safety. ***Each recommendation should be evaluated on a case-by-case basis, considering specific factors such as roadway context, traffic volumes, jurisdictional authority, and community needs***. It may not be possible to apply every countermeasure in a countermeasure toolbox to a specific location.

Similarly, there may be situations where a roadway agency's specific roadway design policies do not align with the one or several of the countermeasures in a countermeasure toolbox. In these instances, the agency in question should determine which countermeasures are in alignment with their specific policies and safety strategies and apply them accordingly. Some countermeasures in this chapter may not align with Kane County Division of Transportation policies, but they may compatible with municipal or park district roadway design practices instead. Please contact a specific Kane County roadway transportation department or agency for more information on which countermeasures are in alignment with their specific guidelines.



A Brief Introduction to Roadway Safety Countermeasures

Depending on context, policy, and regulation, there's several countermeasures that can be used to reduce and/or eliminate severe injury and fatal crashes. The intersection, rail crossing and segment countermeasures referenced in this chapter include:

Intersection and Rail Crossing Countermeasures

Medians at Intersection Approaches

A barrier between opposing lanes of traffic intended to reduce collisions.

Left and Right-Turn Pockets

Special roadway lanes that allow vehicles to turn safely outside of flowing traffic.

Red Light Violation Countermeasures

Traffic devices designed or optimized to deter drivers from passing red signals.

Automated Enforcement

Technology that enforces traffic laws without the presence of law enforcement officers (i.e. speed cameras)

Speed Limit Modifications

Adjusting the speed limit of corridors that approach an intersection to reduce/ prevent speeding incidents.

Systemic Improvements

A series of improvements (i.e. signage, lighting) that can be applied to multiple intersections in a network.

Intersection and Rail Crossing Countermeasures (Continued)

Dedicated Bike Lanes

A portion of a roadway separate from vehicles that is designated for bicycle travel. Can also include a buffer or median separation.

Recessed Reflective Pavement Markings

Highly visible, weather-resistant roadway markings intended to identify traffic lanes and other features.

High-Visibility Crosswalks

A walkway acting as a designated space for pedestrians crossing at an intersection.

Leading Pedestrian Interval

A signal designed to give pedestrians the opportunity to enter an intersection before vehicles.

Sidewalks/Curb Ramps

Facilities that provide a dedicated space separate from a roadway for walking (sidewalks) that is accessible via ADA-compliant ramps (curb ramps)

Advanced Intersection Warning Beacons/Signs

A flashing signal with one or more signal sections that controls traffic at intersections.

Intersection and Rail Crossing Countermeasures (Continued)

Reduced Left-Turn Collision Conflicts (RCUT)

A type of geometric intersection design that alters left-turn movements in order to minimize collisions.

Roundabouts

A circular island accompanied by yield signs and raised medians intended to slow vehicle speeds and facilitate traffic flow through intersections.

Advance Stop Bars

A solid white line striped in advance of crosswalks that encourages drivers to stop further back.

Intersection Realignment

Projects that change the geometry of an intersection to achieve potential safety benefits, such as eliminating skewed intersections to improve sight distances.

Four Quadrant Gates/ Medians at Rail Crossings

Gates and medians can be utilized to prevent vehicles from entering grade rail crossings and opposing traffic lanes.

Automatic Pedestrian Gates at Rail Crossings

A gate along a sidewalk or pathway preventing pedestrians from accessing grade rail crossings during activation periods.

Segment Countermeasures

Raised Medians (Mid-Block)

A raised barrier between two opposing lanes of traffic intended to reduce collisions.

Variable Speed Limits

Providing changing speed limits based on evolving data such as traffic speed, volumes, weather, and road conditions.

Speed Feedback Signs

A dynamic message sign that uses radar or laser technology to display the speed of an approaching vehicle.

Speed Safety Cameras

Specialty cameras that detect and photograph vehicles travelling above a speed threshold.

Dedicated Bike Lanes

A portion of a roadway separate from vehicles that is designated for bicycle travel. Can also include a buffer or median separation.

Sidewalks

A pedestrian-oriented facility that provides a dedicated space separate from a roadway for walking

Segment Countermeasures (Continued)

Pedestrian Refuge Islands

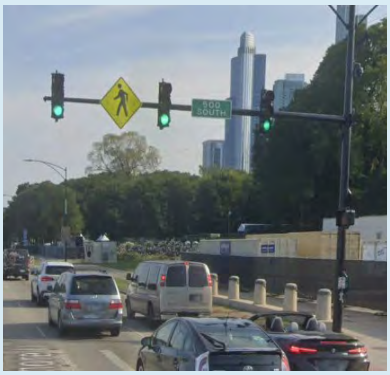
A raised area in the center of a roadway that provides a protected space to pedestrians crossing the road.

Mid-Block Crossings w/ Pedestrian Hybrid Beacons (PHBs)

A marked crosswalk aided by pedestrian-activated signals extending over the roadway that are designed to alert drivers.

Mid-Block Crossings w/ RRFBs

A marked crosswalk aided by flashing pedestrian warning signs that alert drivers when activated by pedestrians.



Pedestrian Signals

A traffic signal aimed at controlling pedestrian travel at mid-block crossings.

Roadway Reconfiguration

Any change in the geometric design of a road, such as a road diet or lane addition.

Enhanced Delineation for Curved Roads

Strategically placed signing and striping that alerts drivers of an impending road curve.

Segment Countermeasures (Continued)

Rumble Strips

Recessed strips placed in a roadway that alert drivers by causing a low rumbling sound and vibration when driven over.

Wider Edge Lines

Decreasing the drivable portion of a roadway by increasing the width between the edge lines and the curb or edge of the roadway

Systemic Improvements

A series of improvements (i.e. signage, lighting) that can be applied to multiple segments in a network at once.

Enhanced Pavement Friction

Increasing pavement friction through the application of a high-quality aggregate to assist drivers in maintaining vehicle control.

Advance Stop Bars

A solid white line striped in advance of crosswalks that encourages drivers to stop further back. Can also be used to create space for larger turning vehicles

Systemic Intersection Characteristics

The Project team's systemic analysis identified several intersection types with an elevated risk of crashes that result in severe or fatal injuries for all transportation modes.

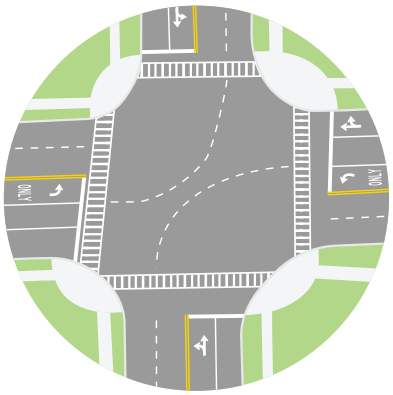
The top two intersection typologies include:

- *Intersection Type 1*: Signalized intersections of two arterial streets.
- *Intersection Type 2*: All-way stop intersections between one arterial corridor and one local street

The countermeasure toolboxes that address the safety risks at both of these intersections are included below.

Systemic Intersection Toolboxes

Intersection Type 1 Toolbox



Intersection Type 1: Signalized Intersection of Two Arterial Streets

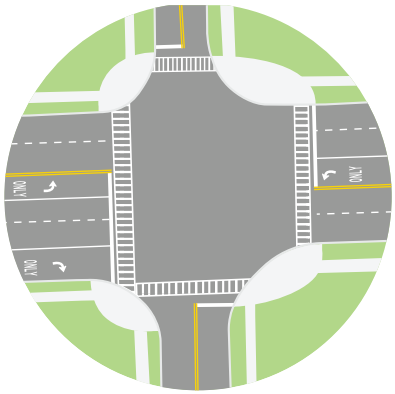
- Intersection of two major and/or minor arterial roadways
- Serves 10,000 - 40,000 Vehicles/Day
- Address safety concerns for all travel modes and reduces the risk of speeding, angle, and turning crashes.

Potential Countermeasures

- Medians at intersection approaches
- Left-turn or right-turn lanes
- No turns on reds,
- Red light running and/or dilemma zone detection/deterrent technology*
- Automated enforcement technology*^
- Speed limit modifications
- Systemic improvements (lighting, signage, advance stop bars)
- Bicycle Infrastructure, such as bike lanes or shared-use paths (ped/bike)
- Recessed Reflective Pavement Markers
- High-visibility crosswalks (ped/bike)
- Leading pedestrian interval (ped/bike)*
- Sidewalks and curb ramps (ped/bike)
- Positive turn lane offsets
- Signal phasing/timing modifications
- Intersection Realignment

*Please note that at this time these treatments are not in alignment with Kane County Division of Transportation design policies, but could be applicable to municipalities.
^Some automated enforcement mechanisms are limited by State legislation. Confirm legality of possible mechanisms before planning for implementation.

Intersection Type 2 Toolbox



Intersection Type 2: All-Way Stop Intersections Between One Arterial Corridor And One Local Street

- Typically the intersection of a major/minor arterial roadway and a Low Functional Class roadway (Class 5-7)
- Serves under 10,000 Vehicles/Day
- Address safety concerns for all travel modes and reduces the risk of speeding, angle, and turning crashes.

Potential Countermeasures

- Advance intersection warning beacons/ signs
- Systemic improvements (lighting, signage, advanced stop bars)
- Recessed reflective pavement markings
- Reduced left-turn conflict intersections (RCUT)*
- High-visibility crosswalk (ped/bike)
- Bicycle Infrastructure, such as bike lanes or shared-use paths (ped/bike)
- Roundabouts
- Sidewalks and curb ramps (ped/bike)
- Intersection Realignment

*Please note that at this time these treatments are not in alignment with Kane County Division of Transportation design policies, but could be applicable to municipalities.

The Intersection 1 and Intersection 2 Toolbox both contain suitable countermeasures for each of the intersection facility types listed. However, these countermeasures are not mutually exclusive and some countermeasures from one toolbox can be used in the other toolbox. Even within a countermeasure toolbox, the most appropriate countermeasures will depend on each individual location's physical context.

It is also important to note that the two intersection typologies highlighted above are only some of several different intersection typologies in Kane County. The Project team examined these two intersection typologies because these two intersections see the highest number of serious injury and fatal collisions. These two intersection typologies also highlight an opportunity to highlight Federal Highway Administration (FHWA) proven safety countermeasures for signalized and unsignalized intersections. Other types of high-risk intersections not specifically identified in this Chapter can and should apply appropriate countermeasures from one or both of the toolboxes listed in this chapter.


New
OPEN

Systemic Segment Characteristics

The Project team's systemic analysis, detailed in **Chapter 4**, identified several corridor typologies. These corridors had higher risks of severe and fatal injury crashes. Each toolbox addresses common risk factors for each typology, including crashes involving all travel modes and front-to-rear, roadway departure, and fixed object crashes.

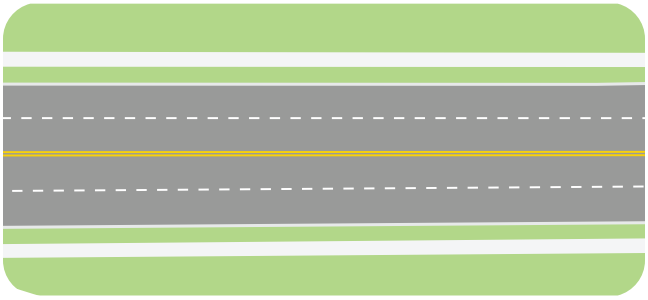
The top three corridor types include:

- *Segment Type 1*: Medium volume arterial roads with four or more lanes at 30 mph or less
- *Segment Type 2*: Low-to-medium volume Arterial roads with four or more lanes at 30 mph or less
- *Segment Type 3*: Low-to-medium volume Arterial roads with one to three lanes at 30 mph or less
- *Segment Type 4*: Medium volume Arterial roads with one to three lanes at 35 mph to 50 mph

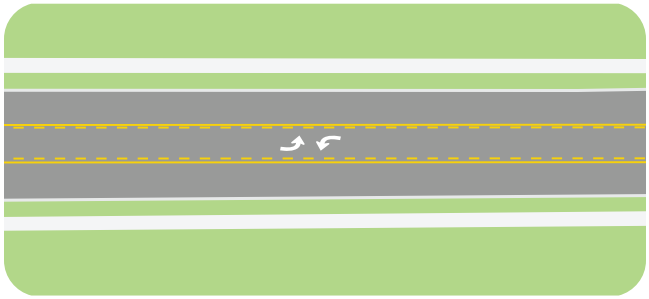
Similar to the intersection countermeasure toolboxes, the countermeasures listed in each of the segment countermeasure toolboxes in **Table 8.1** are not mutually exclusive and may be used on multiple types of segments, including types not discussed in this Chapter. While the table below notes which physical countermeasures are compatible with each facility type, it's important to note a segment's physical context and constraints when choosing appropriate countermeasures.

Example Segment Type 1 or Type 2

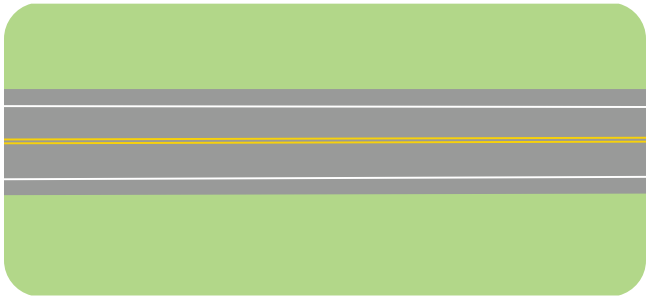
Or



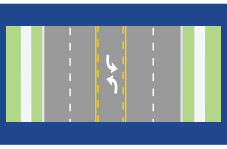
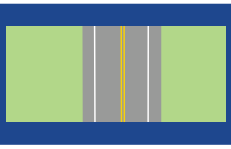
Example Segment Type 3



Example Segment Type 4



Systemic Segment Toolboxes

	Toolboxes			
	Segment Type 1	**Segment Type 2**	**Segment Type 3**	**Segment Type 4**
	Arterial Road (Class 2-4) with 4+ Lanes	**Arterial Road (Class 2-4) with 4+ Lanes**	**Arterial Road (Class 2-4) with 1-3 Lanes**	**Arterial Road (Class 2-4) with 1-3 Lanes**
	30 Miles/Hour or Less	**30 Miles/Hour or Less**	**30 Miles/Hour or Less**	**35 - 50 Miles/ Hour**
	20,000 or More Vehicles/Day	**2,000 - 20,000 Vehicles/Day**	**20,000 or More Vehicles/Day**	**2,000 - 20,000 Vehicles/Day**
				
Countermeasure for Consideration	**Segment Type 1**	**Segment Type 2**	**Segment Type 3**	**Segment Type 4**
Raised Medians (mid-block)	X	X		
Variable Speed Limits	X			X
Speed Feedback Signs			X	X
Speed Safety Cameras*	X	X	X	X
Dedicated bike lanes, with/without buffer separation	X	X	X	X
Sidewalks	X	X	X	X
Rail Safety Measures	X	X	X	X

Countermeasure for Consideration	Segment Type 1	Segment Type 2	Segment Type 3	Segment Type 4
Pedestrian Signals	X	X		
Pedestrian Refuge Islands*	X		X	
Mid-block crossings with Pedestrian Hybrid Beacons (PHBs)			X	X
Mid-block crossings with RRFBs			X	X
Roadway Reconfiguration	X	X		
Enhanced Delineation for Curved Roads			X	X
Rumble Strips before and through curves				X
Wider Edge Lines			X	X
Enhanced Visibility and Warning Signs (Light, Reflective Backplates, etc.)			X	X
Advance Warning Flashing Beacon Signs			X	X
Enhanced Pavement Friction	X	X	X	X

Table 8.1 - Systemic Intersection Toolboxes

Source: Federal Highway Administration (FHWA)

*Please note that, at this time, these treatments are not in alignment with Kane County Division of Transportation design policies, but could be applicable to municipalities.

Part Three
Chapter Nine

Showcase Locations and Projects

This chapter examines eight Kane County locations with particularly acute safety concerns and possible ways to improve safety at each location.

Introduction

What do safer roads look like? Using the tools from Chapter 8, we can imagine improvements that play a large part in reducing and eventually eliminating severe injury and fatal crashes.

Chapter 8 introduced the Safety Action Plan's countermeasure toolboxes, roadway design strategies appropriate for several different types of roadway and intersection types that were found to have high rates of severe injury and fatal crashes.

In this chapter, the Project team identified specific locations within Kane County that fit a specific selection criteria and used countermeasures from the countermeasure toolboxes to showcase possible strategies for improving roadway safety at those locations. The eight projects showcased in this chapter will act both as examples for other locations with similar characteristics while also being potential candidates for grant funding opportunities aimed at addressing safety issues.

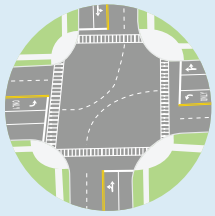
The Project team's identified the 8 showcase projects, in part, using the criteria in Table 9.1.

Showcase Project Selection Criteria and Future Project Prioritization Framework

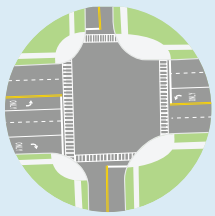
In order to select the eight locations for this chapter's Showcase projects, the Project team used a selection criteria matrix similar to what's

A Refresh on Intersection and Segment Focus Types

In Chapter 8, the Project team defined two types of intersection designs and four types of roadway segment designs that account for a disproportionate number of severe injury and fatal crashes. Those facility types are:



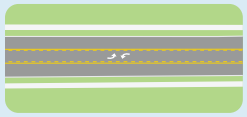
Intersection Type 1
(Traffic signal controlling two high functional class streets)



Intersection Type 2
(All-Way Stop between a high and low functional class street)

Segment Type 1
(Medium Traffic 4+ Lane Arterial)

Segment Type 2
(Lower Traffic 4+ Lane Arterial)



Segment Type 3
(Medium Traffic 1-3 Lane Arterial)

Segment Type 4
(Lower Traffic 1-3 Lane Arterial)

pictured in Table 9.1. The criteria were organized into three categories, with some criteria in higher category given more weight than criteria in lower categories. In addition to the categories listed below, the Project team also considered whether a potential showcase location was located in one of the Kane County Safety Action Plan's key partner municipalities. Criteria that disqualified a location for consideration as a showcase location included whether there was a project in phase I (planning), phase II (design), or phase III (construction) at the location in question or whether improvements had been recently completed at a location in question.

Table 9.1 below is also an initial framework describing how the Kane County Division of Transportation (KDOT) intends to prioritize potential road projects for consideration and implementation. This framework may change to reflect future KDOT priorities, projects in phase I, or regional, state, or federal funding requirements. Other municipalities or road construction and maintenance agencies in Kane County may also choose to amend Table 9.1 or use a different framework for project prioritization as well. Any future selection criteria frameworks will continue to incorporate Safe System Approach goals.

!!! **High-Priority Criteria**	High-risk Intersection/ Segment Types identified in the Systemic Analysis		Along the Kane County High Injury Network	Community-Identified Project
!! **Medium-Priority Criteria**	Proximity to Parks	Proximity to Schools	Proximity to Trails	Proximity to Metra Stations
! **Additional Considerations**	Geographical Distribution		Within Kane County government Jurisdiction	Improvements Proposed in a Local/Regional Plan

Table 9.1 - Showcase Selection Criteria

Selection Criteria Notes

Systemic Analysis

- Using the data analyzed in **Chapter 4**, the Project team used two intersection types (Intersection Type 1 and Intersection Type 2) and four segment types (Segment Types 1-4) as the preliminary filter to identify locations. Intersection Type 1 and 2 and Segment types 1-4 are described in more detail in **Chapter 8**.
  - *Note:* The above facility types are by no means exhaustive; other intersection and segment typologies that ranked within the top five types with the highest severe injury/fatal crash rates will be collectively known as *Focus Facility Types*.

High Injury Network

- Next, the segment and intersection locations with the highest crash rates and/or numbers were compared to Kane County's all-mode High Injury Network. This helped narrow down locations; however, the highest ranked locations often landed on the same corridor (such as on Randall Road) and were clustered in denser communities on the east side of the county. To ensure geographical and physical diversity, the Project team also considered the criteria below.

Community Engagement

- Community engagement results helped identified specific locations along long corridors. Every location except **Project #3** received at least one comment during an engagement activity or on Chicago Metropolitan Agency for Planning's (CMAP's) Safety Hotspots Map

Proximity to Key Community Destinations

- The Project team chose locations close to schools, parks, Metra stations, and other community destinations. This narrowed down the potential project list to approximately 15 remaining locations.

Geographic Distribution

- Many of the remaining locations were clustered in the eastern portion of Kane County. The Project team wanted to ensure that communities in the more rural, western portion of the county also had showcase projects showcases to reference. As a result, two projects at high crash locations were chosen that are located on the western/central portions of the county.

Inclusion in Existing Planning Documents/Projects Already in Engineering Phases

- The Project team removed the last handful of potential showcase projects that were already in design/engineering/construction phases or already in finished construction. However, if a project had not yet been proposed, the Project team referenced other regional/local planning studies to ensure congruency with any existing recommendations and ideas mentioned by the jurisdiction.

Eight Showcased Projects

Based on the previously detailed selection process, the Project team identified eight locations for the Kane County Action Plan Showcase Projects. These Showcase Projects, mapped in **Figure 9.1**, are listed below:

1. **Randall Road Between Main Street and Wilson Street** (Batavia)
2. **Dundee Avenue Between Kimball Street and Summit Street** (Elgin)
3. **Union Street Between Galena Boulevard and New York Street** (Aurora)
4. **Burlington Road Between French Road and Burlington Park** (Burlington)
5. **Main Street from Elm Street to Washington Street** (Carpentersville)
6. **1st Street Between South Street and 3rd Street** (Geneva)
7. **Lincoln Highway (IL 38) Between Main Street and Anderson Road** (Elburn)
8. **US 20 Between Shannon Parkway and Longcommon Parkway** (Elgin)

This chapter creates a fact sheet for each eight Showcase Project. The fact sheets will include relevant information on the project's facility types, general collision characteristics, identified recommendations, alongside whether the project is located in an Area of Persistent Poverty or IRS Opportunity Zone. Select comments received on these projects about specific issues will also be included. Projects will also have an estimated time range of implementation, whether short-term (one to five years), mid-term (five to ten years), or long-term (ten plus years).

The eight Showcase Projects are a result of the synthesis of multiple qualitative and quantitative factors. They are also not organized in any particular order. As a result, this list should not be interpreted to be a list of the locations most in need of improvements or as a list of any roadway agency's top priorities. Rather, the Showcase Projects are intended to be examples of possible ways to reduce severe injury and fatal car crashes for various intersections and corridors with relatively similar physical and geographical contexts.

Why Areas of Persistent Poverty and IRS Opportunity Zones?

Area of Persistent Poverty is one of several metrics the United States Department of Transportation (USDOT) uses to evaluate projects submitted for Safe Streets for All Implementation grants.

Similarly, at the time of the Kane County Safety Action Plan's publication, the USDOT also considers whether a project is within an *IRS Opportunity Zone* when evaluating it for federal funding opportunities.

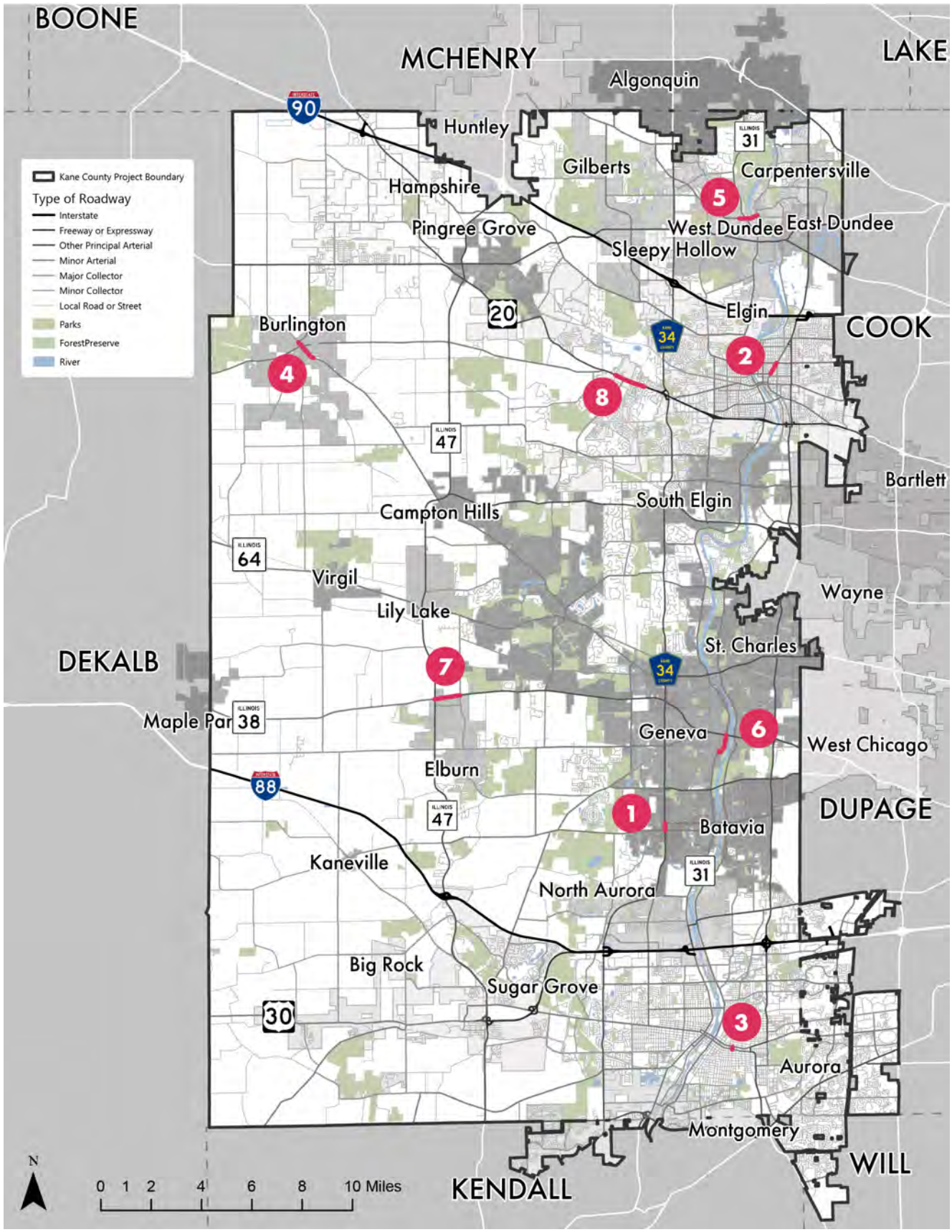


Figure 9.1 - Showcase Projects Overview Map

Transportation Improvement Plan Project Locations

In addition to this chapter's Showcase Projects, the following list highlights additional safety projects mentioned in KDOT's Transportation Improvement Plan (TIP) project list that also coincide with Kane County's High Injury Network. Each listed project is accompanied by a short description of that project's activities:

1. *Randall Road Multimodal Projects*, between College Green Drive to County Line Road
   - » Implement shared use paths, sidewalks and bike routes
   - » Signalize intersections
2. *Randall Road & Route 72*
   - » Construct additional through lanes on Randall Road,
   - » Install Multi-use paths and crosswalks
3. *Randall Road & I 90 Interchange*
   - » Install sidewalks and multi-use paths
   - » Evaluate and enhance traffic signal operations
   - » Additional through and turn lane
4. *Randall Road & Big Timber Road*
   - » Construct additional through lanes on Randall Road,
   - » Stripe duel left-turn lanes from northbound Randall Road
   - » Realign intersection skew for better sight lines
   - » Install sidewalks and crosswalks
5. *Randall Road & Hopps Road*
   - » Realign intersection
   - » Grade separate of Randall Road
   - » Construct additional through lane on Randall Road
   - » Install multi-use path
6. *Randall Road & US 20 Interchange*
   - » Preliminary engineering study in progress as of the publication of the Kane County Safety Action Plan
   - » Interchange improvements
7. *Fabyan Parkway, between IL 31 and IL 25*
   - » Realign skewed intersection
   - » Construct dedicated turn lanes
   - » Install sidewalks
8. *Fabyan Parkway, between Settlers Hill and Kingsland Drive*
   - » Construct painted medians with left-turn lanes
   - » Improve curb radii
   - » Convert certain intersections from partial- to all-way stops

Figure 9.2 on the following page maps and numbers these eight projects.

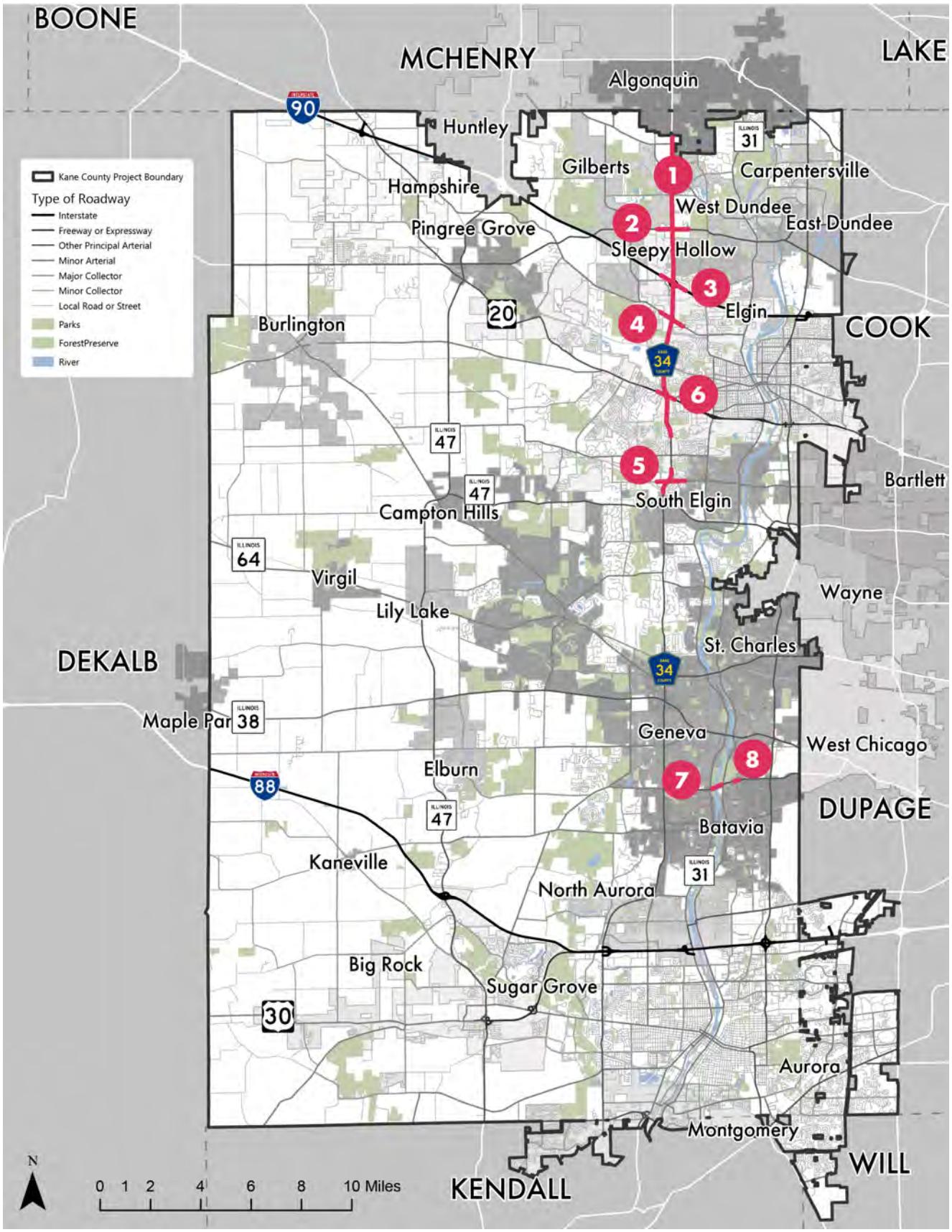


Figure 9.2 - TIP Projects Overview Map

1 Randall Road Between Main Street and Wilson Street

City of Batavia

Project Segment Map

Focus Location: Randall Road and Main Street Road

Why This Location Was Selected:

- Systemic Analysis Data
- Proximity to Schools
- High Injury Network Score
- Steering Committee Guidance

Showcase Project 1 - Location Characteristics

Facility Types:

Intersection Facility Type:
Signalized, Between Two Arterials

Segment Facility Type:
Other Focus Facility Type

Program Considerations:

Area of Persistent Poverty?
No

IRS Opportunity Zone?
No

Crash Statistics:

Total Collisions
120

Severe Or Fatal Collisions
4

Pedestrian Collisions
0

Bicycle Collisions
0

Top Collision Types:

1. Front to Rear (42.5%)
2. Turning/Angle (39.2%)
3. Sideswipe (13.3%)

Key Safety Rankings:

6 Community Engagement Comments

8-11 High Injury Network Score (Injuries Per Mile)

0.38 Severe/Fatal Crashes Per Mile

What The Community Says About This Location:

- "Feels unsafe to cross due to high speeds and road width (of Randall)"
- "Drivers do not anticipate turning vehicles or pedestrians"
- "No sidewalks along Randall"
- "Turns are unsafe on flashing yellows"

Showcase Project 1 - Existing Conditions

Randall Road and Main Street - City of Batavia

Additional Context:

- According to the City of Batavia's Active Transportation Plan (ATP), Randall Road was the most requested corridor to have walking and biking amenities. Wilson Street followed as the 3rd most requested corridor to have similar improvements
- City of Batavia's ATP also cited the intersection of Randall Road and Wilson Street as one of the most challenging crossings for pedestrians and bicyclists

Showcase Project 1 - Potential Strategies

Randall Road and Main Street - City of Batavia

Estimated Timeline: Long-term (10+ Years)

* Improvement proposed in previous plan or policy.

** Design changes were made to permissive left turns in 2020. FYAs may not improve safety in all intersection types. Consider studying the efficacy when post installation crash data is available to perform a before/after analysis.

Notes:

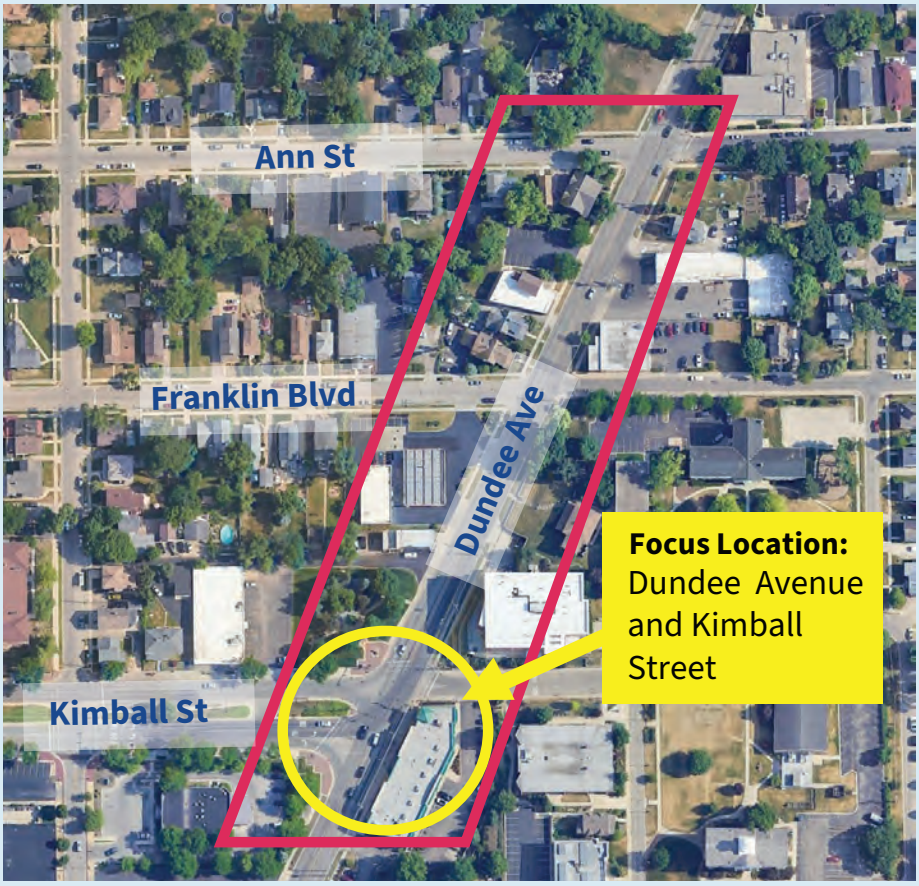
- Flashing Yellow Arrows (FYA) have been implemented (since 2016) or will be implemented along Randall Road. Additional background on these projects can be found here KDOT FYA Project Page.

Additional study required to determine safety efficacy of FYAs at specific intersection types.

2 Dundee Avenue Between Kimball Street and Summit Street

City of Elgin

Project Segment Map



Why This Location Was Selected:

- Systematic Analysis Data
- Proximity to Schools
- High Injury Network Score
- Steering Committee Guidance

Showcase Project 2 - Location Characteristics

Facility Types:

Intersection Facility Type:
All-way Stop, Between Arterial and Local Streets

Segment Facility Type:
Low-Medium Volume Arterial, 4+ Lanes, <30 MPH

Program Considerations:

Area of Persistent Poverty?
No

IRS Opportunity Zone?
No

Crash Statistics:

Total Collisions
99

Severe Or Fatal Collisions
6

Pedestrian Collisions
0

Bicycle Collisions
0

Top Collision Types:

1. Turning/Angle (56.6%)
2. Front to Rear (27.7%)
3. Fixed Object (6%)

Key Safety Rankings:

1 Community Engagement Comments

14+ High Injury Network Score (Injuries Per Mile)

1.22 Severe/Fatal Crashes Per Mile

What The Community Says About This Location:

» “Kimball Street is too wide, a bike lane would be an amazing addition”

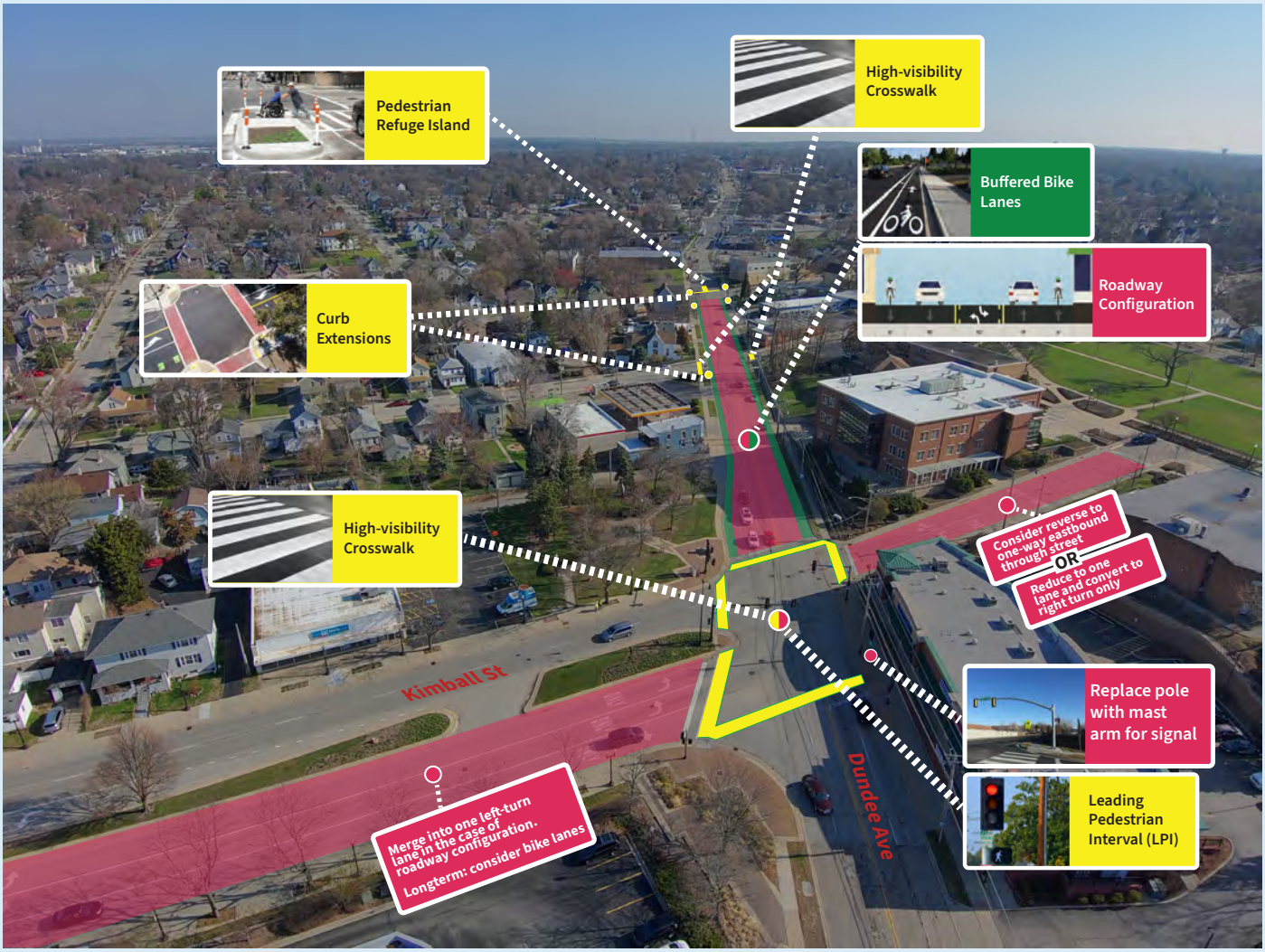
Showcase Project 2 - Existing Conditions

Dundee Avenue and Kimball Street - City of Elgin

Showcase Project 2 - Potential Strategies

Dundee Avenue and Kimball Street - City of Elgin

Estimated Timeline: Medium-term (5-10 Years)



Notes:

- IDOT LPI guidelines: implementation should be carefully reviewed and evaluated on a case-by-case basis. Factors to consider include individual signal sequences, intersection geometry, visibility, pedestrian volume, volume-to-capacity (v/c) ratio, average daily traffic (ADT), crash history, and pedestrian walking distances.

3 Union Street Between Galena Boulevard and New York Street

City of Aurora

Project Segment Map

Why This Location Was Selected:

- Systemic Analysis Data
- Geographical Distribution
- High Injury Network Score
- Proximity to Parks

Showcase Project 3 - Location Characteristics

Facility Types:

Intersection Facility Type:
Other Focus Facility Type

Segment Facility Type:
Other Focus Facility Type

Program Considerations:

Area of Persistent Poverty?
Yes

IRS Opportunity Zone?
Yes

Crash Statistics:

Total Collisions
98

Severe Or Fatal Collisions
2

Pedestrian Collisions
5

Bicycle Collisions
0

Top Collision Types:

1. Turning/Angle (45.9%)
2. Front to Rear (35.7%)
3. Pedestrian (5.1%)

Key Safety Rankings:

0 Community Engagement Comments

8-11 High Injury Network Score (Injuries Per Mile)

0.15 Severe/Fatal Crashes Per Mile

What The Community Says About This Location:

» No public comments

* VRU rate, includes visible injury (Type K, A, and B Crashes)

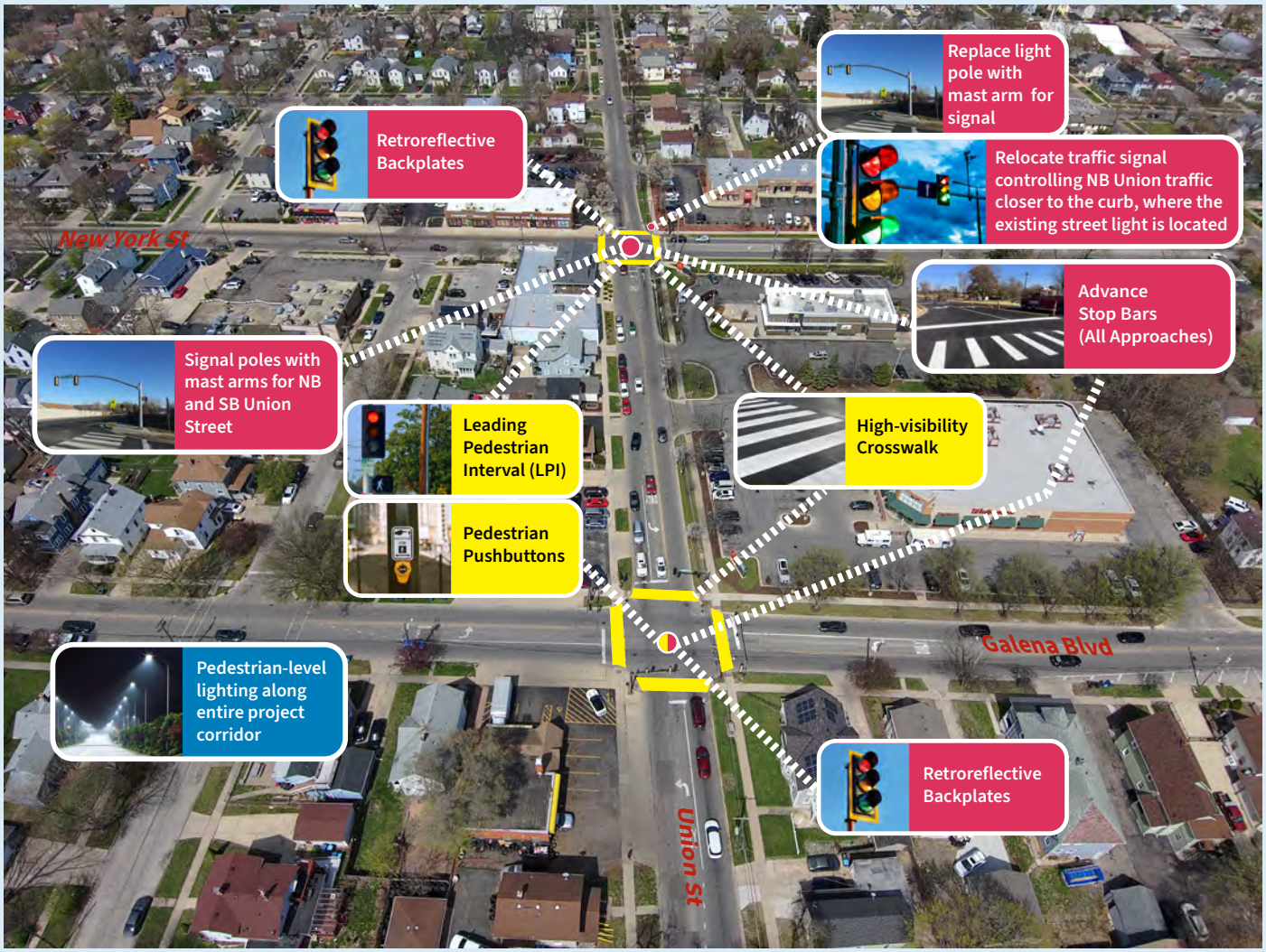
Showcase Project 3 - Existing Conditions

Union Street and Galena Boulevard - City of Aurora

Showcase Project 3 - Potential Strategies

Union Street and Galena Boulevard - City of Aurora

Estimated Timeline: Short-term (1-5 Years)



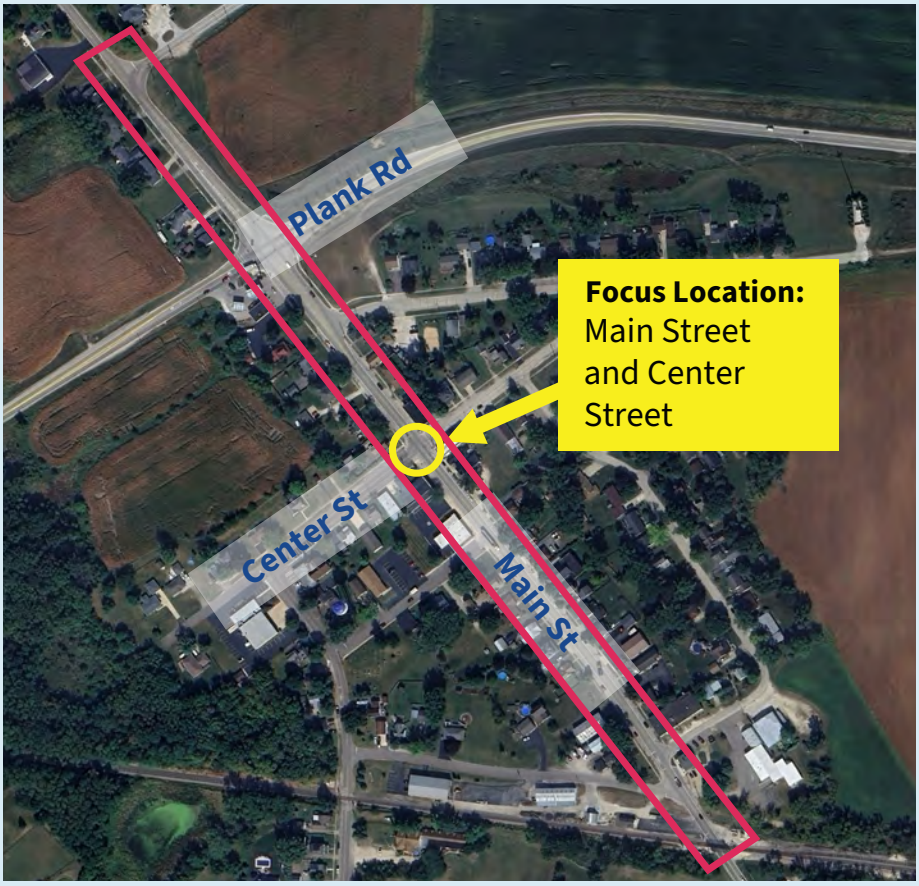
Notes:

» IDOT LPI guidelines: implementation should be carefully reviewed and evaluated on a case-by-case basis. Factors to consider include individual signal sequences, intersection geometry, visibility, pedestrian volume, volume-to-capacity (v/c) ratio, average daily traffic (ADT), crash history, and pedestrian walking distances.

4 Burlington Road Between French Road and Burlington Park

Village of Burlington

Project Segment Map



Why This Location Was Selected:

- Systemic Analysis Data
- Proximity to Schools
- Geographical Distribution
- Proximity to Trails

Showcase Project 4 - Location Characteristics

Facility Types:

Intersection Facility Type:
Other Focus Facility Type

Segment Facility Type:
Low - Medium Volume Arterial,
1 - 3 lanes, < 30 MPH

Program Considerations:

Area of Persistent Poverty?
No

IRS Opportunity Zone?
No

Crash Statistics:

Total Collisions
31

Severe Or Fatal Collisions
0

Pedestrian Collisions
0

Bicycle Collisions
0

Top Collision Types:

1. Turning/Angle (45.2%0
2. Front to Rear (32.3%)
3. Parked Vehicle (12.9%)

Key Safety Rankings:

2 Community Engagement Comments

N/A High Injury Network Score (Injuries Per Mile)

0.25 Severe/Fatal Crashes Per Mile

What The Community Says About This Location:

- "Stop signs are often ignored. Students often cross to school bus stop nearby"
- "Speeding along the corridor both ways, cars and trucks do not stop"

* VRU rate, includes visible injury (Type K, A, and B Crashes)

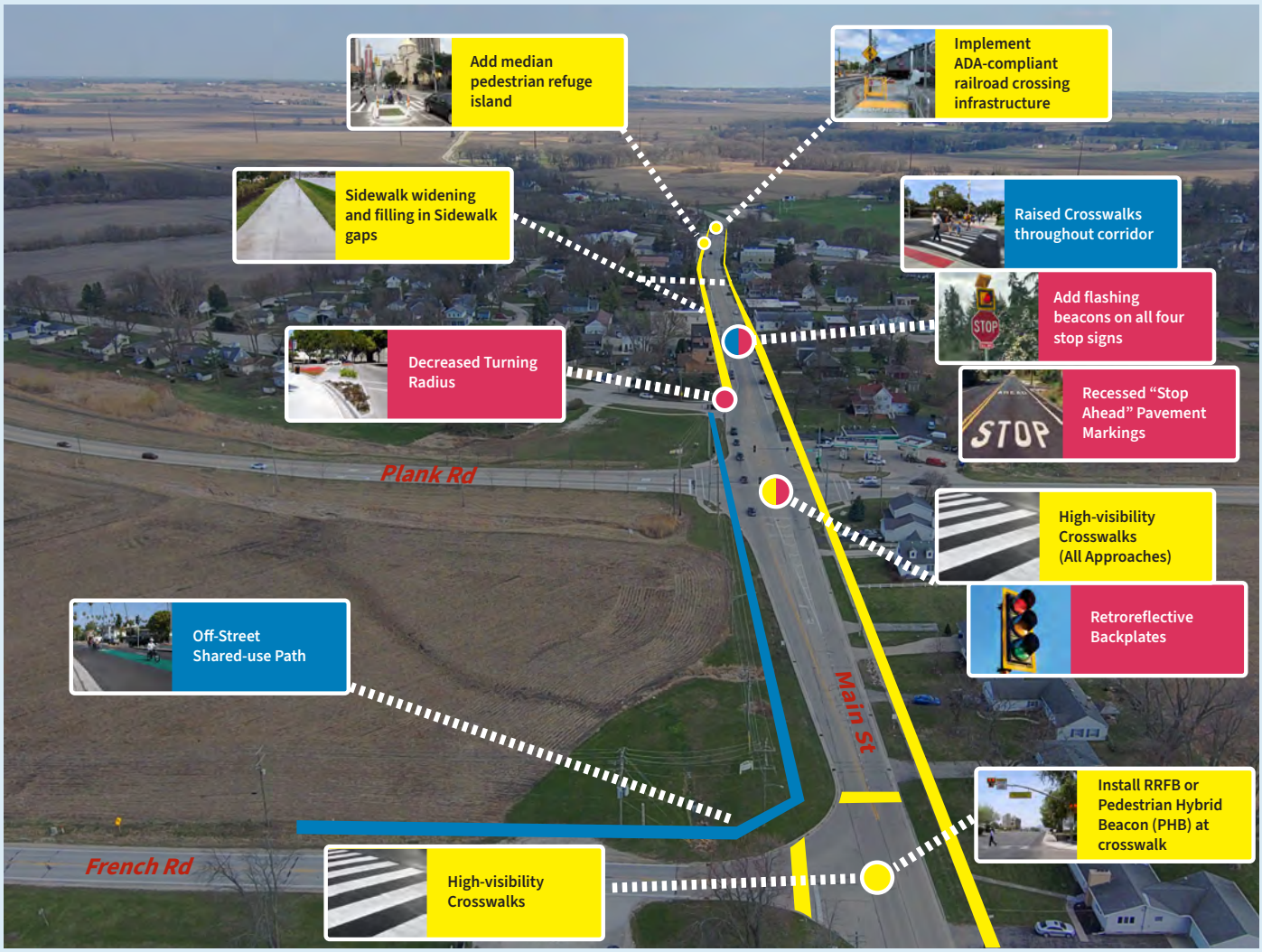
Showcase Project 4 - Existing Conditions

Main Street and French Road - Village of Burlington

Showcase Project 4 - Potential Strategies

Main Street and French Road - Village of Burlington

Estimated Timeline: Medium-term (5-10 Years)



Notes:

» The intersection at Main Street and Plank Road may be a potential candidate for a roundabout if plans for a regional trail going through Burlington comes into fruition or if additional traffic calming measures are needed when pedestrian and bicylist volumes increase in the future.

5 Main Street from Elm Street to Washington Street

Village of Carpentersville

Project Segment Map

Why This Location Was Selected:

- Systematic Analysis Data
- Community Engagement
- High Injury Network Score
- Proximity to Trails

Showcase Project 5 - Location Characteristics

Facility Types:

Intersection Facility Type:
Other Focus Facility Type

Segment Facility Type:
Low - Medium Volume Arterial, 1 - 3 lanes, < 30 MPH

Program Considerations:

Area of Persistent Poverty?
Yes

IRS Opportunity Zone?
No

Crash Statistics:

Total Collisions
145

Severe Or Fatal Collisions
4

Pedestrian Collisions
0

Bicycle Collisions
1

Top Collision Types:

1. Front to Rear (42.1%)
2. Turning/Angle (41.4%)
3. Pedalcyclist (2%)

Key Safety Rankings:

5 Community Engagement Comments

5-8 High Injury Network Score (Injuries Per Mile)

1.29 Peak Severe/Fatal Crashes Per Mile

What The Community Says About This Location:

- "Turning or crossing on Lincoln Avenue is difficult due to steep hill"
- "Pedestrians, bikers, and scooters cross often, and it is a difficult crossing"

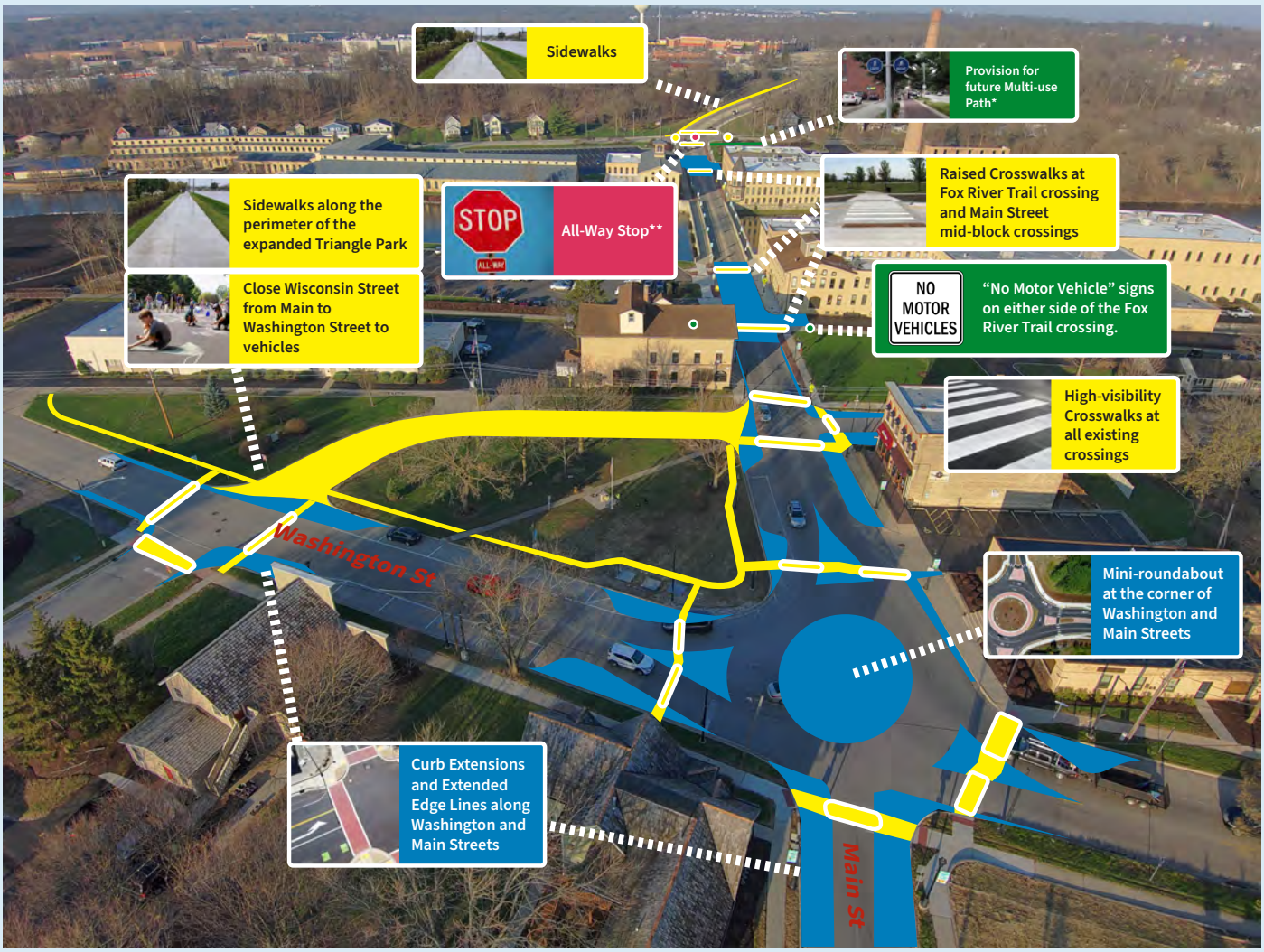
Showcase Project 5 - Existing Conditions

Main Street and Washington Street - Village of Carpentersville

Showcase Project 5 - Potential Strategies

Main Street and Washington Street - Village of Carpentersville

Estimated Timeline: Long-term (10+ Years)



* Improvement proposed in previous plan or policy.

** Will require warrant analysis

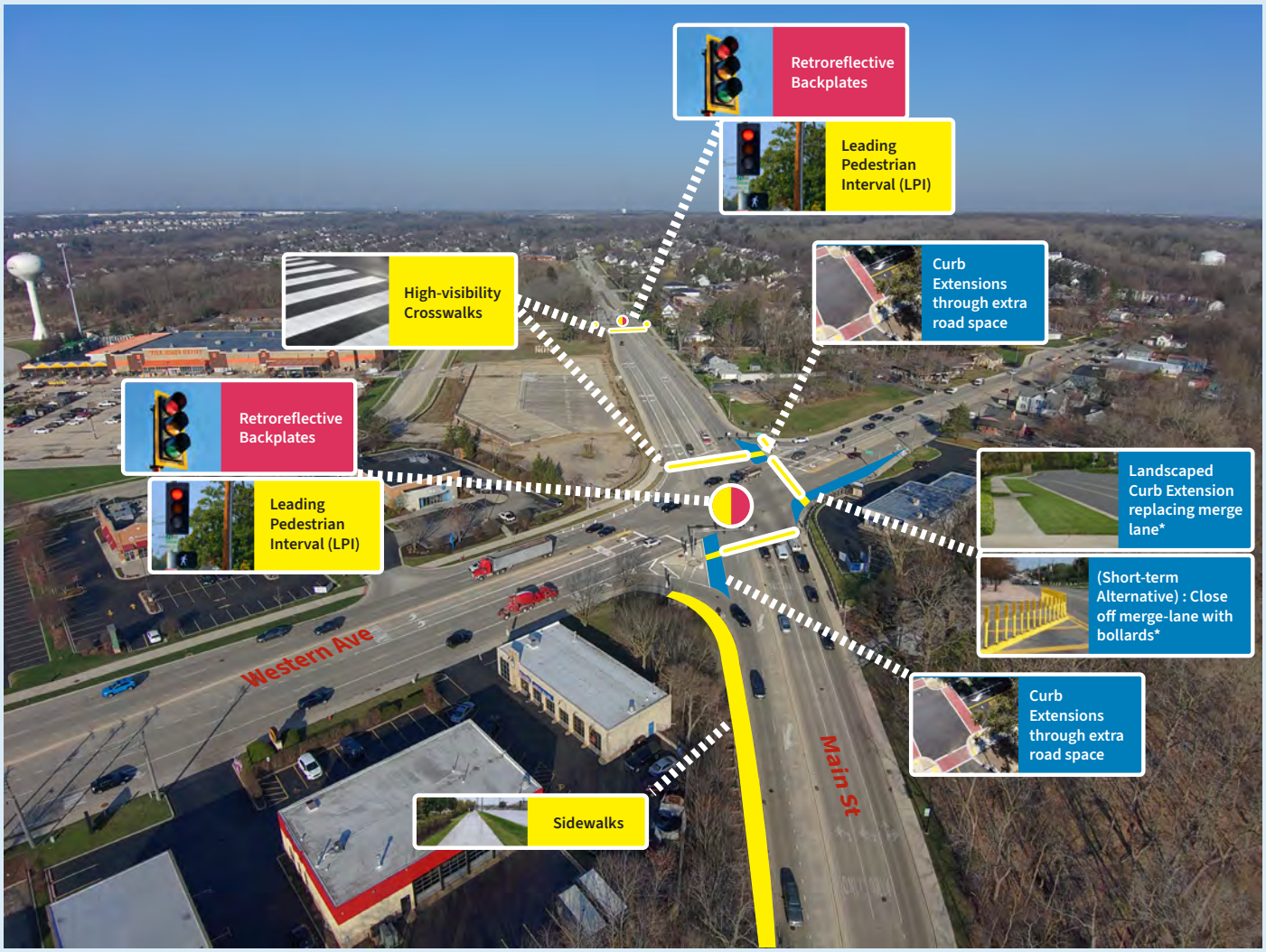
Showcase Project 5 - Existing Conditions

Main Street and Western Avenue - Village of Carpentersville

Showcase Project 5 - Potential Strategies

Main Street and Western Avenue - Village of Carpentersville

Estimated Timeline: Short-Term (1-5 Years)



*Additional coordination with Carpentersville required

Notes:

- IDOT LPI guidelines: implementation should be carefully reviewed and evaluated on a case-by-case basis. Factors to consider include individual signal sequences, intersection geometry, visibility, pedestrian volume, volume-to-capacity (v/c) ratio, average daily traffic (ADT), crash history, and pedestrian walking distances.

6 1st Street Between South Street and 3rd Street

City of Geneva

Project Segment Map

Why This Location Was Selected:

- Systematic Analysis Data
- Community Engagement
- High Injury Network Score
- Proximity to Trails

Showcase Project 6 - Location Characteristics

Facility Types:

Intersection Facility Type:
Not a Focus Facility Type

Segment Facility Type:
Low - Medium Volume Arterial, 1 - 3 Lanes, < 30 MPH

Program Considerations:

Area of Persistent Poverty?
No

IRS Opportunity Zone?
No

Crash Statistics:

Total Collisions
23

Pedestrian Collisions
0

Severe Or Fatal Collisions
2

Bicycle Collisions
0

Top Collision Types:

1. Turning/Angle (43.5%)
2. Front to Rear (26%)
3. Fixed Object (26%)

Key Safety Rankings:

4 Community Engagement Comments

5-8 High Injury Network Score (Injuries Per Mile)

0.25 Severe/Fatal Crashes Per Mile*

What The Community Says About This Location:

- "Unsafe for pedestrians and bikes"
- "Vehicles rarely yield for those crossing at 1st Street"
- "Poor sightlines for drivers going northbound"
- "Tremendous amount of foot traffic crossing 1st Street"

* VRU rate, includes visible injury (Type K, A, and B Crashes)

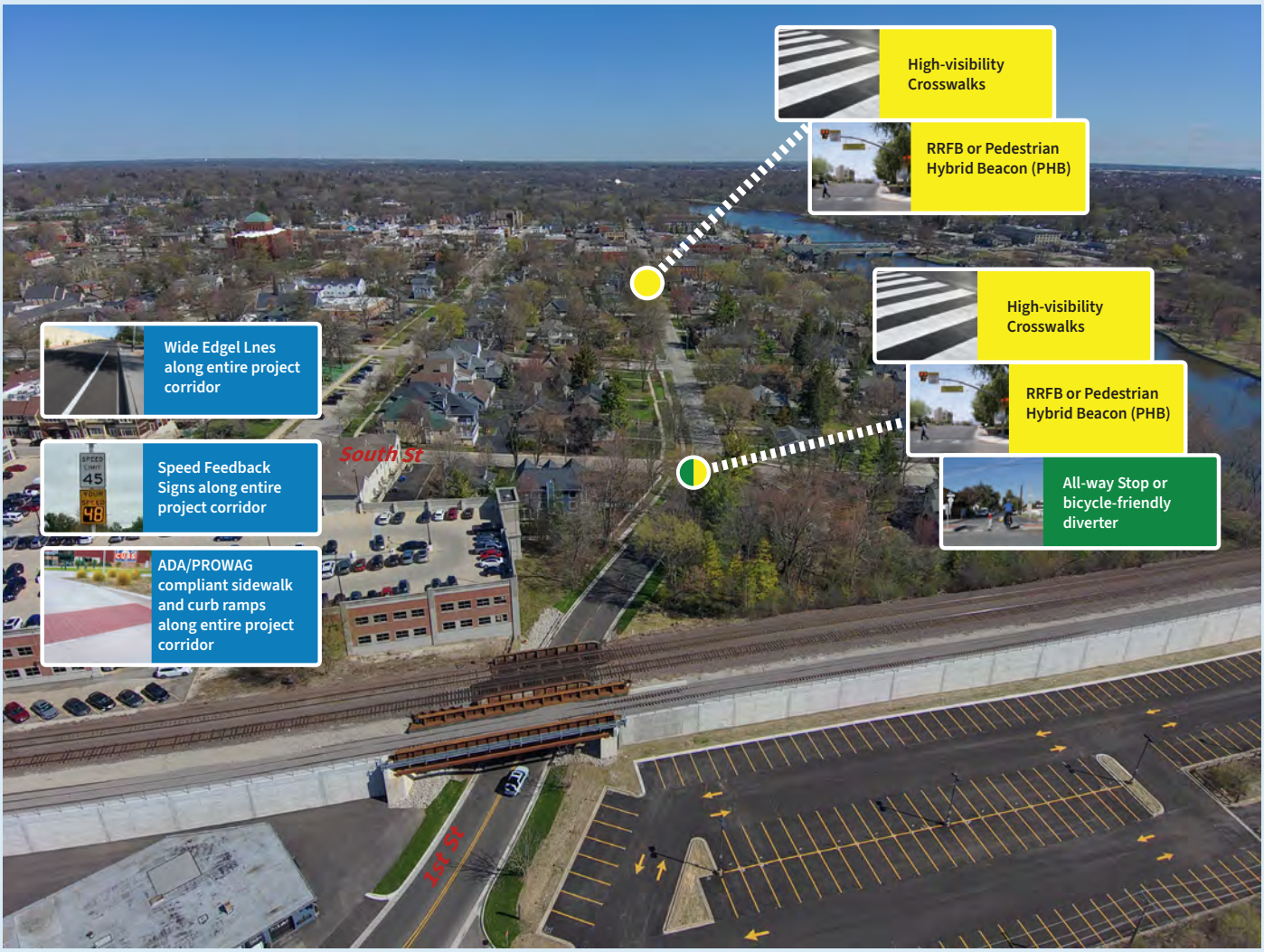
Showcase Project 6 - Existing Conditions

1st Street and South Street - City of Geneva

Showcase Project 6 - Potential Strategies

1st Street and South Street - City of Geneva

Estimated Timeline: Short-Term (1-5 Years)



7 Lincoln Highway (IL 38) Between Main Street and Anderson Road

Village of Elburn

Project Segment Map

Why This Location Was Selected:

- Systemic Analysis Data
- Geographical Distribution
- High Injury Network Score
- Community Engagmenent

Showcase Project 7 - Location Characteristics

Facility Types:

Intersection Facility Type:
Signalized, Between Two Arterials

Segment Facility Type:
Other Focus Facility Type

Program Considerations:

Area of Persistent Poverty?
No

IRS Opportunity Zone?
No

Crash Statistics:

Total Collisions
62

Severe Or Fatal Collisions
11

Pedestrian Collisions
0

Bicycle Collisions
0

Top Collision Types:

1. Turning/Angle (53.2%)
2. Front to Rear (33.9%)
3. Fixed Object (4.9%)

Key Safety Rankings:

27 Community Engagement Comments

11-14 High Injury Network Score (Injuries Per Mile)

0.55 Severe/Fatal Crashes Per Mile

What The Community Says About This Location:

- "Blind hill and high speeds make the intersection at Anderson Road very dangerous"
- "Dangerous for north-south bound traffic at Anderson Road intersection without traffic signal"
- "Roundabout would be ideal"
- "I avoid this intersection if I need to turn left"
- "Drivers take unnecessary risks when turning or crossing"

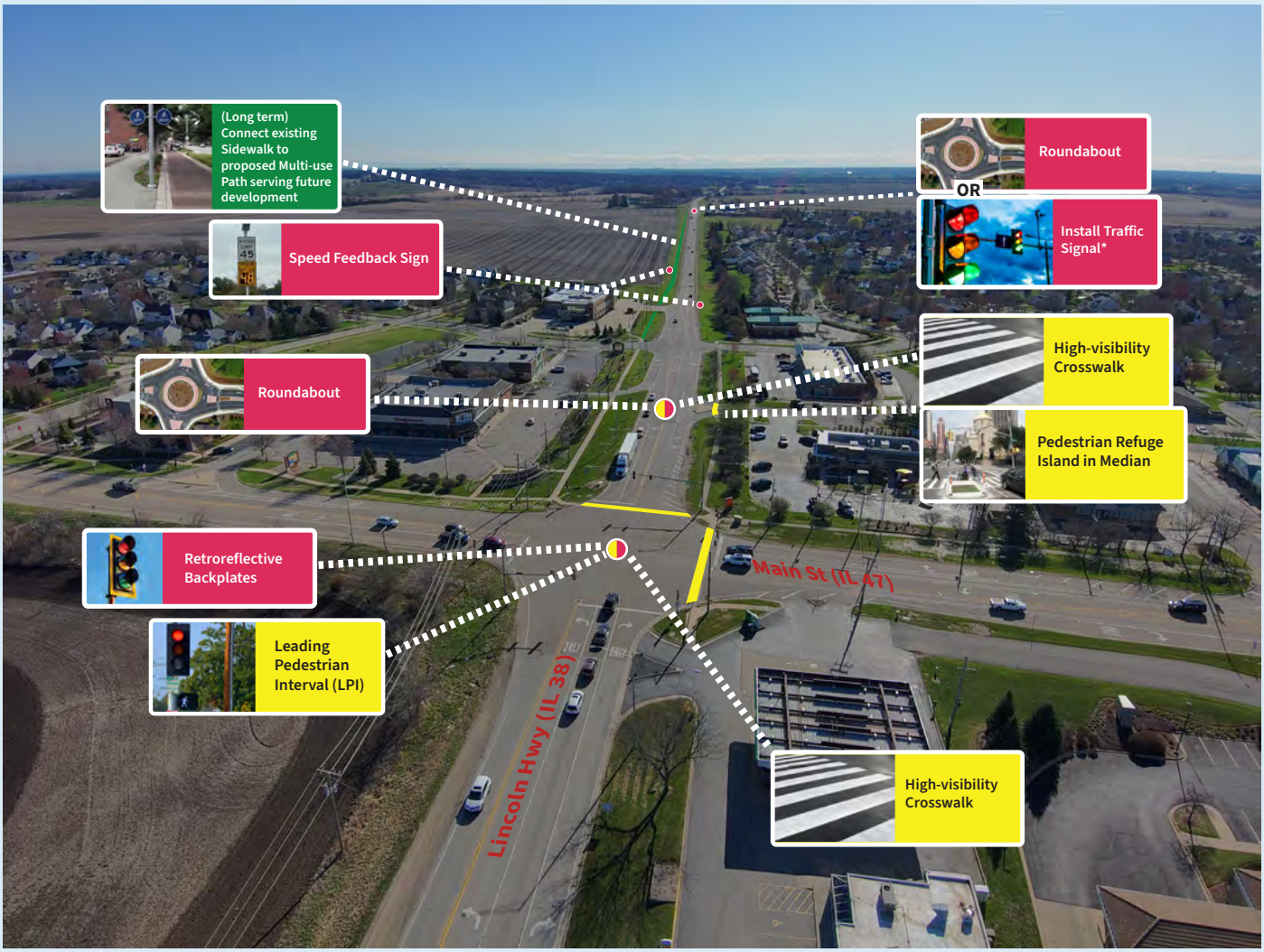
Showcase Project 7 - Existing Conditions

Lincoln Highway and Main Street - Village of Elburn

Showcase Project 7 - Potential Strategies

Lincoln Highway and Main Street - Village of Elburn

Estimated Timeline: Long-term (10+ Years)



*Will require warrant analysis

Notes:

- IDOT LPI guidelines: implementation should be carefully reviewed and evaluated on a case-by-case basis. Factors to consider include individual signal sequences, intersection geometry, visibility, pedestrian volume, volume-to-capacity (v/c) ratio, average daily traffic (ADT), crash history, and pedestrian walking distances.

Showcase Project 7 - Existing Conditions

Lincoln Highway and Anderson Road - Village of Elburn

Showcase Project 7 - Potential Strategies

Lincoln Highway and Anderson Road - Village of Elburn

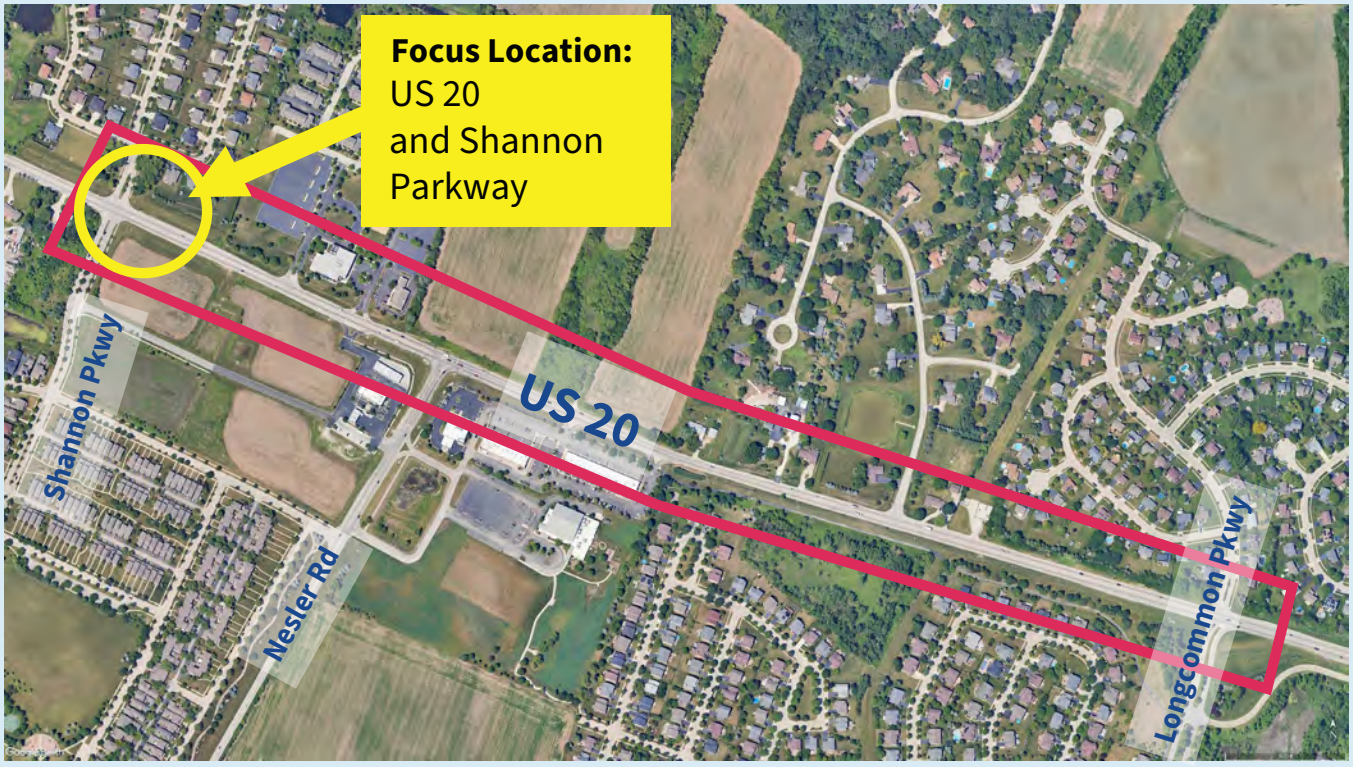
Estimated Timeline: Long-term (10+ Years)

* Will require warrant analysis

8 US 20 Between Shannon Parkway and Longcommon Parkway

City of Elgin

Project Segment Map



Why This Location Was Selected:

- Systemic Analysis Data
- Community Engagement
- High Injury Network Score
- Proximity to Trails

Showcase Project 8 - Location Characteristics

Facility Types:

Intersection Facility Type:
Other Focus Facility Type

Segment Facility Type:
Medium Volume Arterial,
1 - 3 Lanes, 35 - 50 MPH

Program Considerations:

Area of Persistent Poverty?
No

IRS Opportunity Zone?
No

Crash Statistics:

Total Collisions
151

Severe Or Fatal Collisions
7

Pedestrian Collisions
0

Bicycle Collisions
0

Top Collision Types:

1. Front to Rear (59%)
2. Turning/Angle (21.2%)
3. Fixed Object (6.6%)

Key Safety Rankings:

32 Community Engagement Comments

8-11 High Injury Network Score (Injuries Per Mile)

1.18 Severe/Fatal Crashes Per Mile

What The Community Says About This Location:

- "Dangerous to turn out of my neighborhood."
- "Unsafe uncontrolled cars vying for right of way"
- "People routinely block the intersection during rush hour"
- "Intersection is very unsafe because there is no traffic signal"

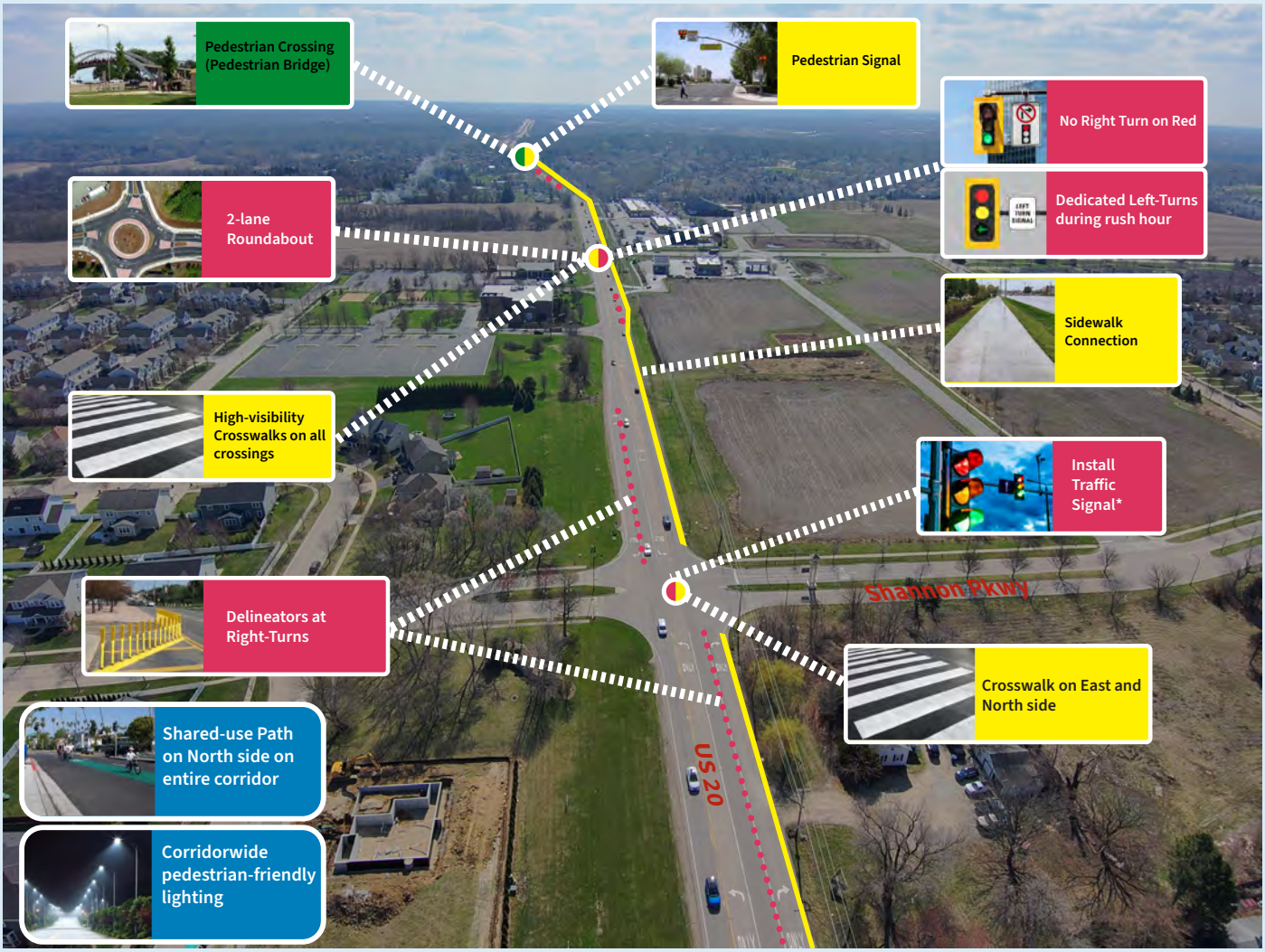
Showcase Project 8 - Existing Conditions

Lincoln Highway and Shannon Parkway - City of Elgin

Showcase Project 8 - Potential Strategies

Lincoln Highway and Shannon Parkway - City of Elgin

Estimated Timeline: Long-term (10+ Years)



* Will require warrant analysis

Part Three
Chapter Ten

Tracking Our Progress

This chapter discusses how project partners (Kane County, CMAP and participating municipalities) plan to hold ourselves accountable for and keep track of our progress towards accomplishing the Kane County Safety Action Plan's goals.

Overview

The ultimate goal of the Kane County: Safe Travel for All Safety Action Plan (Plan) is to eliminate traffic-related fatal and serious injury crashes by 2050. The Plan identifies emphasis areas, corridors, and intersections, as well as strategies and potential projects that will help to achieve this goal. Implementation of this Plan will involve a collective effort by the various communities and stakeholders within Kane County.

Setting clear targets is essential for measuring and tracking progress over time, enabling effective evaluation of implementation, policy decisions, and resource allocation. To help ensure that the strategies and recommendations outlined in the Plan effectively address roadway safety concerns in Kane County, it is important to regularly monitor progress. This approach also allows for thoughtful adjustments or re-prioritization of strategies, projects, and investments as needed. Maintaining transparency with the public about the region's progress over time is equally important, as it can help build trust and foster public support. This chapter outlines how the County will monitor and share progress over time.

Annual Perfomance Targets (5-Yr Rolling Avg)		
Year	**Fatalities**	**Incapacitating**
2022 (Baseline)	**34**	**307.2**
2023	32	263
2024	30	225
2025	28	192
2026	26	164
2027	24	140
2028	22	119
2029	21	101
2030	20	86
2031	19	73
2032	18	62
2033	17	53
2034	16	45
2035	15	38
2036	14	32
2037	13	27
2038	12	23
2039	11	19
2040	10	16
2041	9	13
2042	8	11
2043	7	9
2044	6	7
2045	5	5
2046	4	4
2047	3	3
2048	2	2
2049	1	1
2050	0	0

Table 10.1 - Performance Targets to Reach Vision Zero

Goal Setting

Kane County is dedicated to the long-term goal of eliminating transportation-related fatalities and serious injuries. While this is an ambitious objective, the County and its partners believe it is within reach, particularly in light of past progress and the ongoing efforts through current policies, programs, and projects, as outlined in **Chapter 2: Current Safety Plans and Initiatives** .

Kane County and its stakeholders evaluated past progress and the five-year rolling average in 2022 (i.e., 2018 – 2022) to establish a baseline for fatalities and serious injuries, which is 34.0 fatalities and 307.2 serious injuries. Based on the established goal of zero traffic-related fatalities and serious injuries by 2050, annual targets could be determined and used to establish five-year benchmarks.

As shown in **Table 10.1**, The goal is for the 2050 five-year rolling average (i.e., 2045 – 2050) to be zero fatalities and zero serious injuries. To meet this, there should be a 4.5% annual reduction in fatalities and a 14.3% annual reduction in serious injuries.

Performance Measures

The Plan's performance measures, shown below, align with federal requirements (23 U.S.C 150) and those established by CMAP. Currently, CMAP standards are the same as the state-adopted safety targets. To accomplish these goals, Kane County established annual targets that would help achieve the goal of

Performance Measure Category	2018-2022 Baseline (Annual Avg)
Number of roadway fatalities (K) per year	34.0
Number of roadway serious injuries (A) per year	307.2
Number of roadway fatalities per 100 million VMT per year	0.815
Number of roadway serious injuries per 100 million VMT	7.37
Number of combined non-motorized (pedestrians and bicyclists) fatalities and serious injuries per year	35.0

Table 10.2 - Performance Baseline Averages Bewteen 2018 - 2022

zero traffic fatalities and serious injuries. Table 10.2 provides primary performance measures and current each category's baseline numbers bewteen 2018 and 2022. Progress will be reported on annually.

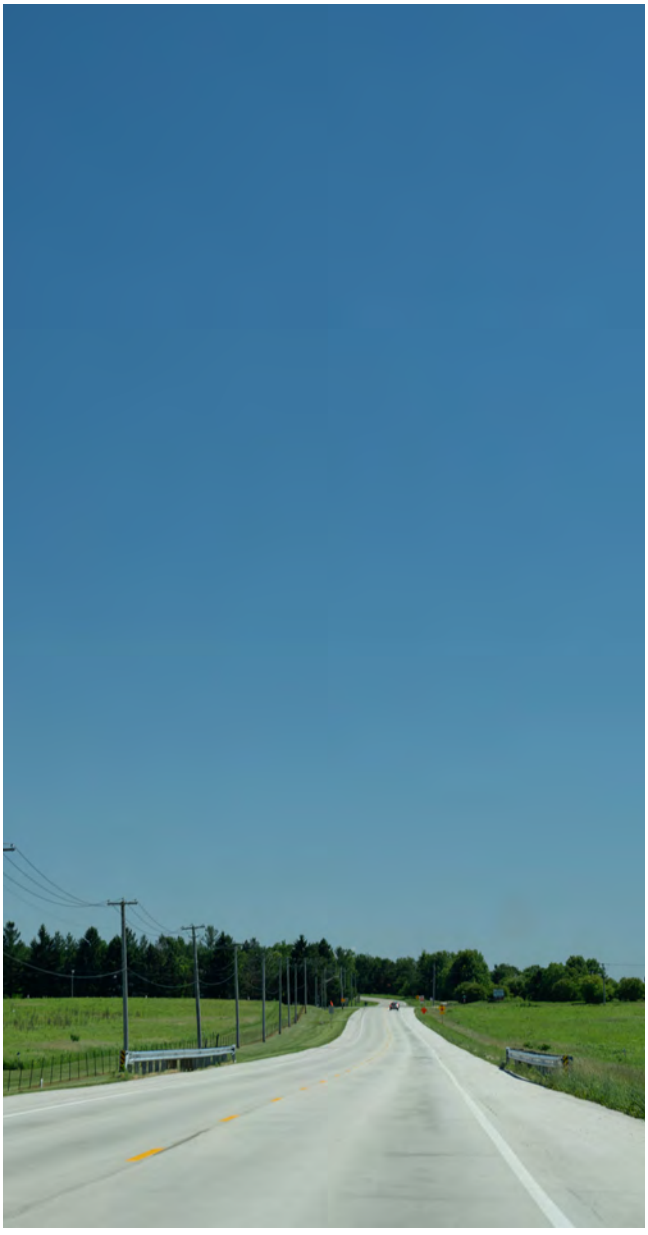
In addition to the primary performance measure categories, the County has identified two additional areas that account for a substantial portion of fatal and serious injury crashes. By placing focused attention on these categories, Kane County can make meaningful progress toward its goal of zero fatalities and serious injuries.

Within these additional categories outlined

Performance Measure Category	2018-2022 Baseline (Annual Avg)
Intersections: Number of fatal and serious injury crashes	135.6 (50%)
Speeding: Number and percent of speed-related fatal and serious injury crashes	116.4 (43%)

Table 10.3 - Additional Performance Categories

in Table 10.3, example focus emphasis areas include older and younger drivers. There is a strong correlation between older and younger drivers and crashes at intersections, resulting in fatalities and serious injuries. Considering these road users at intersections can further accelerate crash reductions by better understanding the challenges and opportunities that these emphasis areas present on roadways in the County.



How to Reach Vision Zero

Achieving the County's vision zero goal will be accomplished by: 1) implementing safety projects on the high-injury network, 2) applying safety treatments systemically across the Kane County area, 3) implementing railway safety projects, and 4) adopting and implementing policy and programming initiatives.

1. Implement High-Injury Network Safety Projects

To mitigate the most severe crashes in the Kane County area, implement safety projects on all corridors, intersections, and segments shown in the high-injury networks: All Modes (All Roads), All Modes (All Non-Freeway Roads), and VRU (Contextual). These corridors, intersections, and segments account for more than 75% of all fatal and serious injury crashes throughout the Kane County region.

2. Implement Systemic Safety Treatments

Implementing systemic safety improvements across Kane County supports a comprehensive approach to reducing crash risks. While focusing on the high-injury network helps address locations with a higher concentration of crashes, many other fatal and serious injury crashes happen in more dispersed patterns. These can be effectively addressed through

proactive, countywide safety strategies that target roadway features commonly associated with higher risk. For example, curves on rural highways are known to have a higher incidence of roadway departure crashes. Applying low-cost treatments such as high-friction pavement, wet reflective pavement markings, and high visibility chevrons can reduce the incidence of fatal and serious injury crashes on these curves. As another example, urban arterials with high speeds, high traffic volumes, and high volumes of pedestrians experience more occurrences of pedestrian fatalities. The application of pedestrian infrastructure, such as provided in FHWA's STEP program and Proven Safety Countermeasures, can help to reduce the incidence of fatal and serious injury pedestrian crashes in these areas.

3. Implement Railway Safety Projects

Illinois ranks second in the nation for the number of railroad miles. Crashes involving trains at highway-railway crossings in Kane County accounted for 37 incidents between 2012 and 2021, of which 24 resulted in at least one fatality. Of the 24 people killed, 20 were pedestrians. The most common rail incidents in Kane County occurred along at-grade crossings and resulted in a pedestrian being killed. A geographic analysis of highway-railroad incidents showed high crash clusters in the Cities of Elgin, Aurora, and Geneva.

While information about each incident is limited, there are some common features within identified clusters. Two of the seven identified clusters are located near homeless encampments, which may contribute to increased pedestrian activity along or across the tracks, potentially raising the risk of collisions. To help reduce these risks, installing pedestrian facilities such as gates or sidewalks can help indicate safer pedestrian routes. Adding fencing along the railroad tracks and crossings help discourage crossing or walking alongside them which can also be effective safety measures. Policies encouraging suicide prevention training, trespassing training, and mental health trainings for police, social workers, and railroad employees are also recommended.

4. Implement Policy and Programming Recommendations

Human error remains a significant factor in many of the fatal and serious injury crashes in Kane County. Behaviors such as speeding, not wearing seat belts, distraction, or impairment due to drugs or alcohol are key contributors to these incidents, accounting for well over half of the most severe crashes in the area. Shifting the region's transportation safety culture is essential. By adopting and implementing thoughtful, evidence-based policies and programs, it is possible to encourage safer driving habits and make meaningful progress in reducing these tragic outcomes.

Goal Phasing

Timeline

The following timeline has been established to achieve the goal of zero fatalities and serious injuries due to crashes by 2050.

By 2030:

- Local agencies should implement safety strategies on the High-Injury Network Priority Lists provided in the "Safety Analysis" section. Many of these areas have projects that are already programmed and undergoing design. As such, Kane County and its communities are well on the way to meeting this milestone.
- Local agencies should pilot two to four new systemic treatments in their jurisdiction. Many of the local agencies have already been exploring new systemic treatments to pilot on the roads that they maintain, so Kane County is well underway in meeting this milestone.
- Kick-start two to four priority policy or programming recommendations. There was active discussion about policy and program ideas during the development of the Plan, and wide support was expressed for many of the policy and program recommendations. There is a challenge in that many of these recommendations require partnerships, but the Kane County community is determined to build the partnerships required to make this

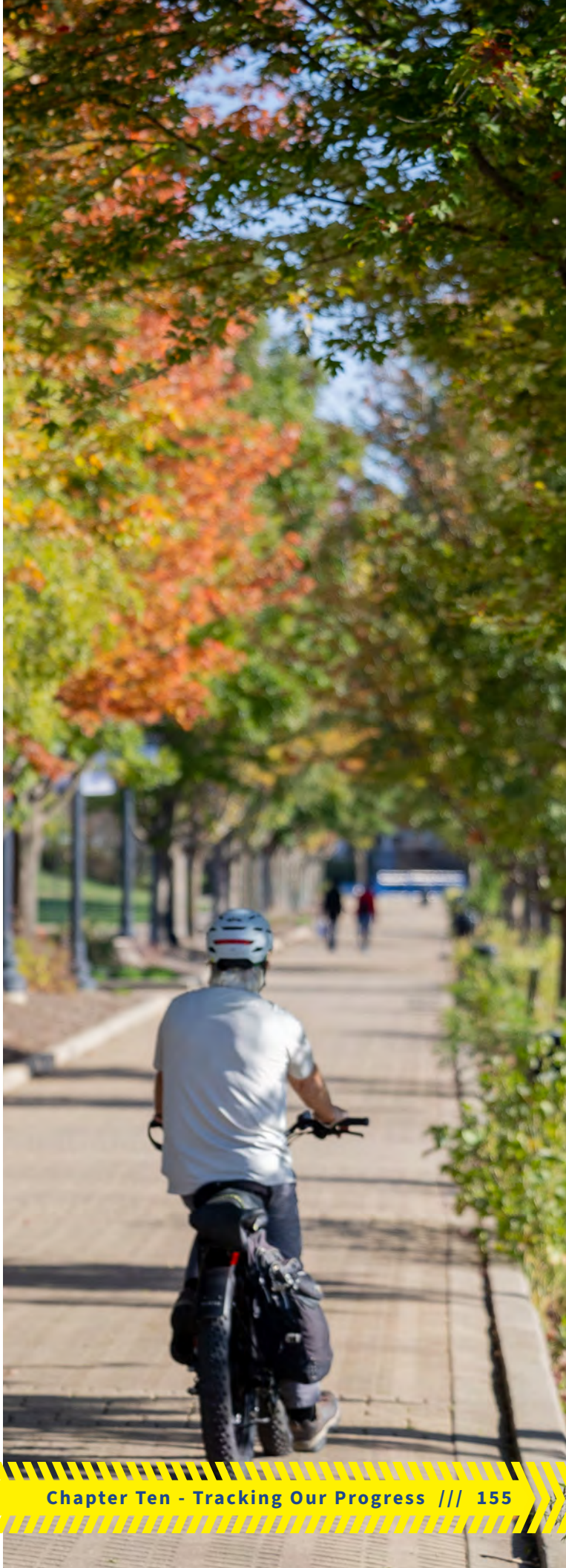
happen.

By 2035:

- Fully implement safety projects on 50% of the high-injury networks.
- Fully implement the systemic treatments piloted in the years 2024-2030 and pilot two to four new systemic treatments.
- Fully implement the policy or programming recommendations piloted in the years 2024-2030 and kick-start two to four other policy or programming recommendations.

By 2045:

- Implement safety projects on the remainder of the high-injury networks. Reevaluate HIN network on a periodic basis (every 3 - 5 years)
- Implement all relevant systemic treatments.
- Implement all relevant policy and program recommendations.



Annual Report

The Kane County Division of Transportation established a public-facing dashboard (https://kdot.kanecountyil.gov/Pages/Dashboard/Safety.aspx), which is used to monitor the safety performance of County roadways. The dashboard illustrates the annual number of crashes by injury type (e.g., fatal, serious injuries) and the historical trend line. Modifying this tool to incorporate the various performance measures and communicate Kane County's progress in meeting its goal of zero will allow for transparency with the public. For the Plan, the performance dashboard would be updated to show: 1) the annual targets, 2) the projected five-year rolling averages for goal tracking, 3) federal performance measures, 4) additional performance measures, and 5) progress made.

Conclusion

Overall, improving roadway safety in the Kane County Region is imperative. The Plan provides the strategies and tools that will make the goal a reality, but it takes everyone to do their part within their own area of influence, from individuals and families up to elected officials. The existing performance dashboard will allow for transparency with the public and for a collaborative effort by every community member to improve roadway safety for all users. Additionally, Kane County staff will convene a Safety Committee, at a minimum of once a year, to advance the Plan's recommendations and follow its progress. The "Zero Fatalities and Serious Injuries due to Crashes" goal is ambitious, but it is achievable through a concentrated, coordinated, and sustained effort. Achieving this goal would save more than 500 lives and prevent more than 6,450 serious injuries in Kane County between now and 2050.

SAFE TRAVEL FOR ALL

Kane County Safety Action Plan

DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

KDOT
KANE COUNTY DIVISION OF TRANSPORTATION

Chicago Metropolitan Agency for Planning

Lochner

SRF

METRO STRATEGIES group

ARORA and ASSOCIATES, P.C.
Consulting Engineers