SAFE TRAVEL FOR ALL

Kane County Safety Action Plan

Final Plan December 31, 2025

SAFE TRAVEL FOR ALL

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The appendices contain data and findings that add additional context to the Kane County Safety Action Plan. Much of the information in the appendices was synthesized to create the main components of the plan.

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Appendix A

Existing Conditions Safety Report

This appendix contains the Existing Conditions Safety Report, which was one of the core components of the final Safety Action Plan.

SAFE TRAVEL FOR ALL

Kane County Existing Safety Conditions Report

May 9, 2025

OVERVIEW

The Chicago Metropolitan Agency for Planning, in partnership with Kane County, is developing a Safety Action Plan. This report details findings from a literature review and crash study conducted across all of Kane County and for the three key municipal partners that are participating in the Steering Committee for the plan: Aurora, Batavia, and Carpentersville. The analysis is based on 45,537 collisions that were recorded in Kane County between 2018 and 2022. The goal of this report is to help inform future plan recommendations and projects related to transportation safety in the county. It will be used with community engagement findings to reveal and better understand areas of traffic safety concern. Eventually, findings from this report will be turned into an approachable existing conditions chapter in the final plan documents and this full report will be utilized as a technical appendix to the plan.

In the Existing Conditions Overview section of this report, past planning studies and projects in Kane County are summarized, highlighting ongoing efforts to enhance traffic safety and flow, particularly through complete streets and traffic calming initiatives. The data analysis sections of this report examine crash rates and frequencies and identify contributing factors like time of day, vulnerable road users, severity, and geographic distribution. Key findings indicate a slight decline in crashes before 2020, followed by a subsequent increase. While collisions that only involve automobiles are the most common, crashes that involve Vulnerable Road Users (VRUs), such as pedestrians and cyclists, result in a higher proportion of fatal and incapacitating crashes. The top three most frequently used Emphasis Area flags in the County are Intersection, Speeding, and Roadway Departure.

The High Injury Network section assesses the fatal and incapacitating injury density of all roads in the County, identifying corridors with the highest number of fatal and incapacitating injuries per mile. Analysis presented in this section reveals that non-freeway and minor arterials are overrepresented in this network.

The Systemic Safety Conditions section expands upon the results of the Existing Conditions Overview section and provides a supplemental analysis to the High Injury Network section by identifying facility types that have the highest risk for severe crashes. Among intersections, those that are the intersection of an arterial and a collector or local road, have a high volume, and are all-way-stop-controlled have the highest risk of fatal and incapacitating crashes. Among segments, those that are in urban areas with four or more lanes, a high vehicle volume, and a speed limit of 30 MPH have the highest risk of fatal and incapacitating crashes.

The Community Impact Considerations section examines crashes in relation to Areas of Persistent Poverty (APPs). Of the 1,370 severe crashes that occurred in Kane County between 2018 and 2022, 202 (15%) of them occurred in APPs. Of the 172 severe VRU crashes that occurred during that same period, 47 (27%) of them occurred in APPs. Comparing these percentages of severe crashes that occurred in APPs to the 12% of the County's population and 3% of the County's land area that are located in APPs, it is clear that communities in APPs are disproportionately burdened by severe crashes. The findings presented in this report provide a detailed analysis of existing transportation safety concerns in Kane County and help to identify crash types of concern and specific high-risk locations.

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EXISTING CONDITIONS OVERVIEW

Previous Safety-Related Plans and Studies in Kane County

Roadway safety for all modes of transportation 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. 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.

The following documents were obtained during the process of creating this plan for Kane County. These documents range from State, County and Municipal levels of government involvement. A summary of these documents with website links, if appropriate, have been provided below:

- **Kane County 2040 Transportation Plan Overview, Adopted in 2012**
  - https://kdot.kanecountyil.gov/Shared%20Documents/2040%20Transportation%20Plan.pdf
- **Kane County 2040 Recommended Roadway Plan, Adopted October 12, 2010**
  - https://kdot.kanecountyil.gov/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2fShared%20Documents%2fplanning&FolderCTID=0x0120002F4E7001B725744E8E00B9E72DA4571C
- **Kane County 2040 Long Range Transit Plan, Adopted June 14, 2011**
  - https://kdot.kanecountyil.gov/2040%20Transit%20Plan/KANE%20COUNTY%20LRTP%20Final%20Plan%20(Reduced).pdf
- **Kane County 2050 Long-Range Transportation Plan, Adopted May 2021**
  - https://kdot.kanecountyil.gov/Long%20Range%20Plan/Kane%20County%20DOT%202050%20LRTP_Final.pdf
- **2023 Kane County Bicycle & Pedestrian Plan, Adopted June 2023**
  - https://kdot.kanecountyil.gov/Publications/2024-1004%20Final%20Plan_Compressed.pdf
- **City of Aurora Bicycle & Pedestrian Plan, July 2009, Adopted July 2009**
  - https://www.aurora-il.org/DocumentCenter/View/2864/2009-City-of-Aurora-Bicycle-and-Pedestrian-Plan
- **City of Aurora Complete Streets Policy, Adopted December 2020**
  - https://www.aurora-il.org/DocumentCenter/View/8082/2020-City-of-Aurora---Complete-Streets-Policy
- **City of Batavia Bike and Pedestrian Plan, February 2023, Adopted March 2023**
  - https://www.bataviail.gov/DocumentCenter/View/6394/Bicycle-and-Pedestrian-Plan-PDF?bidId=
- **Village of Carpentersville, IL Comprehensive Plan, Adopted September 6, 2022**
  - https://www.cville.org/DocumentCenter/View/2292/Carpentersville---Comprehensive-Plan---20220916

At the county level, the 2040 Kane County Transportation Plan outlines key strategies to enhance infrastructure design, focusing on the needs of all transportation users through the implementation of multi-use trails, grade, and mode separations, closing of network gaps, and traffic calming measures. Additionally, it emphasizes the enhancement of public transportation infrastructure, including transportation hubs, route connectivity, and transit stop improvements. Despite these initiatives, 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 residential single-family homes as well as warehousing. By 2050, vehicle hour delays are expected to increase five times from 2015 levels, noted in the 2050 Long Range Transportation Plan (2050 LRTP). The rise in traffic volumes and congestion is expected to lead to more collisions across the county due to increased roadway users. This situation raises safety concerns for all road users, but it is especially critical for non-motorized individuals who will be more exposed to higher traffic levels therefore creating an urgent need for roadway safety enhancements countywide.

In light of these concerns, the 2040 Long Range Transit Plan highlights the urgent need to enhance roadway efficiency and encourage a shift from vehicular traffic to alternative modes, such as transit, walking, biking, and rolling. Key corridors, including Randall Road and Route 31, were identified for improvements, with a bus rapid transit feasibility study completed for the Randall Road and Orchard Road corridor. Moreover, the 2050 LRTP advocates for the adoption of complete street designs to facilitate this transition and implement targeted traffic efficiency enhancements such as roundabouts, transportation system management strategies (i.e., ITS), and the integration of emerging technologies, such as Smart City Design. Furthermore, the 2023 Kane County Bicycle and Pedestrian Plan calls for the final completion of the Fox River Trail, Mid County Trail, and West Kane Corridor, which would help fulfill the remaining network outlined in the previous 2012 Bicycle and Pedestrian Plan.

Municipalities throughout the county are actively developing their own initiatives to achieve these shared objectives. Notably, the municipalities of Aurora and Batavia have established comprehensive Bicycle and Pedestrian Plans, alongside Complete Streets Policies, aimed at fostering safer, more accessible, and connected roadways for people walking, biking, or rolling. Please note that the municipalities of Aurora, Batavia, and Carpentersville function as Key Municipal Partners in the development of the Kane County Safety Action Plan and assist the project team in analyzing safety concerns at a local municipal level.

Aurora's 2009 Bicycle and Pedestrian Plan advocates for the formal expansion of traffic calming measures, the establishment of accessible and well-connected biking and walking networks, increased educational programs for active transportation, and the integration of these goals into future policy frameworks to ensure successful implementation. The plan emphasizes connectivity to essential daily destinations, including schools, parks, retail areas, employment centers, and transit facilities; addressing gaps in the existing network; and improving links between Aurora's transportation systems and those of adjacent communities. An example of this is the RiverEdge Park Pedestrian bridge that was opened on June 11, 2021.

This is a 900-foot long, 7-span concrete girder structure with S-curve alignment over the Fox River and unites the RiverEdge Park on the east side of the 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.

Furthermore, in 2020 the City adopted its Complete Streets Policy to further reinforce these objectives. This policy mandates that every stage of transportation projects—ranging from planning to construction to maintenance—be viewed as an opportunity to enhance safety and accessibility for all users. Complete Streets principles are to be applied to new projects, privately funded developments, and existing streets through incremental improvements.

The City of Batavia introduced its latest Bicycle and Pedestrian Plan in early 2023, reflecting a commitment to creating a safe, convenient, and comfortable active transportation network. This plan also 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 recreational areas. Recommended improvements target key corridors such as Randall Road, Route 31, Main Street, and Fabyan Parkway. Complementing the Bicycle and Pedestrian Plan, Batavia's 2020 Complete Streets Policy is triggered for new roadway projects, public and private developments, and resurfacing efforts. This policy ensures that complete streets infrastructure—including sidewalks, crosswalks, bike lanes, refuge islands, and traffic calming measures such as lane narrowing or roundabouts—is considered from the outset of these projects. In the fall of 2024, the City completed the IL Route 31/Batavia Avenue Road Diet project that extended from Fabyan Parkway to Mooseheart Road, excluding the section between Houston Street and Elm Street. This approximately 3-mile project converted the 4-lane road into 2-lanes with a center left turn lane.

Other municipalities throughout Kane County have also incorporated this shared goal of safer transportation networks into their plans and policies, such as the Village of Carpentersville in their 2022 Comprehensive Plan. The plan emphasizes enhancing active transportation connectivity to key destinations, such as Old Town and the Fox River, as well as to commercial and employment centers, schools, and residential areas. It also identifies critical improvement areas, including Kings Road, Williams Street, Route 31, Randall Road, Miller Road, and a proposed Fox River crossing at Carpenter Dam. The plan also advocates for expanding transit services, recommending an extension of the Pace bus line on Route 31 to Raceway Woods and subsequently to 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. Other community efforts include:

- Village of Montgomery – Strategic Plan 2025 – 2029
- Village of North Aurora – 2024 – 2025 Strategic Plan and Comprehensive Plan
- City of Geneva – 2030 Strategic Plan and 2005 Bikeway Implementation Plan

- City of Elgin – 2008 Bikeway Master Plan
- Village of South Elgin – 2030 Comprehensive Plan
- City of St. Charles – 2025 Bicycle and Pedestrian Plan

Overall, key corridors listed for complete street and safety enhancements at both the county and municipal level include Randall Road, Route 31, Fabyan Parkway, and Route 47. All plans also mention a goal to better connect existing infrastructure through closing network gaps and enhancing the regional trail network. The intended outcome of these improvements aims to create a better-connected Kane County with daily destinations easily accessed through various modes in a safe and efficient manner.

Analysis Methodology

This crash analysis is based on five years of crash data (2018-2022) from the Illinois Department of Transportation (IDOT), supplemented by additional datasets from the Chicago Metropolitan Agency for Planning (CMAP), including:

- Network data, including traffic volumes, jurisdictions, functional classification, capacity, and posted speed limits
- Intersection points
- Railroad safety incident records
- Rail network data including passenger lines, station locations, and crossing locations

These data sources provide a foundation for roadway safety analysis in Kane County, incorporating critical parameters such as geospatial location, collision classification, severity levels, contributing factors, and transportation modes involved.

The first step involved reviewing and cleaning the crash dataset provided CMAP. This process entailed removing crashes with geolocation issues, such as incidents recorded outside Kane County or in non-roadway areas, including parking lots. The cleaning process also ensured that duplicate records were eliminated and that crashes with incomplete or unreliable data, such as missing coordinates, were flagged for exclusion from the spatial analysis. A summary of the data cleaning process can be found in Table 1.

To ensure that crashes that did not occur on the roadway network (in parking lots, alleys, driveways/private roads, etc.) are not included in the injury density calculations, those crashes were filtered out using the TrafficwayDescriptionCode field from the crash data provided by CMAP. In total, 561 crashes with a TrafficwayDescriptionCode equal to 7 (Parking Lot), 12 (Alley), or 13 (Driveway) were removed.

Crashes that took place outside of Kane County or could not be reliably geolocated due to missing or imprecise coordinates were removed using a spatial query to flag any crash points that were located more than 200 feet outside the County or more than 200 feet from a network link. In cases where the crash coordinates were too imprecise to geolocate it, the project team would attempt to manually correct the coordinates based on the information available in the crash record. This step resulted in 208 crashes being removed.

Crashes that involved off-road vehicles (ATVs, snowmobiles, etc.), construction or farm equipment, or hit-and-run vehicles (only in cases when the occupants of the hit-and-run vehicle were the only people involved in the crash) were also flagged for removal. Crashes that involved a hit-and-run vehicle plus another occupied vehicle (not a parked vehicle) or a non-motorist were not flagged. This step resulted in 2,119 crashes being removed.

Each crash was spatially linked to a roadway segment or intersection based on its proximity to the transportation network. Crashes within 200 feet of an intersection point were assigned to the nearest intersection. The remaining crashes were then assigned to the nearest segment within a 200-foot radius. In total, 30,723 crashes were assigned to intersections, and 14,814 crashes were assigned to segments.

Table 1. Summary of crash data validation

Crash Assignment	Count
Original Crashes	**48,425**
Removed Crashes (parking lot or driveway)	561
Removed Crashes (outside Kane County border or bad coordinates)	208
Removed Crashes (hit-and-run or off-road vehicle/equipment)	2,119
Removed Crashes Subtotal	**2,888**
Intersection Crashes	30,723
Segment Crashes	14,814
Total Remaining Crashes	**45,537**

The severity of the injuries sustained by each person involved in a crash is denoted using the KABCO scale, which consists of five crash severities that are used as an industry shorthand when discussing crash severity. Table 2 includes descriptions of each of the severities and categorizes them into severe and non-severe groups.

Table 2. KABCO injury severity scale

SEVERE (MORE INJURIOUS)	NON-SEVERE (LESS INJURIOUS)
K - fatal injury	B - non-incapacitating injury
A - incapacitating injury	C - possible injury
	O - no injury or property damage only (PDO)

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 analysis provides a summary of the existing safety conditions in the County and will inform the risk factors analyzed in the systemic analysis.

Crash Severity Trends

Figure 1 shows the annual number of collisions in Kane County for all user types. 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.

The proportion of crashes resulting in fatal and incapacitating injury remained relatively consistent year-over-year, ranging from a high of 3.8 percent in 2018 to a low of 2.5 percent in 2021. This consistency indicates that despite fluctuations in the overall number of collisions in a given year, the relationship between crashes resulting in fatal or incapacitating injury versus non-severe injury or property damage only is generally unaffected.

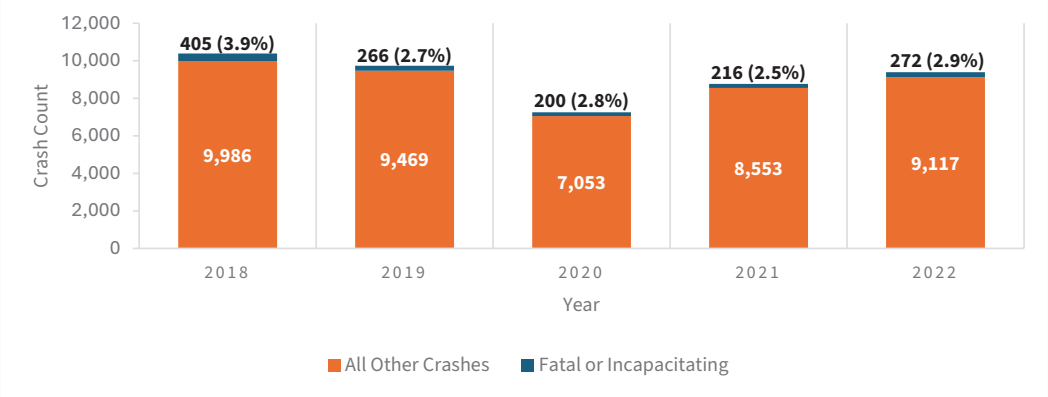


Figure 1. Annual all-modes crash count by severity with fatal or incapacitating injury crash percentage of annual total called out

A subsection of overall road users that was analyzed is known as Vulnerable Road Users (VRU) which includes non-motorists such as pedestrians and bicyclists. In Figure 2, the graph illustrates that the percentage of crashes resulting in fatal or incapacitating injury for VRUs is significantly higher than the overall dataset, with a high of 33 percent in 2018 to a low of 20 percent in 2020.

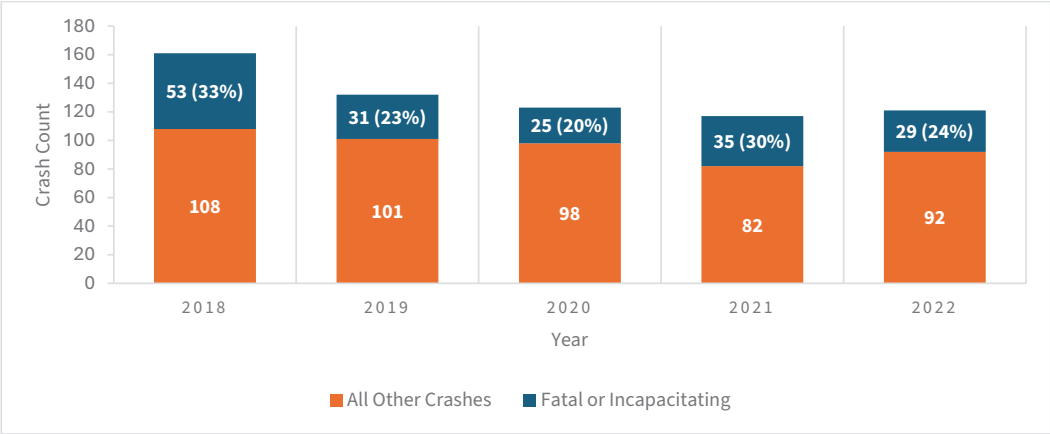


Figure 2. Annual VRU crash count by severity with fatal or incapacitating injury crash percentage of annual total called out

Also analyzed were the crash trends correlating with roadway jurisdictions, including state, tollway, county, municipal, and township roads. Figure 3 shows a summary of crashes resulting in fatal or incapacitating injury (KA crashes) broken out by jurisdiction over the five-year analysis period, with municipal roads accounting for the greatest number of KA crashes and tollways and township roads approximately tied for lowest number of KA crashes.

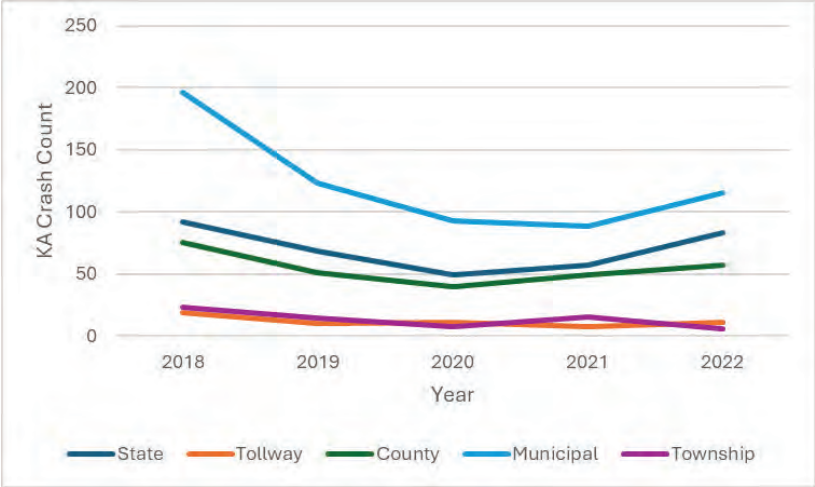


Figure 3. Annual fatal and incapacitating (KA) injury crash count by roadway jurisdiction

Figure 4 shows a breakdown of crash severity based on whether the crash occurred at an intersection or on a segment, away from an intersection. Crashes were more approximately twice as likely to occur at an intersection than they were to occur on a segment (30,723 crashes at intersections versus 14,814 crashes on segments). The relative proportions of each crash severity were approximately equal at segments and intersections.

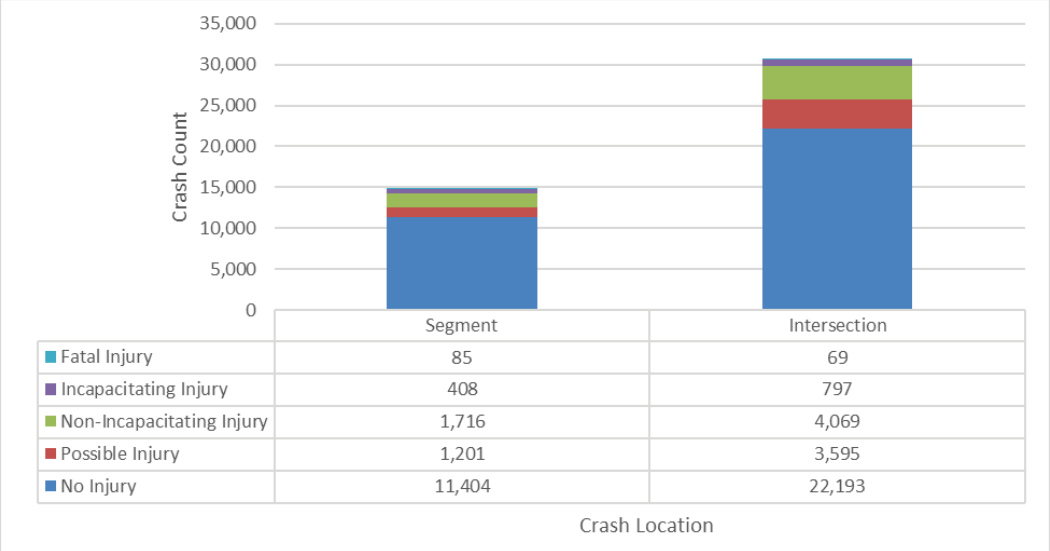


Figure 4. Crash severity by crash location (segment or intersection)

Figure 5 through Figure 7 offer proportional comparisons of the data using percentages of all crashes, fatal and incapacitating crashes, vehicle-miles traveled (VMT), and centerline miles (i.e., roadway lengths). From these graphs, a range of factors can be evaluated simultaneously between roadway jurisdictions, functional classifications, and speed limits.

Using Figure 5 as an example, it helps to start with the percentage of crashes that resulted in fatal or incapacitating injury (otherwise referred to as severe crashes). The graph shows that over all jurisdictions, the highest percentage of severe crashes occurred on municipal roads. However, comparing the percentage of severe crashes with the percentage of roadway lengths, it becomes evident that municipal roadways also have the greatest overall miles, so the density of severe crashes per mile is in fact lower than on other roadways like state or tollway roads.

Further analysis of the graph considers the percentages of VMT, which helps to compare traffic volumes while accounting for differing road lengths. In this example, when percentages of severe crashes are compared to their respective percentages of VMT, municipal roads have a relatively higher percentage of severe crashes compared to their percentage of VMT. This indicates that a severe crash is more likely to occur on a municipal road per vehicle-mile travelled compared to the overall network average.

It is also worth noting instances where the percentage of severe crashes is greater than the percentage of all crashes. This indicates that in the event of a crash on this roadway jurisdiction, the likelihood of it resulting in a fatal or incapacitating injury is greater than the overall network average. To summarize, the example in Figure 5, municipal roads have an

above average likelihood of a crash occurring for a given road user, while state roads have an above average likelihood of crashes resulting in fatal or incapacitating injury when a crash occurs.

Similar conclusions can be drawn from Figure 6 where it is apparent that 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. Figure 7 shows that roads with a speed limit of 30 MPH accounted for the majority of crashes but a disproportionately low percentage of severe crashes whereas roads with speed limits between 35 and 50 MPH had disproportionately high shares of severe crashes and roads with speed limits of 55 MPH or higher had more proportional shares of severe crashes.

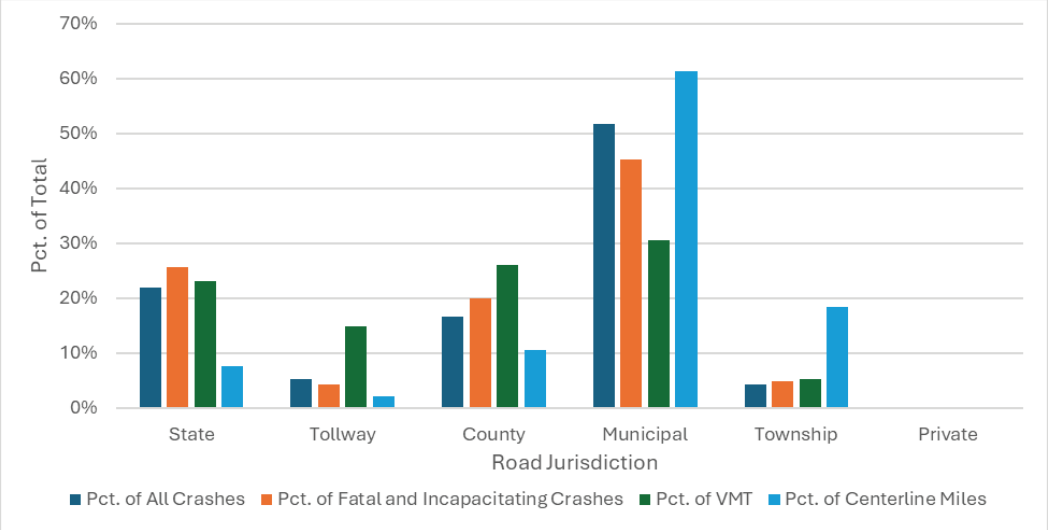


Figure 5. Proportional comparison of crash frequencies, VMT, and centerline miles by road jurisdiction

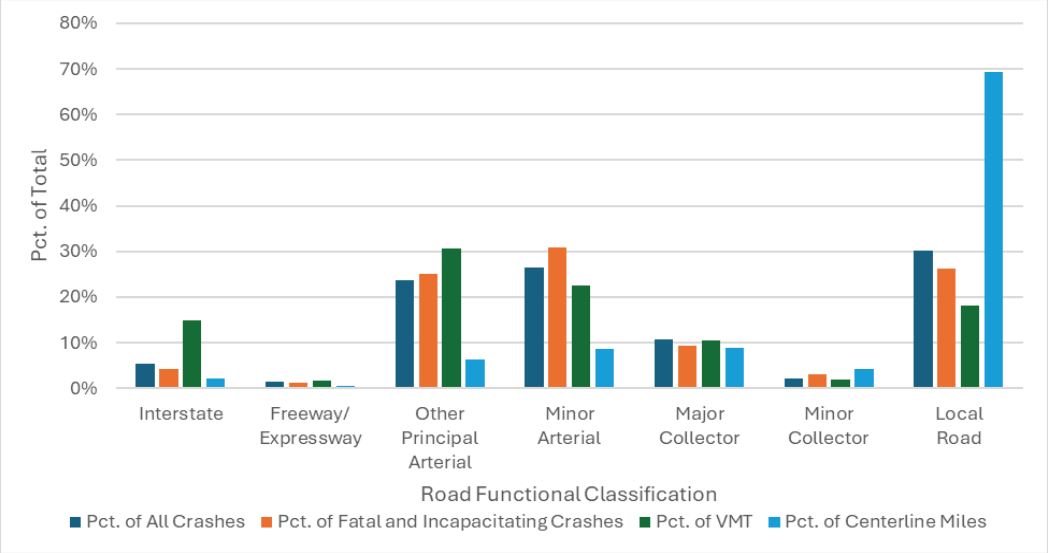


Figure 6. Proportional comparison of crash frequencies, VMT, and centerline miles by road functional classification

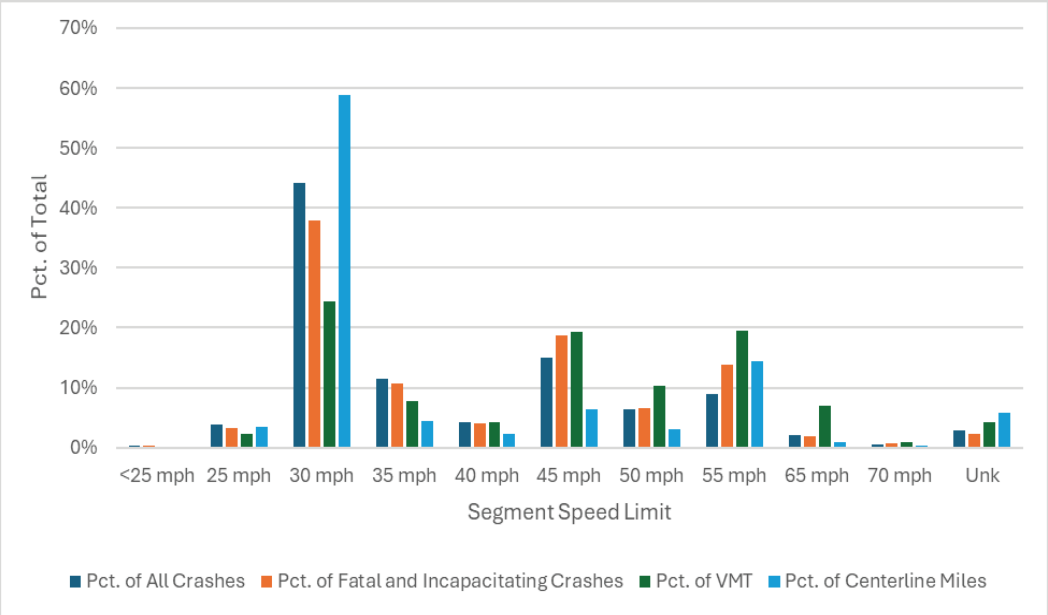


Figure 7. Proportional comparison of crash frequencies, VMT, and centerline miles by segment speed limit

Transportation Mode/User-Type Trends and Injury Severity

Table 3 illustrates the frequency of collisions based on mode of transportation (user-type) and injury severity, highlighting differences in injury outcomes from crashes involving motor

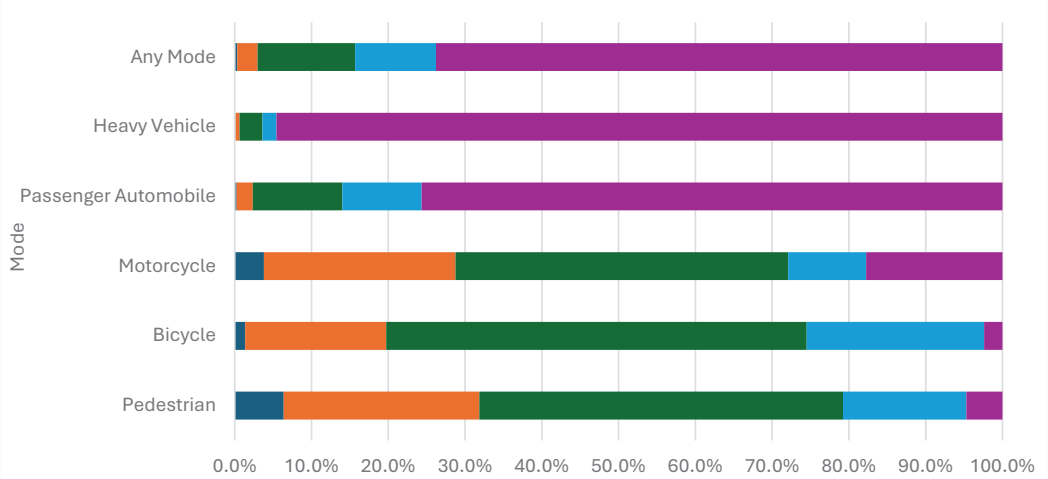
vehicles only versus crashes also involving non-motorists (pedestrians and bicyclists), also known as Vulnerable Road Users (VRUs). Across all modes, approximately 75 percent of total crashes were classified as property damage only, while crashes resulting in fatal or incapacitating injury accounted for approximately 3 percent of total crashes.

When analyzing motor vehicle-only crashes, which make up the majority of all reported crashes in this dataset, 75 percent of them resulted in property damage only (no injuries), and 2.6 percent resulted in fatal or incapacitating injury. Meanwhile, when considering only crashes that involved a pedestrian or bicyclist, less than 4 percent of those crashes resulted in property damage only, while 26 percent resulted in a fatal or incapacitating injury. This suggests that collisions that involve a pedestrian or bicyclist have a significantly higher likelihood of someone sustaining a fatal or incapacitating injury than collisions that do not involve these VRUs.

Table 3. Crash count by mode and injury severity

MODE	FATAL INJURY	INCAPACITATING INJURY	NONINCAPACITATING/MINOR INJURY	POSSIBLE INJURY	NONE/PROPERTY DAMAGE ONLY	TOTAL
Passenger Automobile	108	935	5,208	4,610	33,755	44,616
Heavy Vehicle	2	15	80	49	2,544	2,690
Motorcycle	18	118	205	48	84	473
Any Motor Vehicle	**127**	**1,061**	**5,458**	**4,677**	**34,125**	**45,448**
Pedestrian	23	92	171	58	17	361
Bicycle	4	54	161	68	7	294
Any Vulnerable Road User (VRU)	**27**	**146**	**332**	**125**	**24**	**654**
Any Mode	**154**	**1,205**	**5,785**	**4,796**	**33,597**	**45,537**

Another visualization of the trends in injury severity by mode can be seen in Figure 8, where each bar represents the total number of collisions recorded in a given mode of transportation, and each color within the bar represents the percentage of collisions for each level of injury severity.



	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 8. Collision severity proportions for each mode of transportation

These findings emphasize the critical need for targeted safety improvements aimed at protecting VRUs, as well as motorcyclists, who are disproportionately at risk for fatal or incapacitating injury despite their smaller share of crash frequency.

Geographic Distribution of Collision Severity

When analyzing Kane County for geographic patterns of crash density, the density of severe crashes (crashes resulting in fatal or incapacitating injury) is higher in urban areas, notably the southeast side of Aurora and throughout Elgin, while more rural towns such as Burlington and Big Rock see sparser severe crashes. These results can be seen in Figure 9.

When considering crashes involving VRUs, Elgin emerges as a particularly high-density zone. Aurora also shows dense rates of crashes. These results can be seen in Figure 10.

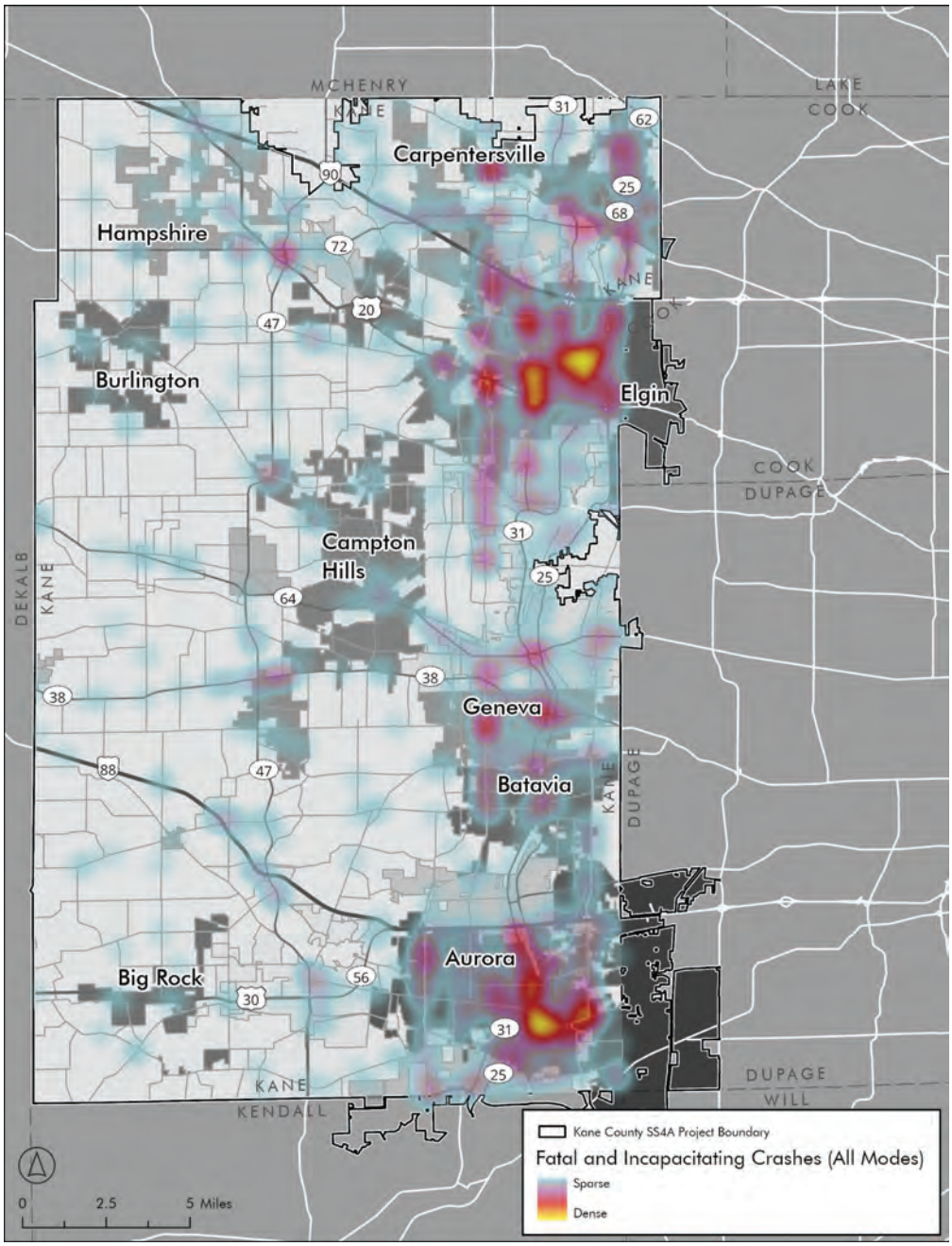


Figure 9. Kane County heat map illustrating the density of crashes resulting in fatal and incapacitating injury for all modes of transportation

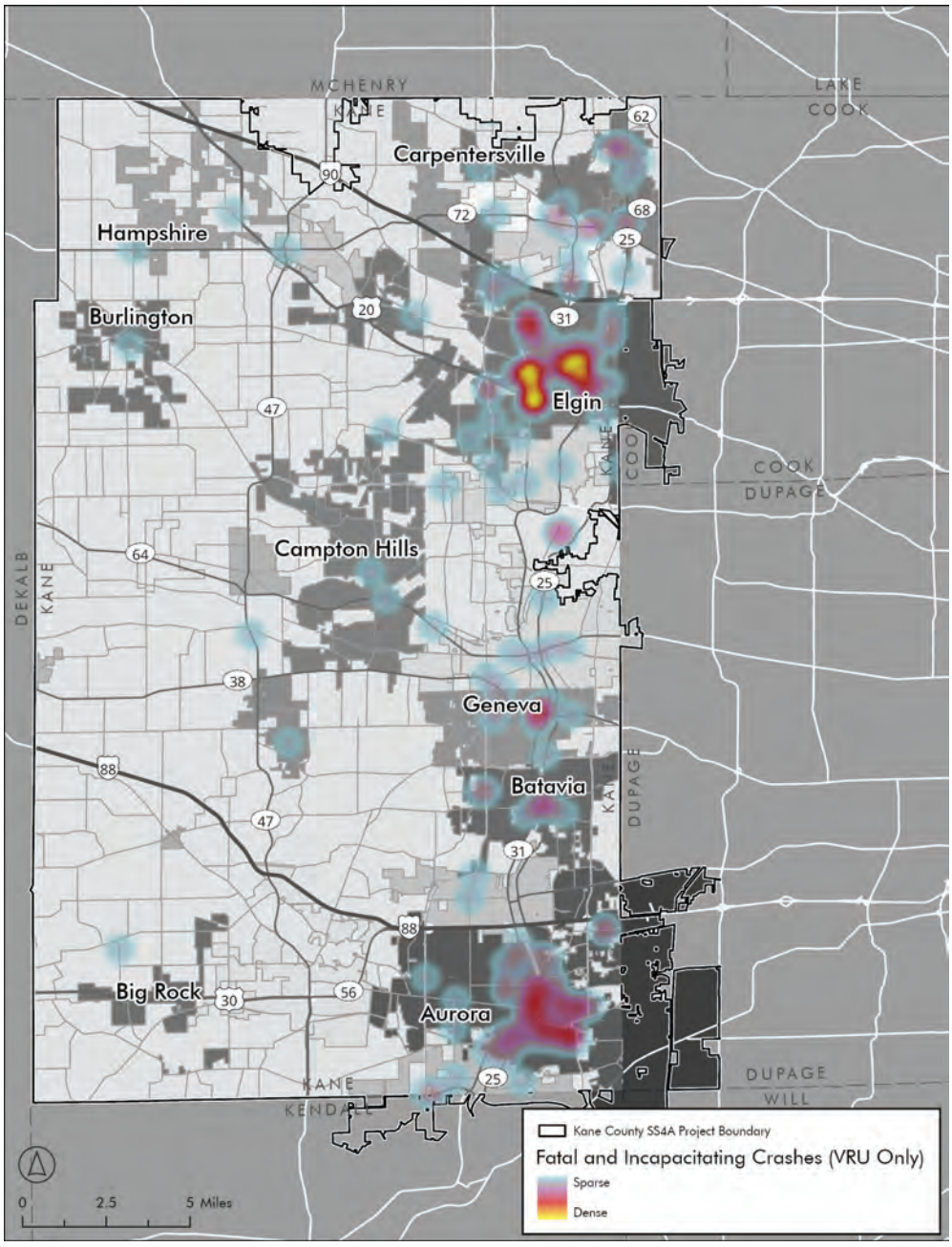
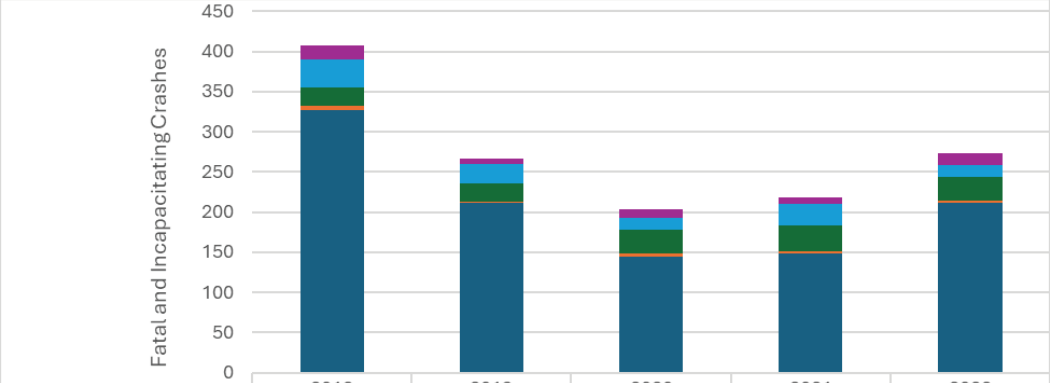


Figure 10. Kane County heat map illustrating the density of crashes resulting in fatal and incapacitating injury for all modes of transportation for VRUs

Fatal and Incapacitating Collisions

Figure 11 illustrates the fatal and incapacitating crashes from 2018 to 2022 across all modes. 2018 observed the highest number of crashes resulting in fatal or incapacitating injuries, with 408 crashes. Between 2018 and 2020, crashes resulting in fatal or incapacitating injuries witnessed the most significant decrease, declining by 50 percent. Conversely, from 2020 to 2022, crashes that resulted in fatal and incapacitating injuries increased by 34 percent. Over the five-year period, these crashes experienced a total decrease of 33 percent. The Contributing Factor Trends - Bicycle and Pedestrian Collision Overview Section provides further detail regarding pedestrian and bicycle annual crashes resulting in fatal and incapacitating injuries.



	2018	2019	2020	2021	2022
Bicycle	18	7	10	8	15
Pedestrian	35	24	15	27	14
Motorcycle	22	23	30	32	29
Heavy Vehicle	6	2	3	3	3
Passenger Automobile	327	211	145	148	212

Figure 11. Annual fatal and incapacitating injury crash counts by mode

Contributing Factor Trends – Reported Collision Cause

The primary cause of a collision is the main factor contributing to the event, as addressed by the responding officer. A secondary collision occurs as a consequence of the primary collision. Figure 12 illustrates the top 5 causes listed as primary or secondary collision causes for all crash severities. Failing to reduce speed to avoid a crash is the leading contributing factor resulting in crashes, accounting for 43 percent of the total. Twenty-one percent of primary and secondary crashes are caused by failing to yield right of way. Finally, improper lane usage accounts for 13 percent of all crashes, while 13 percent of crashes are due to vehicles following too closely.

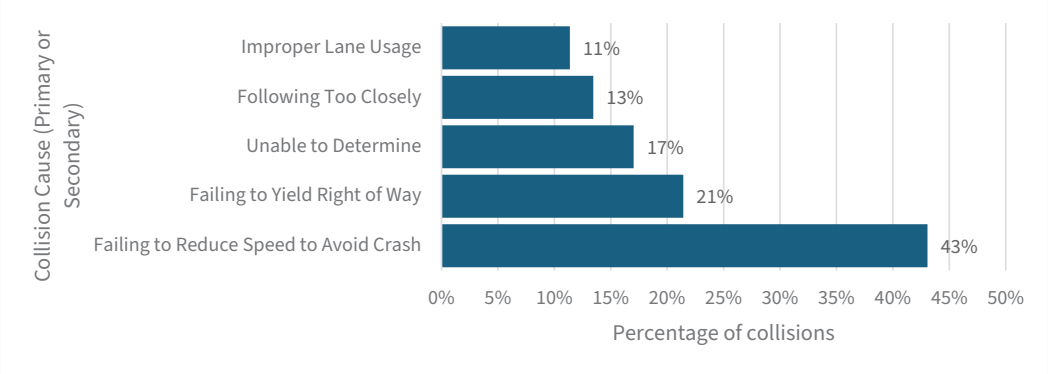


Figure 12. Top 5 causes listed as primary or secondary collision cause for all crash severities

Figure 13 shows the top 5 causes listed as primary or secondary collision cause of fatal and incapacitating crashes. Most crashes resulting in fatal or incapacitating injuries are due to failing to reduce speed to avoid a crash, accounting for 34 percent of all crashes resulting in fatal or incapacitating injuries. Failing to yield right of way collision crashes resulting in fatal or incapacitating injuries made up 28 percent, followed by 20 percent of crashes resulting in fatal or incapacitating injuries remain undetermined. Improper lane usage is responsible for 12 percent of crashes that result in fatal or incapacitating injuries and under the influence of alcohol and/or drugs accounts for 9 percent of crashes.

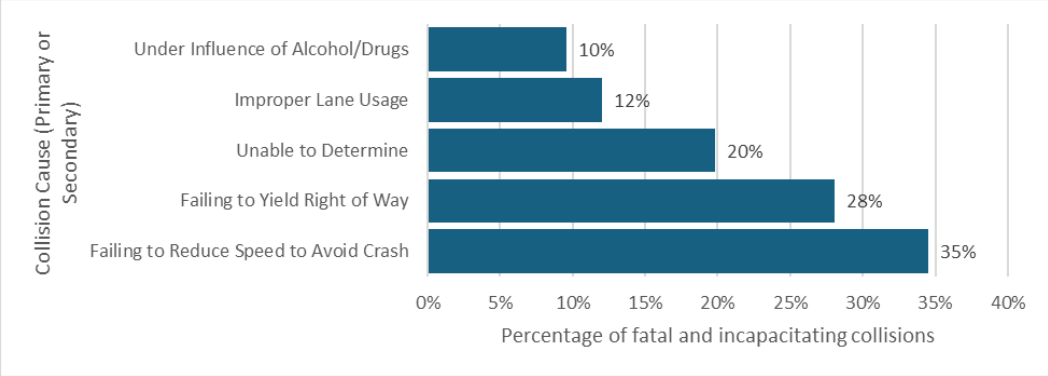


Figure 13. Top 5 causes listed as primary or secondary collision cause for fatal and incapacitating crashes only

Contributing Factor Trends - Bicycle and Pedestrian Collision Overview

Figure 14 illustrates the pedestrian and bicyclist fatal and incapacitating crashes from 2018 to 2022. Pedestrian and bicyclist crashes resulting in fatal or incapacitating injuries occurred most frequently in 2018, with 35 and 18 crashes, respectively. Pedestrian crashes resulting in fatal and incapacitating injuries observed a 35 percent decrease between 2018 and 2020. However, pedestrian crashes resulting in fatal and incapacitating injuries increased by 31 percent from 2020 to 2021. Over the five-year period, pedestrian crashes that resulted in fatal

and incapacitating injuries experienced a total decrease of 48 percent, while crashes involving bicyclists with fatal and incapacitating injuries also saw a decrease of 55 percent.

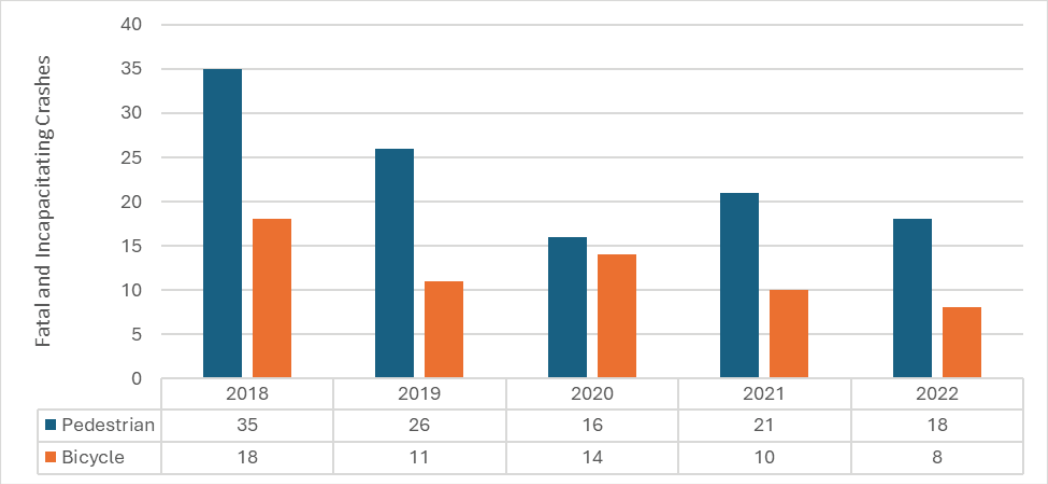


Figure 14. Pedestrian and bicyclist fatal and incapacitating injury crashes by year

Figure 15 shows the top 5 primary and secondary causes of fatal and incapacitating crashes involving pedestrians. 43 percent of crashes resulting in fatal or incapacitating injuries remain undetermined. Notably, 30 percent of pedestrian crashes resulting in fatal or incapacitating injuries are due to failing to yield the right-of-way. Another 18 percent occur because drivers fail to reduce speed to avoid collisions.

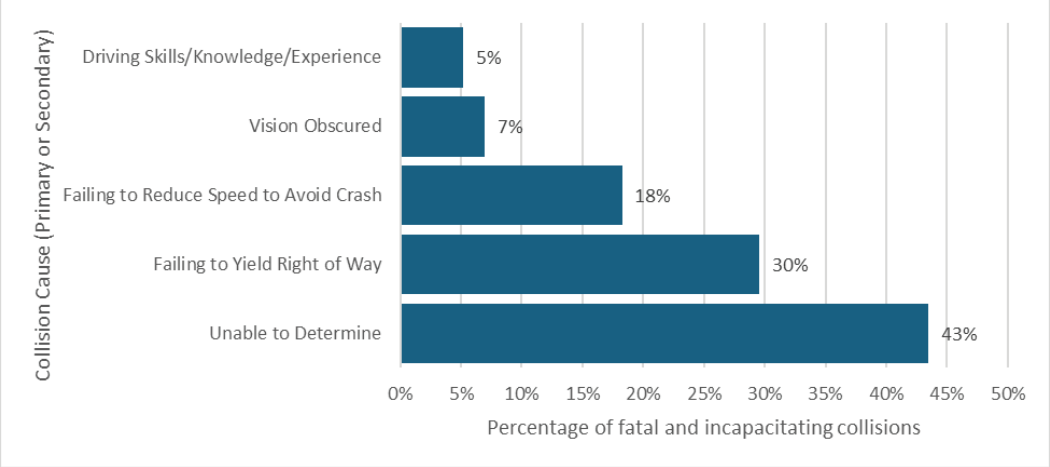


Figure 15. Top 5 causes listed as primary or secondary collision cause for fatal and incapacitating injury crashes (pedestrian crashes only)

Figure 16 illustrates the top 5 causes listed as primary or secondary collision causes for fatal and incapacitating crashes involving bicyclists. Most crashes resulting in fatal or incapacitating injuries involving bicyclists are due to failing to yield the right-of-way, accounting for 48 percent of all crashes. Disregarding stop signs and failing to reduce speed to avoid crashes are each at 16 percent for all crashes.

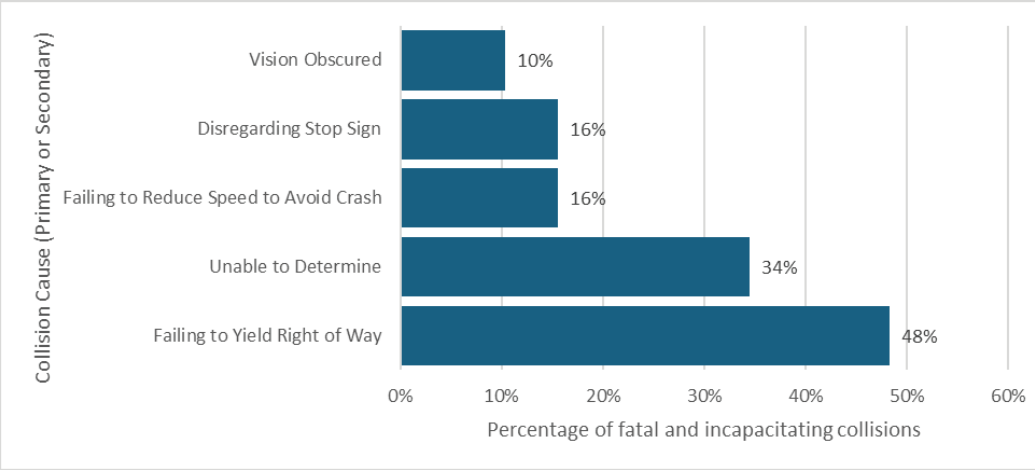


Figure 16. Top 5 causes listed as primary or secondary collision cause for fatal and incapacitating injury crashes (bicycle crashes only)

Contributing Factor Trends – Manner of Collision

Figure 17 shows fatal and incapacitating injury crash counts by manner of collision. Twenty-two percent of all observed crashes resulting in fatal or incapacitated injuries are turning movement crashes. Fixed object crashes, like vehicles colliding with trees or utility poles, account for 19 percent of crashes resulting in fatal or incapacitating injuries. Angle crashes account for 13 percent of crashes resulting in fatal or incapacitating injuries, while front-to-rear crashes make up 8 percent. Front-to-front and rear-end crashes each account for 5 percent. Together, pedestrian and bicycle crashes made up 12 percent of crashes resulting in fatal or incapacitated injuries.

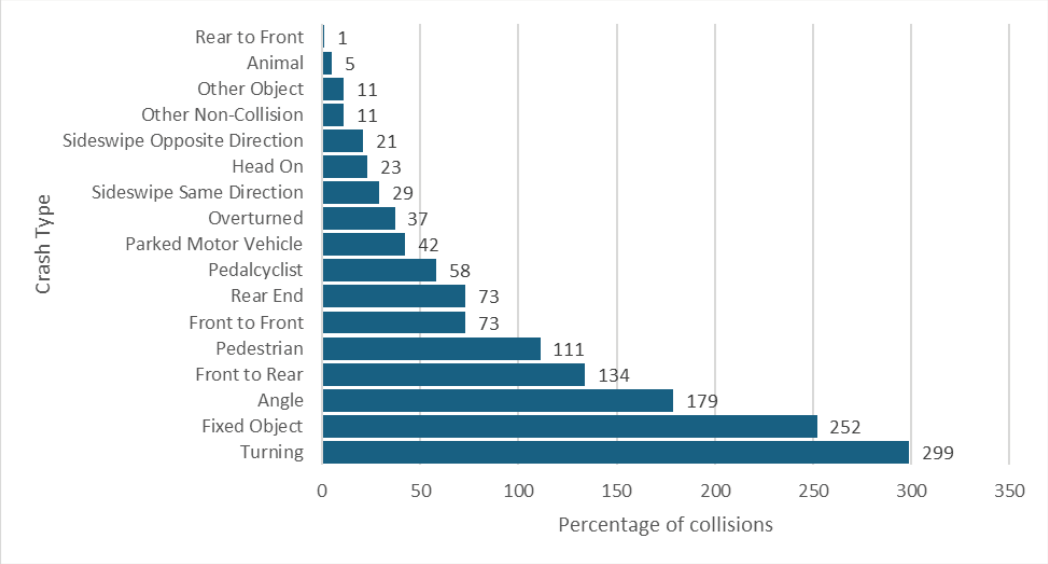


Figure 17. Fatal and incapacitating injury crash counts by manner of collision

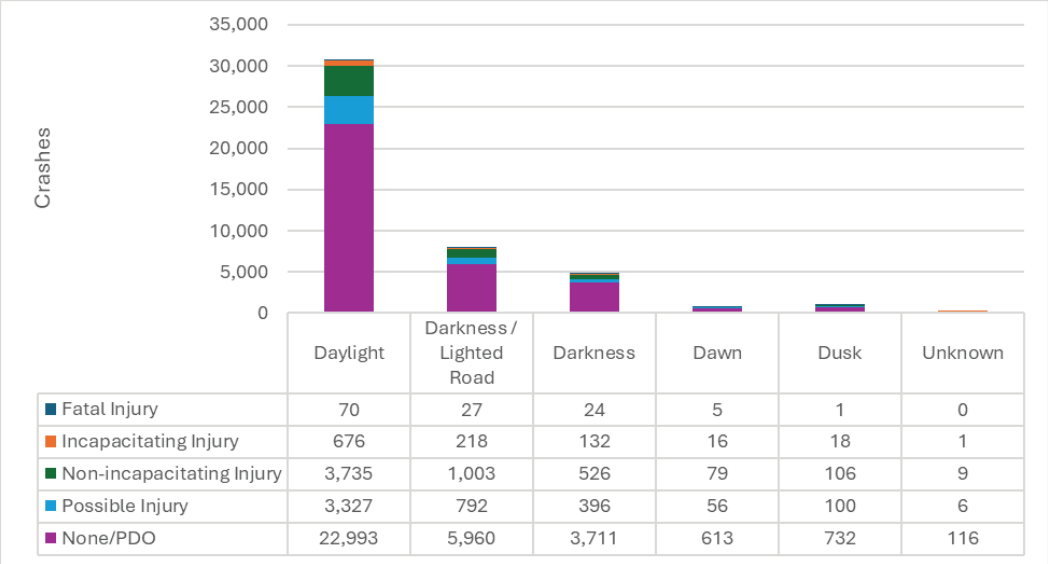
Contributing Factor Trends – Environmental Factors and Time of Day

Figure 18 presents the severity of motor vehicles crashes by lighting conditions. Motor vehicles crashes occur most frequently during daylight hours and account for 68 percent of all incidents. Of the motor vehicle related crashes during daylight hours, 97 percent of crashes did not result in fatal or incapacitating injuries. Three percent of crashes during daylight hours resulted in incapacitating or fatal crashes. Lighted roads during darkness crashes accounted for 18 percent of all crashes. Most lighted road crashes did not result in fatal or incapacitating injuries, with 96 percent of crashes. Finally, non-lighted roads during darkness are 11 percent of all crashes, and dusk and dawn conditions are 2 percent and .03 percent, respectively.

Figure 19 illustrates the severity of pedestrian crashes by lighting conditions. Pedestrian crashes occur most frequently during daylight hours, accounting for 48 percent of all incidents. Crashes that did not result in fatal or incapacitated injuries account for 77 percent of all daylight crashes, while crashes resulting in fatal or incapacitating injuries made up 3 percent and 20 percent, respectively. Lighted road crashes during darkness followed crashes during daylight hours, accounting for 30 percent of all incidents. Non-lighted roads during darkness are 21 percent of all crashes, and dusk and dawn conditions are 2 percent.

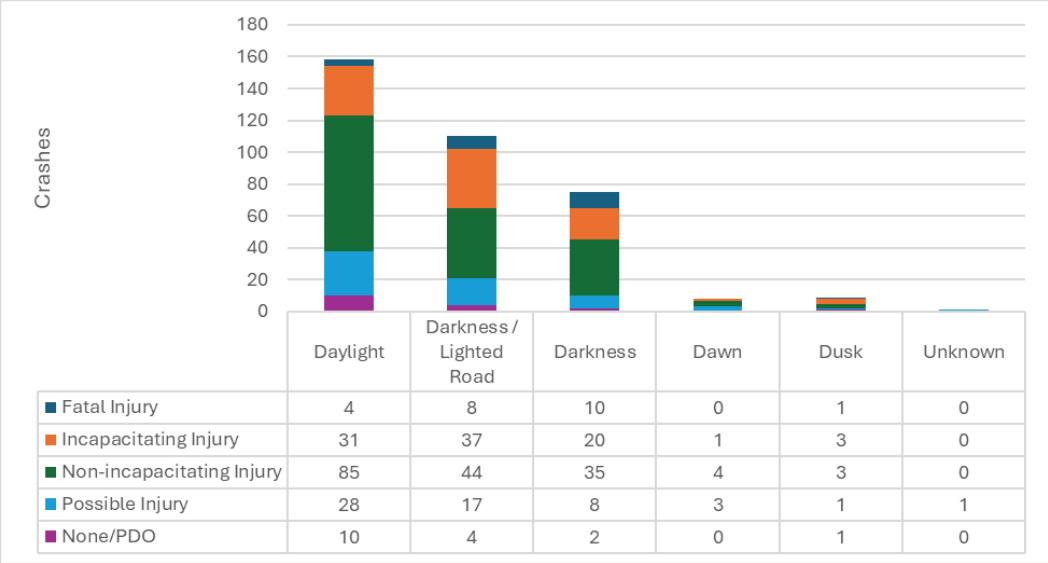
Figure 20 shows the severity of bicycle crashes by lighting conditions. Bicycle crashes occur most frequently during daylight hours and account for 77 percent of all incidents. Of the bicycle-related crashes during daylight hours, 83 percent of crashes resulted in did not result in fatal or incapacitated injuries. Crashes resulting in fatal or incapacitating injuries accounted for 16 percent of crashes during daylight hours. Finally, lighted and non-lighted roads during

darkness are each at 9 percent for all crashes, dusk conditions are 4 percent, and dusk conditions are 2 percent.



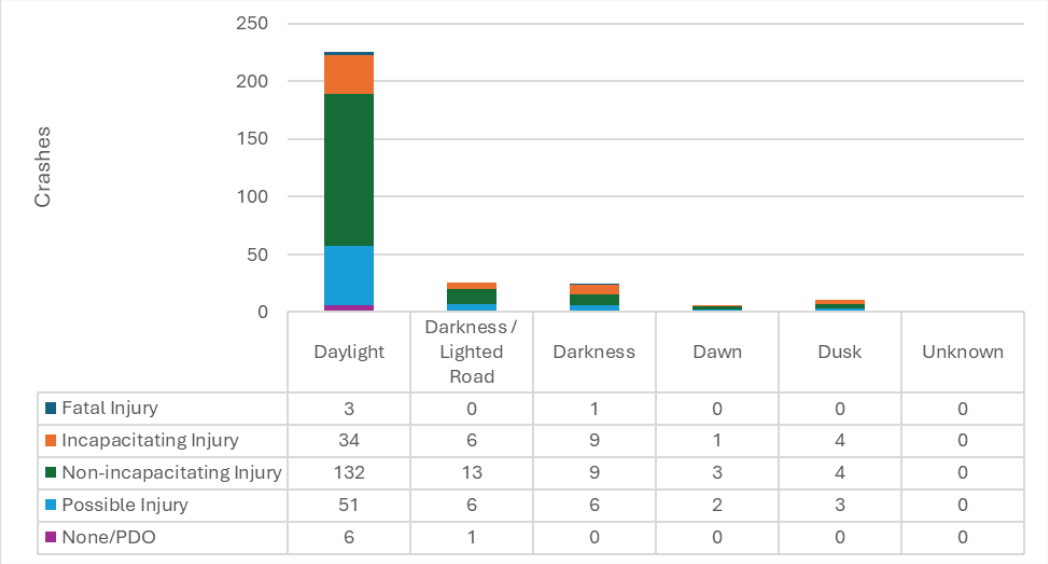
	Daylight	Darkness / Lighted Road	Darkness	Dawn	Dusk	Unknown
Fatal Injury	70	27	24	5	1	0
Incapacitating Injury	676	218	132	16	18	1
Non-incapacitating Injury	3,735	1,003	526	79	106	9
Possible Injury	3,327	792	396	56	100	6
None/PDO	22,993	5,960	3,711	613	732	116

Figure 18. Motor vehicle crash severity by lighting condition



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

Figure 19. Pedestrian crash severity by lighting condition



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

Figure 20. Bicycle crash severity by lighting condition

Figure 21 shows the number of fatal and incapacitating crashes, broken down by the road surface conditions at the time of the crash. Approximately 80 percent (1,089 of 1,359) of severe crashes occurred on dry pavement and approximately 14 percent (195 of 1,359) of severe crashes occurred on dry pavement. Without knowing how frequently each of the conditions occurs, it's difficult to determine whether any of the conditions are associated with a disproportionate number of crashes.

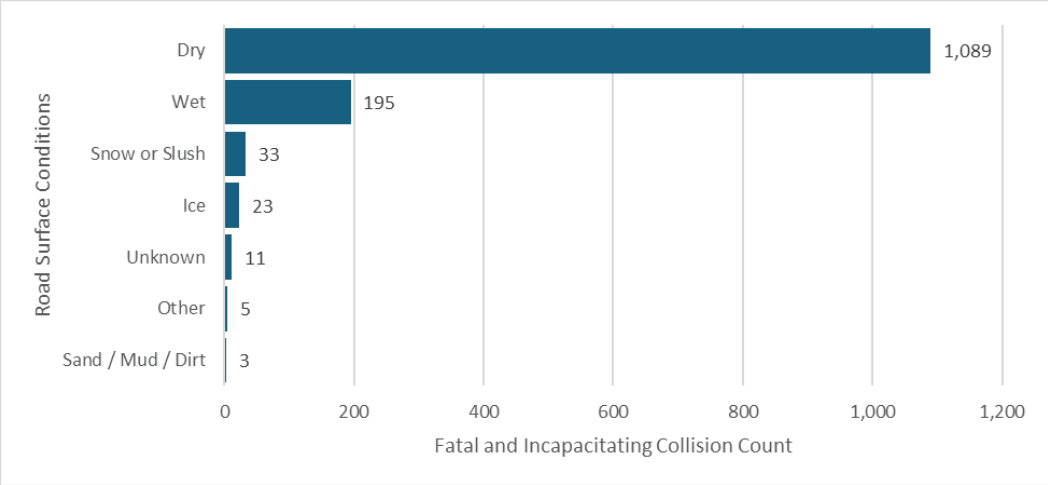


Figure 21. Fatal and incapacitating crash counts by road surface conditions

Figure 22 shows the distribution of fatal and incapacitating crashes, broken down by mode and the hour of the day during which the crashes occurred. Overall, there appears to be a lull in severe crashes between 1:00 AM and 5:00 AM. There are 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 only 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 as 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. This is consistent with the relative prevalence of severe crashes after sunset seen in Figure 19.

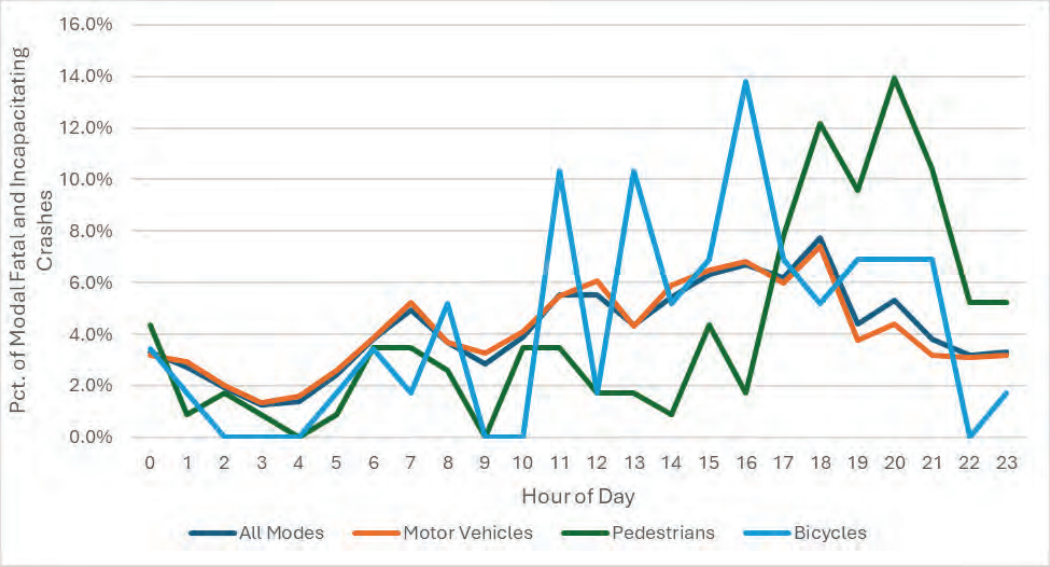


Figure 22. Percentage of fatal and incapacitating injury crashes by mode and hour of day

Safety Emphasis Area Trends

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.

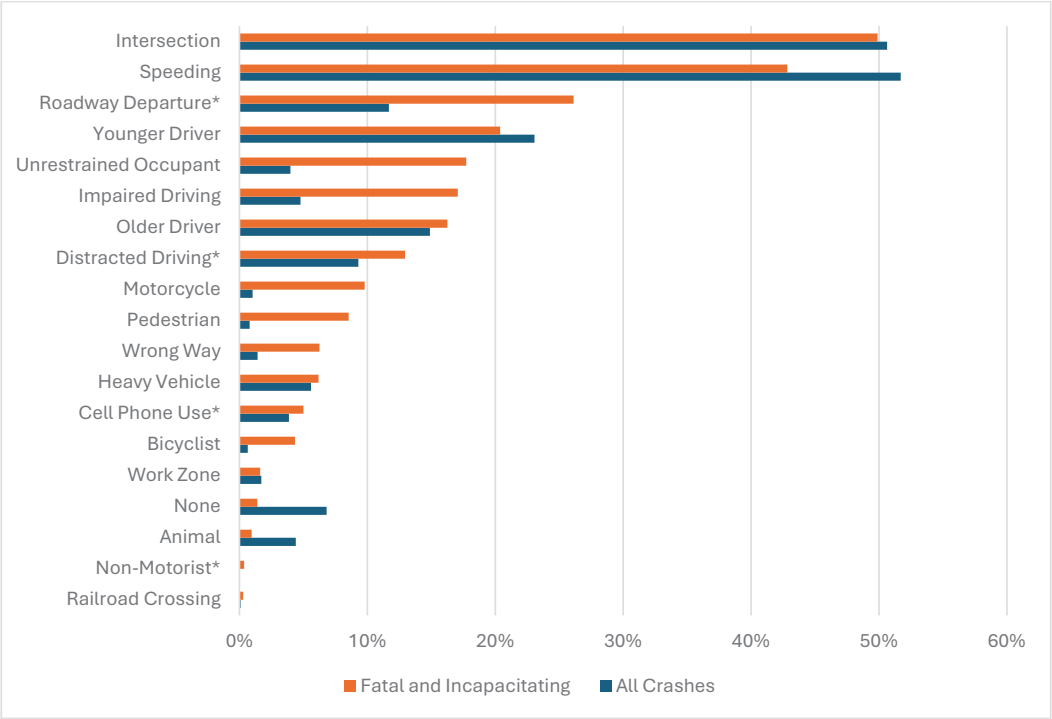


Figure 23. Frequency of emphasis area flag by crash severity

Aside from severities, it is also important to compare EA collisions by municipality to observe if certain municipalities struggle with specific EAs. Table 4 compares the top three (highest percentage of crashes) EAs for the three key municipal partners that are participating in this study.

Figure 23 shows the frequency at which each emphasis area flag is applied to crashes in the County. Note that an asterisk next to an emphasis area label denotes that it was defined by CMAP rather than IDOT. The three most common flags for fatal and incapacitating crashes are Intersection, Speeding, and Roadway Departure*. When looking at all crash severities, the ranking is a bit different with the top three most common flags being Speeding, Intersection, and Younger Driver.

Table 4. Top 3 most common emphasis area flags for fatal and incapacitating crashes by municipality

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%)
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 4 shows list the three most common emphasis area flags for fatal and incapacitating crashes in each municipality with at least 10 severe crashes. 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 rural areas.

High-Risk Intersections

A list of the top 25 intersections with the highest severe crash rates (crashes resulting in fatal or incapacitating injury) in Kane County was created to identify high-risk intersections (Table 5). The crash rates were calculated by dividing the total recorded severe crashes in the five-year period by the volume of vehicles estimated to enter the intersection over the same period. The rate is provided in Table 5 as a unit of severe crashes per million entering vehicles (MEV). Intersections with less than two severe crashes in the analysis period were excluded from this list, as they were considered isolated occurrences not indicative of a broader trend.

Table 5. Kane County top 25 intersections by severe crash rate per million entering vehicles (MEV)

Rank	Intersection Name	Municipality	Traffic Control	Total Severe Crashes	Avg Daily Entering Vehicles	Severe Crashes per MEV
1	Prairie St & Mallard Ln	Sugar Grove	Two-Way Stop/Other	2	1,519	0.721
2	Smith St & North Ave	Aurora	Two-Way Stop/Other	2	1,708	0.642
3	South St & Long Common Pkwy	Elgin	Two-Way Stop/Other	2	1,708	0.642
4	Sycamore Ave & Courier Ave	N/A	Two-Way Stop/Other	2	1,708	0.642
5	Highland Ave & Airlite St	Elgin	Two-Way Stop/Other	2	2,500	0.438
6	New Haven Dr & Elmwood Dr	Aurora	Two-Way Stop/Other	2	2,672	0.410
7	IL-47 & McDonald Rd	Campton Hills	Two-Way Stop/Other	4	6,839	0.320
8	Allen Rd & Widmayer Rd	Hampshire	Two-Way Stop/Other	2	3,565	0.307
9	Capital St & Alft Ln	Elgin	Two-Way Stop/Other	2	3,625	0.302
10	Lincoln Hwy (IL-38) & Anderson Rd	Elburn	Two-Way Stop/Other	6	10,900	0.302
11	IL-72 & French Rd	Hampshire	Two-Way Stop/Other	3	6,200	0.265
12	Freeman Rd & Powers Rd	N/A	Two-Way Stop/Other	2	4,638	0.236
13	IL-72 & Brier Hill Rd	N/A	Two-Way Stop/Other	4	10,375	0.211
14	Ashland Ave & Lincoln Ave	Aurora	All-Way Stop	2	6,725	0.163
15	McDonald Rd & Briargate Dr	South Elgin	Signal	2	6,758	0.162
16	Illinois Ave & Pennsylvania Ave	Aurora	All-Way Stop	2	6,950	0.158
17	Galena Blvd & Russell Ave	Aurora	Two-Way Stop/Other	3	10,950	0.150
18	Congdon Ave & Preston Ave	Elgin	Two-Way Stop/Other	2	7,850	0.140
19	Walnut St & Wilcox Ave	Elgin	Two-Way Stop/Other	2	7,900	0.139
20	New York St & River St	Aurora	Signal	2	7,925	0.138
21	North Ave (IL-64) & Meredith Rd	Virgil	Two-Way Stop/Other	2	8,150	0.134
22	McLean Blvd & Spring St	South Elgin	Signal	6	25,910	0.127
23	US-30 & Dugan Rd	Sugar Grove	Signal	2	9,006	0.122
24	East River Rd (IL-25)/Broadway (IL-25) & Ashland Ave	Aurora	Signal	3	14,068	0.117
25	Galena Blvd & Capitol Dr	Sugar Grove	Two-Way Stop/Other	2	9,500	0.115

Figure 24 shows a map of the high-risk intersection locations. Note that the gray areas illustrate municipal boundaries for context. The map helps to show that nearly all 25

intersections with the highest severe crash rates are located in urban areas, with Aurora and Elgin being the two cities that have the highest concentration of these high-risk intersections.

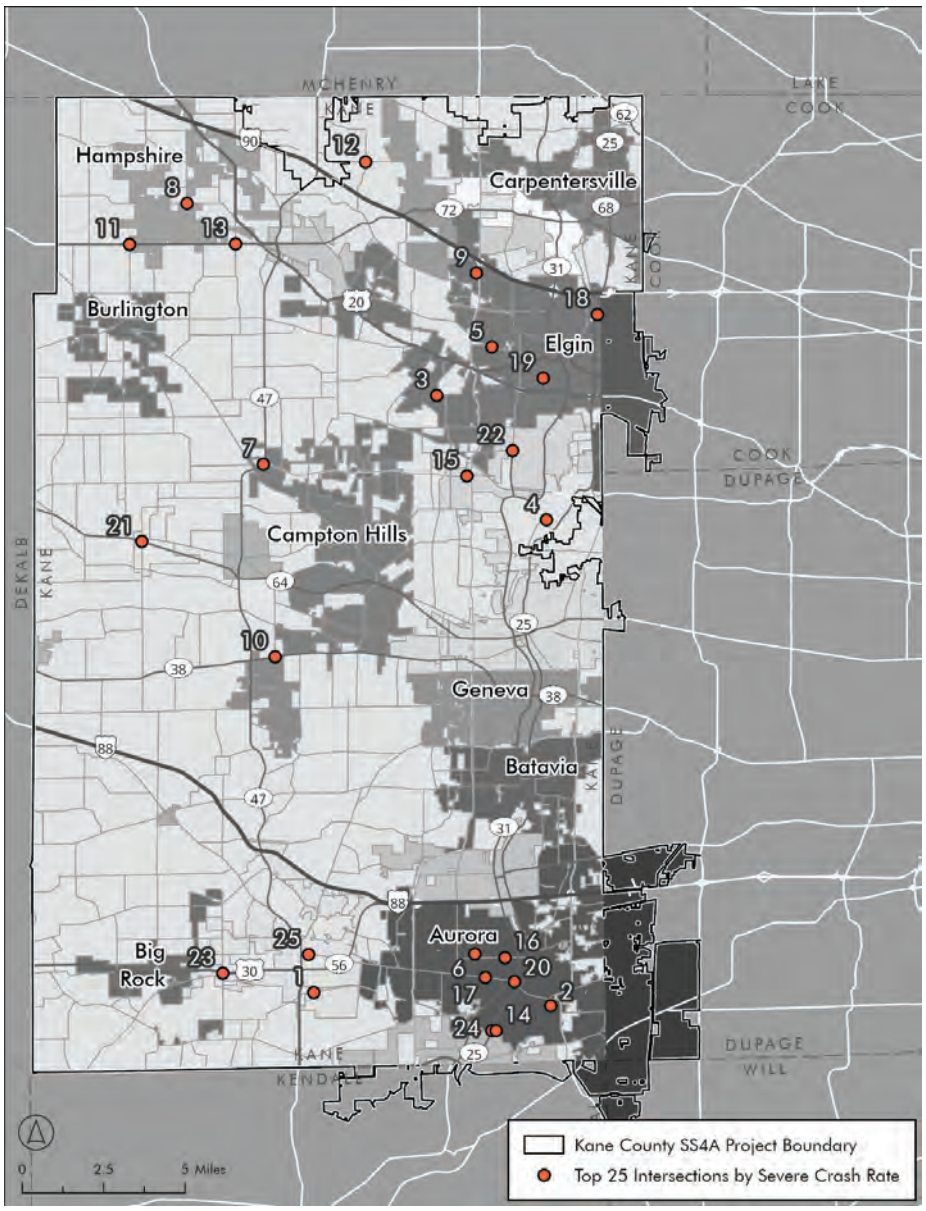


Figure 24. Kane County top 25 intersections by severe crash rate (2018-2022)

While an overview of high-risk intersections was explored in the existing conditions overview, an analysis of high-risk segments is reserved for the following High Injury Network section.

HIGH INJURY NETWORK

A High Injury Network (HIN) is a subset of a road network that has been identified as having high concentrations of injuries as the result of crashes. Unlike a heatmap, an HIN looks at the number of crashes or "injury density" along a corridor and selects the portions of corridors that have concerningly high concentrations of injuries. For ease of comparison, the number of injuries per segment is divided by the length of that segment to produce an injury density. Segments' injury densities are calculated using a sliding window approach where a "window" of a predetermined length "slides" along the corridor at a specific increment and the density of injuries that occurred within that window is calculated and assigned to the segments within that sliding window. The sliding window approach reduces noise in the data including edge effects at the ends of corridors, allows all injuries along a corridor to be included in the analysis, regardless of whether they occurred at an intersection or on a segment between intersections, reduces bias in the data by standardizing segment lengths, and produces more continuous HIN corridors. Following the calculation of injury densities, a minimum injury density threshold is set, and any road segment with an injury density above that threshold is included in the HIN. The resulting HIN represents a prioritized subset of the road network with the highest prevalence of severe crashes.

The development of an HIN consists of six steps: calculating injury counts for each crash, creating a base road network, creating short and long windows from a base road network, assigning crashes to long windows, calculating short and long window scores, and setting a minimum short window crash score threshold for inclusion in the final selection. All six steps are described below.

Calculating Crash Injury Counts

For Kane County's HIN, the project team utilized the crash data provided by CMAP for Kane County and the surrounding areas from 2018-2022. Each unit (a vehicle or a pedestrian) involved in a crash was classified as one of three modes: motor vehicle, Vulnerable Road User (VRU), or other based on the vehicle type code field in the crash tables; the "motor vehicle" category consists of passenger automobiles, trucks, motorcycles, and other road-legal motor vehicle types, the "VRU" category consists of pedestrians and bicyclists, and the "other" category includes other modes which were then excluded from analysis including other people riding on/in ATVs, farm equipment, or horses, parked/unoccupied vehicles, and hit-and-run vehicles.

After classifying each unit by mode and excluding units with atypical characteristics, units without occupants, and units on which there was little to no information, the project team determined the number of people who were injured based on the severity of their injuries and the mode of transportation they were using. The severity of injuries is denoted using the KABCO scale, which consists of five crash severities that are used as an industry shorthand when discussing crash severity. Table 6 includes descriptions of each of the codes and categorizes them into severe and non-severe groups. For each crash, the people involved were categorized by their mode of transportation (motorized or VRU) and the severity of their

injuries (K, A, or B) and then the number of people in each category was tallied up. This yielded six subtotals of K, A, and B injuries for each crash – three for motor vehicle operators and occupants and three for VRUs.

Table 6. KABCO injury severity scale

SEVERE (MORE INJURIOUS)	NON-SEVERE (LESS INJURIOUS)
K - fatal injury	B - non-incapacitating injury
A - incapacitating injury	C - possible injury
	O - no injury or property damage only (PDO)

As an example of calculating modal injury counts using the KABCO scale, if a passenger car with a driver (automobile user) and two passengers (automobile users) strikes a person walking in a crosswalk (pedestrian) and the pedestrian is killed (K), the driver receives a non-incapacitating injury (B), and the two passengers are suspected of having injuries (C), the motor vehicle K, A, and B injury counts for the crash would be 0, 0, and 1, respectively, and the VRU K, A, and B injury counts for the crash would be 1, 0, and 0, respectively.

Creating the Base Network

To reduce the number of artificial and unnecessary breaks in the analysis network, the project team manually validated the network topology and geometrics. The first step of this process consisted of adjusting road segments that were missing or improperly aligned and simplifying complex intersections such as roundabouts to ensure contiguous road segments that intersect at only one location. The second step consisted of merging the individual segments that form each road into one contiguous line that represents the corridor using a combination of automated and manual methods. The individual segments were ultimately merged into corridors by dissolving the lines based on the street name. Due to inconsistent naming conventions, a Python script was used to remove the directional and street type portions of the street names (for example, the same road might be labeled “N OAK St” in one municipality and “South Oak Street” in another, so the script simplifies the name to “OAK” to make the street name attribute consistent). Because roads often change names from one municipality to another, the project team manually verified the simplified names of road segments before dissolving based on the new street names. These verified and contiguous lines were then used to create the short and long window analysis segments.

Creating the Short and Long Windows from the Base Network

Once the base network was finished, the corridors were then split into 0.1-mile segments, called “short windows,” that correspond to the increment by which the long window is moved along the corridor. In the example shown in Figure 25, the main corridor is shown as a black line at the top of the diagram and measures 0.73 miles long. The short windows (represented by the purple line segments at the bottom of the diagram in Figure 25 are the same length as

the increment by which the sliding window slides. The short windows are split from the corridor starting at one end (in this case, on the left end) which sometimes results in one short window being shorter than the others as is the case with 0.03-mile-long Short Window 8 in the example below.

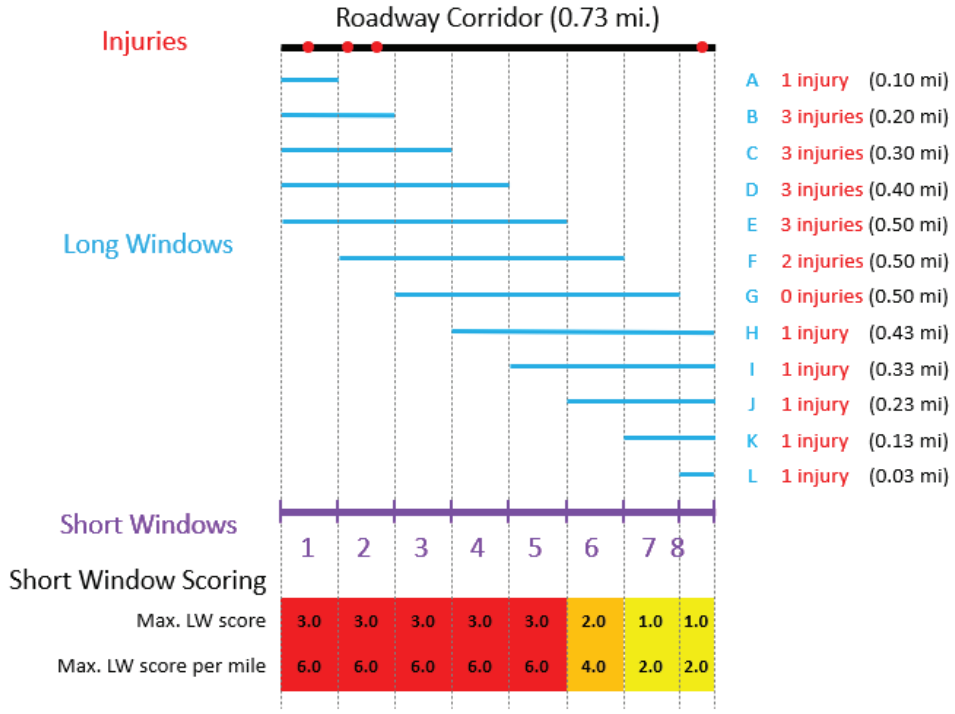


Figure 25. Diagram illustrating the sliding window construction and scoring

The sliding windows, often referred to as "long windows," are created by merging short windows in overlapping groups of five or ten to create 0.5- or 1.0-mile-long windows, respectively. In the diagram shown in Figure 25, the long windows are 0.5-miles in length and therefore consist of up to five short windows. As they get closer to the ends of the corridor, the long windows (represented by the blue line segments in the middle of the diagram in Figure 25) decrease in length. In the example, long windows A, B, C, D, H, I, J, K, and L are shorter than the standard 0.5 miles to ensure that each short window has the same number of long windows overlapping it.

Assigning Crashes to Long Windows

Once the long windows have been created from the short windows, the individual crashes are mapped to the long windows. To account for the width of the road, minor inaccuracies in the coordinates assigned to each crash, and discrepancies in the geometries representing roads in different data sets, a buffer of 50 meters (164 feet) is used when joining the crashes to the

long windows. 50 meters was selected as the search radius because the project team found that 50 meters was large enough to include crashes on divided roadways and crashes geolocated using a street address instead of the actual coordinates without being so large that it includes unrelated crashes (the search radius is defined in meters instead of feet because the geospatial analysis tools employed to assign crashes to segments use meters as the unit of measurement). To ensure that crashes that did not occur on the roadway network (in parking lots, alleys, driveways/private roads, etc.) are not included in the injury density calculations, those crashes were filtered out using the *TrafficwayDescriptionCode* field from the crash data provided by CMAP. In total, 561 crashes with a *TrafficwayDescriptionCode* equal to 7 (Parking Lot), 12 (Alley), or 13 (Driveway) were removed.

While using a buffer helps reduce the number of crashes that are unintentionally excluded from a long window, it does increase the likelihood of crashes being assigned to too many long windows – especially at intersections and in locations where two roads run parallel to each other such as frontage roads along freeways. The effects of this over-assignment of crashes to long windows is mitigated by manually excluding short windows that have been assigned an erroneously high injury score. Because an individual crash that occurred at an intersection may be assigned to long windows from both intersecting corridors, there is no need to split the crash between the two corridors. "Double counting" is not an issue because the injuries from a crash being assigned to segments on multiple corridors doesn't artificially increase either segment's injury count. Even though the injuries from a crash can contribute to multiple corridors' injury counts, the queries used to calculate threshold-setting metrics, such as the number/percentage of injuries that occurred on segments included in the HIN, ensure that each injury is only counted once when calculating those metrics by counting the number of unique crash IDs along the corridors in the HIN. A crash that occurs at an intersection occurs on both corridors and splitting the crash between the two corridors would result in the undercounting of intersection crashes across the entire network.

Calculating Segment Injury Densities

Once the crash points are joined to the long windows, the injury density for each long window is calculated based on the injury counts of the crashes that are joined to it. The long window injury densities are, in turn, used to calculate the short window injury densities.

In the example shown in Figure 25, the long window injury counts (shown in red on the righthand side of the figure) reflect the combined injury counts of the crashes (shown as red dots along the black line representing the study corridor) that lie within a given long window. For simplicity, each crash in the example has an injury count of one. The long window injury density is then calculated as the long window's injury count divided by the lesser of the

standard long window length (0.5 miles in this example) or the corridor length (0.73 miles in this example).

The short window score/injury density is equal to the maximum score of the long windows that overlap it. In Figure 25, Short Window 6 has a maximum long window score of 4.0 injuries per mile, which comes from Long Window F.

To maintain the focus on the most severe crashes, despite their relative infrequency, only the crashes that resulted in people being killed or incapacitated are considered in the injury counts and density calculations for the all-modes HIN. When creating the VRU-only HIN, non-incapacitating injuries (B injuries) suffered by VRUs are also included in the injury density calculations to help compensate for the fact that VRUs' involvement in a crash is less likely to be reported and more likely to result in serious injuries or fatalities after the fact. While the analysis focuses on injury counts, it is helpful to refer to Table 7 to better understand the prevalence of each crash severity by mode. Note that the Any Motor Vehicle, Any Vulnerable Road User, and Any Mode crash counts may not be equal to the sum of the mode-specific counts. For example, there were 127 crashes that resulted in at least one occupant of a motor vehicle (passenger automobile, heavy vehicle, or motorcycle) being killed, but the sum of the passenger automobile, heavy vehicle, and motorcycle fatality counts is equal to 128. This discrepancy is due to one of the 127 fatal motor vehicle crashes resulting in the death of both a passenger vehicle occupant and a motorcyclist. As seen in Table 7, crashes that result in a death or an incapacitating injury make up a far larger proportion of all crashes for VRUs than they do for the occupants of passenger automobiles or heavy vehicles. Much like VRU crashes, a motorcycle crash is far more likely to result in an injury or death for the motorcyclist than an automobile or truck crash is to result in an injury or death for an occupant of the automobile or truck.

Table 7. Crash count by most severe injury (MSI) and mode

MODE	FATAL INJURY	INCAPACITATING INJURY	NON-INCAPACITATING INJURY	POSSIBLE INJURY	NO INJURY	TOTAL
Passenger Automobile	108	935	5,208	4,610	33,755	44,616
Heavy Vehicle	2	15	80	49	2,544	2,690
Motorcycle	18	118	205	48	84	473
Any Motor Vehicle	**127**	**1,061**	**5,458**	**4,677**	**34,125**	**45,448**
Pedestrian	23	92	171	58	17	361
Bicycle	4	54	161	68	7	294
Any Vulnerable Road User (VRU)	**27**	**146**	**332**	**125**	**24**	**654**
Any Mode	**154**	**1,205**	**5,785**	**4,796**	**33,597**	**45,537**

Setting a Threshold for Inclusion in the HIN

The HIN is defined by setting a threshold for the minimum injury density that a short window must have for it to be included in the HIN. For example, if the threshold for inclusion in the HIN is set to 4.0 injuries per mile, six short windows (1, 2, 3, 4, 5, and 6) have scores at or above the threshold (6.0, 6.0, 6.0, 6.0, 6.0, and 4.0, respectively), resulting in a total of 0.6 miles being included in the HIN. Selecting an appropriate threshold is more of an art than a science but the process is guided by some general target metrics:

- **Coverage of targeted (KA or KAB) injuries** – Are at least 60% of KA or KAB crashes covered by the HIN?
- **Mileage or extent of HIN streets and intersections** – Is the total length of the HIN corridors between 5% and 40% of the total length of the entire network?
- **Natural breaks** – Does increasing or decreasing the threshold result in a notable change in severe injury density on the network? Are there natural breaks in the data where severe injury density dramatically changes?
- **Minimum threshold** – Thresholds that are too low dilute the meaning of HIN. The project team typically advises a minimum threshold to yield tangible visual results on the overall multimodal network. Given the context of the study area, the team recommends a bare minimum crash score threshold of 2.0 fatalities or severe injuries per mile over the past five years.

In short: minimum thresholds should be set high enough that a segment's inclusion in the HIN is not driven by just one fatality or severe injury, but not so high that only the very worst

corridors get included in the HIN. The calculated percentage of the network on the HIN and the corresponding percentage of fatal and incapacitating injuries (or fatal, incapacitating, and non-incapacitating injuries, in the case of the VRU-only HIN) for each injury-per-mile threshold are shown in Figure 26Error! Reference source not found. for the all-modes comprehensive (all roads), Figure 27 for all-modes contextual (no freeways), and Figure 28 for all VRU-only contextual (no freeways) HINs.

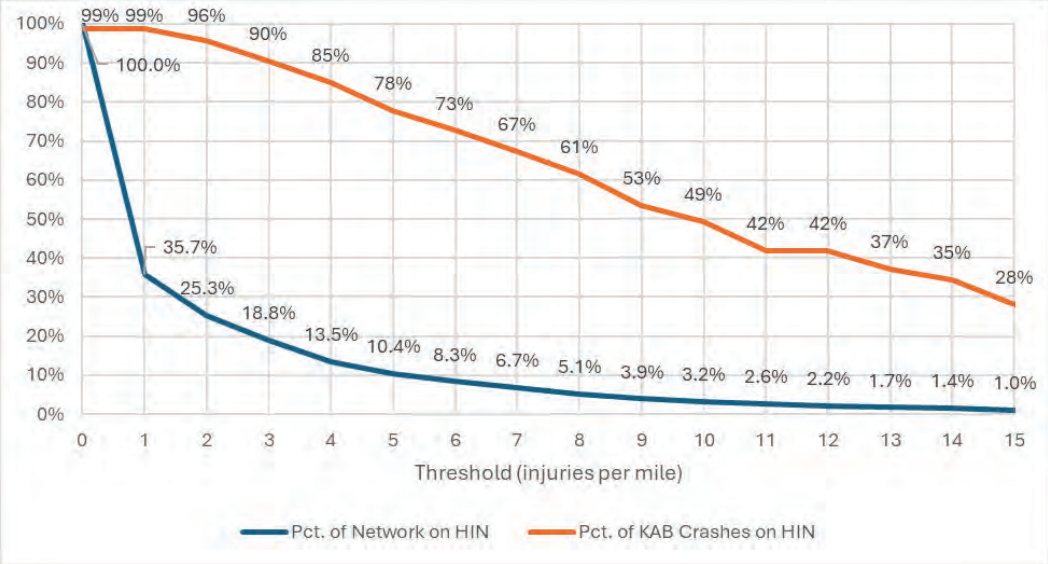


Figure 26. Percentage of fatal and incapacitating injuries for all modes and network miles included in the comprehensive (all roads) all-mode HIN by injury density threshold

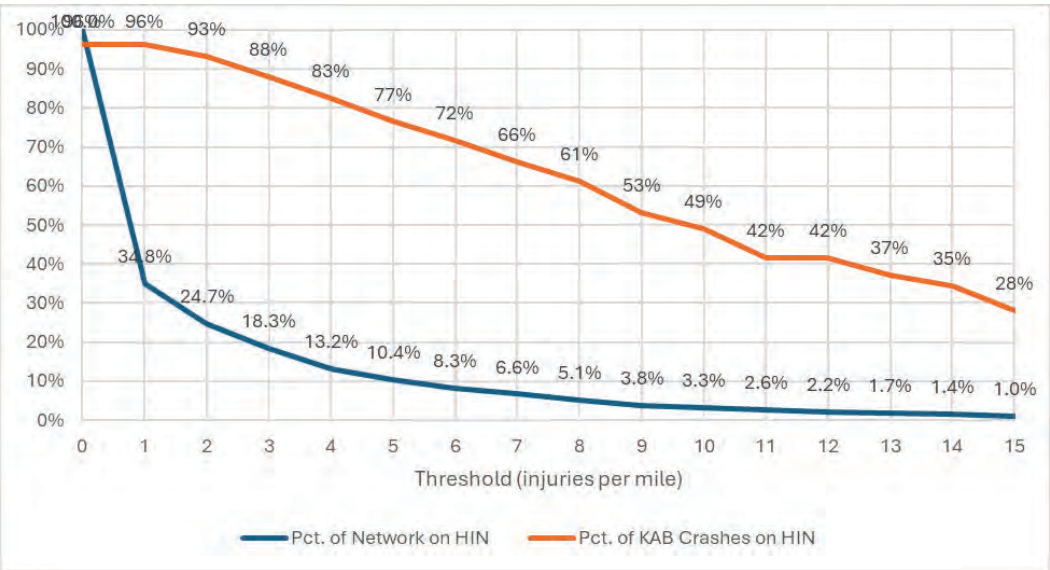


Figure 27. Percentage of fatal and incapacitating injuries for all modes and network miles included in the contextual (no freeways) all-mode HIN by injury density threshold

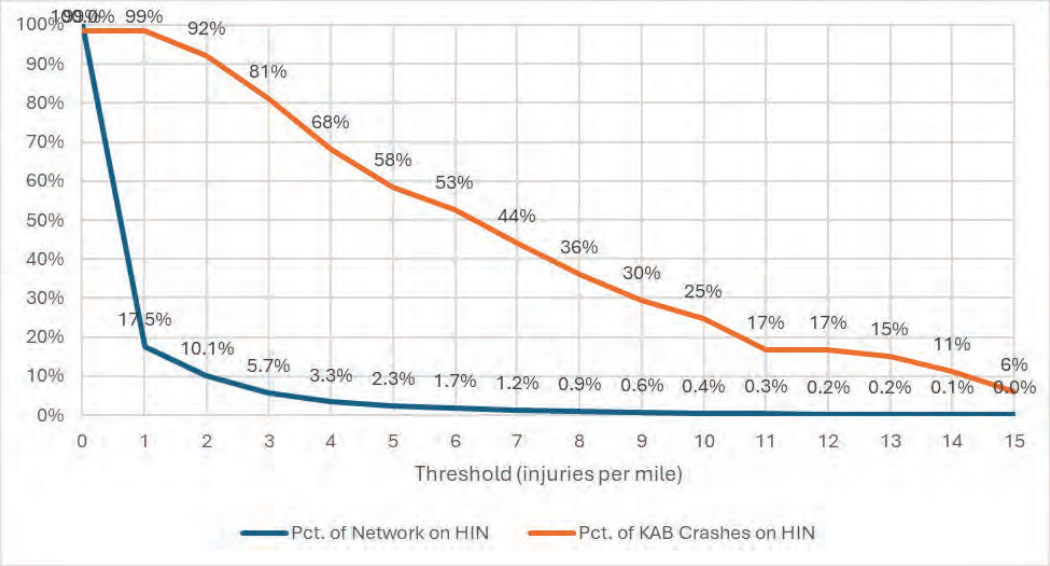


Figure 28. Percentage of fatal, incapacitating, and non-incapacitating injuries for VRUs and network miles included in the contextual (no freeways) VRU HIN by injury density threshold

An additional filter was applied to exclude segments on urban corridors that are shorter than 0.25 miles long and segments on rural corridors that are shorter than 1.0 miles from the HIN. This reduces the likelihood of inflated injury densities on short segments. For example, one

injury on a 1.0-mile-long corridor would result in an injury density of 1.0 injuries per mile (well below the threshold for inclusion on the HIN) whereas one injury on a 0.1-mile-long corridor would result in an injury density of 10.0 injuries per mile (well above the threshold for inclusion on the HIN).

Table 8 shows the target metrics for the two HINs at the proposed thresholds of 5.0 KA injuries per mile for the all-modes HIN and 2.0 KAB injuries per mile for the VRU-only HIN.

Table 8. Target metrics for All-Modes and VRU-Only HINs at proposed thresholds

Mode	Total network miles	Total injuries*	Proposed threshold	Network miles on HIN	Injuries* on HIN
All Modes (Comprehensive)	3,213	1,886	5.0	335.5 (10.4%)	1,467 (77.8%)
All Modes (Contextual)	3,167	1,886	5.0	328.3 (10.4%)	1,443 (76.5%)
VRU (Contextual)	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

Countywide HIN

The HINs produced using the proposed thresholds in Table 8 can be seen in Figure 29, Figure 30, and Figure 31.

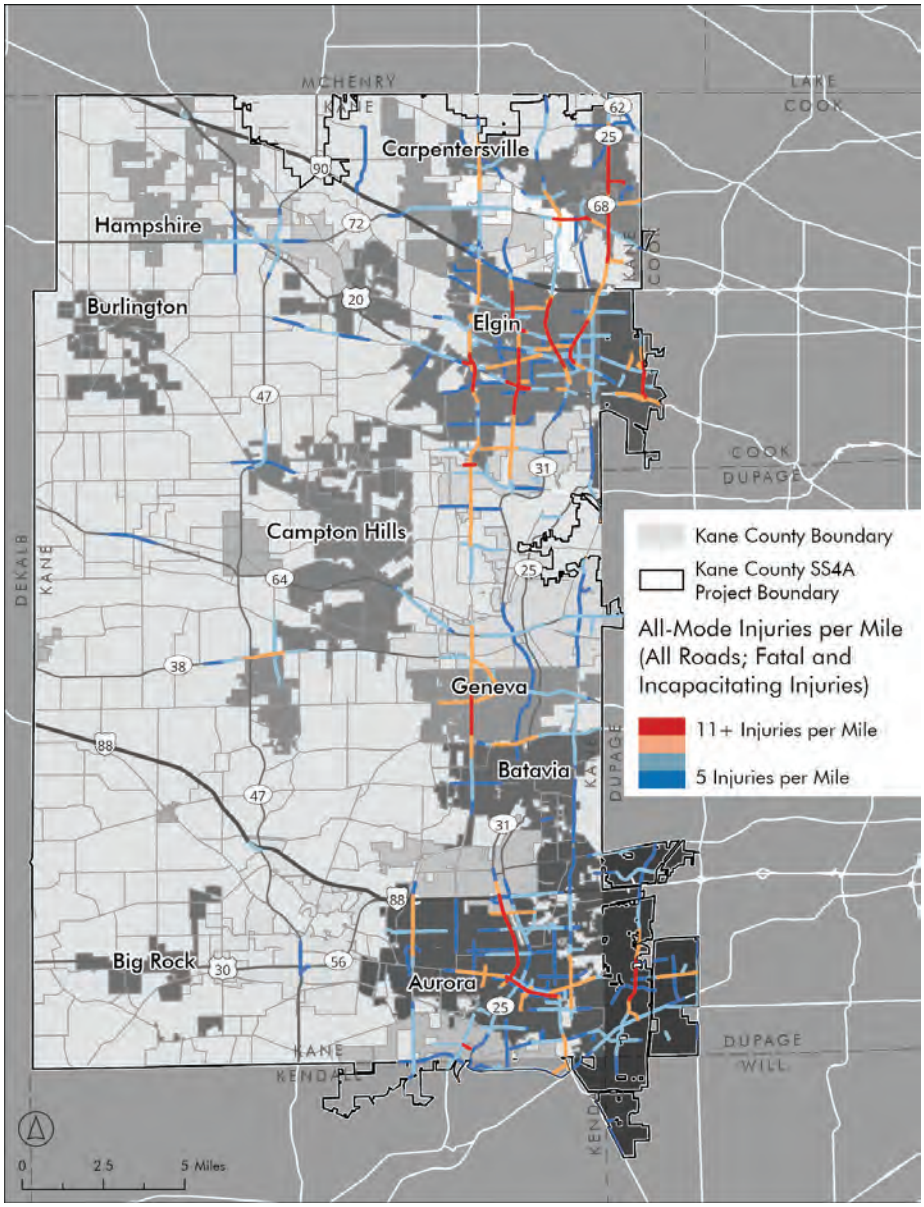


Figure 29. Countywide comprehensive (all roads) all-mode HIN using a threshold of 5.0 fatal or incapacitating injuries per mile

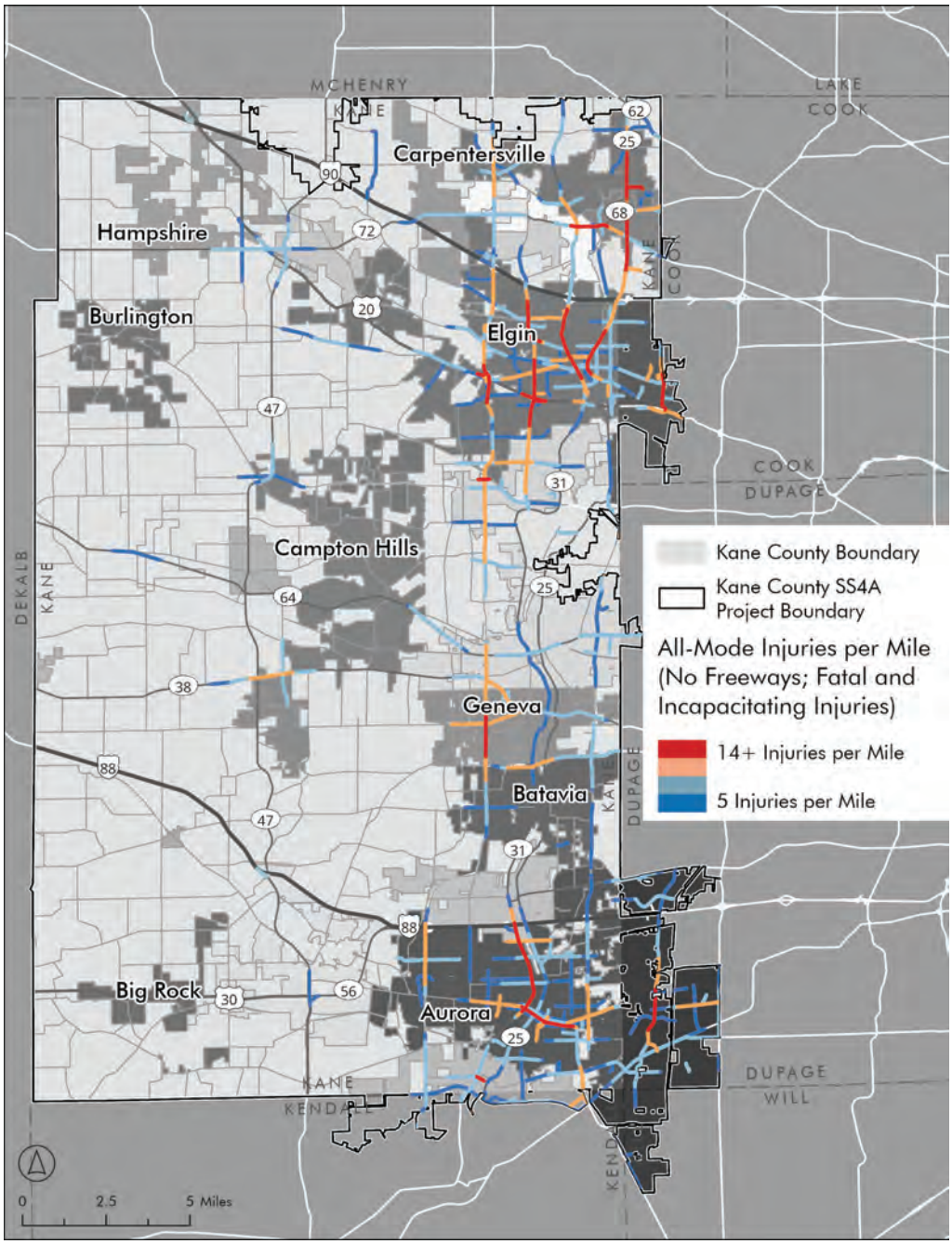


Figure 30. Countywide contextual (no freeways) all-mode HIN using a threshold of 5.0 fatal or incapacitating injuries per mile

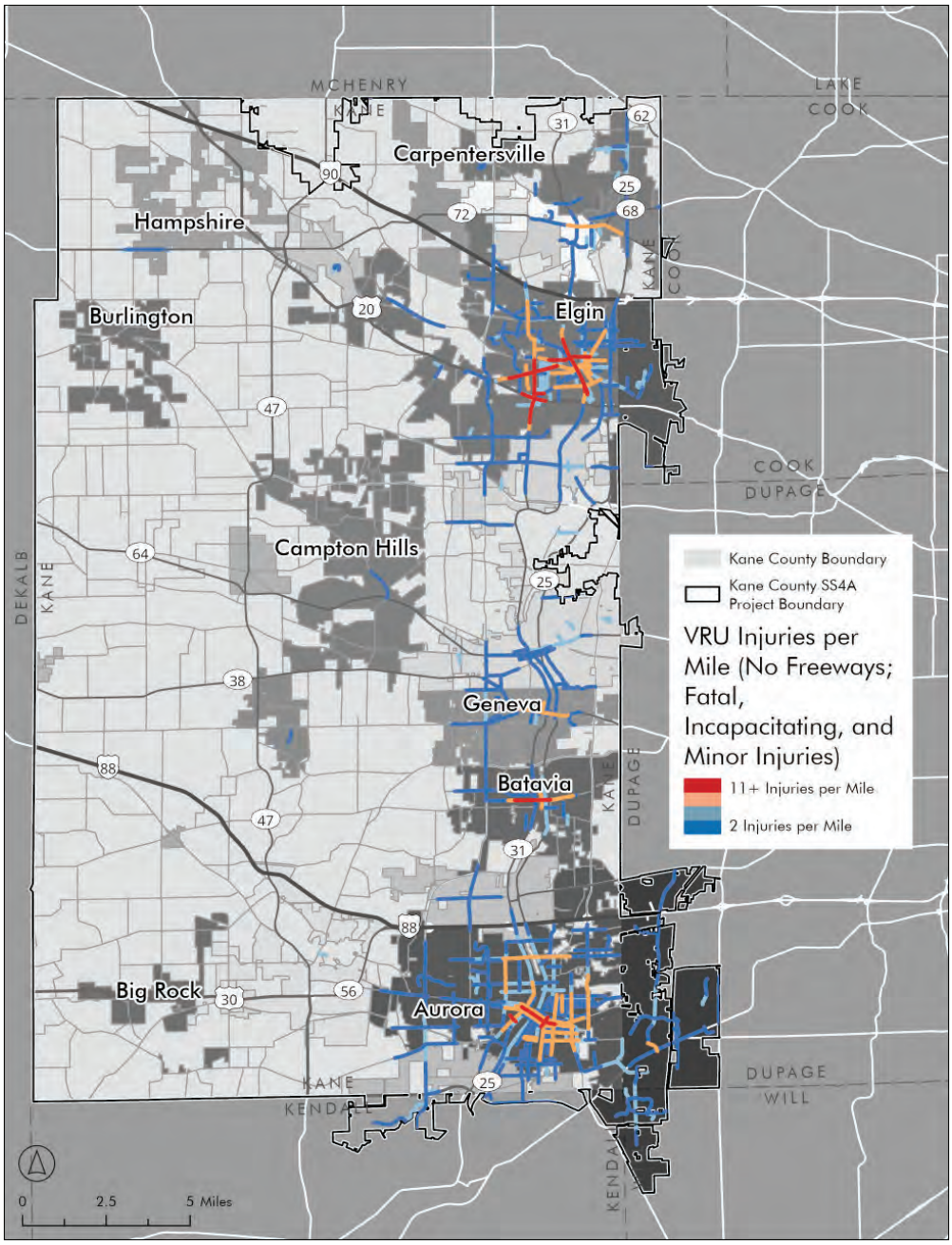


Figure 31. Countywide contextual (no freeways) VRU HIN using a threshold of 2.0 fatal, incapacitating, and non-incapacitating injuries per mile

HINs for Select Municipalities

The team produced HINs for the Plan's three key partner municipalities: Aurora, Batavia, and Carpentersville. For consistency, the same thresholds for the county-wide all-mode and VRU HINs were used for the municipalities' HINs. Below are the all-mode and VRU-only HINs for Aurora (Figure 32 and Figure 33), Batavia (Figure 34 and Figure 35), and Carpentersville (Figure 36 and Figure 37), respectively.

Aurora

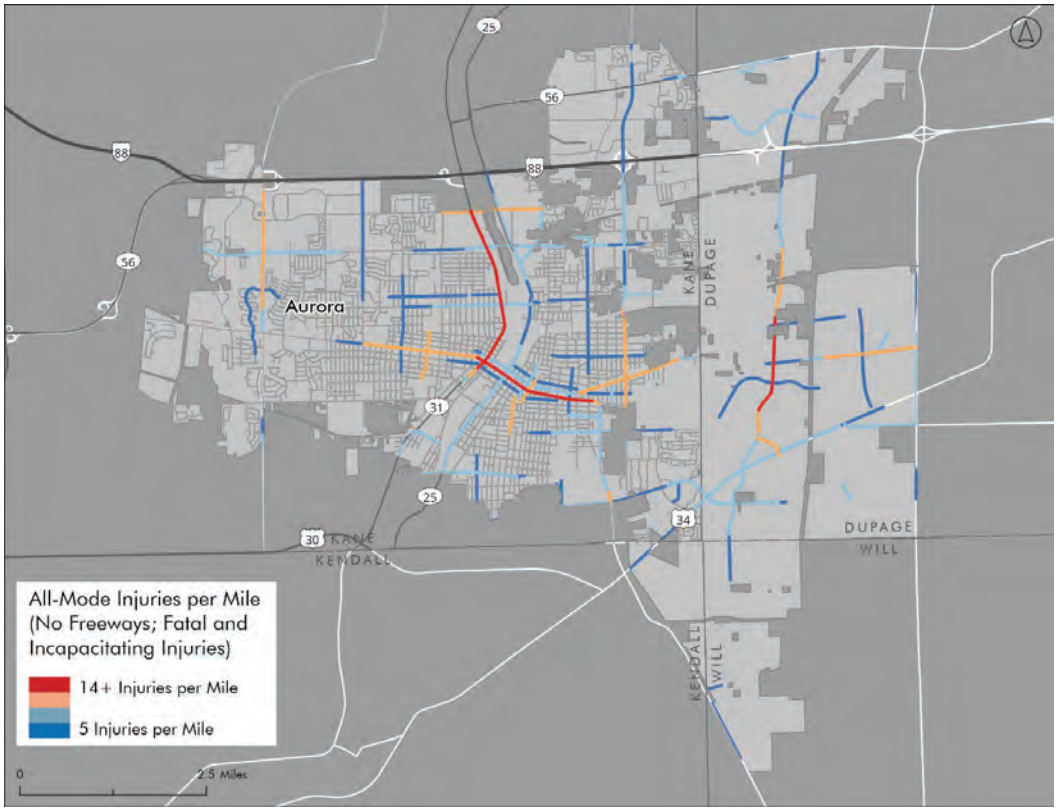


Figure 32. Aurora's contextual (no freeways) all-mode HIN using a threshold of 5.0 fatal or incapacitating injuries per mile

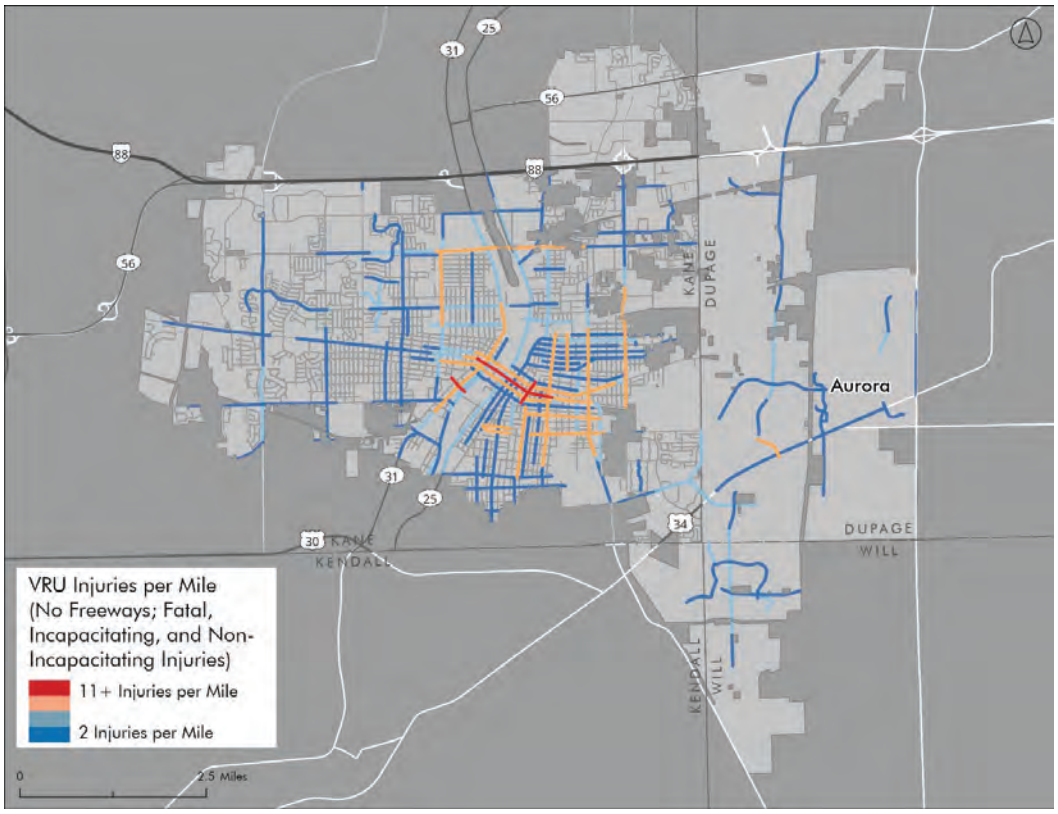


Figure 33. Aurora's contextual (no freeways) VRU HIN using a threshold of 2.0 fatal, incapacitating, and non-incapacitating injuries per mile

Batavia

Figure 34. Batavia's contextual (no freeways) all-mode HIN using a threshold of 5.0 fatal or incapacitating injuries per mile

Figure 35. Batavia's contextual (no freeways) VRU HIN using a threshold of 2.0 fatal, incapacitating, and non-incapacitating injuries per mile

Carpentersville

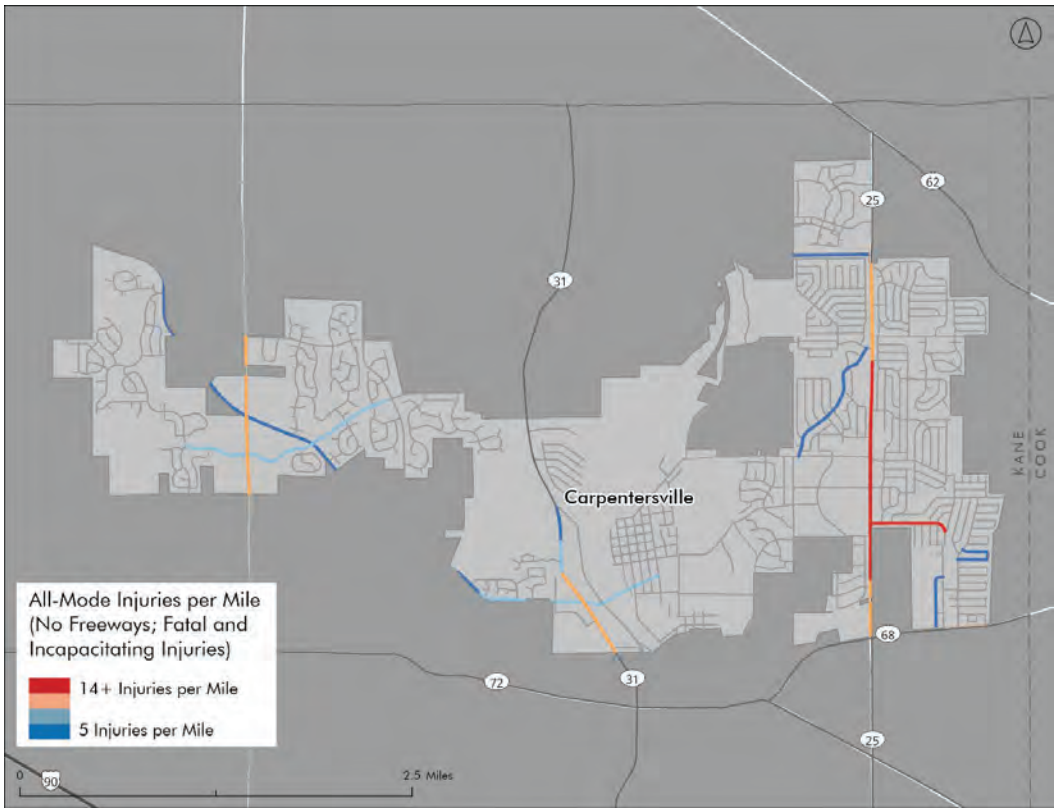


Figure 36. Carpentersville's contextual (no freeways) all-mode HIN using a threshold of 5.0 fatal or incapacitating injuries per mile

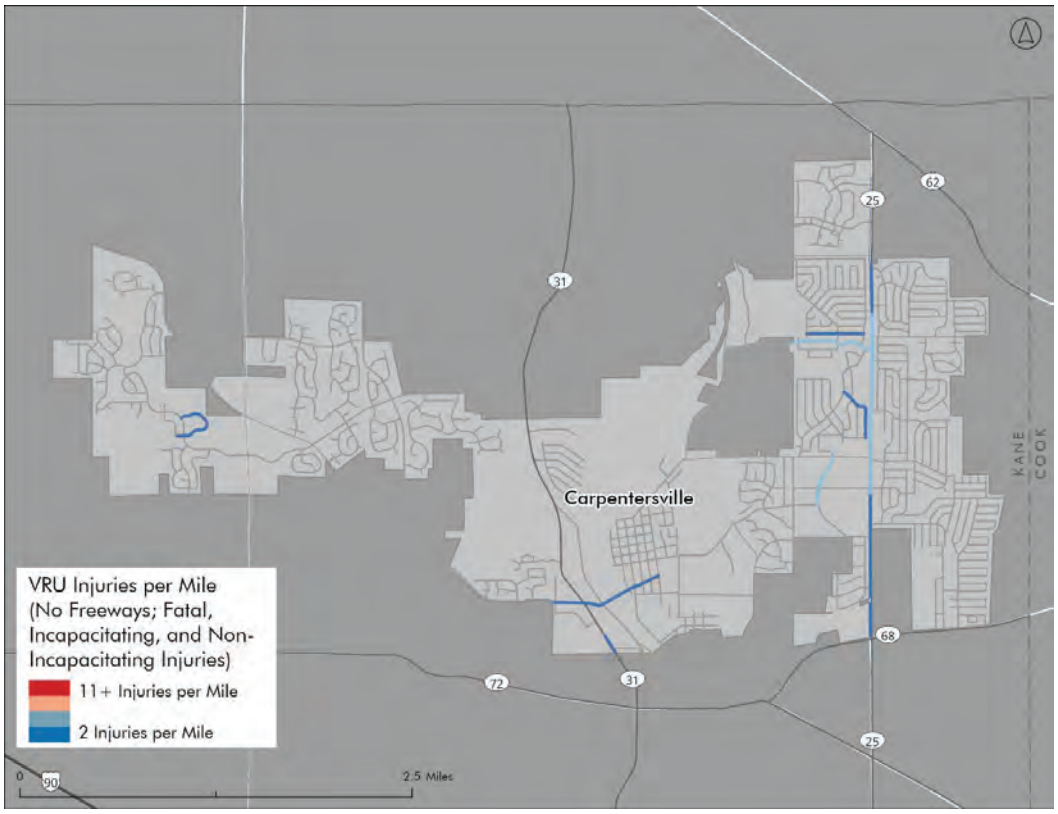


Figure 37. Carpentersville's contextual (no freeways) VRU HIN using a threshold of 2.0 fatal, incapacitating, and non-incapacitating injuries per mile

Key corridors from the municipal HINs can be found in Table 9 (which shows the corridors from the three municipalities' all-mode HINs with more than 11.0 fatal or incapacitating injuries per mile) and Table 10 (which shows the corridors from the three municipalities' VRU HINs with more than 8.0 fatal, incapacitating, or non-incapacitating VRU injuries per mile). Filtering HIN results using 11.0 and 8.0 are based on the map scales and correspond to orange and red injuries per mile as shown in the above maps color scale. These municipal corridors experienced the highest concentrations of injuries per mile within each of the three studied municipalities.

Table 9. Segments from municipal all-mode HINs with more than 11.0 K and A injuries per mile

MUNICIPALITY	ROAD	START	END
Carpentersville	Randall Rd	Binnie Rd	Grandview Dr
Carpentersville	Miller Rd	Gleneagle Dr	Dunroven Lakes Rd
Carpentersville	N Western Ave	Hillside St	Allison St
Carpentersville	S Kennedy Dr	Barrington Ave	Boulder Dr
Carpentersville	Golfview Ln	S Kennedy Dr	Monroe Ave
Carpentersville	IL-68	Harrison St	Penny Rd
Aurora	N Orchard Rd	W Galena Blvd	I-88
Aurora	W Ashland Ave	Oliver Ave	Jackson St
Aurora	E/W Galena Blvd	N Randall Rd	Hill Ave
Aurora	S Russell Ave	Lakewood Pl	W Park Ave
Aurora	Lake St	Frazier Ct	Sullivan Rd
Aurora	Sullivan Rd	N Highland Ave	Mitchell Rd
Aurora	River St	Hankes Ave	Clearwater Dr
Aurora	Hill Ave	Montgomery Rd	Binder St
Aurora	E New York St	N State St	Eastern Ave
Aurora	Ogden Ave	Ridge Ave	Long Grove Dr
Aurora	Eola Rd	Village Green Dr	N Aurora Rd
Aurora	E New York St	Belvedere Ln	IL-59
Aurora	N Farnsworth Ave	7th Ave	Mountain St
Batavia	S Randall Rd	Main St	W Fabyan Pkwy
Batavia	W Fabyan Pkwy	Western Ave	Surrey Rd

Table 10. Segments from municipal VRU HINs with more than 8.0 K, A, and B injuries per mile

MUNICIPALITY	ROAD	START	END
Aurora	Lake St	3rd St	Spruce St
Aurora	E/W Downer Pl	S May St	S Madison
Aurora	E/W Galena Blvd	S Locust St	N Ohio St
Aurora	E/W New York St	Wilder St	N Smith St
Aurora	W Indian Trl	N Highland Ave	High St
Aurora	North Ave	Jackson St	S East Ave
Aurora	N/S Union St	Simms St	Delius Ave
Aurora	N/S Ohio St	5th Ave	Solfisburg Ave
Aurora	N Farnsworth Ave	E Galena Blvd	Mountain St
Batavia	E/W Wilson St	W Wilson St	Branford Ave

*Carpentersville did not have any corridors that met or exceeded 8.0 K, A, and B injuries per mile.

Roadway Characteristics of HIN Corridors

To identify commonalities between roadways included on the Countywide HINs, the team conducted a preliminary analysis comparing the distributions of several roadway characteristics (functional classification, posted speed limit, and urban versus rural designation) of the entire Kane County network to the distributions of those roadway characteristics amongst the roadways included in the Countywide HINs.

In cases where a characteristic makes up the same proportion of the network when looking at the unfiltered Countywide network versus a HIN, the characteristic in question is not a strong predictor for a roadway's inclusion in the HIN. For example, major collectors comprise 10% of the centerline miles in Kane County (excluding freeways) and major collectors comprise 11% of the centerline miles in the Countywide all-mode HIN, which means that the prevalence of major collectors in the HIN is essentially just a reflection of the prevalence of major collectors in the overall network. On the other hand, instances where a characteristic is more common amongst roadways in an HIN versus the unfiltered Countywide network, suggest that roads with that characteristic are overrepresented in the HIN and this disproportional representation means that the characteristic is a stronger predictor for whether a segment with the characteristic in question will be included in the HIN. For example, principal arterials comprise only 7% of the centerline miles in Kane County (excluding freeways) but account for 35% of the centerline miles in the Countywide all-mode HIN, which means that a segment classified as a principal arterial is more likely to be included in the HIN than a segment classified as a major collector.

This comparison of the proportionality of the representation of different roadway characteristics has identified some trends, which will be used to help the county interpret the

results and identify corridors to prioritize improvements in the next stages of the plan process:

- As seen in Figure 38, 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.
- As seen in Figure 39, speed limits between 30 mph and 55 mph are overrepresented in both HINs and may be at more risk. That said, due to the limitation of the dataset, segments classified as local roads often do not have speed limits associated with them. Assuming that most (if not all) of the roadway miles in the "Other/Unknown" category are local roads with a speed limit of 25 or 30 mph, speed limits below 35 are no longer overrepresented.
- As seen in Figure 40**,** 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.

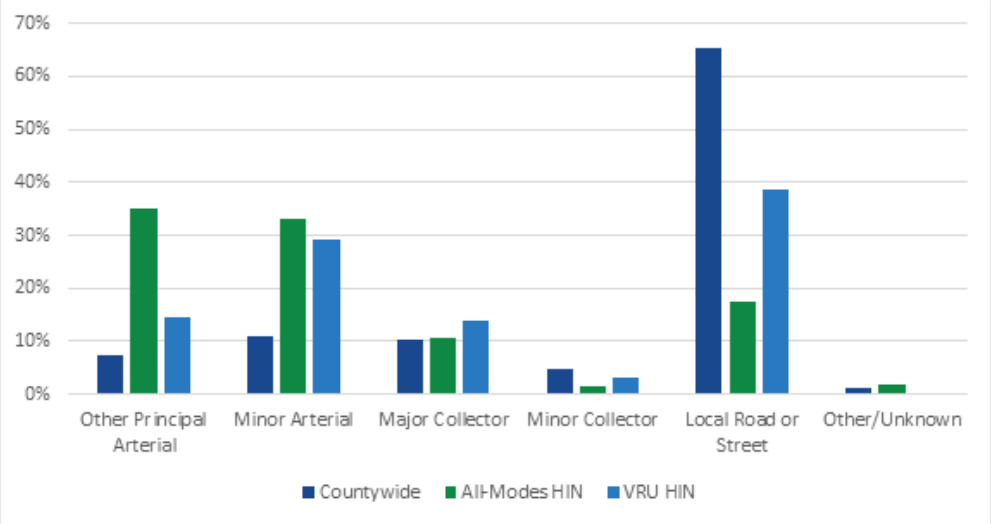


Figure 38. Percentage of network by functional classification for Countywide network, all-mode HIN, and VRU HIN

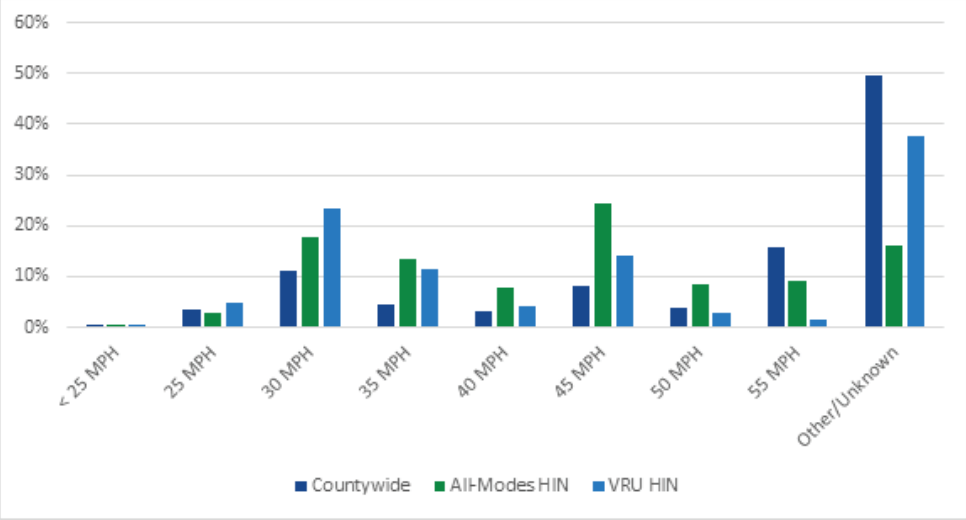


Figure 39. Percentage of network by speed limit for Countywide network, all-mode HIN, and VRU HIN

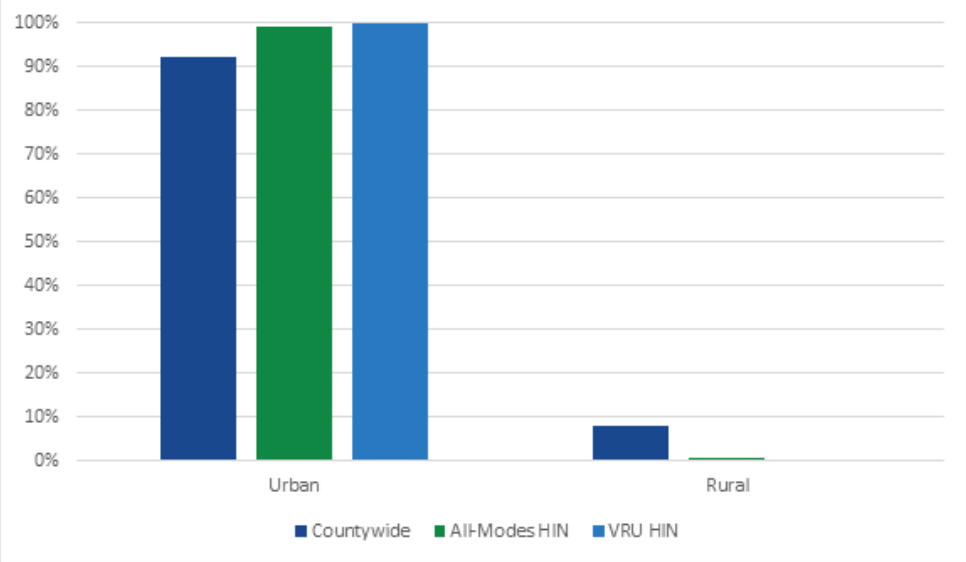


Figure 40. Percentage of network by urban vs. rural designation for Countywide network, all-mode HIN, and VRU HIN

RAILWAY SAFETY CONDITIONS

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 following chapter is an analysis of rail-related crashes and safety incidents that occurred in Kane County over the course of 10 years (2012-2021).

The primary data source for the analysis is a version of the Illinois Commerce Commissions rail-related incident database that was provided to the project team by CMAP. The dataset includes basic features of each rail-related incident that occurred in Illinois between 2012 and 2021, including the coordinates of the incident, the victim's mode of transportation, the owner of the train and railroad involved in the incident, whether the incident occurred at a grade crossing, the date and time of the incident, and the severity of the incident. Unfortunately, the dataset does not include a field to denote whether an incident was determined to be a suicide (a similar analysis in Cook County, IL, found that approximately 50 percent of all train-vs-pedestrian incidents had been ruled to be suicides by the county medical examiner).

If the proportion of pedestrian-involved rail-related incidents in Kane County matches that of Cook County, the motivations of the victims in the vast majority of incidents in Kane County involved a pedestrian (30 out of 37 incidents and 20 out of 24 fatal incidents, as seen in Table 11) become uncertain. Not knowing whether the victim of a rail-related incident intended to be injured or killed by a train makes it difficult to identify useful trends or propose effective countermeasures to eliminate injuries and fatalities.

Table 11. Rail incident severity by mode involved for all incidents in Kane County

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**

Of the 37 incidents that occurred in Kane County between 2012 and 2021, 24 of them resulted in at least one fatal injury. Of the 24 people killed, 20 of them were pedestrians. As seen in Figure 41, the most common incident type was one that occurred somewhere between grade crossings and resulted in a pedestrian being killed.

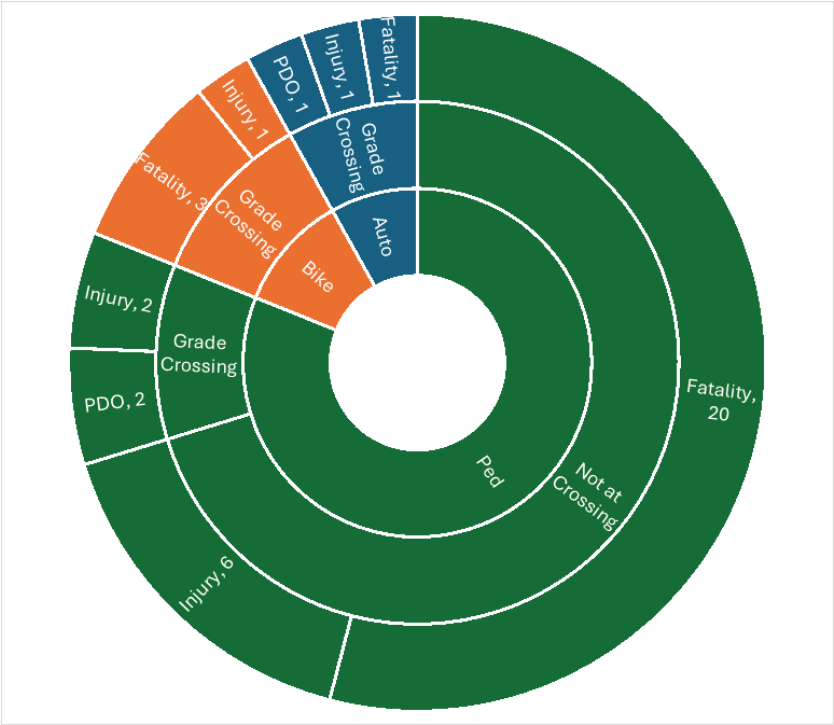


Figure 41. Rail incidents in Kane County (2012-2021) by mode, location, and severity

Incidents Involving Metra-Owned Railroads and/or Metra-Owned Trains

The following section presents a breakdown of rail-related incidents that involved trains owned by Metra and/or took place on tracks owned by Metra. Note that two of the three Metra lines in Kane County (the BNSF line and the UP West line) are somewhat unique in that Metra does not own the tracks or operate the trains. Instead, under a purchase-of-service agreement, the Class I railroads (BNSF or UP) operate trains owned by Metra on tracks that they own or control.

As seen in Table 12, all of the victims of Metra incidents were VRUs and approximately 71 percent of incidents (15 of 21) were fatal.

Table 12. Metra incidents by mode and injury severity

Mode	Fatality	Injury	PDO	Total
Automobile	0	0	0	**0**
Bicyclist	3	1	0	**4**
Pedestrian	12	5	0	**17**
Total	**15**	**6**	**0**	**21**

Table 13 shows a breakdown of incident severity by the railroad owner. The vast majority (19 of 21) incidents occurred on Metra-owned tracks with roughly two thirds of the incidents (13 of 19) involving a Metra train on Metra tracks. It is somewhat surprising that 13 of the 15 incidents involving a Metra train occurred on Metra-owned tracks because only one of the three Metra lines in the County (the Milwaukee District West line) runs on Metra-owned tracks.

Table 13. Metra incidents by railroad owner/jurisdiction, train type, and injury severity

Train Type	RR Owner	Fatality	Injury	PDO	Total
Freight	Metra	4	2	0	**6**
Passenger	Metra	9	4	0	**13**
Passenger	BNSF	1	0	0	**1**
Passenger	UP	1	0	0	**1**
	Total	**15**	**6**	**0**	**21**

Similarly to Table 13 above, Table 14 shows that the majority of Metra crashes (15 of 21) involve a Metra train, but it further breaks down the ownership of freight trains involved in incidents on Metra-owned tracks.

Table 14. Metra incidents by train owner and injury severity

Train Owner	Fatality	Injury	PDO	Total
Metra	11	4	0	**15**
BNSF	1	1	0	**2**
CN	0	1	0	**1**
UP	3	0	0	**3**
Total	**15**	**6**	**0**	**21**

As seen in Table 15, approximately two thirds of all Metra crashes occurred somewhere other than a grade crossing. It is unclear what factors are bringing people to rail right-of-way, especially when it is unknown which incidents were accidents vs suicides.

Table 15. Incidents by grade crossing versus between grade crossings

Incident Location	Fatality	Injury	PDO	Total
At a Crossing	3	2	0	**5**
Not at a Crossing	12	4	0	**16**
Total	**15**	**6**	**0**	**21**

Incidents Involving Neither Metra-Owned Railroads nor Metra-Operated Trains

The following section presents a breakdown of rail-related incidents that did not involve trains owned by Metra and did not take place on rail lines owned by Metra.

Similarly to the Metra incidents, the non-Metra incidents primarily involved pedestrians. As seen in Table 16, 13 of 16 incidents and 8 of 9 fatalities involved pedestrians.

Table 16. Non-Metra Incidents by mode involved, fatal and serious incidents separately

Mode	Fatality	Injury	PDO	Total
Automobile	1	1	1	**3**
Bicyclist	0	0	0	**0**
Pedestrian	8	3	2	**13**
Total	**9**	**4**	**3**	**16**

The non-Metra incidents were less likely to be fatal than the Metra incidents with 71 percent (15 of 21) of Metra incidents that resulted in a death compared to 56 percent (9 of 16) of non-Metra incidents that resulted in a death (see Table 17). A possible explanation for this is the difference in speed between the trains involved in Metra and non-Metra incidents – Metra trains tend to run at higher speeds than freight trains.

Table 17. Non-Metra Incidents by railroad owner/jurisdiction and type

RR Type	RR Owner	Fatality	Injury	PDO	Total
Freight	BNSF	4	1	0	**5**
Freight	CN	2	2	1	**5**
Freight	UP	3	1	2	**6**
	Total	**9**	**4**	**3**	**16**

Because the Class I railroads tend to operate trains on their own tracks, the breakdown of train ownership in Table 18 lines up with the breakdown of track ownership in Table 17.

Table 18. Non-Metra Incidents by operating agency of train involved in the incident

Train Owner	Fatality	Injury	PDO	Total
BNSF	4	1	0	**5**
CN	2	2	1	**5**
UP	3	1	2	**6**
Total	**9**	**4**	**3**	**16**

Much like Metra incidents, the non-Metra incidents shown in Table 19 were more likely to occur between grade crossings than they are to occur at grade crossings.

Table 19. Non-Metra Incidents by grade crossing versus between grade crossings

Incident Location	Fatality	Injury	PDO	Total
At a Crossing	1	2	3	**6**
Not at a Crossing	8	2	0	**10**
Total	**9**	**4**	**3**	**16**

Geographic Analysis of Railroad Incidents

To identify locations with high concentrations of incidents, the project team created a heatmap showing all of the incidents in the county as seen in Figure 42 and drew bounding boxes around the geographically clustered crashes as seen in Figure 43. The clusters were identified using a combination of number of incidents and severity of incidents. In total, seven clusters were identified and are detailed below.

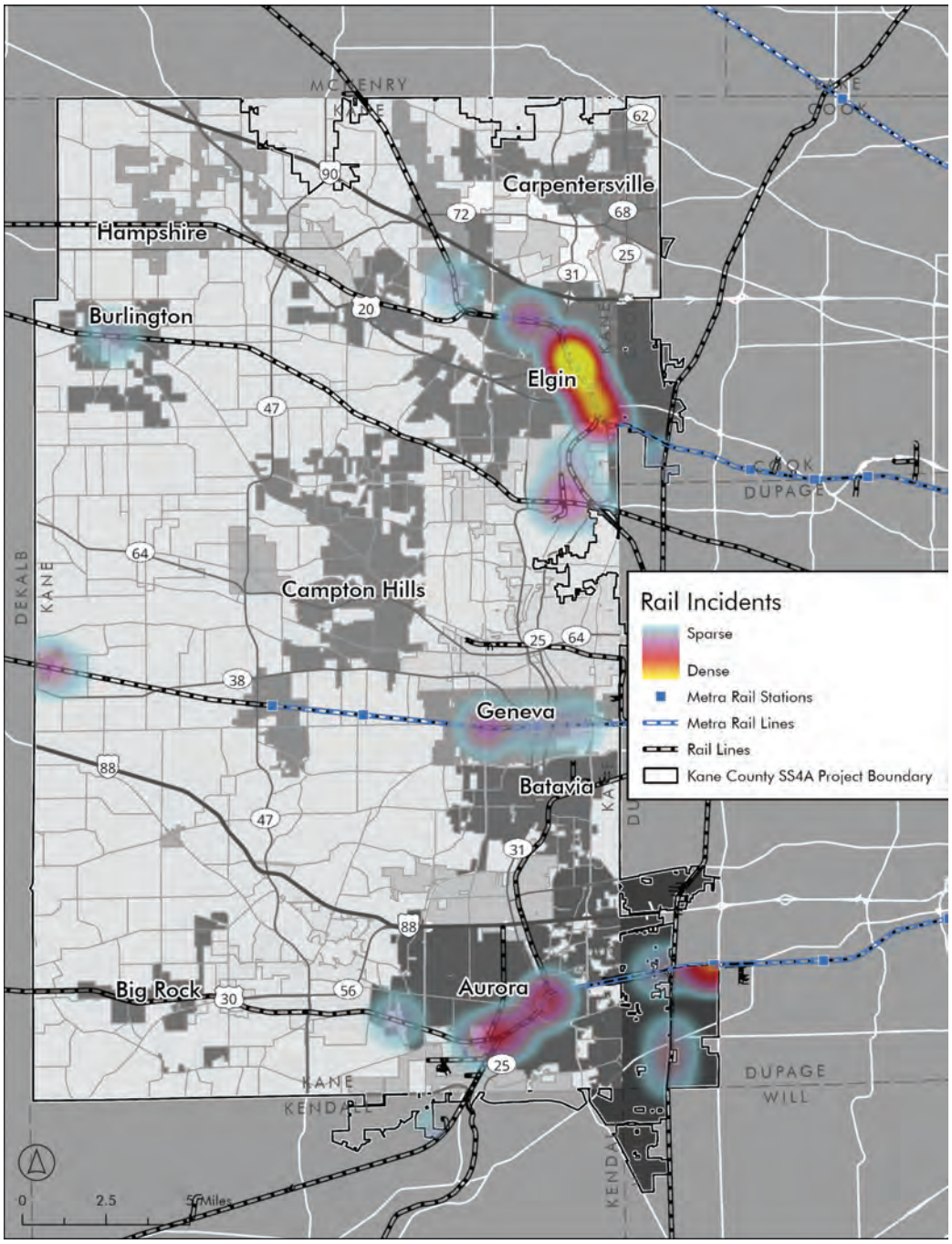


Figure 42. Heatmap showing all rail incidents in Kane County and expanded analysis area

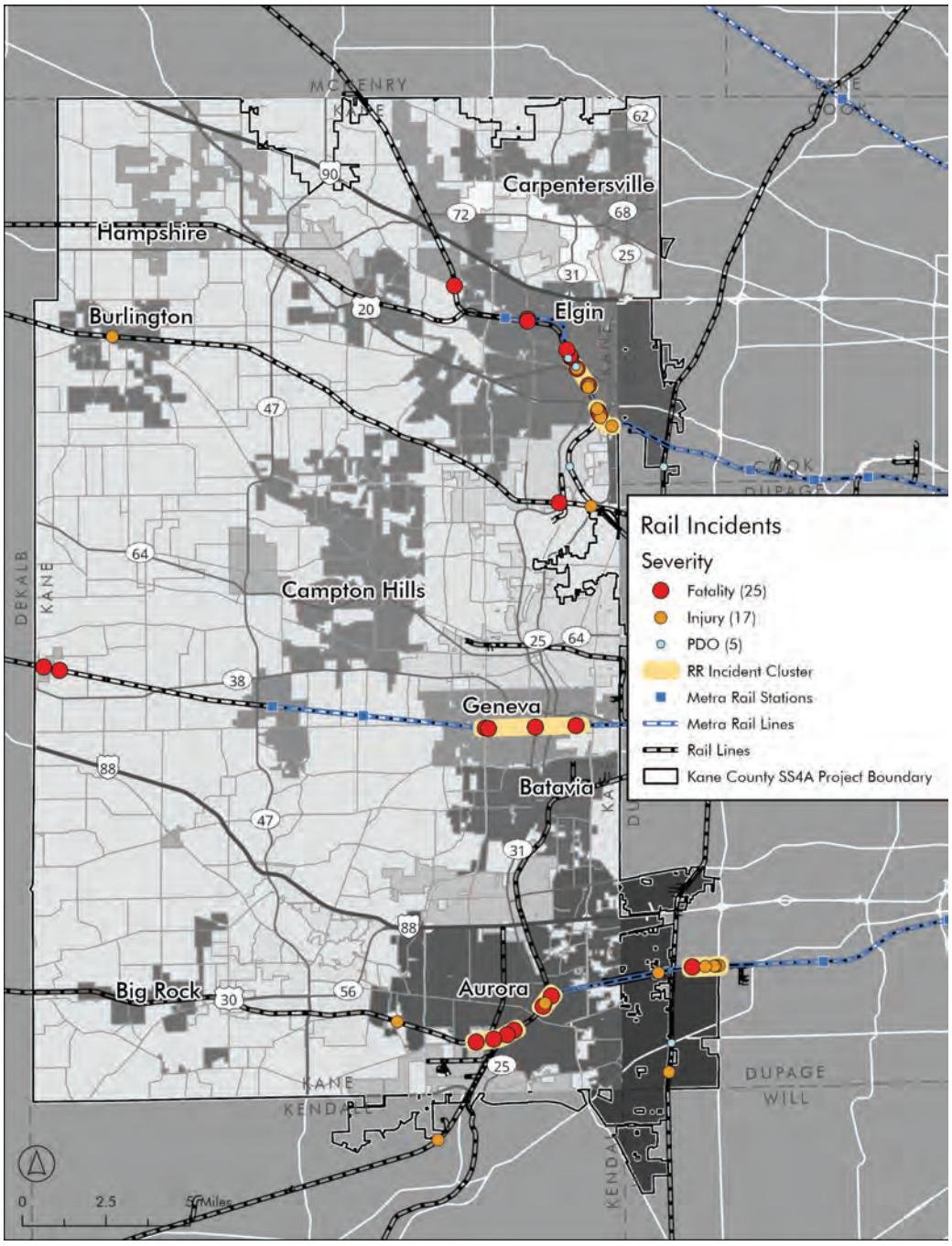


Figure 43. Clusters of rail incidents in Kane County and expanded analysis area

Rail Incident Clusters

Elgin Metra Milwaukee West (Kimball/W Lawrence Ave to Wing St)
From 2012-2021, this segment recorded four fatalities, no injuries, and no property damage only crashes. All of the people killed at this location were pedestrians with three out of four deaths were located at non-crossing locations. There are extensive encampments between the river and the tracks. People living at the encampments along the tracks have been observed crossing or walking along the tracks. No sidewalks are available along the north side of Kimball.

Geneva Metra UP (Randall Rd to Kirk Rd)
From 2012-2021, this segment recorded four fatalities, no injuries, and no property damage only crashes. Every person killed was a pedestrian, with none of these deaths occurring at a crossing. Three of the four were struck by freight rail (UP), and the last was struck by a Metra train.

Aurora BNSF (Randall Rd to North St)
From 2012-2021, this segment recorded four fatalities, no injuries, and property damage only crashes. Every person killed was a pedestrian. Similarly to Elgin Metra Milwaukee West, Aurora BNSF had extensive encampments between the river and the tracks. It is possible that the encampments near the tracks are generating pedestrian trips along and/or across the tracks.

Elgin Metra Milwaukee (Cook/Kane County Line to US 20)
From 2012-2021, this segment recorded two fatalities, three injuries, and property damage only crashes. All but one crash involved pedestrians. The last involved a person driving an automobile and resulted in injury. The railroad bridge at this location may function as a river crossing for pedestrians as there is quite a distance to the nearest crossings - 0.65 miles to the north and 3 miles to the south.

Elgin Metra Milwaukee West (National St to Highland Ave)
From 2012-2021, this segment recorded two fatalities, two injuries, and one auto property damage only crash. All the crashes occurred at or near stations. In addition to the automobile crash, there was one bicyclist killed, and the rest were pedestrians. Apart from one pedestrian crash, all pedestrian and bicyclist crashes were located at crossings.

Aurora BNSF at Route 25 Metra Station
From 2012-2021, this segment recorded two fatalities, two injuries, and no property damage only crashes. All crashes involved pedestrians. None of the crashes were located at crossings but were all at or near stations, despite there being a grade-separated crossing at the station.

Aurora BNSF at Route 59 Metra Station
From 2012-2021, this segment recorded one fatality, four injuries, and no property damage only crashes. All crashes involved pedestrians and all but one (that resulted in an injury) were not at a crossing. All crashes were located at or near the station. A grade-separated crossing is available at the station but there are no pedestrian facilities parallel to the tracks.

Incidents in Focus Municipalities

Of the three focus municipalities, Aurora was the only one with any incidents or clusters. A map of incidents and incident clusters can be seen in Figure 44.

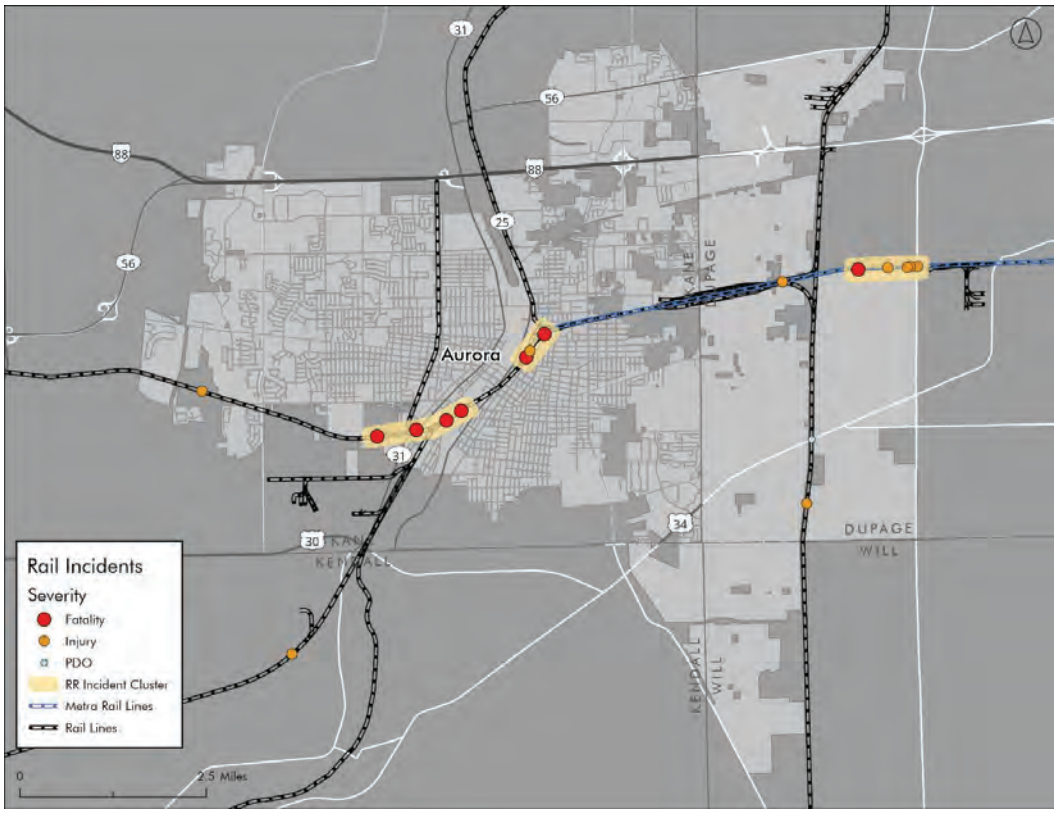


Figure 44. Rail incidents in Aurora

Common Characteristics of Incidents in Kane County

While the information about each incident is limited, there are some common features among the incidents in the clusters identified. Two of the seven clusters identified are located near encampments which may generate pedestrian traffic along and/or across the tracks, thus increasing the likelihood of a collision. Another common factor was a lack of pedestrian infrastructure along and/or across the tracks. A lack of safe options for crossing the railroad or traveling parallel to it could lead to some pedestrians choosing a deceptively dangerous route along or across the tracks. The gaps in the pedestrian network near tracks may also be a factor in the number of pedestrian incidents that did not occur at grade crossings. As seen in Figure 41, 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.

SYSTEMIC SAFETY CONDITIONS

To expand upon the findings of the Existing Conditions Overview section and provide a supplemental analysis to the High Injury Network section, this systemic analysis identifies facility types that have the highest risk for severe crashes. This was done by identifying several Focus Crash Types (crashes defined by the most prominent factors identified in the Existing Conditions Overview), identifying roadway characteristics associated with those Focus Crash Types, defining roadway subtypes using those characteristics, and finally selecting the Focus Facility Types (the roadway subtypes with the highest risk of severe crashes).

Focus Crash Types

Based on the findings of the Existing Conditions Overview section, several types of crashes were identified as particular areas of interest. Those focus crash types were defined using the most prevalent roadway, behavioral, or environmental factors identified in the analyses in that section.

Defining Crash Types Using Roadway Characteristics

The Crash Severity Trends subsection of the Existing Conditions Overview section includes breakdowns of crash severity by several roadway characteristics:

- Intersection vs segment (roughly two thirds of severe crashes occur at intersections)
- Jurisdiction/ownership (the majority of severe crashes occur on municipal roads but the proportion of severe crashes that occurred on State-, County-, and Tollway-owned roads is disproportionately high compared to those jurisdictions' respective proportions of the road network in the County)
- Functional classification (similarly to the trends in road jurisdiction, 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)
- Speed limit (roads with a speed limit of 30 MPH accounted for the majority of crashes but a disproportionately low percentage of severe crashes whereas roads with speed limits between 35 and 50 MPH had disproportionately high shares of severe crashes and roads with speed limits of 55 MPH or higher had more proportional shares of severe crashes)

Defining Crash Types Using Emphasis Areas

The Safety Emphasis Area Trends subsection discusses the relative frequencies of the IDOT- and CMAP-defined emphasis areas and their geographic distribution within the County. Overall, Intersection, Speeding, and Roadway Departure were the most common flags used for severe crashes with Younger Driver, Unrestrained Occupant, Impaired Driving, Older Driver, and Distracted Driving following close behind.

The relative frequencies differ slightly in unincorporated/rural areas with the order changing to Speeding, Roadway Departure, Intersection, Impaired Driving, and Younger Driver as the

top five most frequent emphasis areas. This suggests that crash characteristics differ significantly between the urban and rural areas in the County.

Among the most frequent emphasis areas, Speeding, Roadway Departure, and Intersection are the most easily tied to infrastructure characteristics whereas the others (Unrestrained Occupant, Impaired Driving, Distracted Driving, Younger Driver, and Older Driver) either indicate an unsafe behavior that is not necessarily related to a particular facility type or simply reflects the driver's age.

Focus Facility Types

The crash characteristics identified above were then paired with roadway characteristics that they are related to, and the roadways were then broken down into subtypes that reflect the crash characteristics. Once the specific roadway subtypes were identified, they were then ranked based on their respective rates of severe crashes.

Identifying Roadway Features for Categorizing Facilities

Identifying focus facility types requires a set of facility features that are both linked to the focus crash types and are identifiable using available datasets. For example, the analysis in the Existing Conditions Overview section showed a high number of VRU crashes at night with the majority of those nighttime crashes occurring on lighted roads which suggests that looking at the presence of streetlights could be a good differentiating facility characteristic, but there is no data source that consistently denotes the presence or absence of streetlights. Speed limit, on the other hand, is both correlated with severe crash rates (roads with speed limits between 35 and 50 MPH account for a disproportionately high number of severe crashes) and identifiable using the available datasets. The crash variables listed in the Focus Crash Types subsection above were either considered as possible differentiating facility characteristics themselves or were used to identify related facility characteristics. The first characteristics considered were the roadway characteristics used to define crash types (Table 20) followed by characteristics related to the most prevalent emphasis areas (Table 21).

Table 20. Roadway characteristics used to define crash types and their suitability for defining focus facility types

Roadway Characteristic	Considerations
Intersection vs. segment	Significant differentiator in facility types and relevant to Intersection emphasis area; available via intersection and segment datasets from CMAP
Jurisdiction	Redundant to functional classification
Functional classification	Similar to jurisdiction but also describes physical features; available via segment dataset from CMAP
Segment speed limit	Relevant as a roadway characteristic and related to Speeding emphasis area; available via segment dataset from CMAP
Segment volume	Relevant as a roadway characteristic by providing a sense of exposure on a segment; available via intersection dataset from CMAP
Streetlight presence	Relevant as a roadway characteristic; no data source available

Table 21. Roadway characteristics related to emphasis areas and their suitability for defining focus facility types

Roadway Characteristic	Considerations
Intersection volume	Relevant to **Intersection** emphasis area by providing a measure of demand and a sense of exposure at the intersection; available via intersection dataset from CMAP
Intersection control type	Relevant to **Intersection** emphasis area by providing an idea of how conflict points at an intersection are managed; available via intersection dataset from CMAP
Intersection speed limits	Relevant to the **Intersection** and **Speeding** emphasis areas, but not a feasible variable due to the high number of possible combinations of speed limits on the legs of an intersection
Segment number of lanes	Relevant to **Speeding** emphasis area because wider roadways may encourage speeding; available via segment dataset from CMAP
Segment speed limit	Relevant as roadway characteristic and related to **Speeding** emphasis area; available via segment dataset from CMAP
Urban vs. rural	Relevant to emphasis areas' prevalence (especially **Lane Departure**); available via segment dataset from CMAP

The team selected two sets of roadway characteristics to define facility types – one set for segments and one set for intersections.

Segment Differentiating Characteristics

Urban vs Rural – based on the *URBAN* field in the CMAP_Segments feature class. If the field for a segment is equal to 1051, it is designated as Urban; otherwise, it is designated as Rural.

Functional Class – based on the *FC_NAME* field in the CMAP_Segments feature class. The functional classes were split into three groups based on the trends noted in the Focus Crash Types subsection as seen in Table 22.

Table 22. Grouping of functional classes for defining segment subtypes

FC_NAME	Functional Class Group
Interstate	Freeway
Freeway and Expressway	Freeway
Other Principal Arterial	Non-Freeway Arterial
Minor Arterial	Non-Freeway Arterial
Major Collector	Collector
Minor Collector	Collector
Local Road or Street	Local

Number of Lanes – based on the *LNS* field in the CMAP_Segments feature class. The lane counts were split into two groups: 1 to 3 lanes for roads with one lane per direction and/or a center turn lane and 4 or more lanes for multi-lane roads as seen in Table 23.

Table 23. Grouping of lane counts for defining segment subtypes

LNS	Num. Lanes Group
1	1 to 3
2	1 to 3
3	1 to 3
4	4+
5	4+
6	4+
7	4+
8	4+

Speed Limit – based on the *SP_LIM* field in the CMAP_Segments feature class. If the *SP_LIM* field for a segment was blank but the *FC_NAME* field was equal to "Local Road or Street" and the *JUR_TYPE* field was equal to 4 (denoting that the road owner is a municipality), then the speed limit was assumed to be 30 MPH (the default speed limit for urban areas). Otherwise, the speed limit was considered Unknown. The speed limits were split into three groups based on the trends noted in the Focus Crash Types subsection as seen in Table 24.

Table 24. Grouping of speed limits for defining segment subtypes

SP_LIM	Speed Limit Group
0	Unknown
10	30 and Under
15	30 and Under
20	30 and Under
25	30 and Under
30	30 and Under
35	35 to 50
40	35 to 50
45	35 to 50
50	35 to 50
55	55 and Up
65	55 and Up
70	55 and Up

AADT – based on the *AADT* and Replica_AADT_Avg fields in the CMAP_Segments feature class. If the AADT field was blank, then the *Replica_AADT_Avg* field was used. If the *Replica_AADT_Avg* field was also blank, the AADT was assumed to be unknown. The volume ranges were split into three categories (under 2,000 VPD, 2,000 to 20,000 VPD, and over 20,000 VPD) based on natural breaks in the data.

Intersection Differentiating Characteristics

Urban vs Rural – determined based on the Urban vs Rural designations of the segments meeting at a given intersection – if any of the segments were designated as Urban, the intersection was considered Urban; otherwise, it was considered Rural.

Functional Class – determined based on the combination of functional classes of the segments meeting at a given intersection. The six permutations of segment functional classes were grouped into the three categories shown in Table 25.

Table 25. Grouping of segment functional class combinations for defining intersection subtypes

Segment Functional Class Combination	Intersection Functional Class Group
Local-Local	Low vs Low FC
Collector-Local	Low vs Low FC
Collector-Collector	Low vs Low FC
Arterial-Local	High vs Low FC
Arterial-Collector	High vs Low FC
Arterial-Arterial	High vs High FC

Control Type – based on the *Control* field in the CMAP_Intersections feature class. The type of intersection traffic control is only explicitly identified for signalized and all-way-stop-controlled intersections, so all other control types (two-way-controlled, yield-controlled, roundabouts, and uncontrolled) are grouped together. These three groups (shown in Table 26) are also used for the Control Type characteristic.

Table 26. Grouping of intersection traffic control types for defining intersection subtypes

Control	Intersection Control Group
Signal	Signal
All Stop	All-Way Stop
Unk	Two-Way Stop, Yield, or Uncontrolled

AADT – determined based on the sum of the *AADT_Major* and *AADT_Minor* fields (the bidirectional AADTs of the major road and minor road, respectively) in the CMAP_Intersections feature class, equating to the average daily entering vehicle volume. The volume ranges were split into three categories (under 10,000 VPD, 10,000 to 40,000 VPD, and over 40,000 VPD) based on natural breaks in the data.

Selecting Prioritization Criteria for Intersection and Segment Subtypes

Two options for a prioritization metric were considered for both intersections and segments: an option based on severe crash rates and an option based on severe crash frequencies. Using the segment and intersection characteristics identified in the previous section, the intersections and segments were grouped into subtypes with each subtype representing one of the possible combinations of facility characteristics.

Crash rates for each subtype were calculated by dividing the number of severe crashes that occurred during the study period (2018 to 2022) at a given subtype of intersection or segment and dividing that crash count by the total number of entering vehicles for the intersections in a given intersection subtype or the total vehicle miles traveled (VMT) – the product of AADT and segment length – for the segments in a given segment subtype. Severe Crashes per Million Entering Vehicles (MEV) for a subtype is calculated using the formula below (note that the severe crash rate is multiplied by 1 million to make the crash rates easier to compare):

$$Severe\ Crashes\ Per\ MEV = \frac{SCC * 1\ Million}{DEV * 5\ Years\ of\ Data * 365\ Days\ per\ Year}$$

Where

SCC = sum of 5-Year severe crash counts of all intersections in the subtype

DEV = sum of daily entering vehicle counts of all intersections in the subtype

Severe Crashes per Million Vehicle Miles Traveled (MVMT) is calculated using the formula below (note that the severe crash rate is multiplied by 1 million to make the crash rates easier to compare):

$$Severe\ Crashes\ Per\ MVMT = \frac{SCC * 1\ Million}{DVMT *\ 5\ Years\ of\ Data * 365\ Days\ per\ Year}$$

Where

SCC = sum of 5-Year severe crash counts of all segments in the subtype

DVMT = sum of daily vehicle miles travelled of all segments in the subtype

These crash rates are frequently used to identify high-risk facilities because they normalize the number of crashes per intersection or mile by the number of vehicles using that facility type which helps to account for the effect of a higher exposure on higher-volume roads and intersections. However, the focus of an SS4A plan is to eliminate severe injuries and fatalities in the plan area, not just reduce the number of severe injuries and fatalities on facilities with disproportionately high crash rates.

To better identify intersection and segment subtypes that have the highest number of crashes and therefore represent the best opportunities for eliminating the most crashes if addressed, the option using severe crash frequencies – expressed using the metrics of Severe Crashes per Intersection and Severe Crashes per Mile – were selected. Note that the normalized crash rates were still calculated and are included in the tables in the following section for reference.

To provide some context for the crash rates and prioritization metrics, the values for each subtype were divided by the respective values for the entire County, thereby creating a relative risk score. If a subtype has a relative risk score of 1.0, this indicates that the subtype has a severe crash count per intersection or per mile equal to the average for the whole County. A relative risk score less than 1.0 indicates that there is a below average risk of severe crashes for that subtype, and a relative risk score greater than 1.0 indicates that the risk of severe crashes for that subtype is above average.

The highest-risk facility types were identified by selecting the 5 intersection subtypes and 5 segment subtypes with the highest relative risk scores. The 5 next-highest-ranked subtypes were also identified for reference but are only included for reference. To ensure that the results were significant, any intersection subtypes with fewer than 10 intersections and any segment subtypes with a combined length below 5.0 miles were excluded from the top 5 Focus Facility Types lists. The same process was then repeated using only VRU crashes. For the VRU-only calculations, the definition of Severe Crashes was expanded to include non-incapacitating crashes in an effort to increase the sample size of crashes and increase the statistical significance of the results.

Systemic Risk Factor Analysis – Intersections

A summary of the systemic risk factor analysis of all intersection crashes that took place between 2018 and 2022 is shown in Table 27. Note that in the case of subtypes that do not exist in the County or did not have any severe crashes, the corresponding row was removed from the table to reduce visual clutter.

When compared to other types of intersections, intersections that involve arterials (arterial-local, arterial-collector, and arterial-arterial intersections) have the highest relative risks of severe crashes. Of the three categories of intersection control, signalized intersections have the highest risk, with risk increasing as traffic volume increases. In nearly all cases, as volumes rise, risk rises, with the most significant occurring when volumes rise above 40,000 VPD.

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.

Table 27. All-mode intersection systemic risk factors

Urban vs Rural	Functional Class	Control Type	AADT (VPD)	Intersection Count	Daily Entering Vehicles	Severe Crash Count	Severe Crashes per Intersection	Severe Crashes per MEV	Severe Crashes per Intersection Relative Risk	Severe Crashes per MEV Relative Risk
Urban	Low vs Low	Signal	Under 10K	77	391,766	10	0.13	0.014	2.0	1.5
			10K to 40K	15	185,046	5	0.33	0.015	5.1	1.6
			40K+	0	0	0	-	-	-	-
			Unknown	4	0	0	0.00	-	0.0	-
			Subtotal	96	576,812	15	0.16	0.014	2.4	1.5
		All-Way Stop	Under 10K	27	109,101	3	0.11	0.015	1.7	1.6
			10K to 40K	6	101,932	3	0.50	0.016	7.6	1.7
			40K+	0	0	0	-	-	-	-
			Unknown	7	0	0	0.00	-	0.0	-
			Subtotal	40	211,033	6	0.15	0.016	2.3	1.7
		Two-Way Stop, Yield, or Uncontrolled	Under 10K	9,464	19,179,564	147	0.02	0.004	0.2	0.4
			10K to 40K	126	1,626,398	10	0.08	0.003	1.2	0.4
			40K+	0	0	0	-	-	-	-
			Unknown	1,390	0	0	0.00	-	0.0	-
			Subtotal	10,980	20,805,962	157	0.01	0.004	0.2	0.4
		Subtotal		11,116	21,593,807	178	0.02	0.005	0.2	0.5
	High vs Low	Signal	Under 10K	26	160,680	5	0.19	0.017	2.9	1.8
			10K to 40K	10	145,099	9	0.90	0.034	13.7	3.6
			40K+	0	0	0	-	-	-	-
			Unknown	0	0	0	-	-	-	-
			Subtotal	36	305,779	14	0.39	0.025	5.9	2.7
		All-Way Stop	Under 10K	18	129,218	8	0.44	0.034	6.8	3.6
			10K to 40K	247	5,892,861	203	0.82	0.019	12.5	2.0
			40K+	24	1,077,187	54	2.25	0.027	34.3	2.9
			Unknown	4	0	3	0.75	-	11.4	-
			Subtotal	293	7,099,266	268	0.91	0.021	13.9	2.2

Urban vs Rural	Functional Class	Control Type	AADT (VPD)	Intersection Count	Daily Entering Vehicles	Severe Crash Count	Severe Crashes per Intersection	Severe Crashes per MEV	Severe Crashes per Intersection Relative Risk	Severe Crashes per MEV Relative Risk
Urban	High vs Low	Two-Way Stop, Yield, or Uncontrolled	Under 10K	457	3,116,439	40	0.09	0.007	1.3	0.8
			10K to 40K	815	14,359,317	180	0.22	0.007	3.4	0.7
			40K+	8	369,200	4	0.50	0.006	7.6	0.6
			Unknown	14	0	1	0.07	-	1.1	-
			Subtotal	1,294	17,844,956	225	0.17	0.007	2.7	0.7
		Subtotal		1,623	25,250,001	507	0.31	0.011	4.8	1.2
	High vs High	Signal	**Subtotal**	0	0	0	-	-	-	-
		All-Way Stop	Under 10K	1	8,000	0	0.00	0.000	0.0	0.0
			10K to 40K	82	2,119,484	103	1.26	0.027	19.2	2.8
			40K+	20	1,034,202	43	2.15	0.023	32.8	2.4
			Unknown	31	0	9	0.29	-	4.4	-
			Subtotal	134	3,161,686	155	1.16	0.027	17.6	2.9
		Two-Way Stop, Yield, or Uncontrolled	Under 10K	4	29,062	4	1.00	0.075	15.2	8.0
			10K to 40K	6	99,404	3	0.50	0.017	7.6	1.8
			40K+	0	0	0	-	-	-	-
			Unknown	24	0	1	0.04	-	0.6	-
			Subtotal	34	128,466	8	0.24	0.034	3.6	3.6
		Subtotal		168	3,290,152	163	0.97	0.027	14.8	2.9
	Subtotal			12,907	50,133,960	848	0.07	0.009	1.0	1.0
Rural	Low vs Low	Signal	Under 10K	0	0	0	-	-	-	-
			10K to 40K	0	0	0	-	-	-	-
			40K+	0	0	0	-	-	-	-
			Unknown	4	0	1	0.25	-	3.8	-
			Subtotal	4	0	1	0.25	-	3.8	-
		All-Way Stop	**Subtotal**	0	0	0	-	-	-	-

Urban vs Rural	Functional Class	Control Type	AADT (VPD)	Intersection Count	Daily Entering Vehicles	Severe Crash Count	Severe Crashes per Intersection	Severe Crashes per MEV	Severe Crashes per Intersection Relative Risk	Severe Crashes per MEV Relative Risk
Rural	Low vs Low	Two-Way Stop, Yield, or Uncontrolled	Under 10K	244	267,318	6	0.02	0.012	0.4	1.3
			10K to 40K	0	0	0	-	-	-	-
			40K+	0	0	0	-	-	-	-
			Unknown	29	0	0	0.00	-	0.0	-
			Subtotal	273	267,318	6	0.02	0.012	0.3	1.3
		Subtotal		277	267,318	7	0.03	0.014	0.4	1.5
	High vs Low	Signal	Under 10K	0	0	0	-	-	-	-
			10K to 40K	0	0	0	-	-	-	-
			40K+	0	0	0	-	-	-	-
			Unknown	1	0	1	1.00	-	15.2	-
			Subtotal	1	0	1	1.00	-	15.2	-
		All-Way Stop	Under 10K	1	9,983	0	0.00	0.000	0.0	0.0
			10K to 40K	1	15,050	1	1.00	0.036	15.2	3.9
			40K+	0	0	0	-	-	-	-
			Unknown	0	0	0	-	-	-	-
			Subtotal	2	25,033	1	0.50	0.022	7.6	2.3
		Two-Way Stop, Yield, or Uncontrolled	Under 10K	30	213,643	7	0.23	0.018	3.6	1.9
			10K to 40K	3	41,000	3	1.00	0.040	15.2	4.3
			40K+	0	0	0	-	-	-	-
			Unknown	0	0	0	-	-	-	-
			Subtotal	33	254,643	10	0.30	0.022	4.6	2.3
		Subtotal		36	279,676	12	0.33	0.024	5.1	2.5
	High vs High	**Subtotal**		0	0	0	-	-	-	-
Rural	**Subtotal**			313	546,994	19	0.06	0.019	0.9	2.0
Total				13,220	50,680,954	867	0.07	0.009	1.0	1.0

Summaries

High-level summaries are provided to identify commonalities and noteworthy trends in the relative risks of the intersection subtypes.

All Modes

The top 10 intersection subtypes, ranked by relative risk of severe crashes involving any mode per intersection, are shown in Table 28 and mapped in Figure 45. Note that any subtypes with fewer than 10 intersections were excluded from the top 10 list. The top 5 subtypes comprise the All-Mode Focus Intersection Facility Types and an additional 5 subtypes are included for reference. Some key trends among the top subtypes are:

- **All of the focus intersection subtypes are in urban areas.** 5 of the top 5 subtypes and 9 of the top 10 subtypes are urban intersections.
- **All of the focus intersection subtypes consist of at least one arterial and about half consist of two arterials.** 5 of the top 5 subtypes and 9 of the top 10 subtypes consist of at least one arterial. 2 of the top 5 and 3 of the top 10 consist of two arterials.
- **Most of the focus intersection subtypes are signalized.** 4 of the top 5 subtypes and 6 of the top 10 subtypes are controlled by a traffic signal.
- **All of the focus intersection subtypes have moderate or high vehicle volumes.** 4 of the top 5 subtypes and 5 of the top 10 subtypes have AADTs above 20,000 VPD.
- For all severe crashes across all crashes in the study period, signalized arterial-local or arterial-collector intersections in urban areas with greater than 40,000 daily entering vehicles had the highest relative risk of severe crashes per intersection, at over 34 times the Countywide average. Similarly, signalized arterial-local or arterial-collector intersections with greater than 40,000 daily entering vehicles have the second highest relative risk at over 32 times the Countywide.

Table 28. 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 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

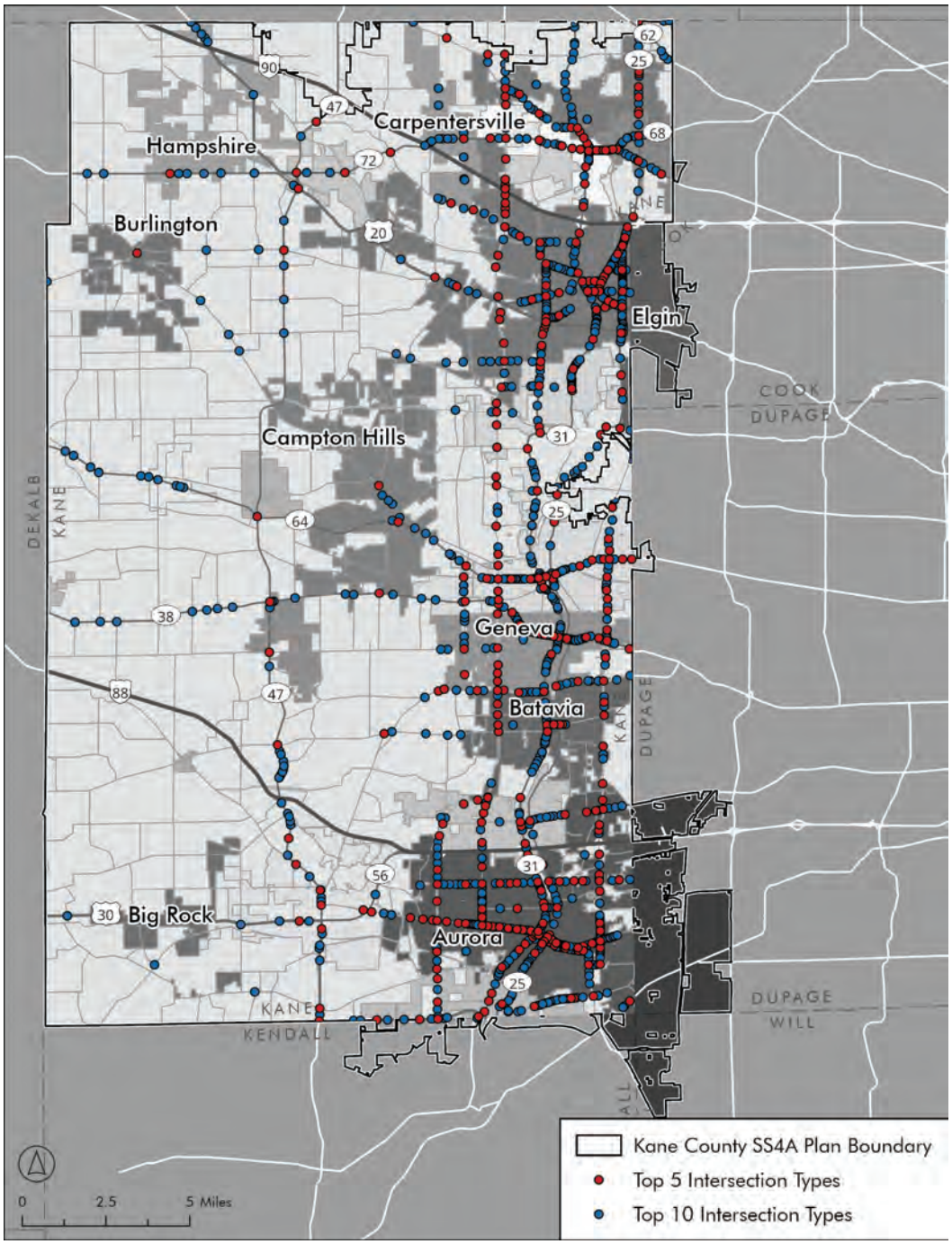


Figure 45. Map of Focus Intersection Facility Types for all modes

Vulnerable Road Users Only

The top 10 intersection subtypes, ranked by relative risk of severe VRU crashes (defined as fatal, incapacitating, or non-incapacitating crashes for the VRU-only analysis) per intersection, are shown in Table 29 and mapped in Figure 46. Note that any subtypes with fewer than 10 intersections were excluded from the top 10 list. The top 5 subtypes comprise the VRU-Only Focus Intersection Facility Types and an additional 5 subtypes are included for reference. Some key trends among the top subtypes are:

- **All of the focus intersection subtypes are in urban areas.** 5 of the top 5 subtypes and 10 of the top 10 subtypes are urban intersections.
- **All of the focus intersection subtypes consist of at least one arterial and about half consist of two arterials.** 5 of the top 5 subtypes and 8 of the top 10 subtypes consist of at least one arterial. 2 of the top 5 and 2 of the top 10 consist of two arterials.
- **All of the focus intersection subtypes are signalized.** 5 of the top 5 subtypes and 5 of the top 10 subtypes are controlled by a traffic signal.
- The relative risk for severe VRU crashes per intersection was highest (16 times the Countywide average) at urban, mid-AADT (10,000 – 40,000 daily entering vehicles), signalized intersections consisting of two arterials.

Table 29. Focus Intersection Facility Types for VRUs

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

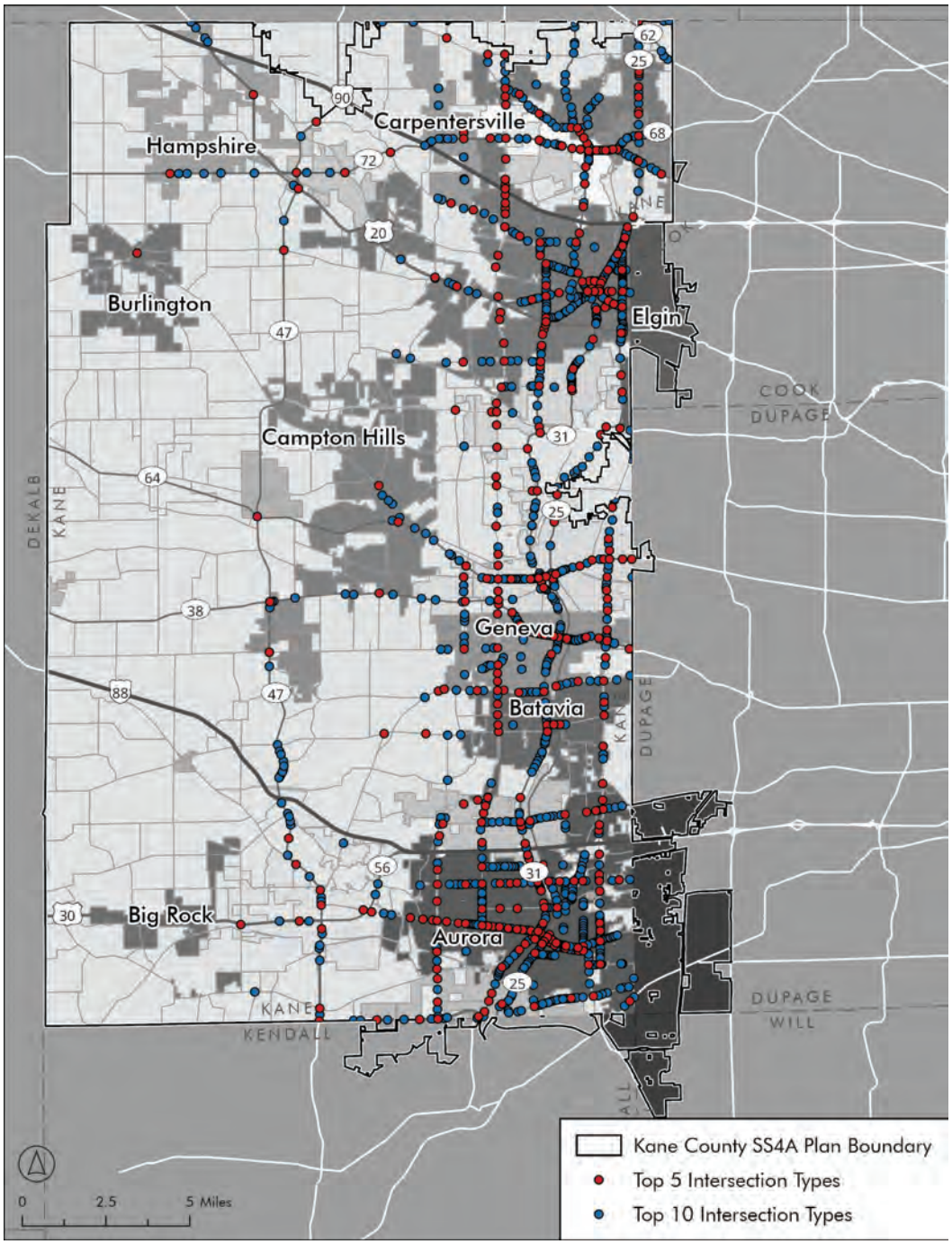


Figure 46. Map of Focus Intersection Facility Types for VRUs

Systemic Risk Factor Analysis – Segments

A summary of the systemic risk factor analysis of all segment crashes that took place between 2018 and 2022 is shown in Table 30. Note that in the case of subtypes that do not exist in the County or did not have any severe crashes, the corresponding row was removed from the table to reduce visual clutter.

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 or less, and an AADT between 2,000 and 20,000 VPD or an AADT above 20,000 VPD.

Table 30. All-mode segment systemic risk factors

Urban vs Rural	Functional Class	Num. Lanes	Speed Limit (MPH)	AADT (VPD)	Combined Length (mi.)	Combined Daily VMT	Severe Crash Count	Severe Crashes per Mile	Severe Crashes per MVMT	Severe Crashes per Mile Relative Risk	Severe Crashes per MVMT Relative Risk
Urban	Local	1 to 3	30 and Under	Under 2K	1,647.6	580,589	76	0.05	0.072	0.3	3.0
				2K to 20K	62.0	221,840	11	0.18	0.027	1.1	1.1
				20K and Up	0.3	7,224	0	0.00	0.000	0.0	0.0
				Unknown	3.2	0	0	0.00	-	0.0	-
				Subtotal	1,713.1	809,654	87	0.05	0.059	0.3	2.5
			35 to 50	Under 2K	84.1	30,309	9	0.11	0.163	0.7	6.9
				2K to 20K	9.1	36,406	1	0.11	0.015	0.7	0.6
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.2	0	0	0.00	-	0.0	-
				Subtotal	93.4	66,715	10	0.11	0.082	0.7	3.5
			55 and Up	Under 2K	73.9	30,541	6	0.08	0.108	0.5	4.6
				2K to 20K	4.5	15,337	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	78.4	45,878	6	0.08	0.072	0.5	3.0
			Unknown	Under 2K	83.1	16,970	0	0.00	0.000	0.0	0.0
				2K to 20K	0.7	1,775	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.4	0	0	0.00	-	0.0	-
				Subtotal	84.2	18,744	0	0.00	0.000	0.0	0.0
		Subtotal			1,969.1	940,990	103	0.05	0.060	0.3	2.5
		4+	30 and Under	Under 2K	0.7	696	0	0.00	0.000	0.0	0.0
				2K to 20K	2.2	9,381	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	3.0	10,077	0	0.00	0.000	0.0	0.0
			35 to 50	Under 2K	1.5	463	0	0.00	0.000	0.0	0.0
				2K to 20K	0.2	1,596	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	1.8	2,059	0	0.00	0.000	0.0	0.0

Urban vs Rural	Functional Class	Num. Lanes	Speed Limit (MPH)	AADT (VPD)	Combined Length (mi.)	Combined Daily VMT	Severe Crash Count	Severe Crashes per Mile	Severe Crashes per MVMT	Severe Crashes per Mile Relative Risk	Severe Crashes per MVMT Relative Risk
Urban	Local	4+	55 and Up	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	1.5	6,446	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	1.5	6,446	0	0.00	0.000	0.0	0.0
			Subtotal		6.4	18,582	0	0.00	0.000	0.0	0.0
		Subtotal			1,975.5	959,572	103	0.05	0.059	0.3	2.5
	Collector	1 to 3	30 and Under	Under 2K	20.9	25,605	3	0.14	0.064	0.9	2.7
				2K to 20K	76.3	346,196	15	0.20	0.024	1.2	1.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	97.2	371,800	18	0.19	0.027	1.1	1.1
			35 to 50	Under 2K	36.0	40,215	4	0.11	0.055	0.7	2.3
				2K to 20K	83.0	411,040	15	0.18	0.020	1.1	0.8
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	119.0	451,255	19	0.16	0.023	1.0	1.0
			55 and Up	Under 2K	29.1	26,661	4	0.14	0.082	0.8	3.5
				2K to 20K	11.5	33,618	5	0.44	0.081	2.7	3.4
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	40.6	60,280	9	0.22	0.082	1.4	3.5
			Unknown	Under 2K	17.5	22,085	0	0.00	0.000	0.0	0.0
				2K to 20K	33.2	140,483	2	0.06	0.008	0.4	0.3
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	50.7	162,568	2	0.04	0.007	0.2	0.3
			Subtotal		307.6	1,045,902	48	0.16	0.025	1.0	1.1
		4+	30 and Under	Under 2K	0.6	540	0	0.00	0.000	0.0	0.0
				2K to 20K	4.1	34,422	2	0.49	0.032	3.0	1.3
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-

Urban vs Rural	Functional Class	Num. Lanes	Speed Limit (MPH)	AADT (VPD)	Combined Length (mi.)	Combined Daily VMT	Severe Crash Count	Severe Crashes per Mile	Severe Crashes per MVMT	Severe Crashes per Mile Relative Risk	Severe Crashes per MVMT Relative Risk
				Subtotal	4.7	34,962	2	0.43	0.031	2.6	1.3
Urban	Collector	4+	35 to 50	Under 2K	0.4	457	0	0.00	0.000	0.0	0.0
				2K to 20K	6.1	34,383	2	0.33	0.032	2.0	1.3
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	6.5	34,840	2	0.31	0.031	1.9	1.3
			55 and Up	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	0.3	1,913	2	6.96	0.573	42.9	24.2
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	0.3	1,913	2	6.96	0.573	42.9	24.2
				Under 2K	0.3	148	0	0.00	0.000	0.0	0.0
				2K to 20K	2.3	10,362	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	2.6	10,510	0	0.00	0.000	0.0	0.0
			Subtotal		14.1	82,224	6	0.43	0.040	2.6	1.7
		Subtotal			321.7	1,128,127	54	0.17	0.026	1.0	1.1
	Non-Freeway Arterial	1 to 3	30 and Under	Under 2K	0.4	620	0	0.00	0.000	0.0	0.0
				2K to 20K	39.4	376,011	15	0.38	0.022	2.4	0.9
				20K and Up	0.2	4,068	0	0.00	0.000	0.0	0.0
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	39.9	380,698	15	0.38	0.022	2.3	0.9
			35 to 50	Under 2K	3.7	4,553	2	0.54	0.241	3.3	10.2
				2K to 20K	131.4	1,285,928	61	0.46	0.026	2.9	1.1
				20K and Up	5.9	157,979	7	1.18	0.024	7.3	1.0
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	141.1	1,448,459	70	0.50	0.026	3.1	1.1
			55 and Up	Under 2K	2.9	5,146	2	0.69	0.213	4.3	9.0
				2K to 20K	102.0	914,642	56	0.55	0.034	3.4	1.4
				20K and Up	3.2	76,202	4	1.25	0.029	7.7	1.2
				Unknown	0.0	0	0	-	-	-	-

Urban vs Rural	Functional Class	Num. Lanes	Speed Limit (MPH)	AADT (VPD)	Combined Length (mi.)	Combined Daily VMT	Severe Crash Count	Severe Crashes per Mile	Severe Crashes per MVMT	Severe Crashes per Mile Relative Risk	Severe Crashes per MVMT Relative Risk
				Subtotal	108.0	995,990	62	0.57	0.034	3.5	1.4
Urban	Non-Freeway Arterial	1 to 3	Unknown	Under 2K	1.0	1,697	0	0.00	0.000	0.0	0.0
				2K to 20K	7.8	28,980	2	0.26	0.038	1.6	1.6
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	8.9	30,677	2	0.23	0.036	1.4	1.5
			Subtotal		297.9	2,855,824	149	0.50	0.029	3.1	1.2
		4+	30 and Under	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	10.6	148,202	13	1.22	0.048	7.6	2.0
				20K and Up	8.5	207,047	11	1.29	0.029	8.0	1.2
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	19.1	355,249	24	1.25	0.037	7.7	1.6
			35 to 50	Under 2K	1.5	1,389	0	0.00	0.000	0.0	0.0
				2K to 20K	38.1	564,458	25	0.66	0.024	4.1	1.0
				20K and Up	67.5	2,031,135	55	0.82	0.015	5.0	0.6
				Unknown	0.0	0	0	0.00	-	0.0	-
				Subtotal	107.1	2,596,982	80	0.75	0.017	4.6	0.7
			55 and Up	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	4.3	52,068	1	0.23	0.011	1.5	0.4
				20K and Up	0.8	18,665	0	0.00	0.000	0.0	0.0
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	5.0	70,733	1	0.20	0.008	1.2	0.3
			Unknown	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	2.5	31,445	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	2.5	31,445	0	0.00	0.000	0.0	0.0
			Subtotal		133.7	3,054,408	105	0.79	0.019	4.8	0.8
		Subtotal			431.6	5,910,232	254	0.59	0.024	3.6	1.0
	Freeway	1 to 3	30 and Under	Under 2K	2.4	3,405	1	0.42	0.161	2.6	6.8
				2K to 20K	4.9	26,455	2	0.41	0.041	2.5	1.8

Urban vs Rural	Functional Class	Num. Lanes	Speed Limit (MPH)	AADT (VPD)	Combined Length (mi.)	Combined Daily VMT	Severe Crash Count	Severe Crashes per Mile	Severe Crashes per MVMT	Severe Crashes per Mile Relative Risk	Severe Crashes per MVMT Relative Risk
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	7.3	29,860	3	0.41	0.055	2.5	2.3
Urban	Freeway	1 to 3	35 to 50	Under 2K	0.5	415	0	0.00	0.000	0.0	0.0
				2K to 20K	3.1	21,592	1	0.33	0.025	2.0	1.1
				20K and Up	0.1	3,765	1	7.44	0.146	45.9	6.2
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	3.7	25,773	2	0.54	0.043	3.3	1.8
			Unknown	Under 2K	2.8	3,787	0	0.00	0.000	0.0	0.0
				2K to 20K	12.5	75,021	5	0.40	0.037	2.5	1.5
				20K and Up	0.2	3,803	0	0.00	0.000	0.0	0.0
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	15.5	82,611	5	0.32	0.033	2.0	1.4
			Subtotal		26.4	138,244	10	0.38	0.040	2.3	1.7
		4+	30 and Under	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	0.1	1,084	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	0.1	1,084	0	0.00	0.000	0.0	0.0
			35 to 50	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	0.1	1,594	0	0.00	0.000	0.0	0.0
				20K and Up	0.1	2,442	0	0.00	0.000	0.0	0.0
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	0.2	4,036	0	0.00	0.000	0.0	0.0
			55 and Up	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	4.0	69,010	5	1.24	0.040	7.7	1.7
				20K and Up	37.7	2,399,297	46	1.22	0.011	7.5	0.4
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	41.7	2,468,307	51	1.22	0.011	7.5	0.5
			Subtotal		42.0	2,473,426	51	1.21	0.011	7.5	0.5
		Subtotal			68.4	2,611,670	61	0.89	0.013	5.5	0.5
	Subtotal				2,797.2	10,609,601	472	0.17	0.024	1.0	1.0

Urban vs Rural	Functional Class	Num. Lanes	Speed Limit (MPH)	AADT (VPD)	Combined Length (mi.)	Combined Daily VMT	Severe Crash Count	Severe Crashes per Mile	Severe Crashes per MVMT	Severe Crashes per Mile Relative Risk	Severe Crashes per MVMT Relative Risk
Rural	Local	1 to 3	30 and Under	Under 2K	13.4	1,802	2	0.15	0.608	0.9	25.7
				2K to 20K	0.0	0	0	-	-	-	-
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	13.4	1,802	2	0.15	0.608	0.9	25.7
Rural	Local	1 to 3	35 to 50	Under 2K	14.8	3,208	0	0.00	0.000	0.0	0.0
				2K to 20K	0.0	0	0	-	-	-	-
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	14.8	3,208	0	0.00	0.000	0.0	0.0
			55 and Up	Under 2K	95.1	19,997	1	0.01	0.027	0.1	1.2
				2K to 20K	0.1	179	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	95.2	20,176	1	0.01	0.027	0.1	1.1
			Unknown	Under 2K	9.6	1,756	0	0.00	0.000	0.0	0.0
				2K to 20K	0.0	0	0	-	-	-	-
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	1.0	0	0	0.00	-	0.0	-
				Subtotal	10.5	1,756	0	0.00	0.000	0.0	0.0
			Subtotal		133.8	26,942	3	0.02	0.061	0.1	2.6
		Subtotal			133.8	26,942	3	0.02	0.061	0.1	2.6
	Collector	1 to 3	30 and Under	Under 2K	1.9	2,185	0	0.00	0.000	0.0	0.0
				2K to 20K	1.0	3,446	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	2.9	5,631	0	0.00	0.000	0.0	0.0
			35 to 50	Under 2K	1.2	1,920	0	0.00	0.000	0.0	0.0
				2K to 20K	2.6	11,392	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	3.8	13,312	0	0.00	0.000	0.0	0.0
			55 and Up	Under 2K	53.1	51,645	5	0.09	0.053	0.6	2.2

Urban vs Rural	Functional Class	Num. Lanes	Speed Limit (MPH)	AADT (VPD)	Combined Length (mi.)	Combined Daily VMT	Severe Crash Count	Severe Crashes per Mile	Severe Crashes per MVMT	Severe Crashes per Mile Relative Risk	Severe Crashes per MVMT Relative Risk
				2K to 20K	17.1	56,195	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	70.3	107,840	5	0.07	0.025	0.4	1.1
			Subtotal		77.0	126,790	5	0.06	0.022	0.4	0.9
		Subtotal			77.0	126,790	5	0.06	0.022	0.4	0.9
Rural	Non-Freeway Arterial	1 to 3	55 and Up	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	22.5	155,981	8	0.36	0.028	2.2	1.2
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	22.5	155,981	8	0.36	0.028	2.2	1.2
			Unknown	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	0.0	255	0	0.00	0.000	0.0	0.0
				20K and Up	0.0	0	0	-	-	-	-
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	0.0	255	0	0.00	0.000	0.0	0.0
			Subtotal		22.5	156,236	8	0.36	0.028	2.2	1.2
		Subtotal			22.5	156,236	8	0.36	0.028	2.2	1.2
	Freeway	4+	55 and Up	Under 2K	0.0	0	0	-	-	-	-
				2K to 20K	0.0	0	0	-	-	-	-
				20K and Up	11.8	505,631	5	0.42	0.005	2.6	0.2
				Unknown	0.0	0	0	-	-	-	-
				Subtotal	11.8	505,631	5	0.42	0.005	2.6	0.2
			Subtotal		11.8	505,631	5	0.42	0.005	2.6	0.2
		Subtotal			11.8	505,631	5	0.42	0.005	2.6	0.2
	Subtotal				245.2	815,598	21	0.09	0.014	0.5	0.6
Total					3,042.4	11,425,199	493	0.16	0.024	1.0	1.0

Summaries

High-level summaries are provided to identify commonalities and note-worthy trends in the relative risks of the segment subtypes.

All Modes

The top 10 intersection subtypes, ranked by relative risk of severe crashes involving any mode, are shown in Table 31 and mapped in Figure 47. Note that any subtypes with a combined length less than 5.0 miles were excluded from the top 10 list. The top 5 subtypes comprise the All-Mode Focus Segment Facility Types and an additional 5 subtypes are included for reference. Some key trends among the top subtypes are:

- **All of the focus segment subtypes are in urban areas.** 5 of the top 5 subtypes and 9 of the top 10 subtypes are urban segments.
- **All of the focus segment subtypes are arterials, of which a fifth are freeways.** 5 of the top 5 subtypes and 9 of the top 10 subtypes are arterials. 1 of the top 5 and 2 of the top 10 are freeways.
- **Most of the focus segment subtypes have 4+ lanes.** 4 of the top 5 subtypes and 6 of the top 10 subtypes have 4+ lanes.
- **Most of the focus segment subtypes have high vehicle volumes.** 4 of the top 5 subtypes and 5 of the top 10 subtypes have AADTs above 20,000 VPD.
- The subtypes with the highest relative risks are both urban non-freeway arterials with four or more lanes and speed limits of 30 MPH or under.

Table 31. Focus Segment Facility Types for all modes

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

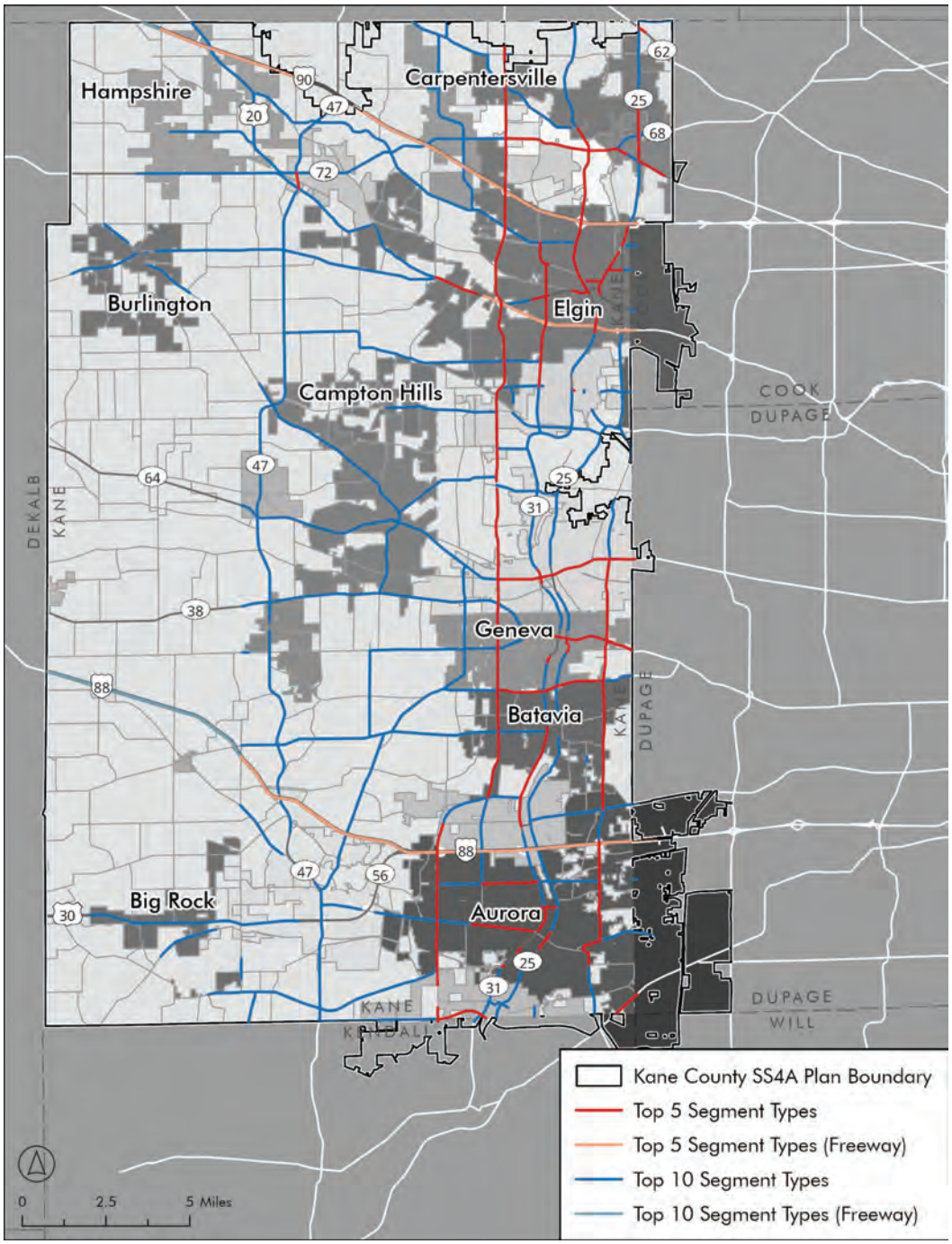


Figure 47. Map of Focus Segment Facility Types for all modes

Vulnerable Roadway Users Only

The top 10 segment subtypes, ranked by relative risk of severe VRU crashes (defined as fatal, incapacitating, or non-incapacitating crashes for the VRU-only analysis) per mile, are shown in Table 33 and mapped in Figure 49. The top 5 subtypes comprise the VRU-Only Focus Segment Facility Types and an additional 5 subtypes are included for reference. Note that any subtypes with a combined length less than 5.0 miles were excluded from the top 10 list. Some key trends among the top subtypes are:

- **All of the focus segment subtypes are in urban areas.** 5 of the top 5 subtypes and 10 of the top 10 subtypes are urban segments.
- **All of the focus segment subtypes are arterials.** 5 of the top 5 subtypes and 7 of the top 10 subtypes are arterials.
- **About half of the focus segment subtypes have 4+ lanes.** 3 of the top 5 subtypes and 4 of the top 10 subtypes have 4+ lanes.
- **About half of the focus segment subtypes have speed limits at or below 30 MPH.** 3 of the top 5 subtypes and 5 of the top 10 subtypes have a speed limit of 30 MPH or less. 2 of the top 5 subtypes and 4 of the top 10 subtypes have a speed limit between 35 and 50 MPH.
- **About half of the focus segment subtypes have high vehicle volumes.** 3 of the top 5 subtypes and 3 of the top 10 subtypes have AADTs above 20,000 VPD. 2 of the top 5 and 7 of the top 10 subtypes have AADTs between 2,000 and 20,000 VPD.
- The top two highest-risk roadways are both urban non-freeway arterials with four or more lanes, and a speed limit of 30 MPH and under. The first has an AADT of 20,000 and up and the second has an AADT of between 2,000 and 20,000 VPD. These two had severe crashes per mile relative risk scores of 19.7 and 11.3, respectively.

Table 32. Focus Segment Facility Types for VRUs

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	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

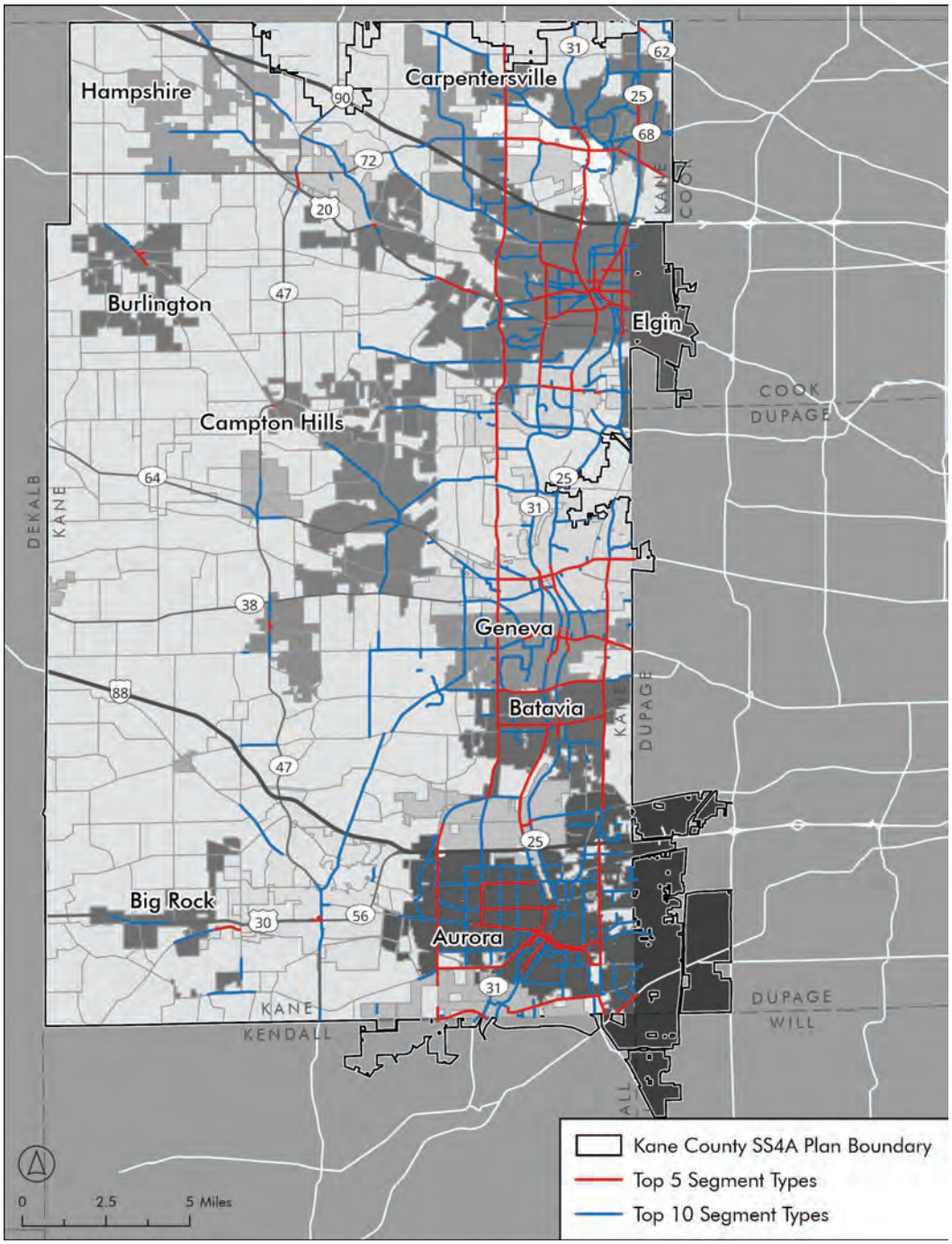


Figure 48. Map of Focus Segment Facility Types for VRUs (excluding freeways)

COMMUNITY IMPACT CONSIDERATIONS

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 Bureau of the Census's American Community Survey (ACS)
- Any U.S. Territories

Figure 49 shows all of the Census Tracts (2010 boundaries) identified as APPs using the 2014-2018 ACS data. 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.

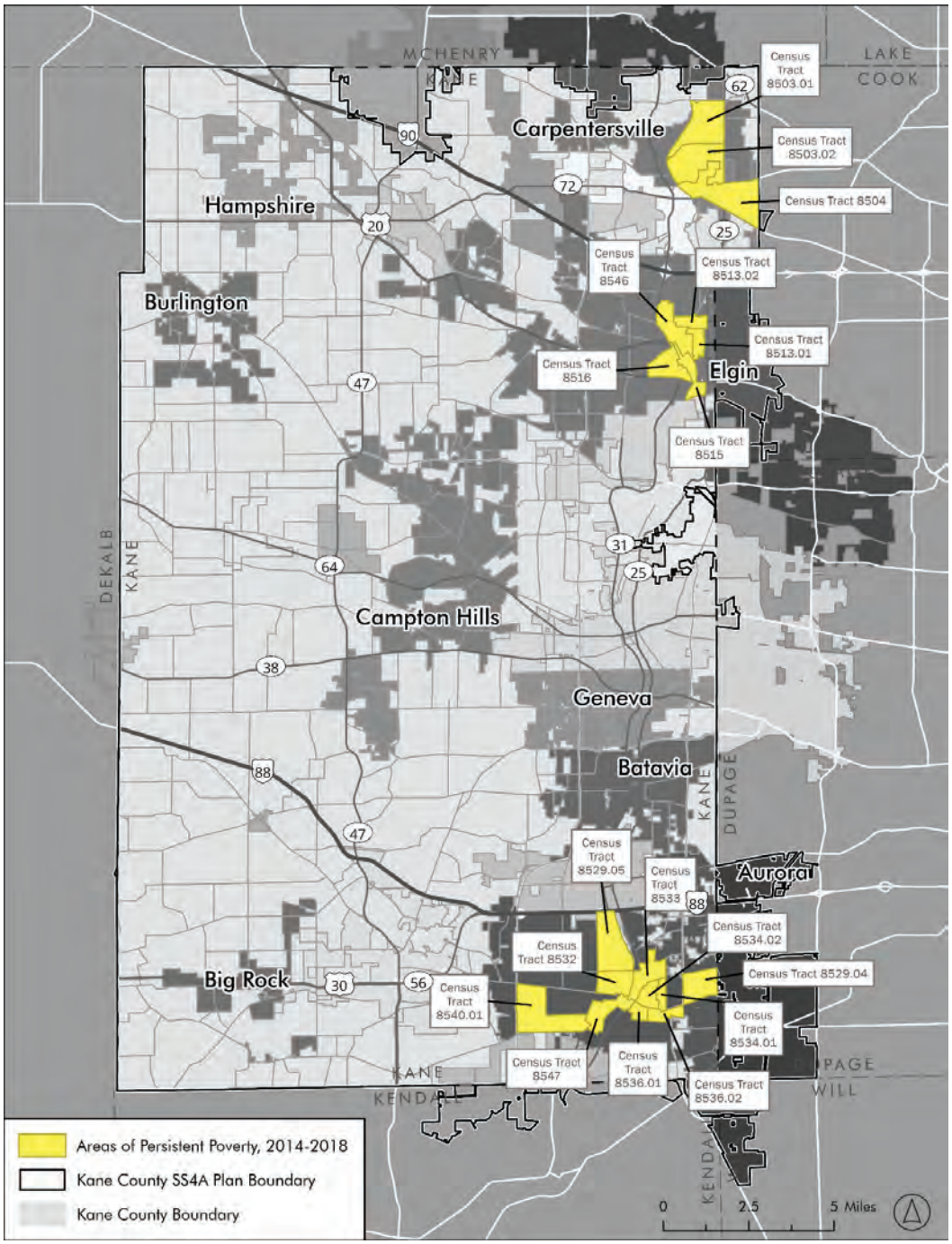


Figure 49. Areas of Persistent Poverty (APPs) in Kane County

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 Existing Conditions Overview shows that severe crashes are more likely to occur in APPs, as seen in Table 33. 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 economically disadvantaged communities aren't also burdened by disproportionately dangerous roads.

Table 33. Representation of APPs in Kane County

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*

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 49 and VRU-only in Figure 49). As shown in these figures, the APPs overlap significantly with the areas with high crash densities. Similarly, the APPs overlap significantly with the HINs. The all-mode HIN is shown with the APPs in and the VRU-only HIN is shown with the APPs in .

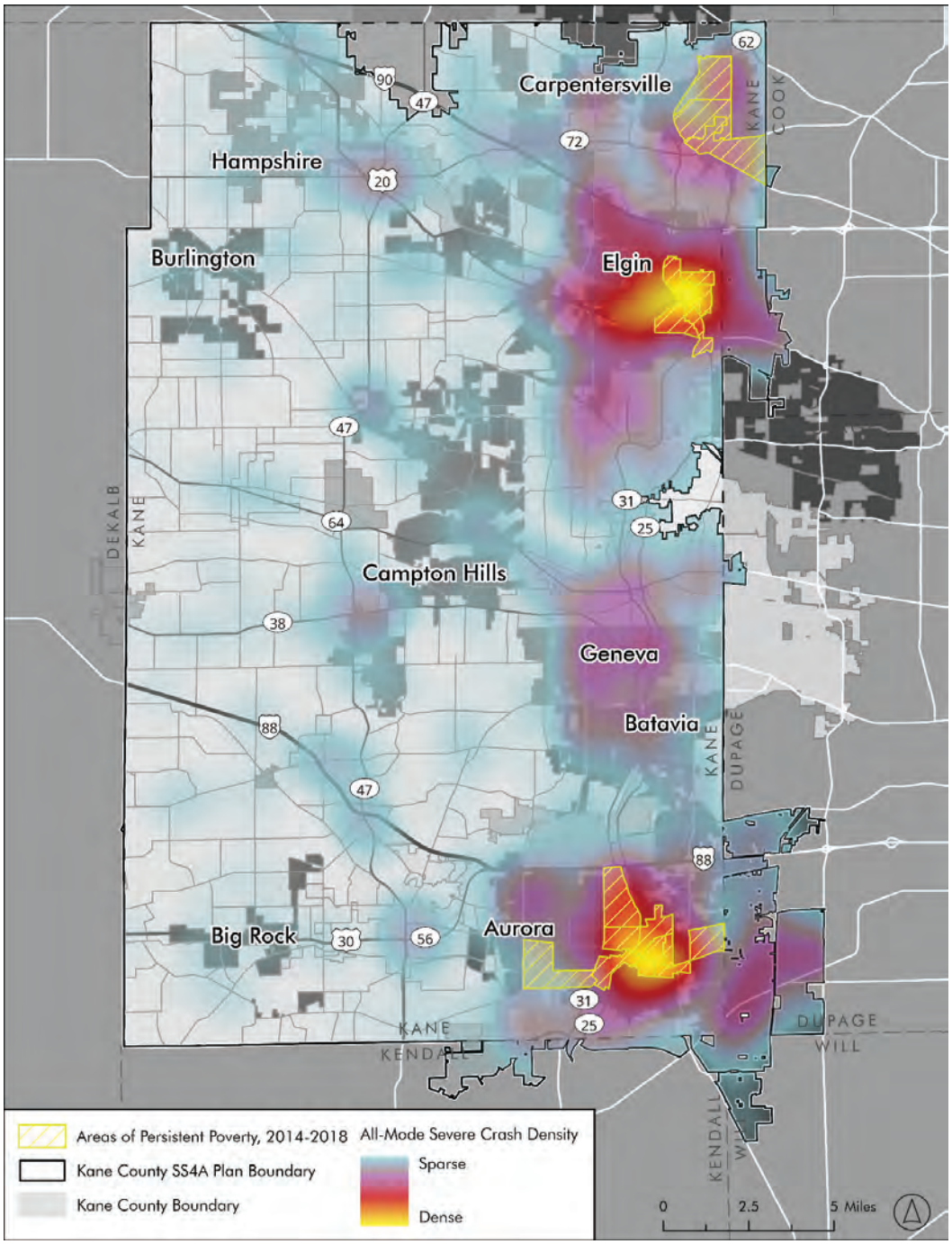


Figure 50. Areas of Persistent Poverty and the density of all severe crashes in Kane County

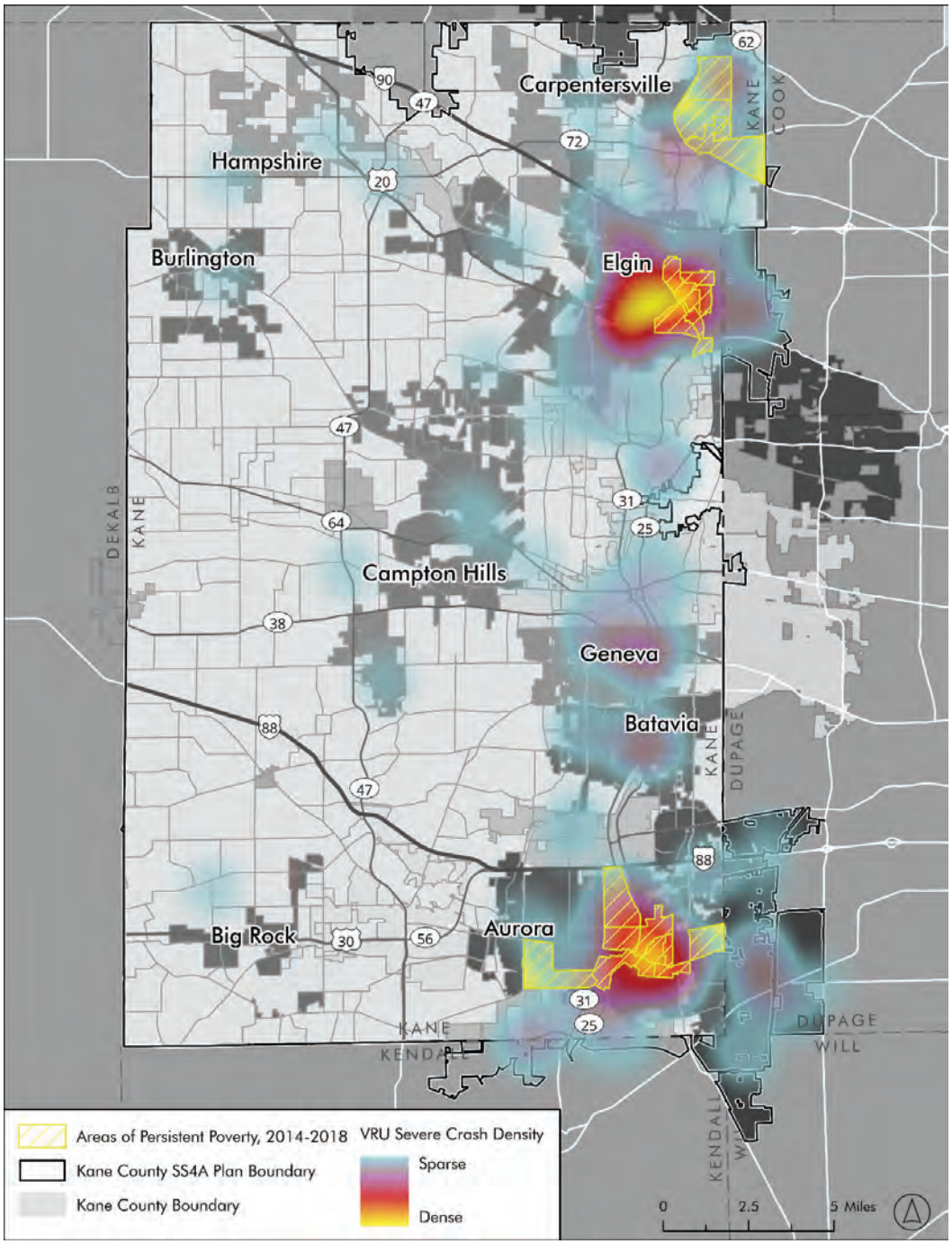


Figure 51. Areas of Persistent Poverty (APPs) and the density of VRU-only severe crashes in Kane County

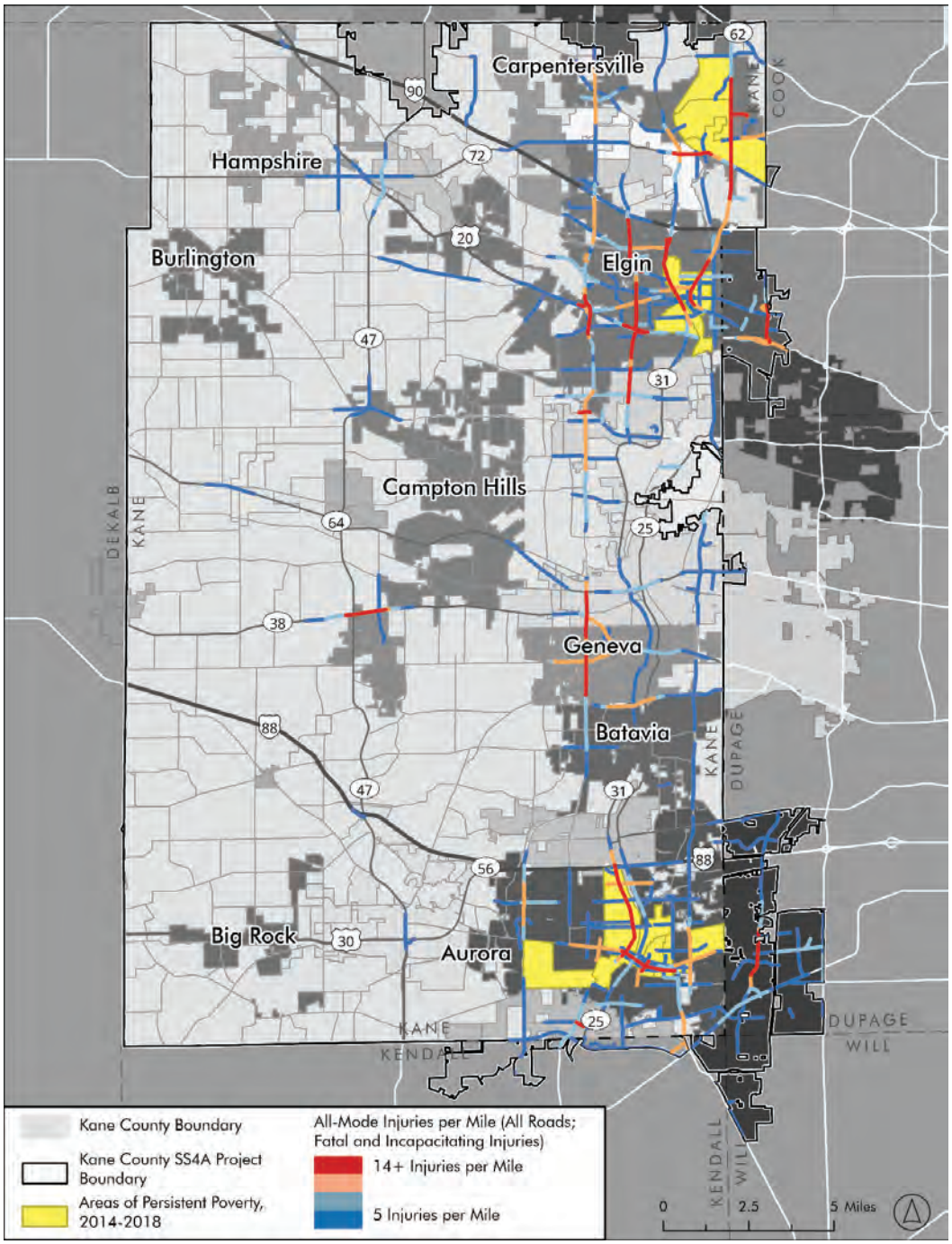


Figure 52. Areas of Persistent Poverty (APPs) and the all-mode HIN in Kane County

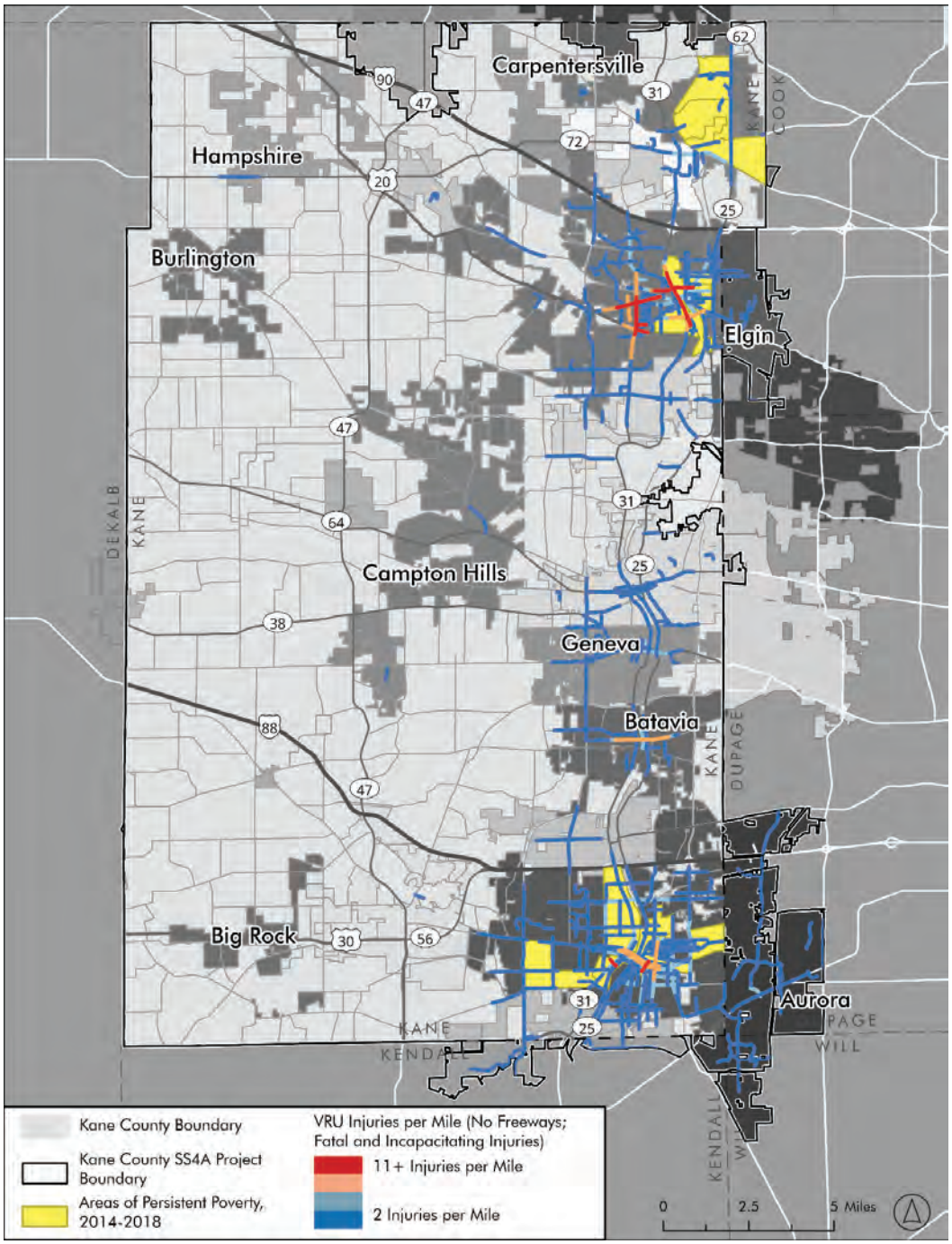


Figure 53. Areas of Persistent Poverty (APPs) and the VRU-only HIN in Kane County

SPEED
LIMIT
55
Vaughan Rd

SAFE TRAVEL FOR ALL

Appendix B

Project Communications and Outreach Strategy

This appendix contains the Kane County Safety Action Plan's Project Communication and Outreach Strategy, which detailed how we planned to collaborate with the community.

Chicago Metropolitan Agency for Planning
Kane County
Safety Action Plan

Communications and Outreach Plan

May 2024 (Revised July 2024)

Prepared by:

Metro Strategies Group, LLC
1901 Butterfield Road, Suite 260
Downers Grove, IL 60515

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- Meeting #2: (Tentatively July 2024) The initial safety analysis data and overview of the existing safety baseline analysis will be presented for feedback. The draft community event and open house plan will be shared with members. Members will be asked to share final event information with their respective community members to increase awareness and foster public participation and feedback.
- Meeting #3: (Tentatively September 2024) The draft existing safety analysis will be shared, and the Steering Committee will hear updates on other deliverables as appropriate.
- Meeting #4: (Tentatively December 2024) The following items will be presented to Committee members: pop-up event and open house results, existing safety conditions summary report, and initial ideas/locations for potential strategies and countermeasures.
- Meeting #5: (Tentatively February 2025) The team will share elements of the draft strategies and countermeasures as well as the existing safety performance baseline and target goals with the Steering Committee. The Committee will also hear the plan for the next pop-up and open house events and what items will be presented.
- Meeting #6: (Tentatively April 2025) The Committee will hear about plans for the demonstration event, as well as the priority project identification results. The study team will present an overview of the final safety action plan report and ask for committee member input.
- Potential Meeting #7: (Tentatively July 2025) A final meeting may be scheduled to provide a concluding update on implementation plans/next steps, to discuss leadership commitments, and goal setting resolution.

Meeting summaries will be shared with Committee members throughout the study. A list of Committee members is included as part of Appendix A.

4. Municipal Partner Engagement

The study team will identify three municipal partners that have high traffic safety issues. The study team will work with a municipal liaison from each community who will coordinate on project and outreach efforts. Liaisons will help the study team identify potential community outreach events and provide feedback on how to best engage with priority populations. Liaisons will also be able to share insights, key safety issues, and priorities in their communities. The project team will coordinate with the municipal partners as appropriate throughout the study.

A list of municipal partners is included as part of Appendix B.

4.1 Community Partner Events

To further connect with community members, three pop-up meetings at local events and facilities will be planned. Pop-up locations will be held in coordination with municipal partner communities, at events most likely to have high numbers of diverse attendees, and in accessible locations. Event activities will be created to ensure that that attendees of all ages and abilities will be able to participate. Metro Strategies Group will prepare a handout featuring key study details that can be distributed at these community events and will gather input from participants about safety related issues and potential safety projects.

The following pop-up events are anticipated:

- Pop-up Event #1 (Summer 2024): Study information and existing conditions will be shared. Attendees will be asked to provide their safety concerns and insights with the team.
- Pop-up Event #2 (Fall 2024): The study team will provide the public with information on the study's progress and begin to solicit initial public feedback on potential safety strategies and countermeasures.
- Pop-up Event #3 (Spring/Summer 2025): The study team will again provide the public with information on the study's progress and how public feedback has been incorporated into the study. Final feedback on available study deliverables will be gathered.

5. Public Engagement

The following public engagement activities will be planned with the Steering Committee to inform County residents of the SAP, build trust, and encourage public participation and input in its development process:

5.1 Open Houses

Up to three open houses will be planned for the study as a combination of in-person and virtual events. As the County spans a large geography, it is recommended that open houses are hosted at different locations in the County, along with a virtual event in the summer of 2024, to provide as many residents as possible with an opportunity to participate in the study. A virtual event will provide participants who may not traditionally participate in public, in-person meetings with an opportunity to share comments related to the study. All three open houses will include an informational presentation about the study and existing conditions, as well as opportunities for public feedback and questions. Feedback received during the open house events will be incorporated into SAP development to "ground truth" the data findings and help shape strategies. Hard copies of the materials and comment forms will also be available and shared through municipal and stakeholder partners. Materials will be translated into Spanish, and other languages upon request. Last, the open houses will be publicized and shared through CMAP, Kane County, and Steering Committee member social media, newsletters, and websites. Community groups will also serve as important stakeholders that can help share information with different targeted demographics within the County. A summary of open house events will be created to document information shared with the public, as well as feedback and questions received.

5.2 Demonstration Event

A focused and interactive roadway safety demonstration event will be created to further gather community input on "real life" safety issues impacting the County. The demonstration event will be developed in collaboration with the County and Steering Committee and target an opportunity in a municipal partner community to show a strategy/countermeasure at a safety issue location and engage with residents.

6. Anticipated Schedule of Activities

The final study schedule of all activities will be further refined in coordination with the study partners and included in this document.

- Steering Committee Meeting #1: Held June 26, 204
- ~~Steering Committee Meeting #2: July 2024~~*
- Pop-up Event #1: Summer/Fall 2024

- Open House Events: Summer/Fall 2024
- Steering Committee Meeting #3: September 2024
- Steering Committee Meeting #4: December 2024
- Steering Committee Meeting #5: February 2024
- Steering Committee Meeting #6: April 2025
- Pop-up Event #2: Spring 2025
- Steering Committee Meeting #7: July 2025
- Pop-up Event #3: Summer 2025
- Demonstration Project: Summer 2025
- *Placeholder for potential additional Steering Committee meeting if needed: Date TBD**

***July 26, 2024, Update:** Steering Committee #2 meeting pushed to September, as the project team is delayed in high injury network (HIN) development due to needing additional clarification on the study area. The team aims to share draft HIN findings at the next Steering Committee meeting.*

7. Appendices

The following appendices and any other related items will be developed in coordination with the study partners and included in this document:

- Appendix A: Steering Committee Member List
- Appendix B: Municipal Partners
- Appendix C: Roles and Responsibilities

Appendix A

Steering Committee Member List

Name	Agency	Focus Area
Jennifer O'Connell, *Chief of Design* Jackie Forbes, *Chief of Planning and Programming* Colleen Jaltuch, *Senior Project Manager/Traffic Engineer*	Kane County Division of Transportation	Government Agency
Michael Issacson, *Executive Director*	Kane County Health Department	Public Health and Wellness
	Kane County Regional Office of Education (ROE)	Driver Education and School Safety Issues
Amy Johnson, *Undersheriff*	Kane County Sheriff's Office	Public Safety
Alex Nugent, *Engineer* Roopa Anjanappa, *Engineer*	City of Aurora	Government Agency
Laura Newman, *City Administrator* Max Weiss, *Management Analyst*	City of Batavia	Government Agency
Kevin Gray, *Director of Public Works and Engineering*	Village of Carpentersville	Government Agency

Ed Szydlowski, *Assistant Director of Public Works and Engineering* Ben Mason, *Community Development Director* Tim Brinkmann, *Assistant Community Development Director*		
Jonathan Lloyd, *Traffic Studies Engineer* Phillip Domines, *Civil Engineer*	Illinois Department of Transportation (IDOT)	Transportation
Dan Thomas, *Principal Planner* Dustin Clark, *Manager of Program Development and Grants Pursuits*	Metra	Public Transit
Steve Waltz, *Safety and Education Board Member*	A.B.A.T.E. Illinois, DuKane Chapter	Motorcycle Advocacy
	Association for Individual Development	Individuals with Disabilities
Dr. David Sam, *President*	Elgin Community College	Education
Pat Sweeney, *Membership Director*	Fox Valley Bicycle & Ski Club	Recreation, Fitness, and Alternative Transportation
Matt Wells, *Executive Director*	Midwest Truckers Association	Trucking
	Mutual Aid Box Alarm System (MABAS) Divisions 2 and 13	Fire, Emergency Medical Services, and Law Enforcement
Carrie Schneider, *Operations Manager*	PADS of Elgin	Unhoused/Unsheltered
	Rush Copley Medical Center	Public Health and Wellness
	Senior Services Associates	Senior Citizens
	World Relief Chicagoland	Humanitarian Efforts (Refugees and Immigrant Communities)

Appendix B

Municipal Partners

Name	Community
Alex Nugent, *Engineer* Roopa Anjanappa, *Engineer*	Aurora
Laura Newman, *City Administrator* Max Weiss, *Management Analyst*	Batavia
Kevin Gray, *Director of Public Works and Engineering* Ed Szydlowski, *Assistant Director of Public Works and Engineering* Ben Mason, *Community Development Director* Tim Brinkmann, *Assistant Community Development Director*	Carpentersville

Appendix C

Roles and Responsibilities

	Involvement of Actor				
	Lead	Support	Advise	Review	
Component + Activity	**PMO**	**CMAP**	**SAP Consultant**	**County**	**Engagement Consulta**
Establish a County Steering Committee					
Schedule and attend monthly meetings					
Meeting agendas, materials, and minutes					
Interim Deliverable 1: County Communications and Outreach Strategy					
County-level engagement activities					
Open-house events					
Attend community events					
Provide translation services, as needed					
Demonstration project event					
Meeting materials					
Meeting minutes and summaries					
3.2 Regional Engagement and Collaboration					
Establish a Regional Steering Committee					
Schedule and attend monthly meetings					
Meeting agendas, materials, and minutes					
Regional Engagement Strategy					
Online engagement activities					
Meeting materials, minutes, and summaries					
Project website (including surveys, interactive map, comment section)					
Performance measures dashboard					
Local engagement toolkit					
Chicago in-person engagement activities					
Meeting materials, minutes, and summaries					
Project branding (logo, graphics, and document templates)					
Multi-lingual translation services					
4 Equity Analysis and Considerations					
Equity area identification					
Existing conditions analysis					
Proposed recommendations impact analysis					
5. Policy and Process Review					
Review existing policies, plans, guidelines, and standards					
Interim Deliverable 4: Countermeasure and Policy Recommendations					
6. Implementation Plan					
Identify priority emphasis areas for each county					
Explore/analyze priority emphasis areas					
Emphasis Area Report					
Identify potential safety strategies and countermeasures					
Concept sketches for high priority locations					
Establish prioritization criteria					
Implementation matrix					
Establish evaluation metrics and baseline					
Set crash performance targets					
Interim Deliverable Three: Benchmarks for Safety Performance					
Interim Deliverable 4: Countermeasure and Policy Recommendations					
Safety performance measure dashboard					
7. Draft and Final Safety Action Plans					
Draft and Final Safety Action Plans (including compilation of interim					
Strategy and project selection					
Leadership commitment and goal setting resolution					
Publish online for the public.					
Safety Countermeasure and Strategy Toolkit					
Public and Accessible Reporting Strategy					
Annual, accessible public reporting on progress					

SAFE TRAVEL FOR ALL

Appendix C

Community Engagement Documents and Details

This appendix contains more details about the community engagement events conducted as a part of the Kane County Safety Action plan, including event materials and summaries.

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Steering Committee Meeting 1 Minutes C-89

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Steering Committee Meeting 3 Minutes C-162

Steering Committee Meeting 4 Presentation.....C-167

Steering Committee Meeting 4 Minutes C-206

Virtual Public Meeting Summary C-212

A.B.A.T.E. Toy and Food Run Pop-Up Summary.....C-214

Aurora Christkindlmarket Pop-Up Summary C-216

Steering Committee Meeting 1 Presentation

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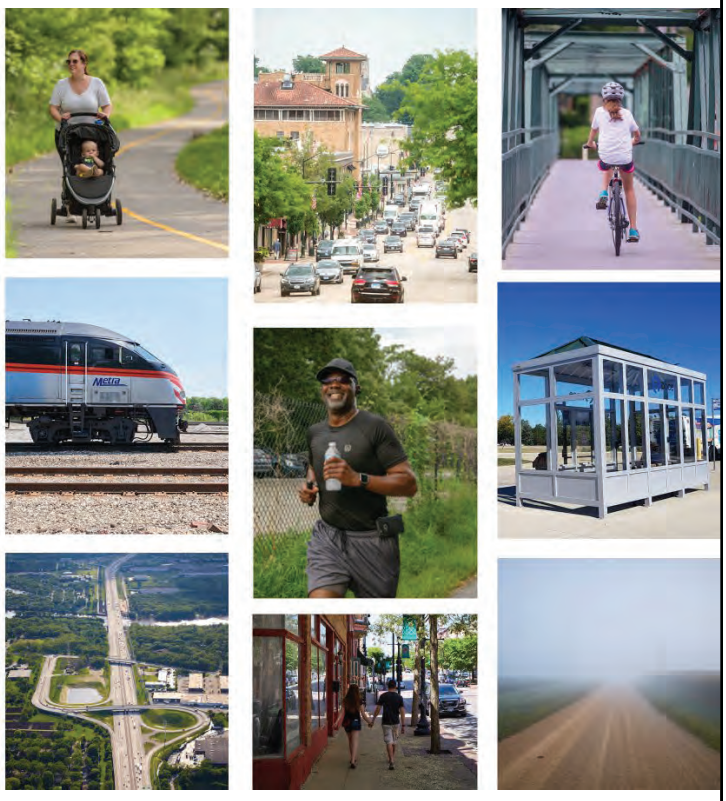
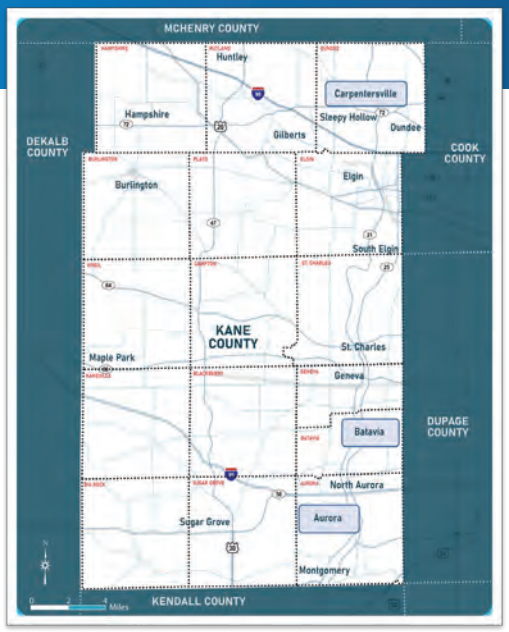
Kane County Safety Action Plan

Steering Committee Meeting #1
June 26, 2024



Agenda

- Introductions
- About the Project
- Steering Committee Overview
- Public Involvement Strategy
- Initial Existing Findings
- Next Steps



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Steering Committee Meeting 1 Presentation

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Introductions

SAP Project Team Introductions

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Jen Maddux
Senior Planner

Lindsay Bayley
Program Lead, Safe and Complete Streets

KDOT
KANE COUNTY DIVISION OF TRANSPORTATION

Jennifer O'Connell
Chief of Design

Jackie Forbes
Chief of Planning and Programming

Colleen Jaltuch
Senior Project Manager/Traffic Safety Engineer

Lochner

Jacque Henrikson
Multimodal Planning Lead

Grace Hebert
Planner

Frank Barrera
Senior Planner

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SAP Project Team Introductions

ARORA and ASSOCIATES, P.C.
Consulting Engineers

Priscillia Tobias
Vice President

Jerrid Dinnen
Senior Project Engineer

SRF

Aleksandra Tadic
Project Director, Transit Planning

Renae Kuehl
Senior Director

METRO STRATEGIES group

Tammy Wierciak
Principal

Jordan Rogalski
Senior Project Manager

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Steering Committee Meeting 1 Presentation

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Steering Committee Introductions

Please introduce your name, affiliation, and interest in the project

Steering Committee Meeting 1 Presentation

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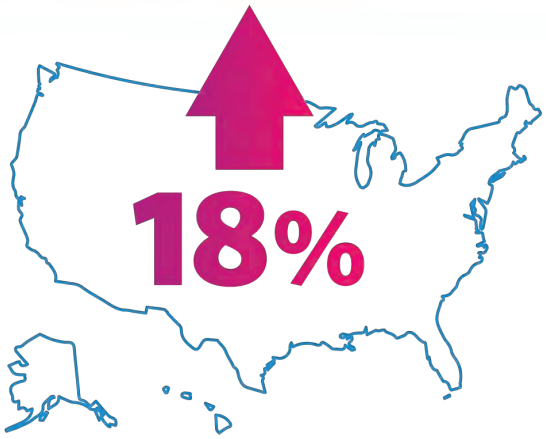
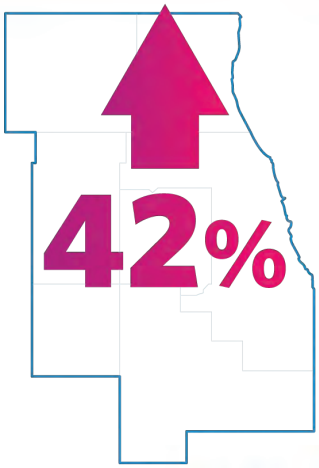
About the Project

Deadly Crashes Have Surged Across the U.S. and Our Region Since 2019





STAR Safe Travel for All Roadmap

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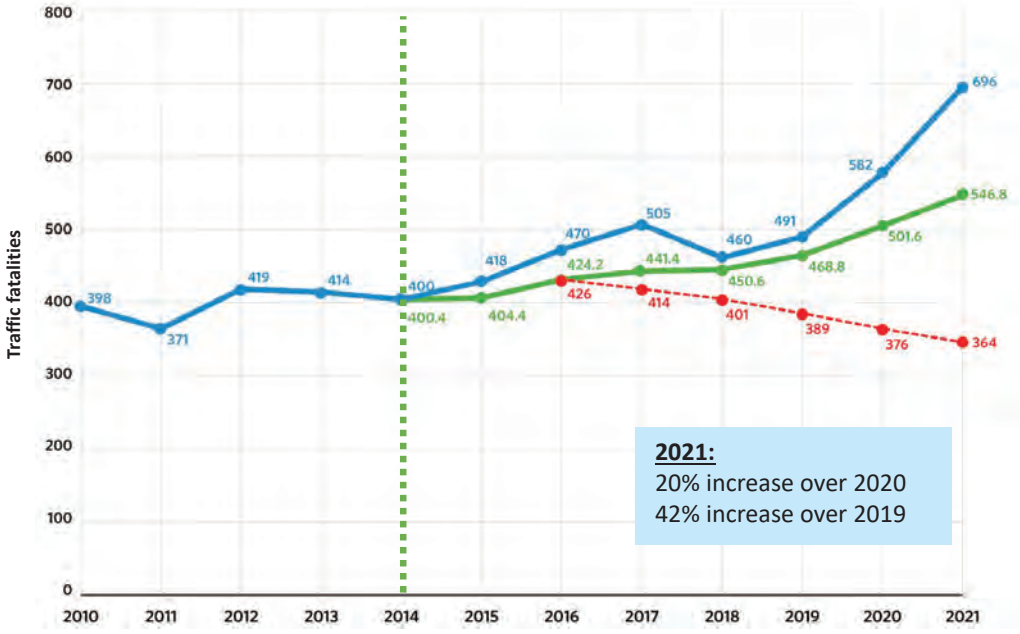
Steering Committee Meeting 1 Presentation

Traffic fatalities

Seven-county region
2010–2021

- Annual fatalities
- 5-year average fatalities
- Target 5-year average



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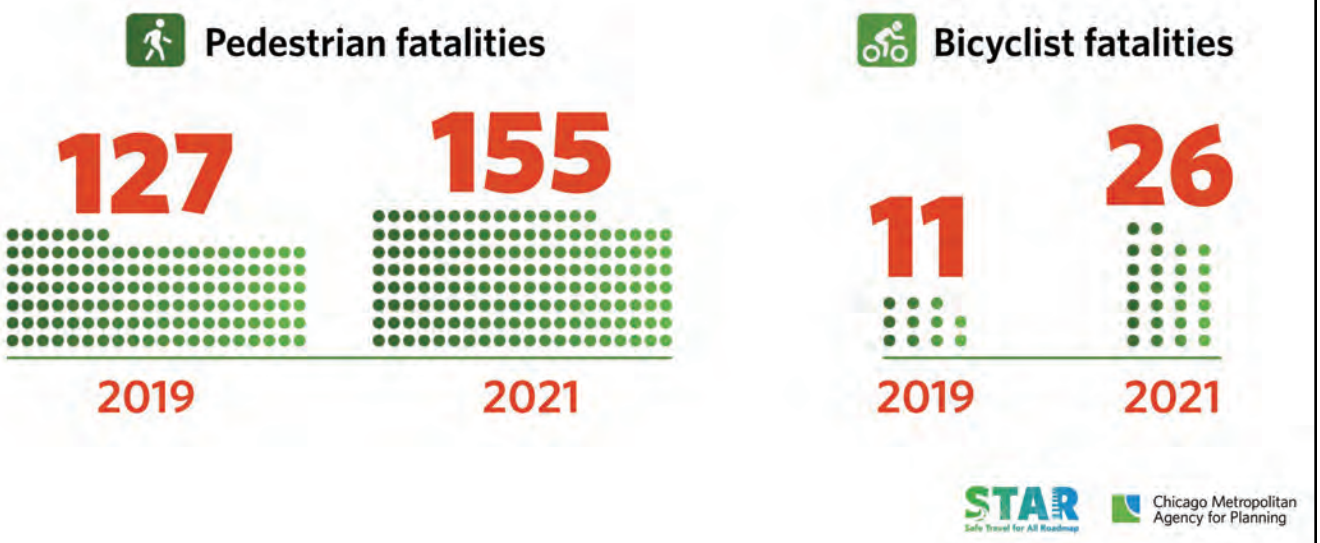
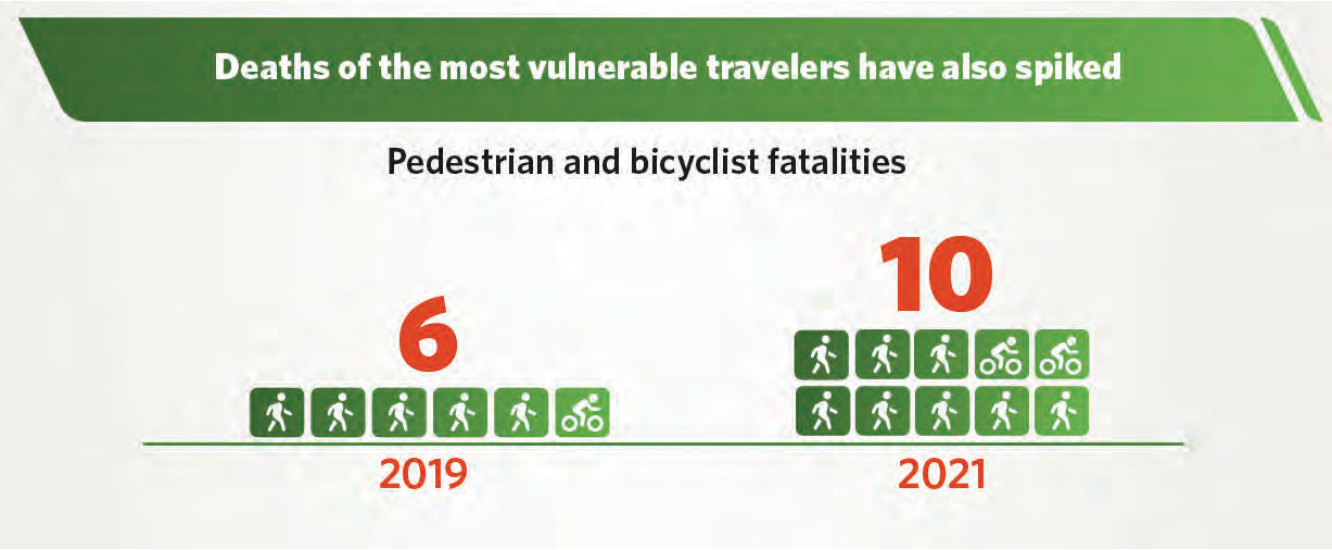
Source: CMAP analysis of Illinois Department of Transportation data

Deaths of the Most Vulnerable Travelers Have Also Spiked Regionally



Kane County Fatalities



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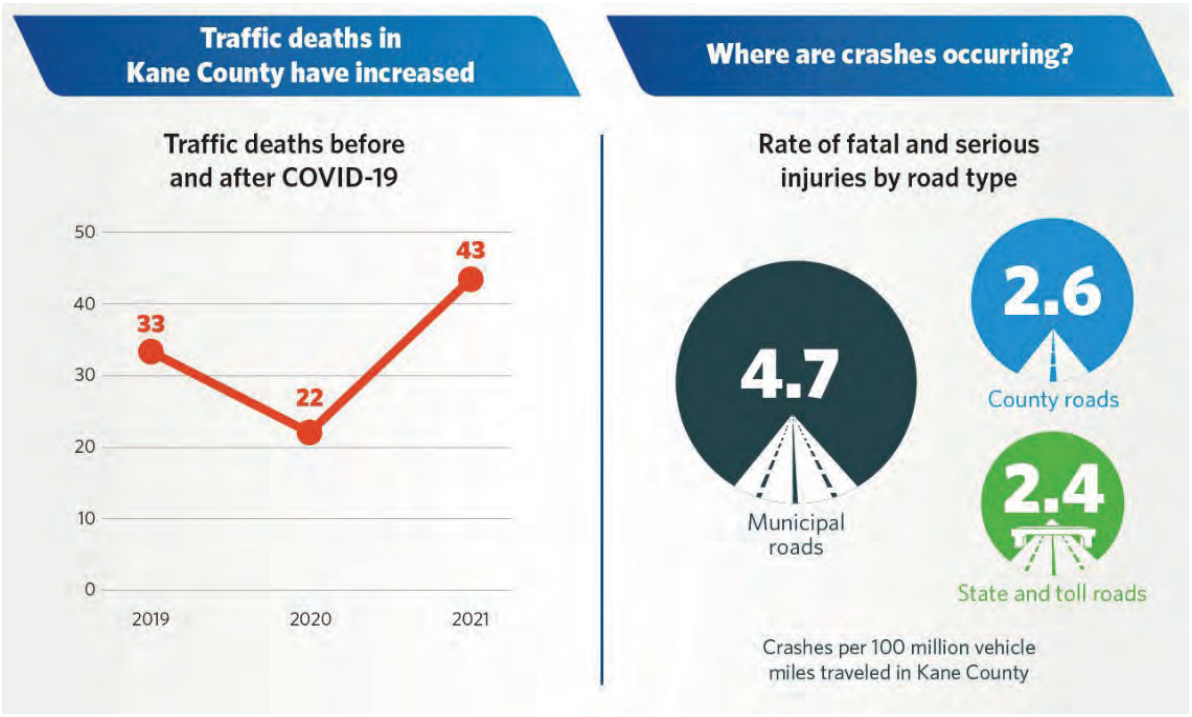
Steering Committee Meeting 1 Presentation



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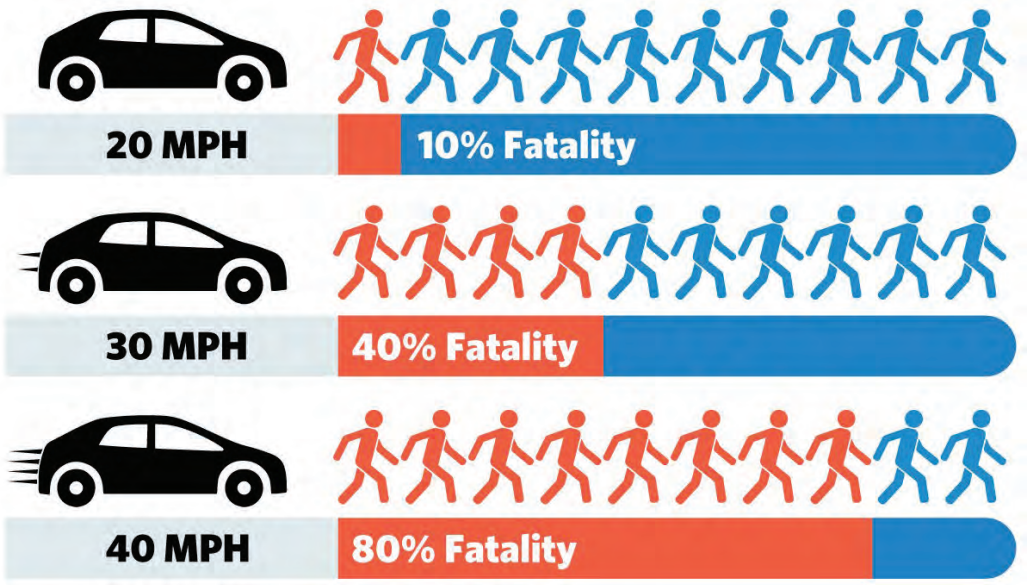
If Hit by a Car Traveling:



Source: U.S. Department of Transportation

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Previous Safety Efforts in Kane

- Examined crashes along intersections and segments to identify systemic issues on County routes for FHWA Highway Safety Improvement Program (HSIP) projects
  - Minor stop-controlled intersections in rural areas are experiencing concerning crashes
  - Major east-west County roads: unsafe speeding, run-off-road collisions
  - Narrow shoulders create an issue for speed-limit enforcement as there is no safe place to pull over vehicles
- Most progress is related to County roadways

Previous Safety Efforts in Kane

Kane County 2040 Comprehensive Plan

- Land use analysis of transportation, urban design, and economic conditions
- Mobility analysis of transit use, active transportation, and traffic patterns
- Public health analysis of park and resource access

Kane County 2050 Long Range Transportation Plan

- Safety, personal mobility, cooperative planning, environmental quality, and systems efficiency analysis
- Ongoing management and planning for a sustainable, efficient and safe transportation system

2012 Randall/Orchard Bus Rapid Transit Study

- Feasibility study for Bus Rapid Transit (BRT) on the Randall/Orchard Corridor
- Benefits included reduced travel times and transportation costs
- Challenge getting political support and private property acquisitions

Kane County Bicycle and Pedestrian Plan (2023)

- Analysis of bike and pedestrian infrastructure gaps and needs
- 27 miles of proposed facilities have been constructed since 2012
- Remaining 21 miles of proposed facilities are yet to be constructed

Kane County Comprehensive Road Improvement Plan

- Analysis of future traffic volumes for County highways based on 10 year land use assumptions
- Developed as a requirement for County to implement the Road Improvement Impact Fee Law

CMAP ON TO 2050 Comprehensive Plan

- Comprehensive regional plan to prepare the region for future growth
- Analyzes areas include transportation, natural assets, economy, education, and culture

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Strategic Highway Safety Plan (SHSP)

ILLINOIS 2022-2026
SHSP
STRATEGIC HIGHWAY SAFETY PLAN

- Illinois' SHSP is a statewide data-driven plan with the goal to eliminate all fatal and serious injury crashes on all Illinois roadways
- The SHSP focuses resources and efforts based on data to improve the safety performance of roadways through:
  - design and traffic operations,
  - changing roadway user behavior through traffic law enforcement and education programs, and
  - enhancing emergency response as it relates to all public roads
- Kane County Safety Action Plan should align

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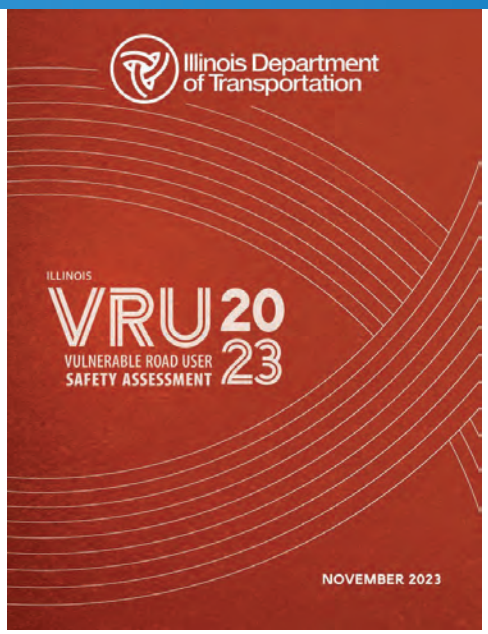
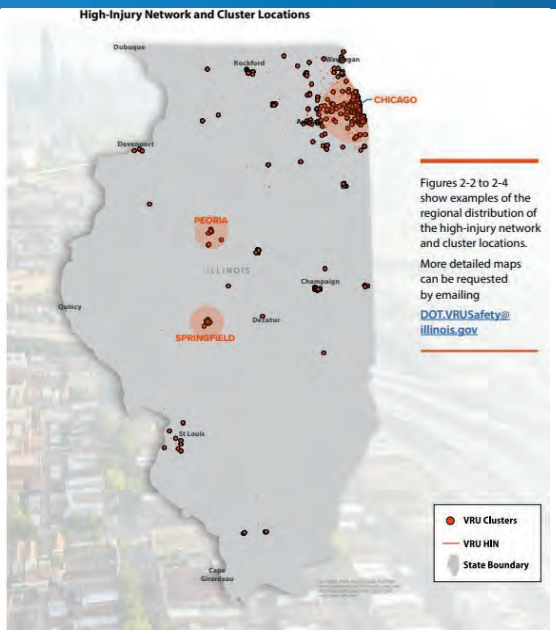
IDOT Vulnerable Road User High Injury Network





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What does a Safety Action Plan (SAP) do?

- **Sets leadership commitment and goal setting**
  - Zero fatalities and serious injuries by either a target date or percentage reduction (SS4A requirement)
- **Identifies practices, policies and procedures (formal/informal)**
  - To plan, facilitate, prioritize, and fund activities, programs and infrastructure
  - *Are there any practices, policies, or procedures that the project team should be aware of?*
- **Establishes implementation monitoring**
  - Sets measurable and achievable performance metrics

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Steering Committee Meeting 1 Presentation

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Steering Committee Overview

Committee Overview

- Represents local government agencies, community-based organizations, advocacy groups, and other critical entities

- **Convenes throughout the study to:**
  - Share issues and concerns
  - Assist in developing goals and priorities
  - Provide feedback on study strategies

The project team values your unique voices and perspectives!

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Committee Overview

- Members serve as project **ambassadors:**
  - Share involvement opportunities through respective communication channels
  - Attend events
  - Collect feedback from the public and share with the project team (ongoing feedback loop)

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Committee Rules

- All input is valued
- All input will be considered as part of the plan development process
- The study team asks that all members keep open minds and participate openly, honestly, and respectfully
- Meetings will be documented

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Committee Meetings Timeframe

- Committee will meet approximately every two-to-three months through summer 2025 (total of six-to-eight meetings)
- Hybrid meeting format with options to attend both in-person and virtually
- Next meeting is anticipated to take place in August

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Steering Committee Meeting 1 Presentation

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Public Involvement Strategy

Engagement Opportunities

- Steering Committee
- Pop-up events (3)
- Open houses (up to 3)
- Virtual event
- Focused and interactive roadway safety demonstration

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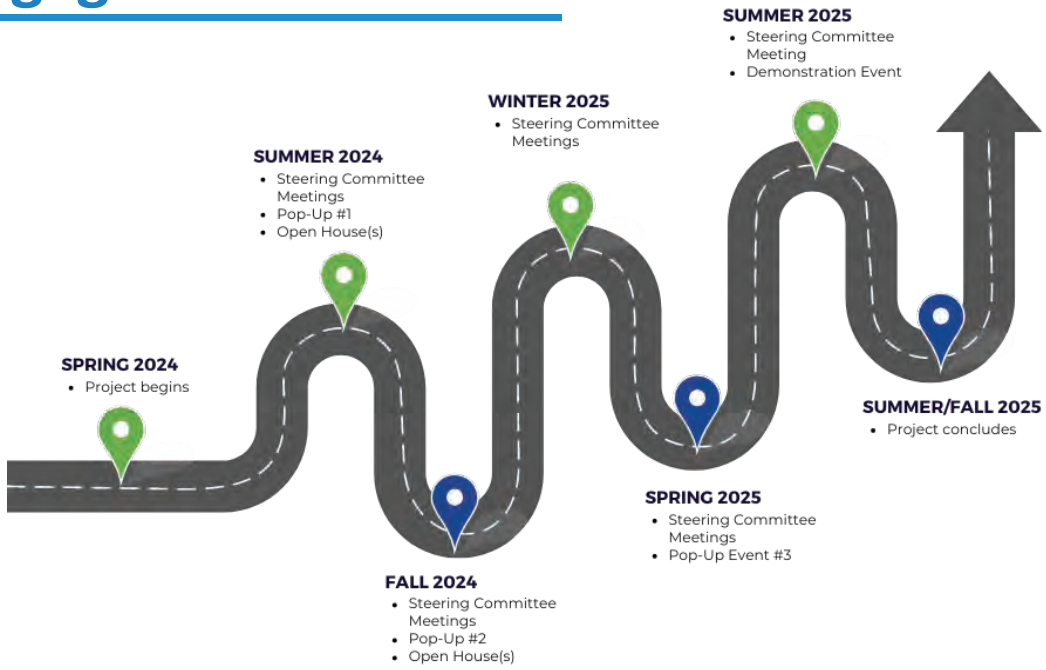
Steering Committee Meeting 1 Presentation

Engagement Timeline



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Engagement Opportunities Request

- **Please share with the project team information about your organization's upcoming events for potential partnership!**

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Steering Committee Meeting 1 Presentation

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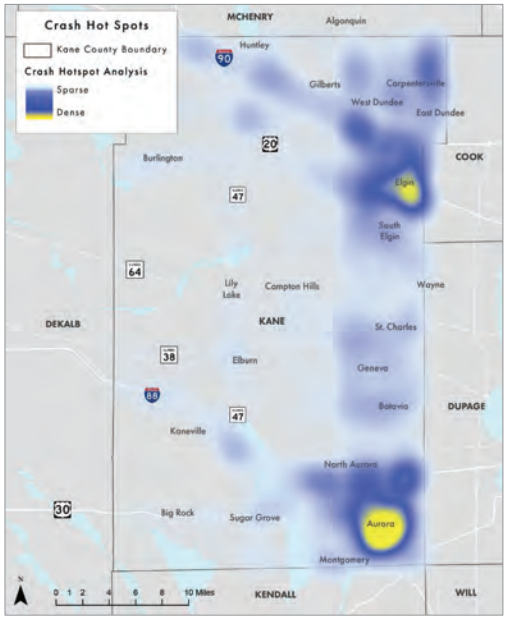
Initial Existing Findings

Countywide Hotspot Map



- Aurora and Elgin have the densest crash hotspots in Kane County
- Additional hotspots exist around Carpentersville, Batavia, Geneva and St. Charles
- Randall Road, Plank Road, I-90, and I-88 also have crash hotspots

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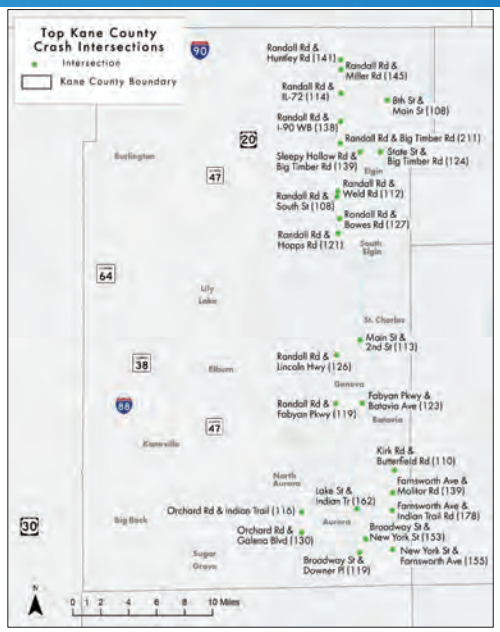
Countywide Top Intersections by Crashes



Intersection	Municipality	Control	Collisions	Fatal	Injury	Property Damage
Randall Rd + Big Timber Rd	Elgin	Signal	211	0	59	154
Farnsworth Ave + Indian Trail Rd	Aurora	Signal	178	1	58	125
Lake St + Indian Trail Rd	Aurora	Signal	162	0	50	116
New York St + Farnsworth Ave	Aurora	Signal	155	0	51	107
Broadway St + New York St	Aurora	Signal	153	0	40	114
Randall Rd + Miller Rd	Carpentersville	Signal	145	1	46	104
Randall Rd + Huntley Rd	Carpentersville	Signal	141	0	34	111
Farnsworth Ave + Molitor Rd	Aurora	Signal	139	0	39	101
Sleepy Hollow Rd + Big Timber Rd	Elgin	Signal	139	0	37	106
Randall Rd + I-90 WB	Elgin	Signal	138	0	21	117
Orchard Rd + Galena Blvd	Aurora	Signal	130	0	37	95
Randall Rd + Bowes Rd	Elgin	Signal	127	0	42	89
Randall Rd + Lincoln Hwy	St. Charles	Signal	126	1	21	104
State St + Big Timber Rd	Elgin	Signal	124	0	45	83
Fabyan Pkwy + Batavia Ave	Batavia	Signal	123	0	54	75
Randall Rd + Hopps Rd	Elgin	Signal	121	1	47	77
Broadway + Downer Pl	Aurora	Signal	119	0	31	92
Randall Rd + Fabyan Pkwy	Geneva	Signal	119	0	34	88
Orchard Rd + Indian Trail Rd	Aurora	Signal	116	0	45	77
Randall Rd + Main St	Elgin	Signal	114	0	40	76
Main St + 2nd St	St. Charles	Signal	113	0	22	92
Randall Rd + Weld Rd	Elgin	Signal	112	1	47	69
Kirk Rd + Butterfield Rd	Aurora	Signal	110	0	28	87
8th St + Main St	West Dundee	Signal	108	0	38	72
Randall Rd + South St	Elgin	Signal	108	0	29	82

Rural Areas of Concern

- Outside denser population areas, main crash intersections tend to cluster on the northwestern side of the county
- Key crash intersections include:
  - IL 47
  - US 30
  - IL 25
  - US 20
  - Big Timber Road

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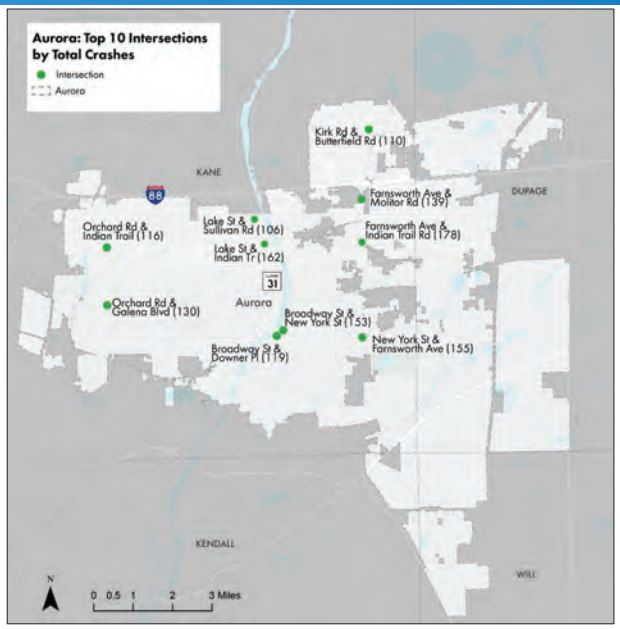
Aurora Top Intersections by Crashes



- Top crash intersections in Aurora tend to focus on the following roadways:
  - Farnsworth Avenue (Aurora)
  - Broadway Street/IL-25 (IDOT)
  - Lake Street/IL-31 (IDOT)
  - Orchard Road (KDOT)
  - Indian Trail Road (Aurora)

**Roadway jurisdiction in parentheses*

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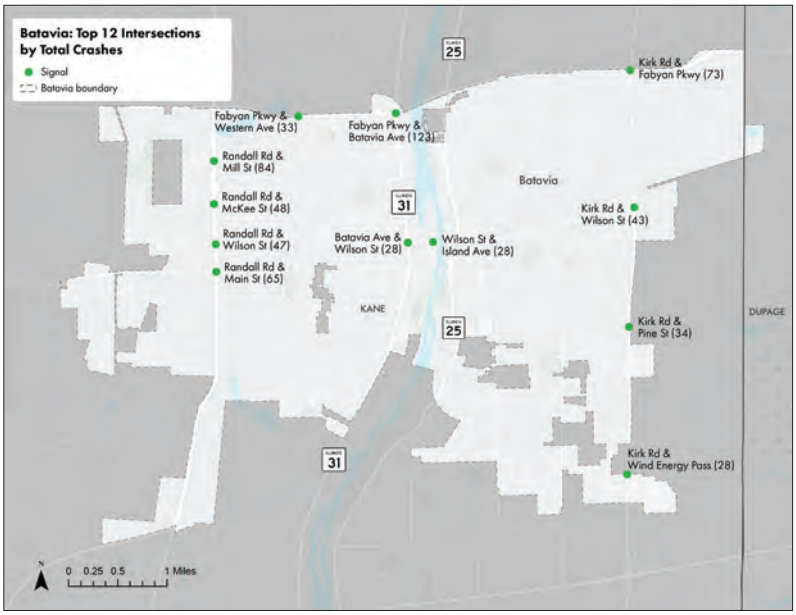
Batavia Top Intersections by Crashes



- Top crash intersections in Batavia tend to focus on the following roadways:
  - Randall Road (KDOT)
  - Kirk Road (KDOT)
  - Fabyan Parkway (KDOT)

**Roadway jurisdiction in parentheses*

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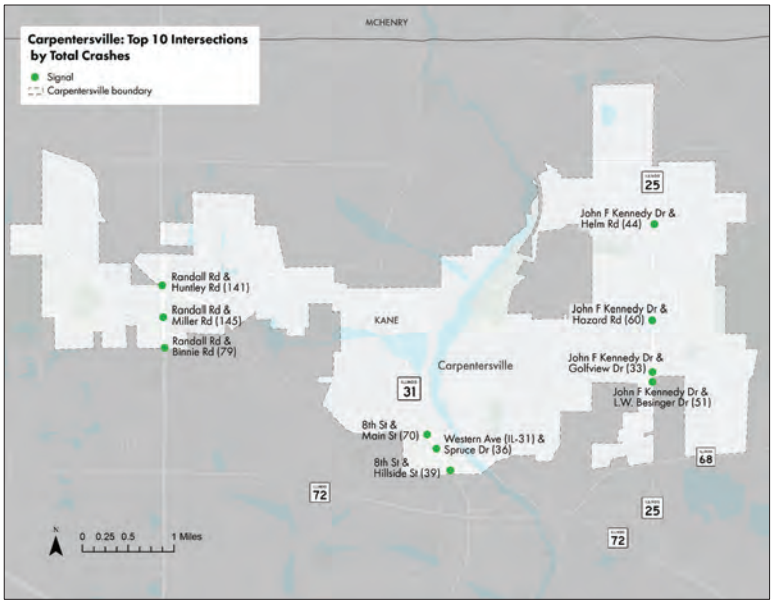
Carpentersville Top Intersections by Crashes



- Top crash intersections in Carpentersville tend to focus on the following roadways:
  - Randall Road (KDOT)
  - John F. Kennedy Drive/IL-25 (IDOT)
  - 8th Street (Carpentersville)

**Roadway jurisdiction in parentheses*

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Crash Emphasis Areas for Kane County

- Emphasis areas include
  - Older driver
  - Younger driver
  - Distracted driving
  - Speeding
  - Cyclist
  - Pedestrian
  - Animal on road
  - Unrestrained
  - Heavy vehicle
  - Railroad crossing
  - Intersection
  - Phone use
  - Motorcycle
  - Roadway departure
  - Wrong way
  - Impaired driving
  - Work zone

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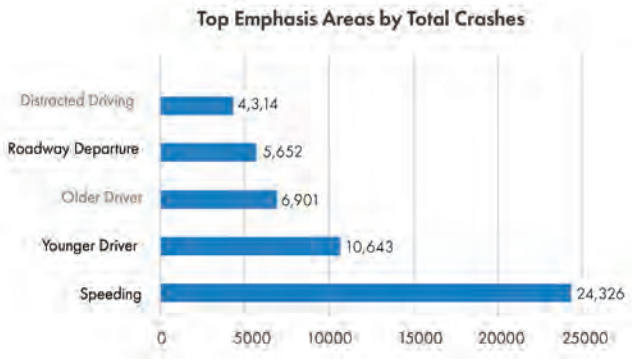
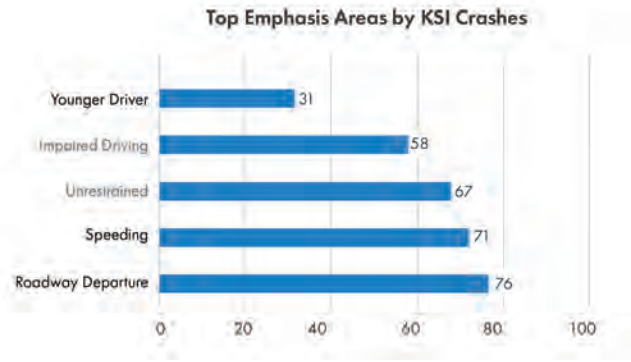
Crash Emphasis Areas for Kane County





KSI = Severe and Fatal Crashes

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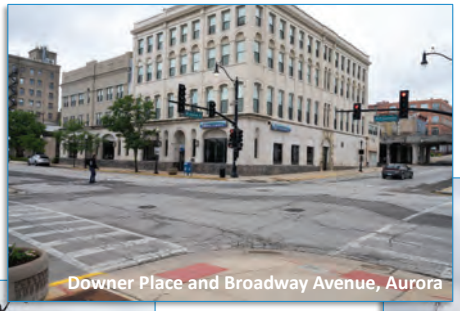
Field Photos: Urban


Downer Place and Broadway Avenue, Aurora

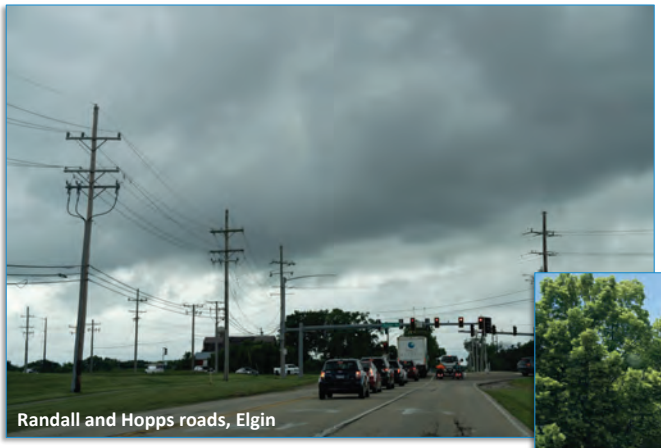
Downtown Elgin

Chicago Street and Illinois 31, Elgin

Emphasis Areas:

- Pedestrians/Vulnerable Road Users (VRUs)
- Turning/Right-of-Way
- Disregarding Traffic Signals
- Unrestrained (seat belt use)

Field Photos: Suburban


Randall and Hopps roads, Elgin

Bike Lane on Residential Street

Neighborhood Street Outside Carpentersville

Emphasis Areas:

- Speeding
- Distracted Driving
- Left Turns (at signalized intersections)

Chicago Metropolitan Agency for Planning

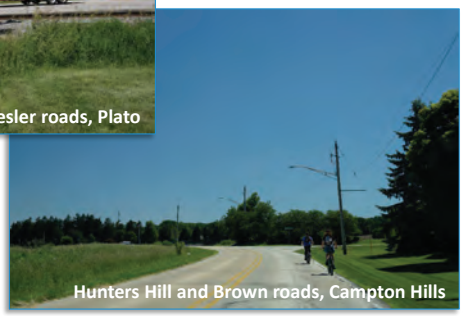
Field Photos: Rural

Emphasis Areas:

- Speeding
- Roadway Departure
- Weather

Bowes and Nesler roads, Plato

Plank Road, Plato


Hunters Hill and Brown roads, Campton Hills

Existing Conditions Discussion

Join at menti.com

Use Code
8104 7237

Chicago Metropolitan Agency for Planning

Steering Committee Meeting 1 Presentation

Chicago Metropolitan Agency for Planning

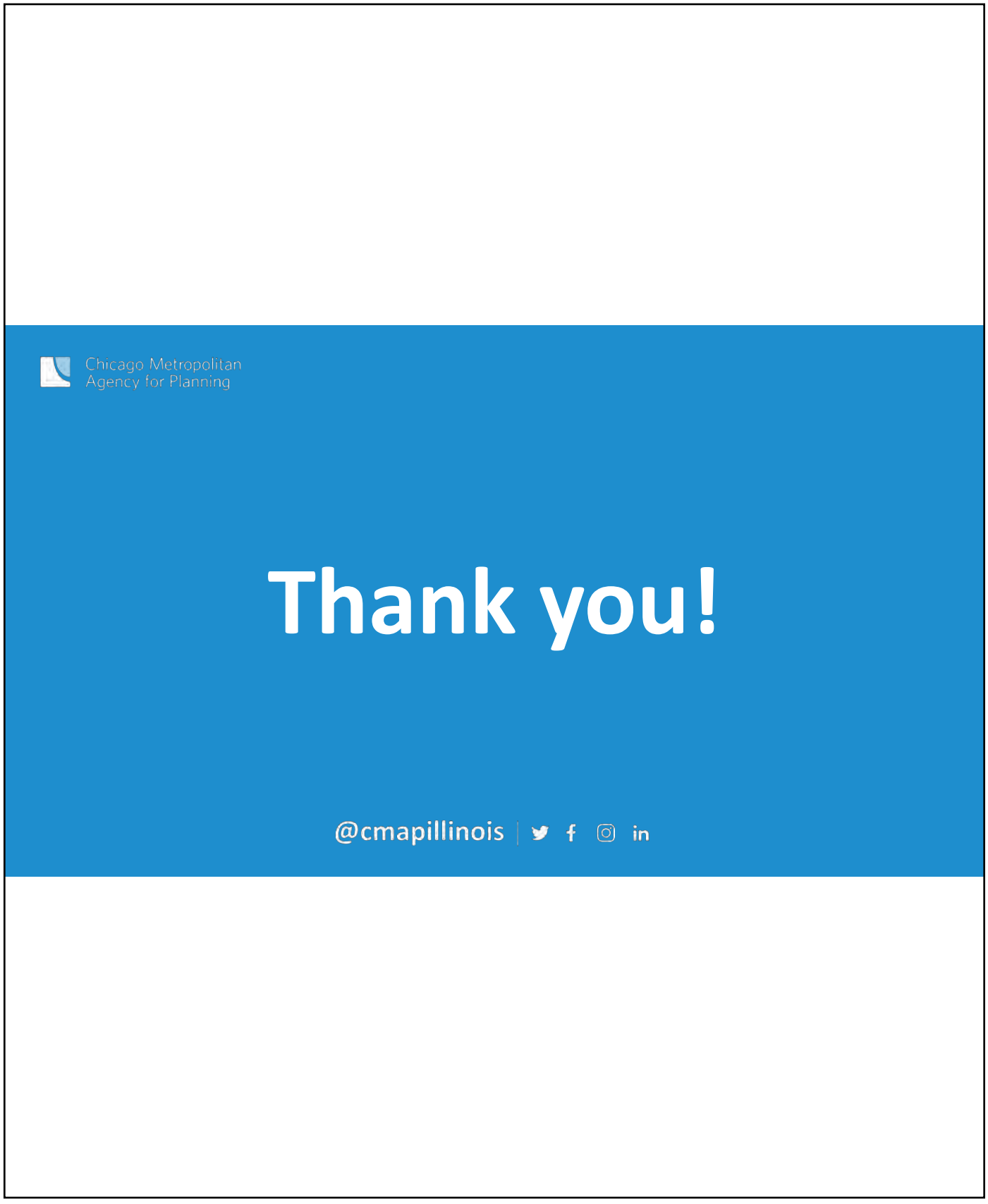
Next Steps

Next Steps

- Continued safety and existing conditions analyses
- Engagement events planning and coordination
- Next Steering Committee Meeting - August
  - Initial engagement findings
  - Safety Analysis findings
  - Initial Draft High Injury Network (HIN) findings

Chicago Metropolitan Agency for Planning

Steering Committee Meeting 1 Presentation



Steering Committee Meeting 1 Minutes

Kane County Safety Action Plan

Steering Committee #1 Meeting Minutes| June 26, 2024

Steering Committee	Project Team
Roopa Anjanappa, City of Aurora	Frank Barrera, Lochner
Tim Brinkmann, Village of Carpentersville	Jerrid Dinnen, Arora and Associates
Dustin Clark, Metra	Jackie Forbes, Kane County Division of Transportation (KDOT)
Kevin Gray, Village of Carpentersville	Grace Hebert, Lochner
Phil Domines, Illinois Department of Transportation (IDOT)	Jacque Henrikson, Lochner
Fire Chief Craig Hanson, City of Batavia	Colleen Jaltuch, KDOT
Michael Issacson, Kane County Health Department	Renae Kuehl, SRF
Undersheriff Amy Johnson, Kane County	Jen Maddux, Chicago Metropolitan Agency for Planning (CMAP)
David Kintz, Elgin Community College	Jennifer O'Connell, KDOT
Jonathan Lloyd, IDOT	Kevin O'Malley, AECOM
Laura Newmann, City of Batavia	Nicholas Riehle, CMAP
Alex Nugent, City of Aurora	Jordan Rogalski, Metro Strategies Group
Carrie Schneider, PADS of Elgin	Aleks Tadic, SRF
Steve Waltz, ABATE	Priscilla Tobias, Arora and Associates
Max Weiss, City of Batavia	Tammy Wierciak, Metro Strategies Group

The meeting started with project team and Steering Committee member introductions.

About the Project

Ms. Henrikson began by providing an overview of national, regional, and County traffic data. Additionally, she detailed the federal government's Safe Streets and Roads for All (SS4A) grant program, which funds initiatives to prevent roadway deaths and serious injuries. She explained how a safety action plan (SAP) is needed to pursue SS4A implementation and construction funding; Kane County's SAP will be developed to meet SS4A eligibility requirements. Ms. Henrikson reviewed previous County and CMAP-sponsored safety studies and plans. She asked Steering Committee members about current agency-specific practices, policies, or procedures that would assist the SAP development process:

- Ms. O'Connell stated that the County has been successful in obtaining Highway Safety Improvement Program (HSIP) funding for some safety projects on roadways within County jurisdiction. Certain projects have been implemented, while several others are currently in design.
- Ms. Jaltuch reported that the County has previously worked with consultants to analyze and gather systemic crash information to better understand challenges and opportunities at unique locations, such as rural intersections. The County has also implemented several speed reduction

Steering Committee Meeting 1 Minutes

[Removed]

Steering Committee Meeting 1 Minutes

Initial Study Findings

Ms. Henrikson reported on initial study findings, starting with a Countywide crash hotspot map and a list of top intersection crashes. Aurora and Elgin have the densest crash hotspots, with additional hotspot areas existing around Carpentersville, Batavia, Geneva, and St. Charles. Main hotspots outside of more densely populated areas tend to cluster in the County's northwestern side. She then reviewed the top crash intersections for the Cities of Aurora and Batavia and the Village of Carpentersville. Last, Ms. Henrikson highlighted the County's crash emphasis areas, the highest of which is speeding.

Existing Conditions Discussion

Ms. Rogalski facilitated a group discussion using Mentimeter, an interactive online survey tool that displays participant responses in real-time. Survey questions and responses can be found in the Appendix. The following survey items were clarified during the group conversation:

- Members expressed concern about the use of flashing yellow arrow(s) at the intersection of Randall and Silver Glen roads in South Elgin.
- Ms. Newmann reported that pedestrians, bicyclists, and motorists tend not to pay attention to each other while using roadways.
- Ms. Schneider stated that drivers increasingly tend to make U-turns along Randall Road at unsafe locations/not at intersections.
- Mr. Weiss stated that the City of Batavia would like for the study to address the intersection of IL 31 and Fabyan Parkway. He stated that the roadway curvature causes safety issues for all users. Ms. Jaltuch responded that she is a project manager for a County project, currently in Phase I, that will address the intersection angle to improve safety. Ms. Newmann stated that there is a new property owner for the former Campana Factory (901 Batavia Avenue, Batavia), which is located near the intersection of Fabyan Parkway and IL 31, has a new property owner and that the City can help the County contact the owner if needed.
- Ms. Schneider asked if the project team had reached out to District U-46 to participate in the study, as a lot of District families walk to school. Ms. Rogalski responded that the project team invited the Kane County Regional Office of Education to participate as part of the Steering Committee but that U-46 could be contacted through other outreach efforts.
- Ms. Anjanappa asked if the study would result in a report that can assist municipalities apply for grant funding. Ms. Henrikson stated that the study will result in a report that identifies safety issues as well as funding recommendations to help implement projects. Ms. Tobias added that SS4A allows organizations to submit group applications.

Next Steps

Ms. Rogalski concluded the meeting with next steps. The project team will continue efforts on the safety and existing conditions analyses, as well as engagement event planning. The next Steering Committee meeting will be held in August, with a presentation focusing on initial engagement, safety analysis, and draft High Injury Network (HIN) findings.

Appendix

Steering Committee Meeting 1 Minutes

Kane County SAP Steering Committee Meeting #1

June 26, 2024

Steering Committee Meeting 1 Minutes

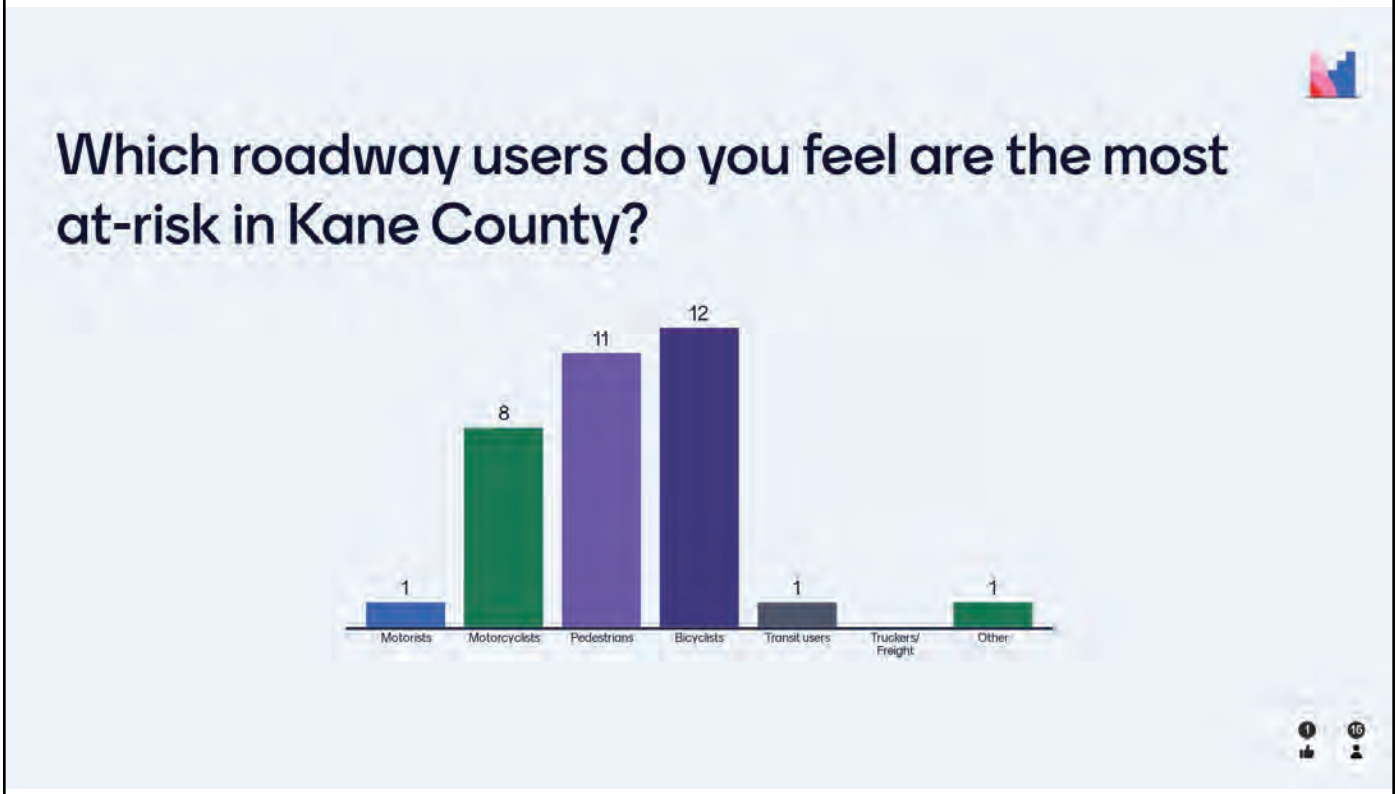
Steering Committee Meeting 1 Minutes

What are other findings the study should investigate?

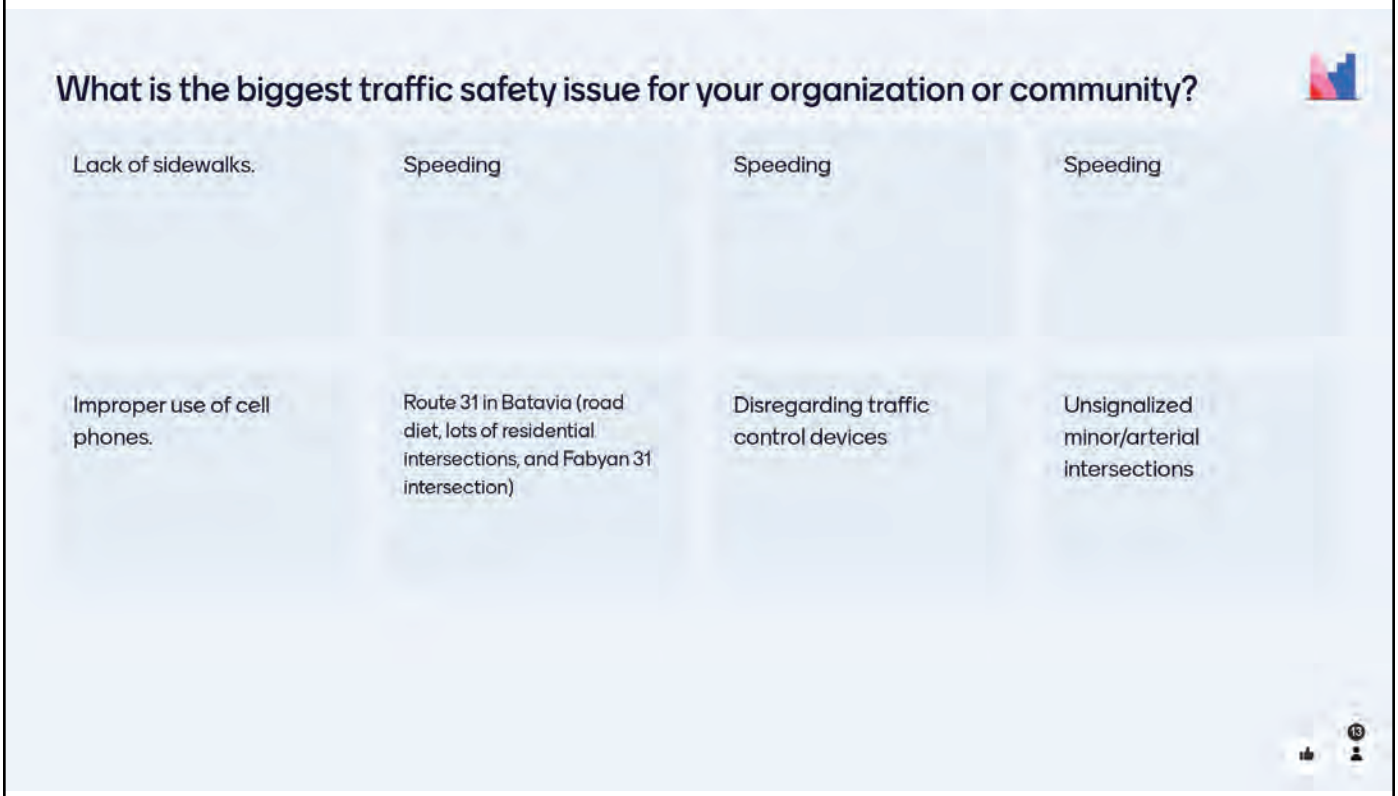
44 responses

2 15

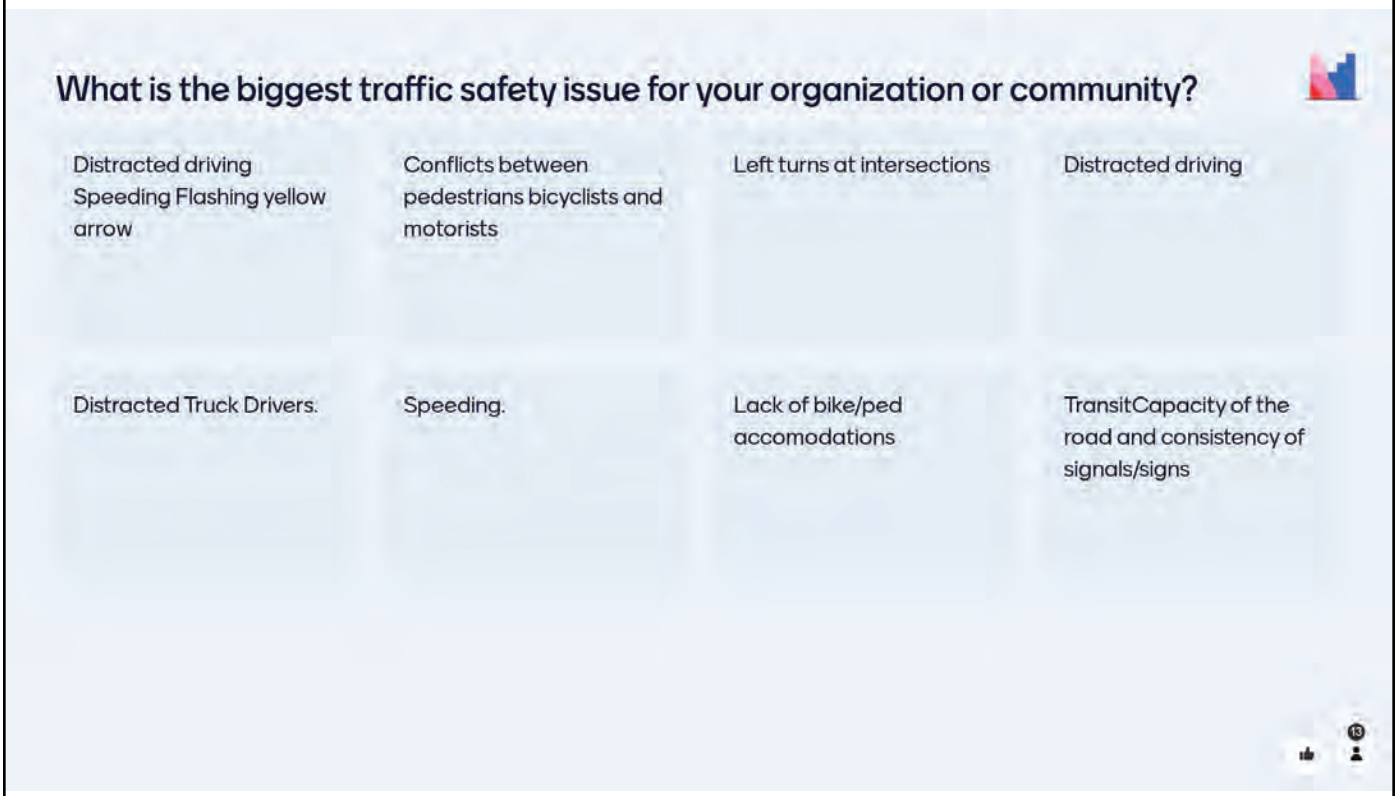
Steering Committee Meeting 1 Minutes



Steering Committee Meeting 1 Minutes

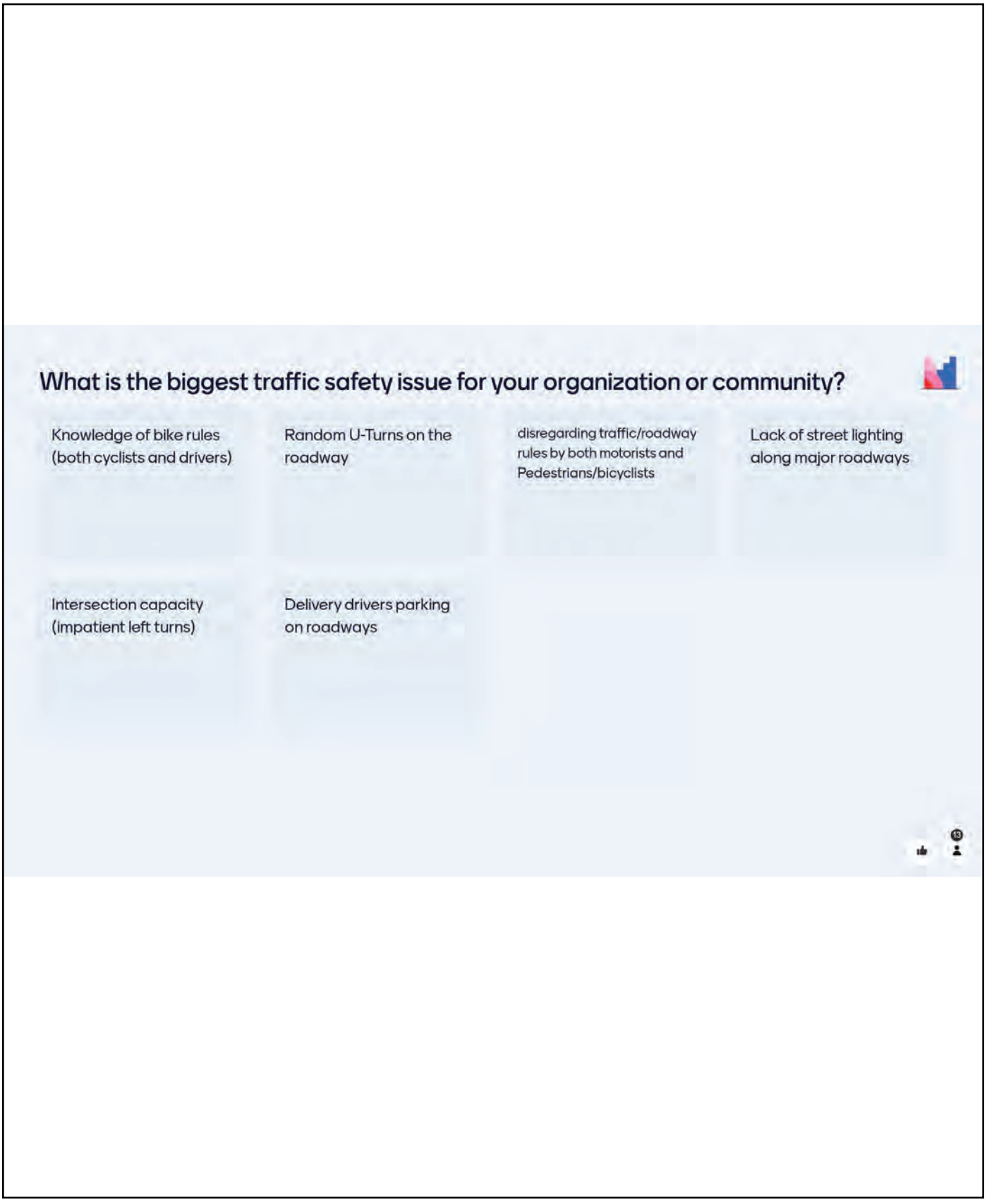


Steering Committee Meeting 1 Minutes



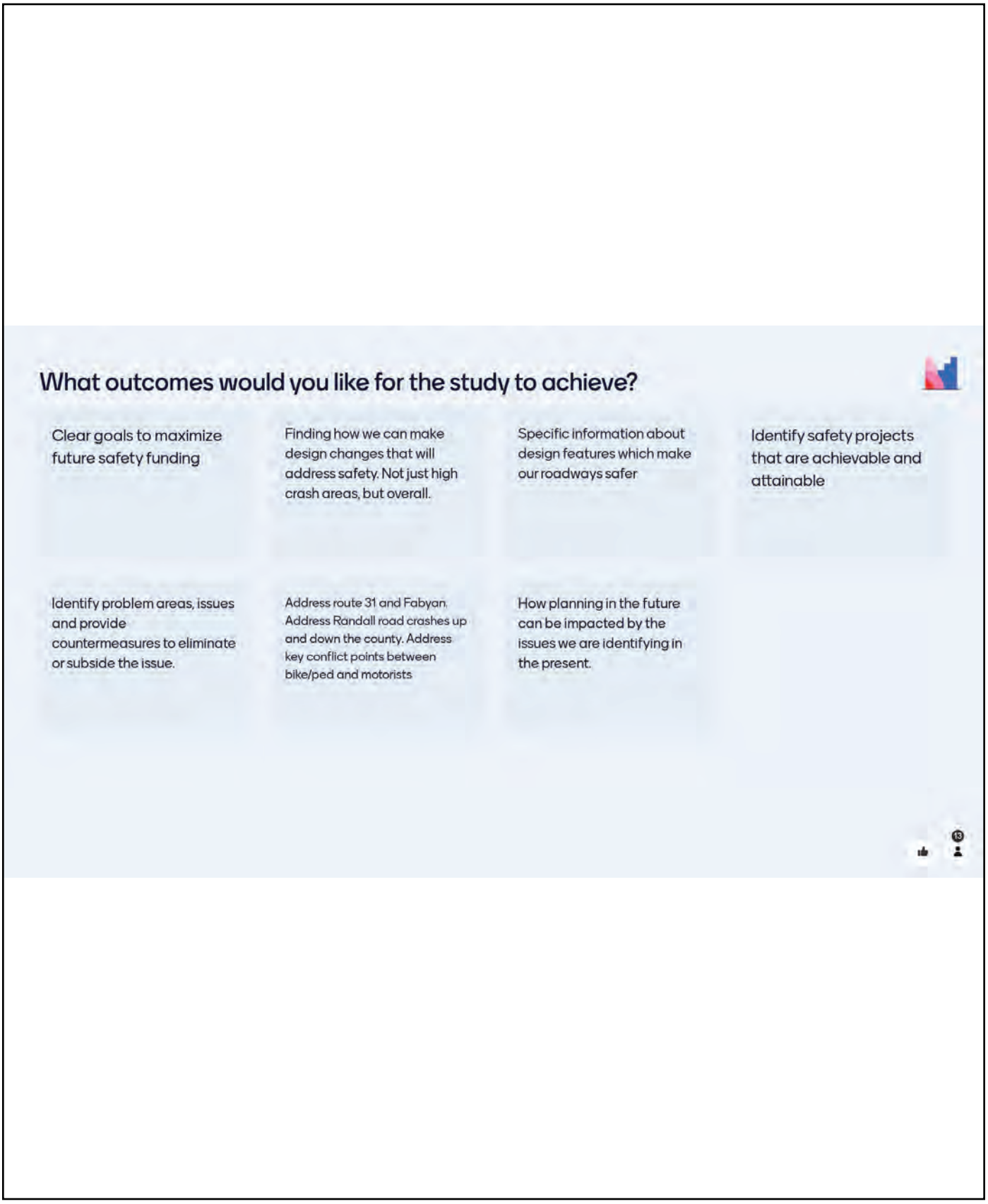
Steering Committee Meeting 1 Minutes

Steering Committee Meeting 1 Minutes



Steering Committee Meeting 1 Minutes

Steering Committee Meeting 1 Minutes



Steering Committee Meeting 1 Minutes

Steering Committee Meeting 2 Presentation

SAFE TRAVEL FOR ALL

KANE COUNTY

STEERING COMMITTEE #2 /// OCTOBER 30, 2024

Steering Committee Meeting 2 Presentation

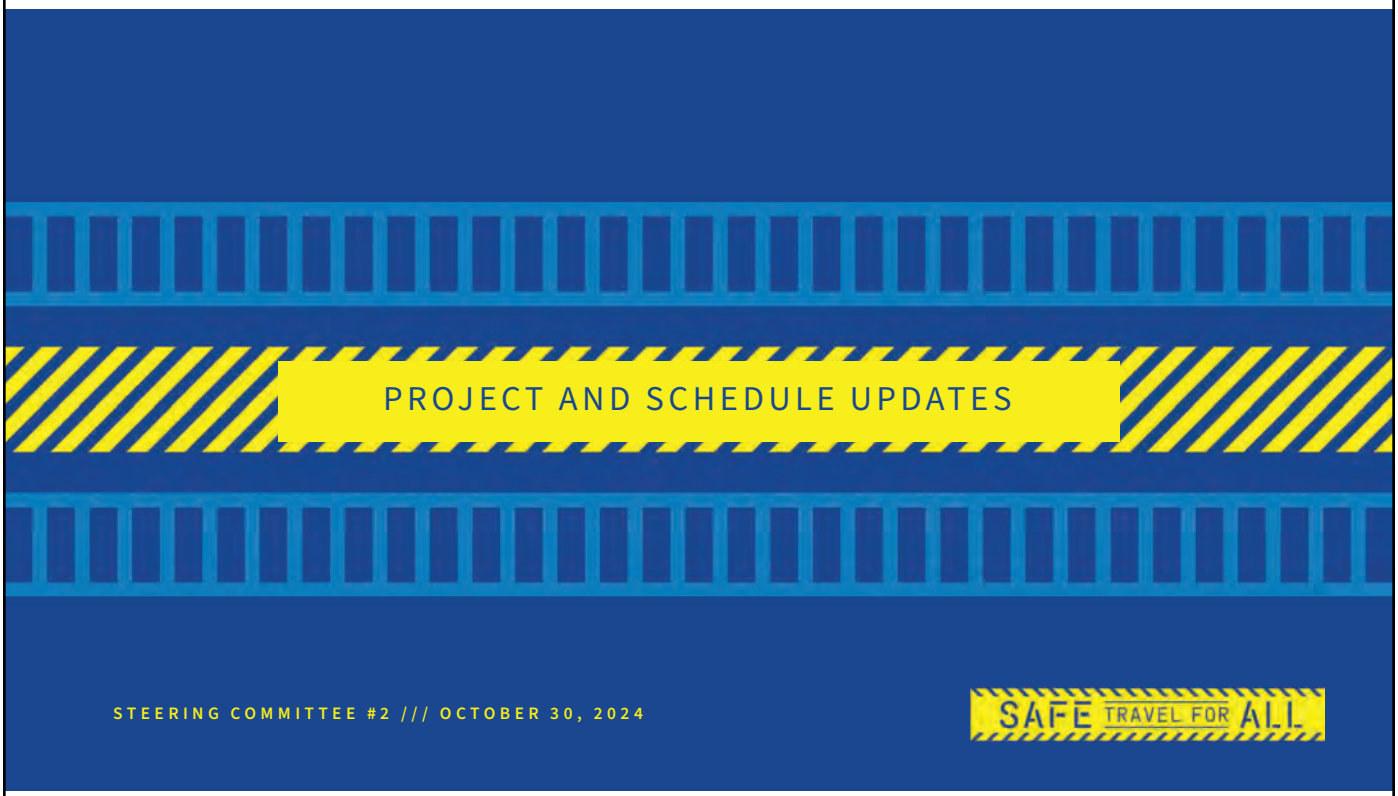
Agenda

- Project and schedule updates
- Kane County crash data
- High injury network findings
- Next steps

STEERING COMMITTEE #2 /// OCTOBER 30, 2024

Steering Committee Meeting 2 Presentation

Steering Committee Meeting 2 Presentation



Steering Committee Meeting 2 Presentation

What does a safety action plan do?

OUTCOMES

- Sets leadership commitments and goals: zero fatalities and injuries by either a target date or percentage reduction
- Identifies practices, policies, and procedures for activities, programs, and infrastructure
- Sets measurable and achievable performance metrics

STEERING COMMITTEE #2 /// OCTOBER 30, 2024

Steering Committee Meeting 2 Presentation

Public engagement updates

September 7 virtual public meeting:

- Introduced the project and initial findings
- Featured an interactive safety discussion
- Top identified traffic safety issues:
  - Speeding
  - Distracted driving
  - Left turns/yellow arrows

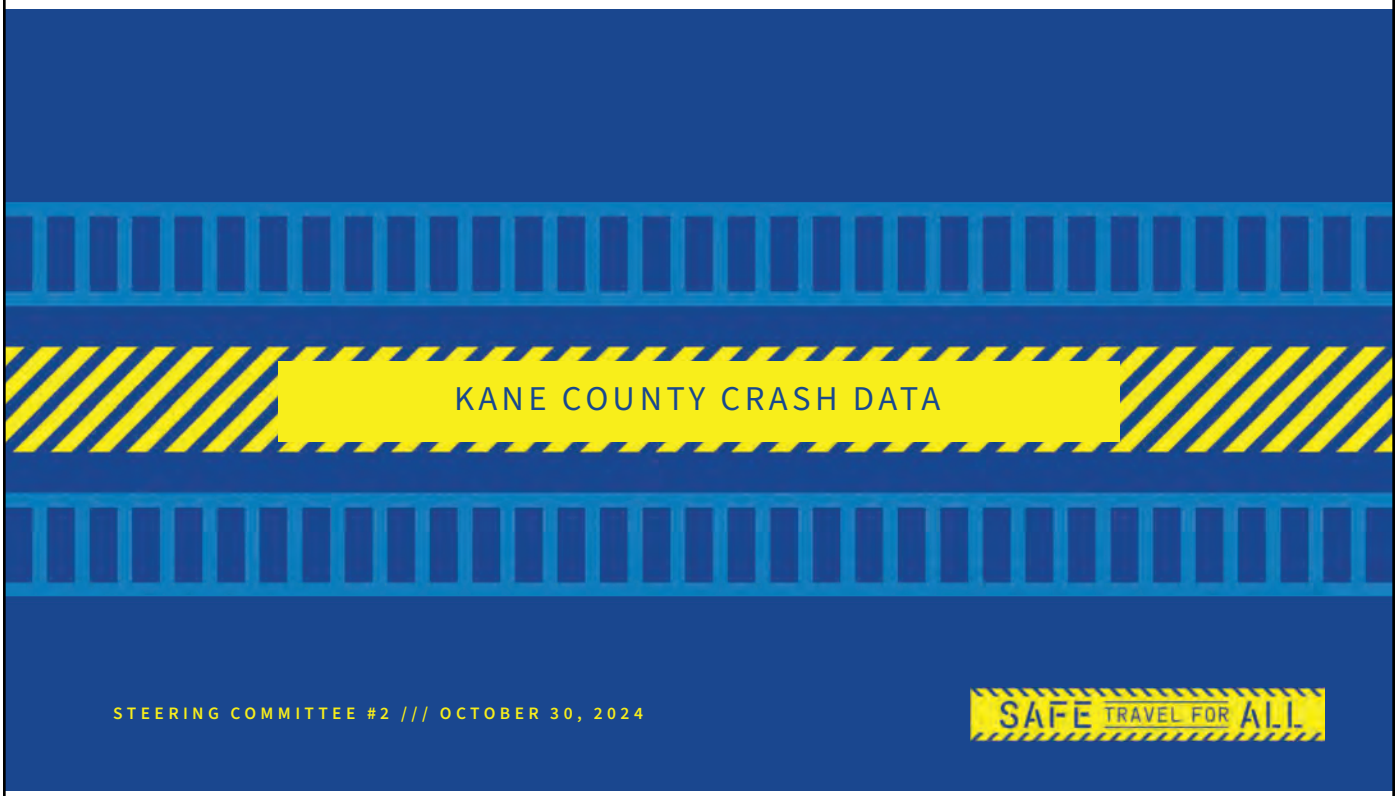
October 13 pop-up event:

- A.B.A.T.E. Toy and Food Run
- Top identified traffic safety priorities:
  - Passing harsher laws for distracted driving
  - Better lighting and roadway maintenance
  - Roadway designs that slow drivers and reduce crashes

STEERING COMMITTEE #2 /// OCTOBER 30, 2024

SAFE TRAVEL FOR ALL

Steering Committee Meeting 2 Presentation

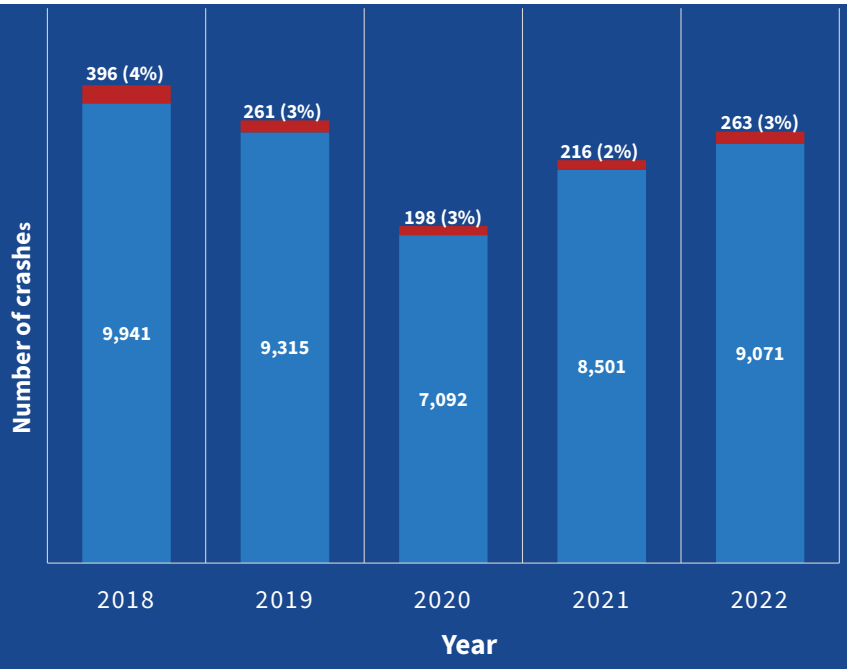


Steering Committee Meeting 2 Presentation

Kane County collisions

2018 – 2022

Illinois Department of Transportation (IDOT) crash data



Steering Committee Meeting 2 Presentation

More than two thirds of all crashes happen at intersections in Kane County

2018 – 2022

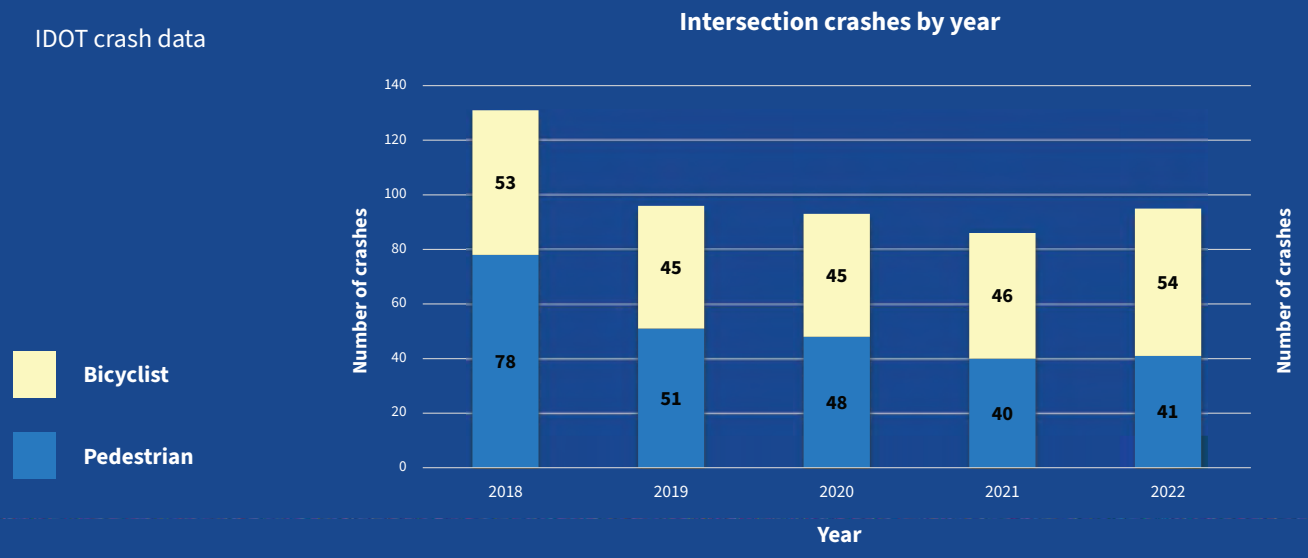
IDOT crash data

Steering Committee Meeting 2 Presentation

On average, bicyclists are involved in more intersection collisions than pedestrians

2018 – 2022

IDOT crash data

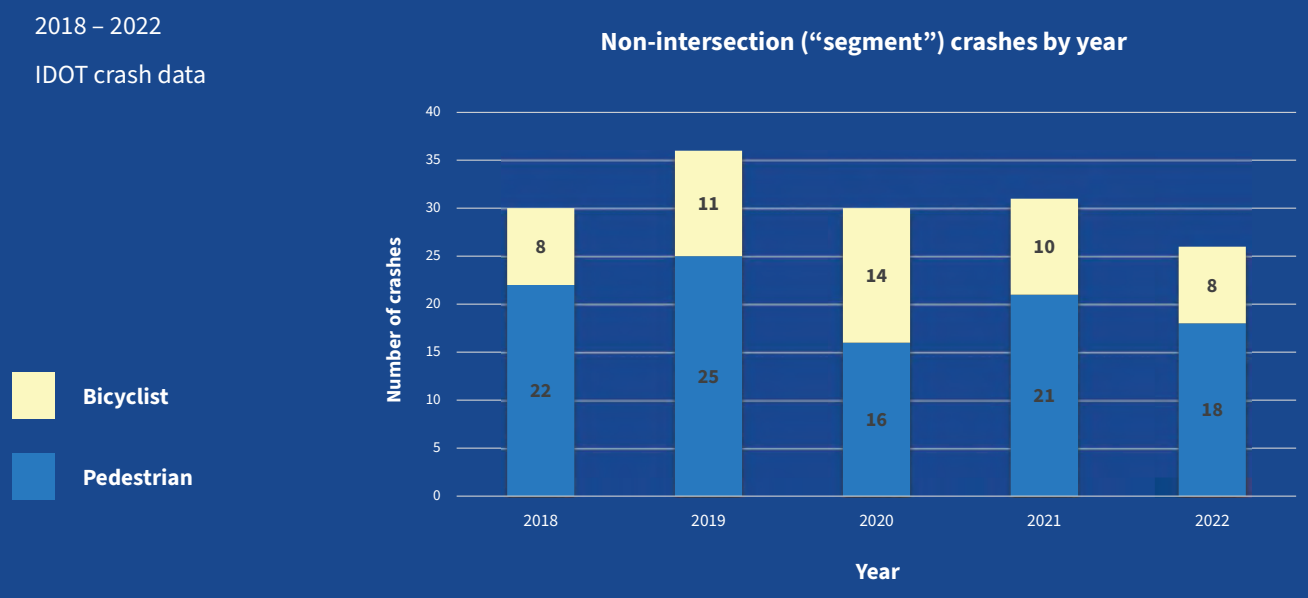


Steering Committee Meeting 2 Presentation

Pedestrians are involved in more non-intersection collisions than bicyclists

2018 – 2022

IDOT crash data



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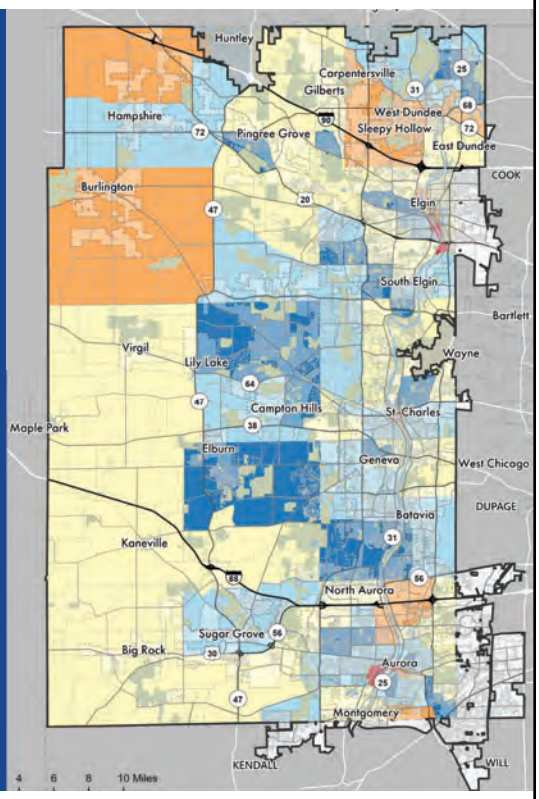
Steering Committee Meeting 2 Presentation

Some communities have higher proportions of crashes to residents (crashes per capita)

- Kane County SS4A Project Boundary
- Parks and Forest Preserves
- County Boundaries
- Municipalities

Crashes per Capita

- 0.008 - 0.05
- 0.05 - 0.097
- 0.097 - 0.167
- 0.167 - 0.293
- 0.293 - 0.502



Sources: Illinois Department of Transportation 2018-2022 Illinois Roadway Crash Data
Map Data Sources: 2022 USDOT ETC (Census Tracts), DuPage County, Esri, TomTom, Garmin, SafeGraph, NASA, EPA, NPS, USDA, and USFWS

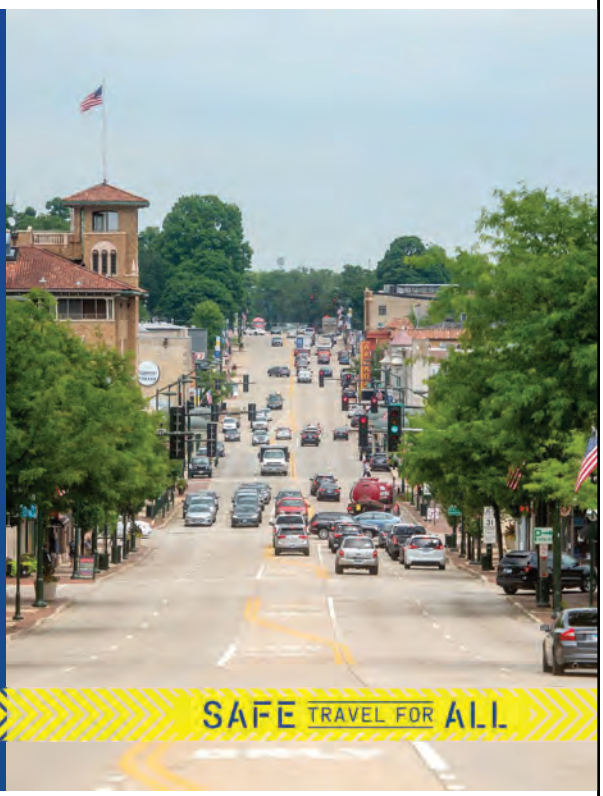
Steering Committee Meeting 2 Presentation

Top crash factors for county municipalities

- Intersections
- Speeding
- Younger drivers
- Roadway departures
- Animal collisions

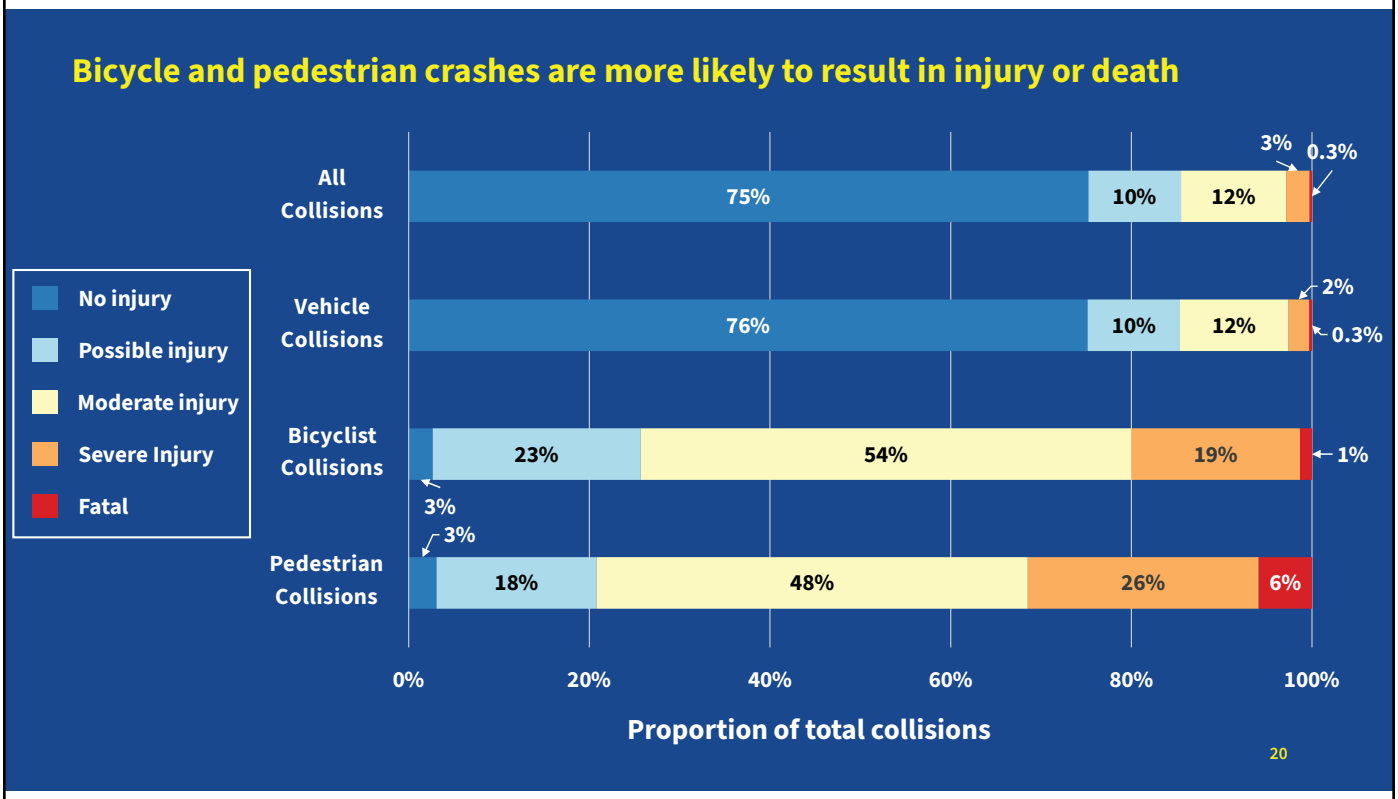
Top three crash factors for Aurora, Batavia, and Carpentersville

- Intersections
- Speeding
- Younger drivers



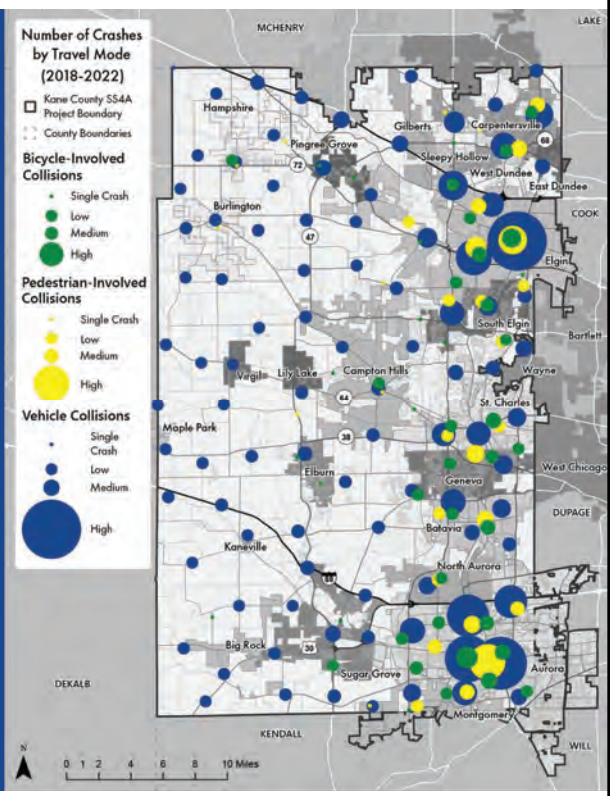
STEERING COMMITTEE #2 /// OCTOBER 30, 2024

Steering Committee Meeting 2 Presentation



Steering Committee Meeting 2 Presentation

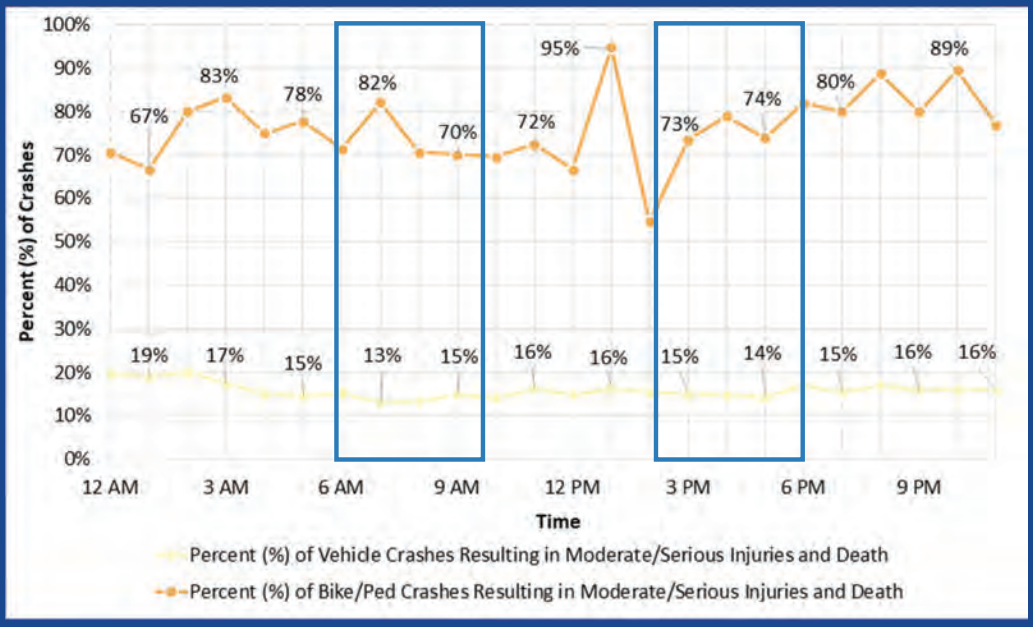
Collisions involving pedestrians and bicyclists are clustered around town centers



Sources: Illinois Department of Transportation 2018-2022 Illinois Roadway Crash Data
Map Data Sources: 2022 USDOT ETC (Census Tracts), DuPage County, Esri, TomTom, Garmin, SafeGraph, NASA, EPA, NPS, USDA, and USFWS

Steering Committee Meeting 2 Presentation

Bicyclists and pedestrians are far more likely to be involved in a crash with a vehicle that results in moderate/serious injury or death than vehicle-only crashes



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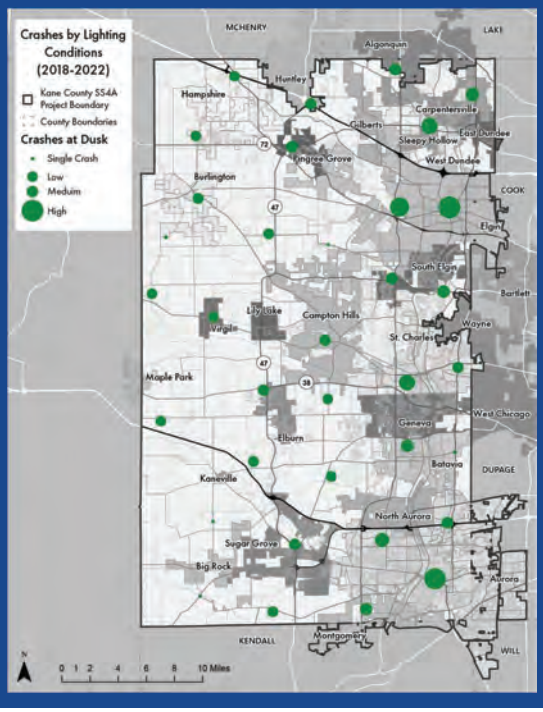
Steering Committee Meeting 2 Presentation

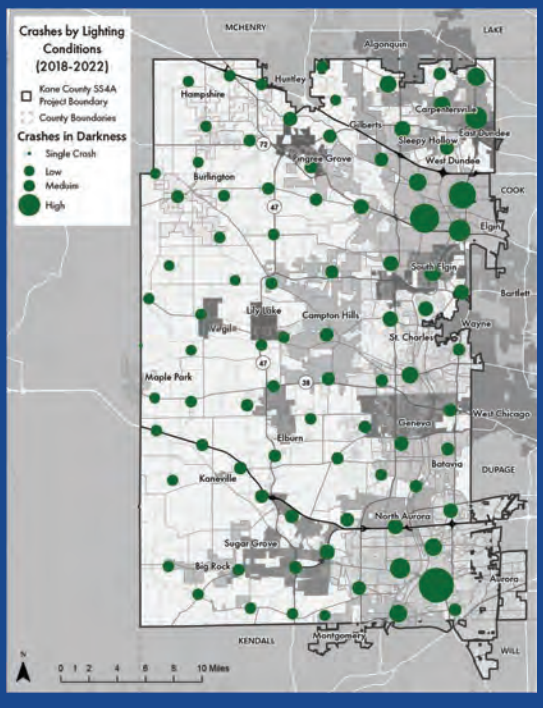
Kane County collisions by time of day

Sources: Illinois Department of Transportation 2018-2022 Illinois Roadway Crash Data Map Data Sources: 2022 USDOT ETC (Census Tracts), DuPage County, Esri, TomTom, Garmin, SafeGraph, NASA, EPA, NPS, USDA, and USFWS

Crashes at dusk



Crashes in darkness



Steering Committee Meeting 2 Presentation

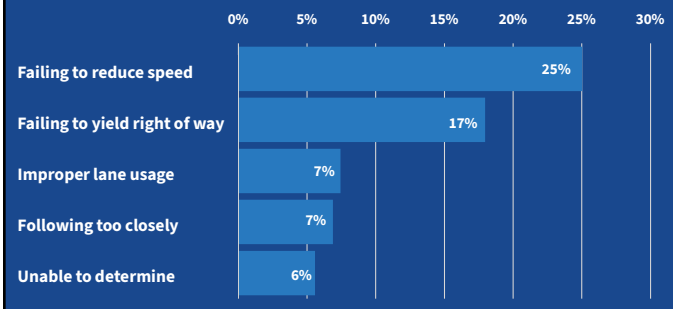
Crashes that happen outside of daytime hours are more likely to involve an impaired driver

- Only 3.5% of daytime crashes are the result of an impaired driver
- However, 12.6% of crashes on dark streets and 14% on lit streets at night are the result of an impaired driver
- This represents increases of **260%** and **300%** in impaired driving crashes respectively

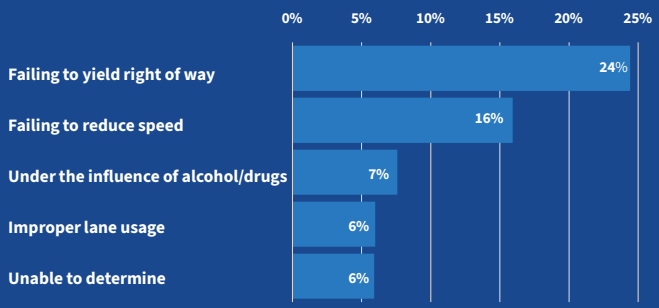
Steering Committee Meeting 2 Presentation

Top Kane County collision causes

Top five collision causes



Top five collision causes for fatal and severe injuries



Source: IDOT crash data 2018-2022

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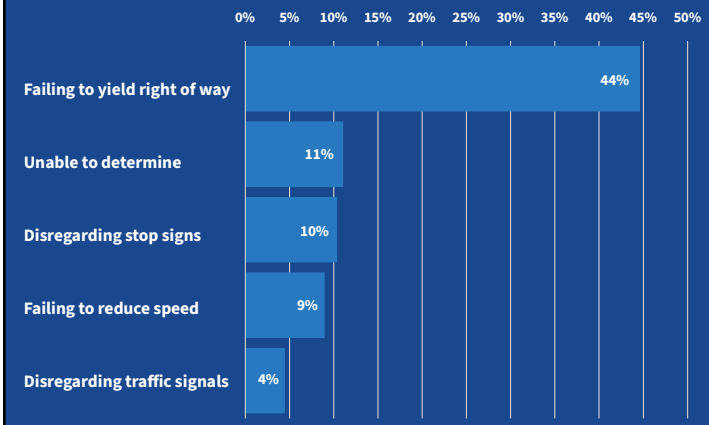
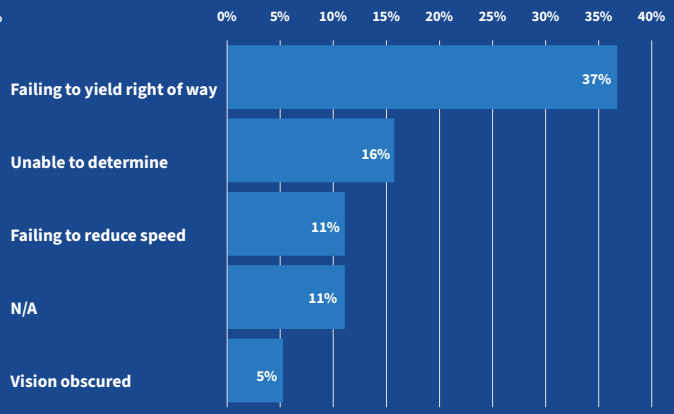
Steering Committee Meeting 2 Presentation

Top Kane County bicyclist and pedestrian collision causes

Top five bicyclist collision causes



Top five pedestrian collision causes



Source: IDOT crash data 2018-2022

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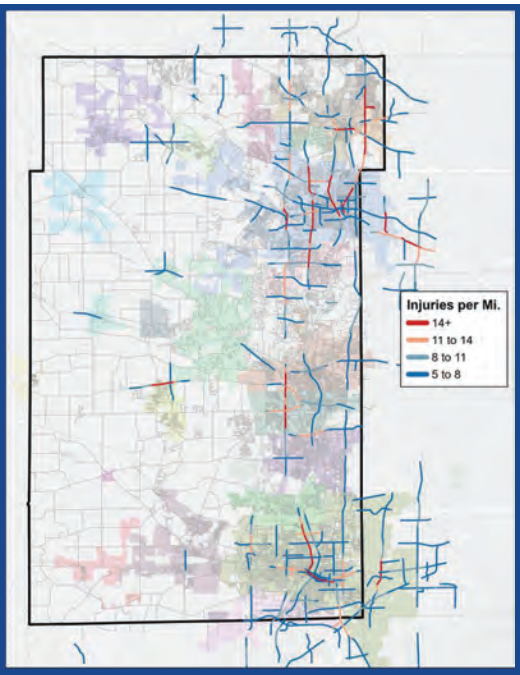
Steering Committee Meeting 2 Presentation

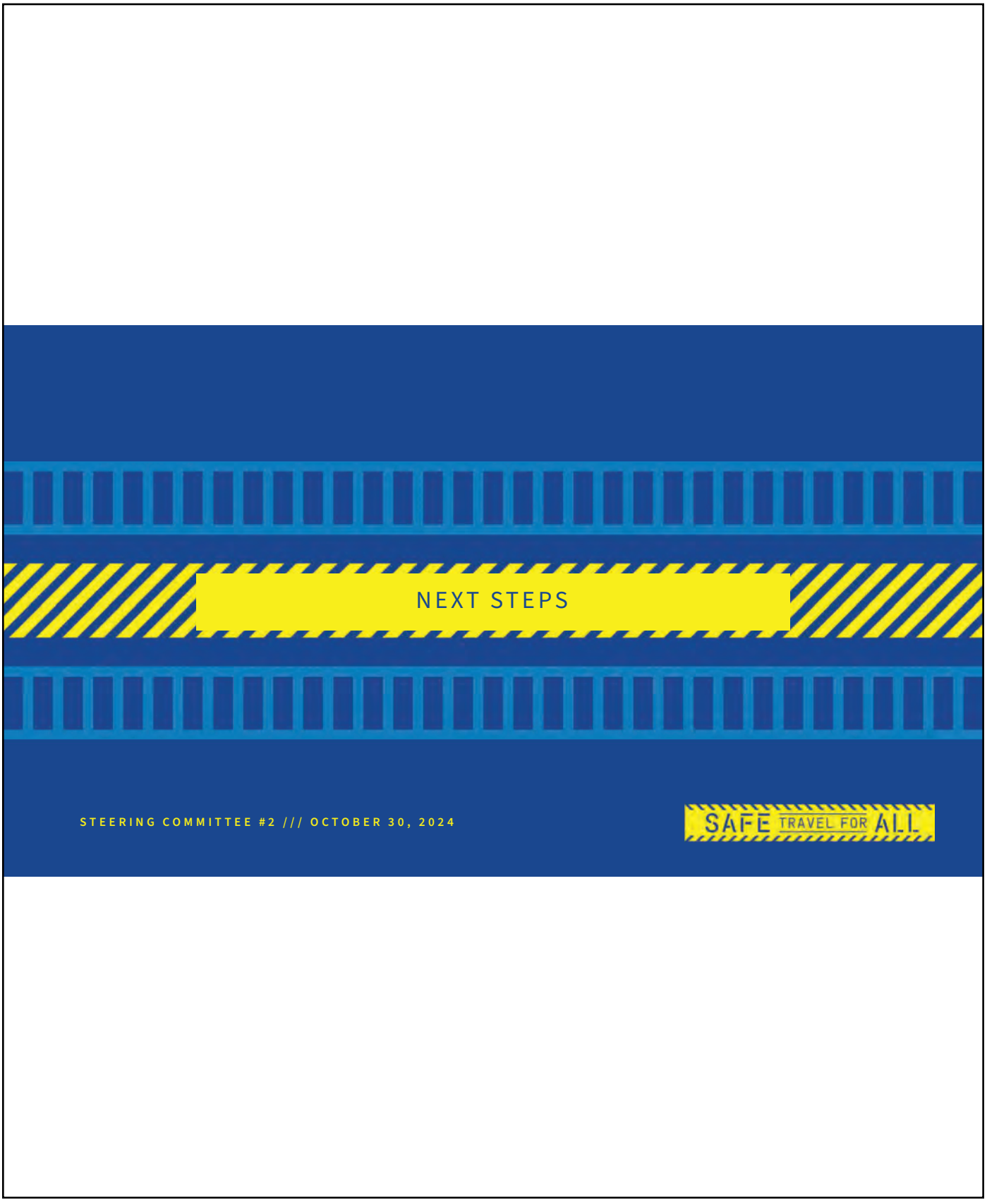
Steering Committee Meeting 2 Presentation

What is a high injury network (HIN)?

- A subset of segments from the roadway network with the highest concentrations of serious injuries and fatalities caused by crashes
- Alongside other screening and safety analysis tools, HINs help prioritize the most urgent traffic safety needs



Steering Committee Meeting 2 Presentation



Steering Committee Meeting 2 Presentation

What's next?

- Finalize safety analysis report and HIN
- Develop safety improvement strategies
- Open house in Elgin: early 2025
- Pop-up event(s)
- Next Steering Committee meeting: early 2025

Steering Committee Meeting 2 Presentation

Steering Committee Meeting 2 Minutes

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Steering Committee Meeting 2 Minutes

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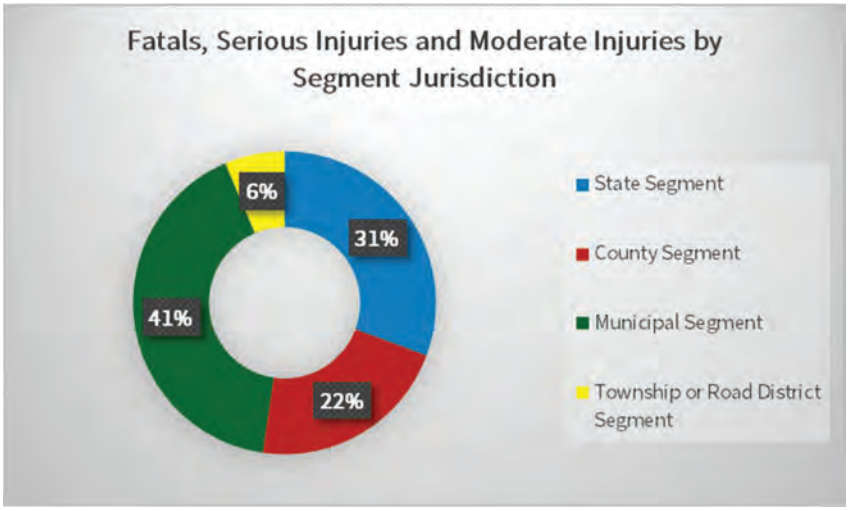
Steering Committee Meeting 2 Minutes



- Intersections have a column indicating whether it is state-owned or not

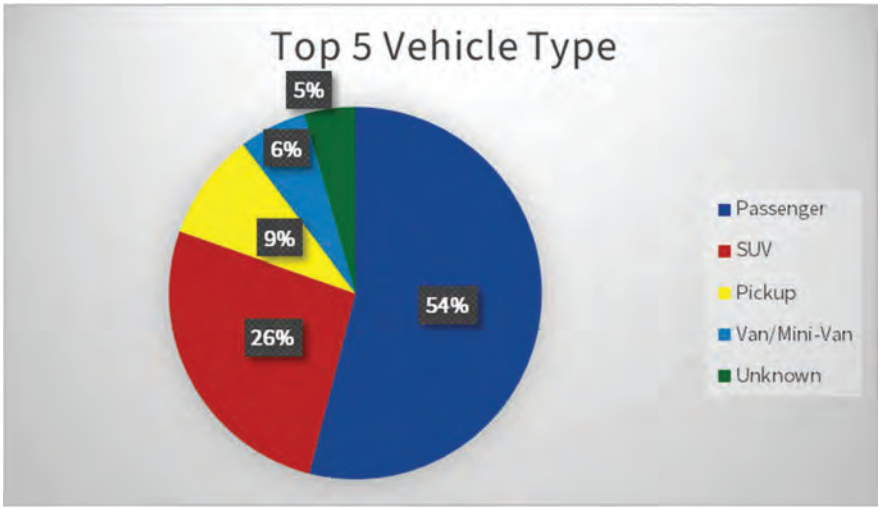
Mr. Thomas asked if there were any crash trends related to railroad crossings. Ms. Henrikson stated that the project team will be analyzing railroad data in the next phase of the project and will provide the Committee with updates during the next meeting.

Mr. Schaefer asked if the crash data was broken down by vehicle type, such as motorcycle, truck, and 18-wheeler. Ms. Henrikson responded that the presentation data was not broken down by type; however, vehicle type is something that can be considered in future analyses.

Post-meeting follow-up:

- Vehicle type information for collisions is available. Note that each collision case often includes two or more vehicles. Data does not include information on which vehicle was at fault. However, bicycle and pedestrian collisions only log one vehicle.
- Total of 23 vehicle types; top 5 most commonly involved in collisions are passenger vehicles, SUVs, pickups, vans/mini-vans, and unknown. These five types accounted for 88,529 out of 92,625 vehicles involved (95.6%).

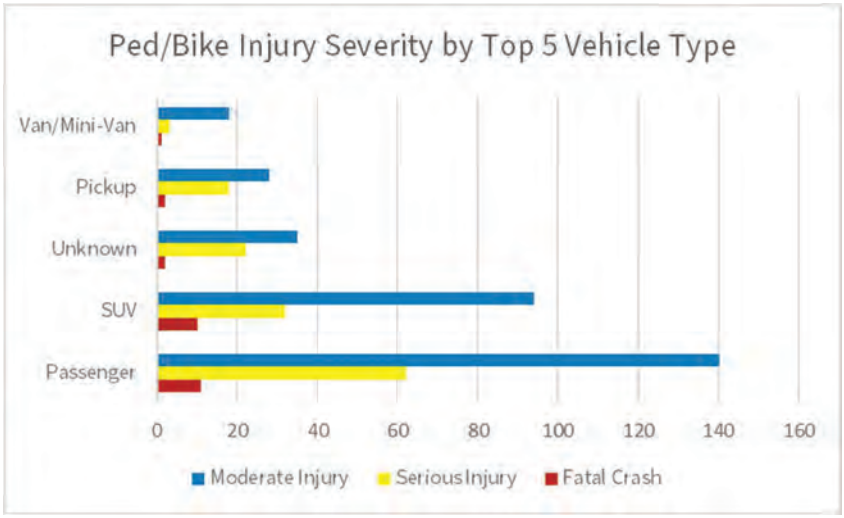
Steering Committee Meeting 2 Minutes



- The other 18 vehicle types were not included as they each constituted less than 1% of total collisions.
- Pickups had the highest fatal and severe injury rates (33%) when involved in pedestrian/bike collisions.

Vehicle Type	Pedestrian/ Bicyclist Incidences	Fatal Crash	Serious Injury	Moderate Injury	% Fatal and Serious
Passenger	288	11	62	140	25%
SUV	180	10	32	94	23%
Unknown	82	2	22	35	30%
Pickup	60	2	18	28	33%
Van/Mini-Van	32	1	3	18	13%

Steering Committee Meeting 2 Minutes

- 

Discussion

The project team facilitated a group conversation using the following questions:

What additional traffic safety issues does the project team need to further investigate?

Mr. Schaefer spoke to a variety of safety concerns in western Kane County. He shared that the number of trucks on the road increases during the harvest seasons (fall and spring) and high winds blow crop dust onto the road. Ms. Sweeney reported that blowing winds also create hazards for bicyclists. Mr. Schaefer also stated that a significant amount of truck traffic takes place during the night and that other drivers are unfamiliar with these truck-driving patterns. Last, he reported that blind intersections are particularly dangerous for truckers.

Collisions involving bicyclists and pedestrians have disproportionately higher numbers of moderate-to-fatal injuries. What steps can/need to be taken to reduce these numbers?

Ms. Sweeney stated that while roundabouts help slow vehicular traffic, they can be hard for bicyclists to safely navigate due to a lack of roadway demarcation. She provided two roundabouts as challenging examples: one at Burlington and Bolcum roads and another at IL 47 and Plato Road. She asked KDOT to consider installing different pavement colors or installing guardrails to help bicyclists. Mr. Waltz noted the roundabouts are challenging for motorcyclists, along with roadway debris.

Ms. Sweeney also shared that insufficient roadway lighting contributes to unsafe biking conditions, especially along IL 31 and IL 47. Last, she reported that vehicle congestion in communities like St. Charles makes it challenging for bikers to access local trail networks.

Steering Committee Meeting 2 Minutes

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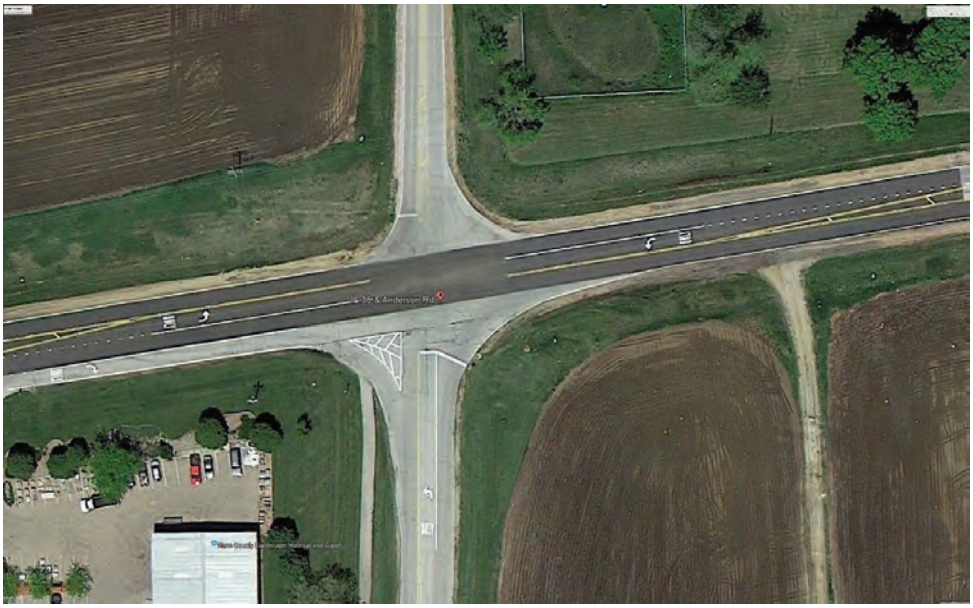
project team will investigate the data to see where exactly crashes are occurring in the immediate area.

Post-meeting follow-up

- Between 2018-2022, 25 total collisions and five serious injuries
  - Eleven involved with eastbound traffic
  - Large majority of the 25 collisions involved turning or angle collisions
- Roadway configuration changed between 2013 to 2015
  - Dedicated right lane (northbound) added, stop sign added
  - Eastbound right turn only lane striped median removed
- 2013



Steering Committee Meeting 2 Minutes

- 2024

- Potential reasons for collisions:
    - Eastbound, right-turn-only lane may be confused as a through-lane
    - Striping for eastbound, right-turn-only lane leaves opening as if allowing through traffic; does not close off the lane to only allow for right turns.
    - By the time striped median closes off the lane, it is too late to avoid the northbound left turn/straight movement

- Ms. Forbes and Ms. Jaltuch confirmed that the following HIN segments made sense with their understanding of local issues:
    - Briar Hill Road (Huntley)
    - Plank Road (Plato/Burlington)
    - Kirk Road (Batavia/Geneva/St. Charles)
    - Galena Boulevard (Aurora)
    - Dean Street (St. Charles)
    - Wilson Street (Batavia)
- Ms. Forbes and Ms. Jaltuch were surprised that the area near the railroad crossing at Bowes and Nessler roads in Elgin was not included. The geometry of the intersection leads to a lot of near-miss crashes. Four trains currently travel through the crossing daily but will soon increase to 12 trains per day.
- Ms. Forbes and Ms. Jaltuch stated that the following areas may soon see safety improvements:
    - Chicago Street (Elgin)
    - Dundee Road (Elgin)

    - Randall and Keslinger roads (Geneva)
- Mr. Schaefer and Ms. Sweeney identified the following areas of concern:
    - IL 47
    - The intersection of IL 47 and McDonald Road (Campton Hills) due to a blind corner
    - Campton Hills and Fox roads
    - County areas near new developments/active construction, especially near the intersection of Randall and Bowes roads (Elgin), on IL 38 (east of LaFox Road and west of Peck Road), and near the intersection of Kirk Road and Fabyan Parkway (Batavia)
    - Trucking companies typically route through I-88; however, independent truckers avoid the tollway in favor of state and local roads. Truck deliveries in dense, urban areas can completely block street traffic
    - Going north/south on IL 31 is very challenging, especially just south of I-90 (Elgin)
    - Big Timber Road has a lot of traffic and should be included in the HIN
    - Railroad tracks in the northwestern portion of the county are often dangerous
    - Burlington Road comes in at an angle at several crossings, including Route 47 and Plank Road, making roadway crossing scary
    - Traffic in Sugar Grove is increasing
    - Fox River Trail roadway crossings can be dangerous

Next steps

Ms. Rogalski shared upcoming milestones and engagement activities. She stated that the project team will soon be finalizing the safety analysis and HIN before moving on to preliminary safety improvement strategy development. Additionally, the project team intends to hold several upcoming public events, including a joint Kane-Cook County open house in Elgin in early 2025. Last, the next Steering Committee meeting will also take place in early 2025.

Steering Committee Meeting 3 Presentation

SAFE TRAVEL FOR ALL

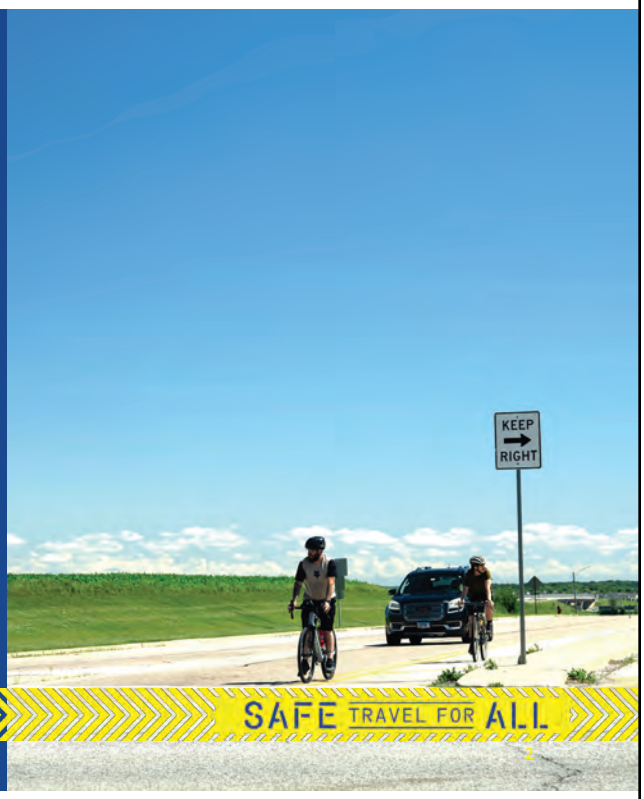
KANE COUNTY

STEERING COMMITTEE #3 /// APRIL 2, 2025

Steering Committee Meeting 3 Presentation

Agenda

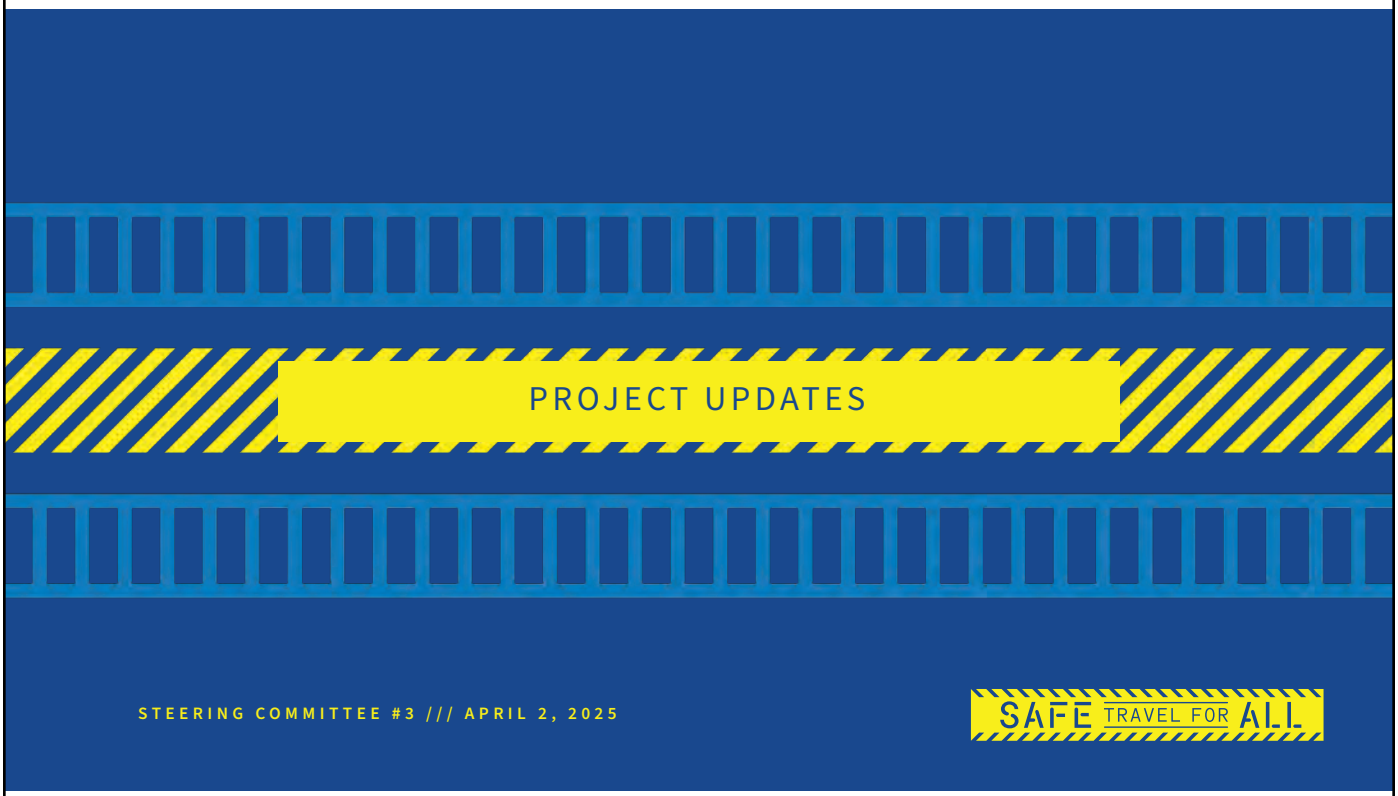
- Project updates
- Existing conditions updates
- Priority projects
- Next steps



STEERING COMMITTEE #3 /// APRIL 2, 2025

Steering Committee Meeting 3 Presentation

Steering Committee Meeting 3 Presentation



Steering Committee Meeting 3 Presentation

Steering Committee Meeting #2

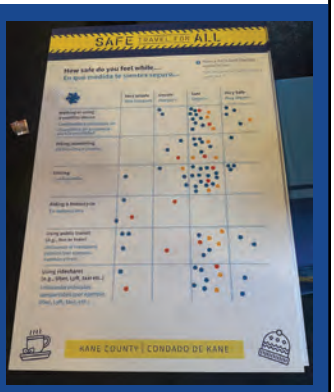
- October 30, 2024
- Traffic safety discussion and review of crash data broken down by:
  - Location
  - Injury type/severity
  - Bicycle and pedestrian involvement
  - Travel mode
  - Time of day
- High injury network (HIN) review
  - Roadway network segments with the highest concentrations of serious injuries and fatalities
- Group discussion

STEERING COMMITTEE #3 /// APRIL 2, 2025

Steering Committee Meeting 3 Presentation

Aurora Christkindlmarket Pop-Up

- December 14, 2024
- Project team engaged with approximately 50 visitors
- Two interactive activities:
  - "*How safe do you feel when…*" sticker board
  - "*Snowball*" traffic safety prioritization
- A Spanish translator assisted with engagement efforts
- Some identified concerns:
  - Challenging to walk in downtown Aurora, especially near Phillips Park Zoo and IL 25
  - McCarty Elementary School (Aurora) does not have pedestrian crossings
  - Speeding
  - Vehicles running red lights
  - Lack of lighting in Blackberry neighborhood (Montgomery)



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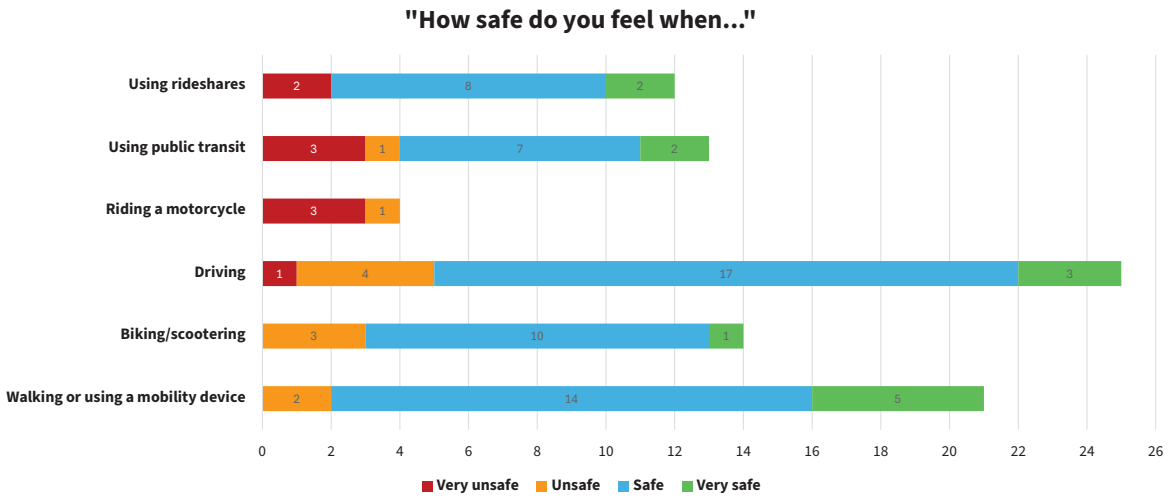
Steering Committee Meeting 3 Presentation

Residents and travelers generally feel safe when driving or using active transportation in Kane County



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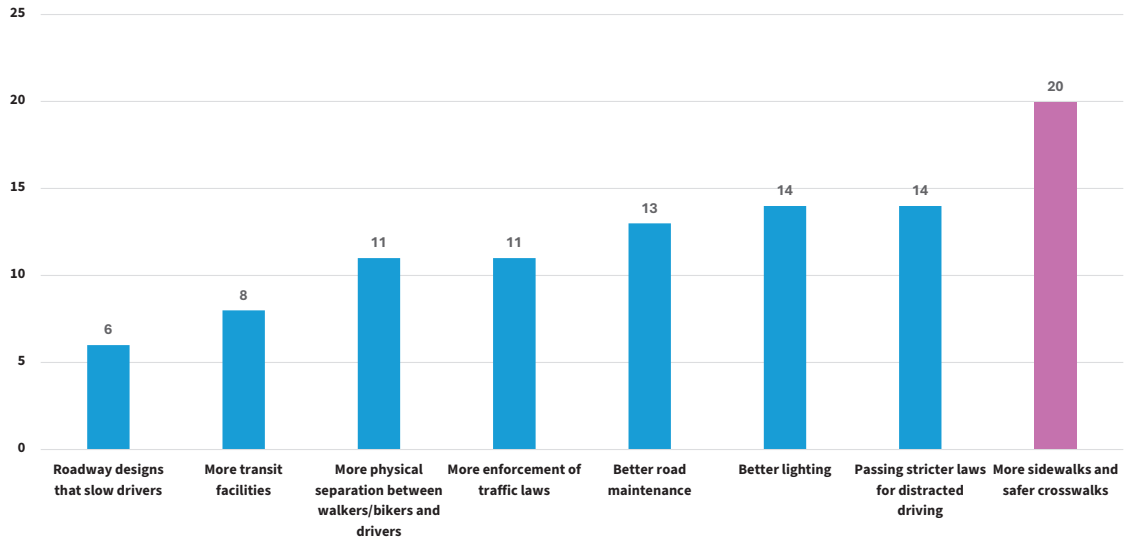
Steering Committee Meeting 3 Presentation

Residents and travelers prioritize additional sidewalks and safer crosswalks



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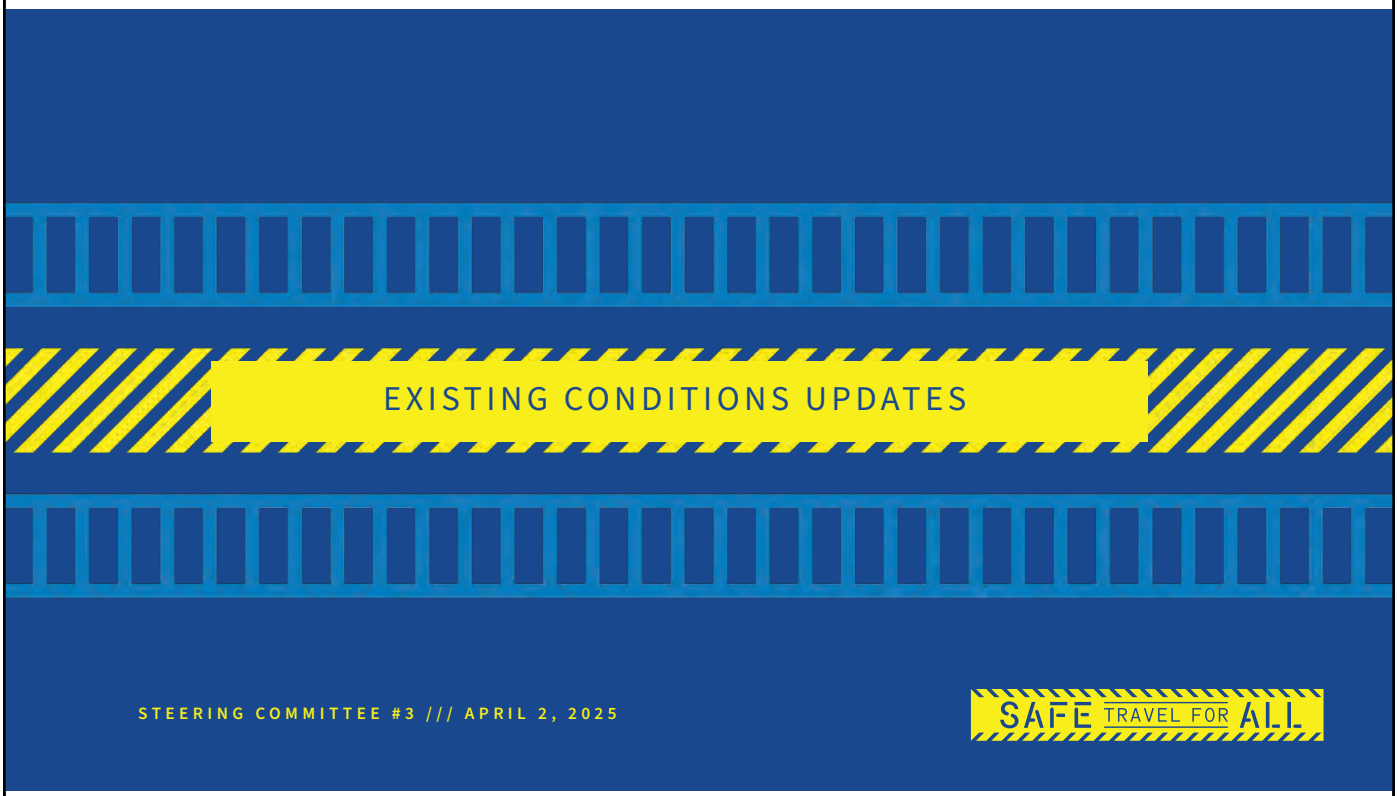
Steering Committee Meeting 3 Presentation

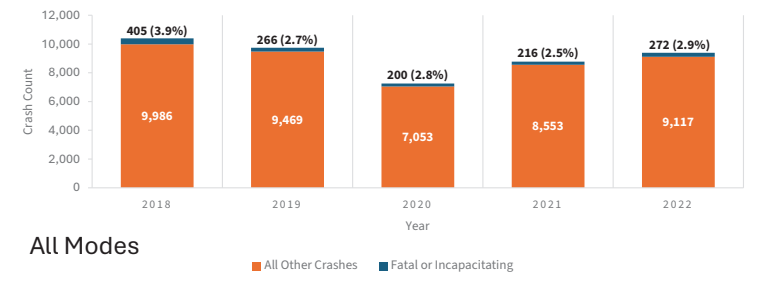


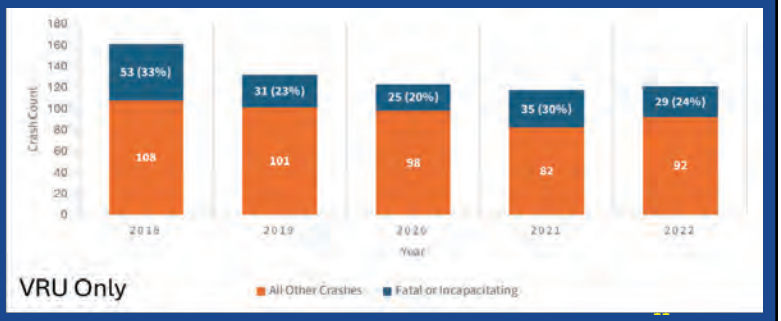
Steering Committee Meeting 3 Presentation

Crash Trends

- Overall, crash counts dipped below 5-year average in 2020
  - o **Not** true for vulnerable road users (VRUs)
- Fatal and incapacitating crashes are far more likely for VRUs
  - o 3% of all crashes are fatal or incapacitating, while 26% of VRU crashes are fatal or incapacitating

Crash Count by Year



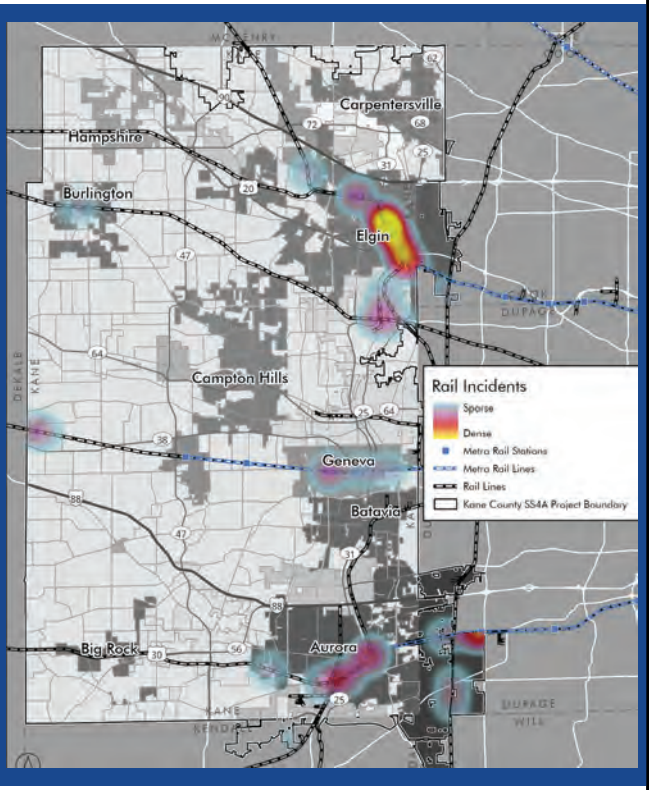


Steering Committee Meeting 3 Presentation

Rail Analysis

37 rail-related incidents were reported in Kane County between 2012 and 2021

- 92% of all incidents involved a bicyclist or pedestrian
  - ***68% of these incidents were fatal***
- 54% of all train-involved incidents killed a pedestrian outside of a grade crossing
- Available data does not distinguish between intentional and unintentional incidents



Steering Committee Meeting 3 Presentation

Systemic Analysis

What is a systemic analysis?

A process that identifies contexts and road designs that have the highest risk of severe injuries

Our approach

- Identify Focus Crash Types
- Identify roadway characteristics correlated to Focus Crash Types
- Split intersections and segments into subtypes based on differentiating characteristics
- Calculate crash risk for each subtype

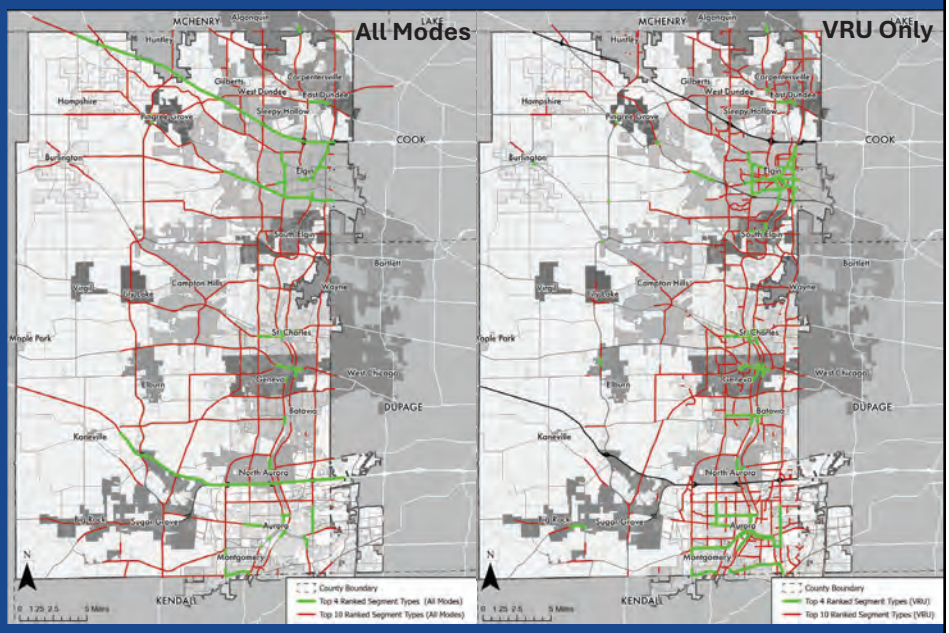
Differentiating Characteristics

Intersections	Segments
Urban vs Rural	Urban vs Rural
Functional Classes	Functional Class
Control Type	Number of Lanes
Vehicle Volume	Speed Limit
	Vehicle Volume

Systemic Analysis

Focus Segment Types

- Primarily urban
- Multi-lane arterials with speed limits below 50 MPH
- Arterials are particularly hazardous for vulnerable roadway users



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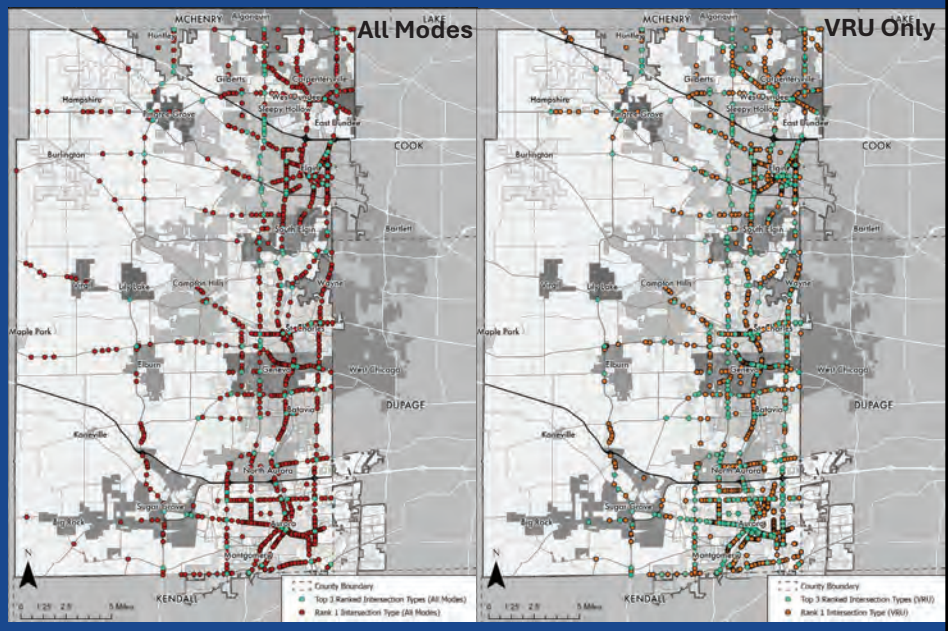
Steering Committee Meeting 3 Presentation

Systemic Analysis

Focus Intersection Types

- Concentrated along arterials
- Primarily urban
- High-volume signalized intersections are particularly hazardous (especially for vulnerable roadway users)



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Steering Committee Meeting 3 Presentation

Countermeasure "Toolkit" Example

Facility Type	Risk Factor	Countermeasure List

• Function Class
  • Arterial
  • Collector
  • Local
• Control Type (Int.)
  • Signalized
  • All-Way STOP
• Number of Lanes (Seg.)
• Traffic Volumes
	• All Modes
	• Vulnerable Roadway Users (VRU)
	• Speeding
	• Angled
	• Turning
		• Medians at intersection approaches
		• Left-turn or right-turn pockets
		• No turn on reds
		• Systemic improvements (lighting, signage, advanced stop bars)
		• Raised pavement markers and striping
		• High-visibility crosswalk (pedestrian/bike)
		• Leading pedestrian interval (pedestrian/bike)
		• Sidewalks and curb ramps (pedestrian/bike)

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Steering Committee Meeting 3 Presentation

Eight Prioritized Projects Criteria Selection

Our team selected eight priority projects based on certain areas matching some or several of the factors below:

- Ranked high on the Systemic Analysis Data
- On the High Injury Network
- Community engagement results
- Proximity to parks
- Proximity to schools
- Proximity to trails
- Proximity to Metra stations
- Geographical distribution
- In a key partner municipality (Aurora, Batavia, Carpentersville)
- On County-controlled road
- Is listed in another plan but is not covered by Phase I engineering study or other recent improvement

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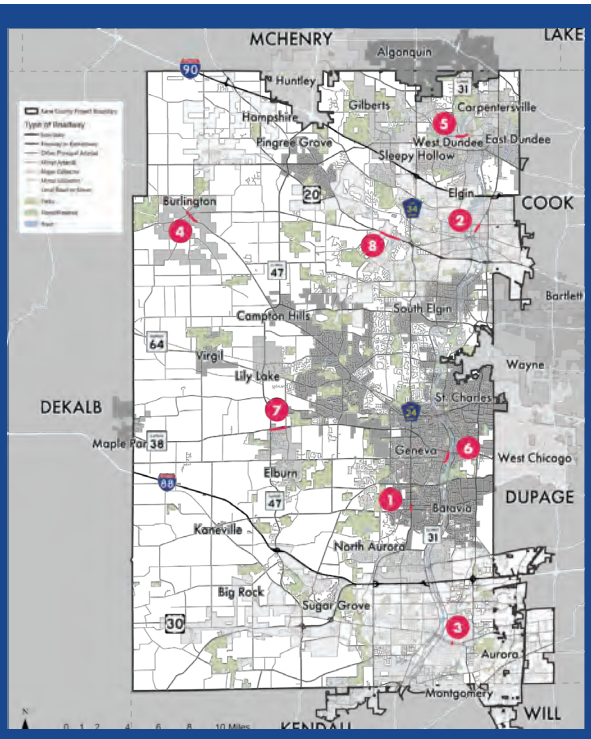
Steering Committee Meeting 3 Presentation

Eight Prioritized Projects

1. Randall Road from Main Street Road to McKee Street (Batavia)
2. Dundee Avenue from Kimball Street to Summit Street (Elgin)
3. Galena Boulevard from Randall Road to Elmwood Drive (Aurora)
4. Burlington Road from French Road to Burlington Park (Panther Field) (Burlington)
5. Main Street from Elm Avenue to Washington Street (Carpentersville)
6. 1st Street from 3rd Street to State Street (Geneva)
7. Lincoln Highway from Main Street to Anderson Road (Elburn)
8. US Grant/US 20 from Shannon Parkway to Longcommon Parkway (Elgin)



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Steering Committee Meeting 3 Presentation

Priority Projects

1) Randall Road from Main Street Road to Wilson Street (Batavia)

Selection Factors:

- Systemic analysis data
- High injury Network
- Proximity to schools
- On county-controlled road
- Steering Committee

Key Rankings:

- **Peak HIN Score:**
- 8-11 Injuries/Mile (Medium)
- **Peak Severe/Fatal Crashes/Mile Rank:** 21 (2.3/mile)

2) Dundee Avenue from Kimball Street to Ann Street (Elgin)

Selection Factors:

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

Key Rankings:

- **Peak HIN Score:** 14+ Injuries/Mile (Very High)
- **Peak Severe/Fatal Crashes/Mile Rank:** 6 (7.6/mile)

Steering Committee Meeting 3 Presentation

Priority Projects

3) Union Boulevard between New York Street and Galena Boulevard (Aurora)

Selection Factors:

- Systemic Analysis Data
- High Injury Network
- Geographical distribution

Key Rankings:

- **Peak HIN Score:** 8-11 Injuries/Mile (Medium)
- **Peak Severe/Fatal Crashes/Mile Rank:** 21 (2.3/mile)

4) Burlington Road from French Road to Burlington Park (Panther Field) (Burlington)

Selection Factors:

- Geographical Distribution
- Proximity to Schools
- On County-controlled roads
- Proximity to Parks

Key Rankings:

- **Peak High Injury Network Score:** N/A
- **Peak Severe/Fatal Crashes/Mile Rank:** 21 (2.3/mile)

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Steering Committee Meeting 3 Presentation

Priority Projects

5) Main Street from Elm Avenue to Washington Street (Carpentersville)

Selection Factors:

- Systemic Analysis Data
- Community Engagement Results (5 comments)

Key Rankings:

- **Peak HIN Score:** 5-8 injuries/mile (Notable)
- **Peak Severe/Fatal Crashes/Mile Rank:** 21 (2.3/mile)

6) 1st Street from James Street to South Street (Geneva)

Selection Factors:

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

Key Rankings:

- **Peak HIN Score:** 5-8 Injuries/Mile (Notable)
- **Peak Severe/Fatal Crashes/Mile Rank:** 3 (8.0/mile)

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Steering Committee Meeting 3 Presentation

Priority Projects

7) Lincoln Highway from Main Street to Anderson Road (Elburn)

Selection Factors:

- Systemic Analysis Data
- Community Engagement Results

Key Rankings:

- **Peak HIN Score:** 11-14 injuries/mile (High)

8) US Grant/US 20 from Shannon Parkway to Weld Road/Longcommon Parkway (Elgin)

Selection Factors:

- Proximity to Trails
- High Injury Network
- Community Engagement Results (33)

Key Rankings:

- **Peak HIN Score:** 8-11 Injuries/Mile (Medium)
- **Peak Severe/Fatal Crashes/Mile Rank:** 5 (8.1/mile)

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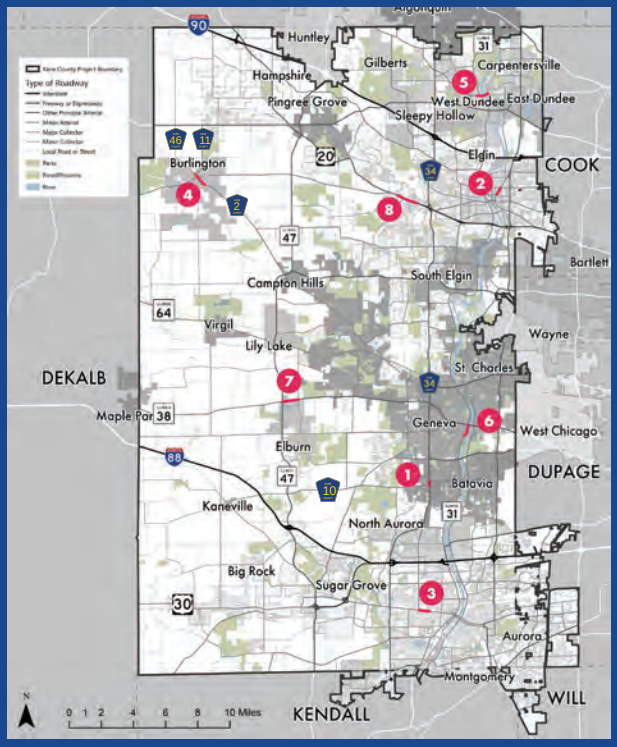
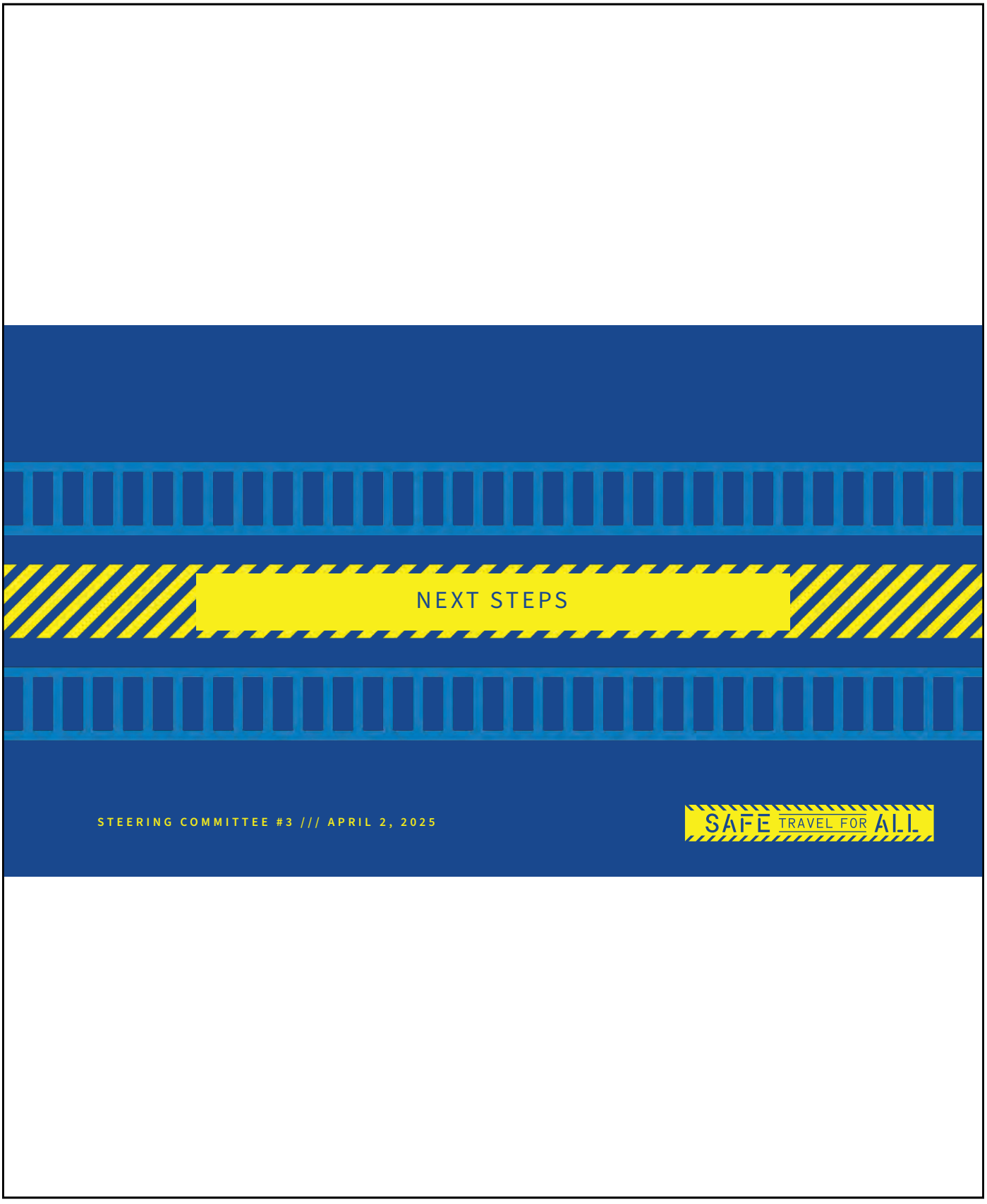
Steering Committee Meeting 3 Presentation

Priority Projects Discussion

1) Do any of the proposed priority project areas resonate with you?
2) Is there an area we should also consider? Particularly in place of one of the eight current projects?
3) Are there any improvements that we should recommend for a certain area?



Steering Committee Meeting 3 Presentation



Steering Committee Meeting 3 Presentation

Next steps

- Final day to change Priority Projects or Focus Areas: **End of the day on Friday, April 4**
- Project team to finish draft safety action plan document
- Final Steering Committee meeting: week of April 28
  - Project team to present strategies, countermeasures and benchmarks
  - Committee to prioritize safety solutions and provide input on draft plan
- CMAP Transportation Committee will review safety action plans on May 30
- CMAP encourages counties and municipalities to adopt plans by June 26 to be eligible for USDOT FY25 SS4A implementation funding opportunities
- FY25 SS4A Notice of Funding Opportunity (NOFO) is open through June 26

Steering Committee Meeting 3 Presentation

Steering Committee Meeting 3 Minutes

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community pop-up event on December 14 at the Aurora Christkindlmarket and engaged with approximately 50 attendees. Through two interactive activities, the team gathered the following information:

- Residents and travelers of Kane County generally feel safe when driving or using active transportation within the County
- Residents and travelers prioritize additional sidewalks and safer crosswalks over other potential safety measures

The project team also received input on several specific locations in need of safety improvements: downtown Aurora near Philips Park Zoo and IL 25, McCarty Elementary School (Aurora), and the Blackberry neighborhood in Montgomery (in both Kane and Kendall counties).

Existing conditions updates

Mr. Dirks reported on traffic crash trends for the years 2018-2022, as well as rail-related incidents from 2012-2021. He highlighted the disproportionate number of fatal and incapacitating crashes involving vulnerable roadway users (VRUs). Examples of VRUs include pedestrians, bicyclists, transit users and those with sensory or mobility impairments. Additionally, 92% of all rail incidents involved a pedestrian or bicyclist, 68% of which were fatal.

Mr. Dirks then discussed the project team's systemic analysis, a process that identifies contexts and road designs that have the highest risks of severe injury. The analysis investigated both roadway segments and intersections and found the following:

- **Segments:** Top-ranked segments are clustered in urban areas and are frequently multi-lane arterials with speed limits below 50 miles per hour. Arterials are particularly dangerous for VRUs.
- **Intersections:** Top-ranked intersections are also primarily located in urban areas and concentrated along arterials. High-volume, signalized intersections are particularly hazardous.

Mr. Hsieh explained that using segment and intersection data, the project team developed roadway "countermeasure toolkits" that contain strategies to improve road safety and reduce crashes. Strategies vary based on location and applicability, but countermeasure examples include the following: raised pavement markers and striping, high-visibility crosswalks, improved signage, and raised medians at intersection approaches.

Eight prioritized projects

Ms. Hunlen informed the Committee that the project team selected eight priority locations within Kane County for recommended improvements based on HIN and systemic analysis data, community feedback, and a variety of other factors. For each project, Ms. Hunlen explained the selection and safety ranking factors that resulted in that area's selection. The following areas were identified across the County:
(*_**Please see sub-bullets for selection factors**_)

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Steering Committee Meeting 3 Minutes

SAFE TRAVEL FOR ALL

1) **Randall Road from Main Street Road to Wilson Street (Batavia)**
    a. Systemic analysis data
    b. HIN score
    c. Proximity to schools
    d. On County-controlled road
    e. Steering Committee guidance
2) **Dundee Avenue from Kimball Street to Summit Street (Elgin)**
    a. Systemic analysis data
    b. HIN score
    c. Proximity to schools
    d. Steering Committee guidance
3) **Galena Boulevard from Randall Road to Elmwood Drive (Aurora)**
    a. [This location was updated to – Union Street between New York Street and Galena Boulevard]
    b. Systemic Analysis Data
    c. HIN score
    d. Proximity to schools
    e. Steering Committee guidance
4) **Burlington Road from French Road to Burlington Park (Panther Field) (Burlington)**
    a. Geographical distribution
    b. Proximity to schools
    c. On County-controlled roads
    d. Proximity to parks
5) **Main Street from Elm Avenue to Washington Street (Carpentersville)**
    a. Systemic Analysis Data
    b. Notable HIN score
    c. Community engagement results (5 comments)
6) **1st Street from 3rd Street to State Street (Geneva)**
    a. Systemic Analysis Data
    b. HIN score
    c. Proximity to Metra rail
    d. Proximity to trails
    e. Community engagement results
7) **Lincoln Highway/IL 38 from Main Street to Anderson Road (Elburn)**
    a. Systemic Analysis Data
    b. Notable HIN score
    c. Community engagement results
8) **US 20 from Shannon Parkway to Longcommon Parkway (Elgin)**
    a. Proximity to Trails

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b. HIN score
c. Community engagement results (33 comments)

Priority projects discussion

The project team invited Committee members to ask questions and provide their feedback on the eight projects. The following was discussed:

- Mr. Waltz expressed support for any improvements to US 20 given how dangerous the roadway is for motorcyclists. Additionally, he stated that vehicles turning left is one of the top crash causes involving motorcycles or other VRUs. He requested left-turns on arrows only at intersections, as well as lane/roadway visibility markings, to help slow down vehicles.
- Regarding **Project 3,** Mr. Wirtz stated that traffic volumes are low on Galena Boulevard and stated that the area is a candidate for a road diet (transportation planning technique reducing the number and/or width of travel lanes to reduce crash rates).
- Regarding **Project 3**, Mr. Nugent stated that the team's findings align with the City's understanding of the downtown area. Although the City does not have a specific corridor plan, staff are always looking for proactive ways to improve safety throughout the community and are currently working on a new bicycle and pedestrian plan. However, lack of usable right-of-way impacts feasible improvements.
- KDOT staff expressed support for **Project 4**.
- Regarding **Project 5** area, Mr. Wirtz asked for clarification as to why Main Street in Carpentersville is one-way and two lanes from Washington Street to Lord Avenue. Mr. Brinkmann's understanding is that the one-way was intended to funnel vehicles off residential streets and towards Washington Street and Maple Avenue. Additionally, the Village wanted to reduce truck traffic on Main Street coming from IL 31 to the industrial properties along Maple Avenue.
- Also regarding **Project 5**, KDOT staff stated that the County's newly improved Longmeadow Parkway Bridge corridor was fully opened to traffic in August 2024. KDOT does not have updated data available yet to help understand its impact upon other local roadways. However, Project 5 is some distance from the bridge corridor. Mr. Brinkmann stated the Village's Public Works Department has seen a reduction in commuter vehicle traffic along the Main Street bridge but does not have accompanying traffic count data.
- Mr. Domines stated that **Projects 6, 7, and 8** involve IDOT jurisdiction and requested that the project team reach out to IDOT staff for coordination purposes. He requested that the team provide IDOT staff with crash data when initiating outreach.
- Regarding **Project 7**, Mr. Wirtz asked if there are any plans to install a signal at the intersection of IL 38 and Anderson Road. KDOT staff responded that the Village of Elburn has considered adding a signal but has not conducted a Phase I study.

Following the meeting, the City of Batavia expressed support for **Project 1** via email to the project team. The City recently had federal funding expire for its Main Street reconstruction project, which included bicycle and other improvements. City staff are interested in exploring new funding options.

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Steering Committee Meeting 3 Minutes

SAFE TRAVEL FOR ALL

Next steps

Ms. Rogalski reviewed the project's next steps. Given the mandatory pause in plan development earlier this year, plan development efforts are taking place within a condensed timeframe. She requested that Committee members consider the eight priority projects in the coming days and notify the project team of any additional feedback by the end of day on Friday, April 4. The fourth and final Committee meeting will take place during the last week of April. During the meeting, the project team will present specific strategies and countermeasures for each of the eight projects and ask the Committee for further feedback. From there, CMAP's Transportation Committee will consider the County's safety action plans during their May 30 meeting. CMAP encourages the County and all local governments to also adopt the plan to be eligible for future USDOT SS4A implementation grants. USDOT's Fiscal Year 2025 SS4A applications must be submitted by June 26. Mr. Wirtz noted that if agencies are unable to adopt the plan by the June 26 deadline, USDOT should have additional funding available for its FY 26 program.

The project team concluded the meeting by thanking attendees for their valuable insight.

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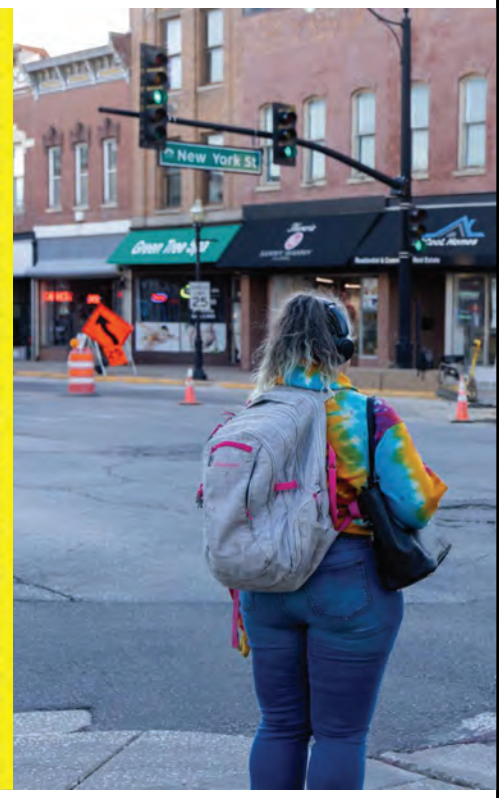
Steering Committee Meeting 4 Presentation

SAFE TRAVEL FOR ALL

KANE COUNTY

STEERING COMMITTEE #4 /// APRIL 30, 2025



Steering Committee Meeting 4 Presentation

Agenda

- Priority Projects - Draft Design Strategies
- Benchmarking and Performance
- Policy Recommendations
- Next Steps

STEERING COMMITTEE #4 /// APRIL 30, 2025

SAFE TRAVEL FOR ALL

Steering Committee Meeting 4 Presentation

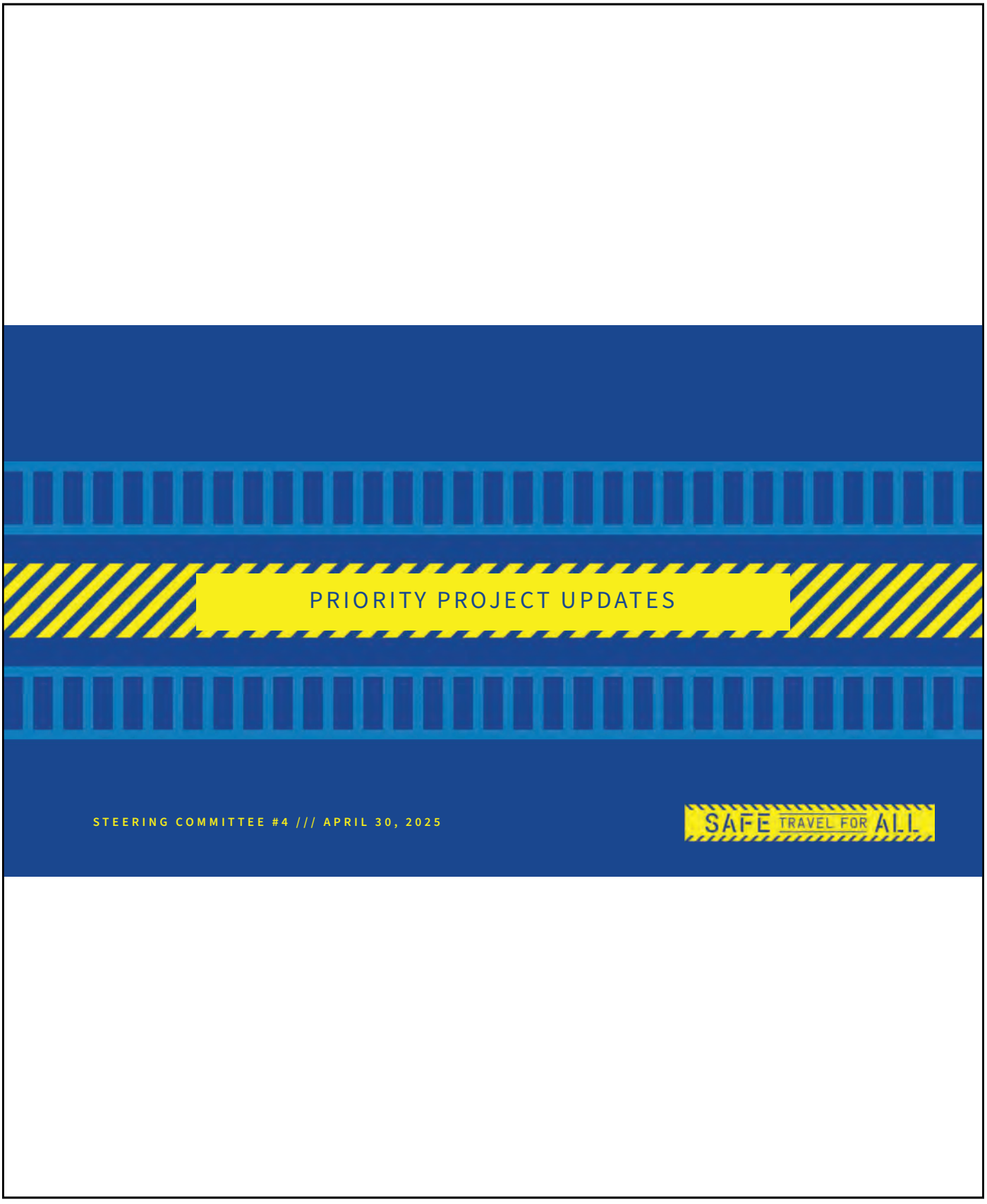
Steering Committee Meeting 4 Presentation

Committee Meeting #3 Recap

- April 2, 2025
- Discussion topics
  - Project and engagement changes
  - Existing conditions updates
  - Eight Priority Projects

STEERING COMMITTEE #4 /// APRIL 30, 2025

Steering Committee Meeting 4 Presentation



Steering Committee Meeting 4 Presentation

Eight Prioritized Projects Criteria Selection

Our team selected eight priority projects based on certain areas matching some or several of the factors below:

- Ranked high on the Systemic Analysis Data
- On the High Injury Network
- Community engagement results
- Proximity to parks
- Proximity to schools
- Proximity to trails
- Proximity to Metra stations
- Geographical distribution
- In a key partner municipality (Aurora, Batavia, Carpentersville)
- On County-controlled road
- Is listed in another plan but is not covered by Phase I engineering study or other recent improvement

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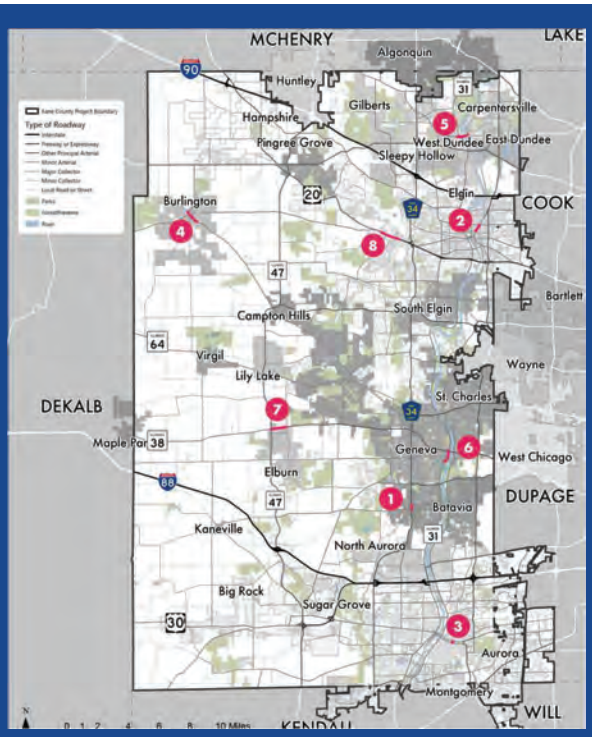
Steering Committee Meeting 4 Presentation

Updated Prioritized Projects

1. Randall Road from Main Street Road to McKee Street (Batavia)
2. Dundee Avenue from Kimball Street to Summit Street (Elgin)
3. Union Street between New York Street and Galena Boulevard (Aurora)
4. Burlington Road from French Road to Burlington Park (Panther Field) (Burlington)
5. Main Street from Elm Avenue to Washington Street (Carpentersville)
6. 1st Street from 3rd Street to State Street (Geneva)
7. Lincoln Highway from Main Street to Anderson Road (Elburn)
8. US Grant/US 20 from Shannon Parkway to Longcommon Parkway (Elgin)



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Steering Committee Meeting 4 Presentation

Priority Projects

1) Randall Road from Main Street to Wilson Street (Batavia)

Selection Factors:

- Systemic analysis data
- High injury Network
- Proximity to schools
- On county-controlled road
- Steering Committee Guidance

Key Rankings:

- **Peak HIN Score:**
- 8-11 Injuries/Mile (Medium)
- **Peak Severe/Fatal Crashes/Mile Rank:** 21 (0.38/mile)

Focus Location: Randall Road and Main Street Road

2) Dundee Avenue from Kimball Street to Ann Street (Elgin)

Selection Factors:

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

Key Rankings:

- **Peak HIN Score:** 14+ Injuries/Mile (Very High)
- **Peak Severe/Fatal Crashes/Mile Rank:** 6 (1.22/mile)

Focus Location: Dundee Avenue and Kimball Street

Steering Committee Meeting 4 Presentation

Priority Projects

3) Union Street between New York Street and Galena Boulevard (Aurora)

Selection Factors:

- Systemic Analysis Data
- High Injury Network
- Geographical distribution

Key Rankings:

- **Peak HIN Score:** 8-11 Injuries/Mile (Medium)
- **Peak Severe/Fatal Crashes/Mile Rank:** 9 (0.15/mile VRU)

4) Burlington Road from French Road to Burlington Park (Panther Field) (Burlington)

Selection Factors:

- Geographical Distribution
- Proximity to Schools
- On County-controlled roads
- Proximity to Parks

Key Rankings:

- **Peak High Injury Network Score:** N/A
- **Peak Severe/Fatal Crashes/Mile Rank: 7** (0.25/mile VRU)

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Steering Committee Meeting 4 Presentation

Priority Projects

5) Main Street from Elm Avenue to Washington Street (Carpentersville)

Selection Factors:

- Systemic Analysis Data
- Community Engagement Results (5 comments)

Key Rankings:

- **Peak HIN Score:** 5-8 injuries/mile (Notable)
- **Peak Severe/Fatal Crashes/Mile Rank:** 3 (1.29/mile)

6) 1st Street from James Street to South Street (Geneva)

Selection Factors:

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

Key Rankings:

- **Peak HIN Score:** 5-8 Injuries/Mile (Notable)
- **Peak Severe/Fatal Crashes/Mile Rank: 7** (0.25/mile VRU)

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Steering Committee Meeting 4 Presentation

Priority Projects

7) Lincoln Highway/IL 38 from Main Street to Anderson Road (Elburn)

Selection Factors:
- Systemic Analysis Data
- Community Engagement Results

Key Rankings:
- **Peak HIN Score:** 11-14 injuries/mile (High)
- **Peak Severe/Fatal Crashes/Mile Rank: 12 (0.55/mile)**

8) US 20 from Shannon Parkway to Weld Road/Longcommon Parkway (Elgin)

Selection Factors:
- Proximity to Trails
- High Injury Network
- Community Engagement Results (33)

Key Rankings:
- **Peak HIN Score:** 8-11 Injuries/Mile (Medium)
- **Peak Severe/Fatal Crashes/Mile Rank: 8** (1.18/mile)

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Steering Committee Meeting 4 Presentation

Conceptual Rendering

Randall Road from Main Street Road to Wilson Street (Batavia)

Steering Committee Meeting 4 Presentation

Conceptual Rendering

Union Boulevard between New York Street and Galena Boulevard (Aurora)

Steering Committee Meeting 4 Presentation

Priority Projects Recommendations

1) Randall Road from Main Street to Wilson Street (Batavia)

Recommendations:

- Speed feedback warning signs
- Flashing warning beacon on "Stop Ahead" sign
- Widen crosswalks at intersections
- Stop bars 4 ft from crosswalk
- Pedestrian bridge
- Leading pedestrian intervals at traffic signals
- Multi use path along Randall Rd
- Implement protected-only left turns, remove flashing yellow left-turns
- Curb extensions

Focus Location: Randall Road and Main Street

2) Dundee Avenue from Kimball Street to Ann Street (Elgin)

Recommendations:

- On Dundee Ave between Kimball St & Ann St
  - One travel lane in each direction with center turn lane
- Dundee Ave & Ann St
  - Curb extensions
  - Pedestrian refuge island on north and south crossing
- Dundee Ave & Kimball St
  - High visibility crosswalks
  - Lane merge to eliminate dual left lanes
- Dundee Ave & Franklin Blvd
  - Curb extensions on Franklin SW of Dundee
  - Crosswalks

Focus Location: Dundee Avenue and Kimball Street

Priority Projects Recommendations

3) Union Boulevard between New York Street and Galena Boulevard (Aurora)

Recommendations:

- Corridor wide
  - Pedestrian level lighting
- New York St & Union Blvd and Galena Blvd & Union Blvd
  - Pedestrian push buttons (PROWAG standards)
  - Leading pedestrian intervals
  - High visibility crosswalks
  - Reflective backplates

4) Burlington Road from French Road to Burlington Park (Panther Field) (Burlington)

Recommendations:

- Corridor wide
  - Curb extensions to reduce turn radii
  - Pedestrian level lighting
  - Sidewalk widening and completion
- Main St & Rail Crossing
  - Median pedestrian refuge island
  - ADA compliant crossing
- Main St & Plank Rd
  - Shared use path
  - High visibility crosswalks
  - Decrease turning radius

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Steering Committee Meeting 4 Presentation

Priority Projects Recommendations

5) Main Street from Elm Avenue to Washington Street (Carpentersville)

Recommendations:

- Main St & Washington St
  - Mini-Roundabout
- Main St & remaining intersections
  - High visibility crosswalks
  - RRFB & raised crosswalks
  - Reflective backplates

6) 1st Street from James Street to South Street (Geneva)

Recommendations:

- 1st St & South St
  - All way stop or bike friendly diverter median
  - Crosswalks and RRFB
- 1st St & Campbell St
  - High visibility crosswalks
  - RRFB

Focus Location: 1st Street and South Street

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Steering Committee Meeting 4 Presentation

Priority Projects Recommendations

7) Lincoln Highway/IL 38 from Main Street to Anderson Road (Elburn)

Recommendations:

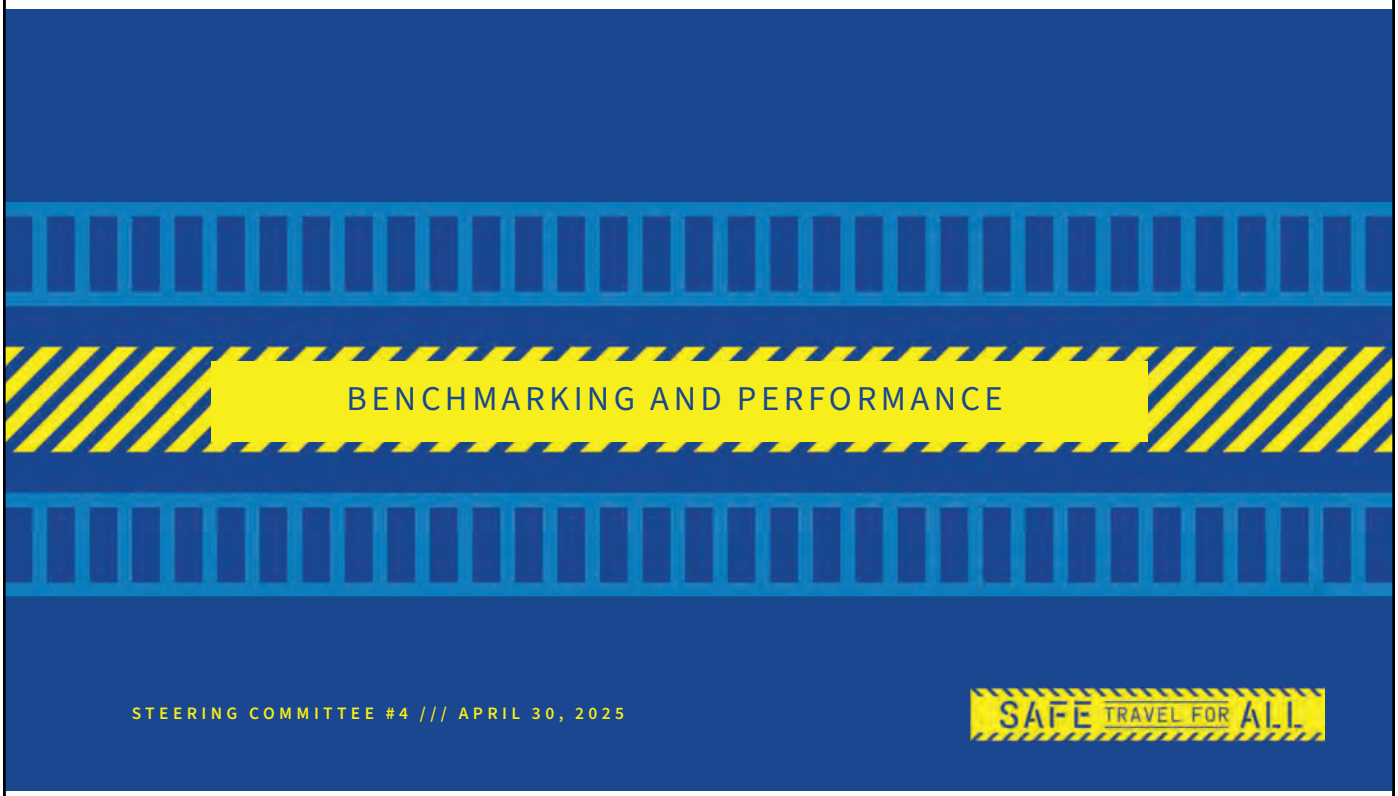
- Corridor wide
  - Wide edge lines
  - Speed feedback signs
  - Crosswalk warning signs
- Lincoln Hwy & Anderson Rd
  - Convert to traffic signal OR roundabout
  - Restriping
  - Rumble strips
- 1st St & Lincoln Hwy
  - Roundabout

8) US 20 from Shannon Parkway to Weld Road/Longcommon Parkway (Elgin)

Recommendations:

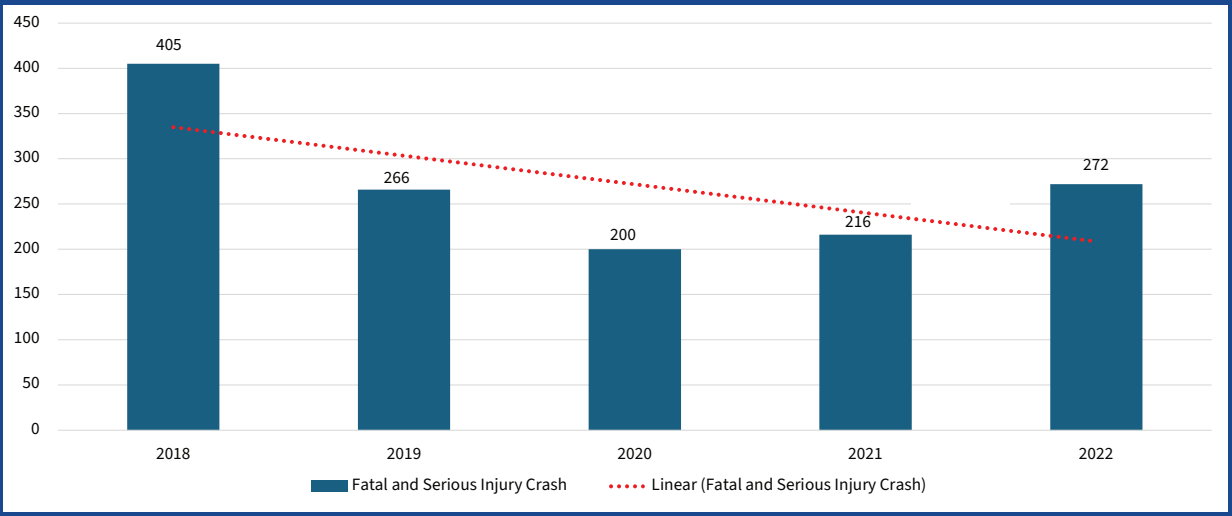
- Corridor wide
  - Landscaping management to ensure sight lines
- US 20 & Shannon Pkwy
  - Traffic signal
  - Crosswalk
- US 20 & Nesler
- High visibility crosswalks
- "No right turn on red" during rush hour

Steering Committee Meeting 4 Presentation



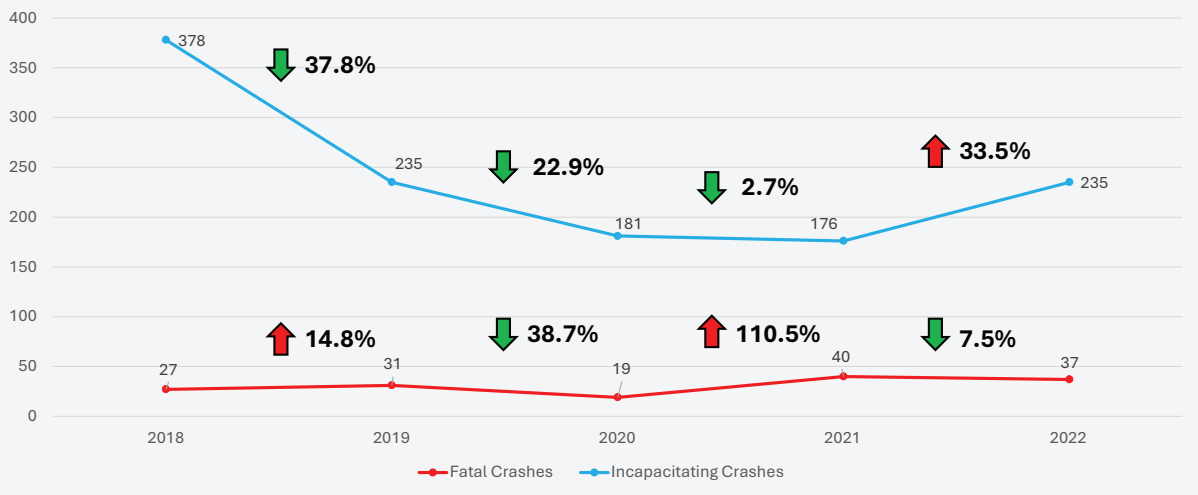
Steering Committee Meeting 4 Presentation

Fatal and Severe Crashes in Kane County (2018 – 2022)



- 38.3% reduction over five years
- Average annual reduction: 7.7%

Fatal and Incapacitating Crashes: All Kane County Roads (2018 – 2022)



- Incapacitating crashes reduced by an average of 7.5%/year
- Fatal crashes increased by an average of 7.4%/year

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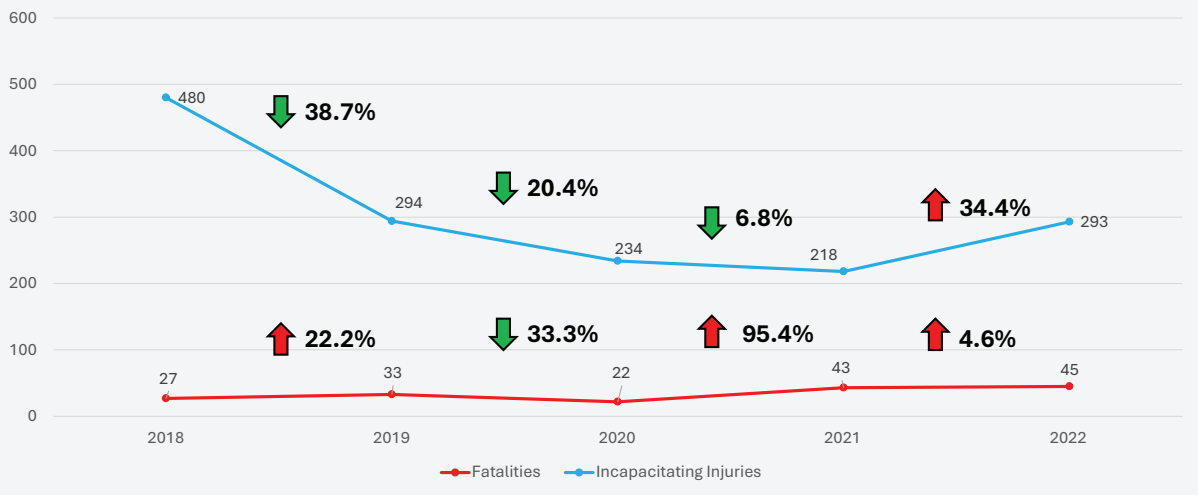
Steering Committee Meeting 4 Presentation

Fatalities and Incapacitating Injuries All Kane County Roads (2018 – 2022)



- Incapacitating injuries reduced by an average of 7.8%/year
- Fatalities increased by an average of 13.3%/year

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Steering Committee Meeting 4 Presentation

Data Analysis Recap: Fatal and Incapacitating Injury Crashes

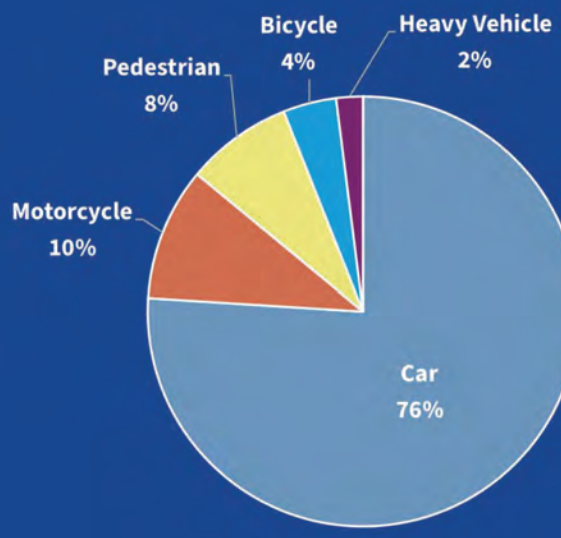
Contributing Factors

- Failing to reduce speeds to avoid crash: 35%
- Failing to yield right-of-way: 28%

Focus Areas

- Intersection: 50%
- Speeding: 43%
- Roadway departure: 26%
- Younger and older drivers round out the top five crash categories

Fatal and Incapacitating Crashes by Transportation Mode



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Steering Committee Meeting 4 Presentation

Step 1: Measuring & Reporting Success

Target the following performance measures:

- Reduce the number of fatalities from crashes each year
- Reduce the number of incapacitating injuries from crashes each year
- Reduce the number of roadway fatalities per million vehicle miles traveled (i.e., fatality rate)
- Reduce the number of roadway incapacitating injuries per million vehicle miles traveled (i.e., incapacitating injury rate)
- Reduce the number of combined non-motorized fatalities and incapacitating injuries (i.e., pedestrian and bicyclist)

Justification: The Federal Highway Administration requires Chicago Metropolitan Agency for Planning to establish safety performance measures safety targets as five-year rolling averages on all public roads

Recommended Performance Measures and Targets

Category	2018-2022 Baseline (Annual Avg)	2018-2022 Average Annual Change	2050 Goal	Proposed Annual Reduction
Number of roadway fatalities (K)	34.0	13.3% increase	50% reduction	2.75%
Number of roadway incapacitating injuries (A)	303.8	7.8% decrease	50% reduction	2.75%
Number of roadway fatalities per MVMT*	0.008	NA	?	?
Number of roadway incapacitating injuries per MVMT*	0.073	NA	?	?
Number of combined non-motorized fatalities and incapacitating injuries (K and A)	37.2	9% reduction	50% reduction	2.75%

*Million Vehicle Miles Traveled (MVMT)

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Steering Committee Meeting 4 Presentation

Step 2: Measuring and Reporting Success

- The goal of this plan is to eliminate all roadway fatalities and incapacitating injuries.

Option 1

- Set target of reducing the number of fatalities and incapacitating injuries by ?% by 20XX

Option 2

- Set a target of reducing the number of fatalities and incapacitating injuries by ?% annually until the goal of zero fatalities or incapacitating injuries is achieved

Performance Measures and Targets

Category	2018-2022 Fatal/Severe Crashes Annual Avg	2018-2022 Baseline	2050 Goal Fatal/Severe Crashes Annual Avg	Proposed Annual Reduction
Intersection	135.4	49.4%	60	- 3.0/yr
Speeding	44.4	40.4%	22	-0.9/yr
Roadway departure	78.4	25.3%	38	-1.6/yr
Older/younger drivers	104	35.7%	52	-2.1/yr

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Steering Committee Meeting 4 Presentation

Systemic Issues – Fatal and Serious Injury Crashes

Unsignalized Intersections:

- Urban, Arterial-Local or Arterial-Collector, All-Way Stop, 40k+ AADT
  - 34 times over County baseline
- Urban, Arterial-Arterial, All-Way Stop, 40k+ AADT
  - 32 times over County baseline
- Urban, Arterial, Two-Way Stop/Yield or Uncontrolled, Under 10K AADT
  - 15 times over County baseline

Signalized Intersections

- **Signalized, Arterial-Local or Arterial-Collector, 40k+ AADT**
  - **34 times County baseline**
- **Signalized, Arterial-Arterial, 40k+ AADT**
  - **32 times County baseline**

Systemic Issues – Fatal and Serious Injury Crashes

Segments:

- Urban freeway, 1-3 Lanes, 35-50 MPH, 20K+ AADT
  - 45 times over County baseline
- Urban collectors, 4+ Lanes, 55 MPH, 2k – 20k AADT
  - 42 times over County baseline

Pedestrian & Bicyclist (vulnerable roadway users):

- Urban, non-freeway arterial, 4+ Lanes, Less than 30 MPH, 20k+ AADT
  - 19 times over County baseline
- Urban non-freeway arterial, 4+ Lanes, Less than 30 MPH, 2k – 20k AADT
  - 11 times over County baseline

- Annual Average Daily Traffic (AADT)

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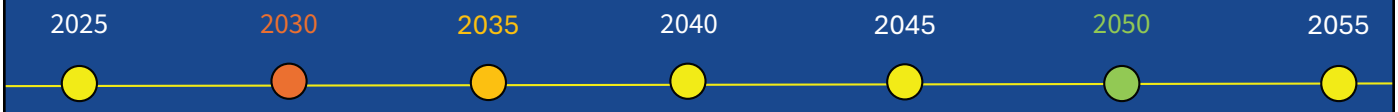
Steering Committee Meeting 4 Presentation

Example of Optional Milestones



By 2030:

- Local agencies to implement safety projects on the High Injury Network (HIN) Priority List, and pilot 2-4 new systemic treatments in their jurisdiction
- Start 2 – 4 priority policy or programming recommendations

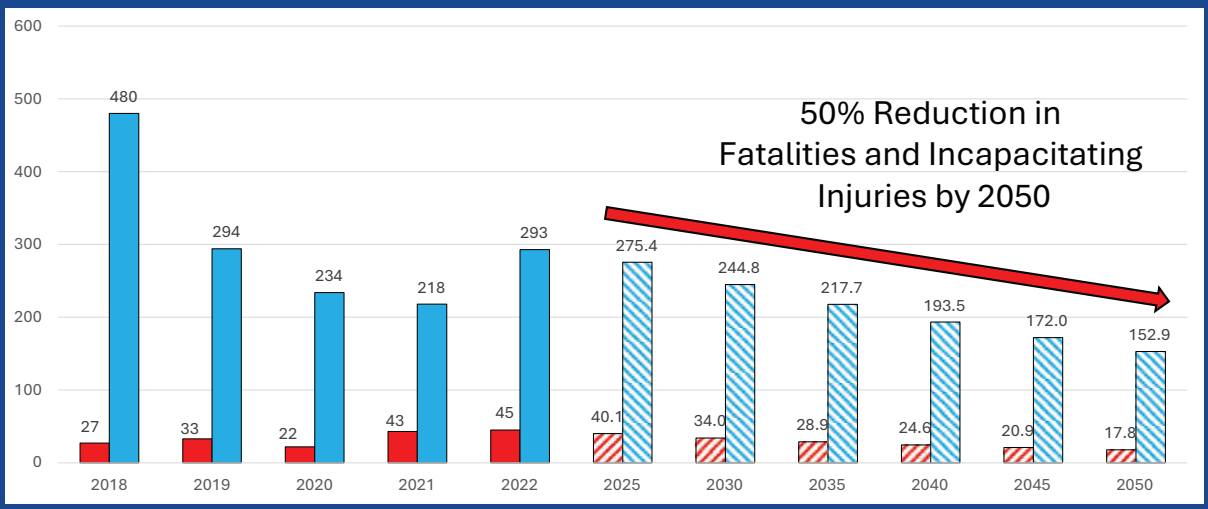
By 2035:

- Fully implement safety projects on top 10% of HIN Priority List
- Fully implement the systemic treatments piloted in 2025 – 2030 and pilot 2 – 4 new systemic treatments
- Fully implement the policy and programming recommendations piloted in 2025 – 2030 and start 2 – 4 additional policies and/or programs

By 2050:

- Implement safety projects on the top 25% of the HIN Priority List
- Implement all relevant systemic treatments
- Implement all relevant policy and program recommendations

Example of a Five-Year Rolling Average Reduction of Fatalities and Incapacitating Injuries



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Steering Committee Meeting 4 Presentation

Steering Committee Meeting 4 Presentation

Recommendation One: Kane County Safety Committee

Recommendation: Institutionalize the Kane County Safety Committee to oversee Kane County Safety Plan implementation and monitoring

- Add members (e.g., judicial, emergency medical services) to reinforce successful strategy implementation
- 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
- Prepare and release an annual safety plan report to document implementation progress to safety partners and the public

Justification: The SS4A self-certification requirement to apply for implementation funds requires a safety committee, task force, implementation group, or similar body to be established and charged with the development, implementation and monitoring of the safety plan

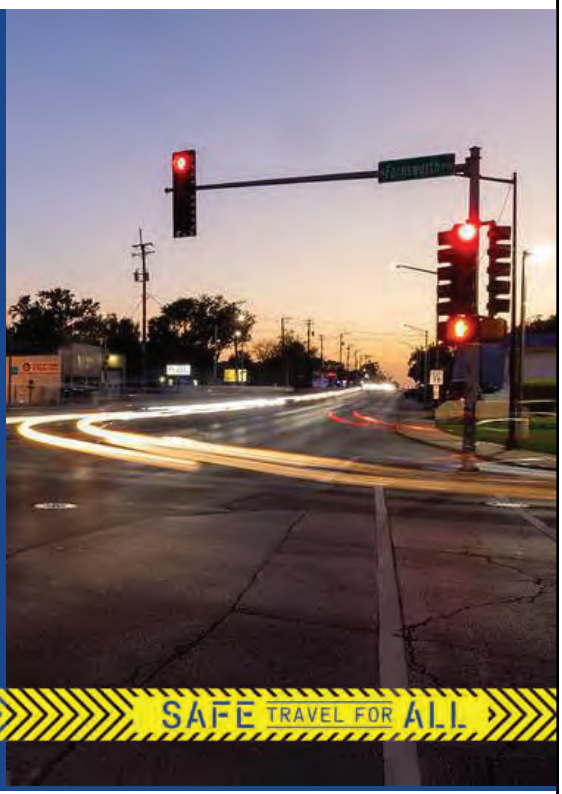
Steering Committee Meeting 4 Presentation

Recommendation Two: Speeding Policy

- Speeding is a common safety issue across the County
- Increases frequency and severity of crashes
- Pedestrians and bicyclists are especially impacted

Recommendations:

- Develop a Speed Display policy/guidance document reflecting implementation, enforcement, and outreach approach
  - City of Batavia Strategic Plan 2024 recommendation
- Adopt Illinois Department of Transportation's upcoming new speed limit policy
  - Includes matrix to establish percentile speed used as the baseline for speed studies



STEERING COMMITTEE #4 /// APRIL 30, 2025

Steering Committee Meeting 4 Presentation

Recommendation Three: Adjudication

- It is difficult for counties and cities to adjudicate traffic safety law enforcement

Recommendations:

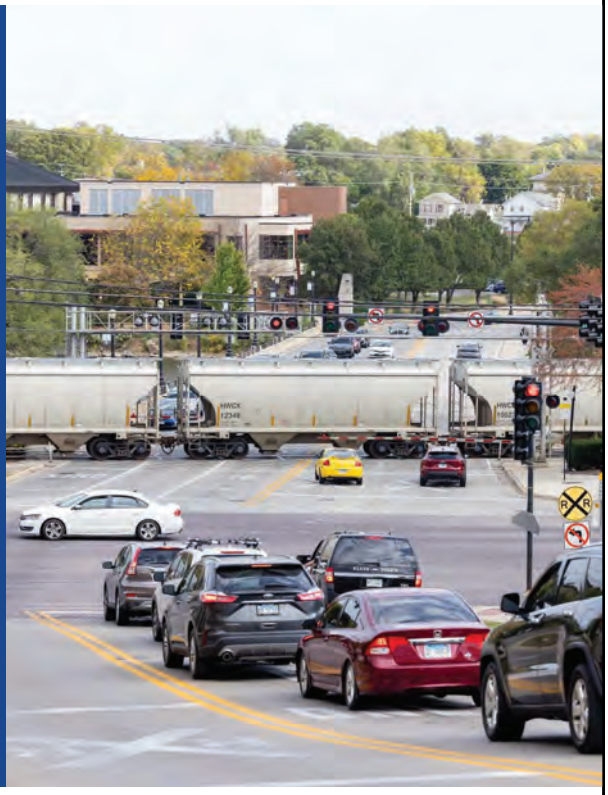
- Support legislation to establish negligent homicide (misdemeanor offense) as a category for non-DUI related traffic deaths
    - Fill the gap between a traffic citation and reckless homicide (felony-requires typically 3 moving violations)
- Support legislation that would expand blood draws to be performed by certified professionals (e.g., EMS). This would address the two-hour time frame

Steering Committee Meeting 4 Presentation

Steering Committee Meeting 4 Presentation

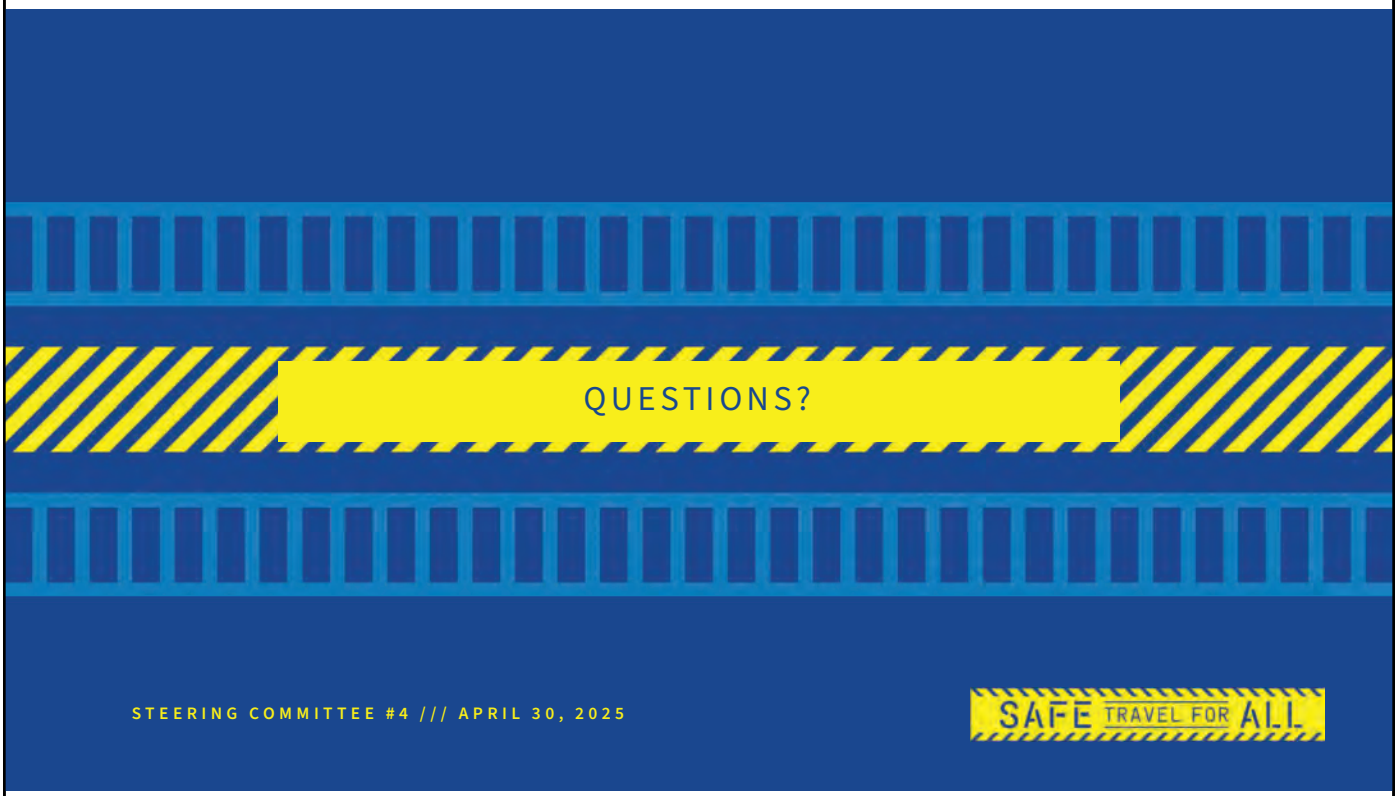
Next Steps

- Project team to finish draft Safety Action Plan document by May 9
- CMAP and KDOT review week of May 12
- Final submittal to CMAP on May 23
- CMAP Metropolitan Planning Organization (MPO) Policy Committee will review all county safety action plans on May 30
- CMAP encourages counties and municipalities to adopt plans to be eligible for future USDOT SS4A implementation funding opportunities
- FY25 SS4A Notice of Funding Opportunity (NOFO) is open through June 26



Steering Committee Meeting 4 Presentation

Steering Committee Meeting 4 Presentation



Steering Committee Meeting 4 Minutes

Kane County Safe Travel for All
Steering Committee #4 Meeting Minutes
April 30, 2025 | Virtual (Zoom)

Steering Committee	Project Team
Rahat Bari, City of Batavia	Lindsay Bayley, CMAP
Laura Bukowski, World Relief Aurora	Nicole Bitzan, SRF Consulting
Phil Domines, Illinois Department of Transportation (IDOT)	Jerrid Dinnen, Arora
Phil Morris, Kane County Regional Office of Education	Peter Dirks, SRF Consulting
Alex Nugent, City of Aurora	Jacque Henrikson, Lochner
Don Schafer, Midwest Truckers Association	Grace Hebert, Lochner
Daniel Thomas, Metra	Moses Hsieh, Lochner
Max Weiss, City of Batavia	Heidi Files, KDOT
	Gretchen Klock, KDOT
	Colleen Jaltuch, KDOT
	Heidi Lichtenberger, KKCOM & KDOT
	Jen Maddux, CMAP
	Calley McPherson, KDOT
	Jennifer O'Connell, KDOT
	Jordan Rogalski, Metro Strategies Group
	Aleksandra Tadic, SRF
	Priscilla Tobias, Arora
	Tammy Wierciak, Metro Strategies Group
	John Wirtz, AECOM

DRAFT

The meeting started with project team and Steering Committee member introductions. Ms. Rogalski then provided an overview of the Committee's third meeting, which took place on April 2, 2025. During the meeting, the project team presented information about federal Safe Streets and Roads for All (SS4A) program changes, updated existing conditions information, and the draft plan's eight Priority Projects. She stated that during today's meeting, the team would share Priority Project updates and introduce draft benchmarks and policy recommendations for Committee consideration.

Priority Project Updates

As described at-length during Committee meeting #3, Mr. Hsieh reviewed the eight Priority Projects and the project team's selection and ranking methodology. The team changed one project following the third Committee meeting based on the feedback received:

Steering Committee Meeting 4 Minutes

SAFE TRAVEL FOR ALL

- **Original Project 3:** Galena Boulevard from Randall Road to Elmwood Drive (Aurora)
- **Updated Project 3:** Union Street between New York Street and Galena Boulevard (Aurora)

Mr. Hsieh stated the team replaced Galena Boulevard with Union Street because the City of Aurora currently has an engineering study in place for that location that the team was previously unaware of. Ms. Files asked the City of Batavia for clarification on Project #1 (Randall Road from Main to Wilson Streets in Batavia) and if the City included a pedestrian overpass as part of their feasibility study. Mr. Bari responded that the study is in an early stage and that the City is considering a variety of options that include both over- and under-passes. The City is currently trying to narrow down potential options and will present them to the public for feedback in the future.

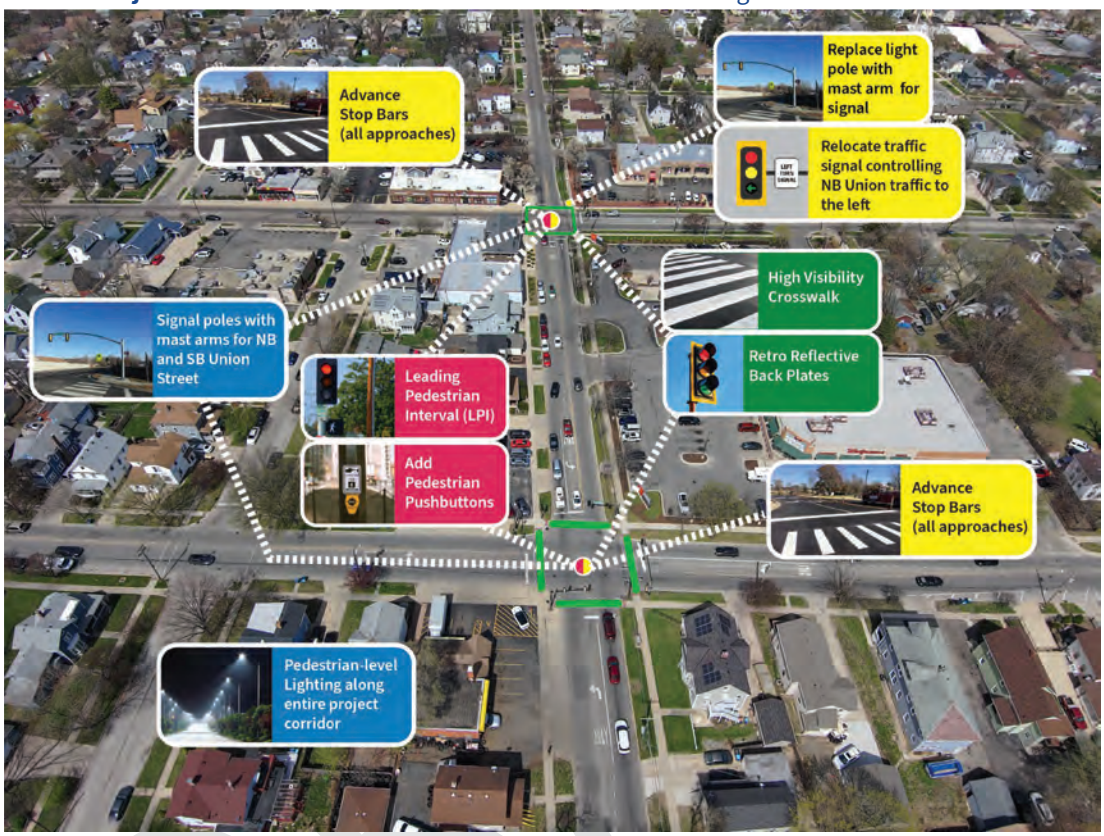
Ms. Hsieh discussed draft design strategies for each project, noting that the recommendations are for conversation and by no means finalized. Although the complete safety action plan will include visual renderings with recommendations for all projects, the team presented the following two projects for Committee discussion during the meeting:

- **Project 1:** Randall Road from Main to Wilson streets in Batavia

Steering Committee Meeting 4 Minutes

SAFE TRAVEL FOR ALL

- **Project #2:** Dundee Avenue from Kimball to Ann streets in Elgin



Project 1 Feedback: Randall Road from Main to Wilson streets in Batavia

Mr. Weiss shared the City of Batavia is routinely seeing people speeding up to 70 miles per hour on this stretch of roadway. Additionally, the intersection at Main Street is a transitionary street between low- and high-speed locations in the local roadway network. The City views these recommendations as positive improvements. Mr. Wirtz suggested the City consider a pedestrian underpass in the area; although costs may be more expensive, construction may be possible without requiring out-of-direction pedestrian travel. He referenced a local example in Lake in the Hills under Randall Road (McHenry County). Mr. Wirtz also recommended fixing the negative left-turn offsets.

Ms. O'Connell stated that some of the proposed improvements are in direct conflict with KDOT design standards for the Randall Road corridor, specifically the recommendation to remove permission left turns on flashing arrows. Flashing yellow arrows are very common on Randall Road, and they are a strategy they use for the entire northern portion of the corridor. KDOT also has not considered signage permitting U-turns on Randall Road. She expressed significant concern that those recommendations are being considered.

Additionally, Ms. O'Connell stated that refuge islands result in both maintenance and safety concern for their staff year-round. Ms. Files noted that these recommendations may be more appropriate on local roads versus limited access freeways like Randall Road. Ms. Henrikson thanked KDOT staff for their feedback and emphasized that all recommendations would require further study. Mr. Hsieh explained that the options presented are intended to provide agencies with a "toolkit" of options.

Ms. Files asked for clarification on how the eight projects were ranked. Mr. Hsieh responded that the project numbers were not indicative of any crash ranking and used only for differentiation. Mr. Dirks explained High Injury Network (HIN), Peak Severe/Fatal Crashes, and Mile Rank methodology. Ms. Rogalski stated the project team will follow up with a written response that clarifies the ranking.

Project 2 Feedback: Dundee Avenue from Kimball to Ann streets in Elgin
Mr. Nugent asked about the data supporting this project's selection, as the City of Aurora does not currently have an improvement plan in place for this location. However, he stated there is a lot of pedestrian traffic in the area and is not concerned about the recommendations.

Projects 3-8
Mr. Hsieh then discussed the project team's recommendations for Priority Projects #3 through #8. *(A full list of recommendations is available in the meeting presentation.)* Attendees made the following comments:

- **Project 3: Union Street between New York Street and Galena Boulevard (Aurora)**
  - Ms. Bayley expressed frustration when walking in Aurora, as pedestrian push buttons can increase the time needed for street crossing. Mr. Wirtz responded that push buttons comply with Americans with Disabilities Act requirements to ensure accessibility.
- **Project 8: US 20 from Shannon Parkway to Weld Road/Longcommon Parkway (Elgin)**
  - Ms. Klock informed the team that the City of Elgin conducted a feasibility study for US 20 from Coombs Road to Longcommon Parkway. Mr. Wirtz added that the City also completed a Phase I engineering study on US 20 east of Nesler Road.

Draft Benchmarks
Mr. Dinnen explained that the Federal Highway Administration (FHWA) requires the County's Safety Action Plan to include benchmarks and performance measures for reporting the plan's success. He stated that the plan's goal is to eliminate all roadway fatalities and incapacitating injuries. To reach that goal, the County can either:

- Option 1: Set a target of reducing the number of fatalities and incapacitating injuries **by X%** by **20XX**
- Option 2: Set a target of reducing the number of fatalities and incapacitating injuries **by X% annually** until the goal of zero fatalities or incapacitating injuries is achieved

DRAFT

SAFE TRAVEL FOR ALL

He discussed various County crash, fatality, and injury statistics, as well as systemic issues contributing to crashes. He stated that the project team utilized this data to propose feasible annual reduction targets for the Committee's consideration:

Category	2018-2022 Fatal/Severe Crashes Annual Avg	2018-2022 Baseline	2050 Goal Fatal/Severe Crashes Annual Avg	Proposed Annual Reduction
Intersection	135.4	49.4%	60	- 3.0/yr
Speeding	44.4	40.4%	22	-0.9/yr
Roadway departure	78.4	25.3%	38	-1.6/yr
Older/younger drivers	104	35.7%	52	-2.1/yr

Ms. Files asked if the County needed to adopt the plan by resolution. Ms. Tobias responded that adoption by resolution shows FHWA that the governing body is committed to the plan and that the SS4A program requires a resolution, ordinance, or other official announcement in support of the plan's targets. Ms. Files expressed concern about timing and being able to adopt the plans prior to the program's June deadline. Mr. Wirtz responded that the CMAP MPO Policy Committee will be adopting the plan in late May; the Policy Committee's adoption will satisfy FHWA's resolution requirements. Ms. Rogalski requested that the project team meet with KDOT staff to further discuss SS4A program requirements.

Draft Policy Recommendations

Next, Ms. Tobias discussed three policy recommendations that if adopted, will either satisfy SS4A self-certification requirements and/or support crash reduction:

- **Recommendation 1**: Institutionalize the Kane County Safety Committee to oversee Kane County Safety Plan implementation and monitoring
- **Recommendation 2:**
  - Develop a Speed Display policy/guidance document
  - Adopt IDOT's upcoming new speed limit policy
- **Recommendation 3:**
  - Support legislation to establish negligent homicide (misdemeanor offense) as a category for non-DUI related traffic deaths
  - Support legislation that would expand blood draws to be performed by certified professionals

Steering Committee Meeting 4 Minutes

Next Steps

Ms. Rogalski shared the project team will be finishing the draft safety action plan document by May 9. From there, CMAP and KDOT will review the draft plan during the week of May 12, with a final submittal due to CMAP on May 23. CMAP's MPO Policy Committee will adopt the plan at the end of May.

Ms. Files asked if the plan will include specific implementation strategies like Mr. Hsieh detailed for Projects 1 and 2. She also asked if the Priority Projects list was a federal requirement, as she was unsure if the eight locations were the most pressing safety issues in Kane County. Ms. Henrikson responded that the plan will include a chapter with various strategies and tools that agencies can consider for high crash/high injury locations. Ms. Tobias confirmed that FHWA requires project prioritization.

Ms. Files asked if KDOT can add other projects to the plan based on KDOT's specific concerns and priorities. Ms. Tobias confirmed that there are other project inclusion options.

Ms. Files requested that the plan includes a section on roundabouts, as they reduce crashes by 90%. Ms. Henrikson responded that if roundabouts weren't already included as part of the plan, the project team will add roundabouts to the countermeasure toolkit. She noted that the team will also share the existing conditions analysis with KDOT staff to see if there are any crossovers with County priorities, as that would provide additional quantitative evidence for project inclusion.

The project team concluded the meeting by thanking attendees for their valuable insight throughout the project's duration.

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Virtual Public Meeting Summary

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Virtual Public Meeting Summary

- 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 for 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.

The meeting concluded with an open Question and Answer (Q&A) session, but no questions were asked. The project team provided attendees with contact information in case participants had any follow-up questions.

Project team attendees:

Name	Organization
Jackie Forbes	KDOT
Grace Hebert	Lochner
Jacqueline Henrikson	Lochner
Colleen Jaltuch	KDOT
Heidi Lichtenberger	KDOT
Jen Maddux	CMAP
Jason Moller	Lochner
Kurt Nika	KDOT
Jennifer O'Connell	KDOT
Letty Perez	Spanish translator
Jordan Rogalski	Metro Strategies Group
Priscilla Tobias	Arora & Associates
Tammy Wierciak	Metro Strategies Group

Members of the public:

Name	Municipality/Hometown
Roopa Anjanappa	City of Aurora (Steering Committee member)
Louis Dries	St. Charles
Peter Monzon	Hampshire
Virginia Romano	Burlington
Amber Sexton	Sugar Grove
Candi Thomas	Lake in the Hills

A.B.A.T.E. Toy and Food Run Pop-Up Summary

Kane County Safe Travel for All | A.B.A.T.E. Toy and Food Run Pop-Up Summary
October 13, 2024

The Kane County Division of Transportation (KDOT), in partnership with the Chicago Metropolitan Agency for Planning (CMAP), held a pop-up event on October 13, 2024, at the DuKane Chapter of A.B.A.T.E. Illinois' 2024 Toy and Food Run event. Project team members shared information about the County's Safety Action Plan and gathered input from event attendees about existing safety issues and transportation safety priorities. Approximately 10 members of the public interacted with the project team.

The meeting was advertised on the project website (engage.cmap.illinois.gov/kane) and through the following:

- October 7, 2024, KDOT Facebook post (facebook.com/KaneCountyDOT)
- October 7, 2024, Elburn Chamber of Commerce Facebook post reshare (https://www.facebook.com/ElburnChamber)
- October 10, 2024, edition of *Kane County Connects e-Newsletter* and on the Kane County Connects website (kanecountyconnects.com/)
- *The project team requested that all Steering Committee members and the City of Elgin help promote the event and provided them with social media content in both English and Spanish.*

Members of the public were asked to participate in two activities and respond to the below questions. Project-branded giveaways were offered to those participating in the activities.

Activity questions:

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 fair grounds needs turning lane or flashing arrow
- Better traffic light timing/sensors (motion sensors vs. magnet sensors)
- Improved traffic flow
- Sidewalks and lighting and crosswalks

A.B.A.T.E. Toy and Food Run Pop-Up Summary

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

- 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
- Passing harsher laws for distracted driving: 3 votes
- Better road maintenance: 2 votes

Aurora Christkindlmarket Pop-Up Summary

Kane County Safe Travel for All | Aurora Christkindlmarket Pop-Up Summary
December 14, 2024

The Kane County Division of Transportation (KDOT), in partnership with the Chicago Metropolitan Agency for Planning (CMAP), held a pop-up event on December 14, 2024, at the Aurora Christkindlmarket, hosted by German American Events, LLC. Project team members shared information about the County's Safety Action Plan and gathered input from event attendees about existing safety issues and transportation safety priorities.

Approximately 50 members of the public interacted with the project team. A Spanish interpreter was present and assisted with language translation needs throughout the event.

The event was advertised on the project website (engage.cmap.illinois.gov/kane) and through the following channels:

- December 5, 2024, KDOT Facebook post (facebook.com/KaneCountyDOT)
- December 6, 2024, CMAP Facebook post reshare (facebook.com/cmapillinois)
- December 9, 2024, City of Aurora Facebook post (facebook.com/@cityofaurorail)
- December 9, 2024, Kane County Facebook post reshare (facebook.com/KaneCountyGovernment)
- December 12, 2024, edition of *Kane County Connects e-Newsletter* and on the Kane County Connects website (kanecountyconnects.com)
- December 13, 2024, Active Transportation Alliance Facebook post (facebook.com/activetrans)

The project team requested that all Steering Committee members help promote the event and provided them with social media content in both English and Spanish.

Members of the public were asked to participate in two winter-themed activities and respond to the below questions. Participants who completed the activities received project-branded giveaways.

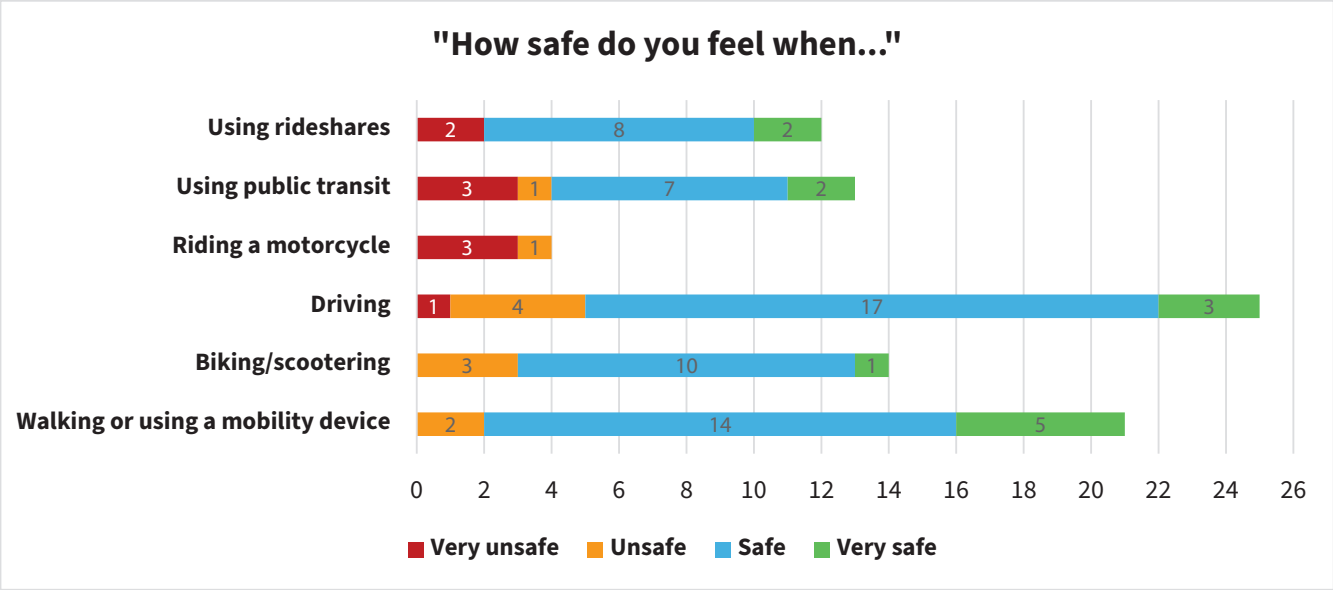
Activities:

Activity one: The project team asked 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.

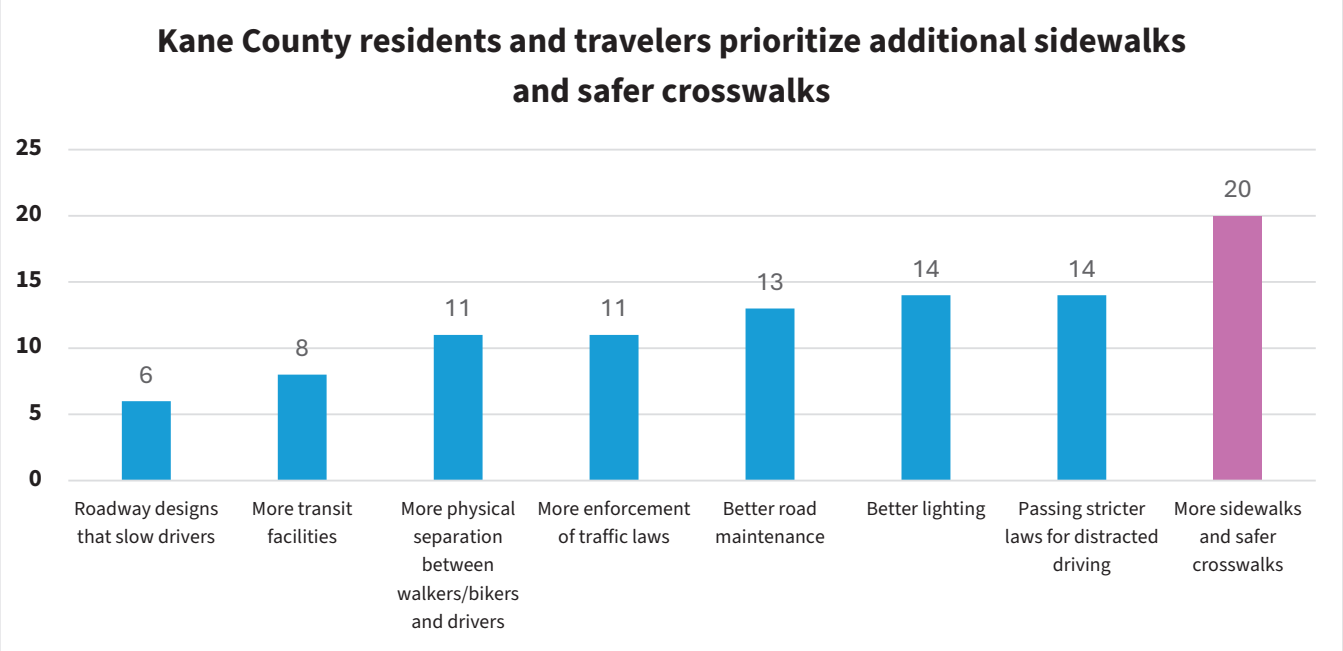
Activity two: The project team asked participants to identify their top three traffic safety priorities out of eight potential options.

Aurora Christkindlmarket Pop-Up Summary

Activity One:



Activity Two:



Aurora Christkindlmarket Pop-Up Summary

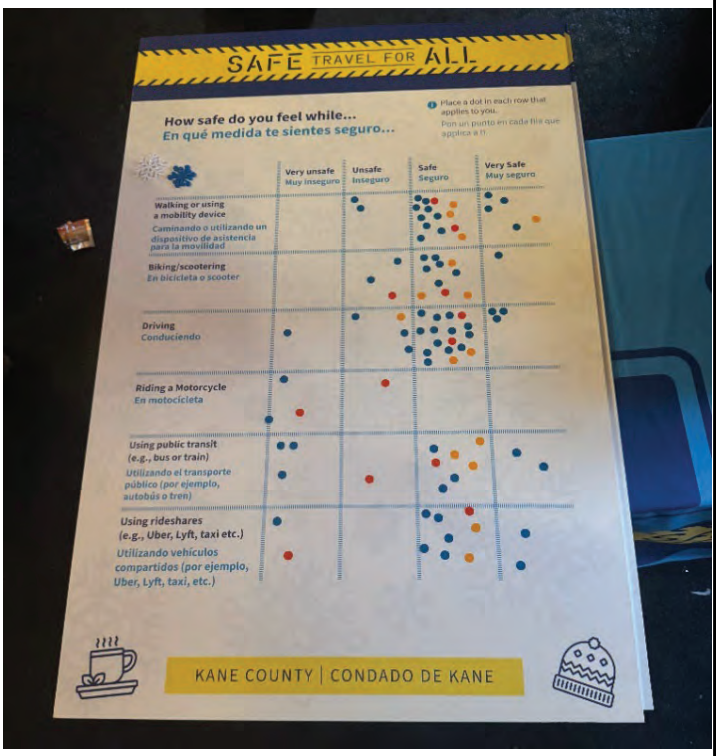
Qualitative insights:

Members of the public provided the project team with the additional 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 as well.

Aurora Christkindlmarket Pop-Up Summary

Event Photos:



Fox River Trail
Downtown
Centre/Library

SAFE TRAVEL FOR ALL

Appendix D

Safe Streets for All Implementation Grant Checklist

This appendix contains the Safe Streets for All Implementation Grant Application Checklist, which lists the requirements the Kane County Safety Action Plan must meet for Kane County Implementation Projects to qualify for federal funding.

Safe Streets and Roads for All
Self-Certification Eligibility Worksheet

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

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

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

Eligibility

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

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

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

Applicant Information

Lead Applicant: _____ **UEI:** _____

Action Plan Documents

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

Document Title	Link	Date of Most Recent Update
Kane County Safety Action Plan		5/23/25

Action Plan Components

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

1. Leadership Commitment and Goal Setting

Are **BOTH** of the following true?

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

☑ **YES**
☐ **NO**

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

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

Document Title	Page Number(s)
Kane County Safety Action Plan	ii, 148-150

2. Planning Structure

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

☑ **YES**
☐ **NO**

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

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

Document Title	Page Number(s)
Kane County Safety Action Plan	64

3. Safety Analysis

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

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

☑ **YES**

☐ **NO**

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

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

Document Title	Page Number(s)
Kane County Safety Action Plan	24 - 44

4. Engagement and Collaboration

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

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

☑ **YES**

☐ **NO**

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

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

Document Title	Page Number(s)
Kane County Safety Action Plan	64

5. Policy and Process Changes

Are **BOTH** of the following true?

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

☑ **YES**
☐ **NO**

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

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

Document Title	Page Number(s)
Kane County Safety Action Plan	10 - 22, 77 - 86

6. Strategy and Project Selections

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

☑ **YES**
☐ **NO**

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

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

Document Title	Page Number(s)
Kane County Safety Action Plan	88 - 151

7. Progress and Transparency

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

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

☑ **YES**

☐ **NO**

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

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

Document Title	Page Number(s)
Kane County Safety Action Plan	148

8. Action Plan Date

Was at least one of your plans finalized and/or last updated between 2020 and June 26, 2025?

☑ **YES**

☐ **NO**

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

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

Document Title	Date of Most Recent Update	Page Number(s)
Kane County Safety Action Plan	05/30/2025	All

HWCX
12244
HWCX
12349

ELGIN POLICE
785
pace
547
FOUNDRY PARK
R
R

SAFE TRAVEL FOR ALL

Appendix E

Municipal Implementation Guidance

This appendix discusses specific municipal projects and implementation and funding strategies.

Introduction

As an additional component of Chicago Metropolitan Agency for Planning's Safety Action Plans and the Kane County Safety Action Plan, the project team developed a supplemental plan that outlines specific strategies to support the implementation of safer streets in Kane County. This includes a review of potential funding sources for transportation safety projects, key tips for applying for these funding opportunities, and information on inter-agency coordination. In addition to this review, the project team developed additional showcase projects for the municipalities of Aurora and Carpentersville.

Funding & Coordination Strategies

To support agencies in Kane County as they fund and implement transportation safety projects, the project team developed a detailed catalogue of funding opportunities that municipalities, the County, and other agencies could pursue. The catalogue also outlines helpful tips and requirements for these grant programs to provide clear direction. In addition, a section reviewing strategies for inter-agency coordination was developed, recognizing coordination as a key element of project development, funding, implementation, and maintenance.

Municipal Implementation

As part of the supplemental plan, the project team developed additional showcase project fact sheets, similar to those on pages 110–147 of the Kane County Safety Action Plan, for the municipalities of Aurora and Carpentersville. Existing conditions and potential recommendations were evaluated at two locations in each municipality

Municipal partners were key in developing the Kane County Safety Action Plan, and targeted municipal-level implementation is a key strategy in the plan. Each location is included on the Kane County High Injury Network (HIN) and was selected based on their importance as major transportation corridors. These corridors have also been identified by municipal agencies and community members as being unwelcoming or potentially less safe than other routes.

Funding Overview

Funding and inter-agency coordination are critical steps in any safety project to develop broad based support, create smoother project implementation, and ensure long-term project maintenance. There are a variety of funding sources available for transportation safety projects with some sources being better suited to certain types of projects.

For example, a local HSIP funding mechanism is more likely to fund local roadway projects whereas a state or federal HSIP grant may be better suited to larger roadway projects on state routes.

While picking the right grant for a project is critical, so too is developing inter-agency coordination, not only as this creates stronger grant applications, but it can help create more successful long term projects. As such, the below section details opportunities for inter-agency coordination and funding sources.

The following section that details each of the funding programs is based on materials created for the DuPage County SS4A Plan. Although the materials were prepared for DuPage County, it's applicable to other counties in the region as funding sources range from federal to state to regional.

Funding

There are several pools of grant funding:

USDOT discretionary grant programs

State administered federal funding

Regionally administered federal funding

Locally administered federal funding

Other funding source

Safe Streets and Roads for All (SS4A)

Goal

- Eliminate crashes resulting in death or serious injury

Timeline

- **Annually through FY26**
- Next cycle February - March 2026

Match

- 20% local match

Project Completion

- 5 years

Funds

- Infrastructure
- Non-infrastructure

Notes

- Tied to an action plan
- Proven safety need and benefit
- Clear safety priorities
- Funds benefit Areas of Persistent Poverty
- Eligible projects range from safety planning to implementation

USDOT discretionary grant programs

For SS4A projects, planning and demonstration grants can range between $100,000 - $5 million while implementation grants can range between $2.5 million - $25 million.

Eligible projects can include :

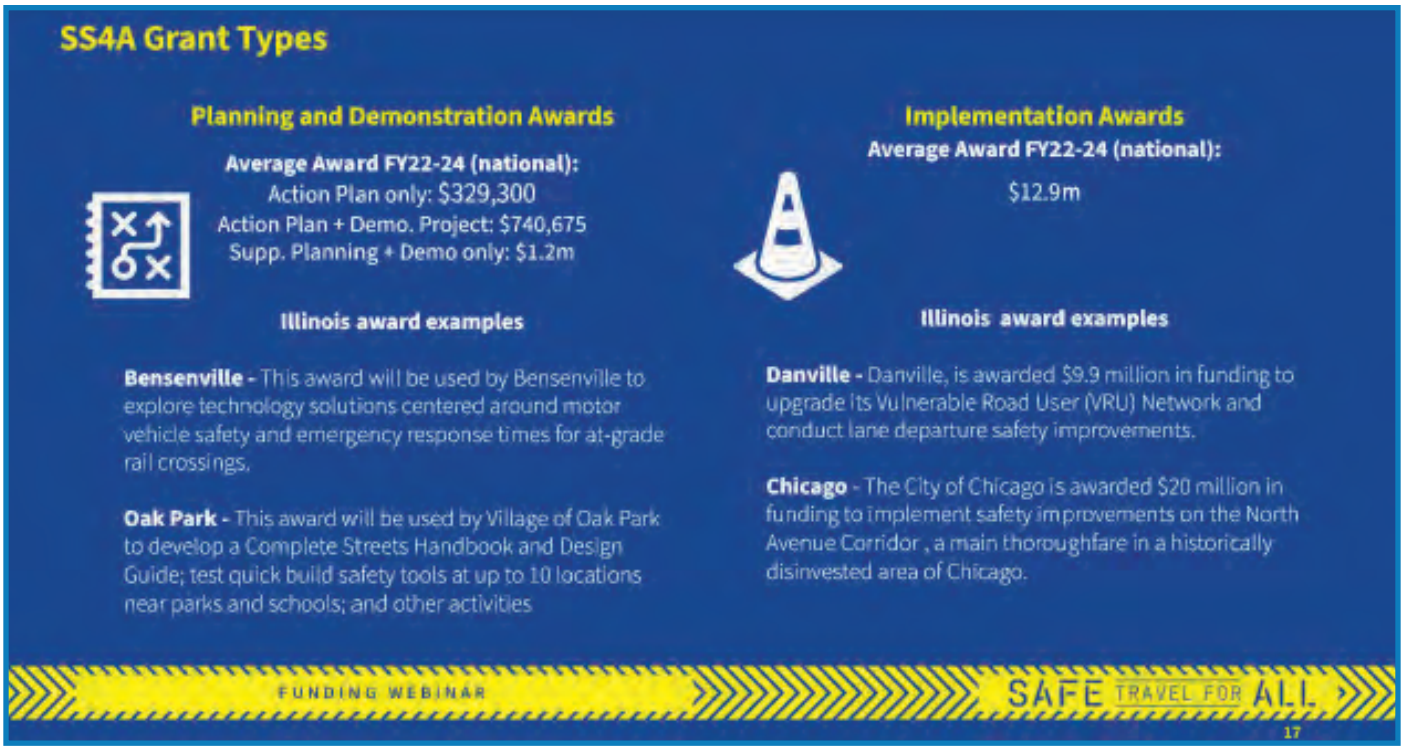
- Safety planning
- Demonstration/pilot projects and programs
- Capital projects with a primary safety benefit
- Safety operational and behavioural programs
- Multi-jurisdictional projects
- Local network improvements

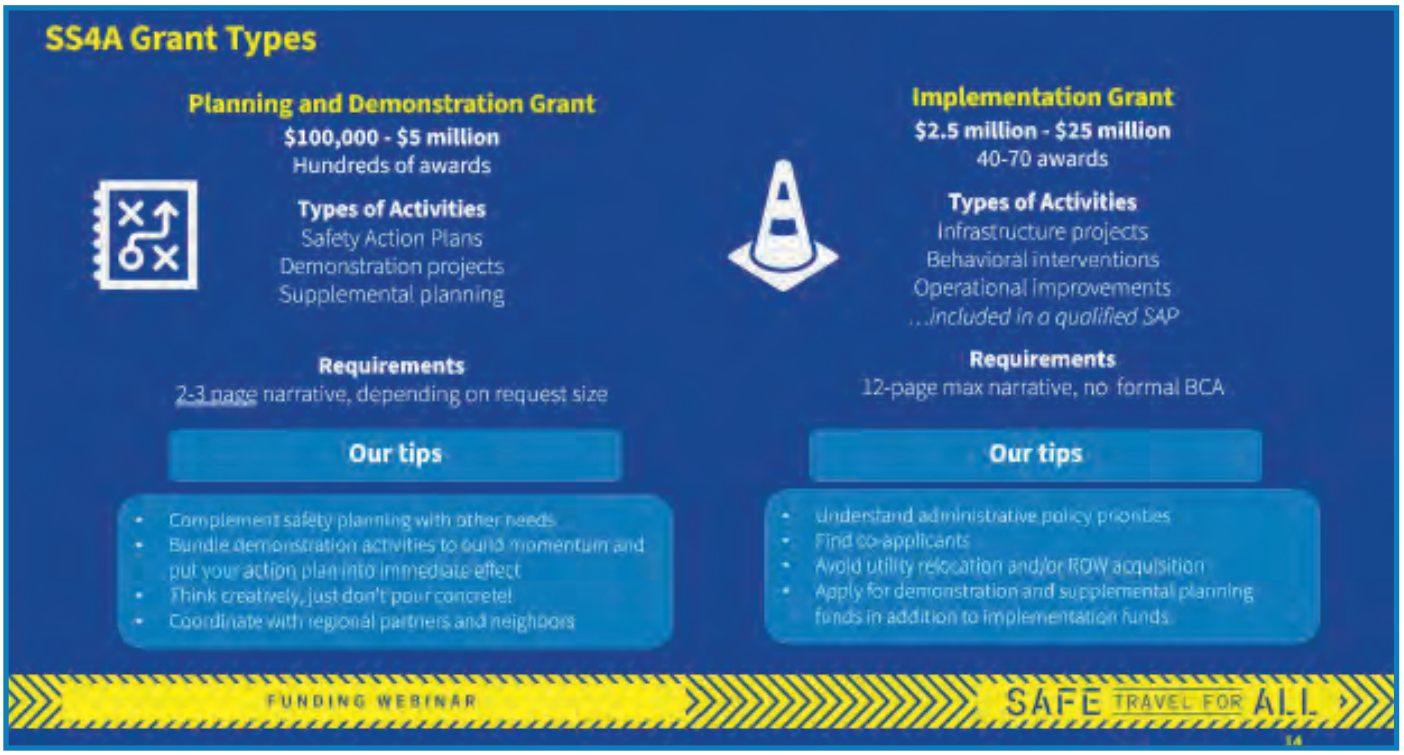
Ineligible projects can include:

- Applications from state DOTs
- Projects that do not have a safety benefit (e.g., asset preservation)
- Projects that will take more than 5 years to deliver

For implementation grants, projects should be tied to a safety action plan and have a proven safety need and benefit.

The below slides are from a funding webinar prepared for the DuPage County SS4A Plan. They offer a detailed look at what makes a project a viable and strong candidate for SS4A funding. For more information, including additional plans and materials, please refer to the CMAP's "Safe Travel for All" website.





Better Utilizing Investments to Leverage Development (BUILD)

Goal

- Support surface transportation projects with local or regional impact

Timeline

- Every two years

Match

- 20% urban
- 0% possible for rural or Area of Persistent Poverty

Project Completion

- Preliminary Engineering completed in 4 years
- Engineering + Construction obligated in 4 years ; completed in 10 years

Funds

- Regionally or locally significant surface transportation infrastructure

USDOT discretionary grant programs

For BUILD projects, engineering and construction grants can range between $5,000,000 - $25,000,000.

Eligible projects can include:

- Planning and/or constructing surface transportation infrastructure
- Public road and non-motorized projects that are not otherwise eligible under title 23, United States Code

Projects could include:

- Bikeways
- Sidewalks
- Pedestrian improvements
- Streetscapes
- Right-sizing roadways
- Rails-to-trails
- Rail transportation projects

Strong projects might include:

- Strong benefit cost analysis
- Letters of support
- Evidence based methods
- Project readiness

Local Highway Safety Improvement Program (HSIP)

Goal

- Reduce fatal and serious injury crashes

Timeline

- **Annual**

Match

- 10% engineering & construction
- 50% land acquisition

Project Completion

- Obligated in 2 years

Funds

- Safety improvements

Notes

- Operation and maintenance costs are ineligible
- Projects on state roads should not apply for this grant as local HSIP prioritizes local roadway projects
- Funds can be used for any phase of a safety project including preliminary engineering

State administered federal funding

For HSIP projects, award amounts can vary.

Projects should include:

- Countermeasures proven to reduce fatal and severe injury crashes
- Strategies that help protect vulnerable roadway users like pedestrians and cyclists
- Interventions on local streets

Specific countermeasures could include:

- High friction surfaces
- Protected bike lanes
- Pedestrian/cyclist over-/underpass

Strong grant applications might include:

- Data-driven narratives about potential projects
- Cost-effective solutions and a benefit-cost ratio greater than 1.0
- Proven safety measures
- Projects that are a part of local or Illinois Strategic Highway Safety Plan (emphasis areas) and/or Comprehensive Safety Action Plan
- Local history of completed projects

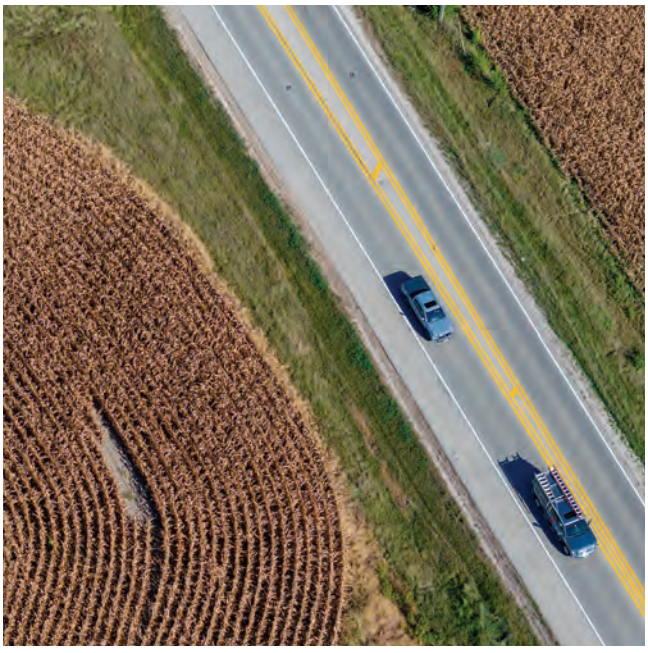
Additional Notes on HSIP

In the 2027 funding cycle, there is about $32 million in funds available. In Illinois, IDOT will be prioritizing high risk rural roads, projects that protect pedestrians and cyclists, and projects that address 2022 Strategic Highway Safety Plan emphasis areas such as roadway departures, hazardous intersections, and pedestrians' conflicts.

Funding

Federal funding level per project is a maximum 90% of the total eligible improvement cost for the project with the local public agency responsible for the 10% percent matching funds and any non-participating items.

While right-of-way costs are typically not eligible under this grant, all other phases of a safety improvement project are eligible for this program, including preliminary engineering, design, construction, and construction engineering.



Submission Requirements

All applications should include:

- Cover letter
- Completed Local Roads & Streets Grant application
- Local HSIP proposal form
- Benefit to cost ratio form
- Raw crash data in an Excel spreadsheet
- Project location map
- Photographs of the project location
- Estimated project cost breakdown (including contingencies and non-participating items)
- Estimated project timeline
- Project narrative
- Local Roads & Streets Risk Assessment
- Conflict of Interest Form

Narrative

Project narrative should be a brief one to two page summary of the project history, crash locations, and desired safety improvements. The project narrative should not include information on every aspect of every crash on the project, every aspect of the desired improvement, or letters of support from other entities concerned about the project.

Project Form

A Local HSIP Proposal form should be completed with as much information as possible about the subject project. The crash table should be filled in with crash totals or zeros if no crash types were present. Data should be used from the most current 5-year period as reported to IDOT available through the online IDOT data portal. Estimated project cost should be the total cost for the completed project.

Location Map

Project location map should include information as to where all crashes occurred within the project limits during the crash evaluation period

Project Timeline

The estimated project timeline should include information on time requirements for Phase I engineering, Phase II design, a target letting date, and an estimated construction completion date.

Illinois Transportation Enhancement Program (ITEP)

Goal

- Support connected and safe transportation, particularly for active modes

Timeline

- **Every two years**
- **Next round is August - September 2026**

Match

- 20% engineering & construction
- 50% land acquisition

Project Completion

- Preliminary Engineering completed in 4 years
- Engineering + Construction obligated in 4 years ; completed in 10 years

Funds

- Safety improvements

Notes

- Ineligible projects include operation and maintenance costs, parking improvements or projects only focused on recreation

State administered federal funding

For ITEP projects, engineering and construction grants can range between $1,500,000 - $3,000,000

Projects should:

- Provide alternative transportation use or benefit
- Connect and enhance the transportation system

Projects could include :

- Bike lanes and sidewalks
- Pedestrian improvements
- Streetscaping
- Rails to trails

Strong projects might include:

- Project readiness
- Connectivity + accessibility
- Overall benefit
- Safety solutions
- Local commitment + support
- Inclusion of transportation plans
- Past performance of sponsor
- Land acquisition/ rail coordination is complete or in progress

Additional Notes on ITEP

Applications are submitted through the ITEP application portal.

This grant will prioritize of projects that

- Enhance transportation alternatives and improve quality of life
- Align with IDOT's goals for community, environment and multi-modal access

Eligible Project Types

- Bicycle and pedestrian facilities
- Streetscape improvements
- Historic preservation related to transportation
- Environmental mitigation related to transportation
- Safe routes to school
- Rail-to-trail conversions

Required Attachments

- Resolution of Financial Commitment
- Detailed Cost Estimate
- Timeline
- Detailed Project Description
- Detailed Project Location Map
- IDOT Allowance Letter (if applicable)
- BoBS 2831 – Uniform Grant Agreement Affidavit of Disclosure of Conflicts of Interest - Grantee
- BoBS 2835 -FY25 IDOT Subrecipient Risk Assessment
- Programmatic Risk Assessment

Optional Attachments

- Public Involvement Documentation
- Letters of Support
- Pictures of Project Area

Safe Routes to Schools (SRTS)

Goal

- Encourage students to walk and bike to school

Timeline

- **Every two years**
- **Next round is August - October 2027**

Match

- Not required

Project Completion

- Non-Infrastructure projects should be completed before end of the school year
- Infrastructure projects should be obligated within 18 months & constructed & closed within 3 years

Funds

- Safety improvements

Notes

- Projects should be within 2 miles of a kindergarten through grade 12 school
- Private schools may apply if project is within the public right-of-way
- Each school district limited to (1) infrastructure and (1) non-infrastructure application
- Preliminary engineering and/or right-of-way costs are not eligible for funding

State administered federal funding

For SRTS projects, non-infrastructure grant awards range between $2,500 - $50,000. Infrastructure grant awards range between $25,000 - $250,000.

Eligible non-infrastructure projects could include:

- SRTS planning study
- Demonstration projects
- Public education campaign or other programming

Eligible infrastructure projects could include:

- Bike lanes and sidewalks
- Pedestrian improvements
- Streetscaping
- Traffic calming

Strong projects might include:

- Project readiness, such as:
  - Resolution and letter of support
  - Parent survey + student tally summary
  - Detailed cost estimate
- Local commitment + support
- Overall need and benefit

Surface Transportation Program - Shared Funds (STP)

Goal

- Encourage collaboration between municipalities

Timeline

- **Every two years**
- **Next round is Oct – Dec 2026 for federal FY2028 - 2032**

Match

- 20%

Project Completion

- Requirements are determined by the year funds are programmed; funds must be federally authorized in that year

Funds

- Safety improvements

Notes

- Does not fund phase 1 engineering, local roads and project phases already underway
- Best suited for projects that local councils or agencies cannot readily fund
- Project must be included in a locally adopted plan
- Total project must be at least $5 million

Regionally administered federal funding (CMAP)

For regional STP, total grant awards vary annually. To be eligible for STP shared funds, a project must have a total cost of at least $5 million, meaning the program is intended to support larger-scale regional projects. The $5 million threshold applies to the total project cost, not the funding request amount. There is an exemption for the total cost if the project has three or more financial sponsors with at least one of them being a municipality.

Note that the majority of funding will be available in the last two years of any call.

Eligible projects could include:

- Bicycle and pedestrian barrier elimination
- Highway/rail grade crossing improvement road reconstruction
- Corridor or small area safety
- Complete street road modernization
- Intersection improvement

Strong projects might include:

- Project readiness
- Planning factors (inclusive growth, complete streets, resilience, freight, transit supportive density)
- Subregional priority

Congestion Mitigation and Air Quality (CMAQ) Improvement Program

Goal

- Improve air quality and mitigate congestion

Timeline

- Every two years
- Next round is Oct – Dec 2026 for federal FY 2028 - 2032

Match

- 20%

Project Completion

- Requirements are determined by the year funds are programmed; funds must be federally authorized in that year

Funds

- Safety improvements

Notes

- Does not fund phase 1 engineering, local roads and project phases already underway

Regionally administered federal funding (CMAP)

For CMAQ, grant awards vary annually. Similar to STP shared funds, CMAQ funds are available for projects that have completed Phase I engineering. These projects tend to be larger in scale, with average awards of about $10 million in recent funding cycles. Note that the majority of funding will be available in the last two years of any call.

Eligible projects could include:

- Bicycle and pedestrian barrier elimination
- Emissions reduction projects
- Transit improvements
- Complete street road modernization
- Traffic flow improvements

Strong projects might include:

- Cost benefit of emission reduction
- Transportation impact criteria

Transportation Alternatives Program (TAP-L)

Goal

- Encourage a multimodal transportation system, promote efficiency and ensure accessibility

Timeline

- Every two years
- Next round is Oct – Dec 2026 for federal FY 2028 - 2032

Match

- 20%

Project Completion

- Requirements are determined by the year funds are programmed; funds must be federally authorized in that year

Funds

- Safety improvements

Notes

- Does not fund phase 1 engineering and project phases already underway

Regionally administered federal funding (CMAP)

For TAP, grant awards vary annually. Unlike STP and CMAQ, project size is more limited, with the recent awards averaging around $1 million. Note that the majority of funding will be available in the last two years of any call.

Eligible projects could include:

- Multi-use trails
- Trail bridges and underpasses
- On street bike facilities
- Traffic signal modernization

Strong projects might include:

- Completes the Regional Greenways & Trails plan
- Documented support in the community for the facility
- Safety and attractiveness
- Project readiness

Surface Transportation Local Program (STP-L)

Goal

- Support effective projects that reduce single occupancy automobile travel and/or improve transportation network connections

Timeline

- Every two years
- Next round is Oct – Dec 2027

Match

- 20% roadways & intersections
- 25% asset management

Project Completion

- Completed in 5 years

Funds

- Safety improvements

Notes

- Local match assistance is available
- Kane Kendall Council of Mayors (KKCOM) give additional points for local commitment through funding phase 2 and right-of-way, and for project readiness.

Locally administered funding (KKCOM)

For local STP, the grant awards for highway based projects vary from $250,000 – approx. $6.5M while traffic control measure projects range between $400,000 – approx. $4M. Funding depends on the administering council. In Kane County, the Kane Kendall Council of Mayors' (KKCOM) maximum grant is $2.5 million.

Eligible projects could include:

- Highway: resurfacing/rehabilitation, reconstruction, intersection improvements, grade separation
- Traffic Control Measure: on-street bike/pedestrian facilities, trail projects, ITS, signal interconnects

Strong projects might include:

- Safety improvement + need
- Project readiness (phase 1 engineering, right-of-way completed)
- Annual average daily traffic
- Pavement condition
- Local needs
- Financial commitment
- Planning factors depends on the council which may include complete streets, safety measures, or freight

Additional Local Funding Options

- Operating budget
- Capital budget
- Tax Increment Districts (TIF)
- Joint projects/multi-agency funded opportunities
- Transportation improvement programs

Other Funding Options

- [RTA] Access to Transit
- Federal earmark (Community Project funding)
- Community Development Block Grant (CDBG) program funds
- [IDOT] Sustained Traffic Enforcement Program (STEP)
- National Safety Council Community Traffic Safety Grants
- AARP Community Challenge
- ICC Crossing Safety Improvement Program
- Ride Illinois' Bike Safety Quiz Mini-Grants
- League of American Bicyclists Community Spark Grant
- T-Mobile Hometown Grant
- ComEd Safe Communities Grant Program

Inter-Agency Coordination

A successful transportation grant application starts well before a notice of funding opportunity is released. Planning early, designing a project with the specific grant criteria in mind, and establishing strong inter-agency coordination are all critical to building a competitive proposal.

Planning ahead allows agencies to fully understand project development, eligibility, and long-term reporting requirements. Many transportation grants, particularly those funded with federal dollars, require coordination with state and federal partners and may trigger environmental review under NEPA. Projects that are scoped and developed with a particular funding program in mind tend to be more competitive because they demonstrate project readiness, clear schedules, and an understanding of the grant's evaluation criteria.

Inter-agency coordination is especially important for transportation projects, which often cross jurisdictional boundaries or involve shared responsibilities for ownership, operations, maintenance, and right-of-way. Collaborating early with municipalities, counties, MPOs, transit agencies, state DOTs, and other relevant partners aligns goals and resolves potential conflicts before an application is submitted. Joint applications or strong, detailed letters of support signal that the project has broad-based support and is less likely to face delays due to jurisdictional issues or permitting challenges.

Strong partnerships also strengthen the project narrative. Multiple agencies can contribute data, technical expertise, and local knowledge that can improve benefit–cost analyses and narrative requirements. Coordination can also help demonstrate how a project fits into adopted plans, regional priorities, and complementary investments.

Steps to pursuing grant opportunities with other agencies include:

- Engage partners early, ideally during project scoping, not after the application is drafted.
- Clearly define roles, responsibilities, and lead agencies, both in developing the grant application and in project delivery.
- Align the project with existing local, regional, and state plans to show consistency and shared priorities.
- Speak with the relevant agencies to ensure that the ideas in the plans are still relevant and current.
- Maintain regular communication so partners can review application language, schedules, and commitments. Coming to agreement on key draft, revision and submittal milestones is recommended.

- Request letters of support that are specific and substantive, rather than generic endorsements. Letters of support can come from other agencies, elected officials and community groups that are impacted by or have a vested interest in the project. Consider key stakeholders previously engaged in the project (such as members of a project Steering Committee). Letter templates can be provided to the organizations to facilitate the process. Request letters of support early, providing the organizations at least three weeks to prepare, sign and send the letter before the grant submittal deadline.

Finally, while developing the grant application, reviewing past grant awardees can provide valuable insight into what funding agencies prioritize and how successful applicants frame their projects. Strong applications typically combine quantitative data, clear project details, and storytelling to show how the proposed project directly meets each program requirement and delivers meaningful, achievable outcomes.

Some grants greatly benefit from inter-agency coordination due to the nature of funding priorities or scale. As such, the below grants are best suited for strong inter-agency coordination:

- HSIP
- ITEP
- BUILD
- STP

Additional Coordination and Implementation Tips

Inter-agency efforts, while extremely beneficial and important for transportation networks and infrastructure, are not easy to pursue and apply for due to the need for extensive communication between multiple agencies. Additional resources, especially time, must be adequately planned to truly ensure an effective and fruitful funding partnership. The following are some important steps and actions to keep in mind when conducting inter-agency coordination based on the main transportation jurisdictions in Kane County.

Coordinating with Municipalities:

- Communicate with neighbouring jurisdictions often, especially regarding CIP projects (or planning efforts) that border or cross jurisdictional lines.
- Develop and plan project application for corridor extents early in advance of a funding program's call-for-projects.
- Plan early for letters of supports and funding commitments from a municipality's governing body, such as the city council, mayor's office, or planning commission. Note that some agencies require that a grant application receives governing body approval prior to submission.

Coordinating with Townships:

- Identify potentially impacted township-owned roads early in the project.
- Identify early the person(s) in charge of maintenance and construction of township-owned roads.

Coordinating with Kane County:

- Notify the County early if projects cross or are on County-owned roads.
- Consult with County-wide plans to ensure consistency with goals and vision of roadway safety .
- Utilize the toolboxes and strategies mentioned in Chapter 7 and 8 of this Kane SAP for improvements to target area specific concerns. Additionally, coordinate with Kane County on appropriate safety measures and strategies for specific concerns. Not all the safety measures and strategies in chapter 7 and 8 are universally appropriate, as their effectiveness depends on roadway type, surrounding environment, and other site-specific conditions.

Coordinating with IDOT for Projects on IDOT Corridors:

- Any project that impacts an IDOT route or intersection has to be reviewed and approved by IDOT.
- Local jurisdictions can request to improve IDOT corridors as long as plans and permissions are approved after IDOT review.

- IDOT funding for these locally-led projects on IDOT roads will be considered if the municipality requests funding assistance, which must be requested by letter. However, funding assistance may not be guaranteed.
- Depending on project type and funding type, agencies will need to coordinate with different departments or bureaus from IDOT. IDOT will assist in pointing to the correct department or bureau but budget time accordingly.
- There are IDOT processes in place when a municipality would like to make a modification on an IDOT road. Projects on IDOT roads require a Highway Permit if the local agency is using its own funds and contractors. IDOT will review and approve the permit, and this can be done outside of an IDOT department project.
- If the local agency is using part of their local Motor Fuel Tax to fund a project on an IDOT road, the process will be similar to the Highway Permit but the project approval goes through the Bureau of Local Roads and Streets (BLRS). If this is of interest, reach out to IDOT first to discuss what they're looking to do and get feedback. For this option, the local agency will be leading the engineering, environmental and obtaining the funding. They can ask for a contribution from IDOT, but it's not guaranteed.

Advice from IDOT on Applying For Local HSIP Program:

- It is allowed for project corridors to cross an IDOT road, but applications focusing primarily on IDOT roads will likely not be considered; this program is reserved for locally-owned roads.
- Projects that intersect with IDOT roads should be notified to IDOT as soon as possible; official letters of support from IDOT are not required but it is still beneficial for the project to be on IDOT's radar.
- Municipalities are encouraged to sign up for IDOT circular letters. Funding opportunities are announced through these. They are also good for understanding what sort of initiatives IDOT is currently most interested in pursuing, which can provide good guidance for developing competitive grant applications (e.g. signage and curves, non-motorized, etc.).
- All countermeasure types are considered as long as they adequately address safety concerns. When reviewing applications, IDOT looks at the merit of an application on a case-by-case basis, particularly if there are serious injuries along the project area, and if the countermeasures proposed address the crash causes.

Other General Tips:

- The faster and earlier coordination efforts begin with IDOT, Kane County, and other local agencies, the better.
- According to IDOT, the biggest mistakes that agencies make is waiting to engage them until too far into the process. Informal conceptual designs, similar to what is shown in this Appendix on the Fact Sheets, can be used to begin these initial discussions. The local agency does not need complicated CAD drawings to begin.
- Late notifications or coordination with agencies often lead to changes or delays that often impact the critical path of the grant application or construction project.

Coordinating with Transit Agencies (Pace and Metra):

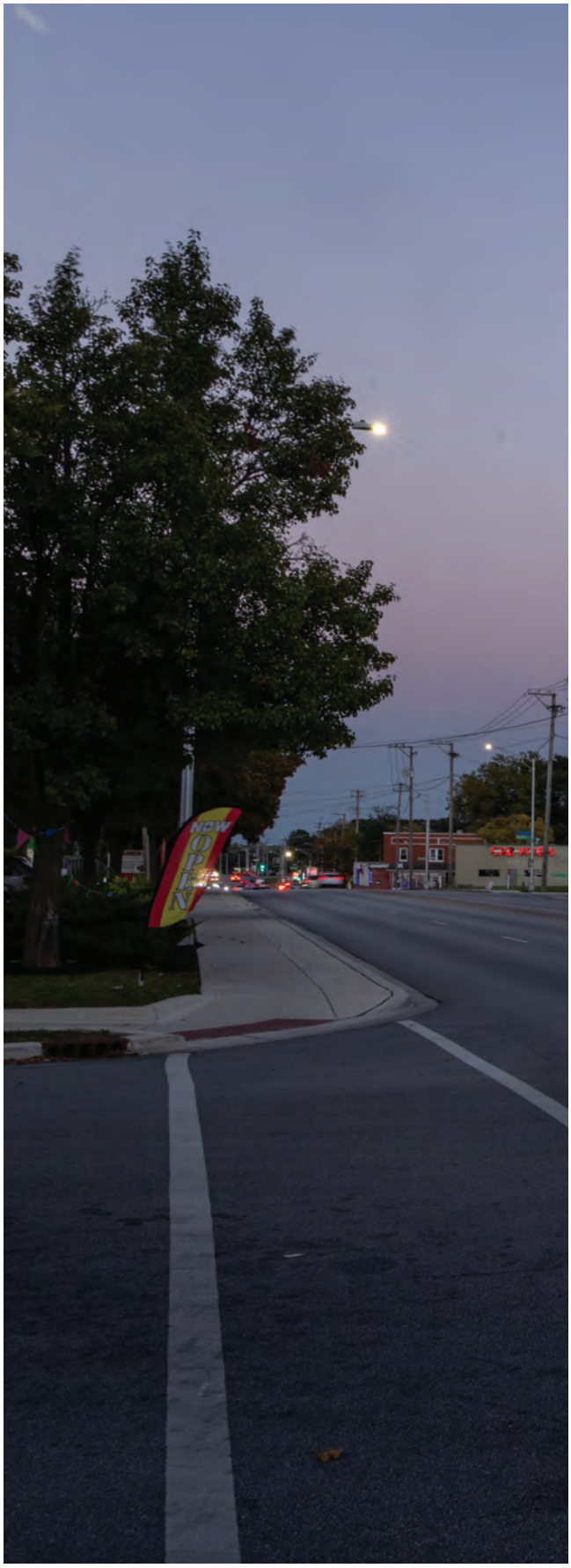
- Be aware and cognizant of long-range or short-range planning documents provided by these agencies to identify potential route or facility changes on municipal roads.
- Notify and coordinate in advance with transit agencies if transit stops, facilities, or routes are impacted by roadway improvements.
  - Acquiring ridership and volume data for stops impacted by construction or design is a bonus addition to understanding alternative relocation of transit amenities.
  - Identify the ownership of said facilities and amenities especially if relocation is required.
- Ensure that suitable pedestrian or bicycle access and safety measures are present near transit amenities.
  - Transit agencies may be interested in hearing about improvements directly on their routes as well as nearby improvements connecting to their routes (for example, a sidewalk project on an adjacent road that would create a complete sidewalk connection between an apartment complex and a bus stop).
- Understand the transit agency's preferences in placing amenities and stops, such as a preference for near-side or far-side stop locations, or the minimum footage required for buses or other agency vehicles to pull in and out of a stop.
- For projects that provide co-benefits for transit riders as well as other roadway users, the respective transit agency may consider being a project partner or provide additional support. For example, the agency could provide a letter of support, match funding, or additional information that would be useful in preparing a federal grant application, especially if the project is along a priority transit corridor.
  - Additionally, the Regional Transit Authority (RTA) has grant funding for planning and capital projects that municipalities can seek to enhance access to transit, such as the Community Planning Program.

Who to Reach out to at IDOT First?

- **Requests for funding in general** should be sent to District-level Program Development staff, such as the Region 1 Engineer in the Schaumburg Office.
- **Requests and questions about Local HSIP** should be sent to the Program Manager at the Central Bureau of Local Roads and Streets
- **To understand your project's compatibility with District 1 plans** in the vicinity, reach out to the Bureau of Programming.
- **If the project is on a local road**, you could reach out to the Bureau Chief of Local Roads and Streets.
- **For a Highway Permit,** you could reach out to the Bureau of Traffic.
- **If unsure,** begin by reaching out to who you know, programming staff, or project development staff in your area. It depends on the situation, type of funding, and how the project is being led. If still unsure, the easiest route is to write a letter to the Region Engineer with the District-level Program-Development staff.

The above referral directions are current as of December 2025. Because staffing may change, consult the IDOT staff directory for the latest contact information.

Alternatively, local agencies can write or visit the Region 1 office at 201 West Center Court Schaumburg, IL 60196.

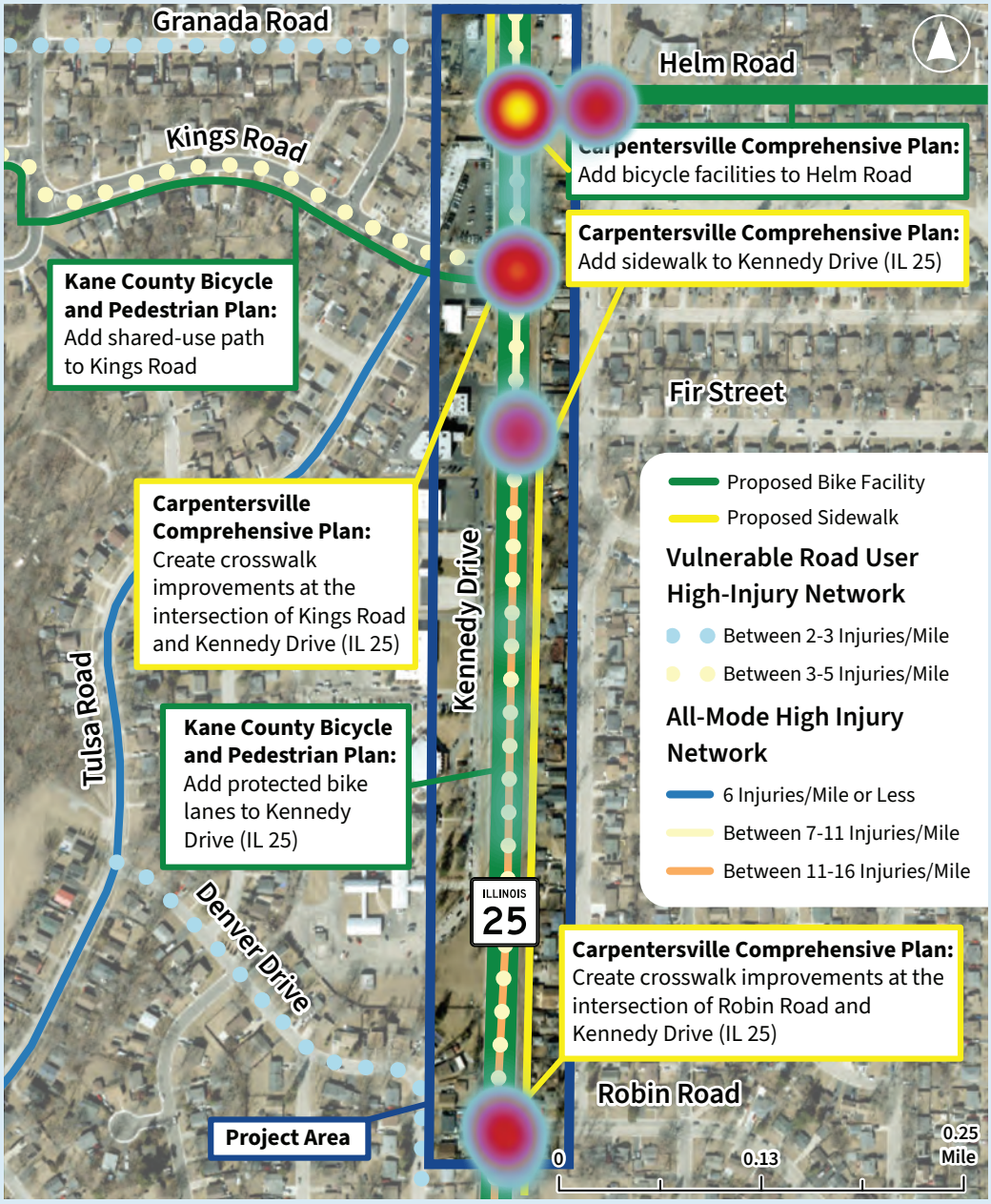


Supplemental Municipal Projects

1 Illinois State Route 25 from Robin Road to Helm Road

City of Carpentersville

Existing Conditions



Why This Location Was Selected:

- High Injury Network Score
- Steering Committee Guidance

Supplemental Project 1 - Location Characteristics

Facility Types:

Intersection Facility Type:
Signalized Intersections (Helm Rd, Kings Rd, Robin Rd). One Way Stop-Controlled (Fir St)

Segment Facility Type:
Principal Arterial
2-5 Lanes, 40 mph

Program Considerations:

Area of Persistent Poverty?
No

IRS Opportunity Zone?
Yes

Crash Statistics:

Total Collisions
110

Severe Or Fatal Collisions
6

Pedestrian Collisions
2

Bicycle Collisions
0

Top Collision Types:

1. Turning/Angle (41%)
2. Front to Rear (29%)
3. Sideswipe (10%)

Key Safety Rankings:

3-5 Peak Vulnerable Road User High Injury Network Score (Injures Per Mile)

11-16 Peak All Modes High Injury Network Score (Injuries Per Mile)

0.11 Peak Severe/Fatal Crashes Per Mile

Other Key Collision Analysis Results

- Intersection related crashes were 17 times more likely to occur than segment related crashes
- Robin Rd and IL 25 (20 crashes), Kings Rd and IL 25 (21 crashes), and Helm Rd and IL 25 (30 crashes) had the highest concentration of crashes
- 80% of A injury crashes were due to turning crash types
- Most common crash causes included
  - Failing to Yield Right of Way (#1)
  - Failing to Reduce Speed to Avoid Crash
  - Following Too Closely

Supplemental Project 1 - Current Configuration

IL 25 from Robin Rd to Helm Rd - Carpentersville

Additional Context:

- There are two elementary schools near this corridor, one just south of Robin Rd and one just north of Helm Rd
- A grocery store is also located just south of Robin Rd
- 40% of crashes occurred during the afternoon rush from 3PM to 7:30PM
- Lighting and line of sight create an uncomfortable experience for many roadway users

Supplemental Project 1 - Potential Strategies

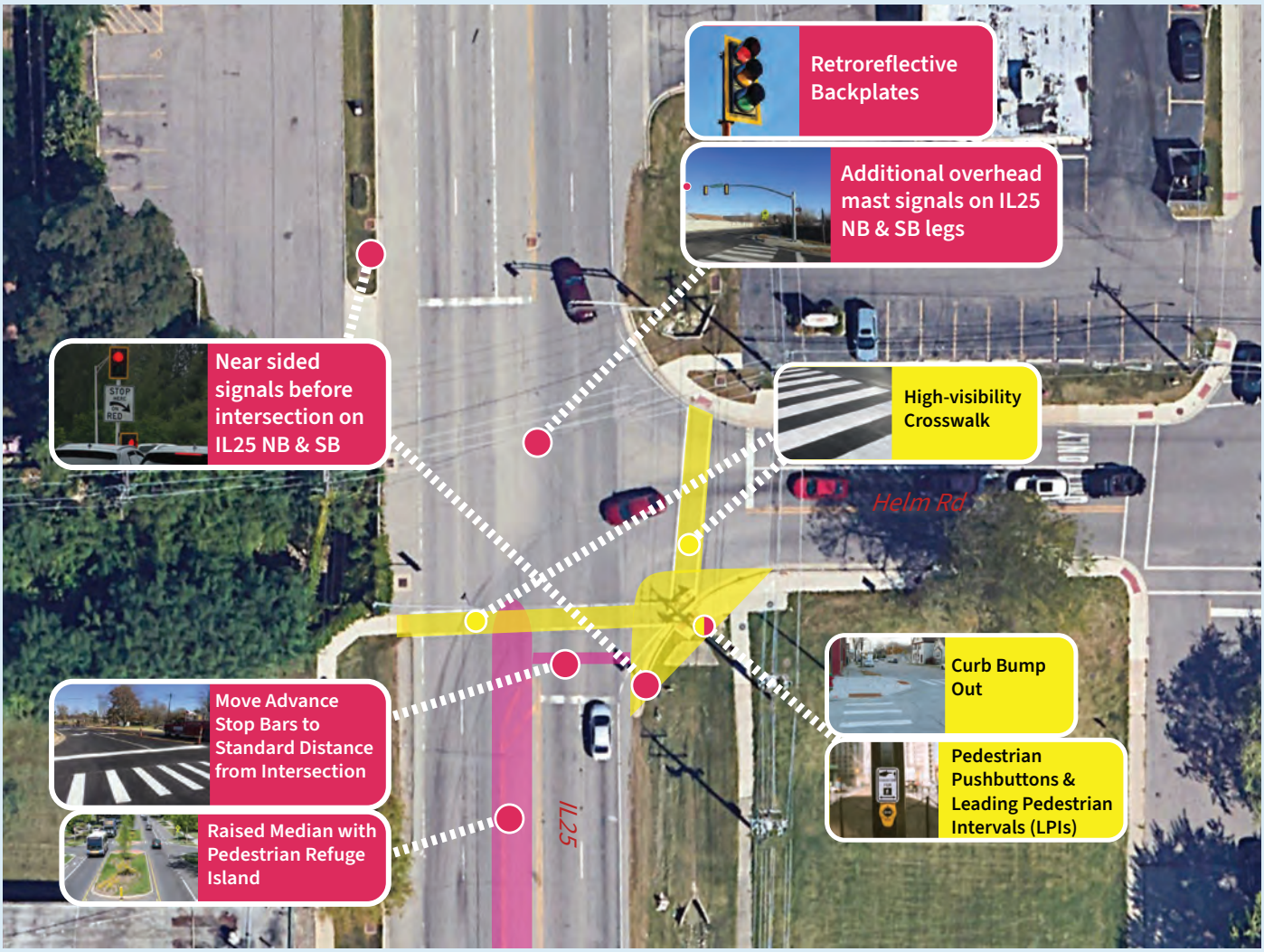
IL 25 from Robin Rd to Helm Rd - Carpentersville

Potential Strategies

- Install lighting and small street trees throughout the corridor in ways that will not pose a crash risk to vehicles. Street trees provide shade and separation from traffic, while lighting improves night time visibility for a more pleasant pedestrian experience.
- Conduct a drainage study along the entire corridor and install green infrastructure, such as bioswales and street trees, to help address flooding.
- Install a center median where space allows, and provide pedestrian refuge islands at intersections. If the median affects driveway access, complete an additional access management study.
- Modernize signals throughout the corridor by adding near-sided signals, retroreflective backplates, additional mast-arm signals, and increased yellow-light timing.
- Coordinate with IDOT to ensure consistency with ongoing signal studies and contracts.

Supplemental Project 1 - Potential Strategies

IL 25 and Helm Rd - Carpentersville

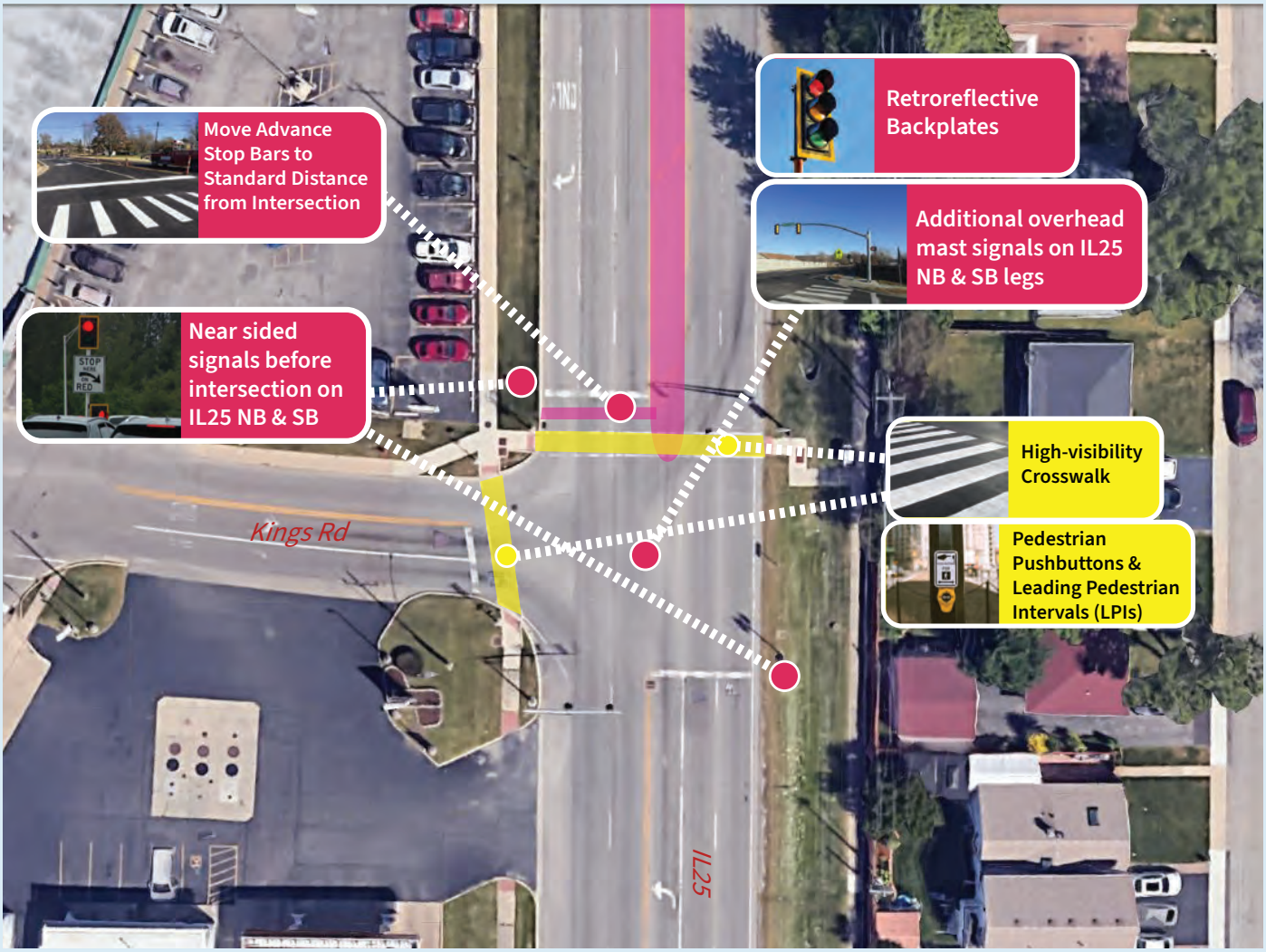


Potential Strategies

- Install leading pedestrian intervals and high-visibility crosswalks on the southern segment of IL-25 and across Helm Road to better facilitate pedestrian movements.
- After ensuring adequate turning clearance for larger vehicles, if possible, construct a curb bump-out at the southeastern corner to slow right-turn movements.
- Modernize traffic signals and evaluate opportunities for signal re-timing. Review potential to extend yellow light as needed.
- Install advanced stop bars at the standard four feet from the crosswalks at all stop points in the intersection.
- After ensuring adequate turning clearance for larger vehicles, install a raised median at the intersection with a pedestrian refuge island.

Supplemental Project 1 - Potential Strategies

IL 25 and Kings Rd - Carpentersville

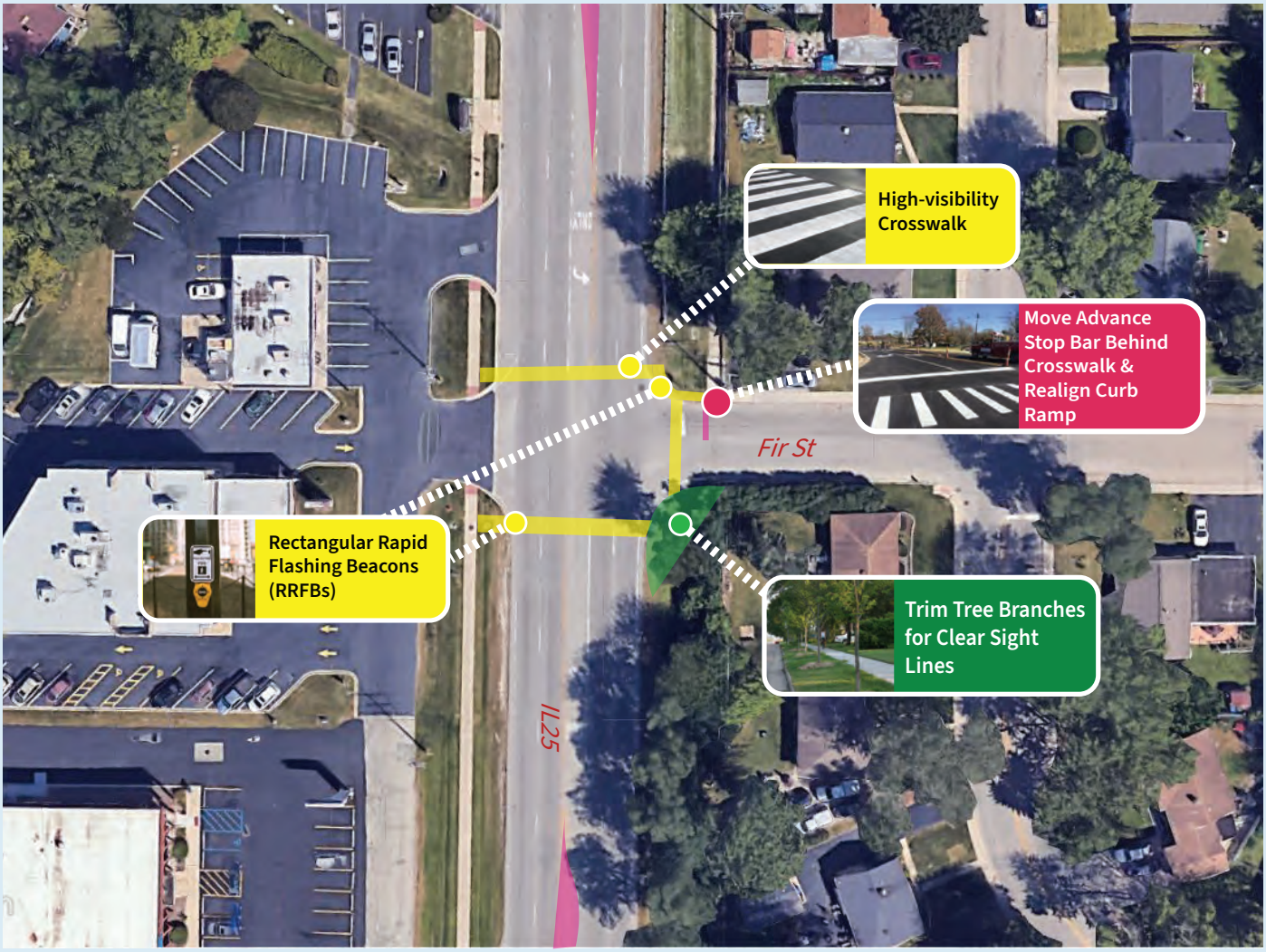


Potential Strategies

- Install leading pedestrian intervals and high-visibility crosswalks on the northern segment of IL-25 and on Kings Road to better facilitate pedestrian movements.
- Modernize traffic signals and evaluate opportunities for signal re-timing.
- Set all advanced stop bars at the standard four feet from the crosswalks.
- After ensuring adequate turning clearance for larger vehicles, if possible, install a raised median at the intersection to provide a pedestrian refuge island.

Supplemental Project 1 - Potential Strategies

IL 25 and Fir St - Carpentersville

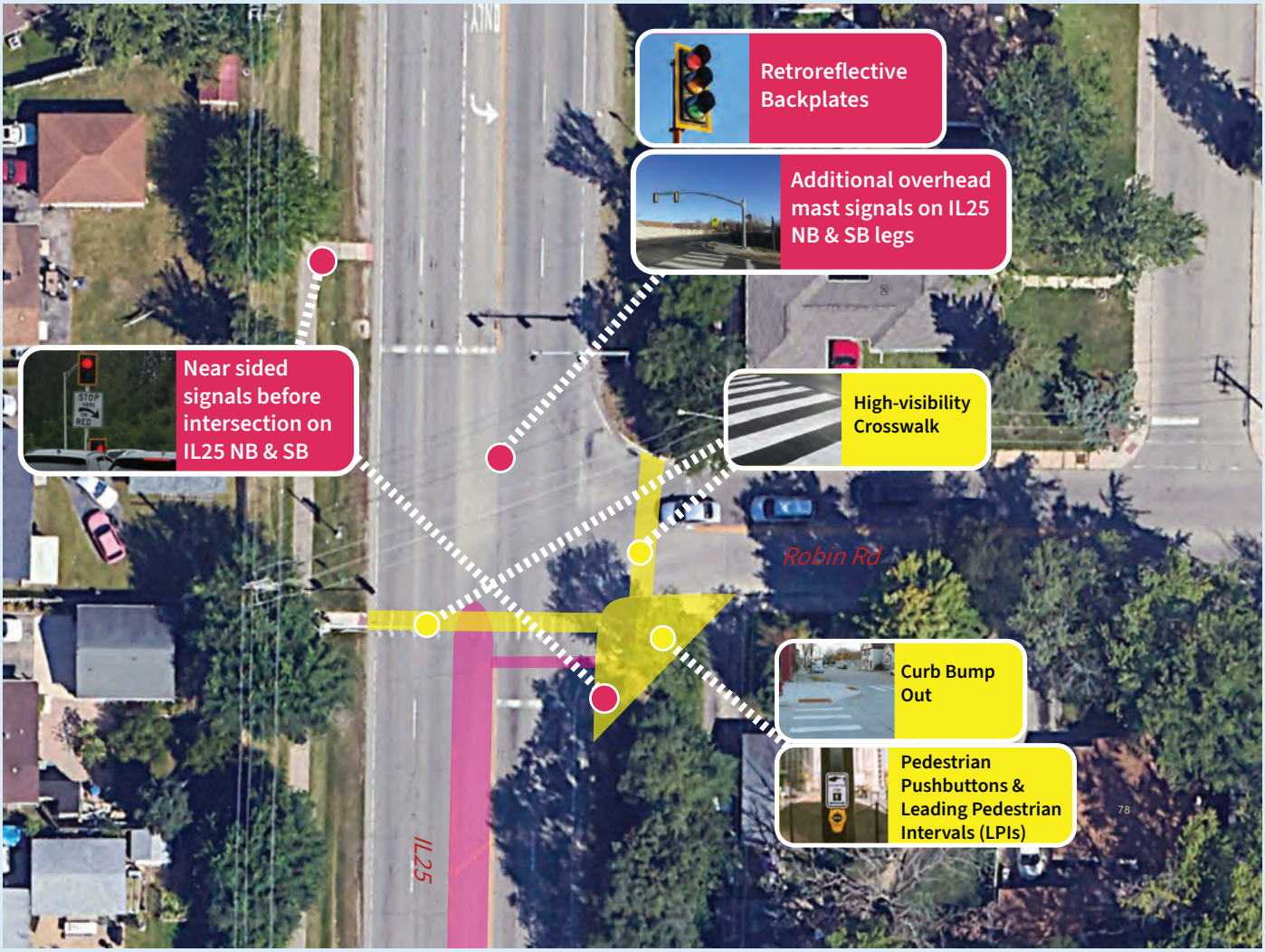


Potential Strategies

- If warranted, install high-visibility crosswalks on the southern segment of IL-25 and across Fir Street to better facilitate pedestrian movements. Install rectangular rapid flashing beacons at the IL-25 crosswalks to enhance visibility where no traffic control device is present.
- Install an advanced stop bars at Fir Street four feet from the crosswalk.
- Use bollards in place of a raised median approaching the intersection where spatial constraints make a median infeasible.
- Trim trees near the intersection to ensure clear sight lines for turning vehicles.

Supplemental Project 1 - Potential Strategies

IL 25 and Robins Rd - Carpentersville



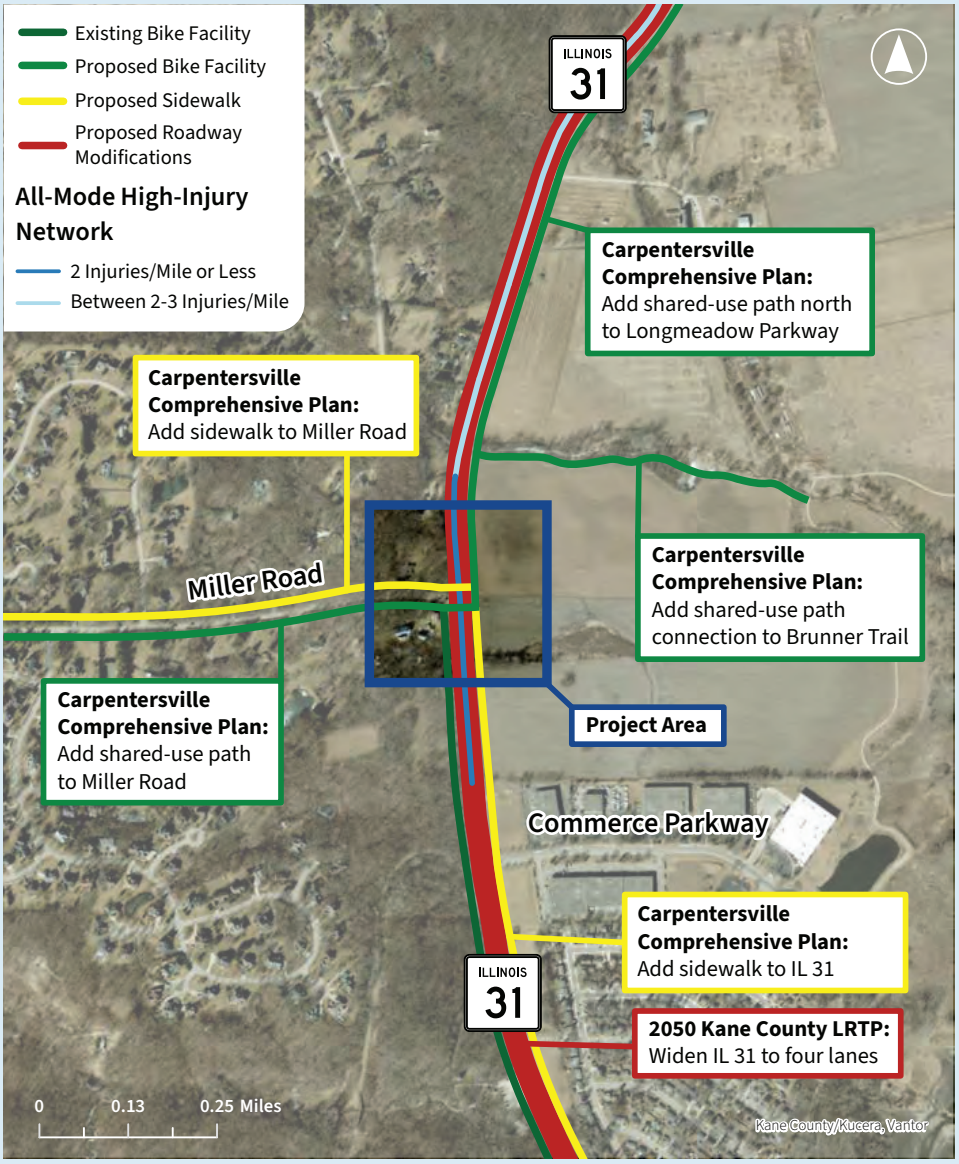
Potential Strategies

- Install leading pedestrian intervals and high-visibility crosswalks on the southern segment of IL-25 and across Helm Road to better facilitate pedestrian movements.
- After ensuring adequate turning clearance for larger vehicles, if possible, construct a curb bump-out at the southeastern corner to slow right-turn movements.
- Set all advanced stop bars at the standard four feet from the crosswalks.
- Modernize traffic signals and evaluate opportunities for signal re-timing. Yellow light should be reviewed and potentially extended 1-2 seconds as needed.
- After ensuring adequate turning clearance for larger vehicles, if possible, install a raised median at the intersection to provide a pedestrian refuge island.

2 Illinois State Route 31 and Miller Road

City of Carpentersville

Existing Conditions Map



Why This Location Was Selected:

- Steering Committee Guidance
- High Injury Network Score

Supplemental Project 2 - Location Characteristics

Facility Types:

Intersection Facility Type:
Unsignalized Intersection

Segment Facility Type:
N/A

Program Considerations:

Area of Persistent Poverty?
No

IRS Opportunity Zone?
No

Crash Statistics:

Total Collisions
50

Severe Or Fatal Collisions
1

Pedestrian Collisions
0

Bicycle Collisions
0

Top Collision Types:

1. Turning/Angle (34%)
2. Front to Rear (24%)
3. Fixed Object (22%)

Key Safety Rankings:

0 Peak Vulnerable Road User High Injury Network Score (Injures Per Mile)

6 Peak All Modes High Injury Network Score (Injuries Per Mile)

1 Peak Severe/Fatal Crashes Per Mile

Other Key Collision Analysis Results

- About 20 collisions occurred during weather-related events such as wet, snowy, or icy conditions.
- Slippery roads are the main contributor to Fixed Object crashes. All Fixed Object crashes occurred during weather-related events.

Supplemental Project 2 - Current Configuration

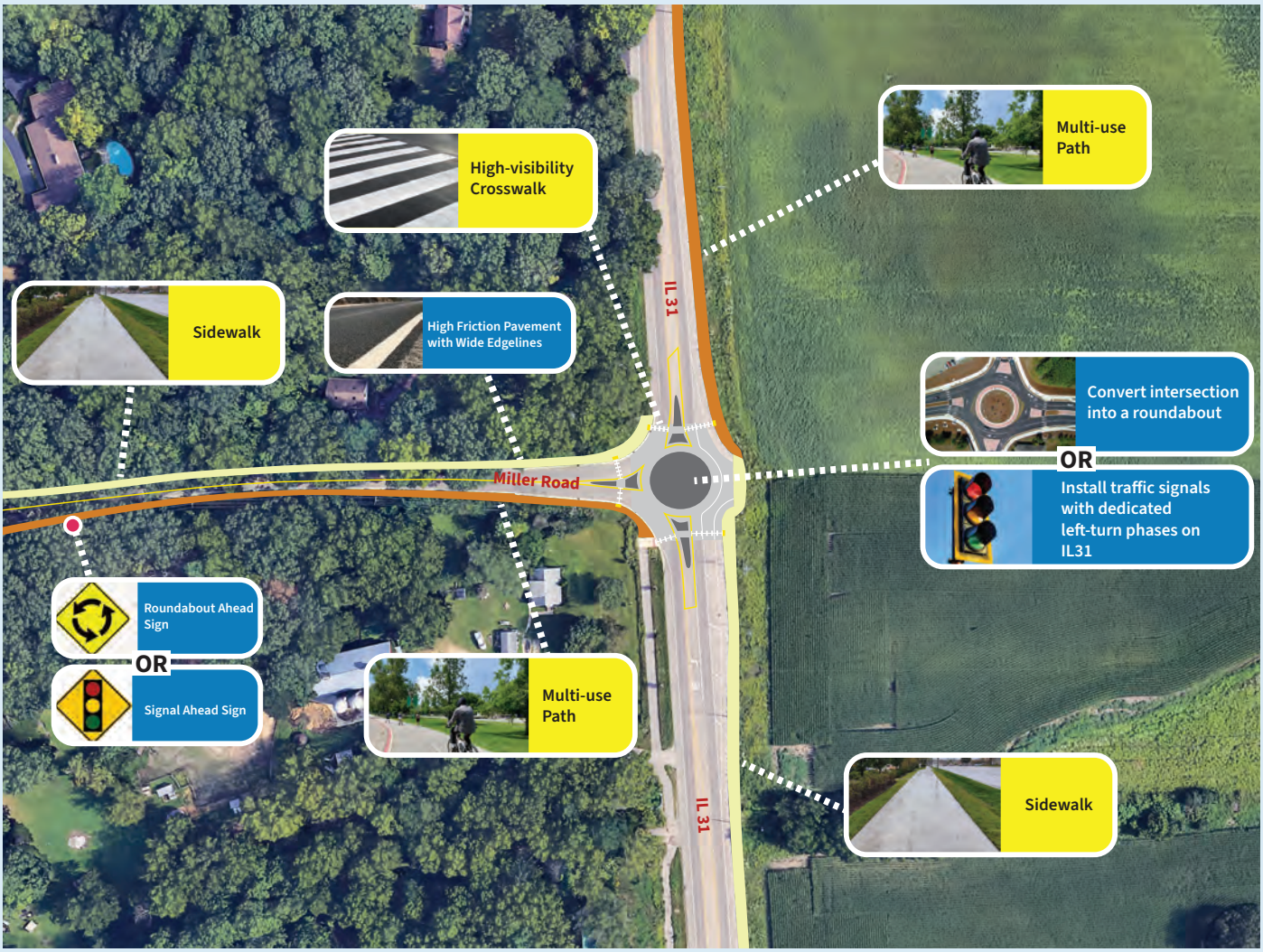
Illinois 31 and Miller Road - City of Carpentersville

Additional Context:

- This is an uncontrolled intersection, with no stop sign for automobiles turning from Miller Road onto Illinois 31.
- There are no pedestrian or bicycle crashes as these modes do not travel through this intersection due to a lack of pedestrian and bicycle infrastructure. However, there are plans for future pedestrian and bicycle paths.
- There is a lack of Lighting at the intersection.

Supplemental Project 2 - Potential Strategies

Illinois 31 and Miller Road - City of Carpentersville



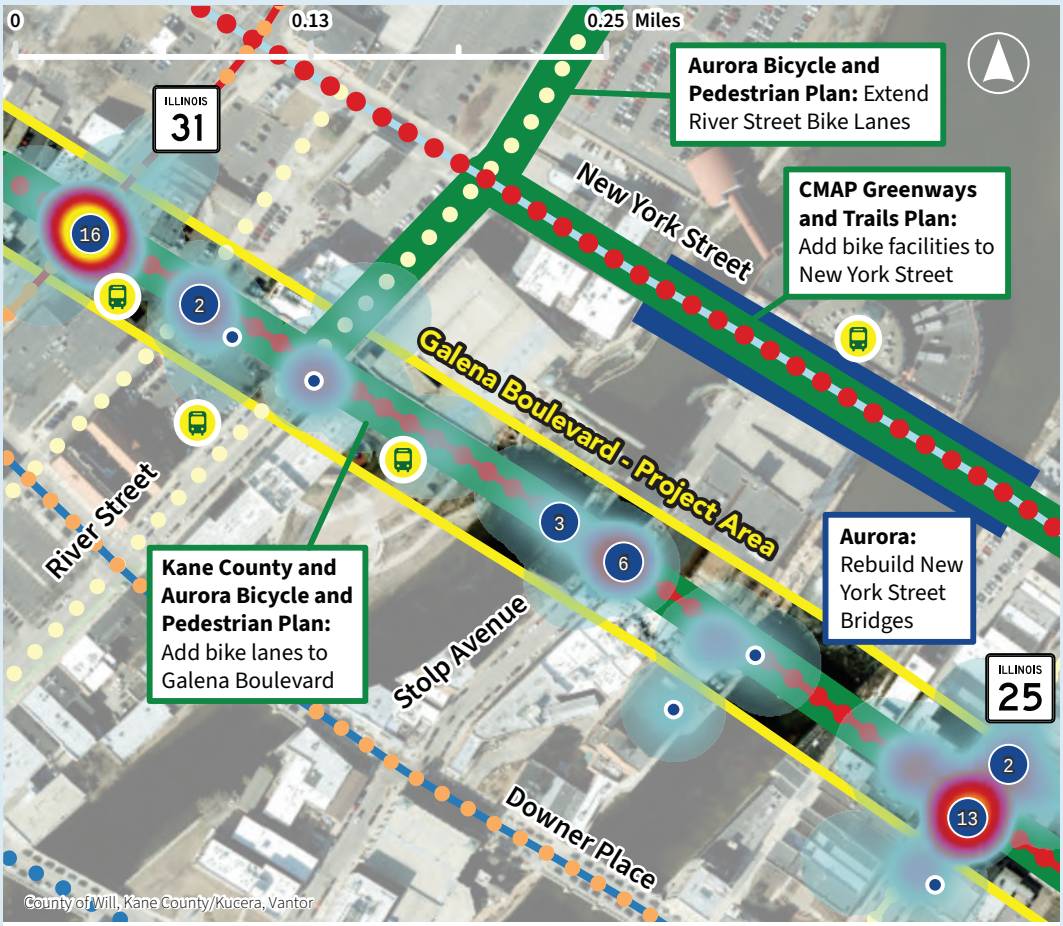
Potential Strategies and Additional Context

- Note that there may be future plans to widen this portion of Illinois 31 to a four-lane configuration.
- Install roundabout with pedestrian and traffic calming features.
- Install intersection lighting and manage trees and shrubbery to maintain adequate sight distance for turning vehicles as part of any roundabout or traffic signal installation.

3 Galena Boulevard between West Lake Street (Illinois State Route 31) and Broadway (Illinois State Route 25)

City of Aurora

Existing Conditions Map



Vulnerable Road User High-Injury Network

- 2 Injuries/Mile or Less
- Between 2-3 Injuries/Mile
- Between 3-5 Injuries/Mile
- Between 5-8 Injuries/Mile
- Greater than 8 Injuries/Mile

All-Mode High Injury Network

- 6 Injuries/Mile or Less
- Between 6-7 Injuries/Mile
- Between 7-11 Injuries/Mile
- Between 11-16 Injuries/Mile
- Greater than 16 Injuries/Mile

- Bus Stop

Collision Density

- Less Collisions
- More Collisions

Injury Collisions

- Single Collisions
- Multiple Crashes

Why This Location Was Selected:

High Injury Network Score

Steering Committee Guidance

Supplemental Project 3 - Location Characteristics

Facility Types:

Intersection Facility Type:
Urban - Signalized Arterial/Minor and Signalized Arterial/Arterial

Segment Facility Type:
Minor Arterial

Program Considerations:

Area of Persistent Poverty?
No

IRS Opportunity Zone?
No

Crash Statistics:

Total Collisions
185

Severe Or Fatal Collisions
2

Pedestrian Collisions
3

Bicycle Collisions
6

Top Collision Types:

1. Turning/Angle (34%)
2. Front to Rear (30%)
3. Sideswipe (17%)

Key Safety Rankings:

10 Peak Vulnerable Road User High Injury Network Score (Injures Per Mile)

18 Peak All Modes High Injury Network Score (Injuries Per Mile)

6 Peak Severe/Fatal Crashes Per Mile

Other Key Collision Analysis Results

- 25% of all project area collisions resulted in some degree of injury. That includes 22% of vehicle-only collisions and 100% of collisions involving vulnerable road users.
- 91% of crashes occurred at or near an intersection, costing $11.8 million.
- Speeding and failing to yield right of way to other road users together caused 47% of crashes.
- Speeding and aggressive driving occurred more during the day. Distracted and reckless driving happened more at night.

Supplemental Project 3 - Current Configuration

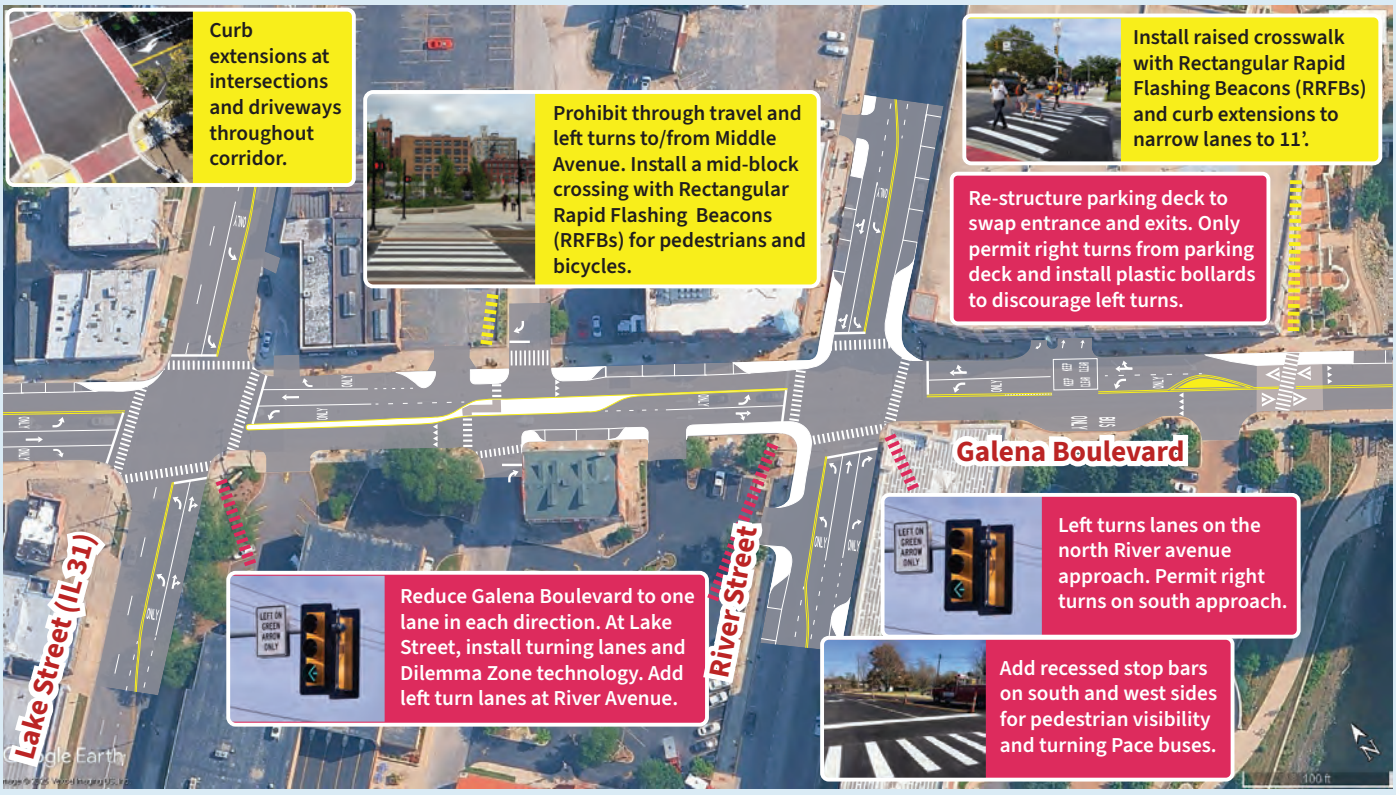
Galena Boulevard Between IL 31 and IL 25 - City of Aurora

Additional Context:

- Galena Boulevard has been a one-way street for over 50 years and, together with New York Street, moves east-west traffic across the Fox River. A key part of the project was a request from the City of Aurora to convert Galena Boulevard from one-way to two-way traffic.
- The parking deck at the corner of Galena Boulevard and River Street was designed with west to east one-way traffic in mind. It will require a significant reconfiguration of its entrances, exit, and internal configuration to be compatible with the two-way conversion.

Supplemental Project 3 - Potential Strategies

Galena Boulevard Between IL 31 and IL 25 - City of Aurora



Additional Context

- The recommendations for this project area are part of a larger initiative to rebuild the New York Street bridge and convert the City of Aurora's last east-west couple to two-way traffic. These proposed improvements assume that the New York Street Bridge renovation project will occur simultaneously with the Galena Boulevard Project.
- The Project team considered several options for bicycle infrastructure along Galena Boulevard. Due to the width of the New York Street bridges and the existing physical infrastructure of Galena Boulevard, the Project team believes that New York Street represents the greatest opportunity to implement separated bicycle facilities across the Fox River.

Supplemental Project 3 - Potential Strategies

Galena Boulevard Between IL 31 and IL 25 - City of Aurora

Additional Context:

- The Project team considered the potential impacts of daylighting recommendations and curb management proposals on local theater access and operations.
- Galena Boulevard on Stolp Island and the bridges that connect Galena Boulevard to Stolp Island were the location of both of the serious injury collisions in the Project area.

Supplemental Project 3 - Potential Strategies

Galena Boulevard Between IL 31 and IL 25 - City of Aurora

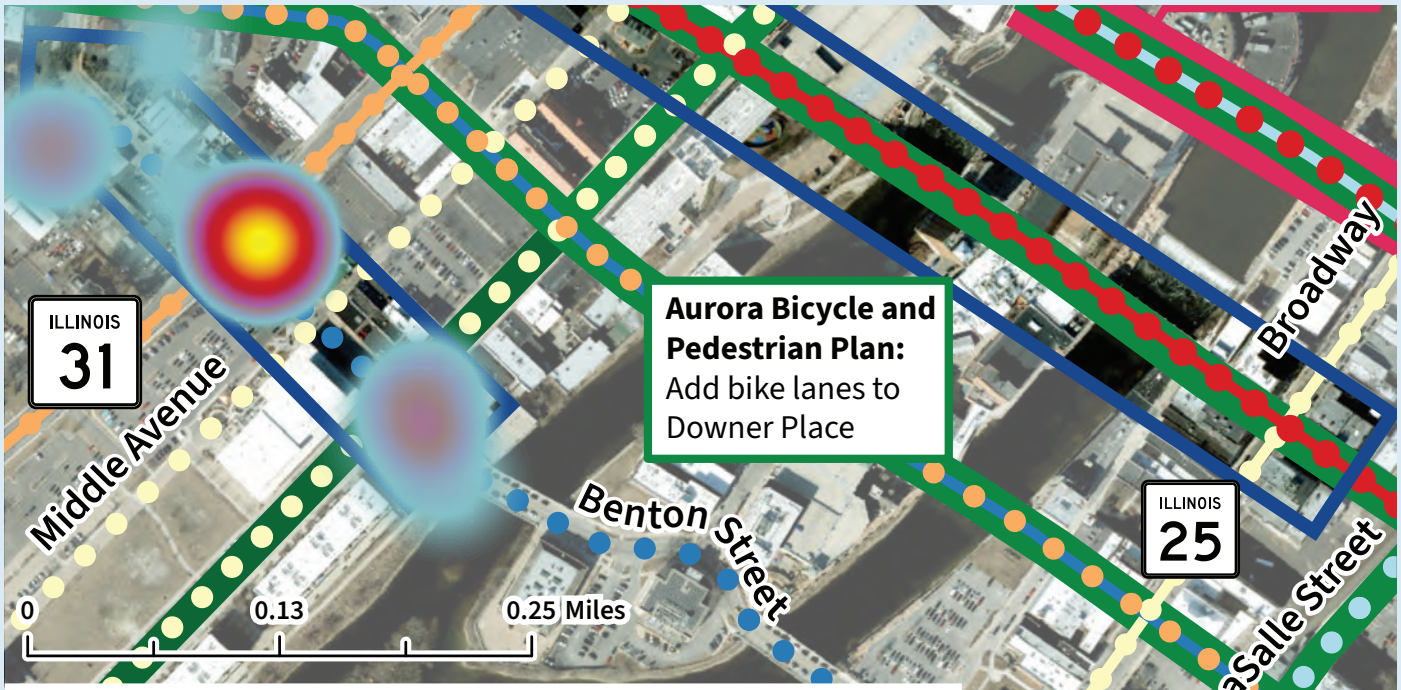
Additional Context

» The recommendations are designed to slow and calm vehicle traffic and protect vulnerable road users while modifying curb management policies to create more space for deliveries and rideshare traffic.

4 Benton Street Between Woodlawn Avenue and South River Street

City of Aurora

Existing Conditions Map



Vulnerable Road User High-Injury Network

- 2 Injuries/Mile or Less
- Between 2-3 Injuries/Mile
- Between 3-5 Injuries/Mile
- Between 5-8 Injuries/Mile
- Greater than 8 Injuries/Mile

All-Mode High Injury Network

- 6 Injuries/Mile or Less
- Between 6-7 Injuries/Mile
- Between 7-11 Injuries/Mile
- Between 11-16 Injuries/Mile
- Greater than 16 Injuries/Mile

Aurora Bicycle and Pedestrian Plan: Add bikeway to LaSalle Street

- Existing Bike Facility
- Proposed Bike Facility
- Proposed Roadway Modifications

County of Will, Kane County/Kucera, Vantor

Why This Location Was Selected:

High Injury Network Score

Steering Committee Guidance

Supplemental Project 4 - Location Characteristics

Facility Types:

Intersection Facility Type:
Two signalized intersections (West Lake Street, South River Street)

Segment Facility Type:
Local Road, 2 Lanes, 25 mph

Program Considerations:

Area of Persistent Poverty?
Yes

IRS Opportunity Zone?
No

Crash Statistics:

Total Collisions
35

Severe Or Fatal Collisions
0

Pedestrian Collisions
0

Bicycle Collisions
0

Top Collision Types:

1. Front to Rear (29%)
2. Turning/Angle (37%)
3. Sideswipe (9%)

Key Safety Rankings:

- 2 Peak Vulnerable Road User High Injury Network Score (Injures Per Mile)
- 6 Peak All Modes High Injury Network Score (Injuries Per Mile)
- 0 Peak Severe/Fatal Crashes Per Mile

Other Key Collision Analysis Results

- The majority of the intersection related collisions were front to rear, angle and turning crashes.
- Locations: Intersections at South River Street, West Lake Street and Woodlawn Avenue along Benton Street
- Most common crash causes included: failing to reduce speed, disregarding traffic signals, or failing to yield right of way

Supplemental Project 4 - Current Configuration

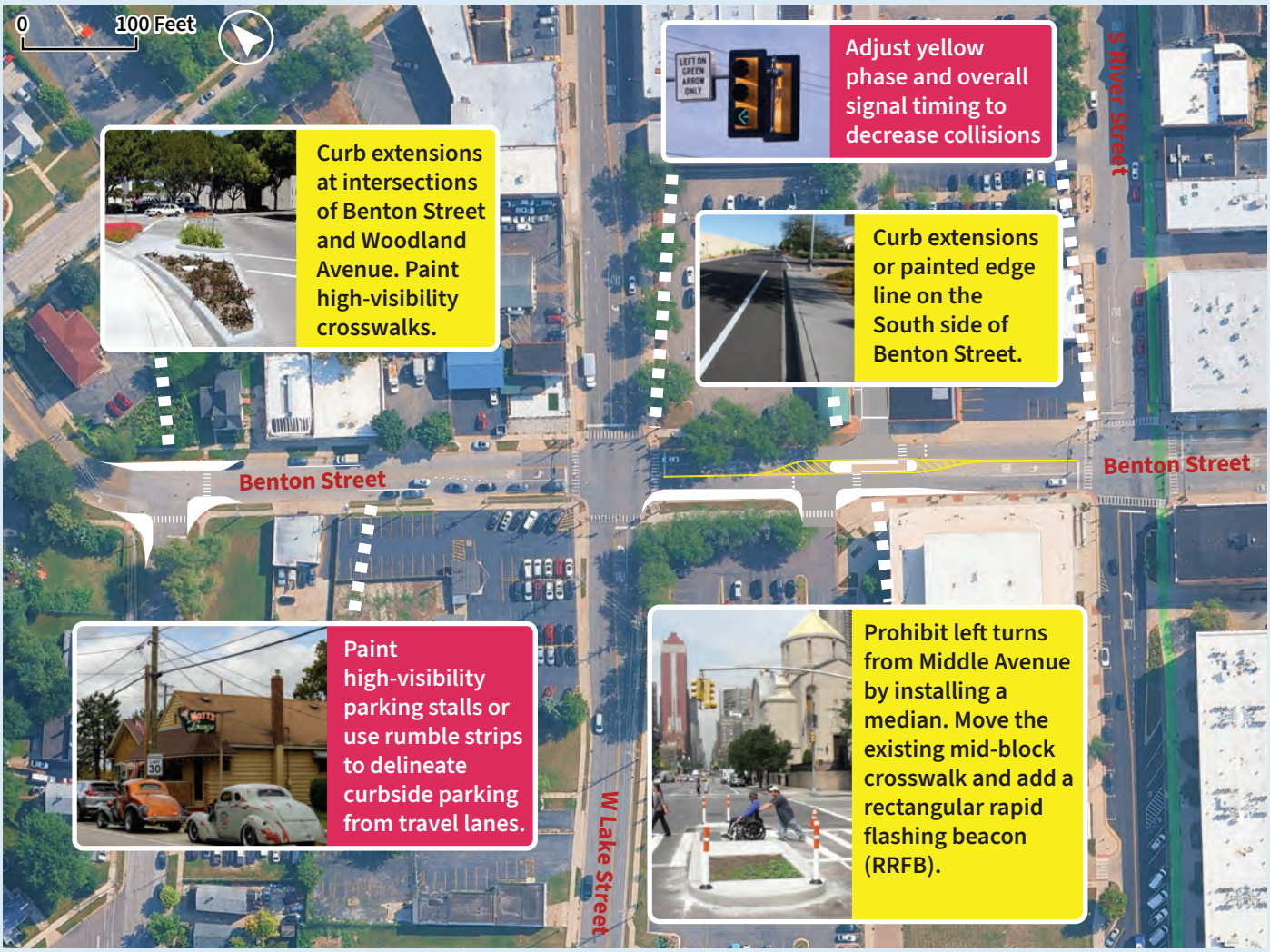
Benton Street Between Woodlawn Avenue and South River Street - City of Aurora

Additional Context:

- There have been no pedestrian or bicycle crashes recorded on this segment of road.
- Heavy traffic and speeding along the road, along with low visibility crossings make this road intimidating to cross for pedestrians.
- Surrounding land uses such as shopping, parking, and other nearby destinations create conflicting movements between pedestrians and vehicles. Separation of modes, higher visibility crossings and traffic calming can address these challenges.

Supplemental Project 4 - Potential Strategies

Benton Street Between Woodlawn Avenue and South River Street - City of Aurora



Potential Strategies

- Install a median on Benton Street to provide a pedestrian refuge island at crossings, particularly near the library, to assist pedestrians crossing the street.
- Modify signal timing throughout the corridor, such as by lengthening yellow intervals to reduce abrupt braking.
- Add high-visibility striping at crosswalks and parking stalls to increase driver yielding, improve pedestrian safety, and reduce collisions with on-street parked vehicles.

SAFE TRAVEL FOR ALL

Kane County Safety Action Plan

Chicago Metropolitan Agency for Planning

Lochner

SRF

METRO STRATEGIES group

ARORA and ASSOCIATES, P.C.
Consulting Engineers