

Hennepin County Toward Zero Deaths Action Plan



Our commitment to safety
along our transportation system

September 2025



Contents

Section 1: Introduction.....1

 Our Goal.....2

 Safe System Approach.....3

 E’s of Roadway Safety.....3

Section 2: Best Practices.....4

 Local Safety Plan Review5

 Peer Community Review.....6

Section 3: Safety Analysis.....7

 Crash Trends7

 Crash Severity.....9

 Safety Focus Areas..... 10

 High Injury Network.....11

 Approach11

 Hennepin County High Injury Network11

 Disparity Elimination Analysis.....13

Section 4: Engagement 14

 In-Person Connections..... 15

 Interactive Online Engagement..... 15

 Social Media..... 15

 What We Heard 16

Section 5: Safety Strategies 18

 Strategy Toolbox 19

Section 6: Implementation.....22

 Action Steps.....23

 Performance Measures24

Appendix: High Injury Network Segments..... 25



SECTION 1: INTRODUCTION

Transportation safety is critical to the health and quality of life for the communities we serve. This Toward Zero Deaths (TZD) Action Plan is rooted in Hennepin County's People First approach and solid commitment to making our transportation system safer for all people. Each life lost along our roadways is tragic and preventable through a holistic approach of improving driving behavior, creating a safer road environment, enhancing vehicle safety, and providing efficient emergency medical and trauma services.

Eliminating traffic deaths and serious injuries in Hennepin County will require a concerted, collaborative effort. Through implementation of this plan, we will focus on the five following complementary Safe System elements: Safer People, Safer Roads, Safer Vehicles, Safer Speeds, and Post-Crash Care.

It will take everyone to achieve the goal of zero deaths on our roads.

This Toward Zero Deaths Action Plan includes:

- Our commitment to a long-term goal of zero roadway fatalities and serious injury crashes;
- A data-driven High Injury Network across the county roadway system;
- An understanding and acknowledgment of the communities most impacted by fatal and serious injury traffic crashes with a specific focus on vulnerable road users;
- Engagement with the public, stakeholders, partners, and leaders (such as the Hennepin County Sheriff's office as shown in Figure 1);
- A description of data-driven strategies proven to reduce crash frequency and severity;
- Recommendations for programs involving enforcement, education, and partnership with other agencies; and
- A roadmap for implementing the strategies in this plan



Figure 1. One of the 5 E's for TZD is enforcement. Our efforts include collaborating with local law enforcement, from the Sheriff's office to local agencies.

Our Goal

Hennepin County is committed to a long-term goal of eliminating traffic deaths and serious injuries on all county roadways by the year 2045.

To achieve this goal, the county has adopted the following benchmark goals:

- Reduce the number of deaths from traffic crashes by 50% by 2035
- Reduce the number serious injuries from traffic crashes by 50% by 2035

We acknowledge that achieving these goals will require time to modernize infrastructure, significant resources and ongoing collaboration with our partners, including the Minnesota Department of Transportation (MnDOT), the Metropolitan Council, cities, law enforcement, other local partners, and the community as we all play a key role in creating a safe driving culture. We intend to apply the Safe System Approach through county policies and through the planning and scoping of transportation projects. Additionally, achieving a goal of zero deaths will require ongoing engagement with the community to foster a positive traffic safety culture and address unsafe driving behaviors that can lead to fatal and serious injury crashes.

Why focus on county roadways?

Hennepin County's commitment is focused on traffic crashes that occur on county roadways. This focus is important as over 50% of fatal and serious injury crashes that occur countywide occur along the county roadway system. We also have the greatest ability to improve safety along our system. The county will continue to coordinate with our state and local partners to address safety challenges on all roadways within Hennepin County.

Safe System Approach

Our plan utilizes the Safe System Approach, as shown in Figure 2, to improve transportation safety. The approach, which has been officially endorsed by the United States Department of Transportation (USDOT) and MnDOT's Toward Zero Deaths initiative, includes a major focus on speed management, improving safety for all roadway users, and designing roadways to prioritize safety. Hennepin County will use this approach through engineering, engagement and education strategies.

The Hennepin County Sheriff's Office and local police and fire departments are key partners in implementing this plan, as they are responsible for enforcement and emergency response. As the county is not involved in vehicle manufacturing, we look to our partners at the state and federal levels to lead these efforts.



Figure 2. Safe System Approach Principles

E's of Roadway Safety

As part of the Safe System Approach, this plan draws on the five E's of roadway safety: Education, Enforcement, Engineering, Emergency Response, and Engagement. The five E's are defined below.



EDUCATION

Non-infrastructure efforts aiming to teach people how to drive, walk, bike, and roll safely.



ENFORCEMENT

Strategies that can help to encourage all road users to obey traffic laws and share the roadway safely.



ENGINEERING

Roadway design elements that physically impact the roadway to make it safer for all road users.



EMERGENCY RESPONSE

Coordination with first responders to ensure prompt and successful post-crash care.



ENGAGEMENT

Collaboration with policy makers, advocates, and the community on traffic safety.



SECTION 2: BEST PRACTICES

The Toward Zero Deaths Action Plan is well aligned with the county's mission, vision, and values and is supported by our 2040 Comprehensive Plan and supporting policies, plans, and programs.

Specifically, the plan supports the following goals identified in the Comprehensive Plan:

- Preserve and modernize our transportation system
- Improve safety, reliability, and comfort for all transportation users
- Improve our transportation system to enhance our quality of life, health, livability, and competitiveness

The Toward Zero Deaths Action Plan also supports and will advance the safety-driven goals and priorities identified in the following county policies, plans, and initiatives:

- ***Hennepin County Pedestrian Plan (2013):*** "Improve the safety of walking."
- ***Hennepin County 2040 Bicycle Transportation Plan (2015):*** "The bikeway system will help reduce crashes by providing a more interconnected network with fewer gaps and more separation from motor vehicles."
- ***Hennepin County Complete and Green Streets Policy (2023):*** "Provide transportation options for all people."

Local Safety Plan Review

Hennepin County plays a vital role in addressing transportation safety concerns across the county. Partners working alongside the county such as MnDOT, the Metropolitan Council, and cities within Hennepin County, have developed safety action plans that will help to strengthen the county’s efforts.

The plans listed in Table 1 were reviewed to understand the state of local transportation safety practices and strategies.

Table 1. Plans Reviewed

Plan	Partner Agency	Year
Minnesota Strategic Highway Safety Plan	MnDOT	2020
Minnesota State Pedestrian Safety Analysis	MnDOT	2021
Hennepin County Roadway Safety Plan	MnDOT	2021
Metropolitan Council Regional Pedestrian Safety Action Plan	Metropolitan Council	2022
Minneapolis Vision Zero Crash Study and Action Plan	City of Minneapolis	2019 & 2023 (update)
Minnesota Vulnerable Road User Safety Assessment	MnDOT	2023

Key findings from this review include:

- **A strong safety foundation in the state and region.** Several agencies have created multidisciplinary safety action plans or developed other transportation safety programs that Hennepin County can draw on for its own safety efforts.
- **Coordination opportunities.** Data collection and analysis, safe roadway design, and aligned priorities are all opportunities for the county to share resources and knowledge with other agency partners, such as MnDOT, the Metropolitan Council, cities, law enforcement, and other local partners.
- **Overlapping high-risk areas.** MnDOT’s statewide vulnerable road user’s and Minneapolis’s high injury networks (HIN) complement the Hennepin County HIN. Other agencies encourage the use of the HIN and other proactive safety approaches to identify and prioritize safety improvements.
- **Community focused engagement efforts.** Future engagement on transportation safety should build on the foundation of past efforts and continue beyond the adoption of this plan.
- **Regular evaluation and progress tracking.** Tracking and measuring progress on safety performance measures ensures accountability and transparency in achieving safety goals.

Peer Community Review

Many cities and regions in the US have implemented safety action plans in recent years, with similar goals as our Toward Zero Deaths initiative. Transportation safety initiatives were reviewed as part of this plan development in the following five communities that have achieved zero deaths or made progress in their goals toward zero deaths: *Jersey City and Hoboken, NJ; Alexandria, VA; Montgomery County, MD; Portland, OR; and Denver, CO.*

Key findings from this review include:

- Importance of committed leadership to transportation safety efforts.
- Role of demonstration and quick-build projects in piloting and implementing safety strategies.
- Building a culture of safety to support and strengthen engineering improvements.
- Process transparency and data are important for tracking progress on safety initiatives.
- Other communities may be a blueprint for emerging technology adoption.

Achieving zero deaths is possible. A few communities have achieved the milestone of zero deaths: Hoboken has not had a traffic fatality since 2017, and Jersey City and Alexandria have both recorded a year without a traffic fatality (in 2022 and 2023, respectively). Applying lessons from these communities will help Hennepin County achieve our goal.



SECTION 3: SAFETY ANALYSIS

The countywide safety analysis creates the foundation for the Toward Zero Deaths Action Plan. The crash review begins with an analysis of more than 10 years of crashes in Hennepin County, focusing on fatal and serious injury crashes. This data was then broken down by crashes along county roads to identify trends specifically along our system. The crash data was further disaggregated to compare trends across urban, suburban, and rural contexts. Contextual classifications of roadways were based on the Metropolitan Council's [Community Designations](#) data.

Crash Trends

From January 1, 2013, to December 31, 2023, 133,505 crashes were reported in Hennepin County, with 2,760 (2%) of those being fatal and serious injury crashes (see Figure 3).¹ Specifically reviewing crashes on roads under Hennepin County jurisdiction, there were 68,764 crashes reported on county roads with 1,536 (2%) fatal and serious injury crashes over the same time period. Most crashes (nearly 70%), and most of the fatal and serious injury crashes, occurred in urban contexts.

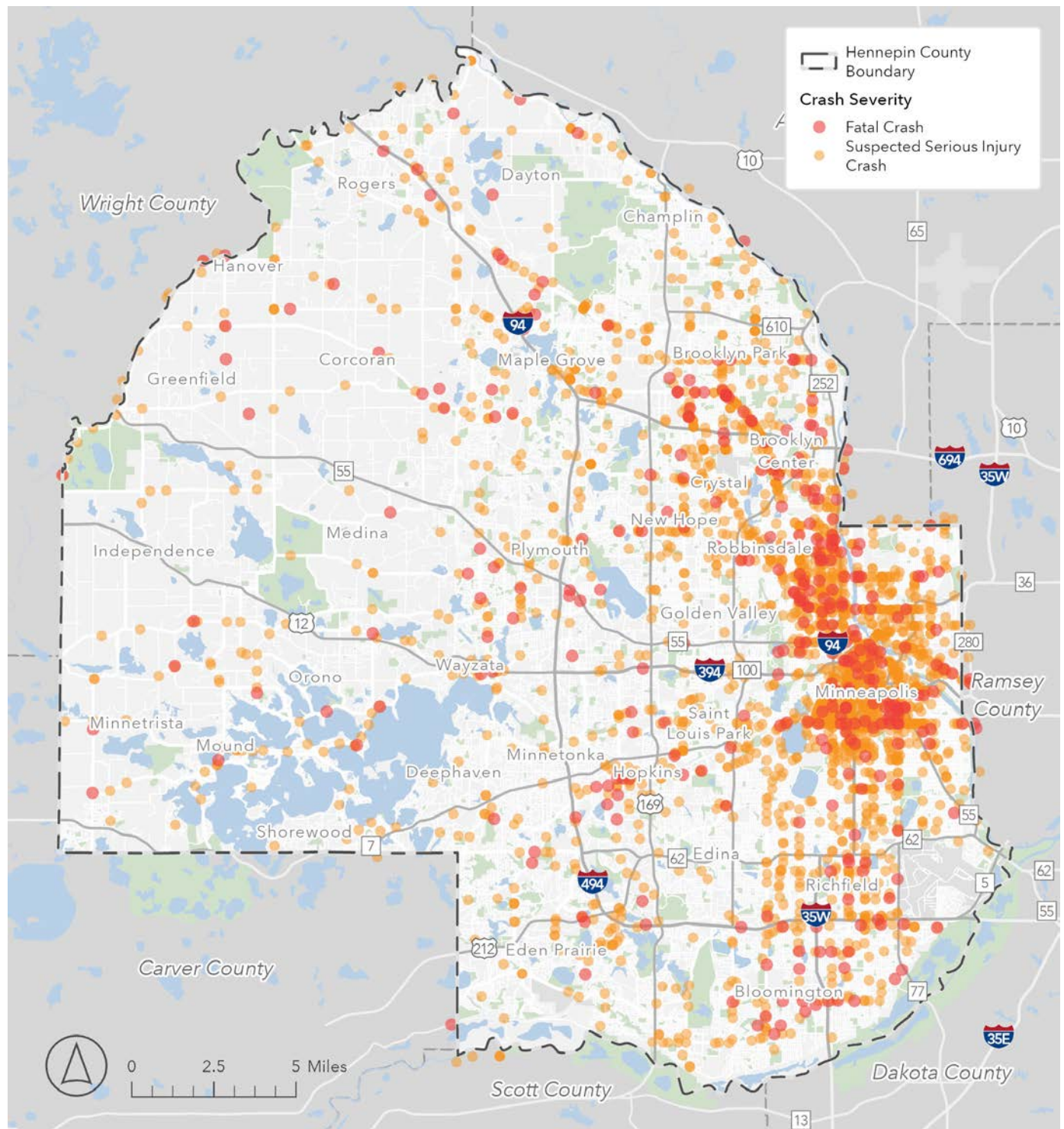
Details about crash types, location, and contributing factors provide insight into patterns and trends to help develop safety focus areas, identify safety countermeasures, and direct resources to effectively reduce fatalities and serious injuries. Over 70% of the fatal and serious injury crashes on county roads were at intersections with about 30% non-intersection related. Angle crashes were more predominant among intersection crashes, while lane departure crashes were more common for non-intersection crashes.

Non-motorized users were overrepresented in fatal and serious injury crashes across the county roadway system. Between 2013 and 2023, 466 crashes involving a pedestrian or bicyclist resulted in a fatality or serious

¹ Crash totals include all non-interstate, non-trunk highway (or similar), and non-parking lot crashes.

injury. Statistically, reported walking or biking crashes pose about a 1 in 7 chance of experiencing a fatal or serious injury, whereas all other reported crashes pose about a 1 in 50 chance of experiencing a fatal or serious injury. Improvements targeted at making the walking and biking environment safer will have a significant impact on safety for all road users.

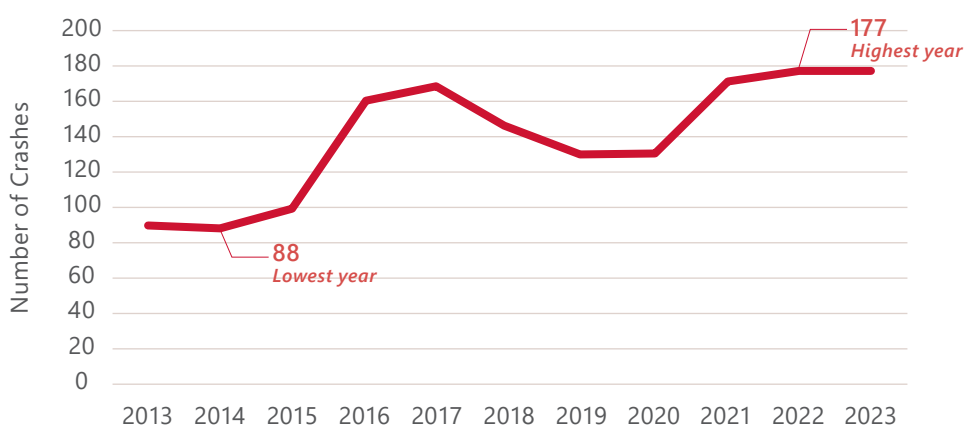
Figure 3. Fatal and Serious Injury Crashes on Non-Interstate, Non-Trunk Highway Roads in Hennepin County, 2013-2023



Crash Severity

Crashes are classified based on severity, outlining the extent of damage and injury resulting from the crash, ranging from property damage to a fatal crash. The majority of recorded crashes in Hennepin County in the last 10 years (nearly 70%) resulted in property damage only. The remaining roughly 30% of crashes resulted in some level of injury or death, with about 2% of those crashes resulting in a fatality or serious injury (KSI). KSI crashes, which are the primary focus of this plan, have been increasing across the county over the last 10 years, as shown below in Figure 4.

Figure 4. Fatal and Serious Injury Crashes on County Roads, 2013-2023



Between January 1, 2013, and December 31, 2023, there were **1,536** crashes on county roads that resulted in a fatality or serious injury (KSI).

Of the KSI crashes that occurred on county roads:



69%
urban crashes



24%
suburban crashes



7%
rural crashes

Of **INTERSECTION** KSI crashes, the **TOP CRASH TYPES** include:



36%
Angle and
Left-turn



32%
Pedestrian and
Bicycle

Of **NON-INTERSECTION** KSI crashes, the **TOP CRASH TYPES** include:



38%
Run-Off-Road
and Head-On



22%
Pedestrian

Safety Focus Areas

Based on the crash and safety analysis described above, the following safety focus areas were identified for Hennepin County. These focus areas were used to inform the toolbox of strategies for implementation along the High Injury Network. Strategies recommended by this plan will have the greatest potential to improve safety.



Non-motorized Users. People walking and biking have a notably higher risk of being involved in serious or fatal crashes compared with people in a motor vehicle, which is evidenced by their overrepresentation in crashes that result in injury or death. Nearly 20% of recorded pedestrian crashes and almost 10% of bicycle crashes resulted in a fatality or serious injury, compared with 2% of all other crash types.



Intersections. Despite the much greater mileage of non-intersection segments of the county's transportation network, a significant portion (over 70%) of fatal and serious injury crashes occur at intersections. The majority of these crashes, especially in urban and suburban settings, involve right-angle crashes with failure to yield reported to be a significant contributing factor.



Lane Departure. In our rural areas, the highest proportion of crashes involve lane departures: nearly half of rural crashes were single vehicle (run-off-road and other) and head-on crashes. Often, crashes that are attributed to distracted, inattentive, or impaired driving also result from a lane departure.

High Injury Network

Approach

A key aspect of adopting a Toward Zero Deaths plan is for jurisdictions to identify a High Injury Network (HIN). The HIN focuses on crash density, identifying locations along roadways with a high number of fatal and serious injury (KSI) crashes. Concentrating investments along the identified roadways that experience high fatality and injury rates has the potential to significantly improve traffic safety.

The Hennepin County HIN used five years of fatal and serious injury crash data (years 2019-2023) to reflect current conditions along county roadways and account for recent safety improvements along our transportation system. To develop the HIN, the county conducted a geospatial analysis of crashes on county roadways, identifying roadway segments with a higher density of KSI crashes.¹ Roadways were scored based on this analysis, with the higher-scoring segments included on the HIN. Different score thresholds were used for urban, suburban, and rural areas to capture the varying context factors such as roadway design, speed, and traffic volumes. Urban, suburban, and rural community contexts were based on the Metropolitan Council's Community Designations.

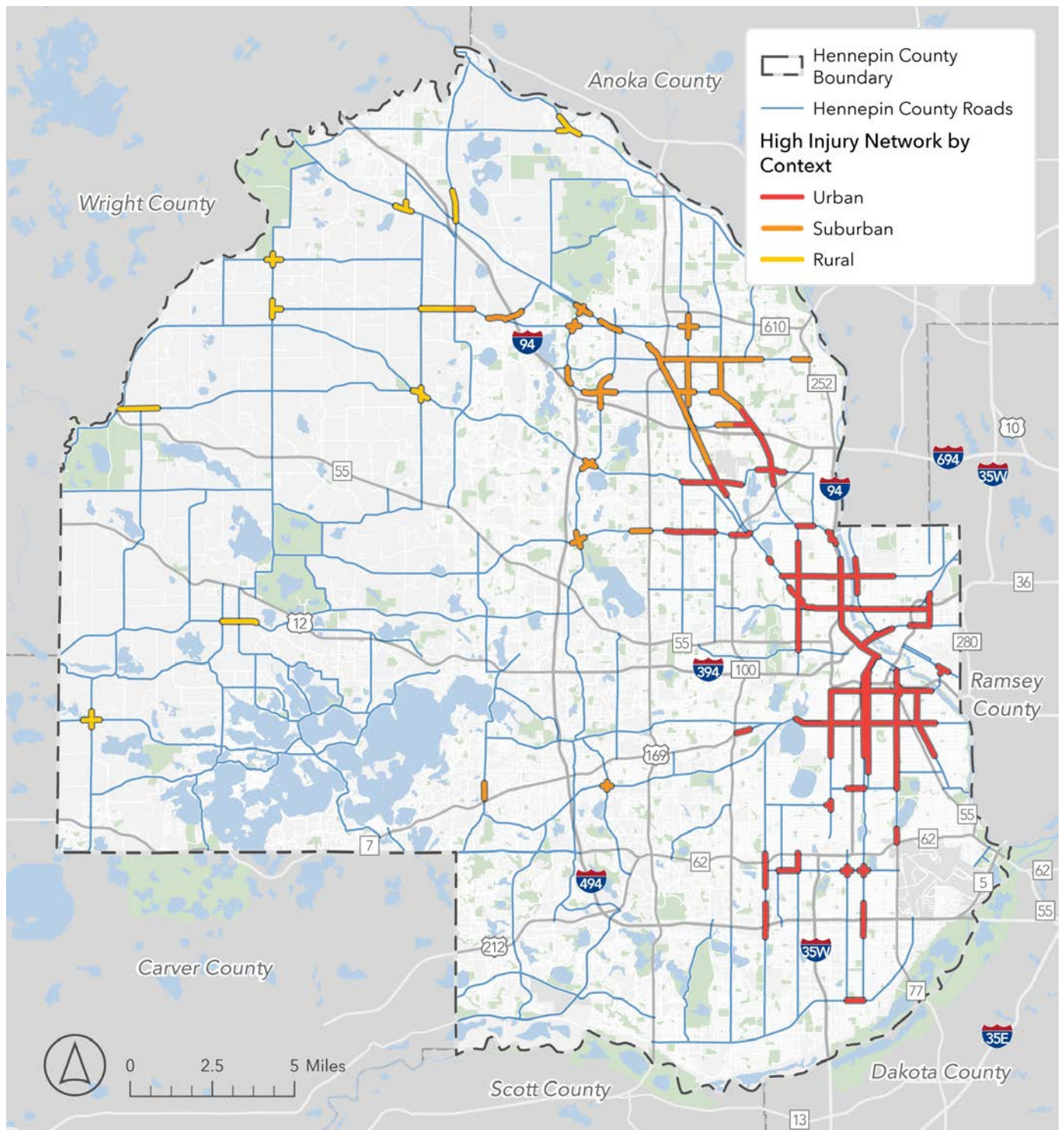
Hennepin County High Injury Network

Figure 5 illustrates the Hennepin County High Injury Network by community context. The network captures over half of all KSI crashes in Hennepin County between 2019 and 2023, across nearly 90 miles of county roads. The HIN is most concentrated on county roadways in urban and first-ring suburban communities where traffic volumes are higher. The HIN is roughly 65% in urban areas, 25% in suburban areas, and 10% in rural areas. The HIN is overrepresented on multi-lane roadways. The HIN developed as part of this plan will be evaluated and updated periodically as crash data is updated and projects are implemented.

See the appendix for details on the segments included on the HIN.

¹ Minor and possible injury crashes were also considered in the analysis, though weighted lower than fatal and serious injury crashes.

Figure 5. Hennepin County High Injury Network by Context, 2019-2023



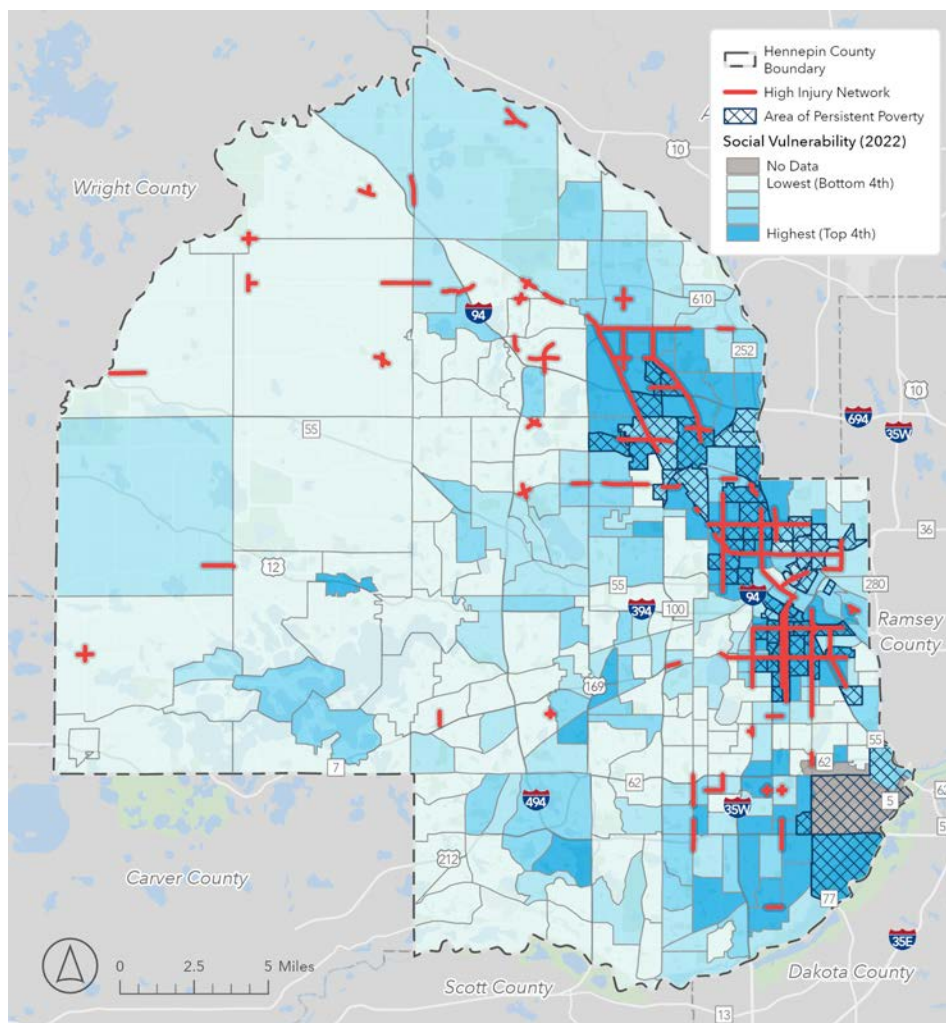
Disparity Elimination Analysis

Hennepin County has acknowledged a wide range of disparities connected with transportation safety and is committed to eliminating those disparities. Safe transportation infrastructure helps to reduce the disproportionate economic and health burdens experienced by its most vulnerable residents, such as People of Color (POC), children and young adults, seniors, people living in poverty, and households with no access to a motor vehicle.

The HIN was analyzed through the lens of disparity elimination by evaluating its overlap with the statewide Social Vulnerability Index (SVI) and defined federal Areas of Persistent Poverty (APP). Social vulnerability refers to the demographic and socioeconomic factors (such as poverty, race and ethnicity, and no vehicle households) that adversely affect communities. APP are defined as Census tracts that have a poverty rate of at least 20% measured by the 5-year data series (years 2014-2018) available from the American Community Survey.¹

Figure 6 depicts the overlap of the Hennepin County HIN with the SVI for Hennepin County and APP census tracts. Approximately 50% of the Hennepin County HIN is within areas of high vulnerability defined in the SVI and 40% is within an APP, with most of the overlap occurring in urban and suburban areas.

Figure 6. HIN Overlap with Areas of Persistent Poverty



¹ USDOT, [MPDG — Areas of Persistent Poverty and Historically Disadvantaged Communities](#).



SECTION 4: ENGAGEMENT

The Toward Zero Deaths Action Plan included robust engagement with the community and stakeholders from the five E's of roadway safety. We believe a collaborative approach is essential in reducing fatal and serious injury crashes along our transportation system. Our plan used a data-driven approach to understand key safety issues along our roadways, but we are going beyond the data to hear from people who walk, bike, roll, drive, and use transit in Hennepin County.

Through the development of this plan and as we move toward implementation, we are continuing to engage with our partners and the community to understand their experiences and the safety issues that matter most to them.

Over the last two years, Hennepin County has connected with the community, stakeholders, and partners in a variety of ways, including in-person connections to meet people where they are, interactive online engagement, and social media. Figure 7 provides an example of our engagement through social media.

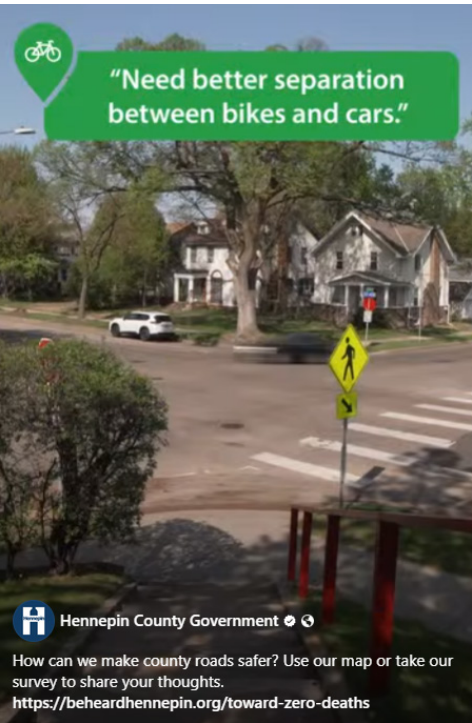


Figure 7. Social media post promoting the survey.

In-Person Connections

To build and strengthen relationships with the communities we serve, county staff engaged with several stakeholders and partners, such as cities within the county and the Hennepin County Sheriff's and Attorney's offices. Staff typically met with these stakeholders one-on-one or in small groups to understand their opportunities and concerns, and collaborate on ideas for improving transportation safety in Hennepin County.

We also attended many community events at conferences, schools, fairs, neighborhood gatherings, and project meetings. These events allowed us to meet people where they were and helped us reach a wide range of people and communities. We shared information on the TZD plan, listened to safety concerns and personal stories, and built meaningful connections.

Interactive Online Engagement

As the county developed this plan to help achieve the goal of saving lives on our transportation system, we leveraged an interactive online tool that would allow for a wider reach.

We used the county's [BeHeard Hennepin Toward Zero Deaths website](#) to host a multilingual online survey and interactive map (see Figure 8). The survey and map were promoted through county commissioner newsletters, emails, Outreach and Community Support including the Trusted Messengers Program, and through Hennepin County service centers and libraries.

We asked people about their priorities for transportation safety in the county and the best way to engage with them in the future. Respondents on the interactive map placed comment pins in specific locations and could specify the mode of travel which concerned them most for safety (walking, biking, driving, etc.).

Social Media

To help boost engagement and strengthen our community connections, we used social media, including Facebook, Instagram, and Google ads. These promotions included using images as well as short videos on YouTube and other sites encouraging people to "Point it out and take our survey." These ads were promoted to people across the county and included images of urban, suburban, and rural locations.

County staff visited the following locations to share information about the Toward Zero Deaths Action Plan:

- Minneapolis Community Connections Conference
- Minnesota State Fair
- Hennepin County Fair
- Traffic Safety Day at Mall of America
- Little Earth Residents Association National Night to Unite
- Maple Grove Summer Safety Fair
- John F. Kennedy High School (Bloomington)
- Brooklyn Center Middle & High STEAM School
- Ukrainian-American Community Center
- Minneapolis Bike to Work Day
- St. Louis Park Bike to Work Day
- Dayton River Road Open House
- Park and Portland Community Safety Meeting



Figure 8. BeHeard Hennepin website, where the survey and interactive map are hosted.

What We Heard

As of July 31, 2025, there were 733 survey responses and 733 interactive map comments. Of the respondents to the survey, nearly 80% walk, 63% bike or scooter, and over 40% ride transit along county roadways. Most interactive map respondents posted pins in the Pedestrian, Bicyclist, and Driver categories. Figure 9 provides information on the volume of safety comments received across the county.



Pedestrian

232 comments



Bicyclist

219 comments



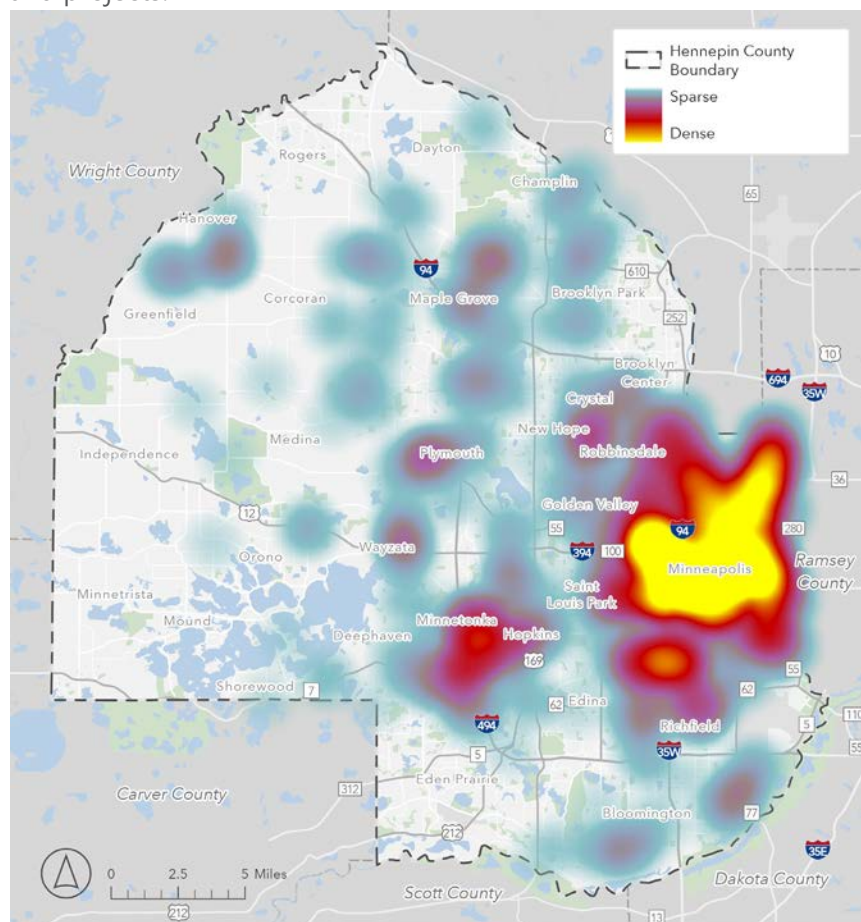
Driver

219 comments

Key takeaways from the survey, interactive map, and in-person connections include:

- Concerns about **unsafe driving behaviors**, such as speeding, recklessness, failing to yield for people walking and biking, blind spots, and poor visibility.
- Desire for **new biking and walking infrastructure**.
- Requests for **greater separation between trails/sidewalks and roadways** (buffer space, separated bikeways, etc.).
- **Traffic calming opportunities**, such as lane reduction and shorter crossing distances.
- Suggestions for **roundabouts** to replace intersections perceived as dangerous or congested.

Many of these themes demonstrating the needs and priorities of the community are consistent with feedback received through project engagement and previous planning efforts. This feedback was helpful in the development of this plan and will continue to inform safety measures that will be implemented with programs and projects.



We will continue to engage with the community and stakeholders on transportation safety beyond the adoption of this plan to achieve the county's goal of zero deaths. The interactive map will remain open and staff will continue to monitor, evaluate, and respond to specific locations and feedback. The adopted Toward Zero Deaths Action Plan will serve as a resource in these continued conversations and engagement efforts.

Figure 9. Heat Map of Interactive Map Comments from BeHeard Hennepin TZD Website

What We Heard

People drive really fast to try to make the lights and the sidewalk is super close to the road, so it's very stressful!
University Ave (CSAH 36) near I-35W, Minneapolis

Road diet and adding protected bike lanes is a good option to encourage cycling to parks, schools, and commercial centers
Penn Ave S (CSAH 32), Bloomington

This intersection is way too wide and makes crossing (as a pedestrian) feel very dangerous
Penn Ave S (CSAH 32) and Cedar Lake Rd S, Minneapolis

Wide road, not conducive to a pedestrian-friendly environment.
24th Ave S near Mall of America, Bloomington

Drivers frequently cross the center line (sometimes for a half block) to pass stopped buses and the traffic behind them.
Penn Ave N (CSAH 2) and Plymouth Ave N, Minneapolis

Really love this off-road bike lane and would love to see more like it. Also appreciate the vegetated separation between the road with the trees, which helps the road feel calmer and more pleasant to bike along.
W 66th St (CSAH 53), Richfield

Cars constantly run red lights here, and turn into pedestrians. It's a dangerous crossing on foot and requires high attention
W Franklin Ave (CSAH 5) and Lyndale Ave S (CSAH 22), Minneapolis

I cross this street almost daily and I'm always concerned I'm going to get hit, whether I'm walking, running, or biking.
Theodore Wirth Pkwy and Golden Valley Rd (CSAH 66), Golden Valley

No (or very little) shoulder to ride bike on Co Rd 19 between Co Rd 84 and Co Rd 151 — and no options to avoid the area that don't tack on a lot of extra miles. Plus traffic is going well above the posted
North Shore Dr W (CSAH 19), Orono

The road does not have enough pavement outside of the lane to safely ride a road bicycle on.
County Road 11, Independence

The sidewalk here is dangerous, it lacks a median or buffer between it and the vehicle traffic.
Glenwood Ave (CSAH 40) near Hwy 100, Golden Valley

Cars drive very fast here leading up to the light. Makes it hard for cars to enter and exit side roads safely.
Central Ave N (CSAH 101) near US-12, Wayzata

The speed in which cars travel down Park Avenue is not safe.
Park Ave S (CSAH 33), Minneapolis

Median closure is great for traffic calming and walking/biking across 42nd safely! More of this!
E 42nd St (CSAH 41) near 21st Ave S, Minneapolis

Kids can't walk along this road and cross to school safely here. Cars are speeding and not stopping at the crossing
Baker Rd (CSAH 60) near Hopkins West Middle School, Minnetonka

Making left turns onto the neighborhood roads can be dangerous in sections where there are not passing or turning lanes for traffic to go around you while you wait for a safe opening in traffic.
West River Rd (CSAH 12) near Douglas Dr N (CSAH 14), Champlin



SECTION 5: SAFETY STRATEGIES

Hennepin County has identified a toolbox of proven strategies to reduce fatal and serious injury crashes along our transportation system for people walking, biking, and driving. This safety toolbox was developed based on the following safety focus areas identified for Hennepin County:

- **Non-motorized Users.** Strategies that improve safety for these vulnerable road users focus on enhancing facilities for people walking and biking. Some strategies also emphasize education and outreach efforts to encourage safe walking and biking practices.
- **Intersections.** Intersection safety strategies are focused on creating intersections that are well-controlled, well-signed, and highly visible for people walking, biking, and driving. For the purposes of this plan, “intersections” refers to any location where there is turning traffic, including driveways.
- **Lane Departure.** These safety strategies aim to reduce the likelihood of a vehicle running off the road or moving into the opposing travel lane. Often, lane departure is attributed to distracted or impaired driving, so many strategies that address this focus area rely on education and enforcement to change these behaviors.

Several safety countermeasures were identified from local, state, and federal sources (listed below). The strategies identified in this plan will be most effective in reducing fatal and serious injury crashes along our system when implemented as part of a Safe System Approach, including enhanced education, enforcement, engagement, and emergency services.

- Federal Highway Administration’s Proven Safety Countermeasures
- Federal Highway Administration’s Crash Modification Factors (CMF) Clearinghouse
- National Highway Traffic Safety Administration’s Countermeasures that Work
- Minnesota Strategic Highway Safety Plan
- Minnesota Big Book of Ideas
- Reports from Federal Highway Administration and the National Cooperative Highway Research Program

The review of these sources identified many potential safety tools. These strategies were then pared down based on their potential effectiveness with the county’s safety focus areas and the likely success of implementation.

The countermeasures included in our toolbox are listed in Table 2. Hennepin County has diverse land uses and communities with high density urban, growing suburbs, and rural farm areas. Many strategies identified can be used in all community contexts (urban, suburban, and rural) with varying design and implementation to maximize their effectiveness. Implementing safety improvements within different community contexts requires a flexible approach to meet the unique community needs and in a way that fits its physical and geographic setting. Because of this diversity, the county’s implementation of safety strategies will look different depending on location within the county.

The toolbox includes engineering strategies that make physical changes to infrastructure. In addition to these infrastructure-based strategies, non-engineering strategies such as enforcement and education have an important role to play in promoting safety. During implementation, new and innovative strategies will also continue to be piloted and evaluated.

Strategy Toolbox

Many transportation safety strategies make physical changes to the roadway that aim to correct or mitigate the effects of road users’ behavior. Engineering countermeasures tend to align with the Safer Roads element of the Safe Systems Approach. Strategies are often complementary, and multiple safety tools may be implemented together to maximize their effectiveness.

	Non-Motorized Users	Intersections	Lane Departure
ENGINEERING STRATEGIES			
Accessible pedestrian signals			
Add chevron signs to curves			
Add exclusive pedestrian signal phasing			
Add high friction surface treatments			
Advance/dynamic signal warning flashers			
Advance yield or stop markings			

	Non-Motorized Users	Intersections	Lane Departure
ENGINEERING STRATEGIES			
Backplates with retroreflective borders			
Barriers and treatments			
Channelized right turn removal/modification			
Corridor access management			
Corridor signal timing			
Curb extensions/reduced corner radii			
Dedicated left and right-turn lanes			
Delineation for horizontal curves			
Emergency vehicle preemption system			
Flashing Yellow Arrow (FYA) signals			
Gateway signage or landscaping			
Grade-separated crossings			
Hardened centerlines			
High visibility crosswalks			
Horizontal offests (chicanes)			
Improve sight distances			
Intersection lighting			
Intersection traffic control modification			
Lane narrowing			
Leading pedestrian/bike intervals			
No turn on red			
Oversized signs			
Pedestrian flashing beacons (RRFBs)			
Pedestrian refuge islands			
Protected intersections for bicycle facilities			
Protected only-left/only-right turns			

	Non-Motorized Users	Intersections	Lane Departure
ENGINEERING STRATEGIES			
Rail crossing enhancements			
Raised medians			
Reduced left-turn conflict intersections			
Roadside design improvements at curves			
Roadway reconfigurations (4- to 3-lane conversions)			
Rumble and/or mumble strips			
Safety edge (rural roadways)			
School speed zones			
Segment Lighting			
Separated bike lanes			
Shared-use paths and trails			
Sidewalks			
Two-stage bicycle turn box			
Widen and/or pave shoulders			
Widen edge lines			
EDUCATION, ENFORCEMENT, EMERGENCY RESPONSE, AND ENGAGEMENT STRATEGIES			
Bicycle and car seat education events			
Educate and promote safe driving behaviors (speeding, seat belts, distracted driving, impairment, driver's education)			
Encourage adoption and use of vehicle safety technologies			
Establish a crash review committee			
High visibility enforcement (seat belts, distracted driving, speeding, impairment, etc.)			
Improve post-crash care			
Road safety audits for known high-risk corridors			
Speed feedback signs			
Support connected and autonomous vehicles and other emerging vehicle technology			



SECTION 6: IMPLEMENTATION

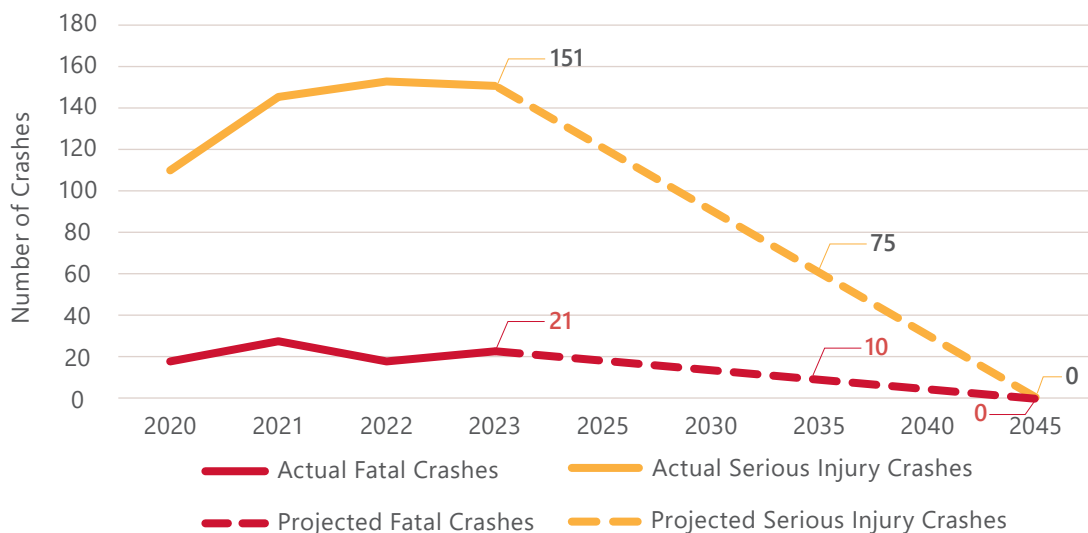
Hennepin County's goal is to eliminate fatal and serious injury crashes on county roadways by the year 2045.

To achieve this goal will require partnerships and a collaborative effort to implement a Safe System Approach, including the following actions:

- Monitor and report fatal and serious injury crash data on Hennepin County roads to inform and adapt projects and programs, and demonstrate progress over time, including for people walking, biking, and rolling.
- Pursue funding opportunities to implement proven safety strategies along the High Injury Network (HIN) and throughout the county transportation system.
- Collaborate among partners representing the five E's of roadway safety with a cohesive approach to promote and enhance safety.
- Research, support, and implement programs, policies, and practices that enhance transportation safety.

Regular data collection, evaluation, and reporting are essential for accountability as Hennepin County implements the Toward Zero Deaths Action Plan. We will issue annual updates on the progress toward the overall goal of eliminating all traffic deaths and serious injuries and track key metrics from the initial adoption of this plan. Hennepin County Public Works will be the primary team responsible for tracking progress on the Toward Zero Deaths Action Plan. The graph in Figure 10 shows the interim progress needed to achieve this goal.

Figure 10. Progress Targets for Achieving Transportation Safety Goal on County Roadways



Implementation of this plan will be critical to guide the county in making effective safety investments to reduce fatal and serious injury crashes along our High Injury Network and transportation system. The county and our partner agencies plan and implement projects each year to maintain, preserve, and modernize our transportation system. These projects include pavement preservation, rehabilitation, and full reconstruction.

Safety is a key criterion in the county's process to prioritize roadway reconstruction projects within our five-year Capital Improvement Program. The HIN developed as a part of this plan will be included as a measure in this prioritization process. For all capital improvement and rehabilitation projects, improving safety is an important project goal and outcome, as defined in our Complete and Green Streets Policy — modal priority framework.

Action Steps

The following outlines key steps to make progress toward our goal to eliminate fatal and serious injury crashes. The timeline for implementation of safety improvements across the county will depend on planned projects, funding and resources, partnerships and collaboration, and behavior change. There are decades of roadway modernizations and improvements that need to be made to update the system and the county is committed to pursue every opportunity to improve multi-modal safety along our roads.

Table 3 outlines key steps needed to make progress toward our goal to eliminate fatal and serious injury crashes.

Table 3. Action Plan

Action	Timeline
Create a Hennepin County TZD website	Near-term
Update Hennepin County's capital project prioritization process to integrate High Injury Network data into the safety criteria	Near-term
Update the High Injury Network periodically to identify future transportation safety projects	Mid-term

Action	Timeline
Continue to research and evaluate safety design best practices	Ongoing
Evaluate implementation of low-cost walking and biking safety strategies for roadway reconstruction projects currently programmed in the county's Capital Improvement Program in areas with high volumes of vulnerable road users along the High Injury Network	Ongoing
Maintain communication with the community regarding transportation safety	Ongoing
Incorporate safety improvements along the HIN and our transportation system through the TZD lens as part of our Capital Improvement Program and in alignment with our Complete and Green Streets Policy	Ongoing
Continue operations programs aligned with the county's safety goal, such as: school speed zones, traffic signal timing changes that promote multi-modal safety benefits, and enhancement of traffic signal indications with retroreflective backplates for greater visibility	Ongoing
Pursue funding for high priority safety projects	Ongoing
Monitor and report on fatal and serious injury crashes annually on TZD website	Ongoing
Collaborate with partners that span across the five E's of roadway safety, such as speed management through coordination with law enforcement and other safety measures	Ongoing
Partner with the Hennepin County Sheriff's Office, Attorney's Office, Office of Community Support, MnDOT, cities, Met Council, and others to implement safe driving campaigns and high visibility enforcement, particularly in high-risk locations	Ongoing
Coordinate with local fire and police departments and emergency medical services regarding incident response	Ongoing

Performance Measures

Hennepin County will track progress on its newly developed TZD website. This site will demonstrate our transportation safety commitment and will include annual reporting of key crash metrics to demonstrate progress toward reducing fatal and serious injury crashes. The county's TZD Advisory Committee, which oversaw development of this plan, will continue to meet regularly to track progress and monitor next steps.

- **Annual Performance Metrics:** Fatal and serious injury crash data on all county roads to demonstrate progress of the Toward Zero Deaths Action Plan goal.
- **Public and Stakeholder Engagement:** Update on continued public and stakeholder feedback and engagement on transportation safety.

Appendix: High Injury Network Segments

Figure A-1. Hennepin County High Injury Network by Context, 2019-2023

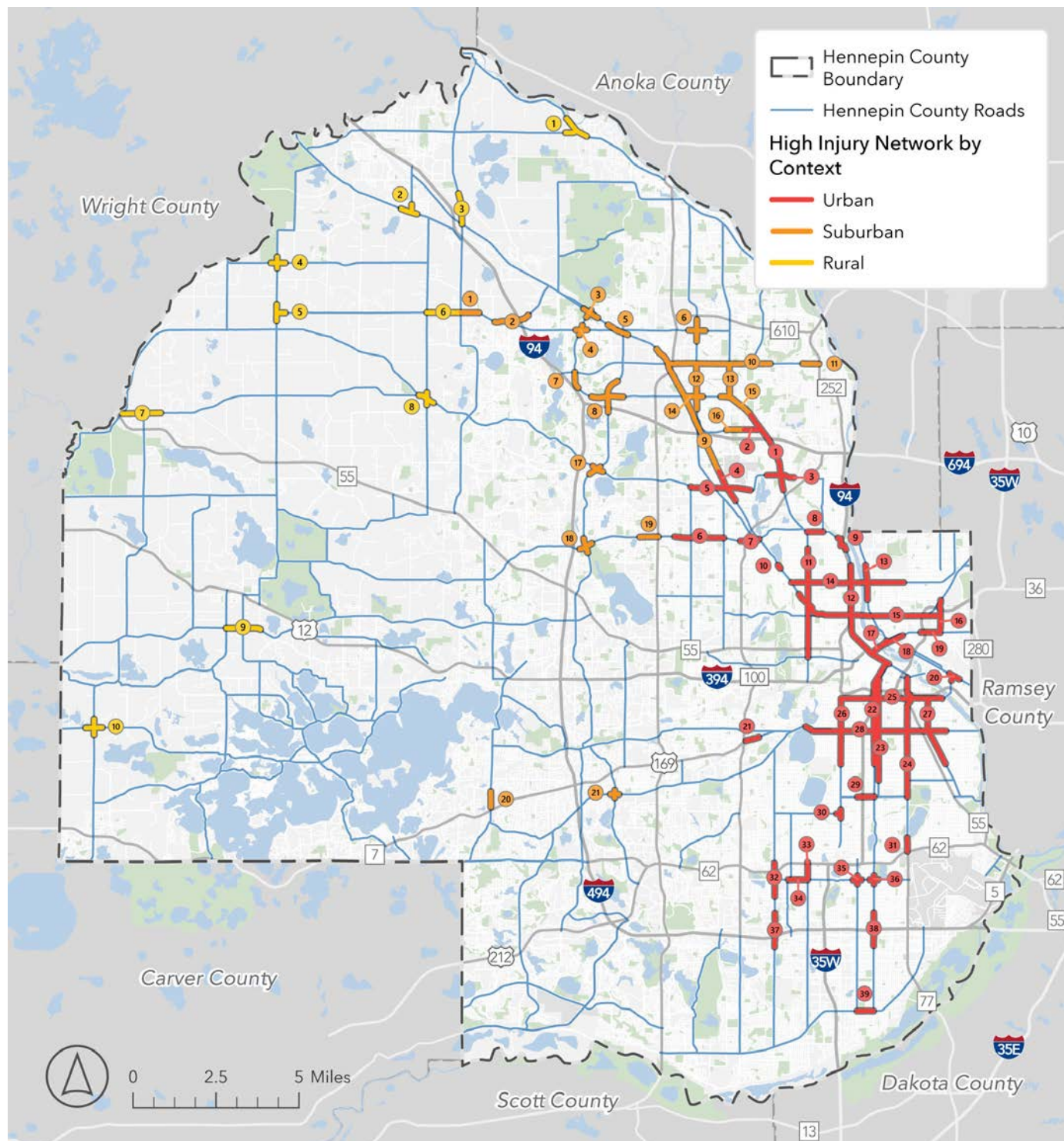


Table A-1. High Injury Network Segment and Intersection Descriptions

Key	Description	Key	Description
URBAN			
1	Brooklyn Blvd (CSAH 152) from Regent Ave to 55th Ave N	21	County Road 25 from Hwy 100 to Natchez Ave S
2	69th Ave N (CSAH 130) from Scott Ave N to Brooklyn Blvd (CSAH 152)	22	Portland Ave (CSAH 35) from Washington Ave S (CSAH 152) to 38th St E
3	Bass Lake Rd (CSAH 10) from Halifax Ave N to Northway Dr	23	Park Ave (CSAH 33) from 9th St S to 42nd St E
4	Bottineau Blvd (CSAH 81) from 60th Ave N to Wilshire Blvd	24	Cedar Ave S (CSAH 152) from Washinton Ave S (CSAH 152) to 46th St E (CSAH 46)
5	Bass Lake Rd (CSAH 10) from Winnetka Ave N (CSAH 156) to Queen Ave N	25	Franklin Ave (CSAH 5) from Lyndale Ave S (CSAH 22) to West River Pkwy
6	42nd Ave N (CSAH 9) from Boone Ave N to Douglas Dr N (CSAH 102)	26	Lyndale Ave S (CSAH 22) from Franklin Ave (CSAH 5) to 38th St W
7	42nd Ave N (CSAH 9) from Vera Cruz Ave N to Bottineau Blvd (CSAH 81)	27	26th Ave S/Minnehaha Ave (CSAH 48) from Franklin Ave E (CSAH 5) to 38th St E
8	44th Ave N (CSAH 152) from Osseo Rd (CSAH 152) to Humboldt Ave N (CSAH 57)	28	Lake St (CSAH 3) from East Bde Maka Ska Pkwy to 33rd Ave S
9	Webber Pkwy/Lyndale Ave N/Washington Ave N (CSAH 152) from Bryant Ave N to 4th St N	29	46th St W (CSAH 46) from Nicollet Ave to Portland Ave (CSAH 35)
10	Bottineau Blvd (CSAH 81) at 36th Ave N	30	Lyndale Ave S (CSAH 22) and 50th St W (CSAH 21)
11	Penn Ave N (CSAH 2) from 40th Ave N to Glenwood Ave (CSAH 40)	31	Cedar Ave S (CSAH 152) from East Lake Nokomis Pkwy to Hwy 62
12	Washington Ave N (CSAH 152) from 36th Ave N to Park Ave (CSAH 33)	32	France Ave S (CSAH 17) from 62nd St W to 70th St W
13	Marshall St NE (CSAH 23) from 29th Ave NE to 18th Ave NE	33	Penn Ave S (CSAH 32) from 62nd St W to 66th St W (CSAH 53)
14	Lowry Ave N (CSAH 153) from West Broadway (CSAH 81) to Central Ave (Hwy 65)	34	66th St W (CSAH 53) from Xerxes Ave S (CSAH 31) to Penn Ave S (CSAH 32)
15	West Broadway (CSAH 81)/Broadway St NE (CSAH 66) from 27th Ave N to Stinson Blvd (CSAH 27)	35	Nicollet Ave S (CSAH 52) and 66th St W (CSAH 53)
16	Stinson Blvd (CSAH 27) from New Brighton Blvd (CSAH 88) to Hennepin Ave E (CSAH 52)	36	Portland Ave S (CSAH 35) and 66th St E (CSAH 53)
17	Hennepin Ave E (CSAH 52) from Washington Ave N (CSAH 152) to Nicollet Island	37	France Ave S (CSAH 17) from Parklawn Ave to 83rd St W
18	Hennepin Ave E (CSAH 52) from Nicollet Island to 1st Ave NE (CSAH 52) and 1st Ave NE (CSAH 52) from Nicollet Island to Main St NE (CSAH 23)	38	Portland Ave S (CSAH 35) from 74th St E to 82nd St E
19	Hennepin Ave E (CSAH 52) from Lincoln St NE to Stinson Blvd (CSAH 27)	39	98th St E (CSAH 1) from Nicollet Ave S (CSAH 52) to Portland Ave S (CSAH 35)
20	University Ave SE (CSAH 36) and 27th Ave SE (CSAH 5)	SUBURBAN	
		1	County Road 30 from Brockton Ln N (CSAH 101) to Troy Ln N
		2	County Road 30 from Lawndale Ln N to Maple Grove Pkwy N and Maple Grove Pkwy N from County Road 30 to Upland Ln N

Key	Description
3	Bottineau Blvd (CSAH 81) and Elm Creek Blvd N (CSAH 130)
4	93rd Ave N (CSAH 30) and Elm Creek Blvd N (CSAH 130)
5	Bottineau Blvd (CSAH 81) from 93rd Ave N (CSAH 30) to Zachary Ln N (CSAH 61)
6	West Broadway (CSAH 103) and 93rd Ave N (CSAH 30)
7	Elm Creek Blvd N (CSAH 130) from Weaver Lake Rd N (CSAH 109) to 80th Cir N
8	Elm Creek Blvd N (CSAH 130) and Hemlock Ln N (CSAH 61)
9	Bottineau Blvd (CSAH 81) from 2nd St SE to 63rd Ave N
10	85th Ave N (CSAH 109) from Bottineau Blvd (CSAH 81) to Edinbrook Terr N
11	85th Ave N (CSAH 109) from Queen Ave N to Hwy 252
12	West Broadway (CSAH 103) from 85th Ave N (CSAH 109) to Jolly Ln N
13	Zane Ave N (CSAH 14) from 85th Ave N (CSAH 109) to Brooklyn Blvd (CSAH 152)
14	Brooklyn Blvd (CSAH 152) from Bottineau Blvd (CR 81) to Kentucky Ave N
15	Brooklyn Blvd (CSAH 152) from Douglas Dr N to Regent Ave
16	69th Ave N (CSAH 130) from Brunswick Ave N to Scott Ave N
17	Northwest Blvd (CSAH 61) and Bass Lake Rd (CSAH 10)
18	Northwest Blvd (CSAH 61) and Rockford Rd (CSAH 9)
19	Rockford Rd (CSAH 9) from Nathan Ln N to Hwy 169
20	County Road 101 from Saddlewood Ln to Hwy 7
21	Shady Oak Rd (CSAH 61) and Excelsior Blvd (CSAH 3)

RURAL

1	Dayton River Rd (CSAH 12) and Diamond Lake Rd N (CSAH 144)
2	Territorial Rd (CSAH 159) and Main St (CSAH 150)

Key	Description
3	Brockton Ln N (CSAH 13) from Rogers Dr to County Road 81
4	109th Ave N (CR 117) and CSAH 19
5	97th Ave N (CSAH 30) and CSAH 19
6	97th Ave N (CSAH 30) from County Road 116 to Brockton Ln N (CSAH 101)
7	Rebecca Park Rd (CSAH 50) from Woodland Tr (CSAH 10) to Vernon St
8	CSAH 10 and County Road 116
9	County Road 6 from Halgren Rd (CSAH 83/110) to Town Line Rd
10	County Road 15 and County Road 92