Town of Superior℠

VISION ZERO ACTION PLAN

April 2025 Draft

ACKNOWLEDGEMENTS

Town Council

Mayor Mark Lacis
Mayor Pro-Tem Jason Serbu
Heather Cracraft
Mike Foster
Jenn Kaaoush
Stephanie Miller
Neal Shah

Town of Superior

Alex Bullen, Public Works & Utilities Program Supervisor
Geoffrey Weathers, Planner I

Stakeholder Groups

Boulder County Sheriff's Office
Boulder Valley School District
Colorado Department of Transportation
Colorado State Patrol
Coalition 4 Cyclists
Community Cycles
Denver Regional Council of Governments
Mountain View Fire Rescue
Town of Superior residents

Consultant Team

Consor Engineers
Y2K Engineering, LLC.

GLOSSARY

ADA – Americans with Disabilities Act.

Approach Turn Crash – a crash that occurs when someone turns left in front of oncoming traffc without yielding the right-of-way.

Bicycle Crash – a crash that involves a motor vehicle and at least one person who is biking.

Broadside Crash – Also known as a T-bone crash or an angle collision, a broadside crash occurs when the front end of one car crashes into the side of another car at a signalized location.

CDOT – Colorado Department of Transportation.

Comprehensive Injury & Risk Network (CIRN) –The combination of the High-Injury Network and High-Risk Network, used to prioritize safety projects where they will have the greatest impact.

Countermeasure – an engineering solution that can be implemented to correct a crash problem or mitigate the likelihood of a crash occurring.

Crash Reduction Factor – used to compute the expected percentage reduction in crashes after implementing a countermeasure on a road or at an intersection.

Fatal Crash – a crash resulting in one or more deaths.

FHWA – Federal Highway Administration.

Fixed-Object Crash – a crash that involves a motor vehicle and a stationary object such as a utility pole, guardrail, tree, or building.

Injury Crash – a traffic crash that results in one or more individuals sustaining injuries, ranging from minor injury to fatal.

High-Injury Network (HIN) – identifies the locations with the highest concentrations of crashes resulting in an injury or fatality.

High-Risk Network (HIN) – identifies the locations with the highest risk for future severe crashes.

Minor Injury Crash – a crash that results in an injury that does not preclude the person from walking, driving or normally continuing the activities he/she was capable of performing before the injury occurred.

MUTCD – Manual on Uniform Traffic Control Devices.

Parked Motor Vehicle Crash – a crash that occurs when a motor vehicle in motion strikes a stationary motor vehicle.

Pedestrian Crash – a crash that involves a motor vehicle and at least one person who is walking.

Rear-End Crash – a crash that occurs when the front of one vehicle collides with the back of another vehicle.

Rear-End Crash – a crash that occurs when the front of one vehicle collides with the back of another vehicle.

Safe Streets for All (SS4A) – a federal, discretionary grant program providing $5 billion in grants from 2022 through 2026 to prevent road deaths and serious injuries.

Serious Injury Crash – a crash that results in an incapacitating (life altering) injury.

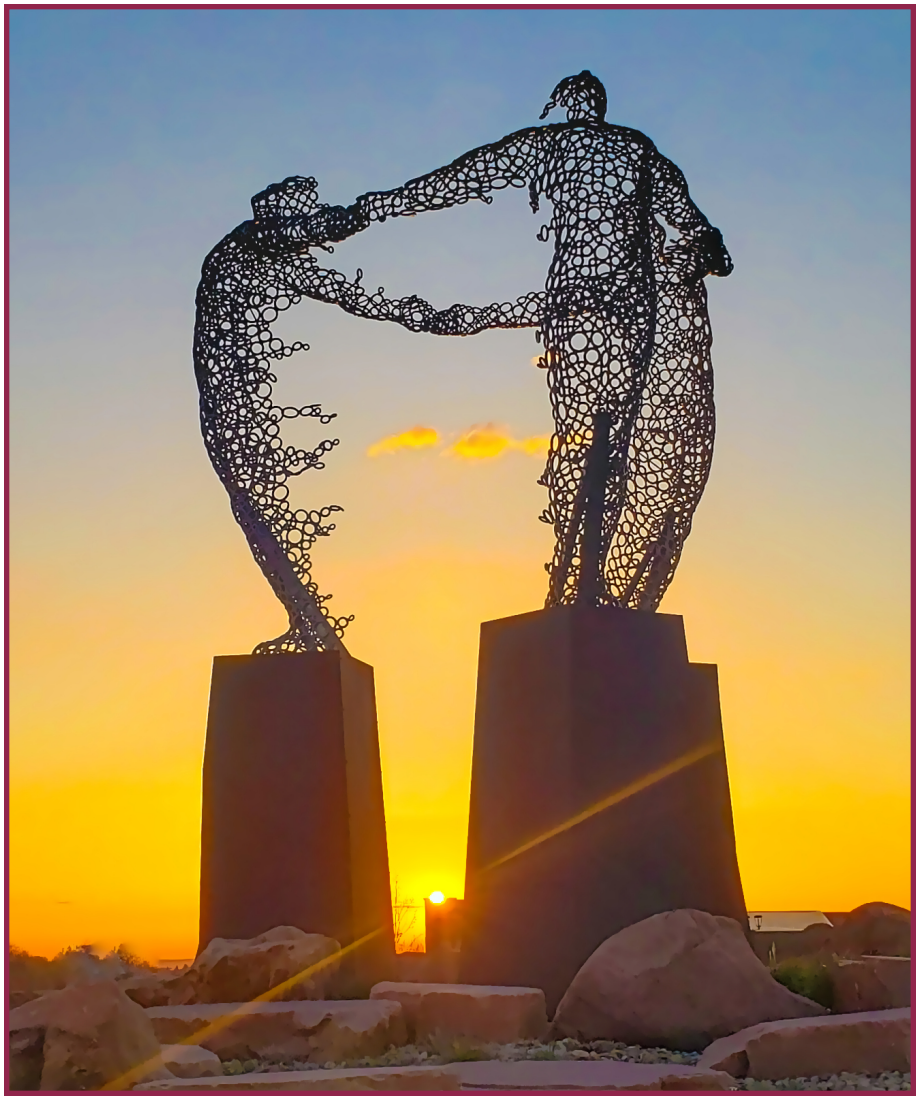
Severe Crash – a general term encompassing both fatal and serious injury crashes.

Sideswipe Crash – a crash that occurs when a driver departs from their expected path of travel and the side of their vehicle strikes the side of another vehicle. This can occur in the same direction of travel or in opposite directions of travel.

Transportation System – The entire network of elements facilitating the movement of people, including roads, sidewalks, bicycle facilities, and trails.

Vision Zero – a transportation strategy to eliminate all traffic fatalities and serious injuries while increasing safe, healthy, equitable mobility for all. Vision Zero recognizes that humans make mistakes and therefore the transportation system should be designed to minimize the consequences of human error.

TABLE OF CONTENTS



PURPOSE OF THE PLAN

The **Superior Vision Zero Action Plan (VZAP)** is a data-driven, community-informed strategy designed to eliminate serious injury and fatal crashes on the Town of Superior's transportation system. Funded through the Safe Streets and Roads for All (SS4A) grant, this plan provides a clear framework for safety improvements that align with regional and state transportation goals.

Recognizing the need for a coordinated approach to road safety, the Town of Superior, Boulder County, and the City of Lafayette jointly applied for SS4A grant funding to develop individual VZAPs tailored to each community while maintaining a shared commitment to reducing severe crashes and improving multimodal safety. By working together, these partners are ensuring a cohesive regional strategy that prioritizes data-driven interventions, infrastructure improvements, and policy measures to make transportation safer for all.

The VZAP identifies key safety challenges and outlines targeted Strategies to create a safer, more connected, and multimodal transportation system.

UNDERSTANDING THE SAFETY CHALLENGES

Crash Trends & Risk Factors

A detailed safety analysis was conducted using 10 years of crash data (2013-2022) to identify trends and high-risk areas. Key findings include:

- 744 total crashes were reported, averaging 74 crashes per year.
- 1 fatal crash and 8 serious injury crashes occurred during this period.
- 55% of crashes occurred at intersections, with rear-end, broadside, and approach-turn crashes among the most common.
- Pedestrian and bicycle crashes, while less frequent, were disproportionately severe, representing 25% of injury crashes.

This analysis informed the development of the High-Injury Network (HIN), which identifies intersections with the highest concentration of serious and fatal crashes, and the High-Risk Network (HRN), which highlights road segments with risk factors associated with future severe crashes. These tools, known together as the Comprehensive Injury & Risk Network (CIRN) were used to prioritize safety projects where they will have the greatest impact.

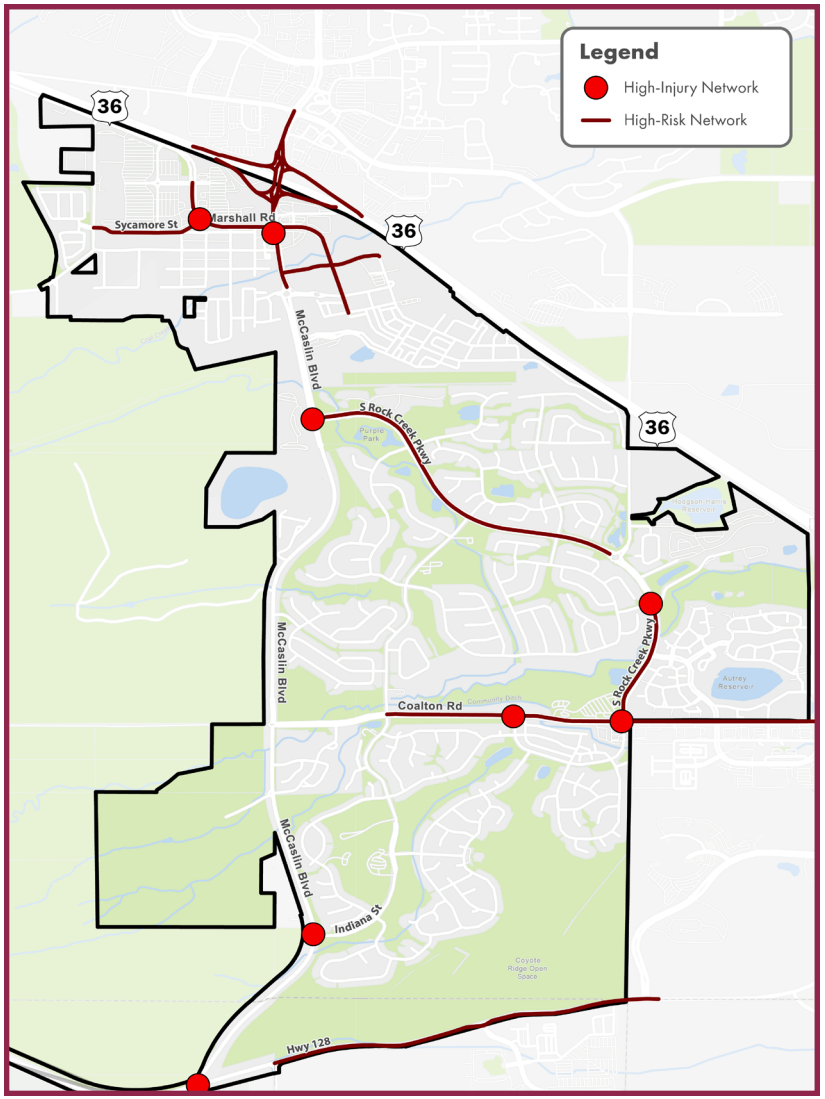


Figure 1. Comprehensive Injury & Risk Network

COMMUNITY-IDENTIFIED SAFETY CONCERNS

The VZAP was shaped by extensive public and stakeholder input through in-person events, online surveys, and targeted discussions. Key themes included:

- Concerns about speeding on McCaslin Boulevard and Rock Creek Parkway.
- Unsafe intersections and crossings, particularly at McCaslin & Marshall Road, Rock Creek Parkway & Coal Creek Drive, and Rock Creek Parkway & 88th Street.
- Desire for improved pedestrian and bicycle safety, including protected bike lanes and enhanced crosswalks.
- Challenges navigating roundabouts, leading to conflicts between drivers, pedestrians, and cyclists.
- Interest in increased enforcement of traffic laws, including red-light running and speeding violations.

This feedback was directly integrated into the plan, ensuring that proposed Strategies and Actions reflect community priorities.

SAFETY IMPLEMENTATION FOCUS AREAS

The plan is structured around three core focus areas of the Federal Highway Administration (FHWA) Safe Systems Approach to support Vision Zero – Safer Roads, Safer Speeds, and Safer People. In each focus area, a comprehensive set of Strategies and Actions are identified to reduce crash severity, enhance mobility, and improve road safety.

SAFER ROADS

A focus on ***Safer Roads*** emphasizes the need for infrastructure that safely accommodates multiple modes across the entire transportation network.

Key Metrics:

- Decrease the number of fatal and injury crashes Town-wide.
- Decrease in number and rate of total crashes at intersections on the High-Injury Network.
- Decrease in number and rate of crashes involving people walking and biking Town-wide.

Strategy 1: *Implement identified safety improvements on the Comprehensive Injury & Risk Network.*

#	Action
SR1.1	Implement McCaslin Boulevard & Marshall Road improvements
SR1.2	Implement Rock Creek Parkway & Coalton Road improvements
SR1.3	Implement Rock Creek Parkway & Honey Creek/Coal Ridge improvements
SR1.4	Implement McCaslin Boulevard & Rock Creek Parkway improvements
SR1.5	Implement Sycamore Street & Marshall Road improvements
SR1.6	Improve the existing on-street bicycle facility at the US 36 interchange
SR1.7	Implement Rock Creek Circle & Coalton Road improvements
SR1.8	Implement McCaslin Boulevard & CO 128 improvements

Note: Safer Roads Strategy 1 and 3 include recommendations for specific project locations. The detailed analysis and recommended improvements for each location can be found in ***Appendix D****.*

SAFER ROADS

Strategy 2: *Reduce risk factors on the transportation network.*

#	Action
SR2.1	Implement safety improvements on the HRN to proactively prevent severe crashes
SR2.2	Ensure new road construction reduces and mitigates risk factors as practicable

Strategy 3: *Upgrade pedestrian/bicycle crossing treatments at locations that were identified through the Systemic Crossing Analysis.*

#	Action
SR3.1	Install crossing improvements at Rock Creek Parkway & Coal Creek Drive
SR3.2	Install crossing improvements at Rock Creek Parkway & Tyler Drive
SR3.3	Install crossing improvements at McCaslin Boulevard & Superior Plaza Way
SR3.4	Install crossing improvements at McCaslin Boulevard south of Discovery Parkway
SR3.5	Install crossing improvements on Indiana Street east of McCaslin Boulevard

Strategy 4: *Determine signage standards for improved road user clarity.*

#	Action
SR4.1	Identify standard signage for Rectangular Rapid Flashing Beacon (RRFB)* crossings to improve pedestrian and bicycle crossings and deploy Town-wide
SR4.2	Upgrade dual lane roundabout signage, lane markings, and visibility to improve safety and comfort for all users traveling through roundabouts

Note: Safer Roads Strategy 1 and 3 include recommendations for specific project locations. The detailed analysis and recommended improvements for each location can be found in ***Appendix D.***

** Defined in* ***Chapter 4: Toolbox of Safety Countermeasures.***

SAFER ROADS

Strategy 5: *Enhance intersection operations and visibility where conditions have been or could be a crash factor.*

#	Action
SR5.1	Restrict permissive left-turns at signalized intersections to reduce left-turn crashes where opposing left-turn lanes are misaligned and are creating a sight distance challenge for left-turning vehicles to see oncoming traffic
SR5.2	Implement protected left turns when a push button is pressed at high pedestrian conflict intersections to improve pedestrian safety and minimize conflicts between pedestrians and vehicles
SR5.3	Maintain vegetation in known areas where visibility is poor at intersections to confirm there is adequate sight distance
SR5.4	Maintain retroreflective backplates* to improve traffic signal head visibility
SR5.5	Update yellow and red clearance intervals* to reduce red-light running and rear-end crashes
SR5.6	Install traffic signal indications over each travel lane to improve traffic signal head visibility and meet current Manual on Uniform Traffic Control Devices (MUTCD) requirements
SR5.7	Replace “doghouse” style signal heads with 4-section flashing yellow arrows (FYAs) to meet current MUTCD requirements

Strategy 6: *Enhance infrastructure for pedestrians and cyclists throughout the Town.*

#	Action
SR6.1	Upgrade all pedestrian curb ramps to be Americans with Disabilities Act (ADA) compliant to improve pedestrian safety and accessibility
SR6.2	Reallocate road space to enhance bicycle and pedestrian safety and comfort and reduce vehicle speeds
SR6.3	Implement pedestrian and bicycle accessibility improvements in commercial areas to improve comfort and access to key destinations

** Defined in **Chapter 4: Toolbox of Safety Countermeasures.***

SAFER ROADS

Strategy 6 (cont.): *Enhance infrastructure for pedestrians and cyclists throughout the Town.*

#	Action
SR6.4	Implement protected bike lanes* to create safe and comfortable facilities for bicyclists that reduce conflict with vehicles
SR6.5	Implement locations for multi-use paths* to create safe and comfortable facilities for bicyclists that reduce conflict with vehicles
SR6.6	Complete missing sidewalk gaps throughout the Town to improve pedestrian connectivity
SR6.7	Implement pedestrian refuge islands* where feasible at multilane road crossings to shorten crossing distances and increase visibility
SR6.8	Reduce curb radii* and implement bulbouts* where feasible to reduce vehicle turning speeds, slow traffic, and improve pedestrian crossing safety
SR6.9	Install raised crossings* at channelized right turns to improve pedestrian and bicycle crossing visibility
SR6.10	Implement traffic signal improvements to signalized crossings such as installing a pedestrian push button in a pedestrian refuge island, implementing Leading Pedestrian Interval (LPI)*, and/or extending the pedestrian walk phase timing to improve pedestrian safety and comfort
SR6.11	Enhance bicycle and pedestrian scale wayfinding signage throughout Town and create branded signage for additional routes on existing paths to improve bicycle and pedestrian safety and comfort

** Defined in **Chapter 4: Toolbox of Safety Countermeasures.***

SAFER PEOPLE

A focus on ***Safer People*** sets the framework for education and awareness, fostering a community of shared responsibility among all road users.

Key Metrics:

- ↑ Increase in the number of safety education and engagement activities.
- ↑ Increase in percentage of trips that use walking, biking, or transit as the primary mode of travel.

Strategy 1: *Raise community awareness of multimodal safety programs, policies, and treatments.*

#	Action
SP1.1	Write and publish a quarterly multimodal article in the Sentinel newsletter paired with educational campaigns to educate and encourage the public about multimodal safety
SP1.2	Champion a Safe Routes to School (SRTS)* study for each school (BVSD) to improve pedestrian and bicycle safety, comfort, and access around schools

SAFER SPEEDS

A focus on ***Safer Speeds*** identifies measures to reduce excessive speeds, a key contributor to the severity of traffic crashes.

Key Metrics:

- ↓ Decreasing speeding on arterial and collector roads.
- ↓ Decreasing red-light running crashes at signalized intersections.

Strategy 1: *Manage speeds effectively through engineering, education, and enforcement.*

#	Action
SS1.1	Implement road diets on roads where analysis shows excess capacity to reduce vehicle speeds
SS1.2	Install safety cameras* at signalized intersections and arterial corridors to reduce red-light running and speeding
SS1.3	Publicize the traffic calming program and the process for submitting a request to educate the public about the existing program

** Defined in **Chapter 4: Toolbox of Safety Countermeasures**.*

IMPLEMENTATION & NEXT STEPS

Achieving Vision Zero requires a combination of local, state, and federal funding sources to support safety improvements. The Town of Superior will actively seek grants and partnerships to fund projects, including:

- Safe Streets and Roads for All (SS4A) grant funding
- State and regional transportation safety programs
- Local capital improvement funding

A table of funding opportunities is included in **Appendix F** to guide future investment in safety projects.

Tracking the effectiveness of the VZAP is essential to ensuring that safety Strategies, projects, and policies are leading to measurable improvements in road safety. The Town of Superior will regularly evaluate whether implemented Actions are reducing crash risks, improving conditions for all road users, and addressing community concerns.

Evaluation efforts will include ongoing data collection, crash trend analysis, and public feedback to assess the impact of safety interventions. Regular reporting will help identify successes, challenges, and areas where adjustments may be needed to ensure continuous progress toward Vision Zero goals.

By committing to a structured monitoring process, the Town will be able to refine Strategies over time, prioritize high-impact projects, and align safety initiatives with evolving transportation needs.

CONCLUSION

The Superior VZAP provides a clear roadmap for eliminating serious and fatal crashes while improving transportation safety for all users. By prioritizing data-driven investments, engaging the community, and leveraging funding opportunities, the Town of Superior is taking proactive steps toward a safer, more accessible transportation system.

Through sustained implementation, monitoring, and funding Strategies, the Town will work toward its Vision Zero goals, ensuring that all road users—whether walking, biking, driving, or using any other mode—can travel safely in Superior.

CHAPTER 1

INTRODUCTION

PROJECT OVERVIEW

The Town of Superior strives to make meaningful progress in creating a safe and connected transportation system. Recognizing the importance of implementing a regional approach to road safety, Superior, in collaboration with Boulder County and the City of Lafayette, applied and received funding for the 2023 Safe Streets and Roads for All (SS4A) grant to develop a Vision Zero Action Plan (VZAP). This initiative includes the creation of three standalone VZAPs for Boulder County, Lafayette, and Superior to improve road safety and ensure a cohesive regional strategy to enhance road safety. By fostering inter-agency collaboration and aligning safety priorities across jurisdictions, the plan will maximize its effectiveness and implementation potential.

The Town's recent and ongoing planning efforts, policy, and infrastructure investments demonstrate Superior's commitment to a transportation system that safely accommodates travel for all modes, ages, and abilities. Superior recognizes that all traffic-related injuries or fatalities are preventable and is committed to providing a safer transportation environment for all users.

The Superior VZAP provides a data-driven, community-informed strategy to address road safety concerns and implement targeted solutions. The Plan covers all roads within the Town, including local, collector, and arterial roads, as well as state-managed roads under the jurisdiction of the Colorado Department of Transportation (CDOT). Boulder County and the City of Lafayette have also developed separate VZAPs tailored to their local needs.

The goal of these plans is to equitably prioritize safety improvements, ensuring that road users—regardless of mode, ability, or location—can travel safely throughout the county. The plan identifies key high-risk areas based on crash data analysis and community feedback to prioritize safety improvements in critical locations.

WHAT IS VISION ZERO?

Vision Zero is a national initiative based on the principle that no loss of life on our roads is acceptable. It aims to create a transportation system that prioritizes safety, equity, and mobility for all road users.

WHAT IS A VISION ZERO ACTION PLAN (VZAP)?

A **VZAP** is a strategic document that evaluates historic crash data and system challenges and identifies Strategies and Actions to reduce the potential for significant injuries and fatalities in the future.

SAFE STREET AND ROADS FOR ALL (SS4A) GRANT PROGRAM

In 2021, the Bipartisan Infrastructure Law established the **SS4A program** with $5 billion in appropriated funds between 2022 and 2026. The program provides financial support for the planning and infrastructure initiatives to prevent death and serious injuries on roads involving all users.

WHAT IS VISION ZERO AND THE SAFE SYSTEM APPROACH?

Vision Zero is a global movement focused on **eliminating all traffic-related deaths and serious injuries.** It recognizes that human error is inevitable and that the transportation system should be designed to minimize the consequences of these mistakes. The goal of Vision Zero is to create a transportation system that prioritizes safety above all else, using data-driven analysis to identify the root causes of traffic crashes and addressing them with comprehensive Strategies rooted in a Safe System Approach.

Traditional Approach	VS	Vision Zero
Traffic deaths are ***inevitable***		Traffic deaths are ***preventable***
Perfect human behavior		Integrate ***human failing*** in approach
Prevent ***crashes***		Prevent ***fatal and severe crashes***
Individual responsibility		***Systems*** approach
Saving lives is ***expensive***		Saving lives is ***not expensive***

Figure 2. Traditional Approach vs Vision Zero

The Safe System Approach is based on six key principles*:

1. **Death and serious injuries are unacceptable:** A Safe System Approach prioritizes the elimination of crashes that result in death and serious injuries.
2. **Humans make mistakes:** Road designs must anticipate and accommodate human error.
3. **Humans are vulnerable:** The transportation system should protect users from fatal or serious injuries.
4. **Responsibility is shared:** Government agencies, policymakers, engineers, and road users all play a role in safety.
5. **Safety is proactive:** Risks should be identified and mitigated before crashes occur.
6. **Redundancy is crucial:** Reducing risks requires that all parts of the transportation system be strengthened, so that if one part fails, the other parts still protect people.

* *Source: U.S. Department of Transportation*

Figure 3. The Safe System Approach to Eliminating Traffic Deaths

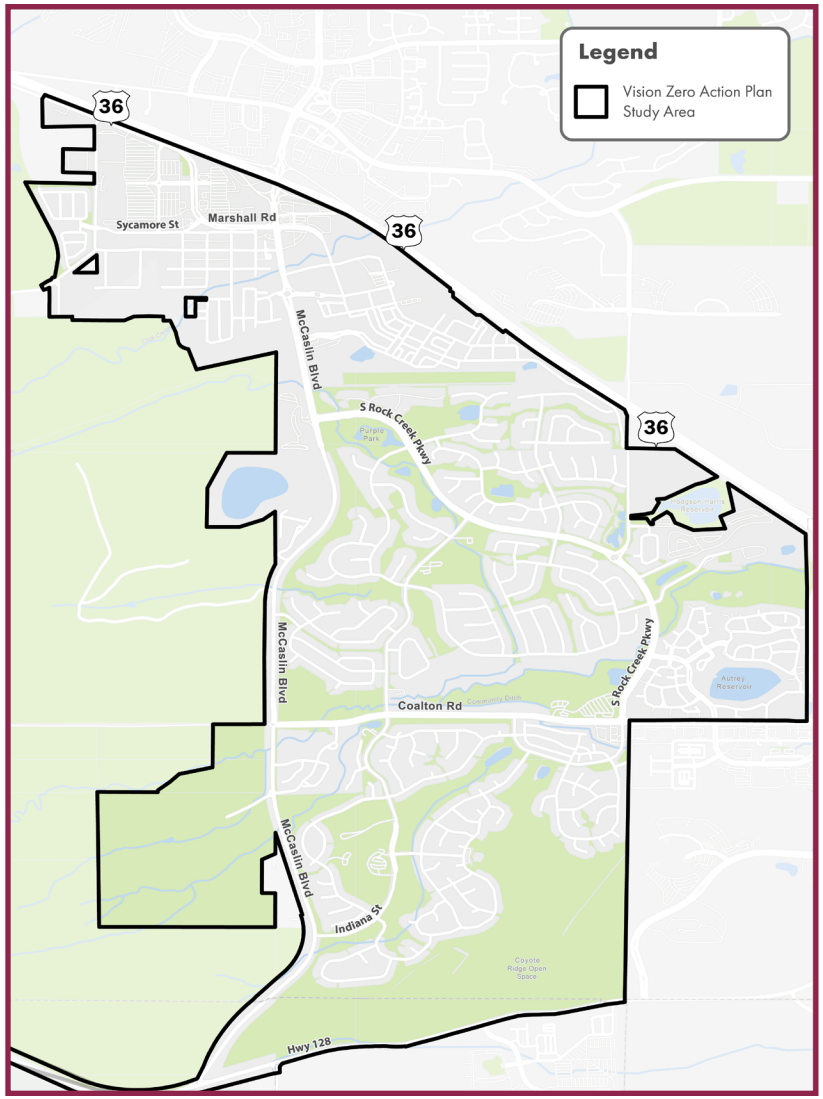


Figure 4. VZAP Study Area

ABOUT SUPERIOR

The **Town of Superior** is a rapidly growing community located in southeastern Boulder County, Colorado, approximately 20 miles northwest of Denver and adjacent to the cities of Louisville and Broomfield. Originally established as a coal-mining town, Superior is an expanding and innovative community, offering new development opportunities and established neighborhoods as well as exceptional mountain views, local businesses, and community events.

Superior's transportation network includes a mix of local (residential) roads, collector (side) roads, and arterial (major) corridors, many of which serve both local and regional travel demands. The Town is bordered by US 36, a major highway that provides direct access to Boulder and Denver, making Superior an attractive location for commuters. Additionally, the Town is committed to supporting multimodal transportation through an extensive network of bike lanes, sidewalks, and trails that connect neighborhoods to parks, schools, and commercial centers.

As Superior continues to grow, traffic safety has become an increasing concern, particularly at major intersections and high-traffic corridors. The VZAP seeks to address these challenges by identifying areas where safety improvements are most needed and implementing Strategies that align with broader regional and state transportation goals.

GOALS OF THE VISION ZERO ACTION PLAN

The Superior VZAP is centered around equity, safety, and data-driven decision-making. The plan's primary goals include:

- **Supporting Boulder County's Vision Zero goal to eliminate serious injuries and fatal traffic crashes in Boulder County by 2035.**
- Reducing serious and fatal crashes across all transportation modes.
- Analyzing and mapping crash data from the last ten years of available information to identify crash trends and hot spots.
- Using a systemwide analysis method, identify locations where the likelihood of crashes is greater in the future.
- Engaging community members to understand needs, concerns, and priorities for transportation safety.
- Prioritizing safety improvements in high-risk locations, particularly for vulnerable road users.
- Identifying data-driven safety countermeasures to address crash hot spots and locations where future crashes are more likely.
- Identifying sustainable funding sources for long-term safety investments.
- Ensuring that transportation safety efforts are equitable and benefit historically underserved communities.

SCHEDULE

The Superior VZAP process began in **Spring of 2024.** Key stages of the project included:

Data Analysis:
Documenting major crash trends, developing the high-injury network (locations where the most crashes are occurring), and identifying risk factors.

Project Prioritization:
Identifying and prioritizing specific projects to address existing issues and proactive measures to address risk.

Town-wide Recommendations:
Developing systemwide recommendations designed to eliminate the most prevalent crash types resulting in serious injuries or fatalities.

Action Plans:
Creating to-do lists of specific Actions (both infrastructure, such as road improvements, and non-infrastructure, such as educational campaigns), noting responsibility and potential funding sources for implementation.

Throughout the process, community members and stakeholders were consulted to ensure that recommended Strategies are coordinated, feasible, and aligned with regional safety goals. Key milestones include:

- **Phase 1 Outreach (Summer 2024):** Initial engagement through the Superior 4th of July Festival and an online survey.
- **Phase 2 Outreach (Winter 2024/2025):** Further engagement through gathering feedback on proposed safety solutions at the Superior Winter Festival and with an online survey.
- **Phase 3 Outreach (Spring 2025):** Community feedback on the draft plan before finalization.
- **Final VZAP (Summer 2025):** Adoption by Superior Town Council.

PREVIOUS AND ONGOING PLANS

The Superior VZAP builds upon the Town's previous and ongoing efforts to enhance road safety and multimodal connectivity.

- **Past Safety Initiatives –** The Town has previously implemented intersection safety enhancements, pedestrian crossing improvements, and multimodal connectivity projects to support safer travel for all users. These efforts have included trail connections, crosswalk upgrades, and traffic signal adjustments to improve visibility and reduce conflicts.
- **Ongoing Comprehensive Plan & Transportation Plan Updates –** Superior is currently updating its Comprehensive Plan and Transportation Plan, which will guide future development and transportation priorities. The Transportation Plan will outline long-term mobility Strategies to enhance walking, biking, and transit options, improve traffic flow, and support safer road designs.
- **Neighborhood Traffic Calming Program –** Recognizing the importance of speed management, Superior's Neighborhood Traffic Calming Program provides a structured approach to reducing vehicle speeds in residential areas through measures such as speed humps, bulbouts, and road narrowing. This program is a key tool in addressing speeding concerns and ensuring neighborhood roads remain safe for all users.

By incorporating findings from these previous and ongoing efforts, the VZAP will align with existing priorities while advancing new, data-driven Strategies to eliminate severe and fatal crashes in Superior.

CHAPTER 2

UNDERSTANDING THE SAFETY FACTS

OVERVIEW

The Federal Highway Administration recommends that municipalities take a holistic view of Vision Zero plans to create a safe system that anticipates human mistakes and keeps a crash's impact energy on the human body at tolerable levels. The safety analysis for the Superior VZAP is based on ten years of crash data (2013-2022) provided by the CDOT. This analysis aims to identify key crash trends, high-risk locations, and systemwide risk factors that contribute to serious and fatal crashes in Superior. The Superior VZAP relies on a thorough understanding of motor vehicle, bicycle, and pedestrian crash trends to inform strategic investments in safety improvements aimed at decreasing fatal and severe injuries on the Town's transportation network.

The findings from this analysis serve as the foundation for developing the **High-Injury Network (HIN)** and **High-Risk Network (HRN)**—two tools that are used to prioritize safety improvements. The safety analysis identifies trends common amongst all crashes, but focuses more specifically on crashes resulting in minor injury, serious injury, or fatality. Reviewing these more severe crash trends is critical and aligns with the Vision Zero model of aiming to reduce fatalities and serious injuries. Additionally, community feedback from public outreach was integrated to ensure alignment between the data analysis and lived experiences of Superior residents. Understanding this data will allow Superior to direct resources where they are needed the most for improving safety and best address the root causes of crashes.

SAFETY ANALYSIS KEY TAKEAWAYS

Between **2013 and 2022,** there were **744 total crashes** reported in Superior, averaging 74 crashes per year. Of these:

- **1 fatal crash** was recorded.
- **8 crashes** resulted in serious injuries.
- **94.2%** of all crashes resulted in no injury or possible injury.
- **5.8%** resulted in minor or severe injuries.

Appendix B includes a detailed safety analysis investigating additional crash trends.

Superior Crashes by Year and Severity

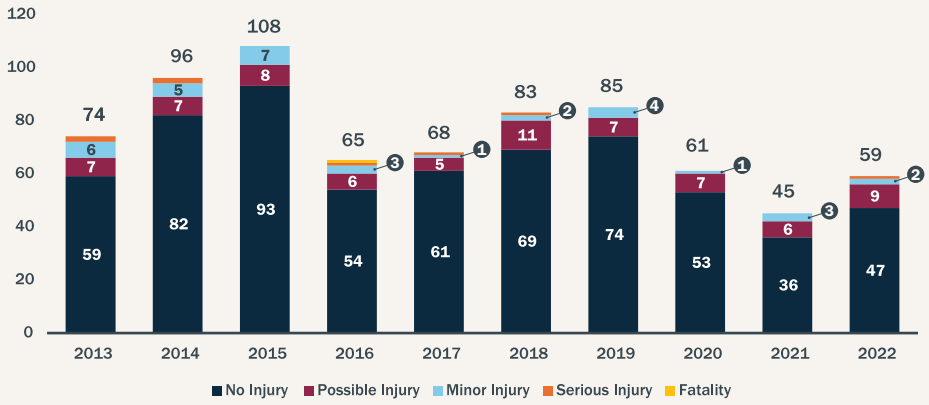


Figure 5. Superior Crashes by Year and Severity

TOP TRENDS

Throughout the data analysis process, several trends emerged that give insight into the current state of road safety in Superior. These trends provide specific issues for the VZAP to address.

The analysis identified the top crash types that result in an injury crash (minor injuries, serious injuries, or fatalities), revealing that some crash types, while less frequent, are disproportionately involved in injury crashes. For example, although pedestrian and bicycle crashes made up only 2% of all crashes, they accounted for 25% of injury crashes, highlighting their disproportionate severity. Similarly, approach turns only account for 9% of all crashes, but they account for 21% of all injury crashes. Rear-end crashes are the most common crash type for all crashes, but are less likely to result in an injury crash as they account for 33% of all crashes, but only 9% of injury crashes. **Appendix A** includes heatmaps displaying the locations of each crash type listed to the right.

What Types of Crashes are Occurring in Superior?

The most common crash types in Superior were:	The most common crash types resulting in an injury in Superior were:
Rear-End Crashes (33% of all crashes)	***Approach Turn*** (21% of all crashes)
Parked Motor Vehicle Crashes (13% of all crashes)	***Bicycle Crashes*** (19% of all crashes)
Broadside Crashes (11% of all crashes)	***Broadside Crashes*** (13% of all crashes)
Fixed-Object Crashes (10% of all crashes)	***Fixed-Object Crashes*** (11% of all crashes)
Sideswipe (Same Direction) Crashes (10% of all crashes)	***Rear-End*** (9% of all crashes)
	Pedestrian (6% of all crashes)

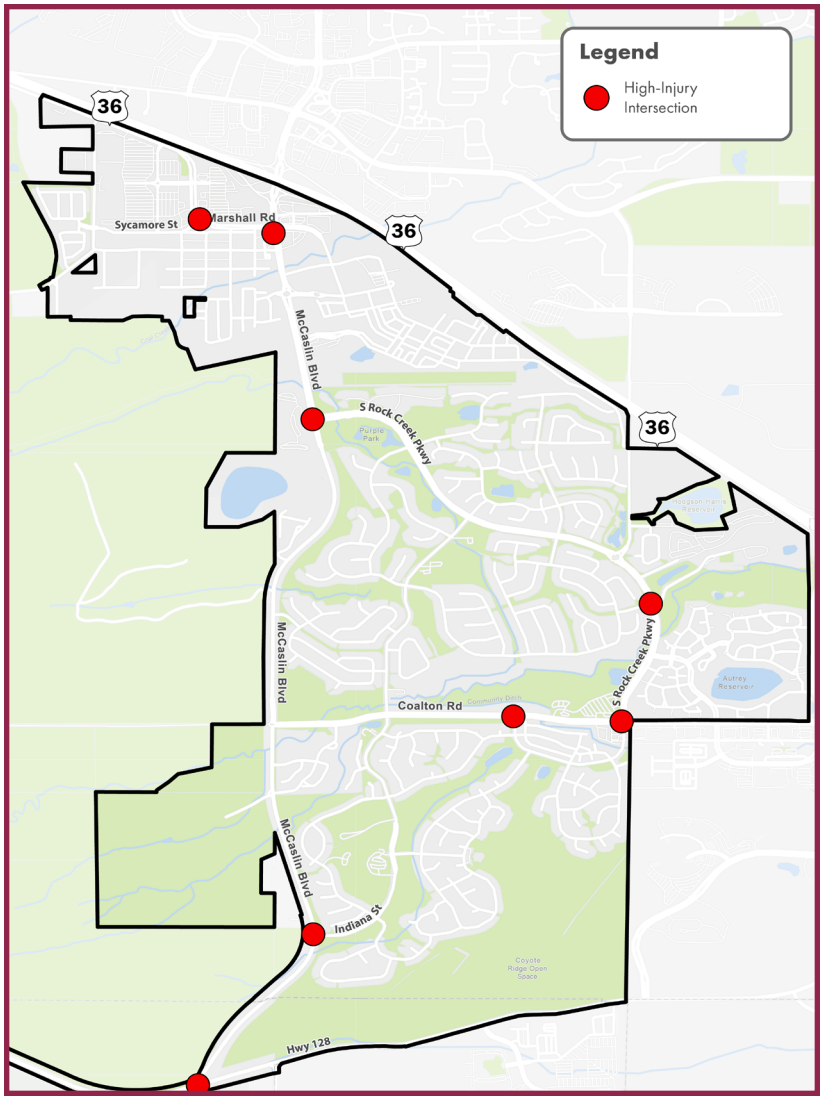


Figure 7. Superior High-Injury Network

HIGH-INJURY NETWORK (HIN) DEVELOPMENT

The **High-Injury Network (HIN)** is a mapping tool to identify where the highest number of people are being killed or seriously injured on Superior's transportation system. This data-driven approach provides a foundation for Superior staff to focus resources in areas where safety improvements are most critical. The most recently available ten years of crash
data (2013-2022) were used to create the HIN. Due to the relatively low number of serious injury and fatal crashes, minor injury crashes were included in the analysis to improve statistical reliability.

The HIN includes only intersections, as no significant concentrations of injury crashes were found along road segments. ***Eight intersections were identified as high-injury locations, accounting for 1.9% of the total intersection network.*** Further data analysis of road characteristics along the HIN allows for identification of appropriate safety countermeasures.

High-Injury Intersections

- McCaslin Boulevard & Marshall Road
- McCaslin Boulevard & Rock Creek Parkway
- Marshall Road & Sycamore Street
- Rock Creek Parkway & 88th Street
- Coal Ridge Drive & Rock Creek Parkway
- Coalton Road & Rock Creek Parkway
- Indiana Street & McCaslin Boulevard
- McCaslin Boulevard & Discovery Drive

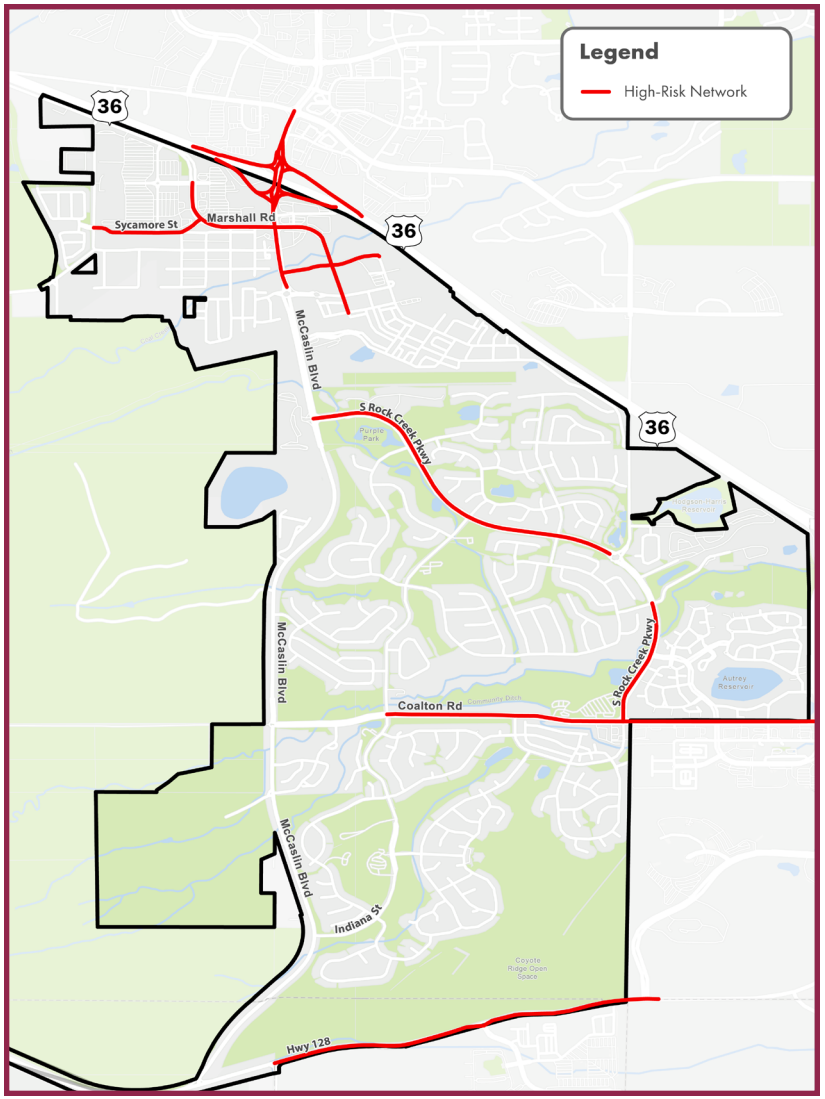


Figure 8. Superior High-Risk Network

HIGH-RISK NETWORK (HRN) DEVELOPMENT

The HIN is based on historical crash data, which is very useful in addressing existing problems. However, given that fatal and injury crashes are a small share of total vehicle crashes and near-misses are not a reportable metric, some of the locations with the highest safety concern may not be represented in the HIN. Acknowledging the types of crashes, contributing factors, and road characteristics where injury crashes historically occur presents the opportunity to proactively address future crashes. The **High-Risk Network (HRN)** identifies roads where crashes may occur in the future based on contextual risk factors. The HRN focuses on areas where preventative safety improvements can be implemented before serious crashes happen.

The HRN identified 7.4 miles of road as high-risk representing 12% of total road network miles in Superior.

Risk Factors Considered

- Collector or arterial roads
- Speed limit 30+ MPH
- Four or more travel lanes
- Lack of bicycle facility or sidewalk
- Proximity to schools or commercial areas
- Unmarked or poorly marked crosswalks

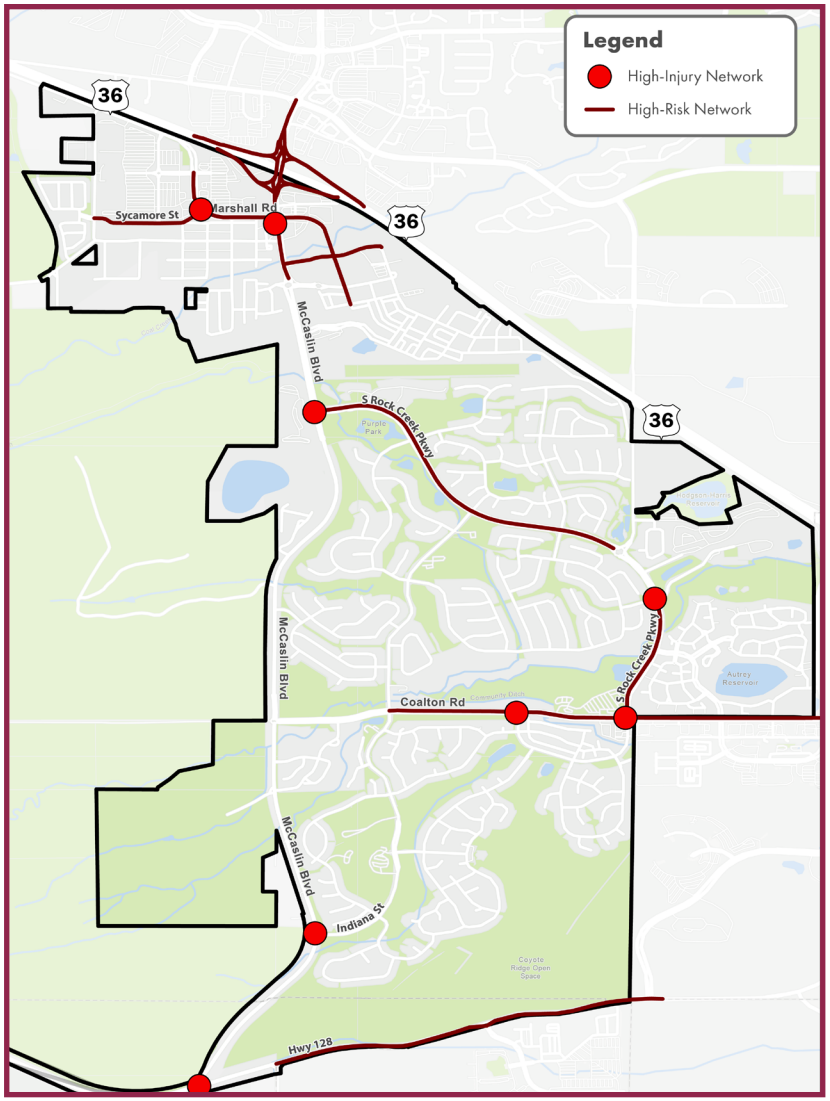


Figure 9. Superior Comprehensive Injury & Risk Network

COMPREHENSIVE INJURY & RISK NETWORK

The **Comprehensive Injury and Risk Network (CIRN)** integrates both the **High-Injury Network (HIN)** and the **High-Risk Network (HRN)** to provide a holistic approach to transportation safety in Superior. By combining historical crash data with predictive risk analysis, the CIRN identifies both locations where serious injury crashes have occurred, and areas where future crashes are more likely based on road conditions and usage patterns. This data-driven framework ensures that safety improvements are prioritized in locations with the greatest need, allowing the Town to proactively implement measures that enhance mobility and protect all road users.

By leveraging insights from both networks, the CIRN enables a strategic and equitable distribution of resources, focusing on high-priority intersections and corridors that pose the most significant safety concerns. This approach allows the Town of Superior to improve locations where there is already a known crash trend and implement targeted safety enhancements—such as traffic calming measures, improved crossings, and enhanced road design—before crashes occur, ultimately fostering a safer and more accessible transportation system for all residents and visitors.

A safety analysis was completed for each CIRN intersection and segment that included determining the number of crashes, level of severity, types of crashes that were occurring, and contributing factors to identify if there were safety trends. Recommendations were identified in locations with correctable crash trends or opportunities for safety improvements based on existing field conditions. Specific project recommendations for locations on the CIRN can be found in Safer Roads: Strategies 1 and 2 within **Chapter 5: Action Plan**. Additionally, the detailed safety analysis and recommendations for each HIN location can be found in **Appendix D**.

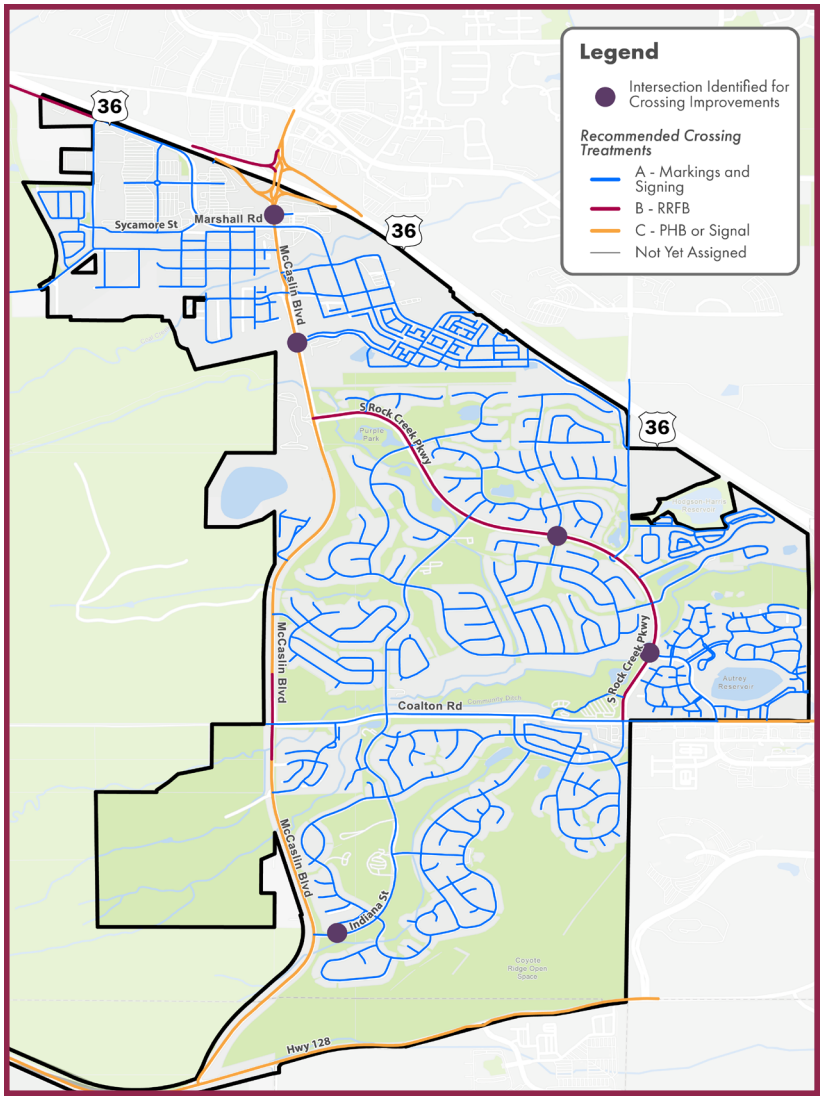


Figure 10. Systemic Crossing Analysis Results

SYSTEMIC CROSSING ANALYSIS

Ensuring safe and accessible pedestrian and bicycle crossings is a key component of creating a walkable and bikeable community. To systemically assess crossing types and identify how to improve an uncontrolled crosswalk within Town, a crossing analysis was conducted for the Town of Superior. This analysis built on best practices for appropriate crossing treatments outlined in Denver's Uncontrolled Pedestrian Crossing Guidelines and the Colorado Department of Transportation Design Guide to evaluate existing crossing treatments and determine whether they meet recommended safety thresholds or are recommended for upgrades.

The evaluation considered key factors such as the number of travel lanes, vehicle average daily traffic (ADT), and posted speed limits. Based on these inputs, each crossing was assessed and categorized according to the appropriate treatment level, ranging from basic markings and signage to more advanced measures such as Rectangular Rapid Flashing Beacons (RRFBs)* or Pedestrian Hybrid Beacons (PHBs)*.

As development occurs and future road improvements are implemented, the recommended crossing treatments can inform the inclusion of appropriate crossings Town-wide. For the more immediate term, the following intersections were identified for crossing improvements:

- McCaslin Boulevard & Superior Plaza Way
- McCaslin Boulevard & Discovery Parkway
- Indiana Street east of McCaslin Boulevard
- Rock Creek Parkway & Coal Creek Drive
- Rock Creek Parkway & Tyler Drive

Specific project recommendations for each location can be found in Safer Roads: Strategy 3 within **Chapter 5: Action Plan**. Additionally, further details for each crossing improvement location can be found in **Appendix D**.

** Defined in **Chapter 4: Toolbox of Safety Countermeasures.***

CHAPTER 3

INTEGRATING WHAT WE HEARD FROM THE COMMUNITY

WHO WAS ENGAGED

Community and stakeholder input was a key component of the Superior VZAP. Engagement efforts included in-person events, online surveys, focused stakeholder work sessions, and a virtual public meeting. These efforts gathered feedback from residents, business owners, decision-makers, and other stakeholders who live, work, or travel through Superior.

WHEN AND HOW WE ENGAGED

- **Phase 1 (Summer 2024):** The purpose of this phase was to identify how people travel in Superior and areas where they feel unsafe. Engagement took place at the Superior 4th of July Festival, an online survey with an interactive map, and a virtual public meeting.
- **Phase 2 (Winter 2024/2025):** In this phase, feedback was gathered on draft safety recommendations through an online survey with informational videos, in-person outreach at the Superior Winter Festival, and stakeholder discussions.
- **Phase 3 (Spring 2025):** Finally, the public reviewed of the draft plan and provided feedback through the project website and an online survey.

Superior 4th of July Festival Pop-Up

Superior Winter Festival Pop-Up

WHAT WE HEARD

PHASE 1

During ***Phase 1,*** community members shared feedback about road safety in Superior, particularly locations and road characteristics that feel unsafe. Key themes from community and stakeholder input included:

- **Intersections and crossings feel unsafe –** McCaslin & Marshall, Rock Creek Parkway & Coal Creek Drive, and other key intersections were identified as high-risk due to red-light running, poor yielding, and difficult pedestrian/bike crossings.
- **Speeding is a major concern –** McCaslin Boulevard and Rock Creek Parkway were highlighted as problem areas where excessive speeds create safety risks for all road users.
- **Pedestrian & bicycle infrastructure needs improvement –** Residents called for safer crossings, protected bike lanes, and better facilities at roundabouts to improve multimodal safety.
- **Roundabouts are difficult to navigate –** Many drivers struggle to yield properly, creating conflicts with pedestrians and cyclists, and there is interest in education and clearer signage.
- **Stronger traffic enforcement is desired –** Community members support increased enforcement of speeding, red-light running, and driver compliance at key intersections.

PHASE 2

During ***Phase 2,*** community members reacted to proposed safety solutions and shared feedback about prioritizing implementation of countermeasures. Key themes from community and stakeholder input included:

- **Support for safety solutions improving walking and biking –** The majority of participants were supportive of solutions such as Leading Pedestrian Intervals (LPI)*, Raised Crossings*, or Pedestrian Refuge Islands*, particularly at high-volume locations.
- **Mixed response to red-light and speed cameras* –** Many participants supported automated speed and red-light running enforcement, while others were doubtful about the efficacy of such measures and concerned about privacy.
- **Focus on areas with known crash history –** Participants expressed a desire for improvements to center on areas with concentrations of historic crashes, as well as improvements making it safer for walking and biking.

Appendix E contains the full summaries of Phase 1 and Phase 2 outreach efforts and results.

PHASE 3

Placeholder - to be added after Phase 3 occurs.

** Defined in **Chapter 4: Toolbox of Safety Countermeasures**.*

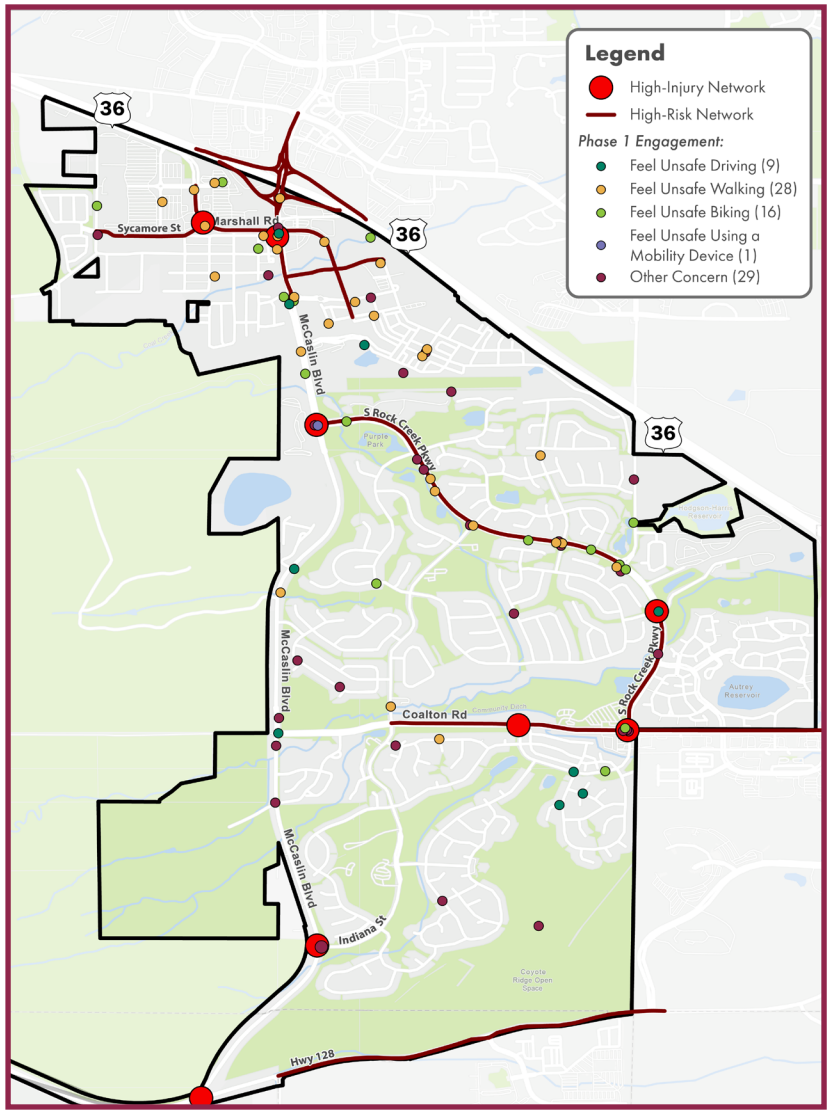


Figure 11. Safety Data Overlaid with Public Input

OVERLAYING SAFETY DATA WITH PUBLIC INPUT

To ensure alignment between quantitative crash data and community concerns, the Comprehensive Safety Network was compared to public input from the Phase 1 outreach survey and interactive map. The feedback from the community about locations feeling unsafe shares significant overlap with locations identified as having historic crash trends or risk for future crashes. Locations where the community identified potential risk areas that were not captured in crash data include McCaslin Boulevard between Main Street and Rock Creek Parkway, McCaslin Boulevard near Coalton Road, and Downtown Superior. These community insights highlight conditions that make users feel unsafe and may lead to future crashes, even if there have not been high concentrations historically.

CHAPTER 4

TOOLBOX OF SAFETY COUNTERMEASURES

OVERVIEW

The Town of Superior has created a toolbox of infrastructure countermeasures, from engineering design solutions to behavioral solutions that raise awareness about safe road behaviors and encourage safe driving habits. With this toolbox, Superior can tailor its approach to specific crash types, locations, and conditions, ensuring holistic and effective Strategies towards Vision Zero. For each countermeasure, the cost, safety benefit, and crash type it addresses is identified.

PLANNING LEVEL COSTS:

Costs are estimated in 2025 dollars, with the levels as follows:	
$	Under $50,000
$$	$50,001 - $100,000
$$$	$100,001 – $500,000
$$$$	$500,001 - $1,000,000
$$$$$	Over $1,000,000

SAFETY IMPACT:

Safety impact ratings for different types of countermeasures are based on the **Federal Highway Administration (FHWA) Crash Reduction Factor (CRF)**. A CRF represents the expected percentage change in crash frequency due to the implementation of a specific treatment or traffic control change, assuming all other conditions remain constant. The higher the percentage of the CRF, the higher the expected reduction in crashes, thus resulting in a higher safety impact. Some countermeasures are effective at reducing all types of crashes and are recommended, whenever possible. If an 'all crashes' countermeasure is not feasible, then ones specifically designed to increase pedestrian safety should be used.

Very High Safety Impact

High Safety Impact

Medium Safety Impact

Low Safety Impact

ROAD & GEOMETRIC COUNTERMEASURES

Traffic Calming

Description: Traffic calming refers to a set of design and engineering strategies implemented on roads that aims to slow down vehicle speeds and improving safety for all road users—particularly pedestrians and bicyclists. These measures introduce physical changes to the road (such as speed humps, chicanes, bulbouts, raised crosswalks, or road narrowing). They help create a safer, more livable road by encouraging responsible driving behavior. The Town of Superior currently has a Neighborhood Traffic Calming Program.

Crash Type it Addresses:

Pedestrian, Bicycle, Speed-related

Cost:

$$-$$$

Safety Impact:

Varies depending on traffic calming treatment

Street Lighting

Description: Street lighting enhances safety and accessibility by illuminating key areas and improving visibility to decrease crash risk. Road lighting is particularly effective at controlled and uncontrolled intersections, at midblock crossings, along sidewalks, and in areas with high pedestrian volumes like commercial zones, schools, parks, and transit stops.

Crash Type it Addresses:

Pedestrian, Bicycle, Speed-related

Cost:

$$

Safety Impact:

ROAD & GEOMETRIC COUNTERMEASURES

Pedestrian Refuge Islands

Description: Medians or pedestrian crossing islands should be considered along multi-lane roads, particularly in areas with a significant mix of pedestrian and vehicle traffic and intermediate or high travel speeds. Some example locations that may benefit from raised medians or pedestrian crossing islands include, mid-block areas, approaches to multi-lane intersections, and areas near transit stops or other pedestrian-focused sites.

Crash Type it Addresses:

Pedestrian, Bicycle

Cost:

$ (Paint and post)
$$$ (Concrete/ permanent)

Safety Impact:

Roundabouts

Description: Roundabouts are circular intersections designed to improve traffic flow and enhance safety by reducing conflict points and lowering vehicle speeds. Unlike traditional signalized intersections, roundabouts promote continuous movement and minimize the risk of severe crashes, such as approach turn and broadside crashes.

Crash Type it Addresses:

Pedestrian, Bicycle, Speed-related

Cost:

$$$$-$$$$$

Safety Impact:

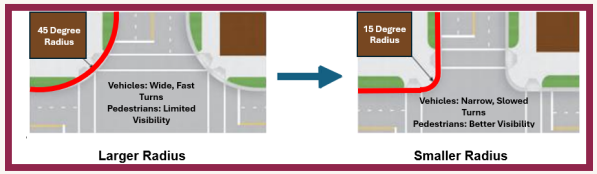
ROAD & GEOMETRIC COUNTERMEASURES

Curb Radius Reduction

Description: Reducing the radius of a curb at an intersection helps to reduce the speed of turning vehicles and shorten the crossing distance. This also improves visibility for pedestrians and bicyclists at these intersections, improving safety both inside and outside of vehicles. Considerations include material type, maintenance needs, ensuring compliance with design standards, and minimizing disruption during installation.

Crash Type it Addresses:

Pedestrian, Bicycle, Speed-Related, Broadside



Cost:

$$$

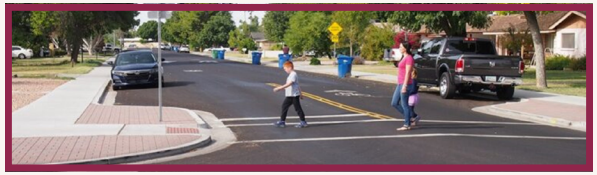
Safety Impact:

Bulbouts

Description: Bulbouts (also called curb extensions) extend the curb line at intersections through paint and flexible delineators or concrete construction to physically and visually narrow the road. This slows down drivers and gives extra space to pedestrians to view oncoming traffic.

Crash Type it Addresses:

Pedestrian, Bicycle, Speed-Related, Broadside



Cost:

$ (Paint and post)

Safety Impact:

ROAD & GEOMETRIC COUNTERMEASURES

Improve Channelized Right-Turn Lane Geometry

Description: A channelized right-turn lane can be designed to improve safety by adjusting its geometry to benefit driver and pedestrian safety. This includes sharpening the turn angle and repositioning the corner island to encourage a slower, more controlled vehicle turn. These changes help drivers approach the main road at a more perpendicular angle, improving their line of sight for oncoming traffic. Additionally, shifting the crosswalk makes pedestrians more visible and allows drivers to focus separately on pedestrians and traffic gaps, reducing potential conflicts.

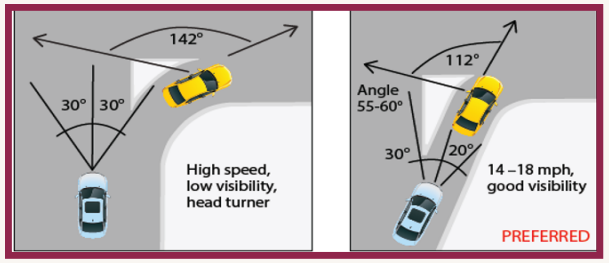
Crash Type it Addresses:

Broadside, Right-Turn

Cost:

$$$$

Safety Impact:



TRAFFIC SIGNAL COUNTERMEASURES

Upgrade Left-Turn Signal Operations

Description: Upgrading left-turn signal operations to protected-only or permitted-protected will help reduce left-turn crashes.

1. Protected left-turn (green left-turn arrow): “Protected-only" phasing consists of providing a separate phase for left-turning traffic and allows left-turns to be made only on a green left arrow signal indication, with no pedestrian movement or vehicular traffic conflicting with the left turn. Drivers are not allowed to pass through the intersection without a green arrow even if there is no oncoming traffic.
2. Protected left-turn When Push Button is Pressed: Left turns are protected when the pedestrian push button is pressed to eliminate vehicle left-turns and pedestrian crossing movements from occurring simultaneously.
3. Permitted-protected left-turn: Permissive-protected left-turn phasing is a left-turn movement of traffic at a signalized intersection having a separate left-turn phase in the signal cycle to provide a protected green arrow interval as well as a non-protected circular green ball or flashing yellow interval where left-turning vehicles must yield to opposing traffic. Permitted-protected left-turns provide more vehicular capacity at the intersection than a protected left-turn but have safety tradeoffs.

Crash Type it Addresses:

Approach Turn, Bicycle, Pedestrian

Cost:

$

Safety Impact:

TRAFFIC SIGNAL COUNTERMEASURES

Update Clearance Intervals
(Yellow Change Interval + Red Clearance Interval)

Description: The clearance interval should provide an adequate amount of time to transition between two conflicting phases and consists of a yellow change interval and a red clearance interval. The intent of the yellow change interval is to warn traffic of an impending change to the right-of-way assignment. The red clearance interval is an interval after the yellow change interval in which the phase has a red signal display before the display of the green for the opposing phase. The intent of the red clearance interval is to allow time for vehicles that entered the intersection during the yellow change interval to clear the interval prior to the opposing phase.

Crash Type it Addresses:

Broadside, Red-light running, Rear end

Cost:

$

Safety Impact:

Automated Enforcement for Speeding

Description: An automated speed enforcement camera is a type of traffic enforcement camera that uses radar or sensor to detect and capture photographs of vehicles exceeding the posted speed limit, helping to reduce speeding-related crashes. The cameras capture license plate information to identify the vehicle/driver at fault. They help with compliance with speed limits and protect vulnerable road users in high-risk areas such as school zones or areas with known speeding problems.

Crash Type it Addresses:

Speed-related, Broadside, Pedestrian, Bicycle

Cost:

$$

Safety Impact:

TRAFFIC SIGNAL COUNTERMEASURES

Automated Enforcement for Red-light Running

Description: A red-light camera is a type of traffic enforcement camera that photographs a vehicle that has entered an intersection after the traffic signal controlling the intersection has turned red. The system activates when motion is detected just prior to the stop bar (location where vehicles must stop approaching an intersection) after the traffic signal has turned red. The camera automatically programs vehicles that run red lights, and captures a video and a photo of the license plate and driver that assists authorities in their enforcement of traffic laws.

Crash Type it Addresses:

Broadside, Red-light running

Cost:

$$

Safety Impact:

Traffic Signal Backplates with Retroreflective Borders

Description: Enhances traffic signal visibility, especially in low-light or high-glare conditions. Backplates help reduce unintentional red-light running and improve driver awareness at intersections.

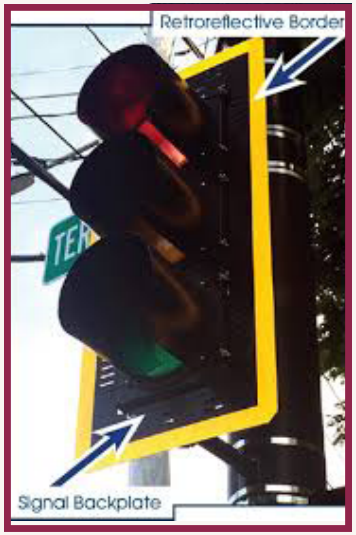
Crash Type it Addresses:

Broadside, Red-light running, Rear end

Cost:

$

Safety Impact:



BICYCLE AND PEDESTRIAN COUNTERMEASURES

Bicycle Lanes

Description: Bicycle lanes are dedicated facilities on or along roads that prevent interactions, conflicts, and crashes between bicyclists and vehicles. Standard bicycle lanes are typically established through paint striping. These types of bicycle lanes provide a dedicated space for bicyclists but still runs alongside motor vehicle traffic.

Crash Type it Addresses:

Bicycle

Cost:

$$

Safety Impact:

Protected Bicycle Lanes

Description: Protected bicycle lanes establish physically separated spaces for bicyclists, substantially reducing bicyclist-vehicle conflicts. With a physical barrier, these lanes enhance safety by preventing risky interactions, thus curbing severe injuries and fatalities. In general, these bicycle facilities are more comfortable for average bicycle riders.

Crash Type it Addresses:

Bicycle

Cost:

$$$

Safety Impact:

BICYCLE AND PEDESTRIAN COUNTERMEASURES

Protected Intersections

Description: Protected bicycle intersections, like protected bicycle lanes, establish physically separated spaces using bulbouts, corner islands, and colored paint for bicyclists at and through intersections. These dedicated paths separate bicyclists from traffic through intersections and improve connectivity to the rest of the bicycle network, encouraging cycling as a mode of transportation.

Crash Type it Addresses:

Bicycle

Cost:

$$$$

Safety Impact:

Bicycle Boulevards or Neighborhood Bikeways

Description: Bicycle boulevards (also called “neighborhood bikeways”) are roads with low motorized traffic volumes and speeds, designed to offer priority for bicyclists operating within a road shared with motor vehicle traffic. Bicycle Boulevards use signs, pavement markings, and speed and volume management measures to create safe, convenient bicycle crossings of busy arterial roads.

Crash Type it Addresses:

Bicycle, Pedestrian, Speed-related

Cost:

$

Safety Impact:

BICYCLE AND PEDESTRIAN COUNTERMEASURES

Improve Bicycle Lane Crossing

Description: Alert left-turning and right-turning vehicles of a bicycle crossing within a bicycle lane through the intersection. The bicycle lane crossing increases the visibility of the facility, identifies potential areas of conflict, and reinforces priority to bicyclists in conflict areas. There are two main types of intersection bicycle lane crossings:

1. Green bicycle striping conflict markings
2. Chevron striping conflict markings

Crash Type it Addresses:

Bicycle

Cost:

$$

Safety Impact:

Rectangular Rapid Flashing Beacon (RRFB)

Description: An RRFB is a pedestrian/bicyclist-activated safety enhancement that combines a marked crosswalk with pedestrian warning signs and flashing lights at intersections and midblock. Compliance rates vary by posted speed limit, crossing distance, and one-way versus two-way roads. RRFBs are particularly effective at multilane crossings with speed limits less than 40 mph.

Crash Type it Addresses:

Bicycle, Pedestrian

Cost:

$$

Safety Impact:

BICYCLE AND PEDESTRIAN COUNTERMEASURES

Pedestrian Hybrid Beacon (PHB)

Description: A PHB is a type of signal at an uncontrolled marked crossing at intersections or midblock that remains dark until activated by a user wanting to cross. Once activated, the signal cycles to yellow and then red during the walk phase.

Crash Type it Addresses:

Bicycle, Pedestrian

Cost:

$$$$

Safety Impact:

Leading Pedestrian Interval (LPI)

Description: A LPI gives pedestrians and people on bikes the opportunity to enter an intersection 3-7 seconds before vehicles are given the green indication, meaning all traffic directions have a red light while pedestrians have the right-of-way to cross. LPIs increase visibility of crossing pedestrians, reduce conflicts between pedestrians and vehicles, and increase likelihood of motorists yielding to pedestrians.

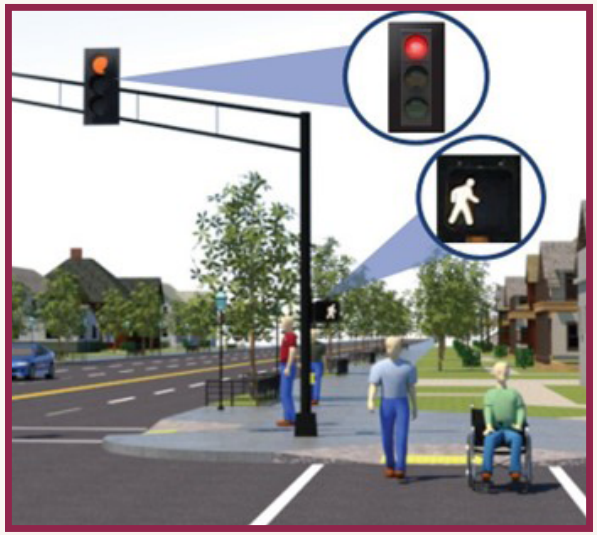
Crash Type it Addresses:

Bicycle, Pedestrian

Cost:

$$

Safety Impact:



BICYCLE AND PEDESTRIAN COUNTERMEASURES

Raised Crossings in Channelized Right-turn Islands or at Mid-block Locations

Description: Raised crosswalks in channelized right-turn islands or at mid-block locations are ramped speed tables (longer and flatter speed bumps) spanning the entire width of the channelized right-turn lane or mid-block road cross section. These crosswalks increase visibility of pedestrian crossing areas and allow them to cross at grade with the sidewalk. They also act as traffic-calming measures to slow turning vehicles.

Crash Type it Addresses:

Bicycle, Pedestrian, Speed-related

Cost:

$$

Safety Impact:

Multi-Use Path

Description: Off-street multi-use paths designate paths outside the curb and away from potential conflict with vehicles. These paths are typically shared between bicyclists and pedestrians and are wide enough to account for both modes and bi-directional movement along the path.

Crash Type it Addresses:

Bicycle, Pedestrian

Cost:

$$$$-$$$$$

Safety Impact:

BEHAVIORAL COUNTERMEASURES

Speed Feedback Signs

Description: Speed feedback signs, posted alongside the posted speed limit, are illuminated live-speed displays that register and show approaching drivers' speeds as they approach the sign. The intention of these signs is to make drivers aware of their current speed, and if the driver's speed is above the posted speed limit, the displayed speed numbers will flash. Speed feedback signs can be temporarily or permanently installed.

Crash Type it Addresses:

Speed-related, Broadside, Approach turn, Bicycle, Pedestrian

Cost:

$

Safety Impact:

Safe Routes to School

Description: Safe Routes to Schools is a federal program that facilitates the planning, development, and implementation of projects that supports healthy, active, and safe walking and biking habits for children. Some example projects include assemblies, poster contests, pedestrian safety walks, bike lessons and safety training (BLAST), bicycle rodeos, bicycle gardens, bicycle buses/trains, and relevant quick-build projects.

Crash Type it Addresses:

Speed-related, Bicycle, Pedestrian

Cost:

$$-$$$

Safety Impact:

BEHAVIORAL COUNTERMEASURES

Slow Zones

Description: Slow zones are areas that designate lower speeds for drivers than other areas nearby. This helps to create safe spaces for vulnerable populations (e.g., children, seniors, pedestrians, and bicyclists) that frequent these areas, such as parks, school zones, work zones, senior areas, neighborhoods, and downtown areas. These areas typically are signed for 15 or 20 miles per hour.

Crash Type it Addresses:

Speed-related, Broadside, Approach turn, Pedestrian, Bicycle

Cost:

$

Safety Impact:

CHAPTER 5

ACTION PLAN

STRATEGY & ACTION ORGANIZATION

Strategies are categorized by three crucial categories of the **Safe System Approach:**

- ***Safer Roads –*** emphasizing the need for transportation infrastructure that safely accommodates multiple transportation modes.
- ***Safer People –*** setting the framework for education and awareness, fostering a community of shared responsibility among all road users.
- ***Safer Speeds –*** identifying measures to reduce excessive speeds, a key contributor to the severity of traffic crashes.

Each overarching Strategy includes key targeted metrics and identifies tangible Actions which are accompanied by next steps, estimated safety benefit, planning level cost, level of effort, and time frame, defined below. Where possible, the Town will advance parts or all of Actions ahead of the proposed time frame and/or at a lower cost.

Unique Action Identifier

Proposed process for completing the Action, including detailed recommendations for location-specific Actions.

Estimated Cost to Completion:

$	Under $50,000
$$	$50,001 - $100,000
$$$	$100,001 – $500,000
$$$$	$500,001 - $1,000,000
$$$$$	Over $1,000,000

Estimated Time Frame for Completion:

Short	1 - 3 years
Medium	3 - 5 years
Long	5 - 10 years

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame

Specific effort to be undertaken by Town staff to achieve Strategy.

Estimates the potential safety benefit of implementing the Action, with 1 being low and 5 being high. Page 48 provides more information about Safety Benefit factors.

Describes the level of effort from low to high to implement the actions, which can include additional engineering design, staff time, public outreach, coordination with utility providers, right of way acquisition, grant application and funding, etc.

SAFETY BENEFIT

The Safety Benefit value associated with each Action estimates the potential effect of implemention. When considered in conjunction with Planning-Level Cost and Level of Effort, this estimate serves as a decision-making tool for prioritizing investment into safety projects. Due to the range in types and breadth of Actions, the Safety Benefit was determined by considering four factors for location-specific Actions and two factors for systemwide Actions.

LOCATION-SPECIFIC ACTION FACTORS

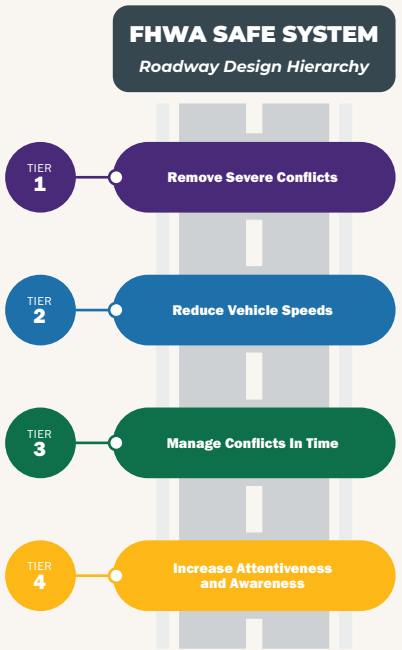
- **Vulnerable populations –** locations where safety projects could provide the highest benefit to vulnerable populations based on a segment-level equity index (displayed in **Appendix C**), such as locations with high concentrations of low-wage jobs, locations in close proximity to school, transit, or public services, and locations with concentrations of historically disadvantaged populations.
- **Comprehensive Injury & Risk Network –** locations on the HIN and HRN, focusing safety projects where they will have the greatest impact on eliminating serious injury and fatal crashes.
- **Community Feedback –** locations with concentrations of people reporting feeling unsafe during Phase 1 of engagement.
- **Walking/Bicycle Safety –** location-specific actions that include enhancements to pedestrian and bicycle safety and comfort.

SYSTEMWIDE ACTION FACTORS

- **Safety Impact –** defined for most infrastructure Actions within Chapter 4: Toolbox of Safety Countermeasures.
- **Walking/Bicycle Safety –** Actions that include enhancements to pedestrian and bicycle safety and comfort.

OR

- Safe System Roadway Design Hierarchy - applied to Actions without a specific infrastructure countermeasure such as education and enforcement.
- **Walking/Bicycle Safety –** Actions that include enhancements to pedestrian and bicycle safety and comfort.



SAFER ROADS

Superior's approach to ***safer roads*** acknowledges the critical role transportation system design plays into providing a comfortable environment for all travel modes. Safer roads are those that mitigate human mistakes, are self-enforcing by design, reduce the risk for high severity crashes, encourage road users to exhibit safe travel behaviors, and protect the most vulnerable users such as people walking and people biking.

Key Metrics:

- Decrease the number of fatal and injury crashes Town-wide.
- Decrease in number and rate of total crashes at intersections on the High-Injury Network.
- Decrease in number and rate of crashes involving people walking and biking Town-wide.

Strategy 1: *Implement identified safety improvements on the Comprehensive Injury & Risk Network.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR1.1	Implement McCaslin Boulevard & Marshall Road improvements *(Project Analysis Available in **Appendix D**)*	• Modify signal to install one traffic signal head indication over each travel lane for northbound and southbound approaches • Upgrade intersection lane control signs to have one R3-5 over for each left-turn lane • Evaluate upgrading pedestrian ramps to directional pedestrian ramps on SW corner • Evaluate raised pedestrian crossing across channelized right-turn lane • Check northbound/southbound left-turn phasing • Implement LPI or "No Right Turn on Red" sign (similar to Louisville) for south crosswalk (north crosswalk to be removed) • Analyze location for potential systemwide safety improvements, such as treatments to enhance bicycle and pedestrian comfort, and implement applicable countermeasures	***5***	***$$$$***	***High***	***Long-Term***

SAFER ROADS

Strategy 1 (cont.): *Implement identified safety improvements on the Comprehensive Injury & Risk Network.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR1.2	Implement Rock Creek Parkway & Coalton Road improvements *(Project Analysis Available in **Appendix D**)*	• Upgrade eastbound and westbound "doghouse" style signal heads to 4-section FYA • Install left-turn (R3-5) signage on eastbound, westbound, and southbound approaches • Install raised crossings at channelized right-turn islands in northeast and northwest corners • Evaluate protected-only by time of day for dual southbound left-turn • Install ADA-compliant and directional curb ramps • Analyze location for potential systemwide safety improvements, such as treatments to enhance bicycle and pedestrian comfort, and implement applicable countermeasures	***4.5***	***$$$***	***High***	***Long-Term***
SR1.3	Implement Rock Creek Parkway & Honey Creek/Coal Ridge improvements *(Project Analysis Available in **Appendix D**)*	• Install standard RRFB signage • Install ADA-compliant curb ramps on the northwest and southwest corners • Analyze location for potential systemwide safety improvements, such as treatments to enhance bicycle and pedestrian comfort, and implement applicable countermeasures	***4***	***$$***	***Medium***	***Long-Term***

SAFER ROADS

Strategy 1 (cont.): *Implement identified safety improvements on the Comprehensive Injury & Risk Network.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR1.4	Implement McCaslin Boulevard & Rock Creek Parkway improvements *(Project Analysis Available in **Appendix D**)*	• Update "doghouse" style signal heads to 4-section FYA • Install raised crossings at channelized right-turn islands on northeast, northwest, southeast, and southwest corners • Install additional traffic signal head to northbound through lane • Analyze location for potential systemwide safety improvements, such as treatments to enhance bicycle and pedestrian comfort, and implement applicable countermeasures	***4***	***$$***	***High***	***Long-Term***
SR1.5	Implement Sycamore Street & Marshall Road improvements *(Project Analysis Available in **Appendix D**)*	• Update southbound, eastbound, and westbound left-turn "doghouse" style signal heads to 4-section FYA • Add left-only signage for westbound • Shift traffic signal indications to be over the center of the northbound receiving lanes • Analyze location for potential systemwide safety improvements, such as treatments to enhance bicycle and pedestrian comfort, and implement applicable countermeasures	***3.5***	***$***	***Low***	***Short-Term***
SR1.6	Improve the existing on-street bicycle facility at the US 36 interchange	• Construct a bicycle/pedestrian shared use path at the US 36 interchange and connect it to the McCaslin Boulevard shared use path underpass	***3.5***	***$$$$$***	***High***	***Long-Term***

SAFER ROADS

Strategy 1 (cont.): *Implement identified safety improvements on the Comprehensive Injury & Risk Network.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR1.7	Implement Rock Creek Circle & Coalton Road improvements *(Project Analysis Available in **Appendix D**)*	• Install directional and ADA-compliant ramps • Analyze location for potential systemwide safety improvements, such as treatments to enhance bicycle and pedestrian comfort, and implement applicable countermeasures	***1.5***	***$$***	***Medium***	***Mid-Term***
SR1.8	Implement McCaslin Boulevard & CO 128 improvements *(Project Analysis Available in **Appendix D**)*	• Update "doghouse" style signal head to 4-section FYA • Update mast arm signal • Change geometry of southbound slip lane to 30-60-90 • Analyze location for potential systemwide safety improvements, such as treatments to enhance bicycle and pedestrian comfort, and implement applicable countermeasures	***1***	***$$$$$***	***High***	***Long-Term***

SAFER ROADS

Strategy 2: *Reduce risk factors on the transportation network.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR2.1	Implement safety improvements on the HRN to proactively prevent severe crashes	• Prioritize road segments according to number of risk factors • Identify countermeasures to reduce or mitigate risk factors • Implement countermeasures identified	***4.5***	***Varies***	***Varies***	***Mid-Term***
SR2.2	Ensure new road construction reduces and mitigates risk factors as practicable	• Assess proposed roads for risk factors • Reduce and mitigate risk factors prior to road construction	***4.5***	***Varies***	***Varies***	***Ongoing***

SAFER ROADS

Strategy 3: *Upgrade pedestrian/bicycle crossing treatments at locations that were identified through the Systemic Crossing Analysis.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR3.1	Install crossing improvements at Rock Creek Parkway & Coal Creek Drive *(Project Analysis Available in **Appendix D**)*	• Install standard RRFB signage • Add "Arrow Down Right" sign under the RRFB located on the center median • Remove existing crosswalk on the south leg or install RRFB on south crosswalk	***3.5***	***$***	***Medium***	***Mid-Term***
SR3.2	Install crossing improvements at Rock Creek Parkway & Tyler Drive *(Project Analysis Available in **Appendix D**)*	• Install bulbouts (using paint and post or concrete) on the northeast and southeast corners to slow turning vehicles and shorten pedestrian crossing distance • Install directional pedestrian ramps on the northeast and southeast corners • Extend concrete median to provide pedestrian refuge area for a two stage crossing • Add stop bar for westbound approach	***3***	***$ (paint & post)*** ***$$$ (concrete)***	***High***	***Long-Term***
SR3.3	Install crossing improvements at McCaslin Boulevard & Superior Plaza Way *(Project Analysis Available in **Appendix D**)*	• Reduce curb radii on northeast and southeast corners to slow turning vehicles and shorten pedestrian crossing distance • Install directional pedestrian ramps on the northeast and southeast corners • Install pedestrian refuge island on the east leg to allow pedestrians to cross in two stages	***3***	***$$$***	***High***	***Long-Term***

SAFER ROADS

Strategy 3 (cont.): *Upgrade pedestrian/bicycle crossing treatments at locations that were identified through the Systemic Crossing Analysis.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR3.4	Install crossing improvements at McCaslin Boulevard south of Discovery Parkway *(Project Analysis Available in **Appendix D**)*	• Install a PHB	***2***	***$$$$***	***Medium***	***Mid-Term***
SR3.5	Install crossing improvements on Indiana Street east of McCaslin Boulevard *(Project Analysis Available in **Appendix D**)*	• Install median refuge island and crossing markings at location of existing midblock pedestrian ramps • Consider installation of RRFB and standard signage	***1***	***$***	***Medium***	***Mid-Term***

SAFER ROADS

Strategy 4: *Determine signage standards for improved road user clarity.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR4.1	Identify standard signage for RRFB crossings to improve pedestrian and bicycle crossings and deploy Town-wide	• Create an engineering design standard for RRFB signage • Identify locations with RRFBs Town-wide • Deploy standard signage at RRFB locations	***2***	***$$***	***Low***	***Short-Term***
SR4.2	Upgrade dual lane roundabout signage, lane markings, and visibility to improve safety and comfort for all users traveling through roundabouts	• Create an engineering design standard for dual lane roundabout signage and sight distances • Identify locations with dual lane roundabouts Town-wide • Deploy standard signage at dual lane roundabout locations	***1.5***	***$$ (per intersection)***	***Medium***	***Mid-Term***

SAFER ROADS

Strategy 5: *Enhance intersection operations and visibility where conditions have been or could be a crash factor.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR5.1	Restrict permissive left-turns at signalized intersections to reduce left-turn crashes where opposing left-turn lanes are misaligned and are creating a sight distance challenge for left-turning vehicles to see oncoming traffic	• Identify locations with misaligned left-turn lanes with sight distance challenges • Upgrade traffic signal operations to be protected only	*4*	***$ – $$$ (per intersection)*** ***Note: Cost is higher if upgrades to traffic signal mast arms or traffic signal controllers are needed***	*Low*	*Short-Term*
SR5.2	Implement protected left turns when a push button is pressed at high pedestrian conflict intersections to improve pedestrian safety and minimize conflicts between pedestrians and vehicles	• Identify signalized locations that would be candidate locations for protecting left turns when push button is pressed • Confirm traffic operations analysis for upgrading signal timing phasing • Update phasing, including upgrades to 4-section FYA signal heads as needed	*3*	***$*** ***(per location)***	*Medium*	*Mid-Term*

SAFER ROADS

Strategy 5 (cont.): *Enhance intersection operations and visibility where conditions have been or could be a crash factor.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR5.3	Maintain vegetation in known areas where visibility is poor at intersections to confirm there is adequate sight distance	• Cut back vegetation in the spring and early fall in areas that have known visibility issues or sight obstructions • Respond promptly to requests when a new location with a sight obstruction arises • Promote an educational campaign to remind all road users to slow down and travel cautiously in locations with impaired visibility	***1.5***	***$ (per location)***	***Low***	***Ongoing***
SR5.4	Maintain retroreflective backplates to improve traffic signal head visibility	• Perform annual assessment of all locations with retroreflective backplates and determine if they need to be repaired	***1***	***$ (per intersection)***	***Low***	***Ongoing***
SR5.5	Update yellow and red clearance intervals to reduce red-light running and rear-end crashes	• Confirm yellow and red clearance intervals Town-wide are in compliance with the MUTCD • Adjust signal timing as necessary	***1***	***$ (per intersection)***	***Low***	***Short-Term***

SAFER ROADS

Strategy 5 (cont.): *Enhance intersection operations and visibility where conditions have been or could be a crash factor.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR5.6	Install traffic signal indications over each travel lane to improve traffic signal head visibility and meet current MUTCD requirements	• Identify signalized intersection locations that do not have traffic signal indications over each travel lane • Determine if mast arm can accommodate an additional traffic signal head (i.e., is the mast arm long enough and can it structurally support additional infrastructure) • Install additional traffic signals if mast arm is viable • Replace traffic signal mast arm and include appropriate traffic signal heads over each travel lane as needed	*1*	***$ – $$$ (per intersection)*** ***Note: Cost is higher if upgrades to traffic signal mast arms or are needed***	*Medium*	*Short/Mid-Term*
SR5.7	Replace “doghouse” style signal heads with 4-section flashing yellow arrows (FYAs) to meet current MUTCD requirements	• Identify locations with "doghouse" style signal heads • Replace "doghouse" style signal heads with 4-section FYA heads	*1*	***$*** ***(per intersection)***	*Medium*	*Mid-Term*

SAFER ROADS

Strategy 6: *Enhance infrastructure for pedestrians and cyclists throughout the Town.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR6.1	Upgrade all pedestrian curb ramps to be ADA compliant to improve pedestrian safety and accessibility	• Complete ADA assessment of all pedestrian curb ramps • Identify opportunities for upgrades through existing or ongoing projects or upcoming re-development • Prioritize remaining locations for implementation	***5***	***$ (per curb ramp)***	***Medium***	***Short-Term***
SR6.2	Reallocate road space to enhance bicycle and pedestrian safety and comfort and reduce vehicle speeds	• Identify upcoming opportunities for restriping through pavement overlay program • Evaluate reducing lane width and reallocating space to support buffered bike lanes and/or pedestrian refuge islands • Perform traffic operations analysis to determine impacts of potential reallocation of space	***5***	***$ Note: Cost is higher if concrete pedestrian refuge islands are implemented***	***Medium***	***Short-Term***
SR6.3	Implement pedestrian and bicycle accessibility improvements in commercial areas to improve comfort and access to key destinations	• Update Town code to include standards for pedestrian and bicycle facilities for new development • Evaluate existing pedestrian and bicycle facilities located in commercial areas against updated town code standards • Identify private property locations (i.e. parking lots) that are in need of improved pedestrian or bicycle facilities and coordinate with property owners to upgrade to Town standards	***5***	***$$$***	***Medium***	***Mid-Term***

SAFER ROADS

Strategy 6 (cont.): *Enhance infrastructure for pedestrians and cyclists throughout the Town.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR6.4	Implement protected bike lanes to create safe and comfortable facilities for bicyclists that reduce conflict with vehicles	• Identify locations for new or upgraded protected bicycle lanes • Produce engineering design drawings for protected bicycle lane projects	*5*	***$$$ (per mile)***	***High***	***Long-Term***
SR6.5	Implement locations for multi-use paths to create safe and comfortable facilities for bicyclists that reduce conflict with vehicles	• Identify locations through the Transportation Plan Update for multi-use paths • Produce engineering design drawings for multi-use path projects	*5*	***$$$ – $$$$ (per mile)***	***High***	***Long-Term***
SR6.6	Complete missing sidewalk gaps throughout the Town to improve pedestrian connectivity	• Identify sidewalk gaps through the Transportation Plan Update • Identify opportunities for upgrades through existing or ongoing projects or upcoming redevelopment • Prioritize remaining locations for implementation	*5*	***$$$$$***	***High***	***Long-Term***

SAFER ROADS

Strategy 6 (cont.): *Enhance infrastructure for pedestrians and cyclists throughout the Town.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR6.7	Implement pedestrian refuge islands where feasible at multilane road crossings to shorten crossing distances and increase visibility	• Identify locations with multilane crossings, particularly those with high speeds and volumes • Evaluate feasibility of implementation of pedestrian refuge islands based on analysis of geometry and traffic operations impacts	***4***	***$$ (per location)***	***High***	***Mid-Term***
SR6.8	Reduce curb radii and implement bulbouts where feasible to reduce vehicle turning speeds, slow traffic, and improve pedestrian crossing safety	• Identify locations with large curb radii • Evaluate feasibility of reducing curb radii and implementing bulbouts based on turning operation analysis	***4***	***$$$ (per location)***	***Medium***	***Mid-Term***
SR6.9	Install raised crossings at channelized right turns to improve pedestrian and bicycle crossing visibility	• Identify locations with channelized right-turn islands for upgrading pedestrian crossings to include raised crossings • Confirm that the design includes a raised crossing when reviewing design plans that include installation of a channelized right turn island	***4***	***$$$ (per location)***	***Medium***	***Mid-Term***

SAFER ROADS

Strategy 6 (cont.): *Enhance infrastructure for pedestrians and cyclists throughout the Town.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SR6.10	Implement traffic signal improvements to signalized crossings such as installing a pedestrian push button in a pedestrian refuge island, implementing LPI, and/or extending the pedestrian walk phase timing to improve pedestrian safety and comfort	• Identify locations adjacent to land use generators attracting pedestrians crossing at slower speeds or locations that have high pedestrian demand • Determine appropriate countermeasures to improve pedestrian safety and comfort on a site-by-site basis based on traffic operations and intersection geometry	***2***	***$ – $$ (per location)***	***Low***	***Short-Term***
SR6.11	Enhance bicycle and pedestrian scale wayfinding signage throughout Town and create branded signage for additional routes on existing paths to improve bicycle and pedestrian safety and comfort	• Identify locations for additional bicycle and pedestrian wayfinding • Use existing engineering design standards for wayfinding signage and existing trail wayfinding signage to design, fabricate, and implement additional signage	***2***	***$$***	***Low***	***Mid-Term***

SAFER PEOPLE

Superior's approach to ***safer people*** includes empowering the community to practice safe and responsible travel behaviors through education and encouragement campaigns.

Key Metrics:

- ↑ Increase in the number of safety education and engagement activities.
- ↑ Increase in percentage of trips that use walking, biking, or transit as the primary mode of travel.

Strategy 1: *Raise community awareness of multimodal safety programs, policies, and treatments.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame

SP1.1	Write and publish a quarterly multimodal article in the Sentinel newsletter paired with educational campaigns to educate and encourage the public about multimodal safety	• Work with Communications & Community Engagement Department to identify a multimodal topic, write article, and publish into Sentinel along with social media promotions and signage at public locations. Topics could include:
		  • The Town's sidewalk riding policy
		  • Appropriate usage and regulations for E-bikes
		  • Multimodal routes and signage within the Town
		  • Bicycle maintenance best practices
		  • Navigating Pedestrian Hybrid Beacons (paired with installation of PHB on McCaslin Blvd)
		  • How all users should navigate roundabouts
			2	***$ (per article)***	***Low***	***Short-Term/ Ongoing***

SP1.2	Champion a Safe Routes to School (SRTS) study for each school (BVSD) to improve pedestrian and bicycle safety, comfort, and access around schools	• Coordinate with BVSD to develop a Safe Routes to School Plan	***2***	***$$$***	***Medium***	***Mid-Term***

SAFER SPEEDS

Speed is a leading factor of the severity of crashes and the chances of survival of a person walking or biking decreases significantly when struck at a faster vehicle speed. Superior's approach to achieving ***safer speeds*** relies on designing our roads for slower travel speeds and using traffic safety cameras where they are needed.

Key Metrics:

- Decrease in speeding on arterial and collector roads.
- Decrease red-light running crashes at signalized intersections.

Strategy 1: *Manage speeds effectively through engineering, education, and enforcement.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame
SS1.1	Implement road diets on where analysis shows excess capacity to reduce vehicle speeds	• Collect speed and volume data to Identify non-local roads with high speed limits and/or high numbers of speeding vehicles • Analyze traffic operations at identified locations • Perform engineering design and develop public-facing concepts • Conduct public outreach gathering feedback about proposed concepts	***3.5***	***$$$$$***	***High***	***Long-Term***
SS1.2	Install safety cameras at signalized intersections and arterial corridors to reduce red-light running and speeding	• Identify potential signalized intersections or arterial corridors to implement automated enforcement • Conduct community outreach and education to inform the community about the potential enforcement changes	***3 (red-light cameras)*** ***4 (speed cameras)***	***$$ (per location)***	***Medium***	***Mid-Term***

SAFER SPEEDS

Strategy 1 (cont.): *Manage speeds effectively through engineering, education, and enforcement.*

#	Action	Next Steps to Achieve Action	Safety Benefit	Planning–Level Cost	Level of Effort	Time Frame

SS1.3	Publicize the traffic calming program and the process for submitting a request to educate the public about the existing program	• Strategies to publicize could include:
		  • Signage at public locations (recreation centers, parks, library, transit stops, etc)
		  • Social media promotions
		  • Newsletter in the Sentinel
			1	*$*	*Low*	*Short-Term*

CHAPTER 6

A PATH FORWARD

OVERVIEW

Achieving Vision Zero in Superior requires a sustained commitment to funding, implementation, and continued evaluation. Securing financial resources for safety projects and continuously monitoring progress will ensure that Strategies effectively reduce crashes and improve road safety. By leveraging available funding and assessing the impact of implemented Actions, the Town of Superior can make targeted, data-driven investments that move the community toward its Vision Zero goals.

FUNDING PATHWAYS FOR SAFETY IMPROVEMENTS

Implementing the Superior VZAP will require a combination of local, state, and federal funding sources to support infrastructure improvements, policy initiatives, and safety programs. The Town of Superior will pursue funding opportunities that align with identified safety priorities, leveraging available grants and partnerships to maximize the impact of Vision Zero investments.

A list of potential funding sources, including federal programs such as the Safe Streets and Roads for All (SS4A) grant, state-level transportation safety funds, and regional opportunities, is included in **Appendix F**. This list provides an overview of eligible programs, application timelines, and funding scopes to guide future investment in road safety. By proactively seeking funding and aligning projects with available financial resources, the Town can accelerate the implementation of high-impact safety improvements that move Superior toward its Vision Zero goals.

MONITORING & EVALUATION

Monitoring and evaluating the effectiveness of the Superior VZAP is essential to ensuring progress toward eliminating traffic-related fatalities and serious injuries. By systematically assessing the impact of implemented Actions, the Town of Superior can make data-driven decisions and adjust Strategies as needed to achieve Vision Zero goals.

Performance Metrics and Data Collection

Each Strategy within the VZAP has key metrics to measure its effectiveness. These metrics may include:

- Crash reduction trends, particularly serious injury and fatal crashes
- Compliance rates with traffic laws and safety measures
- Public perception of safety through surveys and feedback

Data will be collected from crash reports, speed studies, and community engagement efforts to assess the impact of implemented projects. Additionally, the Town of Superior will continue to explore supplemental methods of data collection, particularly to track shifts in travel modes.

Continuous Improvement

By evaluating performance metrics as Actions are completed, the Town of Superior will continuously refine all aspects of the transportation system. Evaluation findings will guide ongoing refinements to the VZAP and recommended countermeasures, ensuring that Strategies remain effective and responsive to evolving safety challenges. By identifying successful initiatives and areas requiring enhancement, Superior will continuously improve its approach to achieving a safer, more accessible transportation system for all road users.

APPENDICES

APPENDIX A: CRASH TYPE HEATMAPS

APPENDIX B: SAFETY ANALYSIS TECHNICAL MEMORANDUM

APPENDIX C: SEGMENT-LEVEL EQUITY INDEX

APPENDIX D: PROJECT ANALYSIS SHEETS

APPENDIX E: PHASE 1 & PHASE 2 OUTREACH SUMMARIES

APPENDIX F: FUNDING OPPORTUNITIES SUMMARY

APPENDIX A

CRASH TYPE HEATMAPS

APPENDIX B

SAFETY ANALYSIS TECHNICAL MEMORANDUM

APPENDIX C

SEGMENT-LEVEL EQUITY INDEX

APPENDIX D

PROJECT ANALYSIS SHEETS

APPENDIX E

PHASE 1 & PHASE 2 OUTREACH SUMMARIES

APPENDIX F

FUNDING OPPORTUNITIES SUMMARY