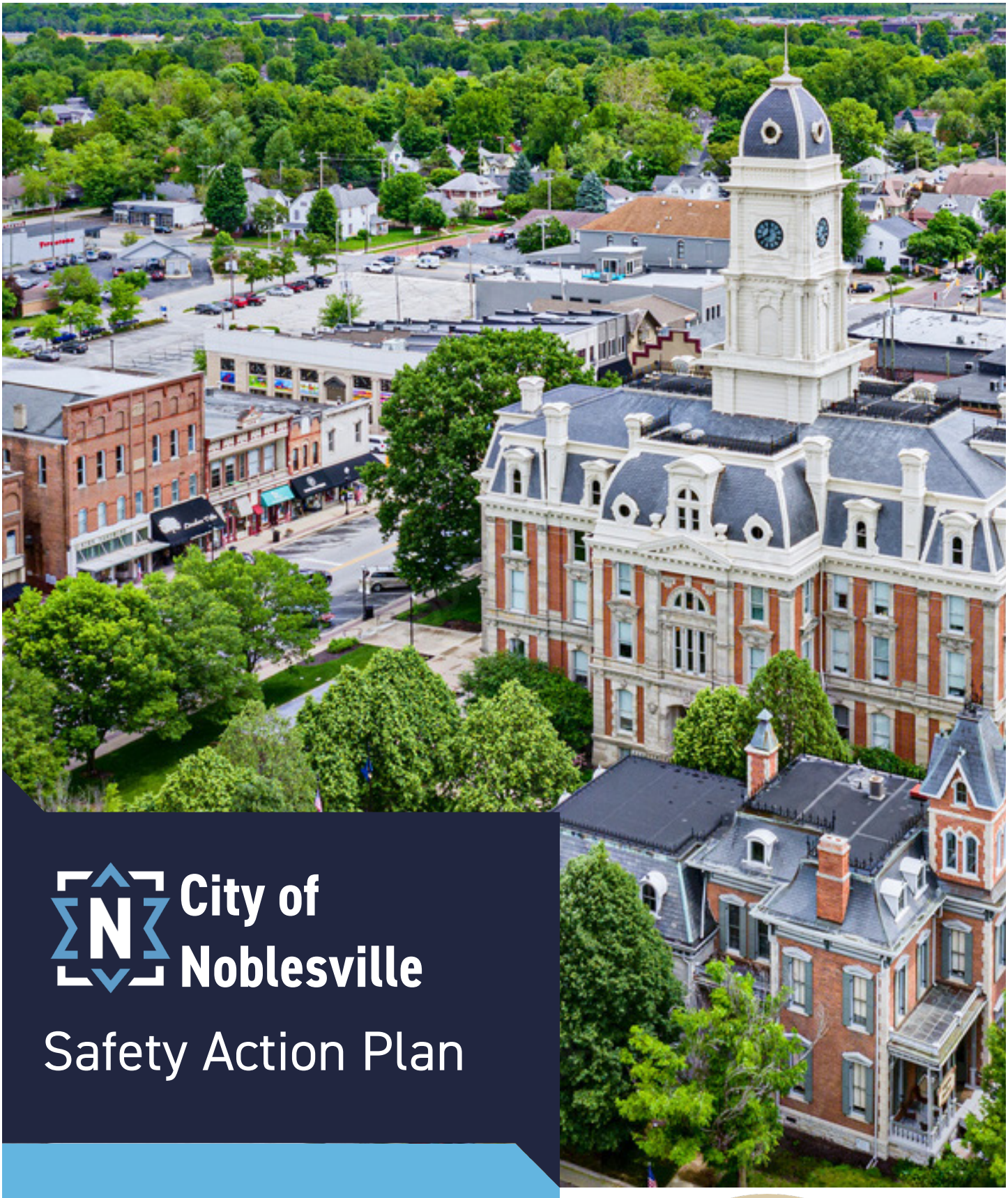


City of Noblesville

Safety Action Plan

April 2024

LOCHMUELLER GROUP

COMPASS OUTREACH SOLUTIONS

RESOLUTION RC-5-24

A RESOLUTION OF THE COMMON COUNCIL OF THE CITY OF NOBLESVILLE CONCERNING THE NOBLESVILLE TOWARDS ZERO RESOLUTION

WITNESS THAT:

WHEREAS, the City of Noblesville (the "City") is home to residential neighborhoods of various sizes and characters, as well as a thriving historic downtown including local restaurants, shopping, and art galleries; and

WHEREAS, to ensure that Noblesville remains a great place to live, work, and play every person must be safe as they travel in the City; and

WHEREAS, the City has undertaken the implementation of a Safety Action Plan ("SAP") to assist in implementing the City Capital Improvement Plan; and

WHEREAS, the City has identified as part of the SAP a High Injury Network of roadways, including but not limited to: State Road 37, Greenfield Avenue, Boden Road, Olio Road, 8th Street, 10th Street, and Logan Street; and

WHEREAS, the City recognizes that traffic deaths and serious injuries are not inevitable and is committed to take steps to attempt to eliminate traffic deaths and serious injuries by 2050.

IT IS THEREBY RESOLVED by the Common Council of the City of Noblesville as follows:

1. The Common Council of the City of Noblesville hereby resolves that to make City streets safer for all, no matter age, ability, or community, Noblesville is dedicated to collaborating with all partners including residents, community stakeholders, local and regional governments, and state agencies. Moving towards zero by 2050 is an ambitious goal, but together we can take actions to help save lives and make Noblesville's streets safer for all.
2. That the Noblesville Towards Zero Resolution is hereby approved.

Approved on this 13th day of February, 2024 by the Common Council of the City of Noblesville, Indiana:

AYE		NAY	ABSTAIN
	Mark Boice		
	Michael J. Davis		
	Evan Elliott		
	David M. Johnson		
	Darren Peterson		
	Pete Schwartz		
	Aaron Smith		
	Todd Thurston		
	Megan G. Wiles		

ATTEST: Evelyn L. Lees
Evelyn L. Lees, City Clerk

Presented by me to the Mayor of the City of Noblesville, Indiana, this 14th day of February, 2024 at 8:14 A.M.

Evelyn L. Lees
Evelyn L. Lees, City Clerk

MAYOR'S APPROVAL

Chris Jensen, Mayor

2-14-2024
Date

Table of Contents

EXECUTIVE SUMMARY

Safety Action Plan

The Noblesville Safety Action Plan is a comprehensive safety plan aimed at eliminating fatal and serious injury crashes. The Plan combines an analysis of crash patterns with actionable strategies to make Noblesville streets safer, not just for motorists, but for all users including those who bike, walk, roll, or use public transportation. The Noblesville Safety Action Plan meets all the requirements of the Safe Streets and Roads for All (SS4A) program and will allow the City to apply for SS4A implementation grant funding for safety improvements.

Purpose & Commitment

The purpose of this plan is to identify the extent of the roadway safety problem in Noblesville, engage the community in an equitable and inclusive way, and to propose strategies to reduce and eliminate fatal and serious injury crashes. The Noblesville Safety Action Plan is comprehensive and promotes equitable transportation investments to improve roadway safety for all modes and all communities.

This plan established a steering committee that was tasked with the development of the plan, implementation of recommendations and strategies, and monitoring of performance. Recommendations follow the guidance of a Safe System Approach and include safety countermeasure along critical corridors and key intersections as well as policy and programmatic strategies to improve educational awareness, formalize safety design standards, and establish a roadway safety performance monitoring program to increase transparency and accountability.

Plan Elements

The plan is organized in six plan elements that, together, offer a map to reduce and eliminate fatal and serious injury crashes.

The Vision — Shown below, the Vision is the foundation of this plan and outlines the long-term goals, ideals, and values.

Analysis — The Analysis element details crash trends and identifies the high injury network and equity target areas.

Background & Context — The Background & Context element provides relevant information on key topics including Safe Streets and Roads for All.

Safety Toolkit — The Safety Toolkit element provides a reference of proven safety countermeasures.

Engagement — The Engagement element provides an overview of public and stakeholder engagement efforts.

Action Plan — The Action Plan element offers the strategies to achieve the goal of zero roadway fatalities and serious injuries.

The Vision:

The City of Noblesville is home to residential neighborhoods of various sizes and characters as well as a thriving historic downtown including local restaurants, shopping, and art galleries. To ensure that Noblesville remains a great place to live, work, and play, every person must be safe as they travel in the City.

Noblesville believes that traffic deaths are preventable and unacceptable and is committed to eliminating traffic deaths and serious injuries by 2050. To make City streets safer for all, no matter age, ability, or community, Noblesville is dedicated to collaborating with all partners including residents, community stakeholders, local and regional governments, and state agencies. Zero is an ambitious goal, but together we can save lives and make Noblesville's streets safer for all.

BACKGROUND & CONTEXT

Introduction

Traffic crashes are a leading cause of preventable death in the United States. According to the National Highway Traffic Safety Administration (NHTSA), 2021 saw nearly 43,000 traffic deaths across the nation, a 16-year high. Almost 43,000 people were again killed in traffic crashes in 2022. Since 2020, notable increases include:

- Fatalities on urban roads up 16%
- Pedestrian fatalities up 13%
- Bicycle fatalities up 5%
- Speeding related fatalities up 5%

Throughout the Indianapolis Metropolitan Area, around 170 people are killed each year in traffic crashes, and another 4,500 are seriously injured. The Noblesville Safety Action Plan is a strategic step toward engaging and coordinating with the public, planners, engineers, law enforcement, and first responders to improve traffic safety for all users. It will take a concerted and organized effort from various stakeholders and agencies to ensure this plan is implemented and zero traffic deaths and serious injuries becomes a reality.

This safety action plan combines a thorough analysis of crash patterns with actionable strategies to make Noblesville streets safer, not just for motorists, but for all users including those who bike, walk, roll, or use public transportation.

Safe Streets & Roads for All (SS4A)

In response to the alarming rise in traffic deaths, the U.S. Department of Transportation (USDOT) announced the comprehensive National Roadway Safety Strategy (NRSS) which provides a roadmap to addressing the national crisis of roadway fatalities and serious injuries. The NRSS established a federal vision of zero traffic deaths and adopted a Safe System Approach as the guiding paradigm to address roadway safety.

In support of the NRSS, the Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary grant program. The SS4A program has $5 billion in appropriated funds over 5 years, from 2022 through 2026. While coordination with state departments of transportation (DOTs) is encouraged, state DOTs are not eligible applicants, providing local and regional agencies with more direct funding and control.

The SS4A program provides funding for two types of grants: planning and demonstration grants and implementation grants. Planning and demonstration grants provide funds to develop or supplement a safety action plan. Safety action plans are the foundation of the SS4A program. Implementation grants provide funds to implement projects and/or strategies identified in a safety action plan. A completed, eligible safety action plan is required to apply for an implementation grant.

SS4A Eligibility

Safety action plan eligibility is determined by the SS4A Self-Certification Eligibility Worksheet. For 2023, safety action plan eligibility is based on the requirements listed below. Under each requirement is the page number of this plan document on which the information satisfying that requirement may be found.

☐ **Are both of the following true?**

- Did a high-ranking official and/or governing body in the jurisdiction publicly commit to an eventual goal of zero roadway fatalities and serious injuries?
- Did the commitment include either setting a target date to reach zero, OR setting one or more targets to achieve significant declines in roadway fatalities and serious injuries by a specific date?

☑ **Page ii**

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

☑ **Page 12**

□ **Does the Action Plan include all of the following?**

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

✓ Page 22

□ **Did the Action Plan development include all of the following activities?**

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

✓ Page 12

□ **Did the Action Plan development include all of the following?**

- > Considerations of equity using inclusive and representative processes;
- > The identification of underserved communities through data; and
- > Equity analysis, in collaboration with appropriate partners, focused on initial equity impact assessments of the proposed projects and strategies, and population characteristics.

✓ Page 28

□ **Are both of the following true?**

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

✓ Page 72

□ **Does the plan identify a comprehensive set of projects and strategies to address the safety problems in the Action Plan, time ranges when projects and strategies will be deployed, and explain project prioritization criteria?**

✓ Page 34

□ **Does the plan include all of the following?**

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

✓ Page 76

The Plan

Process

In February 2023, the City of Noblesville was awarded an SS4A grant to develop a comprehensive safety action plan. The Noblesville Safety Action Plan project was initiated in October 2023. The process was led by the Noblesville Engineering Department and the Noblesville Safety Action Plan steering committee.

With assistance from the City of Noblesville and the Indianapolis Metropolitan Planning Organization (IMPO), crash records were collected and cleaned for accuracy. A robust safety analysis was conducted to identify prevailing crash types, factors influencing crash severity, the High Injury Network (HIN), and Equity Target Areas (ETAs).

Public input was sought from the beginning stages of the planning process. An online survey and mapping tools, community open houses, small group interviews, and consistent messaging via social media provided numerous opportunities for residents, community groups, and other stakeholders to participate in the planning process.

Safe System Approach

A Safe System Approach was adopted as the guiding paradigm to address roadway by the USDOT and the NRSS. A commitment to zero traffic deaths and serious injuries requires a shift in philosophy to address roadway safety. This shift is demonstrated by a Safe System Approach, which focuses on both human mistakes and human vulnerability and recommends a transportation system with redundancies built in to protect all users.

A Safe System Approach is a holistic and human-centered approach to roadway safety. The principles of a Safe System Approach are:

- > ***Death and serious injuries are unacceptable.*** The Safe System Approach is an ethical principle that no one should suffer death or serious injury while using the transportation system.
- > ***Humans make mistakes.*** People will inevitably make mistakes but the transportation system can be designed to mitigate human mistakes to avoid death and serious injury.
- > ***Humans are vulnerable.*** Human bodies have physical limits for tolerating trauma, therefore, it is critical to design a transportation systems that accommodates physical human vulnerabilities.
- > ***Responsibility is shared.*** All stakeholders— including government at all levels, industry, non-profit/advocacy, researchers, and the general public—are vital to

preventing fatalities and serious injuries on our roadways.

- ***Safety is proactive.*** Proactive tools should be used to identify and address safety issues in the transportation system, rather than waiting for crashes to occur and reacting afterwards.
- ***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.

The Noblesville Safety Action Plan was developed and will be implemented following the principles of a Safe System Approach.

Review of Related Plans

Noblesville Downtown Streetscape Master Plan

The Noblesville Downtown Streetscape Master Plan recommended conceptual design solutions and standards to preserve Downtown Noblesville's historic character and strengthen its sense of place. Multiple downtown corridors were identified in the plan as potential reconstruction projects, including 9th Street, Logan Street, 8th Street, and Maple Avenue. Other recommendations include new and improved bicycle and pedestrian facilities and connections.

Noblesville Thoroughfare Plan

As part of the 2020 Noblesville Comprehensive Plan, the Thoroughfare Plan classifies proposed and existing roadways based on future land use planning and mobility and access needs. Key transportation improvements found in the thoroughfare plan include proposed roundabouts, improved bicycle and pedestrian connectivity, traffic calming, and corridor access management.

Noblesville ADA Transition Plan

The Noblesville Americans with Disabilities Act (ADA) Transition Plan was updated in 2023 and meets all federal requirements. The ADA Transition Plan identifies physical barriers including non-compliant sidewalks and curb ramps within public right-of-way.

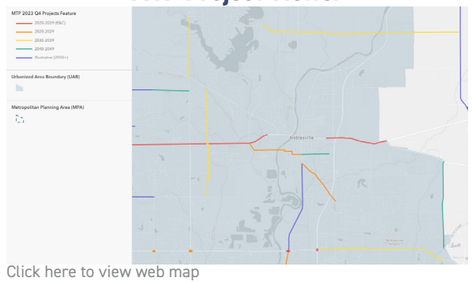
IMPO Safe Streets and Roads for All Safety Action Plan

The IMPO Safety Action Plan was formally adopted in 2022 and updated in 2023. The plan adopts a Vision Zero statement and a goal of reducing fatal and serious injury crashes by 35% by 2040. This plan identified a regional high injury network, roadway risk factors, and project scoring criteria.

IMPO 2050 Metropolitan Transportation Plan

The IMPO 2050 Metropolitan Transportation Plan (MTP) was adopted in 2021 and most recently revised in 2023. The MTP guides regional transportation investments over a 20-year period. 2050 MTP recommendations include expanding transportation options for all users and improving safety throughout the transportation system.

MTP Project Viewer



Click here to view web map

Indiana Strategic Highway Safety Plan 2022-2026

The Indiana Strategic Highway Safety Plan (SHSP), developed in 2022, is a federally required statewide safety plan. The SHSP establishes goals, objectives, and strategies to save lives and advance the vision of zero fatalities and serious injuries. The SHSP identifies strategic action steps and safety countermeasures to accomplish statewide crash reduction targets.

Noblesville Alternative Transportation (NAT) Plan

The NAT Plan is a comprehensive assessment of bicycle and pedestrian facilities throughout the City. The NAT Plan update was in development during the same time period of the Noblesville Safety Action Plan, and so information was shared between both planning teams to ensure strategies for both plans met the needs of improving bicycle and pedestrian mobility and safety.

Emphasis Areas

Consistent with planning goals established in other plans, as well as the public engagement process, key emphasis areas were identified. Emphasis areas are overarching topics identified as key predictors of this plan's success. Safety improvements and strategic recommendations are aimed at improving safety for all throughout Noblesville but with special consideration given for areas of emphasis. Emphasis areas include:

- Pedestrian safety in downtown Noblesville
- Multimodal access to downtown Noblesville
- Bicycle and pedestrian safety at roundabouts
- Pedestrian crossings along high traffic and/or multi-lane corridors

Key Concepts

Vision Zero

Vision Zero is the global movement to end traffic-related fatalities and serious injuries by incorporating a Safe System Approach to roadway safety. Though sometimes used interchangeably, Vision Zero is the goal and a Safe System Approach is the way to achieve that goal.

Toward Zero Deaths

Toward Zero Deaths is another traffic safety program focused on reducing traffic fatalities to zero. Toward Zero Deaths and Vision Zero are complimentary efforts that support the same goals and the use of a Safe System Approach. Toward Zero Deaths emphasizes the development of a traffic safety culture focusing on educational programing and safe driving behaviors.

Vulnerable Road Users

Vulnerable Road User is a term meant to describe those who are most at risk in the event of a crash. The term is often applied to pedestrians and bicyclists but sometimes broadened to include motorcyclists or specified to the elderly or the disabled. The concept of a vulnerable road user is important because they account for a growing share of roadway fatalities in the U.S.[1]

1 https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-10/VRU%20Safety%20Assessment%20Guidance%20FINAL_508.pdf

Transportation Equity

Transportation equity is fairness with respect to the distribution of access, mobility, connectivity, opportunity, benefits, and impacts of circumstances affecting the provision of a safe, reliable, and affordable transportation system and services.[2] Transportation equity can be classified into three types:

- ***Procedural equity*** is focused on the degree of involvement of diverse public stakeholders in the processes by which transportation decisions are made.
- ***Geographic equity*** focuses on the distribution of impacts across geography and space.
- ***Social equity*** is focused on the distribution across population groups that can be equal or differ by income, social class, and mobility ability.

Disadvantaged Communities

Disadvantaged communities are communities that experience disproportionately high and adverse health, environmental, climate related, economic, and other cumulative impacts.[3]

Underserved Communities

Underserved communities are populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate is aspects of economic, social, and civic life.[4]

2 https://www.vtpi.org/equity.pdf
3,4 https://www.transportation.gov/sites/dot.gov/files/2022-04/Equity_Action_Plan.pdf

Crashes, Not Accidents

The specific language used to describe events can significantly alter the meaning. Fatal and serious injuries have a real impact on crash victims and families who must face the realities of an unforgiving transportation system. The term 'accident' implies there is little that can be done to prevent an event where no fault is evident. However, crashes are preventable, and changing semantics can profoundly alter people's perception of the problem and empower communities to end traffic violence and make safer streets.

Injury Status Classifications

Crash data analyzed for this project includes all crashes in Noblesville from 2018 - 2022. Each record in the crash data represents one crash and includes an injury status for each crash:

- Fatal Injury: Any injury that results in death within a 30 day period after the crash occurred.
- Incapacitating Injury: A non-fatal injury that prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred.

Incapacitating injuries are also referred to as serious injuries and together with fatal injuries are the target of this safety action plan.

- Non-incapacitating Injury: An injury, other than a fatal or incapacitating injury, which is evident to the officer at the scene of the crash and may require medical treatment.
- Possible Injury: Any injury reported or claimed which is not visible.
- Property Damage Only (PDO): No apparent injuries

Engagement Overview

Public and stakeholder engagement is a critical component of any successful planning process and aims to increase transparency, build trust and credibility, and promote collaboration between members of the community, experts in the field, and agency decision makers. Public input was gathered continuously throughout the project and incorporated into the final plan and recommendations. For more detail about engagement throughout the planning process, see Appendix B and Appendix C.

Steering Committee

The Noblesville Safety Action Plan Steering Committee was established to provide the City and project team with expert knowledge and connections to various groups and industries. The Steering Committee was tasked with assisting in the development, implementation, and monitoring of the plan in compliance with requirement number two in the 2023 SS4A Self-Certification Eligibility Worksheet.

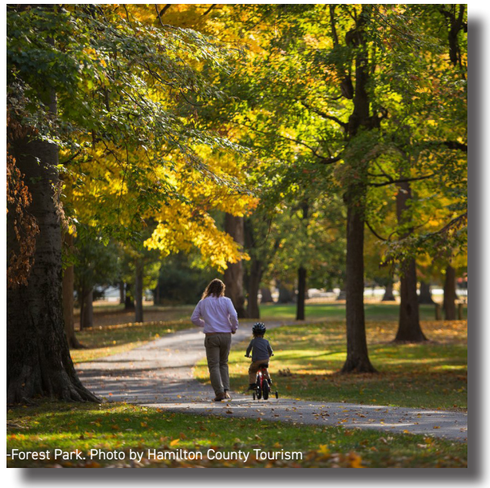
The Steering Committee is composed of various City departments including engineering, planning, police, fire, and the Mayor's office. Steering Committee members committed to membership responsibilities including:

- Sharing knowledge and ideas with the project team,
- Encouraging others to get involved,
- Assuming leadership roles to ensure the plan is implemented, and
- Developing a program to monitor the plan's success.

Table 1: Steering Committee Members

NAME	TITLE	DEPARTMENT
Denise Aschleman	Principal Planner	Planning Department
Eric Cunningham	Deputy Chief	Police Department
Uriah Eddingfield	Assistant Chief	Fire Department
Jeff Hendricks	Public Safety Technology Specialist	Public Safety
Robert Herrington	Press Secretary	Mayor's Office
Patty Johnson	Commissioner	Street Department
Sacha Lingerfeldt	Administrative Manager	Engineering Department
James Macky	Division Chief	Fire Department
Marley Pagel	Sergeant/Community Outreach	Police Department
Andrew Rodewald	Project Manager	Engineering Department

The project team met regularly with the Steering Committee to provide project updates, receive critical feedback and guidance, and to ensure community input was received, understood, and incorporated.


Forest Park. Photo by Hamilton County Tourism

Stakeholder Outreach

With assistance from the Steering Committee, key transportation safety stakeholders were identified. Stakeholders then participated in small group interviews to assess how different groups view issues of roadway safety and potential strategies to improve safety. The small group interviews provided a means of gathering detailed and valuable information, perspectives, and opinions. Stakeholders represented various local and regional agencies and organizations including:

- Noblesville Police
- Noblesville Fire/Emergency Management
- Hamilton County Health Department
- Hamilton County Highway Department
- Noblesville Mayor's Office
- Riverview Health
- Shepard's Center of Hamilton County
- Janus Developmental Services
- Noblesville School District
- Hamilton Southeastern School District

The small group settings allowed key stakeholders to describe in detail the issues impacting those they serve. The interviews also gave the project team the opportunity to have thorough, candid conversations to build a depth of understanding about issues impacting the community. Each small group was given the chance to discuss items most relevant to them and their service and provide input on potential strategies that could improve roadway safety for all users.

Public Outreach

Public outreach efforts consisted of in-person events, engagement on social media, regular email updates, and online activities. Public outreach began early in the planning process, with a specific focus to reach underserved or disadvantaged groups and vulnerable road users. The goal of public outreach was to hear from residents about safety concerns, incorporate public input into the plan recommendations, and educate the public about the Safe System Approach and effective safety improvement strategies.

Public Input Survey

The public input survey was available to the public for approximately six weeks. The purpose of the survey was to gather public preference for topics to address in the plan, assess general attitudes and behaviors that impact roadway safety, and identify safety improvements that generate broad public support.

The public input received from the survey was incorporated into the overall strategy of the plan as well as specific safety improvements.

Figure 1: How Safe People Feel Traveling in Noblesville

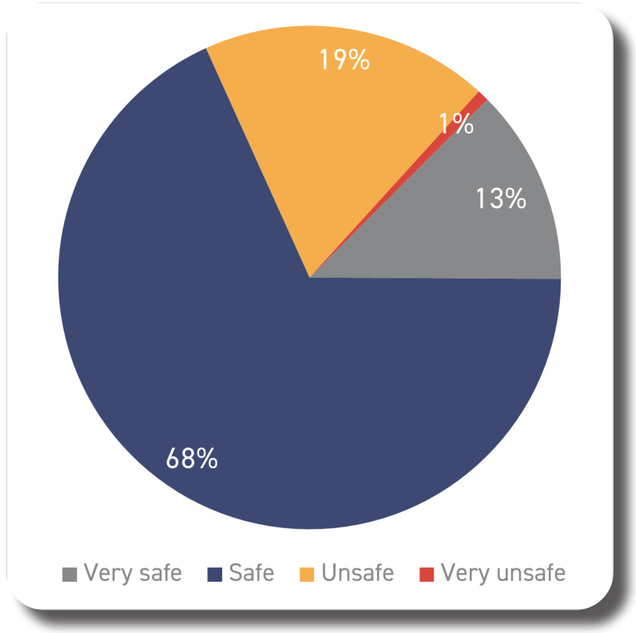
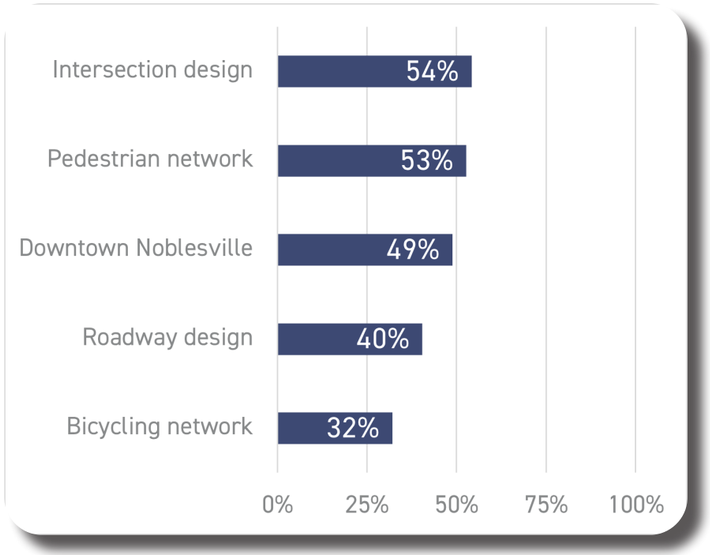


Figure 2: Topics People Want Addressed in the Plan



"Thanks for leading the way on this. My family and I are relatively new residents to Noblesville and we love it here. I love to see the proactive approach to continued improvement."
-Aaron

Figure 3: Safety Issues by Importance

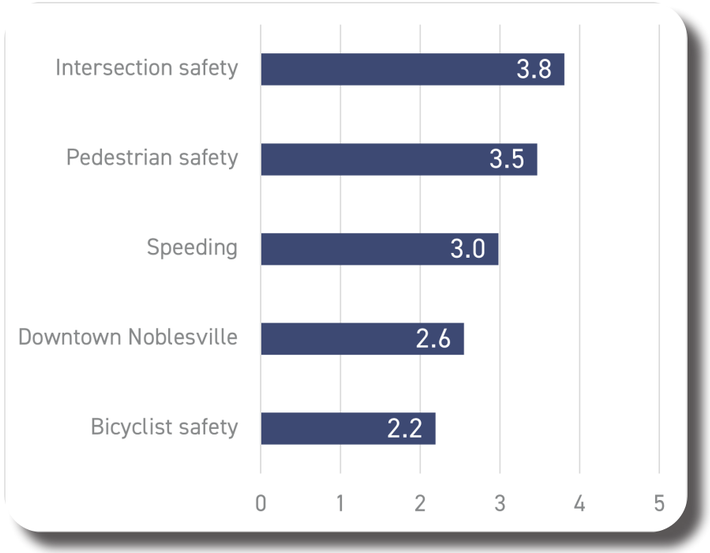


Figure 4: Support for Improvements Targeting Drivers

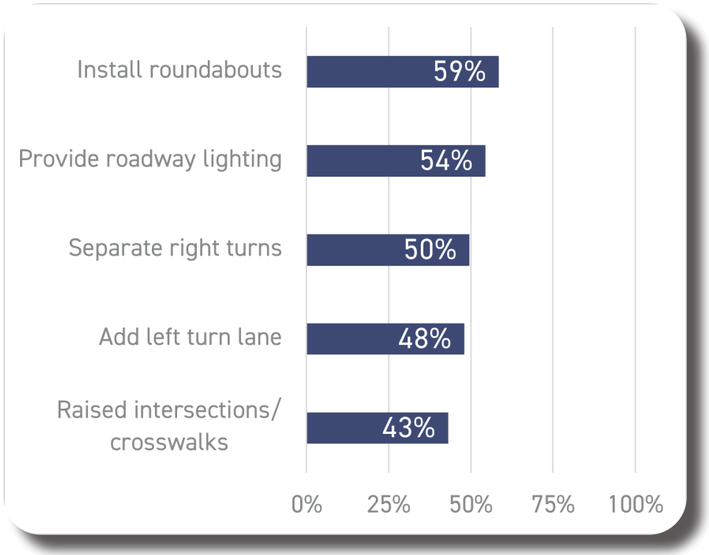
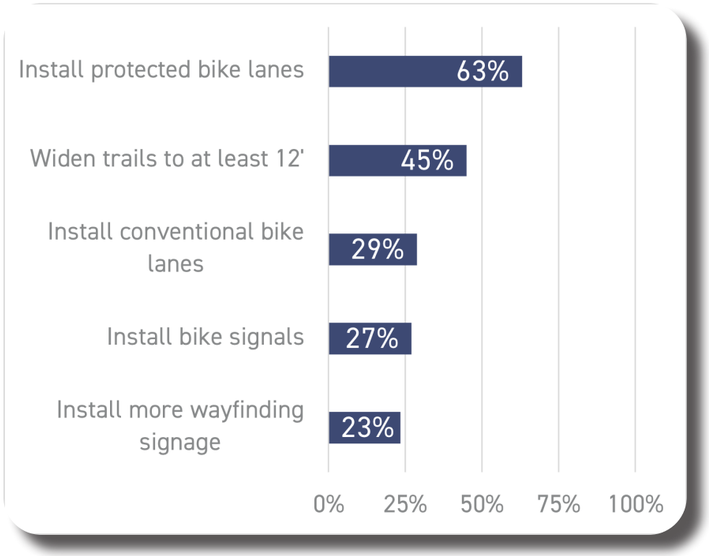


Figure 5: Support for Improvements Targeting Bicyclists



"More street lighting, specifically in the non-downtown area. It can be hard to see the lanes and where you are turning at night."
-Anonymous

Figure 6: Support for Improvements Targeting Pedestrians

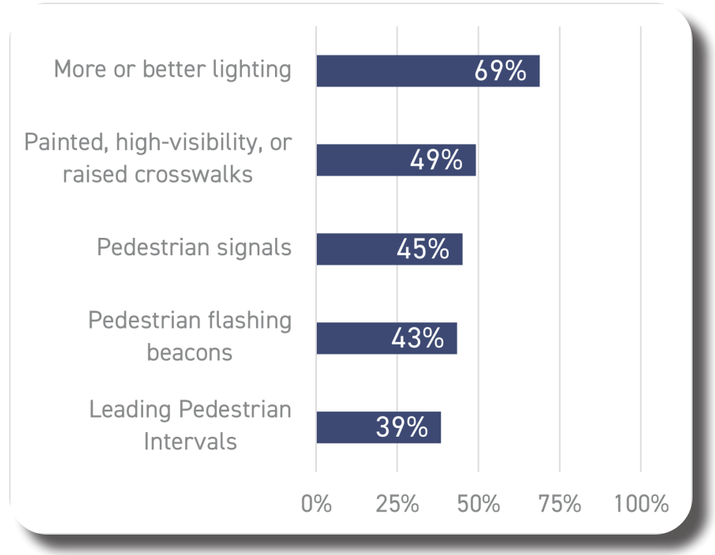
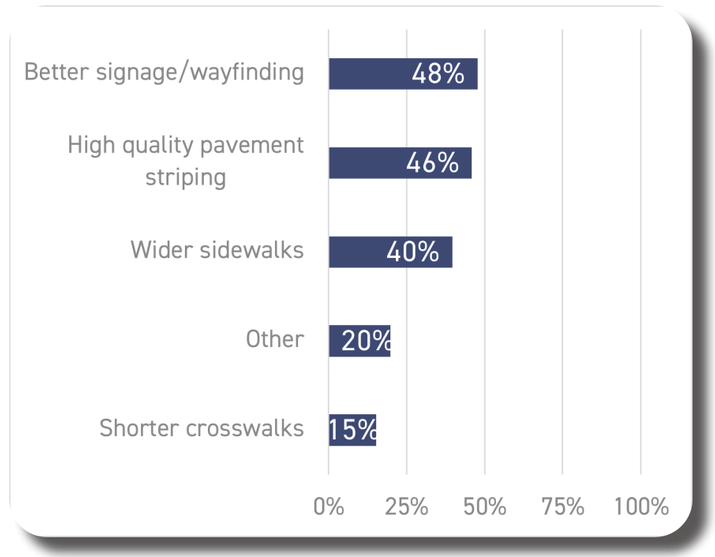


Figure 7: Support for Improvements Targeting Downtown



"I would love to see all of Noblesville more walkable. Also, there needs to be a way for pedestrians that live east of (SR)37 to cross the highway to have the option to walk or bike into downtown Noblesville. "
-Anonymous

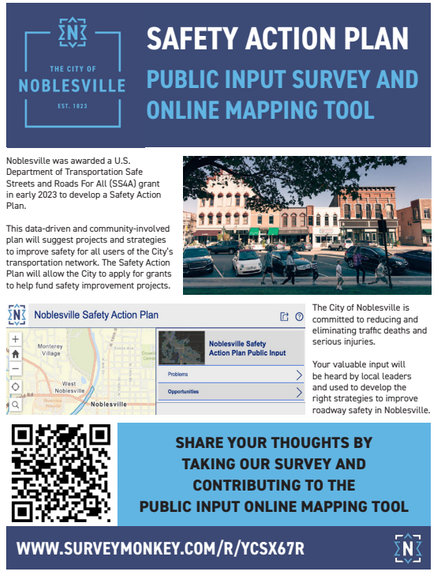
Public Input Mapping Tool

The Noblesville Safety Action Plan Public Input Mapping Tool is an online crowdsourcing map that was available in combination with the online pubic survey. The mapping tool allowed the public to anonymously submit new safety problems or opportunities to the map, view other submitted items, and vote for items they liked or agreed with.

Input from the mapping tool was incorporated to inform the high injury network as well as potential safety improvements.

"(Opportunity to add) sidewalks along (SR)32 to allow pedestrian/bike access from western Noblesville to downtown."
-Anonymous

"While crossing in many roundabouts, motorist do NOT give the right of way to pedestrians."
-Anonymous



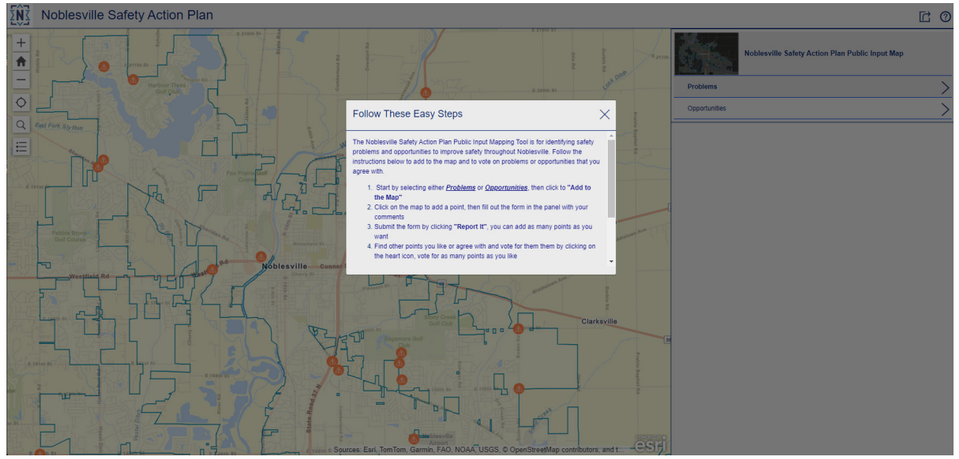


Figure 8: Public Input Map - Opportunities

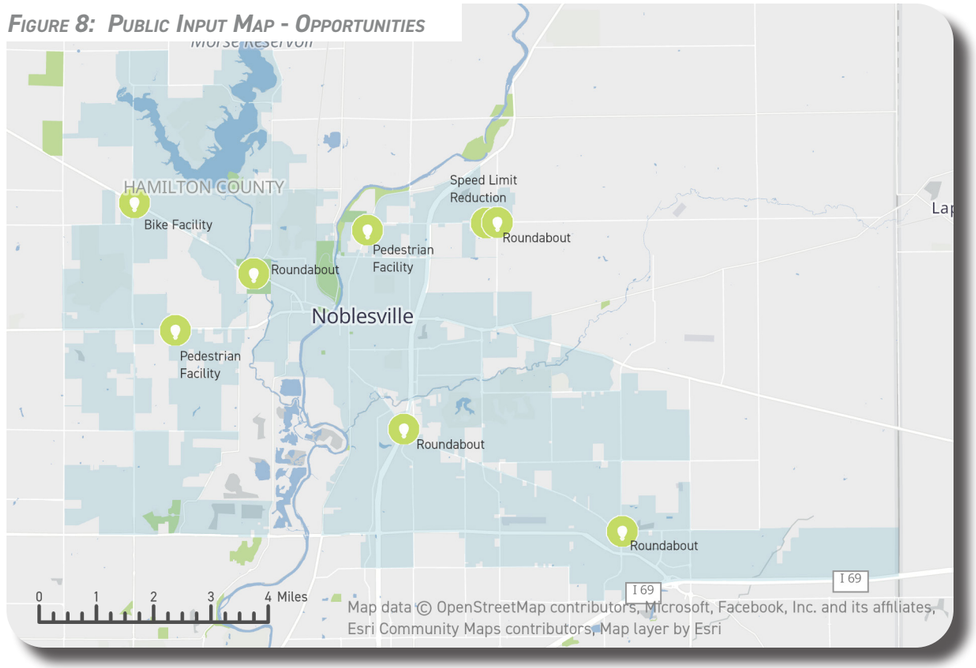
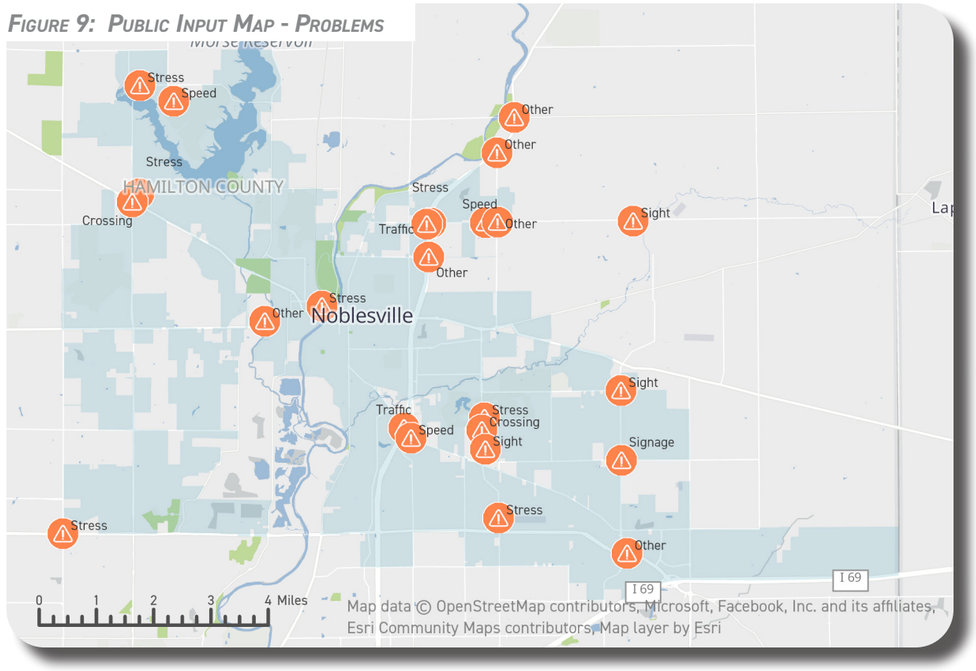


Figure 9: Public Input Map - Problems



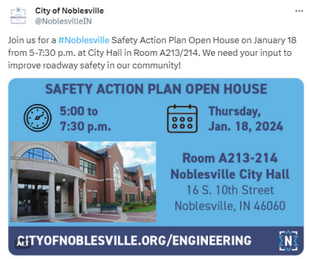
Open House Events

As part of the public engagement process, multiple informal open house events were held to solicit public input and share findings and progress throughout the plan development process. A combination of email and social media was used to publicize each event and encourage the public to attend.

The first open house event was held on November 9, 2023, in conjunction with the community open house for the Noblesville Alternative Transportation (NAT) Plan. By aligning early efforts with those of the NAT plan, the public was engaged early in the process and efforts were built on previous work instead of duplicated. The first open house introduced the concept of the safety action plan to the public and initiated the online survey and mapping tool.

The second open house was held on January 18, 2024, at Noblesville City Hall. This event served two main purposes: (1) to provide the public with a progress update including results of the online survey and mapping tool, and (2) to seek input on priority improvements, programs, and policies.

Friday Five - January 12, 2024

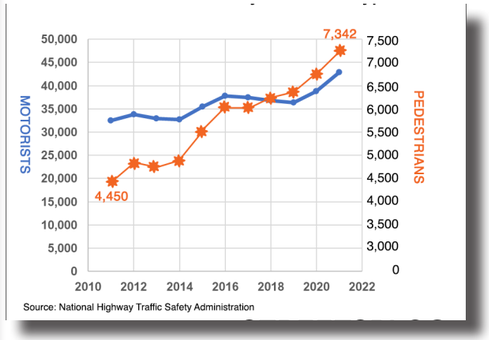


National Trends

Traffic crashes are a leading cause of preventable death in the United States. According to the National Highway Traffic Safety Administration (NHTSA), 2021 saw nearly 43,000 traffic deaths across the nation, a 16-year high. Almost 43,000 people were again killed in traffic crashes in 2022. Since 2020, notable increases include:

- Fatalities on urban roads up 16%
- Pedestrian fatalities up 13%
- Bicycle fatalities up 5%
- Speeding related fatalities up 5%

Figure 10: Crash Fatalities by Year (National)



Source: National Highway Traffic Safety Administration

Local Trends

Local trends within the City of Noblesville relied on multiple sources of crash data for five years from 2018-2022. Fatal and serious injury crashes were obtained from the IMPO, which cleaned and spatially located crash records from Indiana ARIES (Automated Reporting Information Exchange System). Crash records reported by the Noblesville Police Department were cleaned and verified by city staff. Finally, all other crashes not reported by Noblesville Police but by other police agencies, were obtained from ARIES.

From 2018-2022, there were approximately 1,300 crashes each year in Noblesville. After a dramatic decline in crashes in 2020 due most likely to the Covid-19 pandemic and reduced vehicle trips and vehicle miles traveled, total crashes per year increased in both 2021 and 2022. Following a similar trend, fatal and incapacitating crashes dropped significantly in 2020 and increased in both 2021 and 2022. On average, there are three fatalities and over 300 injuries each year on the roadways. Crashes per year are shown in Figure 11.

At nearly 40% of all crashes, rear end crashes are the most prevalent crash type in Noblesville followed by right angle (19%), sideswipe (13%), and ran off the road (10%). Approximately 10% of all crashes result in a fatal or incapacitating injury; however, certain crash types are more likely to result in fatal or incapacitating injuries. Twenty-six percent of head on crashes, 16% of ran off the road crashes, and 15% of right angle crashes result in a fatal or incapacitating injury. Crash types are shown in Table 2.

Just as the type of crash has a significant impact on the likelihood of a fatal or incapacitating injury, so too does the type of user involved in the crash. Every single one of the 52 pedestrian- and bicyclist-involved crashes led to fatal or incapacitating injuries. Figure 12 and Figure 13 illustrate the dramatic difference in crash severity between vehicle-only crashes and crashes involving pedestrians or bicyclists. As vulnerable road users, pedestrians and bicyclists are ***ten times*** more likely to be killed or seriously injured in a collision with vehicle than a person in a vehicle-only crash.

All fatal and incapacitating crashes are shown on the maps in Figure 14. Figure 15 shows fatal and incapacitating crashes in and around downtown Noblesville.

Figure 11: Noblesville Crashes Per Year

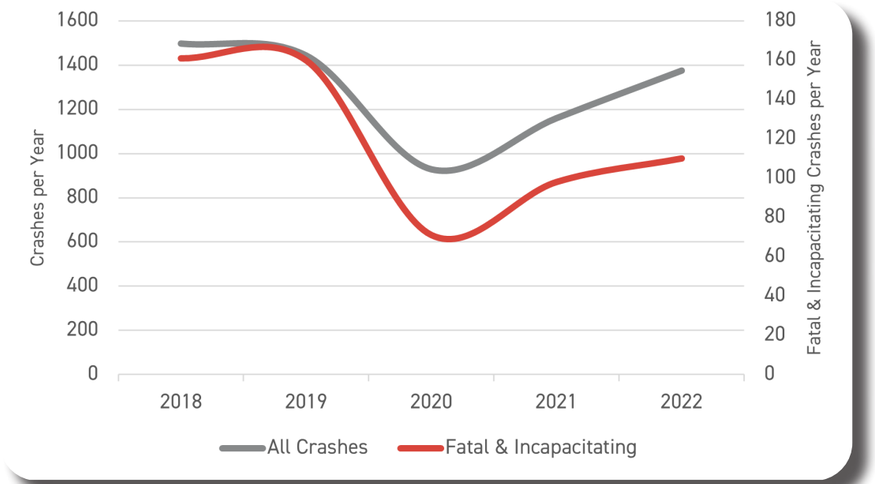


Table 2: Crashes by Type & Severity

MANNER OF COLLISION	TOTAL CRASHES	PERCENT OF TOTAL	FATAL & INCAPACITATING	PERCENT FATAL & INCAPACITATING
Rear End	2,446	39%	141	6%
Right Angle	1,175	19%	171	15%
Same Direction Sideswipe	810	13%	15	2%
Ran Off Road	629	10%	100	16%
Left Turn	375	6%	44	12%
Other	286	5%	48	17%
Opposite Direction Sideswipe	159	3%	11	7%
Collision With Animal	148	2%	3	2%
Head On Between Two Vehicles	116	2%	30	26%
Right Turn	109	2%	8	7%
Bicycle or Pedestrian	52	1%	52	100%
TOTAL	**6,305**	**100%**	**623**	**10%**

Figure 12: Vehicle Crash Severity

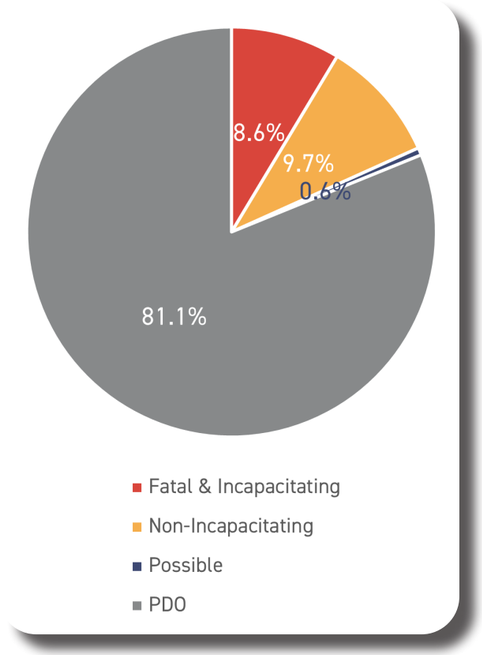


Figure 13: Bicycle/Pedestrian Crash Severity

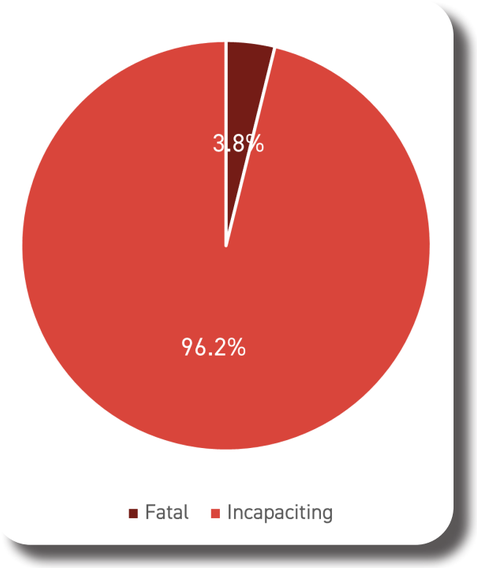


Figure 14: Map of Fatal and Incapacitating Crashes (2018-2022)

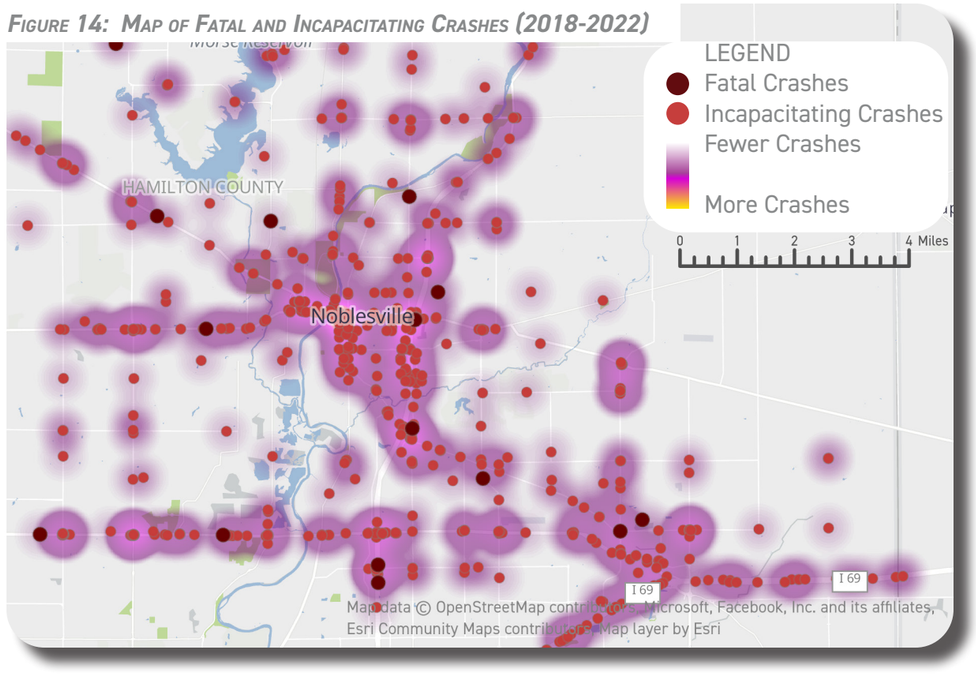
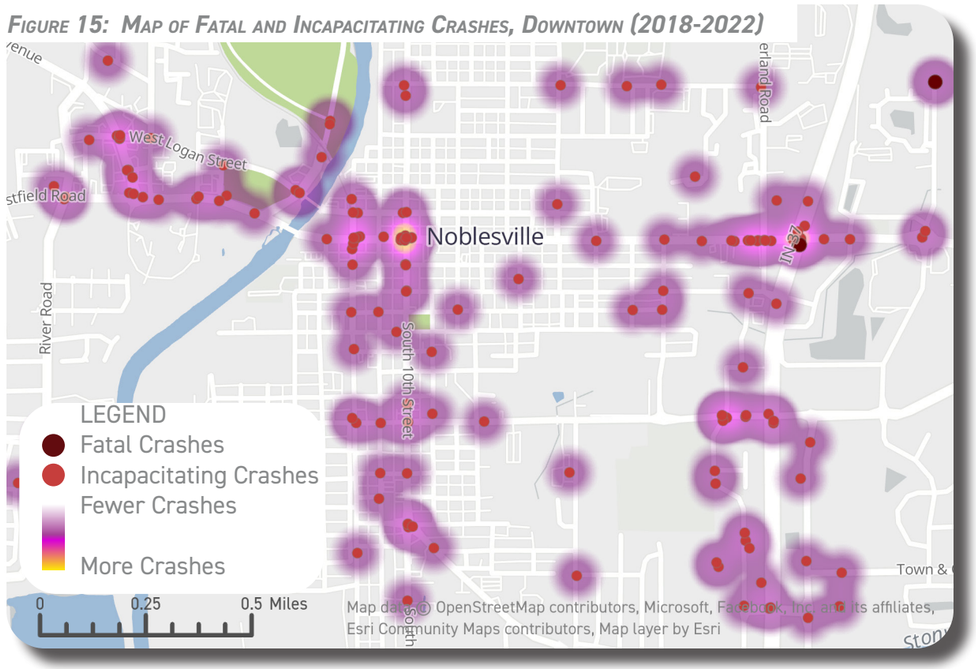


Figure 15: Map of Fatal and Incapacitating Crashes, Downtown (2018-2022)



High Injury Network

The High Injury Network (HIN) represents the small number of roadways (33 miles) that experience the majority of fatal and serious-injury crashes. The HIN helps decision makers prioritize safety improvements so that improvements have the greatest potential reduction of fatal and serious injury crashes.

The Noblesville High Injury Network identifies the majority of all serious injuries and a third of all fatal injuries on just 5% of the total street network.

Approximately 50% of the HIN is owned and maintained by the City, with the other half owned and maintained by Westfield (along the perimeter of Noblesville city limits), Hamilton County, or INDOT (Table 3). The HIN ownership is shown on the maps in Figure 16 and Figure 17. Table 4 summarizes the HIN by functional classification. Principal and minor arterials make up over 70% of the HIN.

Notable streets on the HIN include:

- SR37
- SR32
- SR38
- 146th Street
- 10th Street
- Pleasant Street
- Cumberland Road
- Boden Road
- Olio Road

Methodology

To develop the HIN, a safety index score was created for each roadway segment and intersection. The safety index score represents a data-driven metric for overall roadway safety whereby higher scores mean greater observed history of fatal and incapacitating injury crashes. For more detail on the development of the HIN, see Appendix E.

High Injury Network Statistics

5% of streets

65% of all crashes
64% of all injuries
57% of serious injury crashes
32% of fatal injury crashes

Table 3: HIN Ownership Summary

OWNER	MILES	PERCENT OF HIN	AVERAGE SAFETY INDEX SCORE
City of Noblesville	17.5	52.3%	10.1
City of Westfield	0.6	1.9%	6.6
Hamilton County	1.8	5.5%	10.8
INDOT	13.5	40.3%	14.9
TOTAL	***32.2***	***100%***	--

Table 4: HIN Functional Class Summary

FUNCTIONAL CLASS	MILES	PERCENT OF HIN	AVERAGE SAFETY INDEX SCORE
Principal Arterial	18.5	55.4%	10.4
Minor Arterial	4.8	14.4%	15.9
Major Collector	6.3	18.7%	12.6
Minor Collector	0.9	2.7%	7.3
Local	3.0	8.8%	13.3
TOTAL	***33.4***	***100%***	--

Figure 16: High Injury Network

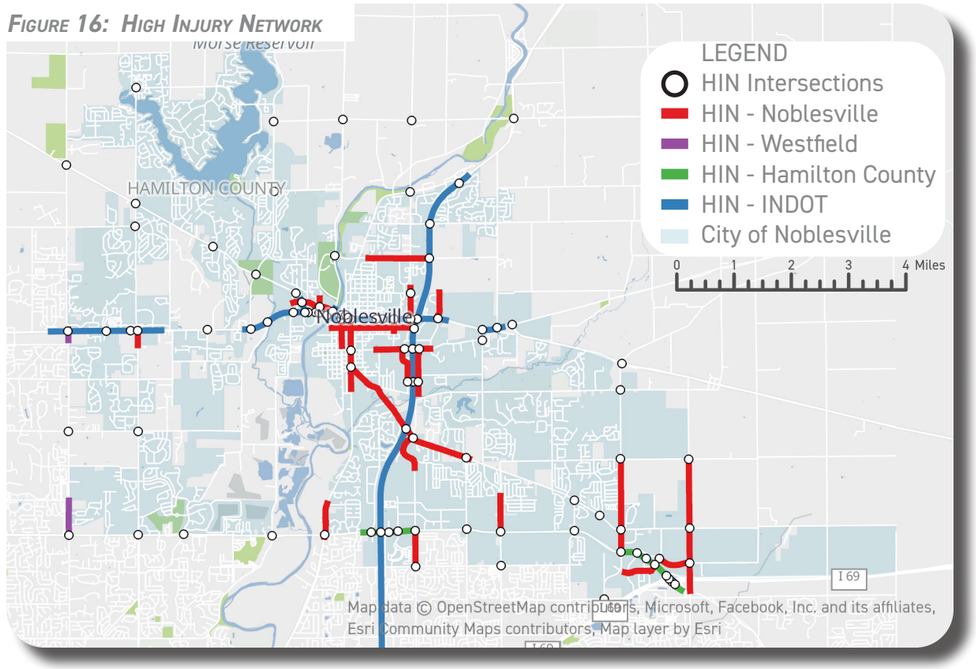
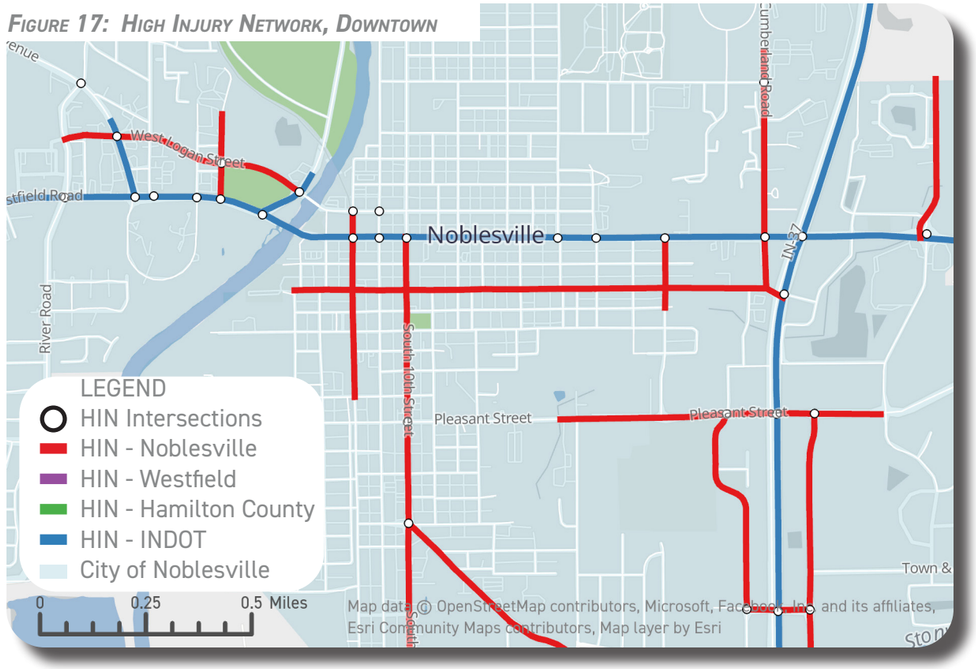


Figure 17: High Injury Network, Downtown



Equity Analysis

A safe and equitable transportation system expands access to opportunities for all Noblesville residents and helps to reduce the disparate economic, environmental, and health burdens experienced by disadvantaged and under-served communities. Noblesville is committed to an equitable distribution of safety improvements so that all residents of all abilities can feel safe when traveling.

To confront and address decades of underinvestment, the Justice40 Initiative, established by the Biden-Harris Administration, made it a goal that 40% of benefits of certain Federal investments flow to disadvantaged communities. The USDOT's SS4A program is covered by the Justice40 Initiative, and eligible safety action plans are required to consider the equity of projects and strategies. The Climate and Economic Justice Screening Tool (CEJST) is an interactive mapping tool that is used to identify disadvantaged communities. Disadvantaged communities are those that meet or exceed the threshold for one or more environmental, climate, or other burdens. The CEJST identifies one Census tract in Noblesville that is considered disadvantaged.

In addition to the CEJST disadvantaged community, a local equity index was created to further identify local areas of concern related to equity. The local equity index relies on demographic indicators at the Census block group level as shown in Table 5.

CEJST Noblesville, IN

Tract information
Number: 18057110700
County: Hamilton County
State: Indiana
Population: 2,883

Tract demographics

Race / Ethnicity (Hide)	
White	85%
Black or African American	3%
American Indian and Alaska Native	0%
Asian	0%
Native Hawaiian or Pacific Islander	0%
Other	3%
Two or more races	3%
Hispanic or Latino	5%
Age (Hide)	
Children under 10	9%
Ages 10 - 64	79%
Elderly over 65	11%

Identified as disadvantaged?

YES

This tract is considered disadvantaged because it meets more than 1 burden threshold **AND** the associated socioeconomic threshold.

Table 5: Equity Demographic Indicators

DEMOGRAPHIC INDICATOR	DESCRIPTION
People of Color	Percent of total population reported as non-white.
Poverty	Percent of households with income in the past 12 months below poverty level.
Limited English Proficiency	Percent of households reported as limited English speaking.

The local equity index is a composite of the demographic indicators where higher index values indicate higher concentrations of key equity demographics. Figure 18 shows the CEJST disadvantaged communities and the results of the equity index analysis.

Since higher equity index scores mean higher percentages of targeted equity demographics, census block groups with local equity index scores in the 80th percentile and above were combined with the CEJST disadvantaged communities to establish equity target areas (ETAs). ETAs are identified communities to target and prioritize safety improvements to improve equitable outcomes throughout the City.

The ETAs are primarily located around downtown and in the southern portions of the City. Despite making up 21% of the total population and 23% of households, ETAs are home to 35% of the total non-white population, 60% of total households in poverty, and 60% of total households with limited English proficiency.

Figure 18: Disadvantaged Communities and Equity Index

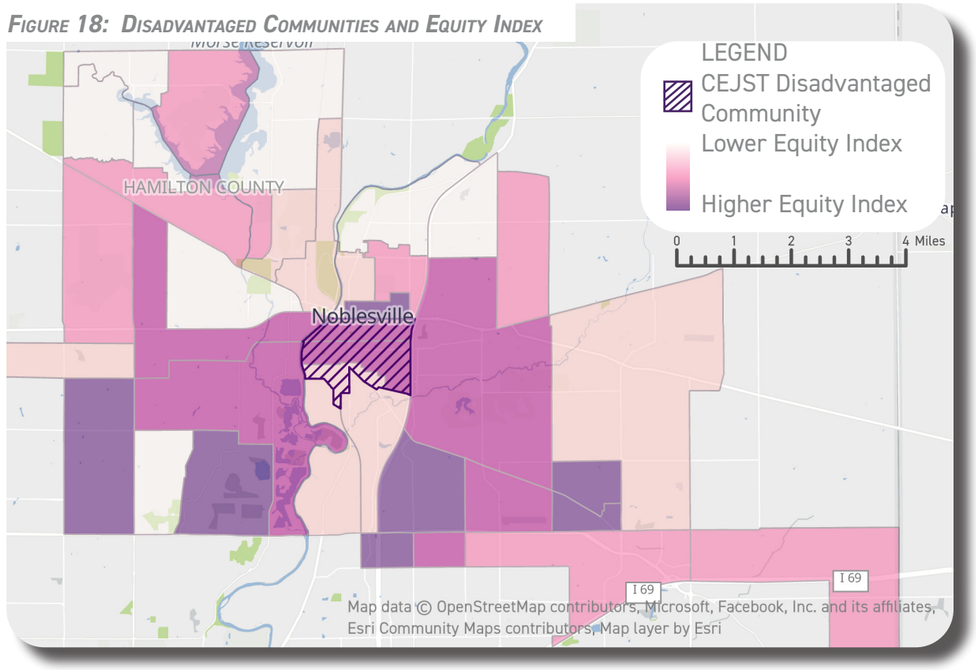


Figure 19 shows ETAs overlaid with the HIN to illustrate the relationship between equity and fatal and incapacitating crashes. Approximately 38% of all fatal and incapacitating crashes occur within ETAs demonstrating a disproportionate impact within these key communities.

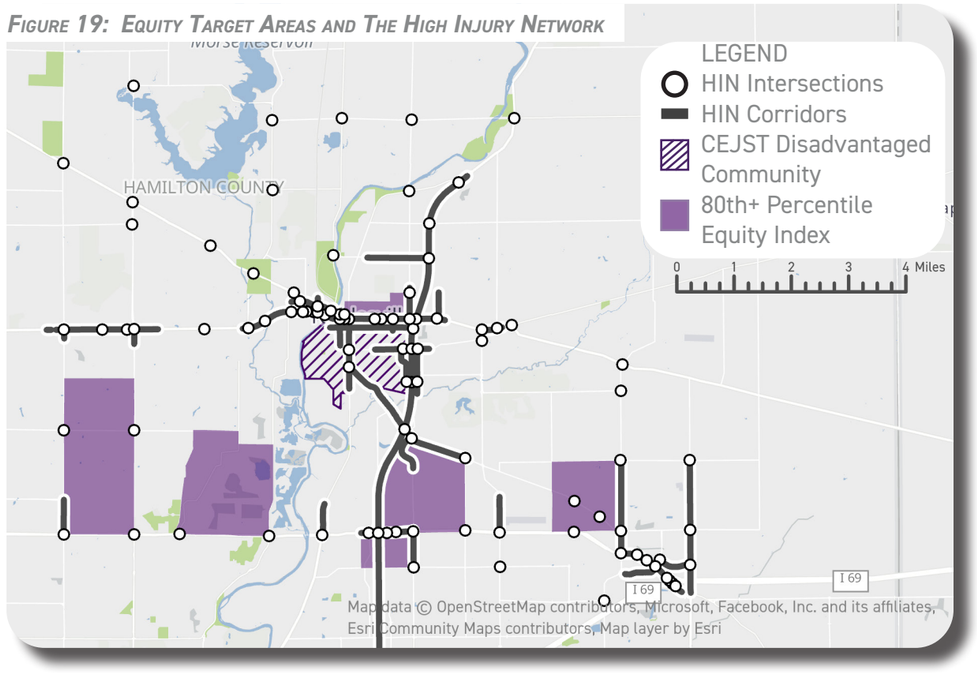
Furthermore, 60% of the HIN is located within ETAs showing the need for targeted safety improvements. The results of this equity analysis are used to target appropriate policies and programs and prioritize locations for safety countermeasures.

For more information about the equity analysis, see Appendix D.

Table 6: Equity Target Areas Summary

EQUITY TARGET AREA	POPULATION	HOUSEHOLDS	FATAL & INCAPACITATING CRASHES	HIGH INJURY NETWORK
Yes	21%	23%	38%	60%
No	79%	77%	62%	40%

Figure 19: Equity Target Areas and The High Injury Network



Proven Safety Countermeasures

This plan and recommendations rely on a comprehensive understanding of crashes observed throughout the City as well as national best practices to inform effective strategies to improve safety. The safety toolkit is a reference of context-sensitive proven safety countermeasures that address predominant crash characteristics, roadway or intersection configurations, and other relevant trends observed throughout the planning process. The safety toolkit provides key information for each proven safety countermeasure including expected safety benefits, applicable locations, and important design considerations.

Crash conditions and contextual circumstances drive the suitability of each safety countermeasure for a specific situation or location. The safety toolkit offers decision makers the ability to select from multiple appropriate countermeasures and identify those that best align with available resources and public preferences in order to address a specific safety problem.

The safety toolkit includes safety countermeasures referenced in the HIN location recommendations along with others based on national best practices and the City's desire to improve the pedestrian experience and protect vulnerable road users. The complete safety toolkit is found in Appendix A.

Table 7: List of Potential Safety Countermeasures

COUNTERMEASURE	SAFETY BENEFITS
Bicycle lanes	30%-49% reduction in total crashes
Leading Pedestrian Intervals	13% reduction in pedestrian crashes
Rectangular Rapid Flashing Beacons (RRFB)	47% reduction in pedestrian crashes
Medians	46%-56% reduction in pedestrian crashes
Pedestrian Refuge Island	56% reduction in pedestrian crashes
Crosswalk Visibility Enhancements	25%-42% reduction in pedestrian crashes
Walkways	65%-89% reduction in pedestrian crashes
Reverse Angle Parking	Improved sight lines for bicyclists and motorists; vehicle passengers channeled to curb
Reduced Left-Turn Conflict Intersections	22%-63% reduction in fatal and injury crashes
Dedicated Left- and Right-Turn Lanes at Intersections	28%-48% reduction in total crashes (left turn lanes) 14%-26% reduction in total crashes (right turn lanes)
Signage	Effective at alerting drivers to oncoming hazards and reducing crashes.
Backplates with Retro-reflective Borders	15% reduction in total crashes
Yellow Change Intervals	12% reduction in injury crashes
Dynamic Speed Monitoring Display	Effective at reducing vehicle speeds, improving driver awareness, and promoting safer driving behaviors.
Roundabouts	78%-82% reduction in fatal and injury crashes
Pedestrian Hybrid Beacon (PHB or HAWK)	29% reduction in total crashes 55% reduction in pedestrian crashes
Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections	10% reduction in fatal and injury crashes
Road Diet	19%-47% reduction in total crashes
Corridor Access Management	25%-31% reduction in fatal and injury crashes along urban/suburban arterials
Curb Extensions	Increase pedestrian visibility; reduce pedestrian crossing distance
Automated Enforcement	20%-54% reduction in total and fatal and injury crashes

HIN Strategies

In order to reach this plan's goal, and the City's Toward Zero resolution, additional funding should be directed to locations where safety improvements will have the largest impact. The high injury network is the basis of the safety focused location evaluation and prioritization. However, to provide context sensitive solutions, the HIN was broken down into location groups of similar corridors and/or intersections.

HIN location groups experience similar crash types, have similar roadway characteristics, have similar nearby land uses, or are otherwise grouped together to allow for an improvement project of appropriate scope and scale. For each HIN location, a detailed evaluation of crashes is provided along with prioritization criteria and potential strategies. The HIN locations grouped for further evaluation and strategies are detailed on the following pages.

For each location group, key information is presented including extents, existing conditions, and observed crash history. Notes about some locations are also included to provide additional context when and where necessary.

Strategies

Strategies for each location consider existing roadway design, geometry, and adjacent land uses and attempt to provide options ranging from simple and low-cost solutions to complex, higher-cost, and long-term solutions. Any known recently completed or funded projects were also considered and noted. Note: Pleasant Street was not evaluated due to an existing project included in the IMPO Metropolitan Transportation Plan (MTP) (Project ID 2508); as of April 2024, the Pleasant Street project is under construction from 19th Street to SR 38/Hague Road.

Strategies are categorized as either short-term/low-cost improvements or long-term capital projects. Short-term/low-cost improvements are those that require less design, coordination, and funding and can be implemented quickly within 1-2 years. Long-term capital projects are those that will require more planning, design, coordination, and funding and will most like take 3 or more years for implementation.

Costs provided are planning level general cost estimates for each strategy. General cost estimates may not consider all contextual circumstances at each location. Generally, cost estimates provided follow the ranges as shown below:

$ = $0 - $100k
$$ = $100k - $500k
$$$ = $500k - $1M
$$$$ = $1M+

Prioritization

For each location group, prioritization criteria are listed and include:

- Number of fatal and incapacitating (F & I) crashes
- Safety index (for segments (S) and intersections (I))
- Whether the location is within an equity target area (ETA or CEJST)

Base on the prioritization criteria, priority tiers indicate level of priority for each location. Priority tier 1 indicates locations with highest priority. Prioritization is summarized in Table 8.

Table 8: HIN Locations Prioritization

PRIORITY TIER	LOCATION	F & I CRASHES	SAFETY INDEX	ETA	CEJST
1	Downtown Noblesville	56	S: 19.2 I: 7.6	Yes	Yes
	Olio Road I-69 to SR 38	16	S: 3.3 I: 19.1	No	No
	Greenfield Road Howe Road to 10th Street	22	S: 8.1 I: 33.9	Yes	Yes
	10th Street Pleasant St to Carbon St	25	S: 5.1 I: 27.4	Yes	Yes
	146th Street Allisonville Rd to Cumberland Rd	52	S: 19.1 I: 21.3	Yes	No
	Suburban Intersections	125	S: n/a I: 3.4-28.9	Yes	No
	SR 37 Allisonville Rd to 141st St	82	S: 2.1 I: 51.7	Yes	Yes
	SR 32/Conner Street Presley Dr to Hague Rd	66	S: 64.1 I: 45.5	Yes	Yes
2	Harrell Parkway/Tegler Drive Brooks School Rd to Olio Rd	5	S: 22.7 I: 16.6	No	No
	Boden Road Campus Pkwy to SR 38	29	S: 10.8 I: 18.7	Yes	No
	186th Street 10th St to SR 37	4	S: 4.2 I: 25.9	No	No
	Cherry Street 12th St to SR 37	14	S: 2.2 I: 3.6	Yes	Yes
	Campus Parkway Boden Rd to I-69 Interchange	36	S: 9.9 I: 18.7	No	No
	206th Street Hague Rd to SR 37	14	S: 0.4 I: 8.5	No	No
	SR 32 & SR 38 Junction	14	S: 3.4 I: 17.8	No	No
	SR 32/Westfield Road Hague Rd to Gray Rd	26	S: 13.3 I: 23.0	No	No
	SR38/Sheridan Road Moontown Rd to SR 32	25	S: 18.9 I: 24.0	No	No

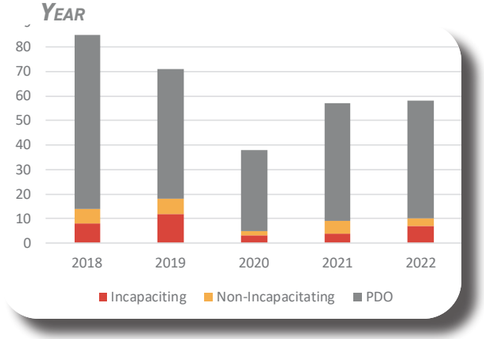
F & I Crashes = Fatal and Incapacitating Crashes
Safety Index: S = Segment; I = Intersection
ETA = 80th+ percentile equity index
CEJST = Climate & Economic Justice Screening Tool Disadvantaged Community

Downtown Noblesville

Existing Conditions

The study limits defined as downtown Noblesville are bounded by the White River, Wayne Street, 12th Street, and Division Street.

Figure 20: Downtown Noblesville, Crash per Year



Crash History

Total Crashes (2018-2022): 309
Fatal & Incapacitating Crashes: 56
Pedestrian or Bicyclist Crashes: 7

Prioritization

Segment Safety Index: 19.2
Intersection Safety Index: 7.6
Equity Target Area: Yes

Strategies

The downtown area has a high concentration of pedestrian and bicyclist activity. Recommendations include strategies to improve safety for bicyclists and pedestrians. While many strategies can be implemented systemically, others such as raised intersections, should be part of larger transformation projects.

Table 9: Downtown Noblesville, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Leading pedestrian intervals	Improve visibility of pedestrians	13% reduction in pedestrian crashes	$
Crosswalk visibility enhancements	Improve crossing safety and comfort for pedestrians	25%-42% reduction in pedestrian crashes	$
Backplates with retro-reflective borders	Reduce red light running and right angle crashes	15% reduction in total crashes	$
Yellow change intervals	Reduce red light running	12% reduction in injury crashes	$
Tactical urbanism	Temporary pedestrian improvements to test success	n/a	$
Long-Term Capital Projects			
Curb extensions	Increase pedestrian visibility; reduce pedestrian crossing distance		$$
Reverse angle parking	Improved sight lines for bicyclists and motorists; vehicle passengers channeled to curb		$
Pedestrian refuge island and PHB or RRFB at mid-block crossings	Improve crossing safety, visibility, and comfort for pedestrians	47%-56% reduction in pedestrian crashes	$$
Raised intersections	Reduce vehicle speeds and improve pedestrian comfort	46% reduction in pedestrian crashes	$$$$

Figure 21: Downtown Noblesville, Crash Types & Severity

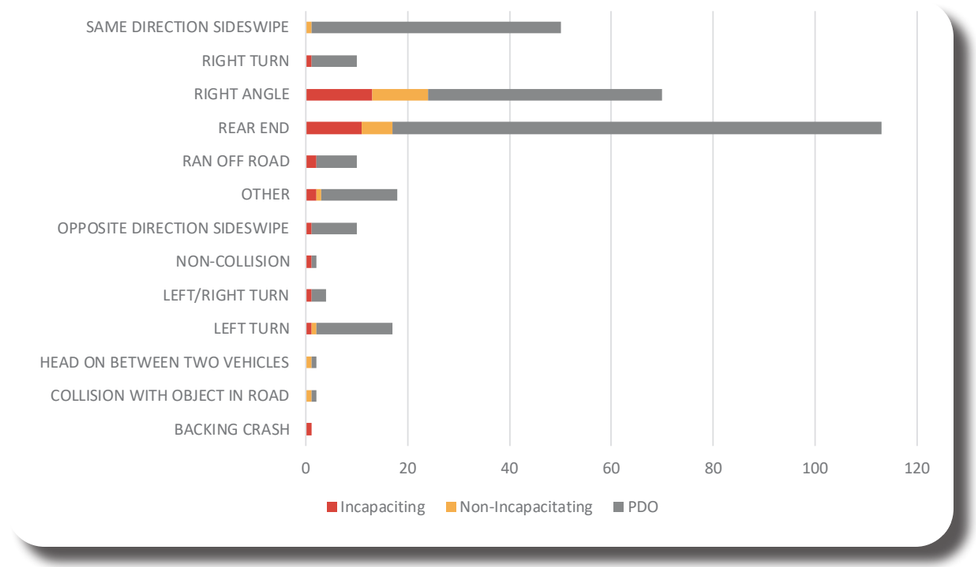
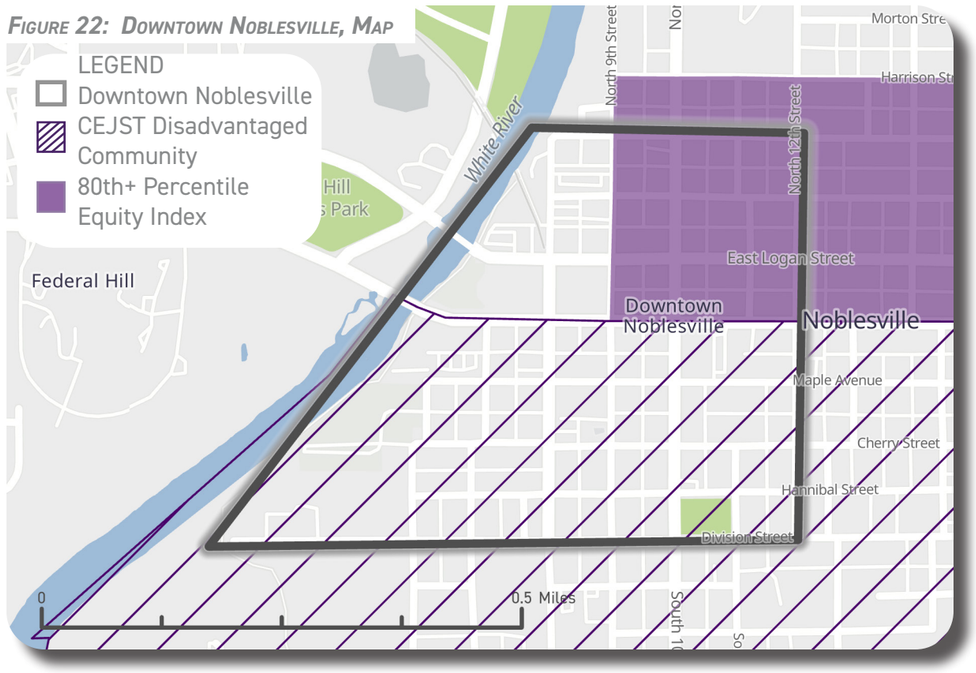


Figure 22: Downtown Noblesville, Map



Olio Road

I-69 to SR 38/Pendleton Avenue

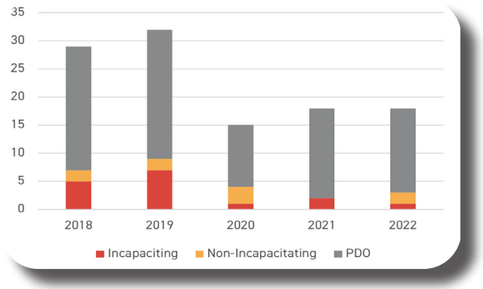
Existing Conditions

Olio Road is major collector that runs north-south. It is currently a 4-lane section from Campus Parkway to 146th Street/Greenfield Avenue and transitions to a 2-lane section north of 146th Street.

Notes

A roundabout was constructed at Olio Road and 146th Street in 2021, which may have temporarily led a temporary increase in crashes, but it is anticipated that this intersection improvement will reduce crashes moving forward, particularly right-angle crashes, which have the potential to result in severe injuries.

Figure 23: Olio Road, Crashes per Year



Crash History

Total Crashes (2018-2022): 112
Fatal & Incapacitating Crashes: 16
Pedestrian or Bicyclist Crashes: 0

Prioritization

Segment Safety Index: 3.3
Intersection Safety Index: 19.1
Equity Target Area: No

Strategies

The MTP includes two Olio Road projects. There is a committed project to widen Olio Road from Tegler Road/146th Street to 146th Street to a 4-lane section (Project ID 2507). There is an illustrative project to widen from 146th Street to SR 32/SR 38 to a 4-lane road (Project ID 2106).

Intersection improvements along Olio Road are recommended through a systemic approach and may include improved signage and enhanced pavement markings. A roundabout at Olio Road and 166th is also recommended as a long-term improvement to reduce right angle crashes at this intersection.

Table 10: Olio Road, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Systemic Application of Multiple Low-Cost Countermeasures at stop controlled intersections	Reduce crashes at unsignalized intersections	10% reduction in fatal and injury crashes	$
Long-Term Capital Projects			
Roundabout at Olio Road and 166th Street	Reduce right angle crashes and eliminate crossing conflict points	78%-82% reduction in fatal and injury crashes	$$$$

Figure 24: Olio Road, Crash Types & Severity

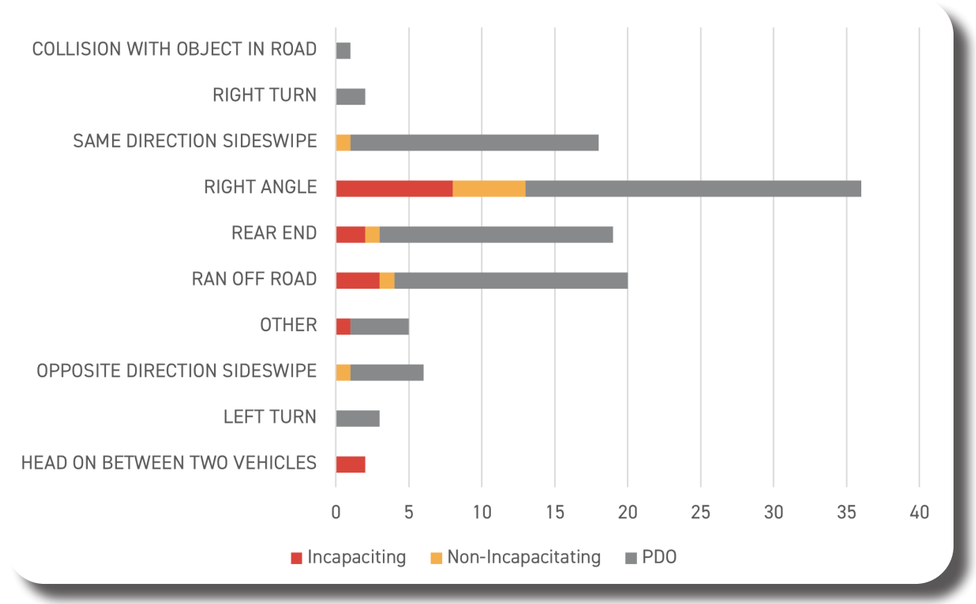
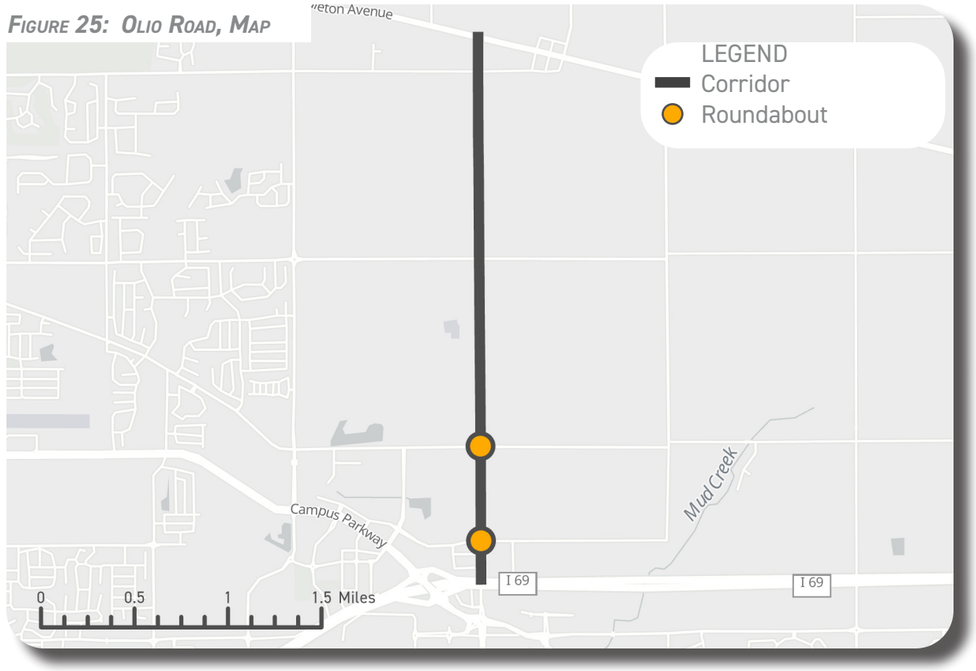


Figure 25: Olio Road, Map



Greenfield Road

Howe Road to 10th Street

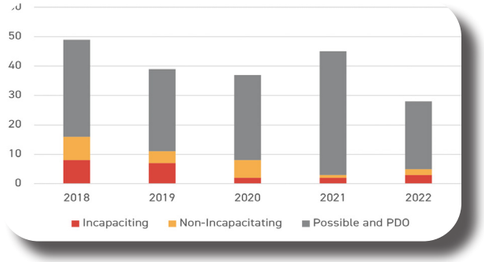
Existing Conditions

Greenfield Avenue is a 2-lane principal arterial from Howe Road to Cumberland Road and transitions to a 4-lane roadway from Cumberland Road to SR 37 and then transitions back to a 2-lane roadway from SR 37 to 10th Street. There is a sidewalk/multi-use path along Greenfield Avenue from Stony Creek Elementary School to 10th St.

Notes

A roundabout was constructed at Greenfield Road and Howe Road in 2019.

Figure 26: Greenfield Road, Crashes per Year



Crash History

Total Crashes (2018-2022): 198
Fatal & Incapacitating Crashes: 22
Pedestrian or Bicyclist Crashes: 1

Prioritization

Segment Safety Index Score: 8.1
Intersection Safety Index Score: 33.9
Equity Target Area: Yes

Strategies

The MTP includes widening Greenfield Road from a 2-lane road to a 4-lane road in the future, but at the time this safety action plan was written no funding source has been identified.

Road Safety Audits (RSAs) are recommended at Cumberland Road and 10th Street. These intersections experience unexpected crash types and severities and will benefit from more detailed study.

Table 11: Boden Road, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Backplates with retro-reflective borders	Reduce red light running and right angle crashes	15% reduction in total crashes	$
Long-Term Capital Projects			
Left turn lanes	Reduce turning conflicts and improve visibility to reduce turning crashes	28%-48% reduction in total crashes	$$$
Roundabout at 16th Street	Reduce right angle crashes and eliminate crossing conflict points	78%-82% reduction in fatal and injury crashes	$$$$
Shared use path	Improve pedestrian mobility and safety	65%-89% reduction in pedestrian crashes	$-$$$
Corridor access management from 10th Street to Holland Street	Reduce conflict points	25%-31% reduction in fatal and injury crashes	$$-$$$$

Figure 27: Greenfield Road, Crash Types & Severity

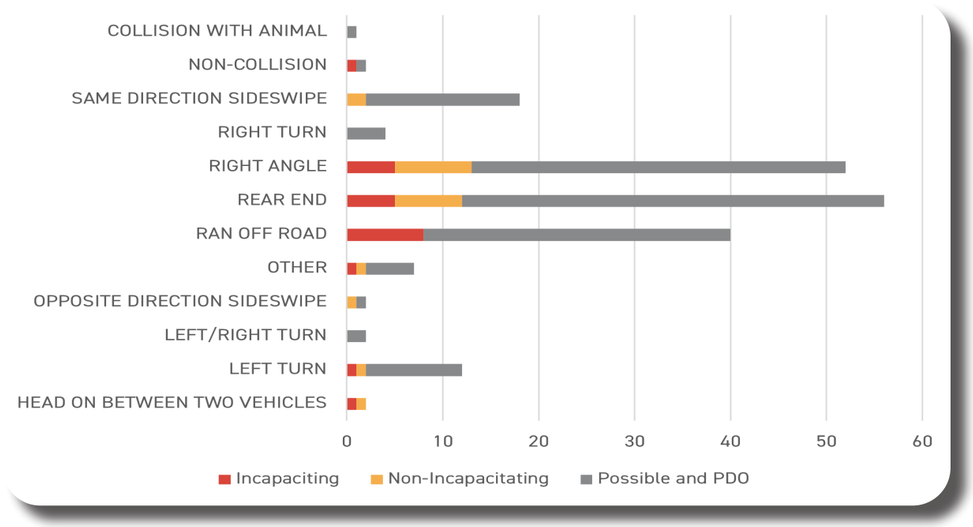
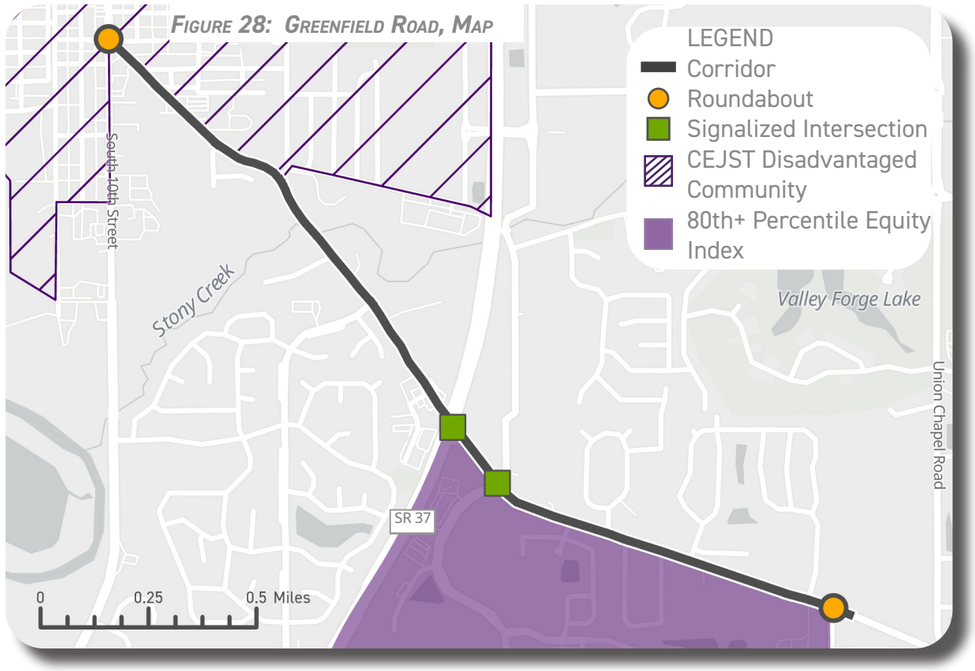


Figure 28: Greenfield Road, Map



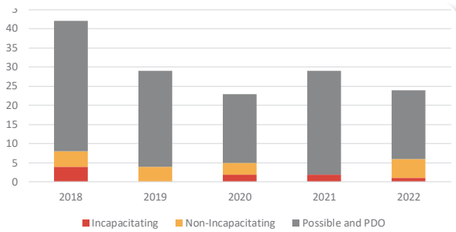
10th Street

Pleasant Street to Carbon Street

Existing Conditions

10th Street is a local 2-lane road that runs north-south. This section of 10th Street is south of downtown Noblesville, between Pleasant Street and Carbon Street. Sidewalks are present along 10th Street north of South Street.

Figure 29: 10th Street, Crashes per Year



Crash History

Total Crashes (2018-2022): 147
Fatal & Incapacitating Crashes: 25
Pedestrian or Bicyclist Crashes: 1

Prioritization

Segment Safety Index: 5.1
Intersection Safety Index: 27.4
Equity Target Area: Yes

Strategies

The MTP includes a programmed project to widen 10th Street/Allisonville Road from 2-lanes to 4-lanes from Greenfield Avenue to 146th Street. As of April 2024, construction is underway on a roundabout at 10th Street and Pleasant Street.

A Road Safety Audit (RSA) is also recommended at for the intersection of 10th Street and Greenfield Road.

Table 12: 10th Street, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Crosswalk visibility enhancements	Improve crossing safety and comfort for pedestrians	25%-42% reduction in pedestrian crashes	$
Long-Term Capital Projects			
Bicycle lanes or walkways	Improve pedestrian mobility and safety	65%-89% reduction in pedestrian crashes	$-$$$
PHB or RRFB at mid-block locations	Improve crossing safety, visibility, and comfort for pedestrians	47%-56% reduction in pedestrian crashes	$$

Figure 30: 10th Street, Crash Types & Severity

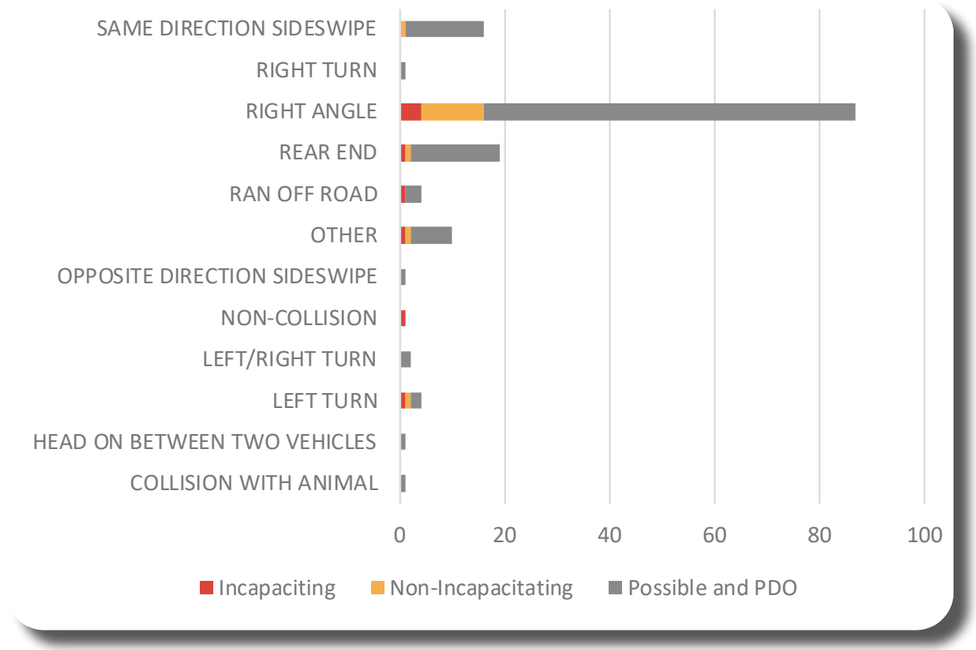
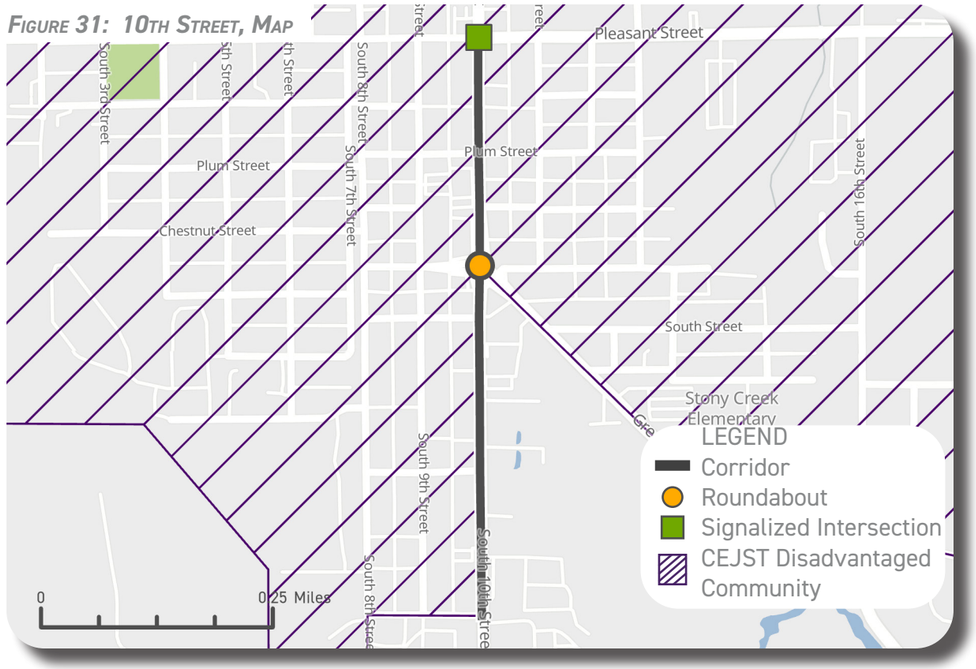


Figure 31: 10th Street, Map



146th Street

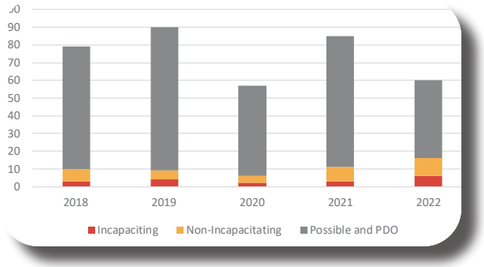
Allisonville Road to Cumberland Road

Existing Conditions

146th Street from Allisonville Road to Cumberland Road is a 4-lane principal arterial with turn lanes at major intersections. This section of 146th Street includes an interchange with SR 37 providing regional connections, 3 signalized intersections, and a trail crossing at the Nickel Plate Trail.

There is a crossing with the new Nickle Plate Trail. A multi-use path is present on the south side of 146th Street from Allisonville Road to Herriman Road and from Tom Wood Way to Cumberland Road. East of North Point Boulevard, there is also a multi-use path on the north side of the street.

Figure 32: 146th Street, Crashes per Year



Crash History

Total Crashes (2018-2022): 372
Fatal & Incapacitating Crashes: 52
Pedestrian or Bicyclist Crashes: 1

Prioritization

Segment Safety Index: 19.1
Intersection Safety Index: 21.3
Equity Target Area: Yes

Strategies

There is a cluster of crashes at unsignalized intersections and driveways along 146st Street near the commercial district adjacent to the intersection with SR 37. Access management is recommended, including but not limited to improved turn lane delineation, raised medians, and driveway consolidation.

Improvements are recommended at the Nickel Plate Trail crossing. A grade separated crossing is currently in design and would offer maximum benefits to trail users. Other improvement concepts are included here if the grade separated crossing is not ultimately constructed.

The corridor is under Hamilton County jurisdiction so improvements will require interagency cooperation.

Table 13: 146th Street, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Crosswalk visibility enhancements at Nickel Plate Trail	Improve crossing safety and comfort for trail user	25%-42% reduction in pedestrian crashes	$
Long-Term Capital Projects			
Corridor access management	Reduce conflict points	25%-31% reduction in fatal and injury crashes	$$-$$$$
Pedestrian refuge island and PHB or RRFB at Nickel Plate Trail	Improve crossing safety, visibility, and comfort for trail users	47%-56% reduction in pedestrian crashes	$$

Figure 33: 146th Street, Crash Types & Severity

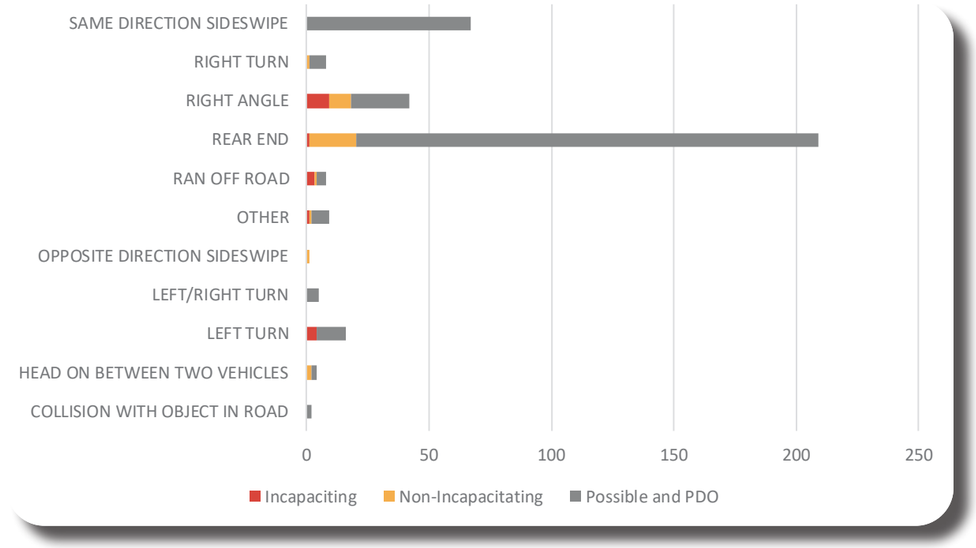
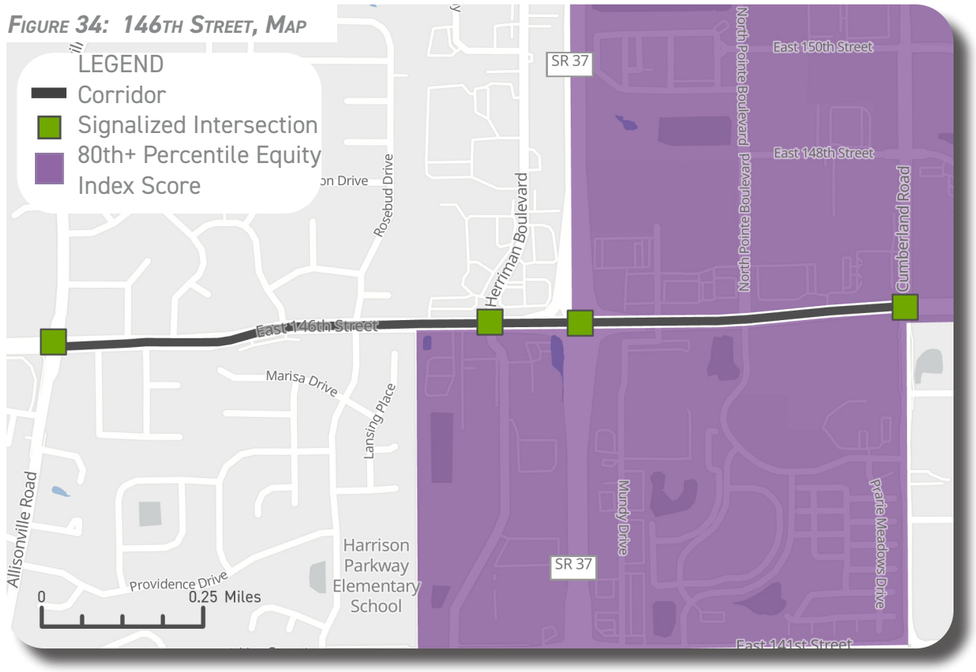


Figure 34: 146th Street, Map

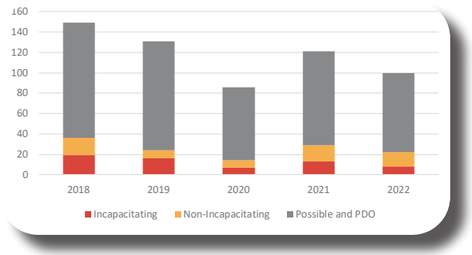


Suburban Intersections

Existing Conditions

This location includes 16 intersections in suburban settings including four existing roundabouts and eight existing signalized intersections.

Figure 35: Suburban Intersections, Crashes per Year



Crash History

Total Crashes (2018-2022): 587
Fatal & Incapacitating Crashes: 125
Pedestrian or Bicyclist Crashes: 2

Prioritization

Intersection Safety Index: 3.4 - 28.9

Strategies

Improvements may be approached systematically for all intersections or a group of intersections.

Priority intersections include:

- 146th Street & Gray Road
- River Road & 146th Street
- Hazell Dell Drive & 146th Street

Table 14: Suburban Intersections, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Backplates with retro-reflective borders	Reduce red light running and right angle crashes	15% reduction in total crashes	$
Systemic Application of Multiple Low-Cost Countermeasures at stop controlled intersections	Reduce crashes at unsignalized intersections	10% reduction in fatal and injury crashes	$
Wider edge lines	Reduce roadway departures (ran off road crashes)	37% reduction in fatal and injury crashes	$
Long-Term Capital Projects			
Turn lanes	Reduce turning conflicts and improve visibility to reduce turning crashes	28%-48% reduction in total crashes	$$$
Roundabouts	Reduce right angle crashes and eliminate crossing conflict points	78%-82% reduction in fatal and injury crashes	$$$$
Corridor access management	Reduce conflict points	25%-31% reduction in fatal and injury crashes	$$-$$$$

Figure 36: Suburban Intersections, Crash Types & Severity

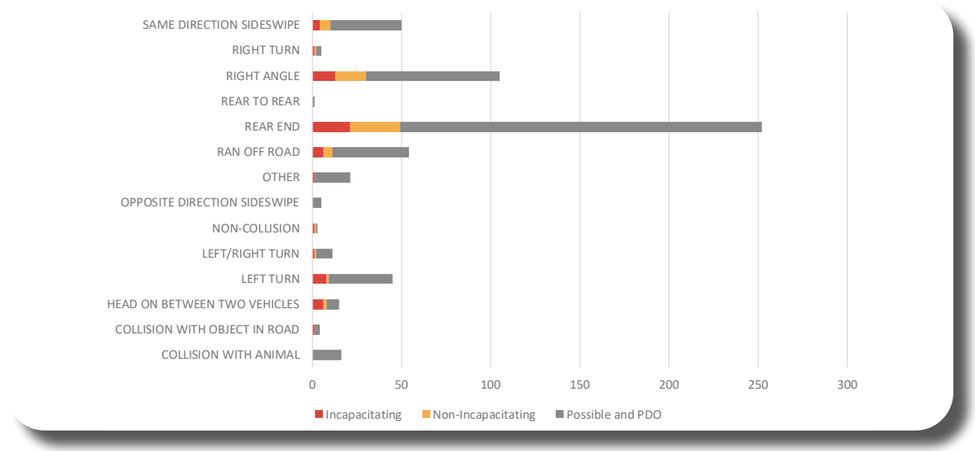
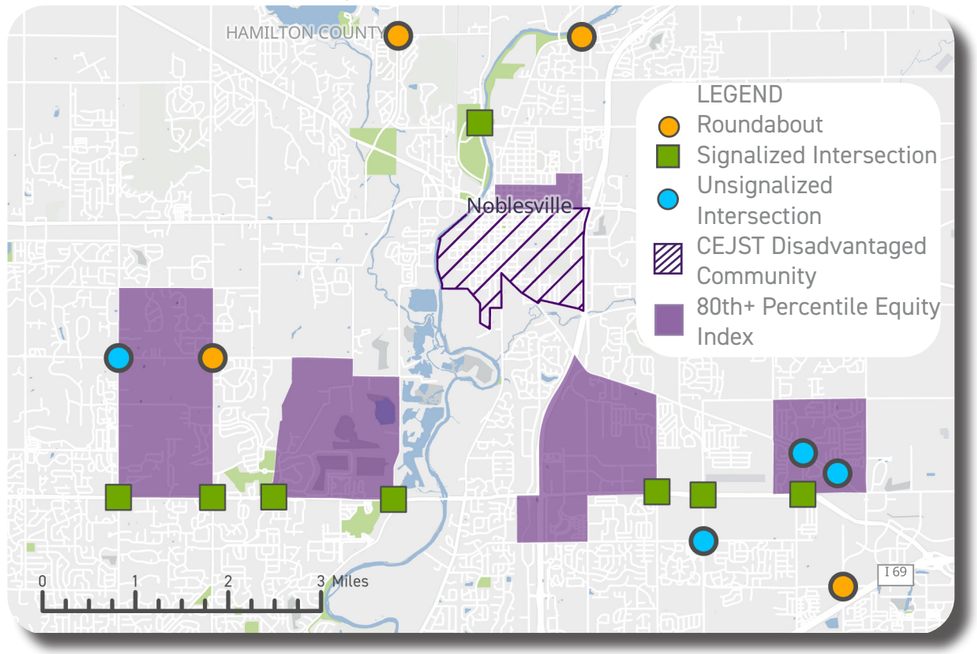


Figure 37: Suburban Intersections, Map



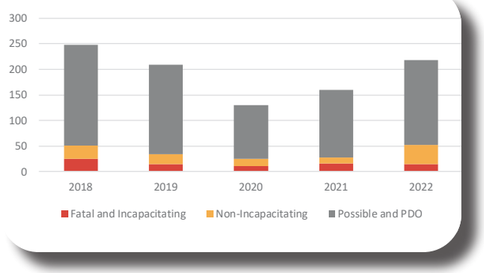
SR 37

Allisonville Road to 141st Street

Existing Conditions

SR 37 is a 4-lane principal arterial with a divided median. The study limits begin at Allisonville Road and end at 141st Street.

Figure 38: SR 37, Crashes per Year



Crash History

Total Crashes (2018-2022): 1,047
Fatal & Incapacitating Crashes: 82
Pedestrian or Bicyclist Crashes: 5

Prioritization

Segment Safety Index: 2.1
Intersection Safety Index: 51.7
Equity Target Area: Yes

Strategies

As part of the "37 Thrives" project, the SR 37 and 146th Street intersection was recently reconstructed as a single-point urban interchange with free flow traffic on SR 37, and the SR 37 and 141st Street intersection was restricted to right-in right-out access on 141st Street.

INDOT and the City of Noblesville are pursuing a project on SR 37 from Greenfield Avenue to SR 32/SR 38. At the time this safety action plan was completed, there was an active RFP for project development services, including environmental, design, and right-of-way services.

Potential improvements along SR 37 will promote safety for all road users along SR 37 and adjacent streets. The Project envisions transforming SR 37 from a divided highway with four traditional signalized intersections to a context-sensitive design of a grade-separated expressway with three continuous flow roundabout interchanges and access management for remaining at-grade intersections with right-in-right-out. Seven additional intersections on arterials adjacent to SR 37 will also be reconstructed as roundabouts.

Figure 39: SR 37, Crash Types & Severity

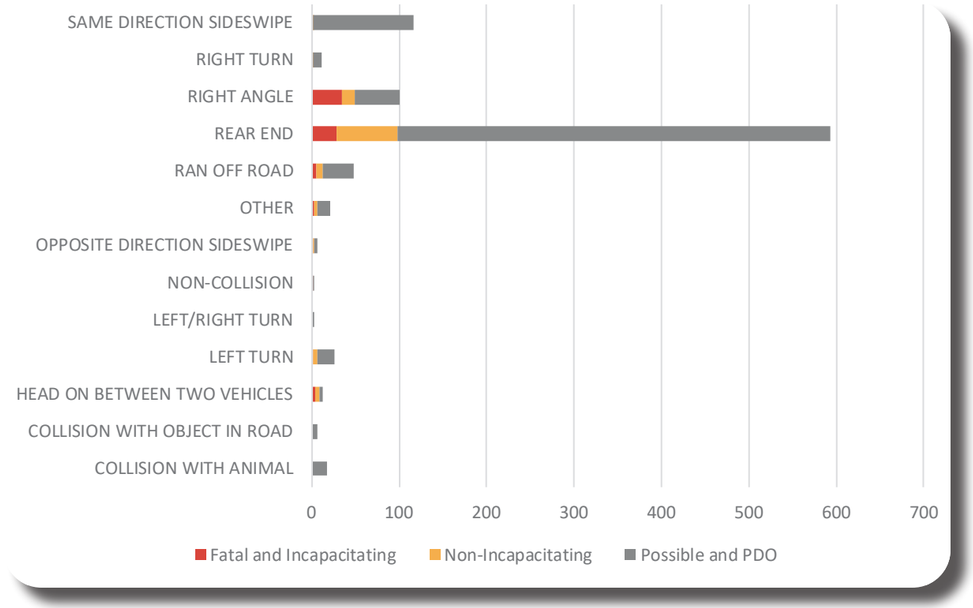
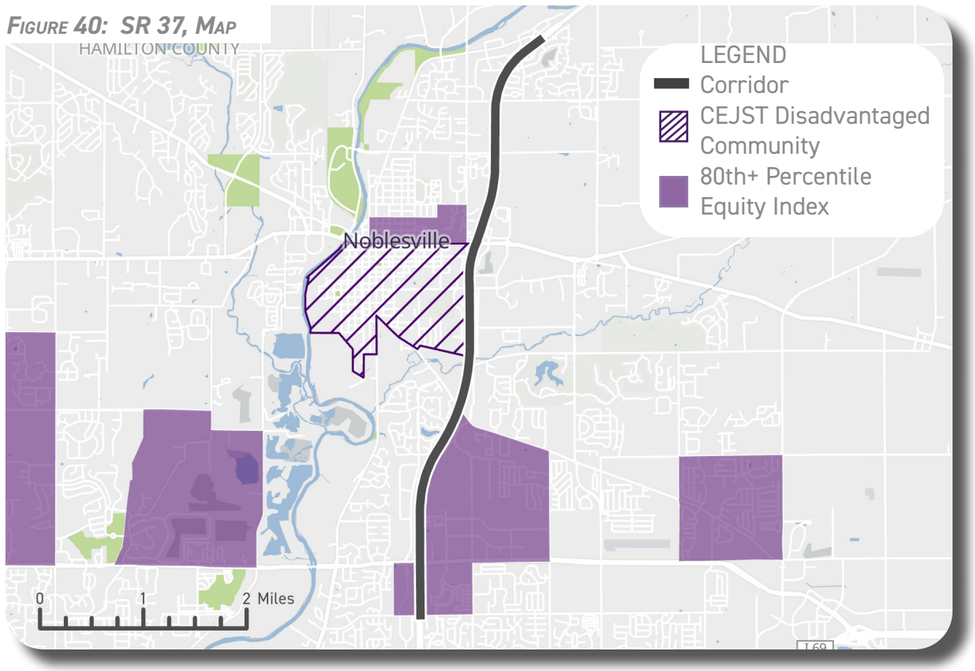


Figure 40: SR 37, Map



SR 32 / Conner Street

Presley Drive to Hague Road

Existing Conditions

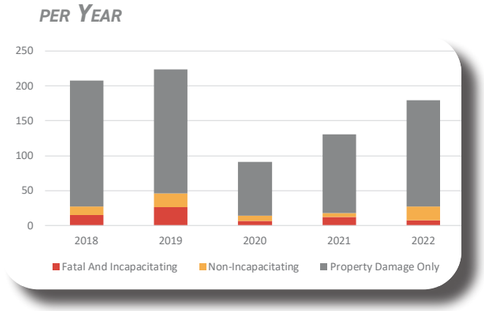
SR 32/Conner Street is 2-lane Principal Arterial that runs east-west through Downtown Noblesville. This roadway runs through the downtown central business district and therefore overlaps with the Downtown Noblesville project.

Notes

Roundabouts were recently constructed at SR 32/Conner Street and River Road and at SR 38/ Sheridan Road junction at Riverview Health campus.

The corridor is under INDOT jurisdiction so improvements will require interagency cooperation.

Figure 41: SR 32 / Conner Street, Crashes per Year



Crash History

Total Crashes (2018-2022): 834
Fatal & Incapacitating Crashes: 66
Pedestrian or Bicyclist Crashes: 7

Prioritization

Segment Safety Index: 64.1
Intersection Safety Index: 45.5
Equity Target Area: Yes

Strategies

Separated pedestrian and bicyclist facilities (shared use path) are recommended due to the exposure to high-speed vehicles on SR 32/Conner Street, and multi-lane roundabouts present on the corridor.

Corridor access management is recommended from 16th Street to Cumberland Road and may include the following:

- Add a median and convert the intersection with 19th Street to a Right-In Right-Out, Left-In (RIRO-LI) or a roundabout.
- Evaluate of traffic control (including signal warrants and alternative intersection types) for the intersection of SR 32/Conner Street and 17th Street.
- Detailed traffic analysis will need to be performed to determine the best solution for access management.

Table 15: SR 32 / Conner Street, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Backplates with retro-reflective borders	Reduce red light running and right angle crashes	15% reduction in total crashes	$
Long-Term Capital Projects			
Walkways and/or bicycle lanes	Improve safety of bicyclists and pedestrians by separating modes	65%-89% reduction in pedestrian crashes	$-$$$
Corridor access management	Reduce conflict points	25%-31% reduction in fatal and injury crashes	$$-$$$$

Figure 42: SR 32 / Conner Street, Crash Types & Severity

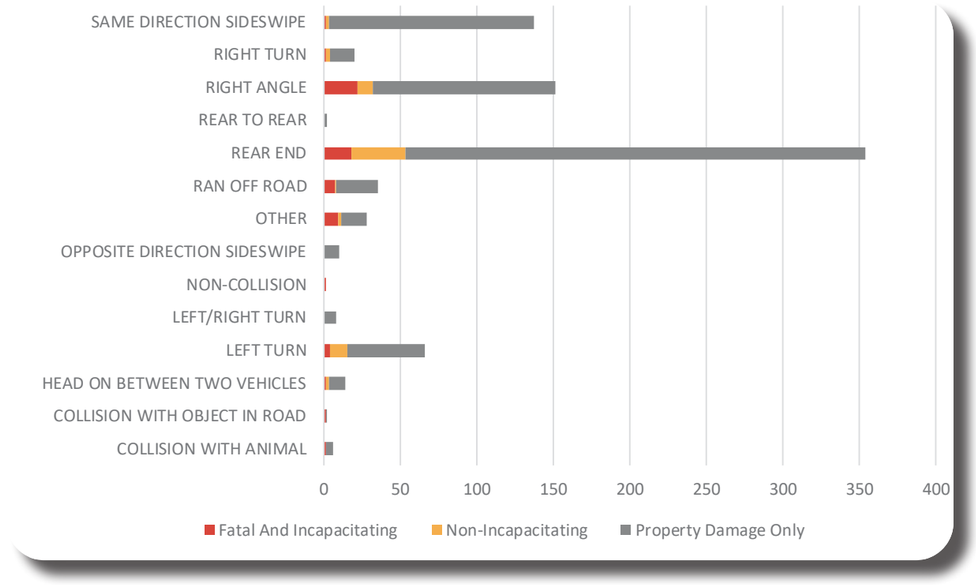
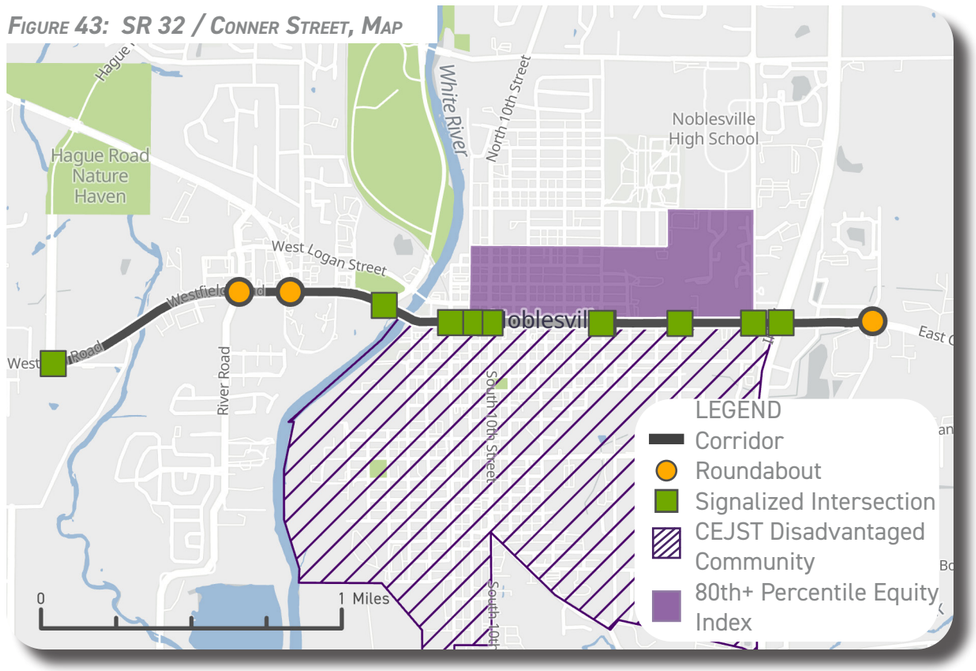


Figure 43: SR 32 / Conner Street, Map



Harrell Parkway/Tegler Drive

Brooks School Road to Olio Road

Existing Conditions

Harrell Parkway and Tegler Drive are minor collectors that provide access to the Hamilton Town Center and the Saxony Campus. Land use in this area is primarily commercial.

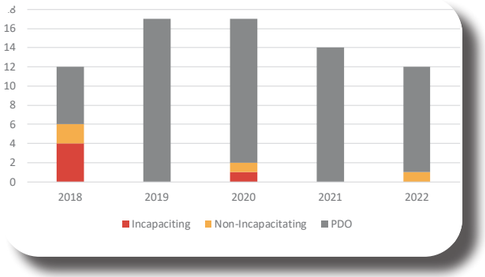
Crash History

Total Crashes (2018-2022): 72
Fatal & Incapacitating Crashes: 5
Pedestrian or Bicyclist Crashes: 0

Prioritization

Segment Safety Index: 22.7
Intersection Safety Index: 16.6
Equity Target Area: No

Figure 44: Harrell Parkway / Tegler Drive, Crashes per Year



Strategies

Intersection improvements along the Harrell Parkway and Tegler Drive are recommended. Strategies at this location are aimed at reducing rear end, right angle, and left turn crashes. Access management along Tegler Drive is recommended including improved turn lane delineation, raised medians, and driveway consolidation.

Table 16: Harrell Parkway/Tegler Drive, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Backplates with retro-reflective borders	Reduce red light running and right angle crashes	15% reduction in total crashes	$
Long-Term Capital Projects			
Left turn lanes	Reduce turning conflicts and improve visibility to reduce turning crashes	28%-48% reduction in total crashes	$$$
Roundabout at Tegler Dr. and Bergen Blvd.	Reduce rear end and right angle crashes	78%-82% reduction in fatal and injury crashes	$$$$
Corridor access management	Reduce rear end and turning crashes	25%-31% reduction in fatal and injury crashes	$$-$$$$

Figure 45: Harrell Parkway / Tegler Drive, Crash Types & Severity

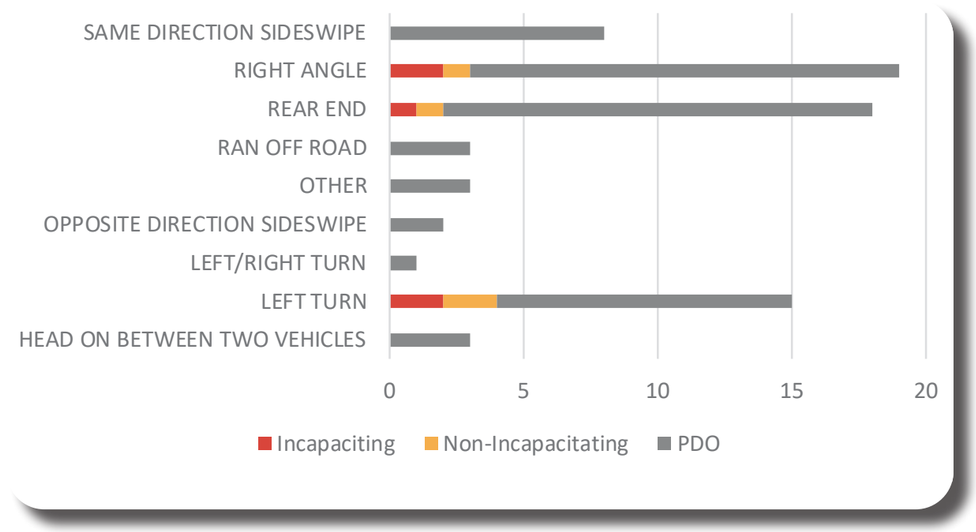


Figure 46: Harrell Parkway / Tegler Drive, Map

Boden Road

Campus Parkway to SR 38/Pendleton Avenue

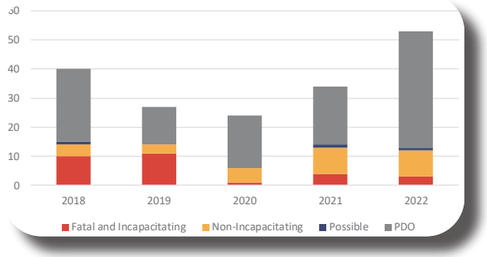
Existing Conditions

Boden Road is a 4-lane divided principal arterial from Campus Parkway to 146th Street/Greenfield Avenue and transitions to a 2-lane local road north of 146th Street. There is a sidewalk/multi-use path present along Boden Road from Campus Parkway to Mojo UP Sports Complex (south of 166th Street).

Notes

A roundabout was constructed at Boden Road and 156th Street in 2022.

Figure 47: Boden Road, Crashes per Year



Crash History

Total Crashes (2018-2022): 178
Fatal & Incapacitating Crashes: 29
Pedestrian or Bicyclist Crashes: 0

Prioritization

Segment Safety Index Score: 10.8
Intersection Safety Index Score: 18.7
Equity Target Area: Yes

Strategies

The MTP includes widening Boden Road from a 2-lane road to a 4-lane road in the future, but at the time this safety action plan was written no funding source has been identified. The project extents include Boden Road from 146th Street to SR 38.

A Road Safety Audit (RSA) is also recommended at the SR 38/Pendleton Avenue and Boden Road intersection and the 146th Street and Boden Road intersection. Improvements may be programmed with the upcoming roadway widening project.

Table 17: Boden Road, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Systemic Application of Multiple Low-Cost Countermeasures at stop controlled intersections	Reduce crashes at unsignalized intersections	10% reduction in fatal and injury crashes	$
Backplates with retro-reflective borders	Reduce red light running and right angle crashes	15% reduction in total crashes	$
Long-Term Capital Projects			
Left turn lanes	Reduce turning conflicts and improve visibility to reduce turning crashes	28%-48% reduction in total crashes	$$$
Roundabout at Boden Road and 166th Street	Reduce right angle crashes and eliminate crossing conflict points	78%-82% reduction in fatal and injury crashes	$$$$

Figure 48: Boden Road, Crash Types & Severity

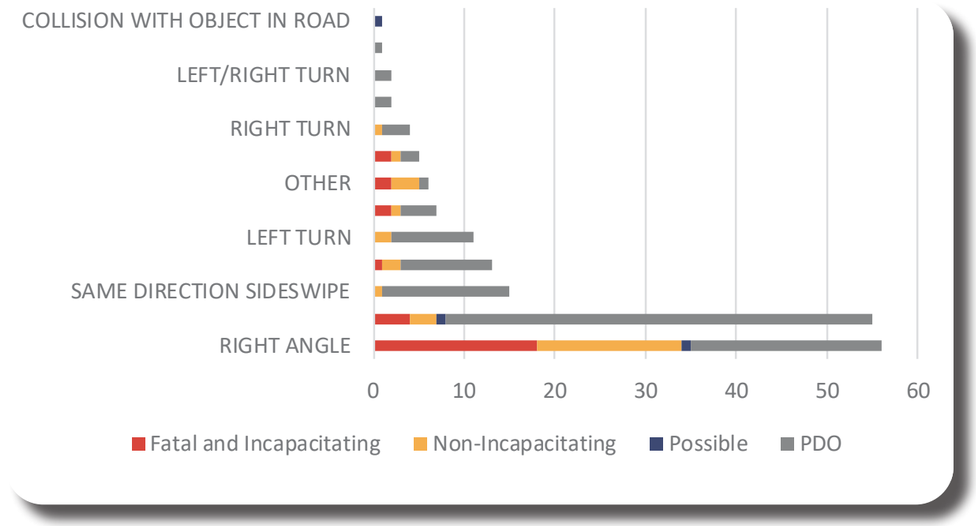
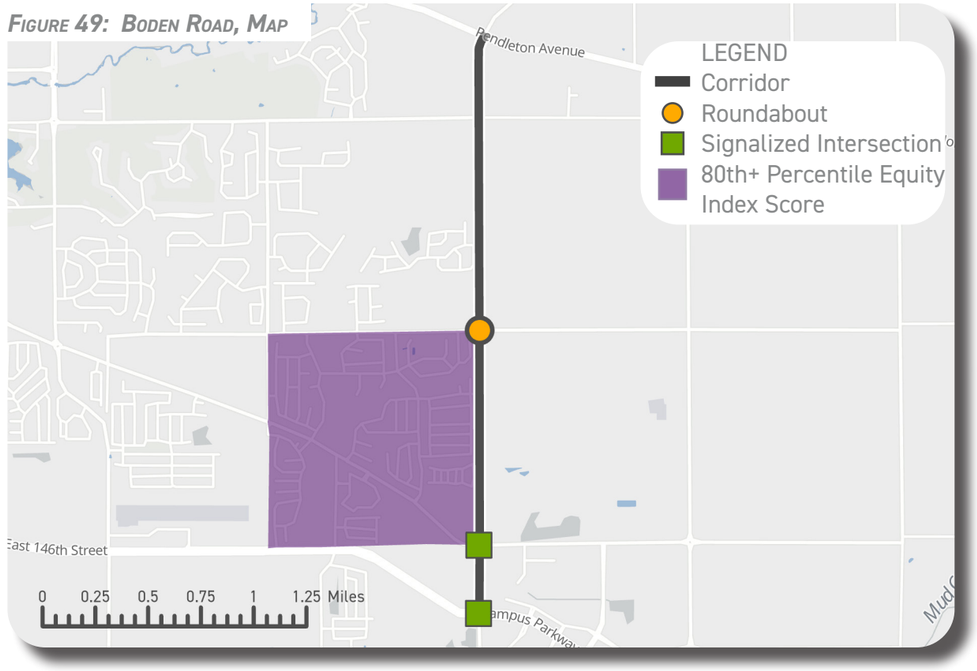


Figure 49: Boden Road, Map



186th Street

10th Street/Allisonville Road to SR 37

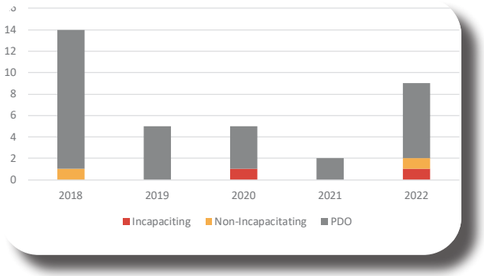
Existing Conditions

186th Street is a 2-lane major collector with turn lanes at major intersections. This corridor consists of 186th Street from 10th Street / Allisonville Road to SR 37.

The land use adjacent to the corridor is single family residential and educational, including Noblesville High School and Middle School.

A sidewalk is present along the south side of this section of 186th Street that intersects with the Cumberland Road Trail and the Allisonville / White River Trail at 10th Street.

Figure 50: 186th Street, Crashes per Year



Crash History

Total Crashes (2018-2022): 32
Fatal & Incapacitating Crashes: 4
Pedestrian or Bicyclist Crashes: 1

Prioritization

Segment Safety Index: 4.2
Intersection Safety Index: 25.9
Equity Target Area: No

Strategies

The high school and middle school are pedestrian and bicyclist generators; therefore the following countermeasures should be considered:

- Crosswalk visibility enhancements
- RRFB or PHB at mid-block crossings
- Shared use path or sidewalk along north side of roadway

Access management is recommended, including but not limited to improved turn lane delineation, raised medians, and driveway consolidation. Raised medians may double as pedestrian refuge areas at mid-block crossings.

Table 18: 186th Street, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Crosswalk visibility enhancements	Improve crossing safety and comfort for trail users	25%-42% reduction in pedestrian crashes	$
Long-Term Capital Projects			
Corridor access management	Reduce conflict points	25%-31% reduction in fatal and injury crashes	$$-$$$$
Shared use path and PHB or RRFB at mid-block crossings	Improve bicycle and pedestrian safety near the high school and middle school	47%-56% reduction in pedestrian crashes	$$$

Figure 51: 186th Street, Crash Types & Severity

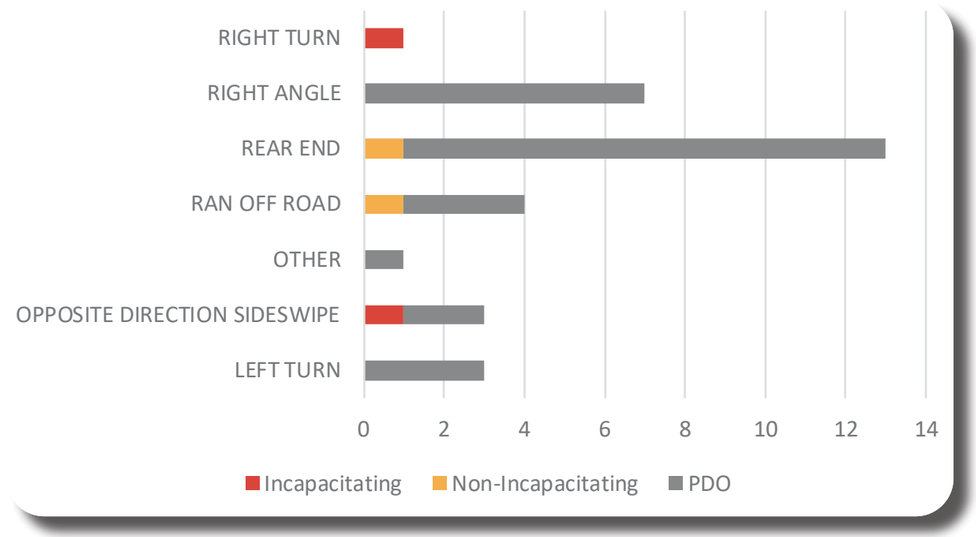
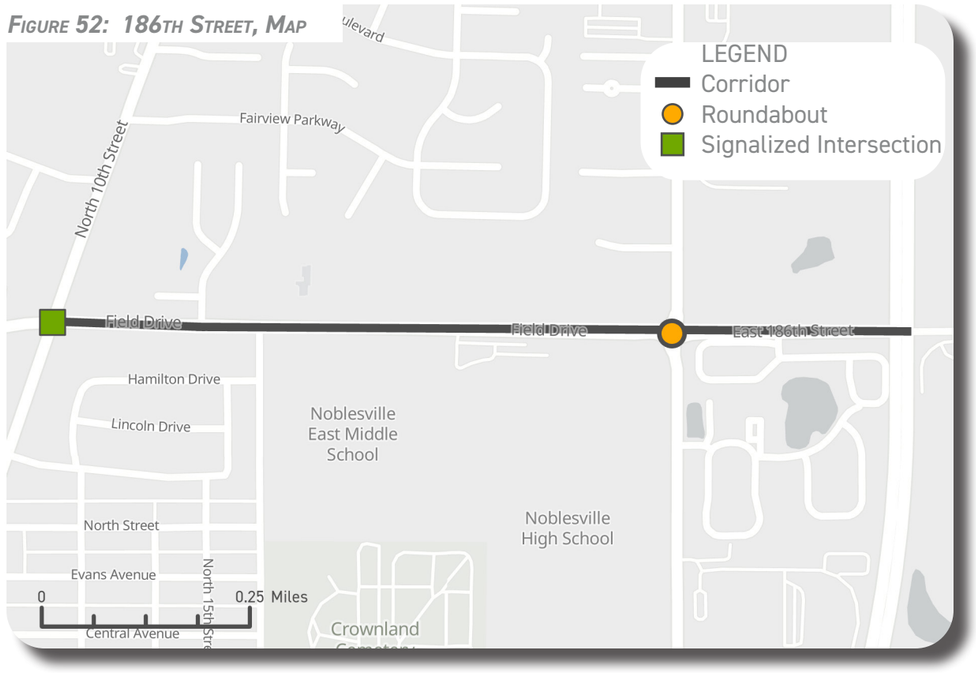


Figure 52: 186th Street, Map



Cherry Street

12th Street to SR 37

Existing Conditions

Cherry Street is a local 2-lane road that runs east-west. This section of Cherry Street is east of the downtown Noblesville, between 12th Street and SR 37. Sidewalks are present along Cherry Street from 12th Street to 19th Street. Sidewalks are not continuous between 19th Street and Cumberland Road.

The land use along Cherry Street is primarily single family residential. There is a commercial district between 19th Street and SR 37.

Crash History

Total Crashes (2018-2022): 74
Fatal & Incapacitating Crashes: 14
Pedestrian or Bicyclist Crashes: 1

Prioritization

Segment Safety Index: 2.2
Intersection Safety Index: 3.6
Equity Target Area: Yes

Strategies

Systemic countermeasures at stop controlled intersections may include improved signage, advanced warnings, and/or enhanced pavement markings.

Figure 53: Cherry Street, Crashes per Year

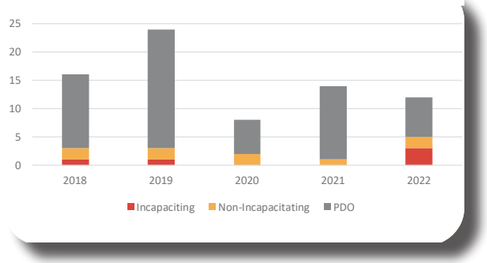


Table 19: Cherry Street, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Systemic Application of Multiple Low-Cost Countermeasures at stop controlled intersections	Reduce crashes at unsignalized intersections	10% reduction in fatal and injury crashes	$
Crosswalk visibility enhancements	Improve crossing safety and comfort for bicyclists and pedestrians	25%-42% reduction in pedestrian crashes	$
Long-Term Capital Projects			
Corridor access management	Reduce conflict points	25%-31% reduction in fatal and injury crashes	$$-$$$$

Figure 54: Cherry Street, Crash Types & Severity

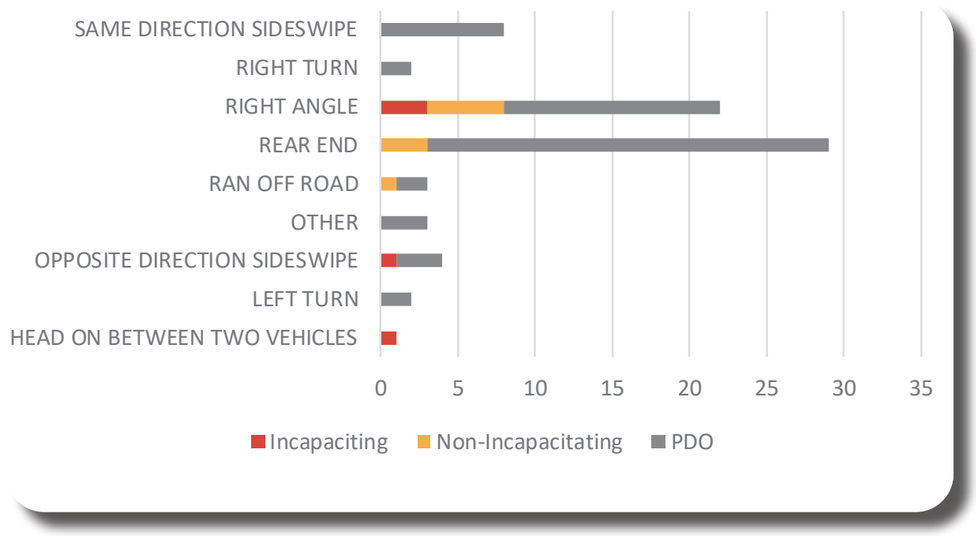
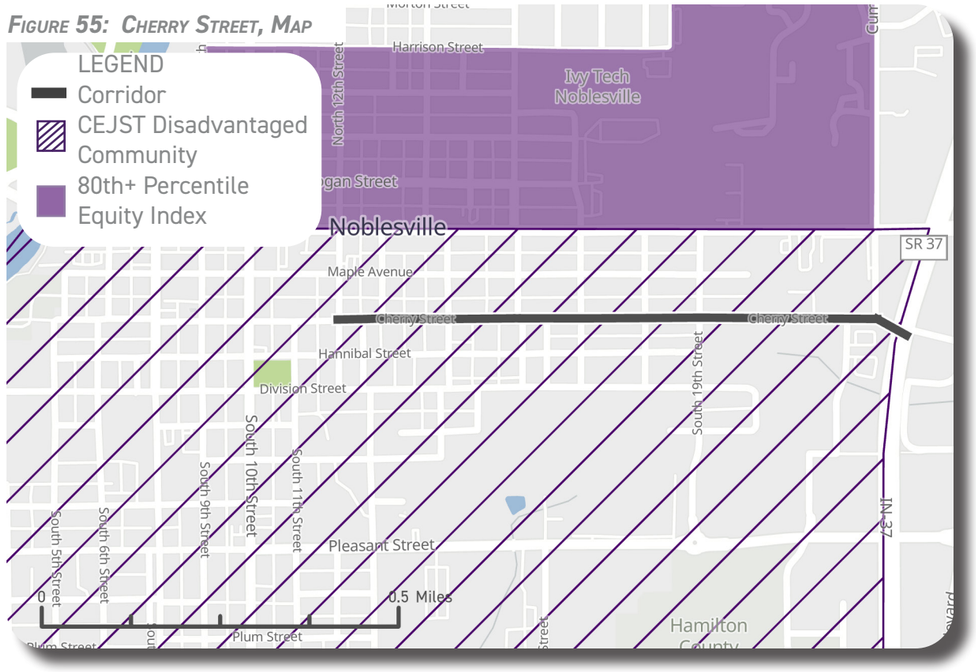


Figure 55: Cherry Street, Map



Campus Parkway

Boden Road to I-69 Interchange

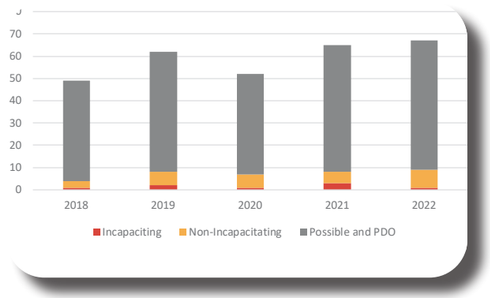
Existing Conditions

Campus Parkway (146th Street) from Boden Road to I-69 is a 4-lane principal arterial with multi-use paths on both sides of the road.

Land use in this area is primarily commercial, including the Hamilton Town Center, Ruoff Music Center, and medical facilities (IU Health and Ascension St. Vincent).

Campus Parkway provides regional mobility and has an interchange with I-69, that was reconstructed as a diverging diamond around the year 2017.

Figure 56: Campus Parkway, Crashes per Year



Crash History

Total Crashes (2018-2022): 295
Fatal & Incapacitating Crashes: 36
Pedestrian or Bicyclist Crashes: 0

Prioritization

Segment Safety Index Score: 9.9
Intersection Safety Index Score: 18.7
Equity Target Area: No

Strategies

Intersection improvements along the Campus Parkway corridor are recommended. Strategies at this location are aimed primarily at reducing rear end and right angle crashes.

The corridor is under Hamilton County jurisdiction so improvements will require interagency cooperation.

Table 20: Campus Parkway, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Backplates with retro-reflective borders	Reduce red light running and right angle crashes	15% reduction in total crashes	$
Yellow change intervals	Reduce rear end crashes	12% reduction in injury crashes	$
Long-Term Capital Projects			
Reduced conflict intersections	Reduce turning conflicts and improve visibility to reduce turning crashes	22%-63% reduction in fatal and injury crashes	$$$$
Left turn lanes	Reduce turning conflicts and improve visibility to reduce turning crashes	28%-48% reduction in total crashes	$$$

Figure 57: Campus Parkway, Crash Types & Severity

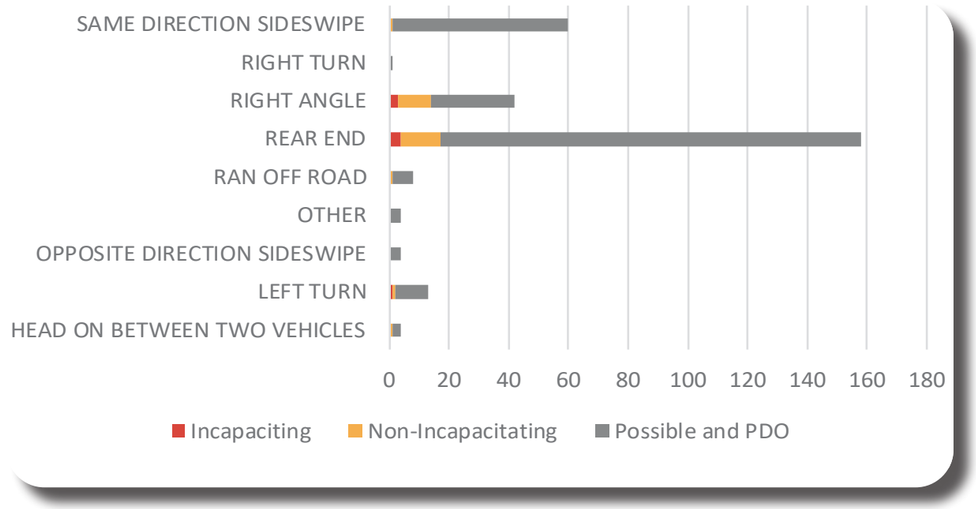
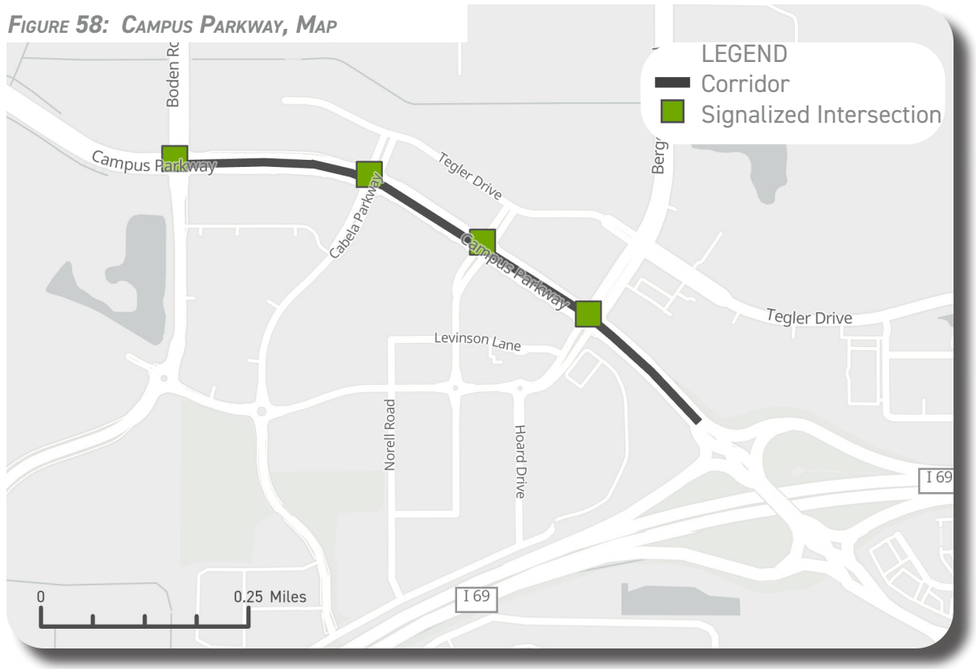


Figure 58: Campus Parkway, Map



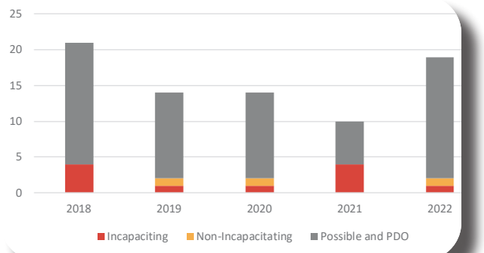
206th Street

Hague Road to SR 37

Existing Conditions

There are four intersections along 206th Street with Hague Road, SR 19 / Cicero Road, Cumberland Road, and SR 37.

Figure 59: 206th Street, Crashes per Year



Crash History

Total Crashes (2018-2022): 78
Fatal & Incapacitating Crashes: 14
Pedestrian or Bicyclist Crashes: 0

Prioritization

Segment Safety Index: 0.4
Intersection Safety Index: 8.5
Equity Target Area: No

Strategies

The MTP includes widening 206th Street from a 2-lane road to a 4-lane road in the future, but at the time this safety action plan was written no funding source has been identified. The scope includes potential realignment to terminate at the existing intersection at Hague Road and Carrigan Road.

The corridor is under Hamilton County jurisdiction so improvements will require interagency cooperation.

Table 21: 206th Street, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Backplates with retro-reflective borders	Reduce red light running and right angle crashes	15% reduction in total crashes	$
Systemic Application of Multiple Low-Cost Countermeasures at stop controlled intersections	Reduce crashes at unsignalized intersections	10% reduction in fatal and injury crashes	$
Wider edge lines	Reduce roadway departures (ran off road crashes)	37% reduction in fatal and injury crashes	$
Long-Term Capital Projects			
Roundabouts at Cicero Road, Cumberland Road, and/or Hague Road	Reduce right angle crashes and eliminate crossing conflict points	78%-82% reduction in fatal and injury crashes	$$$$

Figure 60: 206th Street, Crash Types & Severity

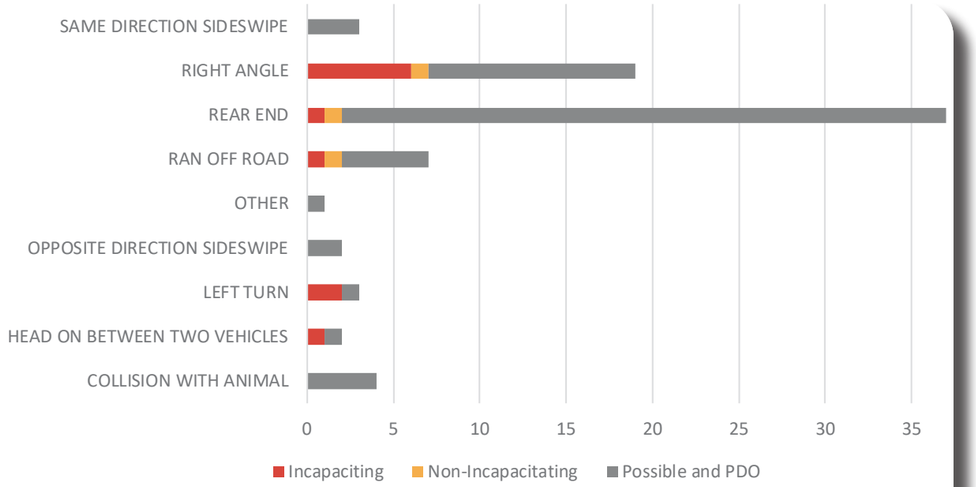
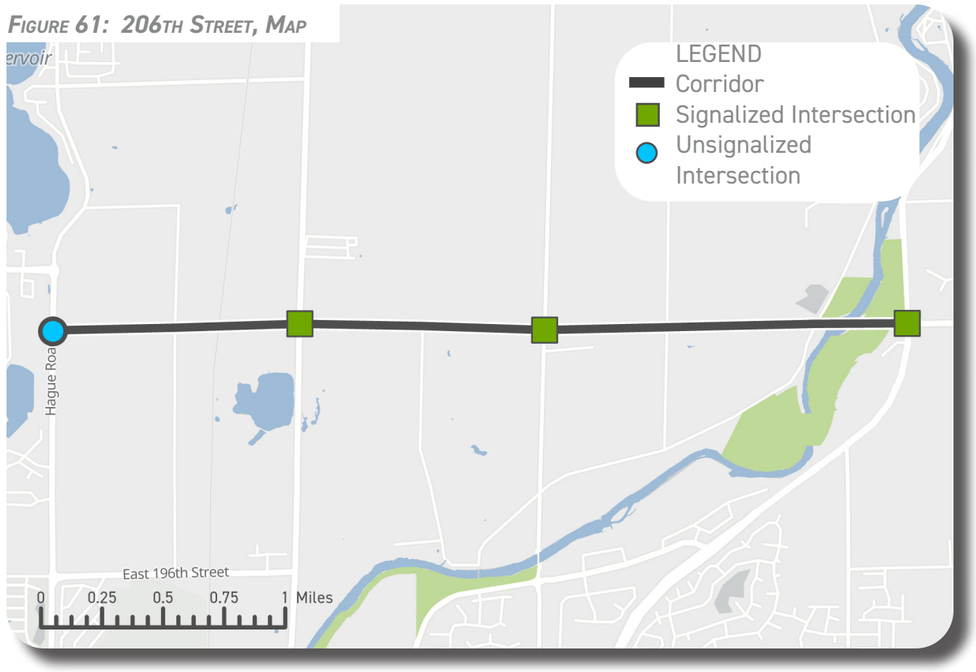


Figure 61: 206th Street, Map



SR 32 / SR 38 Junction

Existing Conditions

The SR 32/SR 38 Junction is on the east side of the City. SR 32/SR 38/Conner Street west of the junction is a 2-lane Minor Arterial. SR 32 east of the junction is a 2-lane Minor Arterial. SR 38 east of the junction is a 2-lane Major Collector.

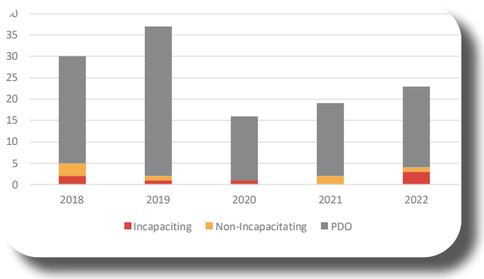
Land use in this area includes residential (multi-family housing and single units), industrial, commercial, and agricultural. There is the potential for further development.

Notes

The roundabouts were constructed in the 2010-2012 timeframe. They are multi-lane roundabouts though the roadways approaching the roundabout have one lane in each direction.

A majority of the incapacitating injury crashes occurred at the SR 32/SR 38/Conner Street and Union Chapel Road intersection. 46% of the crashes were same direction sideswipe crashes, which are common a multi-lane roundabouts. 24% of the crashes were rear end crashes, which are unexpected at roundabouts with yield entry.

Figure 62: SR 32 / SR 38 Junction, Crashes per Year



Crash History

Total Crashes (2018-2022): 125
Fatal & Incapacitating Crashes: 14
Pedestrian or Bicyclist Crashes: 0

Prioritization

Segment Safety Index: 3.4
Intersection Safety Index: 17.8
Equity Target Area: No

Strategies

The MTP includes a programmed project to widen SR 32 from 2-lanes to 4-lanes from Cicero Creek to the SR 38 junction.

A review existing roundabouts is recommended for best practices on geometry, signage for motorists navigating the roundabout, and safe pedestrian crossings.

A Roadway Safety Audit (RSA) is also recommended at this location.

Figure 63: SR 32 / SR 38 Junction, Crash Types & Severity

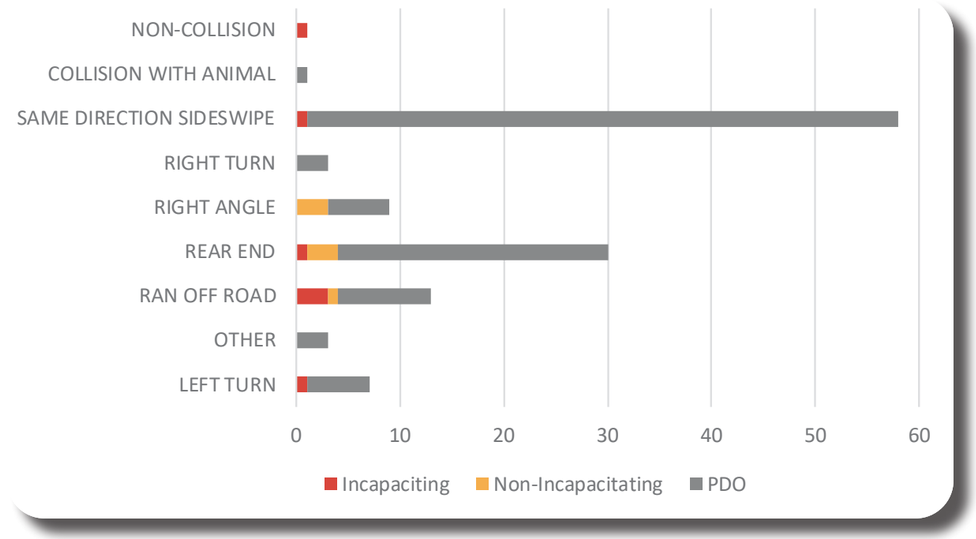
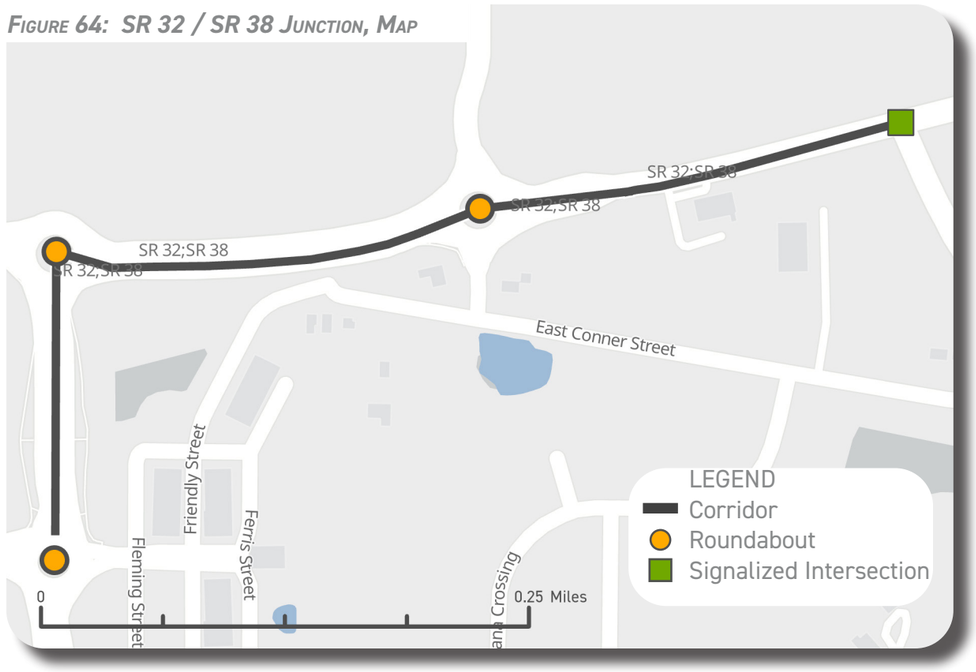


Figure 64: SR 32 / SR 38 Junction, Map



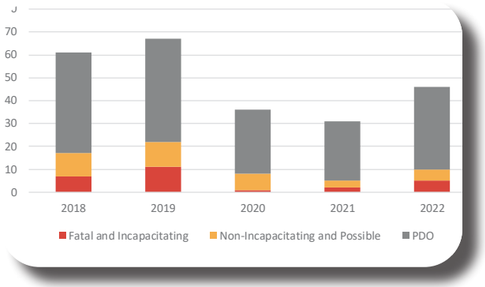
SR 32 / Westfield Road

Hague Road to Gray Road

Existing Conditions

SR 32 is a 2-lane Principal Arterial west of Noblesville. Land use along the corridor includes suburban housing developments, commercial, industrial, and agricultural

Figure 65: SR 32 / Westfield Road, Crashes per Year



Crash History

Total Crashes (2018-2022): 241
Fatal & Incapacitating Crashes: 26
Pedestrian or Bicyclist Crashes: 0

Prioritization

Segment Safety Index: 13.3
Intersection Safety Index: 23.0
Equity Target Area: No

Strategies

Separated pedestrian and bicyclist facilities (shared use path) are recommended due to the exposure to high-speed vehicles on SR 32/Westfield Road.

The corridor is under INDOT jurisdiction so improvements will require interagency cooperation. INDOT is currently studying the corridor for potential safety improvements.

Table 22: SR 32 / Westfield Road, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Systemic Application of Multiple Low-Cost Countermeasures at stop controlled intersections	Reduce crashes at unsignalized intersections	10% reduction in fatal and injury crashes	$
Long-Term Capital Projects			
Walkways and/or bicycle lanes	Improve safety of bicyclists and pedestrians by separating modes	65%-89% reduction in pedestrian crashes	$-$$$
Turn lanes	Reduce turning conflicts and improve visibility to reduce turning crashes	28%-48% reduction in total crashes	$$$
Corridor access management	Reduce conflict points	25%-31% reduction in fatal and injury crashes	$$-$$$$
Roundabouts	Reduce right angle crashes and eliminate crossing conflict points	78%-82% reduction in fatal and injury crashes	$$$$

Figure 66: SR 32 / Westfield Road, Crash Types & Severity

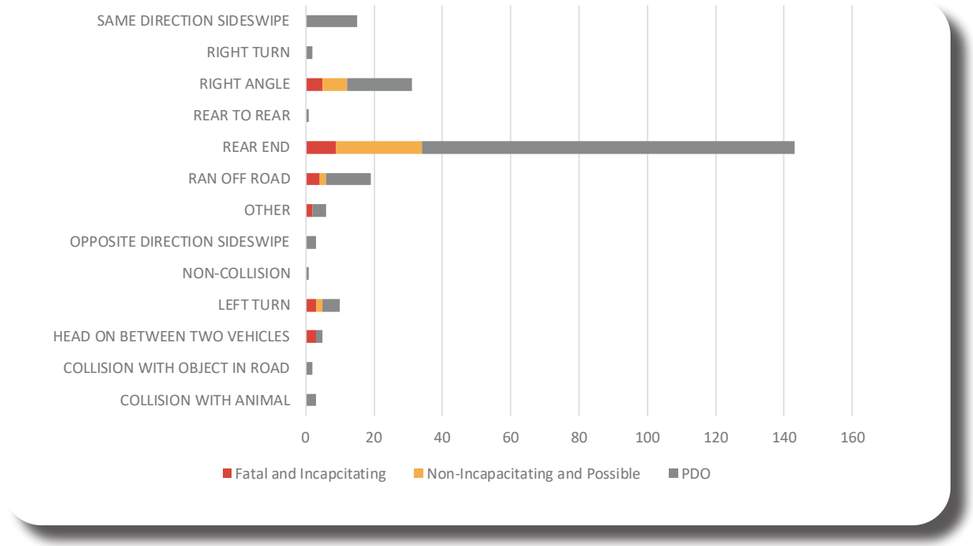
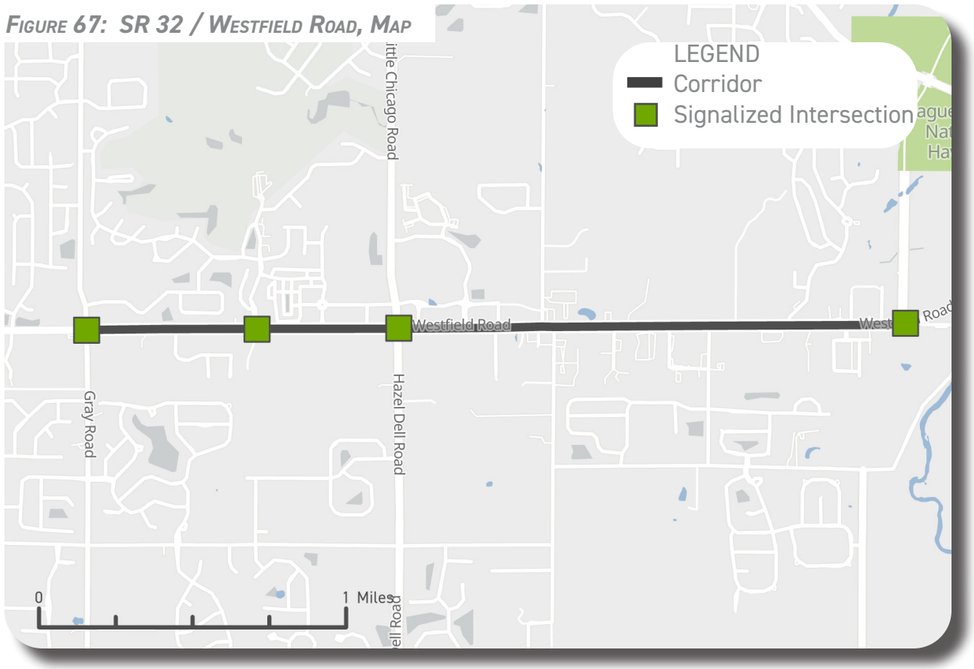


Figure 67: SR 32 / Westfield Road, Map



SR 38 / Sheridan Road

Moontown Road to SR 32

Existing Conditions

SR 38/Sheridan Road is a 2-lane Principal Arterial from Hague Road to Little Chicago Road and a 2-lane minor arterial west of Little Chicago Road. Land use along the corridor is primarily residential.

Notes

A roundabout was recently constructed at SR 38/ Sheridan Road and SR 32/Westfield Road junction at Riverview Health campus. A roundabout at SR 38 and Oakmont Drive is under construction and a roundabout at SR 38 and Logan Street is in design.

Figure 68: SR 38 / Sheridan Road, Crashes per Year

Crash History

Total Crashes (2018-2022): 227
Fatal & Incapacitating Crashes: 25
Pedestrian or Bicyclist Crashes: 1

Prioritization

Segment Safety Index: 18.9
Intersection Safety Index: 24.0
Equity Target Area: No

Strategies

Separated pedestrian and bicyclist facilities (shared use path) are recommended due to the exposure to high-speed vehicles on SR 38/Sheridan Road.

Evaluate traffic control due to high instances of right-angle crashes and add a left turn lane on SR 38 at the intersection with Oakmont Drive. Add a left turn lane (if compatible with traffic control) due to rear end and same direction sideswipe crashes.

The corridor is under INDOT jurisdiction so improvements will require interagency cooperation.

Table 23: SR 38 / Sheridan Road, Strategies

STRATEGY	PURPOSE	BENEFIT/IMPACT	COST
Short-Term/Low-Cost Improvements			
Systemic Application of Multiple Low-Cost Countermeasures at stop controlled intersections	Reduce crashes at unsignalized intersections	10% reduction in fatal and injury crashes	$
Long-Term Capital Projects			
Walkways and/or bicycle lanes	Improve safety of bicyclists and pedestrians by separating modes	65%-89% reduction in pedestrian crashes	$-$$$

Figure 69: SR 38 / Sheridan Road, Crash Types & Severity

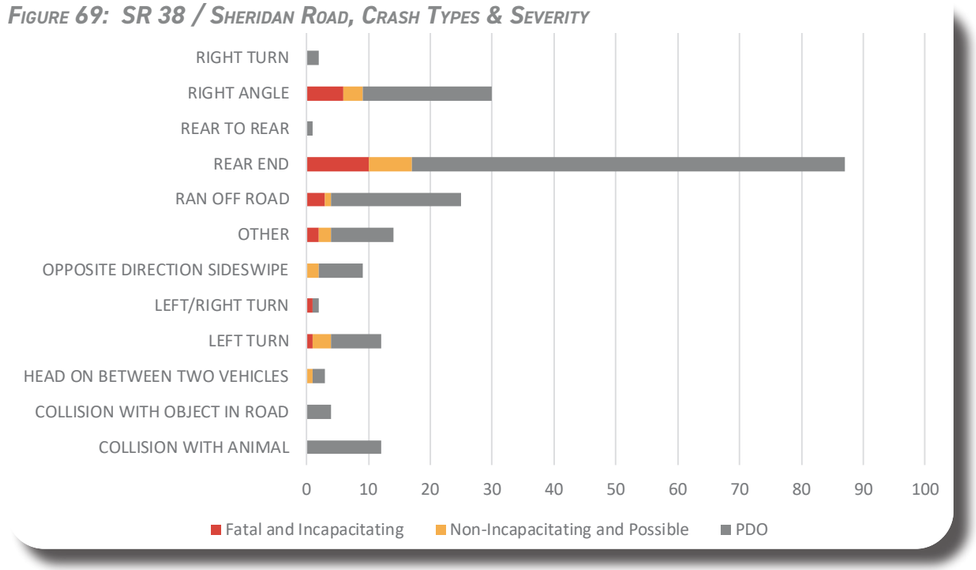
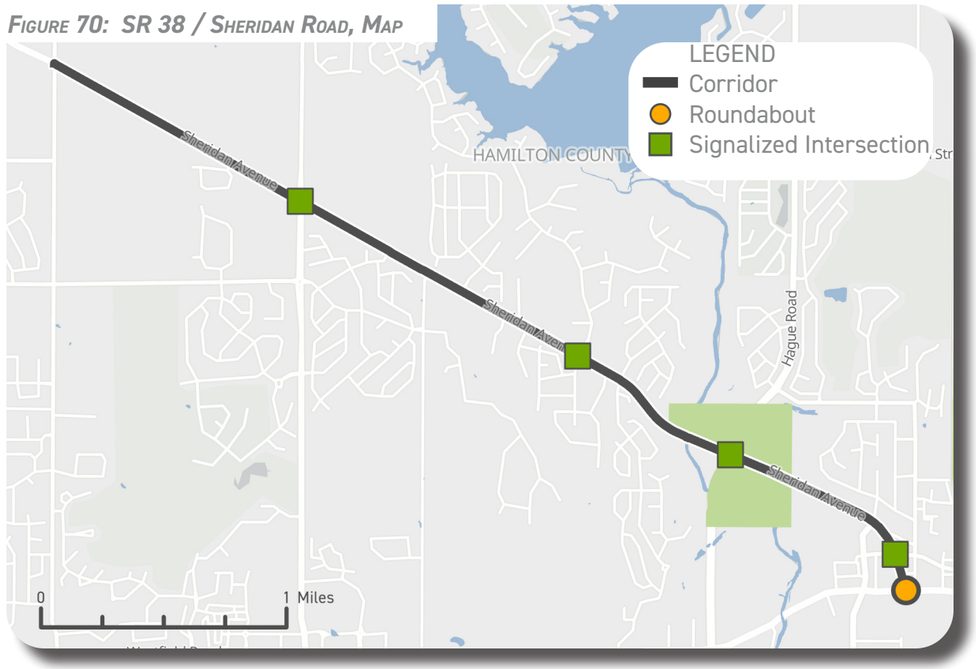


Figure 70: SR 38 / Sheridan Road, Map



Policy & Program Strategies

To comprehensively address roadway safety, physical safety improvements alone are not sufficient. Policy changes and programs are important strategies to improve behaviors, education, and enforcement outcomes.

To develop a list of policy and program recommendations, an assessment of current policies and programs was performed. The assessment was led by the project team in consultation with the steering committee. Policy assessment included design guidelines, speed management, and performance management.

A set of high level action items will serve as the road map for implementation. The strategies are the policy and program recommendations that, together with the HIN location recommendations, serve as the comprehensive set of strategies to address roadway safety in Noblesville and reach the goal of zero roadway fatalities and serious injuries.

These strategies respond to specific conditions in Noblesville and consider national best practices. Each strategy listed should be considered a starting point from which the City can begin working, along with their partners, to adjust and implement as necessary.

Table 24: Policy and Program Strategies

STRATEGY	DESCRIPTION	TIMEFRAME
Complete Streets Policy	Develop and implement a Complete Streets policy.	0-3 years
Level of Service Alternatives	Evaluate alternatives to level of service (LOS) to evaluate transportation projects in Downtown Noblesville.	4-5 years
Pedestrian Crossing Standards	Develop and implement design standard for pedestrian crossing at roundabouts.	0-3 years
Corridor Access Management	Develop and implement corridor access management policies and design guidelines to minimize roadway conflict points.	5+ years
Traffic Calming Program	Create and establish a traffic calming program by which residents can formally request traffic calming treatments at specific locations.	0-3 years
Safe Routes to School Program	Establish a Safe Routes to School program.	4-5 years
Road Safety Campaign	Create targeted safety awareness educational campaigns.	0-3 years
Performance Management	Create roadway safety performance program to collect data, monitor progress, review fatal crashes, and publish annual report card.	0-3 years

Complete Streets Policy

What:
Complete Streets is an approach to planning, designing, building, operating, and maintaining streets that enables safe access for all people who need to use them, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. A Complete Streets policy codifies a community's commitment to this approach and includes guidance for agency staff at every stage of project development and ongoing maintenance and operations. According to best practices promoted by the National Complete Streets Coalition, there are ten key elements to a strong and successful Complete Streets policy. These include establishing a vision and commitment, addressing all projects and phases, allowing only for clear exceptions, adopting excellent design guidance, and creating a plan for implementation.

Why:
For the City of Noblesville, a Complete Streets policy strengthens the city's commitment to creating safer streets for all by providing a framework through which to plan, program, design, and maintain city streets. Noblesville's policy can be crafted to take into account the findings of this study to ensure that the HIN and recommended safety improvements are addressed in future projects.

Resources:
National Complete Streets Coalition
Federal Highway Administration (FHWA)
Indiana DOT

Level of Service Alternatives

What:
Level of service (LOS) is a qualitative measure of performance that considers vehicle travel time, speed, and delay. Corridors and intersections are assigned letter grades A through F with A being free flowing traffic and F being congested, stop-and-go traffic. Because LOS only assess vehicle movements, evaluating transportation projects using LOS will inevitable prioritize those movements over the safety of all users including pedestrians and bicyclists.

Why:
While not explicitly required by the USDOT, most agencies rely on LOS to evaluate potential transportation improvement projects. In dense, urban environments LOS can be particularly harmful when attempting to design transportation systems that minimize vehicle throughput and maximize multimodal safety and access.

Alternatives to LOS include:

- Multimodal LOS
- Vehicle Miles Traveled
- Person throughput
- Multimodal access
- Allowing LOS F within dense, urban environments or commercial centers

Resources:
USDOT
Transportation for America

Pedestrian Crossing Standards

What:
Pedestrian crossings vary considerably throughout the City in terms of quality and design. A consistent pedestrian crossing standard would ensure that pedestrians have safe crossing options throughout the City in urban, rural, suburban, and roundabout settings. Common throughout Noblesville and nearby communities, roundabouts are circular intersections safety and efficiently move traffic. Lower travel speeds and reduced conflict points make roundabouts an FHWA proven safety countermeasure for their ability to significantly reduce fatal and serious injury crashes.

Despite the benefits of roundabouts, pedestrians are often confused, unsure, and/or uncomfortable when trying to cross streets at a roundabout. There is not always a clear, marked, and signed method for pedestrian crossings. Crossing at roundabouts was an issue brought up by many in the public and in stakeholder interviews.

Why:
A standard design for pedestrian crossings would ensure the pedestrian experience is safe and uniform in all contexts, particularly at roundabouts. A standard design would also allow better use of signage and educational materials.

Resources:
Federal Highway Administration (FHWA)
Minnesota DOT
National Association of Transportation Officials (NACTO)

Corridor Access Management

What:
Corridor access management refers to the land development regulations, roadway design standards, and control of entry and exit points along a roadway. This includes intersections with other roadways and driveways that serve as access points to adjacent properties. Access management treatments may include:

- Reduce density through driveway closure, consolidation, or relocation.
- Manage spacing of intersection and access points.
- Implement raised medians that preclude across-roadway movements.
- Utilize designs such as roundabouts or reduced left-turn conflicts (such as restricted crossing U-turn, median U-turns, etc.).
- Use lower speed one-way or two-way off-arterial circulation roads.

Why:
Corridor access management is an FHWA proven safety countermeasure and can be expected to reduce fatal and serious injury crashes.

Resources:
Federal Highway Administration (FHWA)
National Cooperative Highway Research Program (NCHRP)

Traffic Calming Program

What:
Traffic calming refers to treatments that reduce vehicle speeds and encourage slower, and more responsible driving behavior.

Currently, Noblesville residents who are concerned with speeding vehicles may provide general feedback to the Noblesville Police Department or to the Traffic Committee and all speeding complaints are reviewed by the Traffic Committee. However, not all residents are aware of the process for request traffic calming treatments.

Why:
A formalized traffic calming program would allow residents to more easily request treatments to reduce vehicle speeds and improve safety on neighborhood streets. A formalized program would also streamline the evaluation of locations, provide a archive of requested locations, and help establish standards for the use of particular treatments.

Resources:
Federal Highway Administration (FHWA)
USDOT
National Association of Transportation Officials (NACTO)

Safe Routes to School Program

What:
Safe Routes to School (SRTS) is a holistic, multifaceted approach to increasing walking and bicycling to school. SRTS programs often include safety education, targeted traffic enforcement, and encouragement activities like Walk to School Day or daily Walking School Buses. Some SRTS programs also focus on infrastructure improvements to slow motor vehicle traffic and create safe, contiguous connections for students to walk and bike to school. The scope and scale of a SRTS program can vary widely and is often dependent on leading agency (often a school district or municipality), local partners, staff and volunteer capacity, and resources. A successful SRTS program can improve traffic safety, increase physical activity, and reduce vehicle trips to and from school.

Why:
A SRTS program would align well with the Emphasis Areas and Key Concepts described earlier in the plan, including eliminating traffic-related fatalities and serious injuries, improving bicycle and pedestrian safety and connectivity, and advancing equitable transportation investments that support disadvantaged communities and vulnerable road users.

Resources:
USDOT
National Center for Safe Routes to School
Safe Routes Partnership
Indiana Safe Routes to School Guidebook

Road Safety Campaign

What:
Road safety campaigns are flexible safety tools used by national, state, local, and non-profit agencies around the world. Road safety campaigns vary considerably and can be tailored to address a range of topics, target general or specific audiences, adapted to different media and communication channels, and implemented for various lengths of time. While the ultimate goal of these campaigns are to reduce the frequency and severity of crashes, they can do so with different strategies, like improving knowledge and/or awareness of risks and preventative behaviors, changing underlying factors known to influence behaviors, modifying problem behaviors, and maintaining or encouraging safety-conscious behaviors.

Why:
Not all road safety issues can be solved through design interventions. A road safety campaign can raise awareness of the human impacts of fatal and severe crashes in the community, bring light to the city's efforts to improve road safety for all users, and encourage safe and responsible travel behaviors among people who live, work, and play in Noblesville.

Resources:
National Highway Transportation Safety Administration (NHTSA)
World Health Organization (WHO)
Traffic Injury Research Foundation (TIRF)

Performance Management

What:
Safety Performance Management is the process by which data is used to review performance of the transportation system. The City of Noblesville is committed to developing a robust safety performance management program. Safety performance measures to collect, monitor, and publish include:

- Number of fatalities
- Rate of fatalities
- Number of serious injuries
- Rate of serious injuries
- Number of non-motorized fatalities and serious injuries

Why:
As required by the SS4A program, to monitor progress of this plan, crash data will be used to evaluate the effectiveness of the comprehensive set of strategies to improve safety. Each year, data will be collected, analyzed, and performance measures published in a annual report card to increase transparency and accountability. In addition to the performance measures, the Traffic Committee will review the circumstances for every fatal crash and take appropriate steps to address unsafe conditions.

Resources:
Federal Highway Administration (FHWA)
Indianapolis Metropolitan Planning Organization (IMPO)