TOWN OF WHITESTOWN

SAFE STREETS AND ROADS FOR ALL COMPREHENSIVE SAFETY ACTION PLAN

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WHITESTOWN
INDIANA

ACKNOWLEDGMENTS

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. EXECUTIVE SUMMARY

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The Town of Whitestown is devoted to reducing traffic fatalities and injuries by enacting a Safe Streets and Roads for All Comprehensive Safety Action Plan (CSAP). This multifaceted plan has been prepared with a focus on community engagement, pinpointing specific dangerous locations and roadway networks, implementing systemic safety improvements, and prioritizing projects with a high impact on safety.

Aligned with the Town of Whitestown's Vision Zero goal of achieving a 100% reduction in fatal and serious injury crashes by 2040, this CSAP represents a decisive step toward fostering a safer and more inclusive transportation system for all residents.

The Town of Whitestown embraces the Safe System approach and recognizes that severe crashes are intolerable and preventable through the implementation of redundant systems that minimize risk, acknowledging that mistakes are inevitable. Furthermore, we affirm that we possess the tools and knowledge to be proactive in averting tragedies, and we share responsibility with the public, private sector, and external partners to ensure that when crashes do occur, they do not result in devastating outcomes. This CSAP emerges as a response to the strong and clear call to action from our residents and our commitment to guaranteeing a transportation system and Town that prioritizes safety for all.

Through the diligent implementation of this CSAP, the Town of Whitestown will steadily advance toward its safety objectives while simultaneously nurturing a transportation network that is safe, accessible, and equitable for all residents. By placing safety and collaboration at the forefront, Whitestown is poised to create enduring positive change within its community and safeguard the well-being of all road users.

The Town of Whitestown CSAP encompasses a structured approach, beginning with the creation of a **task force** responsible for overseeing the action plan's development and guiding its future implementation. This is followed by reviewing and summarizing existing crash data, establishing a **High-Injury Network (HIN),** and identifying **hotspot locations,** thus laying the groundwork for targeted interventions. **Public outreach** efforts are detailed, outlining the relevance of public input to the planning process.

Furthermore, the plan demonstrates its **commitment to equity** by analyzing underserved populations and their relationship to severe crashes. Evaluations of the Town's current plans and policies identify opportunities for improvement in roadway safety. A framework is established for recommending and prioritizing safety projects, considering the HIN, equity analysis, and public feedback. Additionally, non-project **strategic improvements** are recommended, and stakeholders responsible for implementation are identified.

Lastly, the plan details future updates, how the Town's effectiveness will be measured, and how these efforts will be communicated to the public and stakeholders, ensuring **transparency** and accountability in achieving safety goals.

As we embark on this journey, we remain dedicated to engaging with our community, leveraging data-driven insights, and continually refining our strategies to ensure that Whitestown remains at the forefront of innovation and progress in traffic safety. Together, we can build a future where every journey is a safe one.

2. INTRODUCTION

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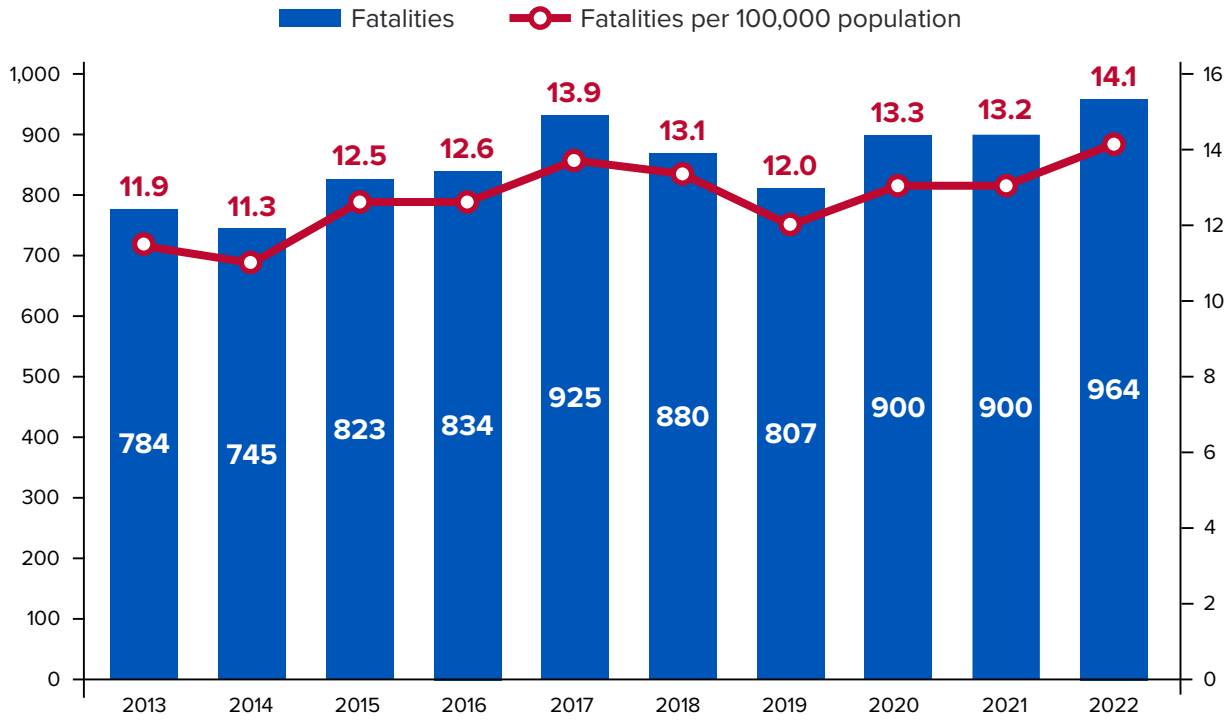
According to the Indiana University Public Policy Institute, in partnership with the Indiana Criminal Justice Institute, Indiana, recent years have witnessed an alarming rise in traffic fatality rates. There were 964 traffic fatalities in Indiana in 2022, up from 900 in 2021. Traffic fatalities have risen in recent years to 14.1 per 100,000 of the state's population—marking a 10-year high. As shown in Figure 1, over the last few years, the fatality rates have increased steadily since reaching a five-year low of 12.0 per 100,000 population in 2019.[1]

Figure 1: Total Fatalities and Fatality Rate in Indiana, 2013-2022



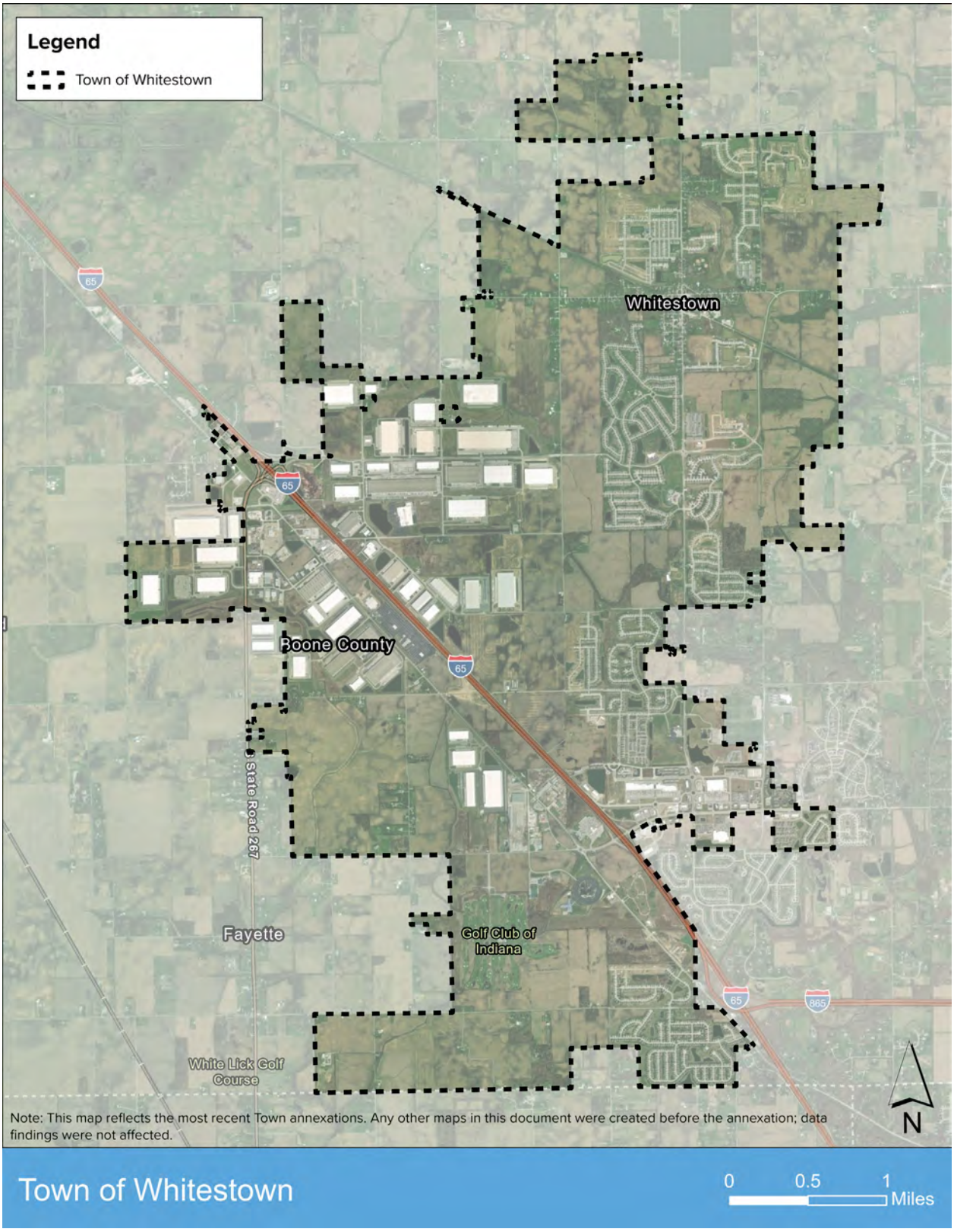
Between 2019 and 2023, there was one fatal crash in Whitestown, Indiana. This crash occurred at an intersection that no longer exists due to roadway reconfiguration, and there has not been a fatal crash since. While this statistic is promising, it is still crucial to take action to continue to prevent fatal crashes wherever they are possible. To do so, Whitestown will need to comprehensively study and improve the street designs, social factors, built environment, vehicle standards, and technologies that underlie the worsening traffic safety decline in the state.

[1] Source: 2022 Indiana Crash Fact Book

2.1 ABOUT THE TOWN OF WHITESTOWN

Whitestown, Indiana, is a rapidly growing town in Boone County, about 22 miles northwest of downtown Indianapolis. With a population of over 10,000 residents, Whitestown is known for its blend of modern amenities and small-town charm. The town's strategic location near Interstate 65 offers easy access to major highways, making commuting to Indianapolis and other nearby cities convenient. Whitestown boasts a family-friendly environment, numerous parks, and community events at the Whitestown Municipal Complex. Over the years, it has transformed from a quaint farming community to a dynamic suburb with a strong economic base. The town's proximity to I-65 facilitates efficient transportation and logistics services, including non-emergency and freight logistics. Whitestown's unique blend of historical roots and modern growth makes it an appealing place to live and visit.

Figure 2: Town of Whitestown – Boundary



2.2 SAFE STREETS AND ROADS FOR ALL AND VISION ZERO

When the federal government passed the Infrastructure Investment and Jobs Act in late 2021, one of the most notable new programs was Safe Streets and Roads for All—commonly abbreviated as "SS4A." SS4A commits large amounts of federal funding toward transforming the safety of corridors, municipalities, and regions through a series of planning and implementation grants. A fundamental component of SS4A is its alignment with a Vision Zero approach to safety. Vision Zero is based on the principle that it is not acceptable that people are killed or seriously injured when moving throughout the transportation network. Simply put, Vision Zero is a commitment to move toward zero deaths. This initiative recognizes that the responsibility for a safe transportation network is shared between users and transportation system designers and that behavioral and design issues are both important to understand and address. The Town of Whitestown strongly supports a Vision Zero approach to safety.

Communities seeking SS4A funding must have a compliant Safety Action Plan. A significant portion of the overall SS4A program is devoted to funding Action Plans. The Town of Whitestown was awarded the FY 23 SS4A Planning grant to create a comprehensive safety action plan. The Town engaged American Structurepoint Inc. to create an action plan following all required and suggested SS4A Action Plan components.

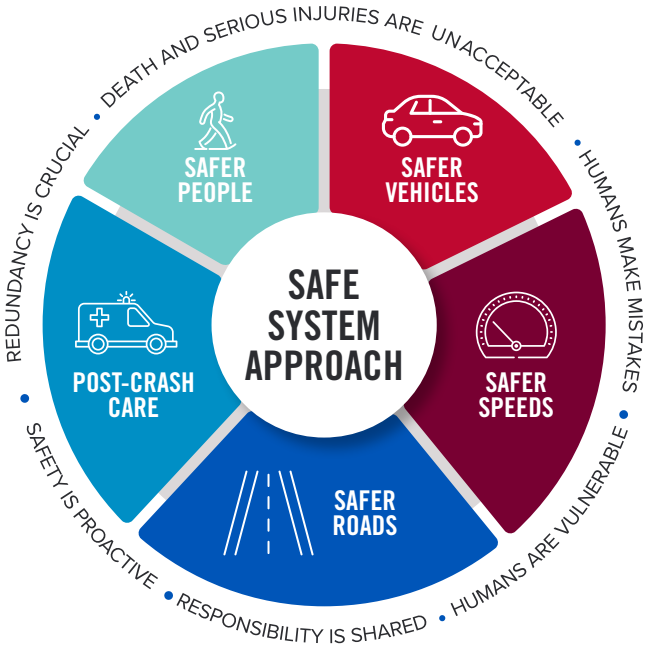
With the adoption of this plan by the Council, Whitestown can pursue SS4A Demonstration and Implementation Grants. This grant can fund various safety projects and strategies identified in this Action Plan that address roadway safety problems. This plan will also identify the tools and policy changes needed to achieve the vision zero goal.

2.2.1 THE SAFE SYSTEM APPROACH

Whitestown's response to address traffic safety concerns will incorporate the Safe System approach embraced by the US Department of Transportation (DOT). The Safe System Approach focuses on human mistakes and vulnerability, incorporating redundancies to prevent crashes and minimize harm. The US DOT's National Roadway Safety Strategy and ongoing safety programs are aligned with the goal of achieving zero roadway fatalities and serious injuries. These programs target various aspects, including infrastructure, human behavior, responsible vehicle and transportation industry oversight, and emergency response, to create a comprehensive framework for making roadways safer.

The principles and elements of a safe system, presented in ***Figure 3***, summarize the Town's approach to creating safe streets for all moving forward.

Figure 3: Safe System Principles and Elements



2.3 A COMPREHENSIVE SAFETY PLAN

The key components of the Comprehensive Safety Action Plan as outlined in the SS4A Notice of Funding Opportunity (NOFO) are detailed in the following sections.

- **Section 3:** Provides the composition of the project team and task force/steering committee overseeing the action plan development and guiding future implementation.
- **Section 4:** Review and summarize existing crash data, where fatality crashes occur, the population involved, and behavioral characteristics of crashes. Additionally, establishes a High-Injury Network (HIN) and Hotspot locations methodology that evaluates the Town's roadway segments and intersections with a higher number of severe crashes.
- **Section 5:** Summarizes the results of public outreach efforts and the relevance of public input to the planning process.
- **Section 6:** Demonstrates the safety action plan's efforts to consider equity as part of the planning process by analyzing the underserved populations and understanding the relationship between severe crashes and underserved population communities.
- **Section 7:** Documents the Town's current plans and policies that were reviewed to identify opportunities for improvements concerning safety.
- **Section 8:** Lists the suggested improvements/considerations that can be made to the existing Town policies towards road safety.
- **Section 9:** Establishes a framework to recommend and prioritize a list of potential safety projects by considering the existing HIN/Hotspot intersections, equity analysis results, and public feedback. Additionally, this section recommends a variety of other non-project strategic improvements that improve safety by changing and identifying the responsible stakeholders to implement these efforts.
- **Section 10:** Details how the plan will be updated in the future, how the Town's effectiveness at implementing the plan will be measured, and how these efforts will be demonstrated to the public and stakeholders.

2.4 WHITESTOWN'S COMMITMENT TO SAFE STREETS FOR ALL

The CSAP serves as a detailed roadmap outlining specific strategies, actions, and projects that the Town of Whitestown will implement in the coming years and beyond to enhance safety across the community. In November 2024, the Town of Whitestown adopted a Vision Zero resolution, aiming to eliminate all fatal and severe injury cases by 2040. This resolution underscores the Town's dedication to prioritizing safety as a fundamental aspect of urban planning and development. The resolution is included in ***Appendix A*** of this report.

With this plan, Whitestown is taking its first step towards addressing current safety concerns and laying the foundation for a safer future. By implementing targeted strategies and initiatives, the Town aims to create a transportation system that is safe, accessible, and equitable for all residents, visitors, and road users.

3. PROJECT TEAM AND STEERING COMMITTEE

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A dynamic and dedicated task force was formed in response to the pressing need for effective oversight of the development, implementation, and monitoring of the Town of Whitestown Safety Action Plan. The committee was comprised of diverse stakeholders and community leaders, and this task force will serve as the guiding force behind realizing the collective vision for a safer, more vibrant, and inclusive Town of Whitestown.

3.1 PROJECT TEAM

The project team, consisting of dedicated Town officials and the consultant staff, played a pivotal role in guiding and refining the action plan at every stage of its development. Their valuable input and feedback were essential in shaping the direction and effectiveness of the plan. This collaborative effort involved multiple interactions with the steering committee and the consultant, ensuring comprehensive engagement and alignment of goals throughout the planning process. ***Table 1*** provides a list of project team members.

Table 1: Town of Whitestown CSAP, Project Team Members

NAME	TITLE
Sri Venugopalan	Town Engineer, Building Department Engineering, Town of Whitestown
Shashad Gujaran	Project Manager – American Structurepoint, Inc.
Alex Crandall	Safety Analyst / Staff Engineer – American Structurepoint, Inc.
Tevin Asamoah	Safety Analyst / Staff Engineer – American Structurepoint, Inc.
Philip Roth	Senior Planner – American Structurepoint, Inc.
Patricia Salgado	Equity Analyst / Planner – American Structurepoint, Inc.

3.2 STEERING COMMITTEE

A multi-disciplinary steering committee team comprising community members was established to oversee the development of this Safety Action Plan and project implementation and monitor the progress towards achieving the Vision Zero goal. The Steering Committee's input is critical when creating a Comprehensive Safety Action Plan. The committee helped the project team identify unsafe intersections/roadways within the Town of Whitestown during the process. Also, the committee helped identify future infrastructure projects for the Town's future.

Throughout the project, multiple steering committee meetings were held to discuss the project's process and to review and present draft materials. Meeting minutes are in ***Appendix B*** for a more detailed explanation of what each steering committee meeting captured. ***Table 2*** provides a list of steering committee members.

Table 2: Town of Whitestown CSAP, Steering Committee Members

NAME	TITLE
Sri Venugopalan	Town Engineer, Town of Whitestown
Scott Rolston	Police Chief, Town of Whitestown
Josh Westrich	Fire Chief, Town of Whitestown
Todd Barker	Director of Development Services, Town of Whitestown
Bryan Leach	Street Department Superintendent, Town of Whitestown
Cheryl Hancock	Council Member, District 1, Town of Whitestown
Dan Patterson	Council President, District 2, Town of Whitestown
Tobe Thomas	Council Member, District 4, Town of Whitestown
Andrew McGee	Planning Commission Chair / HOA
Andrew Barentine	Clark Meadows HOA
Becky Nichols	Director of Transportation, Lebanon Schools
Bill Smith	Technical Services Director, INDOT Crawfordsville District

4. SAFETY ANALYSIS

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To identify the factors contributing to an increased likelihood of fatal and incapacitating injury crashes in the area, we conducted an analysis of crashes reported in the Indiana State Police Automated Reporting Information Exchange System (ARIES) spanning from the year 2019 to 2023. These factors included aspects such as road geometry, traffic flow, driver behavior, and environmental conditions.

Following the Safe System Approach, our methodology integrated safety analysis findings with an initial proactive analysis to identify the roadway features that are associated with elevated severe crash risk. By combining these analytical approaches, we identified areas where the Town can strategically prioritize its efforts in the forthcoming years to address the predominant types of severe crashes, employing evidence-based countermeasures.

4.1 HIGH-LEVEL TRENDS

The crash analysis focused on crashes specifically within the Town of Whitestown police jurisdiction. Between 2019 and 2023, Whitestown averaged 240 ***reported crashes annually,*** 3.5% of which were reported as fatal or incapacitating injury crashes. The crash trends show a sharp decrease in total crashes in 2020 during COVID-19. Since 2019, the number of reported fatal and severe injury crashes has steadily declined. Potential changes in crash reporting practices over time may have contributed to this trend. The crash frequency and corresponding year-to-year percentage changes for the five-year period are summarized in ***Table 3.***

Table 3: Town of Whitestown Crash Frequency, 2019-2023

YEAR	TOTAL CRASHES	CHANGE (%)	INJURY AND FATALITY CRASHES	CHANGE (%)
2019	197	-	13	-
2020	170	-13.7	11	-15.4
2021	230	35.3	9	-18.2
2022	294	27.8	5	-44.4
2023	289	-1.7	4	-20.0
Subtotal 2019-2023	1180	-	42	-
5-year Average	**236**	-	**8**	-

The crash data was further analyzed to determine the crash frequency based on the following categories:

- Crash Type
- Light Conditions
- Roadway Surface Conditions
- Roadway Junction

CRASH TYPE

The crash data analysis indicates that the most common crash type in the Town of Whitestown was rear ends, which accounted for 19% of all crashes. Same-direction sideswipes and backing collisions were the next most common crash types. Rear ends, right angles, and left turns accounted for a combined 50% of severe crashes in the five-year period between 2019 and 2023, as shown in ***Table 4.*** A severity ratio greater than 1 indicates that a crash type was overrepresented among townwide severe crashes. Because the severity ratio is calculated with percentages, they are relative and are not comparable between different crash types. Right angle, left turn, and head-on crashes have severity ratios greater than 1, meaning they are overrepresented among severe crashes in Whitestown. This suggests that these crash types were likely to result in a severe crash. Rear ends, while accounting for the largest number of severe crashes, are underrepresented at a ratio of 0.9.

The severity ratio is the ratio of the share of overall severe crashes for a particular crash type to its share of overall total crashes. For example, a crash type that represents 5% of severe crashes and 10% of all crashes would have a severity ratio of 0.5. A severity ratio greater than 1 indicates that a crash type was overrepresented among townwide severe crashes. Because the severity ratio is calculated with percentages, they are relative and are not comparable between different crash types. Right angle, left turn, head-on, and ran-off-road crashes have severity ratios greater than 1, meaning they are overrepresented among severe crashes in Whitestown. Rear ends, while accounting for the largest number of severe crashes, are underrepresented at a ratio of 0.9.

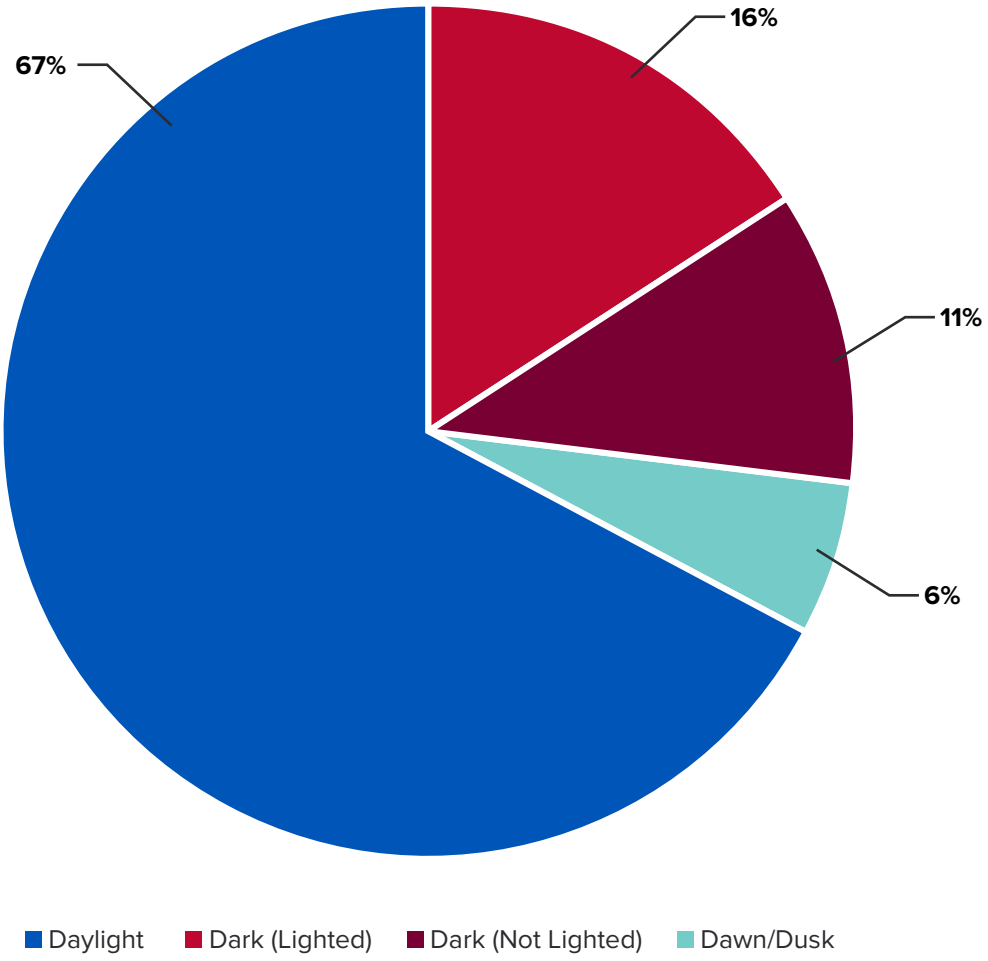
Table 4: Town of Whitestown, Crashes by Type, 2019-2023

MANNER OF COLLISION	SEVERE CRASHES	TOTAL CRASHES	PERCENT OF SEVERE CRASHES	PERCENT OF ALL CRASHES	SEVERITY RATIO
Backing	0	202	0.0%	17.1%	0.0
Right Angle	8	98	19.0%	8.3%	**2.3**
Left/Right Turn	0	33	0.0%	2.8%	0.0
Right Turn	0	29	0.0%	2.5%	0.0
Left Turn	6	101	14.3%	8.6%	**1.7**
Rear End	7	221	16.7%	18.7%	0.9
Same Dir. Sideswipe	2	197	4.8%	16.7%	0.3
Opposite Dir. Sideswipe	1	32	2.4%	2.7%	0.9
Ran Off Road	5	84	6.0%	7.2%	0.8
Head On	4	24	9.5%	2.0%	**4.8**
Collision with Animal/Deer	1	16	2.4%	1.4%	**1.7**
Collision with Object	0	12	0.0%	1.0%	0.0
Other	6	120	14.3%	10.2%	**1.4**
Non-Collision	2	11	4.8%	0.9%	**5.3**
Total	**42**	**1180**	**100.0%**	**100.0%**	-

LIGHT CONDITIONS

The crash analysis results indicate that the largest proportion, 67% of the total, occurred during daylight conditions. Crashes in Dark (Lighted), Dark (Not Lighted), and Dawn/Dusk comprise the other 33% of the total. ***Figure 4*** summarizes the crash distribution by light conditions in Whitestown during the analysis period.

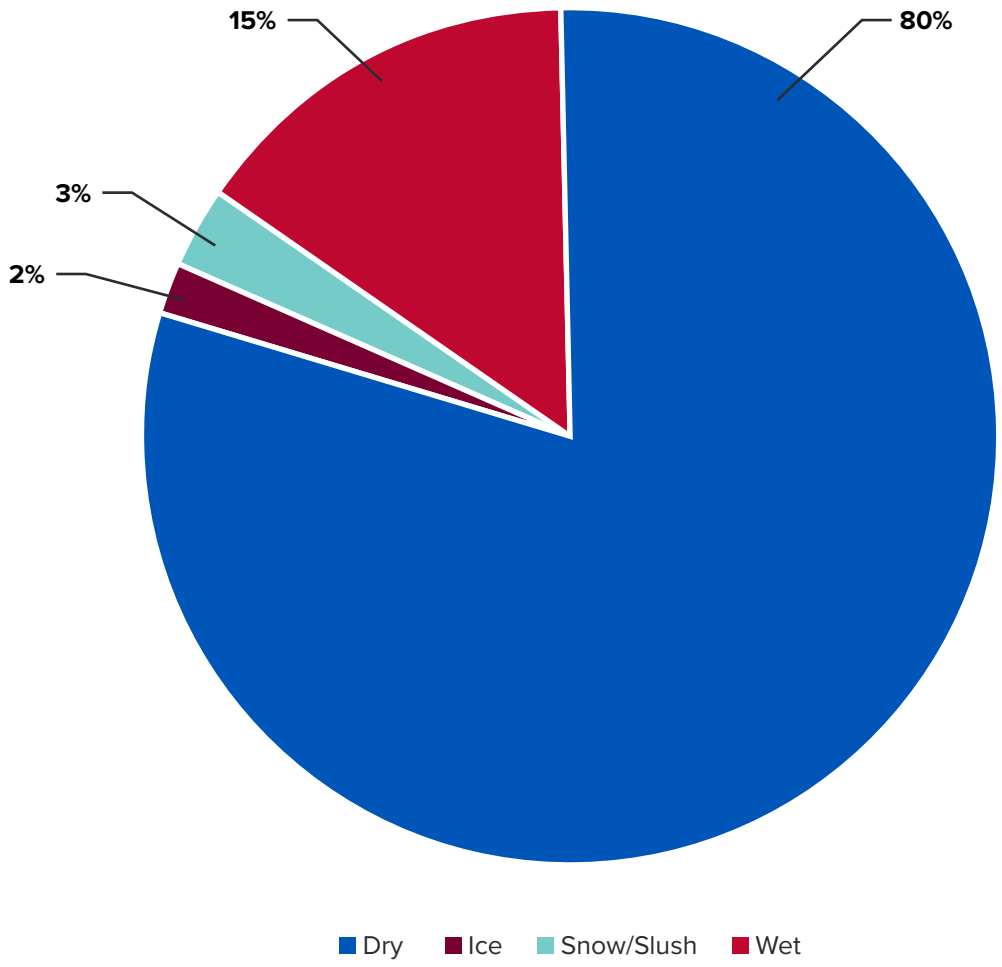
Figure 4: Town of Whitestown, Crash Distribution by Light Condition, 2019-2023



ROADWAY SURFACE CONDITIONS

The crash analysis results indicate that most crashes occurred on the roadway during dry conditions, comprising 80% of the total crashes. Conversely, crashes on wet, snow/slush, and ice surface conditions collectively accounted for 20% of the total crashes. ***Figure 5*** summarizes the crash distribution by roadway surface conditions in Whitestown during the analysis period.

Figure 5: Town of Whitestown, Crash Distribution by Roadway Surface Conditions, 2019-2023

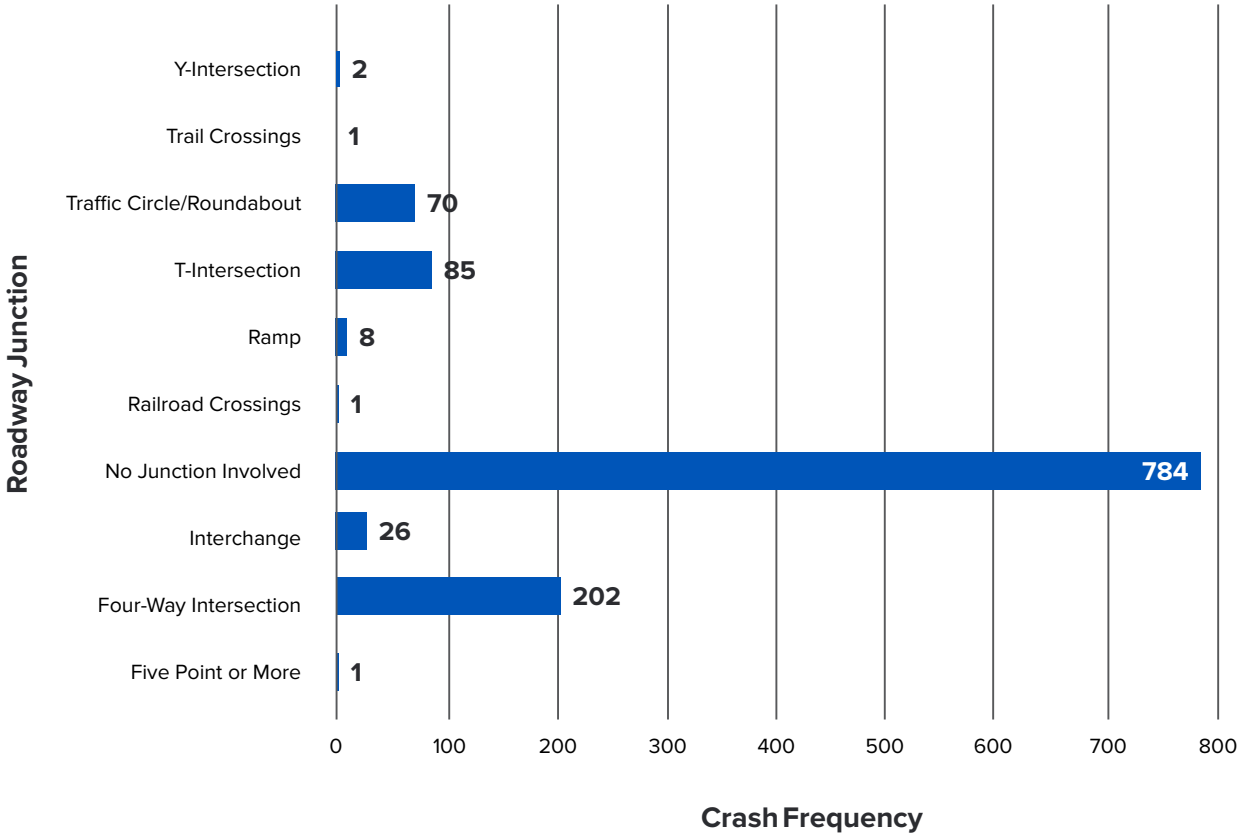


ROADWAY JUNCTION

The crash analysis results indicate that a slight majority of crashes occurred at intersections, either four-way or no junction involved. A typical four-legged intersection has 32 vehicle-to-vehicle conflict points and 24 vehicle-to-pedestrian conflict points. These conflict points can include areas where vehicles are turning left, turning right, or proceeding straight through the intersection, as well as points where lanes merge or diverge. The prevalence of right angle and left turn severe crashes indicates that systemically reducing conflict points at intersections, such as by installing roundabout intersections or limiting turning movements through access management, would likely have a high impact on safety throughout Whitestown.

Figure 6 summarizes the crashes by roadway junction in Whitestown during the analysis period.

Figure 6: Town of Whitestown, Crashes by Roadway Junction, 2019-2023



4.2 HOTSPOT INTERSECTIONS AND HIGH INJURY NETWORK (HIN)

Identifying hotspot intersections and high-injury networks plays a critical role in understanding and addressing areas with a high frequency of crashes and severe injuries, ultimately leading to the implementation of effective safety measures to reduce traffic-related fatalities and injuries.

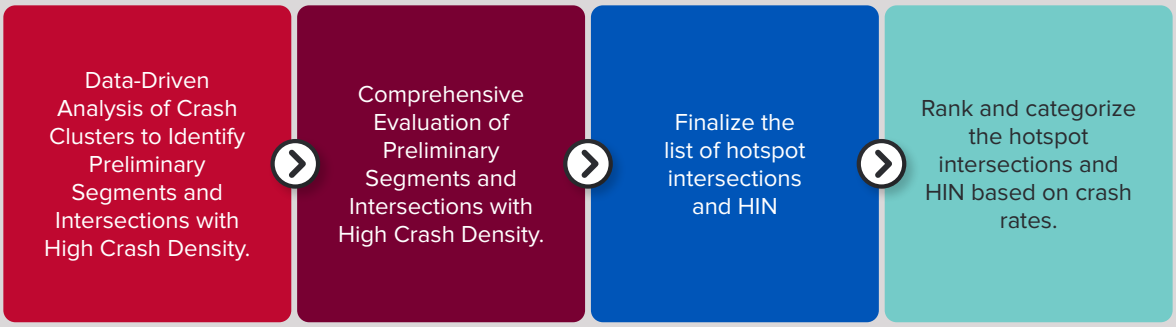
By utilizing crash data and statistical analyses, we can identify trends and contributing factors associated with crashes and injuries at specific locations. This evidence-based approach identifies underlying issues and solutions tailored to address the unique safety challenges of each intersection or corridor within the high-injury network.

METHODOLOGY

Identifying the hotspot intersections and HIN was a four-step process, as shown in ***Figure 7.*** It involves a systematic approach that leverages data-driven analysis and comprehensive evaluation to prioritize safety improvements.

- **Data-Driven Analysis of Crash Clusters to Identify Preliminary Segments and Intersections:** This initial step involved analyzing crash data to identify clusters of crashes occurring at intersections and segments of roadways. By examining the spatial distribution of crashes, we identified areas with a high frequency of crashes, indicating potential hotspot intersections and segments within the road network.
- **Comprehensive Evaluation of Preliminary Segments and Intersections:** In this step, the comprehensive evaluation of the identified preliminary segments and intersections was performed to determine crash statistics, with a focus on the percentage of severe crashes.
- **Finalize the List of Hotspot Intersections and High-Injury Network Segments:** Building upon the comprehensive evaluation, the list of hotspot intersections and high-injury networks was finalized based on predefined criteria, ensuring that priority is given to intersections and segments with a significant concentration of severe crashes.
- **Rank the Hotspot Intersections and High-Injury Networks Based on Crash Rates:** Finally, the identified hotspot intersections and high-injury networks are ranked based on crash rates, which consider the frequency of crashes relative to the volume of traffic and/or roadway length. Ranking the locations allows the Town to prioritize safety improvements based on the level of risk posed to road users. Intersections and segments with higher crash rates are assigned a higher priority for safety interventions.

Figure 7: Methodology for Hotspot Intersections and HIN Identification

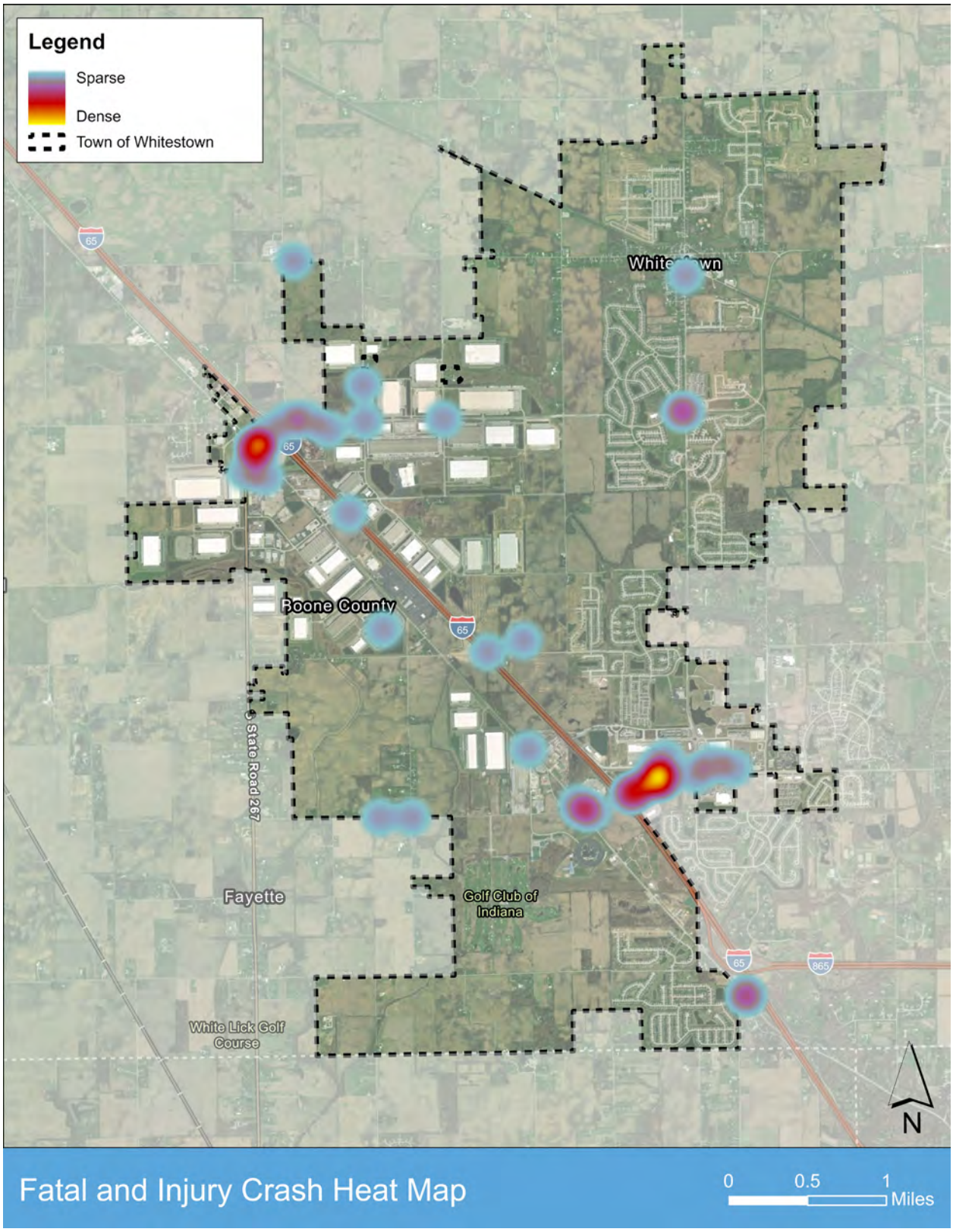


4.2.1 IDENTIFICATION OF PRELIMINARY SEGMENTS AND INTERSECTIONS

ArcGIS Pro software was utilized as the primary tool for spatial analysis and visualization of crash data. This GIS platform provided the capability to create a detailed heat map which served as an effective visualization tool for identifying clusters and patterns of crashes within the Town. The resulting heat map depicted areas with varying levels of crash density, with hotter colors indicating higher crashes and cooler colors representing lower densities. The roadway segments and intersections with high crash densities served as the initial focus for further evaluation and assessment to determine their suitability for inclusion in the final list of hotspot intersections and high-injury networks shows the injury and fatality crash data heat map for identifying preliminary segments and intersections. ***Figure 8*** shows the injury and fatality crash data heat map that was utilized to identify preliminary segments and intersections.

The analysis of the heat maps revealed notable clusters of high crash density along specific roads within the Town boundaries, including Indianapolis Road, Whitestown Parkway, Perry Worth Road, Main Street, and Albert S White Drive. A significant concentration of intersections with high crash density was observed along these streets.

Figure 8: Whitestown Severe Crash Heat Map, 2019-2023



4.2.2 COMPREHENSIVE EVALUATION

Crash trends at each of the preliminary segments and intersections were assessed, with a summary provided in Table 5 and Table 6, respectively.

Table 5: Town of Whitestown, Crash Trend for Preliminary HIN Segments, 2019-2023

SEGMENT NAME	TOTAL CRASHES	INJURY CRASHES	FATALITY CRASHES	PERCENTAGE OF INJURY/FATALITY CRASHES	INJURY CRASH TYPES
Main St - Pierce St to Albert S White Dr	27	5	3	30%	Right Angle; Head On
Perry Worth Rd - CR 550 to Curve	5	2	1	60%	Ran Off Road; Rear End
Whitestown Pkwy - CR 425 E to CR 475 E	8	1	2	38%	Rear End; Ran Off Road
Whitestown Pkwy - Indianapolis Rd to Main St	255	18	11	11%	Right Angle; Left-Turn; Head On; Rear End
Indianapolis Rd - Whitestown Pkwy to CR 650 S	73	4	3	10%	Rear End; Right Angle; Same Dir. Sideswipe
Albert S White Dr - CR 500 E to I-65 Ramps	63	5	3	38%	Rear End; Left Turn; Same Dir. Sideswipe

Table 6: Town of Whitestown, Crash Trend for Preliminary Hotspot Intersections, 2019-2023

INTERSECTION NAME	TOTAL CRASHES	INJURY CRASHES	FATALITY CRASHES	PERCENTAGE OF INJURY/FATALITY CRASHES	MAJOR CRASH TYPES
Whitestown Pkwy & Perry Worth Rd	53	4	4	15%	Rear End; Right Angle; Left Turn
Whitestown Pkwy & I-65 NB Ramp	25	3	3	24%	Sideswipe; Rear End; Right Angle
Indianapolis Rd & Eagle Nest Blvd	4	0	2	50%	Rear End; Left Turn; Sideswipe
Whitestown Pkwy & Indianapolis Rd	65	2	2	6%	Sideswipe; Rear End
Whitestown Pkwy & Main St	43	5	1	14%	Rear End; Sideswipe; Left Turn
Albert S White Dr & Main St	19	5	2	32%	Right Angle; Sideswipe; Head On
Albert S White Dr & CR 500 E	9	0	1	11%	Rear End; Right Angle
Albert S White Dr & Anson Blvd	25	2	1	12%	Rear End; Left Turn

4.2.3 RANK THE HOTSPOT INTERSECTIONS AND HIN

The frequency of crash occurrence (crash frequency) is the simplest technique for identifying high-hazard locations. Intersections or roadway segments of uniform lengths are simply ranked in order of the number of crashes that occurred during a given period. Although simple to perform, reliance on crash frequency tends to bias the identification process in favor of higher-volume roadway sections and intersections. As a result, it may ignore severe safety problems on low-volume roads or intersections. Crash rates are typically considered better risk indicators than crash frequencies alone because they account for differences in traffic volumes and exposure. Crash rates for roadway segments are normally expressed in terms of crashes per 100 million vehicle miles of travel, whereas for intersections, it is normally expressed in terms of crashes per million entering vehicles.

Table 7 summarizes the HIN ranking by injury and fatality crash rate. Segments with higher injury and fatality crash rates, such Indianapolis Road—from Whitestown Parkway to CR 650 S and Perry Worth Road—CR 500 to Curve, indicate areas of significant safety concern. Notably, Whitestown Parkway—from Indianapolis Road to Main Street, is one of the more heavily traveled roadways and consequently has the highest number of total crashes. Despite this, it has a lower severe crash rate than most of the segments listed. This further emphasizes the importance of utilizing crash rates to avoid bias towards heavily traveled roadways. Various factors, including traffic volume, road design, enforcement efforts, and driver behavior, can influence crash rates and severity, necessitating a comprehensive approach to road safety analysis.

Table 7: Town of Whitestown, HIN Ranking by Injury and Fatality Crash Rate, 2019-2023

SEGMENT	TOTAL CRASHES	NON-INCAPACITATING INJURY CRASHES	FATALITY/ INCAPACITATING CRASHES	VOLUME OF VEHICLES PER DAY	LENGTH OF ROADWAY SEGMENT (IN MILES)	TOTAL CRASH RATE (CRASHES PER MILLION ENTERING VEHICLES)	INJURY AND FATALITY CRASH RATE	RANK
Indianapolis Rd - Whitestown Pkwy to CR 650 S	73	4	3	3,601	0.51	2,181.93	209.23	1
Perry Worth Rd - CR 550 to Curve	5	2	1	3,010	0.38	240.29	144.18	2
Main St - Pierce St to Albert S White Dr	27	5	3	3,437	1.00	230.12	127.44	3
Whitestown Pkwy - CR 425 E to CR 475 E	8	1	2	4,495	0.50	194.53	72.95	4
Albert S White Dr - CR 500 E to I-65 Ramps	63	5	3	9,353	0.92	399.99	50.79	5
Whitestown Pkwy - Indianapolis Rd to Main St	255	18	11	24,297	1.32	434.46	49.41	6

Table 8 summarizes the hotspot intersections ranking by injury and fatality crash rate. The total crash rate and injury and fatality crash rate provide insights into the overall safety performance of each intersection. Intersections with higher crash rates and ranks, such as Albert S white Drive and Main Street shall require further investigation and targeted safety interventions to reduce the frequency of crashes.

Table 8: Town of Whitestown, Hotspot Intersections Ranking by Injury and Fatality Crash Rate, 2019-2023

SEGMENT	TOTAL CRASHES	NON-INCAPACITATING INJURY CRASHES	FATALITY/ INCAPACITATING CRASHES	TOTAL ENTERING TRAFFIC (VPD)	TOTAL CRASH RATE (CRASHES PER MILLION ENTERING VEHICLES)	INJURY AND FATALITY CRASH RATE	RANK
Albert S White Dr & Main St	19	5	2	14,971	1.92	0.31	1
Indianapolis Rd & Eagle Nest Blvd	4	0	2	6,498	0.34	0.17	2
Whitestown Pkwy & Indianapolis Rd	65	2	2	15,955	2.23	0.14	3
Whitestown Pkwy & Perry Worth Rd	35	4	4	32,273	0.90	0.14	4
Albert S White Dr & Anson Blvd	25	2	1	12,150	1.13	0.14	5
Whitestown Pkwy & Main St	43	5	1	33,944	0.69	0.10	6
Whitestown Pkwy & I-65 NB Ramp	25	3	3	41,252	0.33	0.08	7
Albert S White Dr & CR 500 E	9	0	1	10,853	0.45	0.05	8

As per the safety analysis results, the HIN and hotspot intersections in Whitestown are shown in ***Figure 9*** and ***Figure 10***, respectively.

Figure 9: Whitestown High Injury Network, 2019-2023

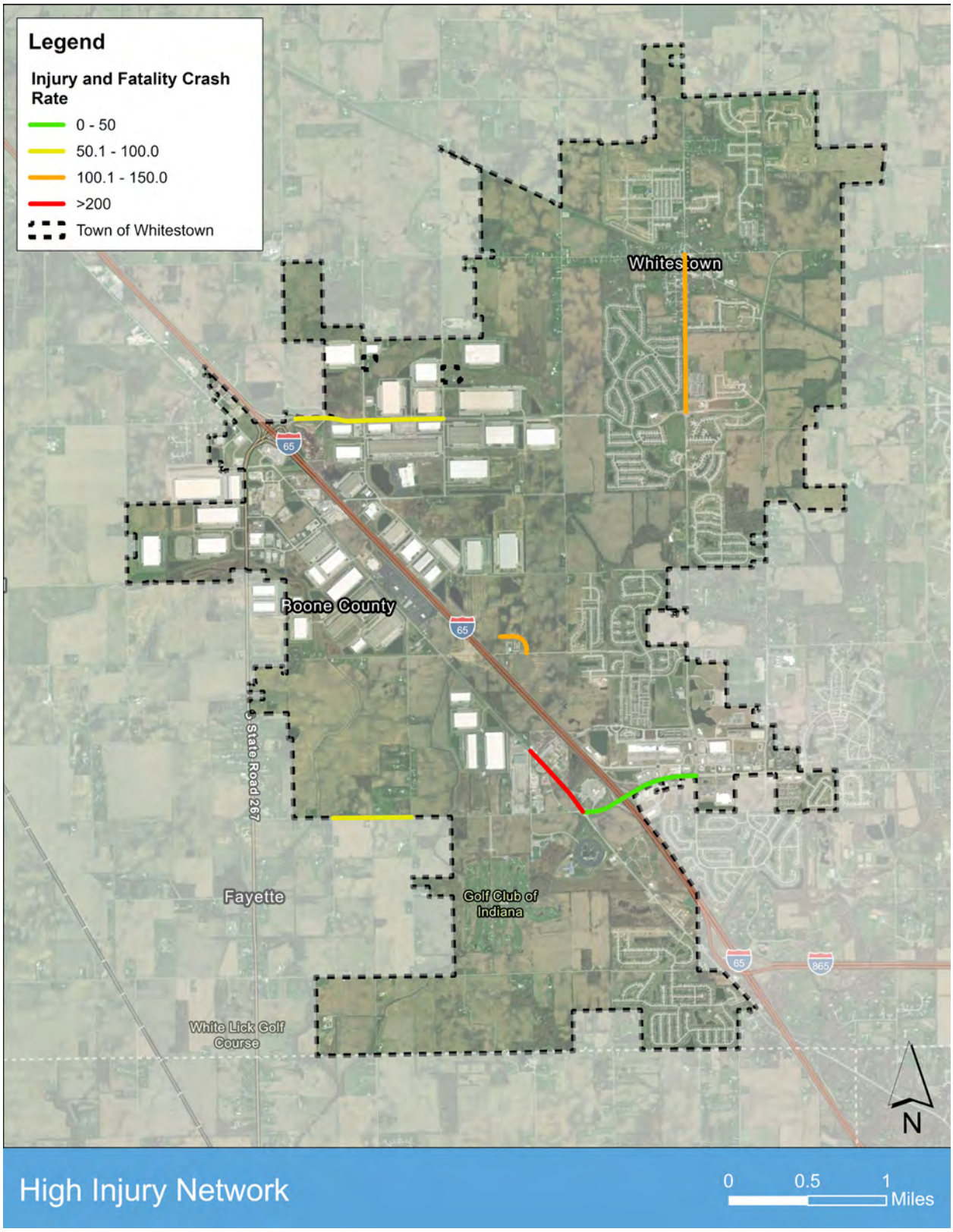
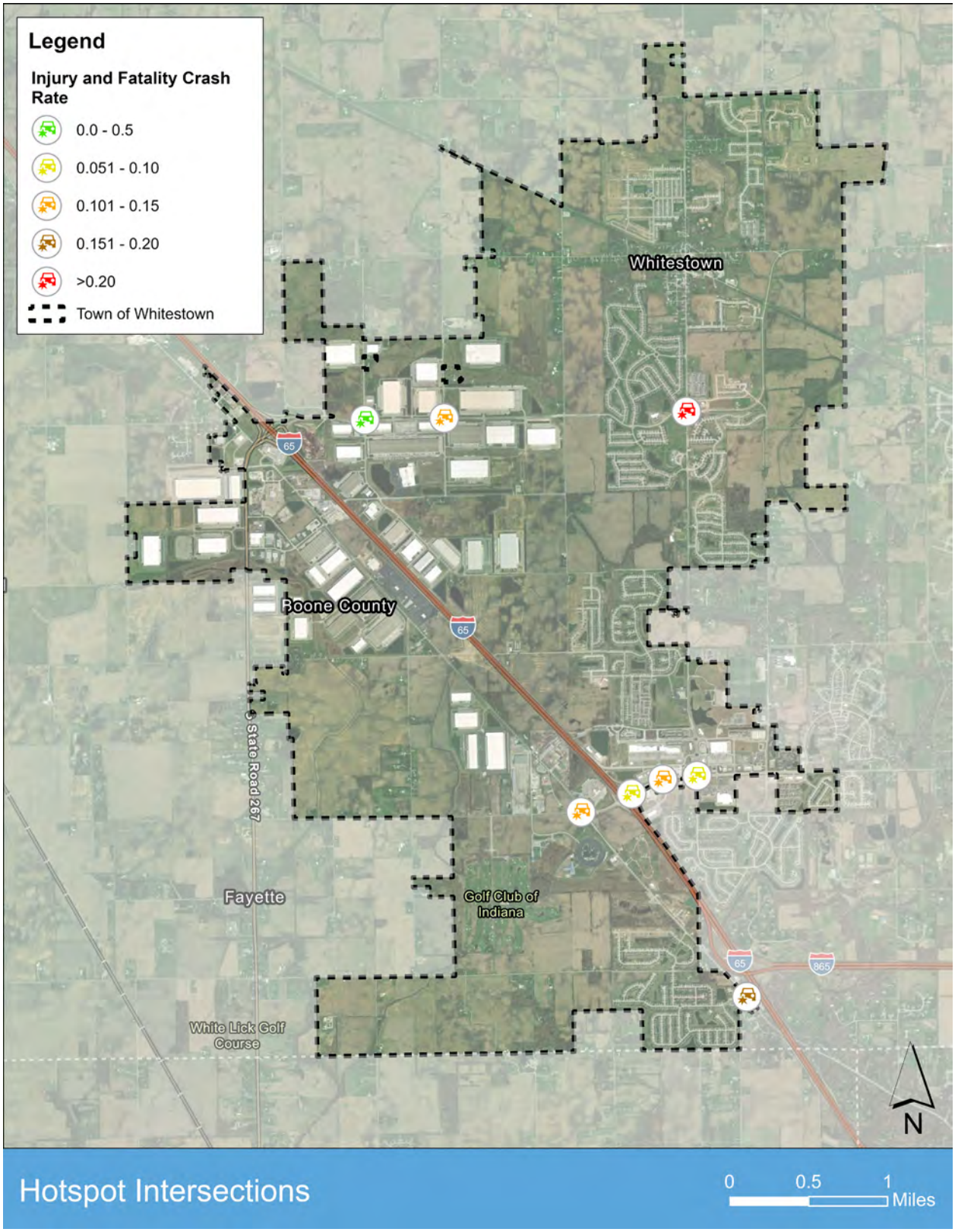


Figure 10: Whitestown Hotspot Intersections, 2019-2023



4.3 SYSTEMIC SAFETY IMPROVEMENTS

Systemic safety improvements represent a proactive approach to addressing safety concerns on roadways by identifying and implementing measures that target common crash patterns and contributing factors. Unlike traditional spot safety improvements (discussed in Section 7), which focus on specific locations with a history of crashes, systemic safety improvements are applied across a broader network based on systemic risk factors. This approach helps proactively address safety issues comprehensively and efficiently, reducing the overall frequency and severity of crashes. Additionally, public and stakeholder input was considered to identify safety concerns that were not necessarily represented in the crash data, particularly raising concerns about pedestrian and trail crossings, sidewalk interconnectivity, and bicycle facilities.

Based on the crash data trends, three major crash categories were selected as ideal targets for systemic countermeasures:

- Right Angle/Left Turn/Right Turn (Failure to Yield)
- Pedestrian/Bicycle Crashes
- High Speeds, Rear Ends

Based on the review of national and international best practices, including *FHWA's Proven Safety Countermeasures*, and research collected through the *Crash Modification Factors Clearing House*, we selected road design countermeasures that address these three severe crash types, detailed in ***Table 9***.

Table 9: Whitestown, Systemic Severe Crash Countermeasures

CRASH TYPE	COUNTERMEASURE	APPLICABLE LOCATION	CRASH REDUCTION FACTOR %	REFERENCE
Failure to Yield	Install Roundabout	Unsignalized Intersection	72% (All Crashes)	CMF ID: 206
	Install Roundabout	Signalized Intersection	35% (All Crashes)	CMF ID: 209
	Install Raised Median	Road Segments	55.4% (Angle Crashes)	CMF ID: 2220
	Install Retroflective Signal Backplates	Signalized Intersection	15% (All Crashes)	CMF ID: 1410
Pedestrian or Bicyclist	Install Ped. Hybrid Beacon (PHB) or HAWK	Ped. Crossings	43.3% (Pedestrian)	CMF ID: 10591
	Install Rectangular Rapid Flashing Beacon (RRFB)	Ped. Crossings	69% (Pedestrian)	CMF ID: 11158
	Install Separated Bike Lanes	Road Segments	44.8% (All Crashes)	CMF ID: 11552
	Implement Leading Pedestrian Interval	Signalized Intersection	10% (All Crashes)	CMF ID: 9901
High Speeds	Implement Systemic Signing/Marking Improvements (Double-up signage, advanced warming, striping, etc.)	Unsignalized Intersection	6.7% (Rear End Crashes)	CMF ID: 8868

5. ENGAGEMENT AND COLLABORATION

5. ENGAGEMENT AND COLLABORATION

Incorporating input from Whitestown residents is a critical component in shaping the town's Comprehensive Safety Action Plan. Engaging the community throughout the planning process provides benefits beyond transportation planning alone. This inclusive approach ensures the plan is relevant and of higher quality while fostering a sense of shared ownership and responsibility for the town's safety.

Public input is essential in raising awareness about transportation issues and directly empowering residents to participate in conversations about safety concerns, necessary infrastructure upgrades, and transportation priorities. Community engagement promotes transparency in the planning process and supports a collective responsibility for improving the efficiency and safety of the transportation network.

PUBLIC EVENTS AND PRESENTATIONS

588 TOTAL PUBLIC SURVEY RESPONSES

5.1 SURVEY

The consultant developed an online survey to gather public input as part of the Comprehensive Safety Action Plan. The survey was designed to collect feedback on several initiatives, including the Capital Improvement Plan, Economic Development Plan, and the Comprehensive Safety Action Plan. The survey consisted of 30 questions that identified potential road and trail improvements, safety concerns at existing roads and intersections, and suggestions for enhancing the town's economic development. Before being released, the survey was reviewed and approved by town officials.

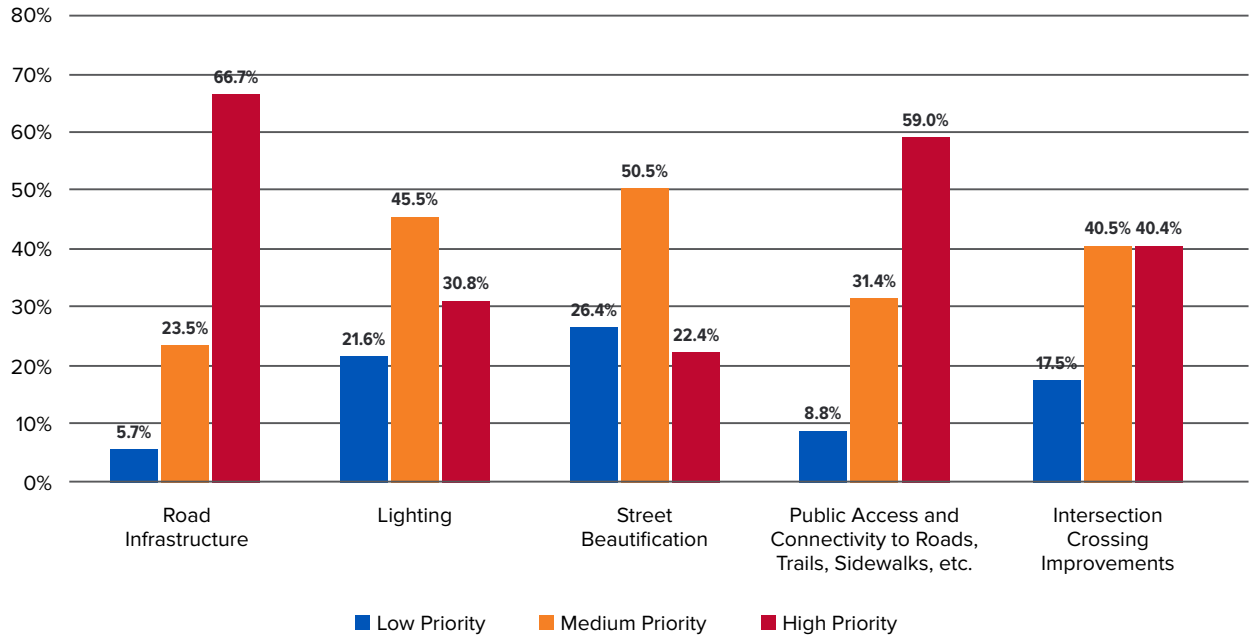
The survey was launched on April 24, 2024, and remained open until May 27, 2024. It was hosted on SurveyMonkey.com, and the survey link was shared via multiple social media platforms and posted on the Town of Whitestown's official website.

A Facebook advertisement was created to promote the survey. The ad included a brief introduction to the project and a link to the survey. Paid Facebook advertising was used to ensure that the survey link was visible in the timelines of Whitestown residents. This advertisement was shared via American Structurepoint's Facebook and Instagram pages.

The online survey gathered 588 responses in total. Once the survey closed in late May 2024, the consultant team reviewed the responses from SurveyMonkey and identified key trends and locations. The survey results highlighted intersections and roadways perceived as unsafe by drivers, bicyclists, and pedestrians and the specific reasons for these safety concerns. Additionally, demographic data was collected to understand the survey participants' diversity.

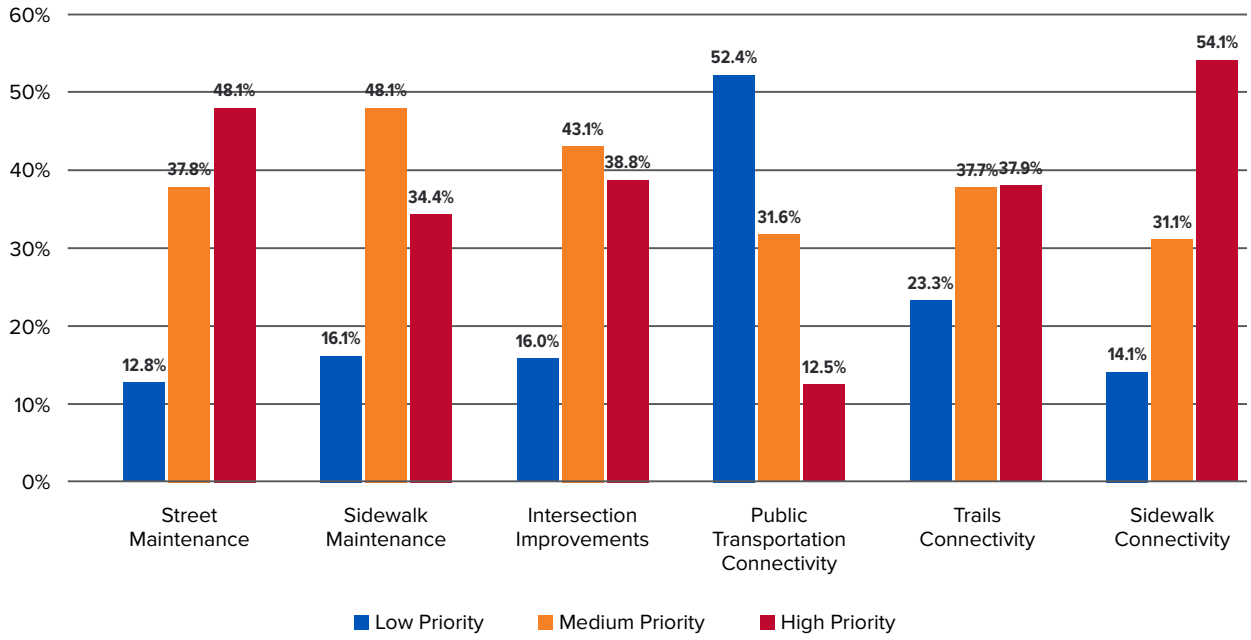
Question: Where should the Town invest significantly in its roads and trails infrastructure? Rank it as a low, medium, or high priority.

The responses from residents emphasized the need for significant investments in safety, connectivity, and infrastructure improvements. A major priority is enhancing pedestrian and cyclist safety, mainly through expanding sidewalks and bike paths, focusing on connecting neighborhoods like Edmonds Creek and Anson to downtown. Widening Main Street and addressing congestion on Whitestown Parkway, especially during peak hours, were also commonly mentioned concerns, alongside improvements to the I-65 interchange and overpass. Overall, in the survey, residents emphasized the importance of creating a safer, more connected town that can accommodate its growing population and improve traffic flow.



Question: Which of the following infrastructure needs the most investment to meet your expectations? Rank it as a low, medium, or high priority.

The responses from residents emphasize the need for sidewalk connectivity, with a strong focus on increasing safety and managing traffic flow. The top priority is enhancing sidewalk and trail connectivity, particularly along Main Street, where many respondents highlighted gaps in the network, especially for children and pedestrians traveling to schools and other key areas. Additionally, widening key roads such as County Road 700 East and Main Street (CR650E) was identified as a high priority to accommodate the growing population and mitigate traffic congestion, especially with new housing developments. Road infrastructure improvements were frequently mentioned, with concerns about semis and large vehicles blocking traffic and the lack of adequate lanes. Several responses pointed out the need for more sidewalk connections, including to popular areas like Eagle Creek Church, downtown Whitestown, and the Big4 Trail, while also noting the importance of creating safer ways for residents to cross busy roads like I-65. Public safety and better road design, including more roundabouts, were also emphasized. There were concerns about housing density, particularly regarding noise, light, and traffic impacting surrounding neighborhoods. The community wants improved infrastructure to accommodate rapid growth, ensure safe pedestrian movement, and improve traffic flow, especially for residents in developing areas.

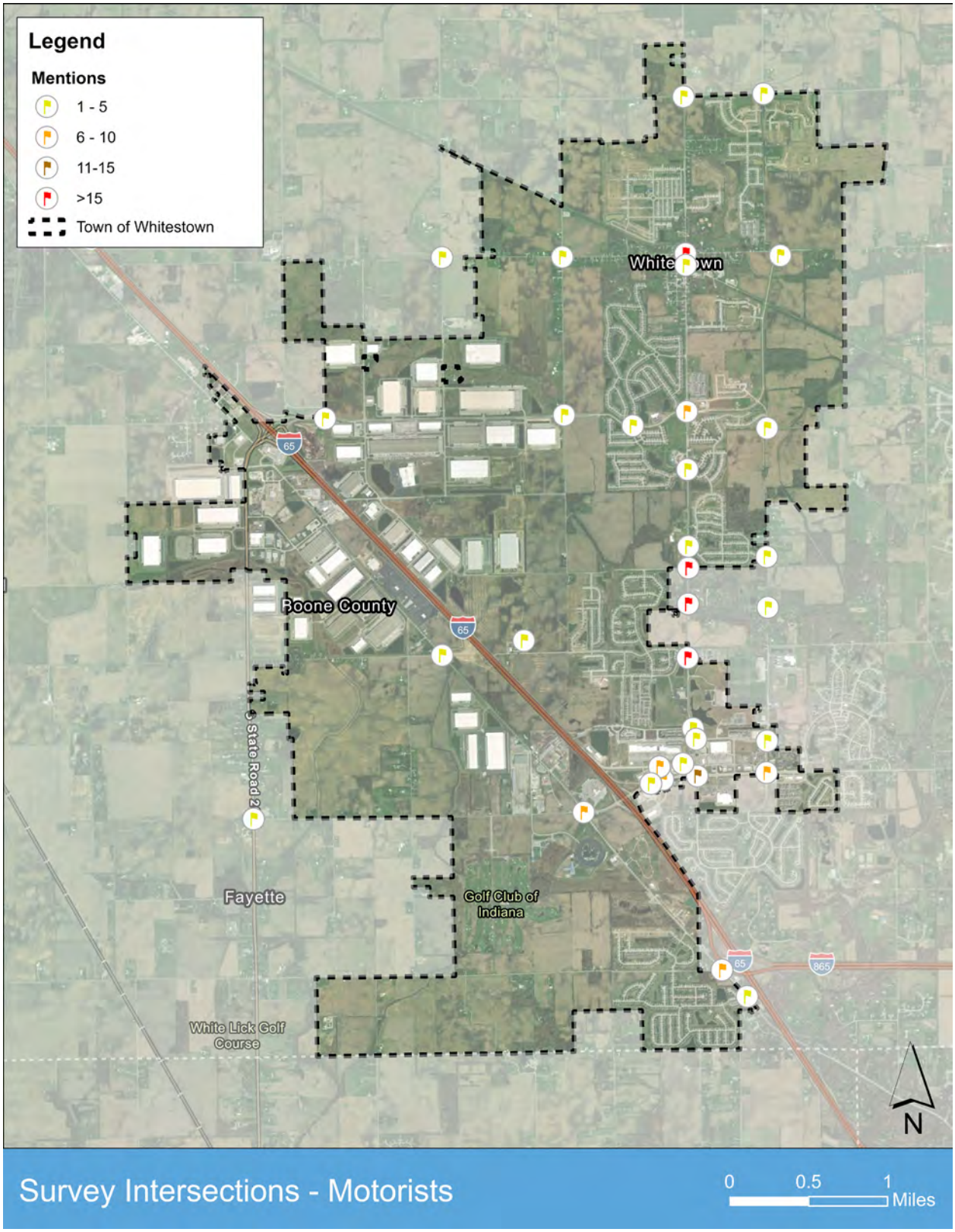


5.1.1 UNSAFE INTERSECTIONS PERCEIVED BY MOTORISTS

Based on survey responses, residents perceived several intersections along Main Street as unsafe, mainly due to poor visibility, excessive driver speed, and confusing or inadequate road designs.

1. **South Main Street/East County Road 500 South** stands out as the most concerning intersection, receiving 53 mentions. Key issues include blocked or obscured vision due to a hill and overgrown bushes, making it difficult for drivers to see oncoming traffic when turning left. Additionally, drivers are forced to pull into traffic to improve visibility, significantly increasing the risk of accidents. Residents suggest a roundabout could help reduce speeds and enhance safety at this location.
2. **South Main Street/550 East (New Hope Blvd),** with 19 mentions, faces challenges related to low visibility. Drivers reported difficulty seeing northbound traffic on Main Street when attempting to turn onto CR 550. The need to edge onto the road to gain a better view creates a hazardous situation, particularly for drivers unfamiliar with the area.
3. **South Main Street/East County Road 525 South** also received 19 mentions, with concerns focusing on poor road conditions, confusing design, and obstructed visibility. Additionally, the lack of sidewalks and inadequate lighting makes this intersection particularly dangerous for pedestrians, who frequently walk between Legacy Core and Anson. The combination of these factors contributes to the unsafe nature of the area.
4. **North Main Street/West Pierce Street** was mentioned 18 times, primarily due to aggressive driving behaviors, frequent near-misses, and the poor visibility of stop signs. The narrowness of the road and lack of pedestrian awareness contribute to the unsafety of this intersection. The combination of high-speed traffic and insufficient infrastructure makes this location unsafe.
5. **South Main Street/Whitestown Parkway,** mentioned 13 times, is affected by a confusing road design and inadequate infrastructure to accommodate the increasing traffic demand. Traffic backups are common during rush hours, and new businesses in the area aggravate the situation. Residents expressed concerns about the safety of both drivers and pedestrians in this growing area.

Figure 11: Unsafe Intersections Perceived by Motorists in the Town of Whitestown, Indiana

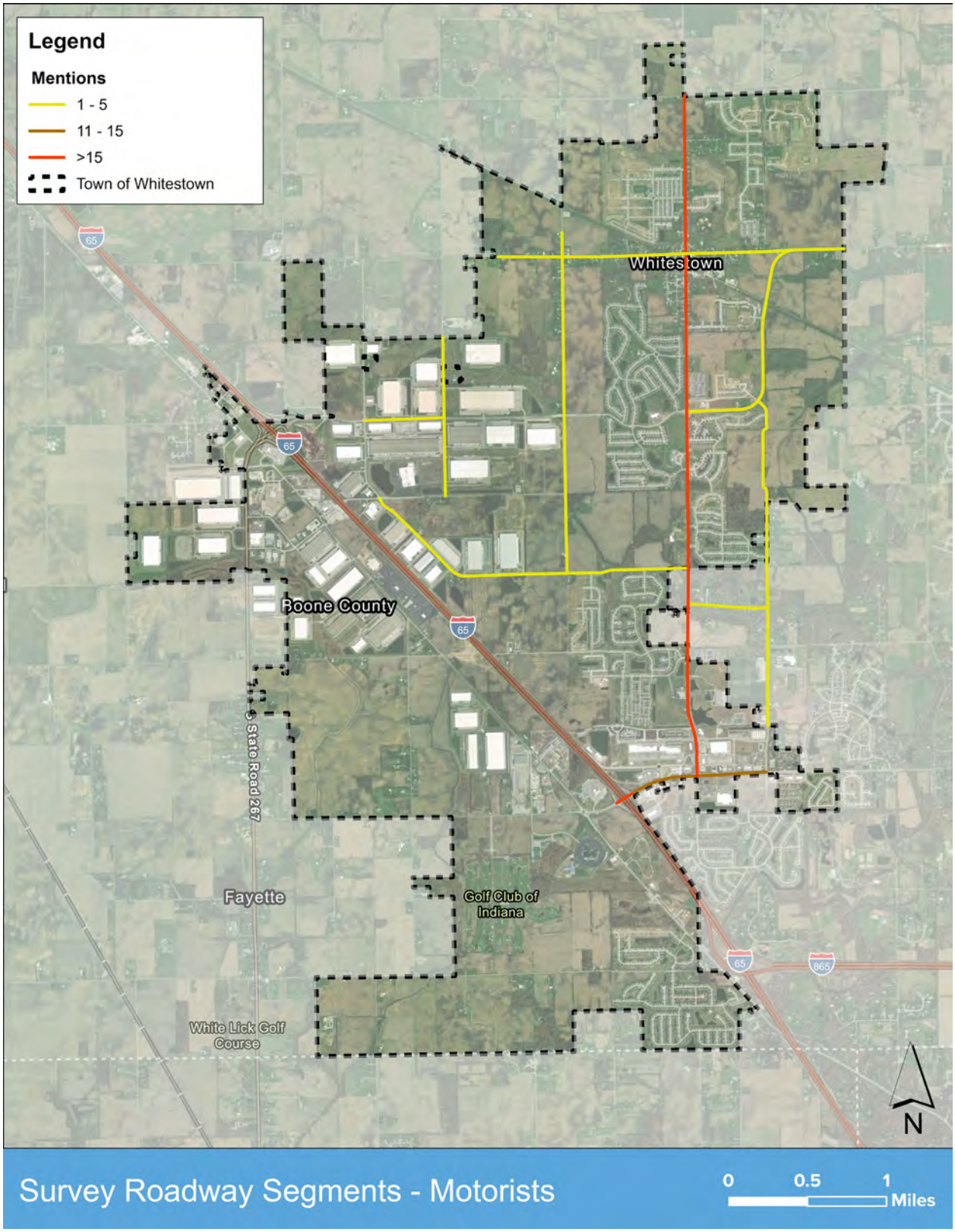


5.1.2 UNSAFE ROADWAY SEGMENTS PERCEIVED BY MOTORISTS

Based on survey responses from residents in Whitestown, several roadway segments are perceived as unsafe due to issues related to road design, traffic volume, and road conditions.

1. **Whitestown Pkwy I-65 bridge** is identified as the most unsafe segment, with 85 mentions from residents. The primary concerns are confusing and unsafe road design, aggressive driving behaviors, and frequent crashes or near-misses. Residents report that drivers often fail to follow traffic rules and misuse lanes, contributing to congestion and confusion. The merging area and access to I-65 are particularly problematic, as the current design cannot effectively handle the traffic volume. Many residents feel that these issues should be prioritized, particularly given the importance of this bridge for local and regional traffic.
2. **Main Street from East County Road 200 South to Whitestown Parkway** received 26 mentions, primarily concerned with poor road conditions and a confusing or unsafe road design. In particular, residents find it difficult to make left turns from side streets onto Main Street, suggesting that the intersection layouts may need improvement to accommodate smoother, safer turns.
3. **County Road 525 South from South Main Street to South County Road 700 East** had five mentions. The main issue here is poor road conditions, with residents specifically noting the narrow width and rolling elevation, which makes it challenging to see other vehicles. Additionally, this segment has become increasingly popular due to the growing neighborhoods and nearby schools, leading to higher traffic volumes that exacerbate safety concerns. The narrow roads and limited visibility make it difficult for drivers to navigate, particularly in areas with frequent pedestrian and vehicle activity.

Figure 12: Unsafe Roadway Segments Perceived by Motorists in the Town of Whitestown, Indiana

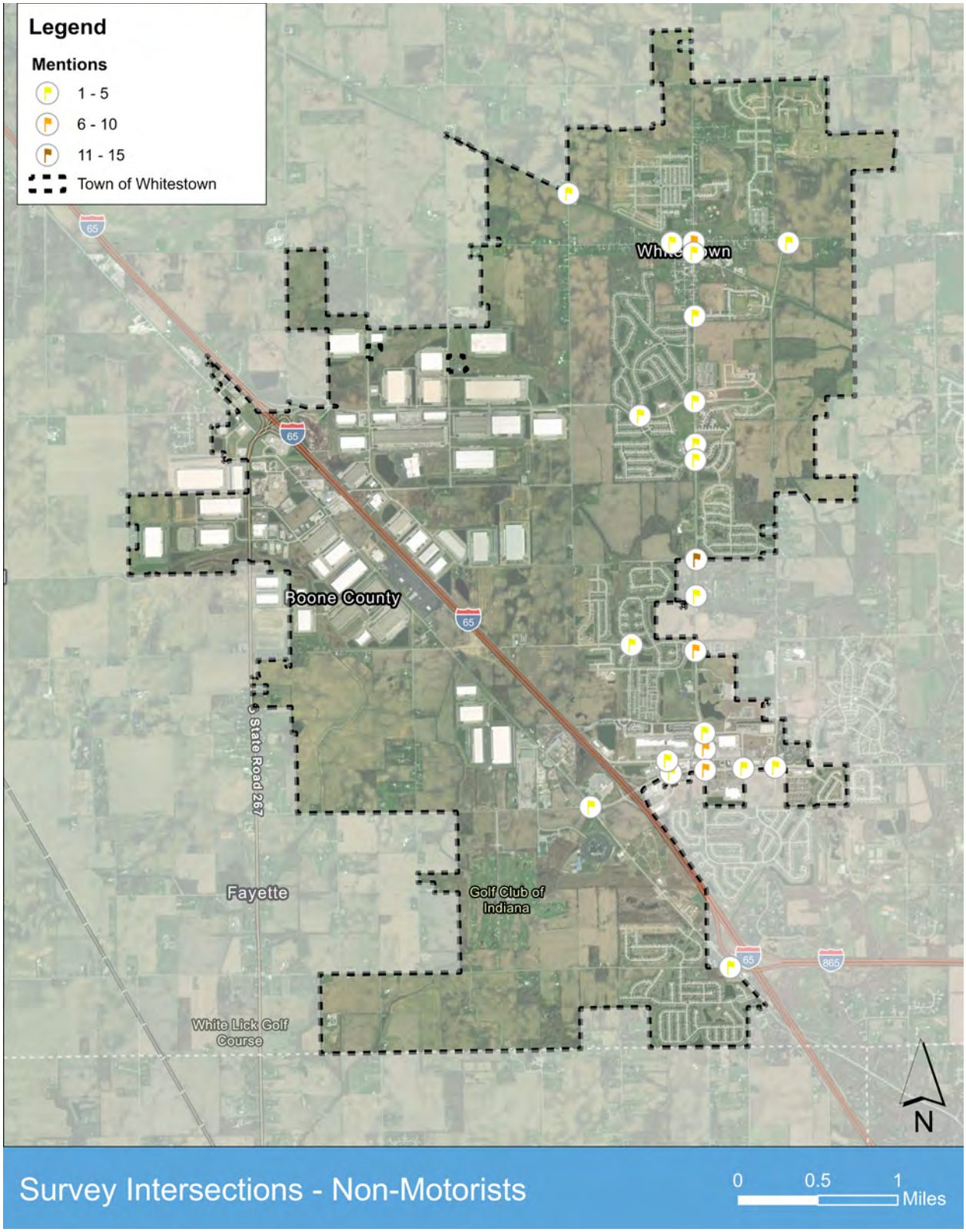


5.1.3 UNSAFE INTERSECTIONS PERCEIVED BY NON-MOTORISTS

Based on survey responses, several intersections in the Town of Whitestown are perceived as unsafe by bicyclists and pedestrians due to issues related to driver behavior, road design, traffic speed, and inadequate infrastructure for non-motorized users.

1. **South Main Street/East County Road 500 South** received 15 mentions and is considered particularly unsafe for pedestrians and cyclists. The main concerns include high driver speeds, poor road conditions, and frequent gravel debris, especially when turning off Main Street onto westbound East County 500 S. Additionally, there is no clear or accessible pedestrian path to cross the street and reach the sidewalk on the opposite side. Residents highlighted that a crosswalk is needed to connect the area to local shops on Main Street, with improved visibility for pedestrians, especially on the west side of the roundabout where trees obstruct drivers' view of those crossing.
2. **West Pierce Street/North Main Street** received 10 mentions, with issues related to driver speed, road design, driver behavior, and a lack of adequate signage or traffic control devices. These factors make it difficult for pedestrians and cyclists to navigate the intersection safely. The design of the intersection and drivers' behavior makes it particularly hazardous for non-motorized users.
3. **South Main Street / New Hope Blvd** received 8 mentions, with residents citing high driver speeds and poor road design. The increased traffic volume in the last decade, especially during school drop-off and pick-up times, has made the area more dangerous. Some residents suggested that rerouting school traffic or having buses drop off children across the street could help reduce the danger. There were also concerns about the underutilization of the Hawk signal, which could improve safety for pedestrians but is rarely used effectively.
4. **Whitestown Parkway / South Main Street** received 7 mentions, with the primary concerns being high driver speeds and confusing road design. Pedestrians and cyclists must cross multiple lanes of traffic in both directions, making the intersection particularly hazardous. Residents reported frequent instances of cars running red lights, heightening the risk of accidents, and expressed concerns that it's only a matter of time before someone is seriously injured or killed while trying to cross.

Figure 13: Unsafe Intersection Perceived by Bicyclists and Pedestrians in the Town of Whitestown, Indiana



5.1.4 UNSAFE ROADWAY SEGMENTS PERCEIVED BY NON-MOTORISTS

Based on survey responses, several roadway segments in the Town are perceived as unsafe for bicyclists and pedestrians due to poor infrastructure, inadequate road design, and safety concerns. These roadways lack proper accommodations for non-motorized users, creating significant hazards for cyclists and pedestrians.

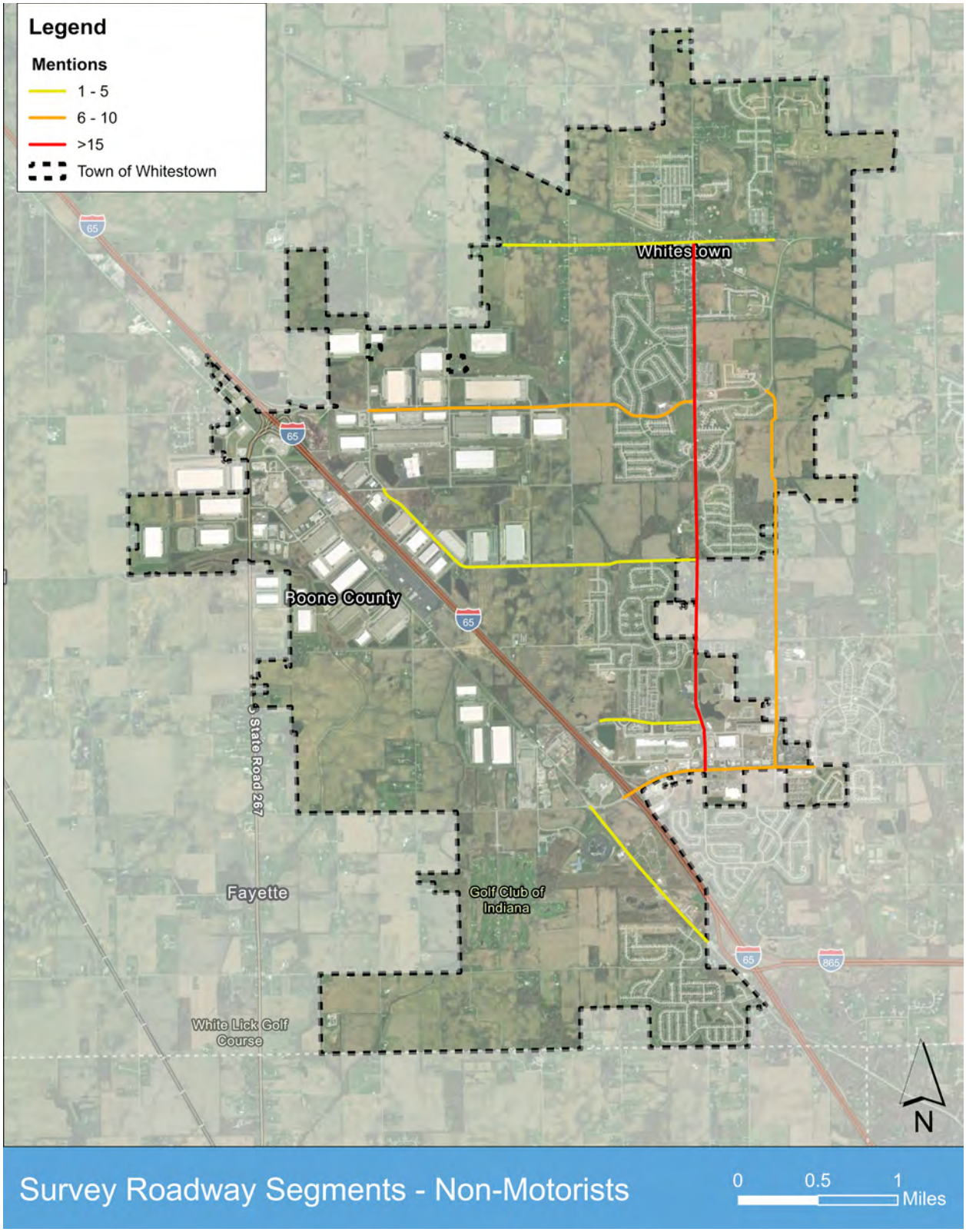
1. **Main Street from Whitestown Parkway to West Pierce Street** is the most frequently mentioned segment, with 88 responses. The main issues identified are the absence of a pedestrian walkway, poor road conditions, lack of signage or traffic control devices, and insufficient lighting. Residents noted that the road is too narrow to safely accommodate pedestrians or cyclists alongside vehicles, which can pass too closely to non-motorized users. There is also no sidewalk connecting the areas of Whitestown and Zionsville or the shopping areas in Anson, making it difficult for people to travel safely by foot or bike.
2. **Whitestown Parkway from I-65 to West Stonegate Drive** received 8 mentions. The primary concern is the lack of sidewalks, bike lanes, or pedestrian paths, particularly as the road crosses over I-65. Residents pointed out that accessing amenities in Anson requires a car, despite being within biking distance, as there are no safe alternatives for cyclists or pedestrians along this stretch of roadway.
3. **South County Road 700 East from Whitestown Parkway to East County Road 400 South** received 7 mentions. The main concerns include poor road conditions, inadequate road design, lack of lighting, and the absence of bike or pedestrian paths. This segment is dangerous due to heavy traffic, no road shoulder, and no bike lanes. The road's design and the lack of visibility due to the hilly terrain make it difficult for drivers to see cyclists, putting them at risk of accidents, particularly with speeding vehicles.
4. **Whitestown Parkway Bridge from I-65 to Whitestown Parkway** also received 7 mentions. Key concerns include high driver speeds, poor road design, and unsafe driver behavior. Bicyclists are at risk because the interchange forces them into the left lane, where high-speed traffic is on their right. The narrow shoulders of the bridge also make it unsafe for pedestrians, who often walk in the narrow space between traffic lanes.

5.2 HOW WAS PUBLIC INFORMATION USED?

The community identified intersections and roadways with safety concerns, which were analyzed and mapped using ArcGIS. This mapping exercise illustrates the precise locations of these safety issues. By pinpointing these problematic areas, the Town gained crucial insights into where to prioritize efforts in resolving road safety concerns.

This data serves as a roadmap for immediate action and facilitates identifying potential projects to address safety hazards for all road users, including drivers, pedestrians, bicyclists, and transit users. With this information, the Town of Whitestown can strategically plan and execute initiatives that enhance safety and promote smoother traffic flow throughout the region. The public input received from stakeholder meetings and surveys was incorporated into the overall strategy of the plan, as were specific safety improvements.

Figure 14: Unsafe Roadway Segments Perceived by Bicyclists and Pedestrians in the Town of Whitestown, Indiana



6. EQUITY CONSIDERATIONS

6. EQUITY CONSIDERATIONS

6.1 USDOT DISADVANTAGED CENSUS TRACTS

The US Department of Transportation's (USDOT) Equitable Transportation Community (ETC) Explorer tool uses 2020 Census data to evaluate communities that have experienced cumulative burdens due to historical underinvestment in transportation infrastructure. The ETC Explorer considers five critical components: **Transportation Insecurity, Climate and Disaster Risk, Environmental Burden, Health Vulnerability, and Social Vulnerability.** This analysis helps identify areas where transportation investments can help mitigate disadvantages and ensure a more equitable transportation system.

The ETC Explorer complements the White House Council on Environmental Quality's (CEQ) Climate and Economic Justice Screening Tool (CEJST). It focuses on understanding transportation-related disadvantages and ensuring that the benefits of USDOT investments are targeted toward mitigating transportation challenges in underserved communities. Rather than serving as a binary indicator of whether a census tract is disadvantaged, the ETC Explorer provides a detailed look into the severity of transportation-related burdens in various communities across the country.[2]

Census Tracts/project areas at "0%" are considered the least disadvantaged, and "100%" are the most. DOT considers a census tract to be experiencing a disadvantage if the overall index score places it in the 65% (or higher) of all US census tracts. The 65% cutoff was chosen to be consistent with CEJST, prioritizing tracts at the 65th percentile or above for CJEST's low-income indicator.[3]

Components of Transportation Disadvantage

1. **Transportation Insecurity:** Limited access to reliable, affordable, safe transportation options.
2. **Health Vulnerability:** Higher rates of health conditions linked to transportation issues.
3. **Environmental Burden:** Exposure to environmental hazards and pollution exacerbated by inadequate transportation systems.
4. **Social Vulnerability:** There is a higher likelihood of social isolation due to lack of access to transportation.
5. **Climate and Disaster Risk:** Communities are more susceptible to climate-related disasters without resilient transportation systems.

6.1.1 EQUITY FINDINGS IN WHITESTOWN[4]

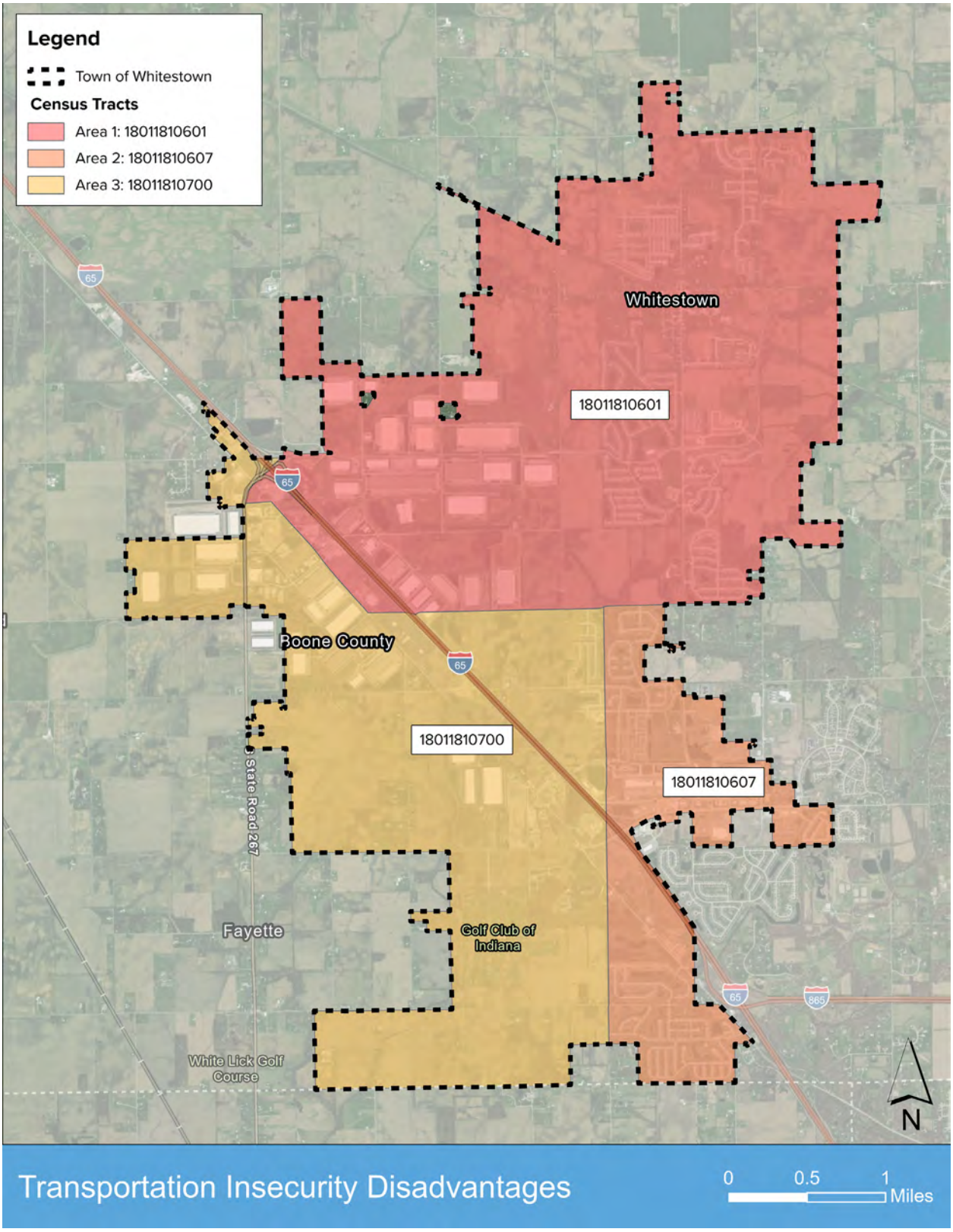
Based on the ETC Explorer tool, three census tracts in Whitestown have been identified as disadvantaged under the Transportation Insecurity component, specifically within the Transportation Access and Transportation Safety factors. Transportation insecurity occurs when residents cannot travel reliably and safely to meet their daily needs.

[2] Source: USDOT Equitable Transportation Community (ETC) Explorer

[3] Source: USDOT Equitable Transportation Community (ETC) Explorer

[4] Source: USDOT Equitable Transportation Community (ETC) Explorer

Figure 15: Town of Whitestown – Disadvantaged Areas



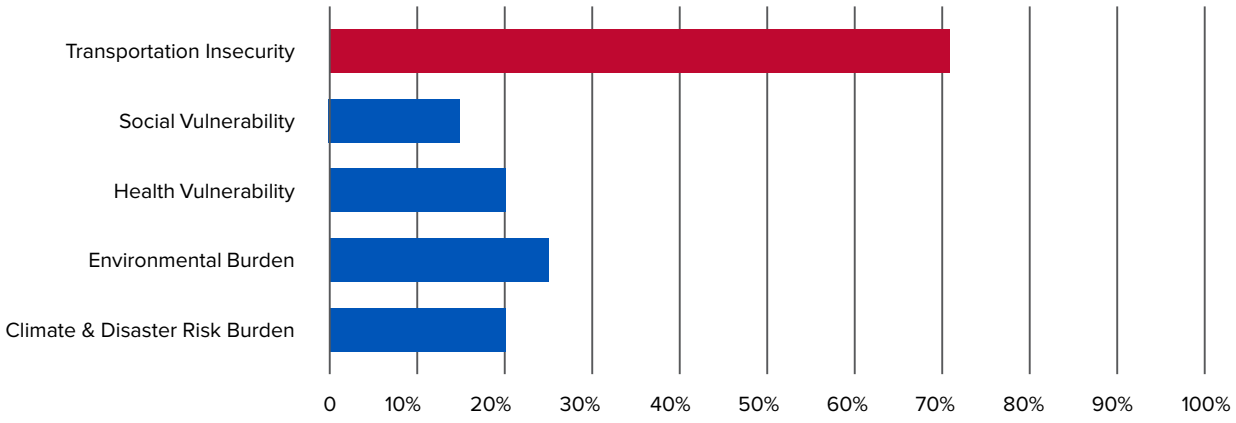
6.1.2 ETC EXPLORER'S DISADVANTAGE COMPONENTS AND INDICATORS

The ETC Explorer evaluates over 85,000 census tracts across the US, using a normalized scoring method called min-max scaling to create consistent comparisons. Scores for the five disadvantage components are calculated by summing the ranked, normalized indicators. These scores are then ranked in percentiles, comparing each census tract to others nationally and in different states. Based on federal guidelines, Census tracts ranked at or above the 65th percentile are considered disadvantaged.

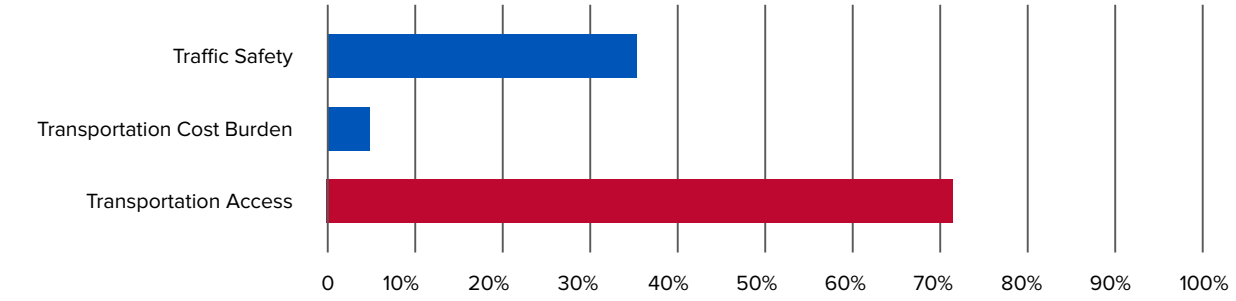
6.1.2.1 TRACT - 18011810601

- **Transportation Access:** This tract ranks in the 71st percentile, indicating significant transportation access challenges. Due to limited transportation options, including walking, driving, or public transit, residents may face longer commute times and difficulty accessing employment and essential services.
- **Estimated Drive Distances:**
  - Adult Education: 28 minutes
  - Grocery Stores: 7 minutes
  - Medical Facilities: 8 minutes
  - Parks: 4 minutes
- **Points of Interest within 15-Minute Walk:** None
- **Transportation Cost Burden:** Ranked in the 5th percentile, indicating a relatively low-cost burden compared to other areas. However, the average household spends 8.83% of their income on transportation, or approximately $11,870 annually.
- **Transportation Safety:** With a ranking of 36%, traffic fatalities are lower compared to more disadvantaged communities. According to the ECT Explorer tool statistics, this tract's estimated traffic fatality rate is 5.29 per 100,000 people annually (2016-2020).

Figure 16: Tract 18011810601 – Disadvantage Component Scores - Percentile Ranked



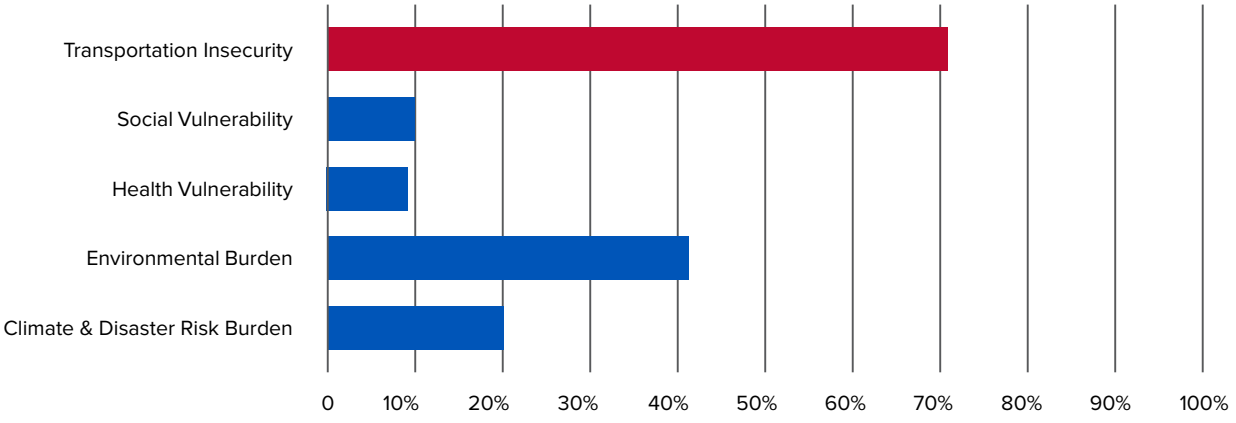
Transportation Insecurity - Percentile Rank



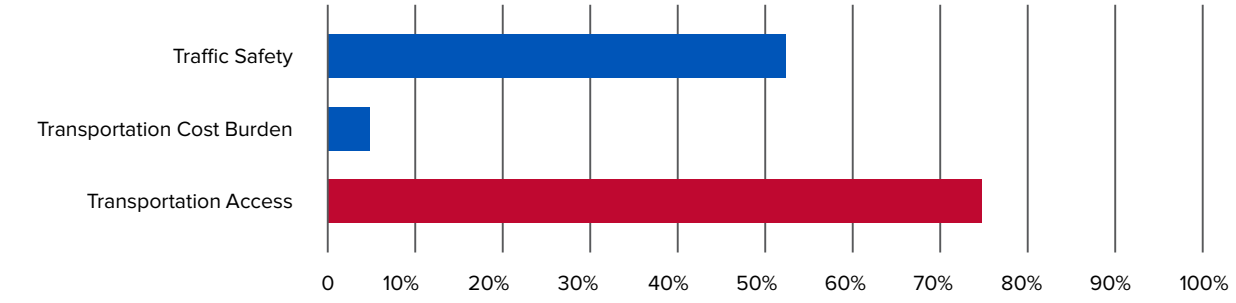
6.1.2.2 TRACT – 18011810607

- **Transportation Access:** This tract ranks in the 74th percentile, indicating more severe transportation access issues. Similar to Tract 18011810601, residents face long commute times and limited access to essential services.
- **Estimated Drive Distances:**
  - Adult Education: 23 minutes
  - Grocery Stores: 6 minutes
  - Medical Facilities: 4 minutes
  - Parks: 5 minutes
- **Points of Interest within 15-Minute Walk:** None
- **Transportation Cost Burden:** This tract is ranked in the 5th percentile, and households spend an average of 8.91% of their income on transportation ($12,668 annually).
- **Transportation Safety:** This tract ranks 52nd percentile, indicating higher traffic fatality rates compared to more advantaged communities. According to the ECT Explorer tool statistics, the estimated fatality rate is 9.28 per 100,000 people annually (2016-2020).

Figure 17: Tract 18011810607– Disadvantage Component Scores - Percentile Ranked



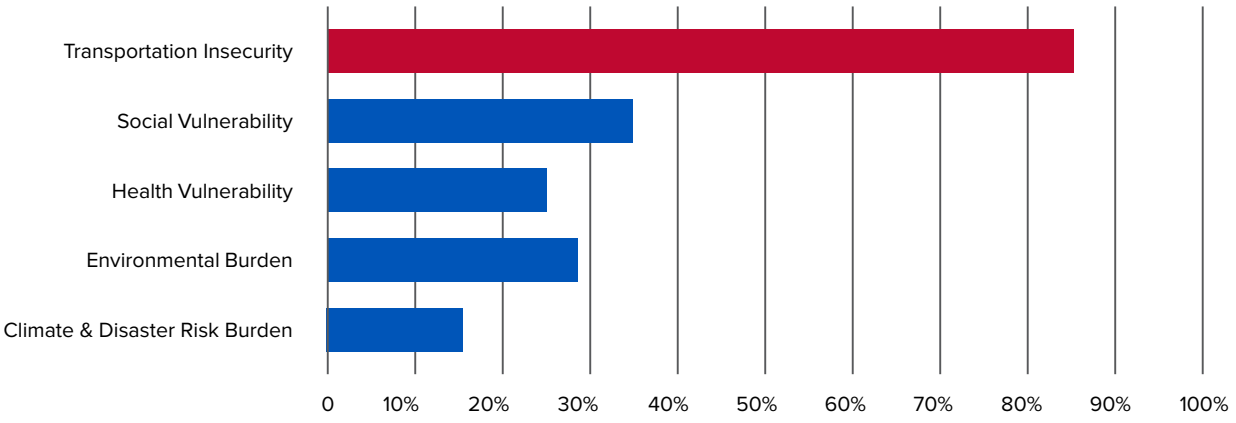
Transportation Insecurity - Percentile Rank



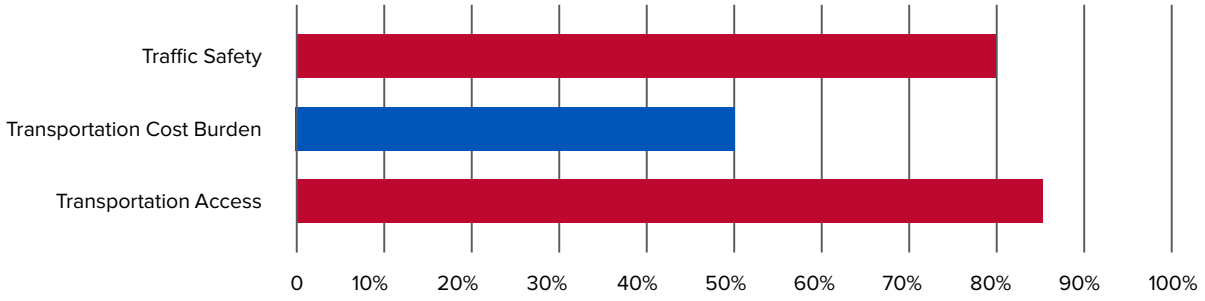
6.1.2.3 TRACT – 18011810700

- **Transportation Access:** This tract ranks in the 85th percentile, showing severe challenges in transportation access. Residents face longer commute times and difficulty accessing services, increasing the burden on those without reliable vehicles or nearby transit options.
- **Estimated Drive Distances:**
  - Adult Education: 28 minutes
  - Grocery Stores: 10 minutes
  - Medical Facilities: 5 minutes
  - Parks: 7 minutes
- **Points of Interest within 15-Minute Walk:** None
- **Transportation Cost Burden:** Ranked in the 50th percentile, indicating a moderate cost burden. Households in this tract spend an average of 15.88% of their income on transportation or about $11,606 annually.
- **Transportation Safety:** This tract ranks 80%, indicating a significant risk of traffic-related fatalities. According to the ECT Explorer tool statistics, the estimated fatality rate is 23.46 per 100,000 people annually (2016-2020).

Figure 18: Tract 18011810700 – Disadvantage Component Scores - Percentile Ranked



Transportation Insecurity - Percentile Rank



6.2 SUMMARY

Although none of the census tracts in Whitestown are considered disadvantaged under poverty, certain areas of the Town still rank as disadvantaged in the transportation category. These disadvantages can likely be attributed to the Town's limited public transportation options and gaps in pedestrian infrastructure, such as sidewalks and trail connectivity. These transportation barriers challenge residents to access key services, employment, and essential resources.

To address these transportation disadvantages, the Town of Whitestown can focus on enhancing the availability and reliability of public transportation, improving pedestrian and driver safety, expanding sidewalk networks, and improving connectivity between neighborhoods and key destinations through trails. By prioritizing infrastructure investments in these areas, the Town can help reduce transportation insecurity, provide more equitable access to opportunities for all residents, and foster a safer, more inclusive transportation system.

***The Equity Analysis findings will later be used for project prioritization in this Plan.**

7. LITERATURE REVIEW

7. LITERATURE REVIEW

The Literature Review section provides a comprehensive summary and analysis of relevant plans, policies, and documents that will inform the Town of Whitestown's Comprehensive Safety Action Plan (CSAP). This review critically assesses various materials that have shaped transportation policy, street design, and the overall management of the transportation system within the Town. By incorporating existing practices, this section aims to establish a foundation for developing effective safety strategies tailored to the unique context of the Town of Whitestown.

JURISDICTION	POLICY/PLAN NAME	YEAR PUBLISHED
Town of Whitestown	Unified Development Ordinance	2020
Town of Whitestown	Comprehensive Plan	2022
Town of Whitestown	Thoroughfare Plan	2020
Town of Whitestown	Legacy Core Plan	2018
Town of Whitestown	Parks and Recreation Master Plan	2023-2027
Town of Whitestown	Standard Specifications and Details	2020
Town of Whitestown	Sidewalk Assets Management Plan	2017
Town of Whitestown	Pavement Asset Management Plan	2017
Town of Whitestown	Bicycle and Pedestrian Master Plan	2018

7.1 TOWN OF WHITESTOWN UNIFIED DEVELOPMENT ORDINANCE (UDO) – 2020[5]

The Town of Whitestown Unified Development Ordinance (UDO) – 2020 is a comprehensive land use and development framework. Its primary objectives include promoting public health, safety, and general welfare and guiding the community's growth in alignment with the Comprehensive Plan. The ordinance encompasses various chapters addressing general provisions, zoning districts, specific uses, design and maintenance standards, landscaping, lighting, parking and loading, signage, subdivision regulations, administration, and definitions.

IMPORTANCE: The UDO plays a crucial role by establishing standards that influence the design and layout of transportation infrastructure. By setting guidelines for road widths, intersection configurations, signage, and lighting, the ordinance ensures that new developments contribute to a safe and efficient transportation network. Additionally, the UDO's parking and loading standards provisions help prevent congestion and maintain clear traffic flow, further enhancing safety. Through these measures, the ordinance supports creating a transportation environment that prioritizes the well-being of all users.

[5] Source: Whitestown-UDO

7.2 COMPREHENSIVE PLAN – 2022[6]

The 2022 Whitestown Comprehensive Plan Update serves as a long-term guide for community development, covering land use, transportation, local services, parks, and economic development. The Plan provides a framework for growth, identifying strategies for improving connectivity, roadways, pedestrians, and bicycle infrastructure. The Comprehensive Plan update helps ensure that future development aligns with the Town's vision and addresses the needs of residents, developers, and decision-makers.

IMPORTANCE: The Comprehensive Plan is essential because it articulates the community's long-term vision, influencing all aspects of urban growth and development. The Transportation & Circulation chapter directly impacts the safety of drivers and pedestrians by focusing on safe movement through the community. This approach includes the development of safer roads, pedestrian-friendly infrastructure, and enhanced mobility options, which are crucial for minimizing traffic accidents and improving overall community accessibility. The flexibility of this Plan allows Whitestown to adapt to emerging needs while focusing on public safety and the quality of life for residents.

7.3 THOROUGHFARE PLAN – 2020[7]

The Whitestown Thoroughfare Plan provides a detailed strategy for the Town's transportation network, focusing on long-term infrastructure improvements. It identifies transportation corridors and projects to enhance connectivity and accommodate future growth. This Plan ensures that transportation improvements will support the needs of drivers, cyclists, and pedestrians, although it does not address immediate traffic concerns or neighborhood calming measures.

IMPORTANCE: The Thoroughfare Plan is critical for ensuring safe and efficient transportation in Whitestown. By outlining planned roadway and infrastructure improvements, the Plan helps mitigate traffic congestion, enhances mobility, and supports pedestrian safety. Safe, well-planned roadways are vital for reducing traffic accidents and providing clear routes for drivers and pedestrians. It also ensures that future developments are integrated into a cohesive and efficient transportation system that accommodates all modes of travel, including walking and biking.

7.4 PARKS AND RECREATION MASTER PLAN – 2023[8]

The Park and Recreation Master Plan outlines the vision and goals for Whitestown's parks and recreation system, focusing on improving access to outdoor spaces, recreational opportunities, and pedestrian infrastructure. Initiatives in the Plan included expanding the Big Four Trail, improving trail connections, and enhancing the safety and accessibility of parklands. The Plan emphasizes creating experiences for all residents by improving infrastructure and developing additional parks and trails.

IMPORTANCE: This Plan promotes public health, safety, and well-being through active transportation options like walking and biking. By expanding and improving the trail system and parklands, the Plan encourages outdoor activities, increases mobility, and provides safe spaces for residents to exercise. The improvements to pedestrian and bicycle infrastructure enhance safety by offering well-maintained and accessible routes for non-motorized travel, which helps reduce pedestrian accidents and promotes a more active lifestyle. As the Town grows, the Plan supports the development of safer, more connected public spaces that benefit pedestrians and cyclists.

[6] Source: Whitestown Comprehensive Plan

[7] Source: Whitestown Thoroughfare Plan

[8] Source: Parks Master Plan

7.5 SIDEWALK ASSETS MANAGEMENT PLAN – 2017[9]

The Sidewalk Assets Management Plan outlines the inventory and maintenance strategy for Whitestown's sidewalks and trails, including 40.9 miles of sidewalks and 12.5 miles of trails. The Plan provides a detailed overview of the current state of pedestrian infrastructure and sets a frame for future improvements. It includes mapping and analysis tools to track and manage these assets effectively, ensuring their continued upkeep and accessibility.

IMPORTANCE: The Sidewalk Assets Management Plan is crucial for ensuring the safety of pedestrians in Whitestown. Well-maintained sidewalks and trails are essential for preventing accidents, especially for those walking, jogging, or using mobility devices. The Plan helps the Town prioritize and maintain its pedestrian infrastructure, ensuring all community public areas are accessible and safe. Regular maintenance and upgrades prevent deterioration that could create pedestrian hazards, fostering a safer walking environment. As the Town expands, this Plan ensures that new developments integrate well with existing pedestrian infrastructure, creating a continuous and safe network for walkers and cyclists.

7.6 PAVEMENT ASSET MANAGEMENT PLAN – 2017[10]

The 2017 Pavement Asset Management Plan for the Town of Whitestown focuses on systematically maintaining, upgrading, and operating the Town's streets to ensure their longevity and functionality. The Plan includes a comprehensive inventory of 68.48 miles of streets, with 65.46 miles of asphalt streets and 3.02 miles of gravel streets. The Pavement Surface Evaluation and Rating (PASER) system was implemented to assess the condition of these streets and prioritize maintenance based on pavement type. The Plan emphasizes the importance of preventative maintenance and recommends closely monitoring streets with PASER ratings near 5 to apply low-cost treatments before more expensive structural repairs are needed. The Town plans to reassess the streets every two years to track improvements and refine its maintenance strategies.

IMPORTANCE: The Pavement Asset Management Plan is crucial for ensuring the safety of both drivers and pedestrians by maintaining well-constructed and safe streets. The systematic use of the PASER rating system allows the Town to identify streets in need of attention, prioritize repairs, and apply the appropriate treatments at the right time. The Plan emphasized preventative maintenance, which helps extend the lifespan of streets and reduce the need for costly and disruptive repairs. Properly maintained streets reduce the likelihood of potholes, cracks, and other hazards that could cause accidents or injuries. Also, maintaining proper drainage through regular inspection of ditches, curbs, and shoulders prevents water from pooling on the roadway, which can lead to unsafe driving and walking conditions. The "mix of fixes" approach ensures that low-cost fixes are applied early, reducing long-term risks to public safety. Through this structured management process, Whitestown can ensure its streets remain safe and accessible for all road users, promoting overall traffic safety.

[9] Source: Whitestown Final SAMP Report

[10] Source: Whitestown Road Asset

7.7 BICYCLE AND PEDESTRIAN MASTER PLAN – 2018[11]

Whitestown aims to become one of Indiana's most walkable and bikeable communities. The Bicycle and Pedestrian Master Plan identifies a network of routes and corridors necessary to support this goal, focusing on creating walkable and bikeable infrastructure. The Plan outlines the development of shared-use trails, greenways, linear parks, and sidewalks to build a comprehensive multi-modal transportation network. The focus is not just on physical infrastructure but also on fostering a walking and biking culture. The Plan includes recommendations for policy changes, ordinances, and advocacy actions to promote biking and walking as practical transportation options, encouraging people to use these modes for more than just recreation.

IMPORTANCE: Creating walkable and bikeable infrastructure is important for the safety and convenience of pedestrians and cyclists. The Plan aims to reduce reliance on cars, enhance safety by decreasing traffic, and provide more space for alternative, non-motorized transportation modes. Well-designed and accessible pathways reduce pedestrian and cyclist accidents, improve public health, and create safer streets. By addressing infrastructure and culture, Whitestown ensures that walking and biking are viable, attractive alternatives for daily commutes, further promoting safety by encouraging more people to walk and Bike instead of driving. Also, fostering a biking and walking culture helps normalize these activities, making them safer and more common daily. Through policy and advocacy, the Plan aims to ensure that future development continues to prioritize pedestrian and cyclist safety, reinforcing the Town's commitment to becoming a safer, more sustainable community.

[11] Source: Bicycle and Pedestrian Master Plan

8. POLICY REVIEW

8. POLICY REVIEW

This Policy Review section summarizes the key findings from the documents in the Literature Review. It highlights significant insights concerning existing transportation safety barriers and opportunities for integrating a safety approach into the Town of Whitestown's transportation decision-making processes. The insights from this policy review reflect the current state of transportation safety in the Town of Whitestown and serve as a guiding framework for developing actionable and effective strategies in the final CSAP.

8.1 TOWN OF WHITESTOWN UNIFIED DEVELOPMENT ORDINANCE (UDO) – 2020[12]

The Town of Whitestown Unified Development Ordinance, Chapters 7 and 9, outlines several policy recommendations regarding parking and loading standards and subdivision regulations. Chapter 7 policies aim to ensure adequate and safe parking for vehicles and bicycles while offering flexibility through shared and tandem parking options. They emphasize efficient land use, with stormwater management, lighting, and traffic safety considerations. Chapter 9 policies aim to ensure the safe, efficient, and aesthetically coordinated development of streets and pedestrian facilities in Whitestown.

8.1.1 OFF-STREET VEHICLE PARKING:

1. General Parking Requirements:

1.1. New or substantially altered buildings must provide off-street parking spaces per these regulations.

1.2. Parking spaces must be on the same lot as the use served, though spaces within 500 feet of the main entrance may count.

2. Shared and Collective Parking:

2.1. Different uses may share parking spaces if the combined total meets or exceeds the required spaces.

2.2. Shared parking between different uses is allowed with approval, provided that off-site parking facilities are within 500 feet, meet 70% of the required spaces, and include a long-term (20-year) written agreement for shared use.

3. Parking Space Specifications:

3.1. Standard parking spaces must be 9 feet wide and 18 feet long with 7 feet of vertical clearance. Parallel spaces must be 8 feet wide and 22 feet long.

3.2. Spaces must be directly accessible from an aisle or drive, not a drive-through lane.

4. Tandem Parking:

4.1. Multi-family users may use tandem parking (spaces in front of garages reserved for specific renters).

[12] Source: Whitestown-UDO

5. Surfacing and Infrastructure:

5.1. Parking areas must be paved with a hard, dustproof surface equipped with stormwater systems and curbs. Exceptions may be granted for best management practices in stormwater systems.

5.2. Adequate lighting and traffic control devices must be installed to meet safety standards.

8.1.2 BICYCLE PARKING:

1. Bicycle Parking Requirements:

1.1. Bicycle parking is mandatory for new developments or expansions. A minimum of one bicycle space per 30 vehicle parking spaces is required, with a maximum of 15 spaces for any principal building.

1.2. Spaces must be at least 2.5 feet wide, 6 feet long, and have a vertical clearance of 7 feet.

2. Location and Accessibility:

2.1. Bicycle spaces must be within 50 feet of the main building entrance or inside.

2.2. Bicycle racks should be secured to the ground or wall on a hard, dust-free surface.

3. Exemptions:

3.1. Certain uses, such as daycare centers or car washes, may be exempt from bicycle parking requirements if it can be demonstrated that they are not destinations for bicycle visitors.

8.1.3 PARKING RATIOS FOR VEHICLES AND BICYCLES:

1. Parking Space Requirements:

1.1. Parking must meet minimum and maximum standards outlined in the Parking Requirements Table. Shared parking allows flexibility in reducing the number of spaces when users need them at different times.

2. Impact of On-Street Parking:

2.1. On-street parking spaces abutting the property line may reduce the required number of off-street parking spaces.

3. Gross Floor Area Exclusion:

3.1. The area of parking garages inside buildings is not included in the gross floor area for parking calculations.

4. Accessory Uses:

4.1. Parking is not required for accessory uses unless explicitly stated in the use regulations.

8.1.4 PEDESTRIAN NETWORK STANDARDS

1. Developments must establish a pedestrian network of sidewalks and/or asphalt pathways for transportation and recreation.

2. Concrete sidewalks, asphalt pathways, and crosswalks must adhere to the Town's construction standards and the Americans with Disabilities Act (ADA).

3. Curb ramps are required at intersections, excluding residential driveways, to comply with ADA.

4. Internal Pedestrian Network:

4.1. Sidewalks must be at least 5 feet wide (6 feet for residential uses abutting a curb).

4.2. Sidewalks must be on both sides of internal streets in developments.

4.3. Connections to existing sidewalks or pathways are required when developments abut others.

4.4. Connector sidewalks must lead from the street sidewalk to the front entrance of non-residential buildings, with crosswalks at intersections with driving lanes.

5. Perimeter Pedestrian Network:

5.1. Developments must provide pedestrian facilities along perimeter streets as per the Thoroughfare Plan.

5.2. Pathways may be located on the right-of-way or easements approved by the Administrator or Public Works.

8.1.5 STREET AND RIGHT-OF-WAY STANDARDS

1. Developments must allocate areas for streets that conform to the Thoroughfare Plan.

2. Right-of-Way Dedication:

2.1. Developments must dedicate additional right-of-way along streets that do not conform to the Thoroughfare Plan.

2.2. Developers must attempt to acquire property for passing blisters or lanes when needed, and if they are unsuccessful, they must provide documentation.

3. Private Streets:

3.1. Private streets must conform to the Ordinance and be constructed to Town standards.

3.2. Private streets must be within access easements, and financial sureties are required.

4. Street Design Principles:

4.1. Streets must provide access to all lots and promote safety, connectivity, and logical flow.

4.2. Streets should be designed to complement natural features and connect with adjacent properties.

4.3. Cul-de-sacs are discouraged unless topography or other factors prevent street continuation.

5. Improvement Standards:

5.1. Streets must conform to the Thoroughfare Plan and construction standards, including grading, surfacing, and special street types.

5.2. Cul-de-sacs: Maximum length of 600 feet, with design requirements for snow removal.

5.3. Alleys: Must meet Town construction standards.

5.4. Access Points: Strict regulations on access to arterial or collector streets, ensuring adequate access for large developments and emergency vehicles.

5.5. Traffic Control Devices: Must comply with the Indiana Manual on Uniform Traffic Control Devices.

8.1.6 STREET LIGHT STANDARDS

1. Streetlights must be installed at intersections, development entrances, and along internal streets.
2. Lighting must ensure vehicular and pedestrian safety, with guidelines for installation and spacing.
3. Street lights at intersections must follow Town standards and may be required at additional locations for safety.
4. **Decorative Lights:** If approved, these may differ from Town standards, and the developer will cover the installation costs.

8.1.7 STREET SIGN STANDARDS

1. **Street Signs:** Developments must install the minimum number of street signs for safety and navigation.
2. **Street Name Signs:** Required at every intersection within and around the development.
3. Street signs must comply with the Indiana Manual on Uniform Traffic Control Devices and Town standards.
4. **Decorative Signs:** With approval, they may differ from Town standards, but the developer is responsible for installation and maintenance.

8.2 COMPREHENSIVE PLAN – 2022[13]

1. Link Road Networks in Subdivisions:

- Promotes connectivity between subdivisions, reducing traffic congestion and enhancing pedestrian safety by providing alternative routes.
- **Safety Relevance:** Ensures smoother traffic flow and pedestrian pathways, decreasing the likelihood of traffic accidents.

2. Promote Pedestrian Circulation:

- Encourages walking and cycling as alternatives to vehicular traffic.
- **Safety Relevance:** By promoting walking and cycling, the Plan supports safer, dedicated pedestrian pathways, reducing the risks of pedestrian-vehicle collisions.

3. Implement Community-Wide Paths and Trails:

- Expand the trail system to connect different parts of the community.
- **Safety Relevance:** Provides safer walking and biking routes separate from vehicle traffic, reducing pedestrian risk and enhancing safety.

4. Develop Pedestrian Networks in New Developments:

- Ensures that new developments incorporate sidewalks and pedestrian pathways.
- **Safety Relevance:** Directly supports pedestrian safety by creating accessible, well-connected pedestrian networks.

5. Improve Mobility for Vulnerable Populations:

- Focuses on enhancing mobility for youth, seniors, and people with disabilities.
- **Safety Relevance:** Special attention to these groups promotes safety and accessibility in transportation, addressing their unique needs.

[13] Source: Whitestown Comprehensive Plan

6. Ensure Accessibility for Emergency Services:

- Guarantees that new developments allow efficient access for emergency vehicles.
- **Safety Relevance:** Facilitates quick emergency response times, indirectly improving safety for pedestrians and drivers.

7. Control Access Points Near Major Arterials:

- Regulates entrances and curb cuts near major roads to prevent accidents.
- **Safety Relevance:** Controls traffic flow and pedestrian movement, reducing conflicts between vehicles and pedestrians.

8. Encourage Alternative Transportation:

- Promotes alternatives like carpooling, public transit, and electric vehicles.
- **Safety Relevance:** Reduces the volume of vehicles on the road, lowering the risk of traffic accidents and improving pedestrian safety.

9. Enhance Streetscapes for Community Identity:

- Focuses on aesthetic improvements of streets.
- **Safety Relevance:** Well-designed streets improve driver awareness, help pedestrians feel more secure, and encourage more walking.

8.3 THOROUGHFARE PLAN – 2024[14]

1. Multi-Modal Transportation Network:

- Emphasizes walking, cycling, and public transport connectivity.
- **Safety Relevance:** Encourages a safer, more diverse transportation network where pedestrians, cyclists, and drivers can coexist safely.

2. Transportation Network Safety:

- Focus on identifying and improving intersections for better safety.
- **Safety Relevance:** Reduces accidents by improving road design, traffic flow, and pedestrian crossings at key intersections.

3. Economic Development Support:

- Enhances transportation infrastructure to support economic growth.
- **Safety Relevance:** Balances traffic and pedestrian safety while encouraging development, ensuring that economic growth doesn't come at the cost of safety.

4. Accessibility to Employment Centers:

- Prioritizes improving access to major roads and transportation systems.
- **Safety Relevance:** More accessible roads and routes for pedestrians and drivers reduce the risk of accidents while improving overall mobility.

5. Regional Connectivity and Coordination:

- Focus on coordinating infrastructure projects across jurisdictions.
- **Safety Relevance:** Enhances regional safety by ensuring that transportation infrastructure is consistent and safe.

[14] Source: Whitestown Thoroughfare Plan

8.4 PARKS AND RECREATION MASTER PLAN – 2023[15]

1. Well-Maintained Parks and Trails:

- Focuses on improving trail networks and ensuring they are safe and accessible.
- **Safety Relevance:** Well-maintained, well-lit, and properly designed trails create safer environments for pedestrians and cyclists, encouraging safe, active transportation.

2. Connect Trails to Parks and Neighborhoods:

- Expands the trail system to link parks and neighborhoods.
- **Safety Relevance:** Creates safe pedestrian and cyclist routes that are separated from vehicular traffic, reducing pedestrian-vehicle accidents.

3. Improve Trailheads and Connectivity:

- Improves access to trails and enhances connectivity.
- **Safety Relevance:** Makes it easier for pedestrians and cyclists to access trails safely, reducing the need to interact with vehicle traffic.

4. Promote Active Transportation:

- Supports walking and cycling, integrating these modes into the broader transportation system.
- **Safety Relevance:** Encourages safer transportation options by separating pedestrians from cars and providing more space for non-motorized transportation.

5. Expansion of the Big Four Trail:

- Plans for extending the Big Four Trail to increase trail use and connectivity.
- **Safety Relevance:** Promotes dedicated pathways for walking and cycling, reducing conflicts with motor vehicles and improving overall safety.

8.5 BICYCLE AND PEDESTRIAN MASTER PLAN – 2018[16]

8.5.1 PRIORITY PROJECTS/ROUTES IDENTIFIED:

1. **North/South Connector Trail along Main Street:** Create a key trail connecting Whitestown's north and south sides
2. **Extend Indianapolis Road Trail:** Extend the existing trail north to its terminus, improving connectivity.
3. **Greenway/Linear Park along Fishback Creek:** Develop a greenway for better pedestrian and cyclist access.
4. **Improve Access Across I-65:** Upgrade the interchanges and build a pedestrian bridge to enhance pedestrian and bicycle access across the highway.
5. **Extend the Big 4 Trail to Zionsville:** This important regional trail links Whitestown with Zionsville.

[15] Source: Parks Master Plan

[16] Source: Bicycle and Pedestrian Master Plan

8.5.2 UPDATE DEVELOPMENT ORDINANCES PROPOSED IN THIS PLAN:

1. **Require Shared-Use Trails in New Developments:** Developers must build shared-use trails in or near new developments.
2. **Align Standards Across Plans:** Update sidewalk and trail standards consistent with the Bicycle and Pedestrian Master Plan, the Thoroughfare Plan, and the Unified Development Ordinance.
3. **Town Projects to Follow Same Requirements:** Ensure that public projects meet the same pedestrian and bicycle infrastructure development standards.

8.5.3 POLICIES/ACTION ITEMS PROPOSED

1. **Safe Routes to Schools:** Partner with local schools to create plans that promote safer walking and biking routes for students.
2. **Annual Programming Events:** Develop events to encourage walking and biking and raise awareness.
3. **Advocate for Bicycle and Pedestrian Infrastructure:** Actively participate in regional planning efforts and advocate for bicycle and pedestrian projects to improve safety and connectivity.
4. **Review New Developments:** Use the Technical Advisory Committee to ensure that all new developments follow proper bicycle and pedestrian standards.

8.6 SIDEWALK ASSETS MANAGEMENT PLAN – 2017[17]

1. Repair Sidewalks with Low PASER Ratings:

- Actions: Prioritize repairs for sidewalks rated 1-3 (poor to fair condition).
- **Safety Relevance:** Addressing deteriorating sidewalks prevents pedestrian accidents caused by uneven surfaces, cracks, and other hazards, ensuring a safer walking environment.

2. Fix Non-Compliant and Non-Navigable Curb Ramps:

- Actions: Repair or replace curb ramps that don't meet ADA standards or are challenging to navigate.
- **Safety Relevance:** Ensuring compliance with ADA standards improves accessibility and safety for all pedestrians, particularly those with mobility challenges, and reduces the likelihood of falls and accidents.

3. Install Missing Curb Ramps:

- Actions: Add curb ramps where they're missing to enhance accessibility.
- **Safety Relevance:** Adding ramps where needed ensures safe access for all pedestrians, including those in wheelchairs, strollers, and other mobility devices, which enhances overall pedestrian safety.

4. Address Pathway Spot Defects and Barriers:

- Actions: Repair trip hazards and drainage issues that obstruct pathways.
- **Safety Relevance:** Fixing these spot defects reduces pedestrian accidents caused by tripping and ensures smoother, safer walking routes.

[17] Source: Whitestown Final SAMP Report

5. Vegetation Maintenance:

- **Actions:** Conduct annual pruning and weed removal to keep pathways clear.
- **Safety Relevance:** Clearing vegetation prevents obstructions and ensures navigable pathways, improving pedestrian safety and visibility.

8.7 OPPORTUNITIES FOR IMPROVEMENT

Based on the existing policies and guidelines from the Town of Whitestown, here are high-level recommendations to enhance driver and pedestrian safety. These high-level programs are only recommended but not required to be implemented.

Recommendations for Improved Safety

- Expand and enhance the pedestrian network: All new developments and significant renovations must integrate pedestrian pathways that meet the current Unified Development Ordinance sidewalk standards. All pathways must connect seamlessly to existing networks and destinations such as schools, parks, and commercial areas.
- Encourage safe routes to schools and public recreational facilities: Work with local schools to create and promote safer walking and biking routes for students, ensuring that these routes are well-maintained and lit. Establish a formal Safe Routes to School program to implement safety improvements, such as pedestrian crossing signals, improved lighting, and traffic calming measures around school zones.
- Enhance pedestrian infrastructure and connectivity: Expand the pedestrian network with well-marked sidewalks and crosswalks, especially connecting schools, commercial areas such as Anson, or areas on Main Street, ensuring compliance with ADA standards.
- Improve multi-modal transportation network: Update or expand the Bicycle and Pedestrian Master Plan from 2018 to prioritize connecting existing trails, such as the Big Four Trail, to new developments and key destinations in the Town. Additionally, the Town should require all new developments to include dedicated multi-use paths in the development plans.
- Public awareness and education campaigns: Encourage and support initiatives in the Bicycle Pedestrian Master Plan, such as developing a Safe Routes to Schools program within local school systems. Also, continue to offer programs/events that encourage residents to walk and bike to destinations, such as the Bike with a Cop.
- Lighting and visibility enhancements: Increase street lighting in high-traffic pedestrian areas and at key intersections to improve nighttime visibility for drivers and pedestrians, as lighting was highly mentioned in the survey.
- Traffic calming measures in residential areas: Support traffic calming measures suggested in a latter section of this document in high-traffic areas to slow down traffic and protect pedestrians.
- Technology and smart infrastructure integration: The Town can incorporate smart traffic management systems, such as pedestrian countdown signals, to improve traffic flow in high-traffic areas.
- Install and maintain bike parking facilities: All new commercial and multi-family developments must provide covered bike racks and secure bike parking around commercial buildings, recreational facilities, and other public facilities such as schools and libraries.

9. PROJECTS AND STRATEGIES

9. PROJECTS AND STRATEGIES

The SS4A Action Plan must contain effective strategies and project recommendations to achieve Vision Zero. Investments in engagement, education, and infrastructure all play a critical role in reducing fatal and serious injury crashes in Whitestown. We have conducted an extensive analysis of the Town's crash data (Section 4), developed an extensive engagement process (Section 5), and reviewed its existing program and policies (Sections 7 and 8), which culminate in the following project recommendations and strategies.

In November 2024, Whitestown passed a Vision Zero resolution to eliminate all fatal and serious injury crashes by 2040. Vision Zero is not just a goal. It reframes the way Whitestown views transportation safety. Vision Zero promotes thinking about transportation safety holistically, considering all transportation users, and incorporating strategies and recommendations that are more than just infrastructure improvements.

The SS4A Action Plan recommendations were developed through engagement with the Steering Committee. The SS4A Action Plan is about people, and the plan's recommendations must reflect that.

In developing recommendations for the SS4A Action Plan, we reviewed strategies to reduce fatal and serious injury (FSI) crashes endorsed by state and federal officials. The plan incorporates USDOT's Proven Safety Countermeasures and recommendations.

9.1 SCORING CRITERIA FOR SS4A PROJECT PROPOSALS

A list of potential projects has been compiled in the development of Whitestown's safety action plan, combining safety data, analysis, equity considerations, stakeholder and community input, and proven safety countermeasures. The resulting project list serves as a roadmap for prioritizing and executing safety projects aimed at achieving Vision Zero within the Town.

PROJECT IDENTIFICATION METHODOLOGY

Corridor segments and intersections identified within the High Injury Network (HIN) automatically qualified for inclusion in the project list. This strategic approach targeted areas with a history of recurring safety issues, supported by robust crash data analysis. The HIN, pinpointing locations with the highest fatal and injury crash frequencies, formed a solid foundation for identifying areas most in need of safety enhancements.

Additionally, the project list incorporates locations where safety projects have recently been completed or are nearing implementation. Some of these projects align with areas identified through safety analysis as high-crash locations, demonstrating proactive safety improvement efforts by transportation agencies. Moreover, input from the steering committee, leveraging their extensive knowledge of transportation safety needs in Whitestown, has enriched the project list.

Each location on the preliminary project list underwent evaluation across four emphasis areas outlined in the plan:

- Severe Crash Frequency
- Severe Crash Rate
- Environmental Justice
- Public Input

While all four elements are considered vital to the development of the Whitestown Safety Action Plan, collaboration among the steering committee defined the weight of each element in the project scoring criteria to be used. The resulting scoring system placed greater emphasis on elements that the steering committee deemed to be of greater importance in shaping its plan.

Furthermore, a specific scale was applied to evaluate each element, considering the range of values within each category. A points system was then devised to score the projects, assigning a maximum total number of points in each category based on their relative importance in the scoring system.

The weighted scoring system used to evaluate potential projects is depicted in ***Table 10.***

Table 10: Scoring Criteria for SS4A Project Proposals

FATALITY & SEVERE INJURY CRASH FREQUENCY

To achieve its Vision Zero goal, the Town targets locations where severe crashes are most frequent. By addressing the highest number of crashes at once, the Town can apply safety improvements to reduce severe crashes efficiently.

Criteria: Locations in the high injury network (HIN) or a crash "hotspot" identified through the SS4A safety analysis.

Projects were scored on the individual site's severe crash frequency.

30% weightage

FATALITY & SEVERE INJURY CRASH RATE

Taking action toward Vision Zero involves addressing locations where severe crashes are most likely to occur based on traffic volume. The plan intends to implement safety countermeasure projects at those locations that have the highest potential for safety improvement.

Criteria: Locations in the high injury network (HIN) or a crash "hotspot" identified through the SS4A safety analysis.

Projects were scored on the individual site's fatal and injury (F&I) crash frequency rate.

30% weightage

ENVIRONMENTAL JUSTICE

The SS4A program prioritizes equitable transportation access and outcomes for all community members.

Criteria: Projects located within or immediately adjacent to Environmental Justice (EJ) areas, as identified by the equity analysis, receive points for promoting inclusive transportation access and addressing disparities in underserved communities.

Projects were scored on the individual site location relative to an EJ area.

20% weightage

PUBLIC FEEDBACK

The CSAP is greatly dependent on the community's input due to their unique knowledge and experience with transportation issues within the Town of Whitestown. Most importantly, the community is the end user of the town's transportation facilities.

Criteria: Location was identified as a safety concern through the public engagement survey or previously noted by the public through the steering committee's input.

Projects were scored on the number of mentions of individual sites in the public engagement survey.

20% weightage

9.2 PROJECT OVERVIEW

The compiled projects list was scored in accordance with the criteria described above. The weighted total score of the project defined implementation priority. A multi-tier system was assigned for projects based on the range of scores to give the highest priority to projects that obtained the greater total weighted scores. Therefore, projects that were determined to have the highest need for improvement will be expected to have the highest priority for funding and implementation.

The tier system to correspond with a tentative implementation time frame is defined as follows:

- **Tier 1:** Scores > 25, Implementation 2025-2030 (Short-term/Highest priority)
- **Tier 2:** Scores >15 to ≤ 25, Implementation 2030-2035 (Interim/Medium priority)
- **Tier 3:** Scores ≤ 15, Implementation 2035+ (Long-term/Lower priority)

The resulting projects with their total weighted scores, implementation timeframe, and proposed countermeasures for segments are summarized in ***Table 11*** and for intersections in ***Table 12***. The complete Comprehensive Safety Action Plan Project List is provided in the appendix.

Table 11. Comprehensive Safety Action Plan Projects Scoring Summary – Roadway Segments

PROJECT LOCATION	WTD. TOTAL SCORE	TIER	PROPOSED COUNTERMEASURES
1. Whitestown Pkwy – Indianapolis Rd to Main St	38	Tier 1	**ST:** Install retroreflective backplates on signal heads, Install speed feedback signs, Optimize signal timing and clearance intervals, Crosswalk visibility enhancements, Refresh all signing and pavement markings, Install flashing yellow arrow signal, Roadway lighting improvements, Improve EB turn lane delineation, Implement Leading Pedestrian Interval at all signalized intersections **LT:** Implement access management, Install pedestrian refuge islands, Install roundabout intersectionsm, Improve sidewalk connectivity along the segment
2. Indianapolis Rd – Whitestown Pkwy to North of Cozy Ln	37	Tier 1	**ST:** Systemic application of multiple low-cost countermeasures at stop-controlled Intersections, Install speed feedback signs, Install raised pavement markers and rumble strips **LT:** Install widened shoulders, Install median, Improve sidewalk connectivity along the segment
3. Main St – Pierce St to Albert S White Dr	24	Tier 2	**ST:** Systemic application of multiple low-cost countermeasures at stop-controlled Intersections, Install speed feedback signs, Enhance visibility at trail crossings, Crosswalk visibility enhancements, Roadway lighting improvements, Install PHB's / RRFB's **LT:** Install median, Install bike lanes, Install roundabout intersections
4. Perry Worth Rd – CR 550 S to Curve	22	Tier 2	**ST:** Improve delineation on horizontal curve, Install raised pavement markers and rumble strips, Refresh all signing and pavement markings, Install wider edge lines **LT:** Reconfigure roadway alignment to reduce curve radius
5. Whitestown Pkwy – CR 425 E to CR 475 E	22	Tier 2	**ST:** Systemic application of multiple low-cost countermeasures at stop-controlled Intersections, Install advanced intersection warning signage, Install speed feedback signs, Install raised pavement markers and rumble strips **LT:** Install widened shoulder, Install median, Improve sidewalk connectivity along the segment
6. Albert S White Dr – CR 500 E to I-65 Ramps	20	Tier 3	**ST:** Systemic application of multiple low-cost countermeasures at stop-controlled Intersections, Install retroreflective backplates on signal heads, Install speed feedback signs, Optimize signal timing and clearance intervals, Crosswalk visibility enhancements, Refresh all signing and pavement markings, Install flashing yellow arrow signal, Roadway lighting improvements **LT:** Implement access management, Install pedestrian refuge islands, Install roundabout intersections

ST = Short-term Countermeasures **LT** = Long-term Countermeasures

*Denotes projects within joint jurisdiction (Town and INDOT)

Table 12. Comprehensive Safety Action Plan Projects Scoring Summary – Intersections

PROJECT LOCATION	WTD. TOTAL SCORE	TIER	PROPOSED COUNTERMEASURES
1. Whitestown Pkwy & Perry Worth Rd	36	Tier 1	**ST:** Optimize signal timing and clearance intervals, Crosswalk visibility enhancements, Refresh all signing and pavement markings, Implement leading pedestrian interval, Install flashing yellow arrow signal, Roadway lighting improvements **LT:** Install roundabout, Install pedestrian refuge islands, Improve sidewalk connectivity
2. Whitestown Pkwy & Indianapolis Rd	34	Tier 1	**ST:** Refresh all signing and pavement markings, Roadway lighting improvements
3. Indianapolis Rd & Eagle Nest Blvd	31	Tier 1	**ST:** Systemic application of multiple low-cost countermeasures at stop-controlled Intersections, Refresh all signing and pavement markings, Install advanced intersection warning signage, Install speed feedback signs, Roadway lighting improvements **LT:** Implement access management, Install roundabout, Install median
4. Albert S White Dr & Main St	28	Tier 1	**ST:** Crosswalk visibility enhancements, Refresh all signing and pavement markings, Roadway lighting improvements
5. Whitestown Pkwy & Main St	25	Tier 2	**ST:** Optimize signal timing and clearance intervals, Crosswalk visibility enhancements, Refresh all signing and pavement markings, Implement leading pedestrian interval, Install flashing yellow arrow signal, Roadway lighting improvements **LT:** Install roundabout, Install pedestrian refuge islands, Improve sidewalk connectivity
6. Whitestown Pkwy & I-65 NB Ramp	24	Tier 2	ST. Optimize signal timing and clearance intervals, Refresh all signing and pavement markings, Roadway lighting improvements Note: INDOT study planned **LT:** Install roundabout
7. Albert S White Dr & CR 500 E	17	Tier 3	**ST:** Systemic application of multiple low-cost countermeasures at stop-controlled Intersections, Crosswalk visibility enhancements, Refresh all signing and pavement markings, Install advanced intersection warning signage, Install speed feedback signs, Roadway lighting improvements **LT:** Implement access management, Install roundabout, Install pedestrian refuge islands
8. Albert S White Dr & Anson Blvd	14	Tier 3	**ST:** Systemic application of multiple low-cost countermeasures at stop-controlled Intersections, Crosswalk visibility enhancements, Refresh all signing and pavement markings, Install advanced intersection warning signage, Install speed feedback signs, Roadway lighting improvements **LT:** Upgrade Lighting, Install Reduced Left-Turn Conflict Intersection, Install Pedestrian Features, Connect Sidewalks on Intersection Approaches **LT:** Install roundabout, Install pedestrian refuge islands

ST = Short-term Countermeasures **LT** = Long-term Countermeasures
*Denotes projects within joint jurisdiction (Town and INDOT)

9.3 STRATEGY RECOMMENDATIONS

While infrastructure plays an important role in achieving Whitestown's Vision Zero goal, strategies that focus on enforcement, education, and engagement are just as critical to adopting a holistic multi-disciplinary approach to safety. To develop strategies for the SS4A Action Plan, we reviewed the historical crash data records, public feedback, and state and federal resources.

The initial twelve strategies, categorized by the Safe System Element they address, are summarized in Table 13. Each strategy comprises various components aimed at furthering its objectives. For a more comprehensive understanding of the proposed actions, anticipated implementation timelines, and the departments accountable for execution—as well as supporting departments where applicable—please refer to the subsequent sections. It's worth noting that the Steering and Implementation Committee reserves the right to amend or refine these strategies based on evolving information, community input, considerations of equity impacts, and insights gleaned from ongoing evaluations.

Table 13: Whitestown CSAP Comprehensive Safety Strategies

NO.	STRATEGY	SAFE SYSTEM ELEMENT ADDRESSED
1	Launch a Comprehensive Safety Campaign	Safe Users, Safe Vehicles
2	Implement Measures to Reduce Speeding Townwide	Safe Users, Safe Vehicles, Safe Speeds
3	Foster a Culture of Shared Responsibility within the Town	Safe Users, Safe Vehicles, Safe Speeds
4	Target High Injury Areas to Reduce Severe Crashes and Speeds	Safe Users, Safe Vehicles
5	Transform Residential Streets into Safe, Low-Speed, Low-Stress Environments	Safe Users, Safe Streets
6	Develop Commercial Streetscapes Promoting Safe Speeds and Crossings	Safe Users, Safe Streets
7	Implement Systemic Improvements at High-Risk Locations	Safe Users, Safe Vehicles, Safe Speeds
8	Establish Safe, Accessible Networks for Pedestrians, Cyclists, and Assistive Device Users	Safe Users, Safe Streets
9	Ensure Equity in Access to Safe Vehicles	Safe Users, Safe Vehicles
10	Rapid Response to Fatal Crashes	Safe Users, Safe Vehicles, Safe Speeds, Post-Crash Care
11	Utilize Data and Technology to Understand High-Risk Behaviors and Streets	Safe Users, Safe Vehicles, Safe Speeds, Safe Streets
12	Monitor Progress towards Safety Goals	Safe Users, Safe Vehicles, Safe Speeds, Safe Streets, Post-Crash Care

STRATEGY 1: LAUNCH A COMPREHENSIVE SAFETY CAMPAIGN

Establishing a comprehensive safety culture throughout Whitestown, embraced by all sectors, including the public, initiates raising awareness about the Town's significant crash challenges, their impact, causative factors, and preventive measures. Campaign messages, disseminated across diverse platforms, must center on severe crashes and emphasize the detrimental impact of speed on crash severity. Our messaging strategy should be tailored to inspire the behavioral shifts essential for mitigating and eradicating severe crashes.

Table 14: Strategy 1 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Create a culturally relevant traffic safety campaign aimed at reducing severe injuries and fatalities by addressing speeding and dangerous driving behaviors such as running red lights and failing to yield to pedestrians.	Within the next 1-3 years	Town of Whitestown (Engineering, Public Relations Department, Police)
Communicate information about the City's speed limits and any future changes to speed limits through social media and other channels available to the City.	Within the next 1-3 years	Town of Whitestown (Police Department, Lebanon & Zionsville Community School Districts, Local Chambers of Commerce)
Prioritize driver education and awareness through civilian staff warnings and diversion programs before enforcing fines at high-crash locations and areas with heightened dangerous driving behaviors.	Within the next 1-3 years	Town of Whitestown (Police Department, Lebanon & Zionsville Community School Districts, Local Chambers of Commerce)
Communicate information about the Town's speed limits	Within the next 1-3 years	Lebanon & Zionsville Community School Districts, Local Hospitals

STRATEGY 2: IMPLEMENT MEASURES TO REDUCE SPEEDING TOWNWIDE

The Town recognizes that solely relying on messaging won't ensure all drivers slow down. Therefore, Whitestown is committed to designing our streets to encourage safe speeds for pedestrians, cyclists, and those using assistive devices. This includes adjusting posted speed limits to align with our desired target speeds for safer streets. Additionally, we'll explore alternative enforcement approaches, carefully considering their equity implications.

Table 15: Strategy 2 Action Items Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Ensure that adequate signage is placed on major streets to alert drivers of the designated speed limit.	Within the next 1-3 years	Town of Whitestown (Engineering, Public Works)
Establish zones with reduced speed limits by implementing changes to speed regulations and implementing road designs that naturally encourage compliance, particularly in areas with a high concentration of vulnerable road users such as schools, parks, community centers, and housing facilities for seniors and transitional residents.	Within the next 1-3 years	Town of Whitestown (Engineering, Public Works)
Evaluate the fairness, uniformity, effectiveness, and equity considerations of existing traffic enforcement methods, fines, and legal procedures.	Within the next 3-5 years	Town of Whitestown (Clerk-Treasurer)
Explore the potential implementation of automated systems to address dangerous driver behaviors like speeding, drawing inspiration from initiatives in other US cities.	Within the next 3-5 years	Town of Whitestown (Public Works), Local and/or State Law Enforcement Agencies

STRATEGY 3: FOSTER A CULTURE OF SHARED RESPONSIBILITY WITHIN THE TOWN

The Safe System Approach underscores the shared responsibility in reducing severe crashes, emphasizing that everyone has a role to play. Whitestown has an opportunity to take the lead by fully embracing the goal of eliminating severe crashes and integrating the Safe System approach into all Town services and operations. The role of Town employees in setting an example through their behaviors is equally crucial. If Whitestown is committed to achieving the townwide goal of eliminating traffic crashes, it is imperative that the Town holds itself accountable and refuses to tolerate unsafe driving practices among Town employees.

Table 16: Strategy 3 Action Items Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Train and educate Town staff, contractors, and government partners on Safe System concepts and practices to raise awareness.	Within the next 1-3 years	Town of Whitestown (Town Council)
Create and execute a driver training program for employees who operate vehicles during work duties, focusing on safe driving practices, particularly regarding speed and interactions with pedestrians, cyclists, scooter riders, and individuals using assistive devices.	Within the next 3-5 years	Town of Whitestown (Town Council)

STRATEGY 4: TARGET HIGH INJURY AREAS TO REDUCE SEVERE CRASHES AND SPEEDS

For a long time, severe crashes have been seen as an unavoidable part of operating, making the Town's goal difficult to achieve. However, by investing in the HIN, Whitestown has the chance to significantly reduce severe crashes and prove that eliminating roadway fatalities and serious injuries is achievable. As we enhance the HIN, we must assess the extent of our progress and adjust our priorities as needed to ensure we continue to focus on the most valuable safety investments.

Table 17: Strategy 4 Action Items Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Integrate the High Injury Network (HIN) into the yearly major street resurfacing plan and maintain safety enhancements during resurfacing projects.	Within the next 1-3 years	Town of Whitestown (Engineering, Public Works)
Review all High Injury Network (HIN) corridors managed by the Town for safety enhancements and execute a minimum of one corridor safety project annually. These projects will utilize a blend of quick-delivery enhancements like striping and signal adjustments alongside capital investments such as RRFBs, curb extensions, and refuge islands.	At least biennial	Town of Whitestown (Engineering, Public Works)
Regularly update the High Injury Network (HIN) every 3 to 5 years using current crash data to pinpoint new areas for enhancement and showcase successful declines in severe and fatal crashes.	At least every 5 years	Town of Whitestown (Engineering)

STRATEGY 5: TRANSFORM RESIDENTIAL STREETS INTO SAFE, LOW-SPEED, LOW-STRESS ENVIRONMENTS

Although most severe crashes happen on busy arterial and collector streets, the Town must prioritize safety on low-traffic residential streets, which serve as essential pathways for pedestrians and cyclists accessing neighborhood amenities like parks and schools in Whitestown.

Table 18: Strategy 5 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Continue seeking federal and state Safe Routes to School (SRTS) grants for safety enhancements around local schools and explore collaborations with other town departments to implement broader safety measures in upcoming years.	Ongoing	Town of Whitestown (Planning, Engineering, Public Works Department), Lebanon & Zionsville School Districts
Assess the influence of freight and heavy trucks on traffic safety, especially in residential areas, and create measures and standards to address unsafe conditions.	Within the next 3-5 years	Town of Whitestown (Engineering, Public Works), Local Chambers of Commerce
Implement a trial Slow Street Network initiative and assess its effectiveness using safety data and feedback from residents	Within the next 5+ years	Town of Whitestown (Engineering, Public Works)

STRATEGY 6: DEVELOP COMMERCIAL STREETSCAPES PROMOTING SAFE SPEEDS AND CROSSINGS

It is crucial to create inviting environments that cater to all individuals, where economic vitality, social interaction, and community development thrive without being compromised by hazardous street conditions to maximize the benefits of the commercial streets in Whitestown.

Table 19: Strategy 6 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Include speed reduction measures in all streetscape initiatives and adjust speed limits to align with target speeds whenever possible.	Within the next 1-3 years	Town of Whitestown (Engineering, Public Works)
Broaden the criteria for selecting streetscape projects to encompass areas with elevated severe crash rates and risky roadway characteristics.	Within the next 3-5 years	Town of Whitestown (Engineering, Public Works)

STRATEGY 7: IMPLEMENT SYSTEMIC IMPROVEMENTS AT HIGH-RISK LOCATIONS

The review of severe crashes, vulnerable road users, and high-risk road attributes reveals opportunities for significant investments in preemptive measures to prevent severe crashes. By acting quickly, the Town can implement and evaluate new countermeasures while refining internal procedures to enhance safety.

Table 20: Strategy 7 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Deploy and evaluate rapid implementation of countermeasures matched for crash types identified in Section 4 of the report.	Within the next 1-3 years	Town of Whitestown (Engineering, Public Works)
Expedite systemic safety improvements through the Right- of-Way permitting process.	Within the next 3-5 years	Town of Whitestown (Public Works, Planning)

STRATEGY 8: ESTABLISH SAFE, ACCESSIBLE NETWORKS FOR PEDESTRIANS, CYCLISTS, AND ASSISTIVE DEVICE USERS

Through the adopted resolution, the Town has pledged to guarantee safe and convenient mobility for all residents of Whitestown, regardless of their mode of transportation. Recognizing the increased vulnerability of pedestrians, cyclists, and individuals using assistive devices, Whitestown intentionally designs its streets to facilitate their safe movement to desired destinations.

Table 21: Strategy 8 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Improve lighting at pedestrian crossings and trail crossings	Within the next 1-3 years	Town of Whitestown (Public Works, Parks and Recreation)
Enhance safety at intersection pedestrian crossings with proven measures like curb extensions, refuge islands, high-visibility crosswalk markings, signage, signals, and beacons.	Within the next 1-3 years	Town of Whitestown (Engineering, Public Works)
Install mid-block crossings between major pedestrian areas where crossing distances between existing signals or enhanced crossings are impractical.	Within the next 3-5 years	Town of Whitestown (Engineering, Public Works)

STRATEGY 9: ENSURE EQUITY IN ACCESS TO SAFE VEHICLES

Explore avenues to enhance the safety of the existing vehicle users in Whitestown, ensuring that all residents (including those who cannot afford new vehicles or choose not to drive) are accounted for in safety initiatives.

Table 22: Strategy 9 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Create concise policies regarding the deployment and usage of micromobility devices.	Within the next 3-5 years	Town of Whitestown (Planning, Town Council)
Promote accessible and attractive alternatives to owning personal vehicles, such as shared mobility, public transit, walking, and cycling, through investments, pilot initiatives, subsidies for low-income individuals, and incentives.	Within the next 5+ years	Town of Whitestown (Engineering, Town Council)

STRATEGY 10: RAPID RESPONSE TO FATAL CRASHES

As the Town enacts the safety plan and fosters collaborations and a collective safety mindset among various sectors and the community, it recognizes that unfortunate crashes may still happen. It's crucial to not only react to severe crashes but also to increase the understanding of their causes and effects.

Table 23: Strategy 10 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Regularly provide the public and decision-makers with access to statistics regarding fatal crashes.	Every 3 to 5 years	Town of Whitestown (Engineering, Police, Public Relations)
Implement safety enhancements at locations where fatal crashes have occurred.	Within the next 3+ years	Town of Whitestown (Engineering, Public Works)
Work with medical experts to merge hospital and crash data, enhancing the understanding of severe crash demographics, enhancing behavioral intervention effectiveness, and accessing additional funding streams.	Within the next 5 years	Town of Whitestown (Engineering), Local Health Partners Foundation
Explore traffic signal priority measures for emergency vehicles to expedite and ensure safer response times to crashes and medical emergencies.	Within the next 1-3 years	Town of Whitestown (Engineering, Public Works, Police, Fire, EMS), Local Health Partners Foundation

STRATEGY 11: UTILIZE DATA AND TECHNOLOGY TO UNDERSTAND HIGH-RISK BEHAVIORS AND STREETS

Whitestown relies on police reports to gauge severe and fatal crashes' severity, location, and nature. However, this data source offers only a partial view of high-risk behaviors and may overlook crucial opportunities for intervention. To comprehensively evaluate and address these areas, Whitestown must access additional relevant data from various existing and emerging sources to enhance safety planning, evaluation, and monitoring efforts.

Table 24: Strategy 11 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Gather and centralize data on severe crashes, speeds, and risky driving behaviors to gain deeper insights into current and potential locations of severe crashes and their impact on road users.	Within the next 3-5 years	Town of Whitestown (Steering Committee, Engineering, Police)
Enhance data collection and analysis techniques to assess the impact of countermeasures efficiently through customized, streamlined, and automated tools and dashboards.	Within the next 3-5 years	Town of Whitestown (Engineering, Police)
Obtain subscription to big data analytics company such Streetlight/INRIX to determine where and when speeding occurs throughout the Town.	Within the next 5 years	Town of Whitestown (Engineering)

STRATEGY 12: MONITOR PROGRESS TOWARDS SAFETY GOALS

Enhancing road safety in Whitestown relies on its capacity to learn from its initiatives and enhance the procedures continually. Evaluation serves as a means of accountability. Further details on the evaluation methods, progress tracking, and coordination of implementation are outlined in the following progress and transparency section.

Table 25: Strategy 12 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Annually review the progress of the Comprehensive Safety Action Plan (CSAP) strategies, presenting the findings to the Steering & Implementation Committee. Assess the need for updates to the CSAP based on the evaluation results.	Annually	Town of Whitestown (Steering Committee)
Annually assess the effectiveness of the corridor safety projects by analyzing crash data, gathering resident feedback, and utilizing other relevant data sources. Identify any necessary further improvements based on the evaluation results.	Annually	Town of Whitestown (Steering Committee)

10. PROGRESS AND TRANSPARENCY

10. PROGRESS AND TRANSPARENCY

This CSAP serves as a detailed plan to achieve the regional goal of reducing fatal and serious injury crashes by 100% in the Town of Whitestown by the year 2040. While this goal is within reach, there will be considerable effort needed to change behaviors and implement systemic changes.

Many strategies outlined in the CSAP can be executed within a shorter timeframe, while others may require longer-term or ongoing efforts. It's important to recognize that while completing all strategies within specific timeframes may not always be possible, that focus should be on continuous adaptation and evaluation for the sake of accountability and progress.

The CSAP aims to establish a comprehensive safety program with a strong framework for monitoring and evaluation to demonstrate incremental progress each year. It also emphasizes the importance of adjusting strategies as needed based on feedback from Whitestown residents.

SS4A ACTION PLAN PROGRESS MEASURES

The SS4A Action Plan in Whitestown is designed to evolve over time, reflecting ongoing efforts and progress toward achieving Vision Zero for the Town. As milestones are reached, the impact of these achievements on the overall safety goals will be regularly assessed.

The Town will publish an annual report on the progress of the SS4A Action Plan each January. This report will feature the following:

- Updated crash statistics, focusing on fatal and serious injury incidents as well as bicycle and pedestrian-related crashes.
- Graphical representations of crash trends over the past five years
- Updated status of projects recommended by the SS4A Action Plan.
- Update the Town's CSAP dashboard, HIN, and hotspot intersections every two years to ensure the roadway network accurately reflects the current townwide safety landscape.

TRANSPARENCY

The Town of Whitestown has developed the SS4A Action Plan with the goal of full transparency. As part of the engagement process, the Town created a diverse steering committee, conducted a townwide survey, and engaged consultants to allow as many voices as possible into the development of the plan. The SS4A Action Plan will be posted in final form on the Town's SS4A Action Plan/Vision Zero webpage (link to the webpage). Interim documents like the annual report and updated HIN will also be posted on the webpage.

11. GLOSSARY

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TERM	DEFINITION
Safe Streets and Road for All (SS4A)	A federal grant program that provides funds to local, regional, and Tribal communities for implementation, planning, and demonstration activities as part of a systematic approach to prevent deaths and serious injuries on the nation's roadways.
Comprehensive Safety Action Plan (CSAP)	A comprehensive safety action plan is a strategic framework developed to address various aspects of traffic safety within a specific area or jurisdiction. It typically involves a multi-faceted approach that aims to reduce crashes, mainly injuries and fatalities through a combination of strategies, policies, and initiatives.
Indiana Department of Transportation (INDOT)	It is the state government agency responsible for planning, building, maintaining, and operating the transportation infrastructure in the state of Indiana, United States.
High Injury Network (HIN)	It represents roadway segments/crashes where the high number of traffic fatalities and serious injuries are occurring.
Raised Pavement Markers (RPMs)	RPMs are typically equipped with reflective materials that make them highly visible to drivers, especially during low-light conditions or inclement weather. This enhanced visibility helps drivers maintain proper lane alignment and navigate safely, reducing the risk of crashes.
Rectangular Rapid Flashing Beacons (RRFBs)	They are a type of traffic control device used to enhance pedestrian safety at crosswalks and other pedestrian crossing locations. RRFBs consist of rectangular-shaped LED lights mounted on a horizontal bar or sign structure. When activated by a pedestrian or crossing signal, the lights rapidly flash in a distinctive pattern, alerting drivers to the presence of pedestrians in the crosswalk. RRFBs are particularly effective at increasing driver awareness and yielding compliance, thereby reducing the risk of pedestrian-vehicle collisions.
Pedestrian Hybrid Beacons (PHB) aka High-Intensity Activated Crosswalk (HAWK)	PHBs are a type of pedestrian crossing signal that provides a controlled crossing opportunity for pedestrians at locations where traffic signals are not warranted or feasible. They are typically used at mid-block crossings, crosswalks on multi-lane roads, or locations with high pedestrian activity. PHBs operate similarly to traffic signals but are activated by pedestrians using a push-button. When a pedestrian presses the button to request a crossing, the PHB system activates warning beacons to alert drivers of the pedestrian's intent to cross. These warning beacons typically consist of flashing lights or other visual cues to grab drivers' attention. After a brief warning period, the PHB system transitions to a steady or flashing indication for pedestrians to cross, typically accompanied by a "WALK" signal or pedestrian symbol. This indicates to pedestrians that it's safe to cross the roadway.

TERM	DEFINITION
Leading Pedestrian Interval (LPI)	It is a traffic signal timing strategy designed to enhance pedestrian safety at signalized intersections. During an LPI phase, pedestrians receive a head start to begin crossing the street before conflicting vehicle movements are allowed to proceed. When the traffic signal changes, the pedestrian signal turns to "WALK" or displays a pedestrian symbol, indicating to pedestrians that they have the right of way to begin crossing the street. Simultaneously, the vehicle signal remains red, temporarily halting vehicle movements in the same direction as the pedestrians' intended crossing path. The purpose of the Leading Pedestrian Interval is to increase the visibility and predictability of pedestrians in the intersection, thereby reducing the likelihood of conflicts between pedestrians and turning vehicles.
Flashing Yellow Arrow (FYA)	A flashing yellow arrow (FYA) is a traffic signal indication used at signalized intersections to control left turns. It is part of a signal phasing system that typically includes solid green, solid yellow, and solid red arrow indications as well. When a flashing yellow arrow is displayed, it indicates to drivers that they are permitted to make a left turn after yielding to oncoming traffic and pedestrians. In other words, drivers are allowed to turn left, but they must first yield to any oncoming vehicles and pedestrians in the intersection. The flashing yellow arrow indication is commonly used to provide flexibility and improve traffic flow at intersections. It allows left-turning vehicles to proceed with caution when safe to do so, rather than being required to wait for a green arrow signal, which may not always be necessary or efficient.
Stopping Sight Distance (SSD)	Stopping Sight Distance (SSD) refers to the distance needed by a driver to bring their vehicle to a complete stop after perceiving a hazard on the roadway. It is a critical concept in highway and traffic engineering used to ensure safe driving conditions and design roadways that accommodate safe stopping distances. The SSD is influenced by several factors, including the speed of the vehicle, the reaction time of the driver, the roadway grade, the condition of the road surface, and the efficiency of the vehicle's braking system. The calculation of stopping sight distance considers these factors to determine the minimum distance required for a driver to perceive a hazard, react to it, and come to a stop safely.
Two-way Stop Control (TWSC)	In a two-way stop control scenario, vehicles traveling on one road are required to come to a complete stop and yield the right-of-way to vehicles traveling on the intersecting road. Two-way stop control is commonly used at intersections with lower traffic volumes or where visibility is limited along side streets, as it helps to manage traffic flow and reduce the risk of collisions. It is a simple and effective traffic control measure that promotes safety and efficiency at intersections.

TERM	DEFINITION
High-Intensity Activated Crosswalk (HAWK)	It is a type of pedestrian-activated traffic signal used to facilitate safe pedestrian crossings at mid-block locations or intersections. The HAWK signal is typically installed at locations where there is a high volume of pedestrian traffic or where pedestrians face challenges in crossing busy roadways. The HAWK signal remains dark until activated by a pedestrian. When a pedestrian wishes to cross, they must push a button to activate the signal. Upon activation, the signal displays a series of flashing and solid red lights to stop vehicular traffic. Pedestrians are then given a "WALK" signal or pedestrian symbol, indicating that it is safe for them to cross. After a designated pedestrian crossing time, the signal changes to flashing red, allowing vehicles to proceed cautiously if the crosswalk is clear. Finally, the signal goes dark again, indicating that vehicular traffic may resume its normal operation.
State Road (SR)	A State Road refers to a roadway that is owned, maintained, and managed by the government of a specific state or province. State roads are typically designated and numbered according to a standardized system established by the state's transportation department or authority. State roads play a crucial role in the transportation network, connecting cities, towns, and regions within a state, as well as providing access to major highways, interstates, and other transportation facilities. They serve as primary routes for intra-state travel and commerce, accommodating various modes of transportation, including automobiles, trucks, buses, bicycles, and pedestrians.
Light Emitting Diode (LED)	A Light Emitting Diode (LED) is a semiconductor device that emits light when an electric current passes through it. LEDs are widely used in various applications, including lighting, displays, indicators, and signage, due to their energy efficiency, longevity, and compact size.
Shared-Use Path (SUP)	A Shared Use Path (SUP), also known as a multi-use path or mixed-use trail, is a route or pathway designated for use by both pedestrians and non-motorized vehicles, such as bicycles, scooters, rollerblades, and wheelchairs. Shared Use Paths are typically separated from motor vehicle traffic and are designed to provide safe and convenient transportation options for various types of users. They are often found in urban, suburban, and recreational areas and contribute to promoting active transportation, reducing congestion, and enhancing community connectivity and accessibility.
Speed Limit (SL)	A speed limit is the maximum legal speed at which a vehicle can travel on a particular road, street, or highway. It is enforced by governmental authorities and typically indicated by signs posted along the roadway. Speed limits are established based on various factors such as road design, traffic volume, surrounding environment, and safety considerations. Adhering to speed limits helps promote road safety by reducing the risk of crashes, injuries, and fatalities, as well as minimizing the impact of vehicle emissions on the environment. Violating speed limits can result in fines, penalties, and potentially more severe legal consequences, depending on the jurisdiction and the extent of the violation.

TERM	DEFINITION
Railroad (RR)	A railroad, often referred to as a railway, is a system of tracks, typically made of metal rails, along which trains or other vehicles with wheels can travel. Railroads are commonly used for transporting passengers, freight, and goods over long distances. They typically consist of interconnected networks of tracks, stations, signals, and other infrastructure elements designed to support the safe and efficient operation of trains. Railroads play a significant role in transportation and commerce, providing a cost-effective and environmentally friendly mode of moving large quantities of goods and people over land.
Pavement Markers (PM)	Pavement markers, also known as road studs, road reflectors, or delineators, are small devices installed on road surfaces to provide visual guidance and enhance safety for drivers and pedestrians. These markers come in various shapes, sizes, and colors and are typically made of durable materials such as plastic, ceramic, or metal. Pavement markers are usually placed along the edges of lanes, in the center of roads, or at key locations such as intersections and pedestrian crossings. They serve multiple purposes, including delineating lanes, indicating road boundaries, guiding drivers in low visibility conditions, and improving nighttime visibility by reflecting vehicle headlights. Pavement markers are an essential component of road infrastructure, contributing to safer and more efficient transportation systems.

12. APPENDICES

Appendix A: Vision Zero Resolution

Appendix B: Safety Analysis

Appendix C: Public Engagement

Appendix D: Steering Committee Meeting Minutes

Appendix E: Comprehensive Safety Action Plan Projects

APPENDIX A: VISION ZERO RESOLUTION

RESOLUTION NO 2024-21

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF WHITESTOWN, INDIANA COMMITTING TO A GOAL TO ELIMINATE ROADWAY FATALITIES AND SERIOUS INJURY BY 2040 ON THE STREETS WITHIN THE TOWN OF WHITESTOWN

WHEREAS, the life and health of all persons living and traveling within the Town of Whitestown, Indiana ("Town") are the Town Council's utmost priority, and no one should die or be seriously injured while traveling on Town streets;

WHEREAS, the Town Council recognizes that traffic deaths and serious injuries are not Inevitable, and Vision Zero is the concept that this is unacceptable;

WHEREAS, Vision Zero is a holistic strategy aimed at eliminating all traffic fatalities and severe injuries suffered by all roadway users while increasing safe, healthy, equitable mobility for all;

WHEREAS, streets and transportation systems have traditionally been designed primarily to move motorists efficiently, and Vision Zero supports a paradigm shift by designing streets and transportation systems to move all people safely, including people of all ages and abilities, pedestrians, bicyclists, public transit users, and motorcyclists, as well as drivers and passengers of motor vehicles;

WHEREAS, Vision Zero recognizes that people will sometimes make mistakes, so the roadway system and related policies should be designed to ensure that those inevitable mistakes do not result in severe injuries or fatalities; therefore, transportation planners and engineers and policymakers are expected to improve the roadway environment, policies, and other related systems to lessen the severity of crashes;

WHEREAS, making streets safer for all people using all modes of transportation will encourage people to travel on foot, by bicycle, and by public transit, which supports a healthier, more active lifestyle and reduces environmental pollution;

WHEREAS, successful Vision Zero programs are a result of both a complete government approach (i.e., interdepartmental, coordinated initiatives) and community support of Vision Zero objectives and action plans;

WHEREAS, Vision Zero resolutions have been adopted by many jurisdictions across the United States; and

WHEREAS, this 2024 Vison Zero Resolution is a required component of the Safe

Streets and Roads for All Action Plan; and

WHEREAS, this Vision Zero Resolution sets forth the Town's goal of reducing serious injuries and fatal crashes to zero by the year 2040;

NOW, THEREFORE, BE IT RESOLVED, by the Town Council of the Town of Whitestown, Indiana as follows:

Section 1: The above recitals are incorporated herein by reference.

Section 2. The Town of Whitestown ("Town") hereby commits to a goal of achieving zero roadway fatalities and serious injuries by 2040 on the streets within the jurisdiction of the Town ("Vision Zero Goal").

Section 3: The Town shall adopt a comprehensive safety action plan to develop a holistic, well-defined strategy to achieve the Town's Vision Zero Goal.

Section 4. This Resolution shall be in effect from and after its passage.

[Signatures on following page]

RESOLVED by the Town Council of the Town of Whitestown, Indiana, this 13th day of November, 2024, by a vote of 4 in favor and 0 against.

THE TOWN COUNCIL OF THE TOWN OF WHITESTOWN, INDIANA

DocuSigned by:
7EB4D6F92A8740A...
Dan Patterson, President

DocuSigned by:
FF803D77909344A...
Eric Nichols, Vice President

Cheryl Hancock

DocuSigned by:
B98242A523D2470...
Tobe Thomas

Signed by:
EB3913649D9F42E...
Courtenay Smock

ATTEST:

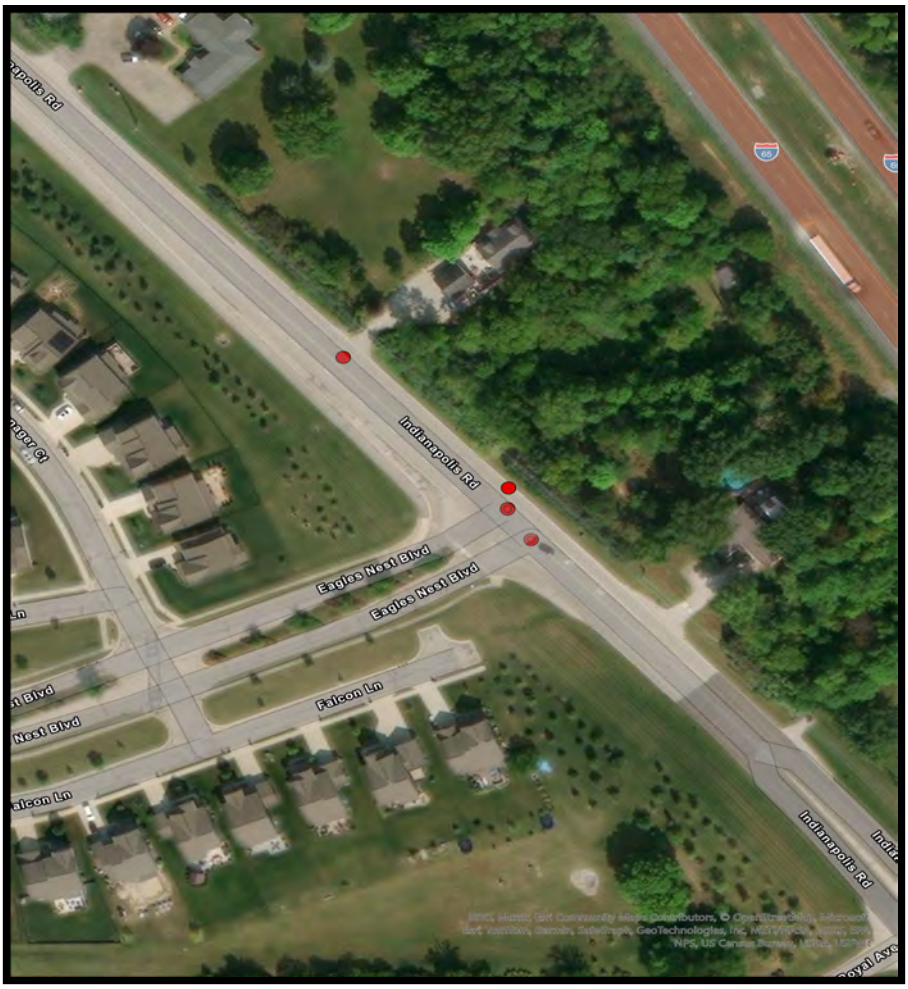
DocuSigned by:
Matthew Sumner
DBDC338DC5D74ED...
Matt Sumner, Clerk-Treasurer

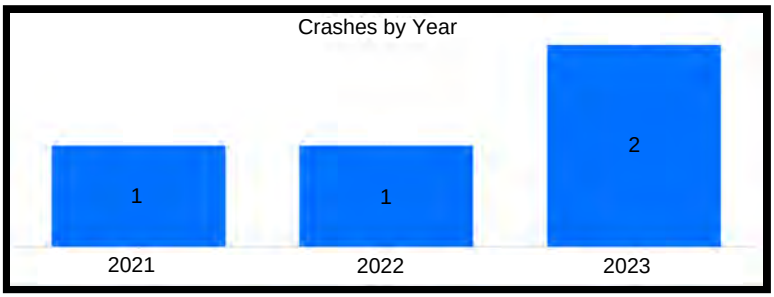
APPENDIX B: SAFETY ANALYSIS

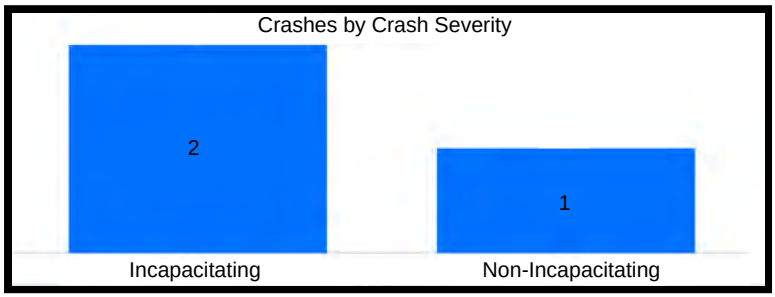
Hotspot Intersection Crash Analysis Summary

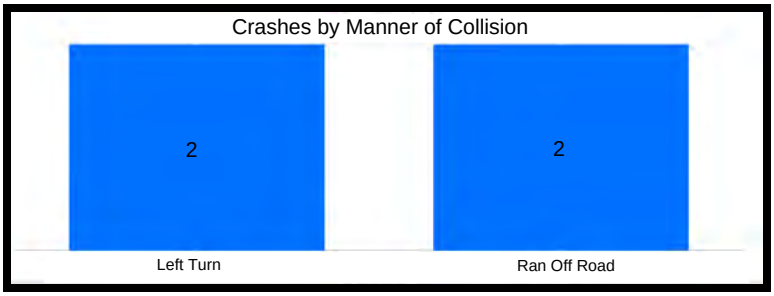
Intersection Name	Total Crashes	Injury Crashes	Fatality Crashes
Whitestown Pkwy & Perry Worth Rd	53	4	4
Whitestown Parkway & Indianapolis Rd	65	2	2
Indianapolis Road & Eagle Nest Blvd	4	0	2
Albert S White Dr & Main St	19	5	2
Whitestown Parkway & Main St	43	5	1
Whitestown Parkway & I- 65 NB Ramp	25	3	3
Albert S White Dr & CR 500 E	9	0	1
Albert S White Dr & Anson Blvd	25	2	1

Indianapolis Road & Eagle Nest Blvd

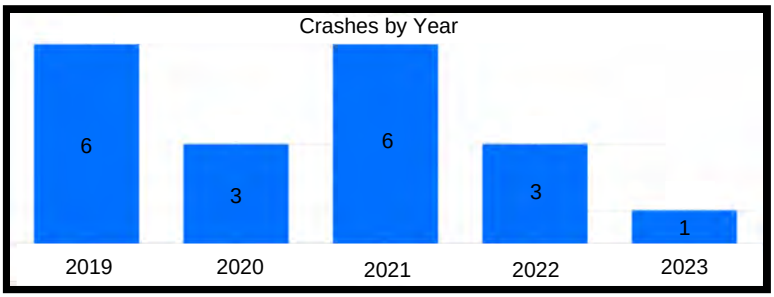


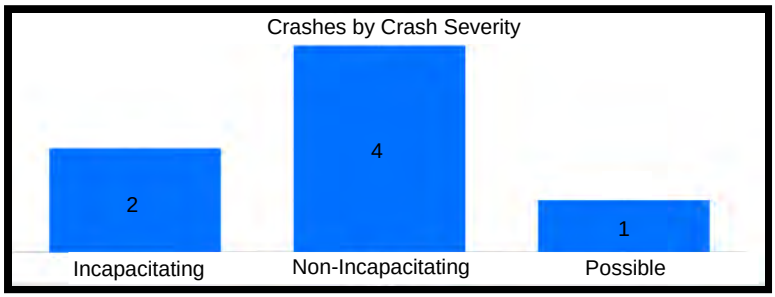


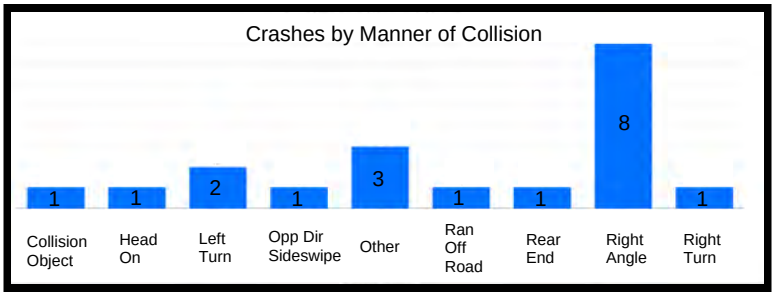




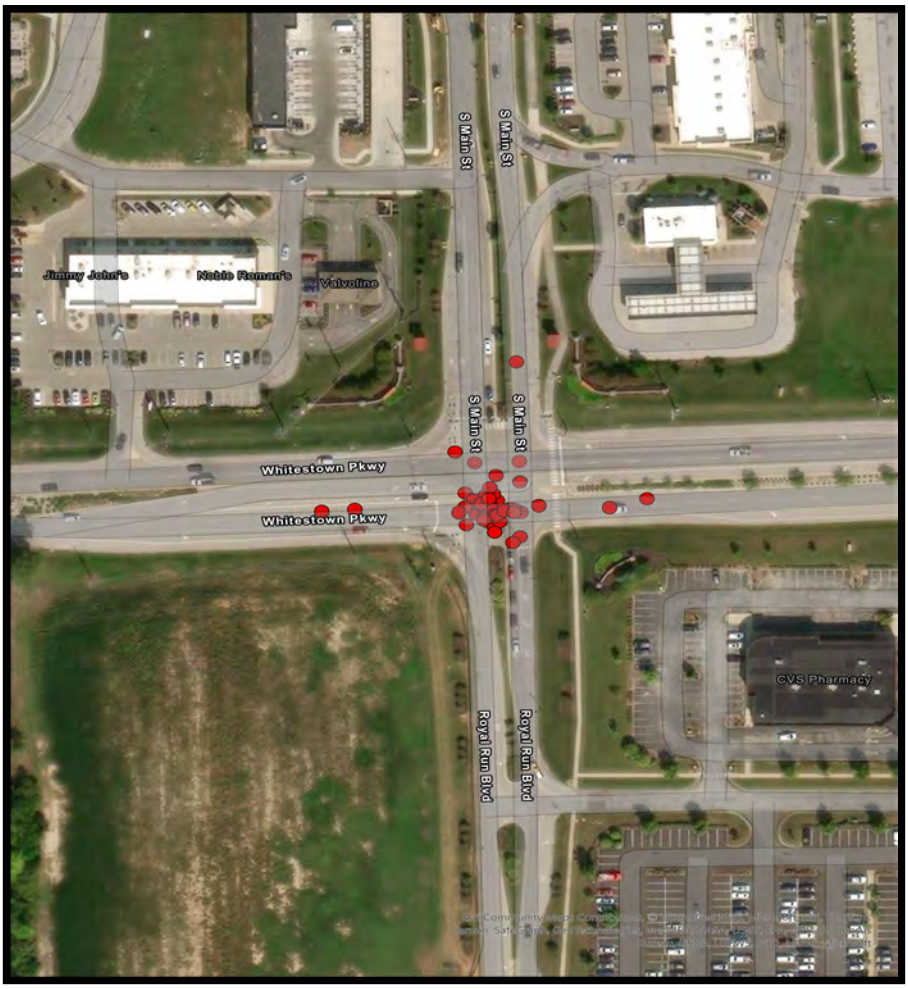
Albert S White Dr & Main St

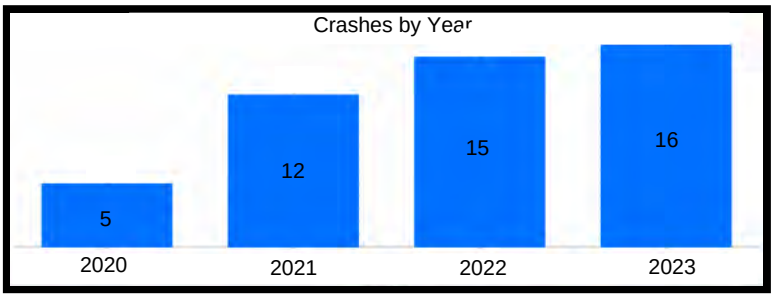


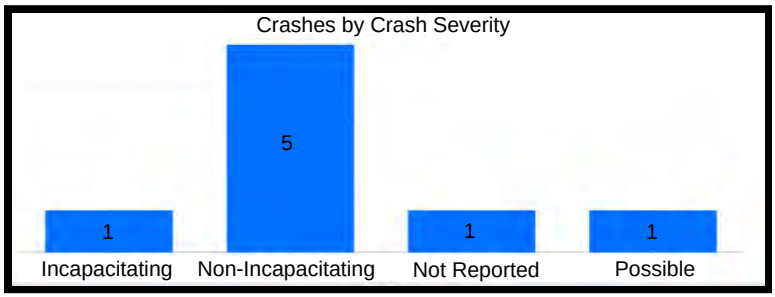


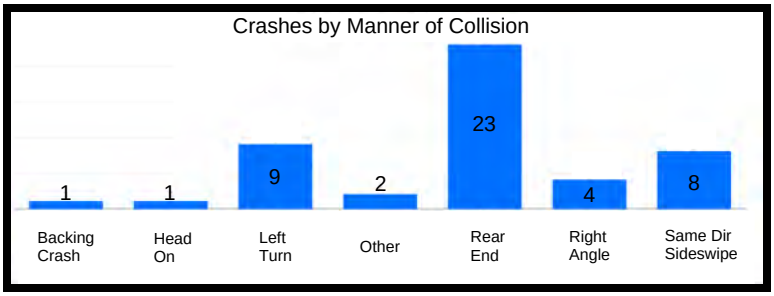


Whitestown Parkway & Main St

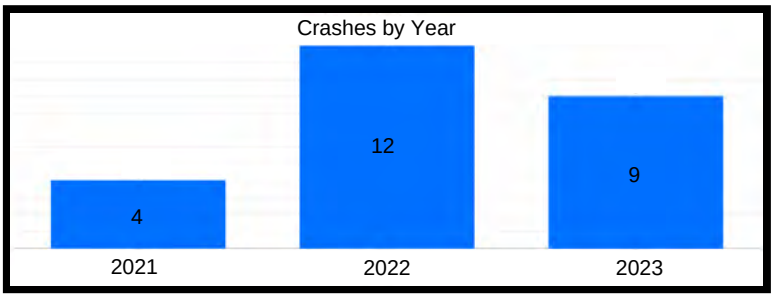


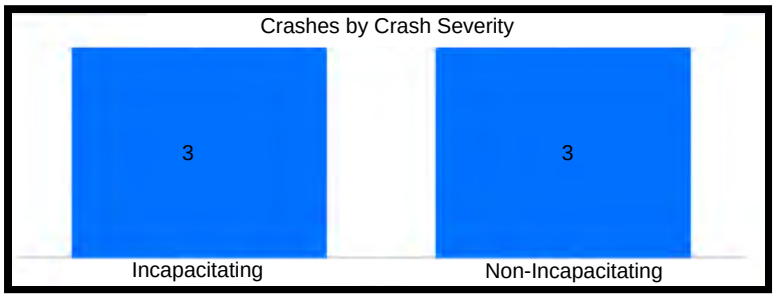


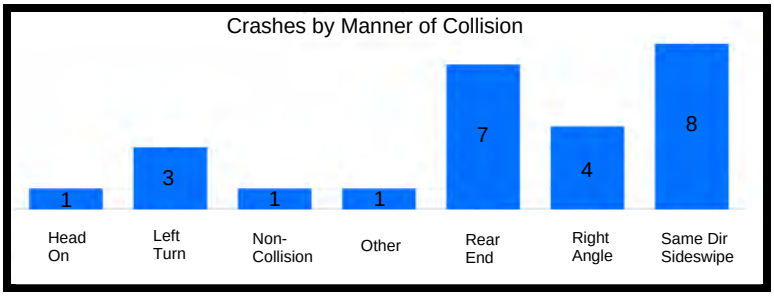




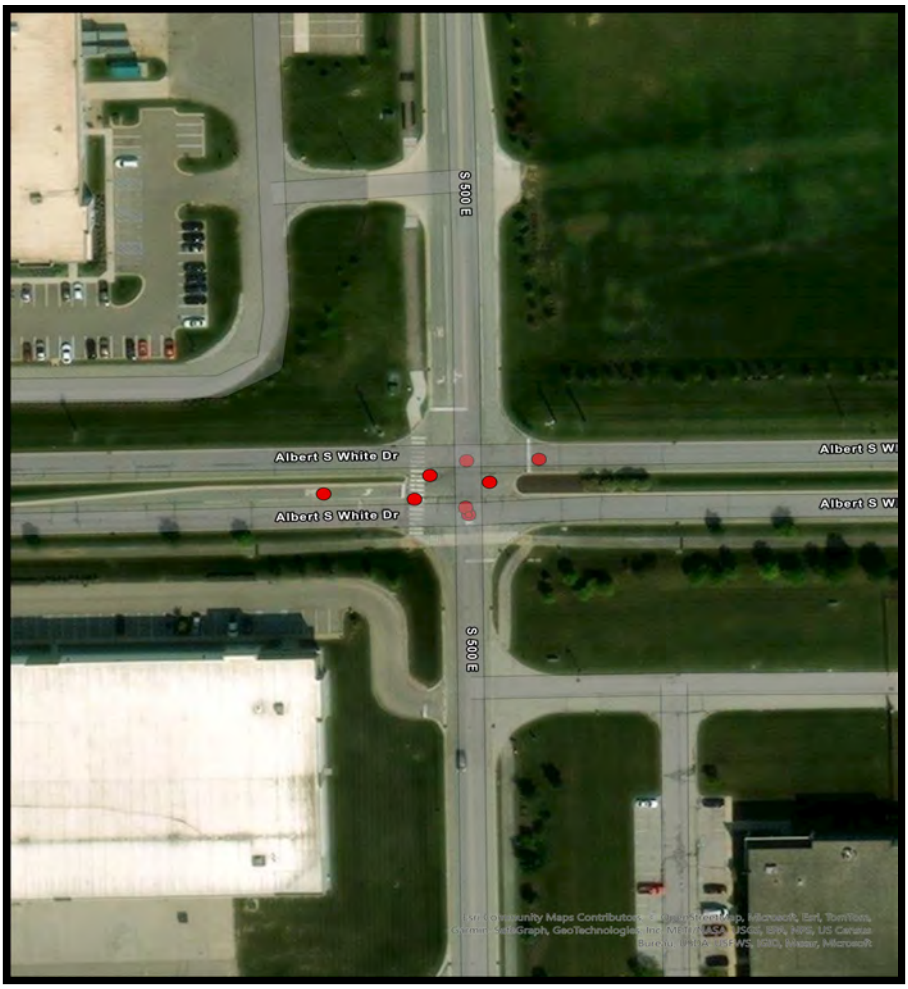
Whitestown Parkway & I- 65 NB Ramp

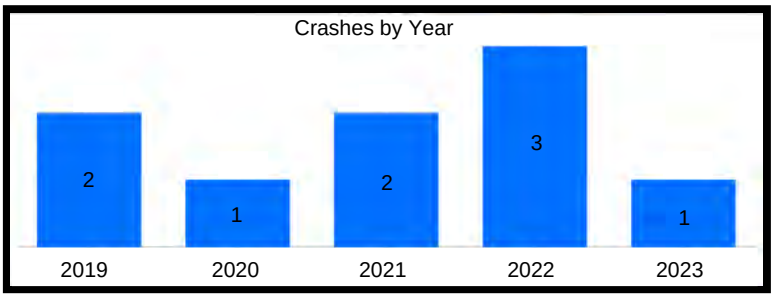


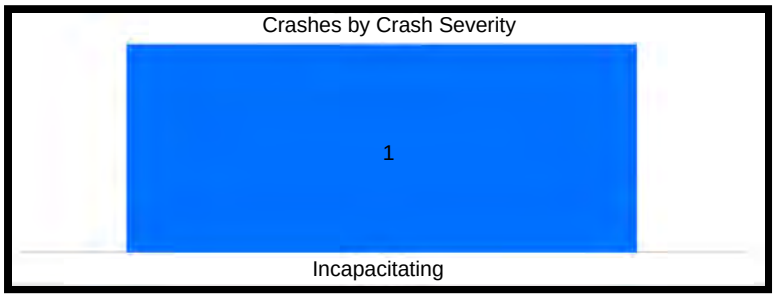


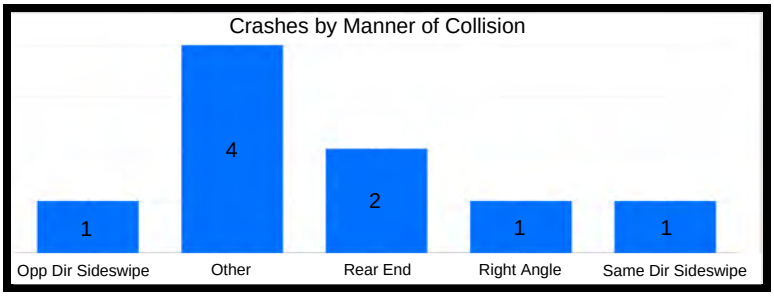


Albert S White Dr & CR 500 E

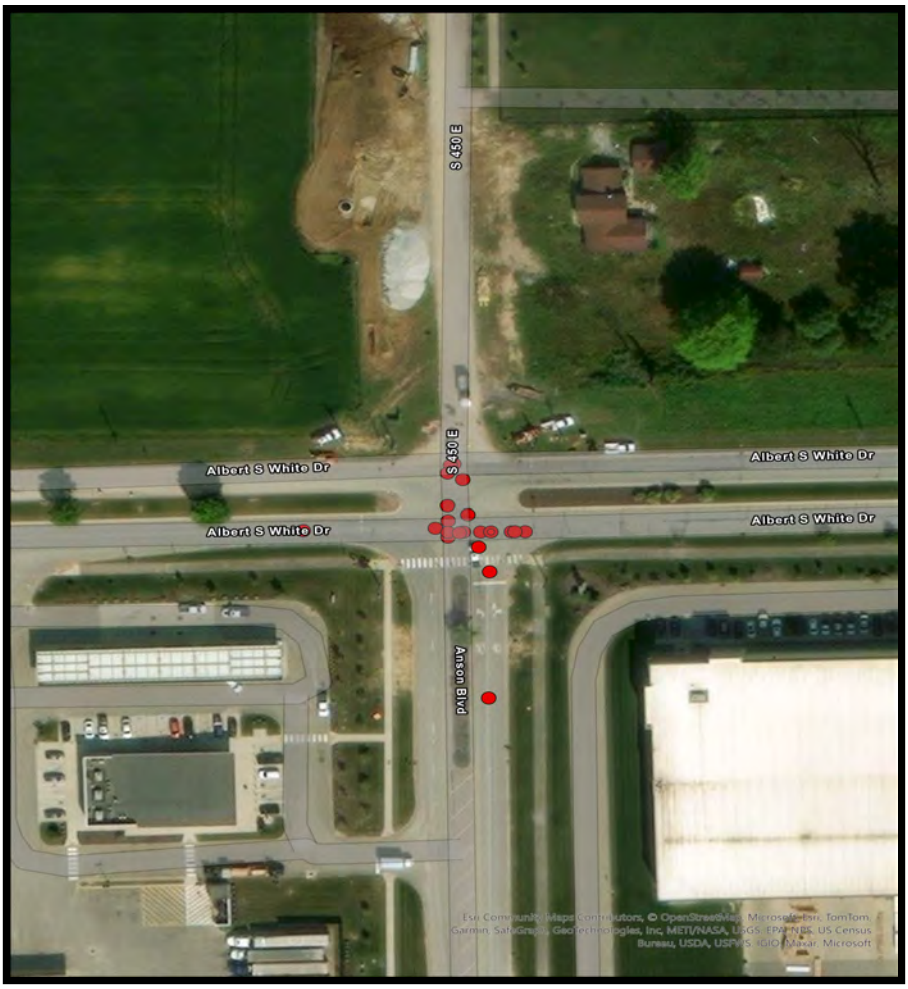


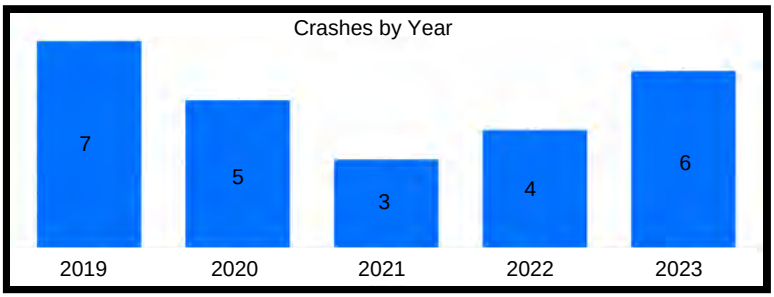


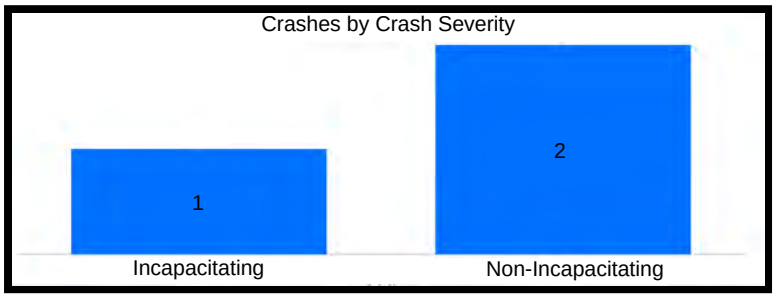


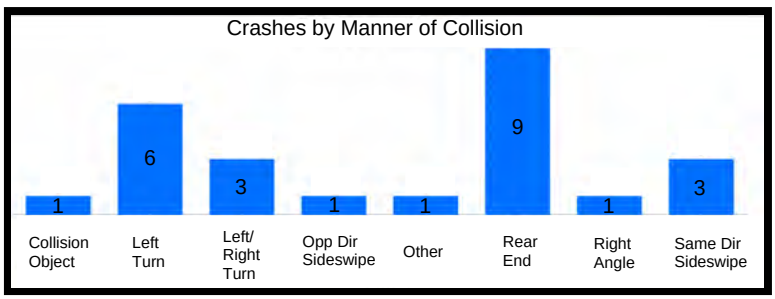


Albert S White Dr & Anson Blvd

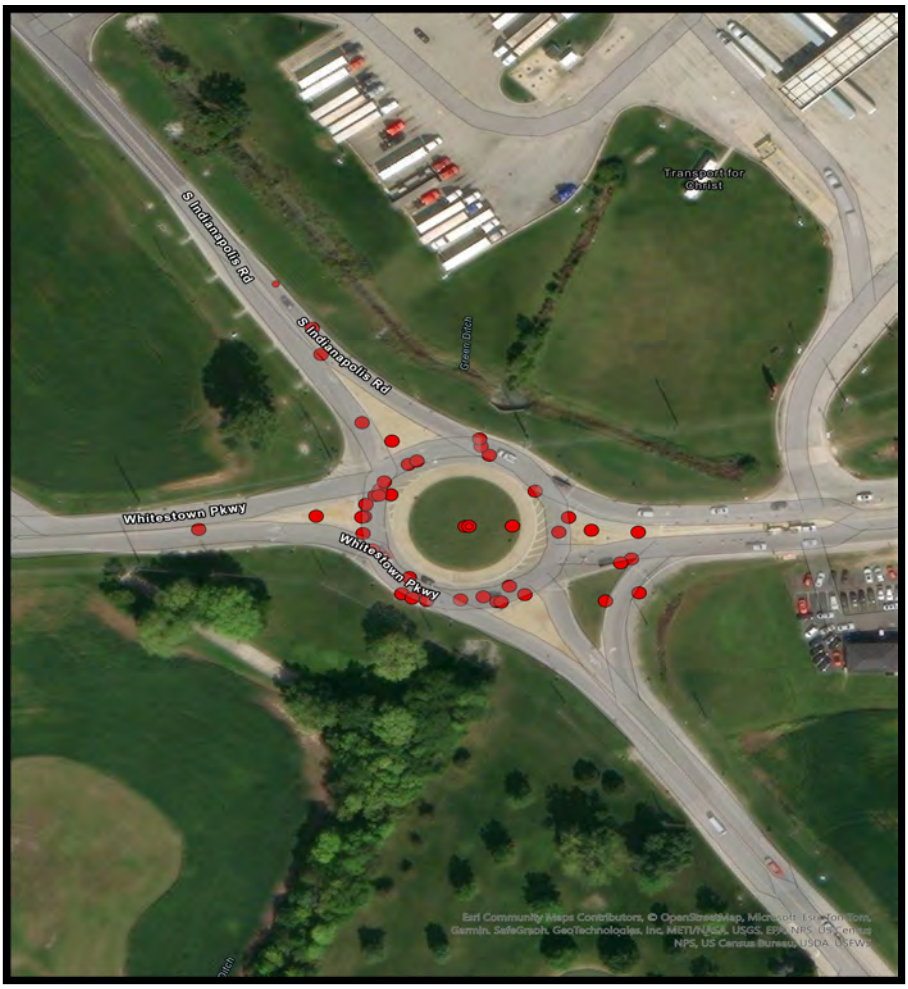


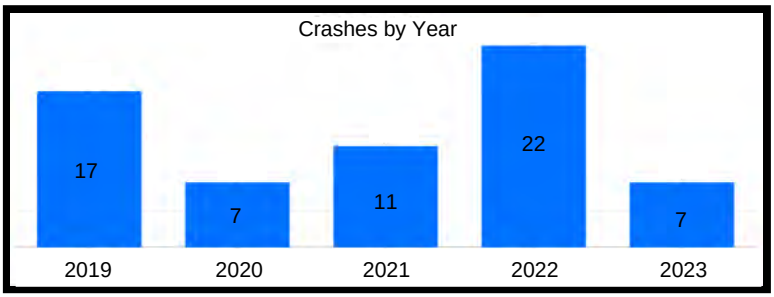


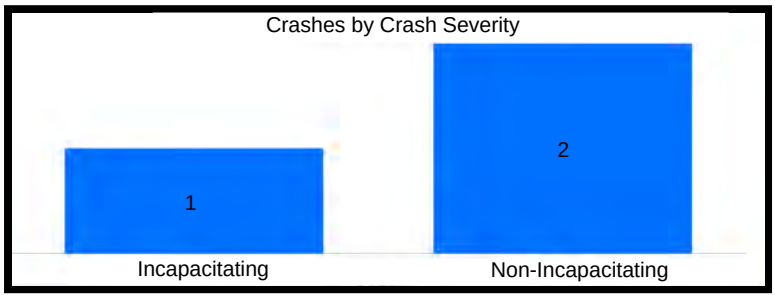


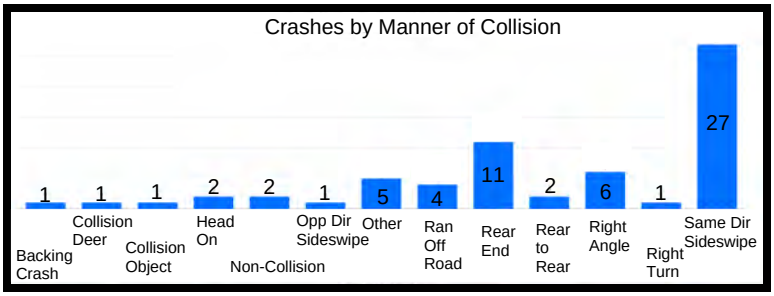


Whitestown Parkway & Indianapolis Rd

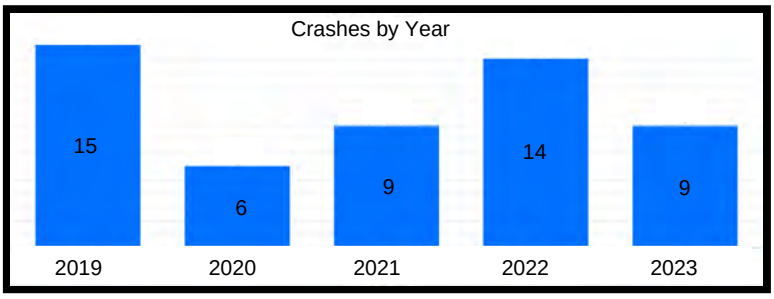


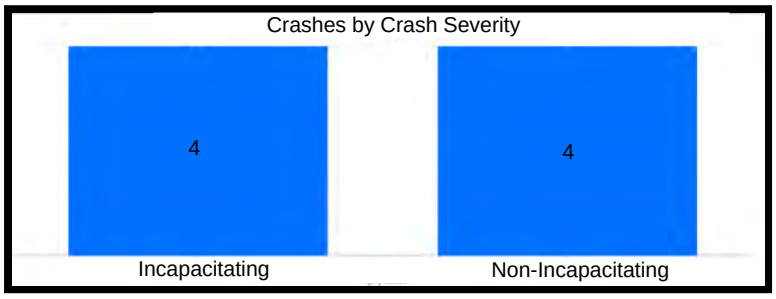


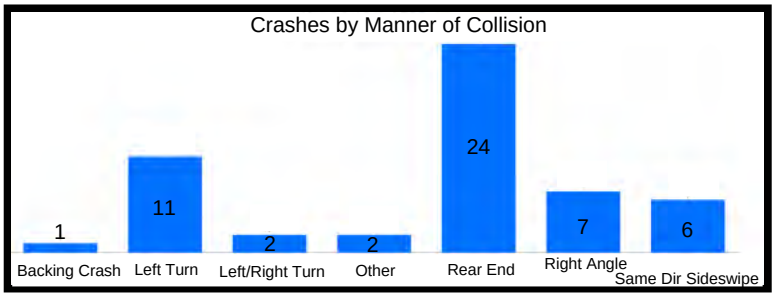




Whitestown Pkwy & Perry Worth Rd



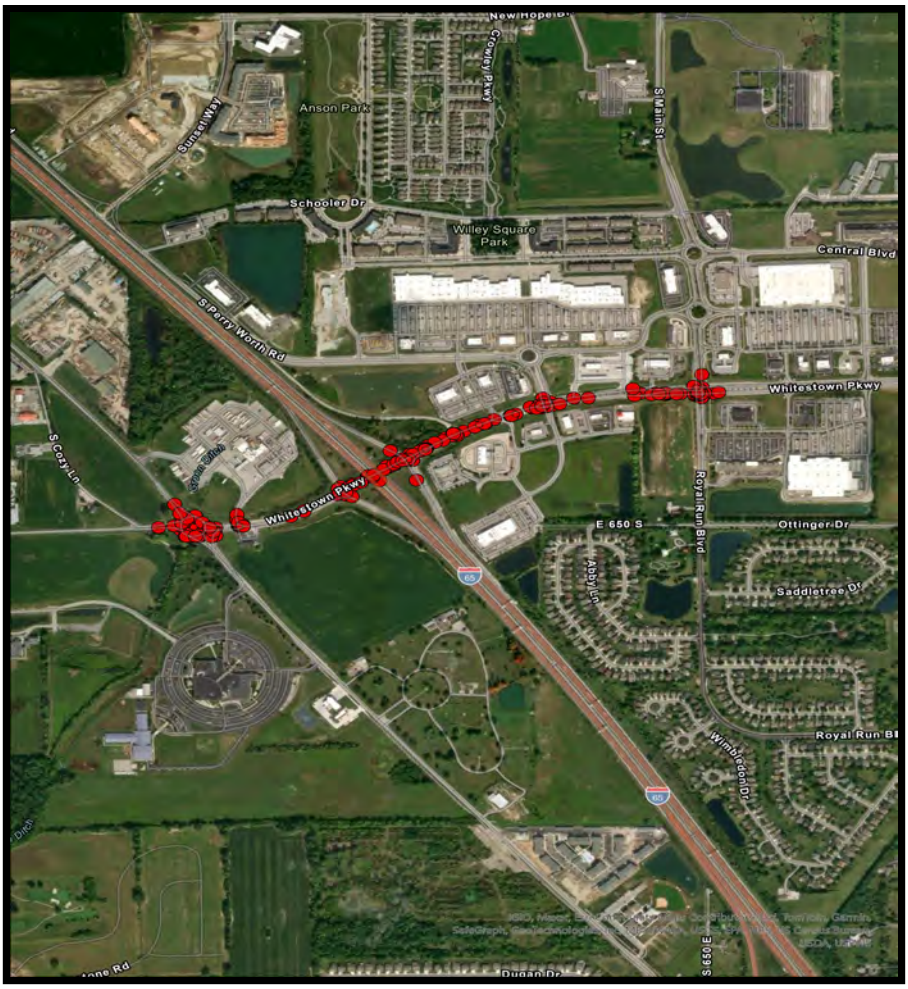


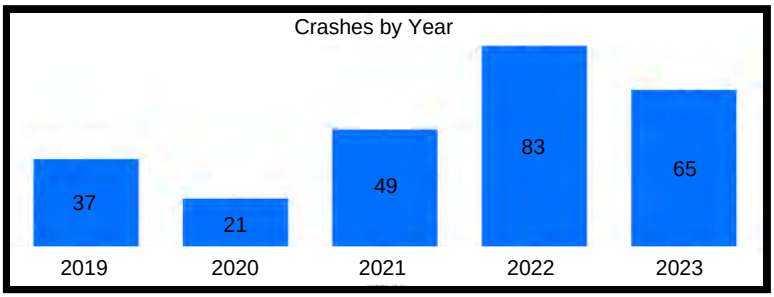


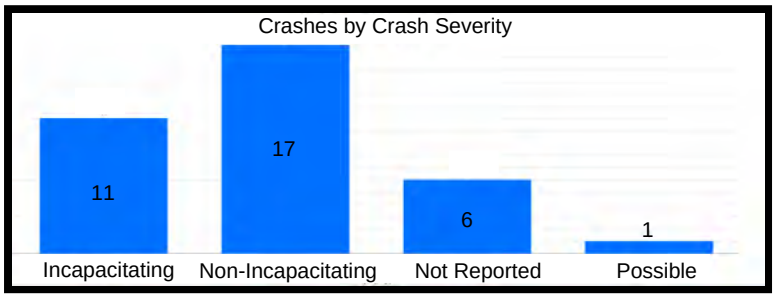
High Injury Network (HIN) Crash Analysis Summary

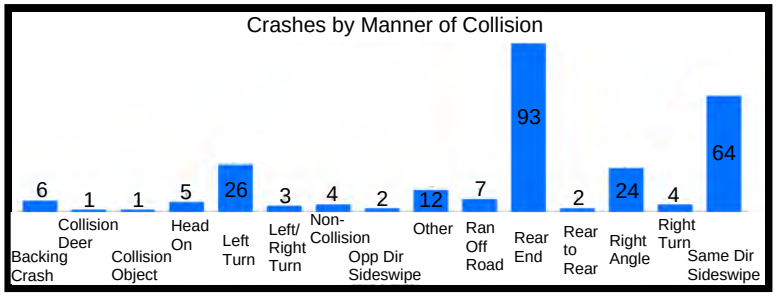
Segment Name	Total Crashes	Injury Crashes	Fatality Crashes
Whitestown Pkwy - Indianapolis Rd to Main St	255	18	11
Indianapolis Rd - Whitestown Pkwy to CR 650 S	73	4	3
Main St - Pierce St to Albert S White Dr	27	5	3
Perry Worth Rd - CR 550 S to Curve	5	2	1
Whitestown Pkwy - CR 425 E to CR 475 E	8	1	2
Albert S White Dr - CR 500 E to I-65 Ramps	63	5	3

Whitestown Pkwy - Indianapolis Rd to Main St

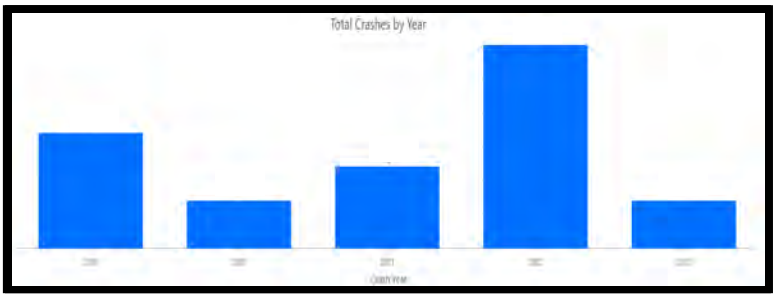


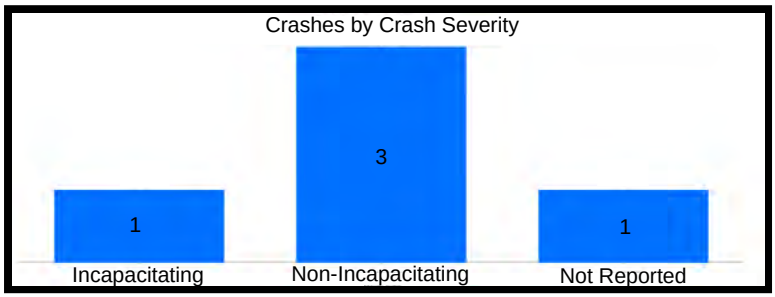


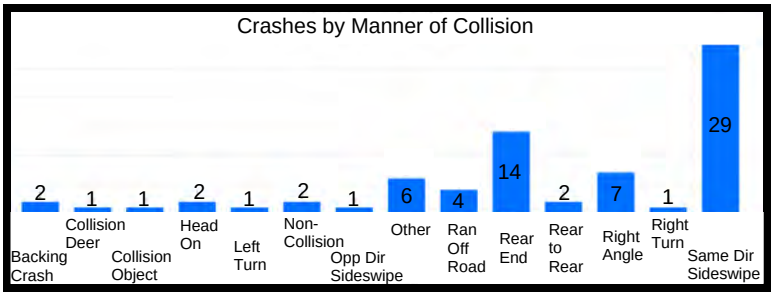




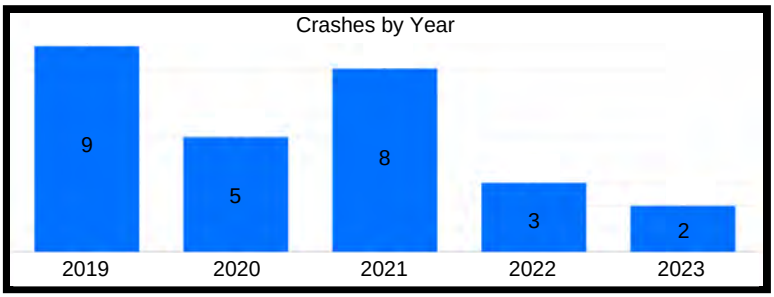
Indianapolis Rd - Whitestown Pkwy to CR 650 S

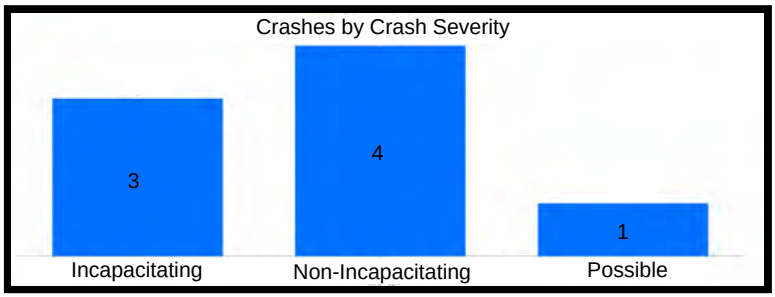


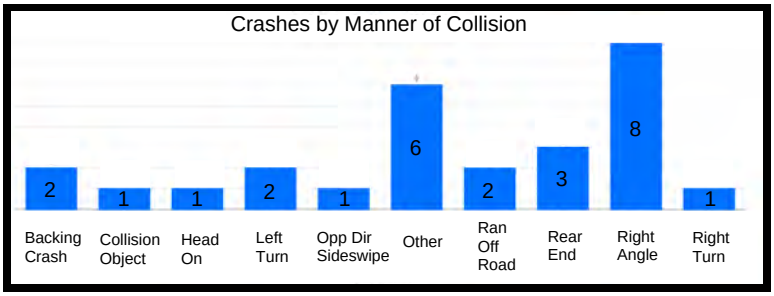




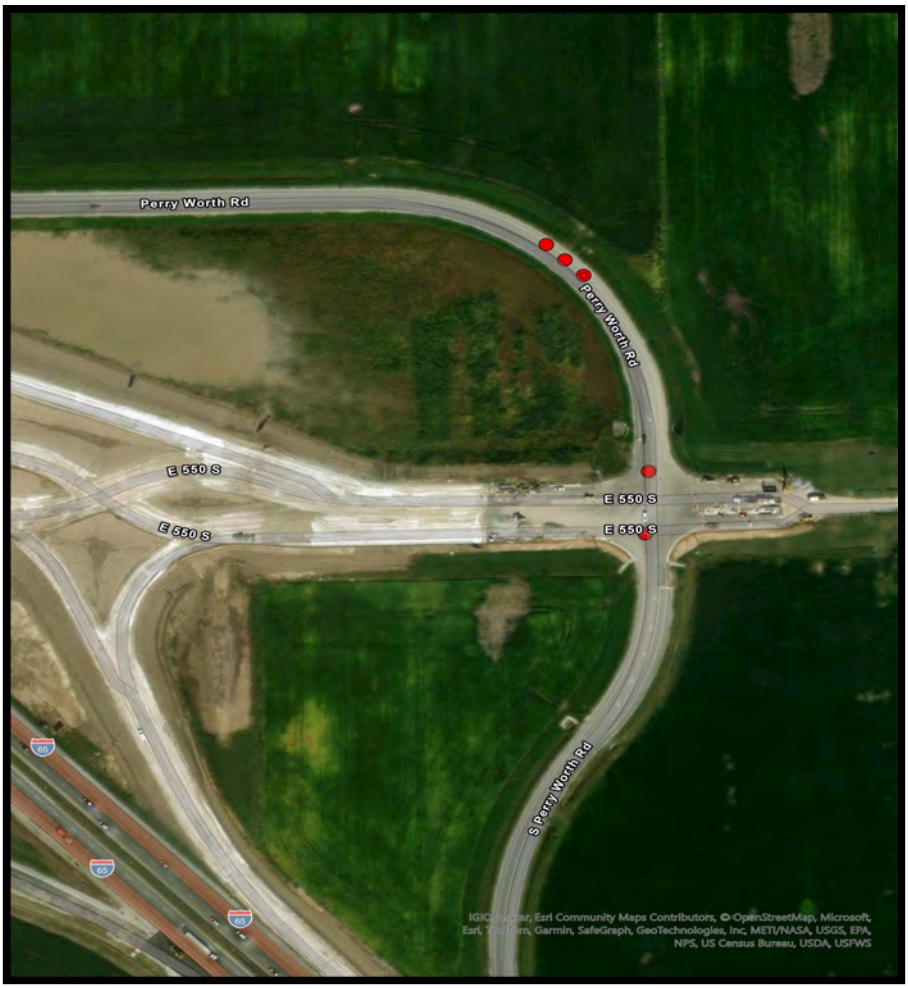
Main St - Pierce St to Albert S White Dr

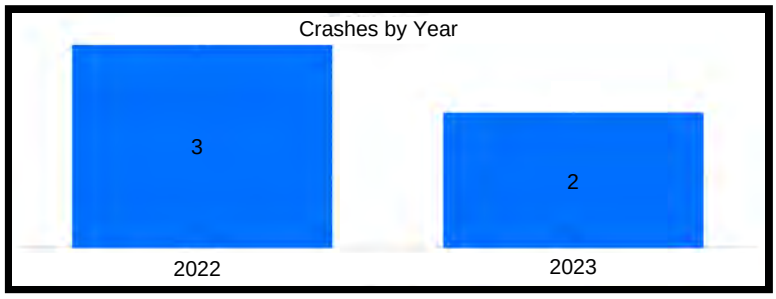


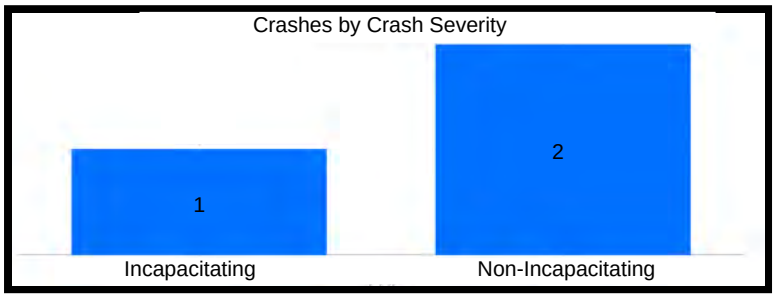


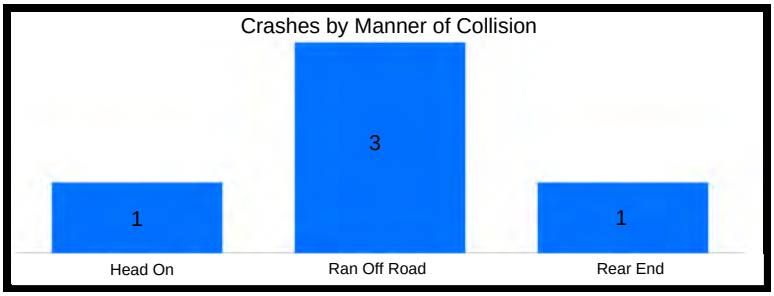


Perry Worth Rd - CR 550 S to Curve

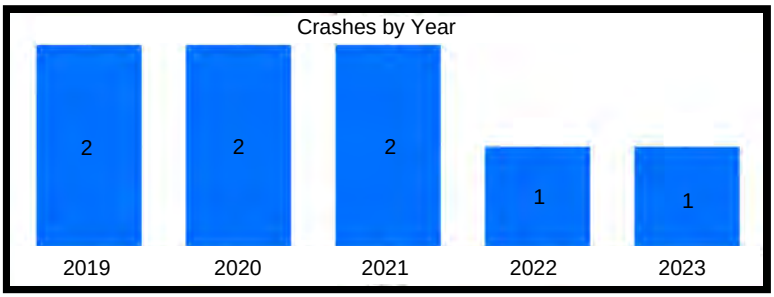


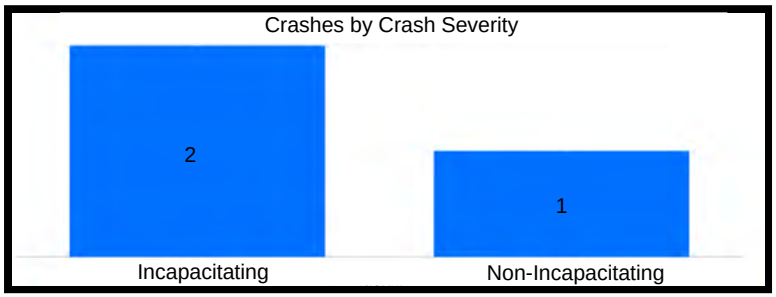


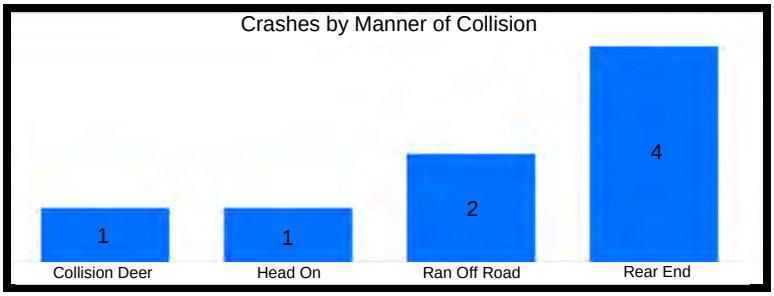




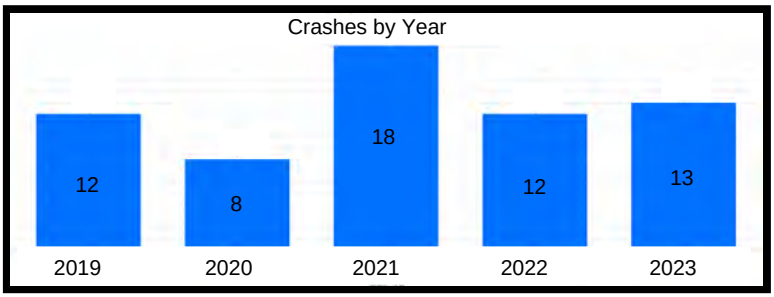
Whitestown Pkwy - CR 425 E to CR 475 E

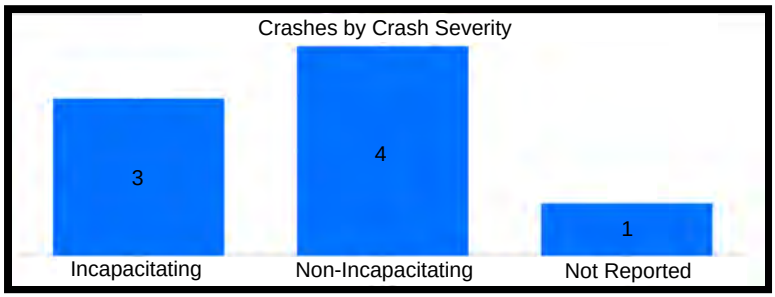


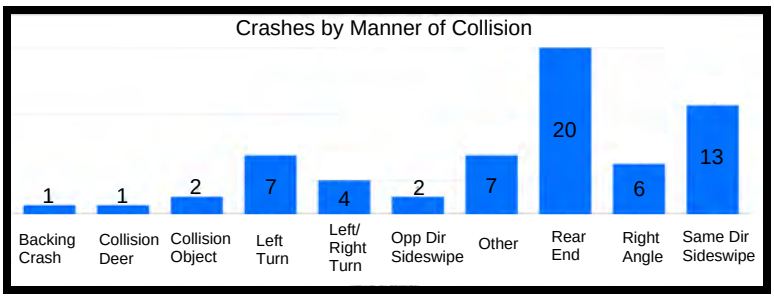




Albert S White Dr - CR 500 E to I-65 Ramps

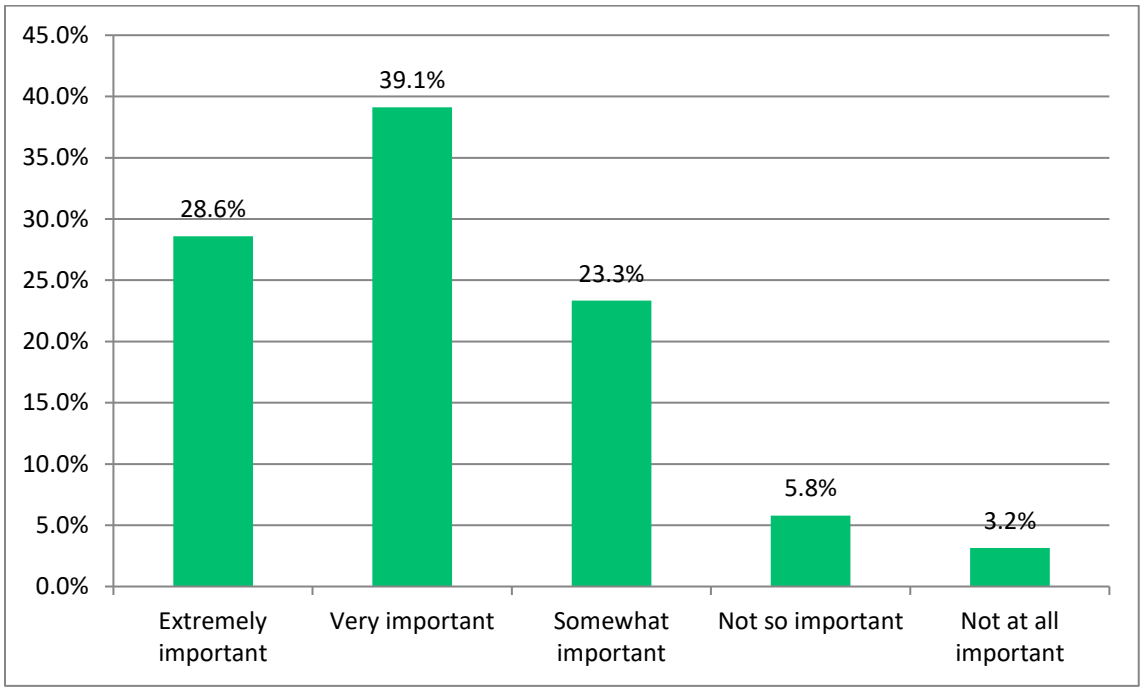




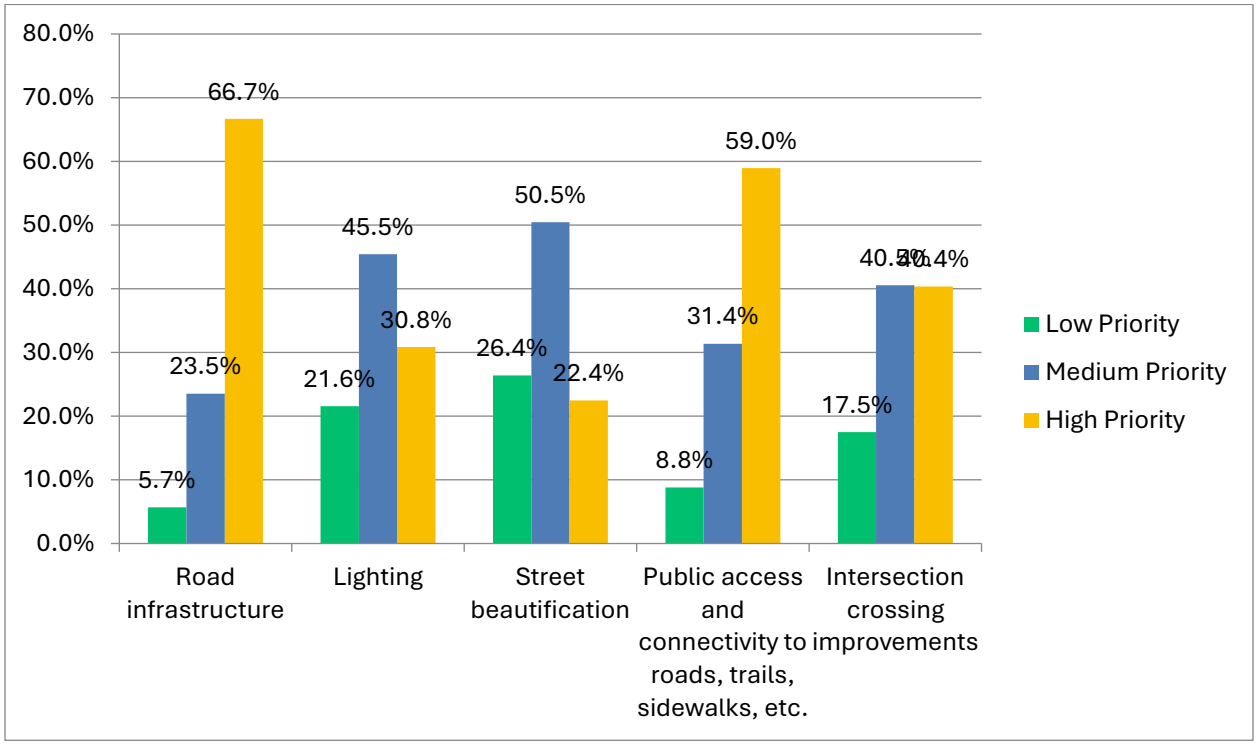


APPENDIX C: PUBLIC ENGAGEMENT

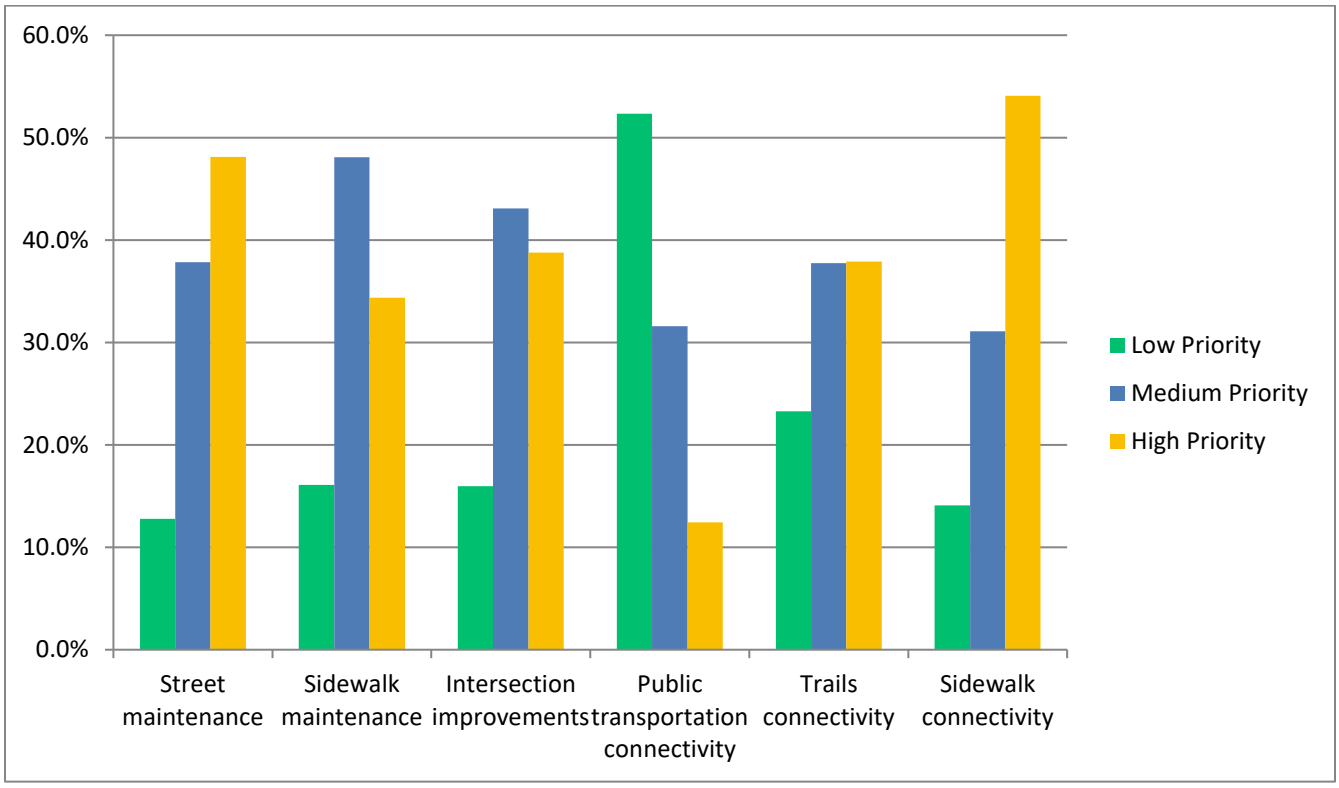
1. **How important is it for the roads and trails in our community to be accessible for individuals with disabilities?**



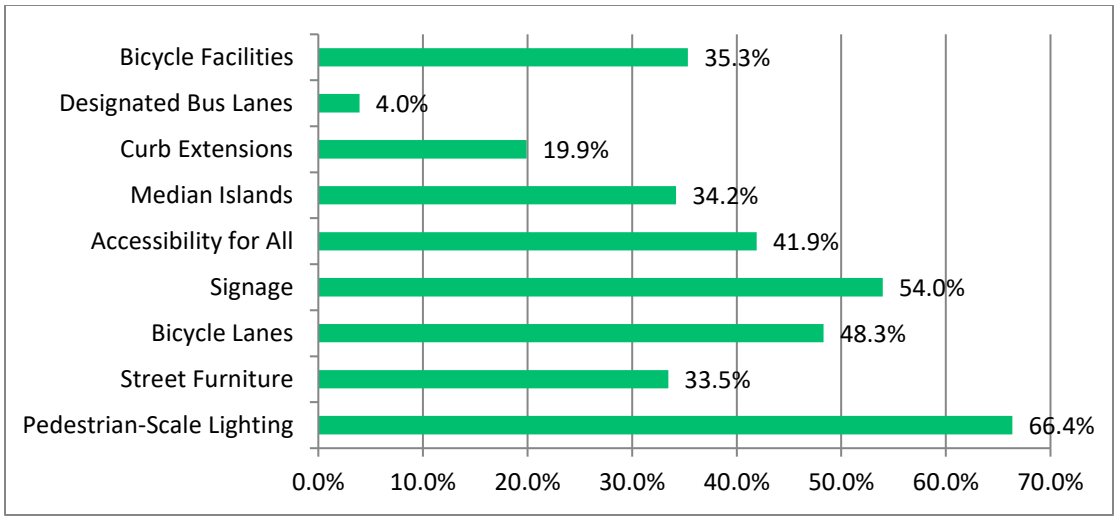
2. **Where should the Town make significant investments in its roads and trails infrastructure? Rank it a low, medium, or high priority.**



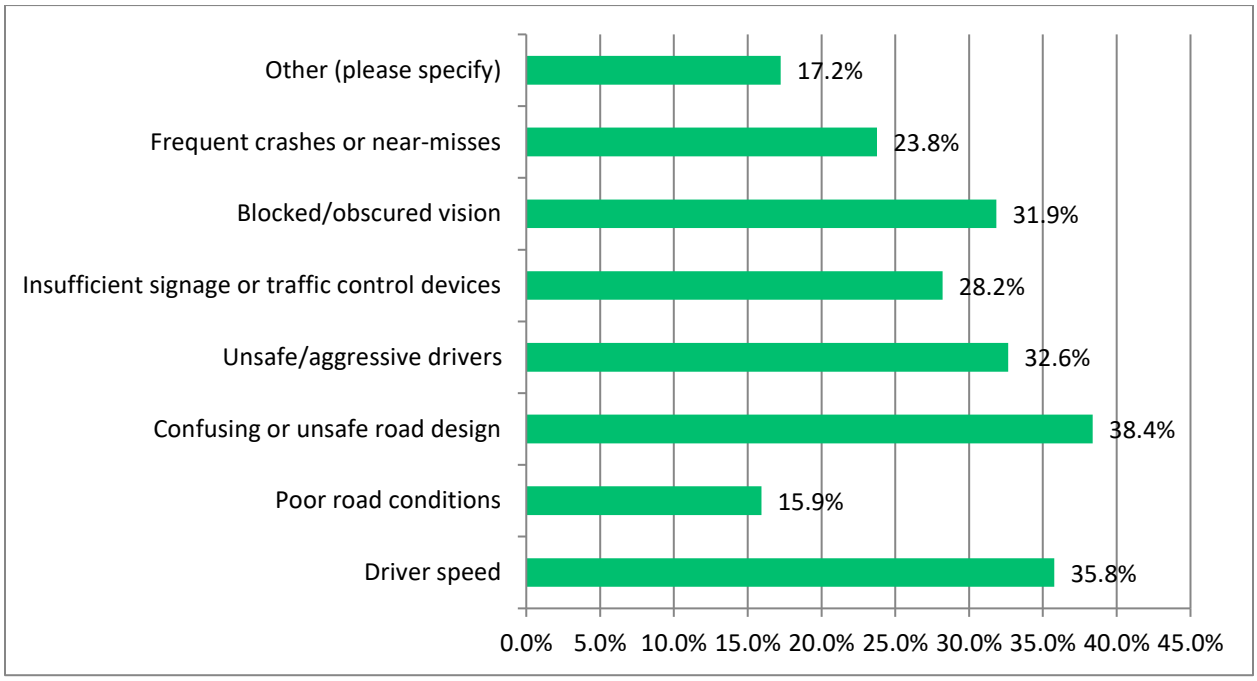
3. **Which of the following infrastructure needs the most investment to meet your expectations? Rank it a low, medium, or high priority.**



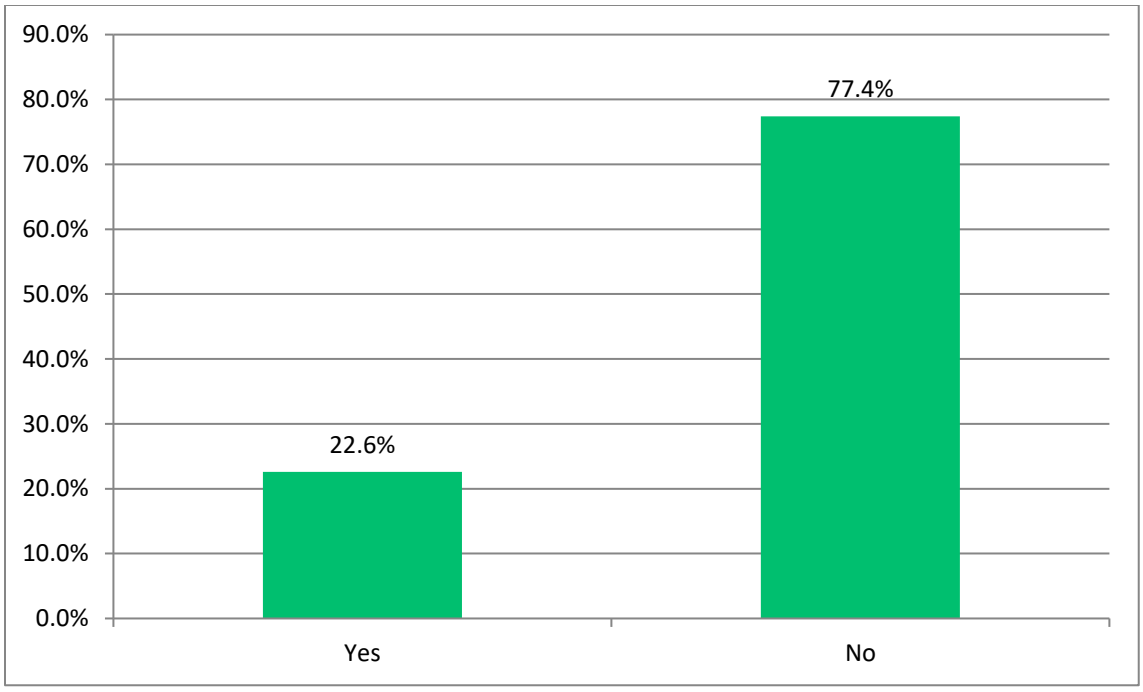
4. **Complete Streets is a transportation strategy and design approach aimed at ensuring streets are planned, designed, operated, and maintained to facilitate safe, convenient, and comfortable travel and accessibility for individuals of all ages and abilities, regardless of their mode of transportation. Typical Complete Streets designs incorporate various elements, including but not limited to sidewalks, bicycle lanes (or sufficiently paved shoulders), shared-use paths, designated bus lanes, safe and accessible transit stops, and frequent and safe crossings for pedestrians, including median islands, accessible pedestrian signals, and curb extensions. Please select complete street amenities that you would like to see around Whitestown.**



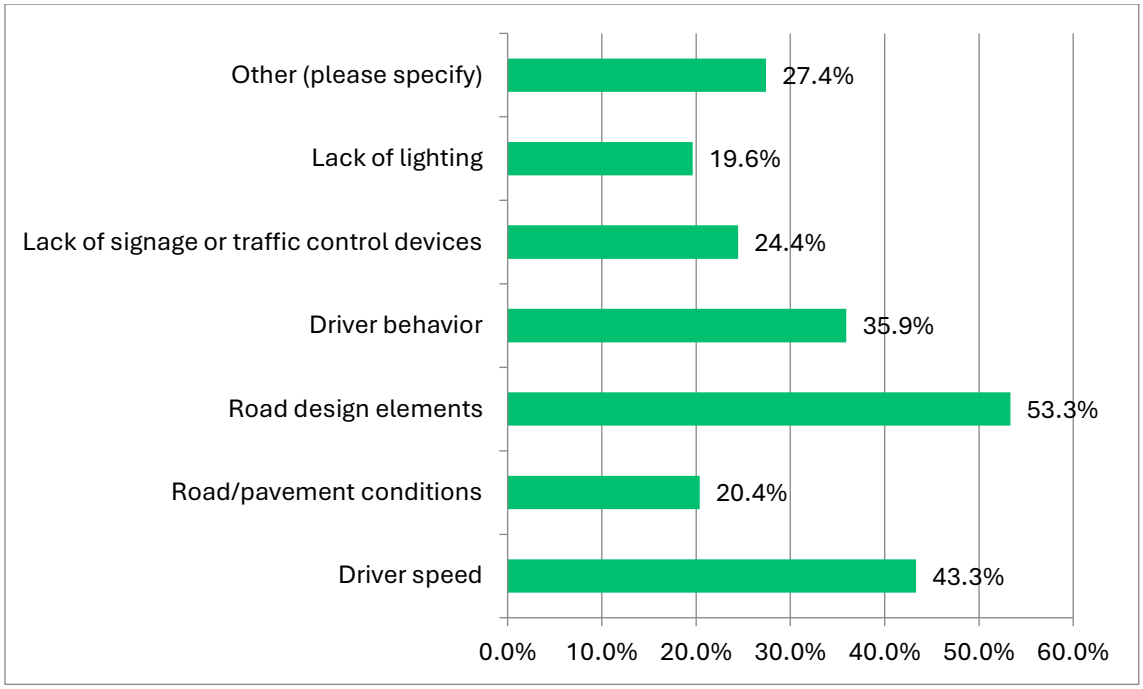
5. **Name an intersection or roadway that feels unsafe as a driver (on the next question tell us why)**
6. **What do you consider the primary cause of the unsafety of this intersection/roadway? Select all that apply:**



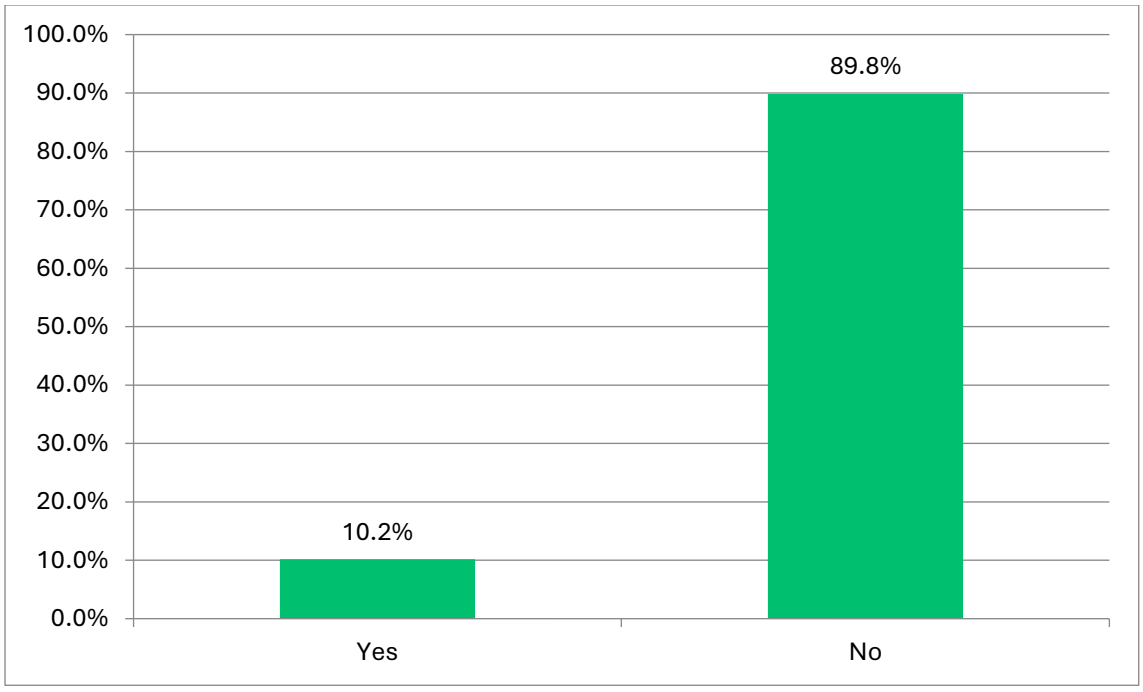
7. **Have you been involved in or witnessed a crash at this intersection?**



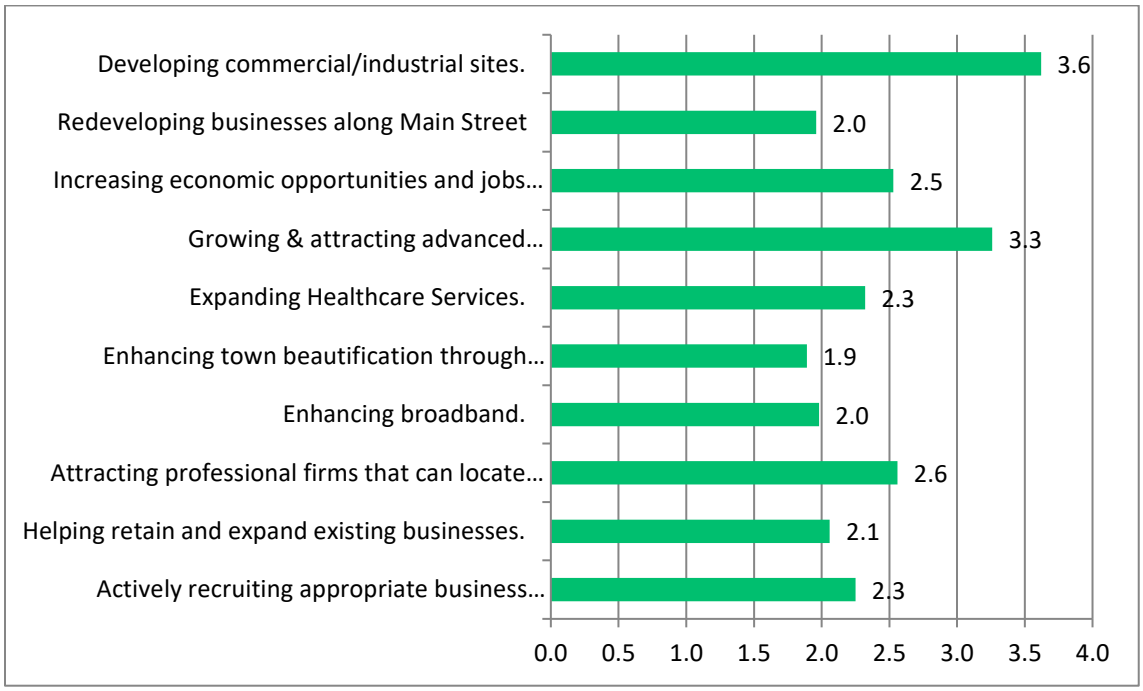
8. **Name an intersection/roadway that feels unsafe as a bicyclist/pedestrian/transit user (on the next question tell us why)**
9. **What do you consider the primary cause of the unsafety of this intersection/roadway? Select all that apply.**



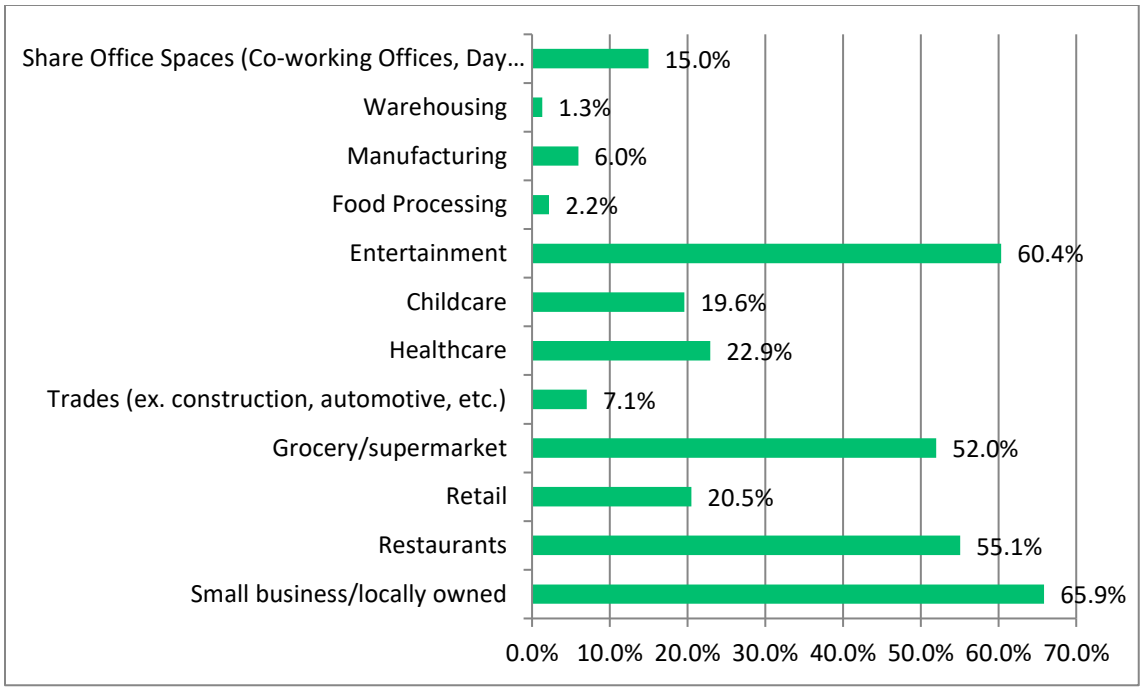
10. **Have you been involved in or witnessed a crash at this intersection?**



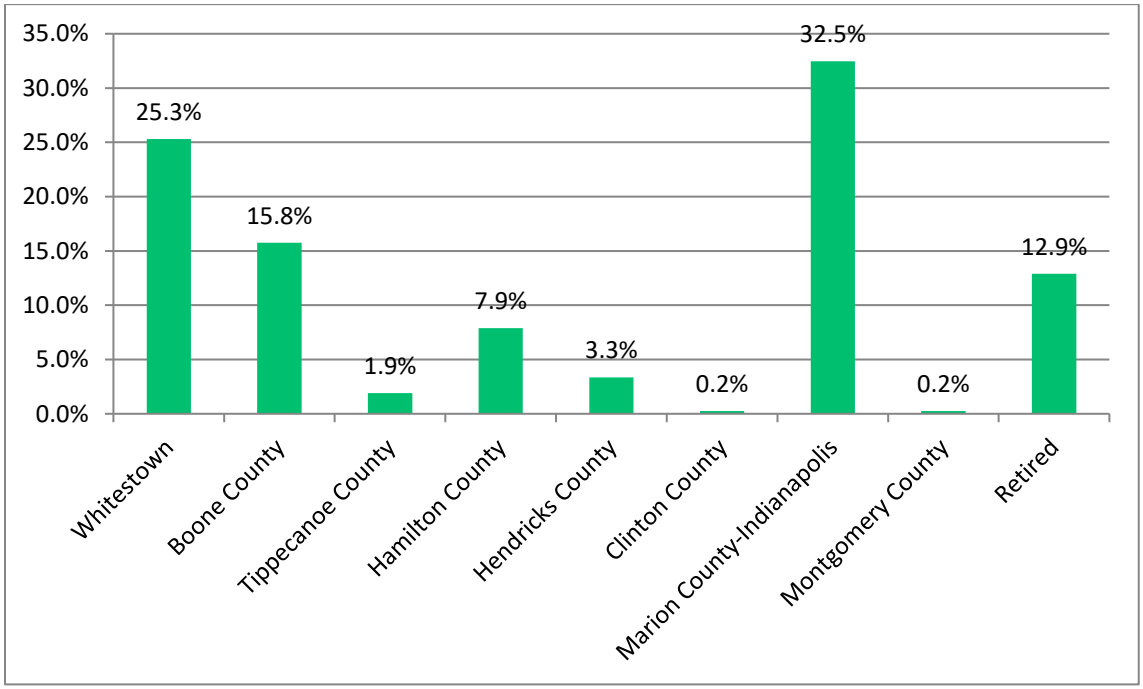
11. Economic Development Priorities. Please rate your level of agreement for each of the following statements pursuant to "I would support the dedication of more time and resources to…"



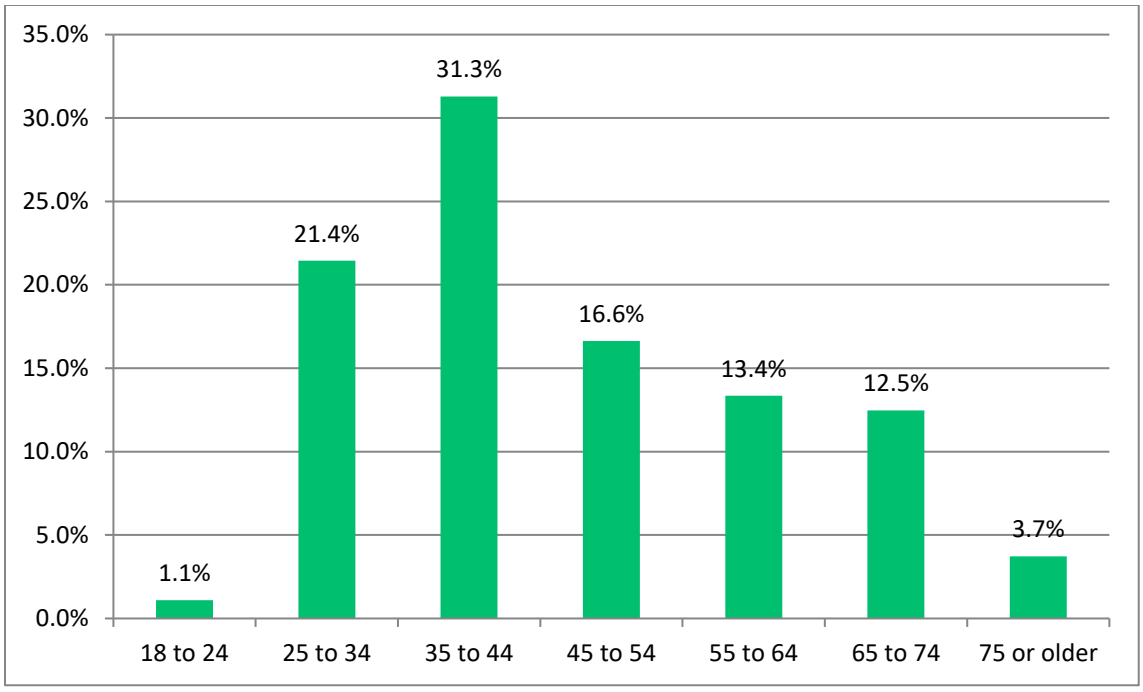
12. What type of businesses does Whitestown need more of? Choose up to three.



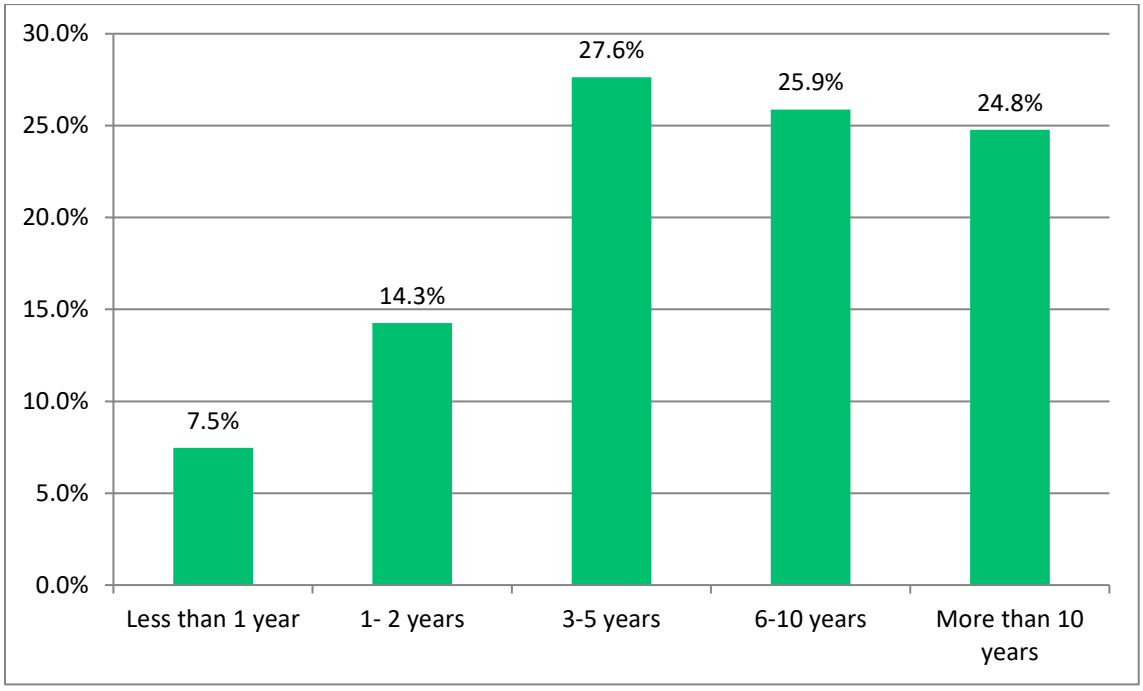
13. Where do you work?



14. What is your age?



15. How long have you lived/worked in Whitestown?



APPENDIX D: STEERING COMMITTEE MEETING MINUTES

Town of Whitestown SS4A Action Plan

Steering Committee Meeting #1

December 17, 2024

AMERICAN STRUCTUREPOINT INC.

WHITESTOWN INDIANA

Why are we here?

Traffic fatalities are a public health crisis *affecting all road users.*

1.3M

Lives lost globally each year from traffic crashes

Source: UN Decade of Action for Road Safety 2021-2030

40,990

Lives lost on US roads in 2023

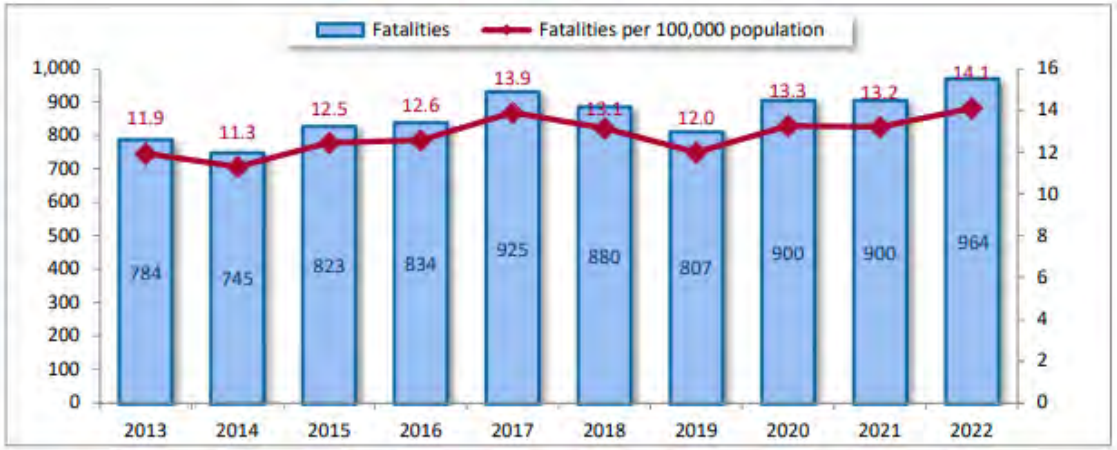
Source: NHTSA Early Estimate of Motor Vehicle Traffic Fatalities in 2023

↑7,500+

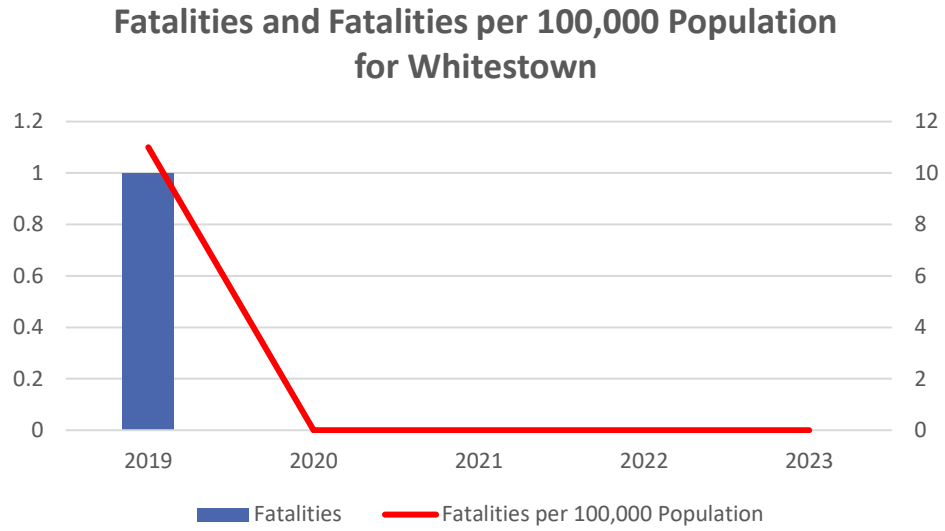
Pedestrians killed on roads in 2022. The most since 1981.

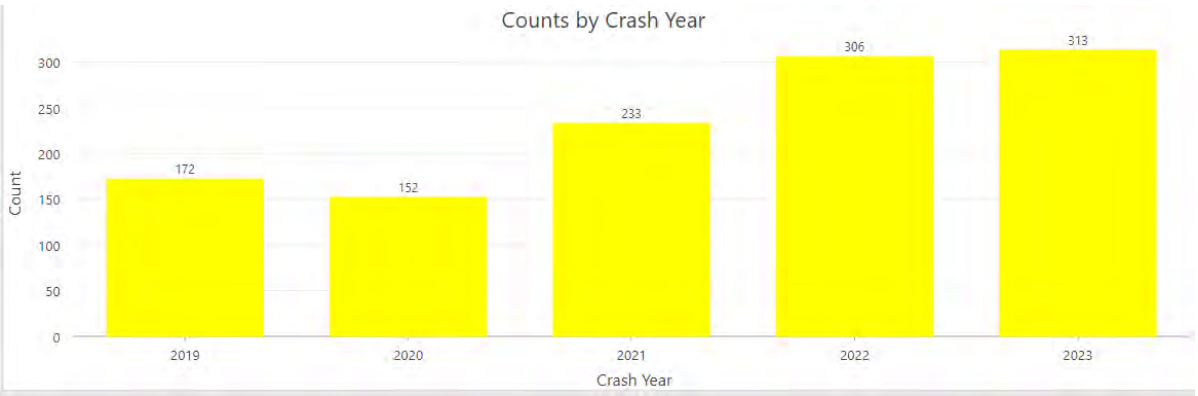
Source: GHSA Pedestrian Traffic Fatalities by State: 2022 Preliminary Data

Indiana and Town of Whitestown

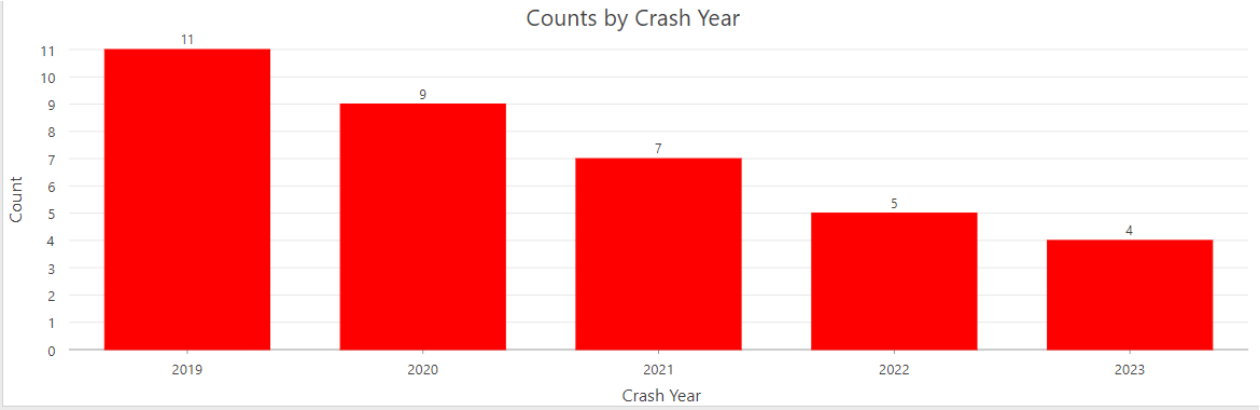


Sources: Analysis provided by the Indiana University Public Policy Institute using data from Indiana State Police, Automated Reporting Information Exchange System (ARIES), downloaded January 25, 2023; and U.S. Census Bureau, 2022 county population estimates.





Total Crashes (2019 – 2023)



Fatal & Serious Injury Crashes (2019 – 2023)

Safe Streets and Roads for All (SS4A) Program

A *Vision Zero* approach to safety

- Traffic deaths and serious injuries are unacceptable
- Commitment to move toward zero deaths
- Safe System Approach

Federal funding for safety projects

- Planning & Demonstration Grants - Comprehensive Safety Action Plan (CSAP) including demonstration activities to inform an Action Plan.
- Implementation Grants

What is a Safe System Approach?

[Safe System Approach]

CSAP Components

Action Plan Component	Milestone
Leadership Commitment and Goal Setting	Vision Zero Resolution established by the Town leadership
Planning Structure	Forming a Steering Committee
Safety Analysis	Geo-spatial identification of high-risk locations (High Injury Network and Hotspot Locations)
Engagement and Collaboration	Robust engagement with public and relevant stakeholders
Equity Considerations	Identify census tracks within the city that are underserved
Policy and Process Changes	Assess current policies, plans, guidelines and suggest some revisions , as appropriate
Strategy and Project Selections	Identification of a comprehensive set of projects and strategies
Progress and Transparency	Creating a process to measure progress after the action plan adoption; Vision Zero page on the Town's website

SS4A CSAP Components

Leadership Commitment

Official Vision Zero Commitment from Town Leadership

- Zero traffic deaths or serious injuries by the target date

- OR -

- Ambitious % reduction in fatalities and serious injuries within X years, with the eventual goal of 100% reduction

Whitestown VZ Resolution → 2024 → 0 deaths by 2040.

Planning Structure

Steering Committee responsibilities:

- **Oversight** of Action Plan development
- **Reviewing** Action Plan
- **Monitoring** progress and implementation

Safety Analysis

Collect crash and traffic data; GIS shapefiles

Perform preliminary screening to identify hotspot intersections and high injury network (HIN)

Comprehensive evaluation of crash hotspot intersections and HIN

Prioritize/Rank the critical hotspot intersections and roadway segments

Engagement and Collaboration

Robust engagement with public and relevant stakeholders

- Stakeholder Meetings
- Online Surveys

Online Survey – Completed

Collaborative Survey

Facebook Advertisement

Responses: 588

Equity Considerations

Underserved communities are in the most danger

- Identify underserved communities through analysis
- Economic and Environmental Justice

USDOT Equitable Transportation Community Explorer

Components of Transportation Disadvantages

1. Transportation Insecurity
2. Health Vulnerability
3. Environmental Burden
4. Social Vulnerability
5. Climate and Disaster Risk

https://experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/ETC-Explorer---State-Results/

Policy and Process Changes

Assess current policies, plans, guidelines, and standards

- Identify opportunities to prioritize transportation safety
- Recommend new or revised policies to achieve safety goals

Suggestions?

Current List

- Whitestown UDO Adopted 2020
- Whitestown Comprehensive Plan Updated
- Thoroughfare Plan Updated 2020
- Legacy Core Plan (2018 Draft)
- 2023 Parks Master Plan
- Whitestown Standard Specifications and Details
- Sidewalk Asset Management Plan (2017)
- Pavement Asset Management (2017)

Strategy and Project Selection

Identify projects and strategies using data and stakeholder input

- **Projects**
  - **Systematic** improvements (select locations)
  - **Systemic** improvements based on high-level analysis
  - **Rank** projects to prioritize high-impact locations
- **Strategies**

Progress and Transparency

Measure progress over time after the Action Plan is developed

- Ensure ongoing transparency with stakeholders
- Annual public reporting on Vision Zero progress
- Make the Action Plan available online

Schedule

Milestone	Target Date (Tentative)
Contract Execution	7/10/2024
Safety Analysis	(01/10/2025)
Stakeholder and Public Engagement	(12/13/2024)
Equity Considerations & Policy Review	(1/10/2025)
Strategy and Project Selections	(1/31/2025)
Draft Action Plan	3/1/2025
Final Action Plan	4/15/2025

Town of Whitestown SS4A Action Plan

Steering Committee Meeting #2

January 15, 2025

AMERICAN STRUCTUREPOINT INC.

WHITESTOWN INDIANA

CSAP Components & Project Status

Action Plan Component	Milestone	Status
Leadership Commitment and Goal Setting	Vision Zero Resolution established by the Town leadership	Complete
Planning Structure	Set-up a Steering Committee	Complete
Safety Analysis	Geo-spatial identification of high-risk locations (High Injury Network and Hotspot Locations)	75% Complete
Engagement and Collaboration	Robust engagement with public and relevant stakeholders	50% Complete
Equity Considerations	Identify census tracks within the Town that are underserved	On-going
Policy and Process Changes	Assess current policies, plans, guidelines and suggest some revisions, as appropriate	On-going
Strategy and Project Selections	Identification of a comprehensive set of projects and strategies	On-going
Progress and Transparency	Method to measure progress over time after Action Plan is developed	Future

Public Engagement

Collaborative Survey

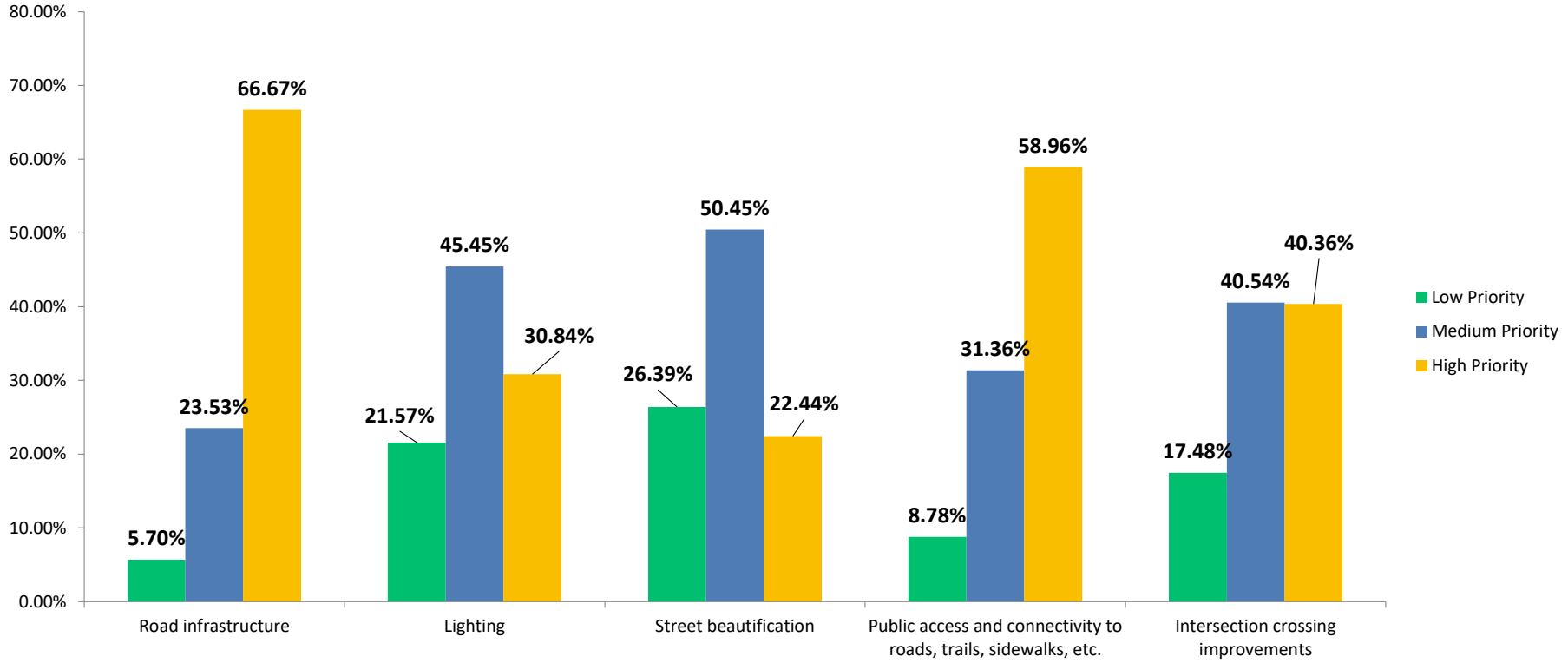
ADVERTISEMENT

- FACEBOOK

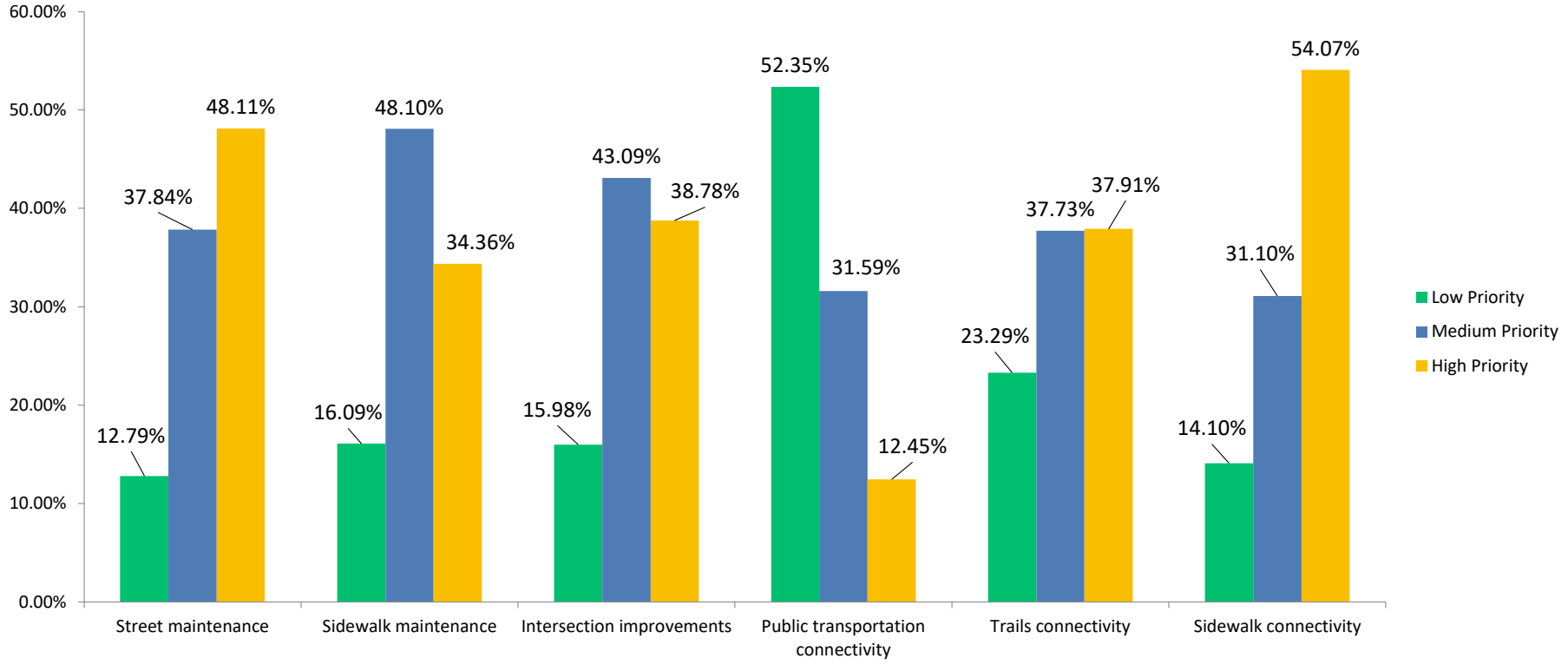
- TOWN WEBSITE

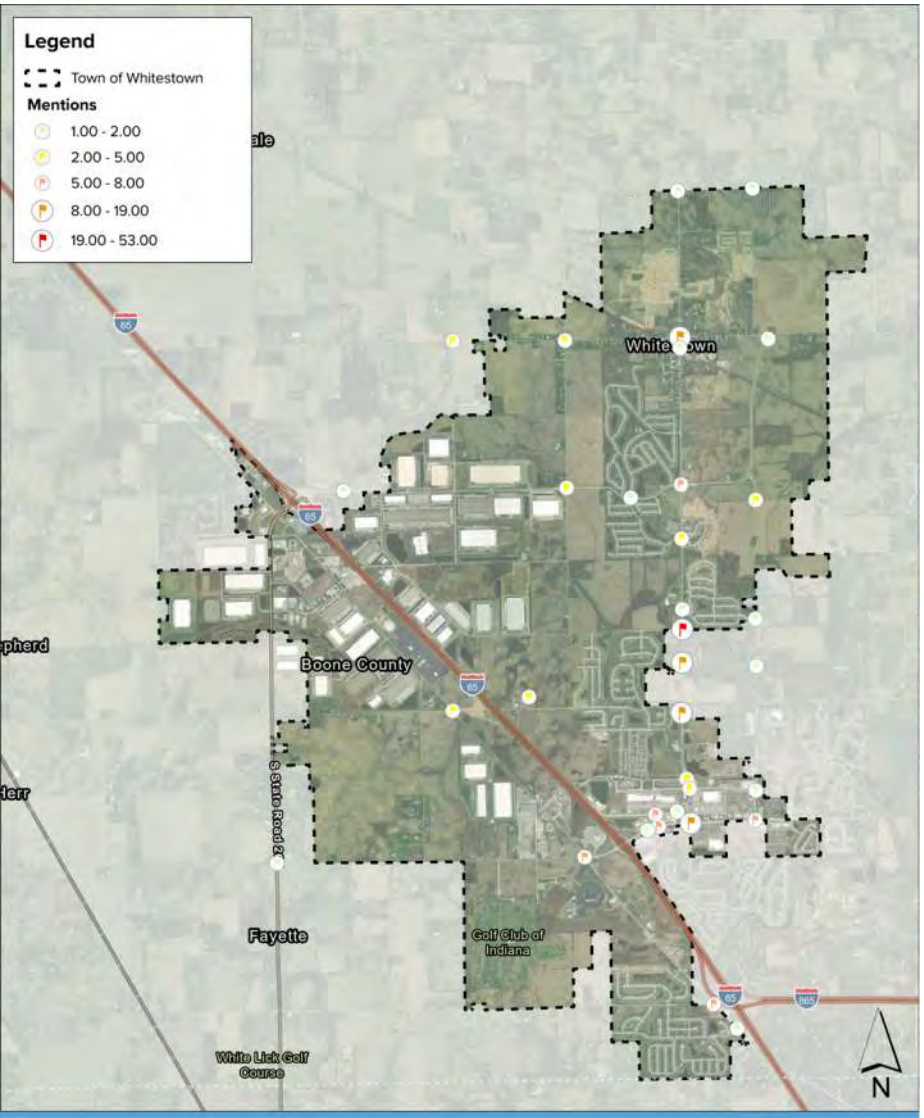
588 SURVEY RESPONSES

Where should the Town make significant investments in its roads and trails infrastructure?



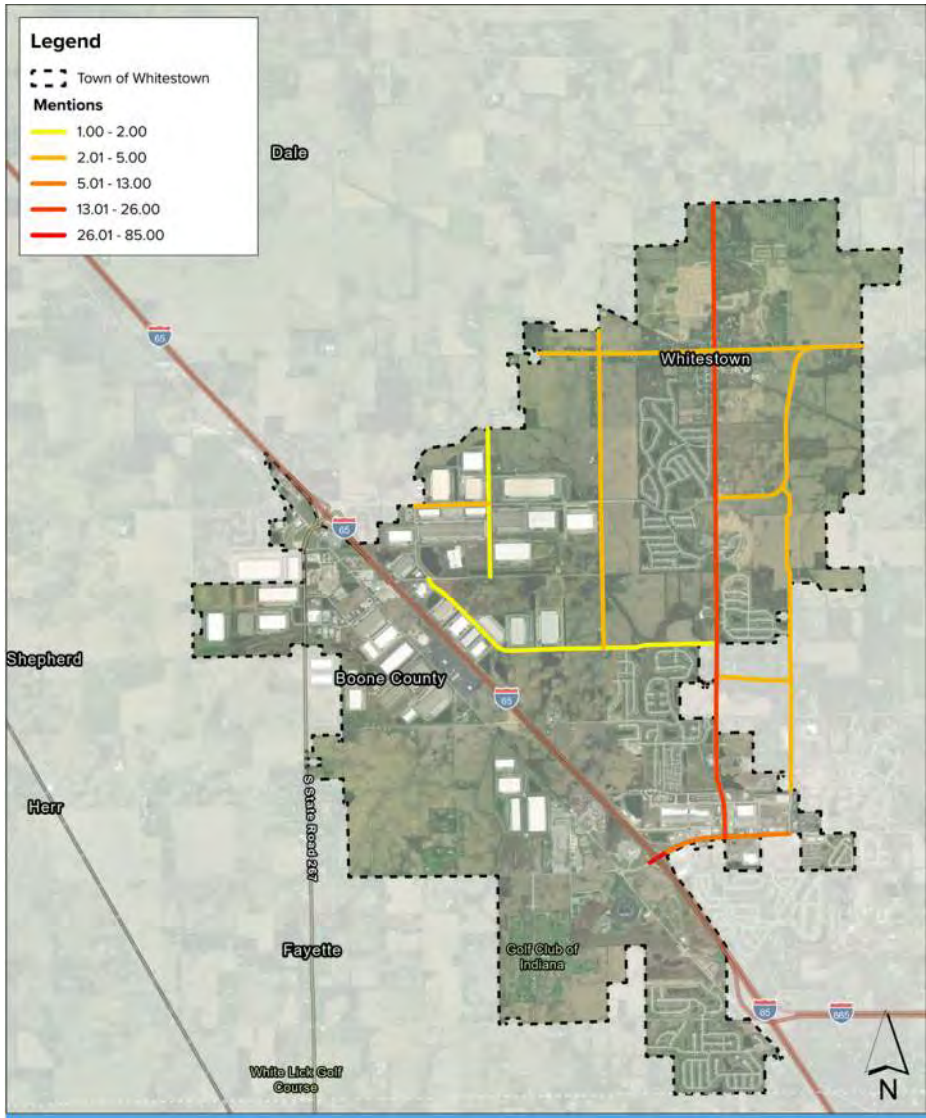
Which of the following infrastructure needs the most investment to meet your expectations?





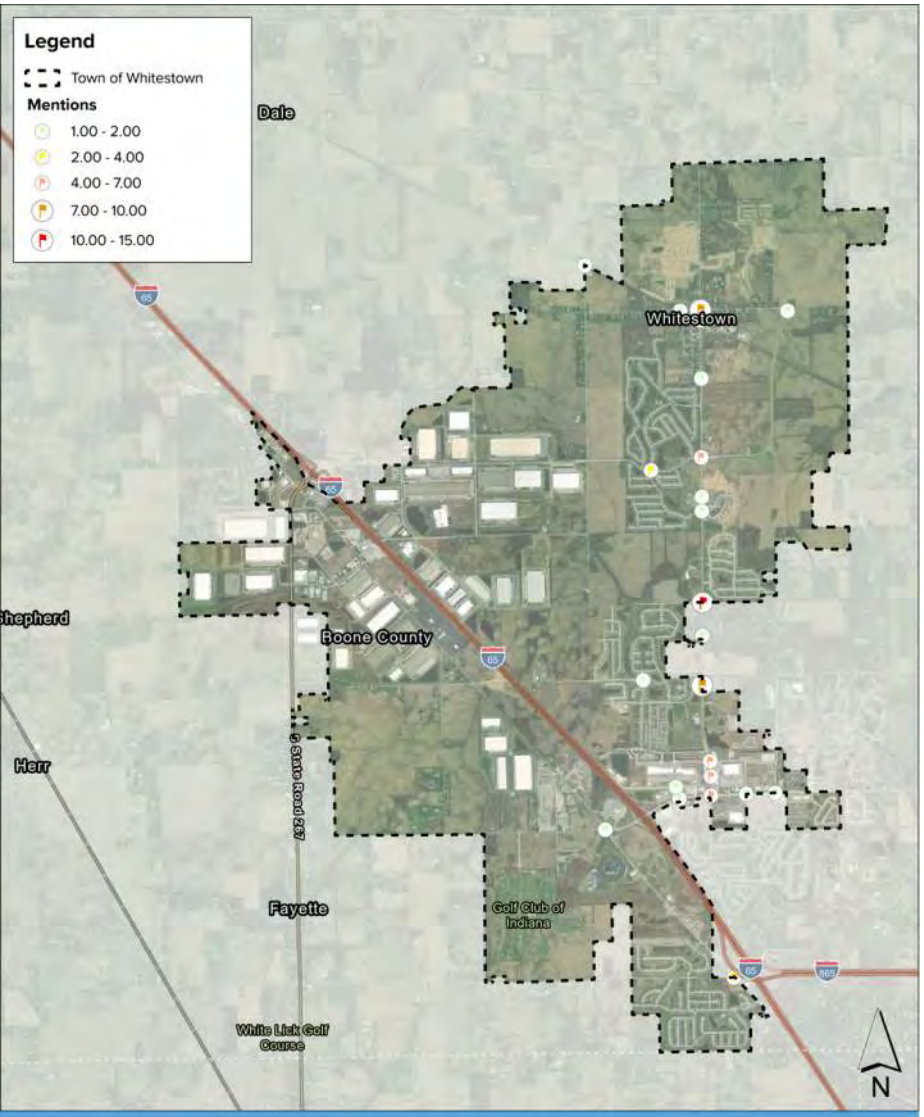
Motorist Intersections

0 0.5 1 Miles



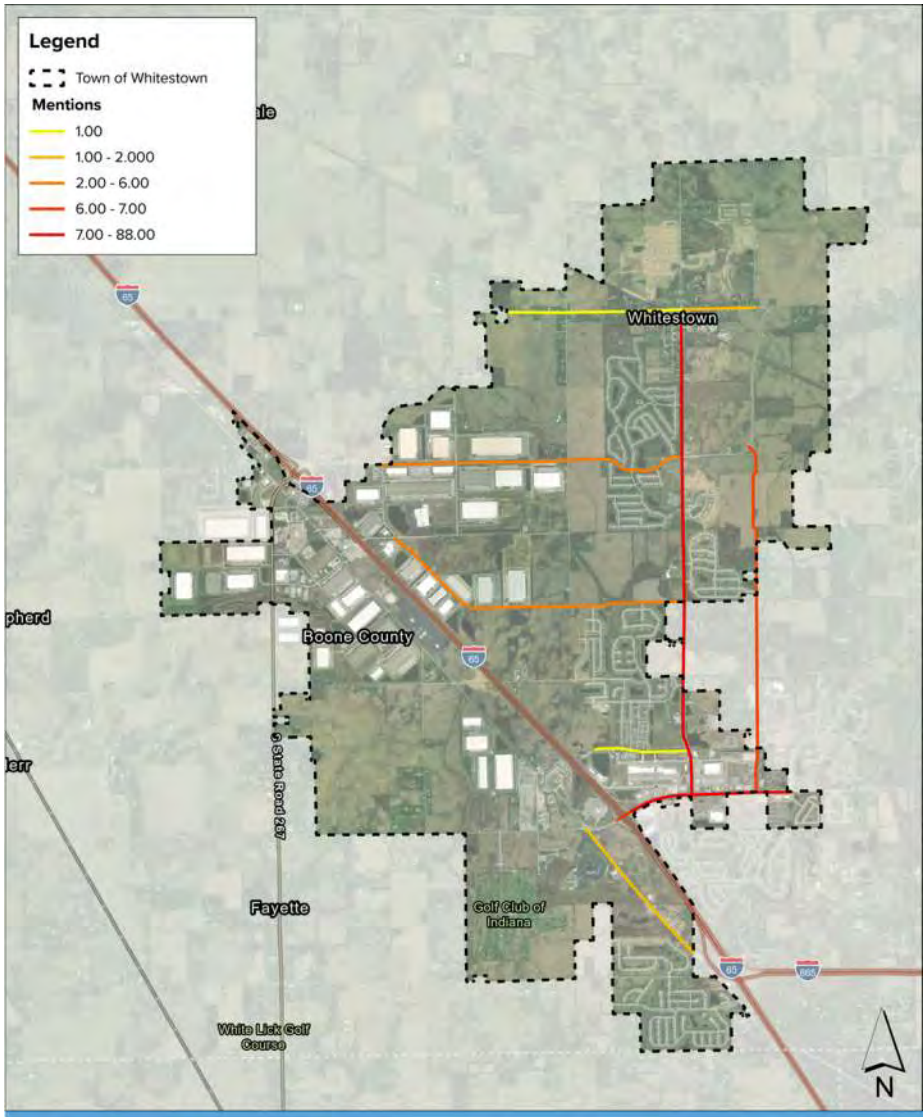
Motorist Roadways

0 0.5 1 Miles



Non-Motorist Intersections

0 0.5 1 Miles

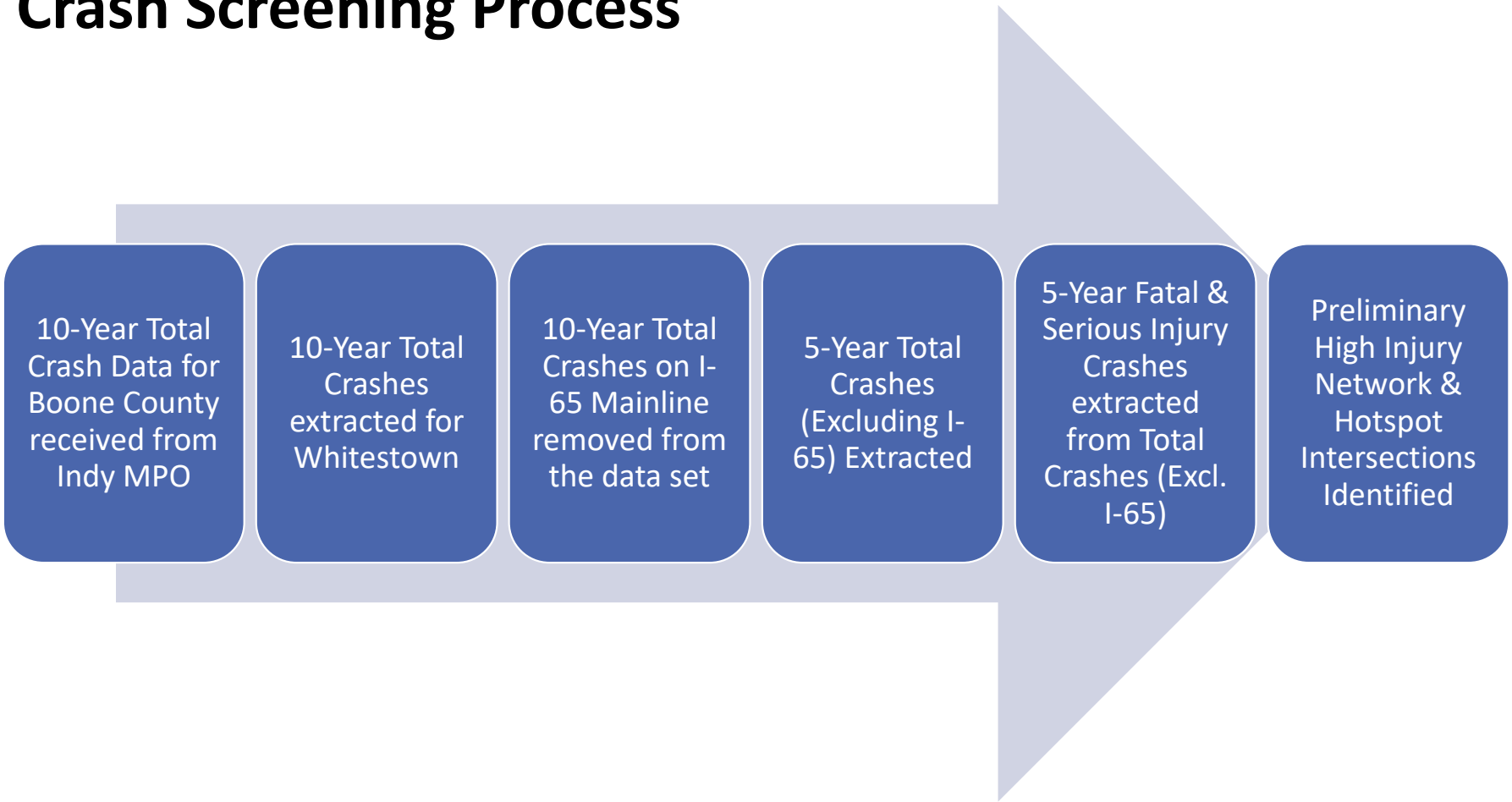


Non-Motorist Roadways

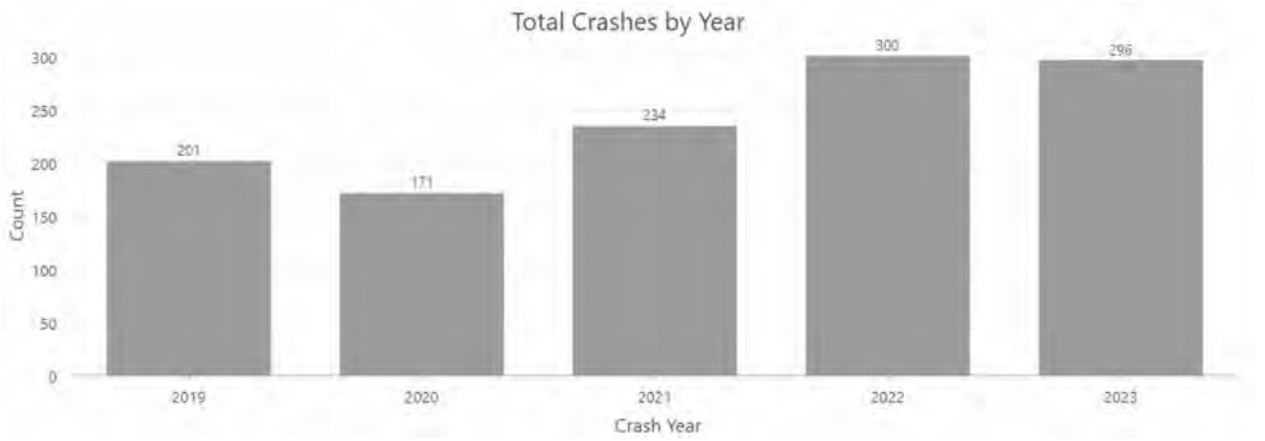
0 0.5 1 Miles

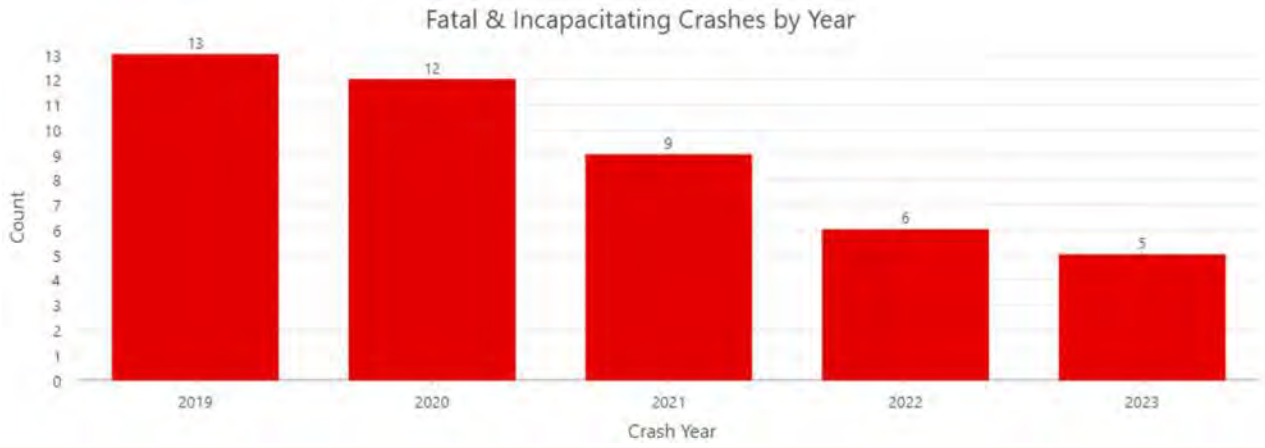
Safety Analysis

Crash Screening Process



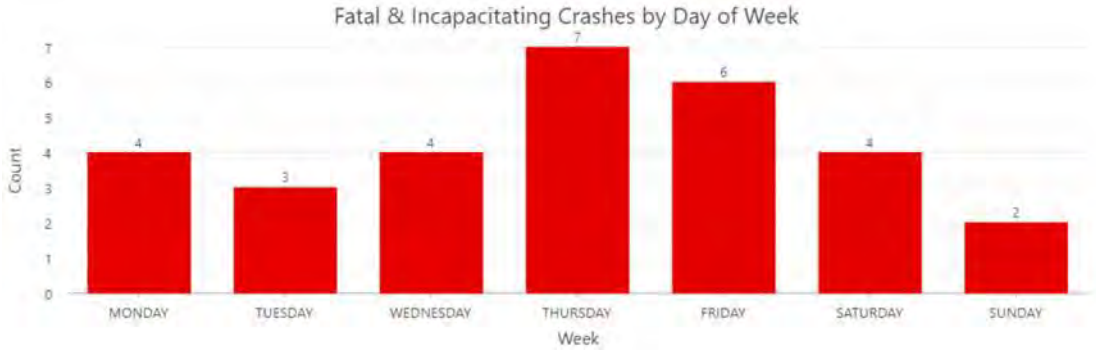
Crash Trends by Year (2019 – 2023)

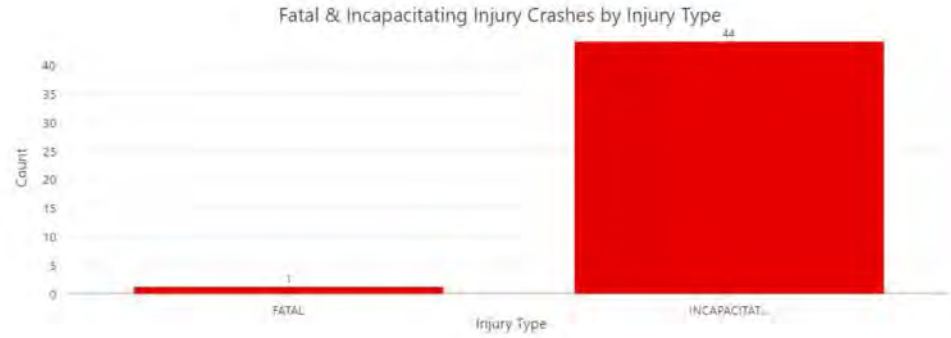


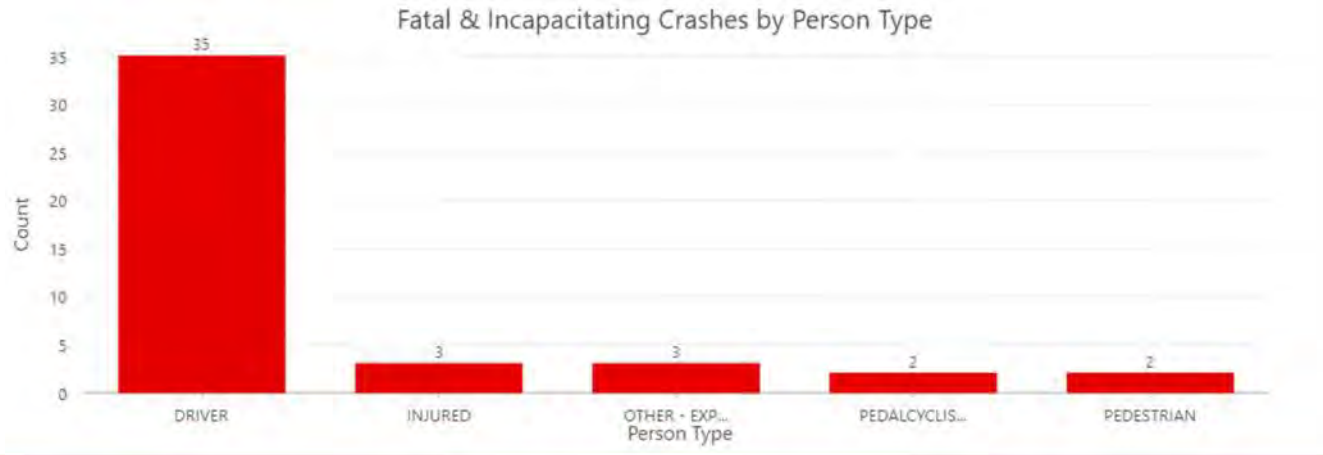


Injury Code	Definition
K – Fatal Injury	Injury that results in death within 30 days after the crash
A – Incapacitating Injury	Non-fatal injury that prevents the injured person from getting back to normal life after the crash. Typically requires hospitalization
B – Non-Incapacitating Injury	An injury, other than a fatal or incapacitating injury, which is evident to the officer at the scene of the crash and may require medical treatment.
C – Possible Injury	Any injury reported or claimed which is not visible.
O / U – Not Reported, Unknown, Refused	

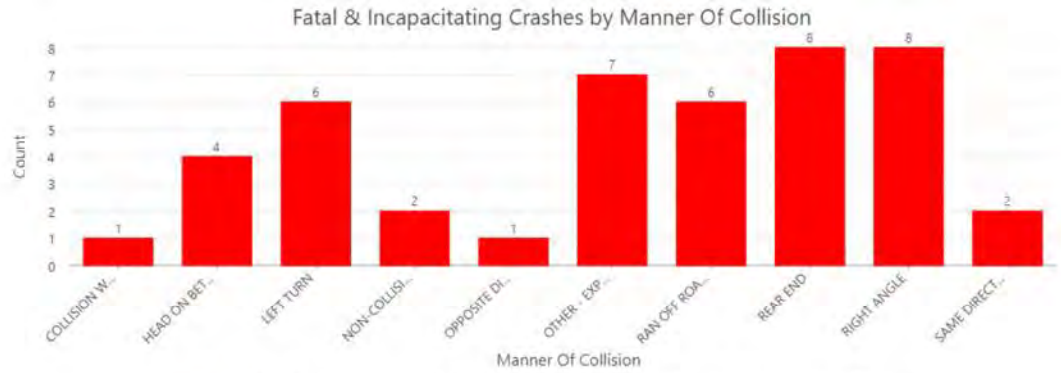
Fatal & Incapacitating Crash Trends (2019-2023)

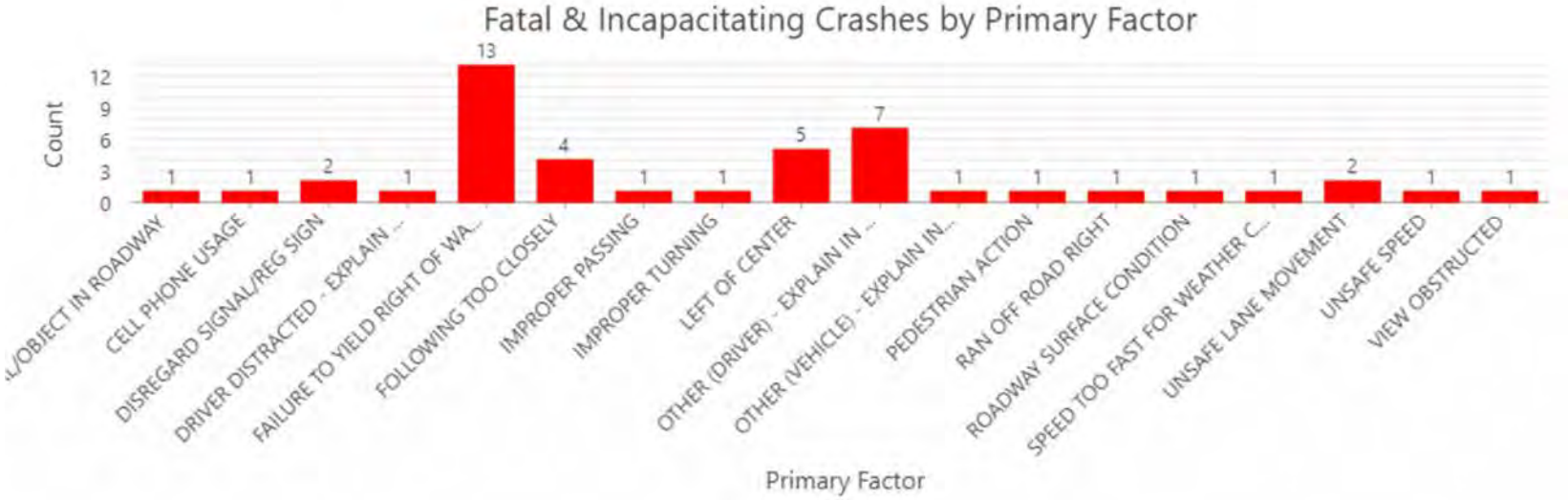






Fatal & Incapacitating Crash Trends (Continued)





Safety Analysis Insights (2019 – 2023)

- Rear End, Right Angle, and Left Turn crashes were most common crash types in severe crashes
- 1 fatal crash was a Right-Angle crash
- 2 Pedestrian and 2 bicycle crashes
- Right angle crashes are associated with red light running and driver inattentiveness
- Rear end crashes are associated with high vehicle speeds and driver inattentiveness

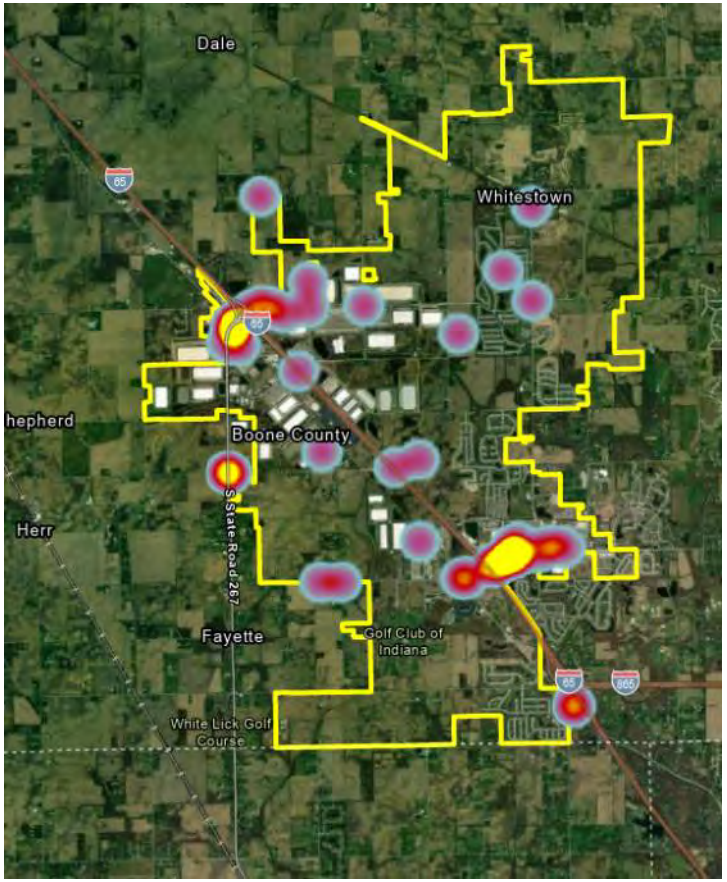
Common Targets for Countermeasures:

Reducing Vehicle Speeds, Improving and Emphasizing Driver Awareness, Conflict Points and Access Management

High-Injury Network & Hotspot Locations

Preliminary High-Injury Network

Segment	Roadway
1	S Main Street from Turner St to Smith St
2	Albert S White Dr from Indianapolis Rd to CR S 400E
3	Albert S White Dr from Anson Blvd to S Main Street
4	Whitestown Parkway from CR S 425E to CR S 475E
5	Whitestown Parkway from Indianapolis Rd to S Main St



Preliminary Hotspot Intersections

Intersection #	Intersection
1	S Perry Worth Rd & Whitestown Rd
2	Whitestown Parkway & I-65 NB Ramp
3	Indianapolis Rd & Eagle Nest Blvd
4	Whitestown Parkway & Indianapolis Road
5	Whitestown Parkway & S Main Street
6	Albert S White Drive & S Main Street
7	Albert S White Drive & Anson Blvd

Schedule

Milestone	Target Date (Tentative)
Contract Execution	07/10/2024
Safety Analysis	01/31/2025
Equity Considerations & Policy Review	01/31/2025
Stakeholder and Public Engagement	02/07/2025
Strategy and Project Selections	02/15/2025
Draft Action Plan	**03/03/2025**
Final Action Plan	04/15/2025

Meeting Notes

- The stretch of Main Street between CR 500 S and CR 525 S is owned by City of Zionsville and there was discussion that any improvements on this stretch will have to be coordinated with Zionsville.
- Cheryl H. indicated that in addition to all the hotspot intersections indicated, the intersections of CR 300 S & CR 500 E, and CR 550 S & SR 267 is also frequently brought up by the public as problematic intersections.
- Dan P. mentioned that the results are in line with their observations from the constituents.

Town of Whitestown Safe Streets for All (SS4A) Action Plan

Steering Committee Meeting #3

February 21, 2025

Agenda

- CSAP Components & Project Status
- Equity Analysis Results
- Safety Analysis
    - High-level Summary
    - Systemic Analysis Countermeasures
    - Systematic Improvements
        - Short Term
        - Long Term
- Next Steps

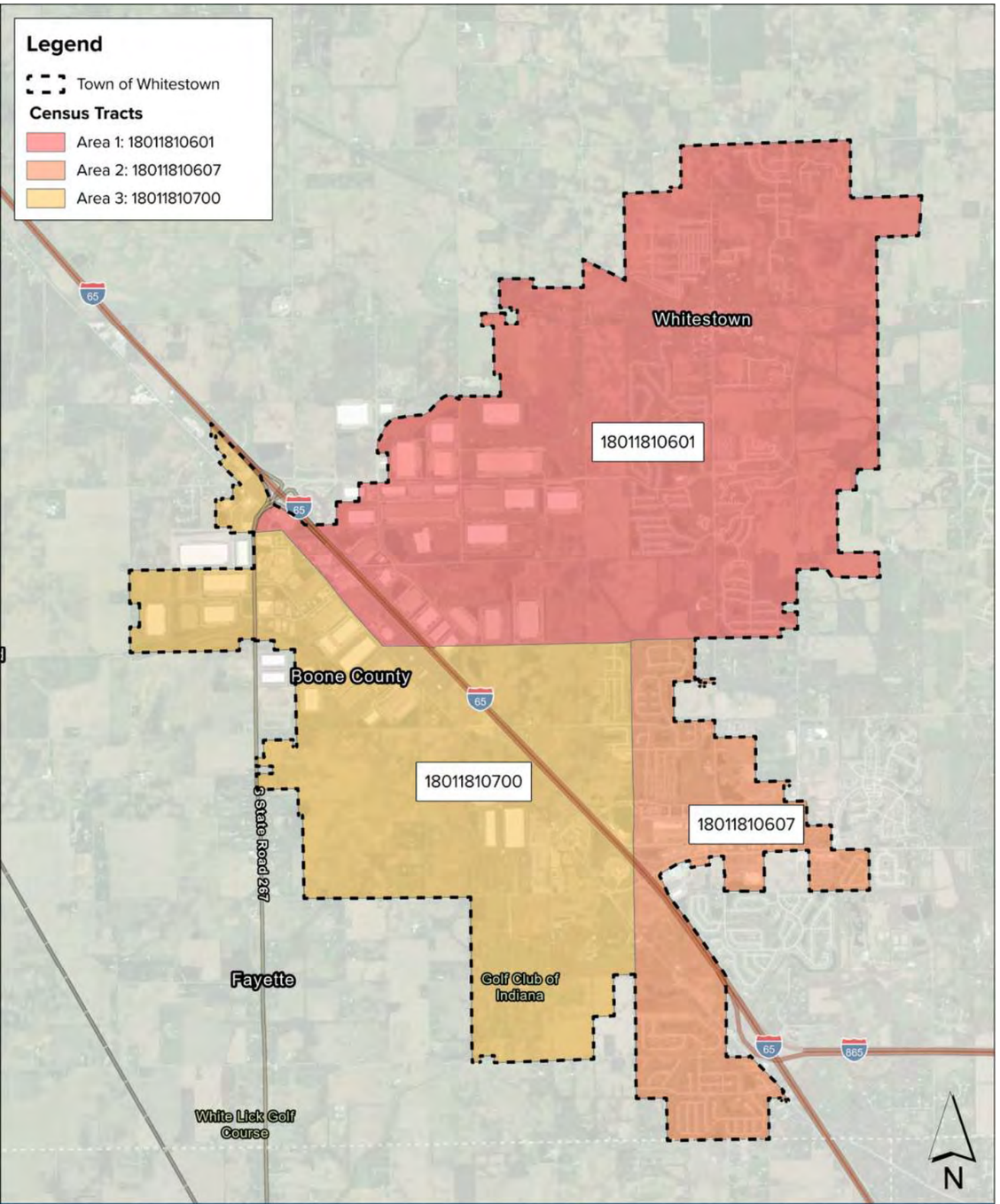
CSAP Components & Project Status

Action Plan Component	Milestone	Status
Leadership Commitment and Goal Setting	Vision Zero Resolution established by the Town leadership	Completed
Planning Structure	Set-up a Steering Committee	Completed
Safety Analysis	Geo-spatial identification of high-risk locations (High Injury Network and Hotspot Locations)	Completed
Engagement and Collaboration	Robust engagement with public and relevant stakeholders	On-going
Equity Considerations	Identify census tracks within the Town that are underserved	Completed
Policy and Process Changes	Assess current policies, plans, guidelines and suggest some revisions, as appropriate	Completed
Strategy and Project Selections	Identification of a comprehensive set of projects and strategies	On-going
Progress and Transparency	Method to measure progress over time after Action Plan is developed	Future

Equity Analysis

US Department of Transportation's (USDOT) Equitable Transportation Community (ETC) Explorer Tool

- Based on federal guidelines, census tracts ranked at or above the 65th percentile are considered disadvantaged.
    - Transportation Insecurity
    - Climate and Disaster Risk
    - Environmental Issues
    - Health Vulnerability
    - Social Vulnerability
- Components of Transportation Insecurity
    - Traffic Safety
    - Transportation Cost
    - Transportation Access



Disadvantaged Tracts

- Area 1: 18011810601
  - Transportation Access: ranked in the 71st percentile
- Area 2: 18011810607
  - Transportation Access: ranked in the 74th percentile
- Area 3: 18011810700
  - Transportation Access: ranked in the 85th percentile
  - Transportation Safety: ranked in the 80th percentile

Safety Analysis & Countermeasures

Safety Analysis Insights (2019-2023)

- Rear End, Right Angle, Left Turn and Running off Road crashes were most common crash types among severe crashes
- 1 fatal crash (2019)
  - Intersection no longer exists (SR 267 & Indianapolis Rd)
- High speed, Obscured Vision and Lack of Pedestrian Facilities have been identified as typical safety concerns for both motorized and non-motorized users during public engagement surveys;
  - **Right angle/left turn crashes are associated with obscured vision and high vehicle speeds**
  - **Rear end crashes are associated with high vehicle speeds and driver inattentiveness**
  - **Running off road crashes are associated with high vehicle speeds, driver inattentiveness and poor signage**
- 4 Severe pedestrian/bicycle crashes

Common Targets for Countermeasures:

Reducing Vehicle Speeds, Improving and Emphasizing Driver Awareness, Improving Delineation and Visibility, Improving Ped/Bike Visibility, Conflict Points and Access Management

Systemic Safety Countermeasures

1. Install Retroreflective Backplates on Signal Heads
2. Leading Pedestrian Interval
3. Appropriate Speed Limits for All Road Users
4. Improve Visibility at Trail Crossings
5. Crosswalk Visibility Enhancements
6. Yellow Change Interval and Signal Timing Optimization
7. Flashing Yellow Arrow Signals

https://highways.dot.gov/safety/proven-safety-countermeasures

Systemic Safety Improvement Treatments and Countermeasures

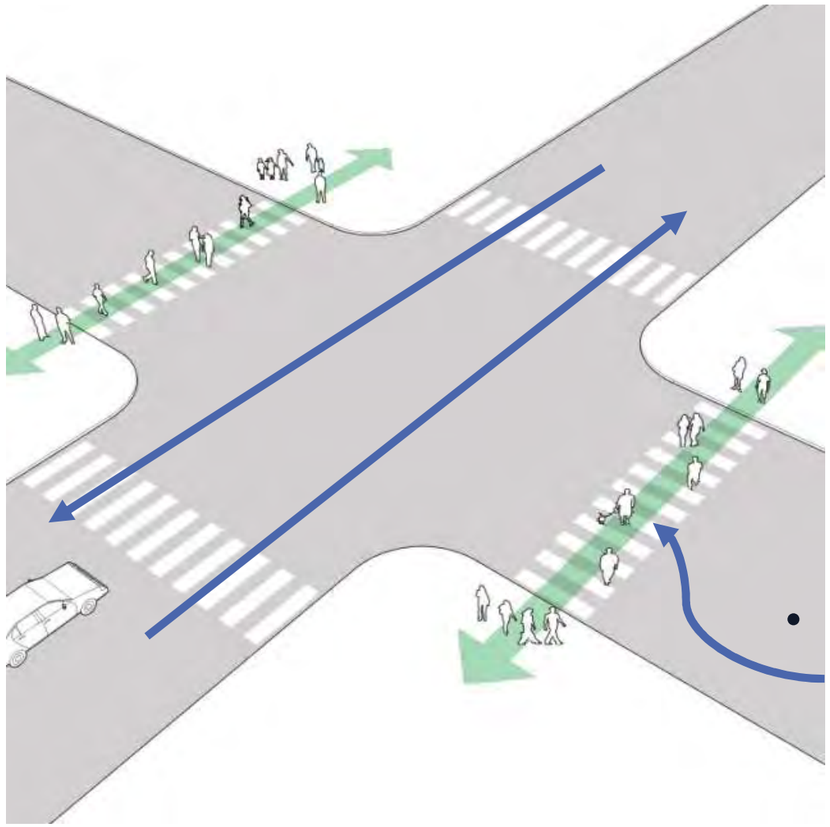
1. Install Retroreflective Backplates on Signal Heads

- **Backplates: 15% reduction in total crashes**

Systemic Safety Improvement Treatments and Countermeasures

2. Introduce Leading Pedestrian Interval (LPI) for Pedestrian Phase

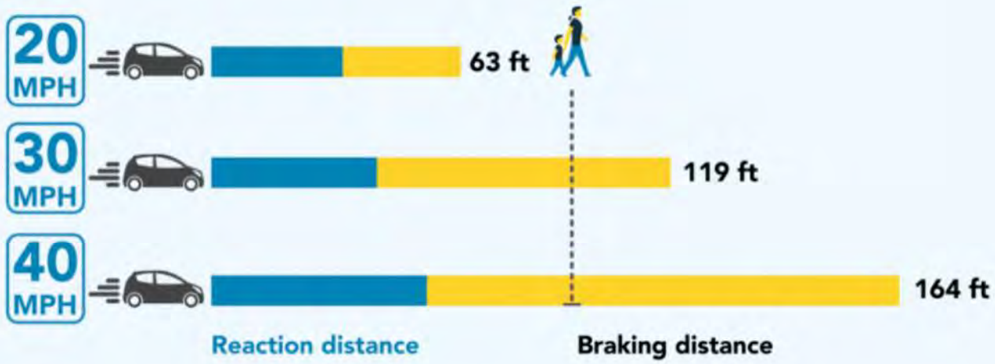
- **13% reduction in vehicle/pedestrian crashes at intersections.**



- **Ped Phase leads Concurrent Vehicle Phase by 3 – 7 seconds**

Systemic Safety Improvement Treatments and Countermeasures

3. Appropriate Speed Limits for All Road Users



Source: National Highway Traffic Safety Administration (2015)

Speed Limit Pavement Legend

Contrast Border Speed Limit Sign

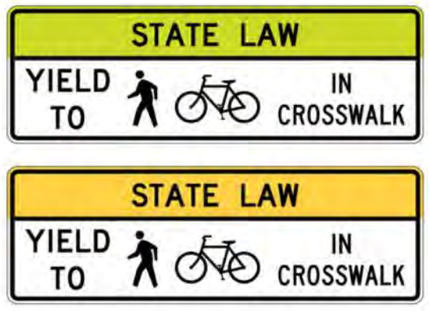
Speed Feedback Sign

Systemic Safety Improvement Treatments and Countermeasures

4. Improve Visibility at Trail Crossings

Trail Crossing Signs with RRFBs

High Visibility Pavement Markings



Overhead Signs and Flashing Beacons

Systemic Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

5. Crosswalk Visibility Enhancements

Option: Raised Crosswalk (Reduces driver speeds)

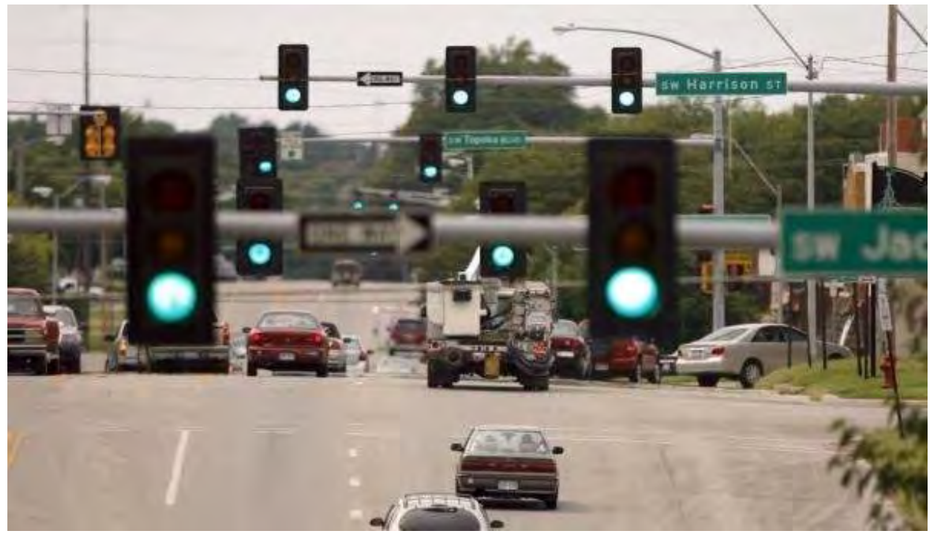
- **40% reduction in pedestrian injury crashes**
- **RRFB's increase motorist yielding rates by up to 98% (varies by speed limit, # of lanes, crossing distance, and time of day)**

Systemic Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

6. Yellow Change Interval and Signal Timing Optimization

- Appropriately timed yellow change intervals can reduce red-light running and improve overall intersection safety.

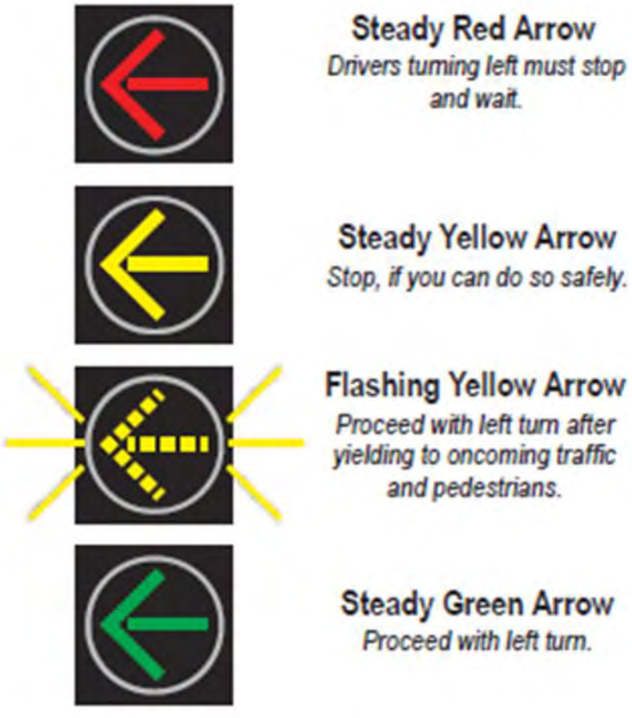


- 36-50% reduction in red-light running
- 8-14% reduction in total crashes
- 12% reduction in injury crashes

Systemic Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

7. Flashing Yellow Arrow Signals



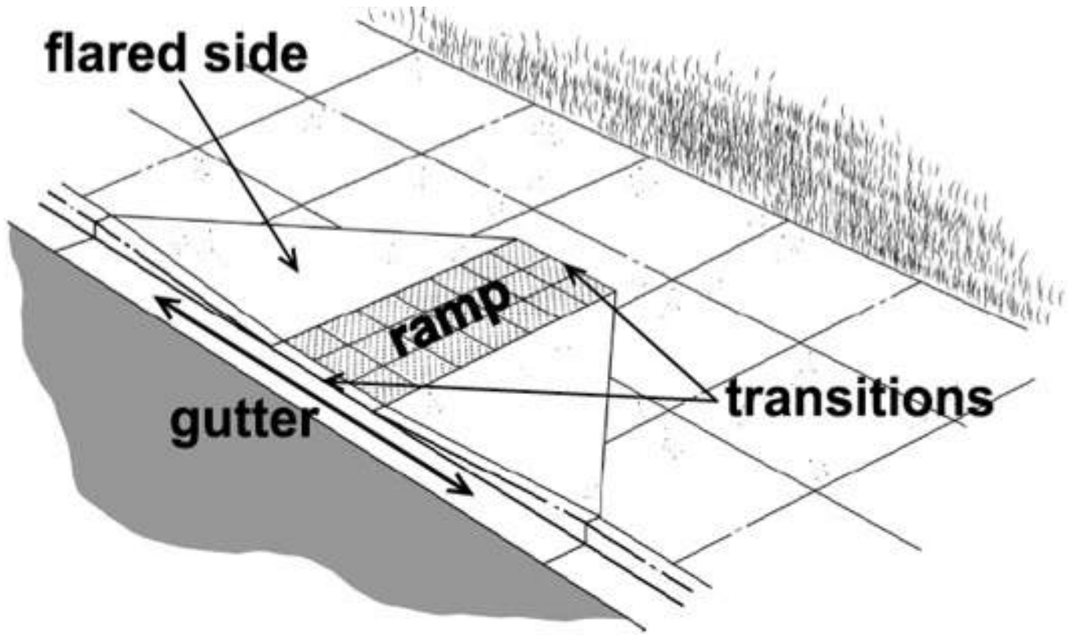
- **FYA improves intersection safety by providing clearer indication to left-turning drivers to yield to oncoming traffic.**
- **Reduces left-turn crashes by ~15% (CMF ID: 11325)**

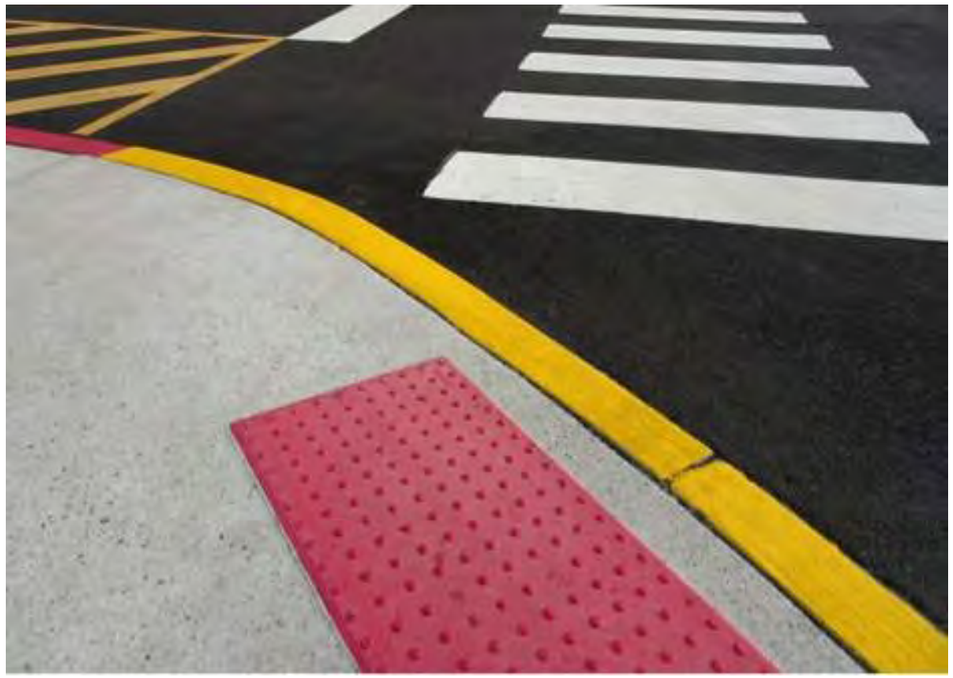
Short-Term Countermeasures (Low Cost)

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

1. ADA Compliance for Curb Ramps





Short-Term Safety Treatments and Countermeasures

2. Speed Feedback Signs

- Speed Feedback Signs could help reduce speeding issues.
- Useful at locations where speed limits change to improve driver attention.
- Without visible speed enforcement, compliance might reduce with time.
- Ensure that the Speed Feedback Signs being used are MUTCD-compliant

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

3. RRFB's and Pedestrian Hybrid Beacon (PHB / HAWK Signal)

- PHB / HAWK Signals:
  - 55% reduction in ped crashes
  - 29% reduction in total crashes
  - 15% reduction in crashes

- RRFB's can reduce ped crashes up to 47%
- RRFB's increase motorist yielding rates by up to 98% (varies by speed limit, # of lanes, crossing distance, and time of day)

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

4. Roadway Illumination/Lighting

- 42% reduction in pedestrian crashes
- 28% reduction in night injury crashes

Source: ANSI/IES RP-8-18

NOTE: Ensure positive contrast (bottom) exists at pedestrian crossings

- **Illuminates pedestrians without creating silhouettes**
- **Important for lighting at roundabouts**

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

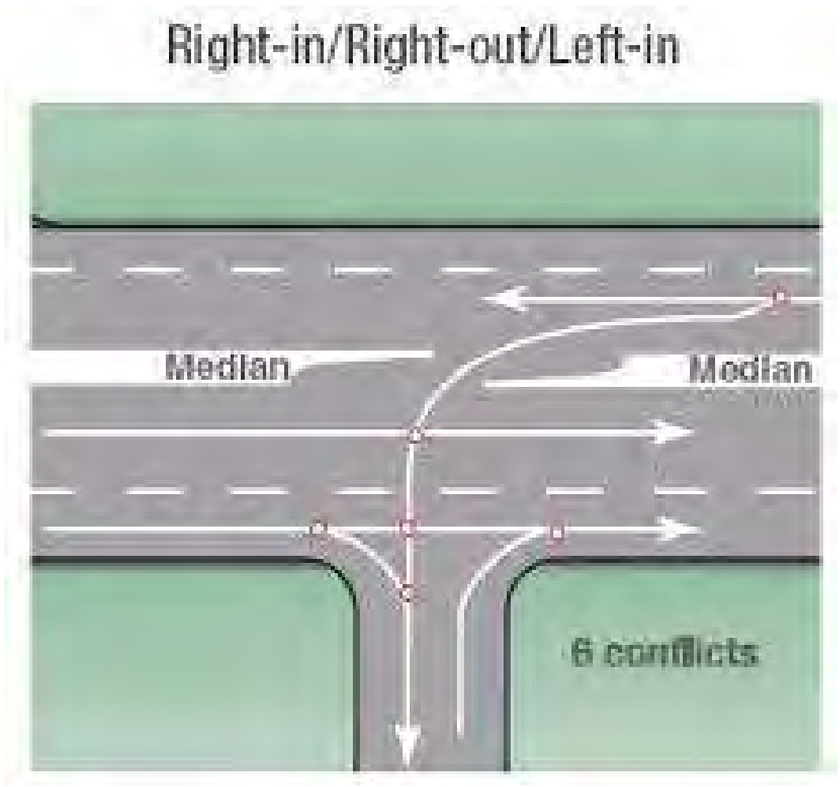
5. Install Median or Pedestrian Refuge Island

- **Median with Marked Crosswalk: 46% reduction in pedestrian crashes**
- **Pedestrian Refuge Island: 56% reduction in pedestrian crashes**

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

6. Access Management



- **25-31% reduction in Fatal / Severe Injury crashes on urban/suburban arterial**

Short-Term Safety Treatments and Countermeasures

7. Improve Delineation on Horizontal Curves

- **Helps to reduce run off road crashes**
- **Advance curve warning signs**
- **Chevrons if recommended should be provided**
- **Can be further enhanced using sequential flashing LED’s**

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

8. Raised Pavement Markers and Rumble Strips

Long-Term Countermeasures (Higher Cost)

Long-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

1. Improve Sidewalk Connectivity

Long-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

2. Protected Bicycle Lanes

Long-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

3. Dedicated Turn Lanes at Intersections

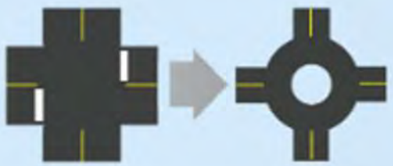
Long-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

4. Modern Roundabouts

Safety Benefits:

Two-Way Stop-Controlled Intersection to a Roundabout



82%

Reduction in fatal and injury crashes[1]

Long-Term Safety Treatments and Countermeasures

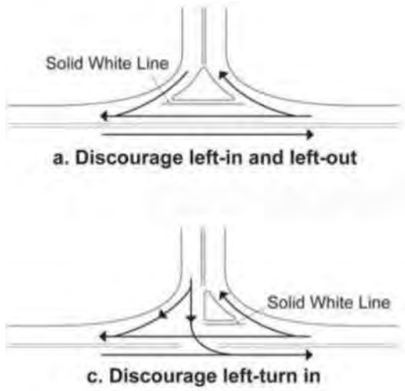
GIVE US YOUR FEEDBACK

5. Complete Streets

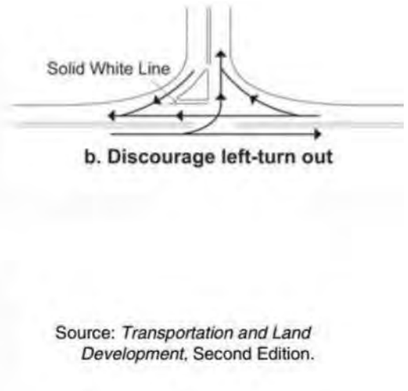
Long-Term Safety Treatments and Counterm

GIVE US YOUR FEEDBACK

6. Corridor Access Management



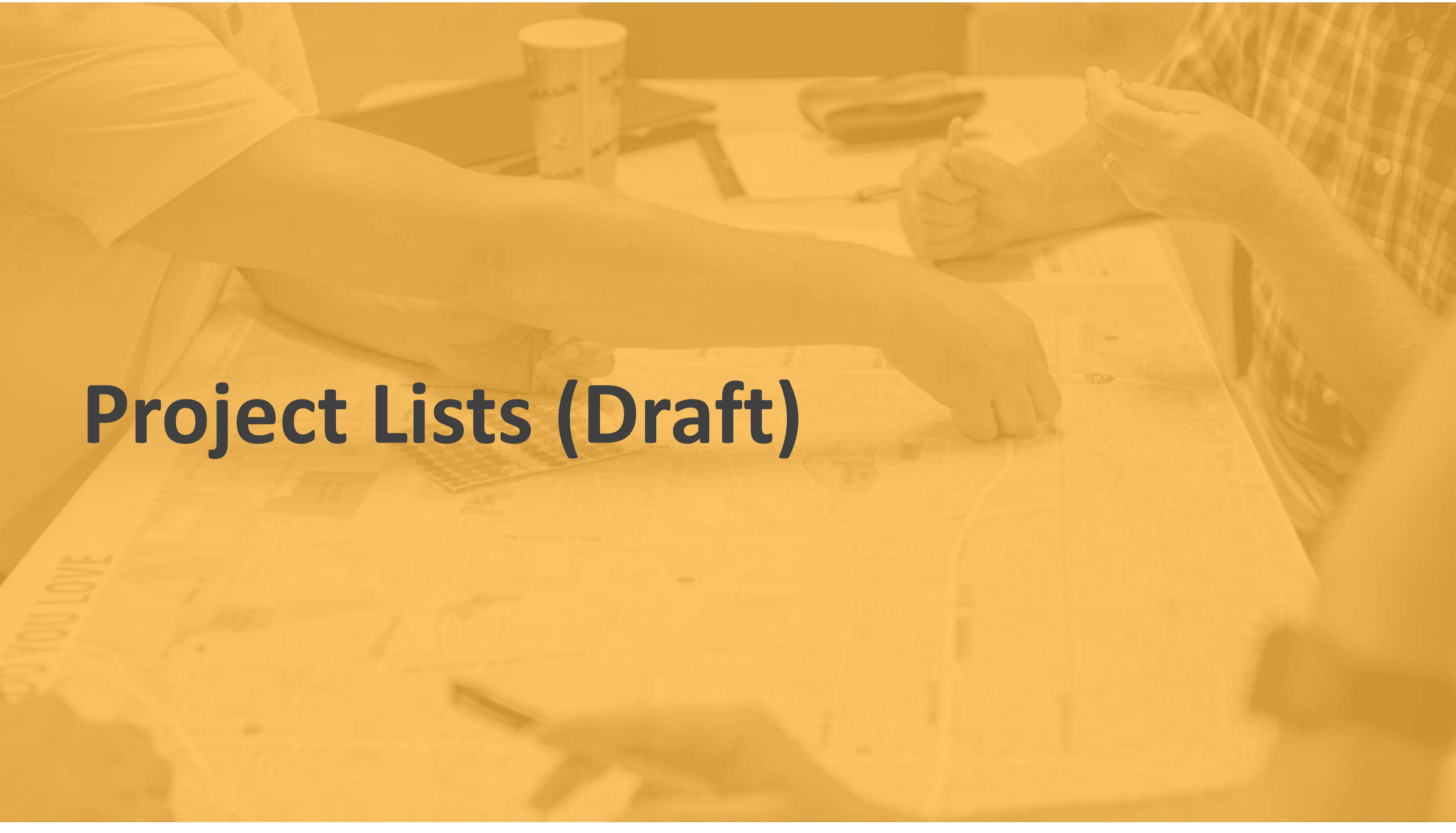
a. Discourage left-in and left-out



b. Discourage left-turn out

c. Discourage left-turn in

Source: *Transportation and Land Development*, Second Edition.



Project Lists (Draft)

Project Selection and Prioritization

Criteria	Assigned Weightage	
Total Crash Rate **(All Crashes)**	30%	**Crash Data**
Fatality and Injury **(F&I)** Crash Rate	30%	
Environmental Justice	20%	**Equity**
Public Engagement	20%	**Public Input**

High Injury Network Projects

Segment #	Roadway Segment
1	Albert S White Dr – CR 500 to I-65 Ramps
2	Whitestown Pkwy – Main St to Indianapolis Rd
3	Whitestown Pkwy – CR 425 E to CR 475 E
4	Perry Worth Rd – Curve North of CR 550 S
5	Main St – Pierce St to Albert S White Dr / CR 400 S
6	Indianapolis Rd – Whitestown Pkwy to CR 550 S

Intersection Projects

Intersection #	Intersection
1	Albert S White Dr & CR 500 E
2	Albert S White Dr & Anson Blvd
3	Albert S White Dr & Main St
4	Perry Worth Rd & Whitestown Blvd
5	Whitestown Pkwy & Indianapolis Rd
6	Whitestown Pkwy & Main St
7	Whitestown Pkwy & I-65 NB Ramp
8	Indianapolis Rd & Eagle Nest Blvd

Next Steps

1. **Score and Rank Projects**
2. **Complete Draft Report by 03/03/2025**
3. **Submit Draft Report to Steering Committee for feedback (~ 1-2 weeks)**
4. **Address comments and submit Final Report**
5. **Final Report will need to be adopted by Town Council and made public on the Town's Vision Zero webpage.**

Schedule

Milestone	Target Date (Tentative)
Contract Execution	07/10/2024
Safety Analysis	01/31/2025
Equity Considerations & Policy Review	01/31/2025
Stakeholder and Public Engagement	02/21/2025
Strategy and Project Selections	02/26/2025
Draft Action Plan	**03/03/2025**
Final Action Plan	04/15/2025

Meeting Notes

- Cheryl H. indicated that the Equity Analysis results is not clear since Areas 1, and 3 are farther from grocery stores and other conveniences. Philip R. confirmed that there were no disadvantaged tracts for the Town hence we looked at Transportation Access and Safety.
- Andrew B asked if RRFB's could be used at roundabouts. Shashad G. indicated that per the latest PROWAG rules, either of the following measures are needed at roundabouts to ensure safe crossing for visually-challenged pedestrians: raised crosswalks, Rectangular Raid Flashing Beacons (RRFB's), or Pedestrian Hybrid Beacons (PHB's).
- Sri V. mentioned that this is the last Steering Committee meeting, and this will be followed by a draft report which has to be reviewed by the committee before it is forwarded to the Town Council for adoption in April 2025.
- Cheryl H. asked if some high-level cost estimates could be included in the report. For instance, how much does a speed hump cost, or how much does it cost to make retrofits to the intersections.

APPENDIX E: COMPREHENSIVE SAFETY ACTION PLAN PROJECTS

Scoring Criteria, Points and Weightage							
F&I Crash Frequency (30% Weight)	**Points**	**Env. Justice Criteria (20% Weight)**	**Points**	**F&I Crash Rate (30% Weight)**	**Points**	**Stakeholder and Public Input Criteria (20% Weight)**	**Points**
<3 segment, 1 intersection	1	Within Area 1	1	<50 segment, <0.15 intersection	1	0	0
3 segment	2	Within Area 2	3	50-100 segment, 0.15-0.30 intersection	2	1-5	2
4 segment, 2 intersection	3	Within Area 3	5	100-150 segment, 0.30-0.45 intersection	3	6-10	3
5 segment, 3 intersection	4	-	-	150-200 segment, 0.45-0.60 intersection	4	11-15	4
6+ segment, 4+ intersection	5	-	-	>200 segment, >0.60 intersection	5	>15	5

Segment	Criteria 1: F&I Crash Frequency	C1 Points	Criteria 2: Env. Justice Tracts	C2 Points	Criteria 3: F&I Crash Rate (per 100 million veh-miles)	C3 Points	Criteria 4: Public Input	C4 Points	Weighted Score	Project Rank
Whitestown Pkwy - Indianapolis Rd to Main St	8.3	5	Area 3 + Area 2	5	40.45	1	113	5	38	Tier 1
Indianapolis Rd - Whitestown Pkwy to CR 650 S	5.9	4	Area 3	5	209.23	5	0	0	37	Tier 1
Main St - Pierce St to Albert S White Dr	3.0	1	Area 1	1	127.44	3	114	5	24	Tier 2
Perry Worth Rd - CR 550 S to Curve	2.6	1	Area 3	5	144.18	3	0	0	22	Tier 2
Whitestown Pkwy - CR 425 E to CR 475 E	4.0	2	Area 3	5	72.95	2	0	0	22	Tier 2
Albert S White Dr - CR 500 E to I-65 Ramps	3.3	2	Area 1	1	50.79	2	9	3	20	Tier 3

Segment	Criteria 1: F&I Crash Frequency	C1 Points	Criteria 2: Env. Justice Tracts	C2 Points	Criteria 3: F&I Crash Rate (per 100 million veh-miles)	C3 Points	Criteria 4: Public Input	C4 Points	Weighted Score	Project Rank
Whitestown Pkwy & Perry Worth Rd	4.00	5	Area 2	3	0.136	3	9	3	36	Tier 1
Whitestown Parkway & Indianapolis Rd	2.00	3	Area 3	5	0.137	3	9	3	34	Tier 1
Indianapolis Road & Eagle Nest Blvd	2.00	3	Area 2	3	0.169	4	2	2	31	Tier 1
Albert S White Dr & Main St	1.00	1	Area 1	1	0.605	5	11	4	28	Tier 1
Whitestown Parkway & Main St	1.00	1	Area 2	3	0.097	2	20	5	25	Tier 2
Whitestown Parkway & I- 65 NB Ramp	3.00	4	Area 2	3	0.080	2	0	0	24	Tier 2
Albert S White Dr & CR 500 E	1.00	3	Area 1	1	0.050	2	0	0	17	Tier 3
Albert S White Dr & Anson Blvd	1.00	1	Area 1	1	0.135	3	0	0	14	Tier 3

WHITESTOWN

INDIANA

AMERICAN STRUCTUREPOINT INC.