KENTUCKIANA REGIONAL SAFETY ACTION PLAN

On the Road to Safety, Every Life Counts

Town of Clarksville, IN

Safety Action Plan

6/25/2025

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Introduction

In 2023, Clarksville, in collaboration with the Kentuckiana Regional Planning & Development Agency (KIPDA) and 15 other participating cities and counties, applied for and successfully received a Safe Streets and Roads for All (SS4A) Action Plan Grant. The SS4A Action Plan Grant is a vital component of the broader federal SS4A initiative to improve road safety across the United States. The goal of the SS4A Program is to create a safer transportation network by supporting the development and implementation of comprehensive safety plans that are data-driven and community-focused.

Clarksville is dedicated to working towards a goal of zero traffic deaths and serious injuries by 2050. Achieving this goal will require a clear focus on prioritizing safety for all road users. The Clarksville Safety Action Plan addresses seven important SS4A Program safety components. Each component is a chapter in the Safety Action Plan.

- Leadership Commitment and Goal Setting
- Planning Structure
- Safety Analysis
- Engagement and Collaboration
- Policy and Process Changes
- Strategy and Project Selections
- Progress and Transparency

Safe System Approach

The Safe System Approach is a comprehensive approach based on the understanding that humans are fallible and make mistakes, but those mistakes should not result in fatalities or serious injuries. There are five broad impact areas for achieving this goal: **Safer People, Safer Vehicles, Safer Speeds, Safer Roads, and Post-Crash Care**. This approach significantly expands the traditional safety plan focus on roadway infrastructure. Six key principles undergird the approach.

Safe System Key Principles

Death and Serious Injuries are Unacceptable: Every human life is invaluable, and ensuring safety is the highest priority.

Humans Make Mistakes: Recognizing that human error is inevitable, we design and manage our roads to be forgiving, mitigating the potential consequences of these errors to prevent serious harm.

Humans are Vulnerable: We design the roadway system to account for the biological limits the human body can tolerate in a crash.

Responsibility is Shared: Preventing fatal and serious injuries is a shared responsibility. All stakeholders must work together to enhance road safety.

Safety is Proactive: Taking a proactive stance on safety means anticipating and addressing risks before they result in crashes. Being proactive involves identifying potential hazards and implementing measures to mitigate them.

Redundancy is Crucial: Embedding multiple layers of safety within the transportation system is important, so that if one layer fails, others can still protect people. This redundancy is vital for creating a resilient transportation network.

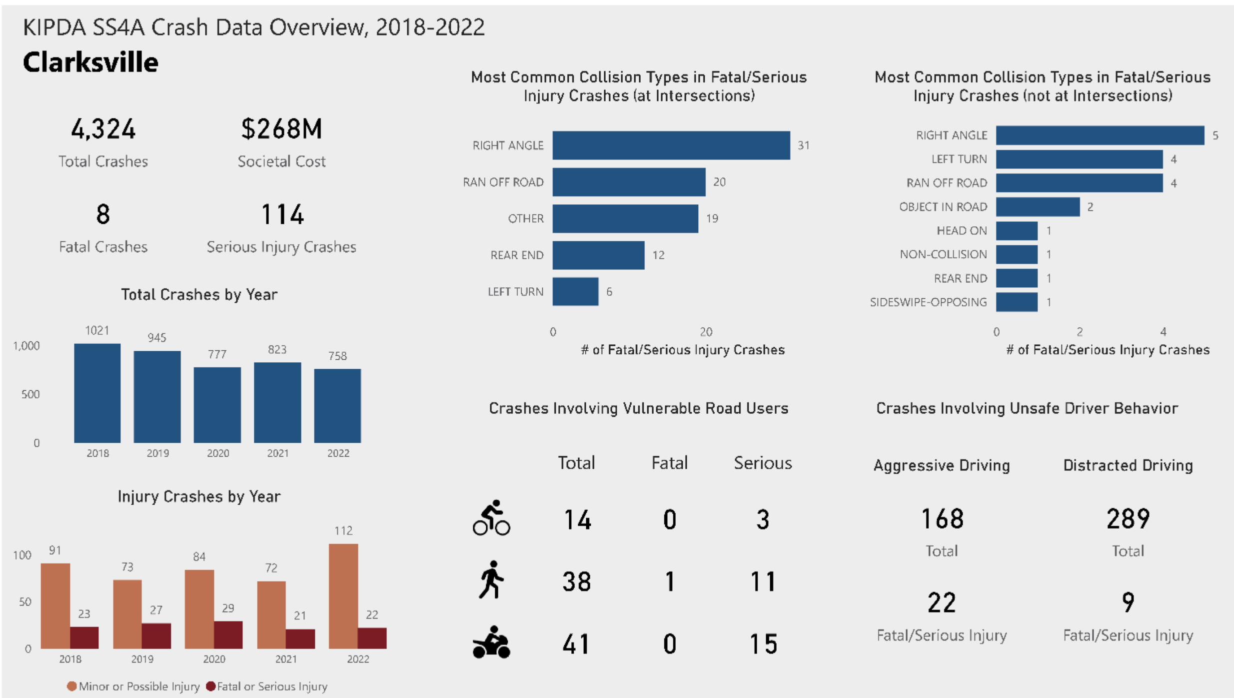
Safe System Approach vs Traditional Approach

The traditional approach to road safety often relies on perfect human behavior from all road users and tends to react to crashes *after* they occur, focusing on individual accountability. In contrast, the Safe System Approach acknowledges that humans are fallible and will inevitably make mistakes. This approach builds a system designed to minimize the severity of crashes resulting from those errors. This shift from an individual-focused model to a system-centric one highlights all stakeholders' shared responsibilities. The comparative graphic illustrates this fundamental shift, showcasing how the Safe System Approach aims to create a safer, more forgiving transportation system.

Traditional approach		Safe System approach
Prevent crashes	→	Prevent death and serious injuries
Improve human behavior	→	Design for human mistakes/limitations
Control speeding	→	Reduce system kinetic energy
Individuals are responsible	→	Share responsibility
React based on crash history	→	Proactively identify and address risks

Overview

Clarksville had eight fatal crashes and 114 serious injury crashes during the five-year period from 2018 to 2022, for a total of 122. There were 4,324 total crashes during this time. The total societal cost of all crashes was $268 million (including economic and quality of life factors). The figure below provides an overview of the crash data.



Important safety findings for Clarksville include:

- Right Angle crashes were the most common collision type for those crashes that were fatal and/or caused serious injury at an intersection – with a total of 31 crashes
- 15 of 122 fatal / serious injury crashes involved a pedestrian or cyclist
- 289 crashes between 2018-2022 involved a driver who was distracted
- 22 fatal / serious injury crashes were a result of aggressive driving

1. Leadership Commitment and Goal Setting

Clarksville is dedicated to ensuring safety for all users that utilize its streets and roads. The community's commitment is demonstrated by the resolution on the following page, which states that its leaders have established "a goal of working towards zero traffic fatalities and serious injuries by 2050."

Clarksville adopted an updated Comprehensive Plan in 2015, as well as the Connect Clarksville Multimodal Transportation Plan which was published in 2023. These plans are implemented through the coordinated efforts of the Clark County Planning & Zoning Office, local government officials, and community stakeholders.

These plans and programs have sought to highlight safety and improve safe travel experiences for all roadway users. Goals established by the Multimodal Plan include reducing the number of severe and fatal vehicular collisions by 25% within the next three years, reducing the number of collisions involving vulnerable road users by 20% within the next two years, and implementing speed management policies and infrastructure to help reduce vehicular speeds. Additionally, ADA-accessible sidewalks have been identified as a priority action item, along with projects aimed at improving sight distances at intersections.

RESOLUTION NO. 2025-R-05

RESOLUTION OF THE TOWN OF CLARKSVILLE TOWN COUNCIL IN SUPPORT OF VISION ZERO

WHEREAS, the Town of Clarksville, Indiana is utilizing a planning grant through the Safe Streets and Roads for All Program (SS4A) and coordinating with the Kentuckiana Regional Planning and Development Agency (KIPDA) to develop a safety action plan for Town of Clarksville to analyze existing conditions, historical trends, systemic and specific needs and to identify projects and strategies to address identified problems; and

WHEREAS, a safety action plan is an eligibility requirement for implementation grants through the SS4A Program; and

WHEREAS, community commitment to an eventual goal of zero fatalities and serious injuries is an important component for USDOT consideration of an implementation grant through the SS4A program.

NOW, THEREFORE BE IT RESOLVED that the Town Council for the Town of Clarksville, Indiana hereby establishes a goal of working towards zero traffic fatalities and serious injuries by the year 2050.

SO RESOLVED THIS 4th **DAY OF** February, **2025.**

TOWN OF CLARKSVILLE

RYAN RAMSEY, President

ATTEST:

A.D. STONECIPHER, Clerk-Treasurer

2. Planning Structure

The planning structure for the Clarksville Safety Action Plan consisted of various committees, each playing a crucial role. The following describes these bodies and their collaborative efforts in developing the plan.

Regional Steering Committee

The Regional Steering Committee provided oversight and strategic direction for the Safety Action Plan development process. The Committee was composed of representatives from 16 local government agencies, including Clarksville. It also included KIPDA staff. Steering Committee meetings were held at key points to provide information and gather input and feedback. Topics covered during the meetings included:

- Purpose of safety action plans
- Data collection and safety analysis
- Identification of high crash highways and intersections
- Countermeasure identification and prioritization
- Documentation and implementation opportunities

Town of Clarksville Leadership Meetings and Plan Review

Meetings were held with leadership at two key points during the plan development to receive and relay detailed input and feedback. The first meeting focused on presenting the initial data analysis and prioritization of needs, allowing the leadership to identify, confirm, and prioritize critical safety issues. The second meeting gave leadership the opportunity to provide feedback on the draft High Injury Network (HIN) and potential safety countermeasures. These interactions allowed the unique concerns and priorities of Clarksville to be adequately addressed in the plan.

The final Safety Action Plan was also reviewed by town leadership to provide feedback and yield a plan that is useful for moving Clarksville forward toward a safer future.

Safety Committee Meetings

The Safety Committee is the cornerstone of the planning structure, providing localized oversight and input into the plan. The Safety Committee also provides a means of continuing the safety planning and project implementation process in the future. The Committee consisted of a multidisciplinary team comprising key stakeholders from the community, including:

- Mayor’s Office
- Town of Clarksville Police Department
- Office of Public Works, Town of Clarksville
- Kentuckiana Regional Planning & Development Agency (KIPDA)

The Safety Committee provided advice and feedback on the plan development and is intended to continue this advisory role as the plan moves into implementation and monitoring. The Committee provided input and feedback on potential safety needs and possible reactive and systemic safety countermeasures. Having many different perspectives and agencies in the meetings facilitates effective communication and results in a more effective safety action plan that better addresses the five elements of the Safe System Approach. A detailed review of the Safety Committee Meetings is provided in **Chapter 4. Engagement and Collaboration.** The dialogue is expected to continue in the future, facilitated by RTC and KIPDA staff, as the plan is implemented, updated, and enhanced over time.

3. Safety Analysis

Study Area

The study area for the safety analysis includes the entirety of Clarksville, INDIANA , as shown in Figure 3-1. This study includes all public streets and roads within the Town, except interstate highways, private streets, and parking lots.

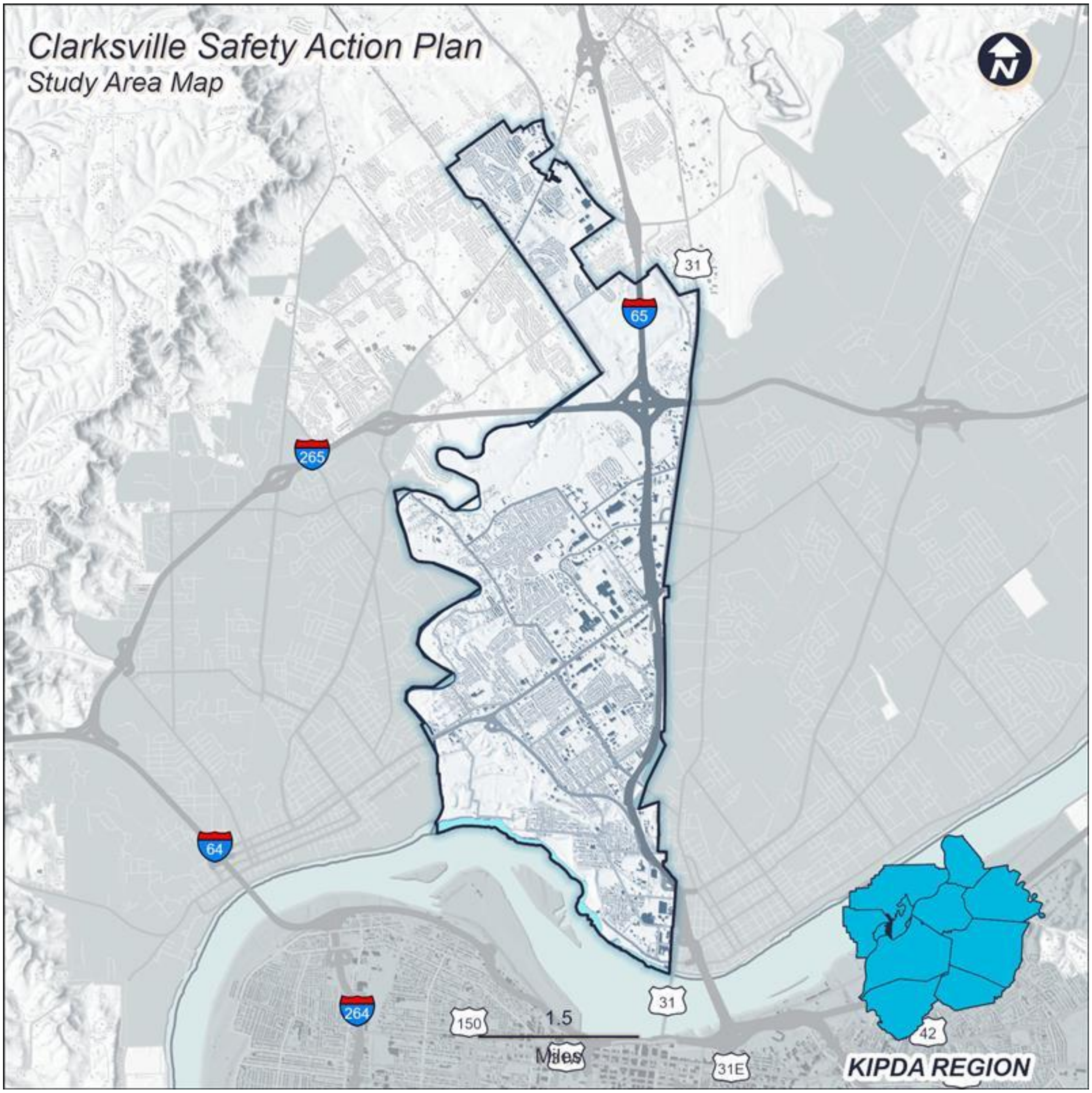


Figure 3-1. Study Area

Crash Data

The safety analysis was conducted using the five years of crash data between 2018 and 2022. This period was selected based on the desire to study consistent crash trends over a consecutive period, the availability of data when the project started, and expectations regarding future funding application data requirements.

The project team obtained the crash data from the Indiana State Police (ISP) crash database - Automated Reporting Information Exchange System (ARIES). This data is primarily collected by town, county, and state police department crash investigation teams when they complete an Indiana Officer's Standard Crash Report form. This form captures critical information about crashes, including location, type, severity, individuals and units involved, environmental factors, and contributing factors. Departments enter this information into a database maintained by ISP.

The initial crash data included all Clarksville crashes from 2018 to 2022. Crashes located on I-65, I-265, and those that occurred in parking lots were removed from the dataset. Additionally, some crashes could not be linked to the GIS roadway due to missing information. After these adjustments, the final crash database used for the study included 4,324 crashes.

This report focuses on crash events based on the most severe injury sustained in each incident. Since the analysis is event-based rather than individual-based, a single crash involving multiple injuries is counted as one event, categorized by the highest severity level recorded. Pedestrian crashes involve at least one pedestrian and one motor vehicle. Similarly, bicycle crashes refer to crashes involving at least one bicycle and one motor vehicle. Vehicle crashes involve at least one vehicle and do not involve a pedestrian or a bicycle.

The study team obtained geographic information system (GIS) files of with roadway characteristics and traffic data for roadways where this information was available. The team used this information to create a database of roadway segments and intersections. The crash data was joined with the GIS information to create a crash database that facilitates detailed analyses to identify crash trends, areas of opportunity, and risk factors to assist in prioritizing projects.

Crash Severity

The crash database uses the KABCO Injury Classification Scale. The KABCO injury classification system categorizes traffic crash injuries into five levels: Fatal (K), Suspected Serious (A), Suspected Minor (B), Possible (C), and No Apparent Injury (O). The KABCO scale is the recommended best practice for individual injury reporting by the Model Minimum Uniform Crash Criteria (MMUCC), developed by the National Highway Traffic Safety Administration (NHTSA). ISP uses the KABCO scale during field data collection and reporting the injury severity of a crash. Crash severity is determined by the most severe injury occurring in the crash. For example, if a fatality occurs, the crash is classified as a "K" or fatal injury crash.

For this plan, the crash severity data was reviewed against the reported detailed injury data to confirm the severity. This resulted in some crashes being adjusted to better match the MMUCC. The following table provides a breakdown of the total crashes by severity. Table 3-1 provides a breakdown of the crashes in Clarksville by severity.

Severity	MMUCC Severity Description	Crashes (2018-2022)	%
K	Fatal Injury	8	0%
A	Suspected Serious Injury	114	3%
B	Suspected Minor Injury	346	9%
C	Possible Injury	86	2%
O	No Apparent Injury	3770	87%
	Total	4324	100%

Table 3-1. Crashes by Severity

Figure 3-2 shows the location of all 4,324 crashes documented during the study period. Density of crashes is shown with a gradient scale. The highest number of crashes during the study period occurred along Veterans Parkway.

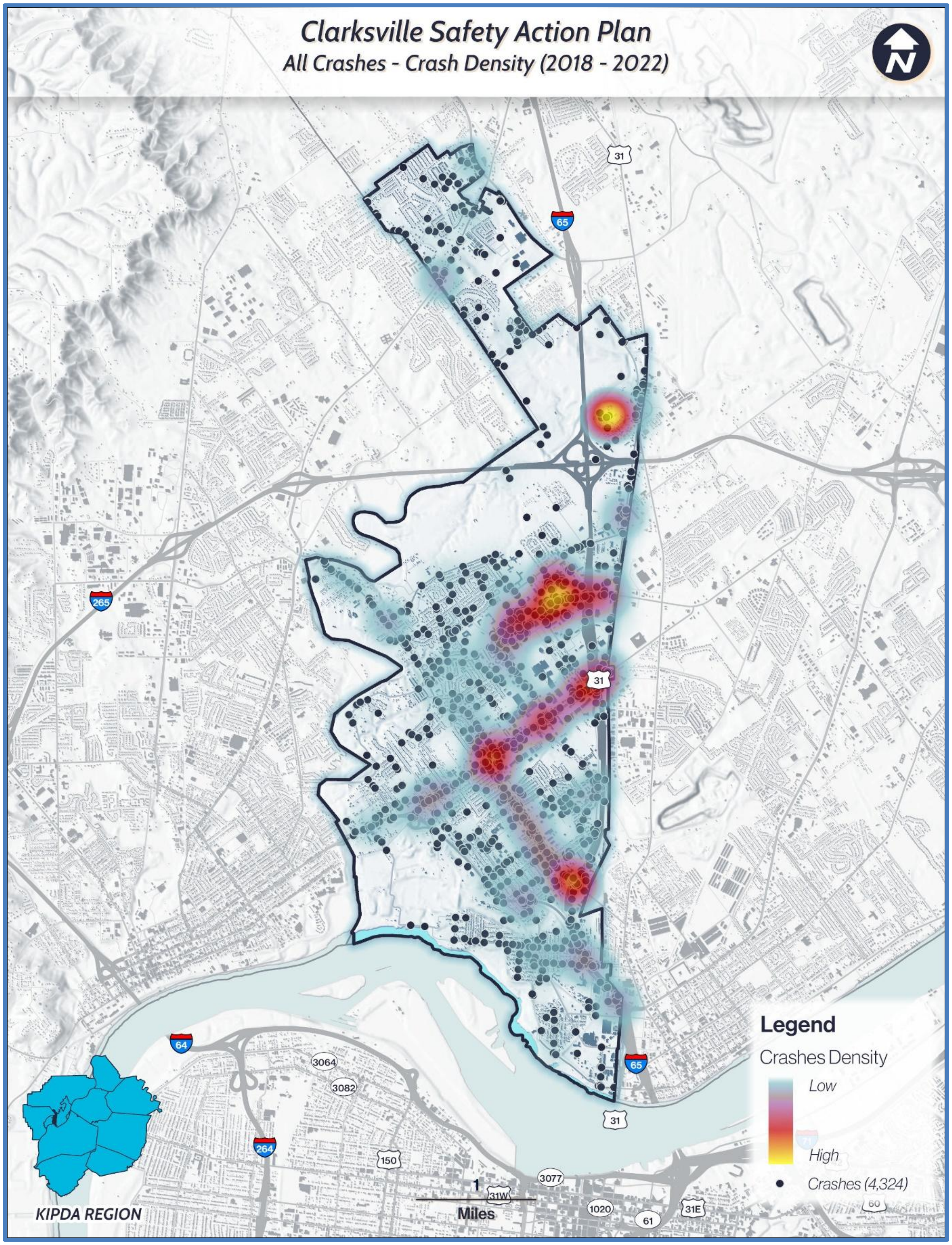


Figure 3-2. Crash Density Map.

Figure 3-3 shows the locations of fatal and suspected serious injury crashes. These crashes are located throughout the Town and are not clustered in the same manner as the lower severity crashes.

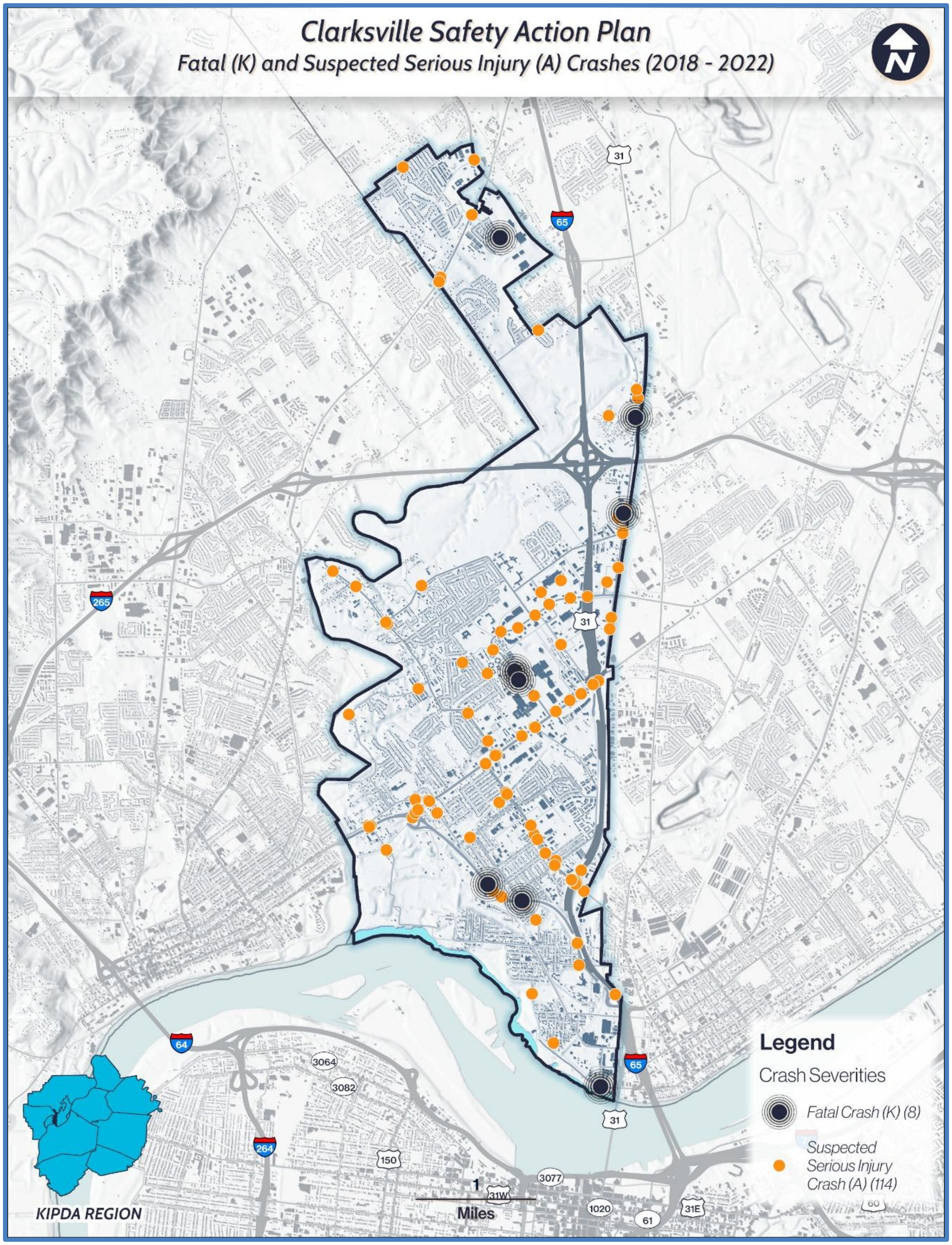


Figure 3-3. Fatal and Suspected Serious Injury Crash Map

Crash Trends

The crash data has been examined considering several different factors to identify patterns and safety needs. This trend analysis also provides information about potential safety countermeasures and approaches that could be explored to address those needs.

Annual Crash Trends

The 2018-2022 crash analysis reveals fluctuations in the annual number of crashes, ranging from 1,201 to 758. The highest number of crashes occurred in 2018, followed by a decrease in the subsequent years, reaching the lowest point in 2022 with 758 crashes. The decline in 2020 aligns with the COVID-19 pandemic, which greatly affected traffic patterns and volumes. It also likely led to an underreporting of crashes, especially low-severity crashes. In early 2020, police operating procedures were modified to minimize potential exposure to the virus. Consequently, the reported number of crashes in 2020 may not reflect all of the crashes that occurred during that year. Crashes rose in 2021 (823 crashes) before falling to the lowest rate in 2022 (758 crashes).

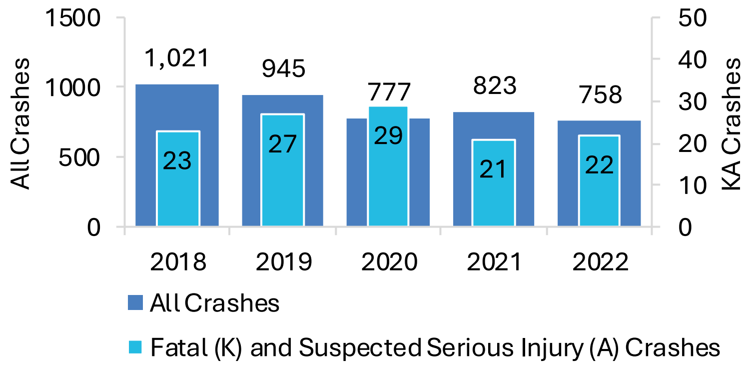


Figure 3-4. Overall Crashes per Year

The above figure also shows the number of severe fatal (K) and suspected serious injury (A) crashes through the study period. These severe crashes remained relatively steady, with between 21 and 29 crashes reported annually.

Crash Occurrence

Month

The following charts present the crashes by month over the five-year study period. This monthly crash data remains relatively consistent throughout the year. The highest total of crashes occurred in August, with 399 crashes. October has the highest number of fatal and suspected serious injury crashes, at 17.

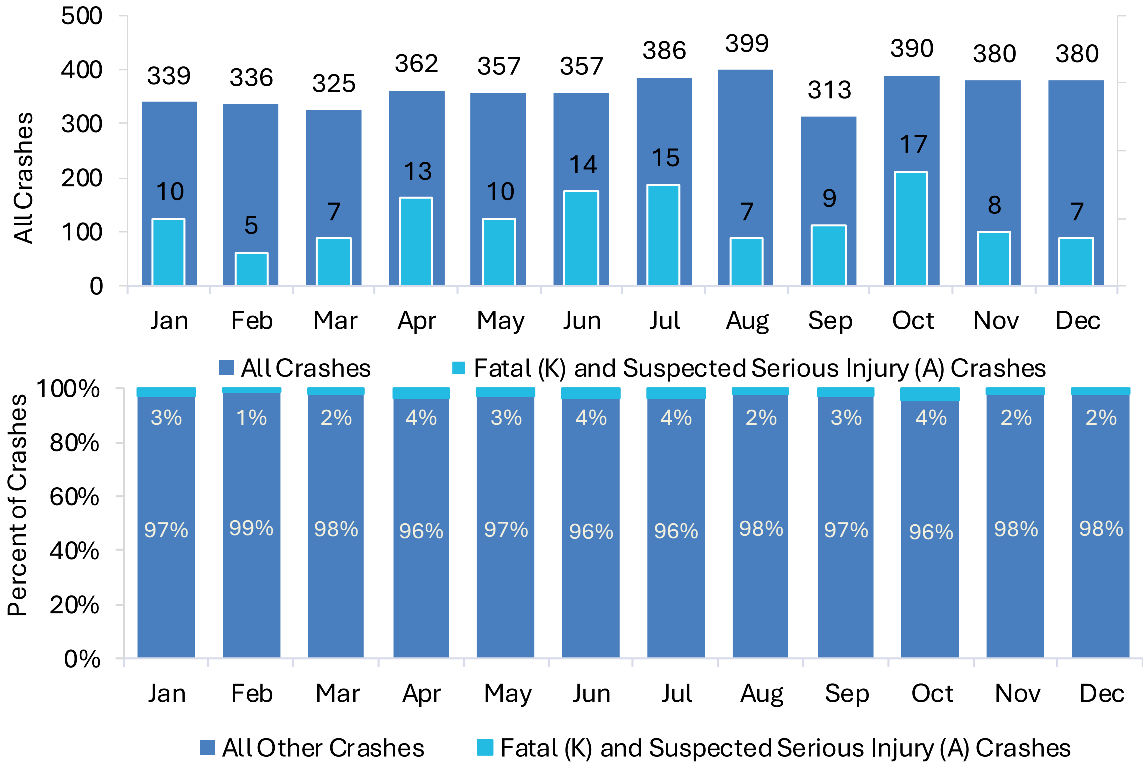
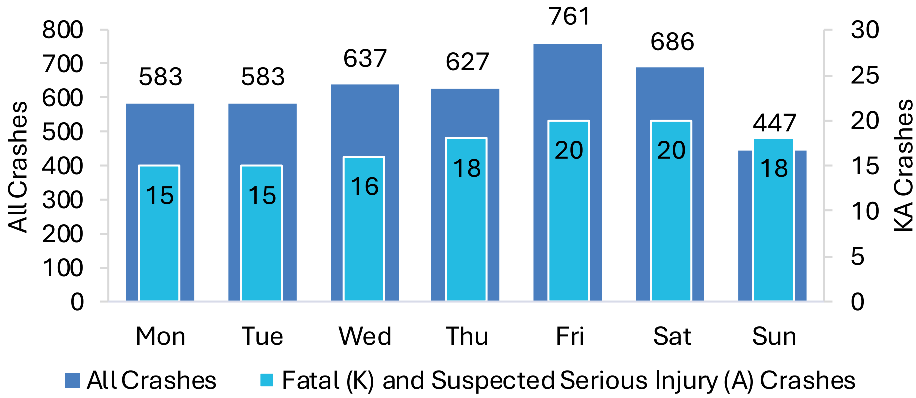


Figure 3-5. Monthly Crash Breakdown

Day of Week

As seen in the Figure 3-6, crash data in Clarksville shows that Fridays and Saturdays have the highest number of fatal and suspected serious injury crashes, each with 20 incidents, despite Saturday having fewer total crashes than Friday. Sundays and Thursdays also show elevated levels of severe crashes relative to total crash volume, with 18 each. This pattern suggests that weekends and the end of the workweek may present higher risks for severe traffic incidents, potentially due to increased travel, social activities, or impaired driving.

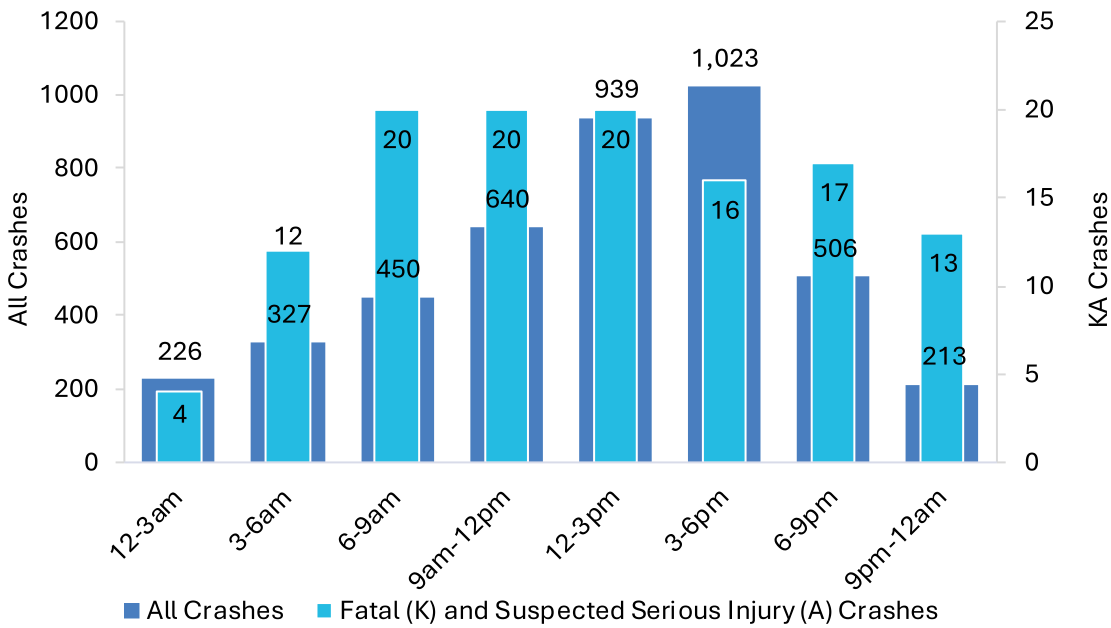
Figure 3-6. Crashes by Day of Week



Time of Day

The chart below shows that the afternoon and early evening hours are the most concerning in terms of overall crash volume, with 12–3 p.m. and 3–6 p.m. accounting for 20% and 21% of all crashes, respectively. However, when looking at the percentage of fatal and suspected serious injury crashes, the 3–6 a.m. period stands out disproportionately, representing 10% of severe crashes despite only 7% of total crashes. Similarly, the 9 p.m.–12 a.m. timeframe accounts for just 4% of all crashes but 11% of severe ones.

Figure 3-7. Crashes by Time of Day



Manner of Collision

As shown, rear-end collisions were the most frequent, accounting for 28% of total crashes, followed by backing crashes (18%) and right-angle crashes (14%). These three categories alone represent a significant portion of total incidents. Same-direction sideswipes (10%) and left-turn crashes (7%) also contributed substantially to the overall crash count.

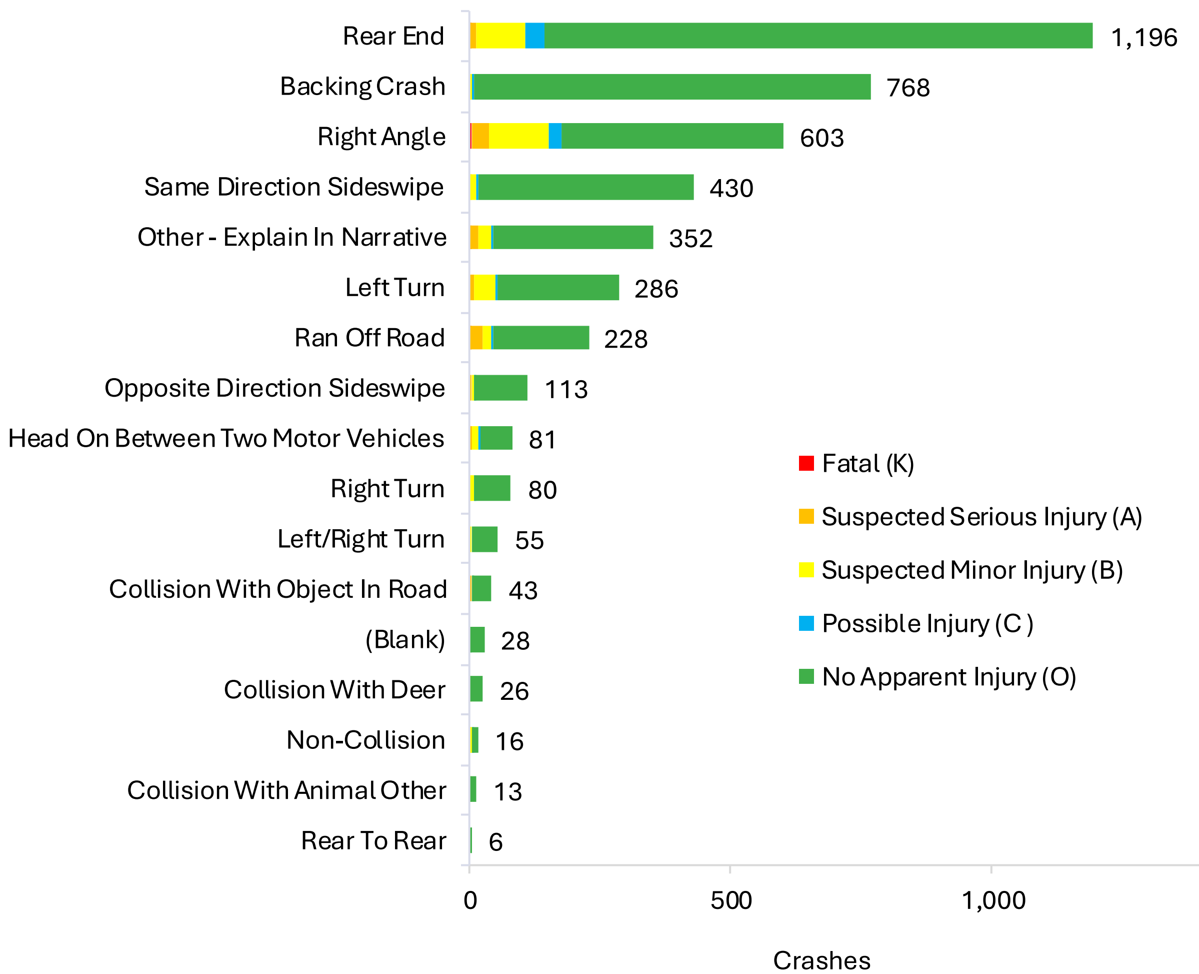


Figure 3-8. Manner of Collision by Severity

As shown below, right-angle crashes, while making up 14% of all crashes, account for a striking 30% of fatal and serious injuries. Ran off-road crashes also show a sharp contrast, representing just 5% of all crashes but 20% of severe outcomes.

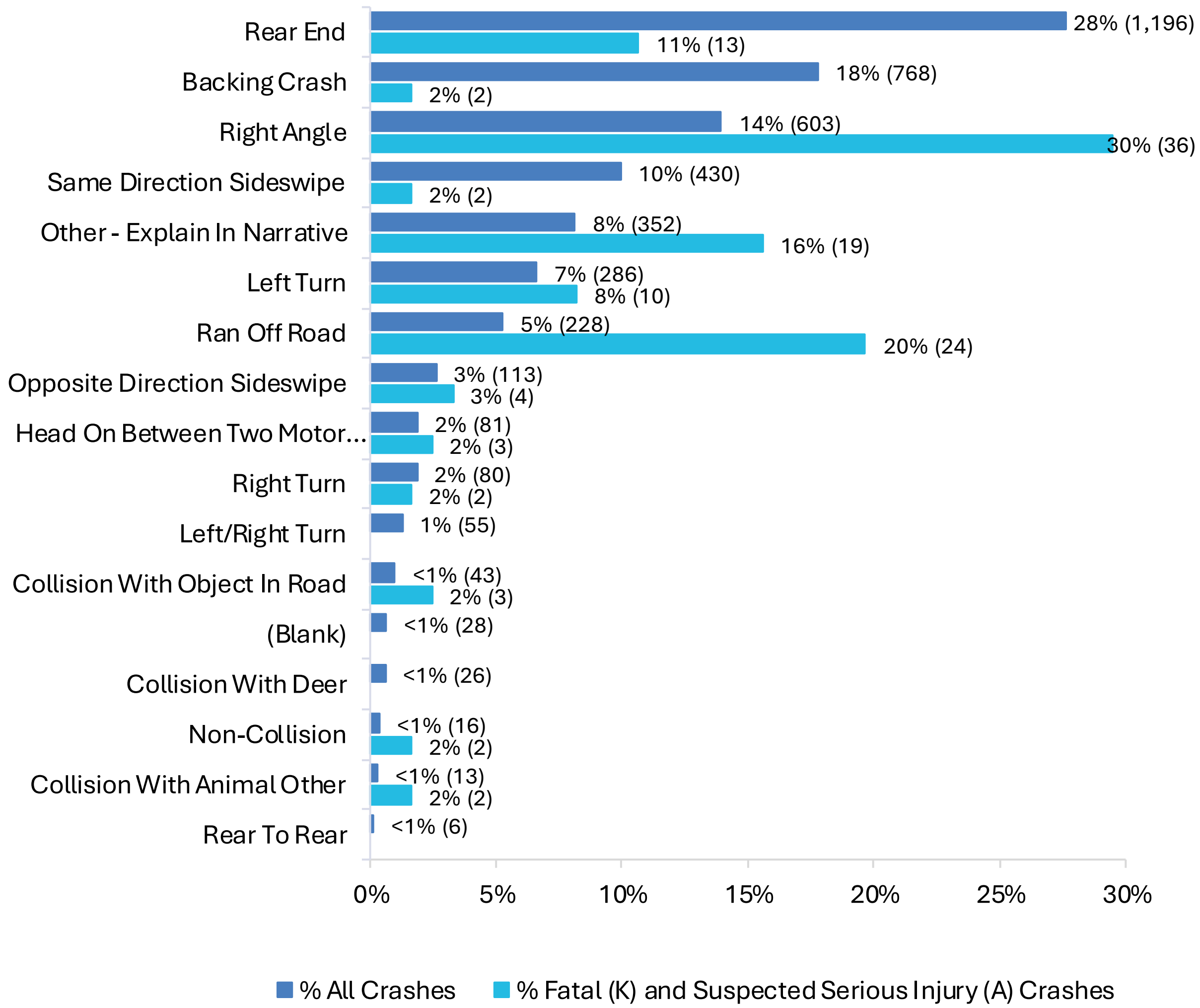


Figure 3-9. Manner of Collision by Severity

Lighting Conditions

Roadway lighting is a safety factor that impacts visibility and reaction times. However, the documentation of lighting infrastructure is not comprehensive. The available crash data provides only anecdotal evidence regarding the lighting conditions during a crash. Currently, there is no established infrastructure database detailing the presence and condition of street lighting, making it challenging to analyze the correlation between illumination and road safety.

Most crashes occurred during daylight hours, accounting for 78% of all crashes and 67% of fatal and suspected serious injury crashes. However, non-daylight conditions, particularly when highway lighting was on, represented a smaller share of total crashes (13%) but a disproportionately higher share of severe crashes (17%). Similarly, dark, unlit conditions made up only 5% of all crashes but contributed to 11% of the most serious outcomes. Figure 3-10 shows the location of these crashes.

Lighting Condition	Total Crashes	Fatal (K) and Suspected Serious Injury (A) Crashes
Daylight	3385 (78%)	82 (67%)
Non-Daylight - Dark Conditions	214 (5%)	14 (11%)
Non-Daylight - Highway Lighting On *	575 (13%)	21 (17%)
Dawn/Dusk	121 (3%)	5 (4%)
Unknown/Other	29 (1%)	0 (0%)

* *This is officially designated as Dark – Highway Lighting On*

Table 3-2. Fatal and Suspected Serious Injury Crashes by Light Condition

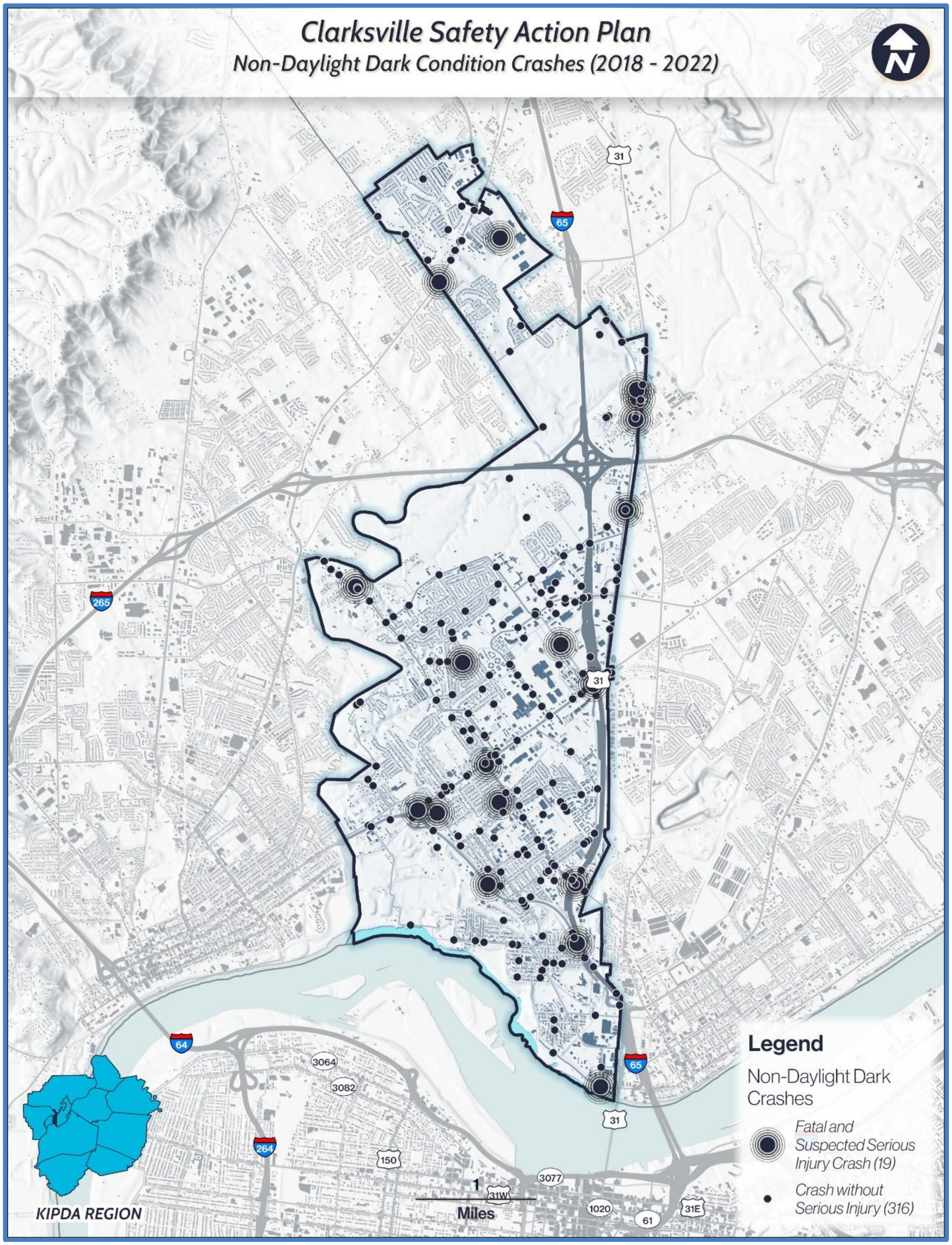


Figure 3-10. Lighting Condition: Non-Daylight Dark Condition Crashes Map

Crashes by Locations

Crash data by location shows that intersections are the most common and most dangerous sites, accounting for 76% of all crashes and a striking 84% of fatal and suspected serious injury crashes. In contrast, highway segments make up 24% of total crashes but only 16% of severe ones.

Location	Total Crashes	Fatal (K) and Suspected Serious Injury (A) Crashes
Intersections	3275 (76%)	103 (84%)
Highway Segments	1049 (24%)	19 (16%)

Table 3-3. Crashes by Location

Roadway Departure Crashes

Roadway departure crashes occur when a vehicle crosses an edge line, a centerline, or leaves the traveled way. These crashes often lead to some of the most severe outcomes due to the increased risk of collision with fixed objects, overturning, or encountering unsafe roadside conditions. The inherent dangers of leaving the roadway contribute to higher rates of serious injuries and fatalities compared to other crash types. Roadway departure crashes make up 5% of all crashes (228 out of 4,324 total crashes). However, they account for 20% of all fatal and suspected serious injury crashes (24 out of 122 severe or fatal crashes).

Figure 3-12 shows the locations of roadway departure crashes resulting in injuries or fatalities.

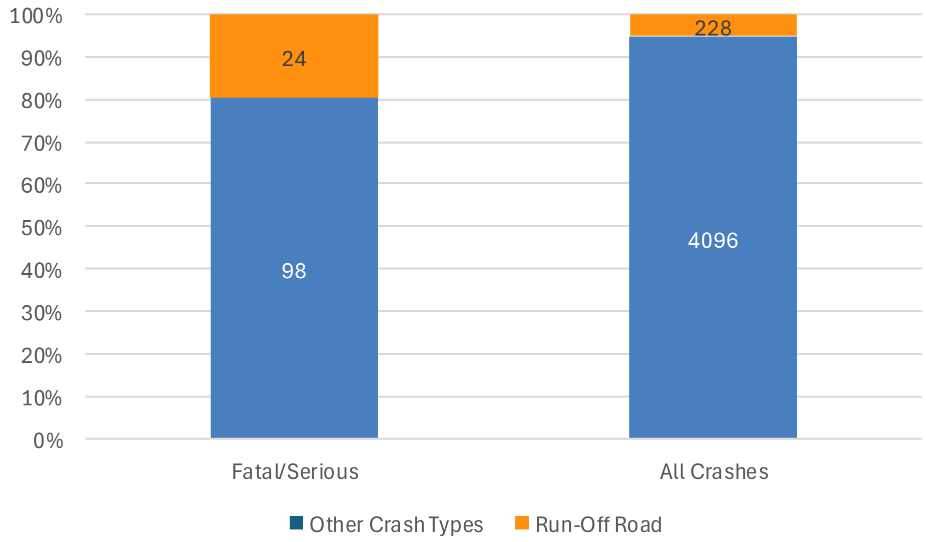


Figure 3-11. Roadway Departure Crashes by Severity

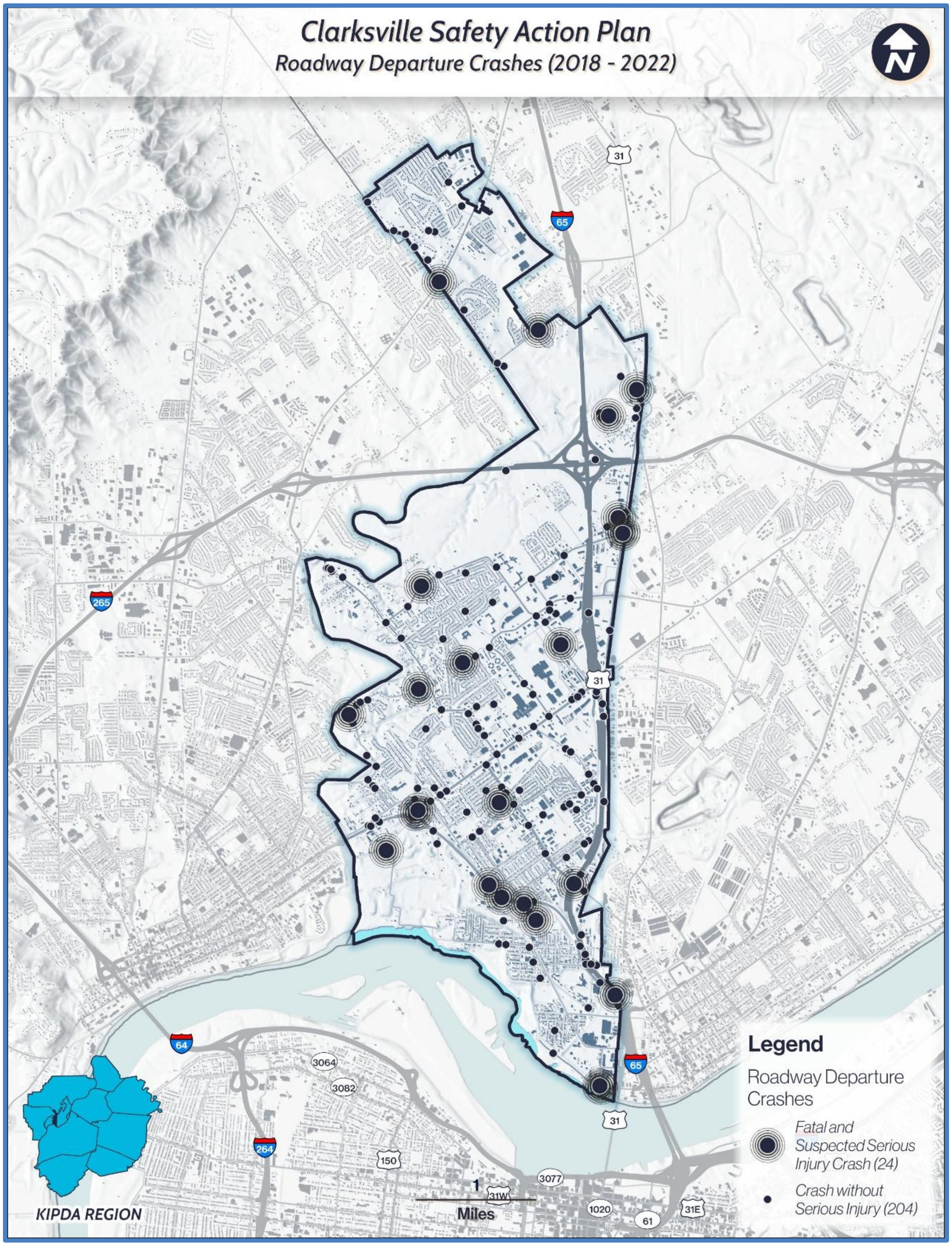


Figure 3-12. Roadway Departure Crashes Map

Vulnerable Road Users

Vulnerable road users, including pedestrians and bicyclists, are at greater risk due to their lack of physical protection compared to motor vehicle occupants. These crashes typically result in more severe injuries and fatalities because there is little to no buffer between these users and the force of a collision. No bicycle crashes were reported during the study period.

Bicyclists

Bicycle crashes in the dataset were extremely limited, with only two incidents reported. Of these, they resulted in minor or no injuries. Figure 3-13 shows the location of these crashes.

Severity	Description	Crashes	%
K	Fatal	0	0
A	Suspected Serious Injury	0	0
B	Suspected Minor Injury	1	50%
C	Possible Injury	0	0
O	No Apparent Injury	1	50%
	TOTAL	**2**	**100%**

Table 3-4. Crashes by Bicyclist Severity.

Pedestrians

Of the recorded pedestrian crashes, nearly 33% resulted in fatal or serious injuries. Figure 3-14 shows the location of these crashes.

Severity	Description	Crashes	%
K	Fatal	1	3%
A	Suspected Serious Injury	11	29%
B	Suspected Minor Injury	16	42%
C	Possible Injury	5	13%
O	No Apparent Injury	5	13%
	TOTAL	**38**	**100%**

Table 3-5. Crashes by Pedestrian Severity

Figure 3-13. Bicyclist Crash Severities Map

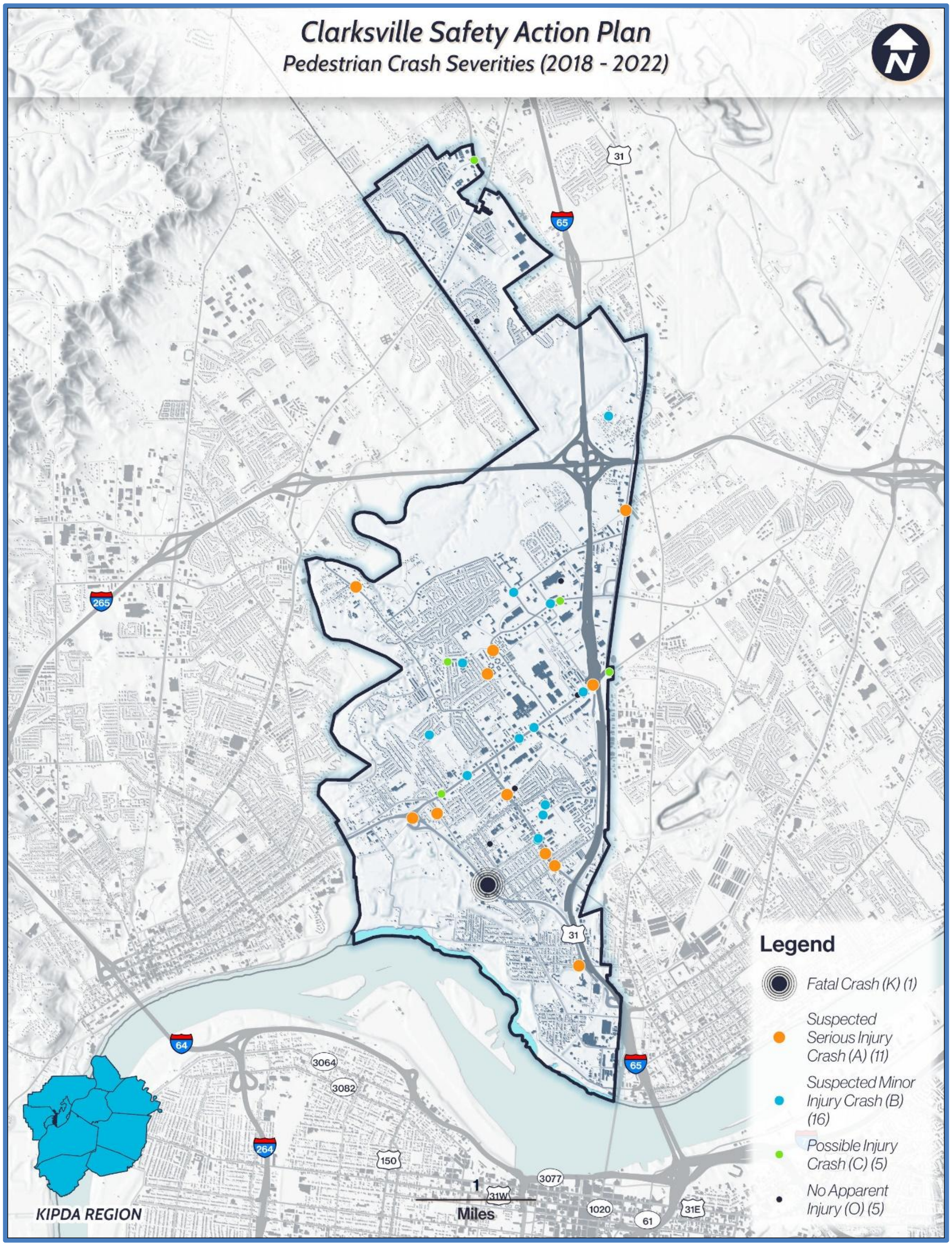


Figure 3-14. Pedestrian Crash Map

Factors in Collisions

Contributing Human Factors

Human factors play a significant role in crash occurrences, often tied to errors in judgment and risky behaviors. These factors include speeding, failing to yield, distractions, fatigue, and the influence of alcohol or drugs. The most common contributing factors to crashes were Following Too Closely (22%), Unsafe Backing (20%), and Failure to Yield Right of Way (18%), together accounting for over half of all reported incidents.

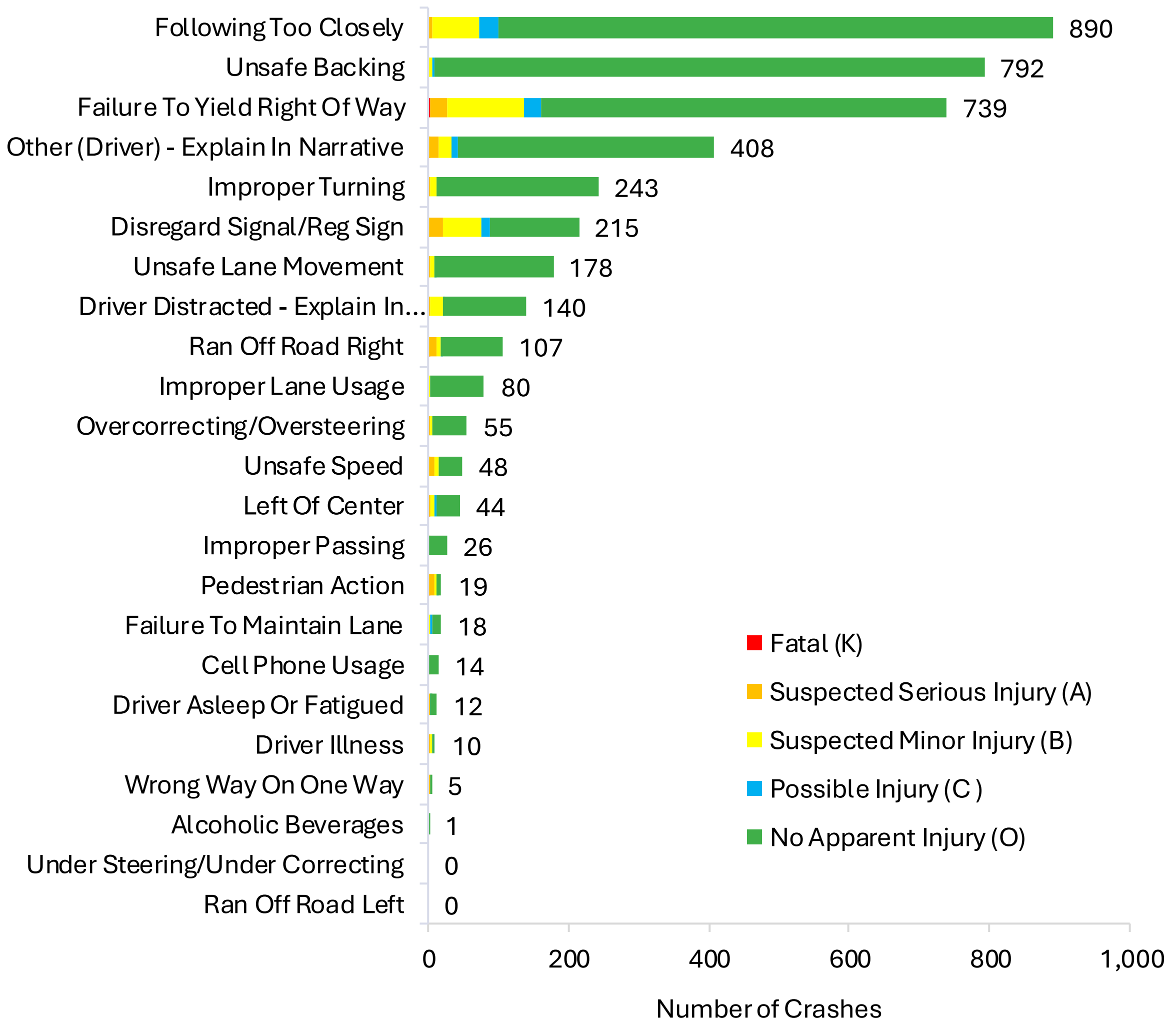


Figure 3-15. Crashes by Human Factor

The factor contributing to the highest number of fatal and suspected serious injury crashes is failure to yield right-of-way followed by disregarding signal or regulatory sign.

Given the high proportion of severe crashes where drivers failed to yield the right of way, ran off the road, were driving at an unsafe speed, or where the crash involved a pedestrian, a speed management program is recommended. This would be designed to encourage drivers to make better decisions regarding their speed in various conditions. It could include infrastructure, behavioral, educational, and enforcement elements

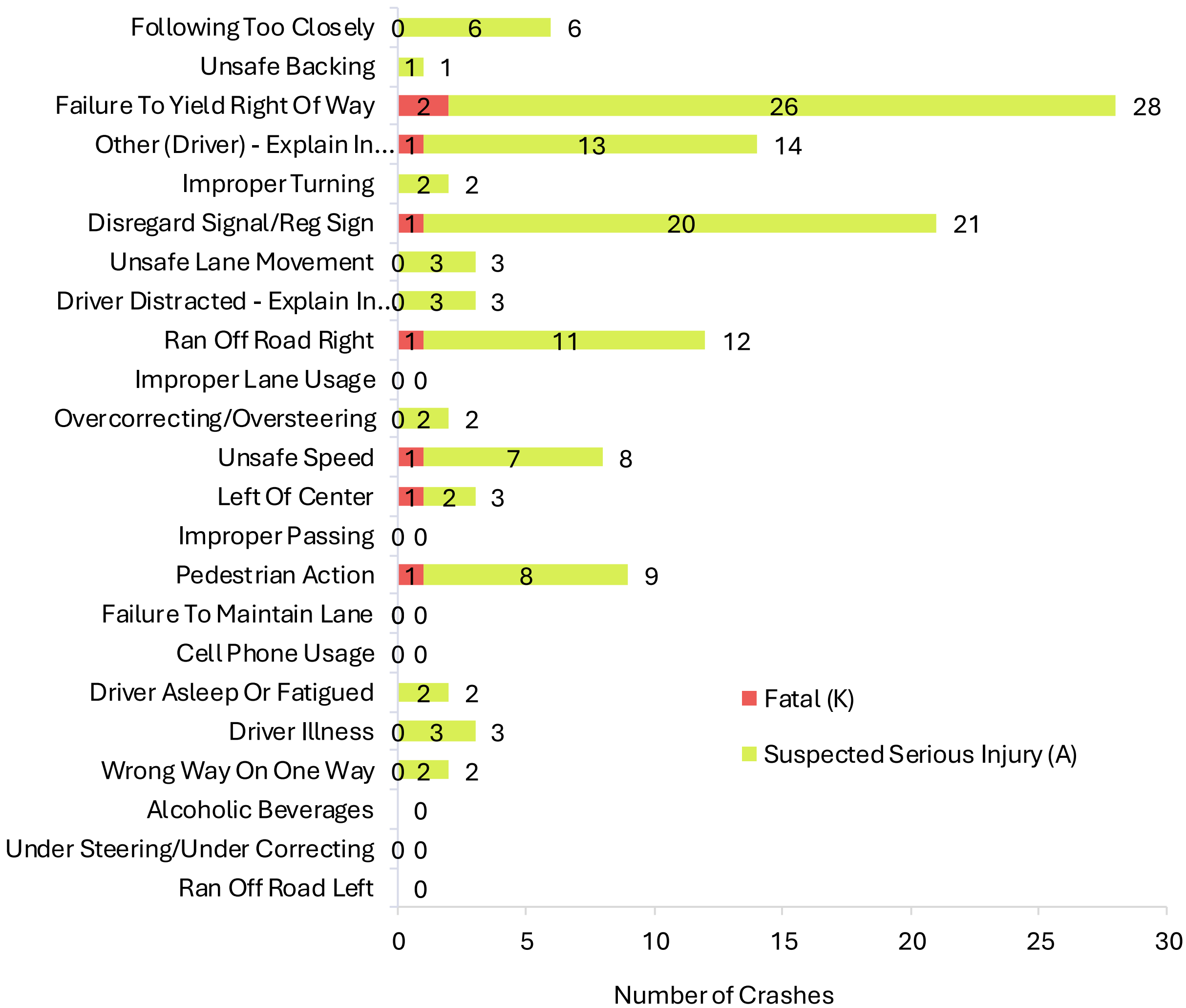


Figure 3-16. Fatal and Suspected Serious Injury Crashes by Human Factor

Environmental and Roadway Conditions

Environmental roadway conditions do not appear to contribute significantly to crash occurrence or severity. Adverse roadway conditions, defined as wet, snow, ice, or less common road conditions, comprise a small portion of the overall crashes. for 81% of all crashes and 83% of fatal and suspected serious injury crashes. Wet conditions follow, involved in 17% of all crashes and 16% of severe crashes.

Roadway Condition	All Crashes		Fatal and Suspected Serious Injury Crashes	
	#	%	#	%
Dry	3518	81%	101	83%
Wet	716	17%	19	16%
Ice	37	1%	1	3%
Snow/Slush	36	1%	-	-
Other	3	-	1	1%
Sand-Mud-Dirt-Oil-Gravel	1	-	-	-
Water (Standing or Moving)	1	-	-	-

Table 3-6 Crashes by Roadway Condition

High Injury Network

A High Injury Network (HIN) is a data-driven approach used to identify roadway segments that account for a disproportionate amount of a community's fatal and serious injury crashes. The HIN enables communities to concentrate their limited resources on improving safety along those high-priority, dangerous corridors. Following the Safe System Approach, the HIN also corresponds to the Safe Roads pillar. This pillar focuses on designing roadway environments to mitigate human mistakes and account for injury intolerances, encourage safe behaviors, and facilitate safe travel by the most vulnerable users.

The HIN provides a data-driven and focused list of corridors where a majority of the community's fatal and suspected serious injury crashes are occurring. The routes identified in the HIN will guide the development of strategies and project selection. These strategies and more information on the HIN can be found in **Chapter 6. Strategy and Project Selection**.

4. Engagement and Collaboration

A key component of the planning process is meaningful engagement with both the public and stakeholders. Throughout the development of this Safety Action Plan, engagement took various forms, allowing for a deeper understanding of current conditions, safety concerns, and challenges. These insights provide crucial context for the safety analysis. The following summarizes the community and stakeholder engagement completed for this Safety Action Plan.

Safety Action Plan Community Engagement

Regional Steering Committee

The Regional Steering Committee, comprised of diverse members from the region, was the guiding force and planning structure for the Safety Action Plan development. The Safety Action Plan's development evolved through a series of Committee meetings.

The first meeting provided an overview of the Safe Streets for All (SS4A) program and plan components, an explanation of the safety analysis process, outline of the engagement process connection points and tools, an overview of community considerations, and an overview of the project selection strategy and potential countermeasures. The second meeting reviewed detailed preliminary findings from the crash analysis. The project team identified focus areas based on feedback and local insights. Then, the project team guided the communities to adopt a Leadership Commitment resolution, setting a goal for each community to achieve the eventual goal of zero fatalities and serious injuries. The third meeting focused on the data collected from the public engagement to date and updates to the draft Safety Action Plan documents. During the fourth meeting, the discussions of the Committee centered on how the communities can use the Safety Action Plans, project identification, and potential improvements at the prioritized intersections and corridors on the High Injury Network (HIN).

Stakeholder Meetings

Twice during the planning process, the project team held one-on-one meetings with key stakeholders in the community to discuss elements brought up during the overall steering committee meetings. Local community engagement with the Safety Action Plan provided invaluable local knowledge and insight.

Meeting One

In July 2024, the first meeting introduced the project and set expectations for the project team and local leadership. The meeting included a request for previous plans and initiatives for community safety and future commitment goals to safety. The project team informed Stakeholders that the team would form Safety Committees following the first stakeholder meeting. The project team then provided a more extensive discussion of the currently available data and facilitated a discussion focusing on local conflict areas.

Meeting Two

The second meeting, held in February 2025, focused on reviewing the crash analysis dashboard and getting feedback on the initial prioritized High Injury Network (HIN) segments and priority intersections. Data on the dashboard included the location of the crash, mode of transportation, directional analysis, manner of collision, roadway condition, light condition, and the updated human factor. The group then discussed edits to the presented HIN potential corridor strategies, priority intersections, and potential intersection strategies. There was specific discussion about recent and needed improvements on Eastern Boulevard, Lewis and Clark Parkway, and Brown Station Way. Pedestrian and vehicle safety topics were discussed.

Safety Committee

The Clarksville Safety Committee, comprised of diverse members from the community, such as emergency response representatives, played a key role in developing the Clarksville Safety Action Plan. Participants provided valuable feedback and insights into existing safety issues and concerns.

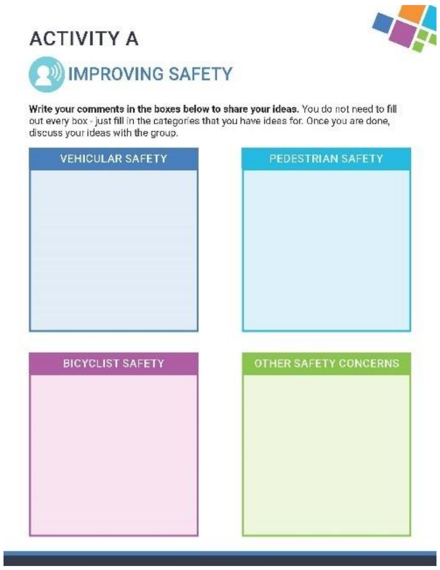


Figure 4-1. Brainstorming Exercise

Ten committee members attended a meeting which introduced the Safety Action Plan, its key components, and the Safe System Approach. The committee discussed historic crashes and brainstormed improvements for their local vehicular, pedestrian, and cyclist safety concerns. Data provided to the Committee included detailed crash maps organized by severity – including those for pedestrians and bicyclists – and intersection crash maps showing total and severe crashes. The committee's discussion focused on vehicular and pedestrian safety concerns, traffic around new residential areas, driver education on local laws, lack of sidewalks, and vehicular patterns around Origin Park.

Public Engagement

Survey One

The project team and committees conducted public engagement for the Safety Action Plan through an interactive online map. Residents within the KIPDA Region, including Clarksville, could provide input by identifying specific pedestrian, bicycle, or vehicle concerns on a map. Participants could add comments, images, and review or react to the contributions of others. This input offered valuable community perspectives on local safety issues.

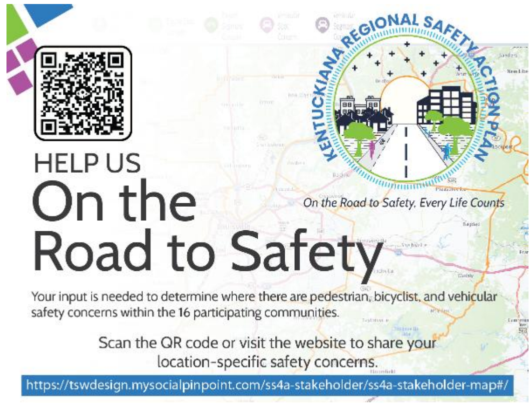


Figure 4-2. Promotional Flyer for Community Survey

The survey was available between July 9, 2024, and October 18, 2024. A total of 1,047 comments were collected for the entire region, with 27 comments located within Clarksville. Figure 4-4 provides an example view of the engagement map.

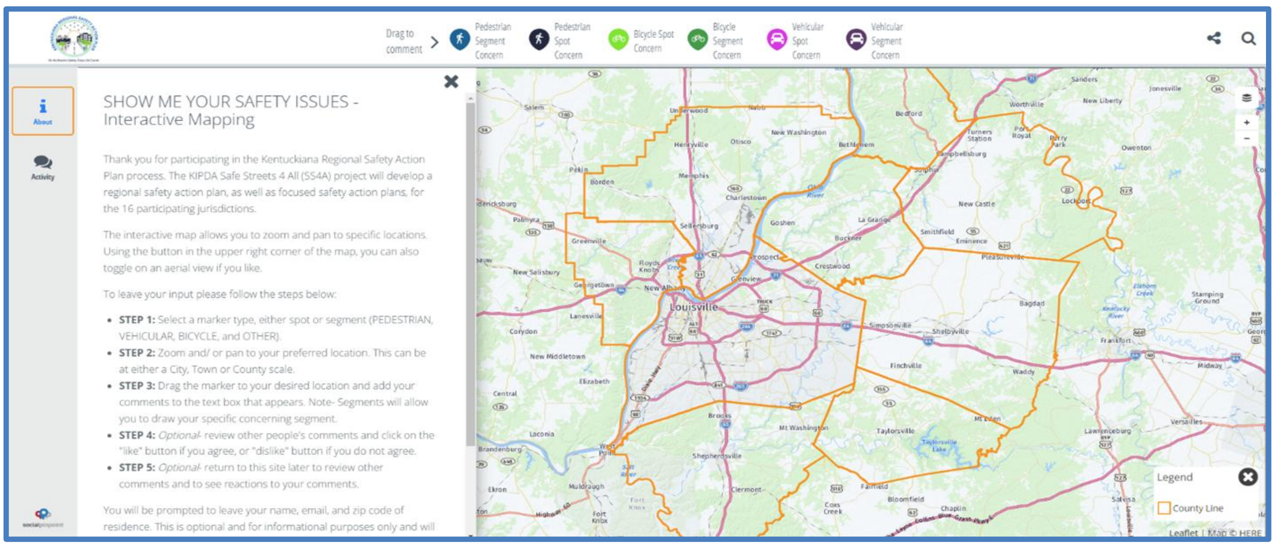


Figure 4-3. Social Pinpoint Online Engagement

<u>Vehicular Safety Concerns</u>

- Signalization
- Narrow roads
- Speed Limits
- Intersection Improvements
- Signage
- Turning lanes

<u>Pedestrian Safety Concerns</u>

- Adding sidewalks
- Adding crosswalks

<u>Bicycle Safety Concerns</u>

- Protected Bike Lanes

<u>Other Safety Concerns</u>

- Cars parked in the wrong direction
- Traffic due to Schools

The feedback collected from this platform played an integral role in identifying high-risk areas and shaping safety strategies so that the KIPDA Regional Safety Action Plan and the Clarksville Safety Action Plan address the concerns and needs of the public. The project team compared comment locations to the fatalities (K) and suspected serious injuries (A) in the 2018-2022 crash data to compare the public perception of safety and data-driven crash densities. The following map shows the crash locations (blue) with the public comments (yellow). The locations where these two colors overlap (green-toned areas) represent locations where the perception of a safety issue is consistent with where severe crashes have occurred. An example of this is along the Old Indiana 62 corridor and Lewis and Clark Parkway.

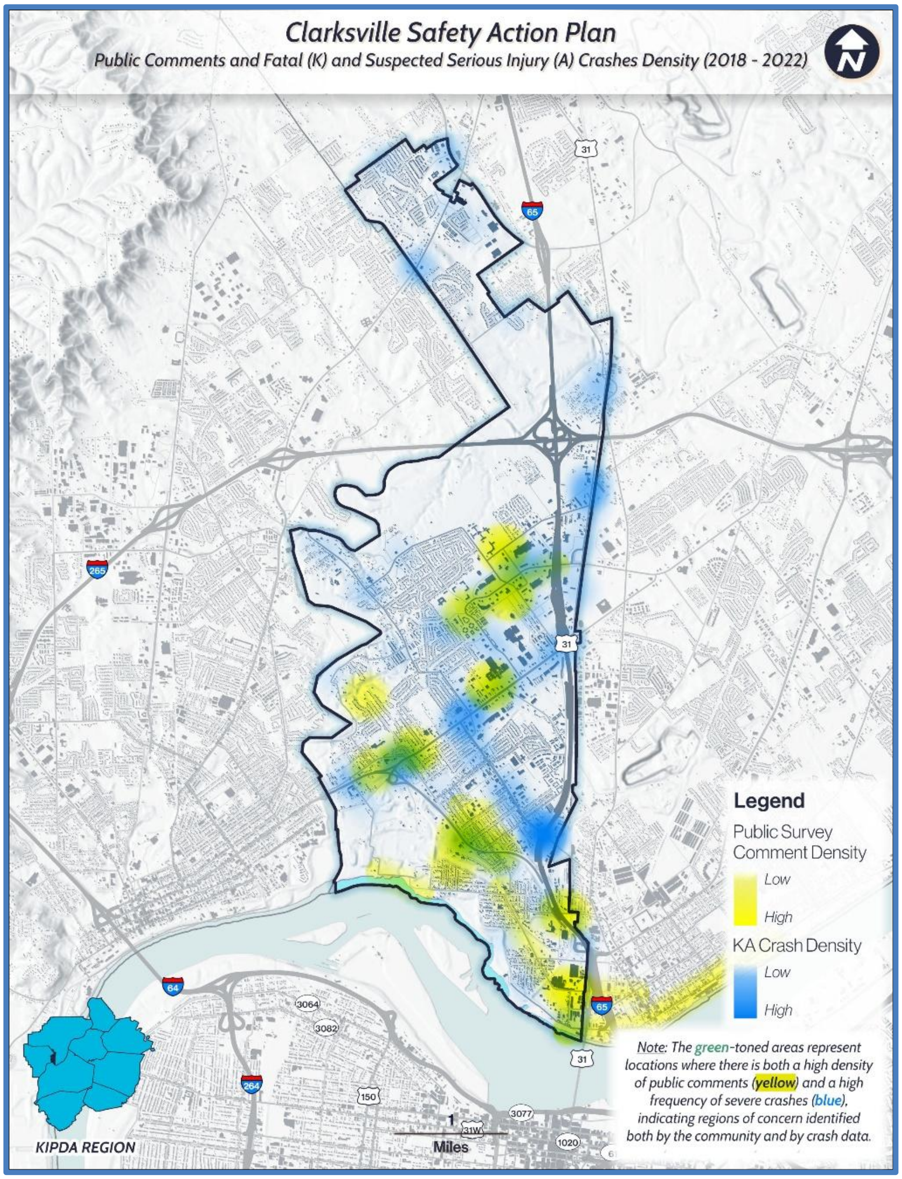


Figure 4-4. Spot Comments and Crash Density

Survey Two

The project team and committees conducted a second public survey for the Safety Action Plan. Residents within the KIPDA Region, including Clarksville, could provide input on the results of the crash data analysis and potential countermeasures to improve safety in each community. Participants could provide opinions on if the identified recommended strategies and safety improvements were appropriate for each community. Links to additional information about the recommended strategies were included for reference.

The survey was available between April 1, 2025, and April 30, 2025. A total of 524 responses were collected for the entire region. The responses for Clarksville generally supported Eastern Boulevard, Veterans Parkway, and Highway 31 as top priority corridors. The intersections of Veterans Parkway at Sam Gwin Drive and Lewis and Clark Parkway at Highway 31 (SB) were also prioritized. The highest rated safety improvements included intersection and highway lighting, reflective backplates on traffic signals, crosswalk visibility enhancements, left turn lanes, road rightsizing, raised medians, and two-way left turn lanes.

Active and Planned Projects

Transportation plans were reviewed to identify relevant Indiana Department of Transportation (INDOT) projects, KIPDA Transportation Improvement Program (TIP) and Metropolitan Transportation Plan (MTP) projects, and ongoing Clarksville projects. The first table and map show the current projects that have committed funds and are actively moving forward. The second table and map show the long-range planning projects.

Map No	State ID	KIPDA ID	Name	Type	Sponsor	Description
T11	1902768	2836	Clark County Bridge 413	Maintenance	Clark County	Clark County Bridge 413 is located over abandoned railroad tracks that have been removed and converted to a pedestrian path. The bridge will be rehabilitated with a rigid deck overlay and reinforced concrete bridge approach slabs.
T54	1700788	1558	Replacement of Bridge 51	Maintenance	Floyd County Board of Commissioners	Replacement of Bridge 51 over Silver Creek and reconstruction of approaches on Blackiston Mill Road.
T80	2200963	3158	US 31 Concrete Pavement Restoration	Roadway - Operations	INDOT	Concrete pavement restoration on US 31 from 0.99 miles north of I-65 to 3.41 miles south of SR 60.
T93	1700724	2389	Blackiston Mill Road Phase II	Roadway - Operations	Clarksville	Improvements to Blackiston Mill Road from just north of the Kroger entrance to Blackiston View Drive, including the addition of sidewalks, a new turn lane into Peddler's Mall entrance, improved site lines, and improved access control
T95	1700725	2393	Riverside Drive	Roadway - Operations	Clarksville	Reconstruct Riverside Drive from the town limits to Ashland Park, including sidewalks and parking on both sides of roadway, and an elevated cycle track on the south side of roadway. 0.25 miles.
T103	1801597	2541	Jeffersonville 9th Street/Clarksville	Bicycle/ Pedestrian	Clarksville	Design and construction of multimodal connection between Jeffersonville and Clarksville's Arts

Map No	State ID	KIPDA ID	Name	Type	Sponsor	Description
			Montgomery Avenue Multimodal Connection			Districts, underneath I-65 along Montgomery Avenue and 9th Street.
T109	2101774	3161	Statewide Wrong Way Ramp Entry Project	Roadway - Operations	INDOT	Install wrong way signs with lights on a detector, powered by either solar installation or grid hookup. I-65 southbound at Broadway Street ramp from collector-distributor (MP 4).
T133	1701091	2498	I-265	Maintenance	INDOT	Bridge deck replacement on I-265, 00.89 miles west of I-65 at Admore Lane, Silver Creek EB.
T135	1701094	2500	I-265	Maintenance	INDOT	Bridge deck replacement on I-265, 02.50 miles east of Charlestown Road on the EB ramp to I-65 NB.
T160	2000316	2840	I-65 Bridge Over I-65 and US 31	Maintenance	INDOT	Construct a bridge thin deck overlay rehabilitation project on the bridge over I-65, US 31/Frontage Road
T163	2000333	2841	I-65 Bridge Over SR 62X	Maintenance	INDOT	Construct a bridge thin deck overlay rehabilitation over I-65, 01.20 miles north of SR 62X.
T164	2000346	2843	Bridge Over I-65	Maintenance	INDOT	Bridge deck overlay project over I-65, 0.44 miles south of I-265.
T165	2000337	2842	US 31 Bridge South of SR 265	Maintenance	INDOT	Construct a bridge thin deck overlay on the bridge over US 31, L&I RR, 00.89 miles south of SR 265.
T167	2000301	2845	US 31 Bridge Deck Overlay	Maintenance	INDOT	Bridge rehabilitation project on US 31 constructing a bridge deck overlay over Silver Creek, 00.87 miles south of SR 60.
T188	2101319	3021	SR 265 Sign Conversion	Maintenance	INDOT	Updating signs to I-265 along various routes in Clark County.
T191	2002339	2910	I-265 Over I-65	Maintenance	INDOT	Bridge painting rehabilitation at I-265 EB ramp over I-65 to I-65 NB, 02.50 miles east of SR 311.
T229	1701093	2501	I-265	Maintenance	INDOT	Bridge deck replacement on I-265, 00.89 miles west of I-65 at Admore Lane, Silver Creek WB.
T285	2300582	3018	Progress Way Roadway Improvements	Roadway - Operations	Clarksville	The project will install new curb and gutter, sidewalks, and drainage along Progress Way from I-65 to Broadway. The width of the lanes will not change, instead they will be shifted south slightly to allow for drainage improvements.
T286		3019	Stansifer Avenue Streetscape Improvements	Roadway - Operations	Clarksville	The project is a complete overhaul of Stansifer Avenue from Akers Avenue to South Clark Boulevard. The roadway will have new landscaped medians, curb and gutter, the addition of on-street parking, narrowing of the lane widths and drainage improvements.
T414	2300912	3267	I-265 WB Hamburg Pike		INDOT	Bridge Deck Overlay I-265 WB Bridge over Hamburg Pike, 00.09 mi E of US 31.
T424	2300902	3277	I-265		INDOT	Bridge Deck Overlay I-265 WB Bridge over I-265 ramp SW-D to I-65, 00.13 mi E I-65.
T425	2300901	3278	I-265		INDOT	Bridge Deck Overlay I-265 EB Bridge over I-265 ramp SW-D to I-65, 00.13 mi E I-65.
T426	2300900	3279	I-265 WB Bridge over I-65		INDOT	Bridge Deck Overlay on I-265 WB Bridge over I-65 NB/SB, 02.50 mi E SR 311.
T427	2300899	3280	I-265 EB Bridge over I-65		INDOT	Bridge Deck Overlay I-265 EB Bridge over I-65 NB/SB, 02.50 mi E of SR 311.
T454	2201216	3304	Raised Pavement Markings		INDOT	Raised pavement markings in various locations throughout Seymour District. This is in FY 25 for a total of $878,243.

Map No	State ID	KIPDA ID	Name	Type	Sponsor	Description
T499	2100157	3313	Traffic Signals & Modernization		INDOT	Traffic Signals and Modernization in various locations throughout Seymour District
T501	2100189	2676	Raised Pavement Markings		INDOT	Raised Pavement Markings in Various Locations in Seymour District. Add $750,000 of CN funds in FY 26.
T523	2301236	3318	Traffic Signals & Modernization		INDOT	Various locations in Seymour District for traffic signal modernizations
T524	2301237	3319	Raised Pavement Markings (RPMs)		INDOT	Raised pavement markings in various locations in the Seymour District
T532	2300060	3252	I-64 Small Structure Pipe Lining - Little Indian Creek		INDOT	Small structure Pipe Lining on I-64, UNT to Little Indian Creek - 119.83
T534	2101799	3193	I-65 & Veterans Parkway		INDOT	Modify I-65 & Veterans Pkwy interchange by providing additional left turn capacity and adding pedestrian signal indications and push buttons at the signalized ramp terminal intersections.
T539	2301127	3322	I-265 Pavement Replacement		INDOT	Pavement Restoration project on I 265 from 0.36 miles west of I-65 to I-65
T543	2100189	3315	Raised Pavement Markings		INDOT	Raised Pavement Markings in Various Locations in Seymour District

Table 4-1. Current Highway Plan Projects

Figure 4-5. Current Highway Plan Projects

Map No	KIPDA ID	State ID	Name	Type	Sponsor	Description
M1	3193	2101799	I-65 & Veterans Parkway	Intersection/ Interchange	INDOT	Modify I-65 & Veterans Parkway interchange by providing additional left turn capacity and adding pedestrian signal indications and push buttons at the signalized ramp terminal intersections.
M70	3158	2200963	US 31 Concrete Pavement Restoration	Roadway - Operations	INDOT	Concrete pavement restoration on US 31 from 0.99 miles north of I-65 to 3.41 miles south of SR 60.
M2	2389	1700724	Blackiston Mill Road Phase II	Roadway - Operations	Clarksville	Improvements to Blackiston Mill Road from just north of the Kroger entrance to Blackiston View Drive, including the addition of sidewalks, a new turn lane into Peddler's Mall entrance, improved site lines, and improved access control.
M95	2393	1700725	Riverside Drive	Roadway - Operations	Clarksville	Reconstruct Riverside Drive from the town limits to Ashland Park, including sidewalks and parking on both sides of roadway, and an elevated cycle track on the south side of roadway.
M104	2541	1801597	Jeffersonville 9th Street/Clarksville Montgomery Avenue Multimodal Connection	Bicycle/Pedestrian	Clarksville	Design and construction of multimodal connection between Jeffersonville and Clarksville's Arts Districts, underneath I-65 along Montgomery Avenue and 9th Street.
M4	2736		Cedar Street Reconstruction	Roadway - Minor Widening	Clarksville	Cedar Street would be reconstructed from Woodstock Drive south to Lewis & Clark Parkway.
M106	2749		Smyser Avenue Relocation	Roadway - New	Clarksville	New road project connecting South Clark Boulevard to Riverside Drive. Project extends through flood-wall (requires new gate) to connect with Riverside Drive.
M107	2750		North Clarksville Multi-Use Trail	Bicycle/Pedestrian	Clarksville	10' Multi-use bike and ped trail that follows a sewer easement. Will connect the Town's northern areas with the main commercial district and Town's golf course.
M108	2752		Lewis and Clark Road Diet	Roadway - Capacity Reconfiguration	Clarksville	Segment is 6th worst on KIPDA's Top Crash List for Indiana. Will complete a traffic study in 2019 to confirm, but Town staff feels this segment could warrant a road right sizing.
M3	2761		Blackiston Mill Road Phase III	Roadway - Minor Widening	Clarksville	The project will provide for a widening of Blackiston Mill Road from Blackiston View Drive to Marlowe. The two large curves radius and grades will be reduced to allow for better sight distance and safety improvements.

Map No	KIPDA ID	State ID	Name	Type	Sponsor	Description
M110	2764		Marriott Drive Improvements	Roadway - Minor Widening	Clarksville	Streetscape improvements for entirety of Marriott Drive: 14'+ two-way traffic lanes (nearby RV sales), 5' sidewalk, curb and gutter, sharrows or designated bike lanes.
M111	2772		Reconstruction of South Clark Boulevard	Roadway - Major Widening	Clarksville	The proposed reconstruction of South Clark Boulevard project will implement complete street principles to enhance pedestrian circulation, provide a safe and buffered above grade cycle track, improve vehicular movement, and add landscaping.
M1	2781		Applegate Lane Improvements	Roadway - Minor Widening	Clarksville	Widening to at least 12' lanes for 2-way traffic, constructing new sidewalks to existing, and making streetlight improvements.
M172	3215	2300274	National Electric Vehicle Infrastructure (NEVI)	Program	INDOT	Electric vehicle charging infrastructure at various locations along Indiana interstates.
M294	2735		River Falls Mall: Ring Road Extension	Roadway - Operations	Clarksville	The northern leg of the River Falls Mall's Ring Road will be reconstructed and extended to create a continuous east-west connection between Greentree Boulevard and Broadway Street.
M295	3018	2300582	Progress Way Roadway Improvements	Roadway - Operations	Clarksville	The project will install new curb and gutter, sidewalks, and drainage along Progress Way from I-65 to Broadway. The width of the lanes will not change, instead they will be shifted south slightly to allow for drainage improvements.
M296	3019		Stansifer Avenue Streetscape Improvements	Roadway - Operations	Clarksville	The project is a complete overhaul of Stansifer Avenue from Akers Avenue to South Clark Boulevard. The roadway will have new landscaped medians, curb and gutter, the addition of on-street parking, narrowing of the lane widths and drainage improvements.
M301	3021	2101319	SR 265 Sign Conversion	Maintenance	INDOT	Updating signs to I-265 along various routes in Clark County.

Table 4-2. KIPDA Metropolitan Transportation Plan (MTP) Projects

Figure 4-6. KIPDA Metropolitan Transportation Plan (MTP) Projects

Community Considerations

The Safety Action Plan analyzed socio-economic and demographic data together with the crash data to determine if there are important trends, findings, or considerations related to specific areas or communities within the Town.

Areas of Persistent Poverty

The Safe Streets and Roads for All 2025 Notice of Funding Opportunity defines Areas of Persistent Poverty based on the Infrastructure Investment and Jobs Act (IIJA, 49 U.S.C. 6702(a)(1)). It also states that this applies as the definition of Underserved Communities. Based on this definition, a project is located in an Area of Persistent Poverty if:

1. *The town in which the project is located consistently had greater than or equal to 20% of the population living in poverty in all three of the following datasets: (a) the 1990 decennial census; (b) the 2000 decennial census; and (c) the most recent (2021) Small Area Income Poverty Estimates; OR*

2. *The Census Tract in which the project is located has a poverty rate of at least 20% as measured by the 2014-2018 5-year data series available from the American Community Survey of the Bureau of the Census; OR*

3. *The project is located in any territory or possession of the United States.*

Clarksville is not located within a designated Area of Persistent Poverty.

Community Demographic Summary

The following four populations were analyzed using the US Census American Community Survey (ACS) data. The 2022 ACS five-year table was used.

Elderly Population

Approximately 17.8 % of the population in Clarksville is 65 or older. The northwest portions of the town have higher percentages. Portions of the town with high elderly populations should consider tailored roadway safety countermeasures. Oversized signage, lighting, pedestrian refuge islands, leading pedestrian intervals (LPIs), and raised crosswalks are some of the countermeasures that benefit elderly populations.

Population Impacted by Disability

In Clarksville, approximately 32.3% of households have one or more occupants with a disability. Similar to elderly populations, there are safety countermeasures available that support disabled populations. Many of these relate to pedestrian facilities such as curb ramps.

Population Experiencing Poverty

Approximately 15.2% of the population are at or below the poverty line. The central portions of the town have some of the higher poverty rates. Areas with high poverty rates are often areas of underinvestment with regard to infrastructure and safety. Many of the severe crashes have occurred in or along the border of the southeast portion of the Town; therefore, consideration should be given to investing in safety upgrades in this area.

Minority Population

Approximately 16.7% of the population of Clarksville identifies as non-white.

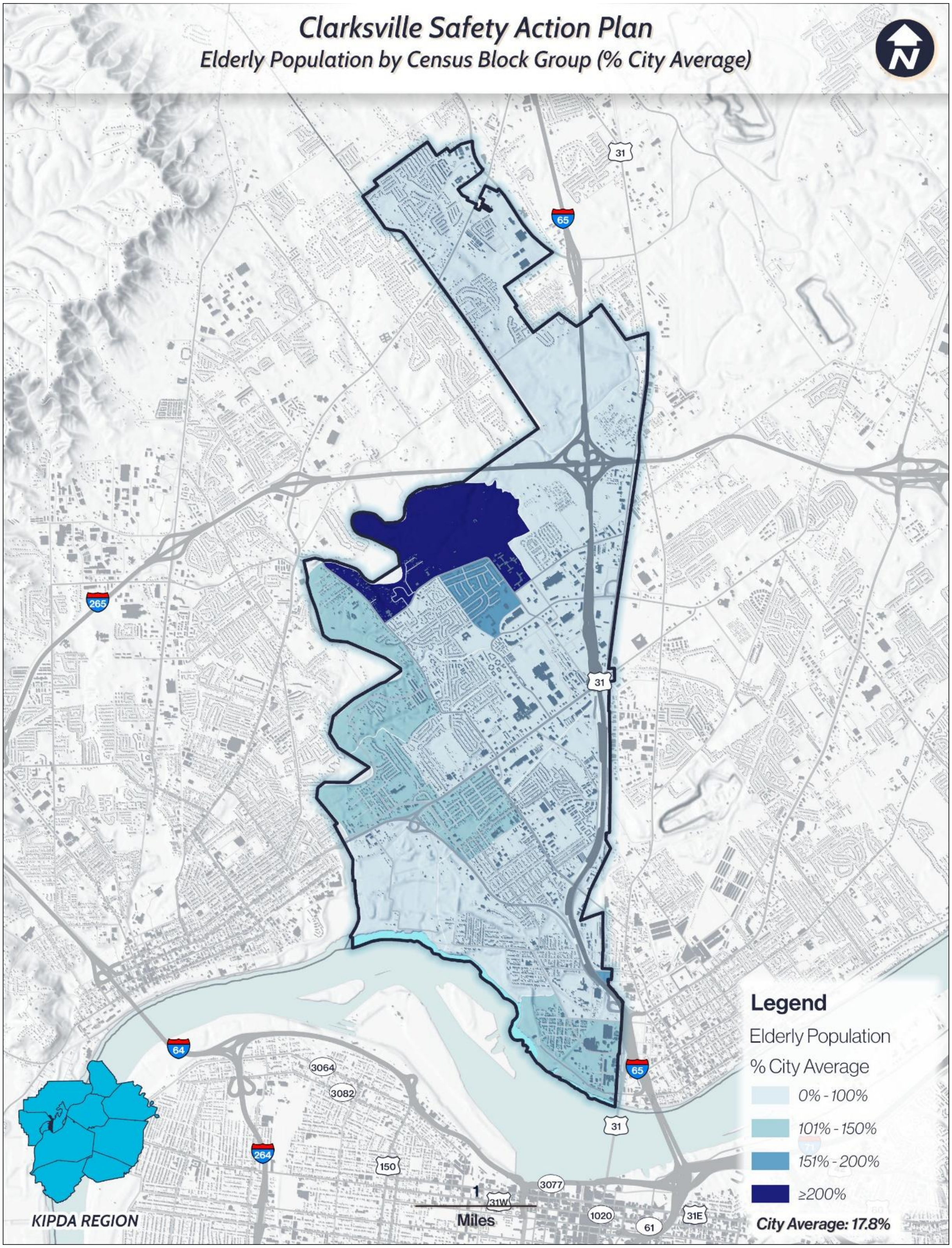


Figure 4-7. Elderly Population by Census Block Group Map

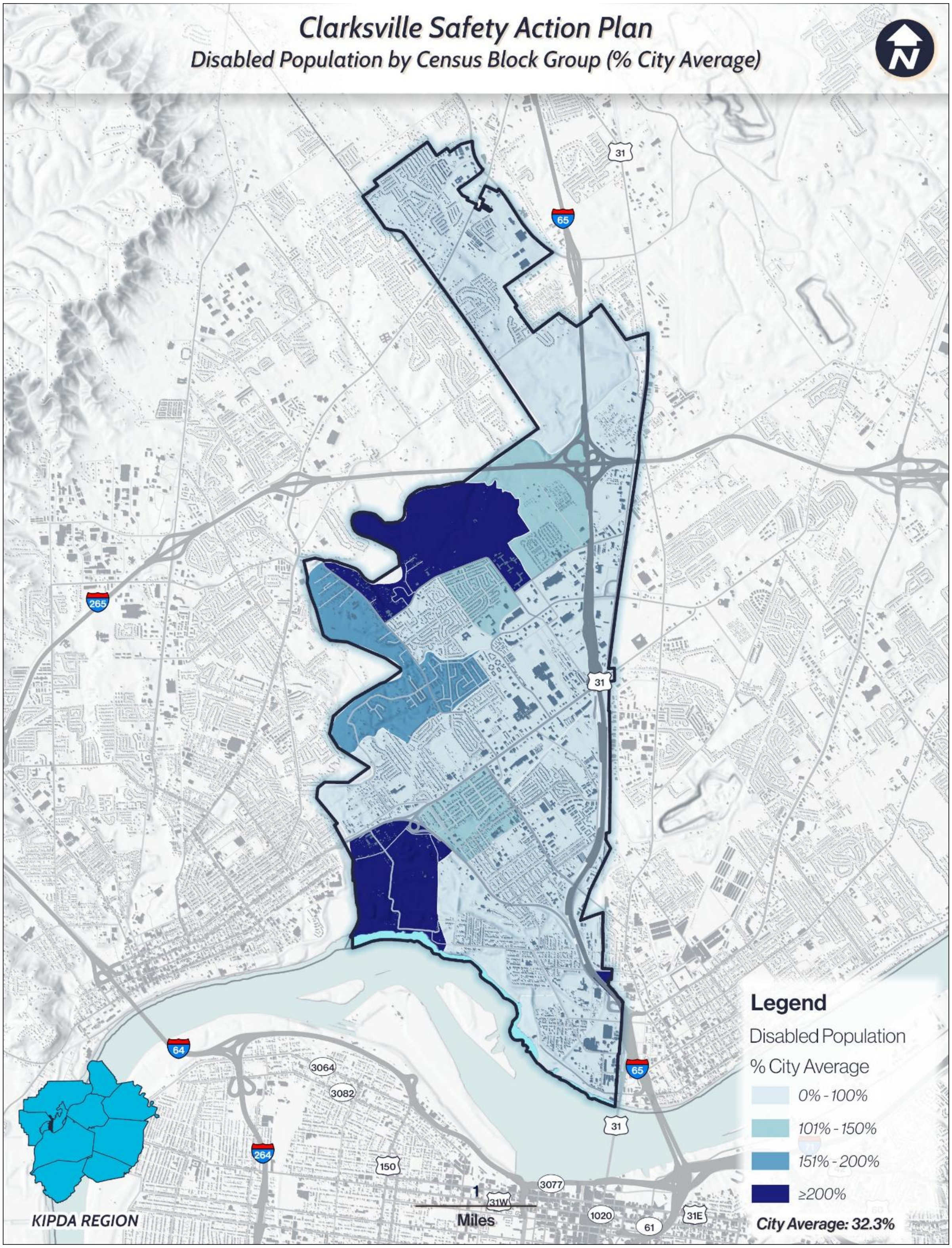


Figure 4-8. Disabled Population by Census Block Group Map

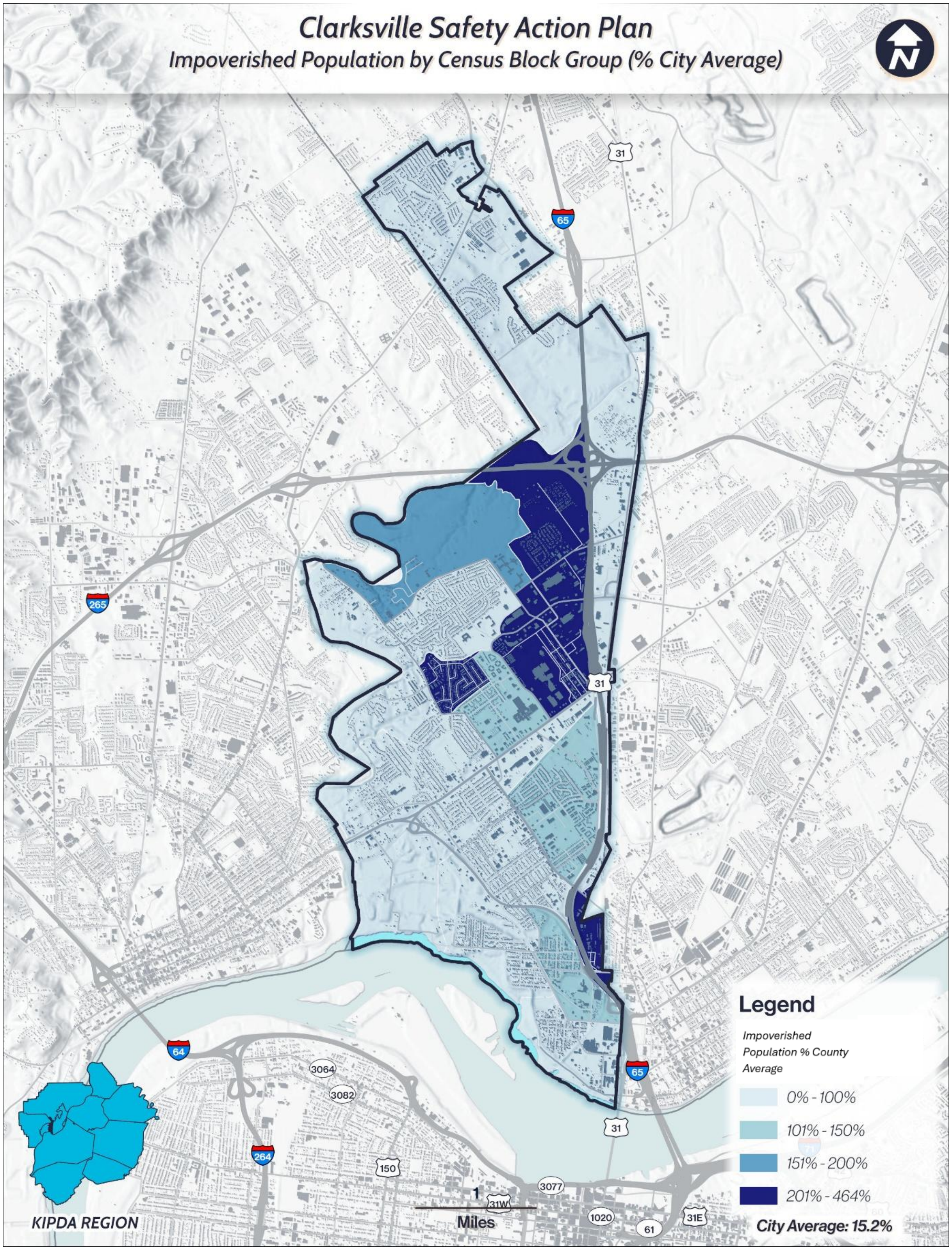


Figure 4-9. Impoverished Population by Census Block Group Map

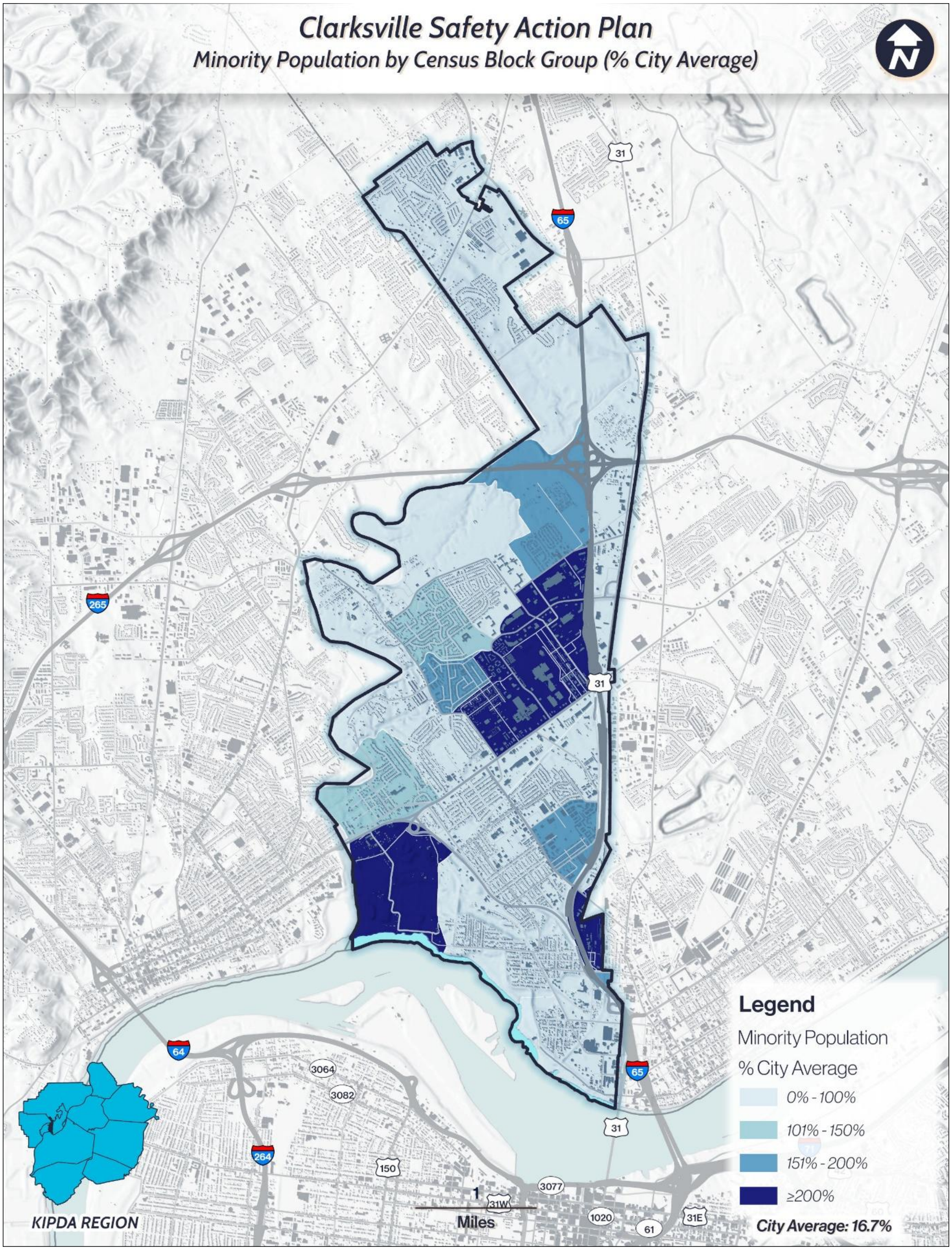


Figure 4-10. Minority Population by Census Block Group Map

5. Policy and Process Changes

A comprehensive review of Clarksville's existing policies, plans, guidelines, and standards has identified key opportunities to enhance transportation safety. The Town aims to prioritize safety while also creating a more accessible transportation network for all users.

The Town has demonstrated a strong commitment to creating a safe, connected, and multimodal system through the adoption of several forward-thinking plans and ordinances. Recent efforts - including the Connect Clarksville Multimodal Transportation Plan, the Brown's Station Way Master Plan, and the Comprehensive Plan – outline proactive safety goals and implementation strategies.

Clarksville Multimodal Plan

Link: Connect Clarksville Multimodal Transportation Plan

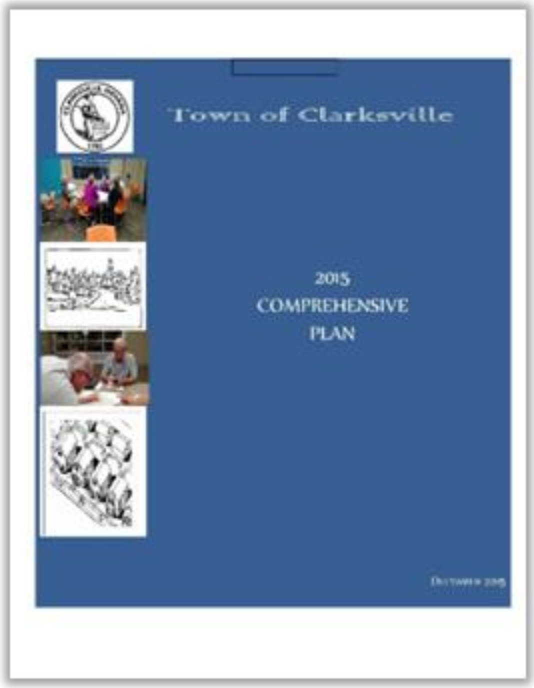
The Connect Clarksville Multimodal Transportation Plan (2023) serves as the Town's official Thoroughfare Plan, guiding the future design, investment, and operation of the Town's street network. It replaces the former subdivision-focused plan with a broader, safety-oriented framework for existing corridors and multimodal infrastructure. The plan establishes four primary goals – Connectivity, Choice, Safety, and Growth – each with measurable metrics. Safety is a central focus, with specific targets to:

- Reduce severe and fatal vehicular crashes by 25% within three years
- Reduce crashes involving vulnerable road users by 20% within the next two years.
- Implement speed management tools to reduce average and 85th percentile speeds of vehicles on local, collector, and minor arterial routes by 10% within the next three years.

The plan includes:

- A Complete Streets Toolbox to guide context-sensitive street design
- A multimodal project prioritization framework based on safety and feasibility
- Crash and connectivity maps identifying high-risk areas.

Comprehensive Plan



Link: Comprehensive Plan

The Comprehensive Plan (adopted 2015) is the Town's foundational long-range planning document, outlining land use, transportation, housing, and development goals through a series of policy objectives and implementation tools.

The plan features multiple transportation objectives that support safety:

- The Complete Streets Objective calls for designing roadways that safely serve all users.
- The Transportation Connectivity Objective aims to enhance internal connections between neighborhoods, commercial corridors, and civic destinations, with a focus on eliminating physical and geographic barriers to access. The plan emphasizes the importance of local roadway links and safe pedestrian routes in supporting mobility and fostering community cohesion.
- The Signs, Traffic Safety, and Aesthetic Objective encourages streetscape improvements to reduce driver confusion and promote safer streets.

The Transportation Objective focuses on the integration of land use planning and transportation planning, as well as safety and street development. The objective specifically includes, "Transportation projects should be targeted at increasing safety for all users, including bicyclists, pedestrians, and motorists."

Clarksville Zoning Ordinance

Link: Article 4 - Regulations Applying to Districts

Division 155 of the Clarksville Zoning Ordinance establishes a formal Access Management Plan to regulate how land development connects to the public roadway network. The intent is to preserve roadway function and safety by managing the spacing, design, and classification of access points.

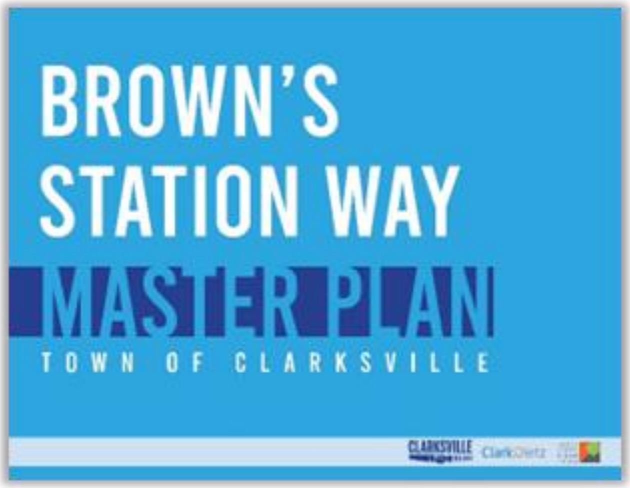
The ordinance explicitly defines safety as a core objective, stating that poorly designed access systems contribute to traffic crashes, injuries, and reduced roadway performance. The following safety-related provisions are included:

- Access design must prioritize safety, capacity and flow.
- Spacing access points is based on roadway type, operating speed, and trip generation.

- Traffic Impact Analyses are required for developments exceeding specific thresholds to assess safety, operational and capacity impacts.
- The regulations in ordinance promote safety access by:
- Limiting the number and proximity of driveways and entrances.
- Ensuring driveways meet geometric and visibility standards.
- Assigns appropriate access levels based on function and capacity of the roadway.

Brown's Station Way Master Plan

Link: [Brown's Station Way Master Plan]



The Brown's Station Way Master Plan (2020) is a corridor-specific study that provides a vision for the redesign of one of Clarksville's major arterial corridors. It was developed to improve safety, mobility, and connectivity for the residents of Clarksville.

The plan places a strong emphasis on reducing crashes, calming traffic, and improving pedestrian and bicycle safety. Several chapters highlight both systemic and location-specific safety needs. Based on the existing conditions and crash and speed analyses, the plan proposes roundabouts at key intersections, access management strategies, pedestrian circulation improvements, and short- and long-term improvements prioritized based on expected safety benefits, cost, and feasibility.

Future Considerations

Speed Management Plan: A town-wide Speed Management Plan could reduce speed-related crashes and improve safety for all road users. While existing plans establish strong policy direction, a focused speed strategy would address high-speed corridors, particularly where vulnerable road users are present.

Traffic Safety Analysis and Improvements: Consider including language that requires a traffic safety analysis to demonstrate that the development or subdivision is not significantly impacting safety on nearby roads or intersections. Language could also be integrated into zoning and subdivision ordinances to provide for the analysis of, and recommendations for, potential countermeasures to address any potential impacts.

6. Strategy and Project Selection

The development of strategies and project selection is based on a comprehensive analysis of historical crash data, best practices implementation, and active engagement with stakeholders and the community. The reactive approach involves a detailed examination of crash data by frequency, severity, and location to identify the areas needing improvement the most. The following sections detail the methodology for prioritizing projects and strategy selection .

Prioritization

The Town aims to eliminate fatal and serious injury crashes; therefore, crash severity is critical in prioritizing projects and strategy selection. Comprehensive crash costs combine the economic cost of a crash and monetized pain and suffering. The Federal Highway Administration (FHWA) developed national crash costs to use as default crash unit values (Crash Costs for Highway Safety Analysis), that states and municipalities can adjust based on regional differences. Table 6-1 provides the comprehensive cost per crash adjusted to the KIPDA region as prescribed in the FHWA Crash Costs for Highway Safety Analysis.

Severity	Severity Description	Comprehensive Cost Per Crash (2022 Dollars)
K	Fatal Injury	$10,175,024
A	Suspected Serious Injury	$594,471
B	Suspected Minor Injury	$182,274
C	Possible Injury	$116,572
O	No Apparent Injury	$12,220

Table 6-1 KIPDA Comprehensive Crash Cost

Equivalent Property Damage Only Method

The Equivalent Property Damage Only (EPDO) is a method of weighting crashes by severity using the equivalent number of No Apparent Injury Crash costs, also called Property Damage Only (PDO) crash costs, to develop the weights. The following table shows the comprehensive costs and EPDO value breakdown by crash severity.

Severity	Comprehensive Cost Per Crash (2022 Dollars)	EPDO Weighted Value
K	$10,175,024	833
A	$594,471	49
B	$182,274	15
C	$116,572	10
O	$12,220	1

Table 6-2. KIPDA EPDO Crash Value

As shown in Table 6-2, the comprehensive cost of a fatal crash (K) compared to the other crash severities is significant. The EPDO method, however, may overly emphasize fatal crashes, potentially skewing focus towards areas with fewer crashes. To address this imbalance, analysts used a modified EPDO (MEPDO) approach to equally consider both fatal and suspected serious injury crashes by blending their values based on their comprehensive costs and frequency.

Table 6-3 presents a breakdown of the MEPDO, providing a more balanced evaluation while maintaining a focus on fatal and suspected serious injury crashes. The crashes for the entire KIPDA region were used to calculate weighted average costs and MEPDO.

<table>
<tr><th>Severity</th><th>Crashes</th><th>Comprehensive Cost Per Crash (2022 Dollars)</th><th>Severity</th><th>Weighted Average Costs*</th><th>MEPDO Value</th></tr>
<tr><td>K</td><td>618</td><td>$10,175,024</td><td rowspan="2">KA</td><td rowspan="2">$2,224,193</td><td rowspan="2">182</td></tr>
<tr><td>A</td><td>3,015</td><td>$594,471</td></tr>
<tr><td>B</td><td>12,841</td><td>$182,274</td><td>B</td><td>$182,274</td><td>15</td></tr>
<tr><td>C</td><td>11,770</td><td>$116,572</td><td>C</td><td>$116,572</td><td>10</td></tr>
<tr><td>O</td><td>113,611</td><td>$12,220</td><td>O</td><td>$12,220</td><td>1</td></tr>
</table>

** KA Cost = (618*$10,175,024+3,015*$594,471) / (618+3,015) = $2,224,193*
*** KA Value = $2,224,193 / $12,220 = 182*

Table 6-3. KIPDA MEPDO Crash Value

Reactive Approach

Methodology

The reactive approach for analyzing crashes includes joining the crash data with roadway data. The team gathered Indiana geographic information system (GIS) files with roadway and traffic data. The GIS roadway layer was divided into segments and intersections. Analysts combined the crash data with the GIS information to facilitate detailed analysis by identifying the location of the crashes by road segment and intersection.

After joining the crashes to the roadway segments and intersections, analysts applied the MEPDO method to generate lists of prioritized intersections and corridors.

The lists are for planning purposes only. The intersections and corridors identified could potentially benefit from safety countermeasures; however, it is not necessary to make improvements in the listed order. In addition, there may be other high priority locally identified safety projects. Therefore, these lists provide high-level planning guidance for future agency consideration.

Intersections

Enhancing safety at intersections is vital for achieving a Safe System Approach. Evaluating roadway features such as geometrics and traffic operation and control is necessary for eliminating fatal and serious injury crashes. Intersections are deliberate points of interaction where vehicles and non-motorized users converge, significantly impacting the overall safety performance of the transportation system. These conflict points are historically where fatal and serious injury crashes occur. Therefore, intersection projects present unique opportunities to incorporate Safe System principles into planning, design, and operational decisions. Improving intersections can play a significant role in eliminating fatal and serious injury crashes.

Prioritized Intersections

Clarksville experienced 103 fatal and suspected serious injury crashes at intersections, representing 84% of all fatal and suspected serious injury crashes. These crashes occurred at both signalized and unsignalized intersections. Both intersections contain multiple conflict points and offer significant opportunities to enhance safety for all users. MEPDO was calculated and ranked for each intersection.

Ranking	Intersection	K	A	B	C	O	KA	TOTAL	MEPDO
1	Eastern Blvd & US-31 (NB)	0	10	28	6	134	10	178	2429
2	Lewis and Clark Pkwy & Blackiston Mill Rd	0	4	10	3	106	4	123	1012
3	Eastern Blvd & US-31 (SB)	0	4	8	6	27	4	45	932
4	Lewis and Clark Pkwy & Eastern Blvd	0	4	7	0	63	4	74	895
5	Lewis and Clark Pkwy & Providence Way	0	3	10	0	19	3	32	714
6	Lewis and Clark Pkwy & Applegate Ln	0	2	14	2	65	2	83	657
7	Browns Station Rd & Emery Crossing Rd	0	3	3	1	10	3	17	610
8	Veterans Pkwy & Sam Gwin Dr	0	2	8	1	68	2	79	561
9	Lewis and Clark Pkwy & US-31 (SB)	0	2	8	1	63	2	74	556
10	Browns Station Rd (SR 62) & Randolph Ave	1	1	5	1	34	2	42	482
11	Charlestown Rd & County Line Rd	0	2	4	1	31	2	38	464
12	US-31 & Progress Way	0	2	3	1	6	2	12	424
13	Blackiston Mill Rd & Potters Ln	0	2	2	0	30	2	34	424
14	Eastern Blvd & E Bell Ave / Kensington Dr	0	2	3	0	15	2	20	424
15	Byron Dr & Marlowe Dr	0	2	3	0	10	2	15	419
16	Veterans Pkwy & Lowes Perimeter Rd	0	2	1	0	23	2	26	402
17	SR 60 & Hunter Station Rd	0	2	0	1	13	2	16	387
18	Veterans Pkwy & US-31 (SB)	0	1	7	1	85	1	94	381
19	Riverside Dr & Main St	1	1	0	0	1	2	3	365
20	Broadway St & Adams St / Bales Ln	0	2	0	0	0	2	2	364

Table 6-4. Prioritized Intersections by MEPDO

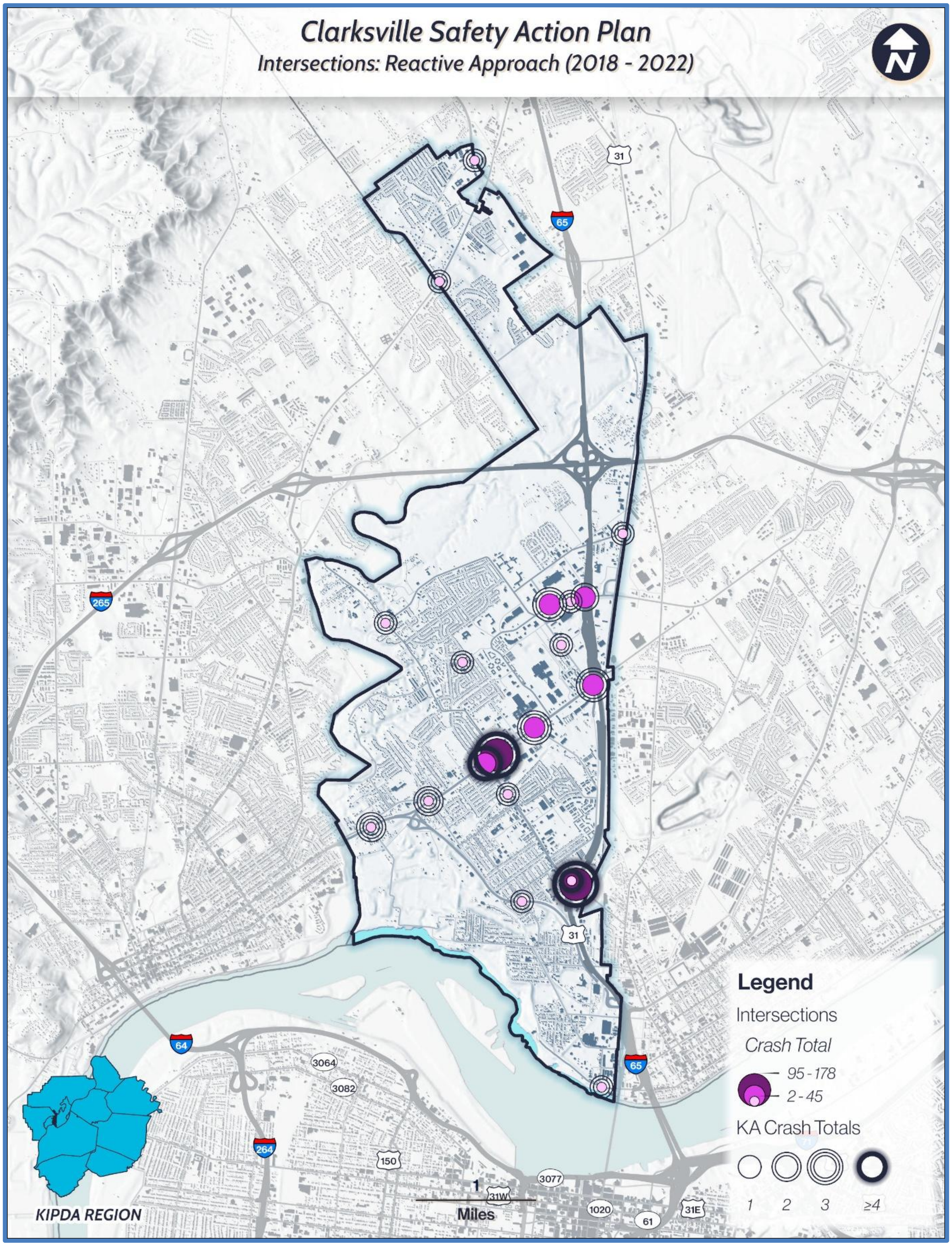


Figure 6-1. Intersections: Reactive Approach Map

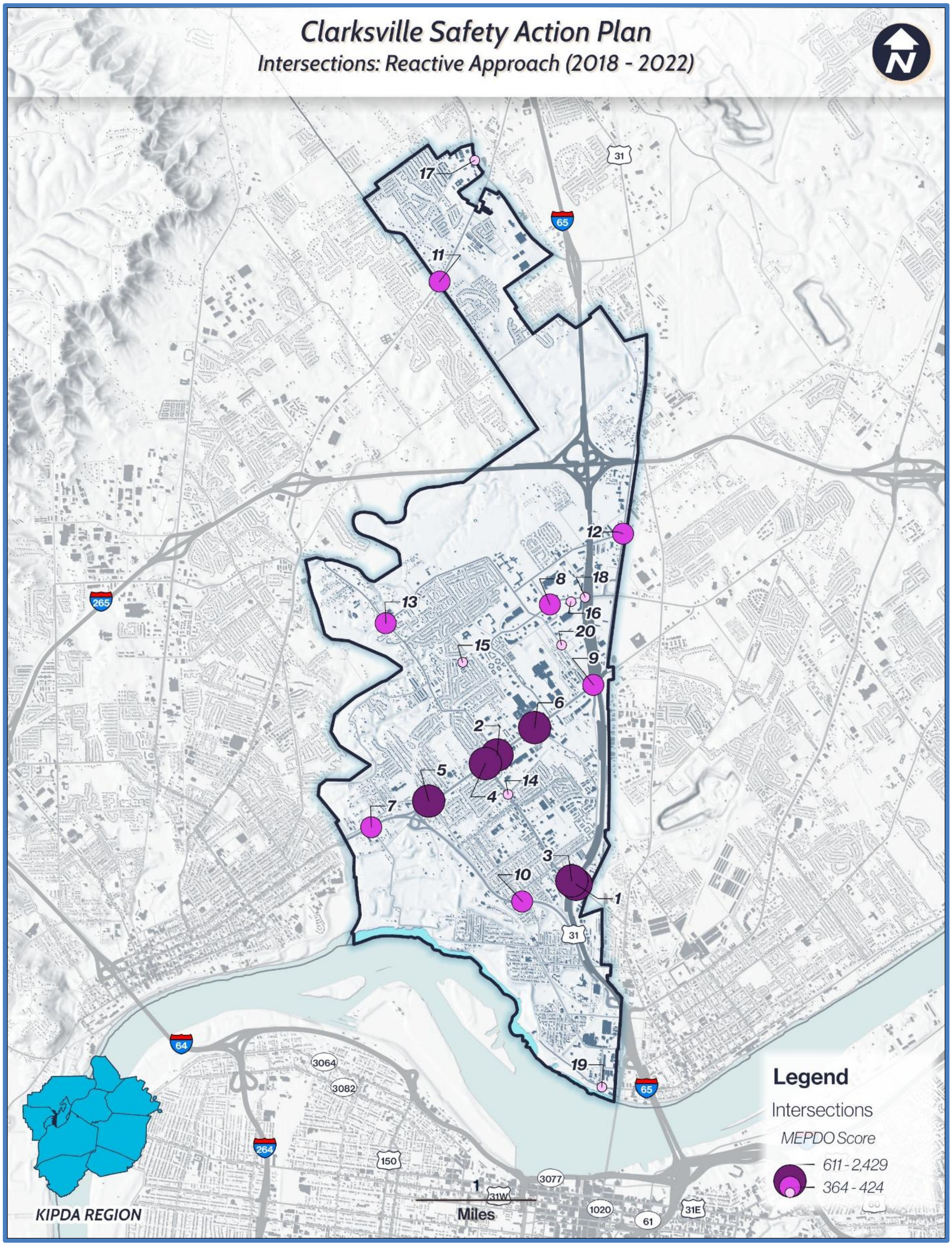


Figure 6-2. Intersections Prioritized by MEPDO Map

High Injury Network and Prioritized Corridors

A High Injury Network (HIN) is a data-driven approach to identify roadway segments that experience a disproportionately high number of fatal and serious injury crashes. This approach enables communities to focus resources on improving safety along those high-priority corridors. Clarksville's HIN was developed using detailed crash data analysis and GIS mapping to pinpoint corridors with the highest concentration of severe crashes. Table 6-5, Figure 6-3, Figure 6-4, and Figure 6-5 illustrates Clarksville's HIN, highlighting its overlap with locations of fatal and serious injury crashes, and prioritized intersections based on MEPDO analysis.

Ranking	Route	Begin	End	Length (mile)	MEPDO	MEPDO / Mile
1	Eastern Blvd	Lewis Clark Pkwy	Hospitality Way	1.36	6054	4452
2	Lewis Clark Pkwy (SR 62)	SR 62 Ramps	Charlestown New Albany Pike	2.15	6245	2905
3	Veterans Pkwy	Lombardy Dr	Armed Forces Way (US-31)	1.03	2608	2532
4	Charlestown Rd (CR-311)	Lawrence Meyer Rd / County Line Rd	Westmont Dr	0.65	958	1473
5	Highway 31 (US-31)	Charlestown New Albany Pike	Appleleaf Ln / Hamburg Pike	2.31	2753	1192
6	Greentree Blvd	Lewis Clark Pkwy	Lombardy Dr	0.85	968	1138
7	Brown Station Way (SR 62)	Emery Crossing Rd	US-31 / I-65	2.00	2260	1130
8	Blackiston Mill Rd	Walnut Grove Drive	Gufford Rd / Marlow Dr	1.25	978	783
9	Blackiston Mill Rd	Gufford Rd / Marlow Dr	Lewis Clark Pkwy	0.92	488	531

Table 6-5. Prioritized Corridors - High Injury Network

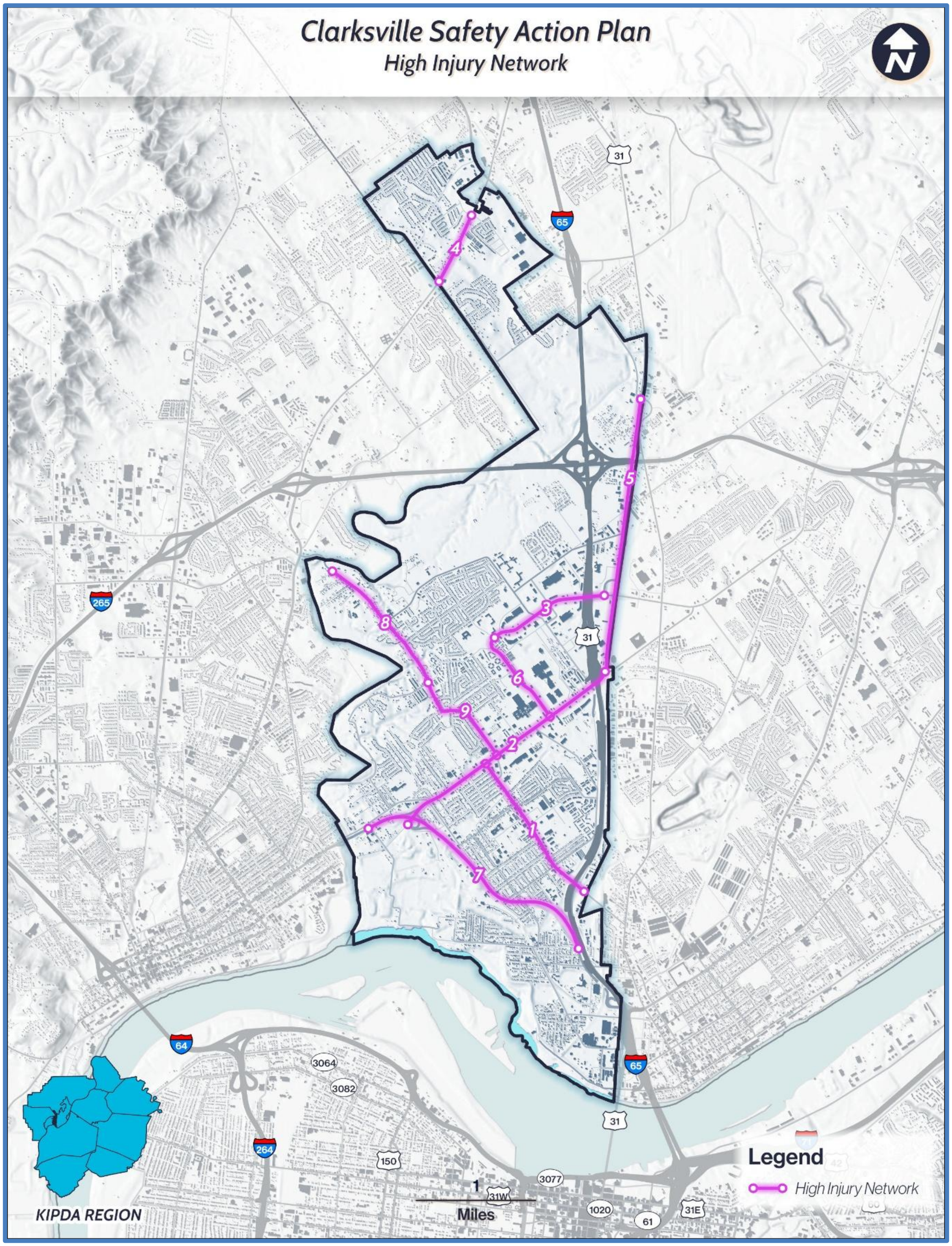


Figure 6-3. High Injury Network

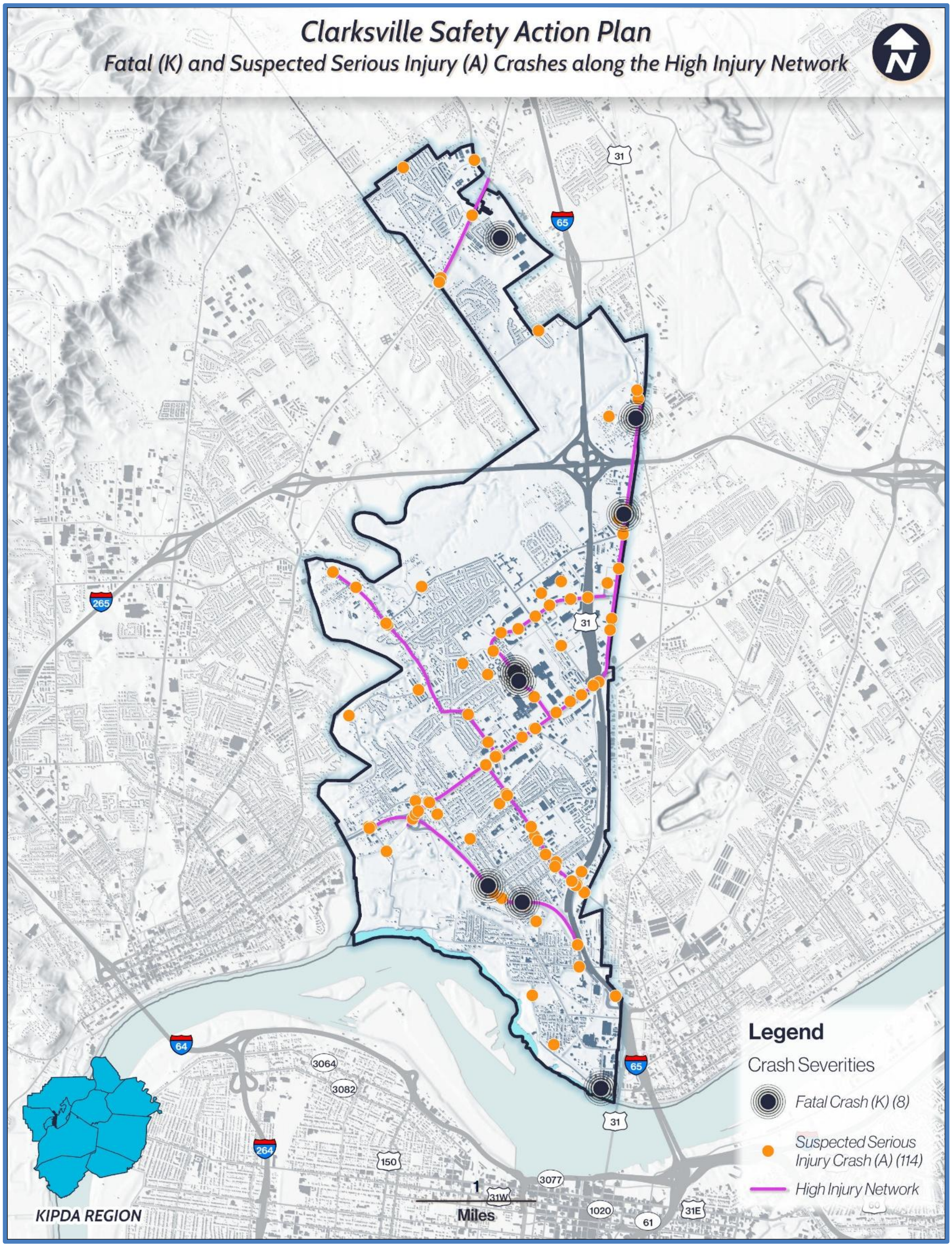


Figure 6-4. High Injury Network and Fatal and Suspected Serious Injury Crashes

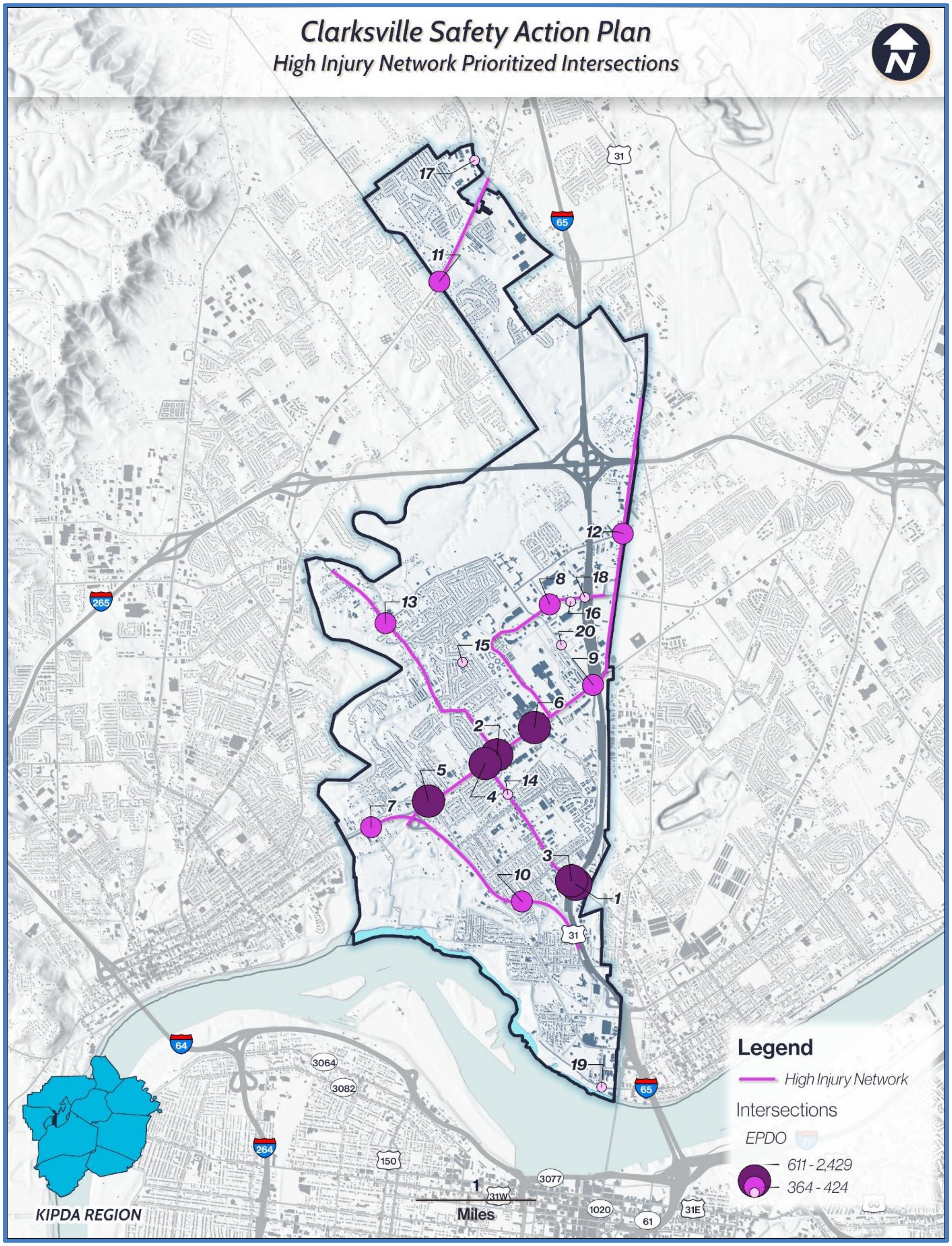


Figure 6-5. High Injury Network and Prioritized Intersections

Project Selection

A comprehensive set of recommended strategies and safety improvements was developed for the top-ranked intersections and corridors within the HIN. The improvements are based on the results of the safety analysis, feedback from the Safety Committee and the public, and are guided by the principles of the Safe System Approach.

Proven Safety Countermeasures

The following tables present a selection of proven safety countermeasures designed to reduce crashes. These measures are informed by before-and-after crash data from case studies. The countermeasures are organized into roadway segment and intersection improvement tables. The countermeasures includes an image, a description of the countermeasure's safety benefits, estimated safety impact statistics, and a link for further information.

Countermeasures should be implemented as appropriate based on the prioritized project locations. Estimated cost ranges for safety countermeasures can be found in Appendix A. This appendix also includes a project implementation timeline reference chart, which provides high-level guidance on the time required to complete a range of potential safety improvement projects. Please refer to the notes on the chart during the development of project timelines.

Additional information on potential safety countermeasures can be found using these links:

Proven Safety Countermeasures (Federal Highway Administration)
https://highways.dot.gov/safety/proven-safety-countermeasures

Innovative Intersections (Virginia Department of Transportation)
https://www.vdot.virginia.gov/about/our-system/highways/innovative-intersections/virginia-icap/

Federal Highway Administration Safety Programs
Intersection Safety - https://highways.dot.gov/safety/intersection-safety/about
Roadway Departure Safety – https://highways.dot.gov/safety/RwD
Speed Management Safety - https://highways.dot.gov/safety/speed-management
Pedestrian and Bicycle Safety – https://highways.dot.gov/safety/pedestrian-bicyclist
Local and Rural Safety - https://highways.dot.gov/safety/local-rural
Safety Data Analysis and Tools - https://highways.dot.gov/safety/data-analysis-tools

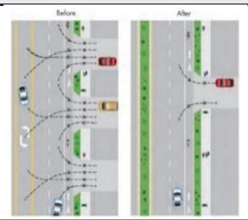
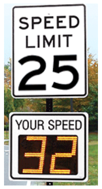
Example Segment Countermeasures							
Countermeasure	Description	Safety Impact	Links	Countermeasure	Description	Safety Impact	Links
Enhanced Delineation for Horizontal Curves				**Roadside Design Improvements at Curves**			
	High visibility markings and delineators around curves provide drivers with better information about curves.	Severe crashes ↓15-18%	FHWA		Includes treatments that improve horizontal curves, giving drivers the opportunity to recover safely or reducing crash severity.	Single Vehicle or All Crashes ↓8-44%	FHWA
Access Management (segment treatments)				**Medians and Pedestrian Refuge Islands**			
	Reducing the number and proximity of access points to focus turning traffic to fewer locations. Reduces turning conflicts.	2-lane Rural Road Crashes ↓5-23% Urban Severe Crashes ↓25-31%	FHWA		Provide curbed median between opposing travel lanes to provide separation, reduce left-turn risks, and improve pedestrian safety.	Ped Crashes ↓46-56% Vehicle Crashes ↓15%	FHWA and FHWA
Roadway Reconfiguration (Right Sizing or Road Diet)				**Shoulder Treatment – Safety Edge**			
	Often involves converting a 4-lane undivided road to a 3-lane road with 2 through lanes and a center two-way left-turn lane, which slows traffic and reduces conflicts.	All Crashes ↓19-47%	FHWA		Shoulder edge upgrades to improve recoverability for roadway departures.	Severe ↓11% Run-Off-Road ↓21% Head-On ↓19%	FHWA
Dynamic Speed Feedback Signs				**Pavement Friction Management**			
	Provide positive and negative feedback to drivers regarding their speed.	All Crashes ↓5%	FHWA (pg 5) FHWA Clearinghouse		High Friction Surface Treatment (HFST) can prevent roadway departure, intersection, and pedestrian-related crashes.	Severe Crashes at Curves ↓48% Crashes at Intersections ↓48%	FHWA

Table 6-6. Example Segment Countermeasures

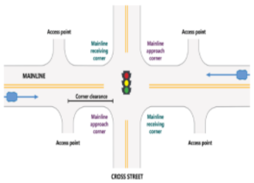
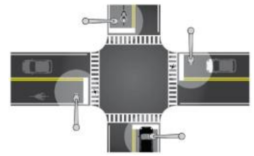
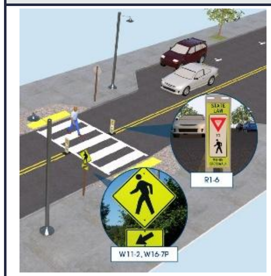
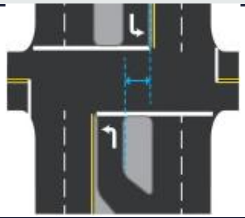
Example Intersection Countermeasures							
Countermeasure	Description	Safety Impact	Links	Countermeasure	Description	Safety Impact	Links
Access Management (intersection treatments)				**Intersection Lighting**			
	This refers to the design and control of access points including intersections which can enhance safety for all modes.	2-lane Rural Road Crashes ↓5- 23% Urban Severe Crashes ↓25- 31%	FHWA		Increased visibility at nighttime can improve safety for all modes of travel.	Nighttime Ped Injuries ↓42% Nighttime Crashes ↓33-38%	FHWA
Crosswalk Visibility Enhancement				**Reflective Backplates**			
	High-visibility crosswalks can reduce pedestrian injury crashes.	Pedestrian Injury Crashes ↓40%	FHWA		Improve the visibility of the illuminated face of the signal by introducing a controlled-contrast background.	Total Crashes ↓15%	FHWA
Low-Cost Countermeasures at Stop-Controlled Intersections				**Modern Roundabouts (RAB)**			
	Deploying a package of low-cost countermeasures, including enhanced signing and pavement markings increasing driver awareness.	Severe Crashes ↓10% Night Crashes ↓15% Rural Severe Crashes ↓27%	FHWA		Converting an intersection (stop or signal) into a roundabout can slow traffic. It also minimizes conflicts and reduces crash severity.	2-way Stop to RAB Severe Crashes ↓82% Signal to RAB Severe Crashes ↓78%	FHWA
Left and Right Turn Lanes				**Positive Offset Left-Turn Lane**			
	Left and right turn lanes provide physical separation between through traffic and turning traffic that is slowing or stopped.	Left Turn Lane ↓28-48% Right Turn Lane ↓14-26%	FHWA		Provides increased visibility for drivers turning left. It prevents opposing left turning vehicles from blocking sightlines.	Severe crashes ↓36%	FHWA

Table 6-7. Example Intersection Countermeasures

Potential Intersection Strategies

Table 6-8 lists the prioritized intersections based on their MEPDO values. Each intersection was evaluated and relevant safety countermeasures were identified as potential improvements.

Intersections – Reactive Approach																
		Potential Countermeasures														
Ranking	Intersection	Offset Left Turn Lanes	Cycle Length and Clearance Intervals	Tighten Up Intersection	Reflective Backplates	Alt. Intersection (RCUT or Other)	RoundaboutS	Enhanced Markings / Striping	Enhanced Signing	Lighting	Access Management	Crosswalk Visibility Enhancement	Re-Build Signal	Re-Align Intersection
1	Eastern Blvd & US-31 (NB)		X		X			X	X	X		X		
2	Lewis and Clark Pkwy & Blackiston Mill Rd		X		X	X		X	X		X	X		
3	Eastern Blvd & US-31 (SB)		X		X			X	X	X		X		
4	Lewis and Clark Pkwy & Eastern Blvd		X	X		X	X	X	X		X	X		
5	Lewis and Clark Pkwy & Providence Way		X	X		X	X	X	X					
6	Lewis and Clark Pkwy & Applegate Ln		X		X	X		X	X					
7	Browns Station Way & Emery Crossing Rd	X				X	X	X	X	X				
8	Veterans Pkwy & Sam Gwin Dr		X				X	X	X			X		
9	Lewis and Clark Pkwy & US-31 (SB)		X		X			X	X	X				
10	Browns Station Way (IN-62) & Randolph Ave		X		X	X	X	X	X					X
11	Charlestown Rd & County Line Rd		X	X	X	X	X	X	X	X				
12	US-31 & Progress Way		X			X	X	X	X				X	X
13	Blackiston Mill Rd & Potters Ln		X	X	X		X	X	X			X		
14	Eastern Blvd & E Bell Ave / Kensington Dr							X	X			X		
15	Byron Dr & Marlowe Dr						X	X	X			X		
16	Veterans Pkwy & Lowes Perimeter Rd							X	X		X			
17	IN-60 & Hunter Station Rd		X				X	X	X			X		
18	Veterans Pkwy & US-31 (SB)		X		X			X	X					
19	Riverside Dr & Main St							X	X					
20	Broadway St & Adams St / Bales Ln						X	X	X					X

Table 6-8. Potential Intersection Strategies

Potential High Injury Network Corridor Strategies

Table 6-9 outlines potential safety improvement strategies for the identified HIN. The list of improvements was developed using proven safety countermeasures aimed at reducing and eventually eliminating severe crashes. These routes can be further studied to guide implementation efforts.

Rank	Route Name	Begin and End Limits	Length	Potential Project Strategies
1	Eastern Blvd	Lewis Clark Pkwy and Hospitality Way	1.36	Innovative intersections, lighting, access management, road rightsizing Recent pedestrian crossing enhancements implemented
2	Lewis Clark Pkwy (IN-62)	IN-62 Ramps and Charlestown New Albany Pike	2.15	Innovative intersections, enhanced pedestrian crossings, lighting, access management, road rightsizing, speed management
3	Veterans Pkwy	Lombardy Dr and Armed Forces Way (US-31)	1.03	Innovative intersections, enhanced pedestrian crossings, lighting, offset turn lanes, speed management
4	Charlestown Rd (CR-311)	Lawrence Meyer Rd / County Line Rd and Westmont Dr	0.65	Enhanced striping and signing, rumble strips, turn lanes, widen for 3-lane section
5	Highway 31	Charlestown New Albany Pike and Appleleaf Ln / Hamburg Pike	2.31	Innovative intersections, turn lanes, lighting, enhanced striping, rumble strips
6	Greentree Blvd	Lewis Clark Pkwy and Lombardy Dr	0.85	Innovative intersections, enhanced pedestrian crossings, lighting, offset turn lanes, speed management
7	Browns Station Way (IN-62)	Emery Crossing Rd and US-31 / I-65	2	RCUT Corridor, innovative intersections, lighting, enhanced pedestrian crossings
8	Blackiston Mill Rd	Walnut Grove Drive and Gutford Rd / Marlow Dr	1.25	Enhanced striping and signing, rumble strips, left turn lanes, limit right turn lanes
9	Blackiston Mill Rd	Gutford Rd / Marlow Dr and Lewis Clark Pkwy	0.92	Enhanced striping and signing, rumble strips, left turn lanes, curve realignment, curve signage, curve widening, innovative intersections, speed management

Table 6-9. Potential Corridor Strategies

System Level Approach and Strategies

The system level (or systemic) approach to safety identifies and addresses high-risk features across the entire roadway network rather than focusing solely on specific crash locations, as in the reactive approach.

For Clarksville's roadway network, the data showed that there is an overrepresentation of crashes on several local roadways. These roadways have much higher crash costs per vehicle mile traveled compared to some of the major highways in the area. There were not many fatal or serious injury crashes on these roadways, so they were not flagged as part of the HIN. However, they warrant future consideration given the high overall crash cost on low volume roadways.

The roadways identified are undivided two-lane facilities with less than 5,000 vehicles per day. They include Brooks Avenue, Kopp Lane, Randolph Avenue, Lincoln Drive, Adams Avenue, Maple Court, Applegate Lane, Broadway Street, and Sam Gwin Drive. The analysis also highlighted failure to yield right-of-way and disregarding signals or signs at intersections as being major issues.

Systemic strategies typically involve implementing widespread low-cost improvements to reduce the likelihood and severity of crashes across an area, not just at specific locations. These strategies proactively identify and mitigate potential hazards to prevent crashes.

Strategy 1 – Speed Management

High speeds are associated with more severe crashes. As highways are upgraded over time, steps should be taken to incorporate speed management techniques. This can include roundabouts, active speed feedback signs, using striping to narrow lanes (while leaving the road width unchanged), focused speed enforcement (including school speed zone enforcement), and many other techniques. Changing speed limits can be part of a speed management plan, especially if done in concert with other changes.

Strategy 2 – Intersection Upgrades

Given the driver errors that are leading to severe crashes in Clarksville, it is recommended that the town consider countermeasures that could either reduce the likelihood of the error or reduce the severity of the crash when the error occurs.

The types of countermeasures that could reduce the likelihood of the errors include townwide implementation of backplates on signals, oversize signs, upgraded intersection lighting, upgraded intersection striping, and smaller intersection turning radii (with truck aprons where needed).

Safety Action Plan Implementation

This plan has documented and prioritized many safety challenges. Based on the data, agency / stakeholder input, and best practices, it has also identified potential strategies and projects that would address these challenges. The focus continues to be on reducing high-severity crashes across the community. This section outlines an initial action plan for deploying potential strategies, projects, and safety programs. The actions are proposed to be implemented in four time ranges: short-term (0-3 years); mid-term (4-6 years); long term (7+ years); and ongoing. They cover the main intervention categories: infrastructure, behavioral safety, operational safety, and policies/procedures.

The implementation of each project, strategy, or program is dependent on funding availability. It is also dependent on the support of all relevant agencies and the Town’s capacity to execute each action. In cases where the Town does not have primary authority for implementing the action, they will need to play a supporting role.

Timeframe	No	Project / Strategy / Program Description	Document Reference	Recommended First Step	Primary Category
Short Term (0 to 4 years)	1	Adopt updated traffic calming and/or updated safety related codes and policies	Chapter 5	Work with KIPDA to obtain model policies for adoption	Policy / Procedures
	2	Submit application for SS4A grant funding for one of the top HIN segments	Chapter 6; Table 6-9	Work with partners (as relevant) to identify and agree on a project and match funding	Infrastructure
	3	Initiate first safety outreach; Consider focusing on aggressive driving and speeding	Chapter 3 and 4	Work with KIPDA and other jurisdictions to develop a multi-agency outreach approach	Behavioral
	4	Implement initial low-cost Speed Management strategies on HIN corridors	Chapters 3, 4 and 6; Systemic Sec.	Work with law enforcement and INDOT to identify key corridors	Operational
	5	Support targeted speed and traffic control enforcement	Chapter 3 and 4	Work with law enforcement to identify key locations	Operational
Mid Term (4 to 8 years)	6	Implement one easy to implement systemic infrastructure focused project	Chapters 3 and 6; Systemic Sec.	Work with partners (as relevant) to identify a promising project and funding	Infrastructure
	7	Implement high priority HIN segment project	Chapter 3 and Chapter 6	Work with partners (as relevant) to identify a promising project and funding	Infrastructure
	8	Implement high priority intersection project	Chapter 3 and Chapter 6	Work with partners (as relevant) to identify a promising project and funding	Infrastructure
	9	Implement safety focused local street/highway upgrades and maintenance	Chapter 3 and Chapter 6	Use local funds to advance priority local projects / maintenance	Infrastructure
	10	Initiate second safety outreach; Consider focusing on aggressive driving, speeding, actions that cause roadway departures, or other relevant topics	Chapter 3 and 4	Work with KIPDA and other jurisdictions to develop a multi-agency outreach approach	Behavioral
Long Term (9+ years)	11	Implement additional systemic infrastructure focused projects (goal is one or more every five years)	Chapters 3 and 6; Systemic Sec.	Build long-term partnerships and identify funding to address key systemic needs	Infrastructure
	12	Implement additional infrastructure projects on HIN (goal is one or more every five years)	Chapter 3 and Chapter 6	Build long-term partnerships and identify funding to address key HIN needs	Infrastructure
	13	Implement additional intersection infrastructure projects (goal is one or more every five years)	Chapter 3 and Chapter 6	Build long-term partnerships and identify funding to address key intersection needs	Infrastructure
	14	Implement additional safety focused local street/highway improvements (goal is one or more every five years)	Chapter 3 and Chapter 6	Increase local funds to advance priority local projects / maintenance	Infrastructure
Ongoing	15	Continue Local Safety Meetings	Chapters 2 and 4	Schedule quarterly meetings	Policy / Procedures
	16	Collaborate with KIPDA to monitor, assess, and publicly report progress	Chapter 7	Coordinate with KIPDA to implement reporting plan	Policy / Procedures
	17	Continue building staff/agency knowledge regarding highway safety	Chapters 4, 5, and 6	Coordinate with KIPDA to schedule annual sessions	Policy / Procedures

Table 6-10. Implementation Action Plan Timeline

7. Progress and Transparency

The Town of Clarksville, with support from KIPDA, is dedicated to ensuring the success of this Safety Action Plan. Effective communication, continuous monitoring, and evaluation are crucial to eliminating fatalities and serious injury crashes by 2050. Maintaining ongoing transparency through public accessibility and clear communication of outcome data is also essential.

The following chapter outlines the plan for measuring progress, maintaining transparency, and continuously incorporating feedback to enhance this road safety initiative.

Safety Performance Measurement

Safety improvements are measured using community-wide performance metrics to assess progress. Additionally, project-specific performance is monitored to promote effective implementation and positive safety impacts. The following sections outline the annual public and accessible progress reporting structure and proposed metrics.

Annual Safety Performance Measures

Crash Severity

The Town and KIPDA expect to monitor the total number of crashes annually by crash severity: Fatal, Suspected Serious Injury, Suspected Minor Injury, Possible Injury, and No Apparent Injury. In addition, the crash rate for the total number of crashes would be estimated. The crash rate is the total number of crashes per vehicle miles traveled in the Town.

Fatal and Suspected Serious Injury Crashes

Evaluating fatal and suspected serious injury crash trends is a key focus. Fatal and suspected serious injury crashes should be monitored annually. The measurement includes monitoring the total number of fatal and suspected serious injury crashes and the crash rate. The crash rate is the number of fatal and suspected serious injury crashes per vehicle miles traveled in the Town annually.

Vulnerable Road User Crashes

Crashes involving vulnerable road users should be monitored annually, focusing on fatal and suspected serious injury crashes. Since a significant portion of severe crashes involve vulnerable road users, this metric is critical for assessing safety improvements.

Community Focused

The Town and KIPDA expect to assess the above safety performance metrics by Census Tract to explore underlying factors contributing to crash trends. By comparing these metrics to town-wide results, patterns can be identified, allowing for tailored solutions and resources to meet the needs of different parts of the community. This approach aims to create a safer environment for all, by addressing concerns and promoting safety across the different parts of the community.

Project-Specific Performance Measures

The safety action plan recommends improvements using both the reactive and systemic approaches. Monitoring focuses on project-specific improvements at prioritized signalized intersections, unsignalized intersections, and along the corridors identified on the High Injury Network. Key project-specific measures anticipated to be collected include:

Safety Improvement Projects Implemented at Prioritized Locations

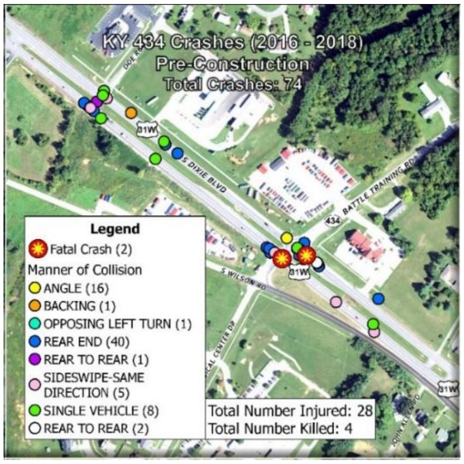
This performance measure tracks the number of safety-focused improvement projects constructed from the potential improvements listed in **Chapter 6. Strategy and Project Selection**. The total number of safety improvements implemented at the intersection and along the corridors identified on the HIN would be recorded annually.

Crash Trends at Project Locations

When a safety improvement project has been constructed, pre-construction and post-construction crash data can be collected to document the realized crash reduction benefit. Crash trends would be assessed for each project specific improvement to aid decision-makers in future safety improvement decisions. This performance measure tracks fatal and suspected serious injury crashes for each improvement project.

Safety Studies and Design

The status of safety studies and design plans would be monitored annually. These studies and design plans, which include cost estimates, public engagement, NEPA documentation, and project readiness, move projects closer to construction and the ultimate goal of eliminating fatal and suspected serious injury crashes.

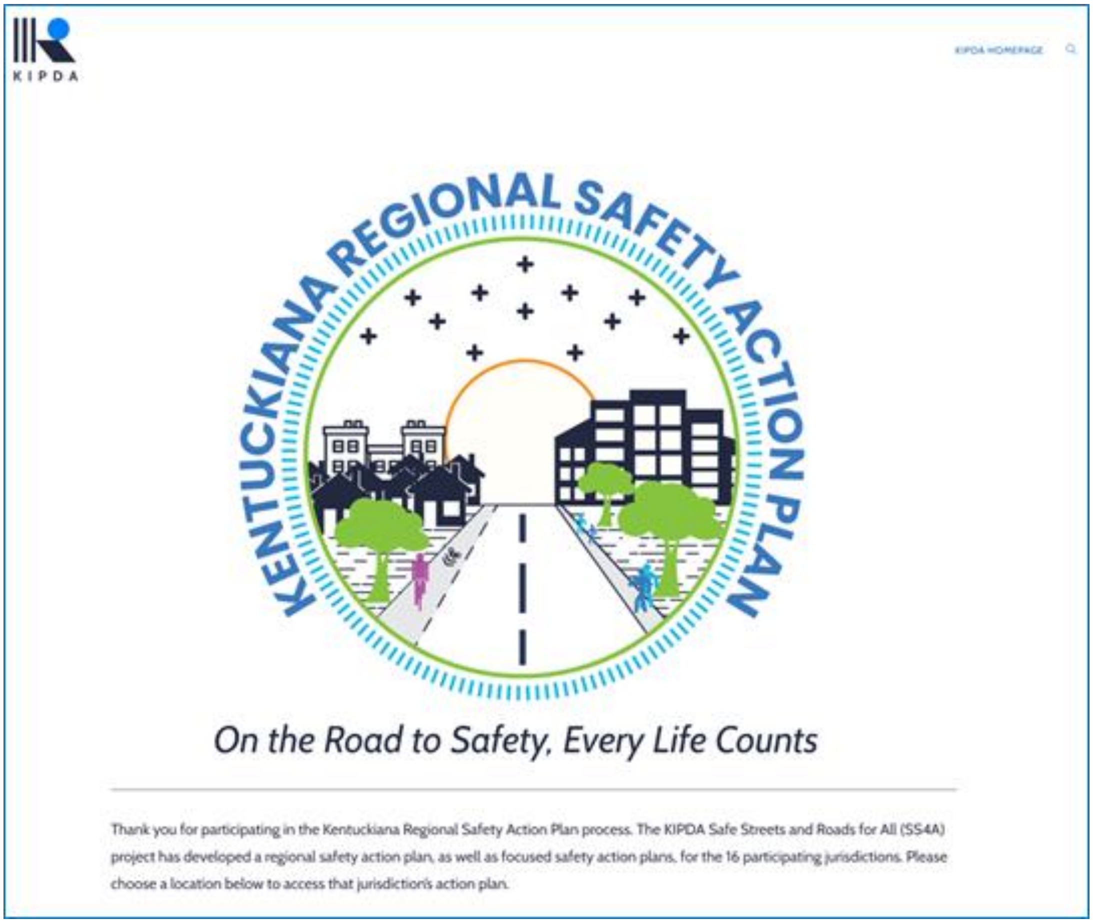


Geospatial representation of crash trends for specific projects is an effective method to demonstrate their impact to the community. Illustrating pre and post-construction crash data, with a focus on the decrease in fatal and suspected serious injury crashes, clearly communicates safety improvements.

PRE-CONSTRUCTION ⟶ **POST-CONSTRUCTION**

Transparency

The development of the Safety Action Plan has been shared publicly with residents and other relevant stakeholders through the KIPDA website. The MPO utilized its website to engage the community and disseminate further resources, including maps, the Safe Streets and Roads for All Grant Program, and the Safe Systems Approach. The Clarksville Safety Action Plan is posted publicly online at [SS4A – KIPDA Transportation](). The KIPDA website will continue to be the platform to engage the community and serve as a source of information and updates to the public.



Feedback and Continuous Improvement

Creating the Safety Action Plan involved a collaborative effort with active community participation. The project team conducted comprehensive public surveys and facilitated stakeholder discussions through Stakeholder and Safety Committees. This engagement underscored the importance of continuous improvement in achieving safety goals. By advancing ongoing dialogue, feedback is used to assess the plan's efficacy and provides for regular plan amendments. This can help keep the Safety Action Plan relevant and effective in addressing community needs.

Appendix A

Safety Countermeasure Cost Estimate Ranges

and

Project Implementation Timeline Reference Chart

Planning Level Safety Countermeasure Cost Estimate Ranges

Values are based on an assumed construction cost and percentages for all other categories
Results are for order of magnitude cost estimation only
6/12/2025

Notes: ***Low Cost*** *Assumes Minimal Scope, Low Cost Approaches, and/or Ideal Conditions*
High Cost *Assumes Full Scope and Several Project Challenges*
All category and contingency percentages may need to be adjusted based on project size and complexity

													(7%/yr compounded)	
Cost Percentages ==>		*5%*	*15%*	*20%*	*10%*	*12%*			*15%*	*50%*			*61%*	*61%*
Project	**Unit**	**Planning**	**Design and Environmental Permitting**	**Right-of-Way**	**Utilities**	**Construction Inspection**	**Construction**	**Subtotal**	**Low Planning Level Contingency**	**High Planning Level Contingency**	**Low Total 2025 Cost**	**High Total 2025 Cost**	**Low Total 2032 Programming Cost**	**High Total 2032 Programming Cost**
Curve Realignment (moderate right-of-way/utilities)	Curve	$37,500	$112,500	$150,000	$75,000	$90,000	$750,000	$1,215,000	$182,250	$607,500	$1,397,250	$1,822,500	$2,243,678	$2,926,537
Dynamic Speed Feedback Sign	Each	$1,250	$3,750	$5,000	$2,500	$3,000	$25,000	$40,500	$6,075	$20,250	$46,575	$60,750	$74,789	$97,551
Enhanced Signing/Striping - Curves	Curve	$750	$2,250	$3,000	$1,500	$1,800	$15,000	$24,300	$3,645	$12,150	$27,945	$36,450	$44,874	$58,531
Enhanced Signing/Striping - Intersection	Intersection	$1,500	$4,500	$6,000	$3,000	$3,600	$30,000	$48,600	$7,290	$24,300	$55,890	$72,900	$89,747	$117,061
Enhanced Signing/Striping - Transition Zones	Location	$1,500	$4,500	$6,000	$3,000	$3,600	$30,000	$48,600	$7,290	$24,300	$55,890	$72,900	$89,747	$117,061
Enhanced Striping - Highway	Mile	$1,000	$3,000	$4,000	$2,000	$2,400	$20,000	$32,400	$4,860	$16,200	$37,260	$48,600	$59,831	$78,041
Guardrail Upgrades (minimal regrading)	500 Feet	$1,500	$4,500	$6,000	$3,000	$3,600	$30,000	$48,600	$7,290	$24,300	$55,890	$72,900	$89,747	$117,061
High Friction Surface Treatments ($40/sq yd)	Curve	$5,000	$15,000	$20,000	$10,000	$12,000	$100,000	$162,000	$24,300	$81,000	$186,300	$243,000	$299,157	$390,205
Lighting - Highway (multilane)	Mile	$30,000	$90,000	$120,000	$60,000	$72,000	$600,000	$972,000	$145,800	$486,000	$1,117,800	$1,458,000	$1,794,943	$2,341,229
Lighting - Intersection	Intersection	$3,750	$11,250	$15,000	$7,500	$9,000	$75,000	$121,500	$18,225	$60,750	$139,725	$182,250	$224,368	$292,654
Pedestrian Enhancements (signs, striping, ADA, bulb outs)	Location	$5,000	$15,000	$20,000	$10,000	$12,000	$100,000	$162,000	$24,300	$81,000	$186,300	$243,000	$299,157	$390,205
Pedestrian Enhancements (signs, striping, ADA, refuge)	Location	$2,500	$7,500	$10,000	$5,000	$6,000	$50,000	$81,000	$12,150	$40,500	$93,150	$121,500	$149,579	$195,102
Positive Offset Left Turn Lanes	Each	$15,000	$45,000	$60,000	$30,000	$36,000	$300,000	$486,000	$72,900	$243,000	$558,900	$729,000	$897,471	$1,170,615
Raised Median (no widening)	Sq Yards	$8	$23	$30	$15	$18	$150	$243	$36	$122	$279	$365	$449	$585
Reflective Backplates (no signal rebuild)	Intersection	$1,250	$3,750	$5,000	$2,500	$3,000	$25,000	$40,500	$6,075	$20,250	$46,575	$60,750	$74,789	$97,551
Reflective Backplates (with signal rebuild)	Intersection	$10,000	$30,000	$40,000	$20,000	$24,000	$200,000	$324,000	$48,600	$162,000	$372,600	$486,000	$598,314	$780,410
Restricted Crossing U-Turn Crossing Intersection (un-signalized)	Location	$87,500	$262,500	$350,000	$175,000	$210,000	$1,750,000	$2,835,000	$425,250	$1,417,500	$3,260,250	$4,252,500	$5,235,249	$6,828,586
Restricted Crossing U-Turn Crossing Intersection (signalized)	Location	$150,000	$450,000	$600,000	$300,000	$360,000	$3,000,000	$4,860,000	$729,000	$2,430,000	$5,589,000	$7,290,000	$8,974,713	$11,706,147
Road Reconfiguration (Convert 4-lane to 3-lane, w/ resurfacing)	Mile	$25,000	$75,000	$100,000	$50,000	$60,000	$500,000	$810,000	$121,500	$405,000	$931,500	$1,215,000	$1,495,785	$1,951,024
Roundabout (dual-lane)	Each	$120,000	$360,000	$480,000	$240,000	$288,000	$2,400,000	$3,888,000	$583,200	$1,944,000	$4,471,200	$5,832,000	$7,179,770	$9,364,918
Roundabout (single lane)	Each	$50,000	$150,000	$200,000	$100,000	$120,000	$1,000,000	$1,620,000	$243,000	$810,000	$1,863,000	$2,430,000	$2,991,571	$3,902,049
Rumble Strips - Center (no widening)	Mile	$1,000	$3,000	$4,000	$2,000	$2,400	$20,000	$32,400	$4,860	$16,200	$37,260	$48,600	$59,831	$78,041
Rumble Strips - Edge (no widening, both sides)	Mile	$1,250	$3,750	$5,000	$2,500	$3,000	$25,000	$40,500	$6,075	$20,250	$46,575	$60,750	$74,789	$97,551
Rural Re-Align Skewed Intersection (limited ROW/utilities)	Intersection	$37,500	$112,500	$150,000	$75,000	$90,000	$750,000	$1,215,000	$182,250	$607,500	$1,397,250	$1,822,500	$2,243,678	$2,926,537
Rural to Urban Transition Zone Treatments (high-cost)	Location	$37,500	$112,500	$150,000	$75,000	$90,000	$750,000	$1,215,000	$182,250	$607,500	$1,397,250	$1,822,500	$2,243,678	$2,926,537
Rural to Urban Transition Zone Treatments (low-cost)	Location	$12,500	$37,500	$50,000	$25,000	$30,000	$250,000	$405,000	$60,750	$202,500	$465,750	$607,500	$747,893	$975,512
Shoulder Widening & Roadside Improvements (limited ROW/utilities)	Mile	$60,000	$180,000	$240,000	$120,000	$144,000	$1,200,000	$1,944,000	$291,600	$972,000	$2,235,600	$2,916,000	$3,589,885	$4,682,459
Sidewalks - Highway (one side only)	Mile	$20,000	$60,000	$80,000	$40,000	$48,000	$400,000	$648,000	$97,200	$324,000	$745,200	$972,000	$1,196,628	$1,560,820
Sidewalks - Intersection (includes ADA)	Intersection	$4,000	$12,000	$16,000	$8,000	$9,600	$80,000	$129,600	$19,440	$64,800	$149,040	$194,400	$239,326	$312,164
Sight Distance Improvements (vegetation)	Intersection	$1,000	$3,000	$4,000	$2,000	$2,400	$20,000	$32,400	$4,860	$16,200	$37,260	$48,600	$59,831	$78,041
Signal Timing - Cycle Length, Clearance and Leading Ped Intervals	Intersection	$500	$1,500	$2,000	$1,000	$1,200	$10,000	$16,200	$2,430	$8,100	$18,630	$24,300	$29,916	$39,020
Signal Upgrade (may be required for protected left turn phasing)	Intersection	$10,000	$30,000	$40,000	$20,000	$24,000	$200,000	$324,000	$48,600	$162,000	$372,600	$486,000	$598,314	$780,410
Tighten Intersection (small intersection, limited drainage)	Each	$17,500	$52,500	$70,000	$35,000	$42,000	$350,000	$567,000	$85,050	$283,500	$652,050	$850,500	$1,047,050	$1,365,717
Tree Trimming	Linear Foot	$3	$8	$10	$5	$6	$50	$81	$12	$41	$93	$122	$150	$195
Turn Lanes (one turn lane, 150 ft plus taper)	Each	$12,500	$37,500	$50,000	$25,000	$30,000	$250,000	$405,000	$60,750	$202,500	$465,750	$607,500	$747,893	$975,512
Urban Re-Align Skewed Intersection (limited ROW/utilities)	Intersection	$75,000	$225,000	$300,000	$150,000	$180,000	$1,500,000	$2,430,000	$364,500	$1,215,000	$2,794,500	$3,645,000	$4,487,356	$5,853,073
Access Management (Low Complexity)	Mile	$75,000	$225,000	$300,000	$150,000	$180,000	$1,500,000	$2,430,000	$364,500	$1,215,000	$2,794,500	$3,645,000	$4,487,356	$5,853,073
Adjusted Cost Percentages ==>		*3%*	*12%*	*20%*	*10%*	*10%*			*10%*	*35%*			*61%*	*61%*
Access Management (Moderate Complexity)	Mile	$120,000	$480,000	$800,000	$400,000	$400,000	$4,000,000	$6,200,000	$620,000	$2,170,000	$6,820,000	$8,370,000	$10,951,430	$13,440,391
Access Management (High Complexity, Often Complete Rebuild)*	Mile	$300,000	$1,200,000	$2,000,000	$1,000,000	$1,000,000	$10,000,000	$15,500,000	$1,550,000	$5,425,000	$17,050,000	$20,925,000	$27,378,574	$33,600,977

Project Implementation Timeline Reference Chart
6/23/2025

This chart is intended to provide high-level guidance on the time required to complete a range of potential safety improvement projects.
1) The time required to secure funding for each phase (federal, state, or local) is not included. The time to execute federal grant agreements or other state or federal project agreements is also not included.
2) Time to procure planning, design, or other professional services should be added as required. Construction and inspection procurement are included if they can reasonably be accommodated during the pre-construction phases.
3) Local agencies should coordinate with state and KIPDA staff to estimate the time required for each task. This applies to local public agency (LPA) projects and includes projects using federal, state, and KIPDA funding.

To use this table, please determine the level of complexity for each phase of the project you are considering. For example, a project may be moderate with respect to planning, design, and construction, but complex with respect to right-of-way and utility coordination. This would likely result in a project that is somewhere between those two categories for the total project timeline.

Level of Complexity for Each Phase	Planning	Preliminary Engineering and Environmental	Final Design	Right-of-Way (ROW)	Utility Coordination	Construction	Estimated Total Project Timeline
Simple	3-6 months Few alternatives Limited or no public involvement No anticipated controversy No TIP/STIP issues	6 - 9 months Minimal design No survey or geotech NEPA CE (programmatic or low level)	6 months Minimal design effort	N/A Within existing ROW	3-6 months Notification only No relocations	6 - 9 months <$500K No phasing needed	2 to 3 years
Moderate	6–12 months Several alternatives Public involvement May require TIP/STIP mods	6–12 months Straightforward design Survey required NEPA CE (with public input)	6-12 months Moderate design effort Agency reviews	6–12 months Easements and/or minor acquisitions	6-18 months Relocations possible Agreements possible	6–12 months $500K–$2M Lane closures/phasing	3 to 6.5 years
Complex	12–18 months Numerous alternatives Public involvement May require TIP/STIP mods Multiple agencies involved	12–18 months Alternatives analysis Extensive design (survey, traffic, geotech) NEPA EA or CE (with public input)	12-18 months Major design effort Extensive permitting Environmental constraints	12–24 months Full ROW Relocations/eminent domain	12–18 months Major relocations Agreements required	12–24 months $2M+ Detours or complex staging	6 to 10 years

Notes:
Schedule estimates assume all required project funding is available
NEPA = National Environmental Policy Act of 1969
CE = Categorical Exclusion
EA = Environmental Assessment
TIP/STIP = Transportation Improvement Program / State Transportation Improvement Program