



*On the Road to Safety, Every Life Counts*

# **Spencer County, KY**

## **Safety Action Plan**



**6/25/2025**



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# Introduction

In 2023, Spencer County, 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.



Spencer County 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 Spencer County Safety Action Plan addresses the 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

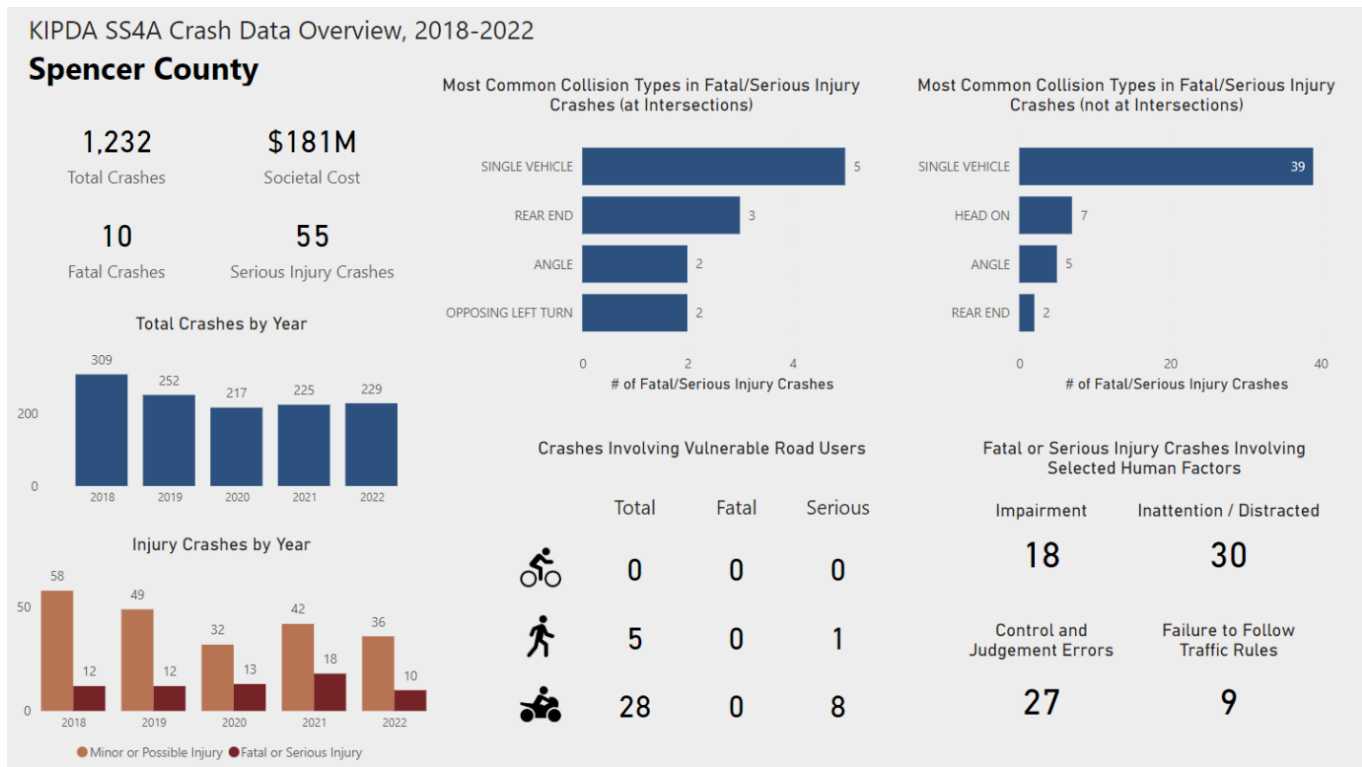
The traditional approach to road safety often relies on perfect human behavior from all road users and tends to react to crashes *after* they occur, focusing on individual accountability. In contrast, the Safe System Approach acknowledges that humans are fallible and will inevitably make mistakes. This 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 below 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

Spencer County had 10 fatal crashes and 55 serious injury crashes during the five-year period from 2018 to 2022, for a total of 65. There were 1,232 total crashes during this time. The total societal cost of all crashes was \$181 million (including economic and quality of life factors). The figure below provides an overview of the crash data.



Important safety findings for Spencer County include:

- Fatal and serious injury crashes are spread across the county on state and local highways
- Several fatal crashes have occurred along KY-155 between Elk Creek and Wilsonville
- Lower severity crashes are concentrated in Taylorsville
- 44 of 65 fatal / serious injury crashes were single-vehicle crashes
- 1 of 65 fatal / serious injury crashes involved a pedestrian or bicyclist
- 21 of 65 fatal / serious injury crashes involved a vehicle not under proper control
- 30 of 65 fatal / serious injury crashes involved driver inattention / distraction



# 1. Leadership Commitment and Goal Setting

Spencer County is dedicated to ensuring safety for all users on the County's streets and highways. The County'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 the year 2050."

Spencer County's commitment and leadership in implementing safety-focused projects, strategies, and policies are also supported by current programs and policies.

The Spencer County Comprehensive Land Use Plan, adopted in 2006 and updated in 2012, emphasizes integrating transportation planning with land use decisions to promote sustainable growth. The plan considers safety with respect to cross sections, access controls, access spacing, and design criteria. Recommendations are outlined to control land use along major highways with the goal of limiting traffic conflicts. The plan discusses school zones and minimum roadway standards. The plan also explores funding that could be used for safety improvements.

Spencer County is currently administering a grant provided through the Kentucky Transportation Cabinet's (KYTC) Transportation Alternatives Program (TAP) to install sidewalks along KY55/Taylorville Road. Spencer County will successfully close out this project in 2025.

Spencer County is an active member of KIPDA's Regional Transportation Council (RTC), which provides local and regional input to the statewide transportation planning process administered by KYTC. The RTC identifies, evaluates, and prioritizes transportation needs as part of the statewide planning process. Through its active involvement in the RTC, Spencer County now has ten projects listed in the Statewide Transportation Improvements Plan (STIP) totaling more than \$4 million in potential funding, as well as two major projects listed in the 2024 Recommended Six-Year Highway Plan totaling more than \$4 million in potential investment.

Spencer County has been an active part of the development of this plan. The county actively coordinates with KYTC and the RTC on safety projects.



**RESOLUTION #3  
2024/2025**

**A RESOLUTION OF THE SPENCER COUNTY FISCAL COURT  
IN SUPPORT OF VISION ZERO**

**WHEREAS**, the Spencer County community has lost 10 persons between 2018 - 2022 and has witnessed another 290 persons experience a serious or life-threatening injury due to traffic crashes within Spencer County; and

**WHEREAS**, the economic impact during 2018-2022 of fatal and serious injury crashes in Spencer County is over 200 million dollars; and

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

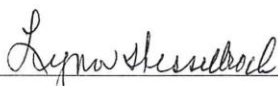
**WHEREAS**, a safety action plan is an eligibility requirement for implementation grants through the SS4A Program; and

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

**NOW THEREFORE, BE IT RESOLVED** that the Spencer County Fiscal Court hereby establishes a goal of working towards zero traffic fatalities and serious injuries by the year 2050.

So Resolved this 4 day of September, 2024.

  
Scott Travis, Spencer County Judge Executive

ATTEST:  
 9-4-2024  
Lynn Hesselbrock, Spencer County Clerk



## 2. Planning Structure

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

### 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 Spencer County. It also included KIPDA and Regional Transportation Council (RTC) 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

### Spencer County Leadership Meetings and Plan Review

Meetings were held with county 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 county leadership to identify, confirm, and prioritize critical safety issues. The second meeting gave county 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 Spencer County to be adequately addressed in the plan.

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

### Safety Committee

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:

- Spencer County Judge Executive
- Spencer County Deputy Judge
- Mayor of Taylorsville



- Spencer County Sheriff
- Taylorsville Police
- Spencer County Emergency Services
- Spencer County Fire Department
- Spencer County Road Department
- Regional Transportation Council (RTC) staff
- Kentuckiana Regional Planning & Development Agency (KIPDA) staff

The Safety Committee provided advice and feedback on the plan development and intends 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 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 Spencer County, Kentucky, as shown in Figure 3-1. This study includes all public streets and roads within the county except interstate highways, private streets, and parking lots.

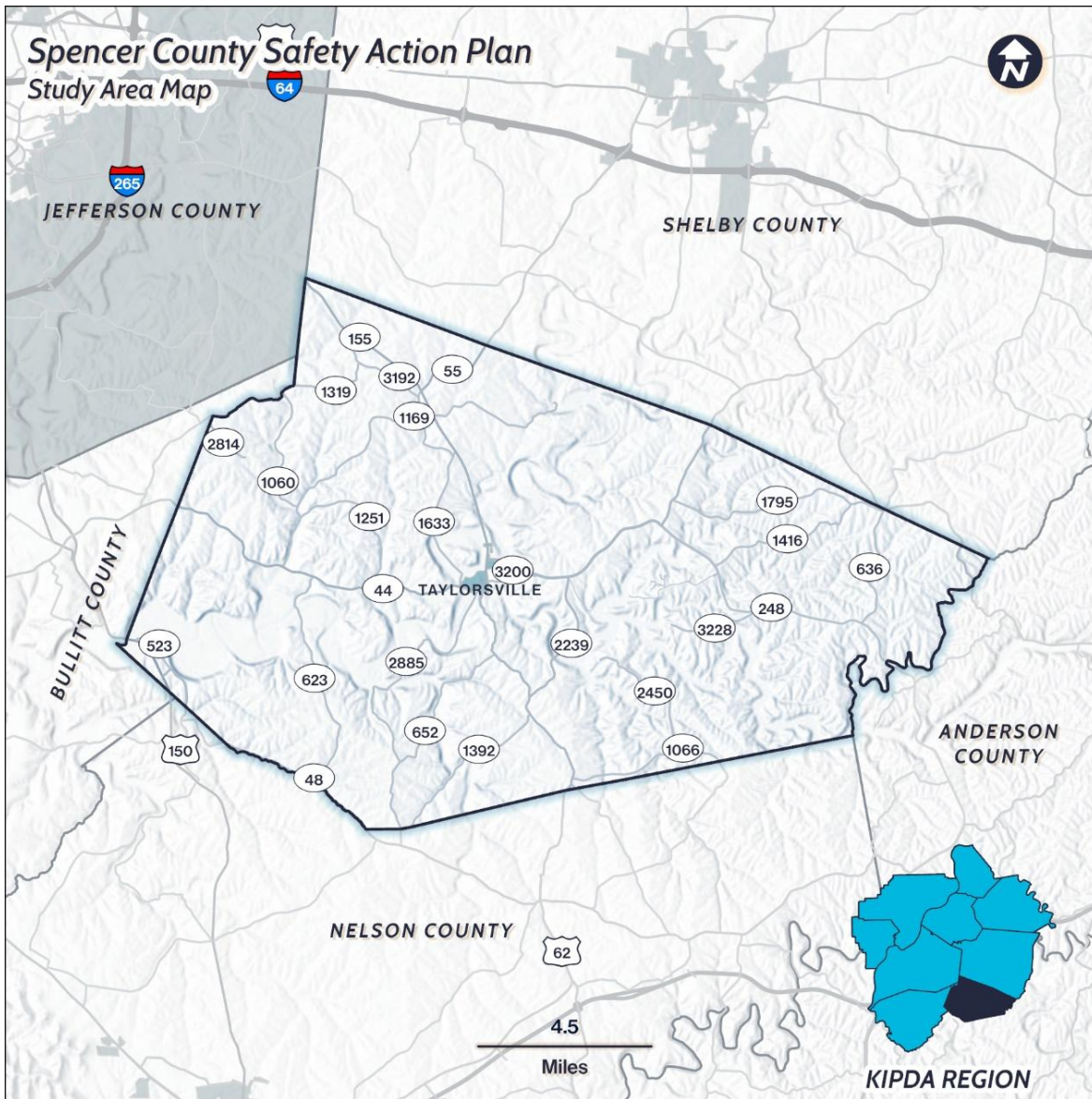


Figure 3-1. Study Area



## 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 Kentucky State Police (KSP) Crash Database through a custom dataset provided by the Kentucky Transportation Cabinet (KYTC) in partnership with the Kentucky Transportation Center (KTC). This data is primarily collected by city, county, and state police department crash investigation teams when they complete a Kentucky Uniform Police Traffic Collision Report form. This form captures critical information about the crashes, including location, type, severity, individuals and units involved, environmental factors, and the contributing factors of each crash. Departments enter this information into a database maintained by KSP.

The initial crash data included all Spencer County crashes from 2018 to 2022. Crashes located 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 1,232 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.

KYTC provided geographic information system (GIS) files of roadway characteristics and traffic data for state-owned roadways, known as the Highway Information System (HIS) database. The crash data was joined with 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 provided by KYTC 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). KSP uses the KABCO scale and MMUCC 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. Table 3-1 provides a breakdown of the crashes in Spencer County by severity.



Severity	MMUCC Severity Description	Crashes (2018-2022)	%
K	Fatal Injury	10	<1%
A	Suspected Serious Injury	55	5%
B	Suspected Minor Injury	145	12%
C	Possible Injury	72	6%
O	No Apparent Injury	950	77%
<b>Total</b>		<b>1,232</b>	<b>100%</b>

Table 3-1. Crashes by Severity

The following map shows the location of all 1,232 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 near Taylorsville.

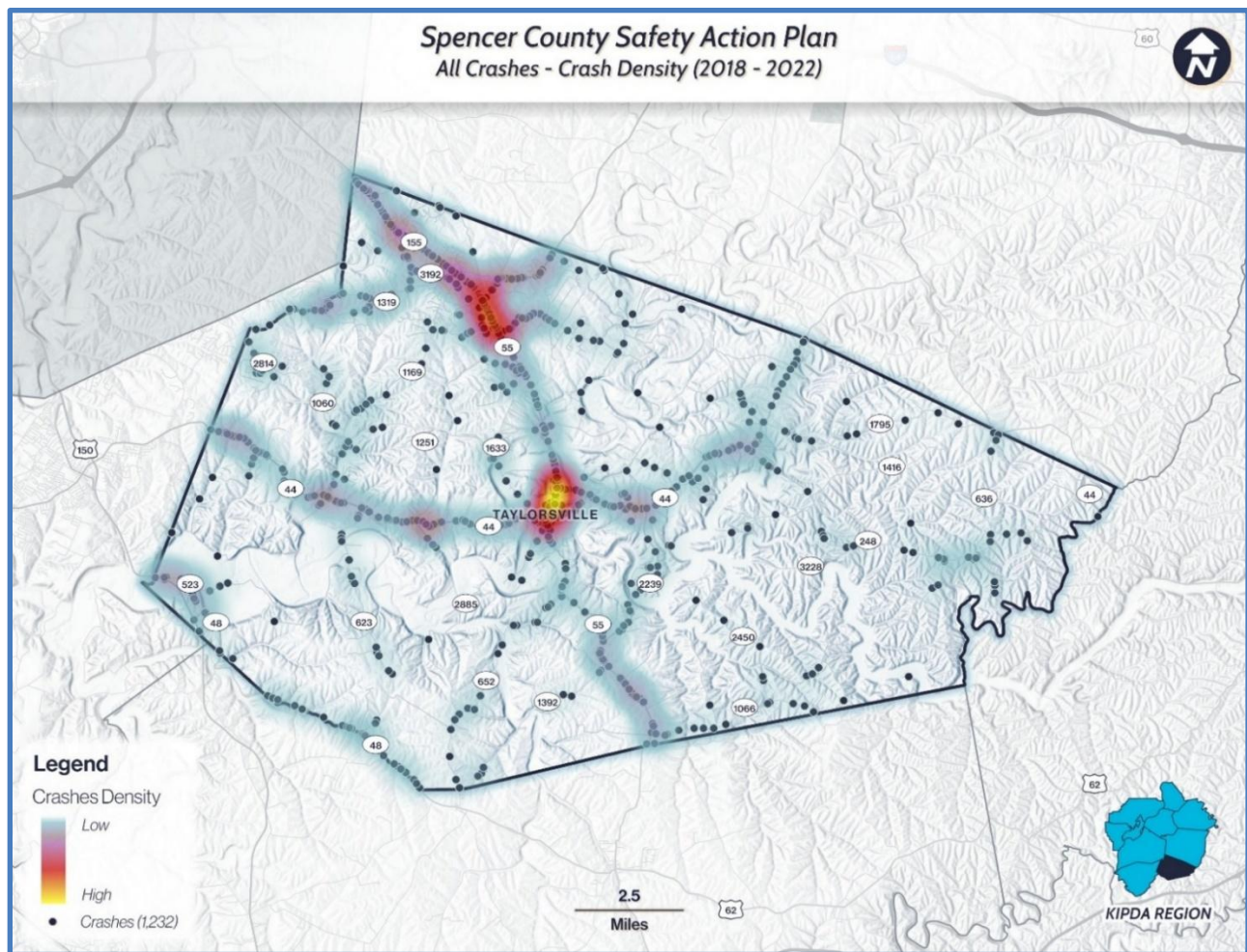


Figure 3-2. Crash Density Map



The following map shows the locations of fatal and suspected serious injury crashes. These suspected serious injury crashes are located throughout the county and are not clustered in the same manner as the lower severity crashes. Several fatal crashes occurred along KY-155 between Elk Creek and Wilsonville.

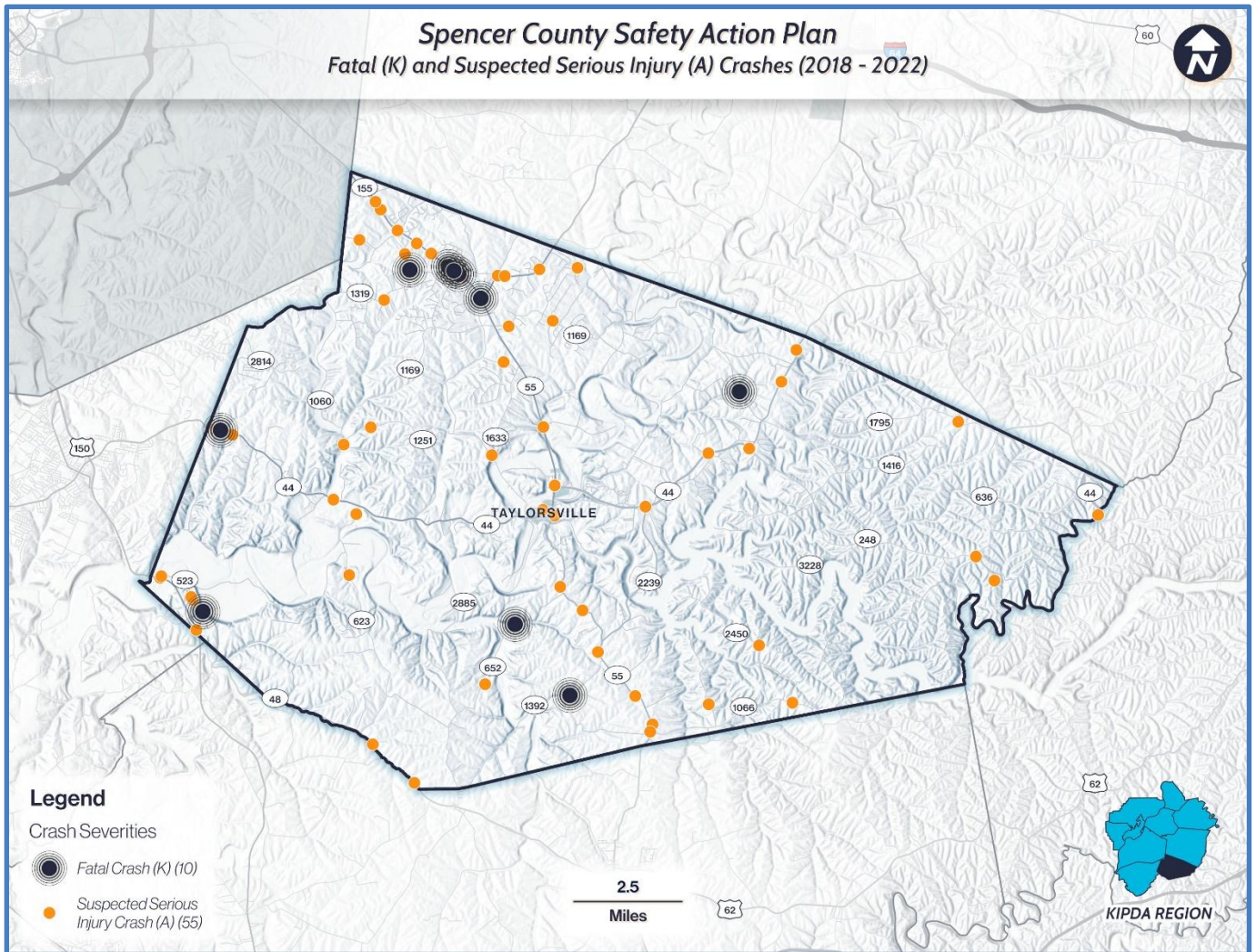


Figure 3-3. Fatal and Suspected Serious Injury Crash Map



## 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 shows a downward trend in crashes, with crashes declining from 309 in 2018 to 229 in 2022. This is summarized in Figure 3-4. The lowest number of crashes occurred in 2020. This 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 the crashes that occurred during that year.

Figure 3-4 shows fatal and suspected serious injury crashes remained relatively steady throughout the study period, except for a spike in 2021.

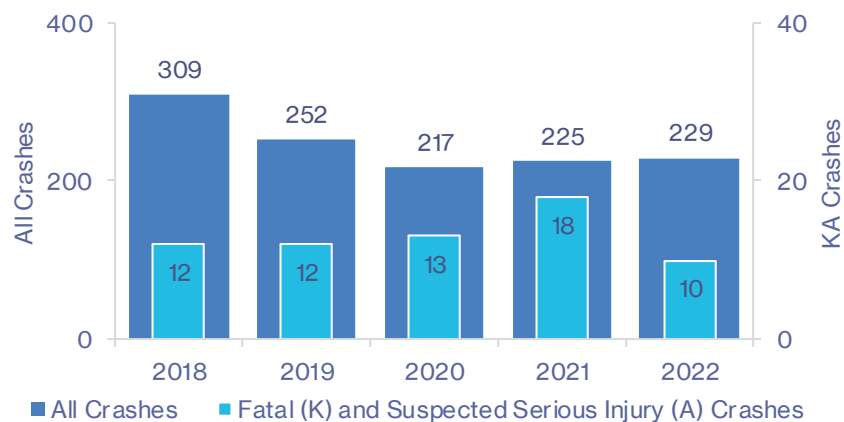


Figure 3-4. Overall Crashes per Year



## Crash Occurrence

### Month

The following charts present the crashes by month over the 5-year study period. The monthly crash data shows notable variations in the severity of crashes throughout the year. November, December, and January experienced a higher number of crashes compared to other months. May also stands out with 110 crashes and the highest proportion of fatal and suspected serious injury crashes (15%).

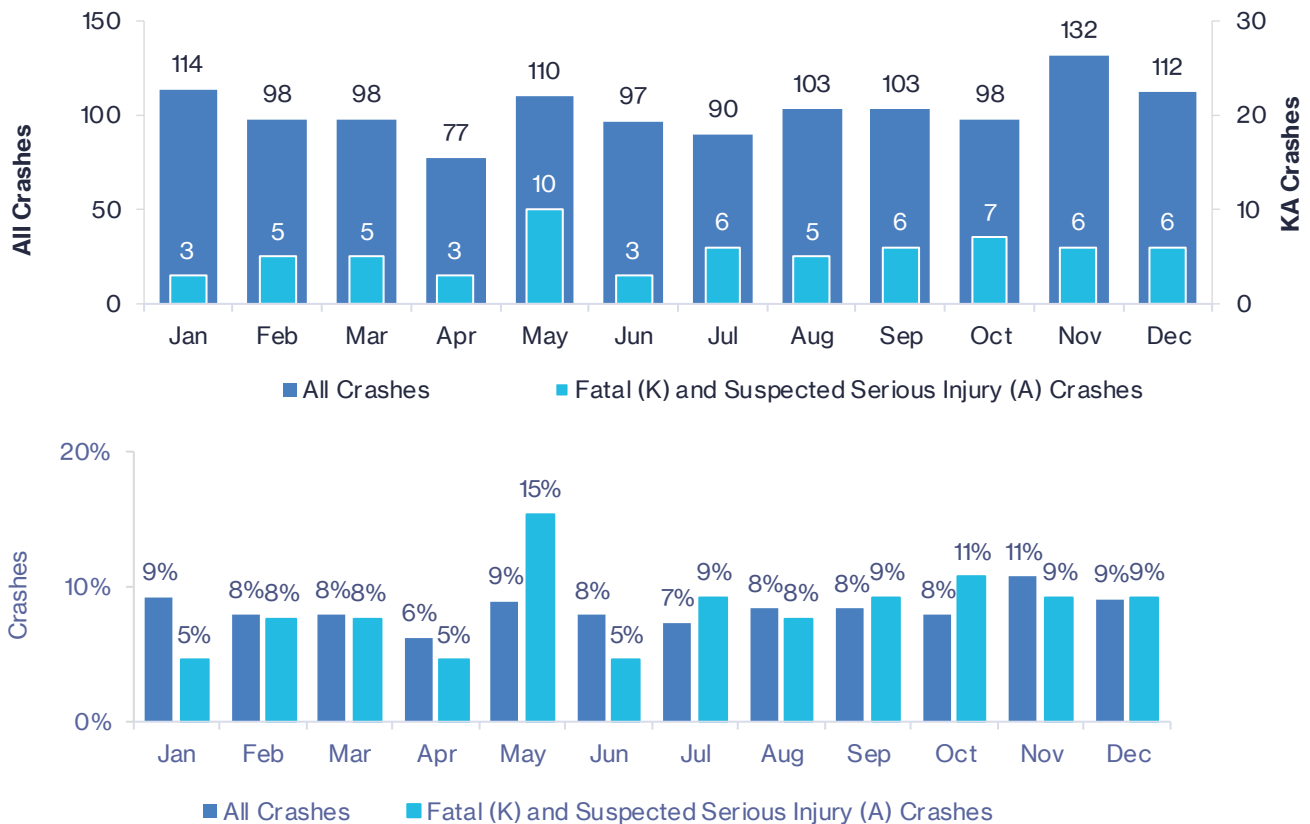


Figure 3-5. Monthly Crash Breakdown



### Day of Week

As seen in the following figure, crashes remain relatively consistent across the weekdays, ranging from 193 to 202 crashes between Monday and Friday. However, crashes decreased on weekends, with Saturday and Sunday experiencing 163 and 121 crashes, respectively. Despite this decline, there is a higher proportion of fatal (K) and suspected serious injury (A) crashes on Sunday, which accounts for 11 fatal (K) and suspected serious injury (A) crashes, representing a notable increase in severity relative to total crashes. Additionally, Wednesday experienced a spike in fatal and suspected serious injury crashes, with 14 crashes, the highest across the week.

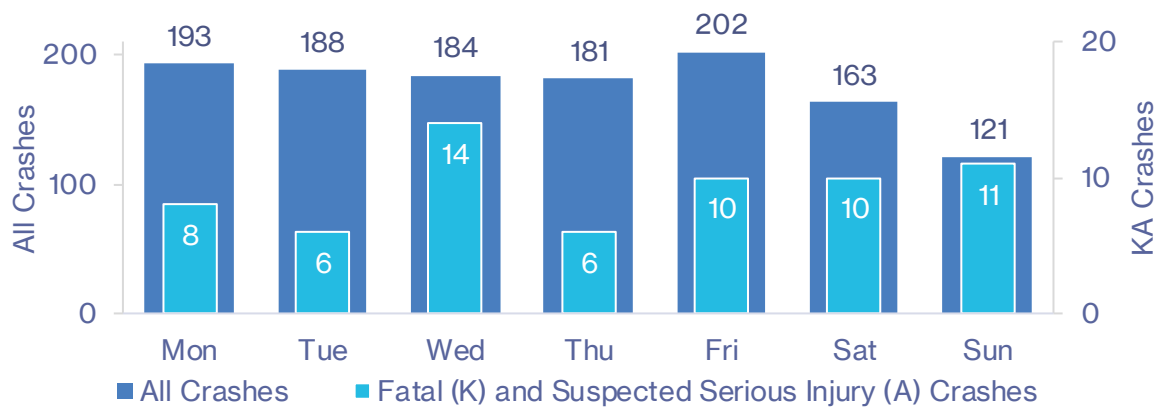


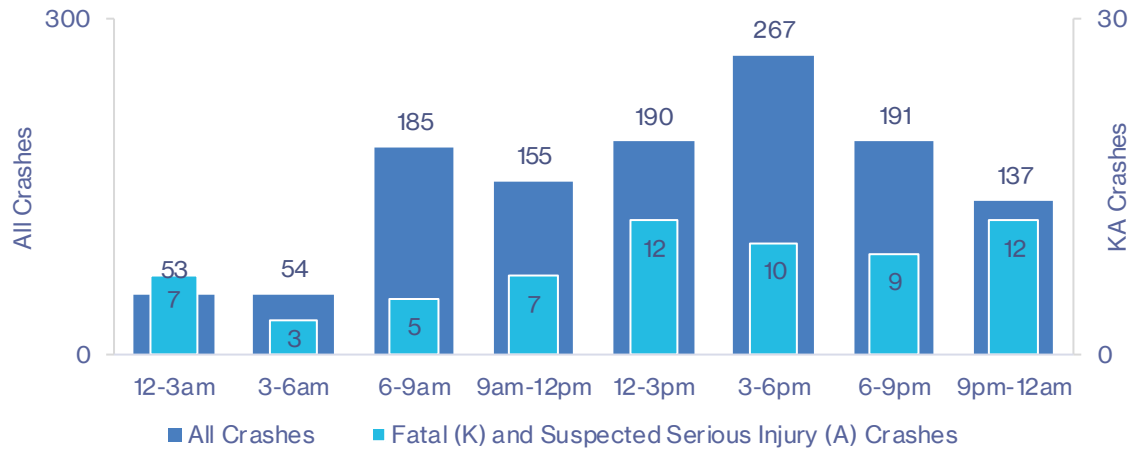
Figure 3-6. Crashes by Day of Week



### Time of Day

The period between 3-6 pm experiences the highest number of crashes, with 267, accounting for 22% of all crashes. Despite fewer crashes occurring during the late-night hours (9 pm-12 am and 12-3 am), these periods have a disproportionately high number of fatal and suspected serious injury crashes, with 12 crashes from 9 pm-12 am and seven from 12-3 am. This data suggests that reduced visibility, fatigue, and other risk factors during these hours may contribute to the increased severity of crashes with lower traffic volumes.

Figure 3-7. Crashes by Time of Day



## Manner of Collision

As shown in Figure 3-8, single-vehicle crashes are both the most common and the most severe type of crash, accounting for 48% of all crashes and 68% of fatal and suspected serious injury crashes. Head-on crashes, while only comprising 3% of all crashes, contribute to 11% of fatal and suspected serious injury crashes, demonstrating that they are disproportionately severe when they occur.

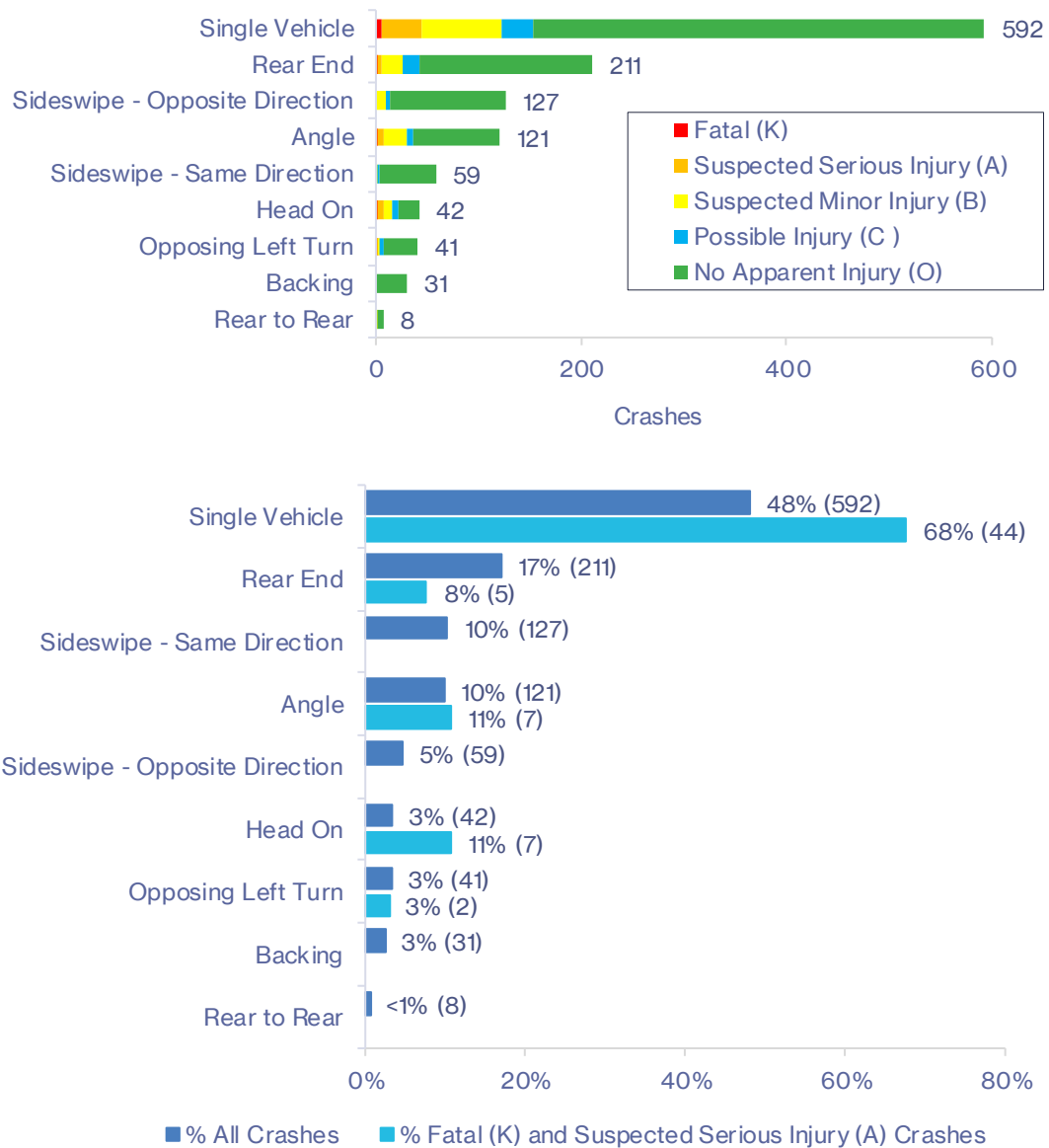


Figure 3-8. Manner of Collision by Severity



## Driver Behavior

Driver behavior is a shared responsibility and can be the determining factor in a crash. The actions and decisions made by drivers can significantly influence the likelihood and severity of crashes. Addressing key areas of concern, such as aggressive driving, distracted driving, and impaired driving, is essential to fostering a safer roadway environment. These three behavior areas have been selected as key to promoting safety in Spencer County.

### **Aggressive Driving**

Aggressive driving is generally defined as behavior by drivers that negatively impacts the safety of other motorists or pedestrians, contributing to crashes. Aggressive crashes are coded to have the following behaviors.

- Failure to yield to right of way
- Following too close
- Traveling too fast for conditions
- Disregarding traffic control
- Exceeding posted speed limit
- Improper passing
- Weaving in traffic

Crashes involving aggressive driving contribute disproportionately to fatal and suspected serious injury crashes compared to all crashes. While aggressive driving behaviors are present in 18% of all crashes, they account for 25% of crashes resulting in fatalities and severe injuries. This indicates a higher risk of severity associated with aggressive driving behaviors.

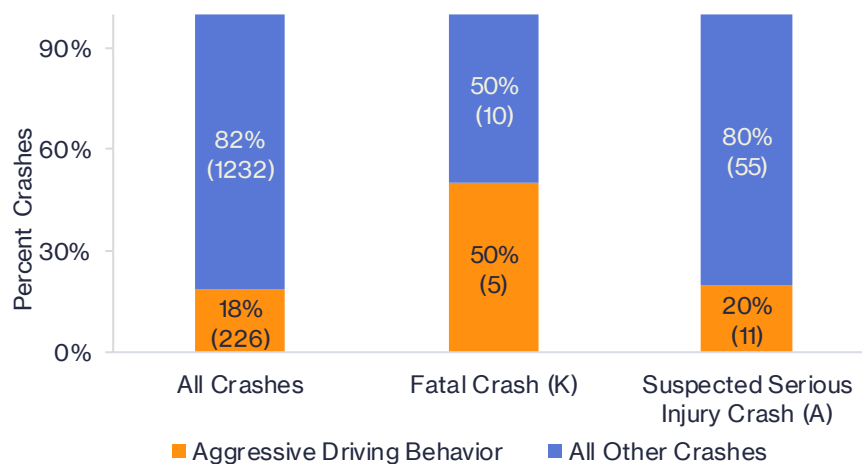


Figure 3-9. Aggressive Driver Crashes by Severity



The map below illustrates the locations of the 226 crashes attributed to aggressive driving.

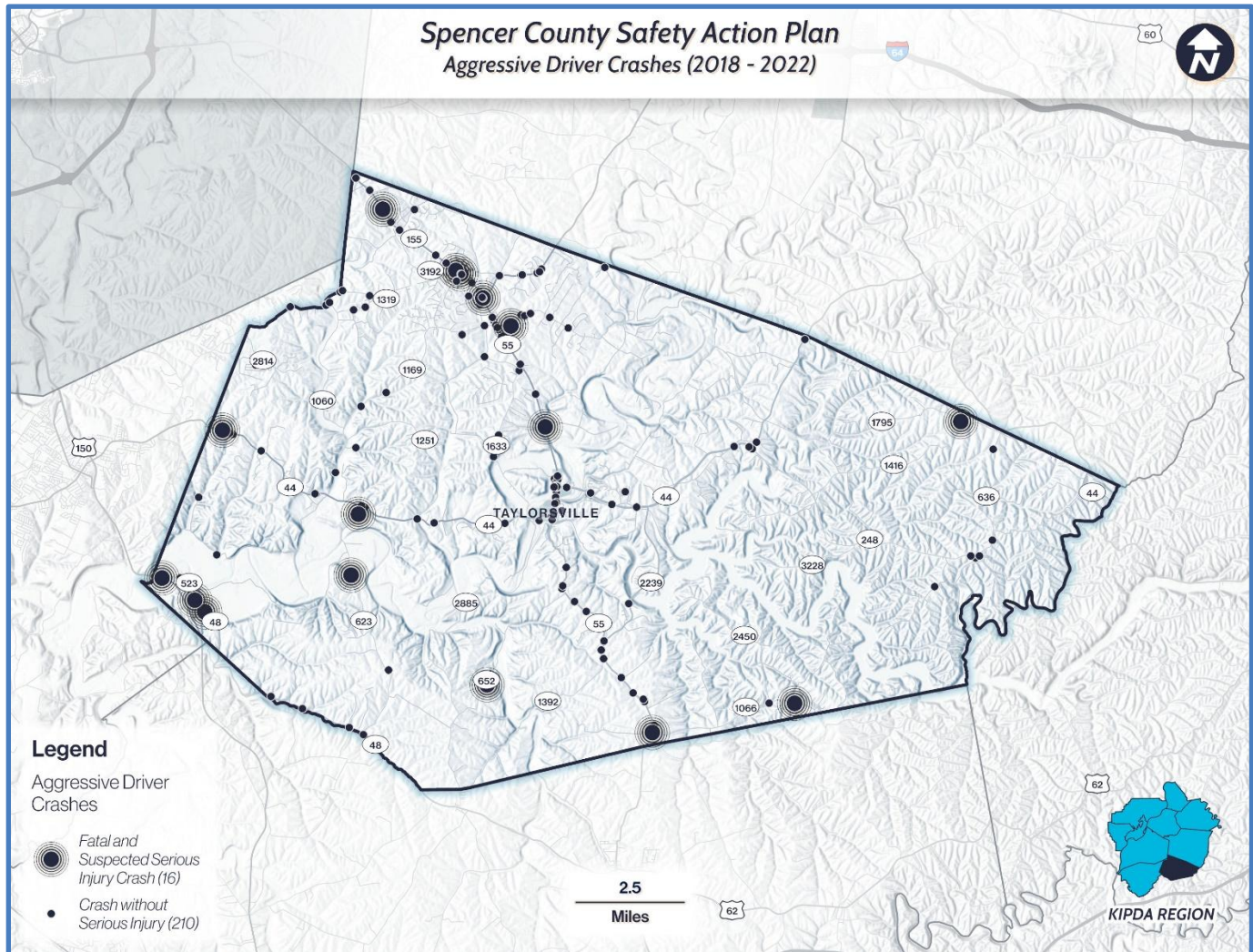


Figure 3-10. Aggressive Driver Crashes Map



### Distracted Driving

Distracted driving refers to any activity by a vehicle operator that diverts their attention from the primary task of driving, thereby increasing the risk of a crash. The three main types of distracted driving involve drivers taking their eyes off the road, hands off the wheel, and minds away from driving. In Spencer County, fatal and suspected serious injury crashes linked to distracted driving were consistent throughout the study period with a slight increase in 2020.

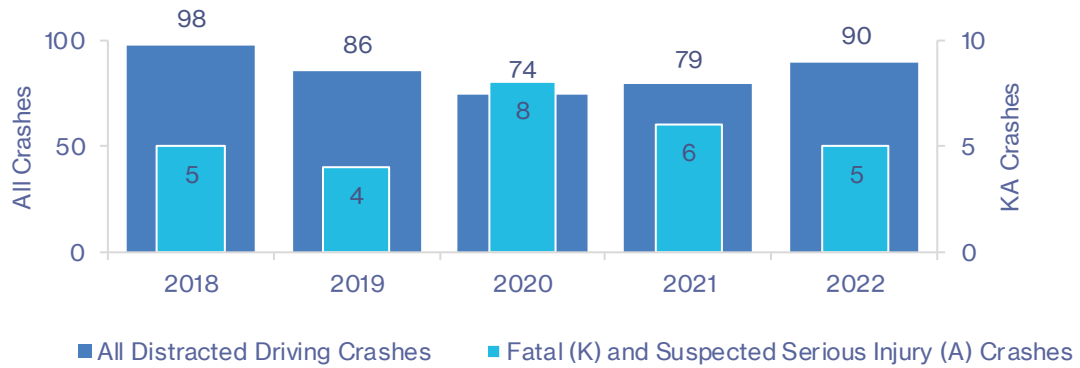


Figure 3-11. Distracted Driver Crashes by Year

In Spencer County, crashes involving distracted driving contribute disproportionately to fatal and suspected serious injury crashes compared to all crashes. While distracted driving behaviors are present in 35% of all crashes, they are present in 43% of crashes resulting in fatalities and severe injuries (Figure 3-12). This indicates a higher risk of severity associated with distracted driving behaviors. Figure 3-13 shows the locations of crashes attributed to distracted driving.

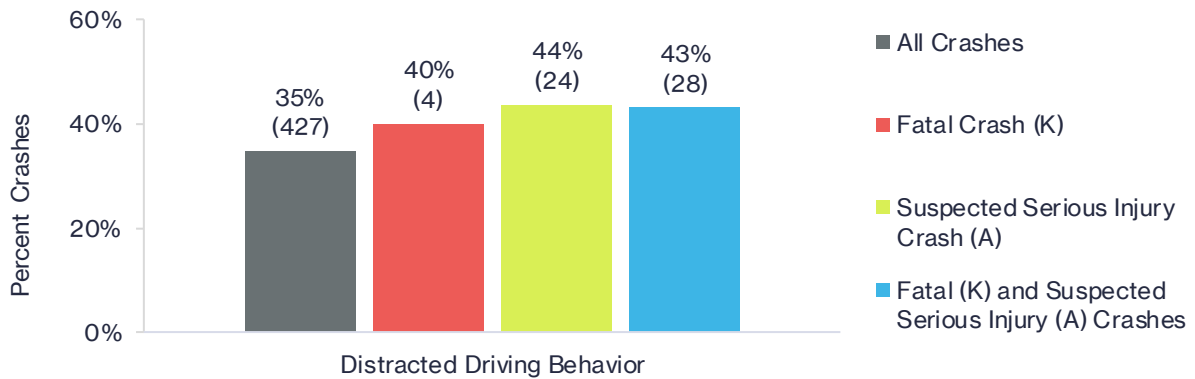


Figure 3-12. Distracted Driver Crashes by Severity



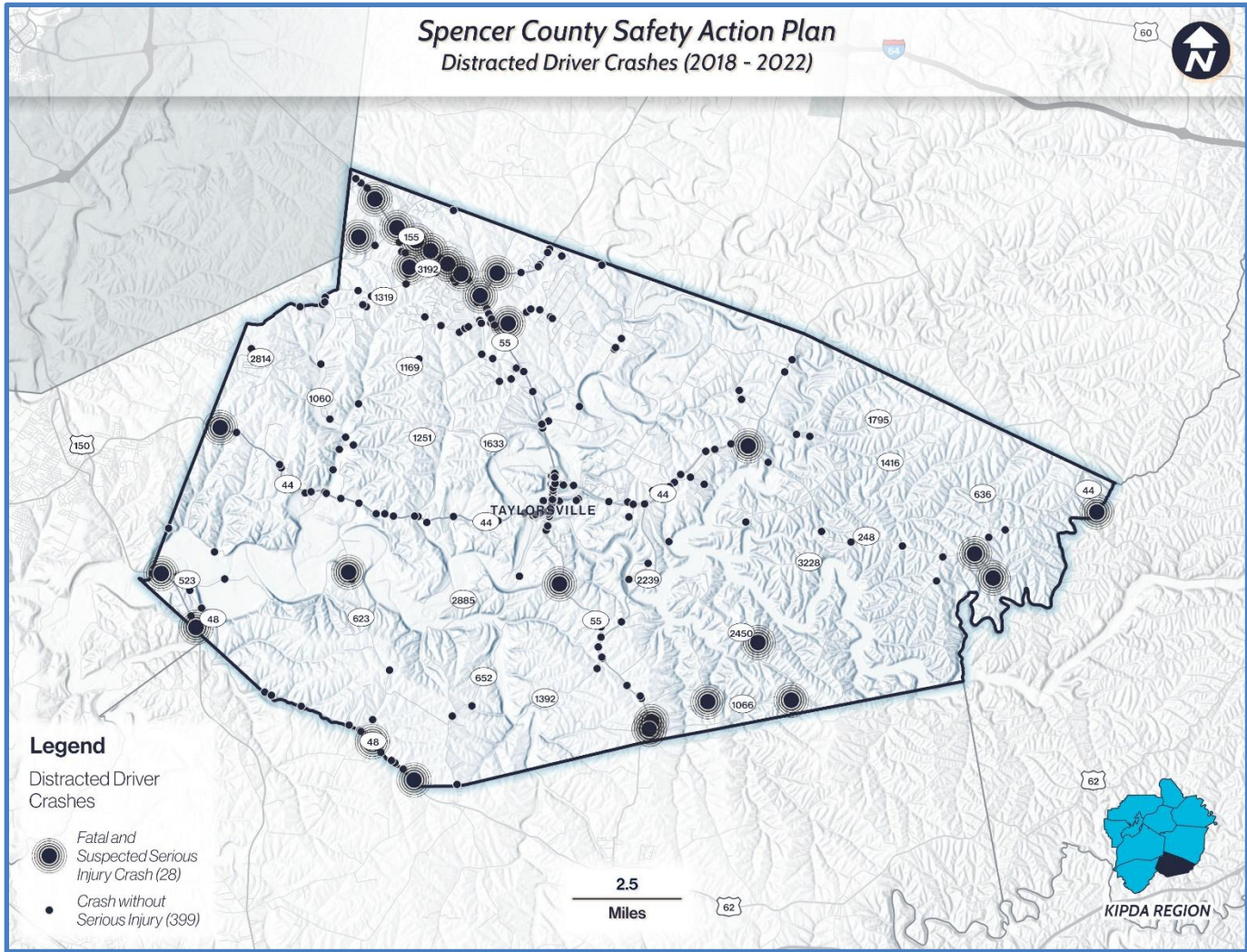


Figure 3-13. Distracted Driver Crashes Map



### Impaired Driving

Impaired driving is recognized as driving a motor vehicle while under the influence of alcohol or narcotics. Impairment affects reaction time, judgment, and coordination, all of which are critical to safely operating a vehicle. In Spencer County, impaired driving crashes ranged from a high of 22 in 2018 to a low of ten in 2022. Fatal and suspected serious injury crashes ranged from a low of one in 2018 to five in both 2020 and 2021 (Figure 3-14).



Figure 3-14. Impaired Driver Crashes by Year

While impaired driving behaviors are identified in only 6% of all crashes, they disproportionately contribute to more severe crashes. Impaired driving is involved in 26% of fatal and suspected serious injury crashes. This data highlights the heightened risk that impaired driving poses, as crashes involving impaired drivers are much more likely to result in fatal or serious injuries compared to non-impaired driving crashes. Figure 3-16 shows the locations of impaired driving in the County.

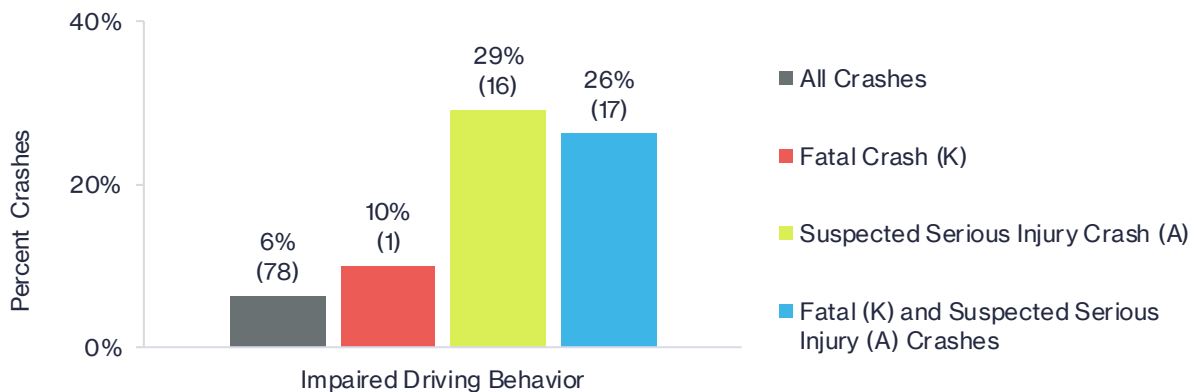


Figure 3-15. Impaired Driver Crashes by Severity



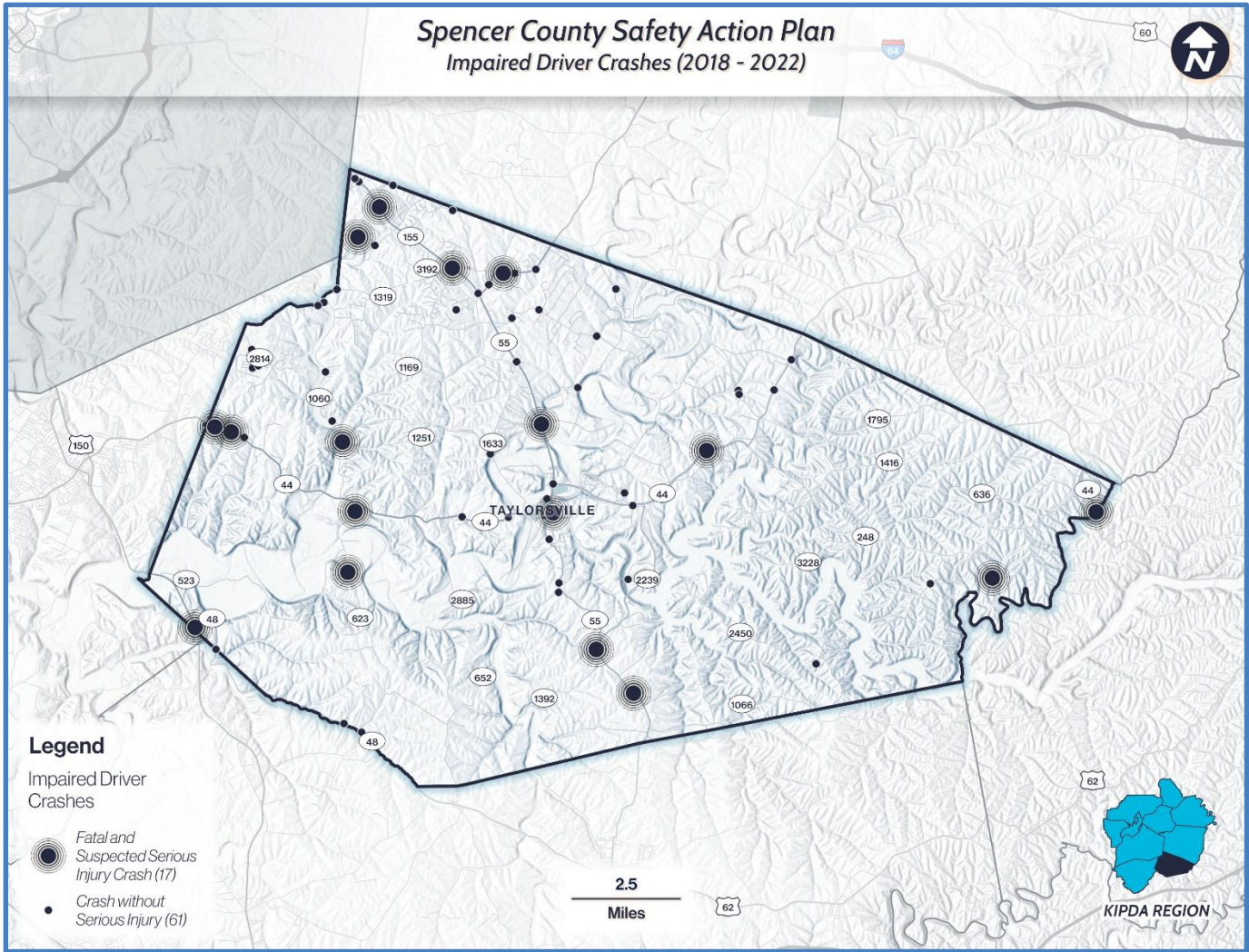


Figure 3-16. Impaired Driver Crashes Map

## Lighting Condition

Roadway lighting is a factor in safety, influencing visibility and reaction times. However, the documentation of lighting infrastructure is not comprehensive. The available crash data provides only anecdotal evidence regarding the lighting condition at the time of 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.

The following table indicates that while the majority of crashes occurred during daylight conditions, a disproportionate percentage of fatal and suspected serious injury crashes happened in dark conditions – 49% versus the 36% of all crash severities. This suggests that reduced visibility at night may contribute to the increased severity of crashes. Additionally, the 49% of crashes that occur in non-daylight-dark conditions is higher than the estimated 25% of vehicle miles traveled (VMT) that occur at night<sup>1</sup>, further indicating that nighttime driving carries an elevated risk.

Lighting Condition	Total Crashes	Fatal (K) and Suspected Serious Injury (A) Crashes
Daylight	763 (62%)	33 (51%)
Non-Daylight - Dark Conditions	447 (36%)	32 (49%)
Non-Daylight - Highway Lighting On*	20 (2%)	0 (0%)
Unknown/Other	2 (<1%)	0 (0%)

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

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

<sup>1</sup> [Federal Highway Administration, “Proven Safety Countermeasures: Lighting,” FHWA-SA-21-50, Lighting](#)



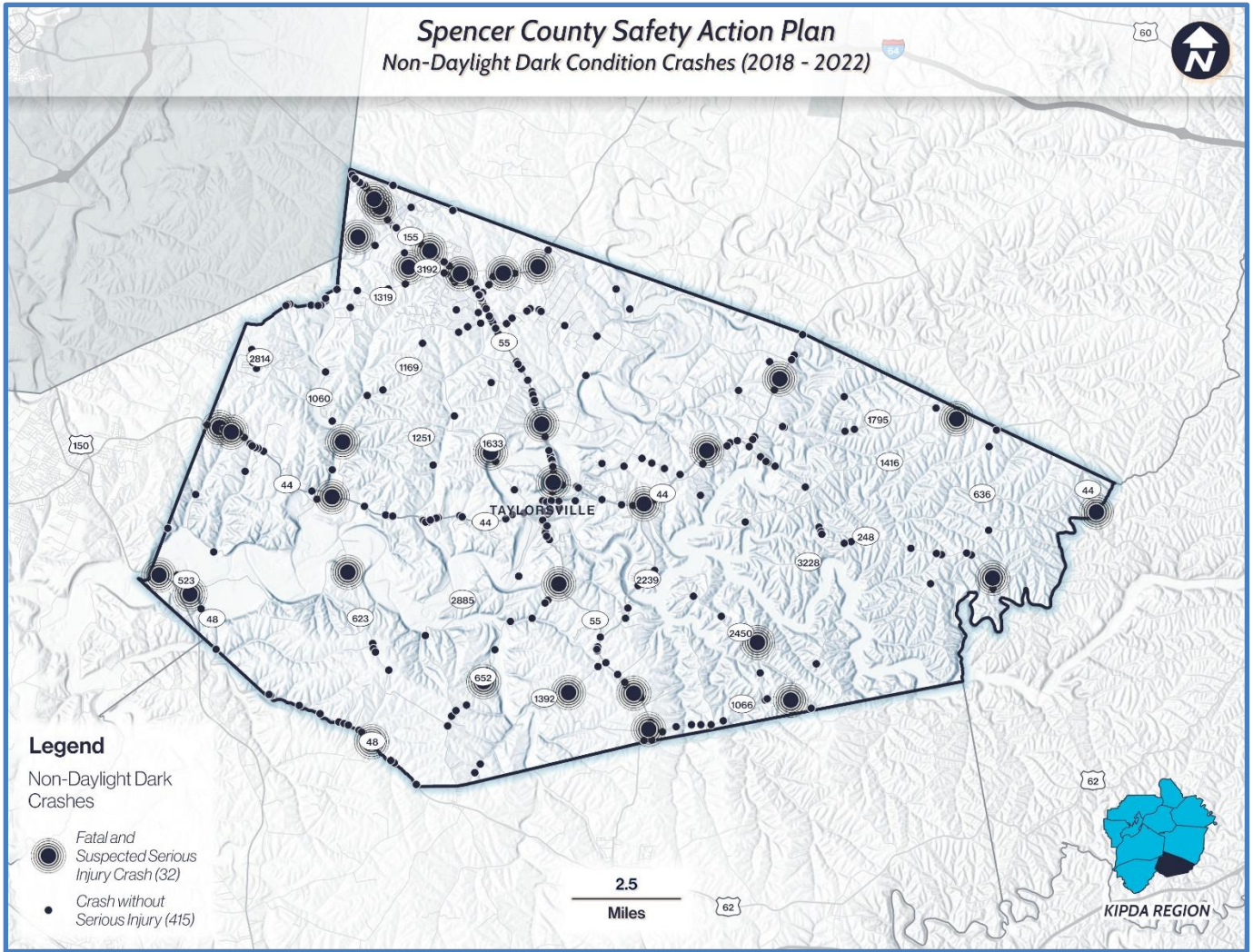


Figure 3-17. Lighting Condition: Non-Daylight Dark Condition Crashes Map

## Crashes by Locations

The analysis identified crashes based on their location: intersections and segments. A significant majority – 65% of all crashes – occurred on roadway segments, which is expected considering Spencer County is primarily a rural area. These segments are where most of the fatal and suspected injury crashes occur, totaling 72%. Approximately 35% of all crashes and 28% of fatal and serious injury crashes occur at intersections.

	Total Crashes	Fatal (K) and Suspected Serious Injury (A) Crashes
<b>Intersections</b>	436 (35%)	18 (28%)
<b>Highway Segments</b>	796 (65%)	47 (72%)

Table 3-3: Crashes by Location

### Intersections

The signalized intersections in the county tend to have higher numbers of crashes over the five analysis years. This is particularly true for the larger and more rural signalized intersections. These intersections also had severe crashes. This indicates the limitations of signals in preventing crashes.

The intersections along the divided KY 44 highway (Little Mount Rd) also tended to have higher numbers of crashes and higher crash severities. These intersections along a high-speed highway are often difficult for drivers to navigate safely.

The three and four-leg stop controlled intersections on major two-lane highways (arterials) had higher than average crash severities. These intersections warrant systemic treatments to limit the likelihood and severity of crashes at those locations.

### Highway Segments

In Spencer County, the highest segment crash severity was observed on highways with 8-foot lanes. The second highest crash severity was found on four-lane divided highways (KY 44).

Higher speed (55 mph) highways in the county were associated with higher severity crashes, while lower speed (35 mph) highways had a much lower average crash severity. As is typical for rural highways, the combination of high speeds, sharp curves, and narrow lanes increases driver risks and tends to result in higher crash rates and severities.



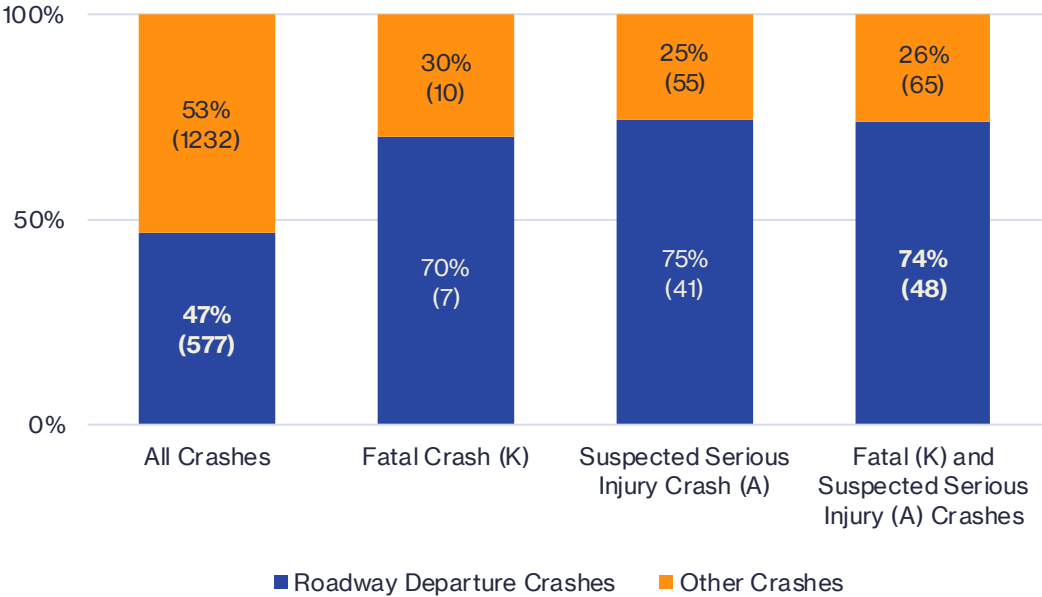
## Roadway Departure Crashes

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.

The crash data, as shown below, indicates that roadway departure crashes significantly contribute to severe outcomes. Although roadway departure crashes account for 47% of all crashes, they account for 74% of fatal and suspected injury crashes.

Figure 3-19 shows the locations of roadway departure crashes resulting in injuries or fatalities.

Figure 3-18. Roadway Departure Crashes by Severity



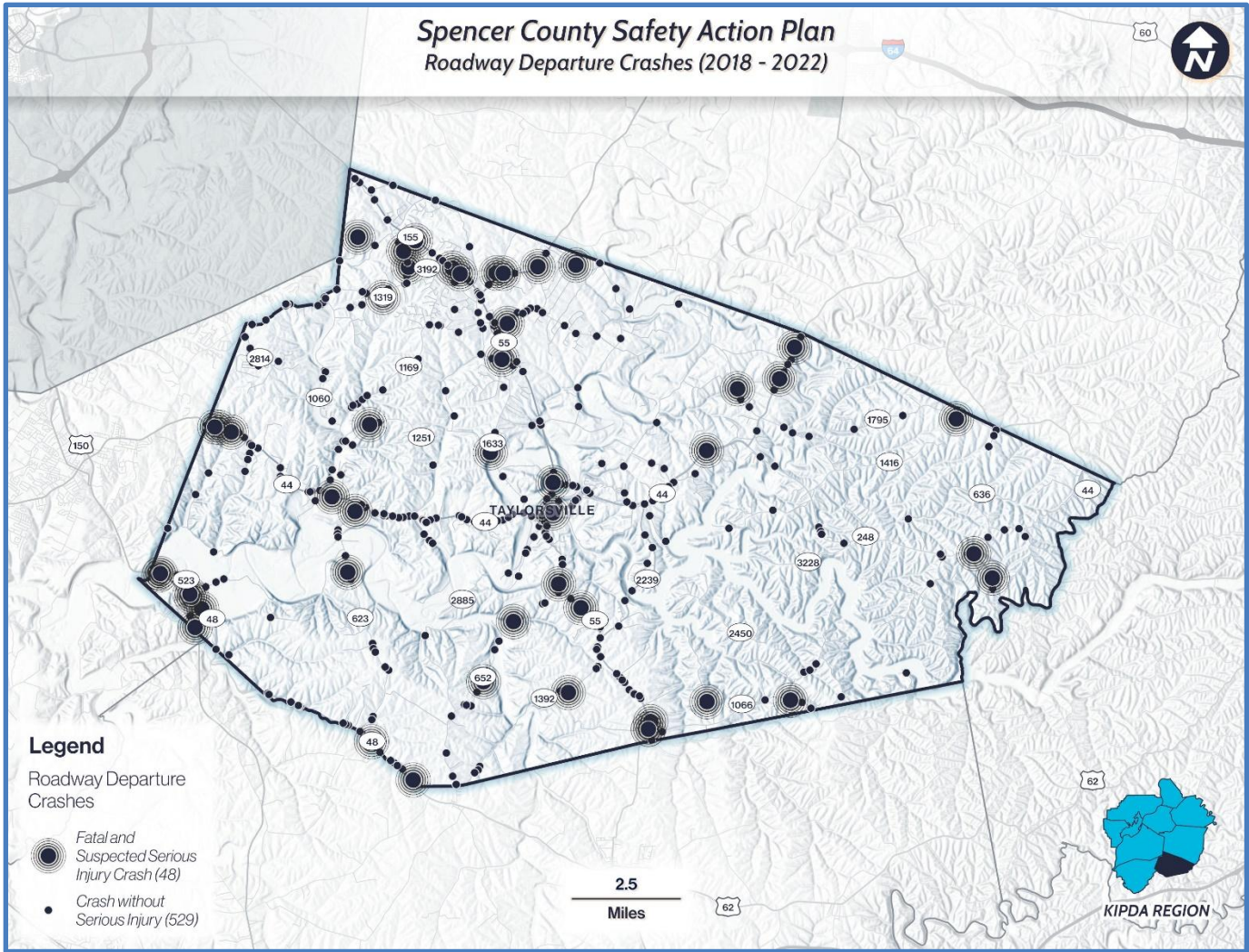


Figure 3-19. Roadway Departure Crashes Map

## 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.

### ***Pedestrians***

Spencer County is primarily rural with limited urban areas and has experienced a small number of pedestrian crashes. Most of the pedestrian crashes occurred in Taylorsville. Although pedestrian crashes are relatively infrequent in the County, they tend to result in injuries when they do occur. This highlights the need for continued emphasis on pedestrian safety.

Severity	Description	Crashes	%
K	Fatal	-	-
A	Suspected Serious Injury	1	20%
B	Suspected Minor Injury	3	60%
C	Possible Injury	1	20%
O	No Apparent Injury	-	-
<b>TOTAL</b>		<b>5</b>	

*Table 3-4 Pedestrian Crashes by Severity*



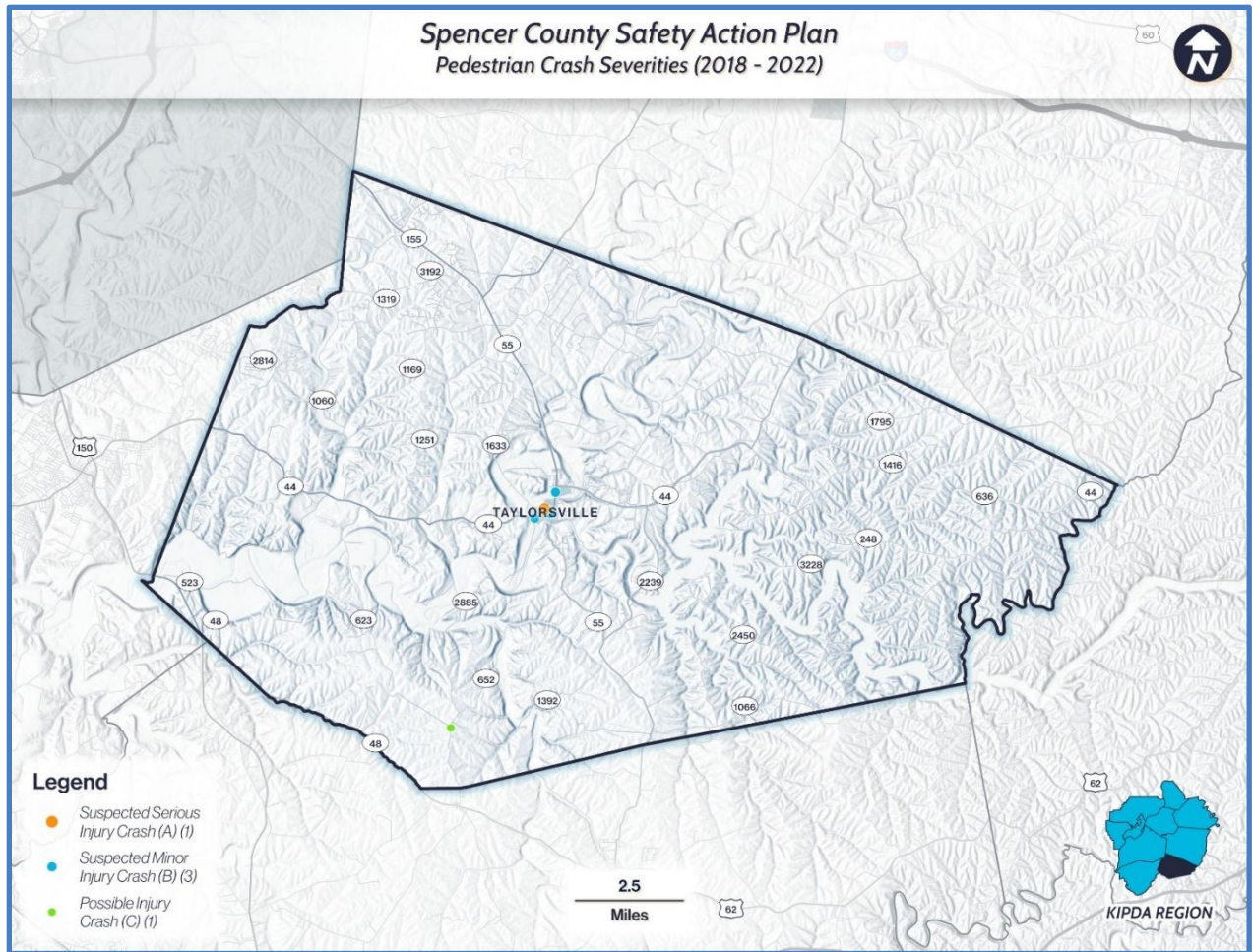


Figure 3-20. Pedestrian Crash Map



## Occupant Protection

Occupant protection involves any device intended for protective use in a vehicle, such as a seatbelt, airbag, child safety seat, or booster seat, which helps prevent death or serious injury in the event of a crash. The restraint crash data used for this study was based on whether all vehicle occupants were restrained. The crash was considered unrestrained if an occupant was unrestrained, not wearing a seatbelt.

The data highlights the significant relationship between occupant protection and crash severity. 50% of fatal crashes involved at least one occupant who was unrestrained.

Restraint usage is significantly higher in less severe crashes (those classified as suspected minor injury, possible injury, or no injury). This trend improves with less severe crashes: 67% of suspected serious injury crashes, 94% of suspected minor injury crashes, 93% of possibly injury crashes, and 97% of crashes with no apparent injuries involved all occupants being restrained. This trend highlights the critical role of occupant protection devices in mitigating the severity of crashes. The high percentage of unrestrained occupants in fatal and severe crashes underscores the need for targeted education campaigns to promote consistent and proper restraint usage.

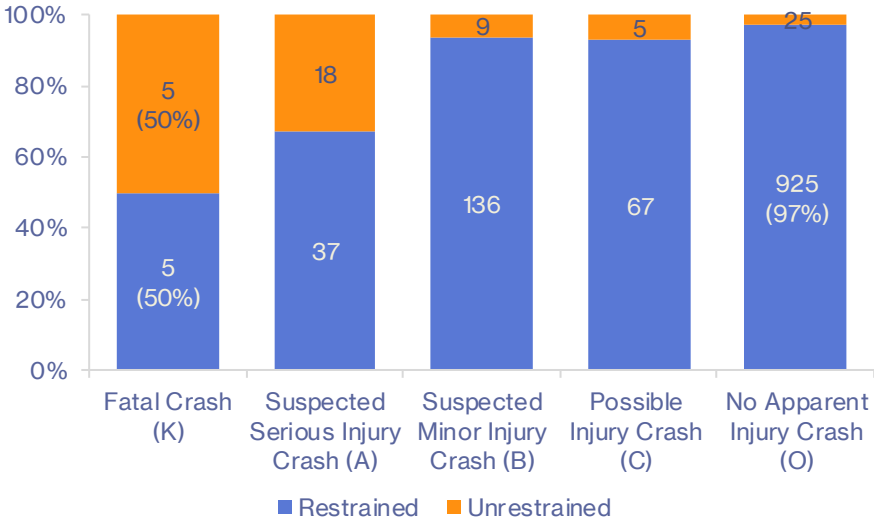


Figure 3-21. Restraint Use in Crashes



## Driver Age and Gender

In Spencer County, 37% of fatalities involved drivers aged 20-39. Historically, this age group has been particularly prone to risky driving behaviors such as speeding and distracted driving. Implementing countermeasures that better support older drivers is also important. This can include lighting and larger signs and wider markings. Both young drivers and older drivers could benefit from outreach and education programs.

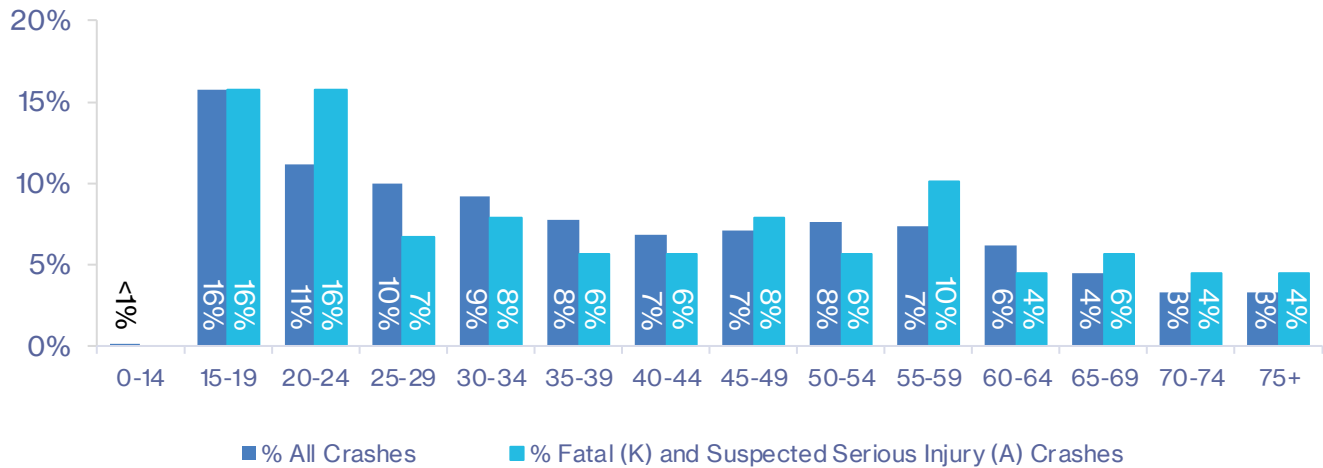


Figure 3-22: Crash Percentages by Driver Age

Approximately 56% of the drivers involved in crashes in the county were male and 44% were female. For severe crashes 69% of the drivers involved were male and 31% were female. For the severe crashes, the male drivers tended to be in their late 20s and 30s with some older drivers. The female driver ages were more varied, but still included a number of young drivers. The human factors associated with the male drivers include 1) not under proper control, overcorrected, or speeding; 2) inattention / distraction; and 3) alcohol/drugs. For female drivers the issues were primarily: 1) inattention / distraction and 2) not under proper control and overcorrected. Speeding and alcohol/drugs were not major issues with female drivers.



## Contributing Human Factors

Human factors play a significant role in crash occurrences, often tied to errors in judgement and risky behaviors. These factors include speeding, failing to yield, distractions, fatigue, and the influence of alcohol or drugs.

In Spencer County, Driver Inattention is the leading factor, contributing to 373 crashes, followed by Not Under Proper Control (217) and Driver Distraction (137). Figure 3-23 lists the number of crashes attributed to each human factor.

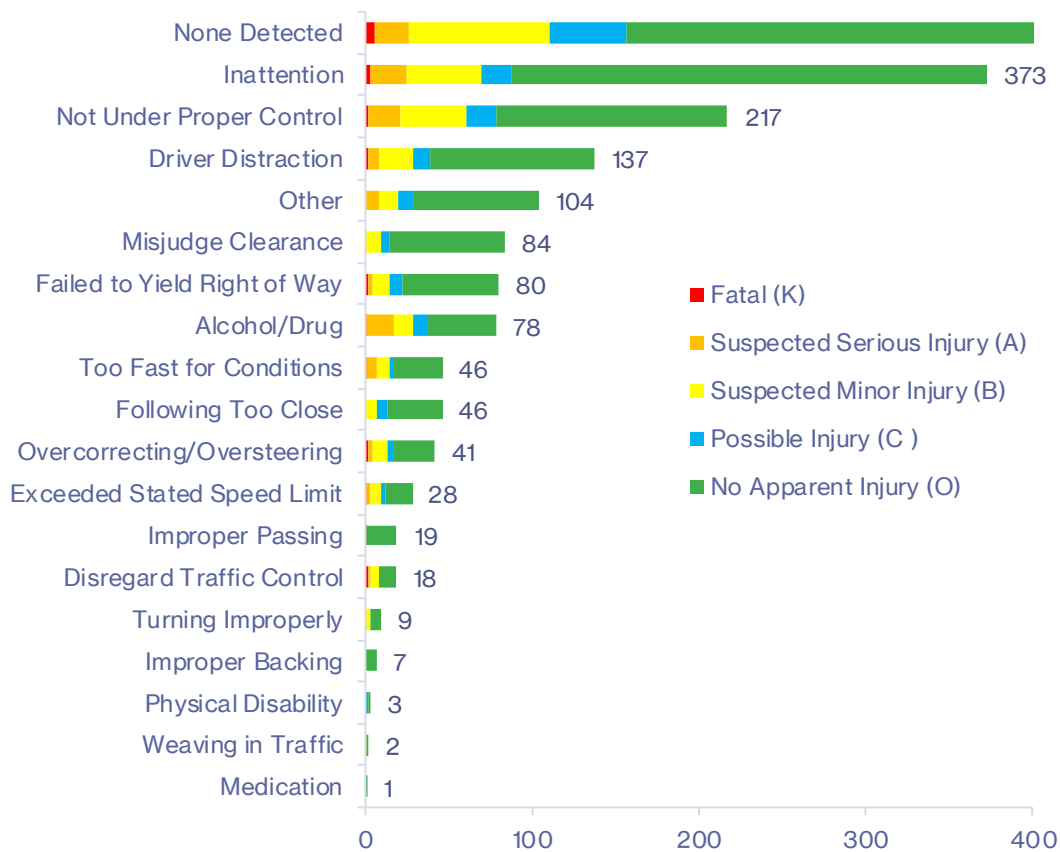


Figure 3-23. Crashes by Human Factor



Of the fatal and suspected serious injury crashes, 38% (25) were categorized as Driver Inattention. Alcohol and drug involvement contributed to 26% of fatal and suspected serious injury crashes (Figure 3-24).

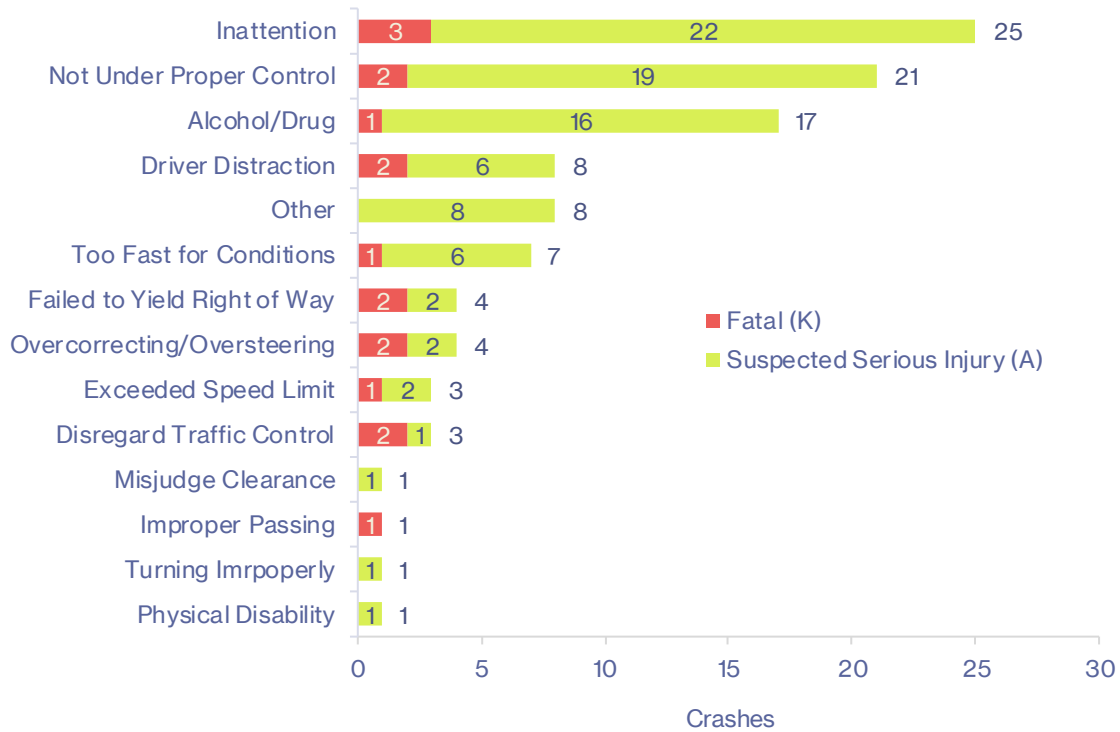


Figure 3-24. Fatal and Suspected Serious Injury Crashes by Human Factor

Based on the data, a distracted driving initiative could be beneficial for Spencer County drivers. It could include infrastructure, behavioral, educational, and enforcement elements. In addition, the County would benefit from efforts to address impaired drivers.



## Environmental and Roadway Conditions

Environmental roadway conditions do not appear to be a significant contributing factor to crash occurrence or severity. Adverse roadway conditions, defined as wet, snow, ice, or less common road conditions, make up a small portion of the overall crashes. Wet roads account for 21% of all crashes and 25% of fatal and suspected serious injury crashes, while icy, snow and slush conditions account for 5% of all crashes and 4% of fatal and suspected serious injury crashes. This suggests that most crashes in Spencer County occur under typical dry conditions, with no clear pattern indicating that adverse environmental conditions play a substantial role in crash severity.

Roadway Condition	All Crashes		Fatal and Suspected Serious Injury Crashes	
	#	%	#	%
Dry	909	74%	45	69%
Wet	253	21%	16	25%
Ice	32	3%	1	2%
Snow/Slush	22	2%	1	2%
Water (Standing or Moving)	13	1%	1	2%
Sand-Mud-Dirt-Oil-Gravel	2	<1%	1	2%
Other	1	<1%	-	-

Table 3-5 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 discussing the crash analysis and getting feedback on the initial prioritized High Injury Network (HIN) segments and priority intersections. Potential corridor and intersection improvement strategies were also discussed.

## **Safety Committee**

The Spencer County Safety Committee, comprised of diverse members from the community, such as emergency response representatives and Spencer County Road Department, played a key role in developing both the KIPDA Regional Safety Action Plan and the Spencer County Safety Action Plan. Participants provided valuable feedback and insights into existing safety issues and concerns through two safety committee meetings.

### **Meeting One**

Six committee members attended the first 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, road maintenance, driver visibility, lack of sidewalks, and vehicular speed. Other safety topics identified in the meeting included pedestrian facilities leading to the schools, emergency vehicle signals, and enforcement laws for bicyclists.

### **Meeting Two**

Eight committee members attended the second meeting. The Committee reviewed the draft prioritized HIN corridor segments, prioritized intersections, and potential safety countermeasures. The data provided included a preliminary ranking for each intersection and HIN corridor. It also included descriptions of potential countermeasures with their expected safety impacts. The project team provided maps of the HIN corridors and intersections for reference. The committee provided their priorities for both the HIN and the intersection list. They also provided feedback on what improvements they thought would be most appropriate and beneficial. There were four activities designed to elicit this information.



*Figure 4-1: Meeting One Brainstorming Exercise*



**Activity A: Prioritizing HIN Corridors** – There was general agreement on the top ranked HIN corridors with participants agreeing on the top three in that order. The committee thought HIN segments 8 (Taylorsville Rd (KY-155) from Kings Mill Dr to Jefferson County Line) and 23 (Mt Washington Rd (KY-44)) should be considered as a high priority.

**Activity B: Potential Corridor Improvements** - Most participants noted that all recommendations were appropriate with only minor notes about not utilizing roundabouts for segment 18 (Taylorsville Rd (KY-44) - Townhill Rd (KY-3200) to Little Mount Rd (KY-44).

**Activity C: Prioritizing Intersections** – The committee agreed with the top five intersection priorities. These locations have been highlighted in **Chapter 6. Strategy and Project Selection**.

**Activity D: Potential Intersection Safety Countermeasures** – The committee agreed with the recommendations but also varied in the application of roundabouts and alternative intersections for multiple intersections. These suggestions have been incorporated into **Chapter 6. Strategy and Project Selection**.

The committee also discussed that there are multiple segments of Taylorsville Road that are not only a priority for City Police, but a major safety issue overall. The curves and hills on Mt Washington Road were identified as potentially needing high friction surfacing.

## 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 Spencer County, 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.

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 36 comments located within Spencer County. Figure 4-4

### ACTIVITY B

#### SAFETY COUNTERMEASURES





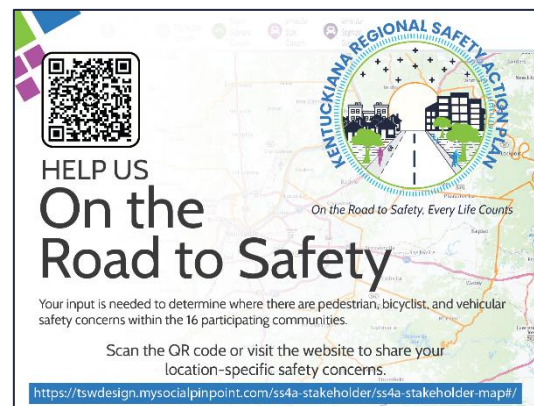
Countermeasure	Description	Safety Impact
	Road Rightizing Reconfigured lanes/appe within roadway based on number of vehicles per day to calm traffic speeds and improve safety for all users.	All Crashes ↓30%
	Enhanced Curve Signage Enhanced signs and striping can alert drivers to upcoming curves, the direction of curves, and sharpness of the curve.	Night-time Crashes ↓25%
	Rumble Strips Alerting drivers through vibration and sound, these tell drivers that their vehicle has left the travel lane.	CLRS ↓11.64% FLRS ↓13.51%
	Center Turn Lanes Provide a painted measure that removes left-turning traffic (which is slowing or stopped) from the travel lanes.	All Crashes ↓24%

Figure 4-2: Meeting Two Handout: Potential Safety Countermeasures



provides an example view of the engagement map and a summary of the responses within Spencer County.

**Vehicular Safety Concerns**

- Signalization
- Blind Turns
- Speed Limits
- Sight Distance
- Speed Bumps
- Stop Signs
- Traffic Enforcement
- Bridge Width
- Intersection Improvements
- Turning lanes
- Pavement maintenance

**Pedestrian Safety Concerns**

- Adding sidewalks
- Adding crosswalks

**Other Safety Concerns**

- Neighborhood road repaving and drainage needs

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 Spencer County 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 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 State Road 155 corridor near the county line.



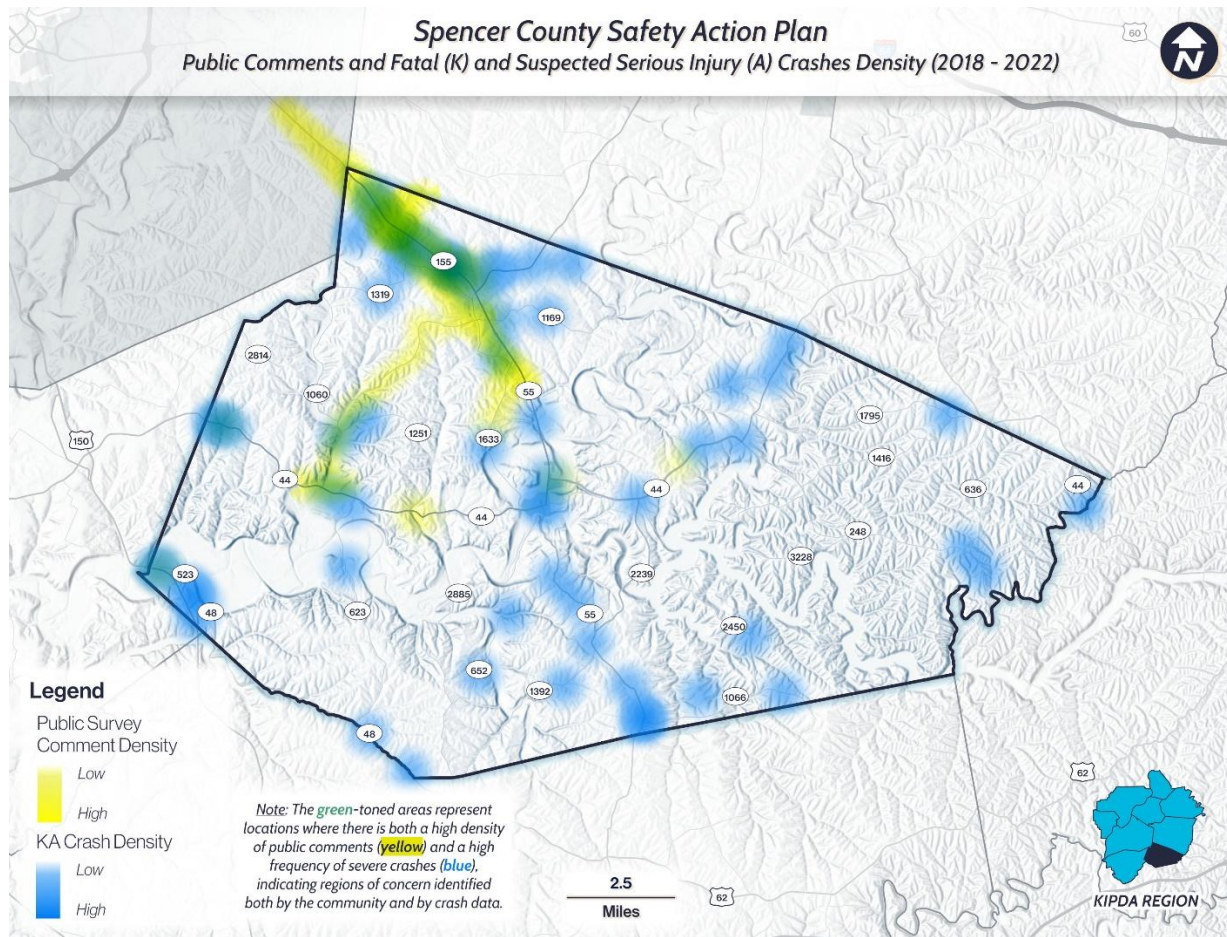


Figure 4-3. Public Comments and Fatal and Serious Injury Crash Density

### Survey Two

The project team and committees conducted a second public survey for the Safety Action Plan. Residents within the KIPDA Region, including Spencer County, 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 whether 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. In general, there was support for many of the identified segment and intersection priorities across the region. Intersection and highway lighting, left turn lanes, and many of the low-cost treatments listed in the survey received support.



## Active and Planned Projects

The transportation plans of all relevant stakeholders, including the Kentucky Transportation Cabinet Enacted Highway Plan (2024-2030) and KIPDA Transportation Improvement Program (TIP), as well as ongoing Spencer County projects were coordinated to identify and document project overlaps and stages of project development. This collaborative effort is summarized in the following table and map, highlighting the current projects with committed funds that are actively moving forward. Projects in the county that are listed in the Continuous Highway Analysis Framework (CHAF) are provided in Appendix A for reference.

Map No.	KYTC Item (CHAF ID)	Route	Begin	End	Status	Description
1	5-80354.00	US 31E	0	1.882	Planned	Improve traffic operations and improve safety along US 31E. Consider a 2+1 configuration and/or innovative intersections
2	5-8954.10	KY 155	2	4	Planned	Improve safety and traffic operations on KY 155 from MP 2.0 in Spencer County to Floyds Fork in Jefferson County
3	5-8954.20	KY155/ KY 55	0/10.56	2/11.27	Planned	Improve safety and traffic operations on KY 55 from KY 1169 to KY 155 and on KY 155 from KY 55 to MP 2.0
4	5-8954.30	KY 55	10.5	11.3	Planned	Improve traffic operations on KY 55 from KY 1169 to KY 155
5	5-8955.00	KY 44	0.28	0.44	Planned	Improve safety and address geometric deficiencies along KY 44 near Dutchman Creek Rd
6	5-80213.00	KY 55	6.61	6.84	Planned	Reduce congestion, improve safety, and enhance mobility on KY 55 from Little Mount Rd (KY 44) to Industrial Rd
7	5-80254.00	KY 44	1.2	7.54	Planned	Improve capacity, relieve congestion, and improve safety along KY 44 from Goose Creek Road to Oak Tree Way
8	5-80255.00	KY 44	0	1.2	Planned	Improve capacity, relieve congestion, and improve safety along KY 44 from Cox Lane to Goose Creek Road
9	5-80257.00	KY 55	11.27	0	Planned	Improve safety and traffic operations on KY 55 from KY 155 near Elk Creek to KY 148 at Finchville
10	5-80315.00	KY 44	5.6	6.2	Planned	Address safety and geometric issues on KY 44 at the junction with KY 1251 to the curve after Hunter's Trace Rd
11	5-80316.00	KY 155	2.4	2.6	Planned	Improve safety at the intersection of KY 155 and Wilsonville Rd (KY 3192) / Hochstrasser Rd
12	5-80351.00	KY 155	0.65	0.85	Planned	Improve intersection of KY 155 and Goebel Rd / Hochstrasser Rd

Table 4-1. Current Highway Plan Projects



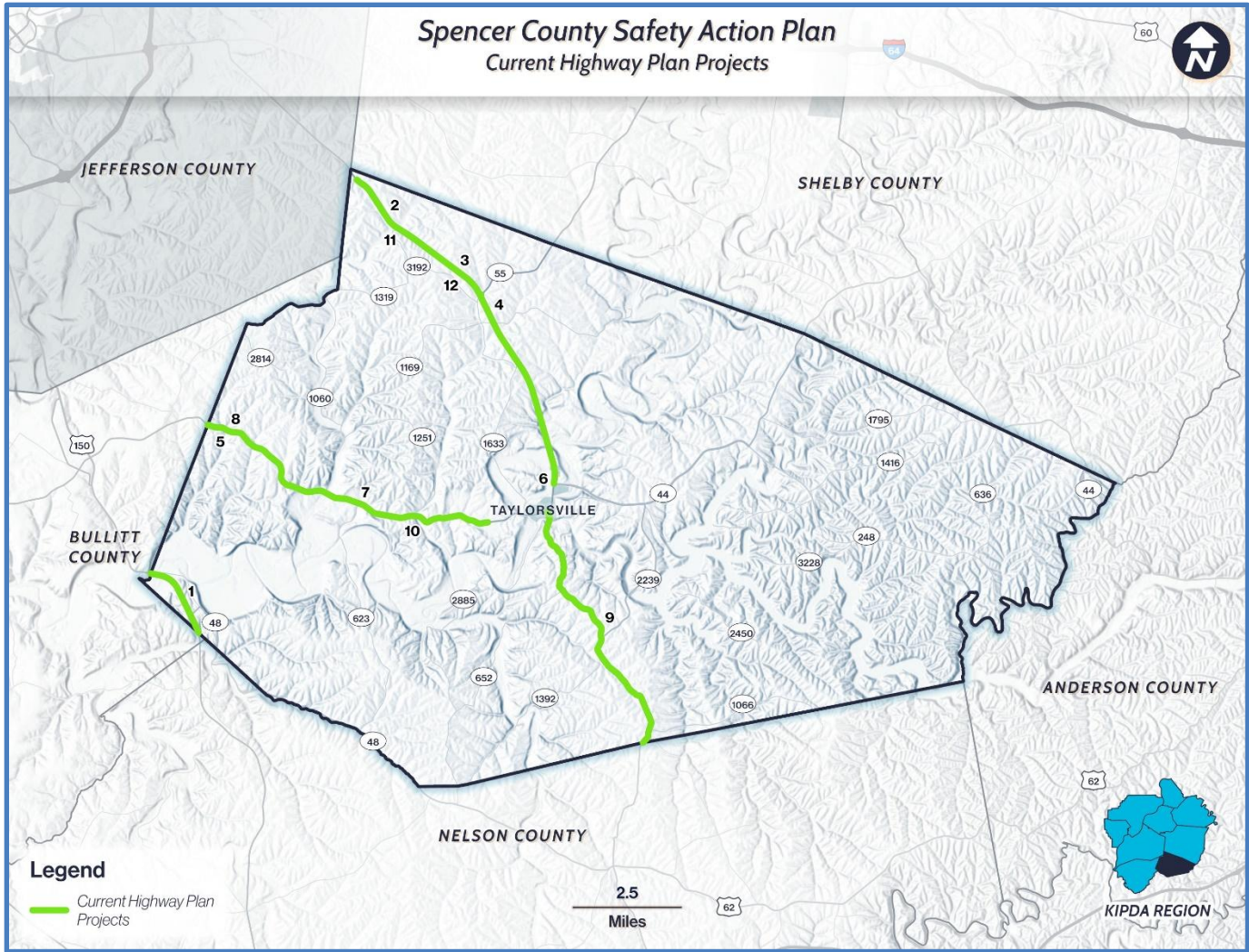


Figure 4-4. Highway Plan Map



## 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 county.

### 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 County 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 in any territory or possession of the United States.*

There are no Census Tracts in Spencer County that are designated as an 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 14.4% of Spencer County is 65 or older. Portions of the county 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.

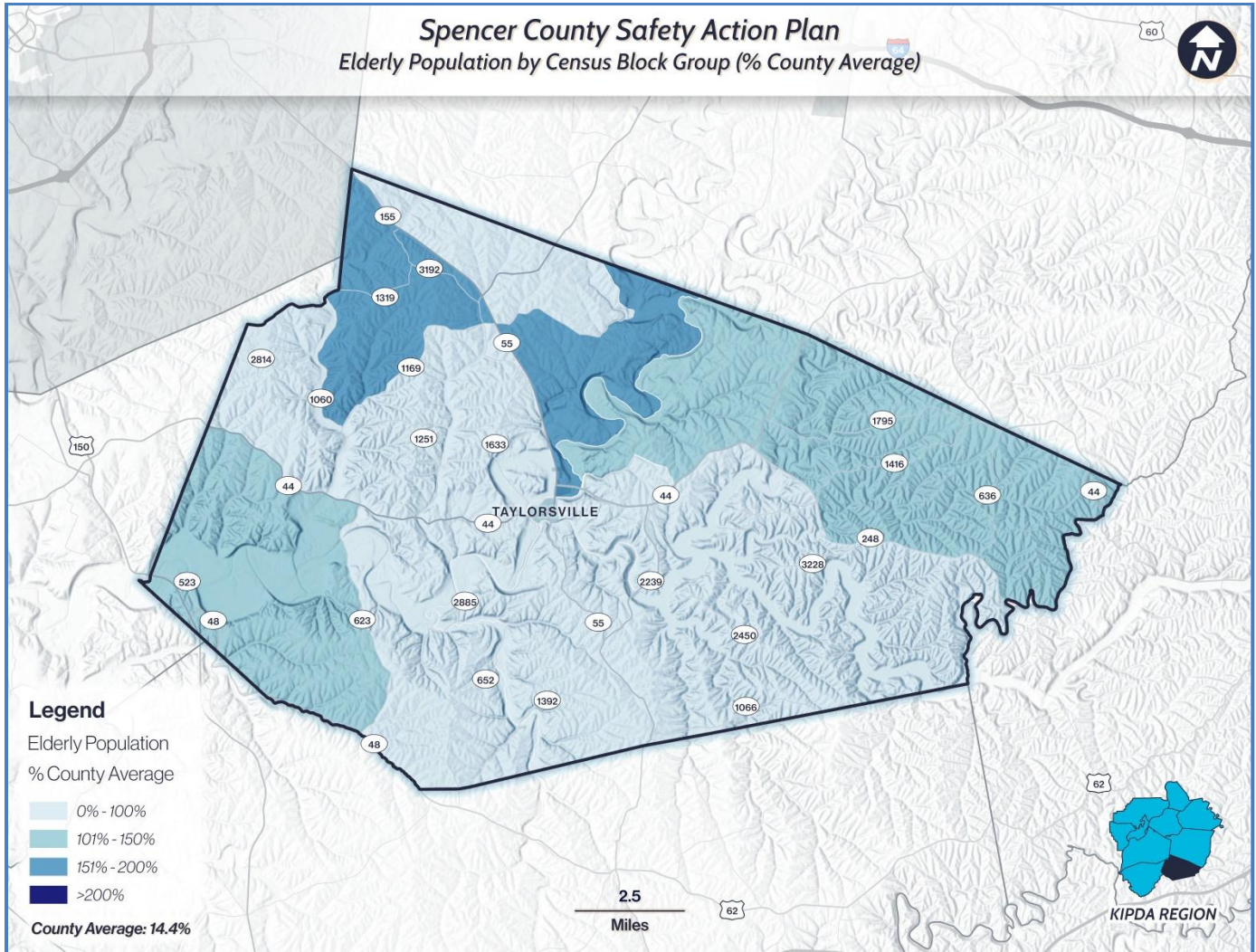


Figure 4-5. Elderly Population by Census Block Group Map



### Population Impacted by Disability

In Spencer County, approximately 28.9% of households have one or more occupants with a disability. Any residence with one or more occupants with a disability meets the disability designation. Similar to elderly populations, there are safety countermeasures available that support disabled populations. Many of these relate to pedestrian facilities such as curb ramps.

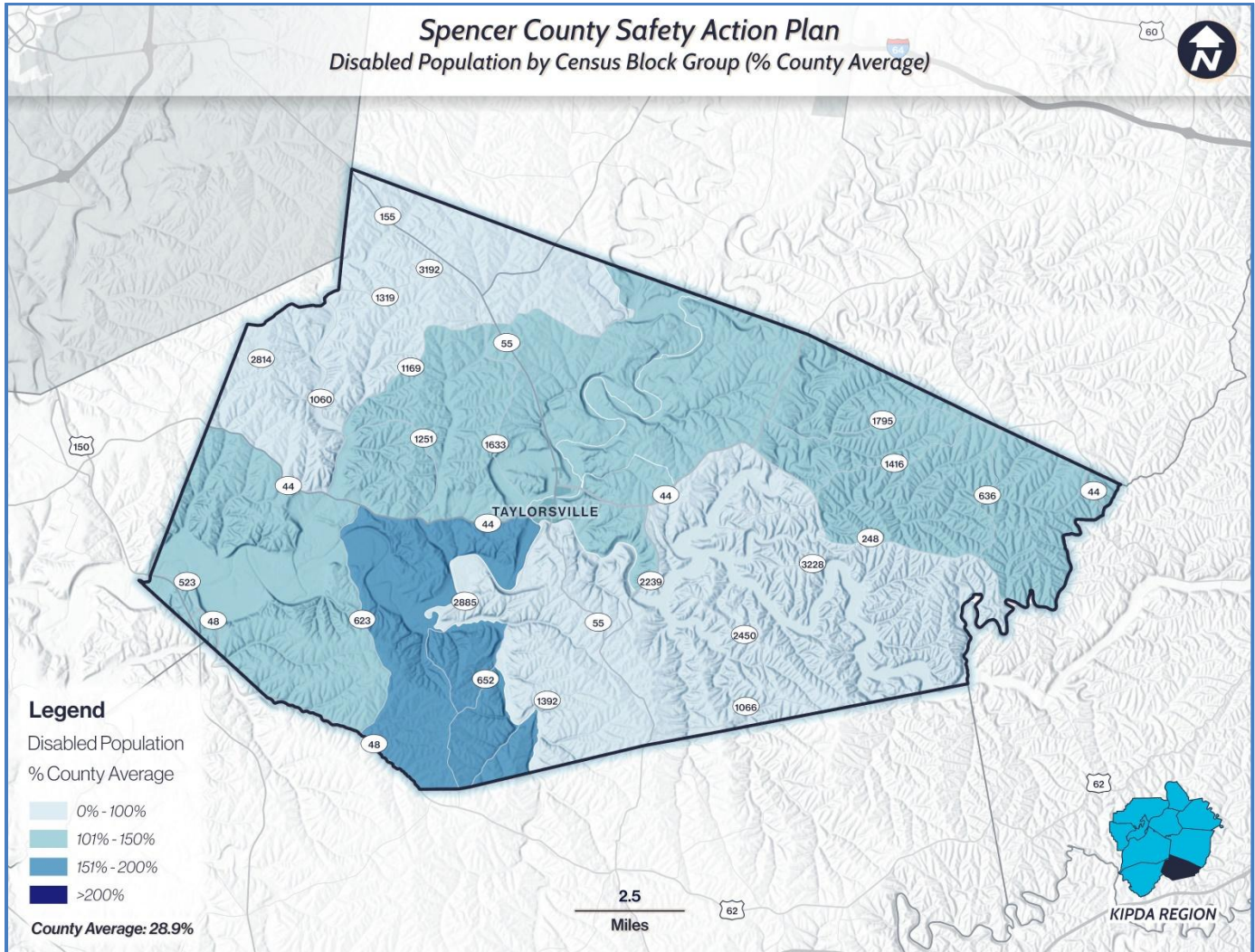


Figure 4-6. Disabled Population by Census Block Group Map



### Population Experiencing Poverty

Approximately 8.3% of the population of Spencer County are at or below the poverty line. As shown in figure Income plays a crucial role in influencing societal, health, and recreational levels for all individuals. The poverty population of Spencer County includes individuals with incomes below the poverty level. Spencer County has approximately 8.3% of all individuals who meet this definition.

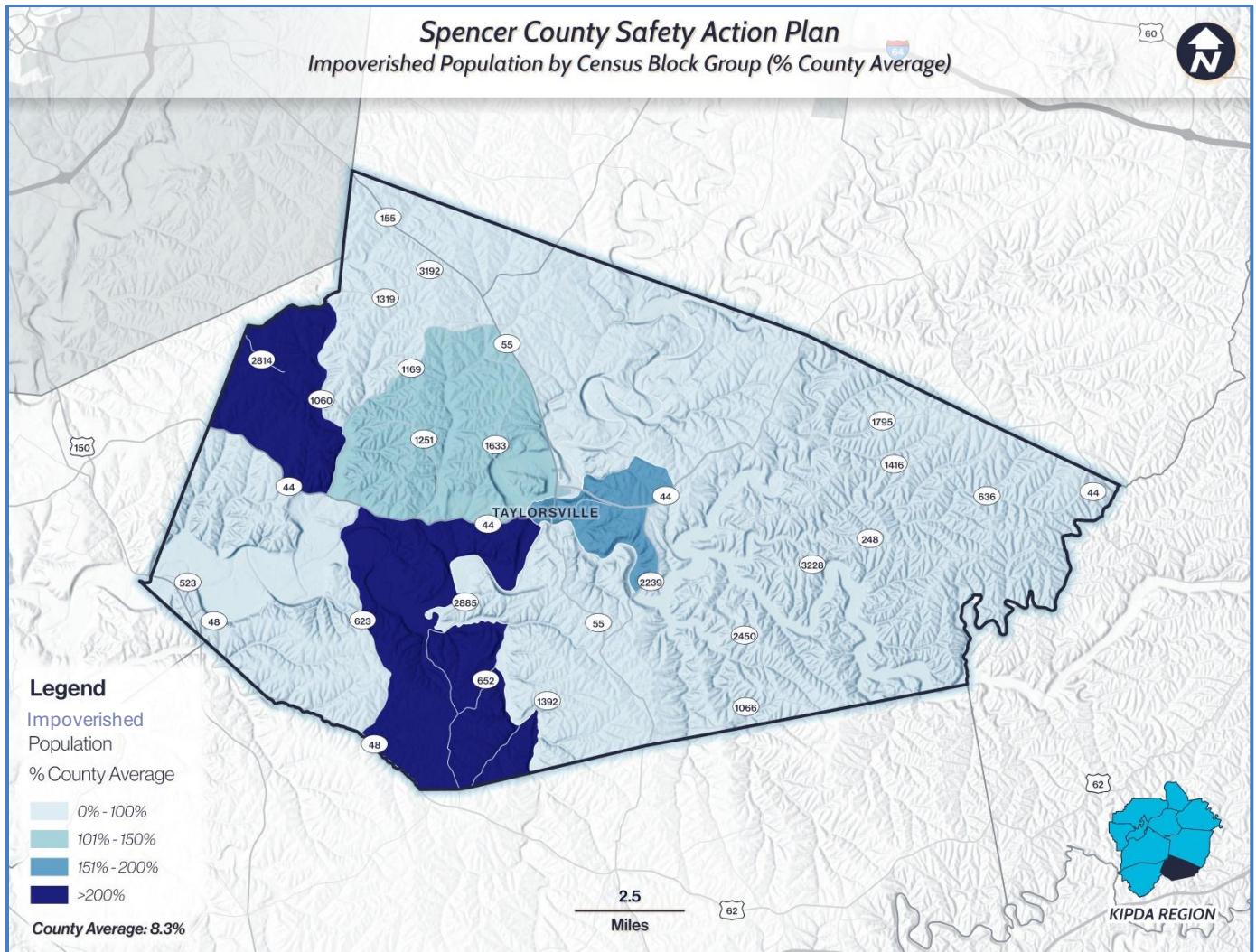


Figure 4-7. Impoverished Population by Census Block Group Map



### Minority Population

A significant factor in determining which communities have access to fair treatment and are beneficiaries of transportation related improvements is race. The minority population of Spencer County encompasses all individuals who identify as non-white. Spencer County has approximately 4.8% of all individuals who meet this definition.

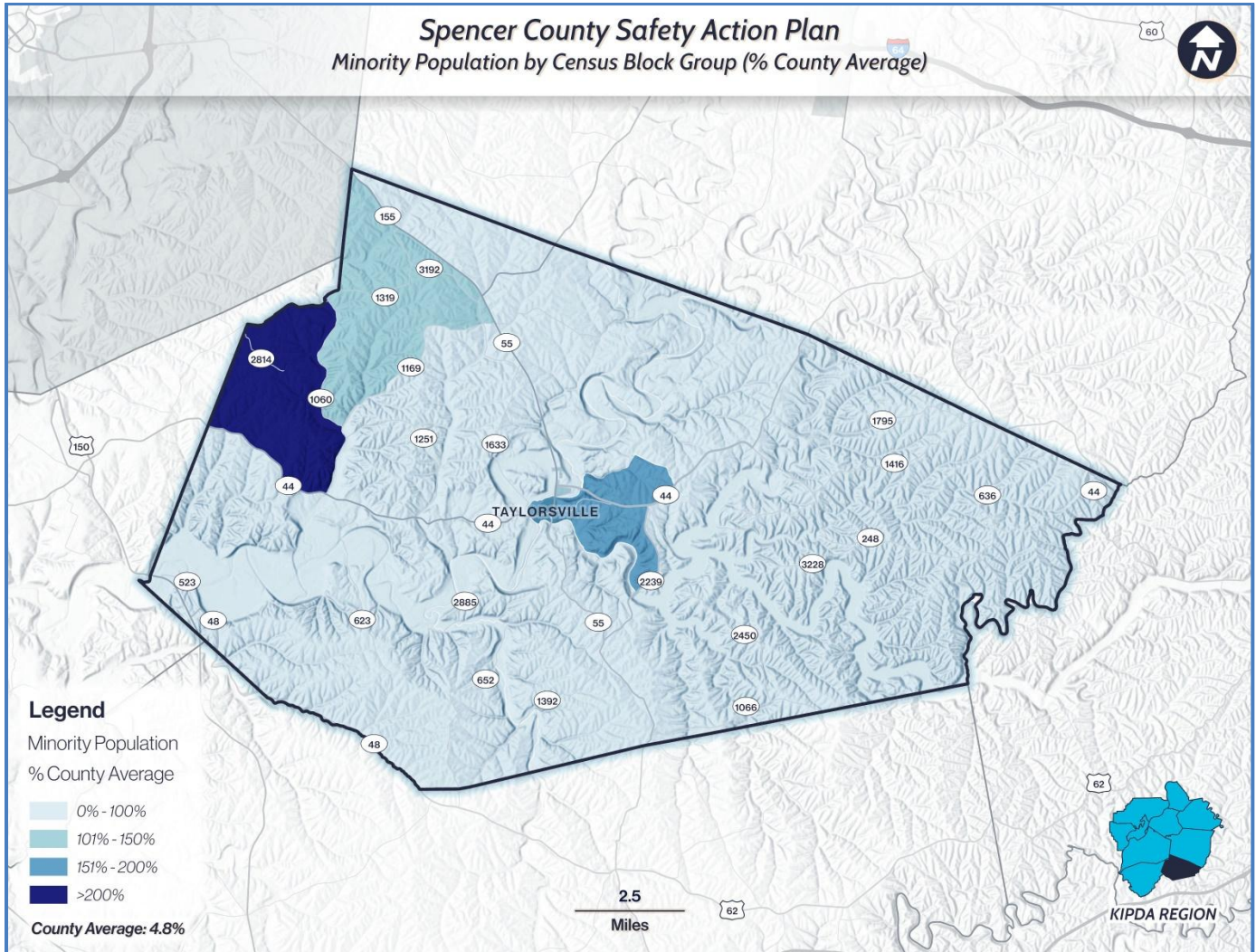


Figure 4-8. Minority Population by Census Block Group Map



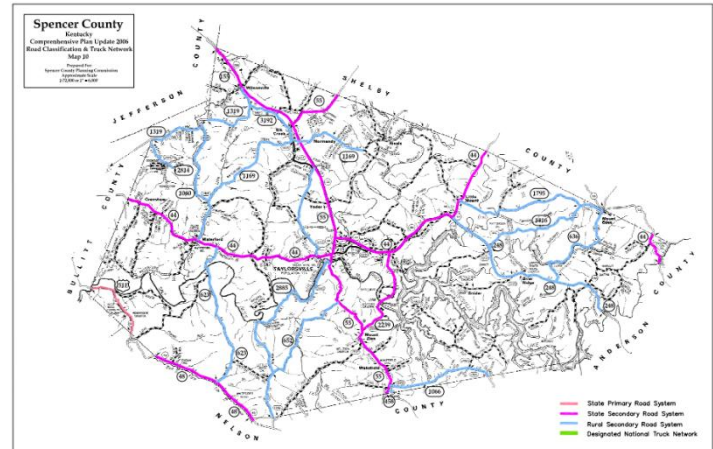
## 5. Policy and Process Changes

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

### Comprehensive Land Use Plan

Link: [Spencer County Comprehensive Land Use Plan](#)

The Spencer County Comprehensive Land Use Plan, adopted in 2006 and updated in 2012, provides a framework for the county's development. It emphasizes maintaining and improving existing infrastructure, creating a balanced transportation system supporting all travel modes, and integrating transportation planning with land use decisions to promote sustainable growth. The following are objectives related to transportation safety.



- Transportation facilities and services should be implemented concurrently with other land use projects to minimize the resulting inadequacy of transportation systems, especially as it affects the need to upgrade and enlarge the roads leading to the new residential and lake areas, as the significantly increased travel on these roads will exceed current capacities.
- Additional consideration should be given to developing a city and county road grading system corresponding to the State's road classification system. New construction along arterial corridors should be facilitated by providing and encouraging service roads, designated crossovers, and control of access points.
- Follow the funding status for the proposed six-year plan from the Kentucky Department for Transportation's six-year plans.
- Establish a program to maintain all roads leading from the interstate system (i.e., 65 and 64 and the Bluegrass Parkway), and determine funding sources for this program.
- Determine the need to establish a public transit system for the community, such as a formal rideshare program that would serve commuters from Taylorsville to their places of work in Louisville.

### Future Comprehensive Plan Considerations

**Implement Context-Sensitive and Active Transportation Street Policies:** To improve how processes prioritize safety, it is recommended to develop context-sensitive street guidelines that



support safety, connectivity, comfort, and accessibility for all users. These guidelines would be applied to new and existing road projects, ensuring that streets are designed to accommodate pedestrians, cyclists, motorists, and transit riders.

**Promote Safe and Accessible Transportation for All:** Promote transportation improvements to address the needs of all community members. Conduct periodic equity-focused analyses to identify and mitigate transportation safety and access disparities.

**Strengthen Public Engagement and Transparency:** Enhance public engagement processes by providing multiple avenues for community input, including online platforms, public meetings, focus groups, and surveys. Feedback should be incorporated into planning decisions and updates on progress should be regularly communicated to the public. Enhancing public engagement and transparency will build public trust and support.

## Subdivision Regulations

Link: [Spencer County Subdivision Regulations](#)

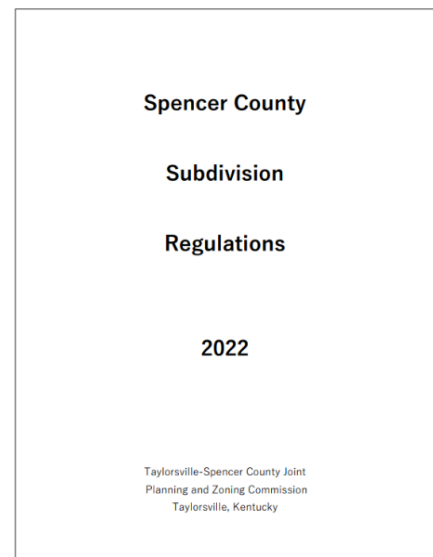
The Spencer County Subdivision Regulations, last amended in 2022, govern land division and development within the county. The regulations include road design and construction standards and guidelines for pedestrian infrastructure.

### Future Subdivision Considerations

**Traffic Calming Measures:** Consider updating regulations to include guidelines for traffic calming measures, such as roundabouts, speed humps, chicanes, and raised intersections and crosswalks in residential subdivisions to reduce vehicle speeds and enhance safety for pedestrians and bicyclists. Implementing traffic calming strategies will reduce the risk and severity of crashes.

**Active Transportation Infrastructure:** Consider updating active transportation infrastructure requirements for new developments within the county to encourage safe access is provided for all vulnerable road users. Sidewalks should meet accessibility standards and provide safe crossings at all intersections. Consider incorporating dedicated pathways or multi-use trails in all new developments and promote connectivity to existing pedestrian and active transportation networks.

**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, active engagement with stakeholders and the community, and an assessment of Areas of Persistent Poverty (APP). 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 County's goal is to eliminate fatal and serious injury crashes; therefore, crash severity is a critical factor 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. Table 6-2 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 the following table 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.

The table below 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.

Severity	Crashes	Comprehensive Cost Per Crash (2022 Dollars)	Severity	Weighted Average Costs	MEPDO Value
K	618	\$10,175,024	KA	\$2,224,193	182
A	3,015	\$594,471			
B	12,841	\$182,274	B	\$182,274	15
C	11,770	\$116,572	C	\$116,572	10
O	113,611	\$12,220	O	\$12,220	1

\* 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. KYTC provided geographic information system (GIS) roadway and traffic data files, known as the Highway Information System (HIS) database. HIS data includes roadway characteristics and traffic data for state-owned roadways. Analysts combined the crash data with 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 promoting 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***

Spencer County experienced 18 fatal and suspected serious injury crashes at intersections, representing 28% of all fatal and suspected serious injury crashes. These crashes occurred at both signalized and unsignalized intersections. Both types of intersections contain multiple conflict points and offer significant opportunities to enhance safety for all users. MEPDO was calculated and ranked for each intersection.

Table 6-4 lists the top 20 intersections by MEPDO. These top 20 intersections account for all 18 fatal and suspected serious injury crashes at intersections. The remaining nine intersections tended to have higher numbers of crashes but with lower severities. Figure 6-1 illustrates this approach of prioritizing intersections.



Ranking	Intersection	K	A	B	C	O	KA	TOTAL	MEPDO
1	Bloomfield Rd (KY-55) & Franklin Rd (KY-1066)	0	2	0	0	2	2	4	366
2	Taylorsville Rd (KY-155) & Shelbyville Rd (KY-55)	1	0	4	2	20	1	27	281
3	Taylorsville Rd (KY-55) & Little Mount Rd (KY-44)	0	1	0	4	26	1	31	246
4	Taylorsville Rd (KY-155) & Wilsonville Rd (KY-3192)	0	1	3	0	13	1	17	240
5	Taylorsville Rd (KY-155) & Hochstrasser Rd	1	0	3	0	4	1	8	231
6	Little Mount Rd (KY-44) & Overlook Rd (KY-2239)	0	1	2	0	5	1	8	217
7	Shelbyville Rd (KY-55) & Washburn Ln	0	1	1	0	11	1	13	208
8	Taylorsville Rd (KY-55) & Yoder Station Rd	0	1	1	0	4	1	6	201
9	Taylorsville Rd (KY-155) & Andrew Pkwy	1	0	1	0	3	1	5	200
10	Dale Ln (KY-1319) & Crenshaw Ln	0	1	1	0	1	1	3	198
11	Little Mount Rd (KY-44) & Briar Ridge Rd (KY-248)	0	1	0	0	4	1	5	186
12	Taylorsville Rd (KY-155) & Loop Rd	0	1	0	0	1	1	2	183
13	Normandy Rd (KY-1169) & Pleasant Railway	0	1	0	0	1	1	2	183
14	Van Buren Rd (KY-636) & Murphy Ln	0	1	0	0	1	1	2	183
15	Old Heady Rd & Creek Valley Rd	0	1	0	0	0	1	1	182
16	Little Mount Rd (KY-44) & Little Crooked Creek Rd	0	1	0	0	0	1	1	182
17	Ashes Creek Ln & Hickory Ridge Ln	0	1	0	0	0	1	1	182
18	Taylorsville Rd (KY-55) & Plum Ridge Rd (KY-1169)	0	0	2	1	12	0	15	51
19	Elk Creek Rd (KY-1633) & Plum Ridge Rd (KY-1169)	0	0	1	3	7	0	11	51
20	Wilsonville Rd (KY-3192) & Goebel Rd	0	0	3	0	1	0	4	46

Table 6-4. Prioritized Intersections by MEPDO



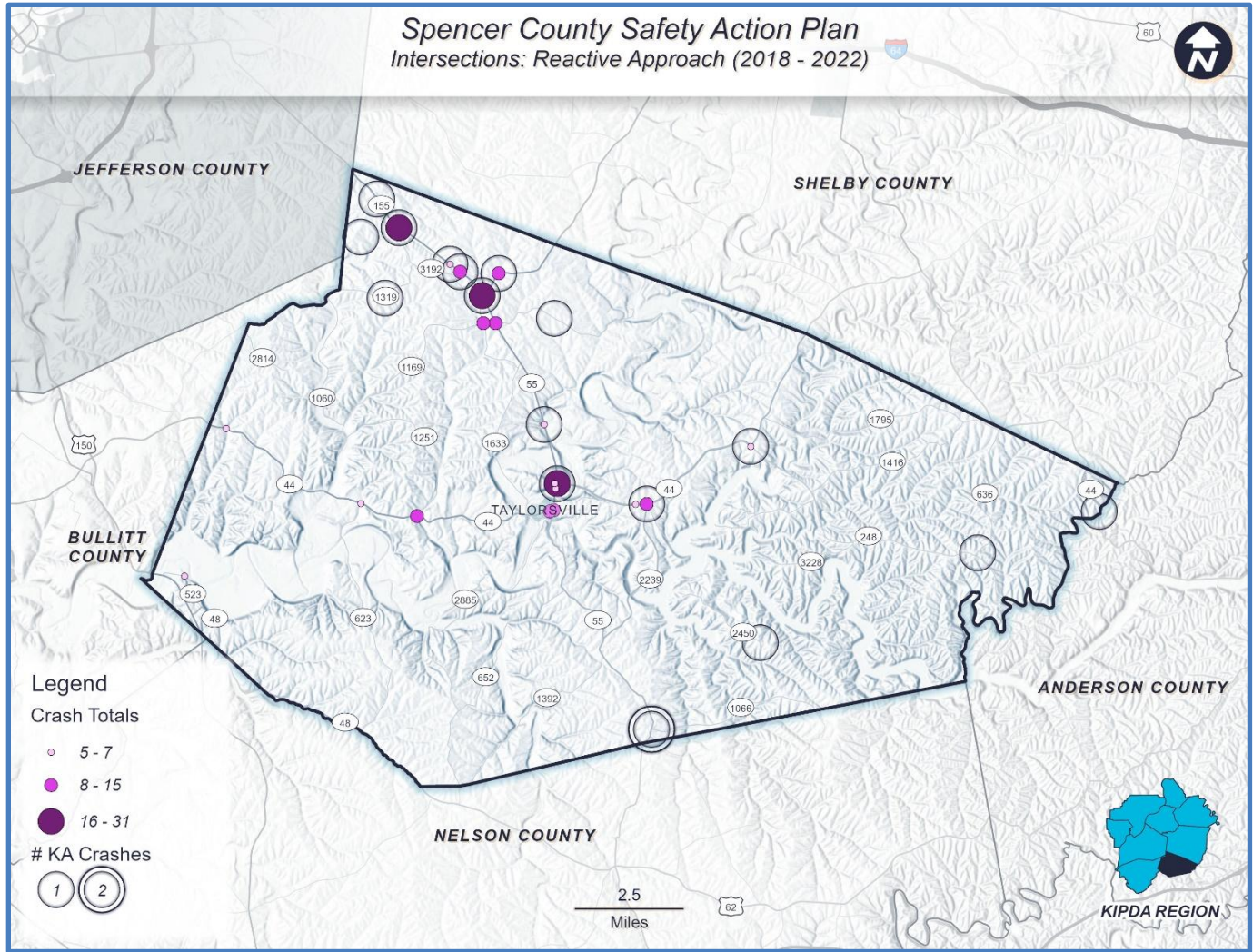


Figure 6-1. Intersections: Reactive Approach Map



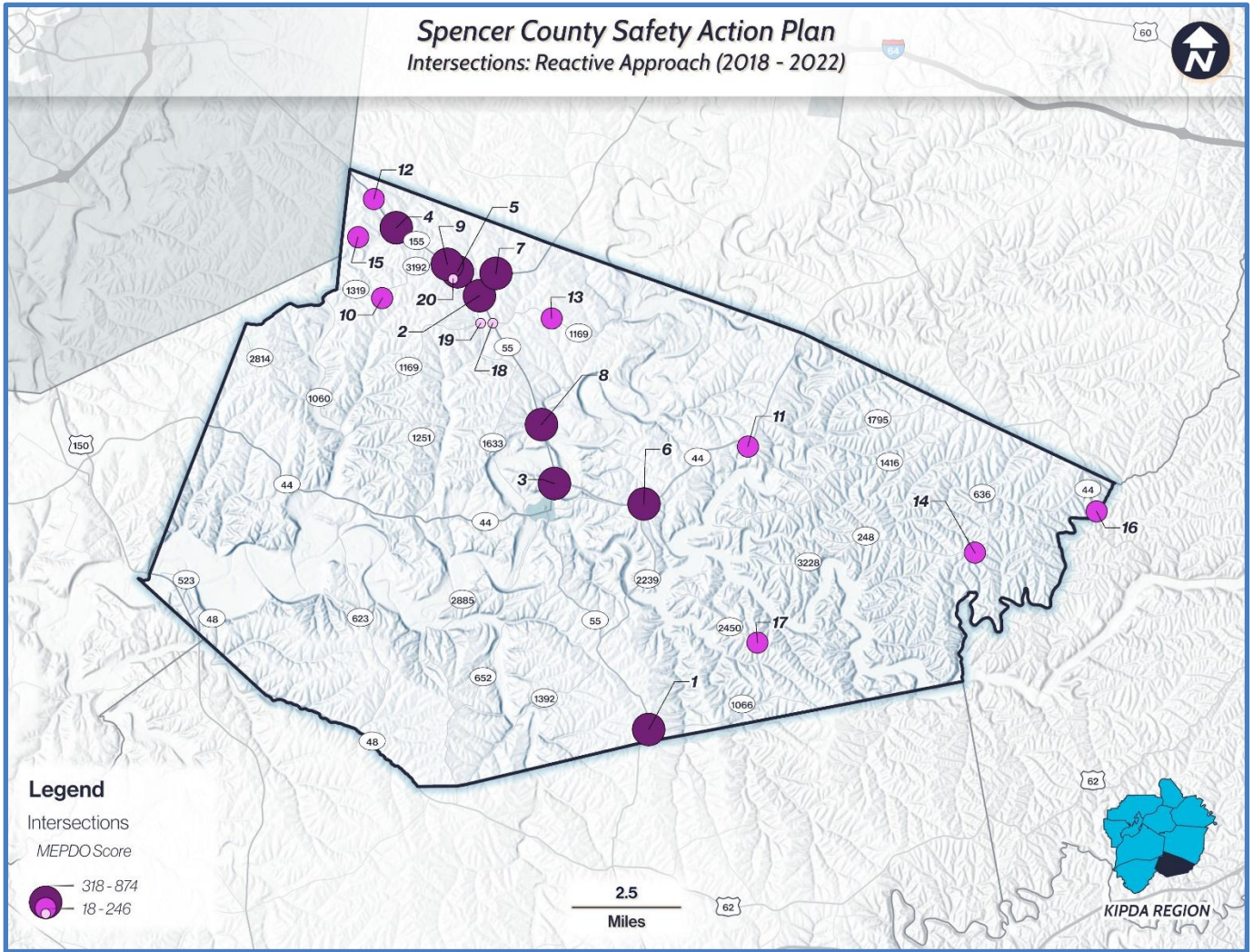


Figure 6-2. Intersections Prioritized by EPDO Map

### 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. The team developed Spencer County's HIN using detailed crash data analysis and GIS mapping to pinpoint corridors with the highest concentration of severe crashes. The following table and maps illustrate Spencer County'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 per mile
1	Taylorsville Rd (KY-155)	Shelbyville Rd (KY-55)	Realty Dr	0.81	753	928
2	Taylorsville Rd (KY-155)	Realty Dr	Kings Mill Dr	1.41	843	596
3	Mt Washington Rd (KY-44)	Bullitt County Line	Goose Creek Rd	1.20	604	502
4	Old Louisville Rd (KY-523)	Old Louisville Rd (KY-48)	Louisville Rd (US 31E)	1.38	632	459
5	Shelbyville Rd (KY-55)	Taylorsville Rd (KY-155)	Shelby County Line	2.30	877	382
6	Bloomfield Rd (KY-55)	Nelson County Line	Overlook Rd (KY-2239)	2.92	1,070	366
7	Taylorsville Rd (KY-55)	Little Mount Rd (KY-44)	Yoder Station Rd	1.41	513	365
8	Taylorsville Rd (KY-155)	Kings Mill Dr	Jefferson County Line	2.02	670	331
9	Normandy Rd (KY-1169)	Elk Creek Rd (KY-1633)	Pleasant Railway	1.90	600	317
10	Dale Ln (KY-1319)	McIntosh Dr	Wilsonville Rd (KY-3192)	1.50	416	279
11	Highgrove Rd (KY-48)	Lilly Pike (KY-623)	Nelson County Line	1.91	420	220
12	Bloomfield Rd (KY-55)	Overlook Rd (KY-2239)	Overdale Ln	2.11	442	209
13	Louisville Rd (US-31E)	Bullitt County Line	Bullitt County Line	1.88	379	201
14	Little Mount Rd (KY-44)	Briar Ridge (KY-248)	Shelby County Line	2.96	594	201
15	Wilsonville Rd (KY-3192)	Dale Lane (KY-1319)	Taylorsville Rd (KY-155)	1.07	208	195
16	Old Louisville Rd (KY-48)	Old Louisville Rd (KY-523)	Nelson County Line	1.14	204	178
17	Franklin Rd (KY-1066)	Nelson County Line	Paul Finn Rd	1.35	214	159
18	Taylorsville Rd (KY-44)	Townhill Rd (KY-3200)	Little Mount Rd (KY-44)	0.73	114	156
19	Lilly Pike (KY-623)	Love Ln	Mt Washington Rd (KY-44)	1.32	200	152
20	Old Heady Rd	Wilsonville Rd (KY-3192)	Jefferson County Line	1.33	198	149
21	Ashes Creek Ln (KY-2450)	Franklin Rd (KY-1066)	Cedar Mac Ln	1.46	199	136
22	Elk Creek Rd (KY-1633)	KY-1633 Conn	Plum Ridge Rd (KY-1169)	1.62	210	130
23	Mt Washington Rd (KY-44)	Plum Creek Rd (KY-1060)	Carl Monroe Rd	2.87	362	126
24	Plum Creek Rd (KY-1060)	Mt Washington Rd (KY-44)	Plum Ridge Rd (KY-1169)	1.67	192	115
25	Little Mount Rd (KY-44)	Taylorsville Rd (KY-55)	Briar Ridge (KY-248)	5.11	572	113

Table 6-5. Prioritized Corridors - High Injury Network



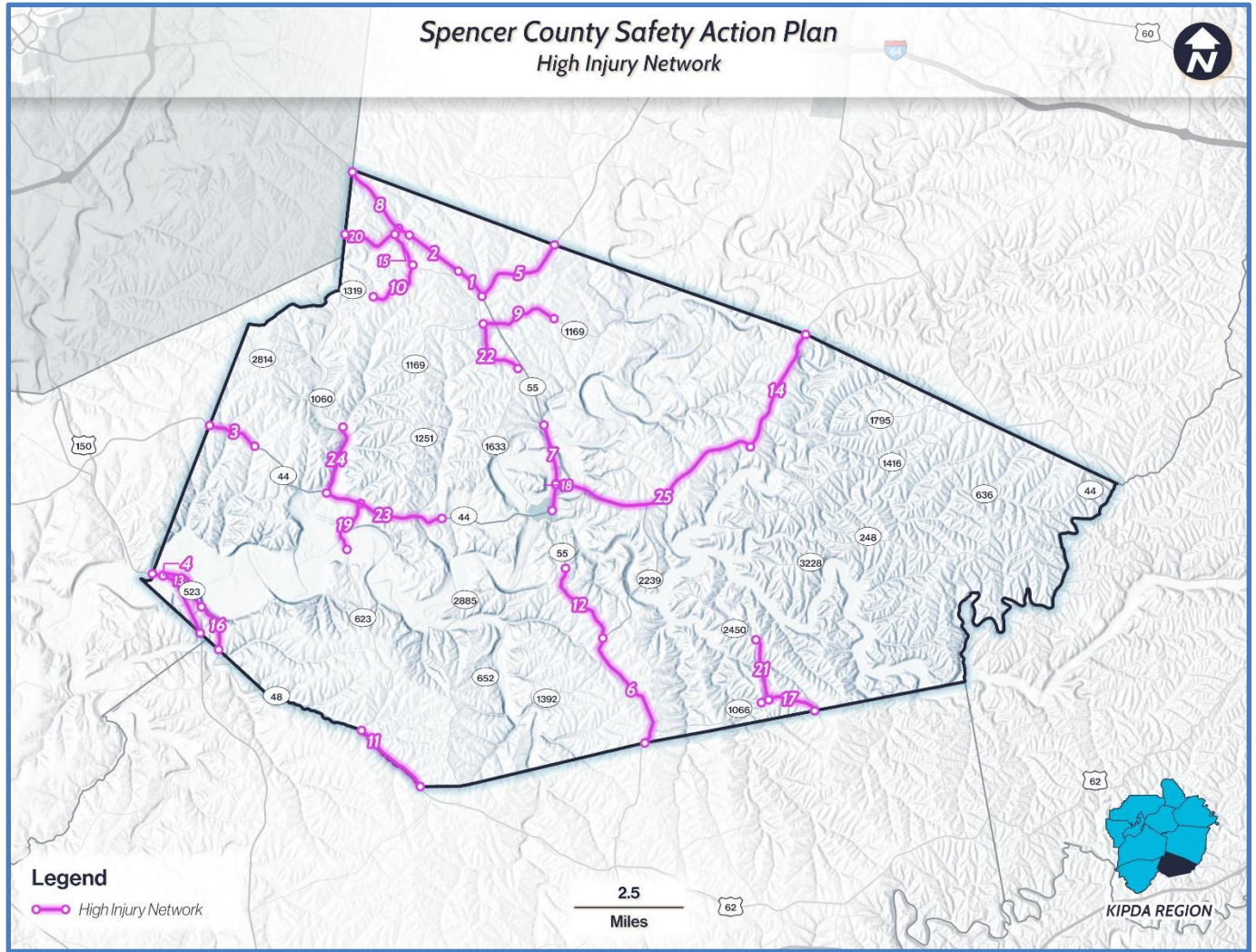


Figure 6-3. High Injury Network

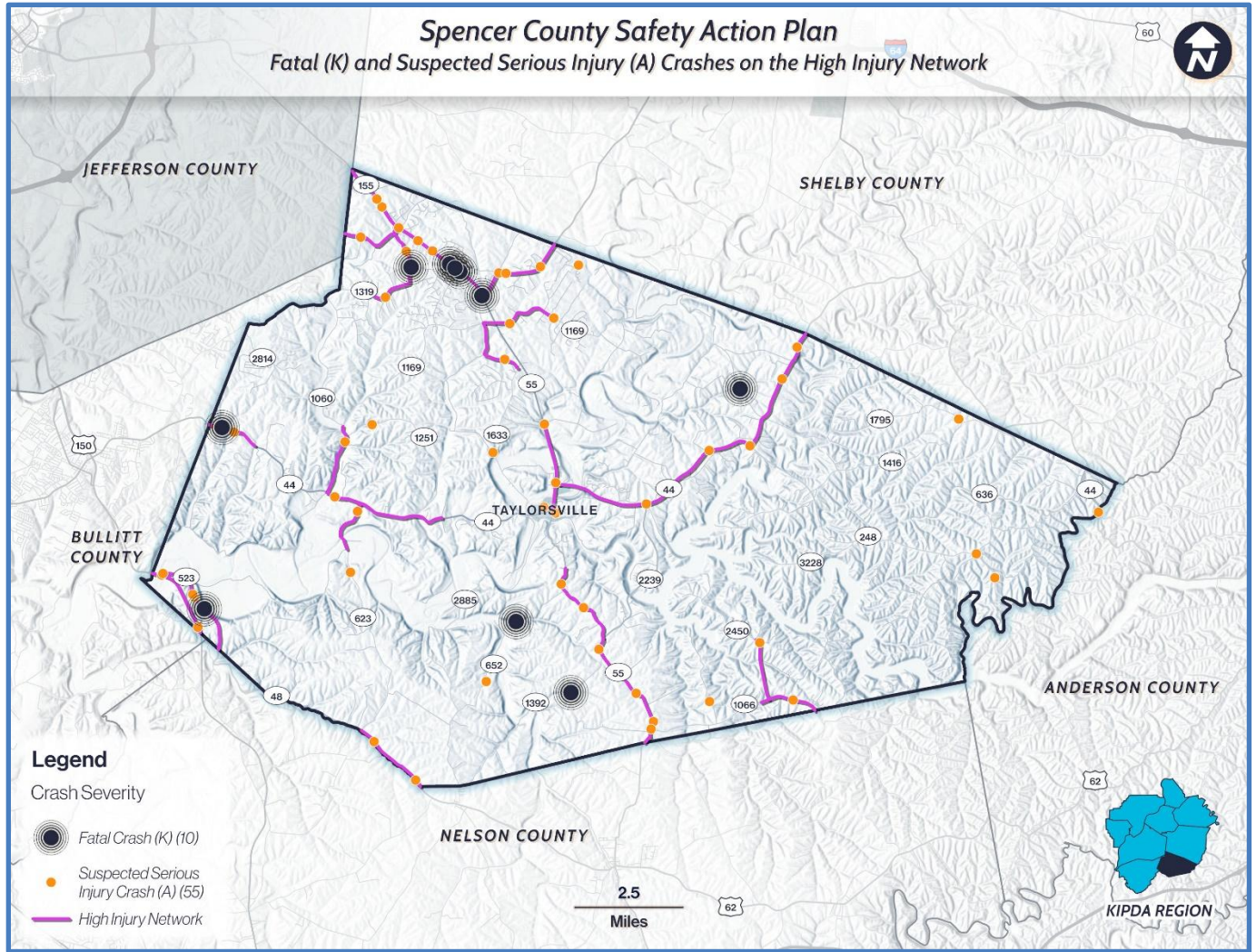


Figure 6-4. High Injury Network and Fatal and Suspected Serious Injury Crashes



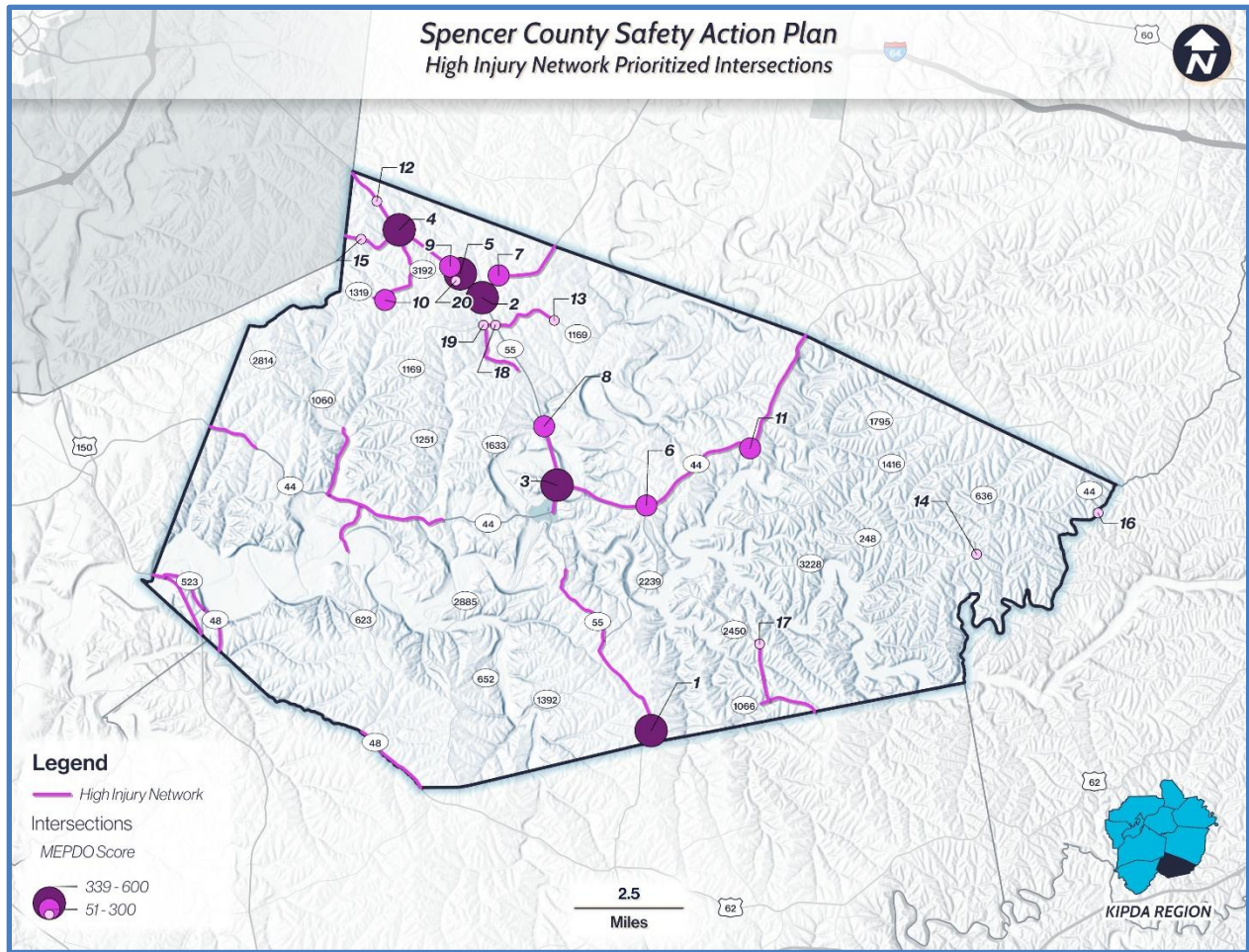


Figure 6-5. High Injury Network and Prioritized Intersections

## 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 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 B. 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>





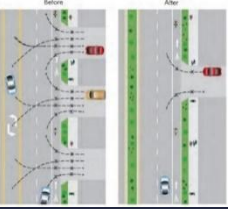





Example Segment Countermeasures							
Countermeasure	Description	Safety Impact	Links	Countermeasure	Description	Safety Impact	Links
<b>Enhanced Delineation for Horizontal Curves</b>				<b>Roadside Design Improvements at Curves</b>			
	High visibility markings and delineators around curves provide drivers with better information about curves.	Severe crashes ↓15-18%	<a href="#">FHWA</a>		Includes treatments that improve horizontal curves, giving drivers the opportunity to recover safely or reducing crash severity.	Single Vehicle or All Crashes ↓8-44%	<a href="#">FHWA</a>
<b>Access Management (segment treatments)</b>				<b>Medians and Pedestrian Refuge Islands</b>			
	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%	<a href="#">FHWA</a>		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%	<a href="#">FHWA</a> and <a href="#">FHWA</a>
<b>Roadway Reconfiguration (Right Sizing or Road Diet)</b>				<b>Shoulder Treatment – Safety Edge</b>			
	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%	<a href="#">FHWA</a>		Shoulder edge upgrades to improve recoverability for roadway departures.	Severe ↓11% Run-Off-Road ↓21% Head-On ↓19%	<a href="#">FHWA</a>
<b>Dynamic Speed Feedback Signs</b>				<b>Pavement Friction Management</b>			
	Provide positive and negative feedback to drivers regarding their speed.	All Crashes ↓5%	<a href="#">FHWA</a> (pg 5) <a href="#">FHWA</a> <a href="#">Clearing house</a>		High Friction Surface Treatment (HFST) can prevent roadway departure, intersection, and pedestrian-related crashes.	Severe Crashes at Curves ↓48% Crashes at Intersections ↓48%	<a href="#">FHWA</a>

Table 6-6. Example Segment Countermeasures




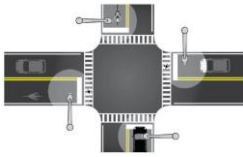





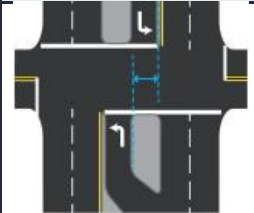
Example Intersection Countermeasures							
Countermeasure	Description	Safety Impact	Links	Countermeasure	Description	Safety Impact	Links
<b>Access Management (intersection treatments)</b>				<b>Intersection Lighting</b>			
	This refers to the design and control of access points including intersections which can enhance safety for all modes.	2-lane Rural Road Crashes ↓5- 23% Urban Severe Crashes ↓25- 31%	<a href="#">FHWA</a>		Increased visibility at nighttime can improve safety for all modes of travel.	Nighttime Ped Injuries ↓42% Nighttime Crashes ↓33-38%	<a href="#">FHWA</a>
<b>Crosswalk Visibility Enhancement</b>				<b>Reflective Backplates</b>			
	High-visibility crosswalks can reduce pedestrian injury crashes.	Pedestrian Injury Crashes ↓40%	<a href="#">FHWA</a>		Improve the visibility of the illuminated face of the signal by introducing a controlled-contrast background.	Total Crashes ↓15%	<a href="#">FHWA</a>
<b>Low-Cost Countermeasures at Stop-Controlled Intersections</b>				<b>Modern Roundabouts (RAB)</b>			
	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%	<a href="#">FHWA</a>		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%	<a href="#">FHWA</a>
<b>Left and Right Turn Lanes</b>				<b>Positive Offset Left-Turn Lane</b>			
	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%	<a href="#">FHWA</a>		Provides increased visibility for drivers turning left. It prevents opposing left turning vehicles from blocking sightlines.	Severe crashes ↓36%	<a href="#">FHWA</a>

Table 6-7. Example Intersection Countermeasures



## Potential Intersection Strategies

The following table lists the prioritized intersections based on their MEPDO values. Each intersection was evaluated for its existing condition. Relevant safety countermeasures were identified as potential improvements for each intersection.

Intersections – Reactive Approach													
Ranking	Intersection	Potential Countermeasures											
		Roundabouts	Dedicated Turn Lane(s)	Offset Left Turn Lanes	Tighten Up Intersection	Alt. Intersection (Roundabouts & RCUT)	Speed Management / transition zone	Enhanced Markings / Striping	Enhanced Signing / Backplates	Lighting	Sight Distance Improvements	Crosswalk Visibility Enhancements	Re-Align Intersection
1	Bloomfield Rd (KY-55) & Franklin Rd (KY-1066) <i>Two serious crashes at this location</i>	X			X			X	X				
2*	Taylorsville Rd (KY-155) & Shelbyville Rd (KY-55)	X							X				
3	Taylorsville Rd (KY-55) & Little Mount Rd (KY-44)			X	X	X	X	X	X	X		X	
4*	Taylorsville Rd (KY-155) & Wilsonville Rd (KY-3192)	X	X			X		X	X				
5*	Taylorsville Rd (KY-155) & Hochstrasser Rd	X	X				X	X	X				
6	Little Mount Rd (KY-44) & Overlook Rd (KY-2239)			X		X	X	X	X				
7	Shelbyville Rd (KY-55) & Washburn Ln							X	X		X		
8	Taylorsville Rd (KY-55) & Yoder Station Rd		X					X	X	X			
9*	Taylorsville Rd (KY-155) & Andrew Pkwy	X	X					X	X				
10	Dale Ln (KY-1319) & Crenshaw Ln							X	X		X		X
11	Little Mount Rd (KY-44) & Briar Ridge Rd (KY-248)			X		X	X	X	X	X			
12*	Taylorsville Rd (KY-155) & Loop Rd		X			X		X	X	X			
13	Normandy Rd (KY-1169) & Pleasant Railway	X						X	X		X		
14	Van Buren Rd (KY-636) & Murphy Ln	X						X	X		X		
15	Old Heady Rd & Creek Valley Rd							X	X		X		
16	Little Mount Rd (KY-44) & Little Crooked Creek Rd							X	X		X		X
17	Ashes Creek Ln & Hickory Ridge Ln							X	X				
18*	Taylorsville Rd (KY-55) & Plum Ridge Rd (KY-1169)				X	X		X	X	X			
19	Elk Creek Rd (KY-1633) & Plum Ridge Rd (KY-1169)	X						X	X		X		X
20	Wilsonville Rd (KY-3192) & Goebel Rd	X						X	X				

\* Intersection part of a current planning or design project.

Table 6-8. Potential Intersection Strategies



## Potential High Injury Network Corridor Strategies

The following table outlines potential safety improvement strategies for routes along the 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 (mile)	Potential Project Strategies
1	Taylorville Rd (KY-155)	Shelbyville Rd (KY-55) to Realty Dr	0.81	Short term: Guardrail improvements, signing, striping. <b>Active Project:</b> 5-80351.00- KY 155 and Goebel Road intersection improvements 5-8954.20 - Safety Improvements
2	Taylorville Rd (KY-155)	Realty Dr to Kings Mill Dr	1.41	Short term: Guardrail improvements, signing, striping. <b>Active Project:</b> 5-80351.00- KY 155 and Goebel Road intersection improvements 5-8954.20 - Safety Improvements 5-8954.10 - Safety Improvements from MP 2.0 to Floyds Fork in Jefferson County
3	Mt Washington Rd (KY-44)	Bullitt County Line to Goose Creek Rd	1.20	Shoulder widening, centerline rumble strips, enhanced curve signing, tree trimming <b>Active Project:</b> 5-80255.00 - Improve capacity, relieve congestion and improve safety 5-8955.00 - Improve safety and address geometric deficiencies along KY 44 near Dutchman Creek Road
4	Old Louisville Rd (KY-523)	Old Louisville Rd (KY-48) to Louisville Rd (US 31E)	1.38	Shoulder widening, edgeline rumble strips, guardrail upgrade, enhanced curve signing, tree trimming, intersection upgrades at ends, add turn lane on US 31E at Old Louisville Rd
5	Shelbyville Rd (KY-55)	Taylorville Rd (KY-155) to Shelby County Line	2.30	Shoulder widening, edgeline rumble strips (starting at MP 11.7), centerline rumble strips, enhanced curve signing, intersection signing, curve re-alignment, tree trimming <b>Active Project:</b> 5-8954.20 - Improve safety along KY 155 beginning at KY 55 intersection
6	Bloomfield Rd (KY-55)	Nelson County Line to Overlook Rd (KY-2239)	2.92	Shoulder widening, edgeline rumble strips, enhanced curve signing, intersection signing, curve re-alignment, curve widening, tree trimming
7	Taylorville Rd (KY-55)	Little Mount Rd (KY-44) to Yoder Station Rd	1.41	Roundabout/RCUT @ KY 44, intersection signing, pedestrian facilities in town (MP 6.52 – 6.80), transition zone treatments, speed management <b>Active Project:</b> 5-80256.20 - Safety Improvements and traffic operations along KY 55
8	Taylorville Rd (KY-155)	Kings Mill Dr to Jefferson County Line	2.02	Short term: Guardrail improvements, signing, striping. <b>Active Project:</b> 5-8954.10 - Safety Improvements and traffic operations along KY 155
9	Normandy Rd (KY-1169)	Elk Creek Rd (KY-1633) to Pleasant Railway	1.90	Shoulder widening, edgeline rumble strips, striping enhancement, curve signing, curve re-alignment, curve widening, guardrail upgrade <b>Active Project:</b> 5-8954.20 - Safety Improvements on KY 55 at KY 1169
10	Dale Ln (KY-1319)	McIntosh Dr to Wilsonville Rd (KY-3192)	1.50	Shoulder widening, edgeline rumble strips, striping enhancement, enhanced curve signing, curve re-alignment, curve widening, tree trimming



Rank	Route Name	Begin and End Limits	Length (mile)	Potential Project Strategies
11	Highgrove Rd (KY-48)	Lilly Pike (KY-623) to Nelson County Line	1.91	Shoulder widening, edgeline rumble strips, striping enhancement, enhanced curve signing, tree trimming
12	Bloomfield Rd (KY-55)	Overlook Rd (KY-2239) to Overdale Ln	2.11	Shoulder widening, edgeline rumble strips, enhanced curve signing, curve widening, curve re-alignment
13	Louisville Rd (US-31E)	Bullitt County Line to Bullitt County Line	1.88	RCUT at KY 48, intersection signing <b>Active Project:</b> 5-80354.00 - Safety Improvements and traffic operations from Nelson County line to KY 44
14	Little Mount Rd (KY-44)	Briar Ridge (KY-248) to Shelby County Line	2.96	Shoulder widening, centerline rumble strips, enhanced curve signing, intersection signing, curve widening, tree trimming
15	Wilsonville Rd (KY-3192)	Dale Lane (KY-1319) to Taylorsville Rd (KY-155)	1.07	Shoulder widening, edgeline rumble strips, striping enhancement, enhanced curve signing, curve widening, curve re-alignment, tree trimming
16	Old Louisville Rd (KY-48)	Old Louisville Rd (KY-523) to Nelson County Line	1.14	Shoulder widening, edgeline rumble strips, enhanced curve signing, curve widening, tree trimming, guardrail improvements
17	Franklin Rd (KY-1066)	Nelson County Line to Paul Finn Rd	1.35	Shoulder/roadway widening, edgeline rumble strips, enhanced curve signing, curve widening
18	Taylorsville Rd (KY-44)	Townhill Rd (KY-3200) to Little Mount Rd (KY-44)	0.73	Roundabout, intersection lighting, pedestrian crossing enhancement, bicycle lane, speed management
19	Lilly Pike (KY-623)	Love Ln to Mt Washington Rd (KY-44)	1.32	Shoulder widening, edgeline rumble strips, striping enhancement, enhanced curve signing, curve widening, curve re-alignment, guardrail improvements, tree trimming
20	Old Heady Rd	Wilsonville Rd (KY-3192) to Jefferson County Line	1.33	Shoulder widening, striping enhancement, culvert enhancement (bridge railing), tree trimming
21	Ashes Creek Ln (KY-2450)	Franklin Rd (KY-1066) to Cedar Mac Ln	1.46	Minor roadway widening, edgeline rumble strips
22	Elk Creek Rd (KY-1633)	KY-1633 Conn to Plum Ridge Rd (KY-1169)	1.62	Shoulder widening, edgeline rumble strips, tree trimming, enhanced curve signing, curve widening, intersection signing, curve re-alignment, guardrail improvements
23	Mt Washington Rd (KY-44)	Plum Creek Rd (KY-1060) to Carl Monroe Rd	2.87	Shoulder widening, centerline rumble strips, curve widening, enhanced curve signing, tree trimming, intersection signing <b>Active Project:</b> 5-10094.00 – Bridge Project 5-80254.00 – Improve capacity, relieve congestion, and improve safety along KY 44
24	Plum Creek Rd (KY-1060)	Mt Washington Rd (KY-44) to Plum Ridge Rd (KY-1169)	1.67	Shoulder widening, edgeline rumble strips, striping enhancement, tree trimming, enhanced curve signing, curve widening <b>Active Project:</b> 5-80254.00 – Improve capacity, relieve congestion, and improve safety along KY 44
25	Little Mount Rd (KY-44)	Taylorsville Rd (KY-55) to Briar Ridge (KY-248)	5.11	Rumble strips, transition zone treatment (westbound)

Table 6-9. Potential Corridor Strategies



## Systemic 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. Risk factors for Spencer County's roadway network were identified by analyzing crash and roadway data, with high speeds, narrow lanes, and sharp curves emerging as key areas of concern.

Systemic strategies involve implementing widespread 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 – Stop Controlled Intersections on Major Arterials

Given the high crash severity at three and four-leg stop controlled intersections on major highways in the County, it is recommended that systemic measures be taken to limit the likelihood and severity of those crashes. This could include substantial signing and marking upgrades at these locations. Some could potentially be converted to right-in/right-out intersections for safety reasons. Drivers on the major highways should be alerted to the presence of entering traffic. Lighting could also be installed at key intersections.

### Strategy 2 – Curve Signing and Striping

Upgrade the signing and striping in sharp curves (approximately 8.5 degrees or more) throughout the county. This could be prioritized based on speeds and volumes but should ultimately lead to upgrades for all 45 mph and higher roadways.

### Strategy 3 – Shoulder / Lane Widening and Rumble Strips

Widen the paved surface on roadways with 8-foot and 9-foot lanes throughout the county. The additional paved width could be added to the lanes or shoulders as determined to be most appropriate. Rumble strips (edge and center) should also be added where possible.

### Strategy 4 – Speed Management

High speeds in Spencer County are associated with more severe crashes. As highways are upgraded over time, steps should be taken to incorporate speed management techniques.

## 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 County's capacity to execute each action. In cases where the County 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
<b>Short Term (0 to 3 years)</b>	1	Adopt Complete Street, Active Transportation and/or updated safety related subdivision policies	Chapter 5	Work with RTC/KIPDA to obtain model policies for adoption	Policy / Procedures
	2	Submit agreed on joint application for SS4A grant funding for one of top HIN segments	Chapter 6; Table 6-9	Work with RTC/KYTC to identify and agree on a project and match funding	Infrastructure
	3	Begin outreach and education initiative with young and older drivers	Chapter 3	Collaborate with school district, public agencies, and non-profits	Behavioral
	4	Implement initial low-cost Speed Management strategies	Chapters 3 and 6; Systemic Sec.	Work with law enforcement, RTC, and KYTC to identify key corridors	Operational
	5	Support targeted speed and traffic control enforcement	Chapter 3	Work with law enforcement, RTC, and KYTC to identify key locations	Operational
<b>Mid Term (4 to 7 years)</b>	6	Implement easy to implement systemic infrastructure focused project	Chapters 3 and 6; Systemic Sec.	Work with RTC/KYTC to identify a promising project and funding	Infrastructure
	7	Implement high priority HIN segment project	Chapter 3 and Chapter 6	Work with RTC/KYTC to identify a promising project and funding	Infrastructure
	8	Implement high priority intersection project	Chapter 3 and Chapter 6	Work with RTC/KYTC 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 countywide safety initiatives focusing on distracted driving, rural highway speeds, rural to urban transition zones, seat belt usage, and impaired driving	Chapter 3	Work with RTC/KIPDA and other counties to develop a multi-county outreach approach	Behavioral
<b>Long Term (8+ years)</b>	11	Implement additional systemic infrastructure focused projects (goal is one or more every five years)	Chapters 3 and 6; Systemic Sec.	Build long-term partnership with KYTC (District 5 and HSIP) to identify and 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 partnership with KYTC (District 5 and HSIP) to identify and 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 partnership with KYTC (District 5 and HSIP) to identify and 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
<b>Ongoing</b>	15	Continue Local Safety Meetings	Chapters 2 and 4	Schedule quarterly meetings	Policy / Procedures
	16	Collaborate with RTC/KIPDA to monitor, assess, and publicly report progress	Chapter 7	Coordinate with RTC/KIPDA to implement reporting plan	Policy / Procedures
	17	Continue building staff/agency knowledge regarding highway safety	Chapters 4, 5, and 6	Coordinate with RTC/KIPDA to schedule annual sessions	Policy / Procedures

Table 6-10. Implementation Action Plan Timeline



## 7. Progress and Transparency

Spencer County, with support from KIPDA and the RTC, 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 County 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 County.

##### ***Fatal and Suspected Serious Injury Crashes***

Evaluating fatal and suspected serious injury crash trends is a key focus. Fatal and suspected serious injury crashes would 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 County annually.

##### ***Vulnerable Road User Crashes***

Crashes involving vulnerable road users would 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 County 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 county-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,



especially those currently underserved, 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

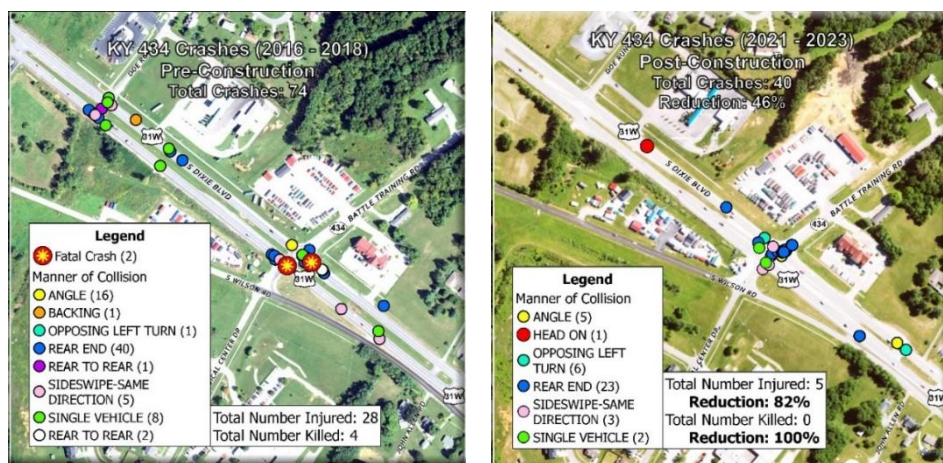
This performance measure tracks the number of safety-focused improvement projects constructed from the potential improvements listed in **Chapter 6**. The total number of safety improvements implemented at the intersection and along the corridors identified on the HIN would be recorded annually.

### 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.



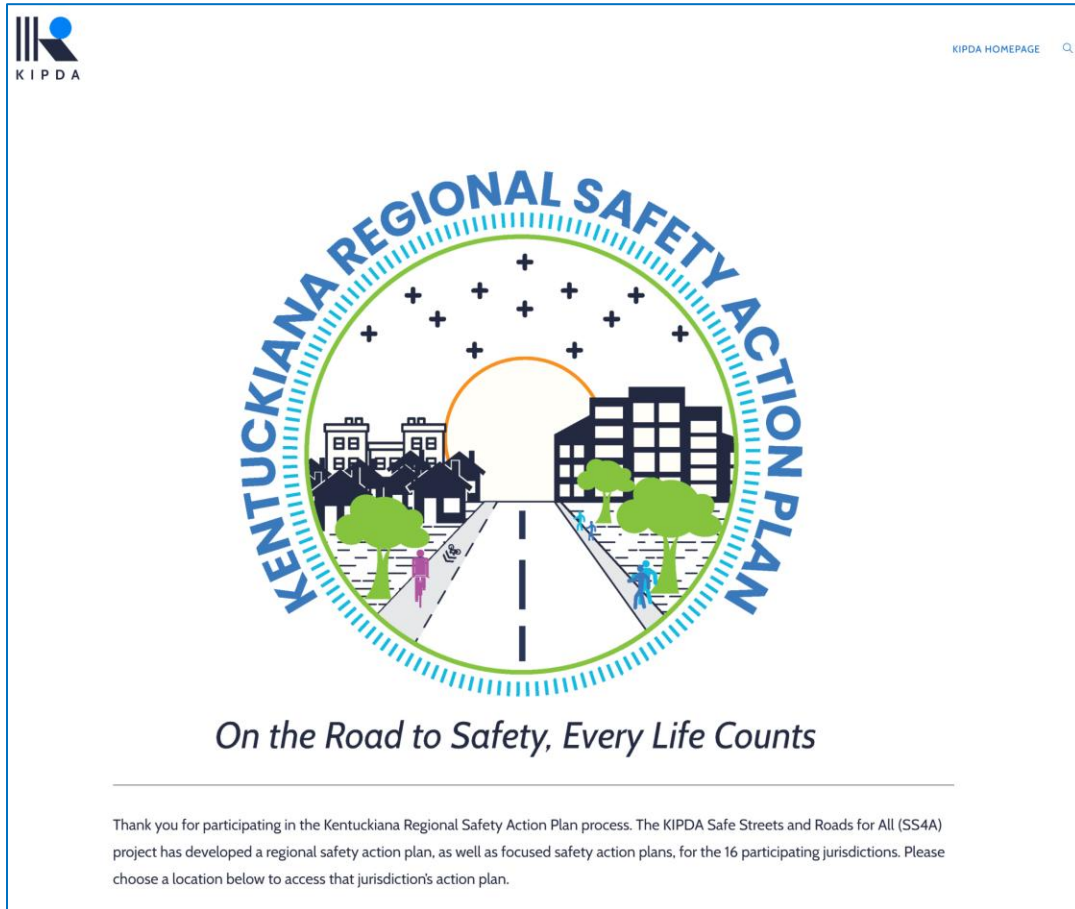
Geospatial representation of crash trends for specific projects is an effective method to demonstrate their impact to the community. Illustrating pre- and post-construction crash data, with a focus on the decrease in fatal and suspected serious injury crashes, clearly communicates safety improvements.

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 Spencer County 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

## Continuous Highway Analysis Framework (CHAF)

### List



CHAF	Highway Plan Project	Primary Route	Primary BMP	Primary EMP	Length	Project Description	Type of Work
IP20150054	5-80316.00	KY 155	2.4	2.6	0.2	Improve safety at the intersection of KY 155 and KY 3192/Hochstrasser Road.	Spot Improvement
IP20190093	5-80351.00	KY 155	0.65	0.85	0.2	Improve safety at the intersection of KY 155 and Goebel Road/Hochstrasser Road	Spot Improvement
IP20230018	5-80327.00	US 31 E	1.502	1.796	0.294	Improve safety at US 31E and KY523 intersection	Improve Intersection
IP20190092		KY 155	0.2	0.4	0.2	Improve safety on KY 155 near the entrance to Spencer Christian Church	Spot Improvement
IP20150052	05-80315.00	KY 44	5.6	6.2	0.6	Address safety and geometric issues on KY 44 at Junction KY 1251 to curve after Hunter's Trace Road.	Spot Improvement
IP20130035	05-8955.00	KY 44	0.28	0.44	0.16	Improve safety and address geometric deficiencies along KY-44 near Dutchman Creek Road. (16CCN)	Safety
IP20080263		KY 1169	4.96	7.14	2.18	Improve safety and address geometric deficiencies along KY 1169 from KY 55 to Meadowlake Drive.	Major Widening
IP20080264		KY 1169	0	4.96	4.96	Address safety issues and geometric issues on KY 1169 from KY 1060 to just west of the KY 1169/KY 55 intersection.	Major Widening
IP20230137	5-80213.00	KY 55	6.61	6.84	0.23	Reduce congestion, improve safety, and enhance mobility on KY 55 from KY-44 to Industrial Dr.	Safety-Haz-Elm
IP20230129	5-8954.20	KY 155 KY 55	0 (KY 155) 10.56 (KY 55)	2 (KY 155) 11.27 (KY 55)	2.71	Improve safety and traffic operations on KY 55 from KY 1169 to KY 155 and on KY 155 from KY 55 to MP 2.00 (total length 2.71 miles) (Portion of 5-8954.00)	Major Widening
IP20230128	5-8954.10	KY 155	2	4.247	2.247 (Spencer) 4.0 (Jeff)	Improve safety and traffic operations on KY 155 from MP 2.000 in Spencer County to Floyds Fork in Jefferson County (total length 6.247 miles) (Portion of 5-8954.00)	Major Widening
IP20240019	5-80257.00	KY 55	11.27	13.566	2.296	Improve safety and traffic operations on KY 55 from KY 155 near Elk Creek to KY 148 at Finchville. Project limits are on KY 55 in Spencer County from KY 155 (Taylorsville Road) at MP 11.270 to the Spencer/Shelby County line at MP 13.566 and in Spencer County from MP 0.00 to just north of KY 148 (Finchville Rd) at MP 2.260.	Air Quality
IP20240041		KY 44	9.52	9.55	0.03	Add Southbound turn lane on KY 44 for Dollar General store in Taylorsville.	Spot Improvement



CHAF	Highway Plan Project	Primary Route	Primary BMP	Primary EMP	Length	Project Description	Type of Work
IP20240003	5-80354.00	US 31 E	0 (Bullitt) 0 (Spencer)	3.53 (Bullitt) 1.88 (Spencer)	5.41	Improve traffic operations and improve safety along US 31E (Louisville-Bardstown Road) from the Bullitt/Nelson County Line to KY 44	Minor Widening
IP20230063	05-80255.00	KY 44	0	1.202	1.202	Improve capacity, relieve congestion, and improve safety along KY 44 from Coxs Lane (CR 1087) near the Bullitt/Spencer County line to Goose Creek Road.	Reconstruction
IP20240016	5-80254.00	KY 44	1.2	7.54	6.34	Improve capacity, relieve congestion, and improve safety along KY 44 from Goose Creek Road to Oak Tree Way. (Combination of IP20230064, IP20230065, IP20230066.)	Reconstruction
IP20230064	Combined as 5-80254.00	KY 44	1.202	3.75	2.548	Improve capacity, relieve congestion, and improve safety along KY 44 from Goose Creek (CR 1121) to KY 1060 (Plum Creek Road) (portion of 05-80254.00 Goose Creek to Oak Tree Way	Reconstruction
IP20230065	Combined as 5-80254.00	KY 44	3.75	5.727	1.977	Improve capacity, relieve congestion, and improve safety along KY 44 from KY 1060 (Plum Creek Road) to KY 1251 (Hardesty Ridge Road)	Reconstruction
IP20230066	Combined as 5-80254.00	KY 44	5.727	7.542	1.855	Improve capacity, relieve congestion, and improve safety along KY 44 from KY 1251 (Hardesty Ridge Road) to Oak Tree Way	Reconstruction
IP20080258		KY 55	2.922	6.518	3.596	Address safety issues, substandard curves, low shoulders, narrow lanes, and sight distance to upgrade the safety of the KY 55 corridor from Taylorsville (MP 6.52) to KY 2239 (2.92).	Reconstruction
IP20080259		KY 55	0.316	2.922	2.606	Address safety issues, substandard curves, low shoulders, narrow lanes, and sight distance to upgrade the safety of the KY 55 corridor from KY 2239 to KY 1066.	Reconstruction
IP20230138	5-80256.00	KY 55	6.6	10.56	3.96	Improve safety and traffic operations on KY 55 from KY 44 in Taylorsville to KY 1169 (Normandy Road).	Minor Widening
IP20190144		KY 636	0	3.608	3.608	Address safety issues and geometric issues along KY 636 from KY 248 to Shelby County Line. MP 0.000 to MP 3.608	Minor widening
IP20190145		KY 1060	0	1.7	1.7	Address safety issues and geometric issues along KY 1060 from KY 44 to KY 1169. MP 0.00 to MP 1.70	Minor widening



**Appendix B**

**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

		Cost Percentages ==>									(7%/yr compounded)			
		5%	15%	20%	10%	12%	15%	50%	61%	61%	Low Total 2025	High Total 2025 Cost	Low Total 2032 Programming	High Total 2032 Programming
Project	Unit	Planning	Design and Environmental Permitting	Right-of-Way	Utilities	Construction Inspection	Construction Construction	Subtotal	Low Planning Level Contingency	High Planning Level Contingency	Cost	Cost	Cost	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%	10%	10%	35%	61%	61%	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*

