On the Road to Safety, Every Life Counts

Kentuckiana Regional Planning & Development Agency

Safety Action Plan

8/26/2025

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Introduction

The Kentuckiana Regional Planning & Development Agency (KIPDA) and 16 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.

KIPDA 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. This Safety Action Plan addresses seven important SS4A Program safety components. Each component is a chapter in the Safety Action Plan.


Leadership Commitment and Goal Setting


Planning Structure


Safety Analysis


Engagement and Collaboration


Policy and Process Changes


Strategy and Project Selections


Progress and Transparency

Important Note: In addition to this regional Safety Action Plan, the 16 participating cities and counties also have their own focused Safety Action Plans (See Section 2: Planning Structure). Please refer to those plans for more detailed information, analysis, and recommendations for each of those communities.

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.

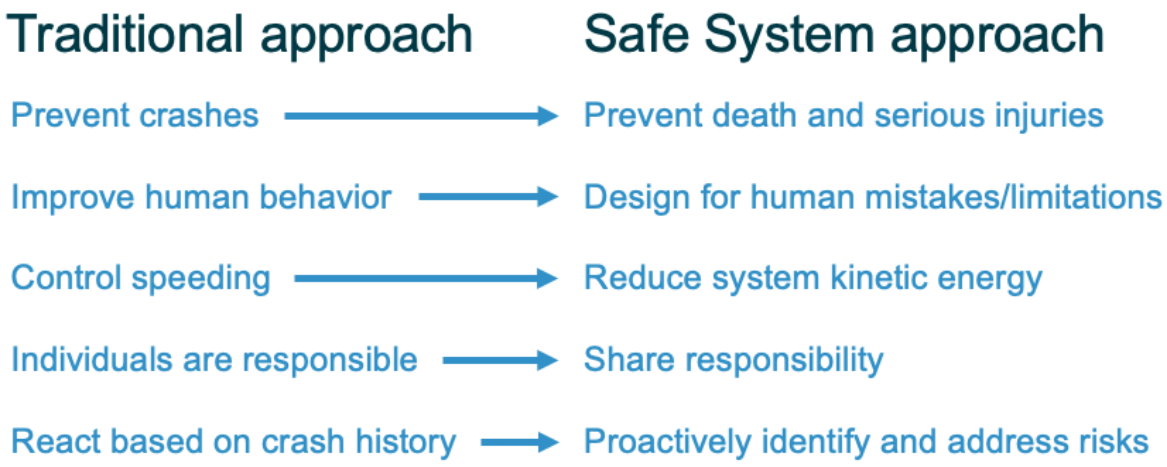
Responsibility is Shared: Preventing fatal and serious injuries is a shared responsibility. All stakeholders must work together to enhance road safety.

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.



Overview

From 2018 to 2022, the KIPDA region experienced a total of 138,197 crashes or approximately 75 crashes per day across the region (excluding crashes on interstates or in parking lots). During the five years there were 3,514 severe crashes, including 597 fatal crashes and 2,917 suspected serious injury crashes. This is an average of 700 severe crashes per year or about two per day (refer to the figures below).

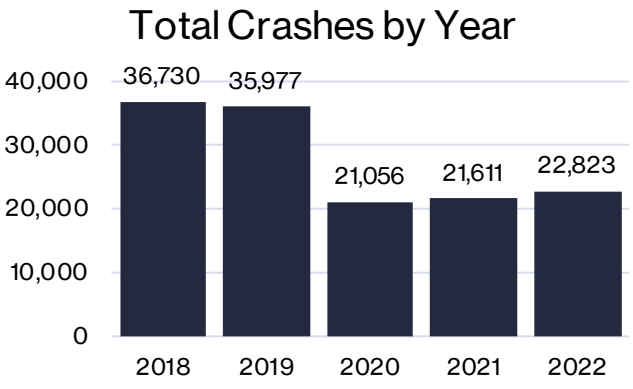
The total societal cost of these crashes is estimated at $12.787 billion, including both economic losses and quality-of-life impacts. This is approximately $2.6 billion in societal costs per year.

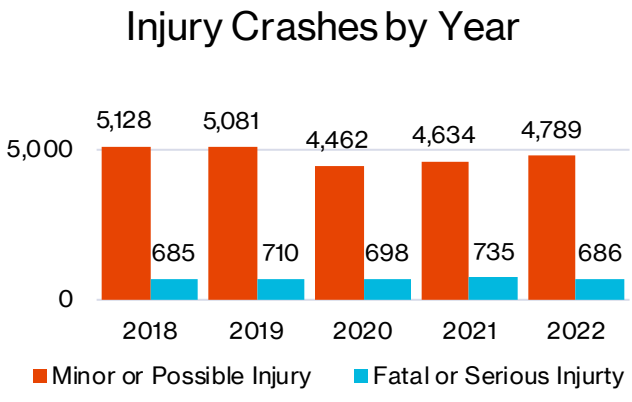
Of the 3,514 severe crashes, 483 (14%) involved a pedestrian, 114 (3%) involved a bicyclist, and 497 (14%) involved a motorcyclist. Thus, nearly one-third of the fatal and serious injury crashes involved an individual in these three categories.

A notable trend during the study period was the decline in crashes during the COVID-19 pandemic, when the total number of reported crashes dropped from 35,977 in 2019 to 21,056 in 2020. The pandemic resulted in reduced travel and changes in travel times and patterns. Law enforcement officers also modified their crash reporting procedures for low severity crashes. The net impact of these changes was a substantial reduction in the reported number of low severity crashes for 2020 and this continued into 2021 and 2022. The number of fatal and serious injury crashes remained relatively constant throughout the five-year period.

138,197	$12.787 Billion
Total Crashes	Societal Cost

	Total	Fatal	Serious
	708	20	94
	1,944	139	344
	1,622	98	399





1. Leadership Commitment and Goal Setting

KIPDA is dedicated to pursuing safety for all users across the region's streets and highways. This commitment is demonstrated by the resolutions on the following pages. The KIPDA resolution states that the Transportation Policy Committee (TPC) has established "a goal of working towards zero traffic fatalities and serious injuries by the year 2050" and that the TPC "will plan and program projects that contribute to the accomplishment of said goal." The Regional Transportation Committee (RTC) also established "a goal of working towards zero traffic fatalities and serious injuries by the year 2050." The 16 participating jurisdictions listed in Section 2: Planning Structure have also adopted resolutions or ordinances with similar goals.

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

The *Connecting Kentuckiana 2050 Metropolitan Transportation Plan* (MTP) establishes "Increased Safety for All Users" as a primary goal of the plan. It goes on to list four key objectives: 1) Stabilize And Decrease Serious Injury Crashes & Fatalities; 2) Reduce Bicycle And Pedestrian Related Crashes; 3) Increase Safety On Fixed Route Transit And Paratransit; and 4) Increase Transportation Safety Through Intelligent Transportation System Solutions. Furthermore, the MTP scores projects with regard to safety. It considers several key safety factors in this score. The KIPDA FY 2025 to FY 2028 Transportation Improvement Program restates the MTP safety goal and objectives and provides the overall MTP scores for each project, which includes the safety score.

The KIPDA Complete Streets Policy is intended to "help to guide transportation infrastructure investments in a manner that supports regional safety." It requires consideration of "the level of comfort and safety provided" by a transportation facility. It also states that, "every project shall be designed to optimize the level of comfort and safety for the people who are most vulnerable on our roadways."

The Coordinated Human Services Transportation Plan identifies safety as a major need for older adults and individuals with disabilities. It states that, "older adults, individuals with disabilities and others with limited mobility have unique considerations when it comes to safety" and "people also need safe infrastructure to walk, bike, or ride transit. Safe and comfortable infrastructure encourages people to take modes other than driving." Safety was also a consideration in KIPDA's 2025 Congestion Management Process.

The RTC meetings and materials show that safety is a key consideration in the identification, scoring, and funding of improvement projects in the four RTC counties of Henry, Shelby, Spencer and Trimble.

The following pages are resolutions setting the goal of zero traffic fatalities and serious injuries by the year 2050 for the TPC and the RTC.

A RESOLUTION

by the

Louisville/Jefferson County KY-IN Metropolitan Planning Organization

Concerning Approving the 2050 Vision Zero Resolution

WHEREAS, the KIPDA Transportation Policy Committee (TPC) has been designated by the Governors of both the State of Indiana and the Commonwealth of Kentucky as the Metropolitan Planning Organization responsible for the comprehensive, continuing, and cooperative transportation planning process for the Louisville/Jefferson County KY-IN Urbanized Area; and

WHEREAS, the KIPDA Transportation Policy Committee ("Policy Committee"), a committee of the KIPDA MPO, is the approval body for all transportation-related activities of the KIPDA MPO for the Planning Area under applicable U.S. Department of Transportation regulations; and

WHEREAS, Vision Zero is the simple yet ambitious idea that there is no acceptable number of traffic deaths and serious injuries on our roadways; and

WHEREAS, the Policy Committee recognizes that traffic deaths and serious injuries are not inevitable; and

WHEREAS, the 2025 Vision Zero Resolution is a required component of the Safe Streets and Roads for All (SS4A) Action Plan; and

WHEREAS, this Vision Zero Resolution aspires to reduce and eventually eliminate serious and fatal crashes; and

WHEREAS, the TPC is coordinating with the Kentucky Transportation Cabinet and Indiana Department of Transportation to develop safety action plans to analyze existing conditions, historical trends, systemic and specific needs and to identify projects and strategies to address identified problems; and

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

WHEREAS, one of the primary goals of the TPC is to increase safety for all users of the transportation system;

NOW THEREFORE, BE IT RESOLVED, that the MPO Transportation Policy Committee (TPC) hereby establishes a goal of working towards zero traffic fatalities and serious injuries by the year 2050; and

BE IT FURTHER RESOLVED, that the MPO Transportation Policy Committee will plan and program projects that contribute to the accomplishment of said goal.

ADOPTED THIS 27th DAY OF MARCH, 2025

Jack Coffman
Chairman, Transportation Policy Committee

1

RESOLUTION OF THE REGIONAL TRANSPORTATION COMMITTEE

FOR HENRY, SHELBY, SPENCER & TRIMBLE COUNTIES

WHEREAS, the Regional Transportation Committee (RTC) for Henry, Shelby, Spencer & Trimble Counties sets goals and objectives for transportation systems as part of the Regional Planning process of the Kentucky Transportation Cabinet; and

WHEREAS, during a study period between 2018 and 2022 the region of Henry, Shelby, Spencer & Trimble counties lost 60 persons and has witnessed 222 serious injury crashes on non-interstate roads; and

WHEREAS, the RTC aspires to reduce and eventually eliminate traffic related fatalities and serious injuries; and

WHEREAS, the RTC is coordinating with the Kentucky Transportation Cabinet to develop safety action plans to analyze existing conditions, historical trends, systemic and specific needs and to identify projects and strategies to address identified problems; and

WHEREAS, a safety plan is an eligibility requirement for implementation grants through the Safe Streets and Roads for All (SS4A) program; and

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

WHEREAS, one of the primary goals of the RTC is to increase safety for all users of the transportation system;

NOW, THEREFORE BE IT RESOLVED, that the Regional Transportation Committee for Henry, Shelby, Spencer & Trimble Counties hereby establishes a goal of working towards zero traffic fatalities and serious injuries by the year 2050.

Adopted by the Regional Transportation Committee for Henry, Shelby, Spencer & Trimble Counties this 27th day of February, 2025.

Date: 2-27-25

Chairman, Regional Transportation Committee for Henry, Shelby, Spencer & Trimble Counties

2. Planning Structure

The KIPDA Safety Action Plan was developed in conjunction with 16 local government safety action plans. This process included a regional steering committee, meetings with leaders from each community, and community level committee meetings. The KIPDA plan was also discussed by the Transportation Technical Coordinating Committee (TTCC) and the Transportation Policy Committee (TPC). The following describes these bodies and their collaborative efforts in the development of the plan.

Regional Steering Committee

The Regional Steering Committee provided oversight and strategic direction for the Safety Action Plan development process. The Committee was composed of KIPDA staff and representatives from 16 local government agencies listed below.

1. Bullitt County, KY
2. Charlestown, IN
3. Clark County, IN
4. Clarksville, IN
5. Floyd County, IN
6. Henry County, KY
7. Jeffersontown, KY
8. Jeffersonville, IN
9. Louisville Metro, KY
10. Mt. Washington, KY
11. Oldham County, KY
12. Shelby County, KY
13. Shepherdsville, KY
14. Spencer County, KY
15. St. Matthews, KY
16. Trimble County, KY

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

Community Leadership Meetings and Plan Review

Meetings were held with the 16 communities at two key points during the plan development to receive and relay detailed input and feedback. The first meeting with each community 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 community leaders 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 each community to be adequately addressed in their plans and in the overall KIPDA regional plan.

Each community reviewed their final Safety Action Plan to provide feedback. KIPDA staff reviewed the local government plans as well as the final KIPDA regional plan to yield a plan that is useful for moving the region toward a safer future.

Safety Committee Meetings

The local government agencies held safety committee meetings to provide localized oversight and input into their unique plan. The members of the committees varied from one community to another. These committees provide a means of continuing the safety planning and project implementation process for each community. KIPDA staff participated in many of these meetings and have working relationships with the local government agencies which will allow them to support ongoing safety planning and project implementation. Refer to each specific plan for more information on the local safety committee meetings. The 16 plans can be found on KIPDA's SS4A website.

Transportation Technical Coordinating Committee, Transportation Policy Committee, and Regional Transportation Committee

These three standing committees provide policy, technical, and funding guidance and decision making for the region. They regularly meet to discuss regional and project level safety topics. These three committees provided support for the development of the KIPDA Safety Action Plan. They will be the bodies responsible for implementing the regional action plan going forward. They will also assist with coordination between the 16 jurisdictions and other municipalities and agencies in the region. This will include coordination with the Kentucky Transportation Cabinet (KYTC) and the Indiana Department of Transportation (INDOT). For example, it is anticipated that KIPDA staff will work with these three committees and the member and partner agencies to support ongoing safety planning and annual safety focused educational sessions.

3. Safety Analysis

Study Area

The study area for the KIPDA Safety Action Plan included nine counties, two in Indiana and seven in Kentucky, as shown in Figure 3-1. The study examined crashes on public streets and roads within the region, but it excluded crashes on interstate highways and in parking lots.

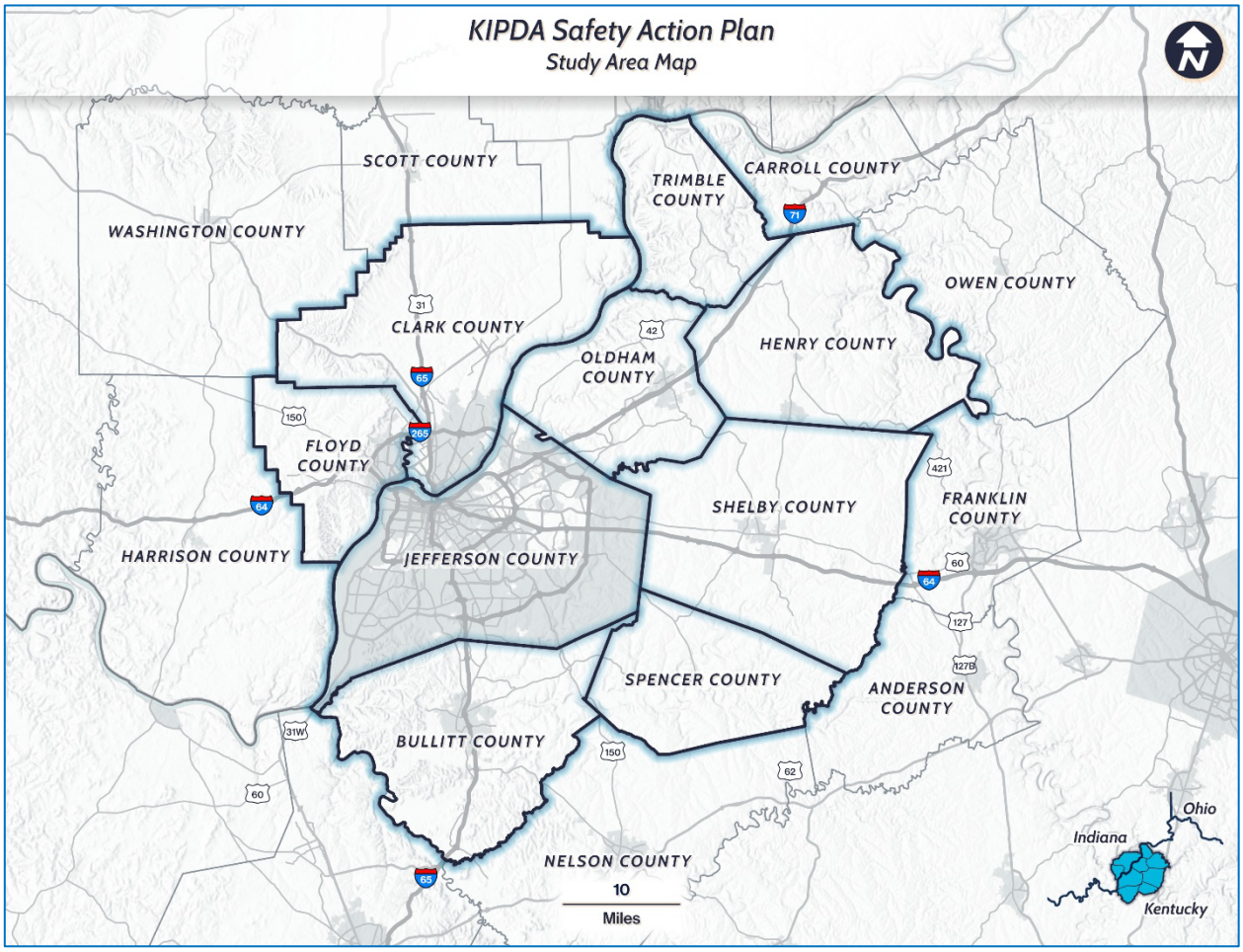


Figure 3-1. Study Area

As noted previously, if you are interested in the specific safety analysis or recommendations for one of the 16 participating cities and counties please refer to the plan for that specific community.

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 crash data separately for the Kentucky and Indiana portions of the study area. The Kentucky data was obtained 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 project team obtained the Indiana crash data from the Indiana State Police (ISP) crash database - Automated Reporting Information Exchange System (ARIES). This data is primarily collected by city, county, and state police department crash investigation teams when they complete an Indiana Officer's Standard Crash Report form. This form captures information that is similar to, but not exactly the same as, the Kentucky data. The Indiana data is entered into a database maintained by ISP.

The initial crash data included all crashes from 2018 to 2022. Crashes located on interstates and those that occurred in parking lots were removed from the dataset. Additionally, some crashes could not be linked to the GIS roadway network due to missing information. After these adjustments, the final crash database used for the study included 138,197 crashes.

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

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

Crash Severity

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

For this plan, the Indiana crash severity data was reviewed against the reported detailed injury data to confirm the severity. This review was performed because of observed KABCO rating issues, especially in some of the earlier years of data. This process resulted in some crashes being adjusted to better match the MMUCC.

Table 3-1 provides a breakdown of the crashes in the KIPDA region by severity.

		Kentucky		Indiana		KIPDA Region	
Severity	**MMUCC Severity Description**	**Crashes (2018-2022)**	**%**	**Crashes (2018-2022)**	**%**	**Crashes (2018-2022)**	**%**
K	Fatal Injury	535	<1%	62	<1%	597	<1%
A	Suspected Serious Injury	2,225	2%	692	3%	2,917	2%
B	Suspected Minor Injury	10,265	9%	2,197	9%	12,462	9%
C	Possible Injury	10,885	8%	747	3%	11,632	8%
O	No Apparent Injury	88,964	79%	21,625	85%	110,589	80%
Total		**112,874**	**100%**	**25,323**	**100%**	**138,197**	**100%**

Table 3-1. Crashes by Severity

Figure 3-2 shows the location of all crashes documented during the study period. Density of crashes is shown with a gradient scale. The highest density of crashes during the study period occurred within Louisville Metro (Jefferson County) and in Southern Indiana across the river from Louisville.

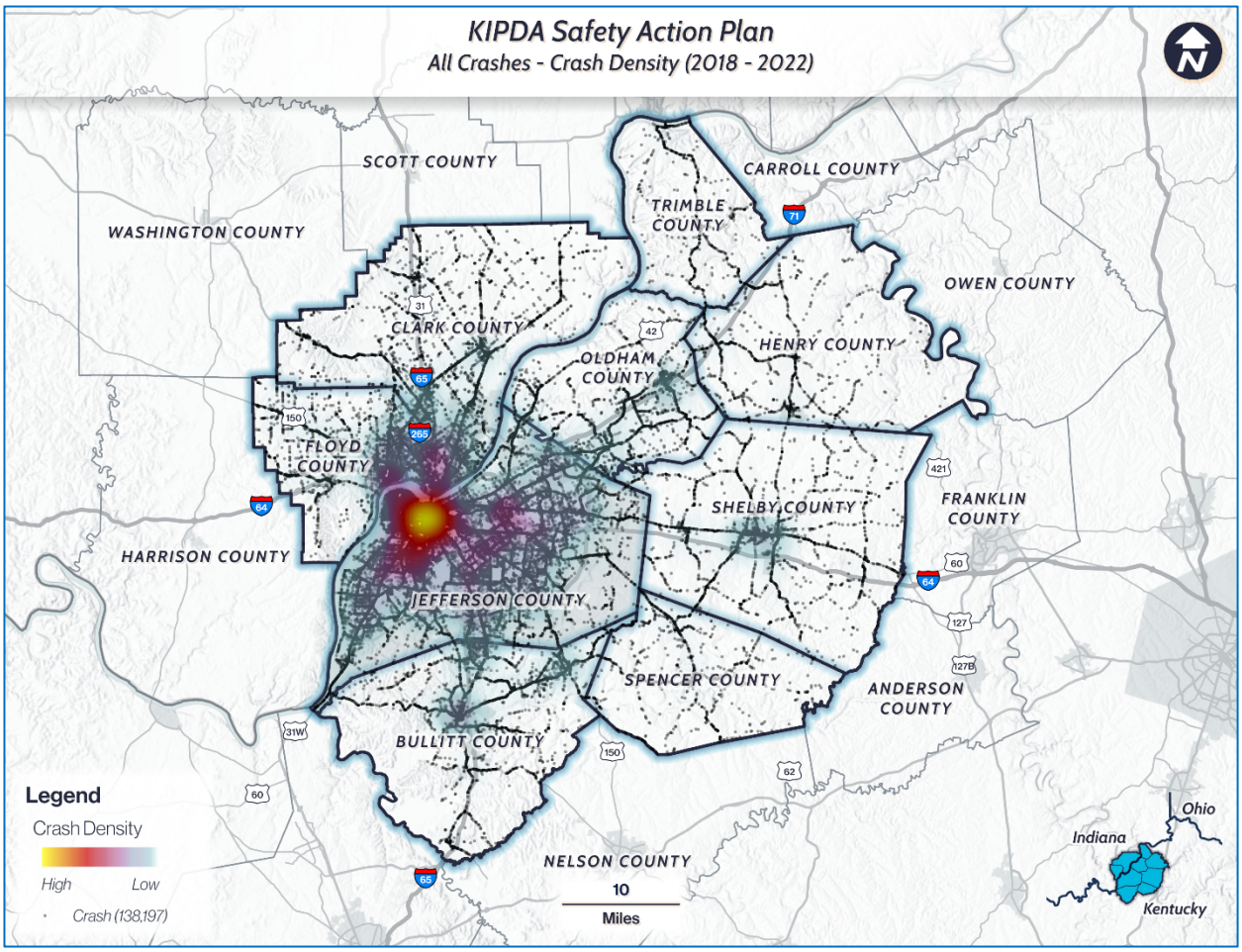


Figure 3-2. Crash Density Map

Figure 3-3 shows the locations of fatal and suspected serious injury crashes. Severe crashes occur throughout the KIPDA region, with more dense clusters in Louisville Metro and along major highways.

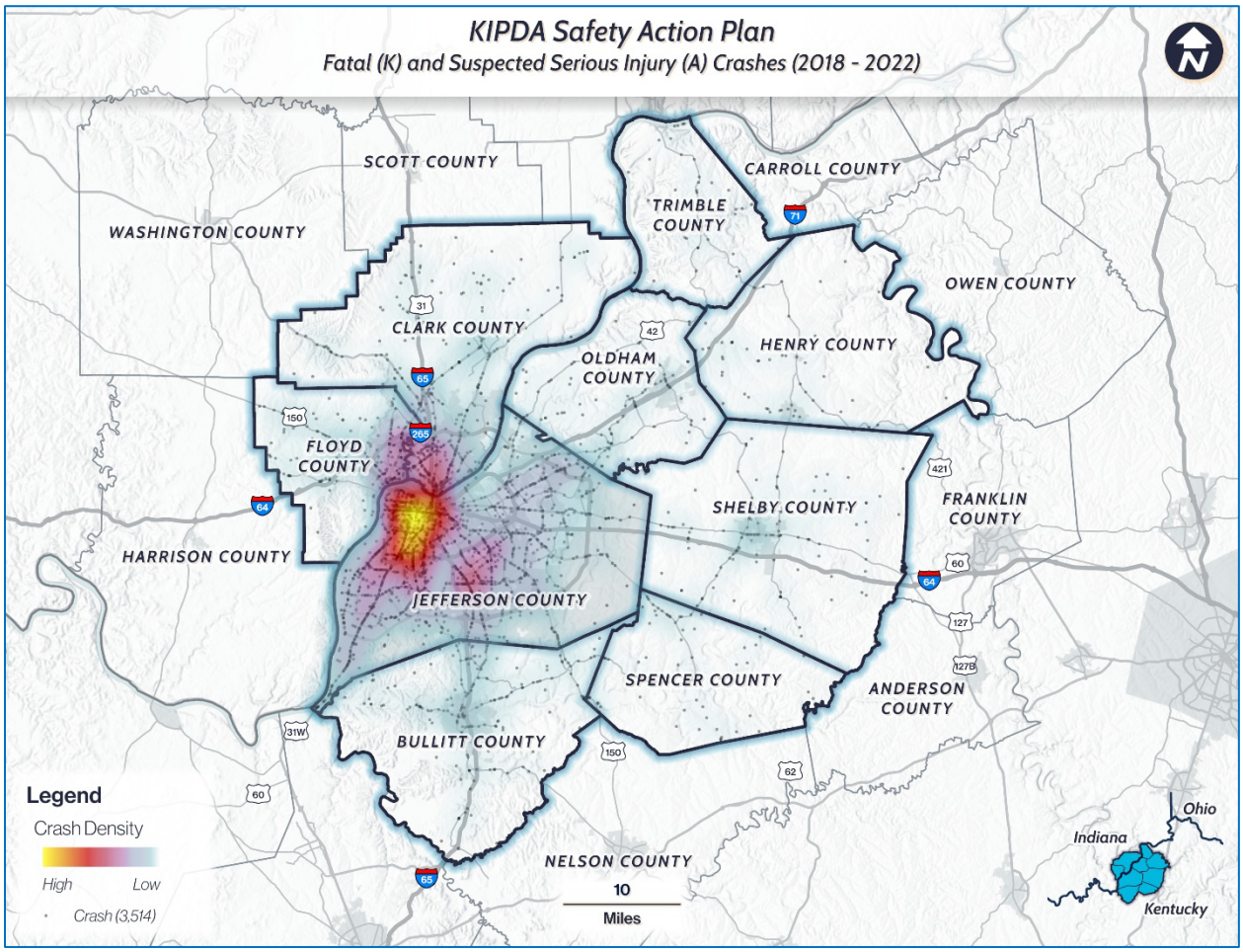


Figure 3-3. Fatal and Suspected Serious Injury Crash Map

Crash Trends

The crash data has been examined considering a number of 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. The crash trends for many of the 16 participating jurisdictions vary from these regional trends so consider reviewing those plans for more details.

Annual Crash Trends

The figure below shows the annual number of total crashes and fatal and suspected serious injury crashes for the KIPDA region (not including interstate or parking lot crashes). As shown, the total number of reported crashes was around 36,000 before 2020 and was 21,000 to 23,000 in the three following years. The number of severe crashes ranged from approximately 685 to 735 per year. In 2022, the reported number of total crashes was still substantially lower than in 2019 (37% lower), but the number of severe crashes was similar to the pre-2020 values.

The COVID-19 pandemic affected traffic patterns and crash reporting. The reduction in travel during 2020 reduced the total number of crashes. However, changes in driving behavior led to a higher proportion of severe crashes in some parts of the region. In addition, in early 2020, police operating procedures in some jurisdictions were modified to limit responses to property damage only crashes to minimize potential COVID-19 exposure. This led to an underreporting of non-severe crashes. These various factors explain the drop in reported total crashes from 2019 to 2020, while the reported severe crashes remained similar.

Using only the available reported data, in 2018 and 2019, severe crashes were just under 2% of all crashes, but from 2020 to 2022 they ranged from 3.0% to 3.3% of all crashes. It may be useful to monitor that percentage over the next several years to see if it returns to the pre-2020 level.

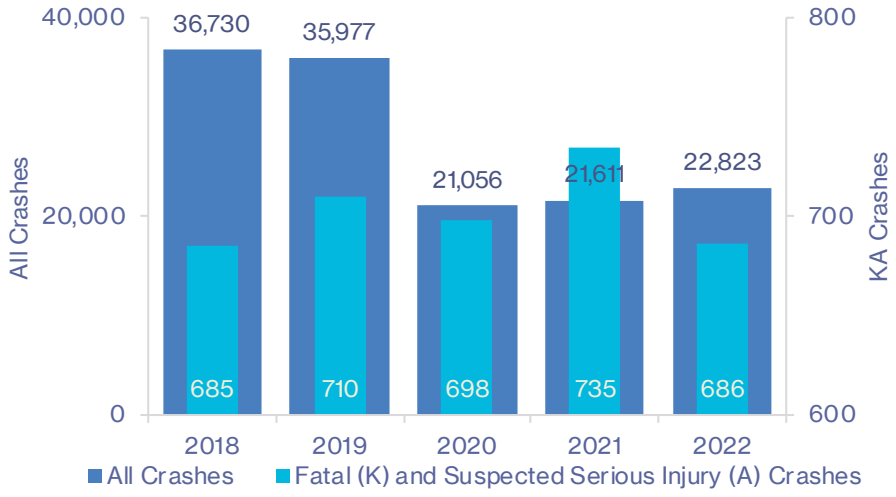


Figure 3-4: Overall Crashes by Year

Over the five-year period, the Kentucky portion of the region accounted for 82% (112,874) of all reported crashes and the Indiana portion accounted for 18% (25,323). For fatal and serious injury crashes, Kentucky accounted for 79% (2,760) and Indiana accounted for 21% (754).

However, an examination of specific severities showed that Kentucky accounted for 90% of the region's fatalities. This is likely related to the high number of pedestrian fatalities in Kentucky as discussed later in the this section. In contrast, Kentucky only accounted for 76% of the suspected serious injury crashes, with Indiana accounting for 24% of that crash severity. This may in part be due to the difference in crash reporting methodologies between Indiana and Kentucky, with Indiana officers historically coding more crashes as suspected serious injury crashes than Kentucky officers. This difference appears to have become less prominent with the most recent crash coding changes in Indiana. In 2022, only 17% of the suspected serious injury crashes were in Indiana.

Another coding difference relates to possible injury coding, where 94% of that crash type was recorded in Kentucky and only 6% in Indiana. For this category, it appears that Kentucky officers are more likely to assign that crash severity code. These differences are important to note, but they do not have a major impact on the regional safety analysis findings due to the manner in which the data was processed and aggregated to yield clear safety trends and findings.

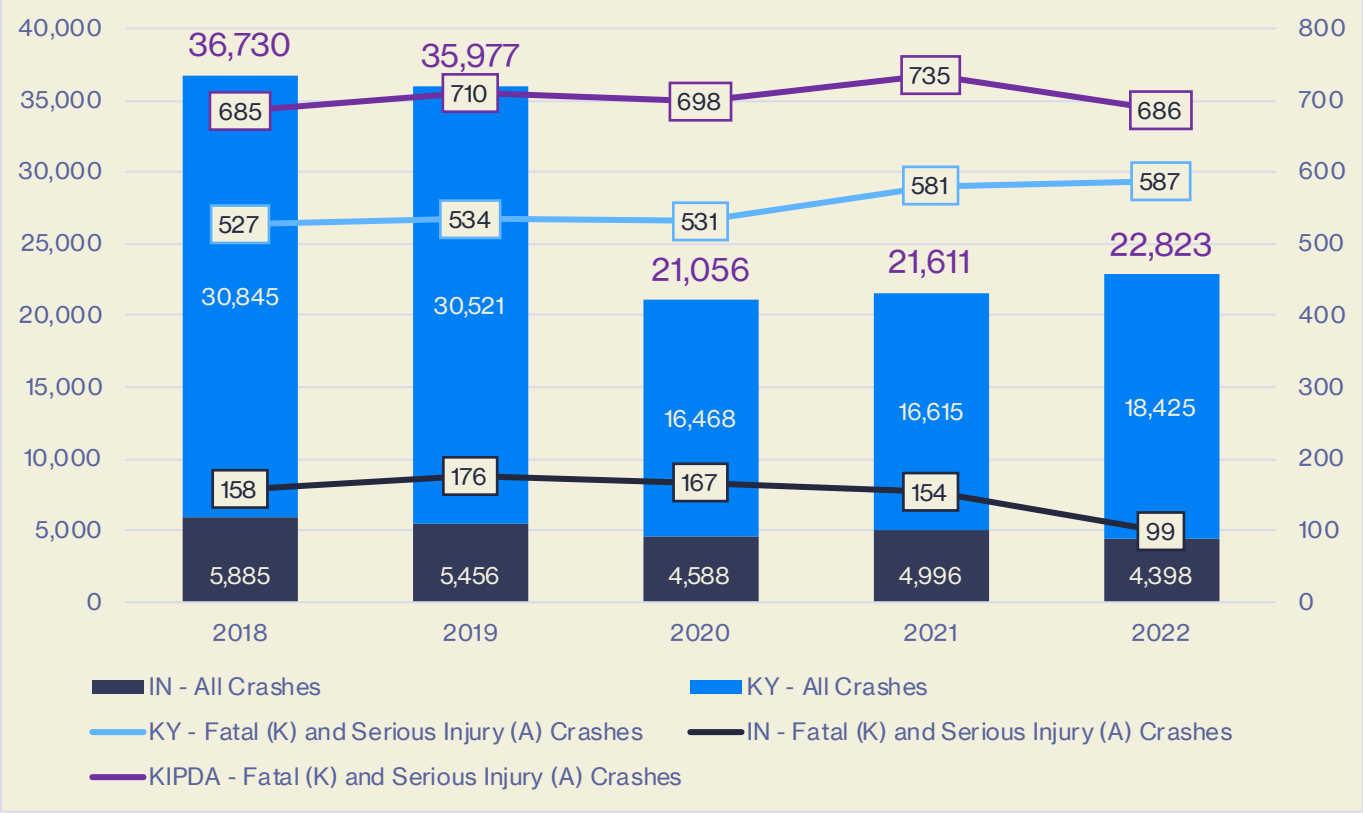


Figure 3-5: Annual Crash Trends

Crash Occurrence

Month

Crash trends in the KIPDA region remain steady throughout the year, with each month accounting for around 7% to 9% of total crashes. However, the share of fatal and suspected serious injury crashes is slightly higher in the spring and summer months. From April through October, each month accounts for 9% to 10% of serious crashes, with the highest percentage occurring in May and June at 10%. In contrast, the winter months (January and February) experience fewer serious crashes, each accounting for just 6%.

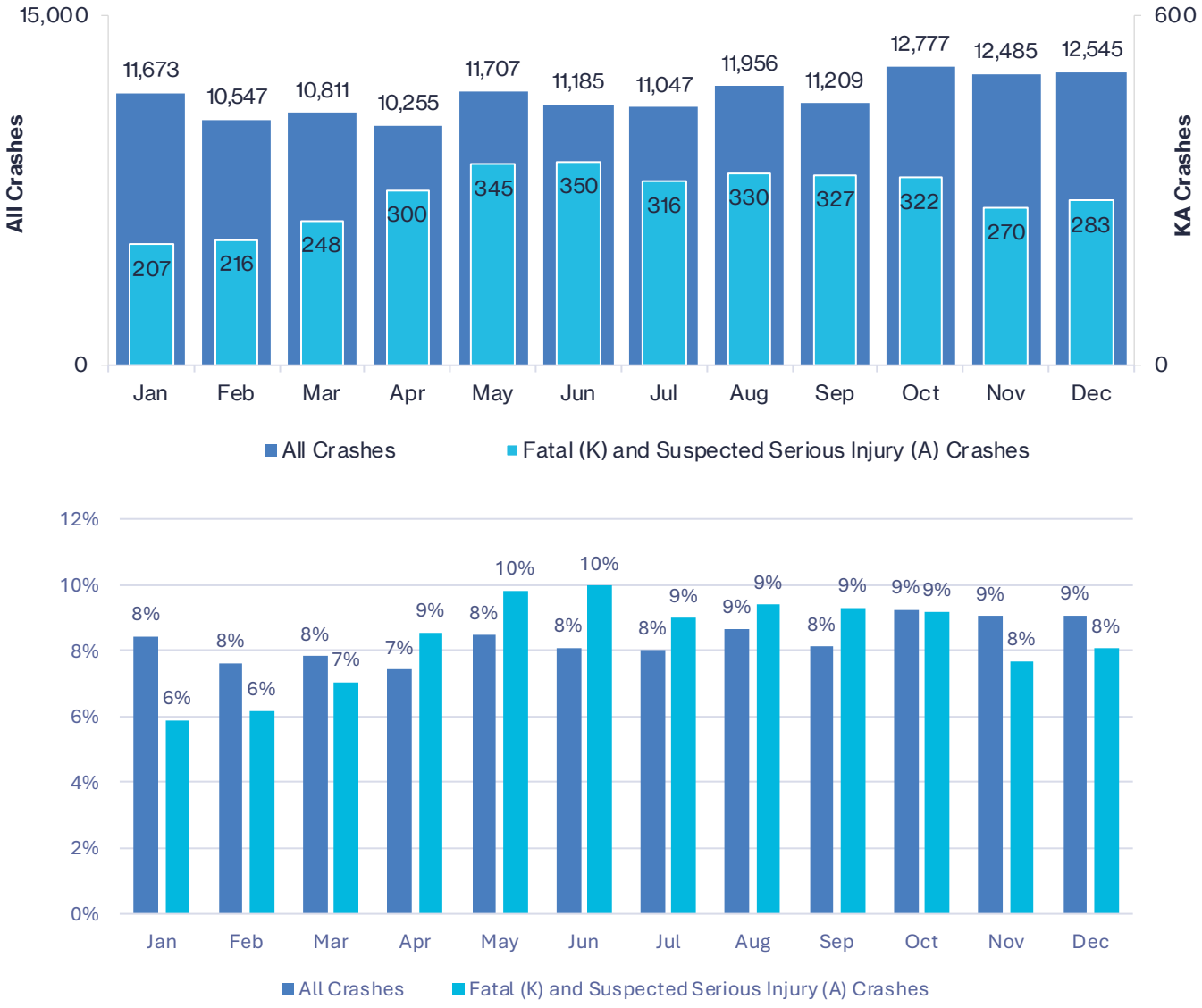


Figure 3-6. Monthly Crash Breakdown

Day of Week

Crashes were evenly spread across weekdays, with each weekday accounting for about 15% of all crashes. Friday stood out slightly with 17% of crashes. However, when looking at fatal and suspected serious injury crashes, Saturday had the highest share at 16%, followed closely by Sunday and Friday, each with 15%. This suggests that while weekdays see more overall crashes, weekends are more likely to involve serious or fatal outcomes, despite having fewer total crashes.

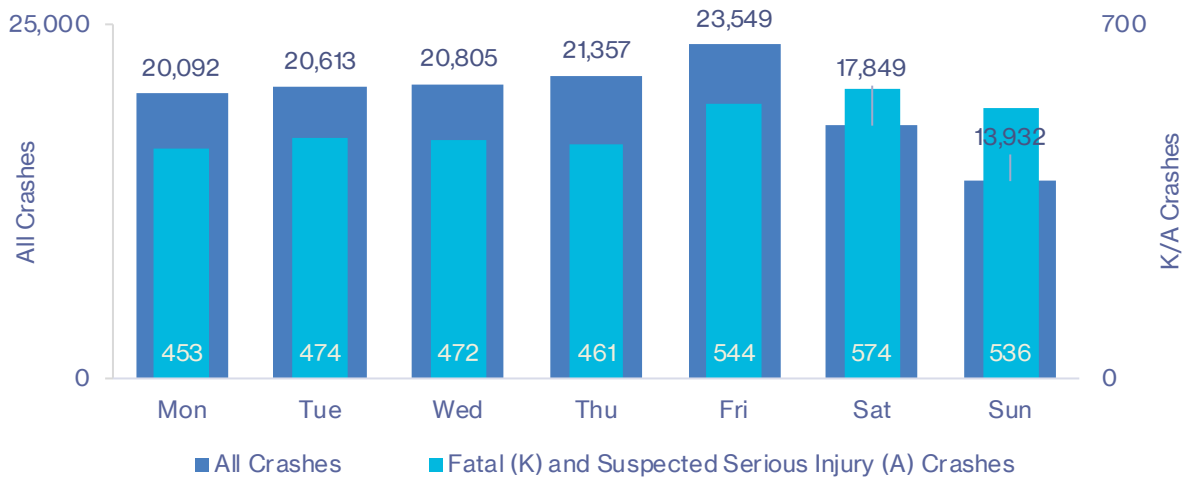


Figure 3-7. Crashes by Day of Week

Time of Day

Crashes in the KIPDA region occur most frequently in the afternoon, particularly between 3:00 and 6:00 p.m., accounting for 25% of all crashes. Fatal and suspected serious injury crashes also peak during this time period, but the highest proportion of severe crashes occurs between 6:00 p.m. and 6:00 a.m. For example, while only 8% of crashes occur between 9:00 p.m. and 12:00 a.m., that period accounts for 16% of the most severe crashes. Early mornings (12:00 a.m. to 6:00 a.m.) also show a similar pattern, with fewer crashes overall but a higher share of fatal and serious crashes. This highlights the importance of safety countermeasures that are effective during lower traffic volume travel conditions (with potentially higher speeds) and at night when it is dark and drivers are typically more tired.

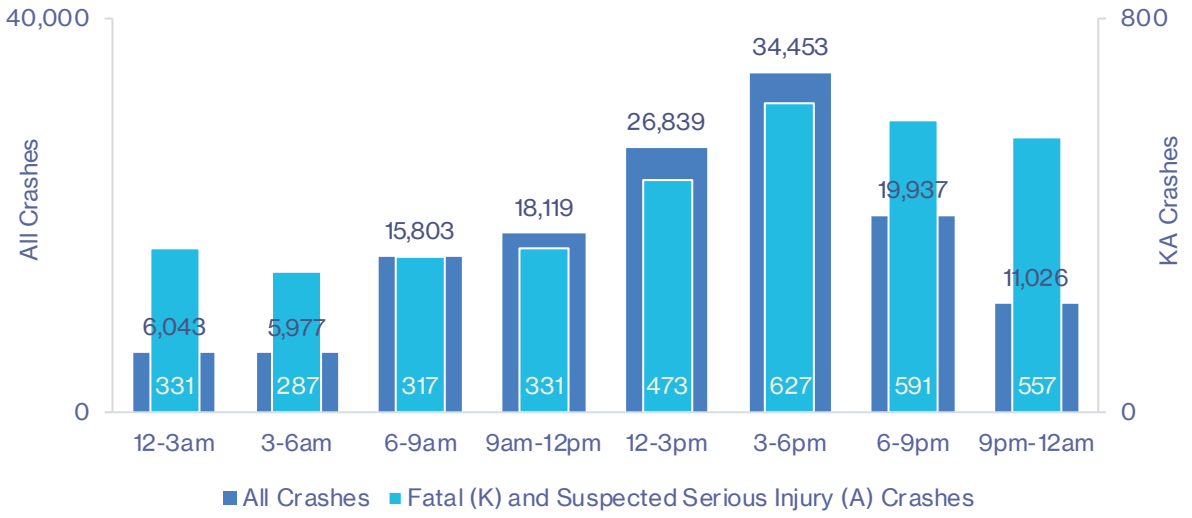


Figure 3-8. Crashes by Time of Day

Manner of Collision

In the Indiana portion of the KIPDA region, rear-end crashes were the most prevalent collision type, making up 27% of all reported crashes, followed by right-angle crashes at 13%. Backing crashes accounted for 12% (with very low severities), while run-off-road crashes comprised 11% of all reported collisions.

With regard to severe crashes, run-off-road crashes represented 29% of all fatal and suspected serious injury crashes. Right-angle crashes followed with 17% crashes, and head-on collisions, though less frequent overall, contributed 10% to the total fatal and suspected serious injury count.

Indiana

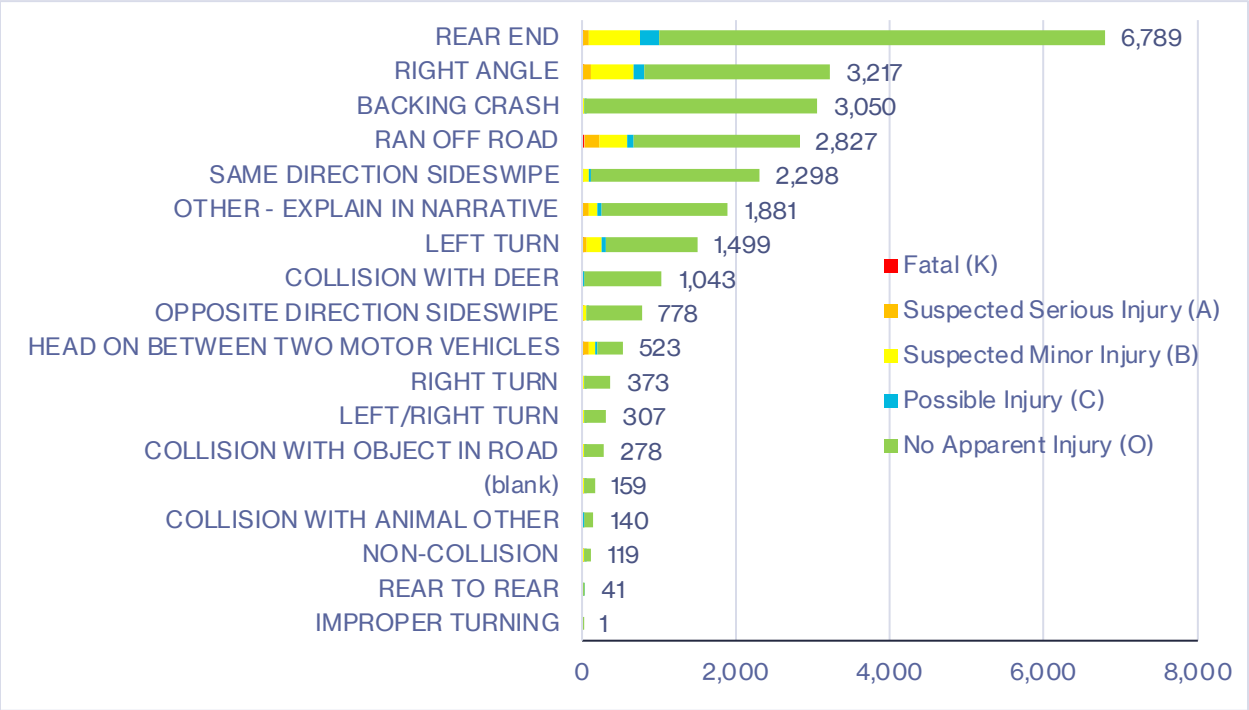


Figure 3-9. Manner of Collision by Severity in Indiana

In the Kentucky portion of the KIPDA region, rear-end crashes (30%) and angle crashes (27%), together accounted for over half of all reported collisions. Single-vehicle crashes were the third most common crash type, but they were the leading contributor to fatal and suspected serious injury crashes, accounting for 45% of all severe crashes. Head-on collisions also showed a high severity rate, at 11% of fatal and suspected serious injury crashes.

The high percentage of severe head-on crashes in both Indiana (10%) and Kentucky (11%) may warrant further investigation and consideration of countermeasures such as center buffer treatments in areas where appropriate and where right-of-way and pavement width allow.

Kentucky

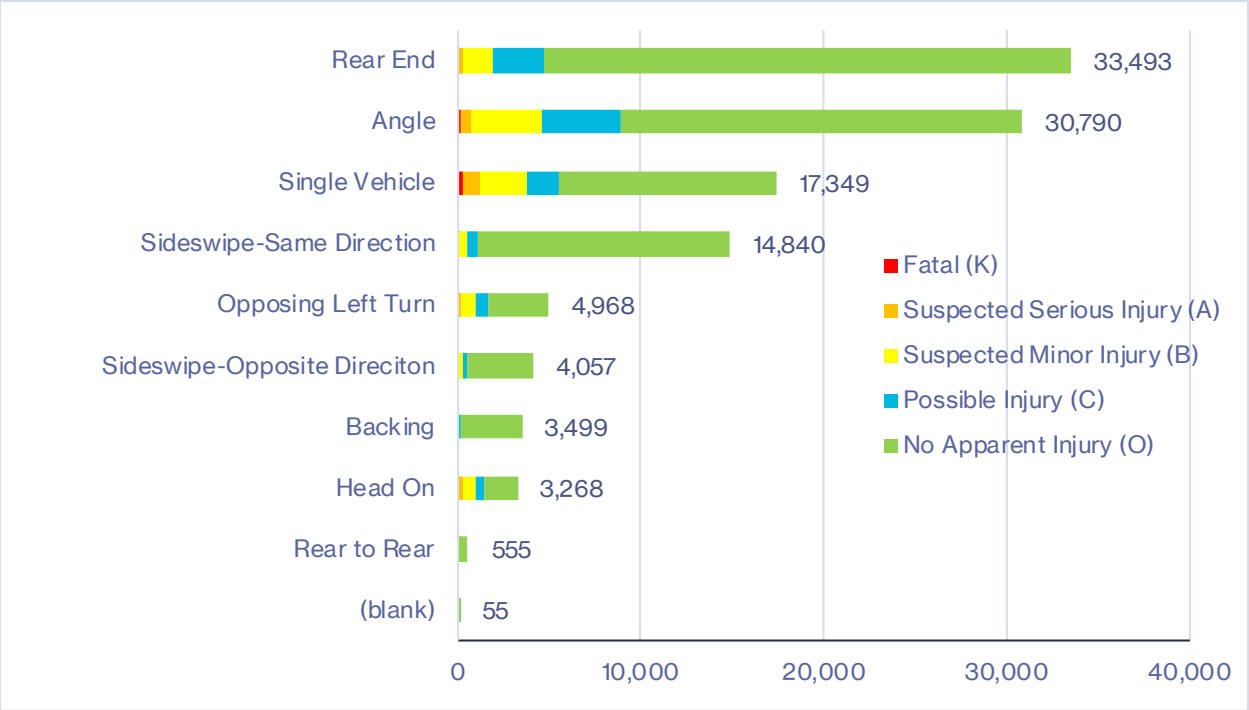


Figure 3-10: Manner of Collision by Severity in Kentucky

Driver Behavior

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

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

Aggressive driving behavior was a contributing factor in 23% of all crashes in the KIPDA region, but it was involved in 36% of fatal crashes and 28% of suspected serious injury crashes, accounting for 30% of all fatal and suspected serious injury crashes. This suggests that aggressive driving is linked to high-severity outcomes and is a regional safety concern.

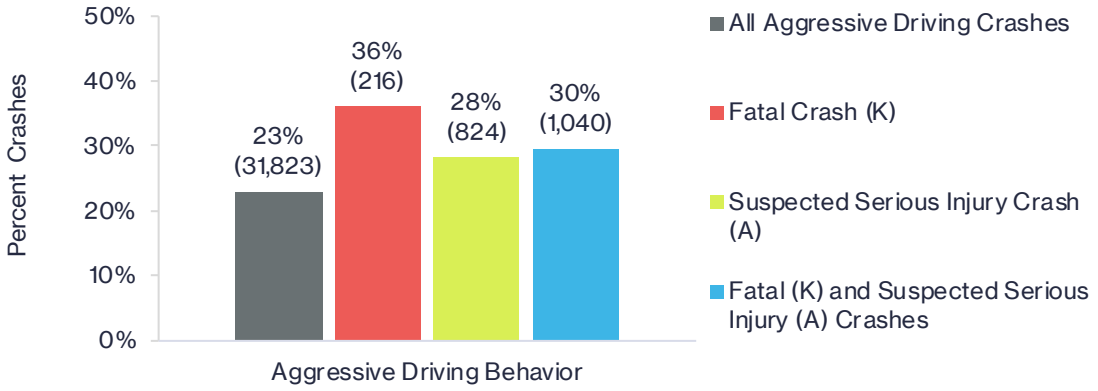


Figure 3-11. Aggressive Driver Crashes by Severity

Distracted Driving

Distracted driving was a factor in crashes across the KIPDA region, contributing to more than 48,000 incidents. While the total number of crashes declined significantly in 2020, likely due to reduced travel during the COVID-19 pandemic, the number of fatal and suspected serious injury crashes remained relatively steady year over year. This suggests that even as overall crash volumes dropped, the severity of distracted driving crashes did not.

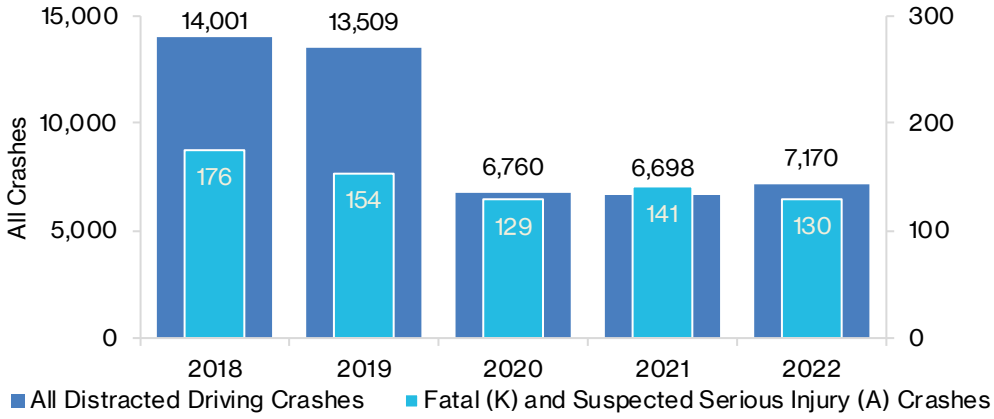


Figure 3-12. Distracted Driver Crashes by Year

In the KIPDA region, distracted driving accounts for 35% of all crashes and contributed to 21% of fatal and suspected serious injury (Figure 3-13).

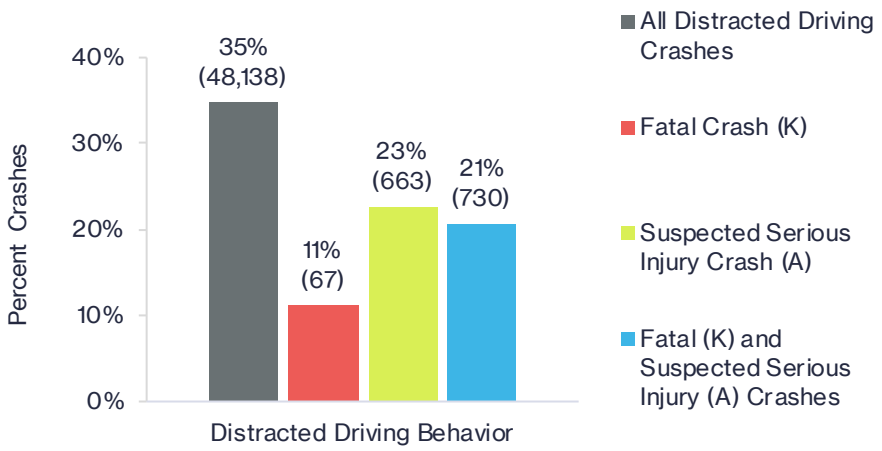


Figure 3-13. Distracted Driver Crashes by Severity

Impaired Driving

Impaired driving, while involved in only 3% of all crashes, plays a disproportionately large role in the most severe outcomes in the KIPDA region. It was a factor in 17% of fatal crashes and 9% of suspected serious injury crashes, accounting for 10% of all fatal and suspected serious injury (KA) crashes.

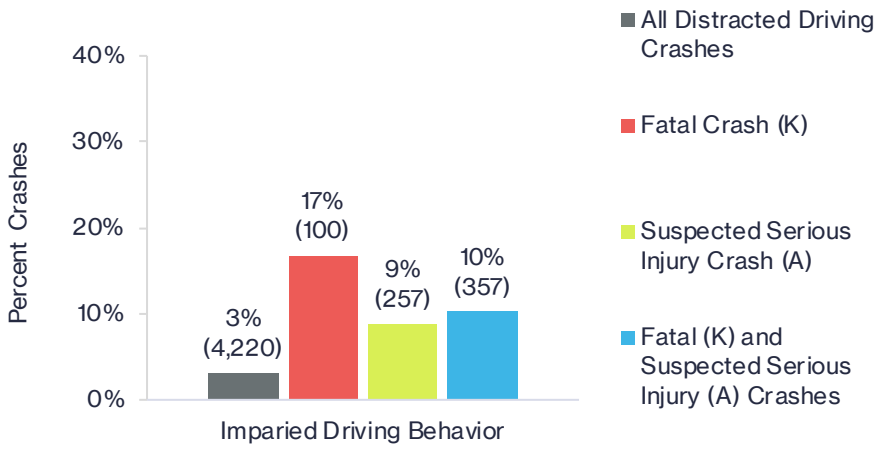


Figure 3-14. Impaired Driver Crashes by Severity

Lighting Conditions

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

Most crashes in the KIPDA region occurred during daylight conditions, accounting for approximately 70% of all reported incidents. However, when focusing on crash severity, daylight conditions were associated with 1,856 fatal and suspected serious injury (KA) crashes, which represent about 53% of all KA crashes in the region. In contrast, low-light conditions, including darkness (with or without lighting) and dawn/dusk, were involved in 1,650 KA crashes, accounting for roughly 47% of all severe crashes, despite comprising only about 30% of total crashes.

This suggests that reduced visibility at night may contribute to the increased severity of crashes. Additionally, the 47% of fatal and suspected serious injury crashes that occur in non-daylight conditions is higher than the estimated 25% of vehicle miles traveled (VMT) that occur at night[1], further indicating that nighttime driving carries an elevated risk. This shows the importance of countermeasures such as lighting, enhanced striping, oversized signage, and rumble strips.

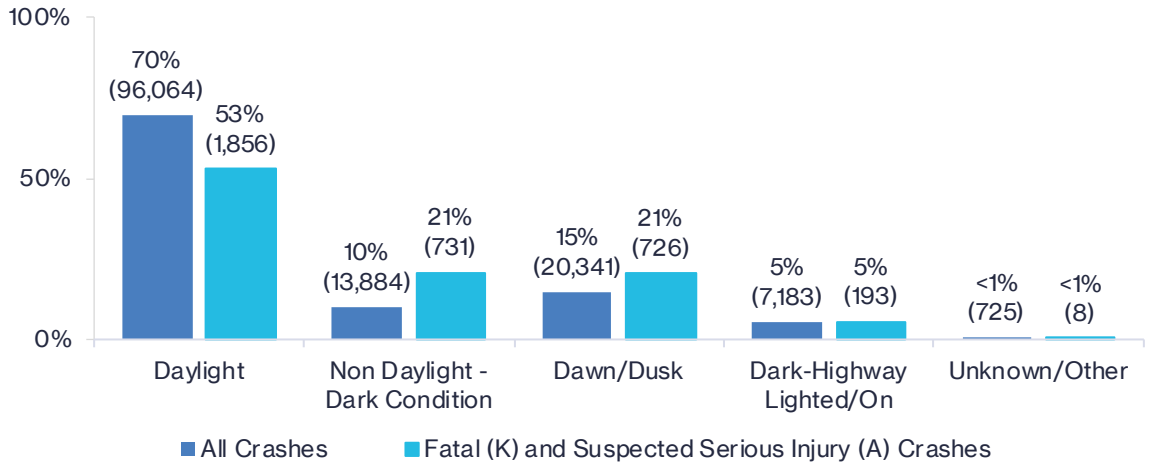


Figure 3-15. Crashes by Light Condition

Figure 3-16 shows the locations of crashes that took place during non-daylight dark conditions. Forty-two of these crashes were fatal or suspected serious injury.

[1] Federal Highway Administration, "Proven Safety Countermeasures: Lighting," FHWA-SA-21-50, Lighting

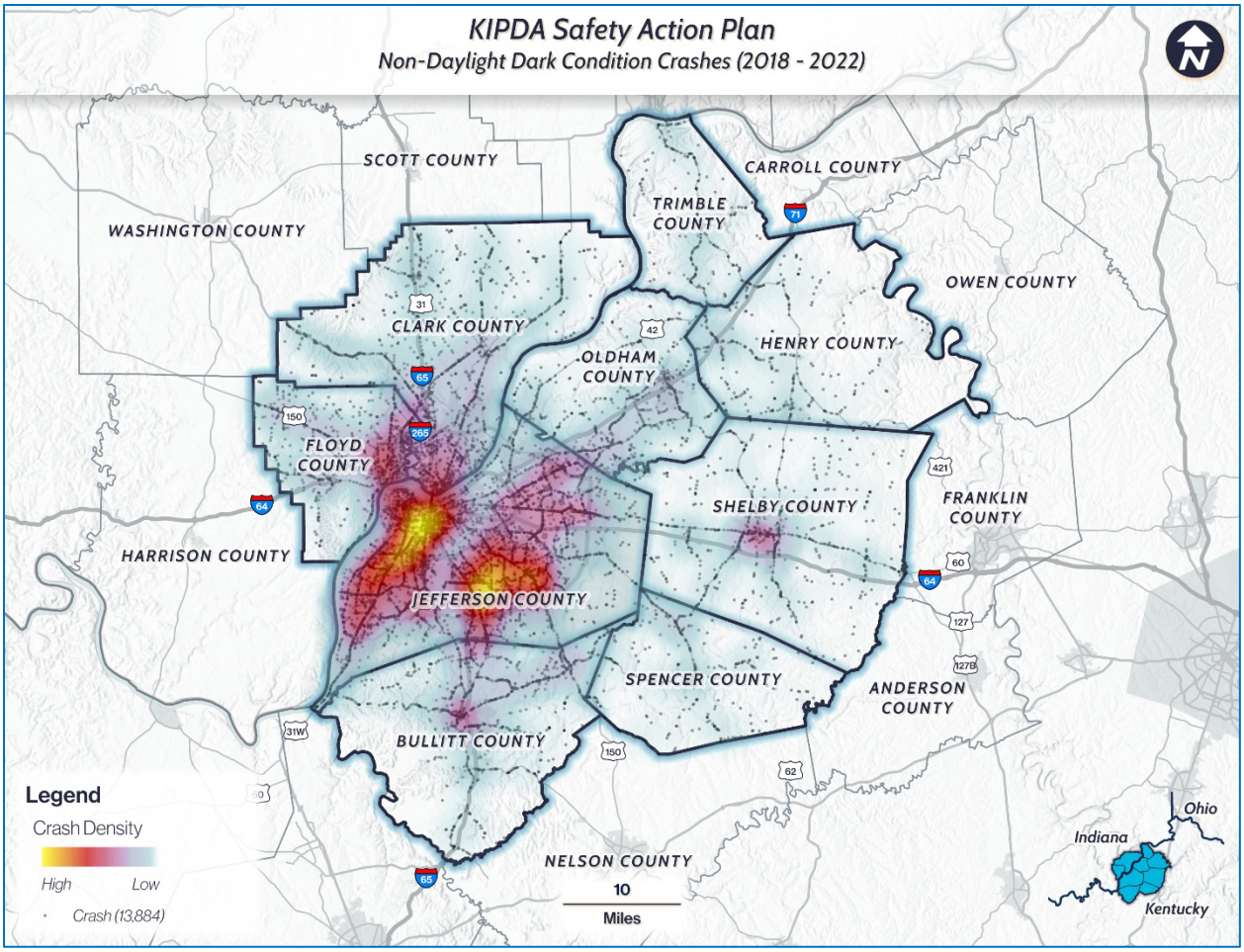
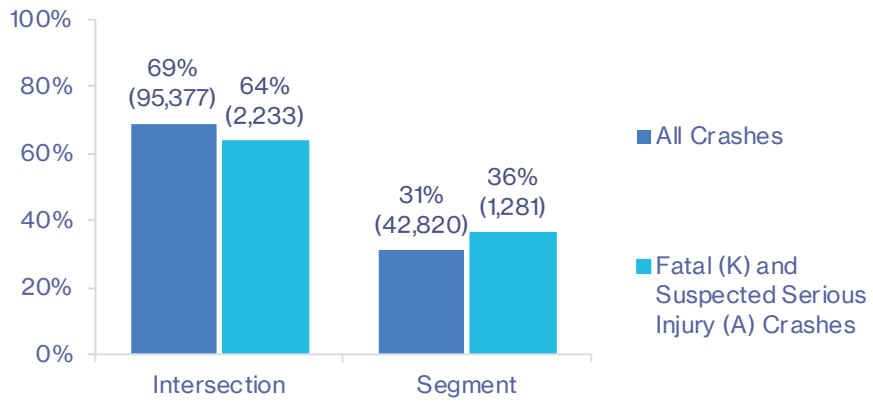


Figure 3-16. Lighting Condition. Non-Daylight Dark Condition Crashes Map

Crashes by Locations

Crash data from the KIPDA region between 2018 and 2022 shows that intersections are the most common locations for crashes, accounting for 69% of all incidents and 64% of fatal and suspected serious injury crashes. In contrast, roadway segments made up 31% of all crashes and 36% of high-severity crashes. While intersections see a higher overall volume of crashes, segments are slightly more likely to result in severe outcomes relative to their share of total crashes.

Figure 3-17. Crashes by Location



Intersections

In the KIPDA region, the majority of all crashes and severe crashes occur at intersections. This includes over 40 intersections with four or more severe crashes during the five-year time frame.

The most significant safety issues are found at divided four-lane urban signalized intersections. There are 168 intersections designated in this category. Divided rural stop controlled intersections tend to have a high average crash severities, though the number of crashes is much lower. **Chapter 6. Strategy and Project Selection** provides more detailed information.

Segments

The majority of severe segment crashes were single-vehicle crashes, followed by lesser numbers of head-on and angle crashes. Many of the worst performing segments were 50 mph highways. These tend to be transition zones between higher and lower speed segments. **Chapter 6. Strategy and Project Selection** provides more detailed information.

Roadway Departure Crashes

Roadway departure crashes occur when a vehicle crosses an edge line, a centerline, or leaves the traveled way. These crashes often lead to some of the most severe outcomes due to the increased risk of collision with fixed objects, overturning, or encountering unsafe roadside conditions. The inherent dangers of leaving the roadway contribute to higher rates of serious injuries and fatalities compared to other crash types.

Roadway departure crashes represented a substantial portion of high-severity incidents in the KIPDA region. Of the total 3,514 fatal and suspected serious injury crashes, 1,076 involved vehicles leaving the roadway—accounting for approximately 31% of these severe outcomes. Figure 3-19 shows the locations of roadway departure crashes, highlighting those that resulted in suspected serious injuries or fatalities.

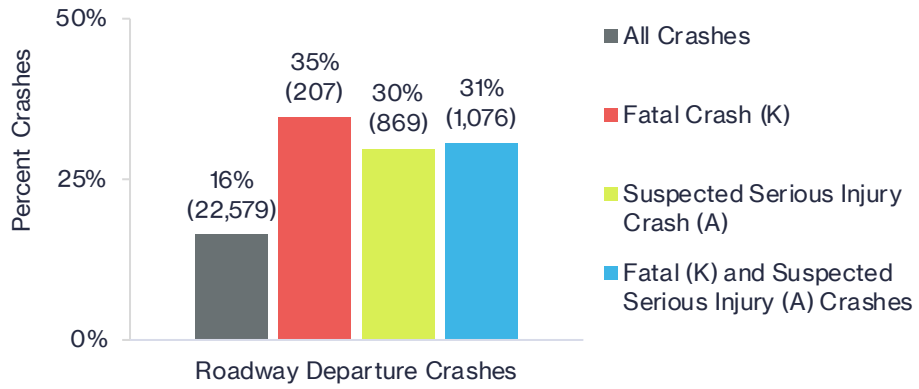


Figure 3-18. Roadway Departure Crashes by Severity

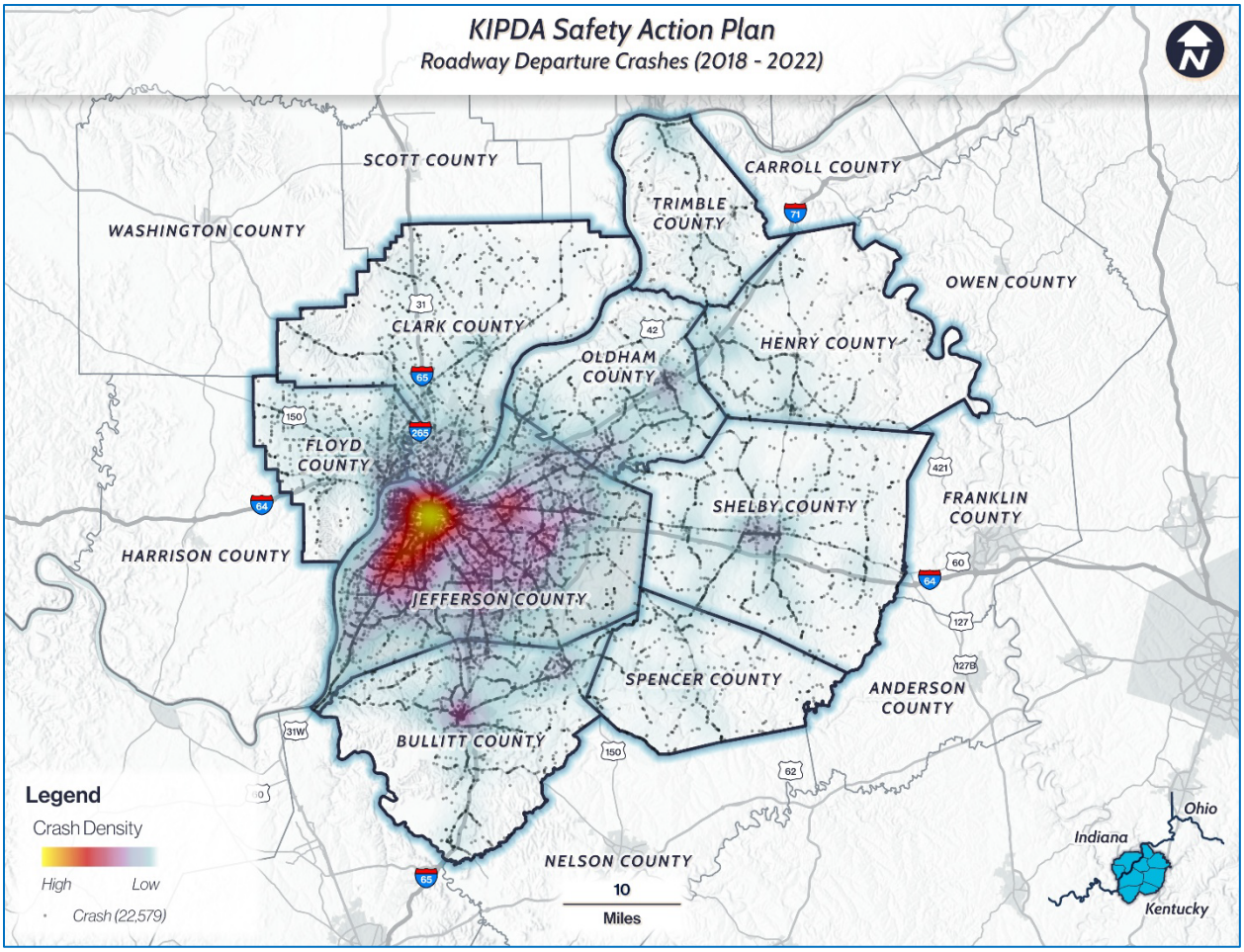


Figure 3-19. Roadway Departure Crashes Map

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.

Pedestrians

The KIPDA region recorded 1,948 pedestrian-related crashes. Of these, 139 crashes (7%) resulted in fatalities, and 346 crashes (18%) involved suspected serious injuries, meaning that approximately one in four pedestrian crashes led to a high-severity outcome. The majority of incidents were classified as suspected minor injuries (704 crashes, 36%) or possible injuries (436 crashes, 22%), while 323 crashes (17%) resulted in no apparent injury. While pedestrian crashes are less common then other crash types, the data indicates they are typically more severe. Figure 3-20 shows the locations of pedestrian crashes in the KIPDA region.

		Kentucky		Indiana		KIPDA Region	
Severity	**MMUCC Severity Description**	**Crashes (2018-2022)**	**%**	**Crashes (2018-2022)**	**%**	**Crashes (2018-2022)**	**%**
K	Fatal Injury	133	8%	6	3%	139	7%
A	Suspected Serious Injury	289	16%	57	31%	346	18%
B	Suspected Minor Injury	634	36%	70	38%	704	36%
C	Possible Injury	409	23%	27	15%	436	22%
O	No Apparent Injury	299	17%	24	13%	323	17%
Total		**1,764**	**100%**	**184**	**100%**	**1,948**	**100%**

Table 3-2. Pedestrian Crashes by Severity

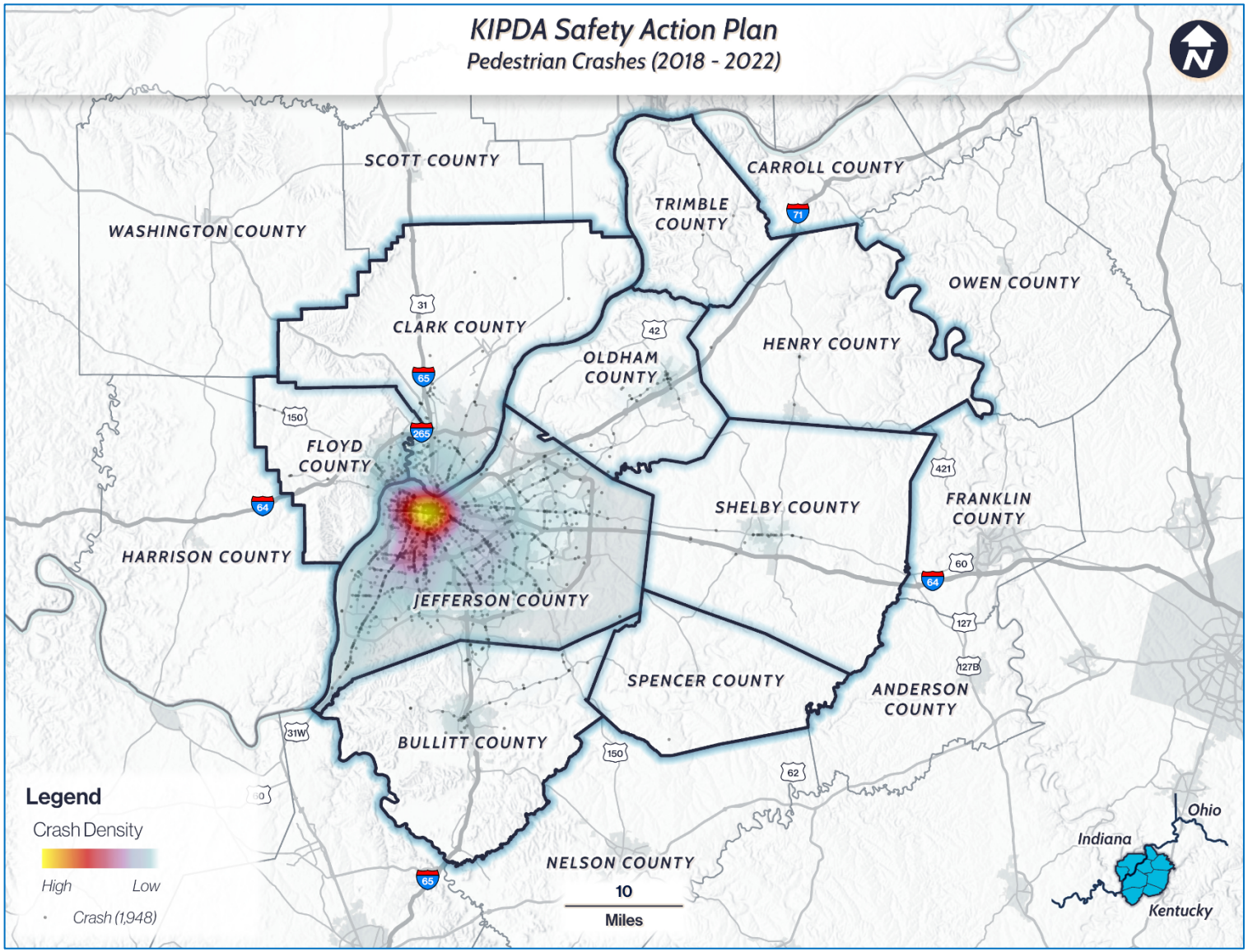


Figure 3-20. Pedestrian Crashes

Bicyclists

There were a total of 20 fatal bicycle crashes and 87 suspected serious injury crashes over the five-year period in the KIPDA region. Both Kentucky and Indiana reported the same proportion of fatal crashes, with 3% of bicycle crashes in each state resulting in a fatality. However, the distribution of suspected serious injury crashes shows a more pronounced difference. Kentucky recorded 69 serious injury crashes, accounting for 11% of its total bicycle crashes, while Indiana reported 18, which made up 31% of its total bicycle crashes. This shows that although Indiana had fewer bicycle crashes overall, a significantly higher percentage resulted in serious injuries, indicating that bicycle crashes in Indiana may be less frequent but are typically more severe compared to those in Kentucky. The locations of these crashes are shown in the figure below.

		Kentucky		Indiana		KIPDA Region	
Severity	**MMUCC Severity Description**	**Crashes (2018-2022)**	**%**	**Crashes (2018-2022)**	**%**	**Crashes (2018-2022)**	**%**
K	Fatal Injury	18	3%	2	3%	20	3%
A	Suspected Serious Injury	69	11%	18	31%	87	12%
B	Suspected Minor Injury	231	38%	29	38%	260	37%
C	Possible Injury	131	21%	6	15%	137	20%
O	No Apparent Injury	165	27%	27	13%	192	28%
Total		**614**	**100%**	**82**	**100%**	**696**	**100%**

Table 3-3. Bicyclist Crashes by Severity

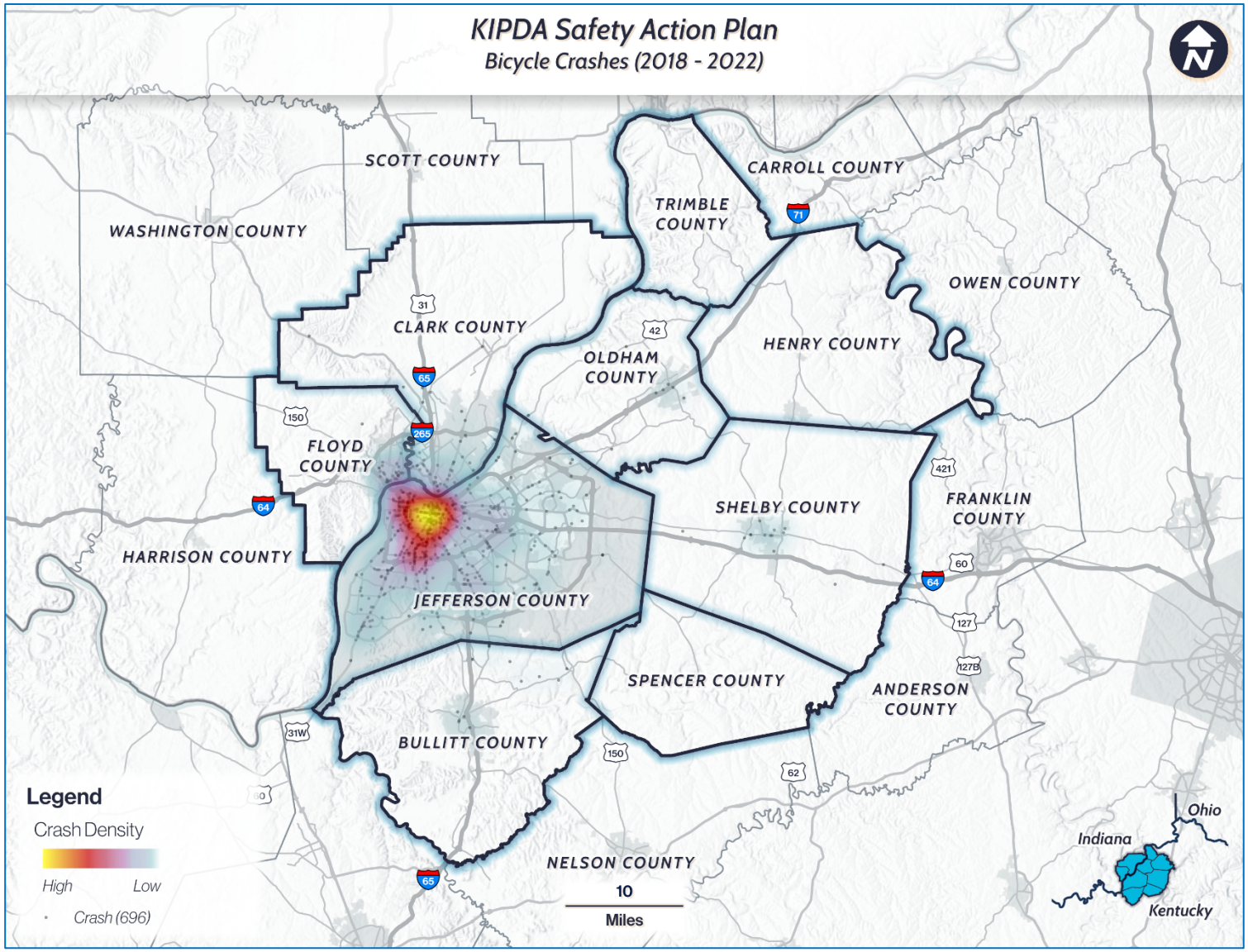


Figure 3-21. Cyclist Crashes

Driver Age

In KIPDA's Kentucky region, crash data from all age groups reveals that younger drivers are disproportionately involved in both total and high-severity crashes. Drivers aged 20 to 24 had the highest number of crashes overall (23,613) and the highest number of fatal and suspected serious injury crashes (539), followed closely by the 25 to 29 age group with 23,178 total crashes and 516 high-severity incidents. These two age groups account for 25% or one-quarter of all serious injury and fatal crashes. Crash involvement gradually declines with age, although there is a slight increase in high-severity crashes among drivers aged 75 and older, who were involved in 161 such incidents, despite having fewer total crashes than most other age groups.

Figure 3-22: Crash Percentages by Driver Age

Human Factors

Based on the Kentucky data, the major human factors associated with severe crashes include:

1. Not under proper control; speeding and too fast for conditions
2. Inattention and distraction
3. Failed to yield right-of-way and disregard for traffic control
4. Alcohol/drug use

In Indiana, the categories are slightly different and the chart below shows the major human factors associated with severe crashes. Failure to yield the right of way and running off the road to the right or left were among the most common contributing factors.

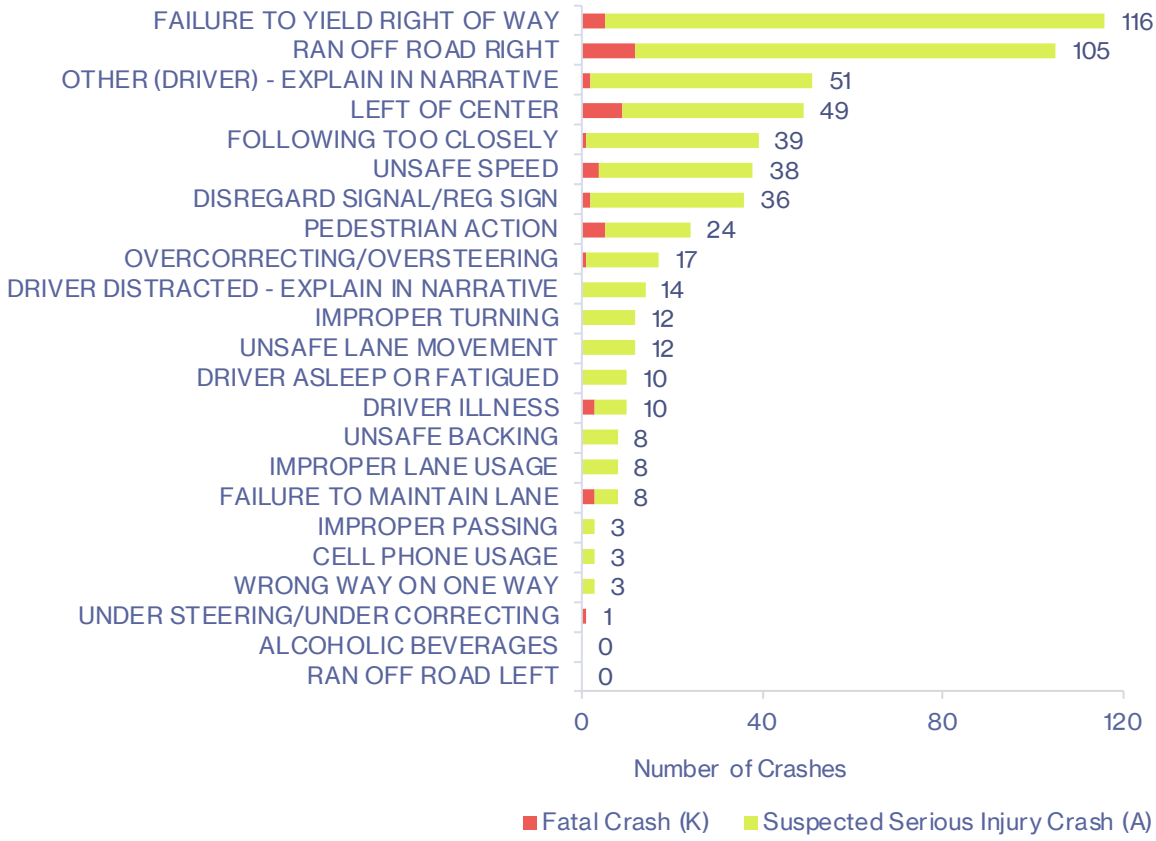


Figure 3-23. Indiana Fatal and Suspected Serious Injury Crashes by Human Factor

Environmental Roadway Conditions

Environmental roadway conditions can be a contributing factor to crash occurrence or severity. Adverse roadway conditions, defined as wet, snow, ice, or less common road conditions, comprise a moderate share of the overall crashes. Between 2018 and 2022, most crashes occurred under dry conditions, accounting for 79% of all crashes and 83% of fatal and suspected serious injury crashes. Wet conditions were the second most common, contributing to 18% of all crashes and 15% of high-severity crashes. Ice, snow, slush, standing water, and other conditions combined account for less than 5% of total crashes and severe crashes.

Roadway Condition	All Crashes			Fatal and Suspected Serious Injury Crashes	
	#	%		#	%
Dry	109,459	79%		2,907	83%
Wet	25,503	18%		537	15%
Snow/Slush	1,385	1%		13	<1%
Ice	1,056	1%		30	1%
Water (Standing or Moving)	475	<1%		15	<1%
Other	204	<1%		5	<1%
Sand-Mud-Dirt-Oil-Gravel	115	<1%		7	<1%
	138,197			3,514	

Table 3-4 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. The HIN corresponds primarily to the Safer Roads pillar of the Safe System Approach, though it also informs the Safer People and Safer Speeds aspects of the approach. Safer Roads focuses on designing roadway environments to mitigate human mistakes and account for injury intolerances, to encourage safe behaviors, and to 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. Detailed community engagement information for each of the 16 participating jurisdictions is provided in the community specific plans.

Safety Action Plan Community Engagement

Regional Steering Committee

The Regional Steering Committee, composed of KIPDA staff and representatives from the 16 participating local government agencies, was the guiding force and planning structure for the Safety Action Plan development. The development of the Safety Action Plans evolved through a series of Committee meetings. The participating government agencies are listed below.

1. Bullitt County, KY
2. Charlestown, IN
3. Clark County, IN
4. Clarksville, IN
5. Floyd County, IN
6. Henry County, KY
7. Jeffersontown, KY
8. Jeffersonville, IN
9. Louisville Metro, KY
10. Mt. Washington, KY
11. Oldham County, KY
12. Shelby County, KY
13. Shepherdsville, KY
14. Spencer County, KY
15. St. Matthews, KY
16. Trimble County, KY

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).

Community Leadership Meetings

Twice during the planning process, the project team held one-on-one meetings with key stakeholders from each of the 16 communities 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.

Round 1 Meetings

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

Round 2 Meetings

The second round of meetings, held in February 2025, focused on reviewing the crash analysis dashboard and getting feedback on the initial prioritized High Injury Network (HIN) segments and priority intersections. Data on the dashboard included the location of the crash, mode of transportation, directional analysis, manner of collision, roadway condition, light condition, and the updated human factor. The groups then discussed edits to the presented HIN potential corridor strategies, priority intersections, and potential intersection strategies.

Safety Committees

The local government agencies held safety committee meetings to provide localized oversight and input into their unique plan. The members of the committees varied from one community to another. These committees provide a means of continuing the safety planning and project implementation process for each community. KIPDA staff participated in many of these meetings and have working relationships with the local government agencies which will allow them to support ongoing safety planning and project implementation. Refer to each specific plan for more information on the local safety committee meetings. The 16 plans can be found on KIPDA's SS4A website.


ACTIVITY B

SAFETY COUNTERMEASURES

Potential Segment Countermeasures

Countermeasure	Description	Safety Impact
Road Rightsizing		
	Reconfigured lanes/space within roadway based on numbers of vehicles per day to calm traffic speeds and improve safety for all users.	All Crashes ↓30%
Enhanced Curve Signing		
	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% ELRS ↓13-51%
Center Turn Lanes		
	Provide a painted median that removes left-turning traffic (which is slowing or stopped) from the travel lanes.	All Crashes ↓24%

Figure 4-1: Meeting Handout: Potential Safety Countermeasures

The safety committees 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 committees 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.

TTCC, TPC, and RTC

These three standing committees provide policy, technical, and funding guidance and decision making for the region. They regularly meet to discuss regional and project level safety topics. These three committees provided support for the development of the KIPDA Safety Action Plan. They will be the bodies responsible for implementing the regional action plan going forward. They will also assist with coordination between the 16 jurisdictions and other municipalities and agencies in the region. This will include coordination with the Kentucky Transportation Cabinet (KYTC) and the Indiana Department of Transportation (INDOT). For example, it is anticipated that KIPDA staff will work with these three committees and the member and partner agencies to support ongoing safety planning and annual safety focused educational sessions.

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 could provide input by identifying specific pedestrian, bicycle, or vehicle concerns on a map. Participants could add comments, images, and review or react to the contributions of others. This input offered valuable community perspectives on local safety issues.

Figure 4-2: Promotional Flyer for Community Survey

The survey was available between July 9, 2024, and October 18, 2024. A total of 1,047 comments were collected for the entire region. Figure 4-4 provides an example view of the engagement map. 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 plans for each community address the concerns and needs of the public.

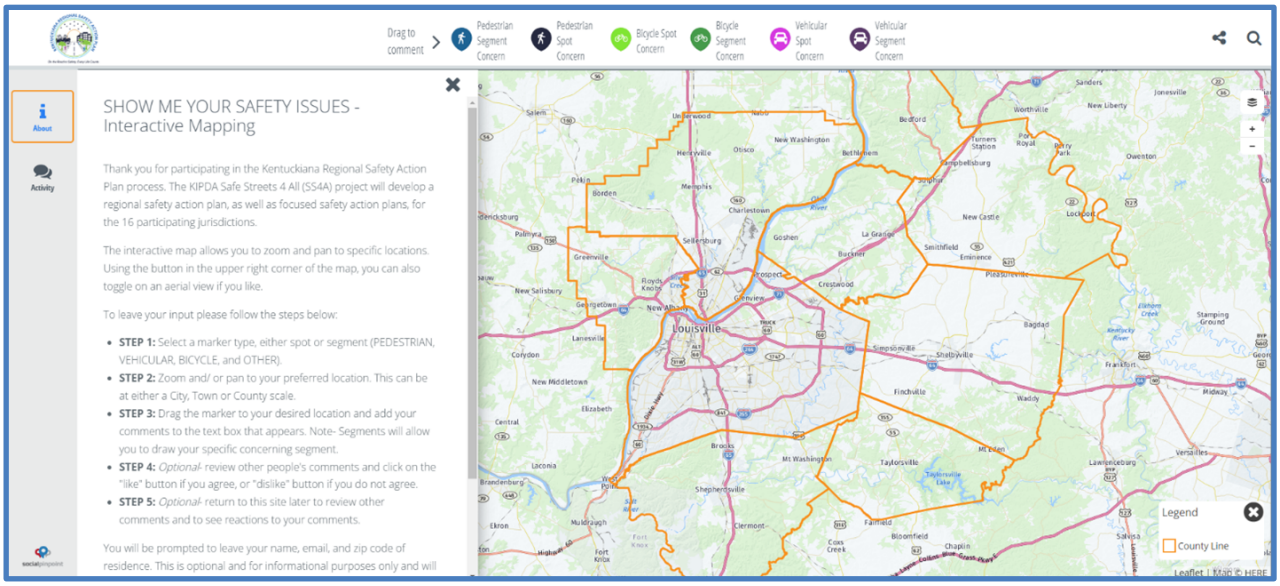


Figure 4-3: Social Pinpoint Online Engagement

The project team compared comment locations to the fatalities (K) and suspected serious injuries (A) in the 2018-2022 crash data to compare the public perception of safety and data-driven crash densities. The following map shows the crash locations (blue) with the public comments (yellow). The locations where these two colors overlap (green-toned areas) represent locations where the perception of a safety issue is consistent with where severe crashes have occurred.

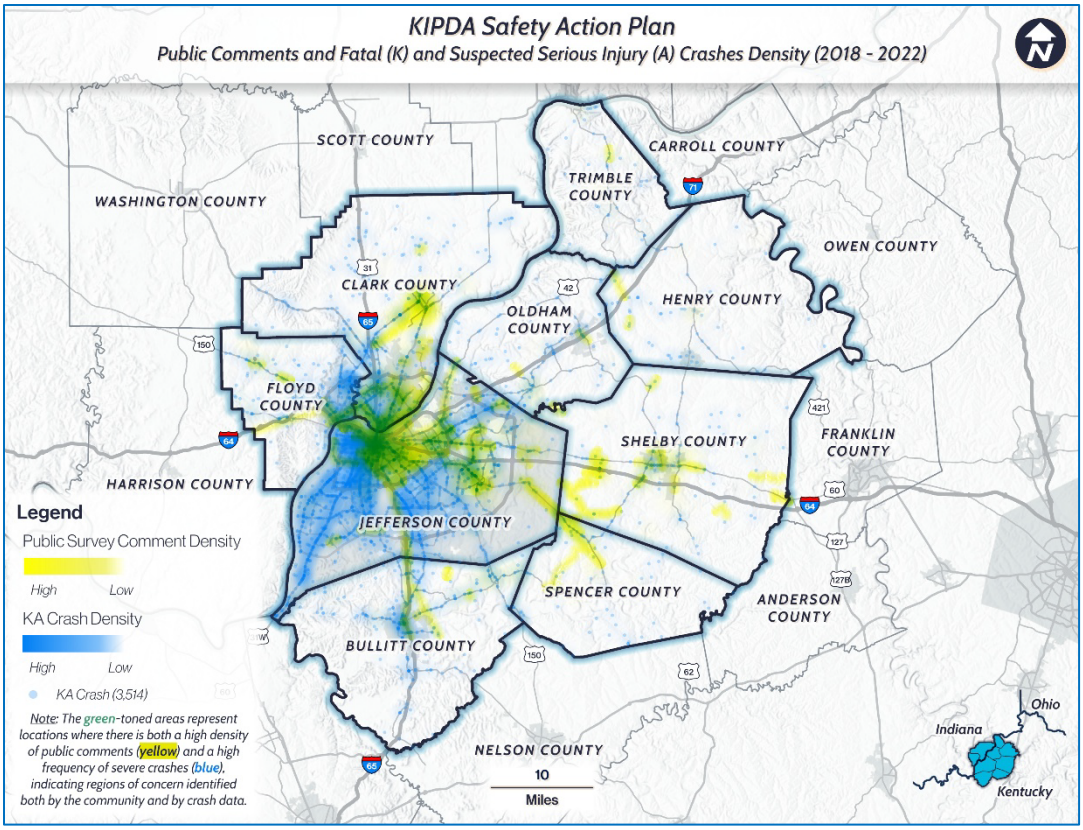


Figure 4-4. KIPDA Spot Comments and Crash Density

Survey Two

The project team and committees conducted a second public survey for the Safety Action Plan. Residents within the KIPDA Region could provide input on the results of the crash data analysis and potential countermeasures to improve safety in each community. Participants could provide opinions on if the identified recommended strategies and safety improvements were appropriate for each community. Links to additional information about the recommended strategies were included for reference. The survey was available between April 1, 2025, and April 30, 2025. A total of 524 responses were collected for the entire region. Detailed feedback for each community is included in each of the 16 safety action plans.

Active and Planned Projects

Transportation plans were reviewed to identify relevant active and planned projects in the region. This included INDOT and KYTC projects, KIPDA Transportation Improvement Program (TIP) and Metropolitan Transportation Plan (MTP) projects, and ongoing local government projects. Detailed lists and maps for each community are included in the 16 safety action plans. For quick reference click on these links: KIPDA MTP and KIPDA TIP.

Community Considerations

Socio-economic and demographic data was analyzed together with the crash data to determine if there were important trends, findings, or considerations related to specific areas or communities within the region. Detailed community considerations information for each of the 16 participating jurisdictions is provided in the community specific plans.

Areas of Persistent Poverty

The Safe Streets and Roads for All 2025 Notice of Funding Opportunity defines Areas of Persistent Poverty (APP) based on the Infrastructure Investment and Jobs Act (IIJA, 49 U.S.C. 6702(a)(1)). It also states that this applies to 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.*

Certain portions of the KIPDA region are designated as APPs, as shown in the figure below. These areas are critical to consider when planning transportation safety projects, as they often reflect a history of underinvestment in infrastructure, including pedestrian, bicycle, and roadway safety improvements. Communities within APP-designated areas also tend to be overrepresented in crash statistics, particularly in terms of high-severity crashes.

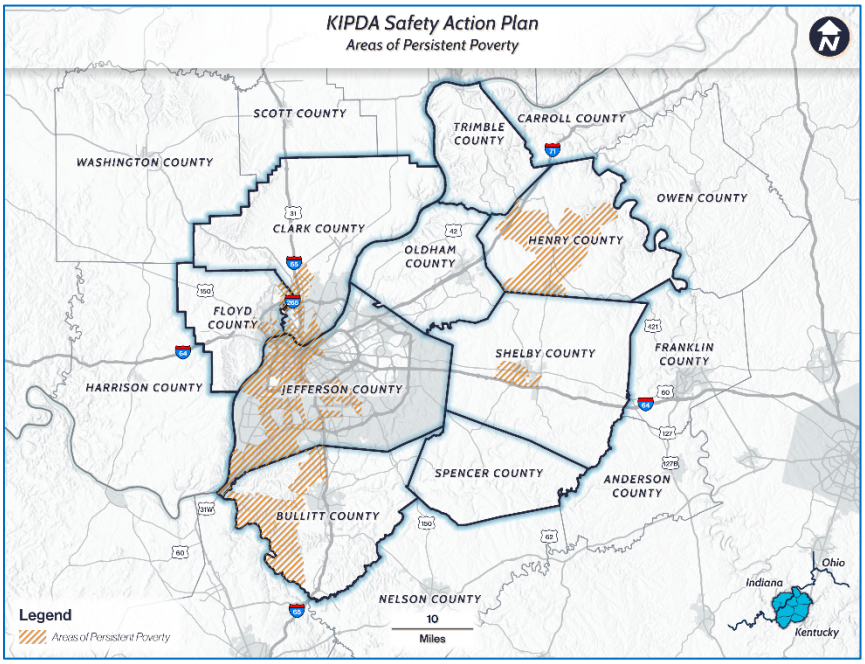


Figure 4-5. Areas of Persistent Poverty

Community Demographic Summary

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

Elderly Population

Approximately 17% of the KIPDA region's population is 65 or older. Portions of the region 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.

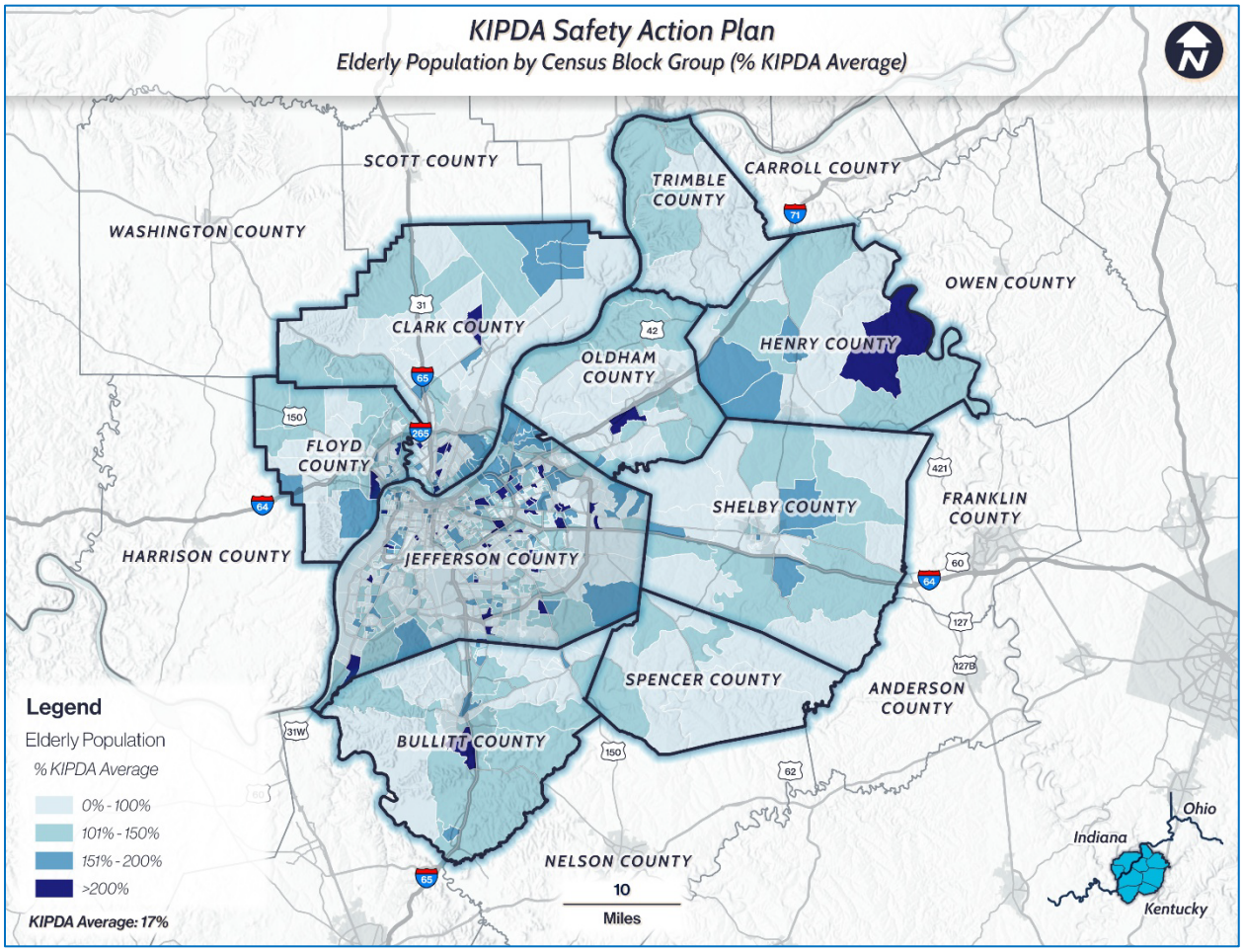


Figure 4-6. Elderly Population by Census Block Group

Population Impacted by Disability

In the KIPDA region, approximately 27% of households have one or more occupants with a disability. Similar to elderly populations, there are safety countermeasures available that support disabled populations. Many of these relate to pedestrian facilities such as curb ramps.

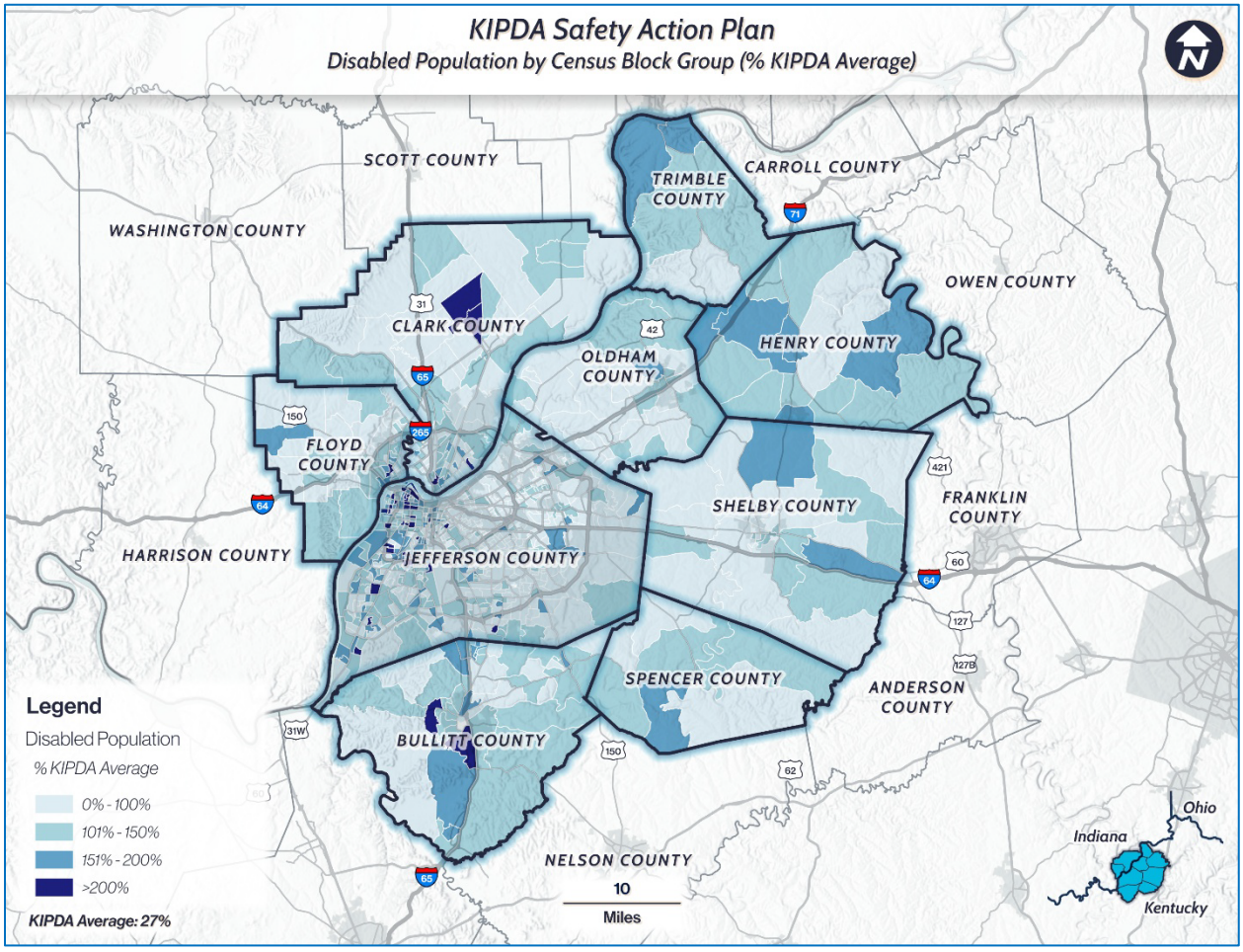


Figure 4-7. Disabled Population by Census Block Group

Population Experiencing Poverty

Approximately 13% of the population are at or below the poverty line with many of those residents living in the Census Block Group areas noted in the figure below. Areas with high poverty rates are often areas of underinvestment with regard to infrastructure and safety.

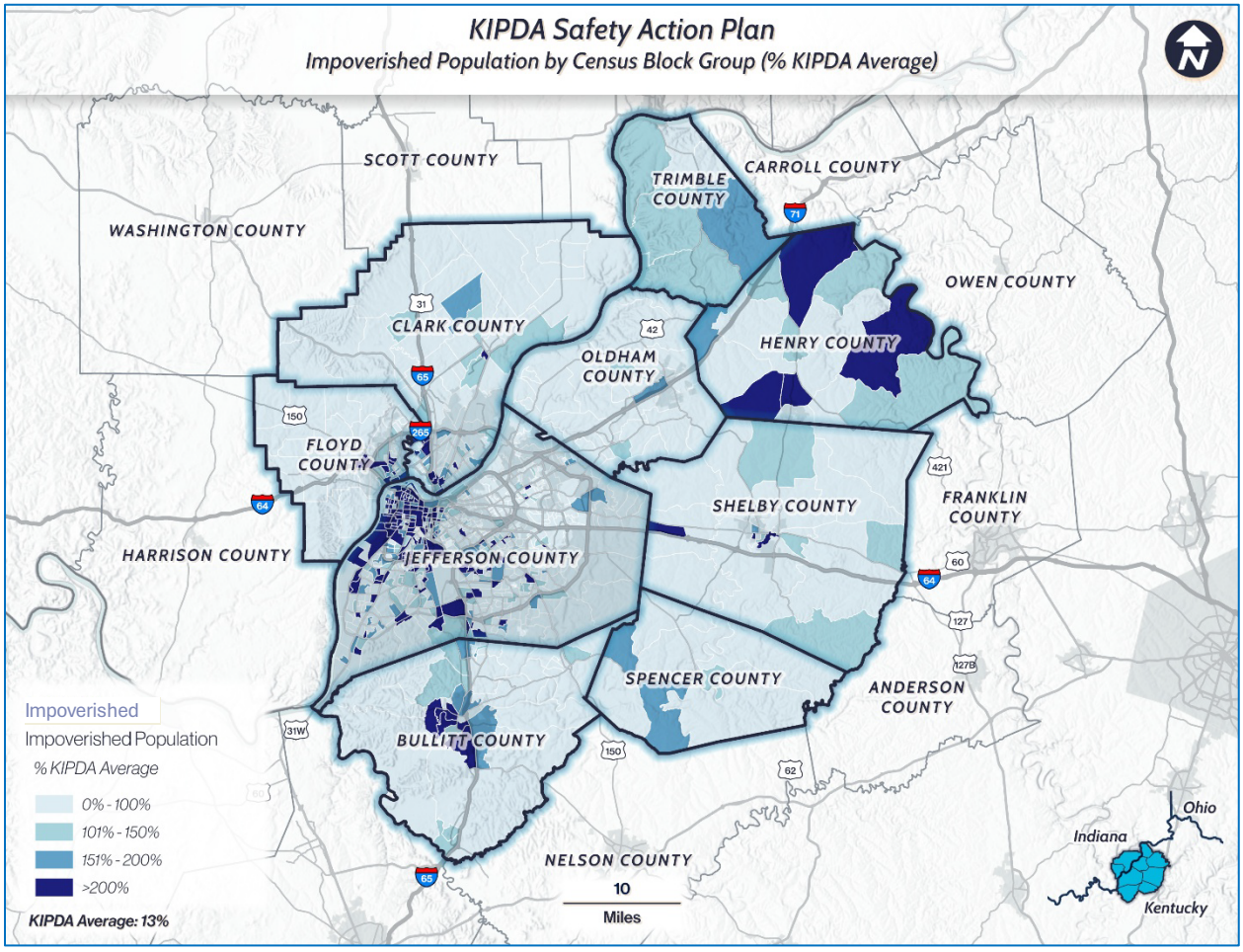


Figure 4-8. Impoverished Population by Census Block Group

Minority Population

Approximately 26% of the KIPDA region identifies as non-white as illustrated in the figure below.

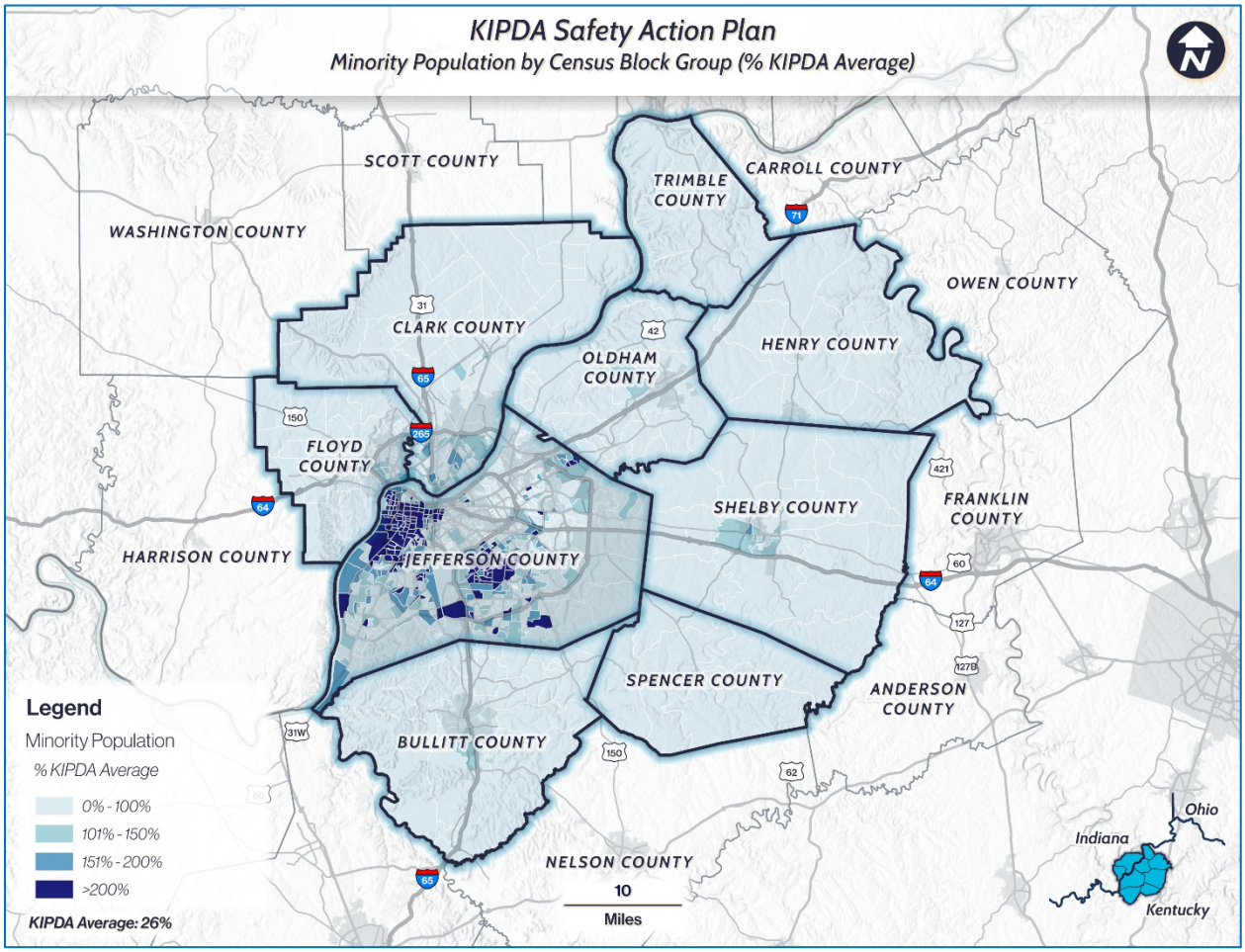


Figure 4-9. Minority Population by Census Block Group

5. Policy and Process Changes

A comprehensive review of KIPDA's existing policies, plans, guidelines, and standards has identified key opportunities to enhance transportation safety. KIPDA aims to elevate safety as a priority while also creating a more accessible transportation network for all users. Please refer to the community specific plans for detailed policy and process information for each participating jurisdiction.

Connecting Kentuckiana 2050 Metropolitan Transportation Plan (2023)

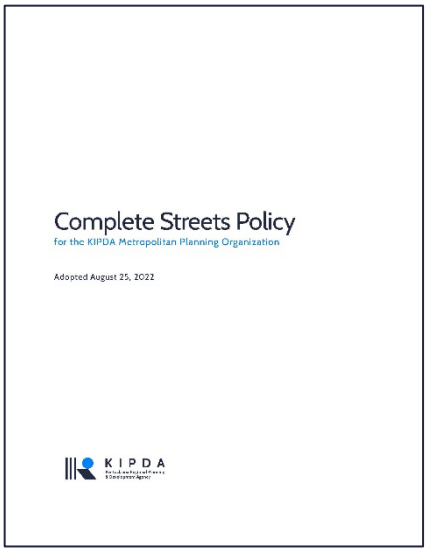
Link: Connecting Kentuckiana 2050 Metropolitan Transportation Plan

The *KIPDA Metropolitan Transportation Plan: Connecting Kentuckiana 2050* serves as the long-range blueprint for transportation investments across the Louisville/Jefferson County, KY-IN Metropolitan Planning Area. It outlines a strategic vision through the year 2050, guiding decisions on multimodal infrastructure including roadways, transit, bicycle and pedestrian networks, and freight systems. Developed by the region's Metropolitan Planning Organization, the plan reflects coordination with federal, state, and local partners and ensures consistency with national performance-based planning requirements. It aims to advance regional priorities related to mobility, economic opportunity, equity, sustainability, and safety.

Safety is a central focus of the Plan, recognized as one of the most critical issues affecting the region's transportation system. The plan adopts a Safe System Approach, which acknowledges that human error is inevitable and that roadway design should anticipate and accommodate those mistakes without resulting in severe outcomes. It reinforces the principle that traffic fatalities and serious injuries are preventable and supports the broader goal of eliminating such outcomes from the transportation system. The plan supports a regional culture of safety by incorporating safety performance targets and prioritizing projects that improve intersections, reduce roadway departure crashes, and enhance protection for pedestrians and bicyclists. It aligns with Vision Zero principles and calls for coordinated efforts among agencies and stakeholders to implement proven strategies. Safety considerations are embedded throughout the plan's project selection and funding framework, reinforcing the commitment to a transportation network that serves all users with dignity and care.

Complete Streets Policy (2022)

Link: KIPDA Complete Streets Policy



The *KIPDA Complete Streets Policy*, adopted in August 2022, establishes a framework for developing transportation projects that serve users of all ages, abilities, and modes. The policy emphasizes a context-sensitive approach that ensures infrastructure accommodates pedestrians, bicyclists, transit riders, motorists, commercial and emergency vehicles, and people using shared mobility or assistive devices. It is grounded in principles of safety, connectivity, accessibility, and sustainability, aligning with regional goals outlined in the Metropolitan Transportation Plan and related initiatives.

KIPDA's policy requires that all projects receiving MPO-dedicated federal funding incorporate Complete Streets principles, including multimodal design considerations and context-sensitive solutions. These requirements apply to planning, reconstruction, maintenance, and new construction of transportation facilities. While the policy does not prescribe specific design standards, it encourages use of national best practices and guidance from organizations such as AASHTO, NACTO, and FHWA, and calls for coordination with KYTC, INDOT, and TARC. The policy also promotes complementary strategies such as speed management, safe pedestrian crossings, landscaping, and coordination across agencies. Education and enforcement are encouraged to support implementation.

Coordinated Human Services Transportation Plan (2024)

Link: Coordinated Human Services Transportation Plan

KIPDA's *2024 Coordinated Public Transit-Human Services Transportation Plan* serves as a federally required planning document aimed at improving mobility for older adults, individuals with disabilities, and low-income populations within the KIPDA region. The plan facilitates coordination among transit providers, human service agencies, and local governments to ensure that transportation services are efficient, accessible, and responsive to community needs. It supports eligibility for funding and guides the selection and prioritization of mobility-enhancing projects.

The plan primarily focuses on expanding and coordinating transportation access, and safety is an important consideration—particularly for populations that may face heightened risks when navigating the transportation system. The plan also identifies challenges such as sidewalk gaps,

lack of lighting at transit stops, and inaccessible infrastructure as barriers that limit safe travel for individuals with mobility impairments. The plan's emphasis on accessibility and coordinated services supports broader safety goals, particularly for populations at increased risk when traveling in the transportation system.

Transportation Improvement Plan FY 2025 - FY 2028

Link: [Transportation Improvement Program FY 2025 - FY 2028]

KIPDA's *FY 2025 -2028 Transportation Improvement Program* outlines the near-term capital investment strategy for the Louisville/Jefferson County, KY-IN Metropolitan Planning Area. It programs federally funded transportation projects scheduled for implementation over the four-year period and serves as the short-range companion to the long-range Metropolitan Transportation Plan. The Plan ensures alignment with federal performance-based planning requirements, including safety performance measures, and supports regional goals related to mobility, access, and system preservation.

Safety remains a central consideration in this updated plan. Projects included in the program are evaluated for their alignment with federal and state safety performance targets, particularly those aimed at reducing traffic fatalities, serious injuries, and non-motorized user crashes. Projects that support Complete Streets principles–such as intersection improvements, sidewalk infill, traffic calming, and access management–are included, reinforcing KIPDA's commitment to improving safety outcomes for all users.

Congestion Management Process (2025)

Link: [Congestion Management Process]

The *2025 Congestion Management Process* (CMP) outlines a data-driven framework for identifying, evaluating, and addressing recurring congestion in the Louisville/Jefferson County KY-IN Metropolitan Planning Area. While the primary objective of the CMP is to mitigate congestion and improve travel reliability, the plan also recognizes the critical overlap between congestion mitigation and transportation safety.

The CMP promotes access management measures such as limiting driveways, encouraging shared access points, and installing medians, noting these approaches can "improve operations and safety" by reducing conflict points along busy corridors. Signal coordination is another highlighted strategy, described as an opportunity to enhance both efficiency and safety by minimizing abrupt stops and reducing the likelihood of rear-end or angle crashes at intersections. The CMP also affirms the importance of accommodating all users by encouraging pedestrian and bicycle improvements where needed and supporting multimodal strategies that enhance the safety of vulnerable roadway users. Additionally, the CMP emphasizes the importance of coordination with other transportation planning initiatives–such as the Metropolitan Transportation Plan and local safety action plans–to ensure consistency and effectiveness across regional investments.

Conclusion

KIPDA has numerous safety related policies, guidelines, and planning/programming documents which provide the region with a strong basis for working towards its Vision Zero goal. KIPDA has continuously reevaluated and enhanced the way in which safety is incorporated into their documents and processes. For example, the recent approach to safety with project scoring and selection clearly makes safety improvements a priority. KIPDA is encouraged to continue this practice and to support local member governments and partner agencies in implementing similar safety focused project identification and implementation policies and procedures.

6. Strategy and Project Selection

The development of strategies and project selection is based on a comprehensive analysis of historical crash data, best practices implementation, and active engagement with stakeholders and the community. The reactive approach involves a detailed examination of crash data by frequency, severity, and location to identify the areas needing improvement the most. The following sections detail the methodology for prioritizing projects and strategy selection. Please refer to the community specific plans for detailed information on strategy and project selection for each of the 16 participating jurisdictions.

Prioritization

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

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

Table 6-1 KIPDA Comprehensive Crash Cost

Equivalent Property Damage Only Method

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

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

Table 6-2. KIPDA EPDO Crash Value

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

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

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. The team gathered the region's geographic information system (GIS) files with roadway and traffic data. The GIS roadway layer was divided into segments and intersections. Analysts combined the crash data with the GIS information to facilitate detailed analysis by identifying the location of the crashes by road segment and intersection.

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

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

Intersections

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

Prioritized Intersections

The KIPDA region experienced 2,233 fatal and suspected serious injury crashes at intersections, representing 64% 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 10 intersections by MEPDO. These intersections account for 64 of the fatal and suspected serious injury crashes at intersections. The intersections are shown on Figure 6-1.

Table 6-5 provides a list of the top two intersections for each county in Kentucky. Table 6-6 provides a list of the top two intersections for each Indiana jurisdiction. The intersections from both tables are shown on Figure 6-2.

For complete lists of all high priority intersections, please refer to the 16 safety action plans on the KIPDA SS4A website. All of these intersection lists are incorporated by reference into this KIPDA plan and are part of the official safety action plan for the region. The New Albany, IN Safety Action Plan recommendations are also incorporated by reference into this plan. New Albany was not one of the 16 agencies participating in the regional safety action plan initiative. The city previously prepared a separate Traffic Safety Action Plan (2022).

Ranking	Jurisdiction	Intersection	K	A	B	C	O	KA	TOTAL	MEPDO
1	Clarksville	Eastern Blvd & US-31 (NB)	0	10	28	6	134	10	178	2429
2	Louisville Metro	Dixie Hwy (US-31W) & Pendleton Rd	1	8	8	4	32	9	53	1,828
3	Louisville Metro	E Broadway (US-150) & S 22nd St	0	5	17	24	52	5	98	1,445
4	Louisville Metro	Greenbelt Hwy (KY-1934) & Crums Ln	0	6	10	14	65	6	95	1,440
5	Louisville Metro	Shepherdsville Rd (KY-2052) & Hikes Ln	0	6	11	11	77	6	105	1,438
6	Louisville Metro	Greenbelt Hwy (KY-1934) & Manslick Rd (KY-1931)	1	5	7	18	54	6	85	1,422
7	Louisville Metro	7th Street Rd (KY-1931) & Central Ave	2	4	7	13	53	6	79	1,373
8	Louisville Metro	Cane Run Rd (KY-1934) & Shanks Ln	2	4	8	9	57	6	80	1,354
9	Jeffersonville	E 10th St & Wall St	0	6	6	3	56	6	71	1,266
10	Louisville Metro	W Broadway (US-150) & Roy Wilkins Ave	0	4	16	21	80	4	121	1,247

Table 6-4. KIPDA Top 10 Prioritized Intersections by MEPDO

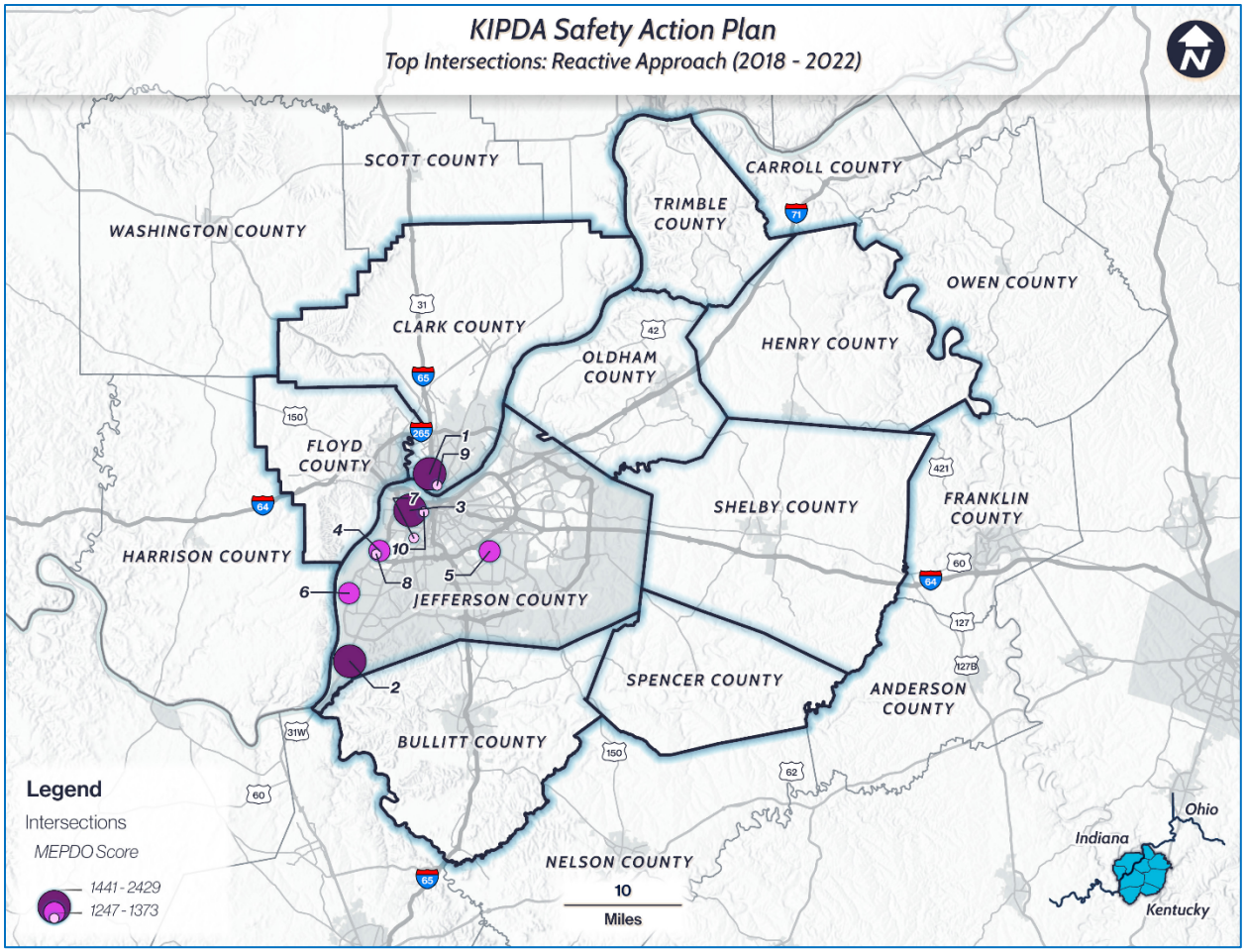


Figure 6-1. KIPDA Top 10 Prioritized Intersections by MEPDO

County	Intersection	K	A	B	C	O	KA	TOTAL	MEPDO
Bullitt	Shepherdsville Rd (KY-44) & I-65 SB Ramps	1	1	9	17	214	2	242	874
Bullitt	Brooks Hill Rd (KY-1526) & I-65 SB Ramps	1	2	4	6	76	3	89	739
Henry	Campbellsburg Rd (US-421) and I-71 Southbound Ramp	1	0	2	1	3	1	7	224
Henry	N Main St (KY-55) and Sulphur Ave (CS-2006)	0	1	1	0	4	1	6	201
Louisville Metro (Jefferson)	Dixie Hwy (US-31W) & Pendleton Rd	1	8	8	4	32	9	53	1,828
Louisville Metro (Jefferson)	E Broadway (US-150) & S 22nd St	0	5	17	24	52	5	98	1,445
Oldham	KY-393 & I-71 NB Ramps	0	3	2	2	19	3	26	614
Oldham	Ash Ave (KY-362) & Old Floydsburg Rd	1	2	3	0	17	3	23	608
Shelby	Midland Trl (US-60) & Taylorsville Rd (KY-55)	0	1	7	7	91	1	106	444
Shelby	Taylorsville Rd (KY-55) & Old Brunerstown Rd	0	1	11	6	34	1	52	437
Spencer	Bloomfield Rd (KY-55) & Franklin Rd (KY-1066)	0	2	0	0	2	2	4	366
Spencer	Taylorsville Rd (KY-155) & Shelbyville Rd (KY-55)	1	0	4	2	20	1	27	281
Trimble	US-42 and Sulphur Bedford Rd	2	0	0	0	2	2	4	366
Trimble	Main St (US-421) and Palmyra Rd (KY-1226)	0	1	1	0	4	1	6	201

Table 6-5. Top 2 Prioritized Intersections by MEPDO for Each Kentucky County

Jurisdiction	Intersection	K	A	B	C	O	KA	TOTAL	MEPDO
Charlestown	CR-403 & Bethany Rd	2	2	5	0	21	4	30	824
Charlestown	CR-403 & CR-160 / Horton Dr	0	3	2	3	16	3	24	620
Clark	CR-403 & Bethany Rd	2	2	5	0	21	4	30	824
Clark	US-31 & Memphis Bluelick Rd	1	2	6	1	13	3	23	658
Clarksville	Eastern Blvd & US-31 (NB)	0	10	28	6	134	10	178	2429
Clarksville	Lewis and Clark Pkwy & Blackiston Mill Rd	0	4	10	3	106	4	123	1012
Floyd	Charlestown Rd & I-265 WB Ramps	0	3	4	3	15	3	25	649
Floyd	Grant Line Rd & Hausfeldt Ln	0	2	8	3	73	2	86	585
Jeffersonville	E 10th St & Wall St	0	6	6	3	56	6	71	1266
Jeffersonville	E 10th St & Springdale Dr	0	4	11	5	158	4	178	1098

Table 6-6. Top 2 Prioritized Intersections by MEPDO for Each Indiana Jurisdiction

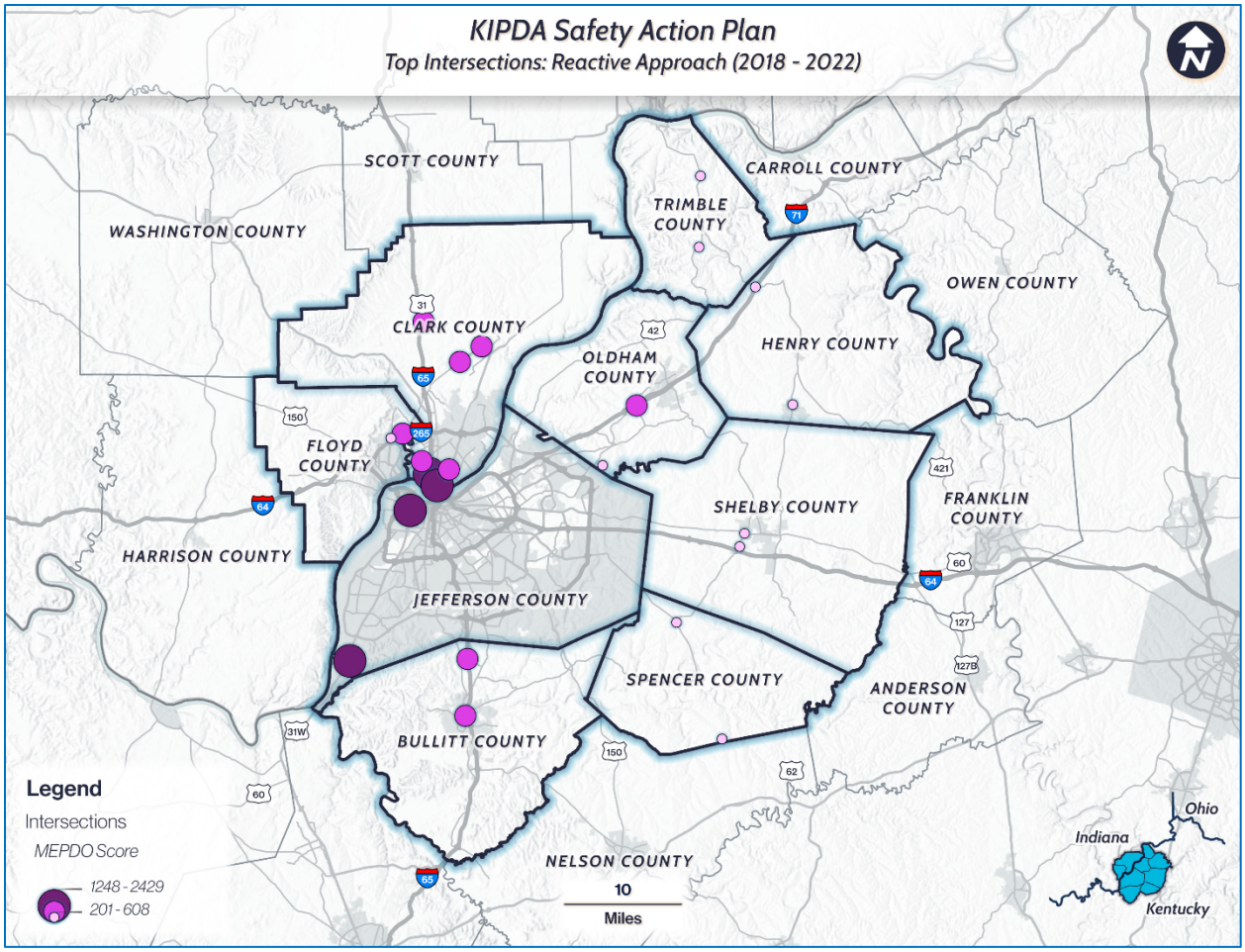


Figure 6-2. Top 2 Prioritized Intersections for Each KY County and IN Jurisdiction

High Injury Network and Prioritized Corridors

A High Injury Network (HIN) is a data-driven approach that identifies roadway segments experiencing 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. KIPDA's HIN was developed using detailed crash data analysis and GIS mapping to pinpoint corridors with the highest concentration of severe crashes. Table 6-7 presents the top 10 HIN corridors in the region. These corridors are illustrated in Figure 6-3. Table 6-8 presents the top 2 HIN segments by county in Kentucky. Table 6-9 lists the top 2 HIN segments for each Indiana jurisdiction. Figure 6-4 shows the top Kentucky and Indiana HIN segments.

For complete lists of all HIN segments, please refer to the 16 safety action plans on the KIPDA SS4A website. The HINs for all 16 jurisdictions are incorporated by reference into this KIPDA plan and are part of the official safety action plan for the region. The separate New Albany Traffic Safety Action Plan recommendations are also incorporated by reference into this plan.

Ranking	Jurisdiction	Route	Begin	End	Length (mile)	MEPDO	MEPDO/ mile
1	Louisville Metro	Broadway (US-150)	S 22nd St (US-31W)	Baxter Ave (US-31E)	3.353	19,419	5,792
2	Louisville Metro	S 7th St (CS-1011F)	Algonquin Pkwy (KY-2054)	Split to S 9th St	0.928	5,224	5,629
3	Louisville Metro	W Broadway (CS-1021F)	S 22nd St (US-31W)	S 35th St (north leg)	1.19	6,262	5,262
4	Clarksville	Eastern Blvd	Lewis Clark Pkwy	Hospitality Way	1.36	6054	4,452
5	Louisville Metro	7th Street Rd / Berry Blvd / Taylor Blvd / Winkler Ave (US-60A)	Dixie Hwy (US-31W)	S 3rd St (KY-1020)	3.157	13,771	4,362
6	Louisville Metro	Taylor Blvd / New Cut Rd (KY-1865)	Gene Snyder Fwy (KY-841)	Berry Blvd (US-60A)	5.273	20,222	3,835
7	Louisville Metro	Shelbyville Rd (US-60)	Lexington Rd (US-60A)	Thierman Ln	0.638	2,413	3,782
8	St Matthews	Westport Rd (KY-1447)	Ambridge Dr	Herr Lane (KY-2050)	0.75	2,811	3,733
9	Louisville Metro	Bardstown Rd (US-31E)	Captain Place	Beulah Church Rd/ Seatonville Rd (KY-1065)	1.652	6,005	3,635
10	Louisville Metro	S 22nd St/Bernheim Ln (US-31W)	Dixie Hwy	Dumesnil St	1.145	4,100	3,581

Table 6-7. KIPDA Top 10 Prioritized HIN Corridors

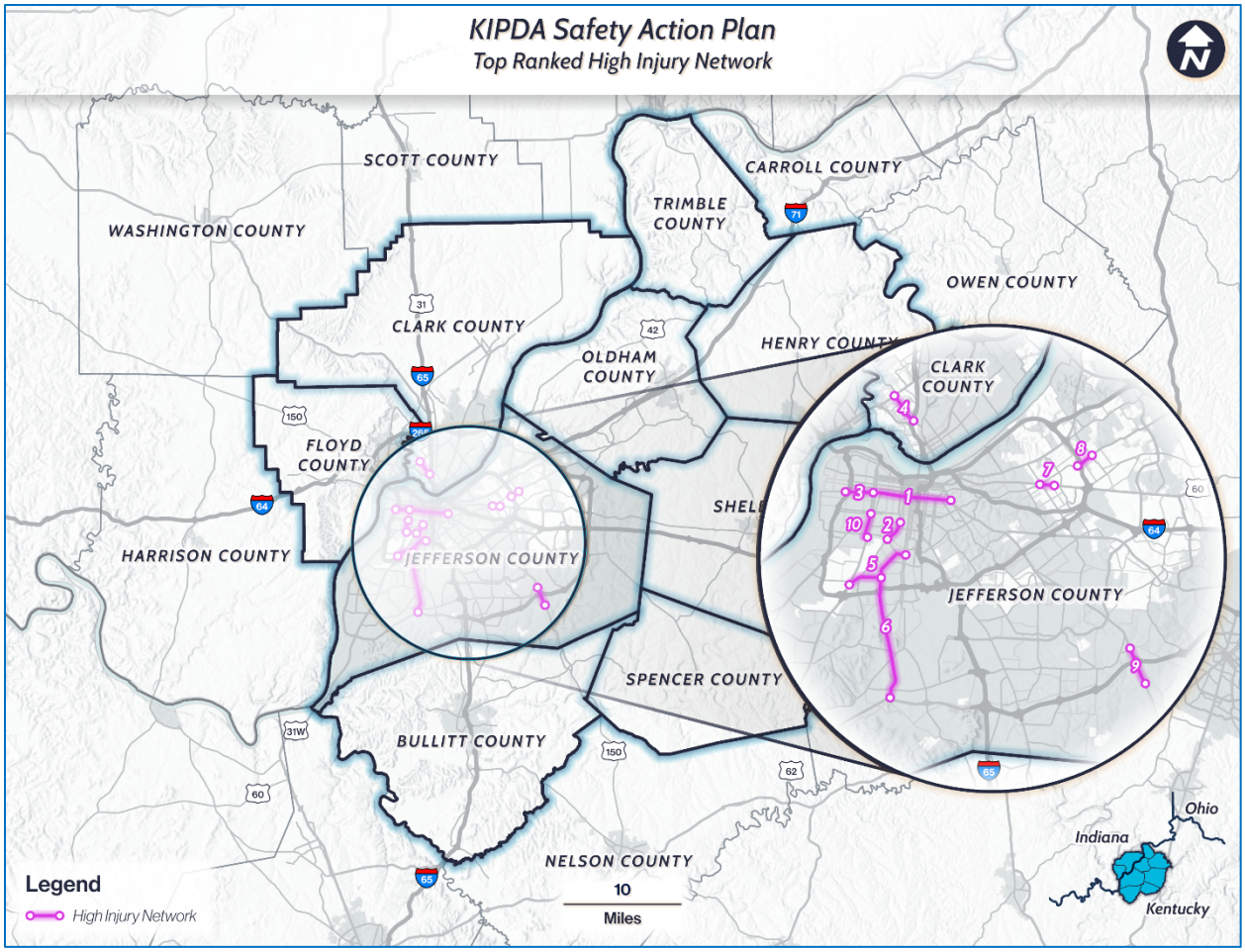


Figure 6-3. KIPDA Top 10 Prioritized HIN Corridors Map

Jurisdiction	Route	Begin	End	Length (mile)	MEPDO	MEPDO/ mile
Bullitt (Mt Washington)	E 10th St	Spring St	Plank Rd / Springdale Dr	1.92	6,171	3,214
Bullitt (Mt Washington)	E 10th St	Plank Rd / Springdale Dr	I-264 Interchange	3.12	6,516	2,089
Henry	Lagrange Rd (KY-146)	Pendleton Rd (KY-153)	Lost Creek Dr	4.63	1,688	365
Henry	Pendleton Rd (KY-153)	Lagrange Rd (KY-146)	Foxboro Rd	0.67	238	357
Louisville Metro (Jefferson)	Broadway (US-150)	S 22nd St (US-31W)	Baxter Ave (US-31E)	3.353	19,419	5,792
Louisville Metro (Jefferson)	S 7th St (CS-1011F)	Algonquin Pkwy (KY-2054)	Split to S 9th St	0.928	5,224	5,629
Oldham	S First Ave (KY-53)	Pine Ridge Rd	West Jefferson St (KY-146)	1.31	2,455	1,868
Oldham	N First Ave (KY-53)	W Jefferson St (KY-146)	Woodcreek Dr	0.45	621	1,384
Shelby	Midland Trl (US-60)	Taylorsville Rd (KY-55)	Washington St (US-60)	1.3	3,151	2,428
Shelby	Taylorsville Rd (KY-55)	I-64	Shelbyville Rd (US-60)	1.77	2,445	1,382
Spencer	Taylorsville Rd (KY-155)	Shelbyville Rd (KY-55)	Realty Dr	0.81	753	928
Spencer	Taylorsville Rd (KY-155)	Realty Dr	Kings Mill Dr	1.41	843	596
Trimble	Main St (US-421)	Main St (US-60)	Mount Pleasant Rd (KY-625)	1.08	563	523
Trimble	Highway KY-36	US-421	Carroll County Line	2.21	841	381

Table 6-8. Top 2 Prioritized HIN Segments for Each KY County

Jurisdiction	Route	Begin	End	Length (mile)	MEPDO	MEPDO/ mile
Charlestown	Old Indiana 403 (CR-403)	Locust Drive	Market St (IN-3)	0.7	1303	1,861
Charlestown	Ohio River Scenic Byway (IN-62)	Market St (IN-3) / Landing Road	Jefferson St	0.5	606	1,213
Clark	Charlestown Rd (Hwy-311)	Hometown Rd	S Indiana Ave (US-31)	1.37	2363	1,725
Clark	Old Indiana 403 (CR-403)	N Indiana Ave (US-31)	County Limits	3.8	2716	715
Clarksville	Eastern Blvd	Lewis Clark Pkwy	Hospitality Way	1.36	6054	4,452
Clarksville	Lewis Clark Pkwy (SR 62)	SR 62 Ramps	Charlestown New Albany Pike	2.15	6245	2,905
Floyd	Grant Line Rd	I-265 Ramps	Security Pkwy / Barack Obama Way	1.78	3463	1,945
Floyd	Charlestown Rd	I-265 Ramps	Lawrence Meyer Rd / County Line Rd	2.08	3245	1,560
Jeffersonville	E 10th St	Spring St	Plank Rd / Springdale Dr	1.92	6171	3214
Jeffersonville	E 10th St	Plank Rd / Springdale Dr	I-264 Interchange	3.12	6516	2089

Table 6-9. Top 2 Prioritized HIN Segments for Each IN Jurisdiction

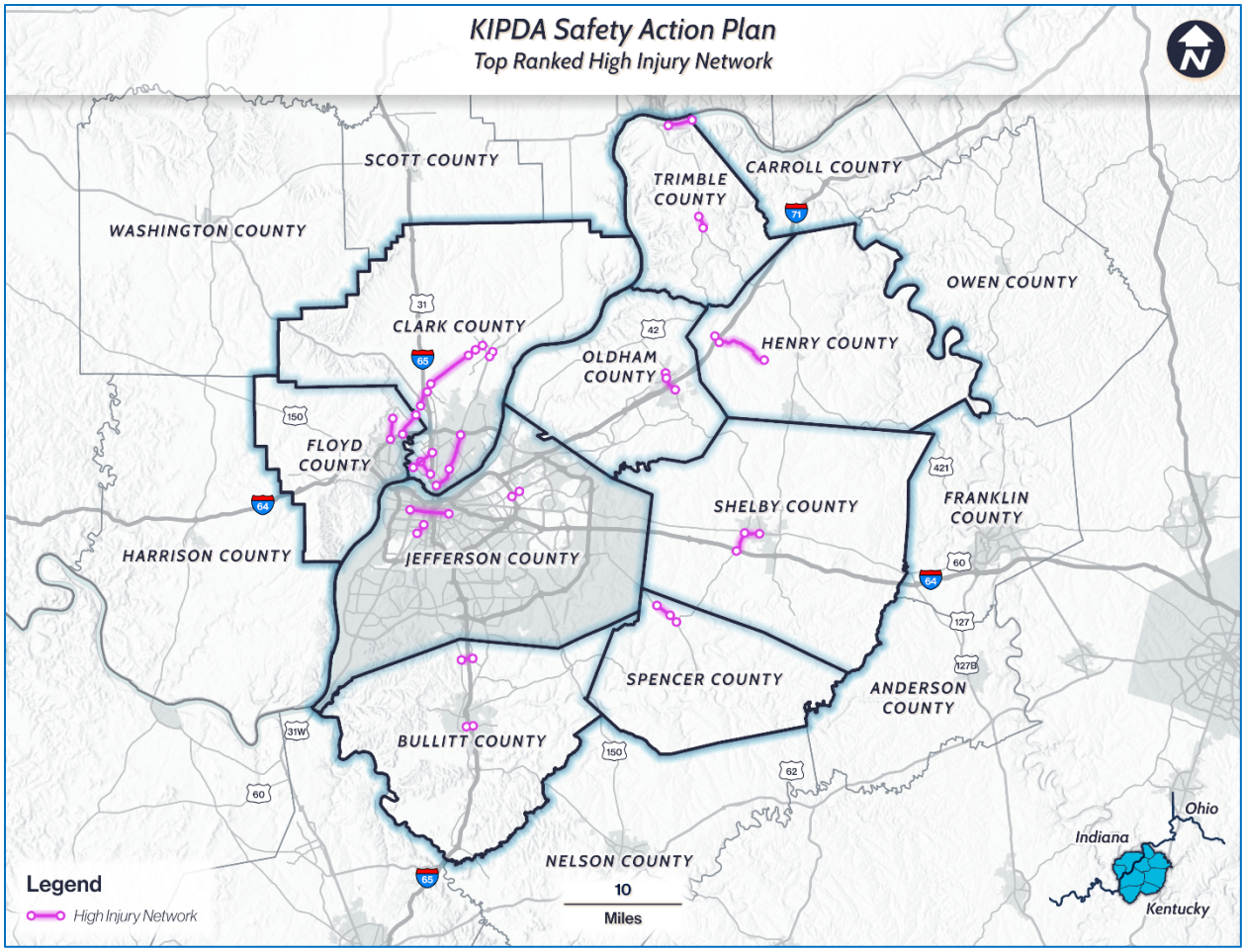


Figure 6-4. Top 2 Prioritized HIN Segments for Each KY County and IN Jurisdiction

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 considerations and the principles of the Safe System Approach.

Proven Safety Countermeasures

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

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

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

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

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

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

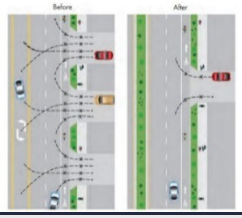
Example Segment Countermeasures							
Countermeasure	Description	Safety Impact	Links	Countermeasure	Description	Safety Impact	Links
Enhanced Delineation for Horizontal Curves				**Roadside Design Improvements at Curves**			
	High visibility markings and delineators around curves provide drivers with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

Table 6-10. Example Segment Countermeasures

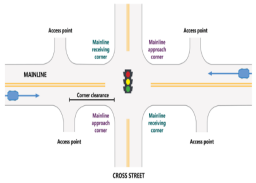
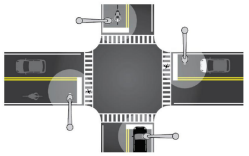
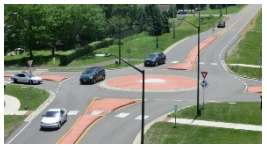
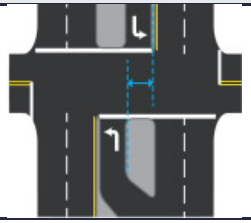
Example Intersection Countermeasures							
Countermeasure	Description	Safety Impact	Links		Countermeasure	Description	Safety Impact	Links
Access Management (intersection treatments)					**Intersection Lighting**			
	This refers to the design and control of access points including intersections which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

Table 6-11. Example Intersection Countermeasures

Potential Intersection Strategies

For the intersections identified in each of the 16 jurisdictions, potential intersection safety improvement strategies were identified. The 16 sets of potential improvement options are incorporated here by reference. Please refer to the KIPDA SS4A website for the recommendations for each community.

Potential High Injury Network Corridor Strategies

For the HIN segments identified in each of the 16 jurisdictions, potential corridor safety improvement strategies were identified. The 16 sets of potential improvement options are incorporated here by reference. Please refer to the KIPDA SS4A website for the recommendations for each community.

System Level Approach and Strategies

Systemic improvement strategies were identified for all 16 jurisdictions. The 16 sets of systemic strategies are incorporated here by reference. Please refer to the KIPDA SS4A website for the recommendations for each community.

Safety Action Plan Implementation

This plan has documented and prioritized many safety challenges. Based on the data, agency / stakeholder input, and best practices, KIPDA and the 16 jurisdictions have identified potential strategies and projects that would address many of these challenges. The focus continues to be on reducing high-severity crashes across the region.

KIPDA continues to support the deployment of potential strategies, projects, and safety programs. This effort is well documented in the Connecting Kentuckiana 2050 Metropolitan Transportation Plan (2023) as well as in other KIPDA planning and programming documents. Many of these documents address funding and have clear implementation timeframes. These documents and KIPDA initiatives are constantly being updated by staff and discussed with local government agencies. The implementation plans 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 KIPDA's capacity to execute each action. Typically, KIPDA does not have primary authority for implementing the action, and they therefore play a supporting role.

7. Progress and Transparency

KIPDA is dedicated to ensuring the success of this Safety Action Plan. Effective communication, continuous monitoring, and evaluation are crucial to eliminating fatalities and serious injury crashes by 2050.

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 will be measured using community-wide performance metrics to assess progress. Additionally, project-specific performance will be monitored to promote effective implementation and positive safety impacts.

Annual Safety Performance Measures

Crash Severity

KIPDA expects 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 region.

Fatal and Suspected Serious Injury Crashes

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

Vulnerable Road User Crashes

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

Community Focused

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

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, prioritized 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

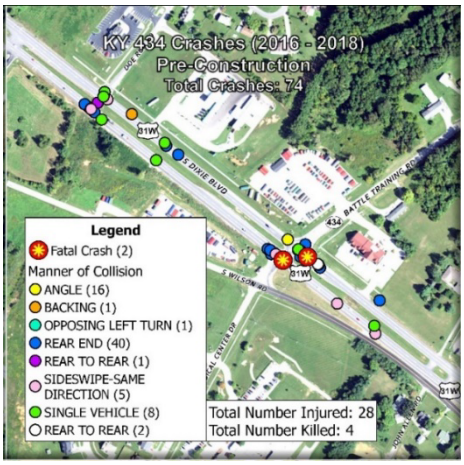
This performance measure tracks the number of safety-focused improvement projects constructed from the potential improvements listed in the 16 local government safety action plans. The total number of safety improvements implemented at intersections and along the corridors identified on the HINs would 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 should 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.

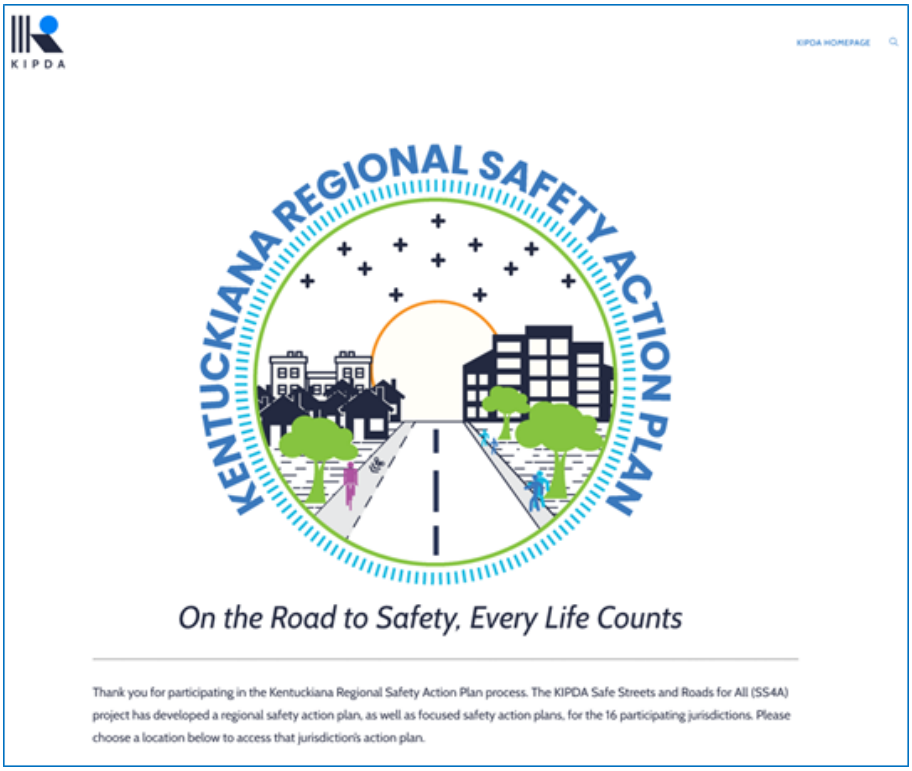


PRE-CONSTRUCTION → **POST-CONSTRUCTION**

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.

Transparency

The development of the KIPDA Safety Action Plan, and all 16 local government safety action plans, has been shared publicly 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 System Approach. The KIPDA Safety Action Plan is available at **SS4A – KIPDA Transportation**. This website continues 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 meetings 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. One of the future activities that KIPDA plans to implement is ongoing safety discussions through the RTC, TTCC, and TPC. KIPDA also plans to hold annual safety educational summits to share information across the region and promote best practices for safety planning, design, and project implementation. This will allow for the sharing of regional success stories as well as major new initiatives by KIPDA or local governments in the region.

Appendix A

Safety Countermeasure Cost Estimate Ranges

and

Project Implementation Timeline Reference Chart

Planning Level Safety Countermeasure Cost Estimate Ranges

Values are based on an assumed construction cost and percentages for all other categories

Results are for order of magnitude cost estimation only

6/12/2025

Notes: ***Low Cost*** *Assumes Minimal Scope, Low Cost Approaches, and/or Ideal Conditions*

High Cost *Assumes Full Scope and Several Project Challenges*

All category and contingency percentages may need to be adjusted based on project size and complexity

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

Project Implementation Timeline Reference Chart
6/23/2025

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

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

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

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