DUBOIS COUNTY

SAFE STREETS AND ROADS FOR ALL COMPREHENSIVE SAFETY ACTION PLAN

DATE SUBMITTED: 10/10/2024

DATE ADOPTED: 01/08/2025

ACKNOWLEDGMENTS

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DUBOIS COUNTY

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PREPARED BY

AMERICAN STRUCTUREPOINT INC.

THE DUBOIS COUNTY SS4A SAFETY ACTION PLAN IS
APPROVED ON THIS 8TH DAY OF JANUARY BY:

THE DUBOIS COUNTY HIGHWAY DEPARTMENT:

BY: B.A.W — 1/8/2025

Brent Wendholt, County Engineer — Date

THE DUBOIS COUNTY BOARD OF COMMISSIONERS:

BY: Chad A Blessinger — 1-8-2025

Chad A. Blessinger, President — Date

BY: — 1-8-2025

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AUDITOR ATTEST:

BY: Sandra L Morton — 1-8-2025

Sandra L. Morton — Date

ALL PREVIOUS SAFETY ACTION PLANS ARE HEREBY REPEALED AND REPLACED
WITH THIS SAFETY PLAN EFFECTIVE ON THIS 8TH DAY OF JANUARY, 2025

DUBOIS COUNTY
INDIANA
EST. 1818

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1. EXECUTIVE SUMMARY

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Dubois County is dedicated to enhancing safety and reducing traffic fatalities and injuries by enacting the Safe Streets and Roads for All Comprehensive Safety Action Plan (CSAP). This multifaceted plan has been prepared with a focus on community engagement, pinpointing hotspot intersections and high-injury networks, implementing systemic safety improvements, and prioritizing projects with a high impact on safety.

Aligned with Dubois County's Vision Zero goal of achieving a 50% reduction in fatal and serious injury crashes by 2040, the CSAP represents a decisive step toward creating a safer and more inclusive transportation system for all residents.

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

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

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

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

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

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

2. INTRODUCTION

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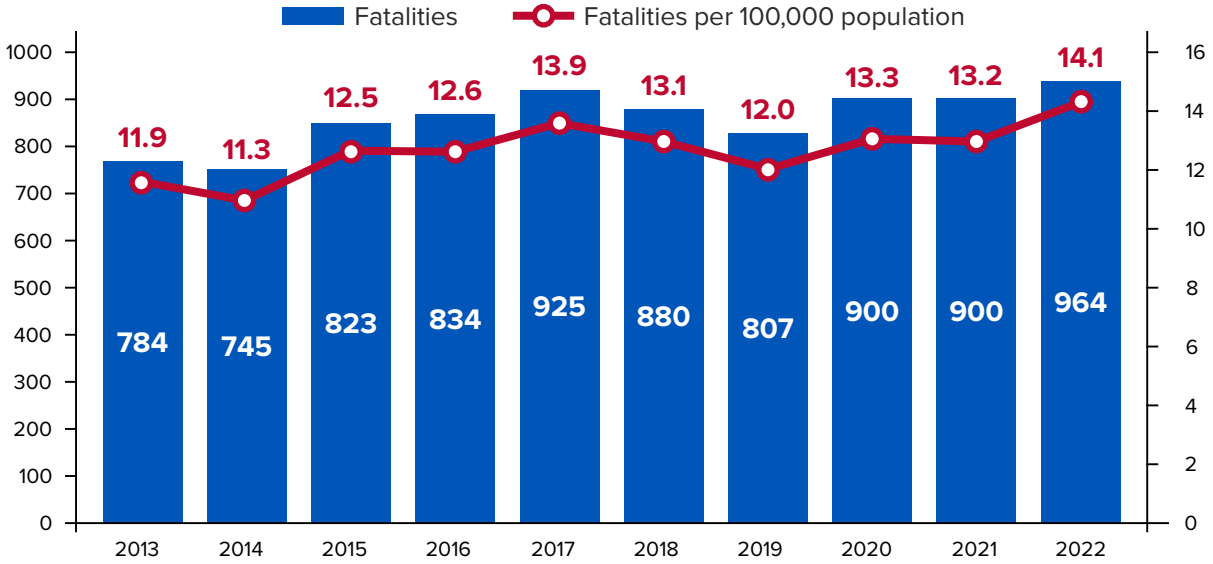
According to the Indiana University Public Policy Institute, in partnership with the Indiana Criminal Justice Institute, Indiana, recent years have witnessed an alarming rise in traffic fatality rates. There were 964 traffic fatalities in Indiana in 2022, up from 900 in 2021. Traffic fatalities have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

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



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

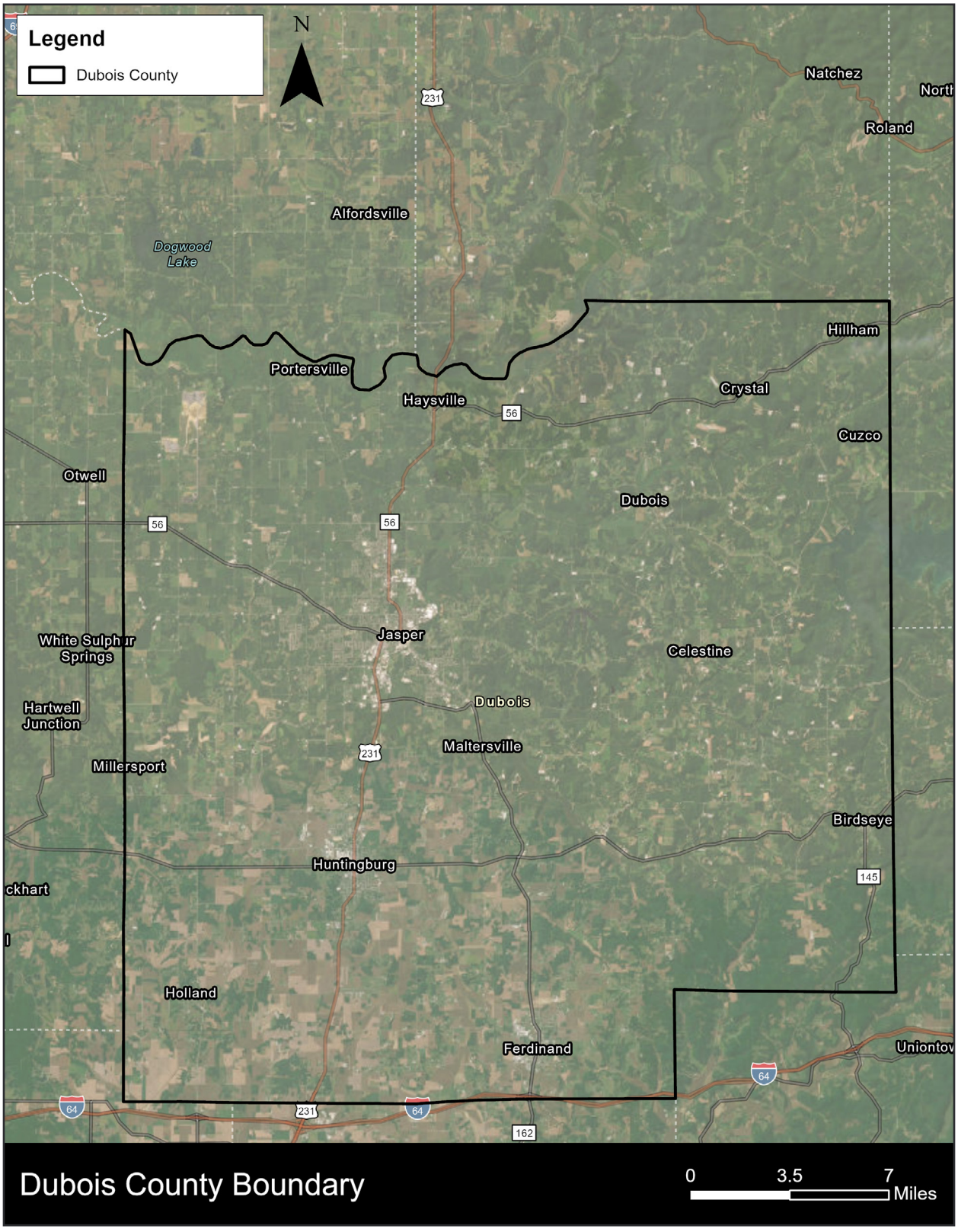
Some evidence-based practices and policies can help reverse course. To do so, however, we will need to comprehensively approach traffic fatalities and social factors, built environment, street designs, vehicle standards, and technologies that underlie the worsening traffic safety decline in the state and the county.

2.1 ABOUT DUBOIS COUNTY

Dubois County is located in southwestern Indiana with the county seat in Jasper. As of 2020, the population was 43,637. Dubois County has been called the "Heart of Southern Indiana" and is home to multi-national corporations, high-quality educational opportunities, agriculture that feeds the nation, and safe communities. Dubois County is now the sole county of the Jasper Micropolitan Statistical Area. Dubois County was formed on December 20, 1818, from Orange, Pike, and Perry counties. It is named after Toussaint Dubois, a Frenchman who fought in the American Revolutionary War, the Battle of Tippecanoe, and the War of 1812. Dubois was a merchant who lived mainly in Vincennes. US Route 231 is a major north-south US highway that runs through the county, intersecting with State Route 56 in Jasper, Indiana. Other major roads in the county include State Route 64 and 162.

[1] Source: 2022 Indiana Crash Fact Book

Figure 2: Dubois County – Boundary



2.2 SAFE STREETS AND ROADS FOR ALL AND VISION ZERO

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

Communities seeking SS4A funding must have a compliant Safety Action Plan. A significant portion of the overall SS4A program is devoted to funding Action Plans. Dubois County was awarded the FY 22 SS4A Planning grant to create a comprehensive safety action plan. The county engaged American Structurepoint Inc. to create an action plan following all required and suggested SS4A Action Plan components.

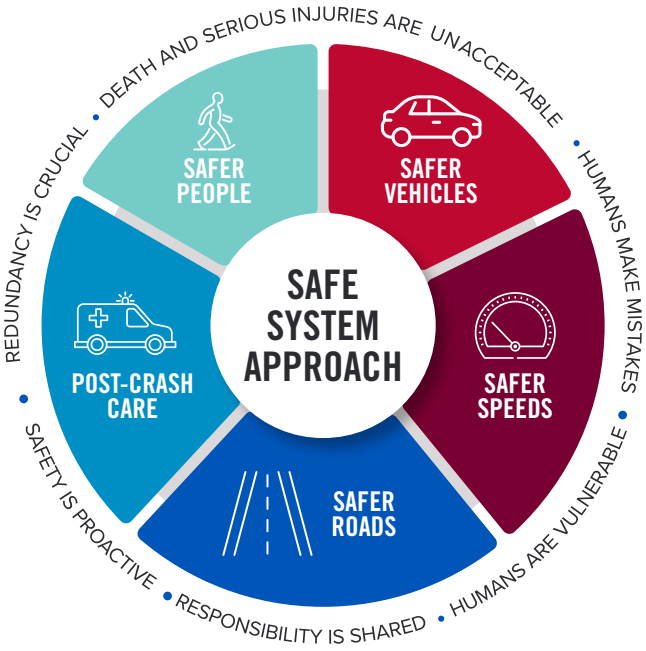
With the adoption of this plan by the County Commissioners, Dubois can pursue SS4A Demonstration and Implementation Grants. This grant can fund various safety projects and strategies identified in this Action Plan that address roadway safety problems. This plan will also identify the tools and policy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

2.2.1 THE SAFE SYSTEM APPROACH

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

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

Figure 3: Safe System Principles and Elements



2.3 A COMPREHENSIVE SAFETY PLAN

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

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

2.4 DUBOIS'S COMMITMENT TO SAFE STREETS FOR ALL

The CSAP serves as a detailed roadmap outlining specific strategies, actions, and projects that Dubois County will implement in the coming years and beyond to enhance safety across the community. In February 2024, Dubois County adopted a Vision Zero resolution, aiming to achieve a **50% reduction** in fatal and injury crashes by 2040. This resolution underscores the county's dedication to prioritizing safety as a fundamental aspect of urban planning and development. The resolution is included in ***Appendix A*** of this report.

Through the CSAP, the county is taking the first step towards addressing current safety concerns and laying the foundation for a safer and more resilient future. By implementing targeted strategies and initiatives, the county aims to create a transportation system that is safe, accessible, and equitable for all residents, visitors, and road users.

3. COMMITTEE/TASK FORCE

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

3.1 PROJECT TEAM

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

Table 1: Dubois County CSAP, Project Team Members

NAME	TITLE
Patrick Carpenter	SS4A Liaison - Federal Highway Administration
Brent A. Wendholt	County Engineer - Dubois County Highway Department
Tammy Humbert	Director - Dubois County Emergency Management Agency
Narissa Zink	Deputy Director - Dubois County Emergency Management Agency
Rahul Rajbhara	Project Manager - American Structurepoint, Inc.
Gaurav Kashyap	Senior Traffic Engineer - American Structurepoint, Inc.
Jose Jarquin	Senior Safety Analyst/Project Engineer - American Structurepoint, Inc.
Alex Crandall	Safety Analyst/Staff Engineer - American Structurepoint, Inc.
Phil Roth	Senior Planner - American Structurepoint, Inc.
Patty Salgado	Equity Analyst/Planner - American Structurepoint, Inc.

3.2 STEERING COMMITTEE

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

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

Table 2: Dubois County CSAP, Steering Committee Members

NAME	TITLE
Brent A. Wendholt	County Engineer - Dubois County
Brad Eckerle	President - Brosmer Land Surveying and Engineering
Tammy Humbert	Director - Dubois County Emergency Management Agency
Narissa Zink	Deputy Director - Dubois County Emergency Management Agency
Glenn Buechlein	Assistant Superintendent - Greater Jasper School Corporation
Lonnie Nicholson	General Public Representative
Stan Seifert	Fire Chief - Ireland Volunteer Fire Department
Steve Kalb	Fire Chief - Dubois Volunteer Fire Department
Serice Stenftenagel	District 2 Commissioner - Dubois County
Ryan Craig	Council Member - Dubois County
Jeremy Lee	Sheriff Deputy - Dubois County Sheriff's Department

4. SAFETY ANALYSIS

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To identify the factors contributing to an increased likelihood of fatal and incapacitating crashes in the area, we conducted an analysis of crashes reported in the Indiana State Police Automated Reporting Information Exchange System (ARIES) spanning from year 2018 to 2022. These factors included aspects such as road geometry, traffic flow, driver behavior, and environmental conditions.

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

4.1 HIGH-LEVEL TRENDS

The crash analysis focused on crashes specifically within Dubois County police jurisdiction, not including state or city-owned roadways. Over the course of five years, Dubois County averaged 208 reported crashes annually, 19% of which were injury or fatal crashes. The crash trends show an overall decrease in annual crashes over the five years, especially during COVID-19, and a sharp increase afterward. The crash frequency and corresponding year-to-year percentage changes from 2018 to 2022 are summarized in ***Table 3***.

Table 3: Dubois County, Crash Frequency, 2018-2022

YEAR	TOTAL CRASHES	CHANGE (%)	INJURY AND FATALITY CRASHES	CHANGE (%)
2018	219	-	45	-
2019	226	3.2	33	-26.7
2020	216	-4.4	29	-12.1
2021	194	-10.2	35	20.7
2022	181	-6.7	37	5.7
Subtotal 2018-2022	1036	-	179	-
5-year Average	**208**	**-4.5**	**36**	**-3.1**

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

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

CRASH TYPE

The crash data analysis indicates that the most common crash types include roadway departure, collision with deer, and failure to yield, collectively accounting for 88% of all crashes. Roadway departure and failure to yield crashes are associated with an elevated risk of severity. These crashes made up 86% of all severe crashes in the five years between 2018 and 2022, as shown in ***Table 4***.

When compared to their total share of all crashes, failure-to-yield crashes have a severity ratio* of 1.5, and severe pedestrian crashes are also overrepresented with a ratio of 6.0. Deer collision crashes have the lowest severity ratio at 0.1.

**The severity ratio is the ratio of the share of severe crashes for a particular crash type to its share of overall crashes. For example, a crash type that represents 5% of severe crashes and 10% of all crashes would have a severity ratio of 0.5, indicating that it was underrepresented in countywide severe crashes.*

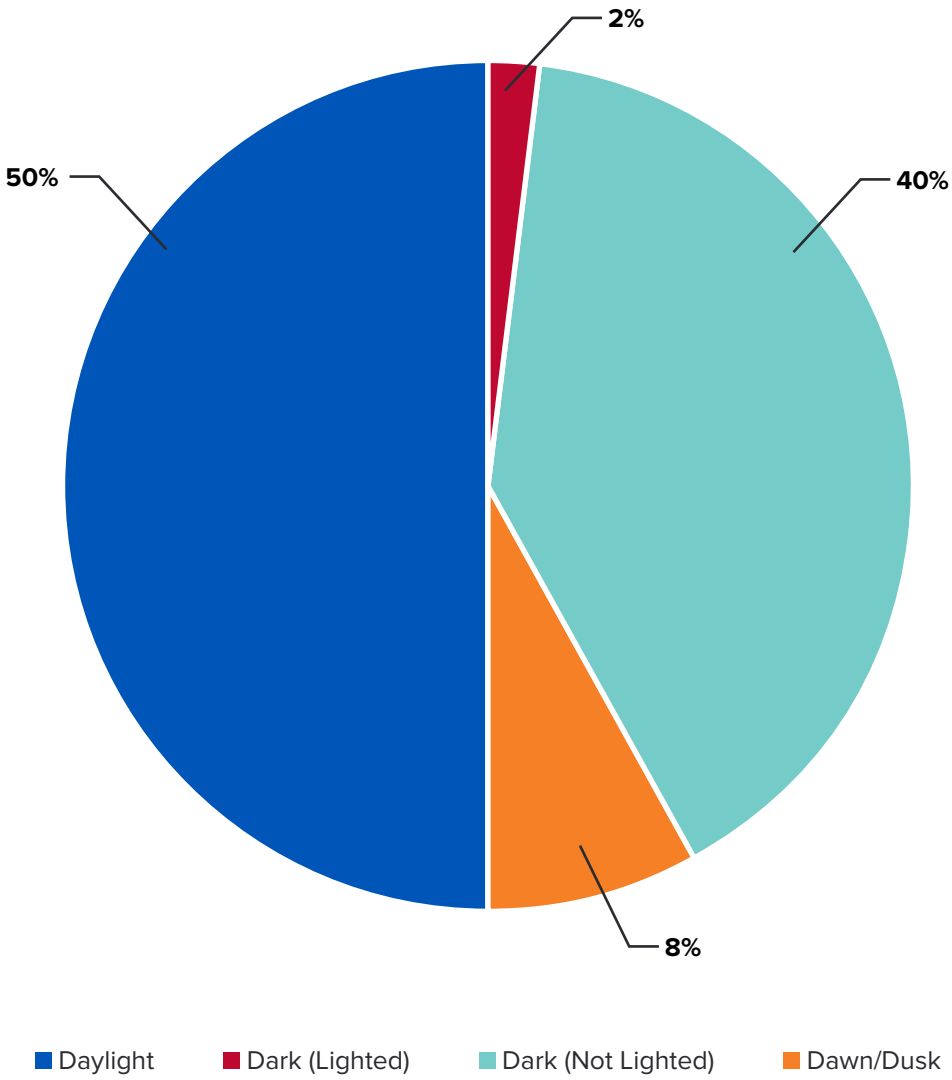
Table 4: Dubois County, Crashes by Type, 2018-2022

MANNER OF COLLISION	PDO	INJURY & FATAL CRASHES	TOTAL CRASHES	PERCENT OF TOTAL CRASHES (%)	PERCENT OF SEVERE CRASHES	SEVERITY RATIO
Backing Crash	14	1	15	1.4	0.6	0.4
Collision with Animal Other	30	5	35	3.4	2.8	0.8
Collision with Deer	246	4	250	24.1	2.2	0.1
Collision with Object in Road	16	4	20	1.9	2.2	1.2
Failure to Yield	47	17	64	6.2	9.5	1.5
Left/Right Turn	3	1	4	0.4	0.6	1.5
Other	15	5	20	1.9	2.8	1.5
Pedestrian	0	1	1	0.1	0.6	6.0
Rear End	26	3	29	2.8	1.7	0.6
Right Turn	4	1	5	0.5	0.6	1.2
Roadway Departure	456	137	593	57.2	76.5	1.3
All	**857**	**179**	**1036**			

LIGHT CONDITIONS

The crash analysis results indicate that the largest proportion of crashes, 50% of the total, occurred during daylight conditions. Crashes in dark conditions at unlighted locations accounted for 40% of crashes, whereas only 2% occurred in dark conditions at lighted locations. A large proportion of rural county roads are unlighted, which supports these statistics. ***Figure 4*** summarizes the crash distribution by light conditions in Dubois County during the analysis period.

Figure 4: Dubois County, Crash Distribution by Light Condition, 2018-2022

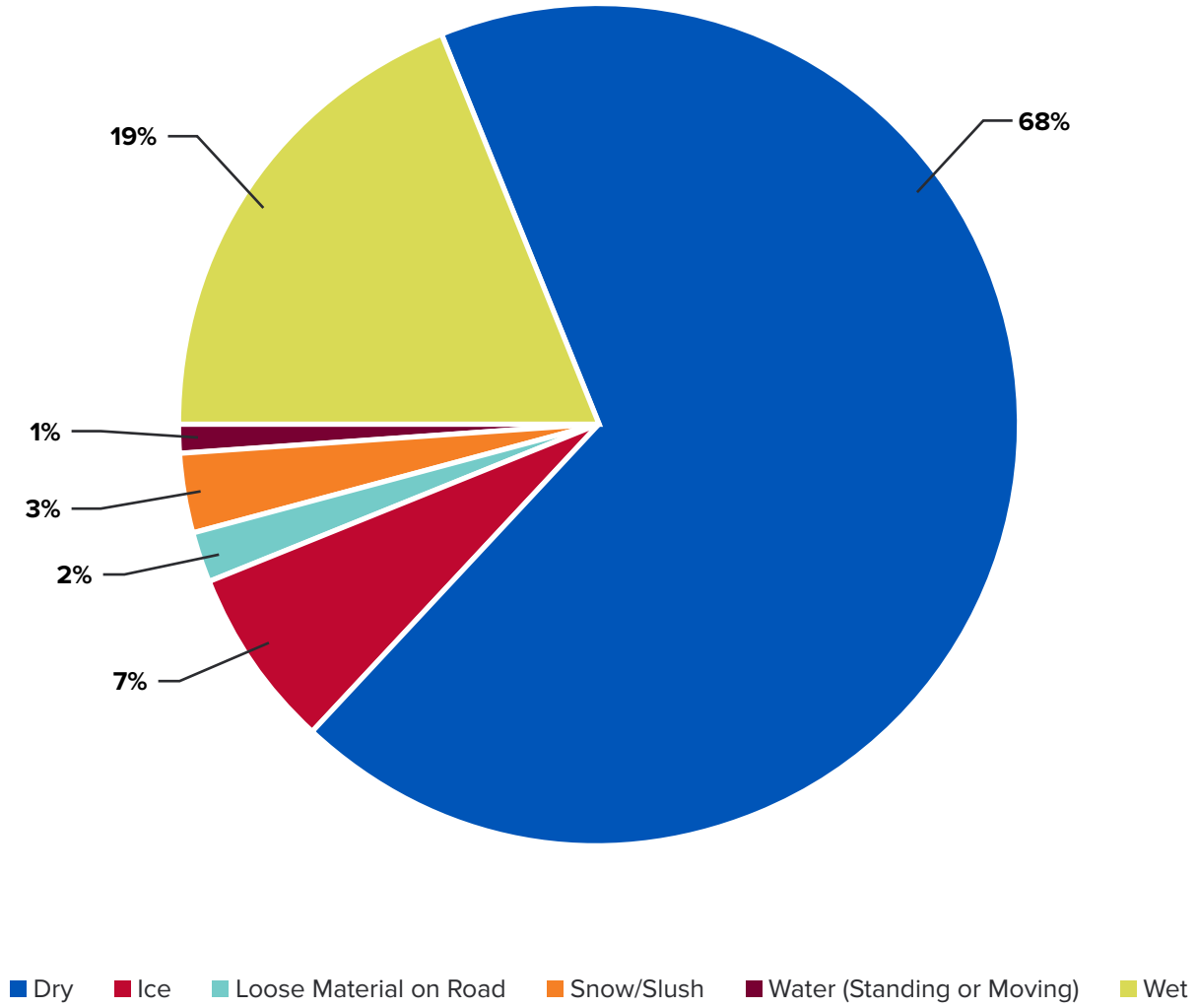


ROADWAY SURFACE CONDITIONS

The crash analysis results indicate that the majority of crashes occurred on the roadway during dry conditions, comprising 68% of the total crashes. With Crashes on wet surfaces, snow/slush, and ice surface conditions collectively accounted for only 32% of the total crashes.

Figure 5 summarizes the crash distribution by roadway surface conditions in Dubois County during the analysis period.

Figure 5: Dubois County, Crash Distribution by Roadway Surface Conditions, 2018-2022

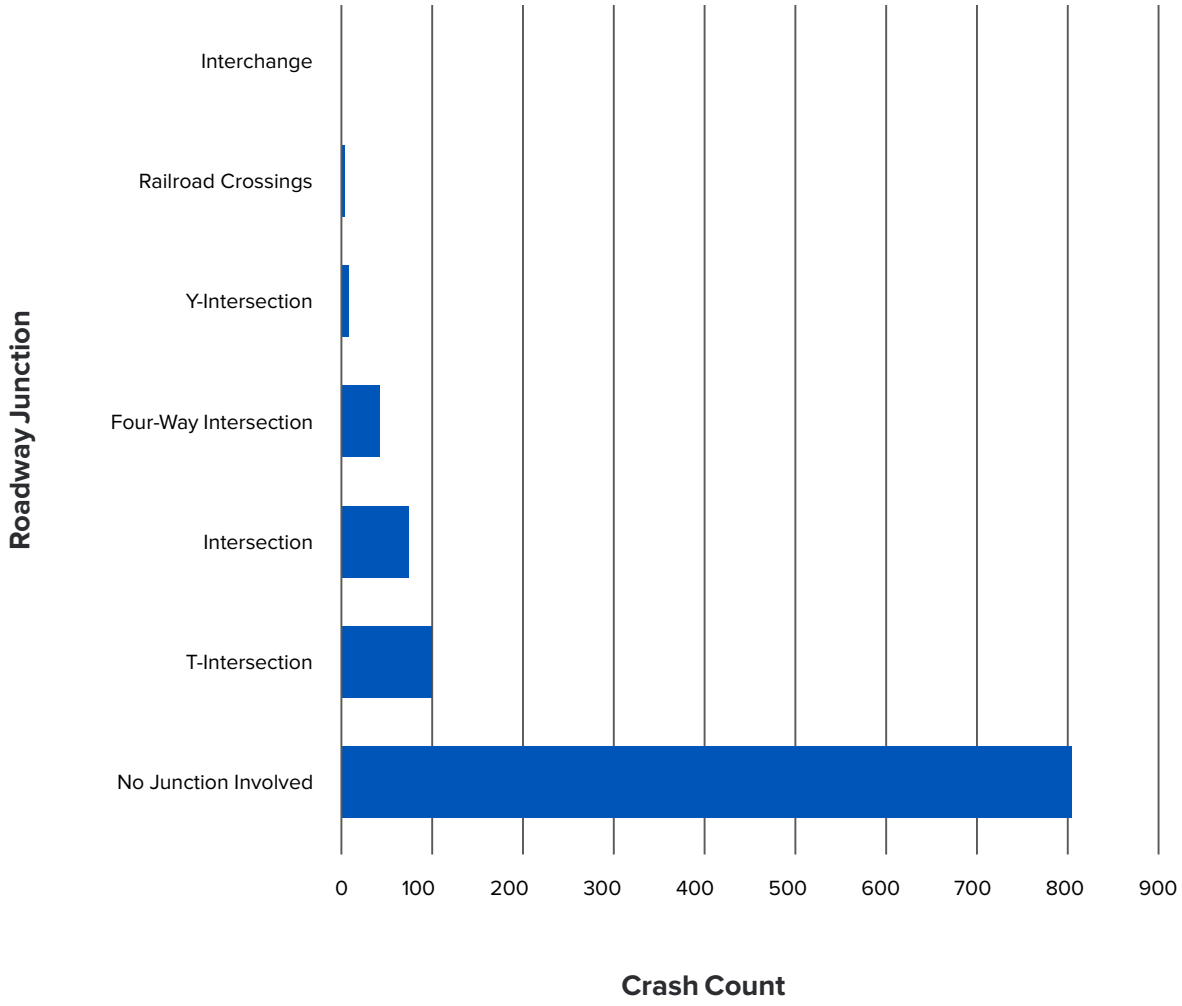


ROADWAY JUNCTION

The crash analysis results indicate that the majority of crashes occur along roadway segments (no junction involved), comprising 78% of all crashes and 76% of severe crashes. This is 15% higher than the statewide average of 63% of all crashes occurring along roadway segments (Source: Indiana University Public Policy Institute, 2022).

Secondly, among the specified junction types, four-way intersections emerged as the most common location for crashes, accounting for 4% of all crashes and 6% of severe crashes. A typical four-legged intersection has 32 vehicle-to-vehicle conflict points and 24 vehicle-to-pedestrian conflict points. These conflict points can include areas where vehicles are turning left, turning right, or proceeding straight through the intersection, as well as points where lanes merge or diverge. ***Figure 6*** summarizes the crashes by roadway junction in Dubois County during the analysis period.

Figure 6: Dubois County, Crashes by Roadway Junction, 2018-2022



4.2 HOTSPOT INTERSECTIONS AND HIGH INJURY NETWORK (HIN)

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

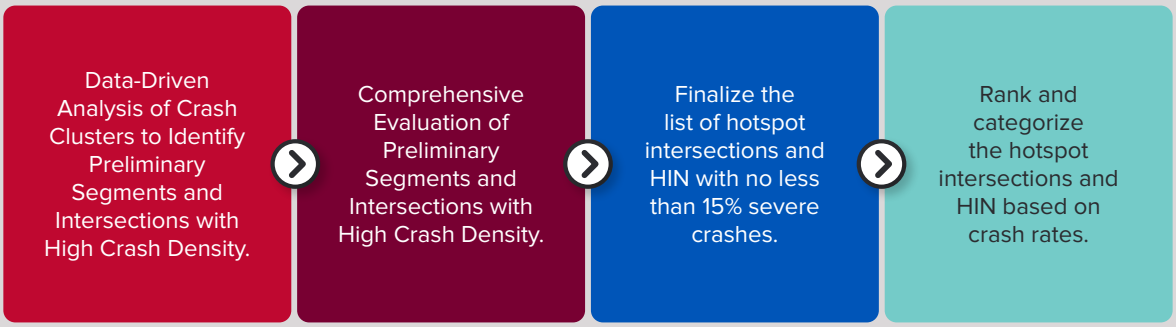
By utilizing crash data and statistical analyses, we can identify trends, patterns, and contributing factors associated with crashes and injuries at specific locations. This evidence-based approach enables the identification of underlying issues and the development of targeted solutions tailored to address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

METHODOLOGY

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

- **Data-Driven Analysis of Crash Clusters to Identify Preliminary Segments and Intersections:** This initial step involved analyzing crash data to identify clusters of crashes occurring at intersections and segments of roadways. By examining the spatial distribution of crashes, we identified areas with a high frequency of crashes, indicating potential hotspot intersections and segments within the road network.
- **Comprehensive Evaluation of Preliminary Segments and Intersections:** In this step, the comprehensive evaluation of the identified preliminary segments and intersections was performed to determine crash statistics, with a focus on the percentage of severe crashes.
- **Finalize the List of Hotspot Intersections and High-Injury Networks with No Less Than 15% Severe Crashes:** Building upon the comprehensive evaluation, the list of hotspot intersections and high-injury networks was finalized based on predefined criteria, such as a threshold of no less than 15% severe crashes. This criterion ensures that priority is given to intersections and segments with a significant concentration of severe crashes.
- **Rank the Hotspot Intersections and High-Injury Networks Based on Crash Rates:** Finally, the identified hotspot intersections and high-injury networks are ranked based on crash rates, which consider the frequency of crashes relative to the volume of traffic and/or roadway length. Ranking the locations allows the county to prioritize safety improvements based on the level of risk posed to road users. Intersections and segments with higher crash rates are assigned a higher priority for safety interventions.

Figure 7: Methodology for Hotspot Intersections and HIN Identification



4.2.1 IDENTIFICATION OF PRELIMINARY SEGMENTS AND INTERSECTIONS

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

The analysis of the heat maps revealed notable clusters of high crash density along specific roads within the county boundaries, including E Schnellville Road, E Jasper Dubois Road, N Portersville Road, CR 500 W., N Kellerville Road, and CR 300 N. Additionally, a significant concentration of intersections with high crash density was observed along these streets.

4.2.2 COMPREHENSIVE EVALUATION

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

All intersections and segments listed in the tables above exhibited severe crashes of no less than 15%, aligning with the criteria outlined in the methodology for selection as hotspot intersections and high-injury networks (HIN).

Table 5: Dubois County, Crash Trend for Preliminary HIN Segments, 2018-2022

INTERSECTION NAME	TRAFFIC CONTROL	INJURY CRASHES	FATALITY CRASHES	PERCENTAGE OF INJURY/FATALITY CRASHES	MAJOR CRASH TYPES
S St Anthony Rd W - E Schnelville to CR 230 S	6	2	1	50%	Roadway Departure
S Club Rd - E SR 64 to 23rd St	39	7	0	18%	Roadway Departure; Collision with Animal
N Kellerville Rd - CR 600 N to Cathy Ln	37	7	0	19%	Roadway Departure; Collision with Animal; Failure to Yield
E Schnellville Rd - S Saint Anthony Rd W to CR 1025 E	80	14	0	18%	Roadway Departure; Collision with Animal; Failure to Yield
E Jasper Dubois Rd - N SR 545 to CR 300 E	10	4	0	40%	Roadway Departure
E Jasper Dubois Rd - CR 325 E to Farm Driveway	11	3	0	27%	Roadway Departure; Collision with Animal
CR 675 N - CR 500 W to N Portersville Rd	1	0	1	100%	Collision with Object in Road
CR 600 W - CR 400 S to W Division Rd	20	5	0	25%	Roadway Departure; Collision with Animal
CR 500 W - CR 300 N to CR 400 N	21	5	0	24%	Roadway Departure; Failure to Yield
CR 400 W - W Phoenix Dr to W 6th St	14	3	0	21%	Roadway Departure; Failure to Yield
CR 350 W - Phoenix Dr to CR 150 S	15	4	1	33%	Roadway Departure; Collision with Animal
CR 300 N - CR 325 to N Kellerville Rd	18	6	0	33%	Roadway Departure

Figure 8: Dubois County, Injury and Fatality Crash Data Heat Map, 2018-2022

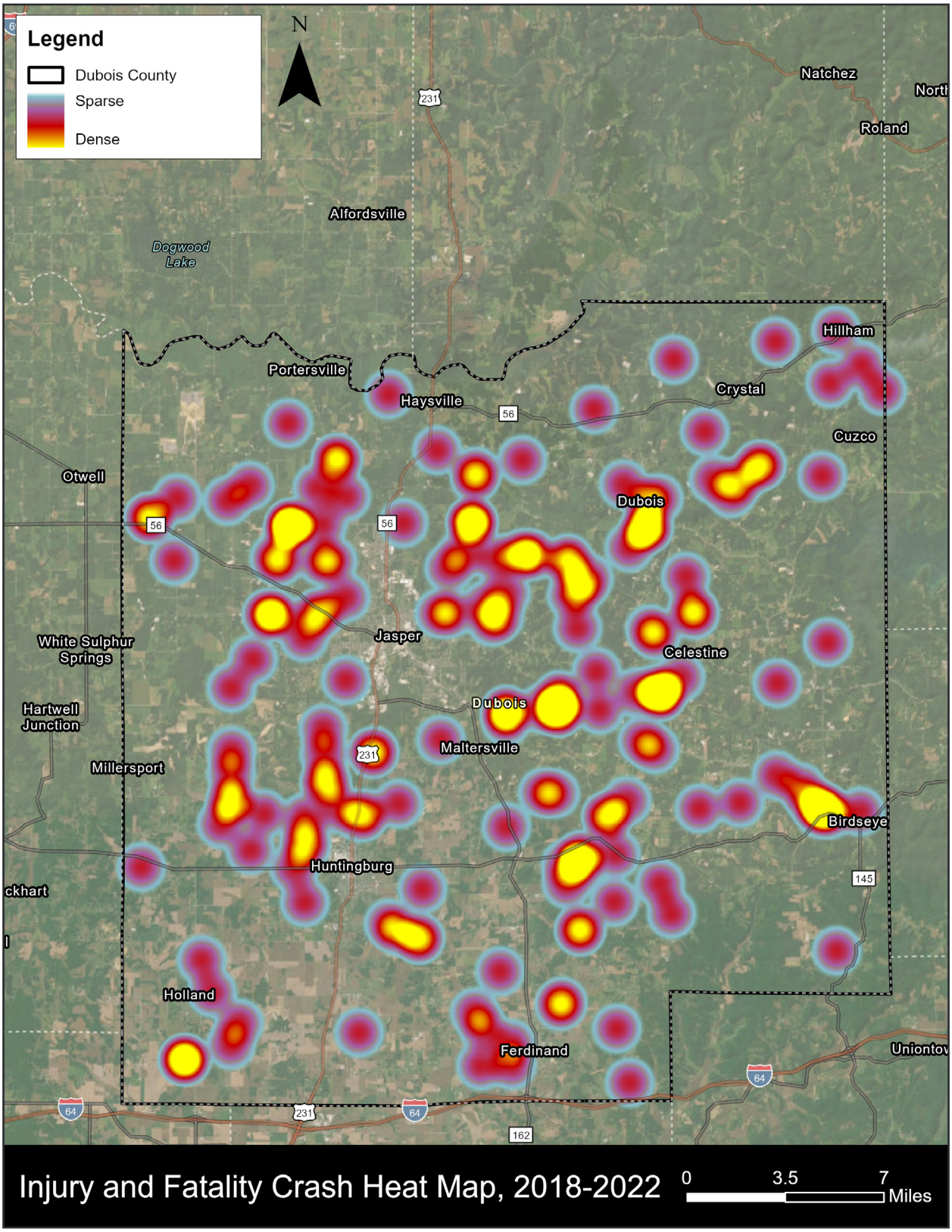


Table 6: Dubois County, Crash Trend for Preliminary Hotspot Intersections, 2018-2022

INTERSECTION NAME	TRAFFIC CONTROL	INJURY CRASHES	FATALITY CRASHES	PERCENTAGE OF INJURY/FATALITY CRASHES	MAJOR CRASH TYPES
N 500 W & W 150 N	3	2	0	67%	Roadway Departure
S Santine Rd & E Hall Creek Rd	4	2	0	50%	Roadway Departure
S St Anthony Rd W & E Schnellville Rd	4	2	0	50%	Rear End
W 400 N & N 500 W	10	3	0	30%	Roadway Departure
S 600 W & W 400 S	3	2	0	67%	Roadway Departure
E Schnellville Rd & S 1025 E	4	2	0	50%	Failure to Yield
N Kellerville Rd & E 400 N	3	3	0	100%	Failure to Yield
S Ferdinand Rd NW & S 100 W	3	2	0	67%	Roadway Departure
E Schnellville Rd & S 330 E	7	2	0	29%	Roadway Departure; Right Turn
W 1075 S and S 720 W	5	3	0	60%	Roadway Departure; Left/Right Turn

4.2.3 RANK THE HOTSPOT INTERSECTIONS AND HIN

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

Table 7 summarizes the HIN ranking by injury and fatality crash rate. Segments with a higher number of injuries and fatality crash rates, such as CR 675 N—from CR 500 W to N Portersville Road and S St. Anthony Road W—from E Schnellville to CR 230 S, indicate areas of significant safety concern. Notably, E Schnellville Road—from S St. Anthony Road W. to CR 1025 E is one of the heavily traveled roadways and consequently has the highest number of total crashes. Despite this, it has the lowest crash rate of the segments listed. This further emphasizes the importance of utilizing crash rates to avoid biasedness towards heavily traveled roadways. Various factors, including traffic volume, road design, enforcement efforts, and driver behavior, can influence crash rates and severity, necessitating a comprehensive approach to road safety analysis.

Table 7: Dubois County, HIN Ranking by Injury and Fatality Crash Rate, 2018-2022

SEGMENT NAME	TOTAL CRASHES	INJURY CRASHES	FATALITY CRASHES	VOLUME OF VEHICLES PER DAY	LENGTH OF ROADWAY SEGMENT (IN MILES)	TOTAL CRASH RATE	INJURY & FATALITY CRASH RATE	RANK
CR 675 N - CR 500 W to N Portersville Rd	1	0	1	250	1.48	148.46	148.46	1
S St Anthony Rd W - E Schnelville to CR 230 S	6	2	1	750	0.67	650.15	325.07	2
E Jasper Dubois Rd - N SR 545 to CR 300 E	10	4	0	1,648	1.45	229.30	91.72	3
CR 350 W - Phoenix Dr to CR 150 S	15	4	1	1,457	2.57	219.50	73.17	4
CR 300 N - CR 325 N to N Kellerville Rd	18	6	0	1,211	3.57	228.14	76.05	4
E Jasper Dubois Rd - CR 325 E to Farm Driveway	11	3	0	1,380	0.90	485.30	132.35	6
CR 600 W - CR 400 S to W Division Rd	20	5	0	924	3.77	314.60	78.65	7
CR 500 W - CR 300 N to CR 400 N	21	5	0	2,500	1.70	270.75	64.46	8
CR 400 W - W Phoenix Dr to W 6th St	14	3	0	2,523	1.53	198.73	42.58	9
Kellerville Rd - CR 600 N to Cathy Ln	37	7	0	1,817	5.02	222.27	42.05	10
S Club Rd - E SR 64 to E 23rd St	39	7	0	526	5.21	779.79	139.96	11
E Schnellville Rd - S Saint Anthony Rd W to CR 1025 E	80	14	0	1,339	9.72	336.81	58.94	12

Table 8 summarizes the hotspot intersections ranking by injury and fatality crash rate. The total crash rate and injury and fatality crash rate provide insights into the overall safety performance of each intersection. Intersections with higher crash rates and ranks, such as N Kellerville Road and E 400 N, shall require further investigation and targeted safety interventions to reduce the frequency of crashes.

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

Table 8: Dubois County, Hotspot Intersections Ranking by Injury and Fatality Crash Rate, 2018-2022

SEGMENT NAME	TOTAL CRASHES	INJURY CRASHES	FATALITY CRASHES	TOTAL CRASH RATE	INJURY AND FATALITY CRASH RATE	TOTAL ENTERING TRAFFIC	RANK
N Kellerville Rd & E 400 N	3	3	0	0.64	0.64	2,577	1
N 500 W & W 150 N	3	2	0	0.71	0.47	2,330	2
S 600 W & W 400 S	3	2	0	1.46	0.97	1,124	2
S Ferdinand Rd NW & S 100 W	3	2	0	1.31	0.87	1,256	2
W 1075 S and S 720 W	5	3	0	4.35	2.61	630	5
S Santine Rd & E Hall Creek Rd	4	2	0	2.19	1.10	1,000	6
S St Anthony Rd W & Schnellville Rd	4	2	0	0.79	0.40	2,762	6
E Schnellville Rd & S 1025 S	4	2	0	1.26	0.63	1,746	6
W 400 N & N 500 W	10	3	0	2.44	0.73	2,250	9
E Schnellville Rd & S 330 E	7	2	0	1.48	0.42	2,600	10

Figure 9: Dubois County, HIN, 2018-2022

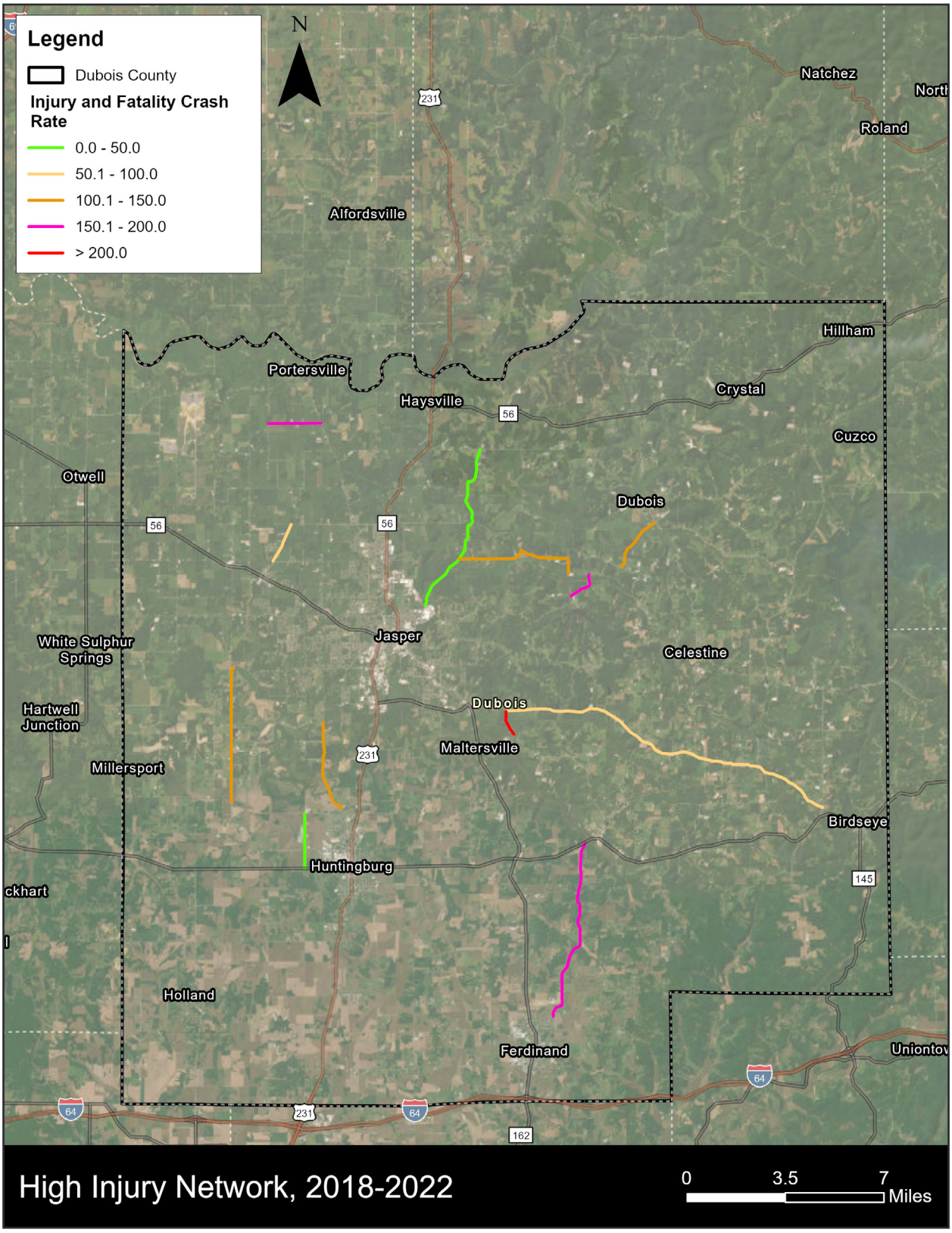
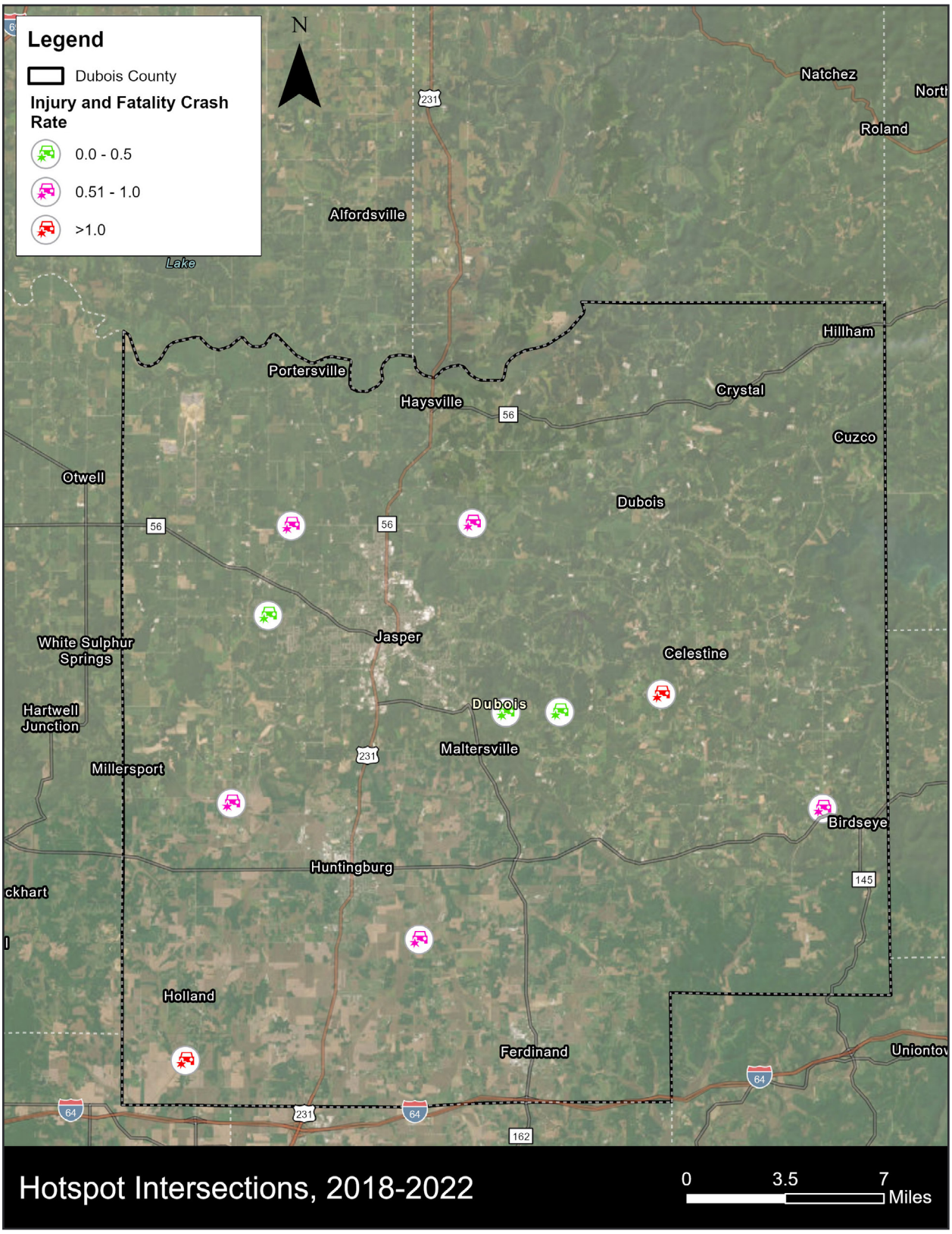


Figure 10: Dubois County, Hotspot Intersections, 2018-2022



4.3 SYSTEMIC SAFETY IMPROVEMENTS

Systemic safety improvements represent a proactive approach to addressing safety concerns on roadways by identifying and implementing measures that target common crash patterns and contributing factors. Unlike traditional spot safety improvements (discussed in Section 7), which focus on specific locations with a history of crashes, systemic safety improvements are applied across a broader network based on systemic risk factors. This approach helps proactively address safety issues comprehensively and efficiently, reducing the overall frequency and severity of crashes.

Based on the high-level trends, we identified three major crash types that had a high proportion of injury and fatality crashes:

- Roadway Departure
- Failure to Yield
- Collision with Deer

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

Table 9: Dubois County, Systemic Severe Crash Countermeasures

CRASH TYPE	COUNTERMEASURE	EXISTING INTERSECTION TRAFFIC CONTROL	CRASH REDUCTION FACTOR (CRF) %
Roadway Departure	Add chevrons to horizontal curves	Unsignalized	25
	Wider edge lines	Unsignalized	37
	Install shoulder rumble strips	Unsignalized	51
Failure to Yield	Install Roundabout	Unsignalized	82
	Install dedicated left- and right-turn lanes	Signalized	26
Collision with Deer	Improve Street Lighting	Unsignalized	38
	Install Flashing Beacons	Unsignalized	10

5. ENGAGEMENT AND COLLABORATION

5. ENGAGEMENT AND COLLABORATION

Incorporating public input from Dubois residents plays an important role in shaping the county's Comprehensive Safety Action Plan. The engagement of the community in the planning process offers different benefits that extend beyond the confines of transportation planning. This inclusive approach enhances the overall quality and relevance of the safety plan and fosters a sense of community ownership and responsibility.

Public input catalyzes community awareness about transportation issues. It empowers residents to actively participate in discussions about safety concerns, infrastructure improvements, and overall transportation priorities. Community engagement not only promotes transparency in the planning process but also encourages a shared responsibility for the safety and efficiency of the transportation network.

Public involvement transcends the immediate scope of transportation planning, becoming a foundation for community engagement and collaboration. It empowers individuals to actively contribute to developing a safer and more responsive transportation system, fostering a shared vision for the future of Dubois's mobility infrastructure.

5.1 METHODS OF ENGAGEMENT

Public engagement opportunities for the Comprehensive Safety Action Plan included the following components:

- Public engagement events were scheduled to gather information from residents and visitors attending these events. The consultant team conducted public engagement at the following event:
  - Downtown Chowdown – Jasper, Indiana, May 2, 2024.
- A survey was created on the platform SurveyMonkey.com to collect information from the general public on the safety of the roads and intersections in Dubois County.

5.1.1 SURVEY

The consultant created an online survey (see ***Appendix A***) to involve members of the general public and stakeholder teams in the process of creating the Dubois County Safety Action Plan. The survey was created for people within the county and asked them questions about intersections/road safety issues for motorized and non-motorized users. Before being published, the survey was sent out to officials for approval. The survey was published on May 2 and remained open until July 10, 2024. The online survey was created using SurveyMonkey.com, and the link was shared on different social media platforms. The project's Steering Committee also distributed the survey link.

The consultant created a Facebook advertisement to help inform the Dubois community about the project. The Facebook advertisement briefly introduced the project and distributed the survey link. The consultant team utilized Facebook's paid-for advertising service to ensure the link was placed into Dubois residents' timelines. Facebook permits these ads to be "geo-fenced, "meaning they are only inserted into Facebook users who live in the county. This advertisement was created and distributed from American Structurepoint's Facebook page. The online survey received 145 total responses from all sources.

When the survey closed, the consultant team reviewed the SurveyMonkey results and identified key trends. The survey helped identify intersections/roadways that felt unsafe for drivers and bicyclists/pedestrian/transit users and the primary reason for unsafety. Demographic information was also asked in the survey to understand the backgrounds of people responding to the survey. The following is a summary of the questions asked and the answers submitted.

The comments from the Dubois community highlight various issues related to intersections and roadways within the county.

1. **Limited Visibility and Sightlines:** Several comments mentioned difficulties in seeing oncoming traffic, particularly at intersections or due to hills, curves, and poor lighting. This issue contributes significantly to the risk of accidents.
2. **High Traffic Volume and Congestion:** Many respondents noted high traffic volume, especially during peak hours and at specific locations such as school zones or busy intersections.
3. **Speeding and Reckless Driving Behavior:** Several comments highlighted concerns about drivers exceeding speed limits, running red lights, and failing to yield at intersections
4. **Infrastructure Inadequacies:** Issues related to road conditions, such as potholes, dips, and narrow roads, are mentioned, along with the lack of pedestrian crossings and traffic signals.
5. **Intersection Design Flaws:** Problems with intersection design, including sharp turns, awkward angles, and inadequate signage, were mentioned as factors contributing to accidents and confusion among drivers.

The problems identified include limited visibility, high traffic volume, speeding/reckless driving, infrastructure inadequacies, and intersection design flaws. Addressing these issues will improve road safety and traffic management in Dubois County.

Addressing these concerns may involve a combination of improved signage, traffic management measures, infrastructure upgrades, and community education on safe driving practices. The safety issue types perceived by motorists and bicyclists/pedestrians/transit users are summarized in ***Figure 11*** and ***Figure 12***, respectively. Additionally, the intersections perceived unsafe by motorists and bicyclists/pedestrians are shown on the county's map in Figure 13 and Figure 14, respectively. Similarly, the roadway segments perceived unsafe by motorists and bicyclists/pedestrians are shown on the county's map in ***Figure 15*** and ***Figure 16***, respectively.

Figure 11: Safety Issue Types Perceived by Motorists in Dubois County, Indiana

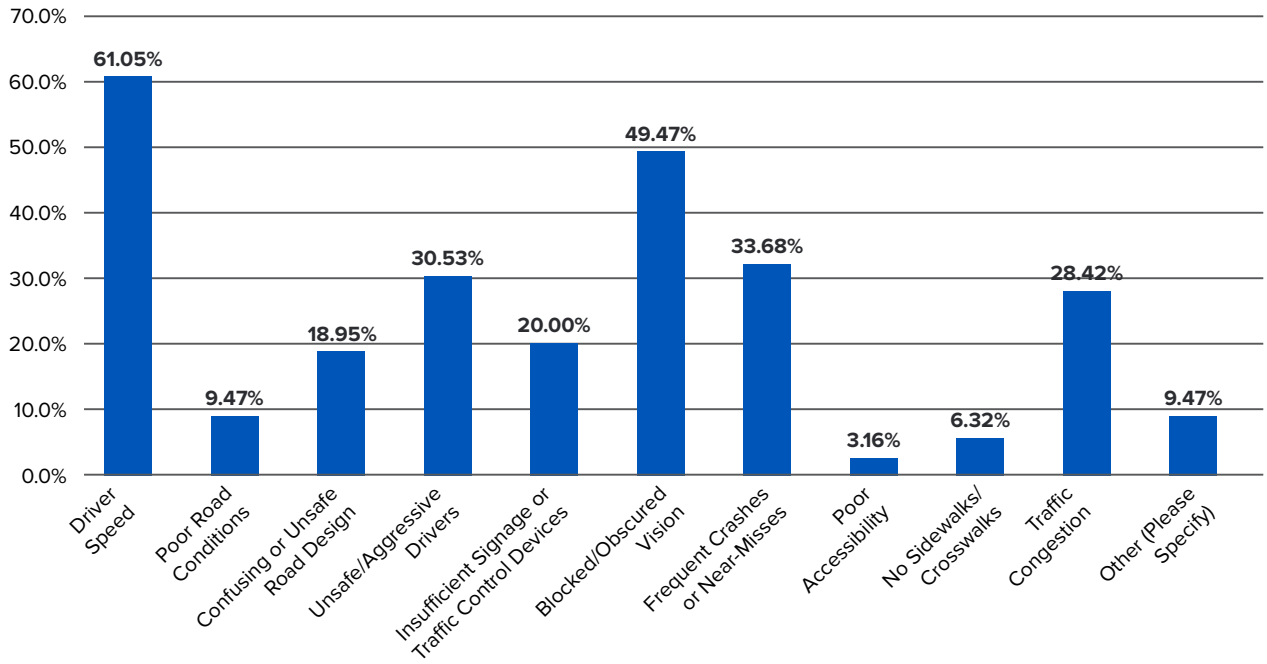


Figure 12: Safety Issue Types Perceived by Bicyclists/Pedestrians/ Transit Users in Dubois County, Indiana

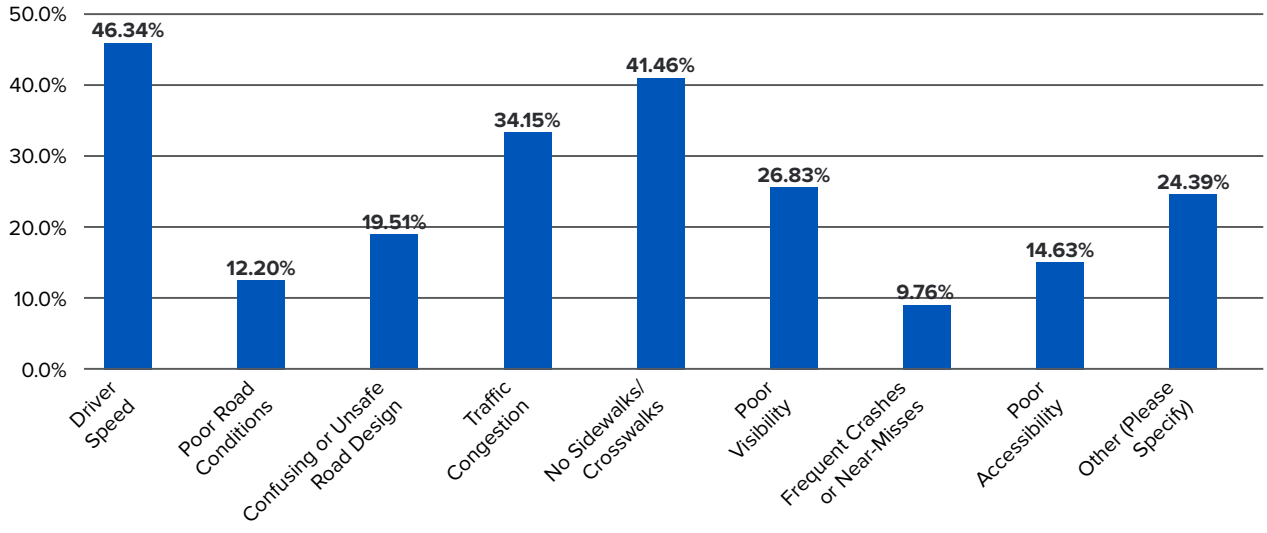


Figure 13: Unsafe Intersections Perceived By Motorists in Dubois County, Indiana.

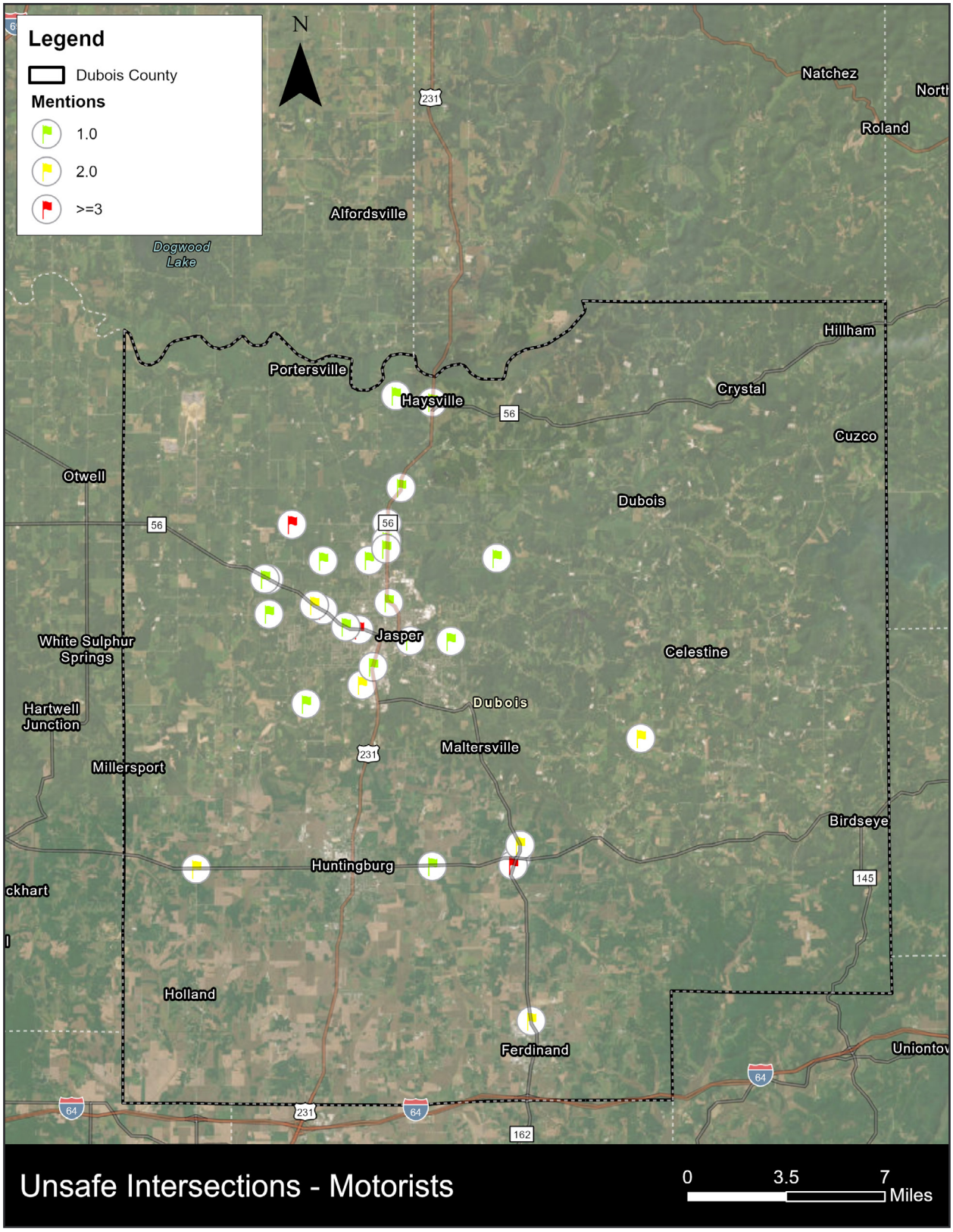


Figure 14: Unsafe Intersections Perceived by Bicyclists/Pedestrians in Dubois County, Indiana.

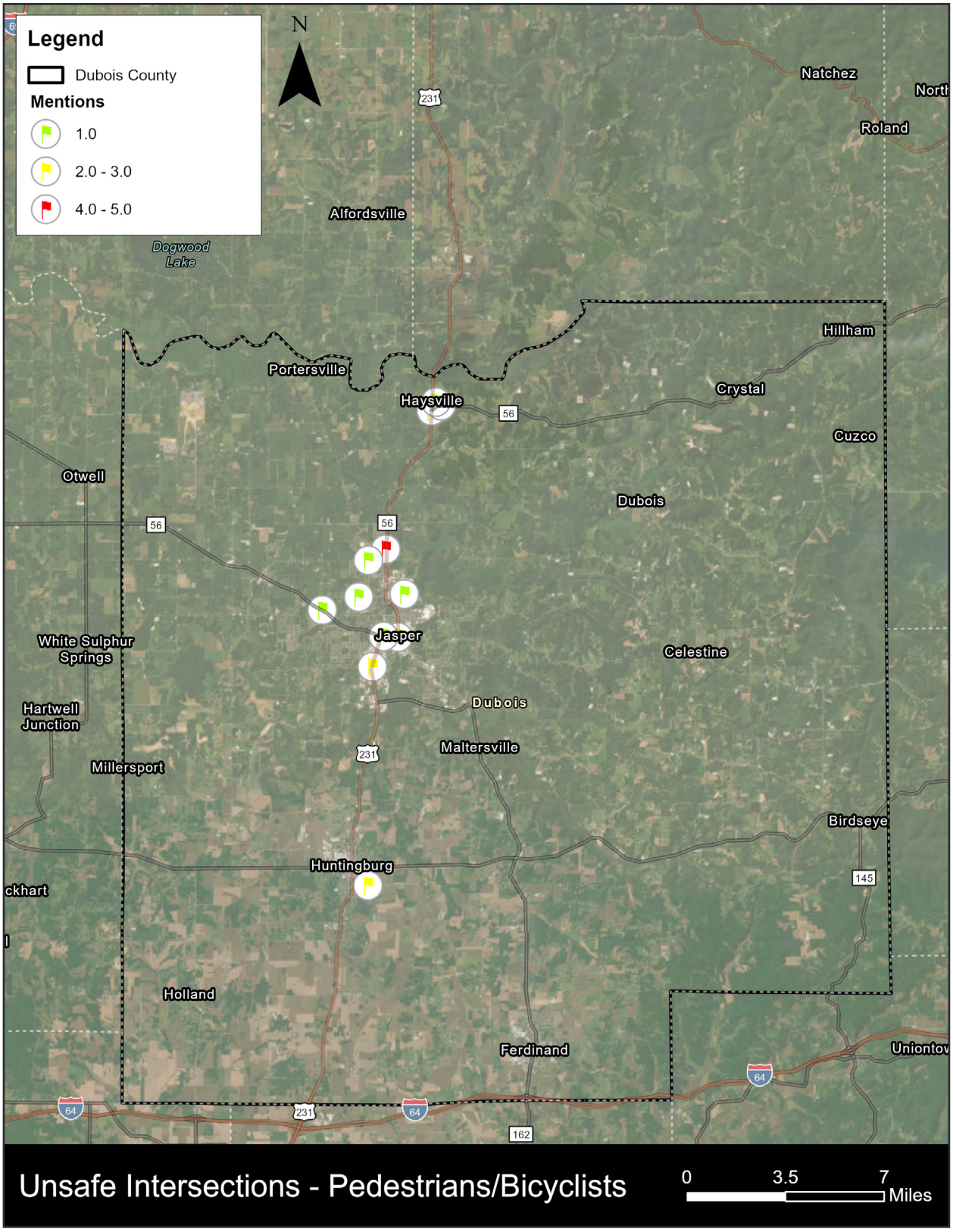


Figure 15: Unsafe Roadway Segments Perceived by Motorists in Dubois County, Indiana.

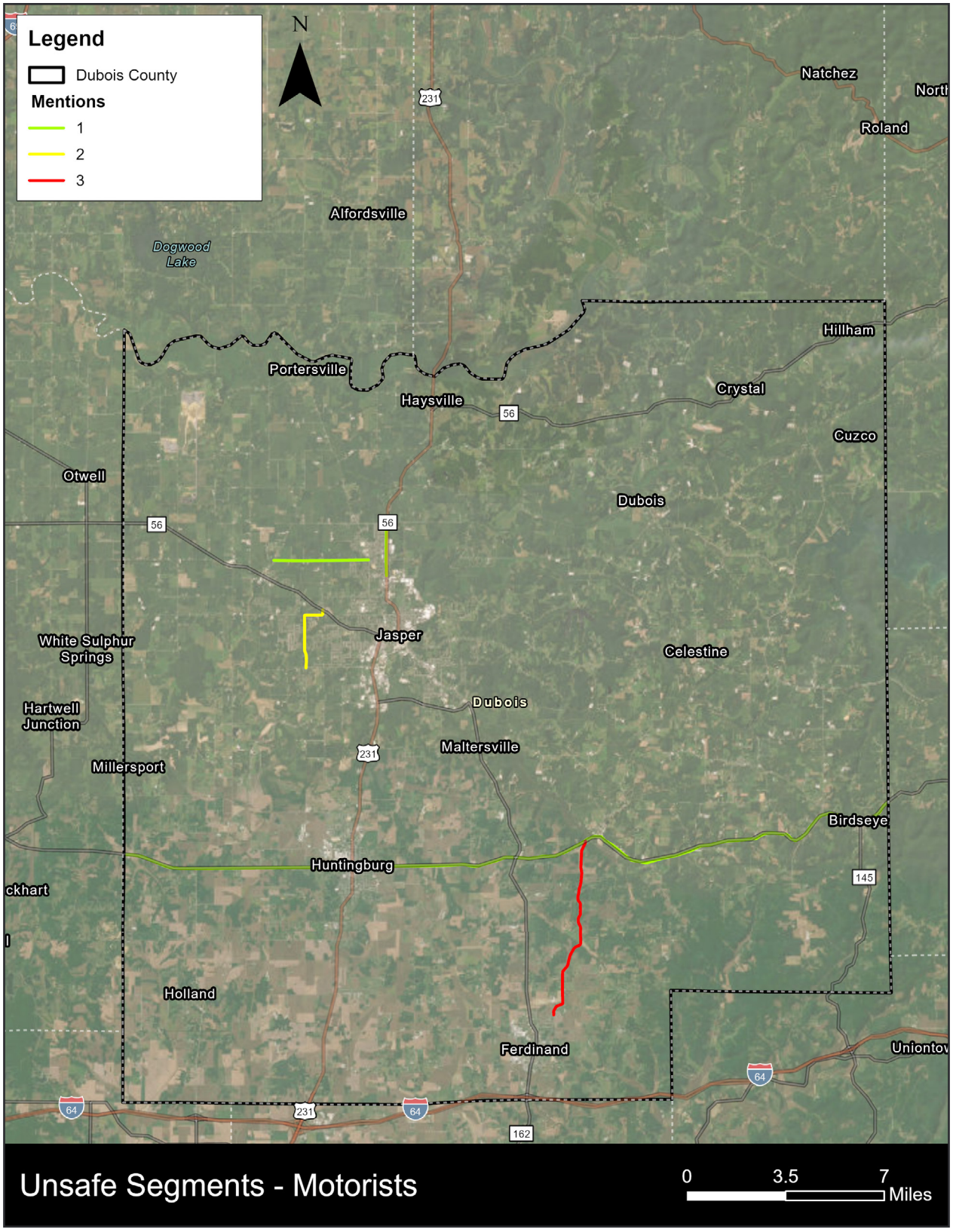
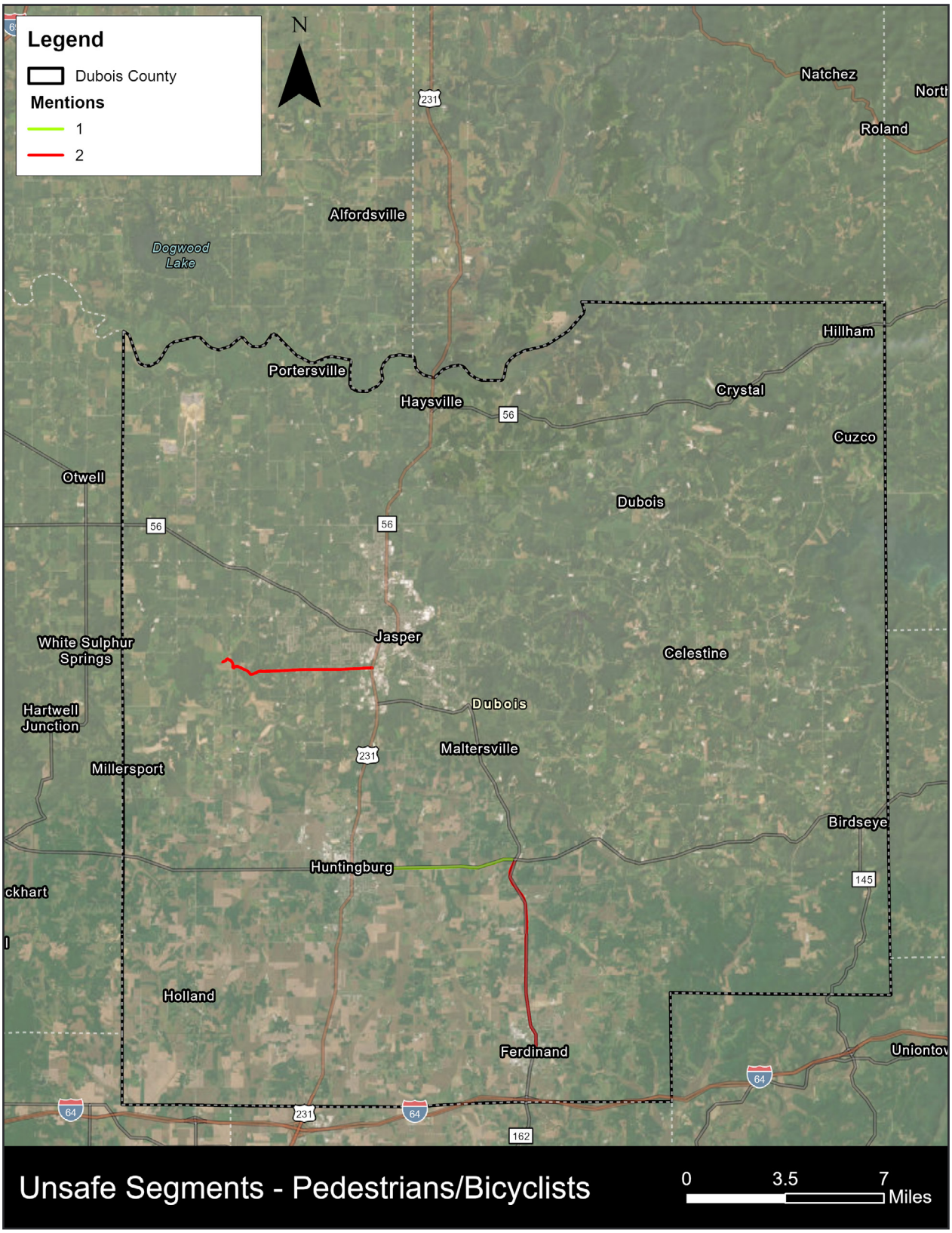


Figure 16: Unsafe Roadway Segments Perceived by Bicyclists and Pedestrians in Dubois County, Indiana.



5.1.2 PUBLIC EVENTS

Downtown Chowdown – May 2, 2024.

The event occurred on May 2, 2024, from 4:00 PM to 8:00 PM. Residents from the county attended the event. The event is hosted on the first Thursday of April, May, September, and October. At this event, multiple food truck vendors, farmer's market vendors, music, etc., will be part of the event. Three different interactive boards were designed to showcase the public at the event. The boards and results are described below. During the event, business cards with the QR code of the survey were also distributed.

Figure 17: Dubois County – Downtown Chowdown – May 2, 2024.

Source. American Structurepoint Inc.

5.1.2.1 UNSAFE INTERSECTIONS FOR MOTORISTS

The following is a list of unsafe intersections for motorists as per the feedback received during the event:

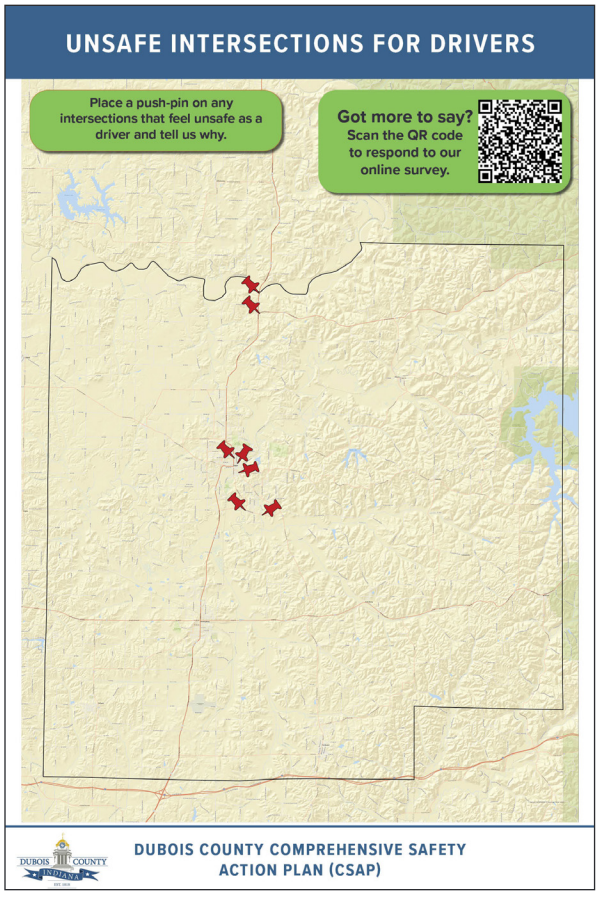
- US 231 and East Fork White River (northern boundary line)
- US 231 (Market Street) and Buffalo Trace Loop
- Third Avenue and Mill Street
- Third Avenue and River Center Landing
- West 100 South and South Newton Street
- West 100 South and Third Avenue

5.1.2.2 UNSAFE INTERSECTIONS FOR PEDESTRIAN/BICYCLIST/ TRANSIT USERS

The following is a list of unsafe intersections for pedestrians/bicyclists/transit users as per the feedback received during the event:

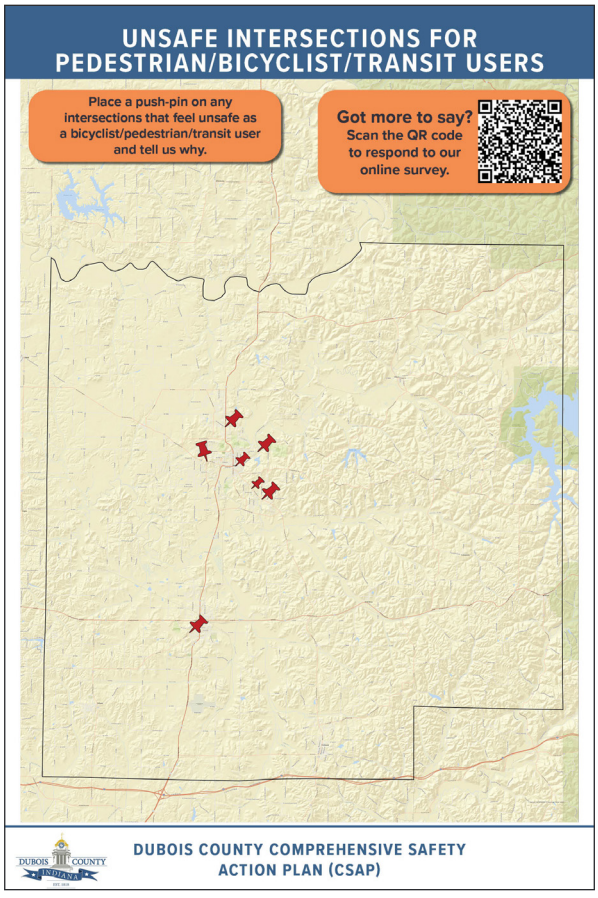
- North Newton Street and North Northwood Avenue
- West 6th Street and St. Charles Street
- Third Avenue and Mill Street
- East 15th Street and North Riverwalk
- Third Avenue and Rumbach Avenue
- Third Avenue and South Meridian Road
- West 1st Street and West 1st Avenue

Figure 18: Dubois County – Board: Unsafe intersections for drivers.



Source. American Structurepoint Inc.

Figure 19: Dubois County – Board: Unsafe intersections for pedestrian/bicyclist/transit users.

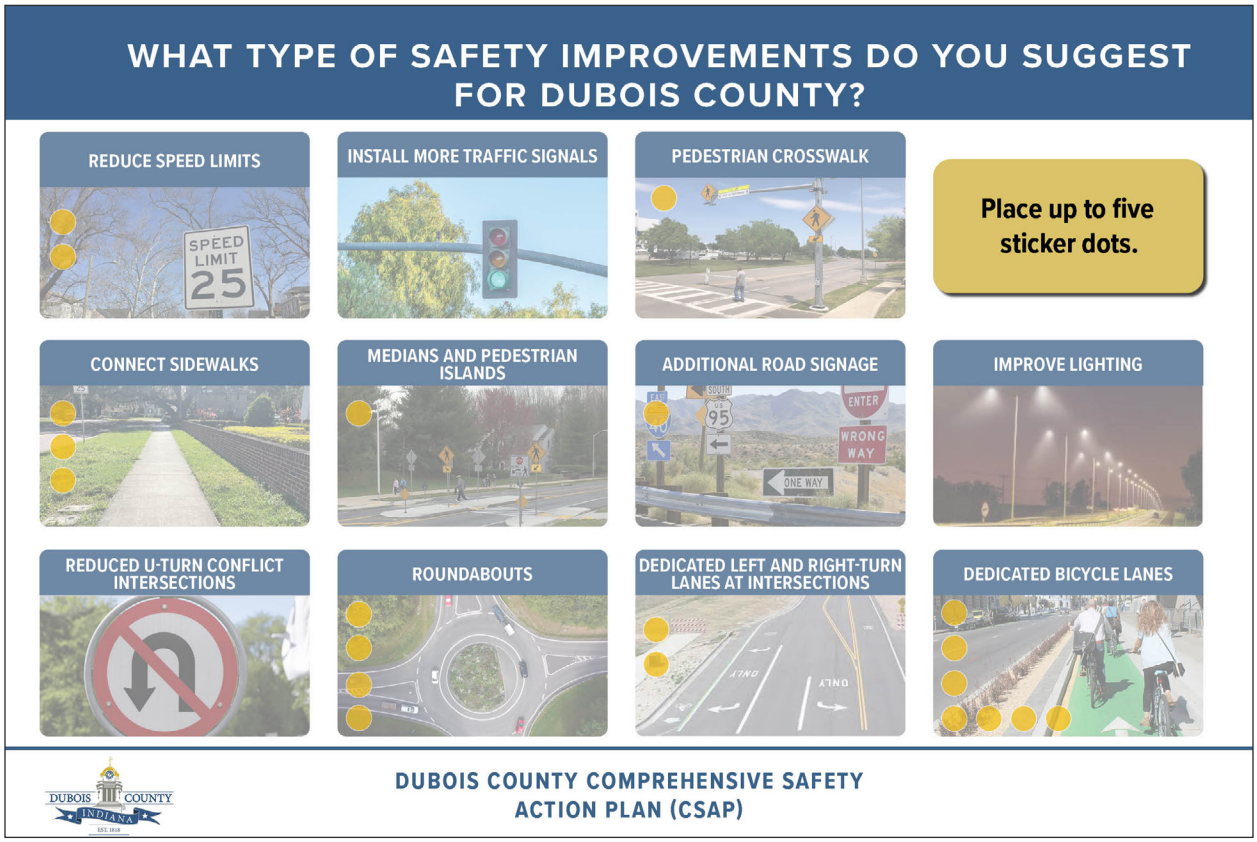


Source. American Structurepoint Inc.

5.1.2.3 TYPES OF SAFETY IMPROVEMENTS

The figure below depicts the responses gathered from the public to a question asked during the Downtown Chowdowm event. The yellow dots register the public input on the various safety improvements. As evident, dedicated bicycle lanes were the prominent safety improvement followed by installing roundabouts and connecting sidewalks.

Figure 20: Dubois County – What type of safety improvements do you suggest for Dubois County?



Source. American Structurepoint Inc.

5.2 HOW PUBLIC INFORMATION WAS USED?

The community identified intersections and roadways with safety concerns, which were analyzed and mapped using ArcGIS. This mapping exercise illustrates the precise locations of these safety issues. By pinpointing these problematic areas, Dubois County gained crucial insights into where to prioritize efforts in resolving road safety concerns. Many of the identified locations were within or near the limits of cities, particularly Jasper and Haysville. Several locations identified within county jurisdiction were at or near the hotspots and high injury network segments identified by safety analysis. Projects identified by both these categories tended to score highly overall.

This data serves as a roadmap for immediate action and facilitates identifying potential projects to address safety hazards for all road users, including drivers, pedestrians, bicyclists, and transit users. With this information, Dubois can strategically plan and execute initiatives that enhance safety and promote smoother traffic flow throughout the region.

6. EQUITY CONSIDERATIONS

6. EQUITY CONSIDERATIONS

Environmental Justice (EJ) is a concept that emphasizes the equitable distribution of environmental benefits across different communities, mainly focusing on the equal treatment of low-income and minority populations.[2] When considering Dubois County and proposing new projects, there are several reasons why accounting for these communities is important, including equity consideration being an essential aspect of the SS4A action plan. The equity analysis considers social factors disproportionately impacting low-income communities and minorities. Here are some factors that can be viewed during an equity analysis:

HEALTH IMPACTS:

Low-income and minority communities are frequently exposed to higher levels of pollution, noise, and other environmental hazards. These exposures can lead to health concerns, including respiratory, cardiovascular, and other related illnesses. When planning transportation projects, it's crucial to assess potential health impacts and prioritize the well-being of vulnerable populations.

COMMUNITY ENGAGEMENT AND REPRESENTATION:

Environmental justice also ensures meaningful participation and representation of all community members in decision-making. Low-income and minority communities often face barriers to engagement, such as language barriers or lack of resources. By actively involving these communities in the planning and decision-making processes for transportation projects, the outcomes are more likely to be fair and considerate of their needs.

ECONOMIC IMPACTS:

Transportation projects can have economic implications for different communities. Disruptions caused by construction or changes in traffic patterns may more heavily impact low-income areas. Additionally, the benefits of improved transportation infrastructure, such as increased property values or better access to job opportunities, should be distributed equitably to avoid further marginalization of minority populations.

CLIMATE CHANGE RESILIENCE:

Minority communities often face increased risks due to climate change impacts. When planning transportation projects, it's important to consider how these changes may disproportionately affect low-income and minority populations. Ensuring that the transportation infrastructure is resilient and adapted to climate change can contribute to the overall environmental justice goals.

EQUITABLE ACCESS TO OPPORTUNITIES:

Transportation is key to accessing education, employment, healthcare, and other essential services. Ensuring that transportation projects provide equitable access to these opportunities is vital for promoting social and economic justice. This implication includes considering the needs of those who rely on public transportation and may depend more on these services.

Accounting for low-income and minority communities in transportation projects in Dubois County is essential for achieving environmental justice. It requires a comprehensive approach considering health impacts, community engagement, economic considerations, climate resilience, and equitable access to opportunities. By integrating these considerations into the planning and decision-making processes, cities can move towards a more sustainable and resilient future for all residents.

[2] Source: Learn About Environmental Justice | US EPA.

6.1 IDENTIFICATION OF UNDERSERVED COMMUNITIES – DUBOIS COUNTY

Environmental justice considerations were derived from the "Climate and Economic Justice Screening Tool." The US Council on Environmental Quality developed the Climate and Economic Justice Tool (Explore the map – Climate & Economic Justice Screening Tool). The tool illustrates disadvantaged census tracts across all 50 states and the District of Columbia. Communities are disadvantaged if they are in census tracts that meet the threshold for at least one of the following burden categories:

- **Climate Change:** Communities are identified as disadvantaged if they are in census tracts at or above the 90th percentile for expected agricultural loss, building loss, flood risk, wildfire risk, or population loss and are or above the 65th percentile for low-income.
- **Energy:** Communities are identified as disadvantaged if they are in census tracts at or above the 90th percentile for energy cost or high particulate matter (PM 2.5) concentrations in the air and are at or above the 65th percentile for low-income.
- **Health:** Communities are identified as disadvantaged if they are in census tracts at or above the 90th percentile for asthma, diabetes, or heart disease, or low overall life expectancy and are at or above the 65th percentile for low income.
- **Housing:** Communities are identified as disadvantaged if they are in census tracts at or above the 90th percentile for underinvestment, cost, lack of green space, lack of indoor plumbing or lead paint, and are at or above the 65th percentile for low income.
- **Legacy Pollution:** Communities are identified as disadvantaged if they are in census tracts that have at least one abandoned mine land, formerly used defense sites, or are at or above the 90th percentile for proximity to hazardous waste facilities, proximity to Superfund sites (National Priorities List (NPL)), or proximity to Risk Management Plan (RMP) facilities and are at or above the 65th percentile for low-income.
- **Transportation:** Communities are identified as disadvantaged if they are in census tracts at or above the 90th percentile for diesel, particularly matter of transportation barriers or proximity to high traffic volumes, and are at or above the 65th percentile for low-income.
- **Water and Wastewater:** Communities are identified as disadvantaged if they are in census tracts at or above the 90th percentile for underground storage tank releases or wastewater discharge and are at or above the 65th percentile for low-income.
- **Workforce Development:** Communities are identified as disadvantaged if they are in census tracts at or above the 90th percentile for linguistic isolation, have high poverty or unemployment rates, have low levels of education, or are at or above the 65th percentile for low income.

The provided map illustrates areas marked as disadvantaged according to the Climate and Economic Justice methodology. In this case, one census tract stands out as disadvantaged in the City of Huntingburg. This tract exhibits disparities in legacy pollution metrics, registering higher percentages in near-risk management plan facilities and within the low-income subcategory.

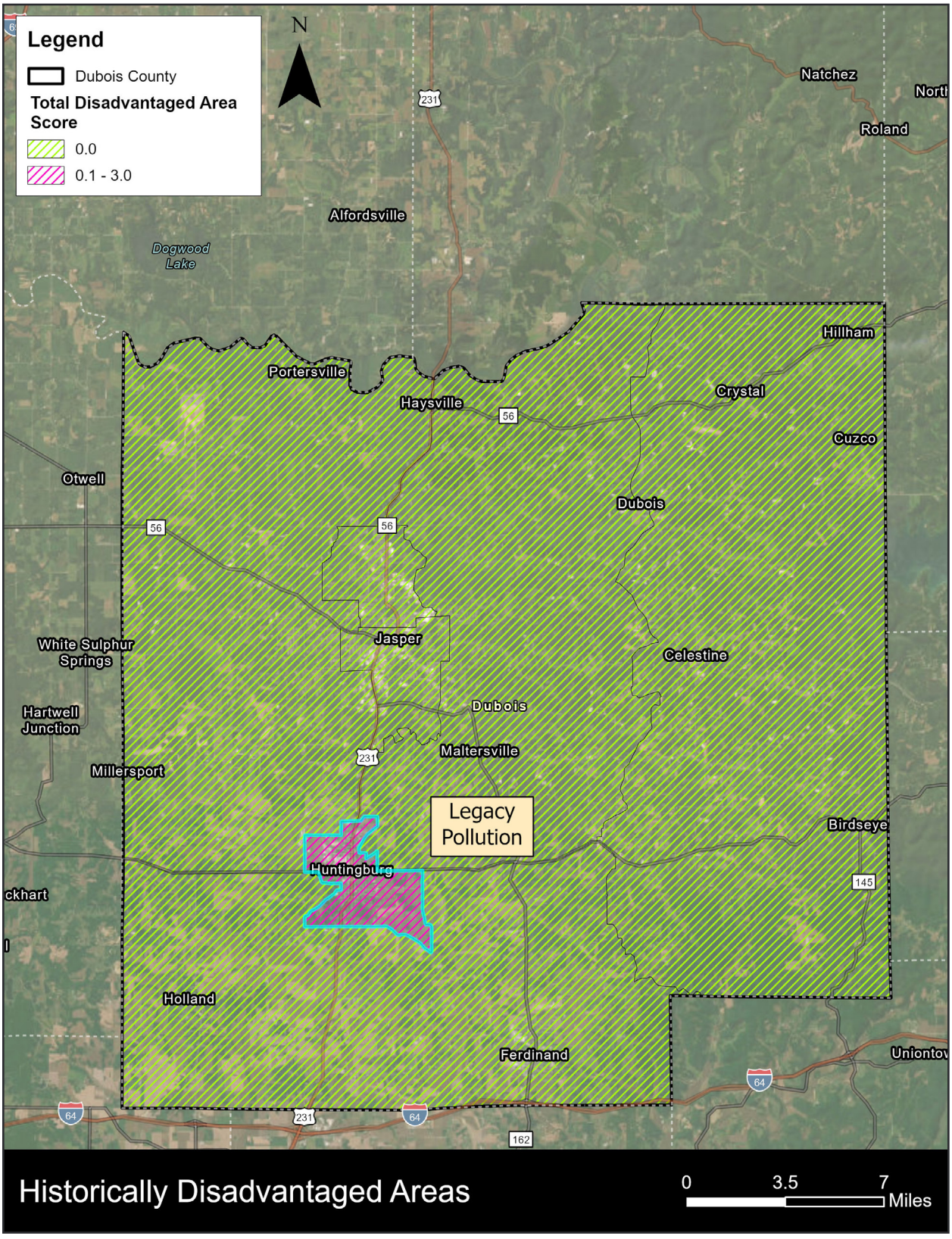
From a traffic safety perspective, the identified disadvantaged census tract is within a heavy industrial zone within the county, bound by two major thoroughfares, US 231 and SR 64. The rest of the county have lower environmental justice impacts as zero disadvantages were found.

Mitigating environmental justice disparities requires a multifaceted approach. Engaging community stakeholders in decision-making processes related to infrastructure development, housing policies, and environmental initiatives is important. It is also essential to empower residents to articulate their needs and actively participate in planning and executing remedial measures. Additionally, initiatives to address health inequities, encompassing improved access to healthcare services, preventative care, and targeted health education programs for vulnerable demographics, are crucial. Collaborative efforts with local healthcare providers and community organizations are instrumental in fostering equitable health outcomes.

Public input from Dubois County citizens identified several high-risk locations within or near the identified disadvantaged area. Several other locations were identified through safety analysis. Project ranking will account for locations found within the disadvantaged tract and their scores will be weighted accordingly.

Crucially, when formulating and enacting land use, transportation, and environmental protection policies, decision-makers should consider diverse strategies that ensure equitable resource allocation and anticipate potential impacts on communities; this entails an all-inclusive consideration of social, economic, and environmental factors to uphold principles of justice and fairness.

Figure 21: Dubois County – Economic Justice Areas



7. POLICY AND PROCESS CHANGES

7. POLICY AND PROCESS CHANGES

A comprehensive review of Dubois County policies has identified opportunities for improvements to further prioritize and enhance transportation safety in Dubois. The goal is to ensure safe and efficient access to public rights-of-way while promoting responsible development within the county limits.

7.1 JASPER COMPREHENSIVE PLAN

The 2019 IMPACT Jasper Comprehensive Plan was written to further reinforce the City as a dynamic and innovative community focusing on families, healthy neighborhoods, connecting people, and employment growth. The plan was written in three main parts: Jasper Today, Jasper Tomorrow, and Jasper's Future. Within the Jasper Today part of the plan, the document identifies four overarching themes by which initiatives are organized: economy, community, legacy, and livability. Each of the four themes has several goals and strategies elaborated on in the Jasper Tomorrow part of the plan. The goals associated with each theme are summarized:

- **Impact Our Economy:** Attract residents, retain talent, and celebrate diversity within the community. Support employers and entrepreneurs in their efforts to expand and relocate to Jasper. Ensure a talented workforce that serves employers' needs. Plan for growth, service level, and capacity improvements to Jasper's utility infrastructure. Promote sound development through everyday planning decisions and redevelopment.
- **Impact Our Community:** Strengthen the viability and connectivity between the Courthouse Square and the Riverfront. Improve transportation infrastructure and expand connectivity. Partner with regional municipalities and organizations to foster collaboration.
- **Impact Our Legacy:** Celebrate Jasper's historic character and arts culture while showcasing the community's unique identity. Protect and expand environmental assets in and around Jasper. Promote well-being for all community members and promote healthy living.
- **Impact Our Livability:** Establish a balanced housing stock for residents of all ages, incomes, and stages of life. Expand high-quality recreational amenities. Continue to provide high-caliber community services.

7.2 DUBOIS COUNTY CODE OF ORDINANCES

Dubois County does not administer a zoning ordinance, and the subdivision ordinance is limited to procedures and standards for platting a subdivision and basic regulations regarding road improvements when a subdivision has frontage on a county highway. The current provisions regarding road improvements include a 60-foot right-of-way dedication (30 feet on either side of the centerline), 12-foot driving lanes with 6-foot aggregate shoulder, and pavement material and thickness standards.

To further improve traffic safety, the county may consider adopting more substantial regulations regarding land use and development and any associated road improvements and construction. A typical unified development ordinance will include sections detailing standards for the layout and design of subdivision streets, for instance, restricting the construction of dead-end roads or prohibiting misaligned intersections within a certain distance of an existing intersection. Another important safety consideration made within these ordinances is restrictions against intersections at an angle other than 90 degrees and prohibiting obstruction of the sight triangle at intersections to ensure oncoming traffic is easily visible.

7.3 JASPER UNIFIED DEVELOPMENT ORDINANCE (UDO)

The Jasper Unified Development Ordinance (UDO) regulates land use and development within the City's planning jurisdiction to promote public health, safety, morals, and general welfare. The specific expectations related to street safety are as follows:

- **Orderly and Sustainable Development:** Ensure development aligns with the City of Jasper Comprehensive Plan.
- **Traffic Management:** Reduce congestion and ensure safe, efficient traffic circulation.
- **Infrastructure Provision:** Facilitate transportation, water, sewage, schools, parks, and other public facilities.
- **Subdivision Standards:** Establish standards for the orderly layout and use of land.

SUBDIVISION DESIGN STANDARDS

The subdivision chapter outlines the following goals:

- **Public Health:** Protect and promote the City's health, safety, and general welfare.
- **Future Development:** Guide development in line with the Comprehensive Plan.
- **Built Environment:** Ensure safety and comfort in built environments and open spaces.
- **Design Standards:** Maintain compatibility, character, and economic stability through reasonable design standards.
- **Public Facilities:** Ensure adequate facilities accompany new development.
- **Land Records:** Provide proper land boundary records.

STREET DESIGN STANDARDS

According to the Jasper UDO, streets must be designed considering topography, soil, natural features, function, movement clarity, and economy of street length. The layout of new streets should relate to existing ones, and access to existing streets must be provided where appropriate. Multiple points of ingress and egress may be required. Key design requirements listed in the Jasper UDO include:

- **Right-of-Way:** Property owners must dedicate additional right-of-way as necessary.
- **Street Extensions:** Streets should extend to subdivision boundaries to ensure traffic circulation.
- **Dead-End Streets:** Permanent dead-end streets are not allowed; temporary ones must have turnarounds.
- **Street Signs:** Subdividers must provide standard or decorative city street signs and posts.
- **Alleys:** Permitted if deemed the best means of serving the subdivision.
- **Cul-de-sacs:** Must terminate in a circular right-of-way with specified diameters.
- **Traffic Calming:** Measures may include roundabouts, curb extensions, medians, and appropriate street layouts.
- **Geometric and Intersection Design Standards:** Streets must intersect at specified angles and follow defined geometric standards.
- **Vertical Alignment and Street Grades:** Must adhere to minimum lengths and grades as specified.
- **Half Streets:** New half streets are not permitted.
- **State Highways:** Compliance with Indiana Department of Transportation regulations is required.
- **Topography and Arrangement:** Streets should align with natural topography and provide appropriate building sites.
- **Bicycle Lanes:** Must be designed according to AASHTO standards where required.

PEDESTRIAN NETWORK STANDARDS

- **Sidewalks:** These are required on both sides of streets in certain areas to promote connectivity and walkability. Specific requirements apply based on density and zoning districts.
- **Construction and Safety:** Standards for sidewalk width, curb ramps, pedestrian paths, and safety devices are outlined.

7.4 OPPORTUNITIES FOR IMPROVEMENT

To further enhance safety for drivers and pedestrians, Jasper, Indiana, could consider implementing the following additional zoning regulations:

- **Pedestrian Crosswalks:** Ensure streets accommodate all users, including pedestrians, cyclists, motorists, and public transit users of all ages and abilities.
- **Enhanced Crosswalks:** To improve pedestrian safety, install raised crosswalks, refuges, and highly visible crosswalk markings.
- **Speed Limits:** Implement lower speed limits in residential areas and near schools.
- **Smart Traffic Signals:** Use traffic signals that adjust based on real-time traffic conditions to reduce congestion and improve safety.
- **Complete Streets Policy:** Adopt a policy that requires streets to be designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.
- **Green Infrastructure:** Incorporate green infrastructure to manage stormwater and improve street aesthetics and safety.
- **Lighting:** Ensure adequate street lighting, particularly in high-traffic and pedestrian areas, to enhance visibility and safety at night.
- **Accessibility Improvements:** Improve ramps, tactile paving, and other accessibility features to ensure compliance with the Americans with Disabilities Act (ADA).
- **Public Transportation Stops:** Improve the safety and accessibility of public transportation stops, including shelters, seating, and clear signage.
- **Traffic Enforcement:** Increase traffic enforcement measures to deter speeding and other unsafe driving behaviors.

8. PROJECTS AND STRATEGIES

8. PROJECTS AND STRATEGIES

The SS4A Action Plan must contain effective strategies and project recommendations to achieve the Vision Zero target. Investments in engagement, education, and infrastructure all play a critical role in reducing fatal and serious injury crashes in Dubois County. We have conducted an extensive analysis of the county's crash data (Section 4), developed an extensive engagement process (Section 5), and reviewed its existing program and policies (Section 6), which culminate in the following project recommendations and strategies.

In February 2024, Dubois County passed a Vision Zero resolution to reduce fatal and serious injury crashes by 50% by 2040. Vision Zero is not just a goal. It reframes the way Dubois County views transportation safety. Vision Zero promotes thinking about transportation safety holistically, considering all transportation users, and incorporating strategies and recommendations that are more than just infrastructure improvements.

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

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

8.1 SCORING CRITERIA FOR SS4A PROJECT PROPOSALS

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

PROJECT IDENTIFICATION METHODOLOGY

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

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

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

- Total Crash Rate
- Fatal & Injury Crash Rate
- Environmental Justice
- Public Input

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

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

The criteria used to evaluate potential projects are described in further detail in ***Table 10***.

Table 10: Scoring Criteria for SS4A Project Proposals

TOTAL CRASH RATE

The SS4A program targets improving safety and mobility for all users. Analysis of the county's roadway network was employed to identify locations with significant crash recurrence.

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

Projects were scored on the individual site's total crash frequency rate (all crashes).

30% weightage

FATALITY & INJURY CRASH RATE

Taking action toward Vision Zero involves improving safety at locations that have experienced fatalities or severe injuries. The plan intends to eliminate recurrence of high-severity crashes by implementing safety projects demonstrating the highest potential for safety improvement.

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

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

30% weightage

ENVIRONMENTAL JUSTICE

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

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

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

20% weightage

PUBLIC FEEDBACK

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

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

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

20% weightage

8.2 PROJECT OVERVIEW

The compiled projects list was scored in accordance with the criteria presented in Section 8.1. The weighted total score of the project defined implementation priority. A 3-tier system was assigned for projects based on the range of scores to give the highest priority to projects that obtained the greater total weighted scores. Therefore, projects that were determined to have the highest need for improvement will be expected to have the highest priority for funding and implementation.

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

- **Tier 1:** Scores > 15, Implementation 2025-2029 (Short-term/Highest priority)
- **Tier 2:** Scores >11 to ≤ 15, Implementation 2030-2035 (Interim/Medium priority)
- **Tier 3:** Scores ≤ 11, Implementation 2035+ (Long-term/Lower priority)

The total project scores were calculated by selecting the correct number of points for each criterion, as shown in ***Table 11***, and multiplying each point number by the corresponding weight percentage. Then, the weighted scores were added together to get a total score for the project. For example, for S St. Anthony Rd W segment from E Schnellville to CR 230 S, the project had a total crash rate of 650.15, was not in or adjacent to an environmental justice area, had a fatal and injury crash rate of 325.07, and had 0 mentions from public input. Using the key, this scores 3, 0, 5, and 0 points for each category respectively. To apply weightages, the four scores were multiplied by 3, 2, 3, and 2 respectively, and were added together, ultimately resulting in a weighted score of 24 for the project.

Table 11: Project Scoring Key

SCORING CRITERIA, POINTS AND WEIGHTAGE							
TOTAL CRASH RATE (30% Weight)	**POINTS**	**ENV. JUSTICE CRITERIA** (20% Weight)	**POINTS**	**F&I CRASH RATE** (30% Weight)	**POINTS**	**STAKEHOLDER & PUBLIC INPUT CRITERIA** (20% Weight)	**POINTS**
Crash Rate 0-250 seg, <0.5 int	1	Not in EJ Area	0	0-50 segment, <0.5 intersection	1	0 mentions	0
Crash Rate 250-500 seg, 0.5-1 int	2	Bordering/ Partially EJ	3	50-100 segment, 0.5-1 intersection	2	1-2 mentions	3
Crash Rate 500-750 seg, 1-1.5 int	3	Entirely within EJ	5	100-150 segment, 0.1-1.5 intersection	3	>2 mentions	4
Crash Rate 750-1000 seg, 1.5-2 int	4	-	-	150-200 segment, 1.5-2 intersection	4	-	-
Crash Rate >1000 seg, >2 int	5	-	-	>200 segment, >2 intersection	5	-	-

The resulting projects with their total weighted scores, implementation timeframe, and proposed countermeasures for segments are summarized in ***Table 12*** and for intersections in ***Table 13***. The complete Comprehensive Safety Action Plan Project List is provided in the appendix.

Table 12. Comprehensive Safety Action Plan Projects Scoring Summary – Roadway Segments (1 of 3)

PROJECT LOCATION	WTD. TOTAL SCORE	TIER	PROPOSED COUNTERMEASURES
1. S Club Rd - E SR 64 to E 23rd St	31	Tier 1	**ST:** Enhanced Delineation for Horizontal Curves, Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
2. S St. Anthony Rd W - E Schnellville to CR 230 S	24	Tier 1	**ST:** Enhanced Delineation for Horizontal Curves, Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
3. W Division Rd – CR 620 W to US 231	18	Tier 1	**ST:** Enhanced Delineation for Horizontal Curves, Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
4. CR 300 N - St. Charles Street to CR 500 W	18	Tier 1	**ST:** Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
5. E Jasper Dubois Rd – CR 32 E to Farm Driveway	15	Tier 2	**ST:** Enhanced Delineation for Horizontal Curves, Install dynamic chevron signs, Wider Edge Lines, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features, Lighting, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.

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

Table 12. Comprehensive Safety Action Plan Projects Scoring Summary – Roadway Segments (2 of 3)

PROJECT LOCATION	WTD. TOTAL SCORE	TIER	PROPOSED COUNTERMEASURES
6. CR 400 W – W Phoenix Dr to W 6th St	12	Tier 2	**ST:** Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
7. CR 600 W – CR 400 S to W Division Rd	12	Tier 2	**ST:** Enhanced Delineation for Horizontal Curves, Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
8. CR 500 W – CR 300 N to CR 400 N	12	Tier 2	**ST:** Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
9. E Schnellville Rd – S St. Anthony Rd to CR 1025 E	12	Tier 2	**ST:** Enhanced Delineation for Horizontal Curves, Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
10. CR 675 N – CR 500 W to N Portersville Rd	12	Tier 2	**ST:** Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.

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

Table 12. Comprehensive Safety Action Plan Projects Scoring Summary – Roadway Segments (3 of 3)

PROJECT LOCATION	WTD. TOTAL SCORE	TIER	PROPOSED COUNTERMEASURES
11*. SR-64 - SR-162 to N Main Street	12	Tier 2	**ST:** Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
12. CR 350 W – Phoenix Dr to CR 150 S	9	Tier 3	**ST:** Enhanced Delineation for Horizontal Curves, Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
13. CR 300 N – CR 325 N to N Kellerville Rd	9	Tier 3	**ST:** Enhanced Delineation for Horizontal Curves, Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs for all public roads, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.
14. E Jasper Dubois Rd – SR 545 N to CR 300 E	9	Tier 3	**ST:** Enhanced Delineation for Horizontal Curves, Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs for all public roads, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten sides lopes and increase distance to roadside features.
15. N Kellerville Rd – CR 600 N to Cathy Ln	6	Tier 3	**ST:** Enhanced Delineation for Horizontal Curves, Wider Edge Lines, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install advance intersection warning signs, Renew and re-stripe all regulatory and warning signage and pavement markings, Install speed feedback signs. **LT:** Provide additional outside shoulder width, Install Shoulder Rumble Strips, Dedicated Left-and Right-Turn Lanes at Intersections, Access Management, Pavement Friction Management, Roadside Design Improvements - Flatten side slopes and increase distance to roadside features.

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

*Denotes projects within a joint jurisdiction (County, City, or INDOT)

Table 13. Comprehensive Safety Action Plan Projects Scoring Summary – Intersections (1 of 3)

PROJECT LOCATION	WTD. TOTAL SCORE	TIER	PROPOSED COUNTERMEASURES
1. CR 400 N & CR 500 W	31	Tier 1	**ST:** Lighting, Enhanced Delineation for Horizontal Curves, Wider Edge Lines, Pavement Friction Management. **LT:** Install Shoulder Rumble Strips, Roadside Design Improvements at Curves - Flatten side slope.
2. CR 1075 S and CR 720 W	30	Tier 1	**ST:** Enhanced Delineation for Horizontal Curves, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Wider Edge Lines, Lighting, Pavement Friction Management, Re-stripe intersection. **LT:** Install Shoulder Rumble Strips, Roadside Design Improvements at Curves - Flatten side slope, Re-align intersection approaches to intersect at 90-degree angle, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.
3. S Santine Rd & E Hall Creek Rd	24	Tier 1	**ST:** Enhanced Delineation for Horizontal Curves, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Wider Edge Lines, Pavement Friction Management, Re-stripe intersection. **LT:** Lighting, Install Shoulder Rumble Strips, Roadside Design Improvements at Curves - Flatten side slope, Re-align intersection approaches to intersect at 90-degree angle, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.
4. S Ferdinand Rd NW & CR 100 W	21	Tier 1	**ST:** Install Shoulder Rumble Strips, Wider Edge Lines, Appropriate Speed Limits for All Road Users, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install Oversized Warning Signs with Flashing Beacons on uncontrolled approaches, Access Management (remove driveway redundancy). **LT:** Lighting, Roadside Design Improvements at Curves - Flatten side slope, Pavement Friction Management, Dedicated Left-and Right-Turn Lanes at Intersections.
5. CR 500 W & CR 150 N	15	Tier 2	**ST:** Enhanced Delineation for Horizontal Curves, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Wider Edge Lines, Pavement Friction Management, Re-stripe intersection. **LT:** Lighting, Install Shoulder Rumble Strips, Roadside Design Improvements at Curves - Flatten side slope, Re-align intersection approaches to intersect at 90-degree angle, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.
6. CR 600 W & CR 400 S	15	Tier 2	**ST:** Systemic Application of low-Cost Countermeasures at Stop-Controlled Intersections, Wider Edge Lines. **LT:** Lighting, Pavement Friction Management, Install Shoulder Rumble Strips, Roadside Design Improvements - Flatten side slope, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.
7. E Schnellville Rd & CR 1025 E	15	Tier 2	**ST:** Lighting, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install Oversized Warning Signs with Flashing Beacons on uncontrolled approaches, Wider Edge Lines, Access Management (remove driveway redundancy). **LT:** Access Management, Install Shoulder Rumble Strips, Roadside Design Improvements - Flatten side slope, Pavement Friction Management, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.

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

Table 13. Comprehensive Safety Action Plan Projects Scoring Summary – Intersections (2 of 3)

PROJECT LOCATION	WTD. TOTAL SCORE	TIER	PROPOSED COUNTERMEASURES
8*. N Newton St (US-231) & Baden Strasse	13	Tier 2	**ST:** Access management (make north leg NB traffic only (one-way), and one-way SB only for south leg at Mannheim Rd, the auxiliary road), Install crosswalks and pedestrian signal heads, Install pedestrian crossing warning signs, Optimize signal timings and clearance intervals. **LT:** Install sidewalks and access management, Option 1: Install roundabout intersection, Option 2: Install reduced left-turn conflict intersection.
9*. W SR-56 & CR 350 W	13	Tier 2	**ST:** Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install Oversized Warning Signs with Flashing Beacons and speed feedback signs on uncontrolled approaches. **LT:** Lighting, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.
10*. US-231 & W Division Rd	13	Tier 2	**ST:** Optimize signal timing and clearance intervals, Provide protected left-turn phasing, Evaluate lane re-configuration, Install speed feedback signs on approaches, Install Shoulder Rumble Strips, Pavement Friction Management. **LT:** Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection, Option 3: Install reduced left-turn conflict intersection.
11*. SR-64 & CR 550 S	13	Tier 2	**ST:** Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install Oversized Warning Signs with Flashing Beacons and speed feedback signs on uncontrolled approaches, Pavement Friction Management, Wider Edge Lines, Install Shoulder Rumble Strips. **LT:** Lighting, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.
12*. SR-64 & SR-162	13	Tier 2	**ST:** Install retroreflective backplates on signal heads, Optimize signal timing and clearance intervals, Install speed feedback signs on approaches, Install intersection warning signs, Pavement Friction Management. **LT:** Lighting, Option 1: Install roundabout intersection, Option 2: Install reduced left-turn conflict intersection.
13. N Kellerville Rd & CR 400 N	12	Tier 2	**ST:** Lighting, Enhanced Delineation for Horizontal Curves, Pavement Friction Management, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install Oversized Warning Signs with Flashing Beacons on uncontrolled approaches, Re-stripe intersection. **LT:** Install Shoulder Rumble Strips, Roadside Design Improvements at Curves - Flatten side slope, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.
14. E Schnellville Rd & CR 330 E	12	Tier 2	**ST:** Lighting, Wider Edge Lines, Pavement Friction Management, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Install Oversized Warning Signs with Flashing Beacons on uncontrolled approaches. **LT:** Install Shoulder Rumble Strips, Roadside Design Improvements - Flatten side slope, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.

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

*Denotes projects within a joint jurisdiction (County, City, or INDOT)

Table 13. Comprehensive Safety Action Plan Projects Scoring Summary – Intersections (3 of 3)

PROJECT LOCATION	WTD. TOTAL SCORE	TIER	PROPOSED COUNTERMEASURES
15*. S Cherry St & E 1st St	9	Tier 3	**ST:** Re-stripe crosswalks and implement visibility enhancements including new crosswalk warning signs and advance pavement markings, Install RRFBs, Install median. **LT:** Lighting, Construct Sidewalk, Option 2: Install roundabout intersection.
16. S St Anthony Rd W & E Schnellville Rd	9	Tier 3	**ST:** Enhanced Delineation for Horizontal Curves, Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections, Wider Edge Lines, Re-stripe intersection. **LT:** Lighting, Install Shoulder Rumble Strips, Roadside Design Improvements - Flatten side slope, Pavement Friction Management, Re-align intersection approaches to intersect at 90-degree angle, Option 1: Dedicated Left-and Right-Turn Lanes at Intersections, Option 2: Install roundabout intersection.

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

*Denotes projects within a joint jurisdiction (County, City, or INDOT)

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

8.3 STRATEGY RECOMMENDATIONS

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

The initial twelve strategies, categorized by the Safe System Element they address, are summarized in ***Table 14***. Each strategy comprises various components aimed at furthering its objectives. For a more comprehensive understanding of the proposed actions, anticipated implementation timelines, and the departments accountable for execution – as well as supporting departments where applicable – please refer to the subsequent sections. It's worth noting that the Steering and Implementation Committee reserves the right to amend or refine these strategies based on evolving information, community input, considerations of equity impacts, and insights gleaned from ongoing evaluations.

Table 14: Dubois County CSAP Comprehensive Safety Strategies

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

STRATEGY 1: LAUNCH A COMPREHENSIVE SAFETY CAMPAIGN

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

Table 15: Strategy 1 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Create a culturally relevant traffic safety campaign aimed at reducing severe injuries and fatalities by addressing speeding and dangerous driving behaviors such as running red lights and failing to yield to pedestrians.	Within the next 2-3 years	Dubois County (Engineering Department), Media Services
Prioritize driver education and awareness through civilian staff warnings and diversion programs before enforcing fines at high-crash locations and areas with heightened dangerous driving behaviors.	Within the next 5 years	State or Local Law Enforcement Agencies, Dubois County School Board, Local Chambers of Commerce
Communicate information about the County's speed limits and any future changes to speed limits through social media and other channels available to the County.	Each year as changes arise	Dubois County (Engineering Department), Media Services
Expand the Safe Routes to School in-class education program to high schools, focusing on safe driving behaviors and alternatives to driving.	Within the next 5 years	Dubois County Schools, Local Hospitals

STRATEGY 2: IMPLEMENT MEASURES TO REDUCE SPEEDING COUNTYWIDE

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

Table 16: Strategy 2 Action Items Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Ensure that adequate signage is placed on major streets to alert drivers of the designated speed limit.	Within the next 5 years	Dubois County (Engineering Department)
Establish zones with reduced speed limits by implementing changes to speed regulations and implementing road designs that naturally encourage compliance, particularly in areas with a high concentration of vulnerable road users such as schools, parks, community centers, and housing facilities for seniors and transitional residents.	Within the next 5-10 years	Dubois County (Engineering Department)
Evaluate the fairness, uniformity, effectiveness, and equity considerations of existing traffic enforcement methods, fines, and legal procedures.	Within the next 5-10 years	Dubois County (Department of Law)
Explore the potential implementation of automated systems or unarmed civilian enforcement to address dangerous driver behaviors like speeding, drawing inspiration from initiatives in other US counties.	Within the next 10-20 years	Dubois County (Engineering Department), State or Local Law Enforcement Agencies

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

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

Table 17: Strategy 3 Action Items Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Train and educate County staff, contractors, and government partners on Safe System concepts and practices to raise awareness.	Within the next 2-3 years	Dubois County (Engineering Department)
Create and execute a driver training program for employees who operate vehicles during work duties, focusing on safe driving practices, particularly regarding speed and interactions with pedestrians, cyclists, scooter riders, and individuals using assistive devices.	Within the next 2-3 years	Dubois County (Engineering Department), State or Local Law Enforcement Agencies

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

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

Table 18: Strategy 4 Action Items Implementation Timeframe, and Responsible Department(s)

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

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

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

Table 19: Strategy 5 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Continue seeking federal and state Safe Routes to School (SRTS) grants for safety enhancements around local schools, and explore collaborations with other departments to implement broader safety measures in upcoming years.	Ongoing	Dubois County (Engineering Department & Department of Planning and Development)
Assess the influence of freight and heavy trucks on traffic safety, especially in residential areas, and create measures and standards to address unsafe conditions.	Within the next 5 years	Dubois County (Engineering Department), Local Chambers of Commerce
Implement a trial Slow Street Network initiative and assess its effectiveness using safety data and feedback from residents	Within the next 10-20 years	Dubois County (Engineering Department)

STRATEGY 6: DEVELOP COMMERCIAL STREETSCAPES PROMOTING SAFE SPEEDS AND CROSSINGS

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

Table 20: Strategy 6 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Include speed reduction measures in all streetscape initiatives and adjust speed limits to align with target speeds whenever possible.	Within the next 5 years	Dubois County (Engineering Department)
Broaden the criteria for selecting streetscape projects to encompass areas with elevated severe crash rates and risky roadway characteristics.	Within the next 5-10 years	Dubois County (Engineering Department)

STRATEGY 7: IMPLEMENT SYSTEMIC IMPROVEMENTS AT HIGH-RISK LOCATIONS

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

Table 21: Strategy 7 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Deploy and evaluate rapid implementation of countermeasures matched for crash types identified in Section 3 of the report.	Within the next 5 years	Dubois County (Engineering Department)
Expedite systemic safety improvements through the right-of-way permitting process.	Within the next 5-10 years	Dubois County (Engineering Department)

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

Through the adopted resolution, the county has pledged to guarantee safe and convenient mobility for all residents of Dubois County, regardless of their mode of transportation. Recognizing the increased vulnerability of pedestrians, cyclists, and individuals using assistive devices, we intentionally design our streets to facilitate their safe movement to desired destinations.

Table 22: Strategy 8 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Improve lighting at pedestrian crossings	Within the next 5 years	Dubois County (Engineering Department)
Enhance safety at intersection pedestrian crossings with proven measures like curb extensions, refuge islands, high-visibility crosswalk markings, signage, signals, and beacons.	Within the next 5-10 years	Dubois County (Engineering Department)
Install mid-block crossings between major pedestrian areas where crossing distances between existing signals or enhanced crossings are impractical.	Within the next 5-10 years	Dubois County (Engineering Department)

STRATEGY 9: ENSURE EQUITY IN ACCESS TO SAFE VEHICLES

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

Table 23: Strategy 9 Action Items, Implementation Timeframe, and Responsible Department(s

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Create concise policies regarding the deployment and usage of micromobility devices.	Within the next 5-10 years	Dubois County (Engineering Department)
Promote accessible and attractive alternatives to owning personal vehicles, such as shared mobility, public transit, walking, and cycling, through investments, pilot initiatives, subsidies for low-income individuals, and incentives.	Within the next 5-10 years	Dubois County (Engineering Department), Local Transit Companies

STRATEGY 10: RAPID RESPONSE TO FATAL CRASHES

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

Table 24: Strategy 10 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Regularly provide the public and decision-makers with access to statistics regarding fatal crashes.	Within the next 2-3 years	Dubois County (Engineering Department), Media Services
Implement safety enhancements at locations where fatal crashes have occurred.	Within the next 5-10 years	Dubois County (Engineering Department)
Work with medical experts to merge hospital and crash data, enhancing the understanding of severe crash demographics, enhancing behavioral intervention effectiveness, and accessing additional funding streams.	Within the next 5 years	Dubois County (Engineering Department), Local Health Partners Foundation
Explore traffic signal priority measures for emergency vehicles to expedite and ensure safer response times to crashes and medical emergencies.	Within the next 5-10 years	Dubois County (Engineering Department), Local Health Partners Foundation

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

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

Table 25: Strategy 11 Action Items, Implementation Timeframe, and Responsible Department(s)

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

STRATEGY 12: MONITOR PROGRESS TOWARDS SAFETY GOALS

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

Table 26: Strategy 12 Action Items, Implementation Timeframe, and Responsible Department(s)

ACTION ITEM	TIMEFRAME	RESPONSIBLE DEPARTMENT(S)
Annually review the progress of the Comprehensive Safety Action Plan (CSAP) strategies, presenting the findings to the Steering & Implementation Committee. Assess the need for updates to the CSAP based on the evaluation results.	Within the next 3-5 years	Dubois County (Engineering Department)
Annually assess the effectiveness of two corridor safety projects by analyzing crash data, gathering resident feedback, and utilizing other relevant data sources. Identify any necessary further improvements based on the evaluation results.	Within the next 3-5 years	Dubois County (Engineering Department)

9. PROGRESS AND TRANSPARENCY

9. PROGRESS AND TRANSPARENCY

This CSAP serves as a detailed plan to achieve the regional goal of reducing fatal and serious injury crashes by 50% in Dubois County by the year 2040. While this goal is within reach, it acknowledges the considerable effort needed to change behaviors and implement systemic changes.

Many strategies outlined in the CSAP can be executed within a short timeframe, while others may require longer-term or ongoing efforts. It's important to understand that completing all strategies within specific timeframes may not be realistic, and our focus should instead be on continuous adaptation for effectiveness and equity.

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

SS4A ACTION PLAN PROGRESS MEASURES

The SS4A Action Plan in Dubois is designed to evolve over time, reflecting ongoing efforts and progress toward achieving Vision Zero for the county. As milestones are reached, the impact of these achievements on the overall safety goals will be regularly assessed. The county will publish an annual report on the progress of the SS4A Action Plan each December. This report will feature the following:

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

TRANSPARENCY

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

10. GLOSSARY

10. GLOSSARY

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

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

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

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

11. APPENDICES

Appendix A: Vision Zero Resolution

Appendix B: Safety Analysis

Appendix C: Public Engagement

Appendix D: Steering Committee Meeting Minutes

Appendix E: Comprehensive Safety Action Plan Projects

APPENDIX A: VISION ZERO RESOLUTION

Resolution No. 2024-02

Resolution of the Board of Commissioners of Dubois County, Indiana Adopting a Vision Zero Policy

WHEREAS, the life and health of all persons living and traveling within Dubois County are the utmost priority, and no one should die or be seriously injured while traveling on our County Roads;

WHEREAS, Vision Zero is the concept that traffic deaths and serious injuries on our roadways are unacceptable;

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

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

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

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

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

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

WHEREAS, the 2024 Vision Zero resolution is a required component of the Safe Streets and Roads for All Action Plan; and

WHEREAS, the Vision Zero resolution sets forth a goal or reducing serious and fatal crashes by 50% by the year 2040; and

NOW, THEREFORE, BE IT RESOLVED, by the Board of Commissioners of Dubois County, State of Indiana, as follows:

1. That the 2024 Vision Zero Resolution is hereby approved.

2. That any prior action taken by the Board of Commissioners or any staff necessary in connection with the items approved herein is hereby ratified and adopted as actions on behalf of the County.

3. Dubois County adopts the Vision Zero policy makes it part of this Resolution, effective immediately.

4. The Dubois County Auditor shall certify the adoption of this Resolution, effective immediately, by the Dubois County Board of Commissioners.

PASSED AND ADOPTED, this 20th day of February, 2024 by the Board of Commissioners of Dubois County, Indiana.

Chad Blessinger
CHAD BLESSINGER

Serice Stenetenagel
SERICE STENETENAGEL

NICK HOSTETTER

ATTEST:

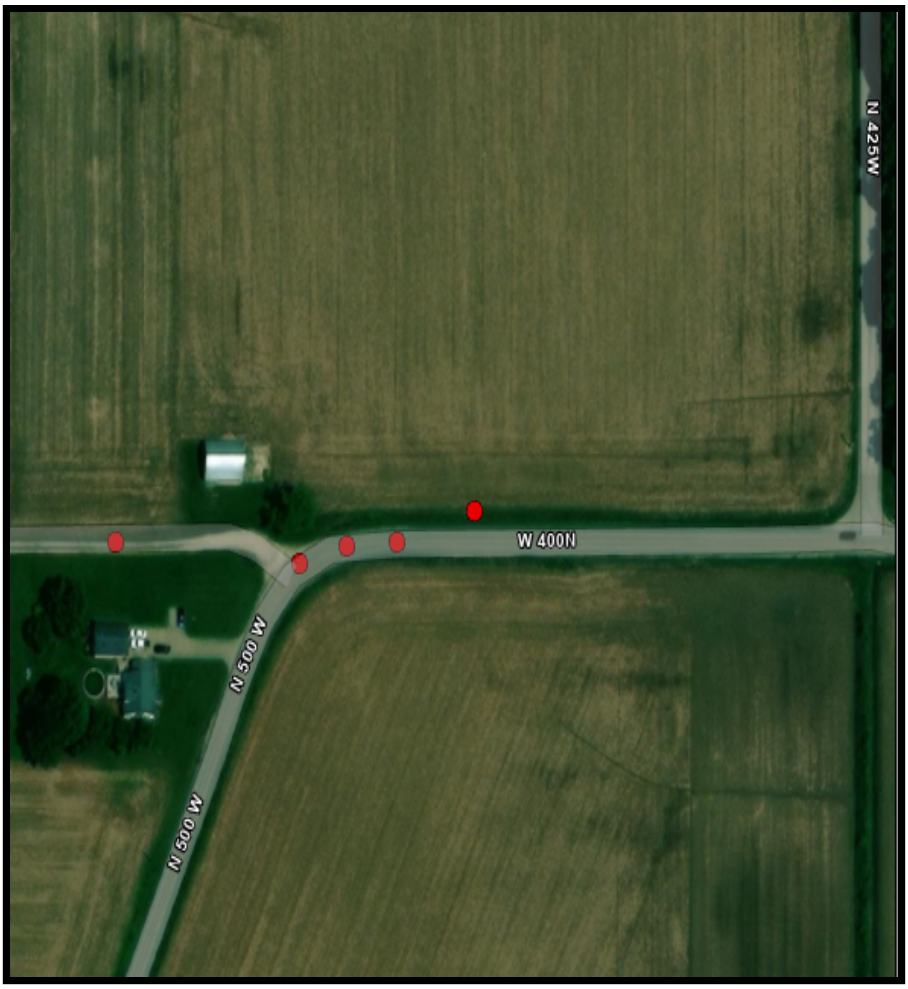
Sandra L Morton
Sandra L. Morton
Auditor of Dubois County, Indiana

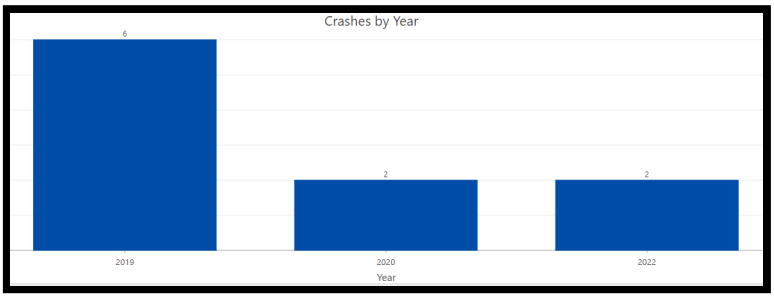
APPENDIX B: SAFETY ANALYSIS

Hotspot Locations Summary Report

Intersection Name	Total Crashes	Injury Crashes	Fatality Crashes
W 400 N & N 500 W	10	3	0
W 1075 S and S 720 W	5	3	0
S Santine Rd & E Hall Creek Rd	4	2	0
S Ferdinand Rd NW & S 100 W	3	2	0
N 500 W & W 150 N	3	2	0
S 600 W & W 400 S	3	2	0
E Schnellville Rd & S 1025 E	4	2	0
N Newton St (US-231) & Baden Strasse	0	0	0
W SR-56 & N 350 W	0	0	0
US-231 & W Division Rd	0	0	0
SR-64 & E 550 S	0	0	0
SR-64 & SR-162	0	0	0
N Kellerville Rd & E 400 N	3	3	0
E Schnellville Rd & S 330 E	7	2	0
S Cherry St & E 1st St	0	0	0
S St Anthony Rd W & E Schnellville Rd	4	2	0

W 400 N & N 500 W


N 425W
W 400N
N 500 W
N 500 W


Crashes by Year
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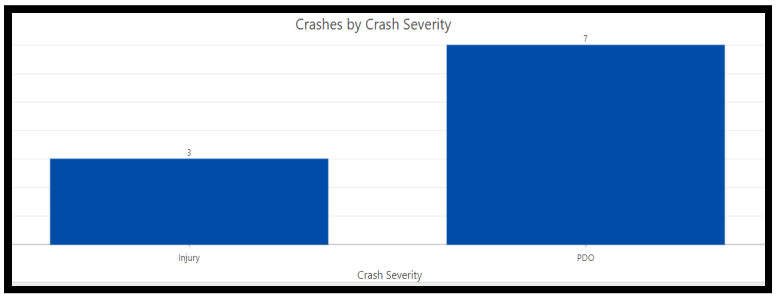
2
2
2019
2020
2022
Year


Crashes by Crash Severity
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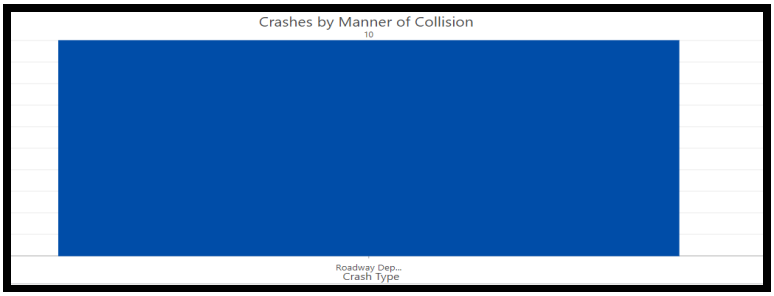
7
Injury
PDO
Crash Severity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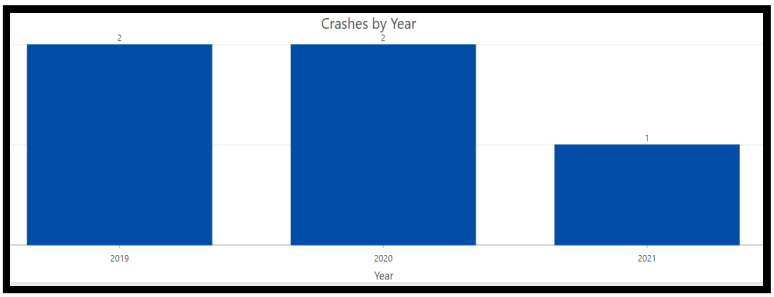
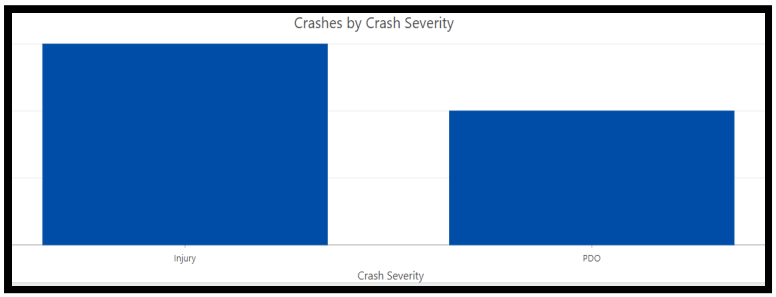
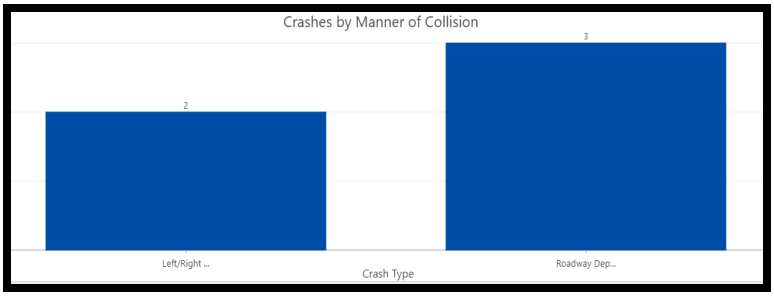
Roadway Dep...
Crash Type

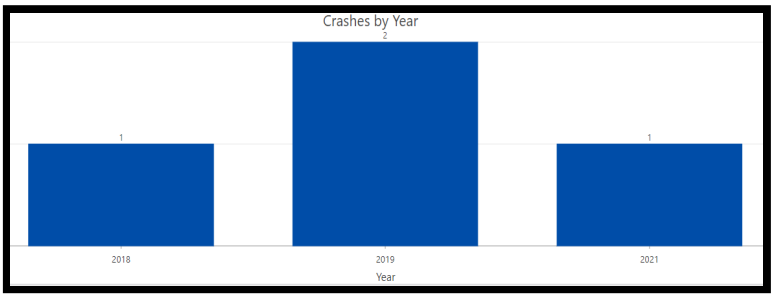
W 1075 S and S 720 W

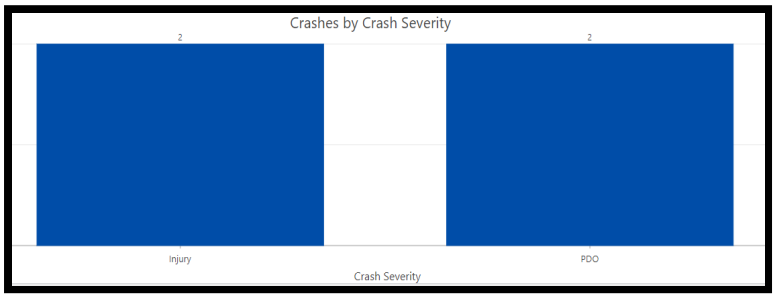


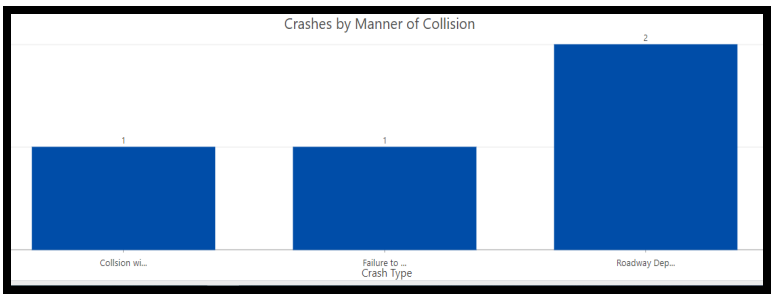




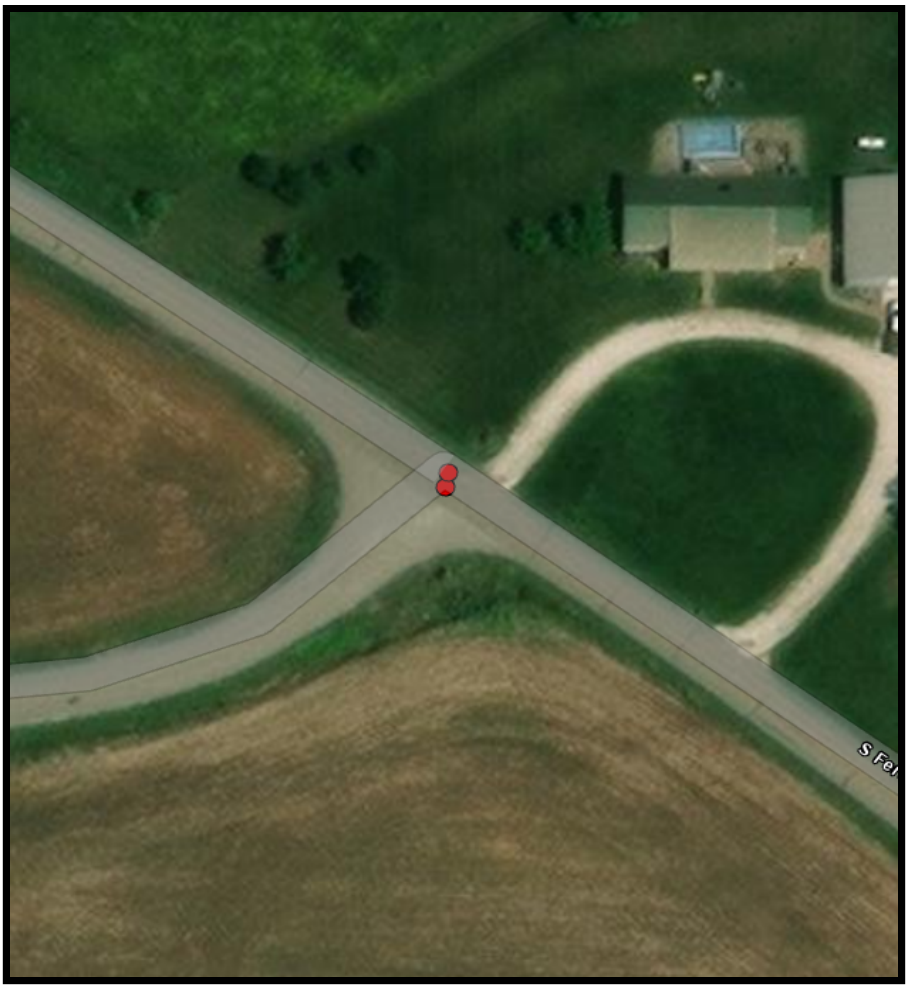
S Santine Rd & E Hall Creek Rd

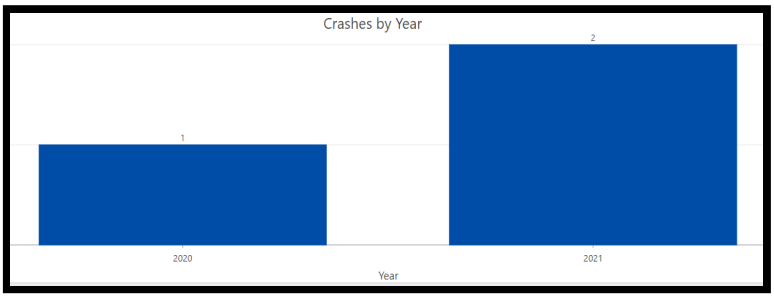


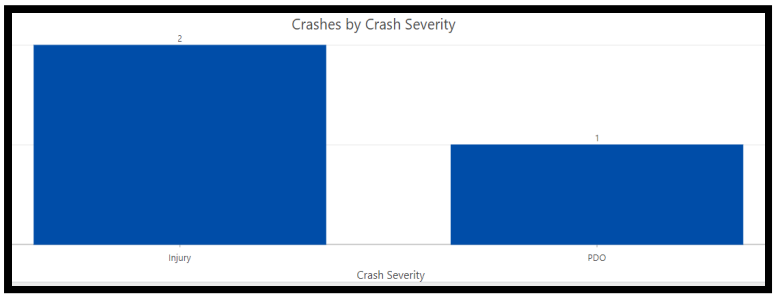


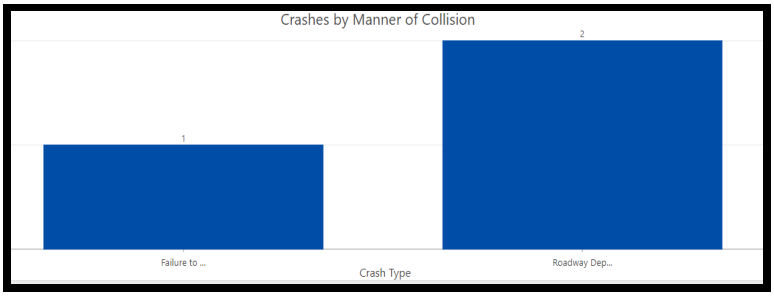


S Ferdinand Rd NW & S 100 W

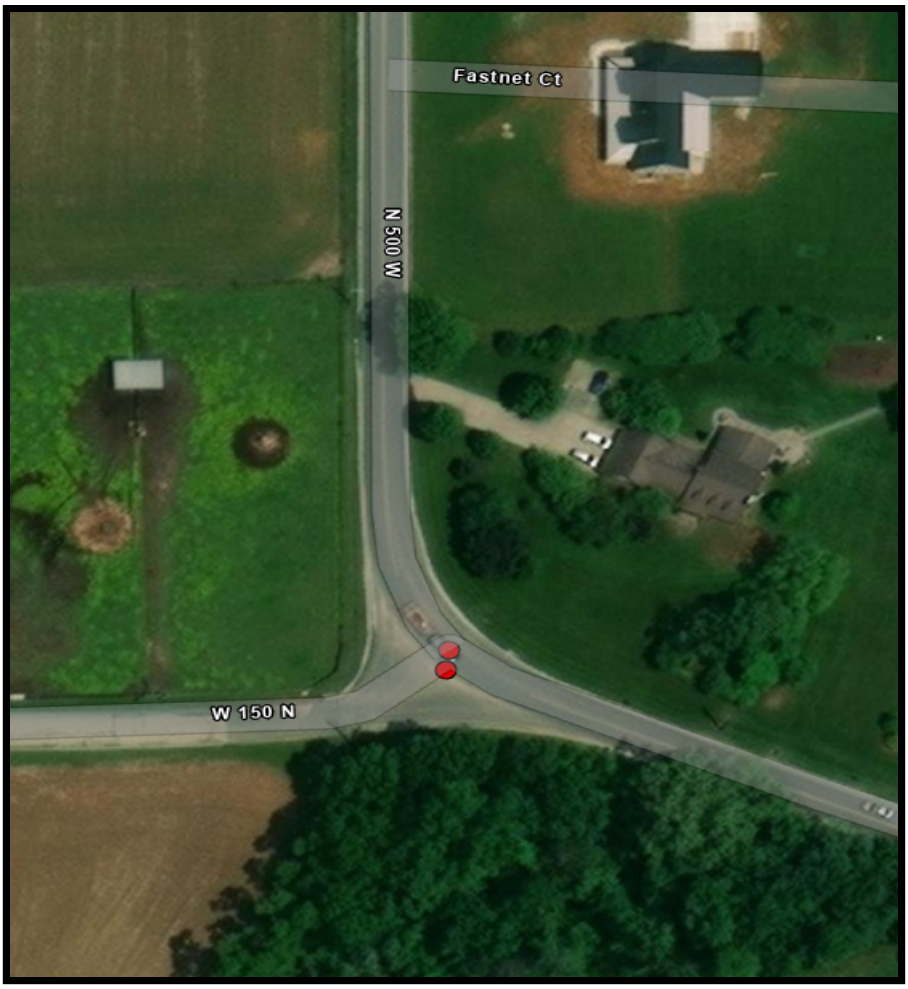


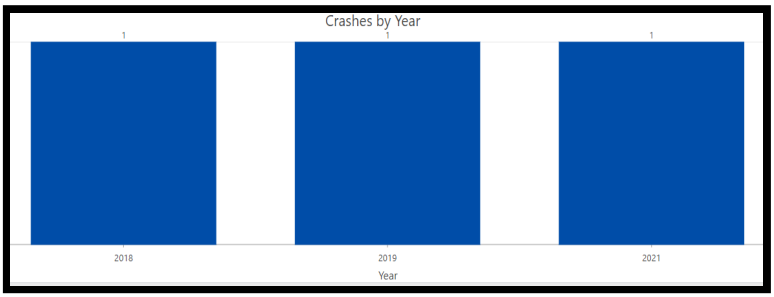


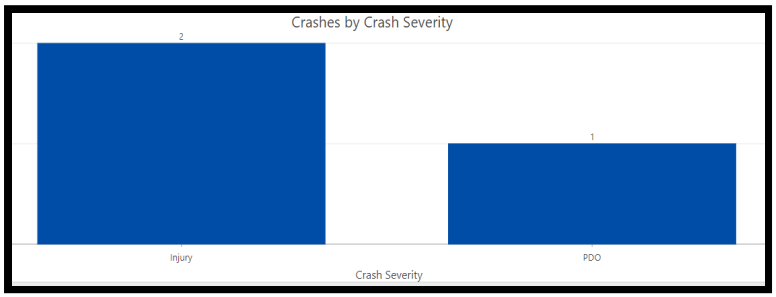


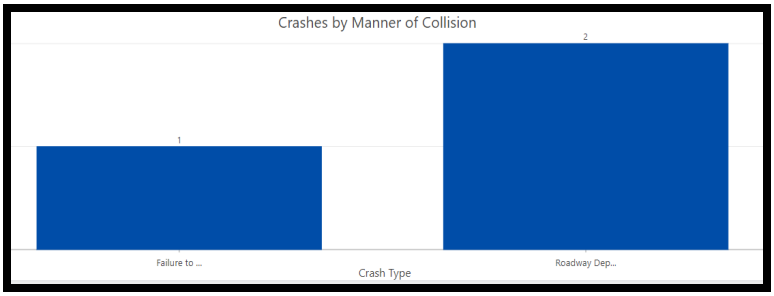


N 500 W & W 150 N

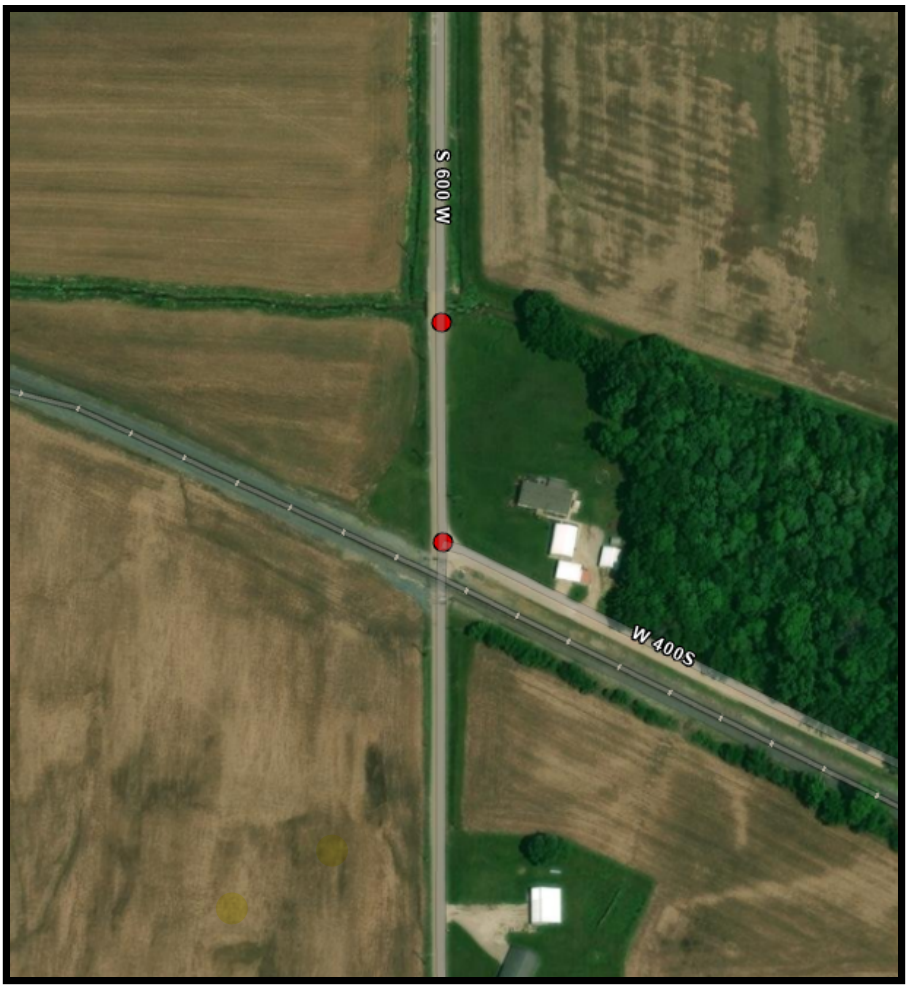

Fastnet Ct
N 500 W
W 150 N

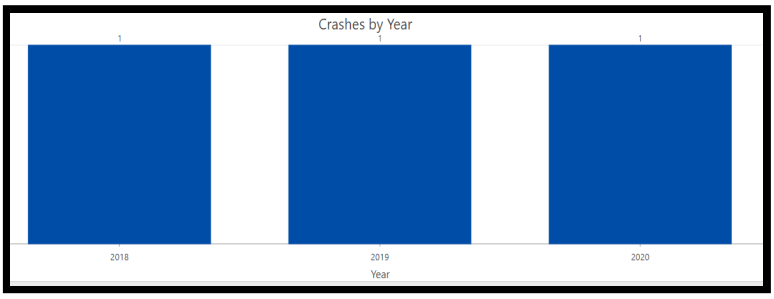

Crashes by Year
1
1
1
2018
2019
2021
Year

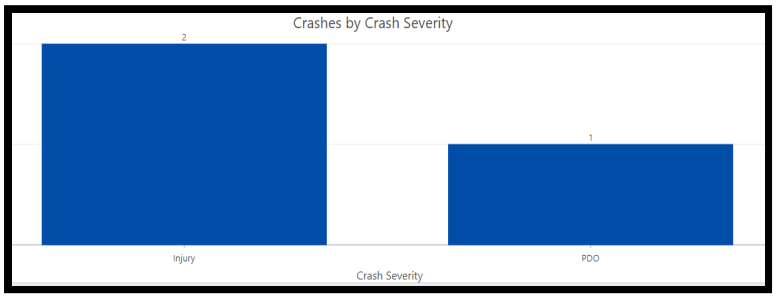

Crashes by Crash Severity
2
1
Injury
PDO
Crash Severity

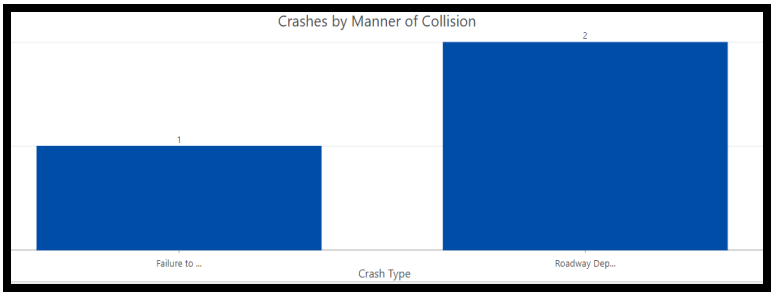

Crashes by Manner of Collision
1
2
Failure to ...
Roadway Dep...
Crash Type

S 600 W & W 400 S

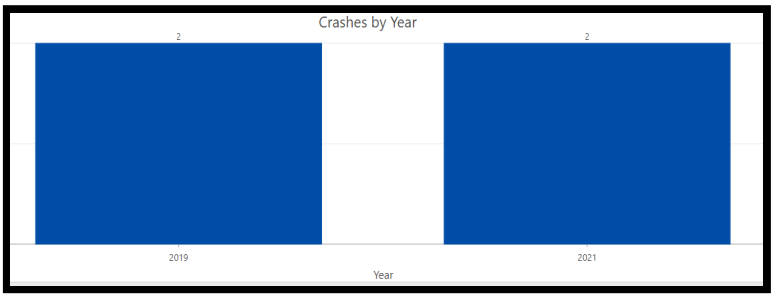

S 600 W
W 400S

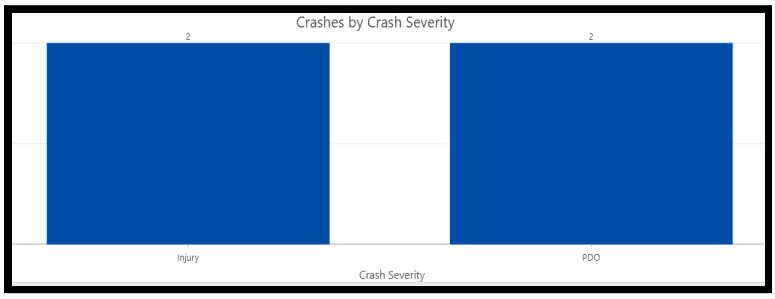

Crashes by Year
1
1
1
2018
2019
2020
Year

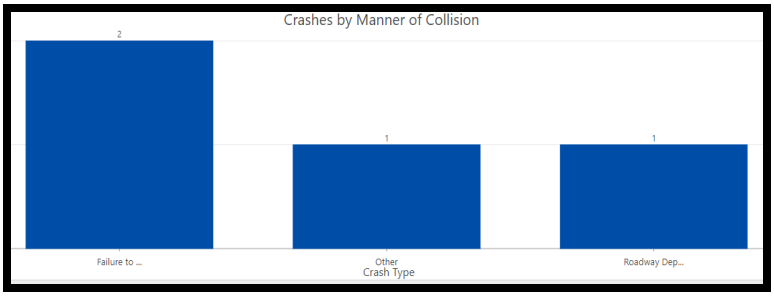

Crashes by Crash Severity
2
1
Injury
PDO
Crash Severity


Crashes by Manner of Collision
1
2
Failure to ...
Roadway Dep...
Crash Type

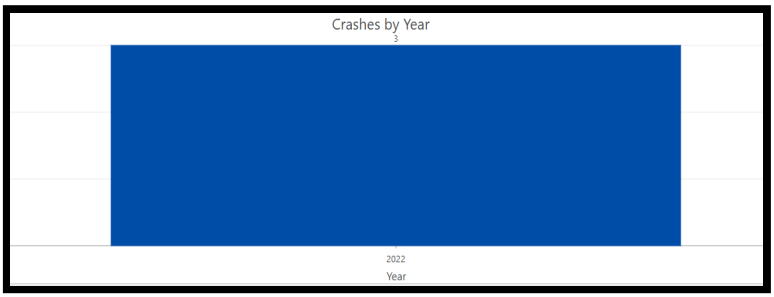
E Schnellville Rd & S 1025 E

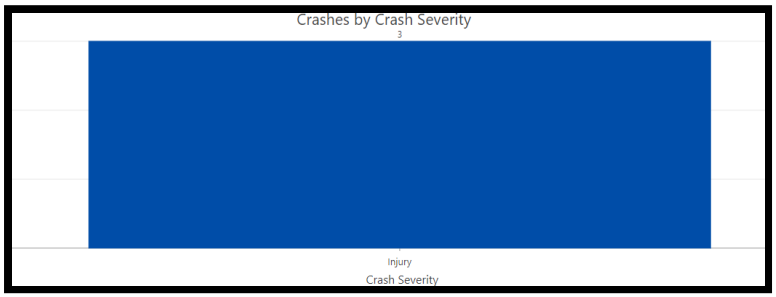


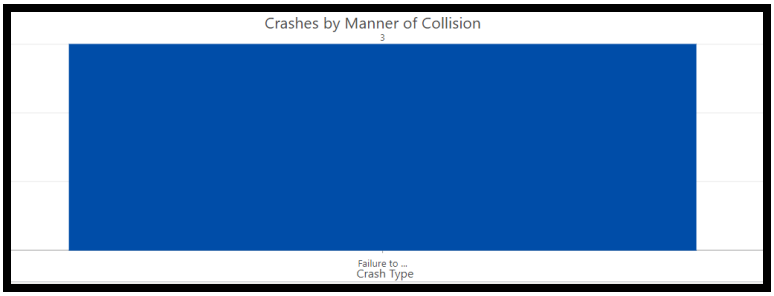




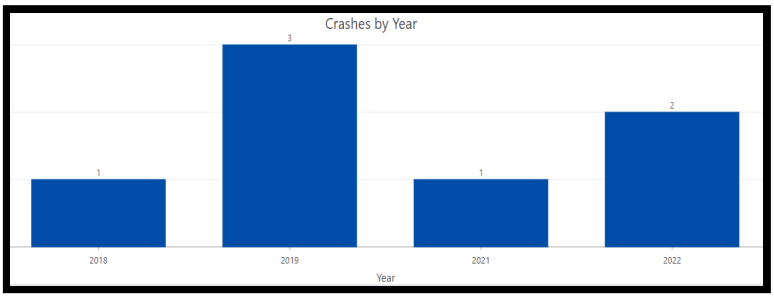
N Kellerville Rd & E 400 N

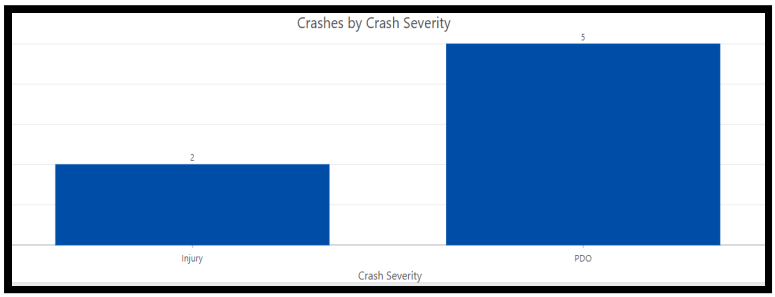


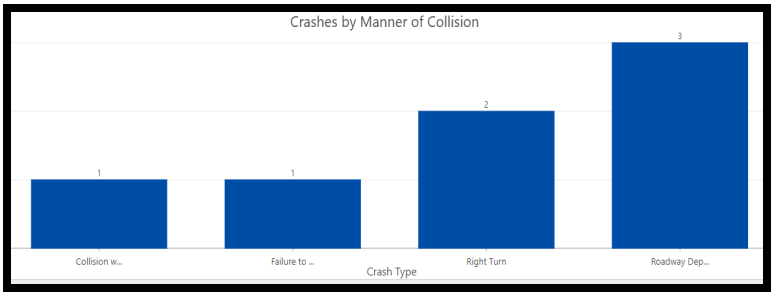




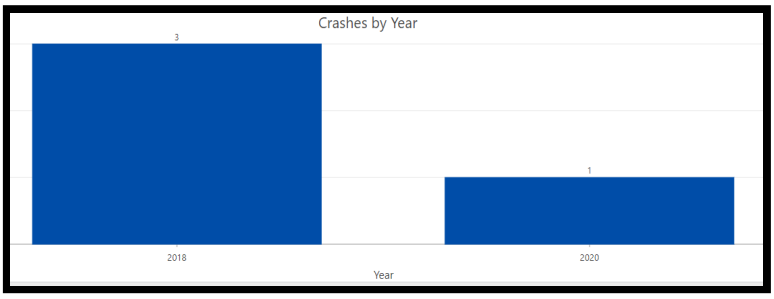
E Schnellville Rd & S 330 E

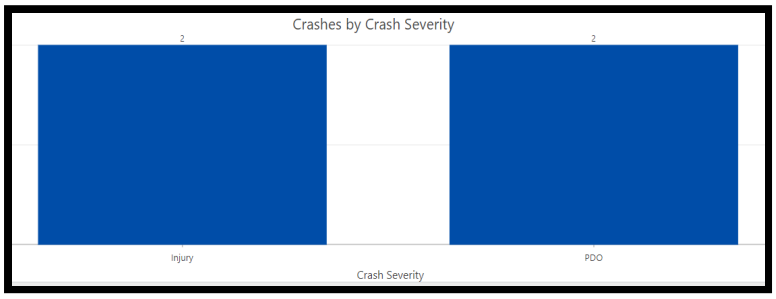


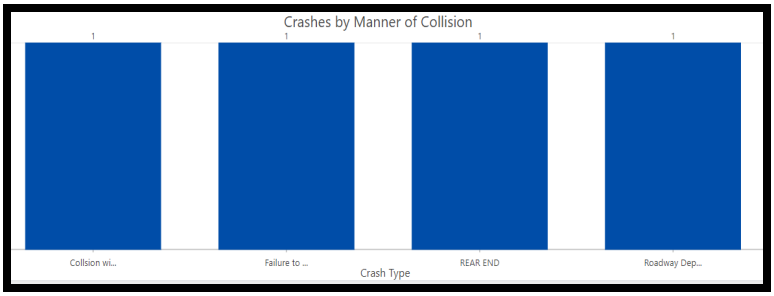




S St Anthony Rd W & E Schnellville Rd



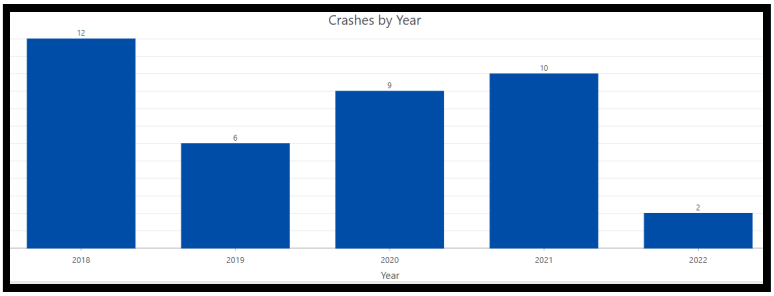


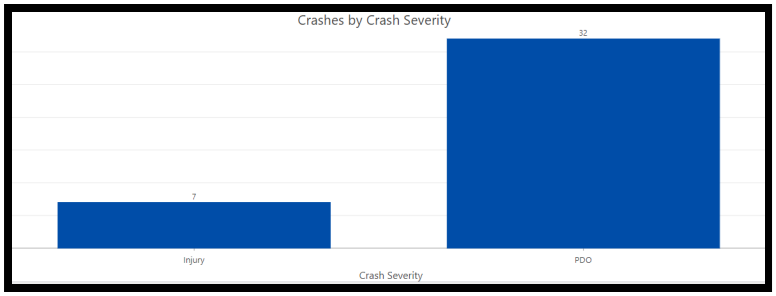


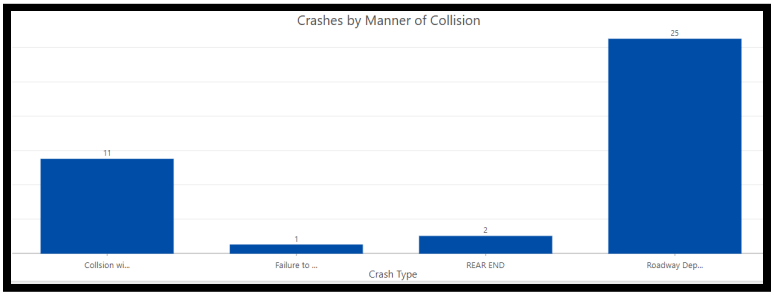
High Injury Network (HIN) Summary Report

Segment Name	Total Crashes	Injury Crashes	Fatality Crashes
S Club Rd - E SR 64 to E 23rd St	39	7	0
S St Anthony Rd W - E Schnelville to CR 230 S	6	2	1
W Division Rd - CR 620 W to US 231	10	0	0
CR 300 N - St. Charles Street to CR 500 W	17	3	0
E Jasper Dubois Rd - CR 325 E to Farm Driveway	11	3	0
CR 400 W - W Phoenix Dr to W 6th St	14	3	0
CR 600 W - CR 400S to W Division Rd	20	5	0
CR 500 W - CR 300 N to CR 400 N	21	5	0
E Schnellville Rd - S Saint Anthoney Rd W to CR 1025 I	80	14	0
CR 675 N - CR 500 W to N Portersville Rd	1	0	1
SR-64 - SR-162 to N Main Street	0	0	0
CR 350 W - Phoenix Dr to CR 150 S	15	4	1
CR 300 N - CR 325 N to N Kellerville Rd	18	6	0
E Jasper Dubois Rd - N SR 545 to CR 300 E	10	4	0
N Kellerville Rd - CR 600 N to Cathy Ln	37	7	0
SR-162 - SR-64 to 13th Street	0	0	0

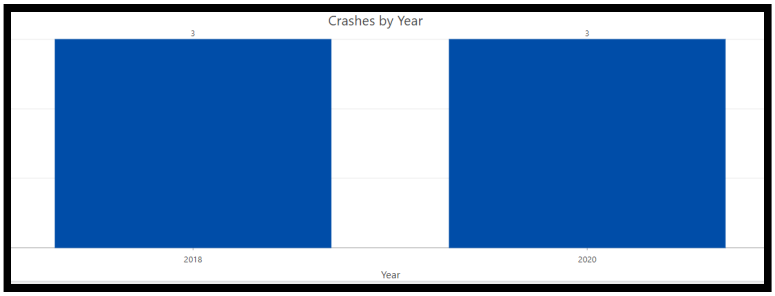
S Club Rd - E SR 64 to E 23rd St

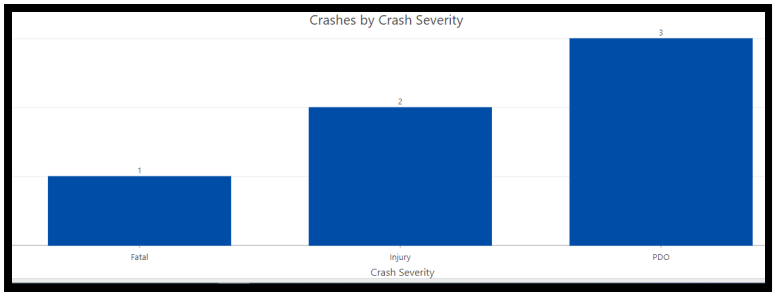


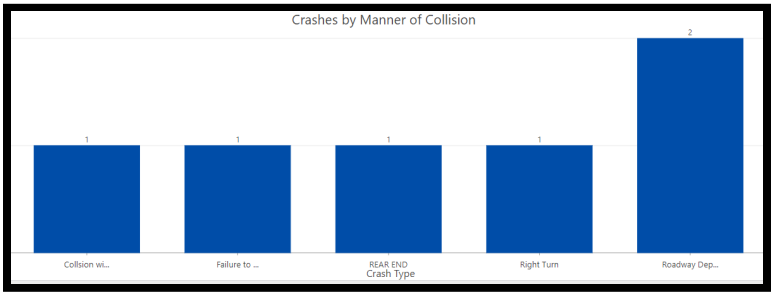




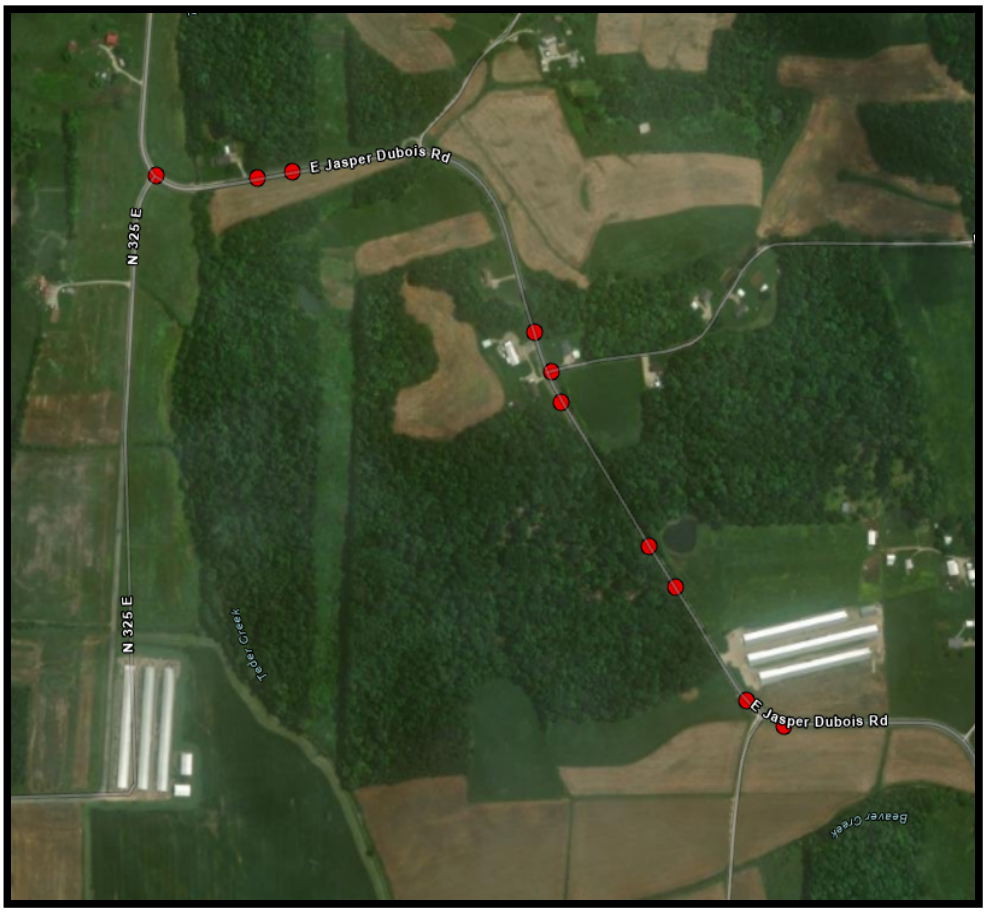
S St. Anthony Rd W - E Schnellvile to CR 230 S

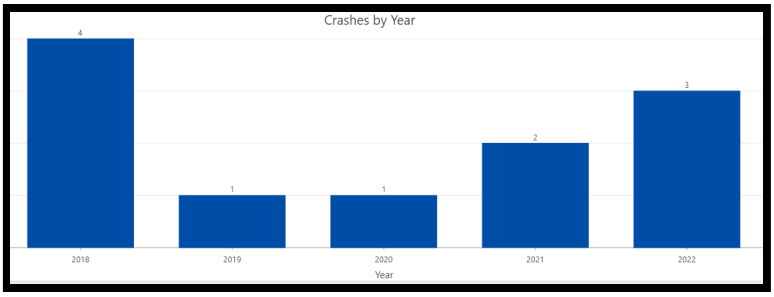


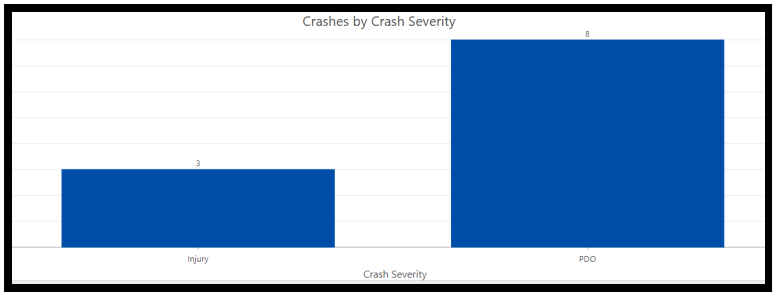


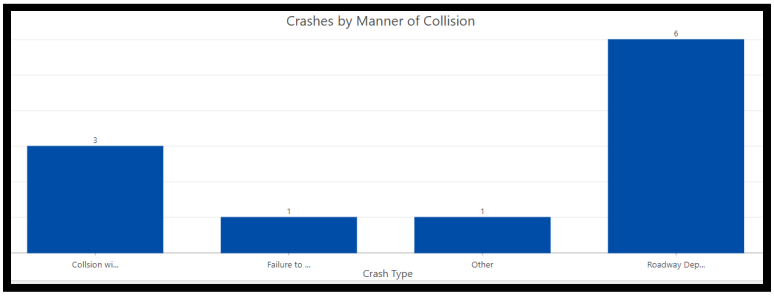


E Jasper Dubois Rd - CR 325 E to Farm Driveway

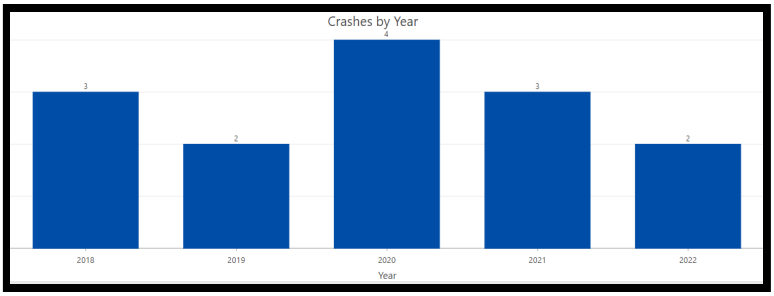


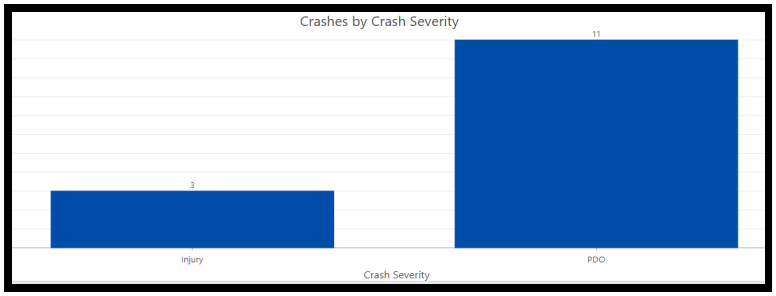


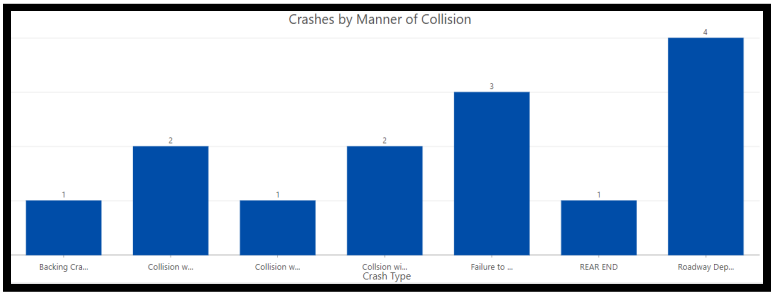




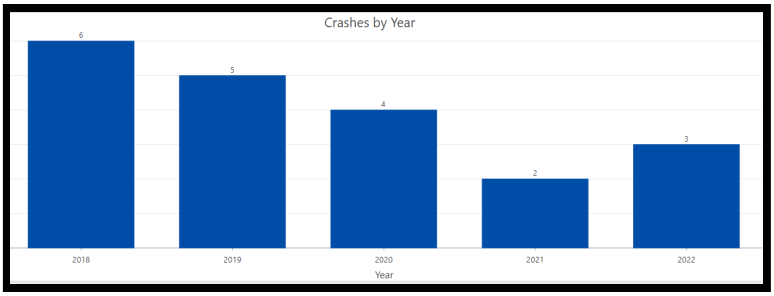
CR 400 W - W Phoenix Dr to W 6th St

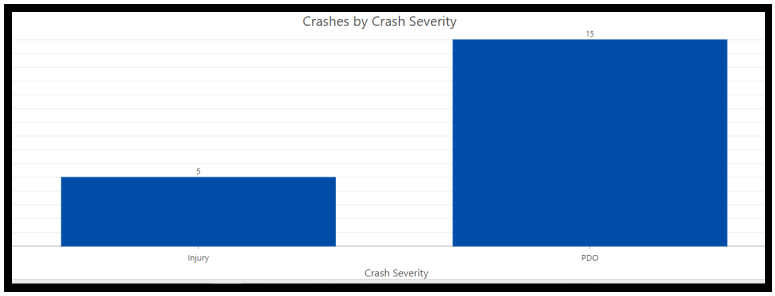


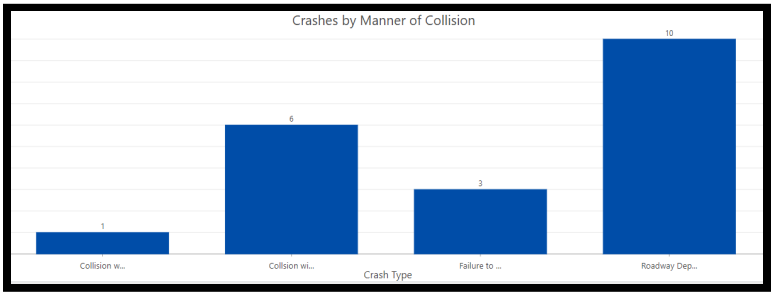




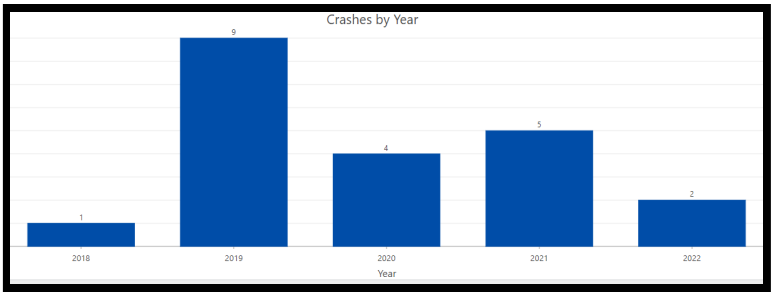
CR 600 W - CR 400S to W Division Rd

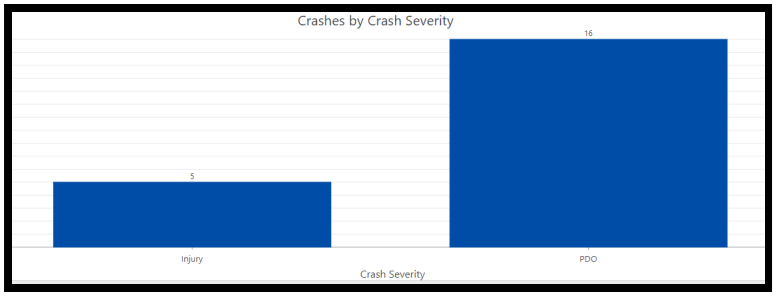


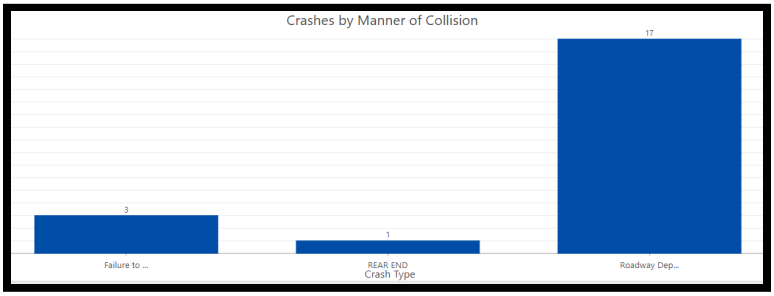




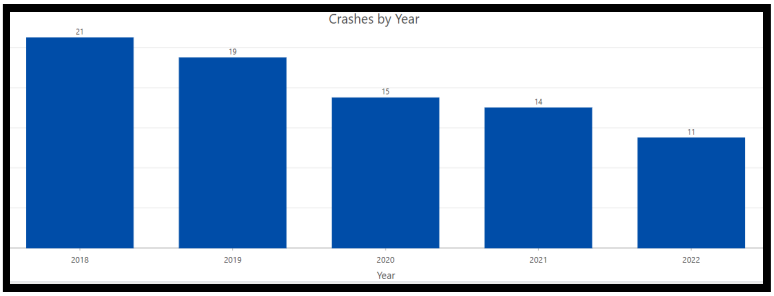
CR 500 W - CR 300 N to CR 400 N

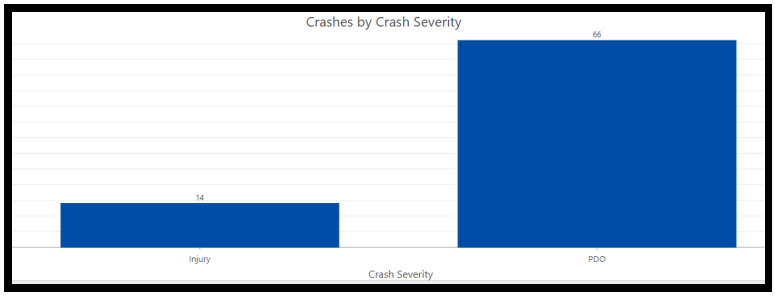


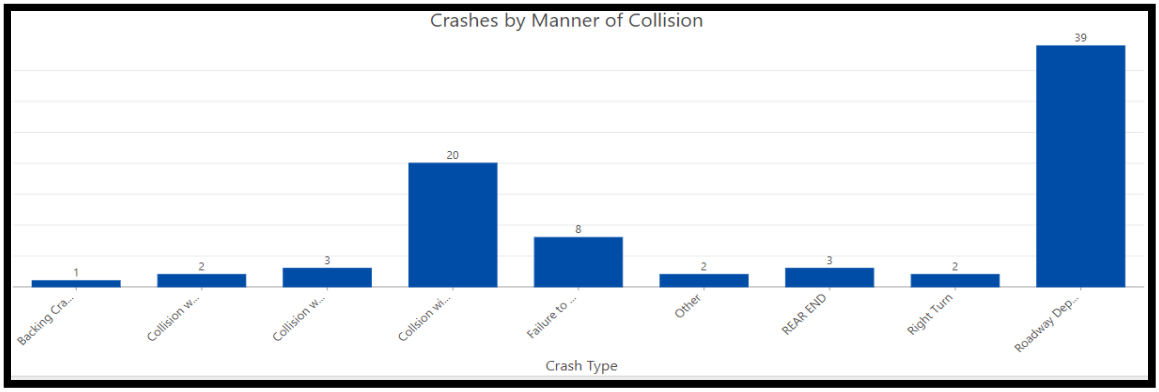




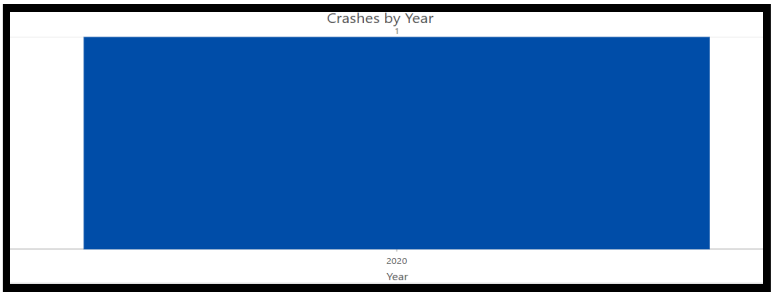
E Schnellville Rd - S St. Anthony Rd W to CR 1025 E

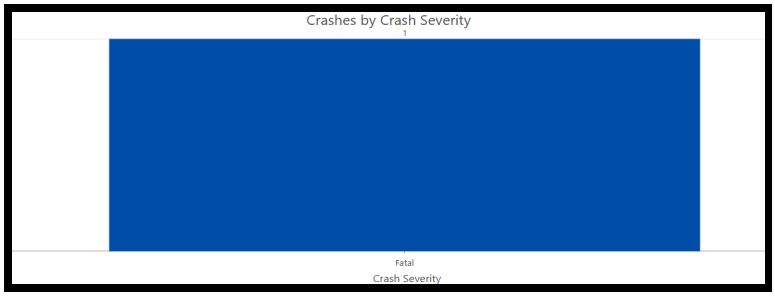


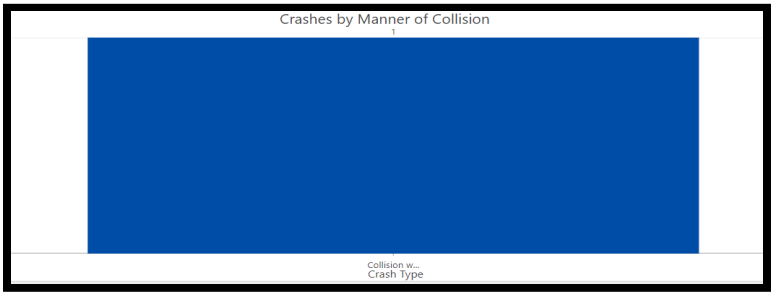




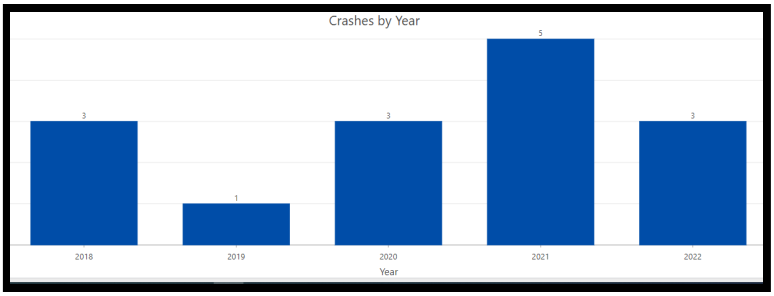
CR 675 N - CR 500 W to N Portersville Rd

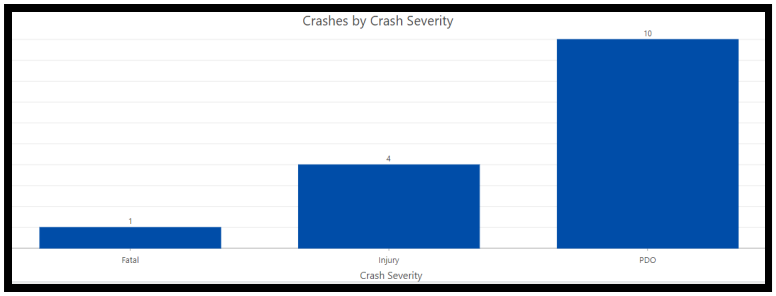


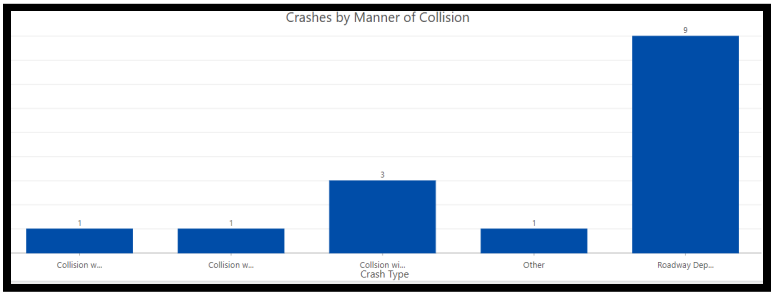




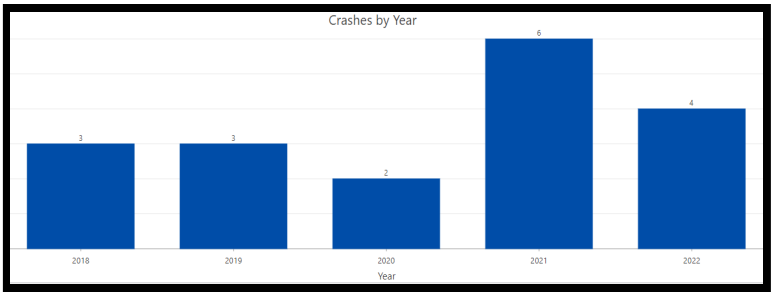
CR 350 W - Phoenix Dr to CR 150 S

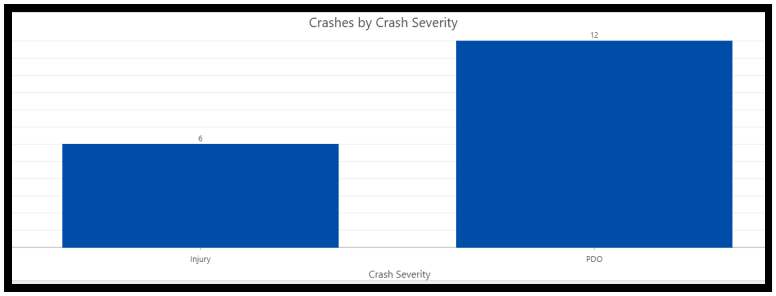


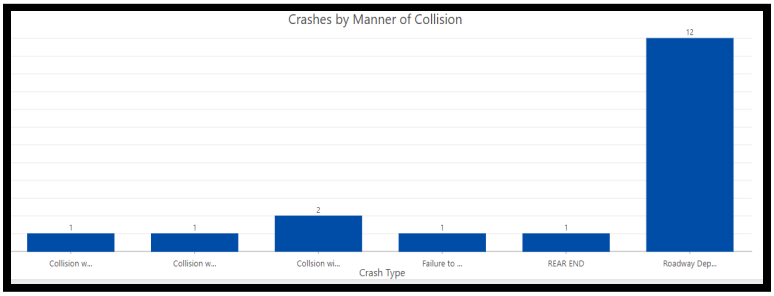




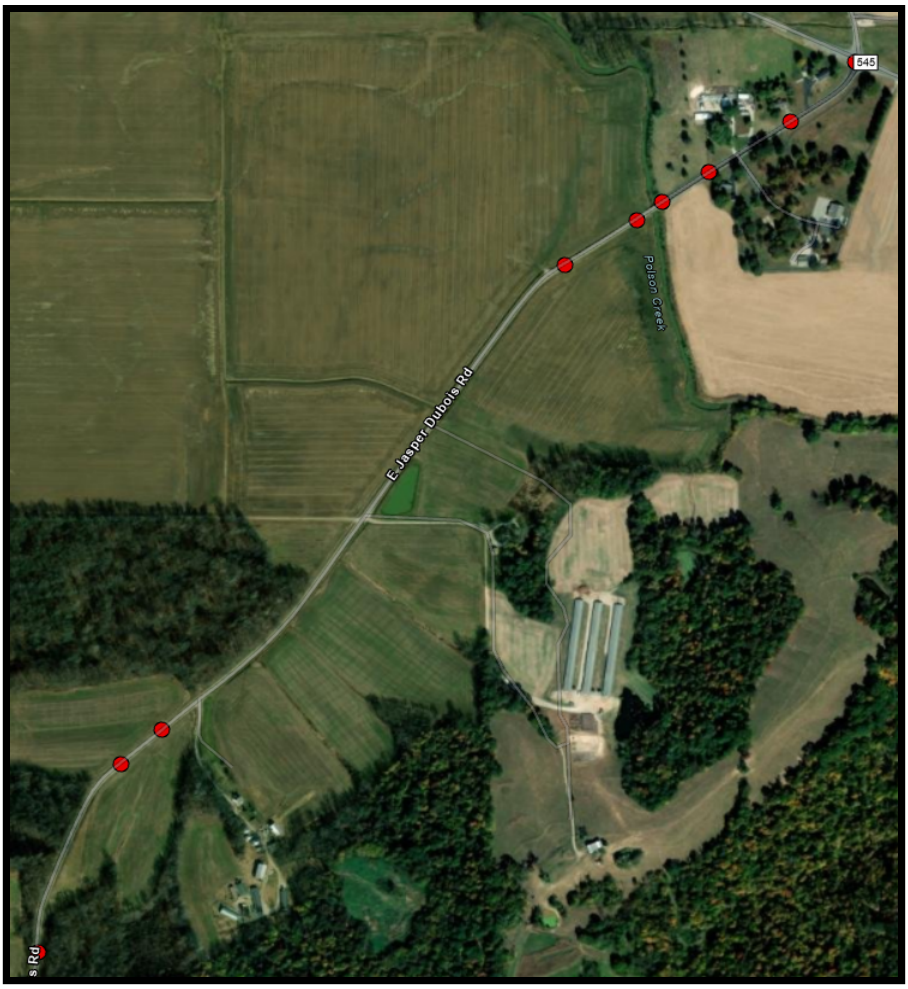
CR 300 N - CR 325 N to N Kellerville Rd

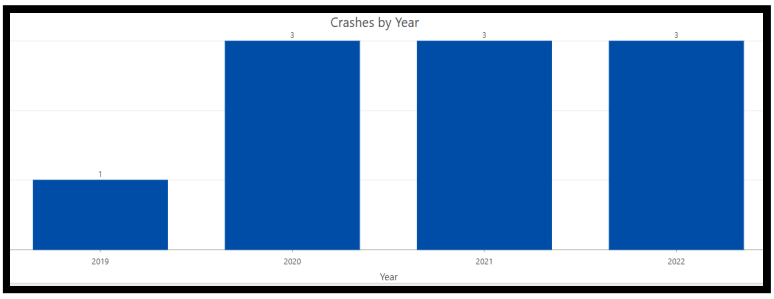


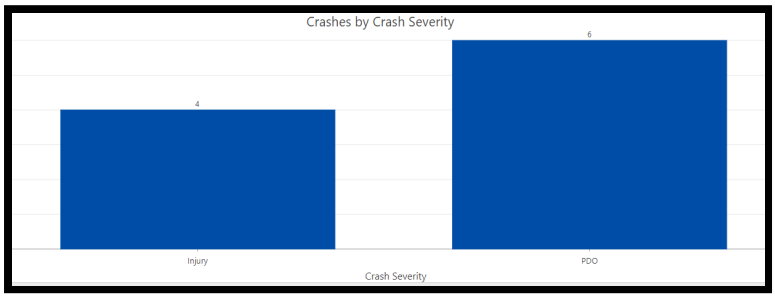


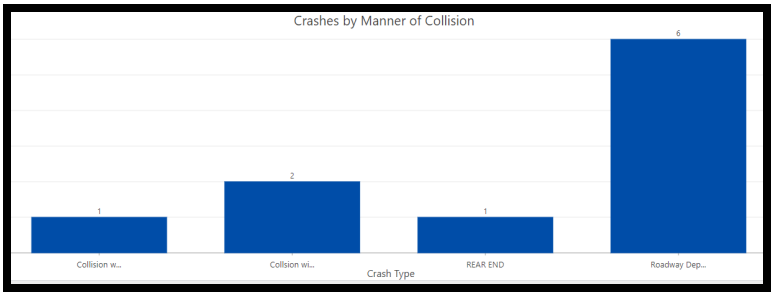


E Jasper Dubois Rd - SR 545 N to CR 300 E

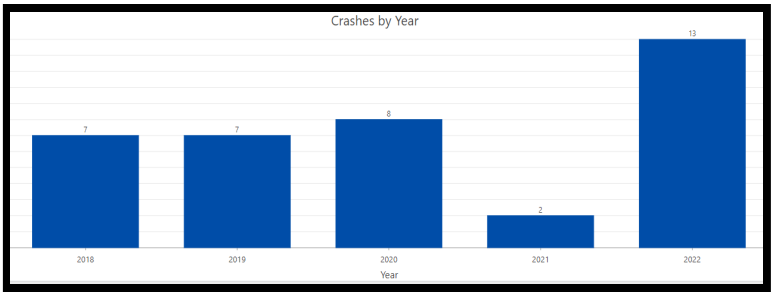


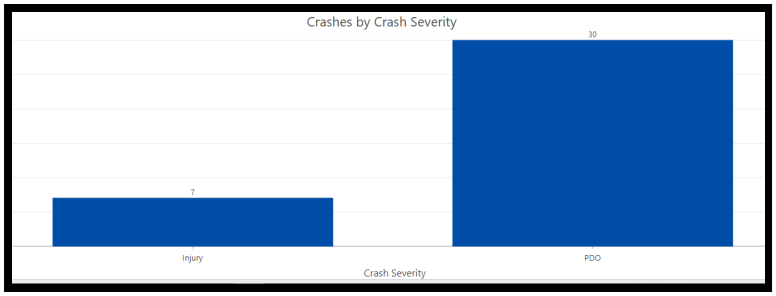


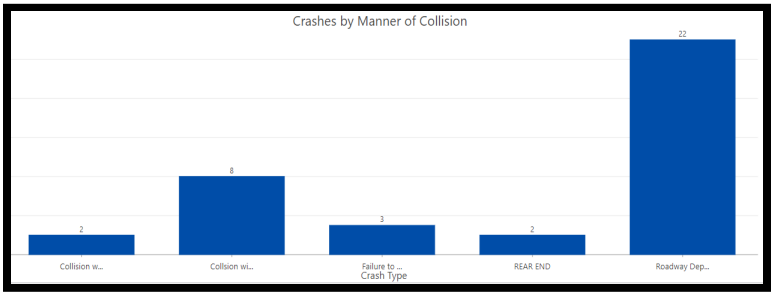




N Kellerville Rd - CR 600 N to Cathy Ln



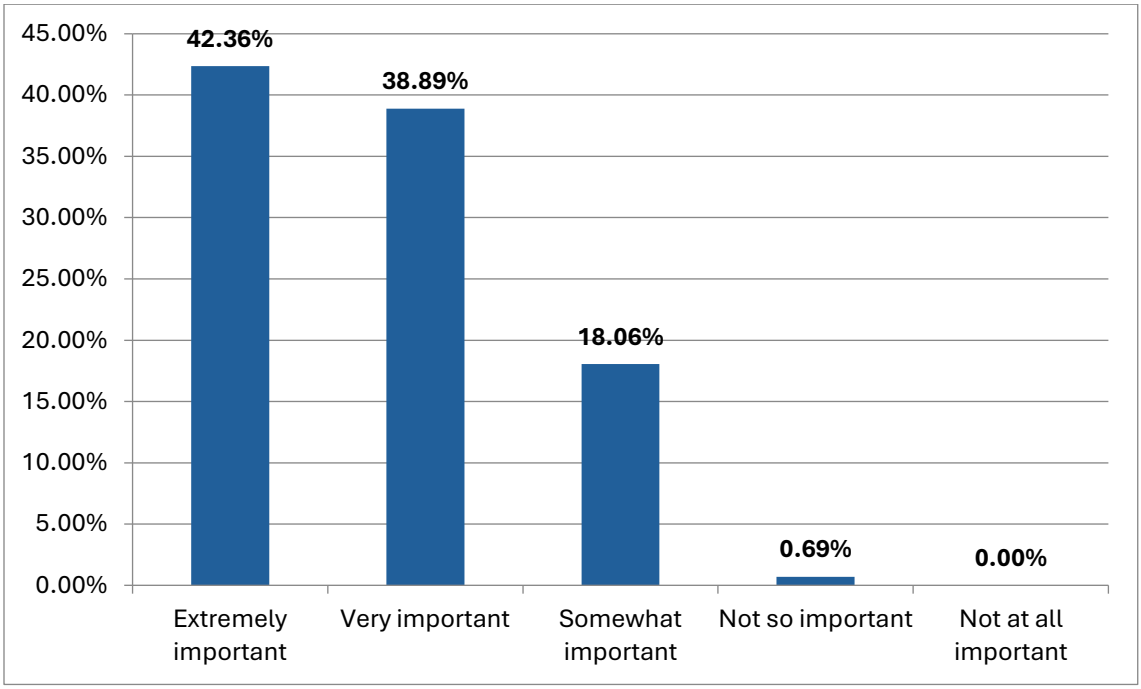




APPENDIX C: PUBLIC ENGAGEMENT

Survey Questions

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



2. **Name an intersection or roadway that feels unsafe as a driver (on the next question tell us why) (Please note this was an open-ended question; the analysis of the most mentioned intersections/roadways is below.)**

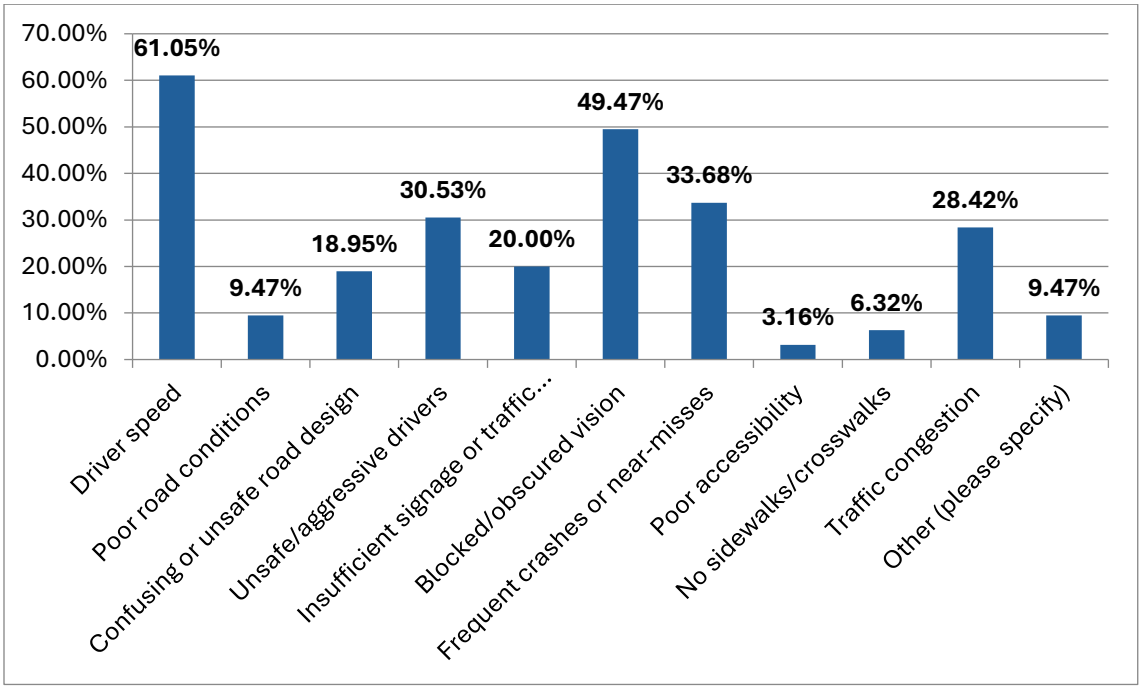
Intersection	Problem	Mentions
State Road 56th and 350 West	Blocked/obscured vision/Traffic congestion/Unsafe/aggressive drivers/Confusing or unsafe road design	23
State Road 64 and State Road 162	Driver speed/No sidewalks/crosswalks/Traffic congestion	5
State Road 162 and East 550 Street	Driver speed/Unsafe/aggressive drivers/Frequent crashes or near-misses/Traffic congestion	5
North 500 West and West 400 North	Poor road conditions/Confusing or unsafe road design/Blocked/obscured vision	4
State Road 56th and North 500 West	Insufficient signage or traffic control devices/Frequent crashes or near-misses/Driver speed	3
St. Charles Street and State Road 56th	Frequent crashes or near-misses/Unsafe/aggressive drivers/Driver speed	3
Santine Roadd and Schnellville Road	Blocked/obscured vision	2

St. Charles Street and 12th Street	Poor road conditions	2
West 180 North and State Road 56th	Driver speed/Confusing or unsafe road design/Unsafe/aggressive drivers	2
State Road 64 and State Road 161	Frequent crashes or near-misses/Traffic congestion	2
162nd Street and 23rd Street	Driver speed/Unsafe/aggressive drivers/Traffic congestion	2
State Road 162 and Cedar Crest Intermediate School	Driver speed/Unsafe/aggressive drivers/Blocked/obscured vision	2
400 West and 100 West	Blocked/obscured vision	1
Newton Street and Culver's Restaurant parking lot exit	Traffic congestion	1
Meridian Road and 2nd Avenue	Unsafe/aggressive drivers	1
St. Charles Street and 36th Street	Traffic congestion/Driver speed	1
400 North and US 231	Confusing or unsafe road design/Frequent crashes or near-misses/Driver speed	1
West Haysville Road and US 231	Blocked/obscured vision/Unsafe/aggressive drivers/Poor road conditions/Driver speed	1
East 4th Street and Anderson Street	Traffic congestion/Blocked/obscured vision/Unsafe/aggressive drivers	1
West Division Road and US 231	Driver speed/Unsafe/aggressive drivers/Insufficient signage or traffic control devices	1
North Newton Street and Common Drive	Blocked/obscured vision/Driver speed/Unsafe/aggressive drivers	1
N 500 West and West 150 North	Driver speed/Confusing or unsafe road design/Unsafe/aggressive drivers/Insufficient signage or traffic control devices/Blocked/obscured vision	1
State Road 64 and 50 West	Blocked/obscured vision/Frequent crashes or near-misses	1
North 350 West and West 300 North	Blocked/obscured vision	1
N Saint James Street and West 250 North	Confusing or unsafe road design/Blocked/obscured vision	1
Baden Strasse and Mannheim Road	Confusing or unsafe road design/Unsafe/aggressive drivers/Insufficient signage or traffic control devices/Blocked/obscured vision	1
West Haysville Road and North 150 West	Driver speed/Blocked/obscured vision	1
State Road 231 and West 500 North	Driver speed/Blocked/obscured vision	1
North 125 East and East 300 North	Confusing or unsafe road design/Blocked/obscured vision/Poor road design	1

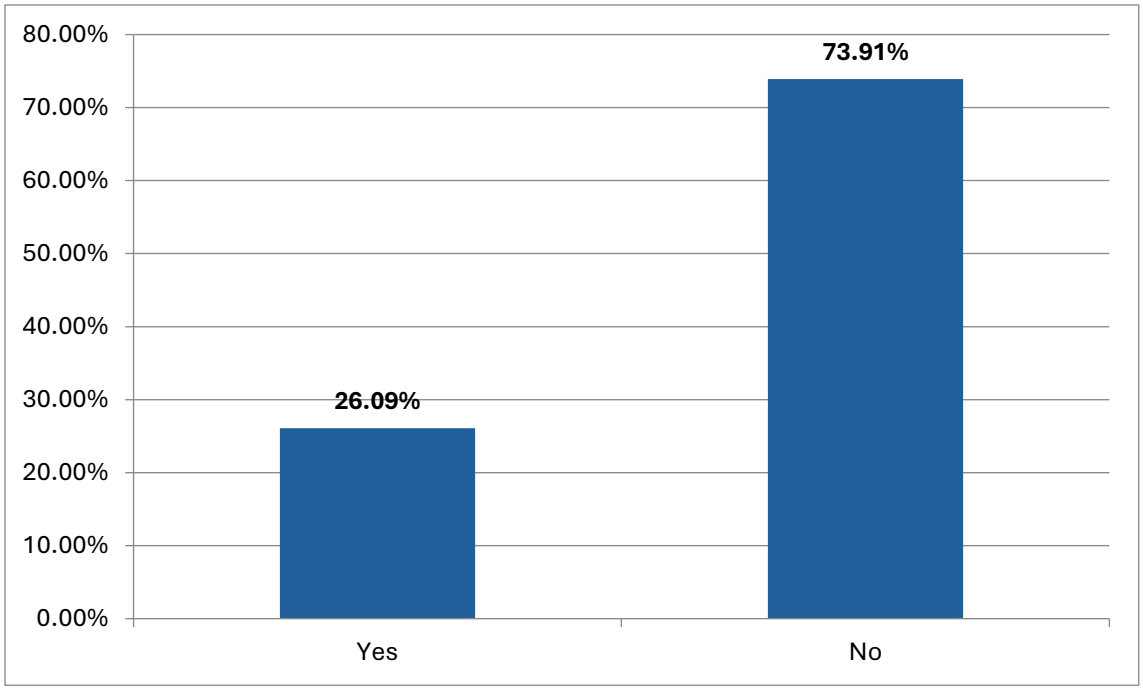
State Road 56 and Rolling Ridge Road	Driver speed/Unsafe/aggressive drivers/Frequent crashes or near-misses/Traffic congestion	1

Road Name	Limits	Problem	Mention
Club Road	State Road 64 to East 23rd Street	Driver speed/Unsafe/aggressive drivers/Blocked/obscured vision	3
N 350 W/W 150 N/N 400 W	State Road 56 and West Division Road	Poor road design	2
US 231	East 31st Street to West 47th Street	Insufficient signage or traffic control devices/Poor road conditions/No sidewalks/crosswalks	1
West 300 North	St. Charles Street to North 500 West	Traffic congestion/Poor road conditions	1
State Road 64	County boundary to County boundary	Poor road conditions/No sidewalks/crosswalks	1

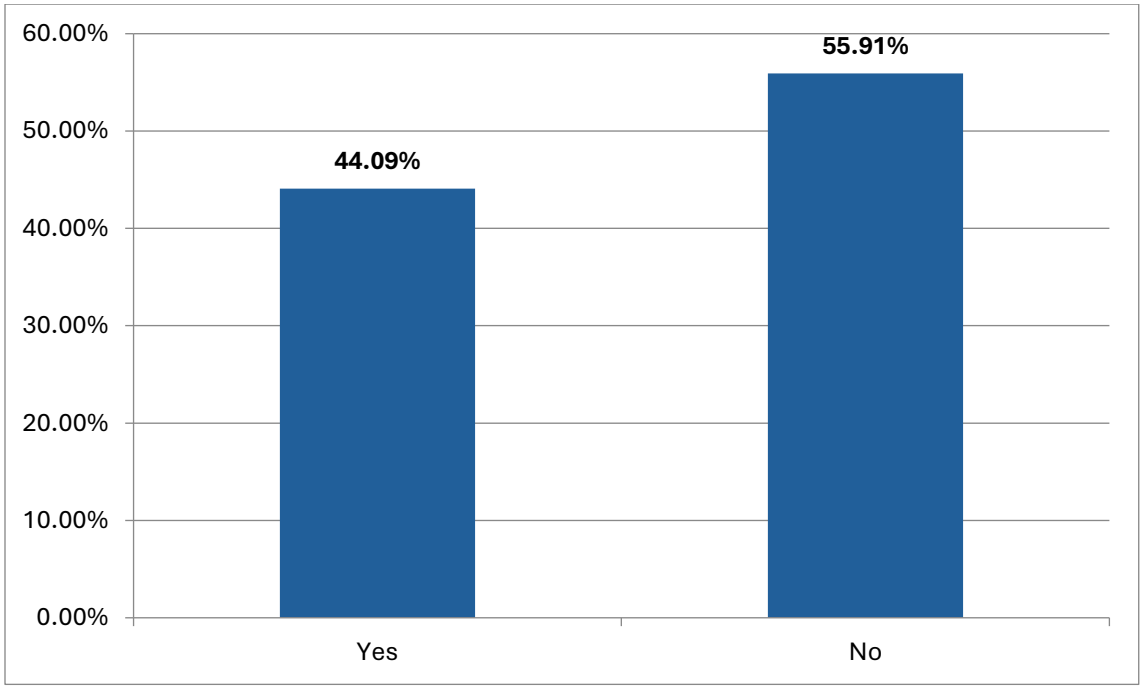
3. What do you consider the primary cause of the unsafety of this intersection/roadway? Select all that apply:



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



5. **Do you avoid using this intersection/road due to safety concerns?**

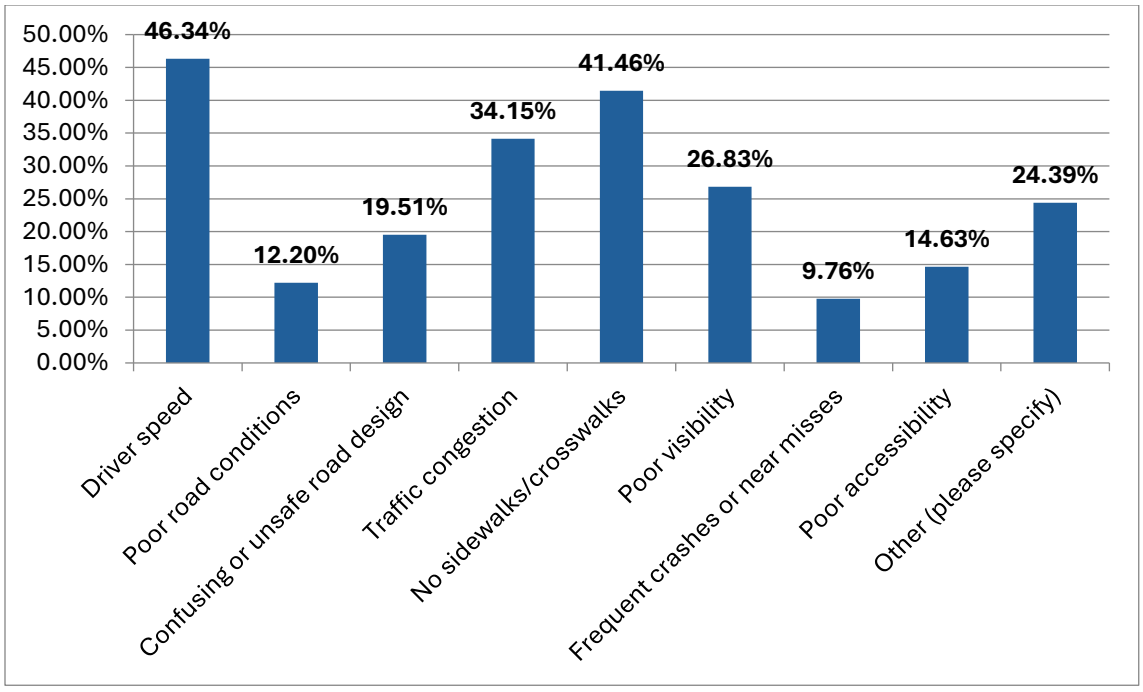


6. **Name an intersection/roadway that feels unsafe as a bicyclist/pedestrian/transit user. (Please note this was an open-ended question; the analysis of the most mentioned intersections/roadways is below.)**

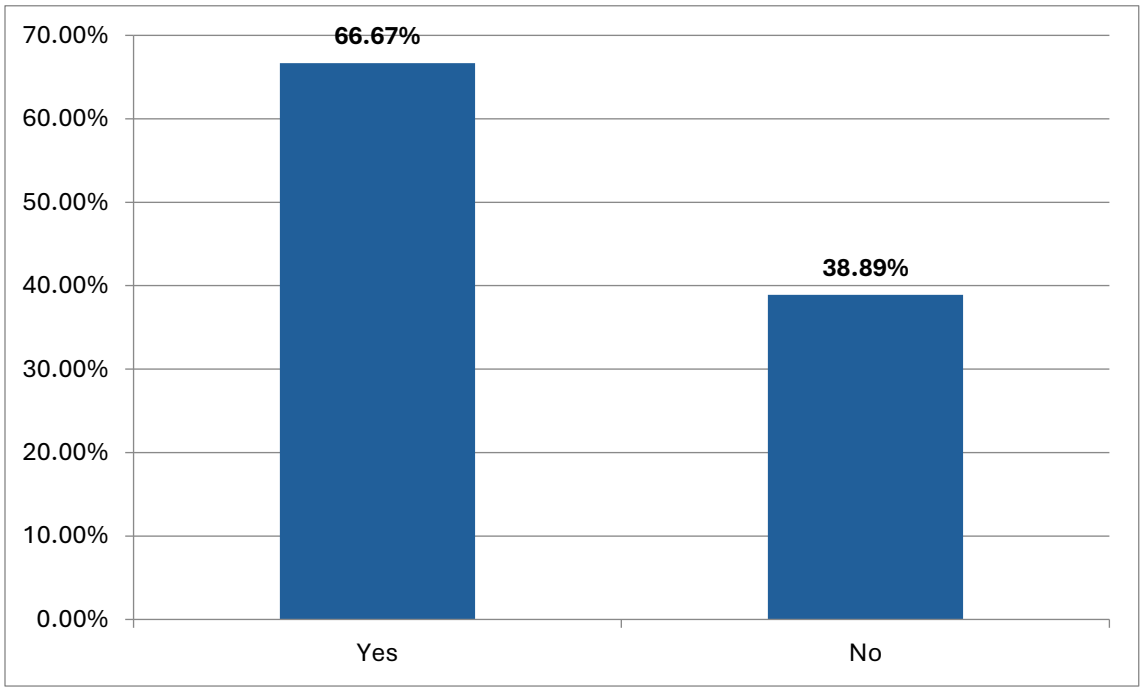
Intersection	Problem	Mentions
Baden Strasse and US 231	No sidewalks/crosswalks/Traffic congestion	5
West Division Road and US 231	Confusing or unsafe road design/Driver speed/Confusing or unsafe road design	3
East 1st Street and South Cherry Street	No sidewalks/crosswalks	2
St. Charles Street and West 300 North	No sidewalks/crosswalks	1
West 6th Street and US 231	Driver speed/Traffic congestion	1
North Mill Street and East 23rd Street	Driver speed/Traffic congestion	1
State Road 56th and North 350 West	Poor road conditions/No sidewalks/crosswalks	1
US 231 and State Route 56th	Driver speed/Traffic congestion/	1
US 231 and State Route 56th	Driver speed/Confusing or unsafe road design/No sidewalks/crosswalks	1
State Route 56th and Haysville Road	Driver speed/Confusing or unsafe road design/No sidewalks/crosswalks	1
Haysville Road and Haysville Road	Driver speed/Confusing or unsafe road design/No sidewalks/crosswalks	1
Saint Charles Street and Schuetter Road	Driver speed/Confusing or unsafe road design/No sidewalks/crosswalks	1

Roadway	Segment	Problem	Mentions
State Road 162	State Road 64 to West 13th Street	Driver speed/No sidewalks/crosswalks	2
Division Road	US Highway 231 to 620 West	Driver speed/No sidewalks/crosswalks	2
State Road 64	State Road 162 to North Main Street	Driver speed/No sidewalks/crosswalks	1

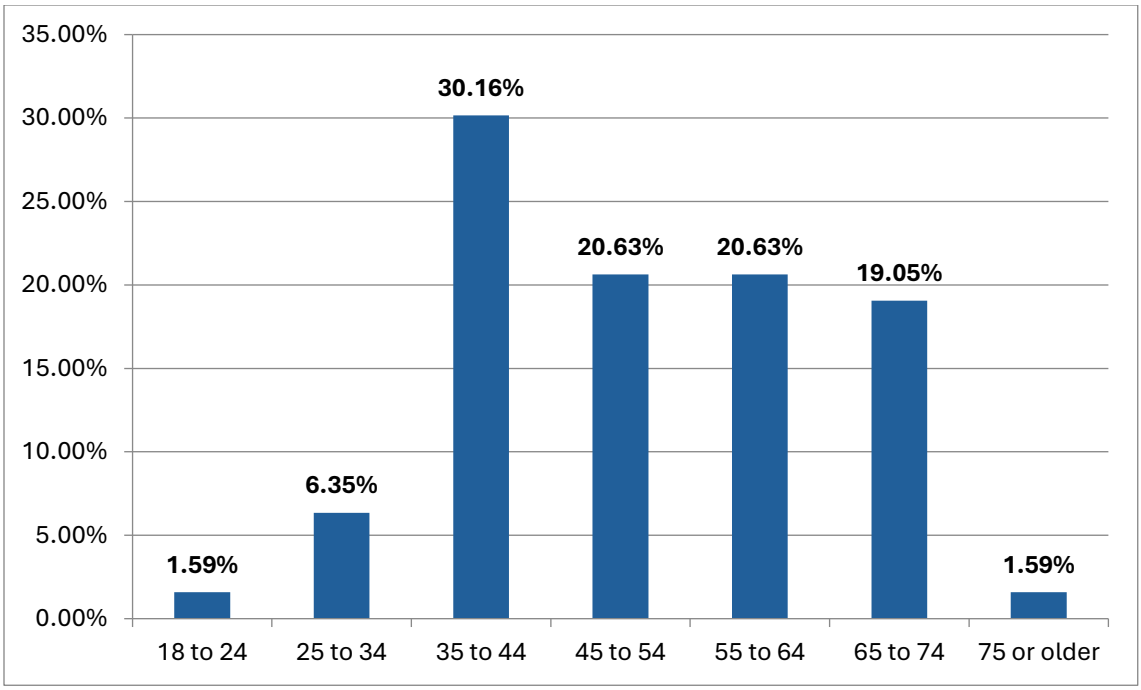
7. **What would the primary cause to deter your use of the intersection/roadway as a bicyclist/pedestrian/transit user? Select up to five.**



8. **As a pedestrian/bicyclist, do you avoid using this intersection/roadway due to safety concerns?**



9. **What is your age?**


35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
1.59%
6.35%
30.16%
20.63%
20.63%
19.05%
1.59%
18 to 24
25 to 34
35 to 44
45 to 54
55 to 64
65 to 74
75 or older

APPENDIX D: STEERING COMMITTEE MEETING MINUTES

Dubois County SS4A Action Plan

Steering Committee Meeting #1

May 9, 2024

AMERICAN STRUCTUREPOINT INC.

DUBOIS COUNTY INDIANA EST. 1818

Introductions – Steering Committee

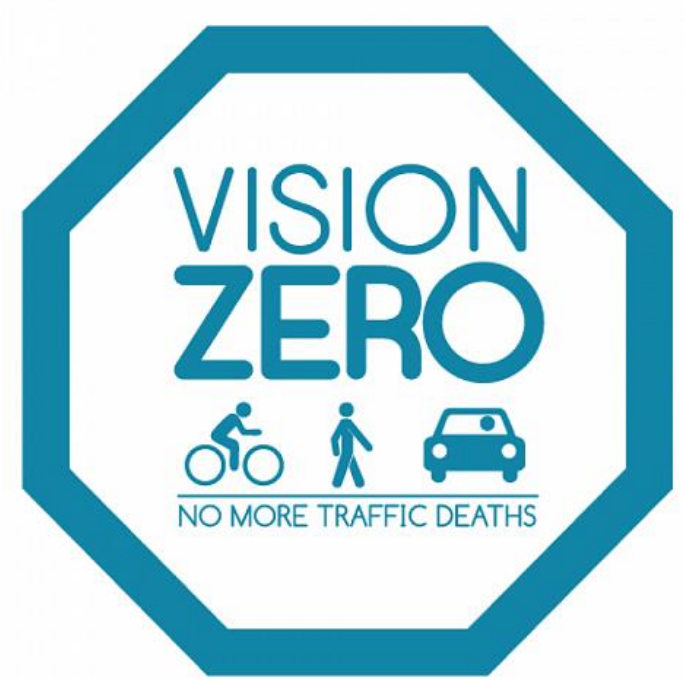
Name	Organization	Title
Brad Eckerle	Brosmer Land Surveying and Engineering	President
Tammy Humbert	Dubois County Emergency Management Agency	Director
Narissa Zink	Dubois County Emergency Management Agency	Deputy Director
Glenn Buechlein	Greater Jasper School Corporation	Assistant Superintendent
Lonnie Nicholson	Retired Kimball International Employee	General Public
Stan Seifert	Ireland Volunteer Fire Department	Fire Chief
Steve Kalb	Dubois Volunteer Fire Department	Fire Chief
Serice Stenftenagel	Dubois County Government	District 2 Commissioner
Brent Wendholt	Dubois County Highway Department	County Engineer
Ryan Craig	Dubois County Government	Council
Jeremy Lee	Dubois County Sheriff's Department	Sherriff Deputy

What is a Safety Action Plan

Guide to eliminating fatal and serious injury crashes on streets by a target year

Recommendations for projects, practices, policies and programs

Achieved through the Safe System Approach



CSAP Components & Project Status

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

The Safe System Approach

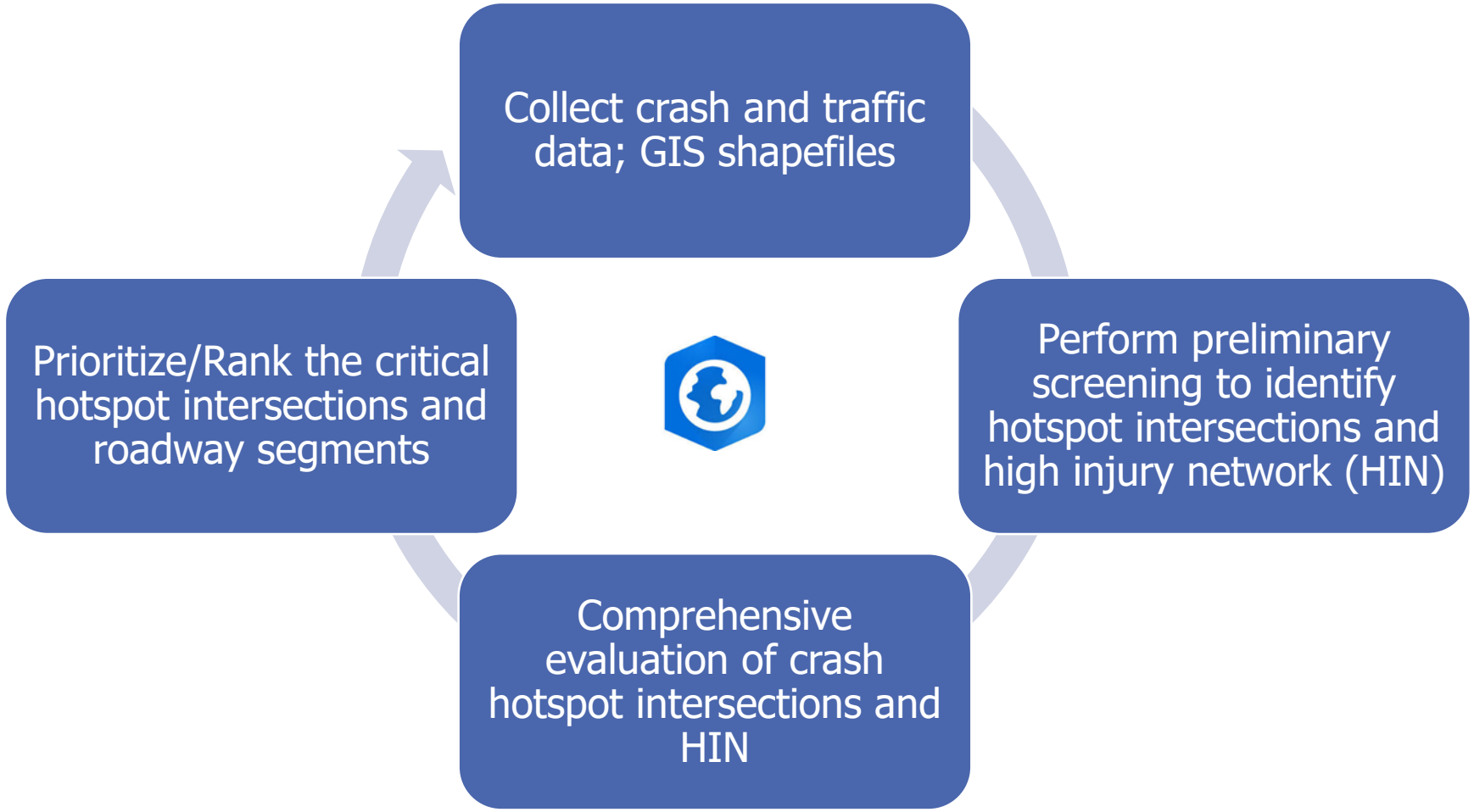
Eliminate fatal and serious injuries for all road users by:

- Accommodating human mistakes
- Keeping impacts on the human body at tolerable levels

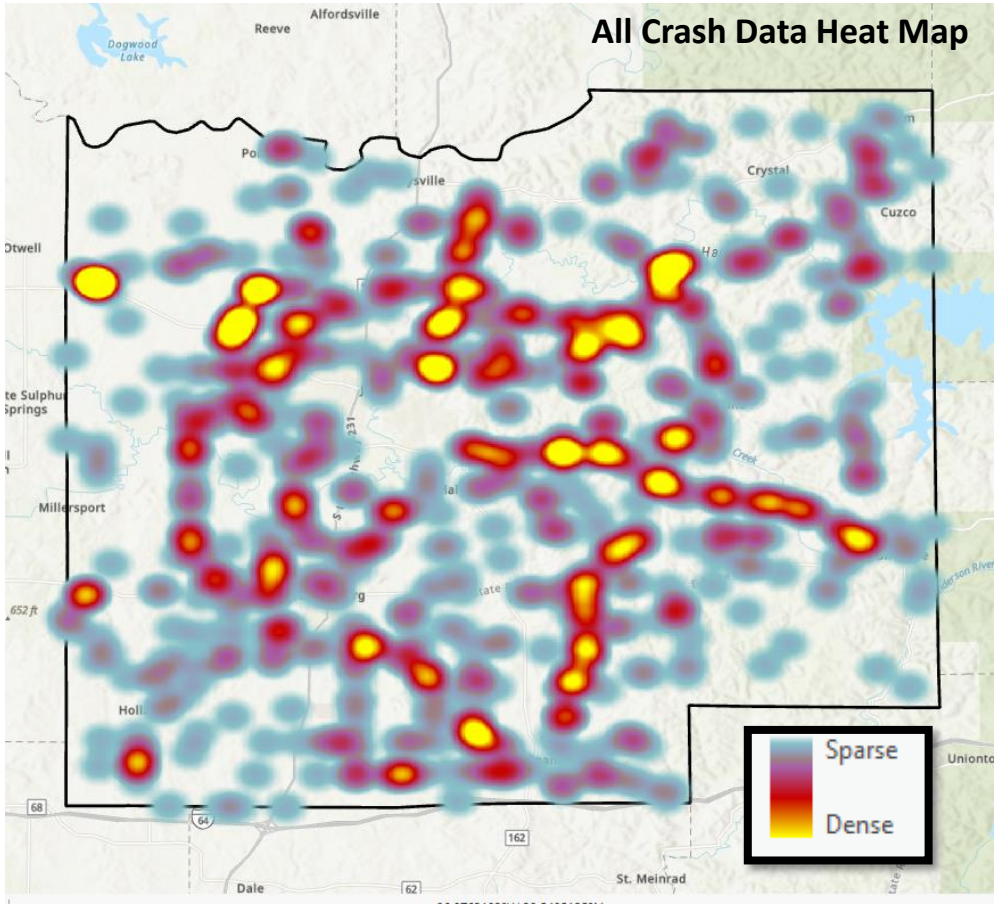
Principles

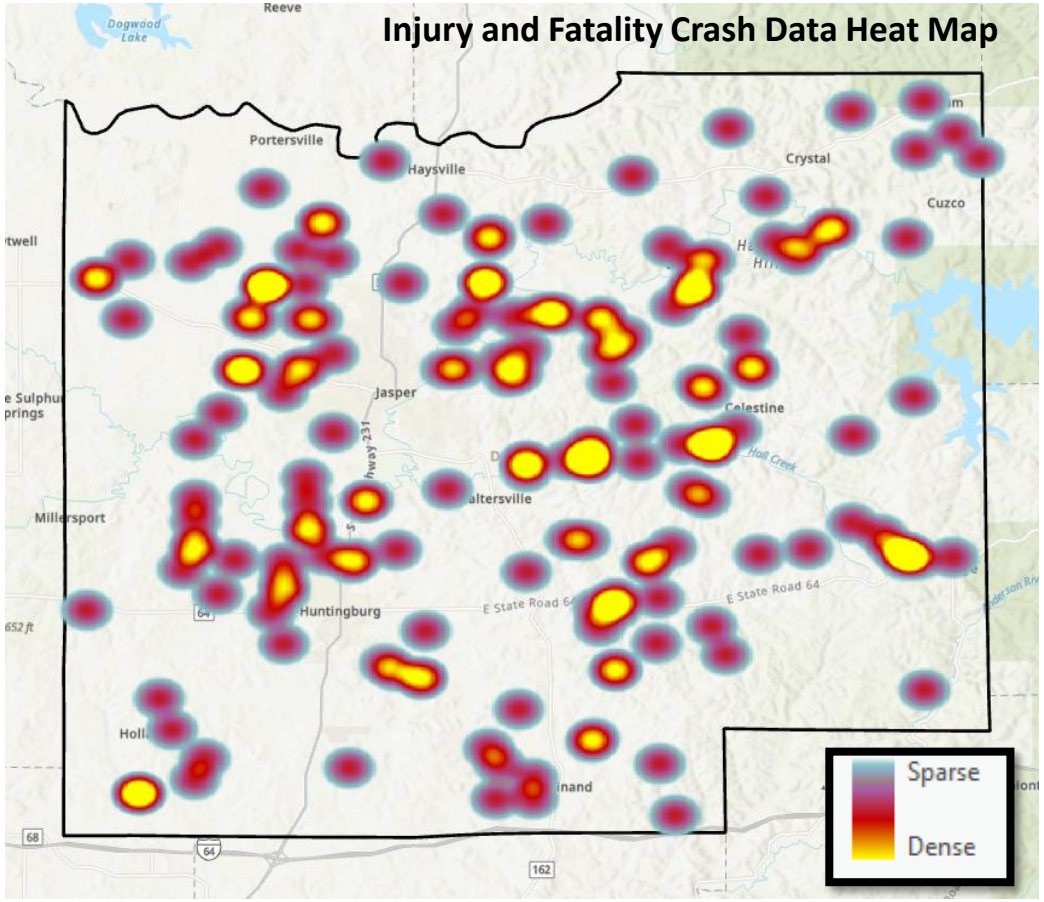

Safe System Principles
Redundancy is Crucial
Fatal and Serious injuries are not acceptable
Humans Make Mistakes
Humans are vulnerable
Responsibility is shared
Safety is proactive

Safety Analysis – 4 Step Process



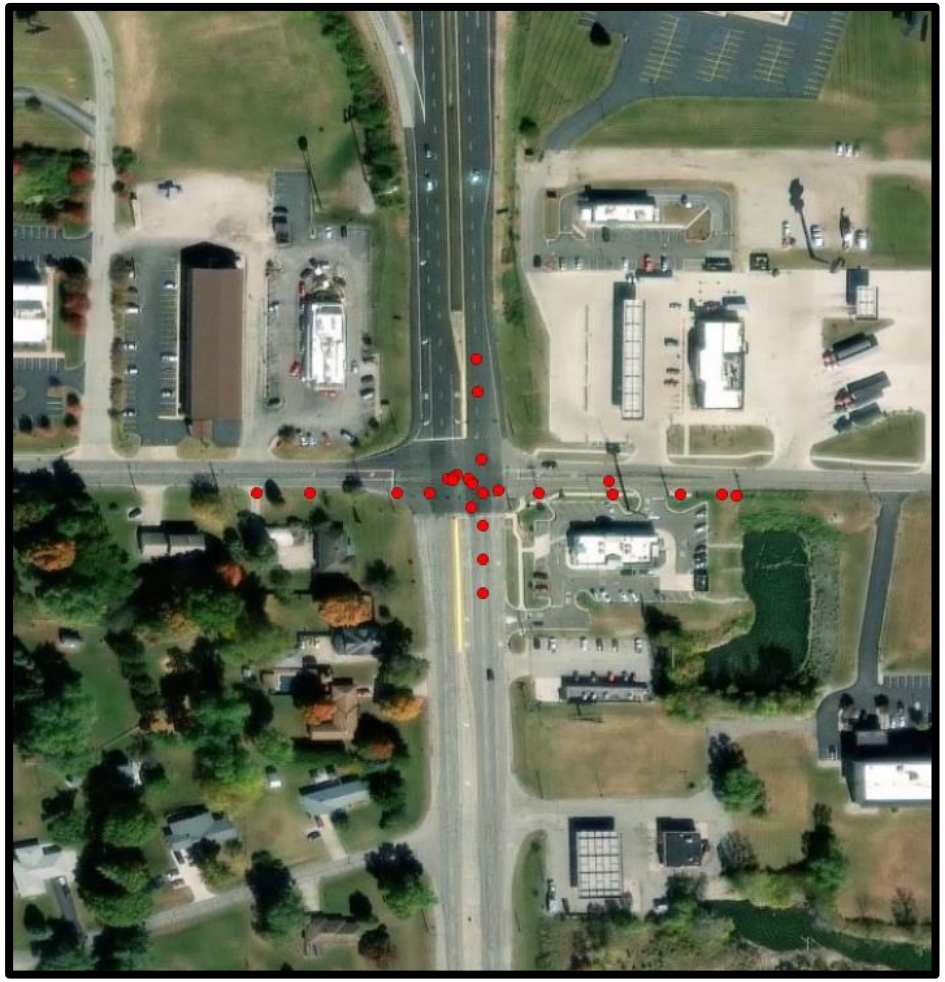
Safety Analysis – Step 2: Preliminary Screening

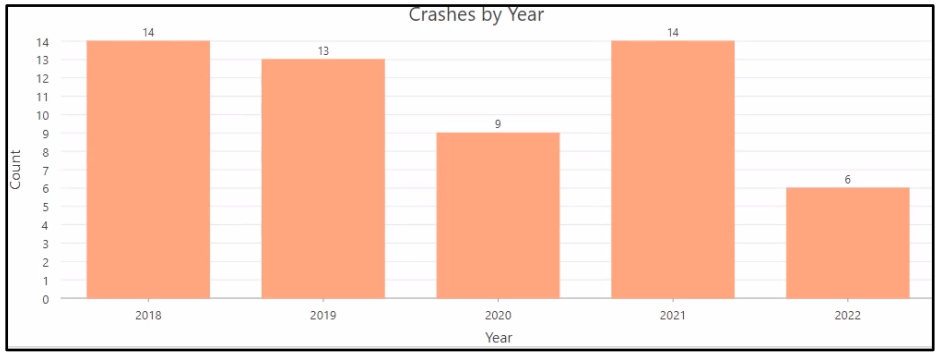


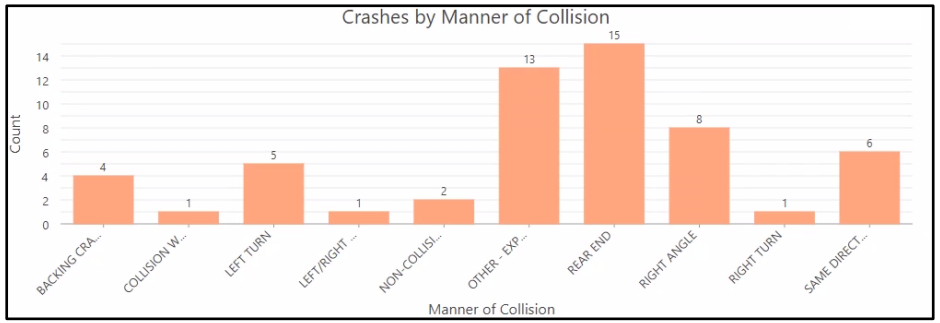


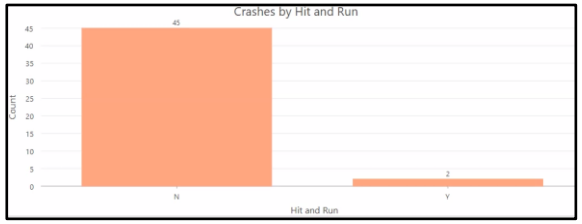
Safety Analysis – Step 3: Comprehensive Evaluation

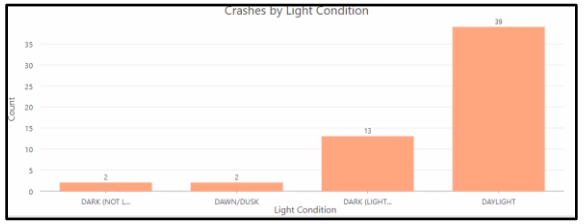
EXAMPLE





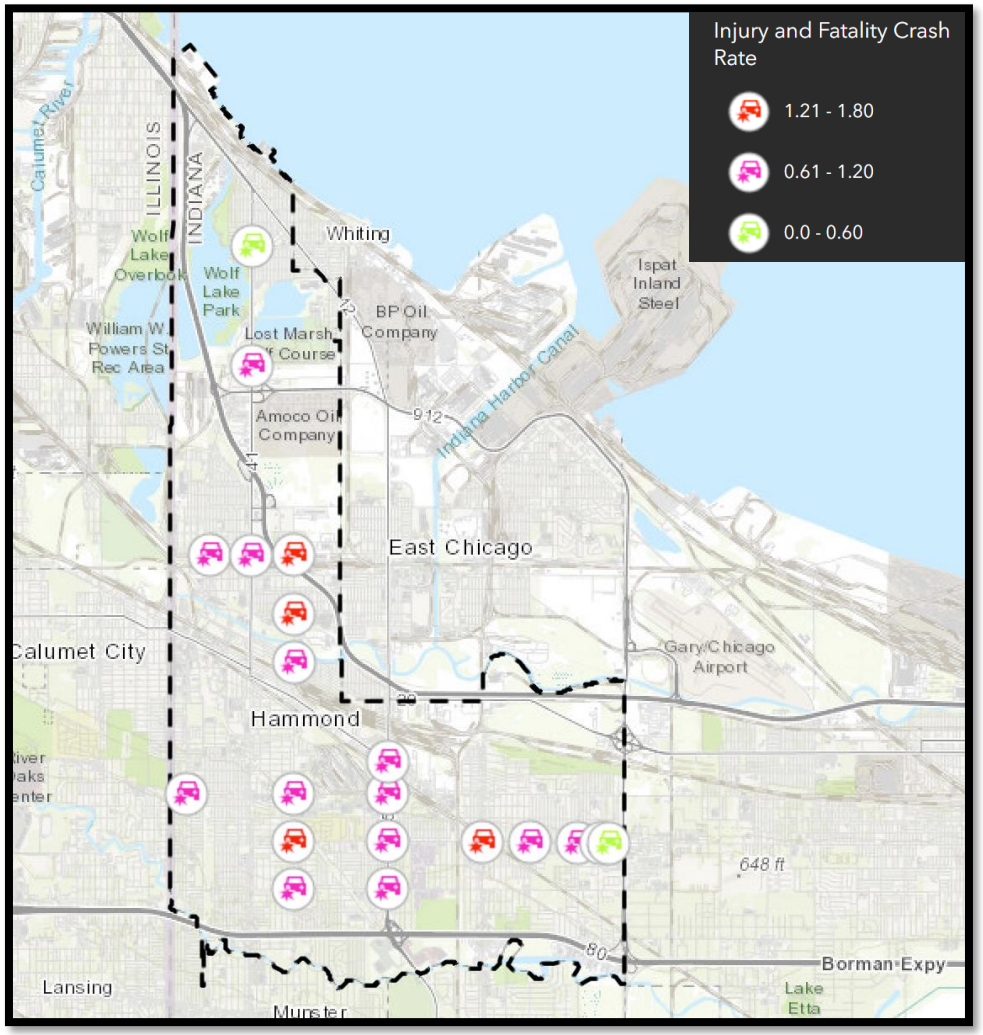


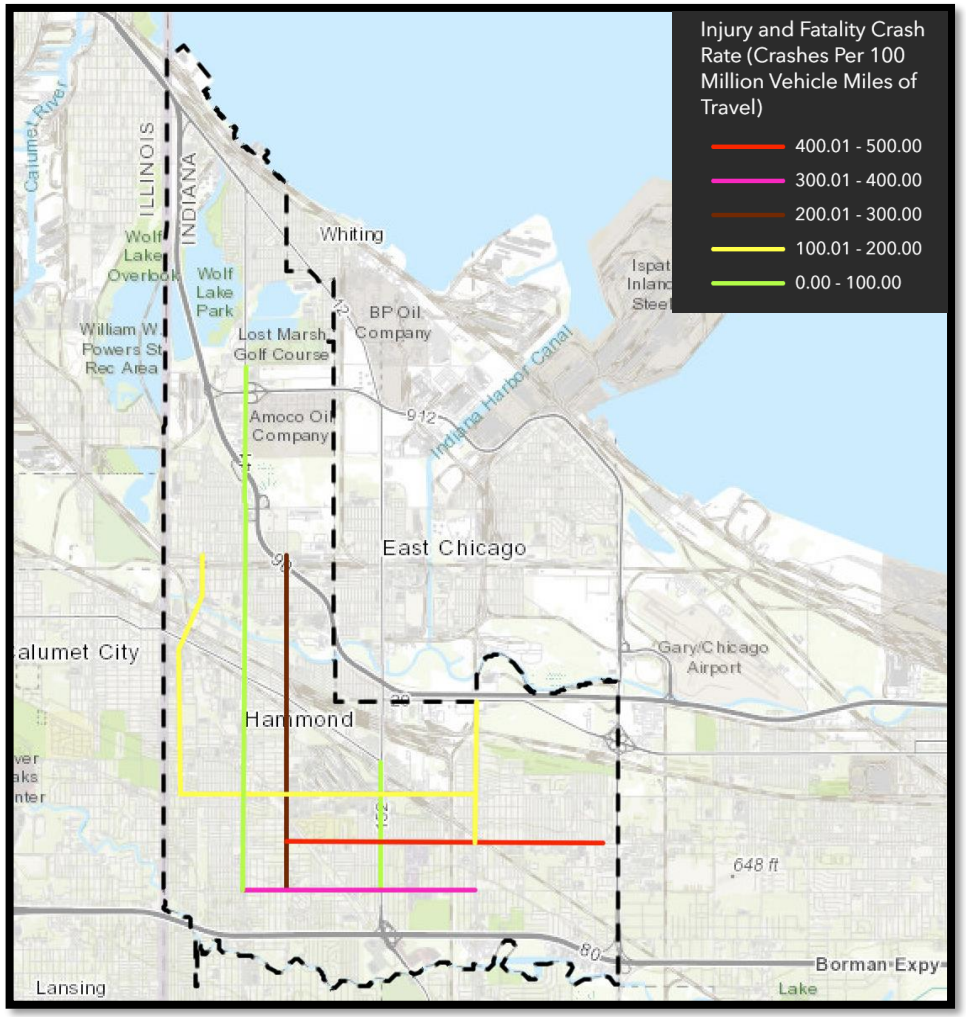




Safety Analysis – Step 4: Prioritize Hotspot Intersections and High Injury Network (HIN)

EXAMPLE





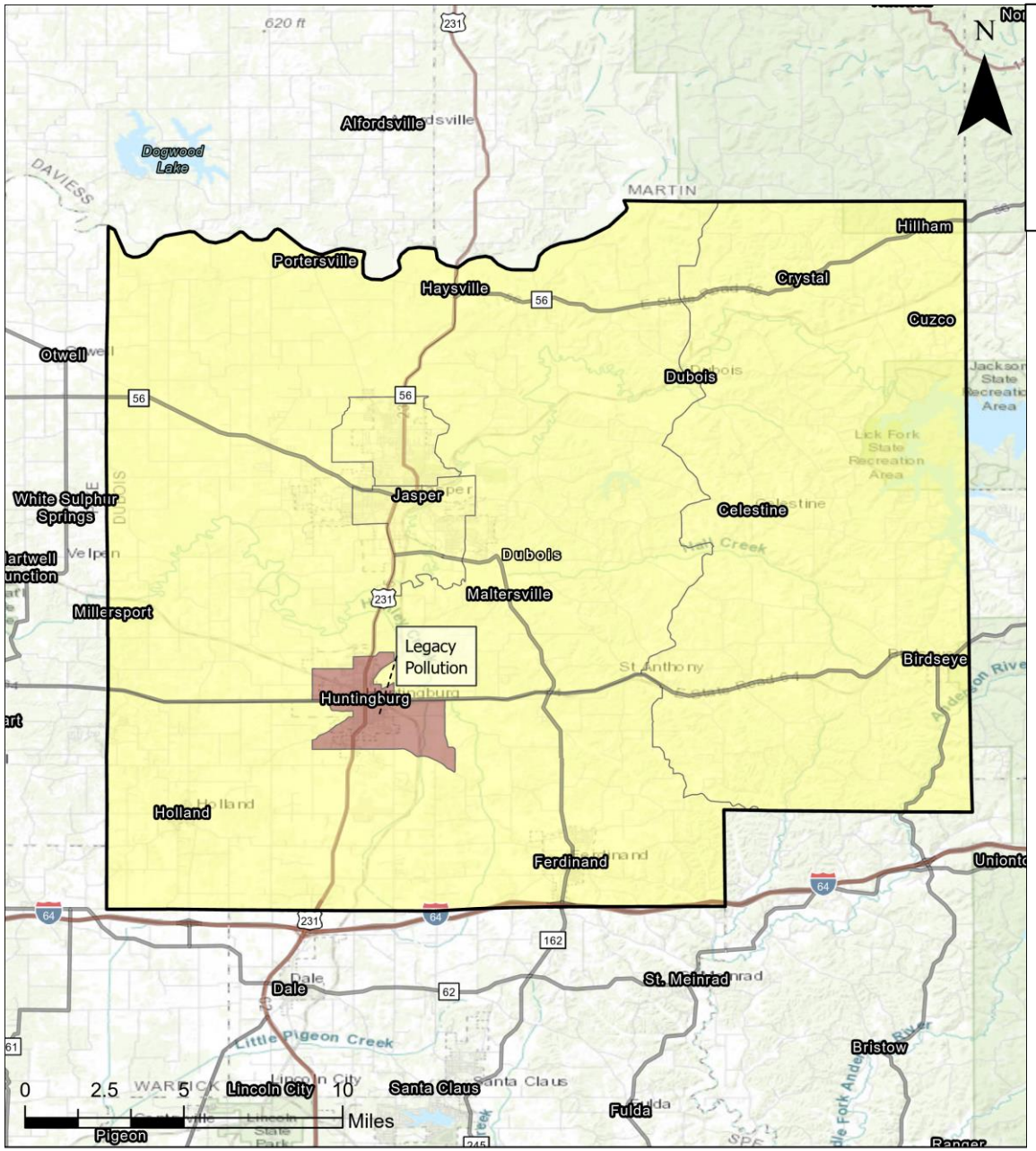
Equity Considerations

Equity Analysis Factors:

- Health Impacts
- Community Engagement and Representation
- Economic Impacts
- Climate Change Resilience
- Equitable Access to Opportunities

Environmental Justice Categories

- Climate Change
- Energy
- Health
- Housing
- Legacy Pollution
- Transportation
- Water and Wastewater
- Workforce Development



Huntingburg Disadvantages:

- Proximity to Risk Management Plan – 94th above 90th percentile.
- Low Income – 74th above 65th percentile.

Public Engagement

MAY 2ND

DOWNTOWN CHOWDOWN

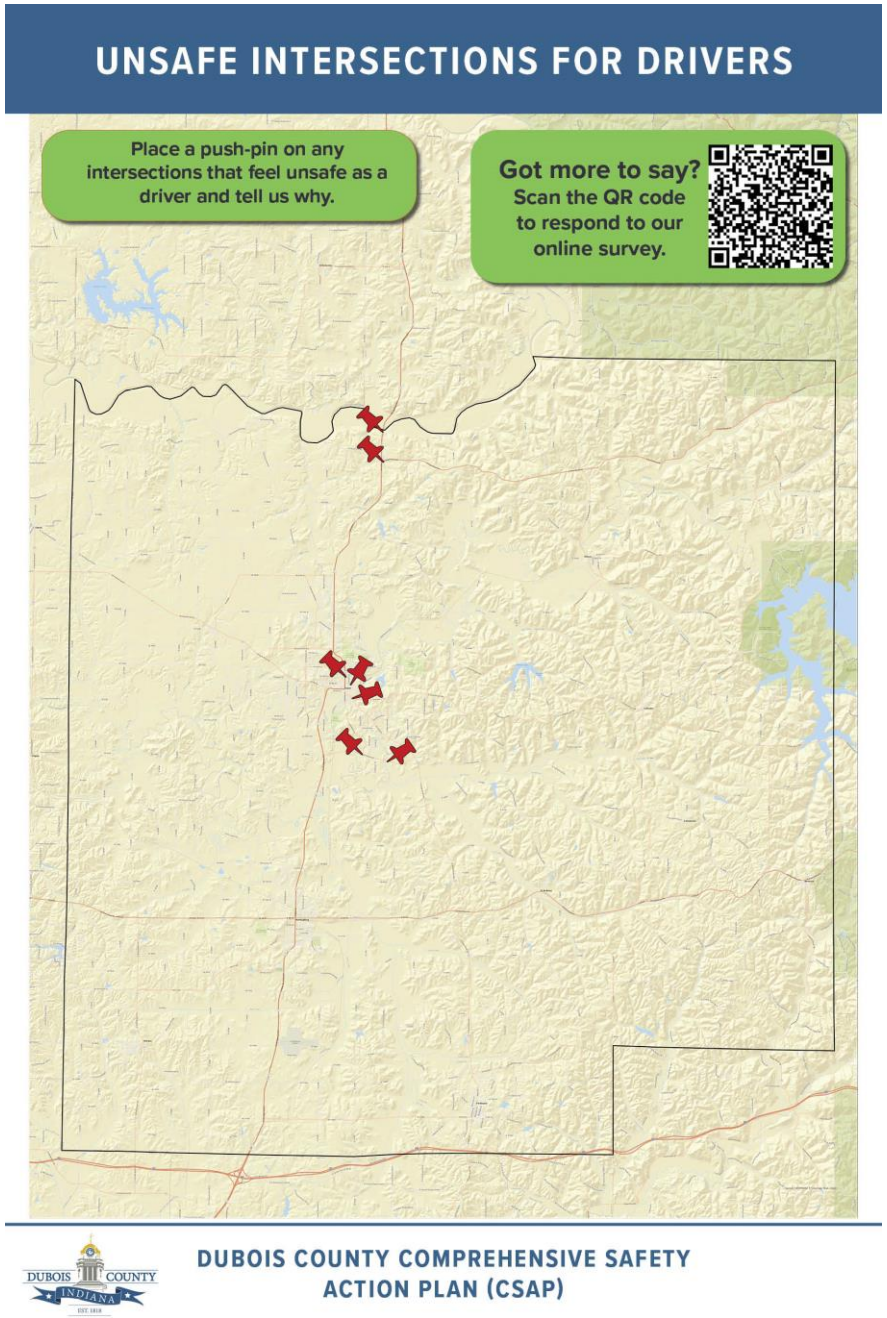
FACEBOOK ADVERTISEMENT (IN PROGRESS)

SURVEY (IN PROGRESS)

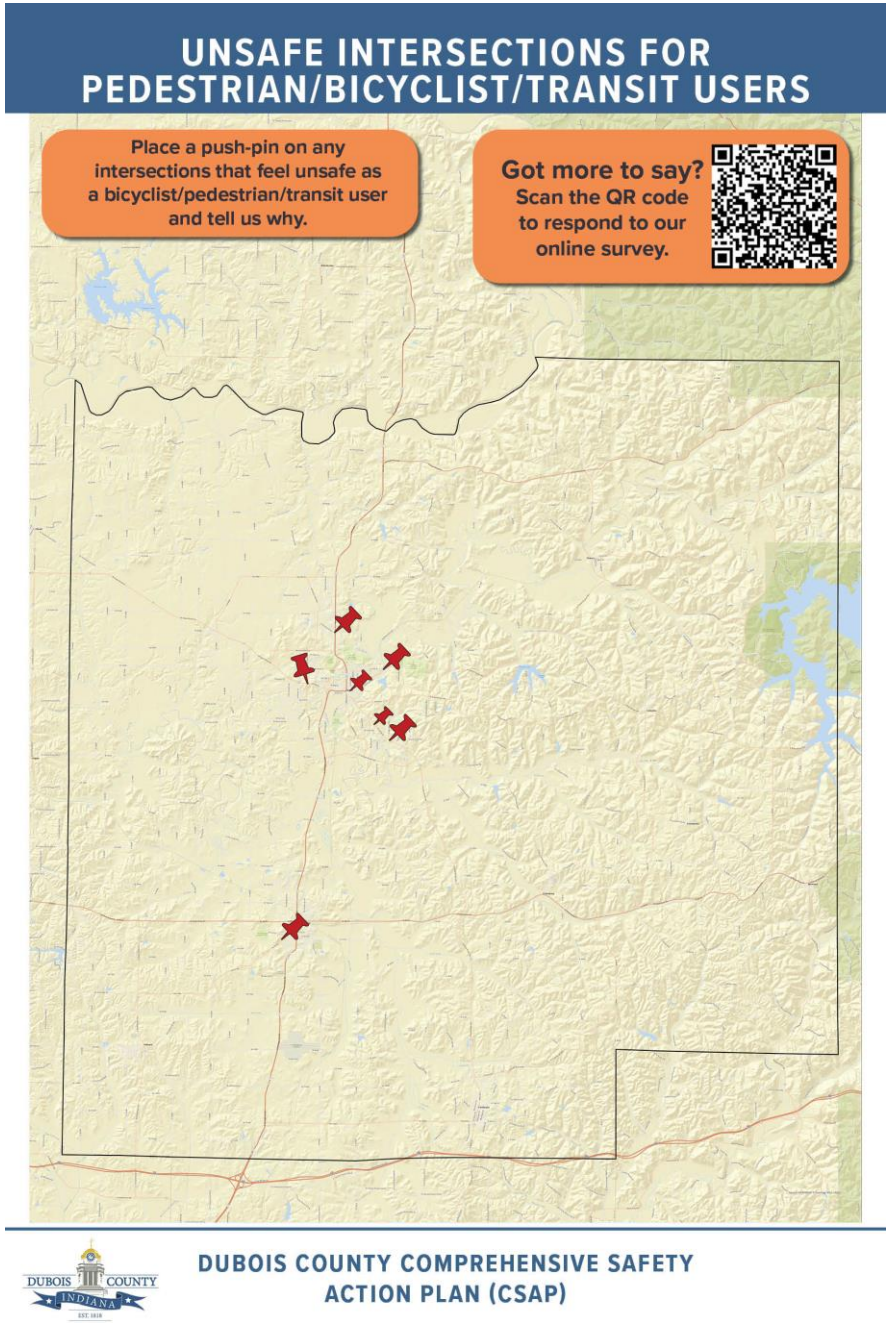
Take the Survey!

Key Trends

- **Lack of Sidewalks**
- **Unsafe Bicycle Routes**
- **Speed Concerns**
- **Turn Lane and Traffic Flow Issues**
- **Dangerous Intersections**



- US 231 and East Fork White River (northern boundary line)
- US 231 (Market Street) and Buffalo Trace Loop
- Third Avenue and Mill Street
- Third Avenue and River Center Landing
- West 100 South and South Newton Street
- West 100 South and Third Avenue



- North Newton Street and North Northwood Avenue
- West 6th Street and St. Charles Street
- Third Avenue and Mill Street
- East 15th Street and North Riverwalk
- Third Avenue and Rumbach Avenue
- Third Avenue and South Meridian Road
- West 1st Street and West 1st Avenue

High Injury Network

Project Location	Name
1	**CR 350 W** - Phoenix Dr to CR 150 S
2	**CR 600 W** - CR 400S to W Division Rd
3	**CR 500 W** - CR 300 N to CR 400 N
4	**CR 400 W** - W Phoenix Dr to W 6th St
5	**E Schnellville Rd** - S Saint Anthoney Rd W to CR 1025 E
6	**N Kellerville Rd** - CR 600 N to Cathy Ln
7	**CR 300 N** - CR 325 N to N Kellerville Rd
8	**S Club Rd** - E SR 64 to E 23rd St
9	**E Jasper Dubois Rd** - N SR 545 to CR 300 E
10	**E Jasper Dubois Rd** - CR 325 E to Farm Driveway
11	**CR 675 N** - CR 500 W to N Portersville Rd
12	**S St Anthony Rd W** - E Schnelvile to CR 230 S

Schedule

Milestone	Anticipated Completion
Vision Zero Resolution Adoption	**February 20, 2024**
Draft Action Plan	**July 2024**
Review by City staff and Steering Committee	**3-weeks**
Final Action Plan	**30-days from Review**
Council Adoption	**TBD**
Implementation Grant Application	**2025 NOFO**

Notes and Comments

- SS4A CSAP components discussed and explained
- The committee is asked to share the survey with other county residents to ensure its success
- It was mentioned that County residents are resistant to changes
    - including road diets and roundabouts
    - upcoming INDOT roundabouts and information campaigns
- Next steps:
    - Close the online survey late May/early June
    - Identify the projects, countermeasures, and strategies
    - Present this at the next Steering Committee meeting (TBD)

Thank You!

Dubois County SS4A Action Plan

Steering Committee Meeting #2

July 11, 2024

AMERICAN STRUCTUREPOINT INC.

DUBOIS COUNTY INDIANA EST. 1818

Introductions – Steering Committee

Name	Organization	Title
Brent Wendholt	Dubois County Highway Department	County Engineer
Brad Eckerle	Brosmer Land Surveying and Engineering	President
Tammy Humbert	Dubois County Emergency Management Agency	Director
Narissa Zink	Dubois County Emergency Management Agency	Deputy Director
Glenn Buechlein	Greater Jasper School Corporation	Assistant Superintendent
Lonnie Nicholson	Retired Kimball International Employee	General Public
Stan Seifert	Ireland Volunteer Fire Department	Fire Chief
Steve Kalb	Dubois Volunteer Fire Department	Fire Chief
Serice Stenftenagel	Dubois County Government	District 2 Commissioner
Ryan Craig	Dubois County Government	Council
Jeremy Lee	Dubois County Sheriff's Department	Sherriff Deputy
Patrick Carpenter	Federal Highway Administration (FHWA)	SS4A Liaison

CSAP Components & Project Status

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

Project Selection and Prioritization

Criteria	Assigned Weightage
Total Crash Frequency **(All crashes)**	30%
Fatality and Injury **(F&I)** Crash Frequency	30%
Environmental Justice	20%
Public Engagement	20%

Public Engagement

Public Engagement

MAY 2ND

DOWNTOWN CHOWDOWN

FACEBOOK ADVERTISEMENT

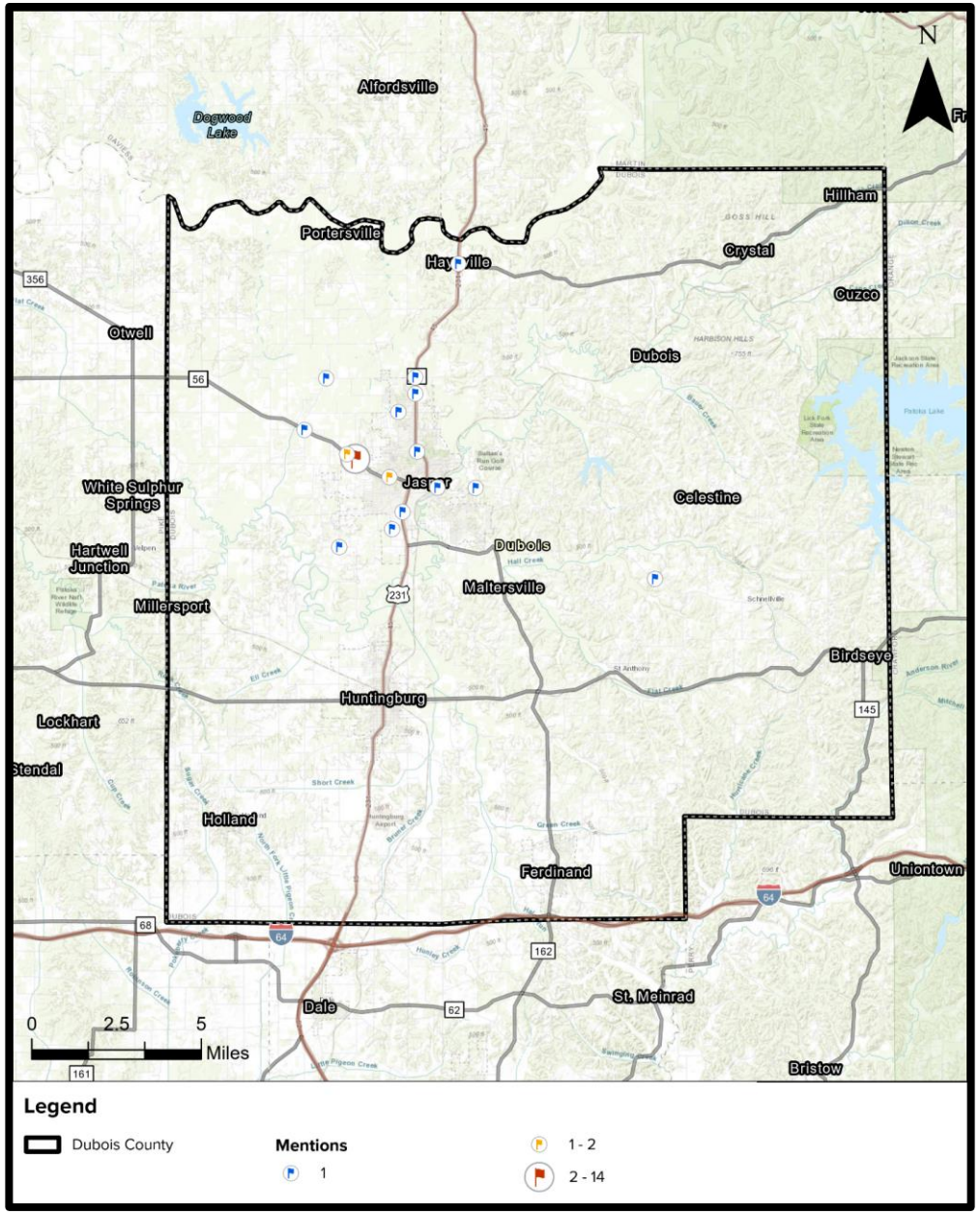
8,383 USERS REACHED

230 LINK CLICKS

145 SURVEY RESPONSES

Unsafe Intersections Perceived by Motorists

Intersection	Problem	Mentions
Santine Road and Schnellville Road	Blocked/obscured vision	1
St. Charles Street and 12th Street	Poor road conditions	1
400 West and 100 West	Blocked/obscured vision	1
Newton Street and Culver's Restaurant parking lot exit	Traffic congestion	1
Meridian Road and 2nd Avenue	Unsafe/aggressive drivers	1
North 500 West and West 400 North	Poor road conditions/Confusing or unsafe road design/Blocked/obscured vision	1
State Road 56th and North 500 West	Insufficient signage or traffic control devices/Frequent crashes or near-misses/Driver speed	1
St. Charles Street and 36th Street	Traffic congestion/Driver speed	1
400 North and US 231	Confusing or unsafe road design/Frequent crashes or near-misses/Driver speed	1
West Haysville Road and US 231	Blocked/obscured vision/Unsafe/aggressive drivers/Poor road conditions/Driver speed	1
State Road 56 and 350 West	Blocked/obscured vision/Traffic congestion/Unsafe/aggressive drivers/Confusing or unsafe road design	14
West 180 North and State Road 56th	Driver speed/Confusing or unsafe road design/Unsafe/aggressive drivers	2
East 4th Street and Anderson Street	Traffic congestion/Blocked/obscured vision/Unsafe/aggressive drivers	1
St. Charles Street and State Road 56th	Frequent crashes or near-misses/Unsafe/aggressive drivers/Driver speed	2
West Division Road and US 231	Driver speed/Unsafe/aggressive drivers/Insufficient signage or traffic control devices	1
North Newton Street and Common Drive	Blocked/obscured vision/Driver speed/Unsafe/aggressive drivers	1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Dogwood Lake
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Hillham
Haysville
Crystal
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Dubois
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Jasper
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Hartwell Junction
Dubois
Millersport
Maltersville
Birdseye
Huntingburg
Lockhart
Stendal
Holland
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0 2.5 5 Miles
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Mentions
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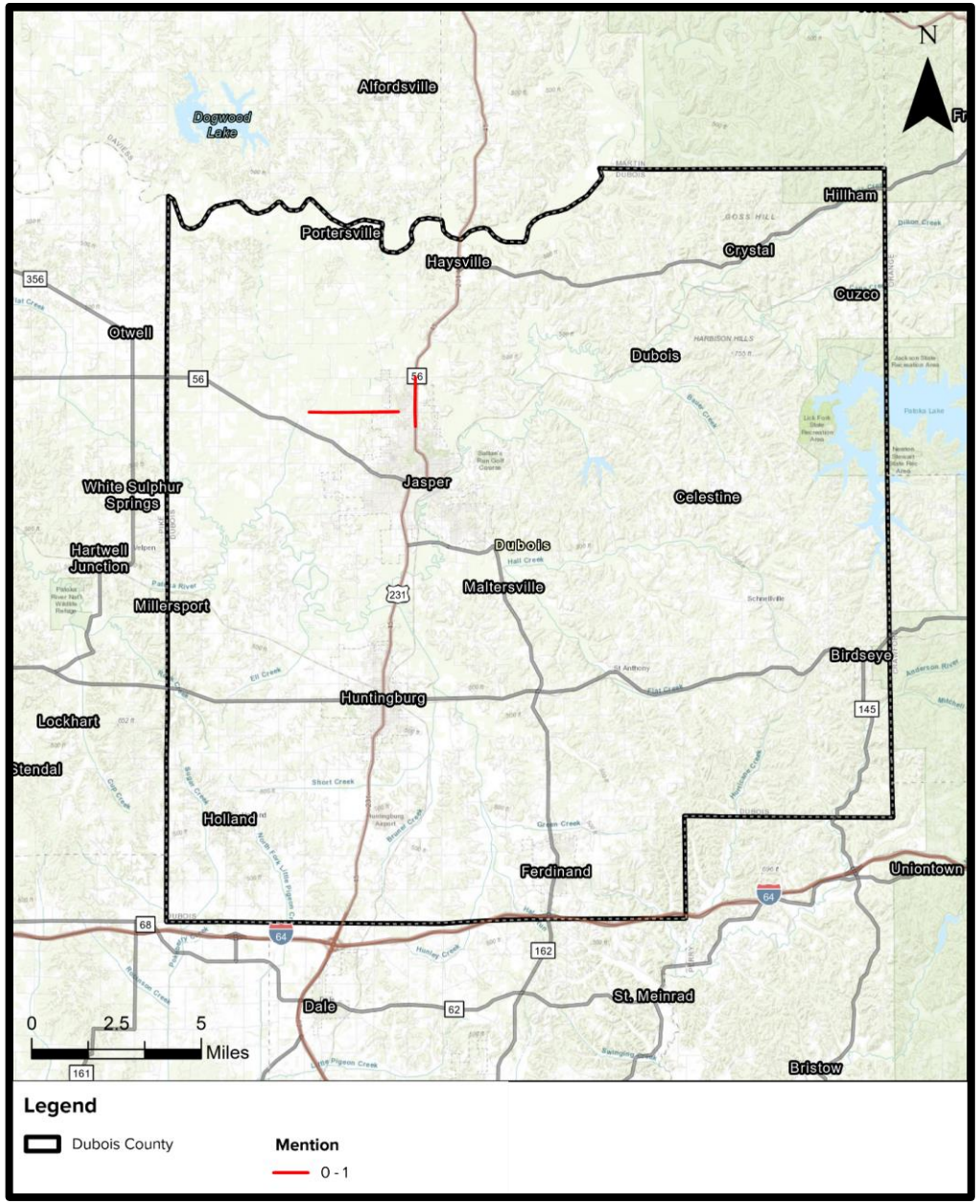
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Dubois County
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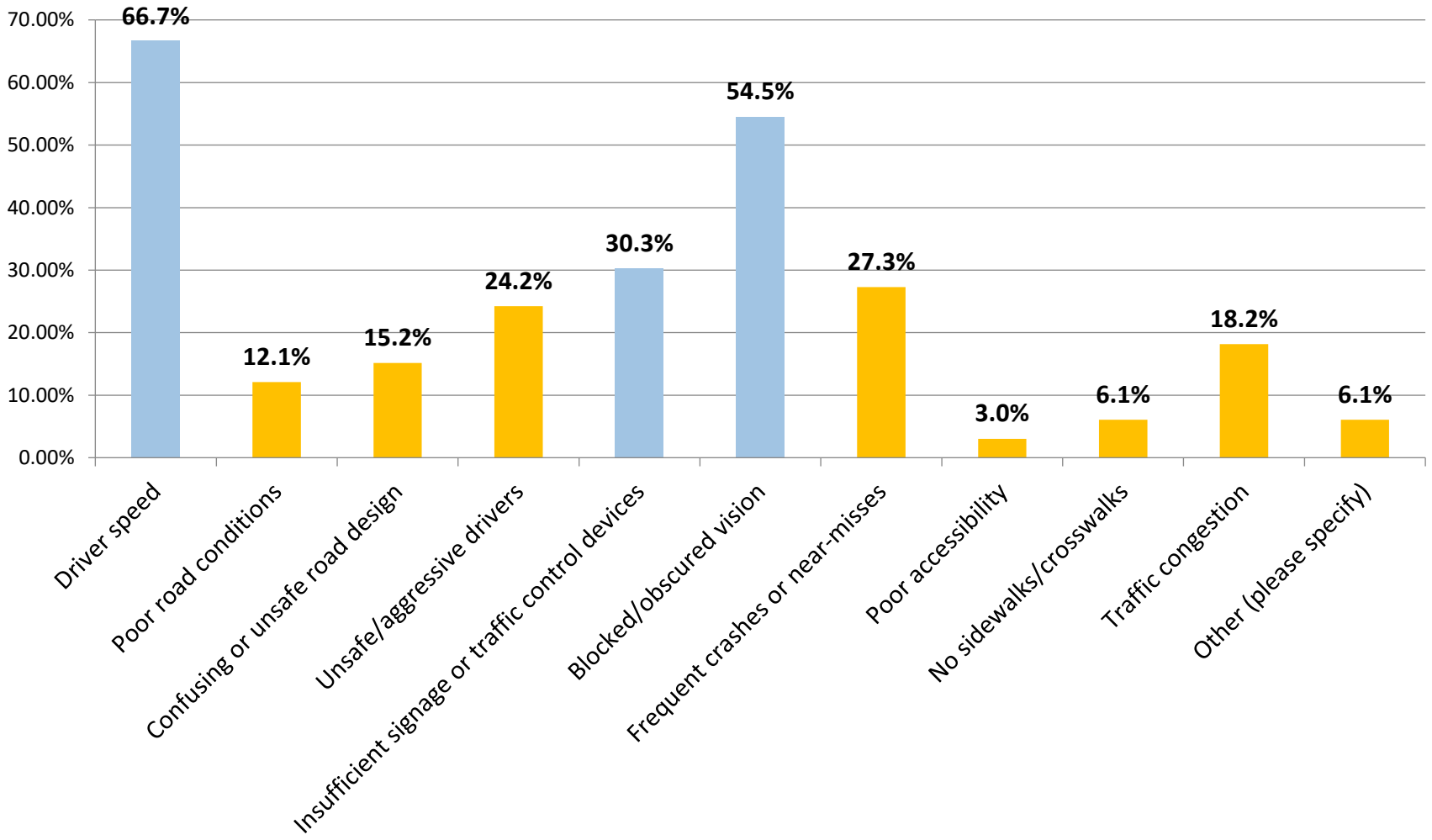
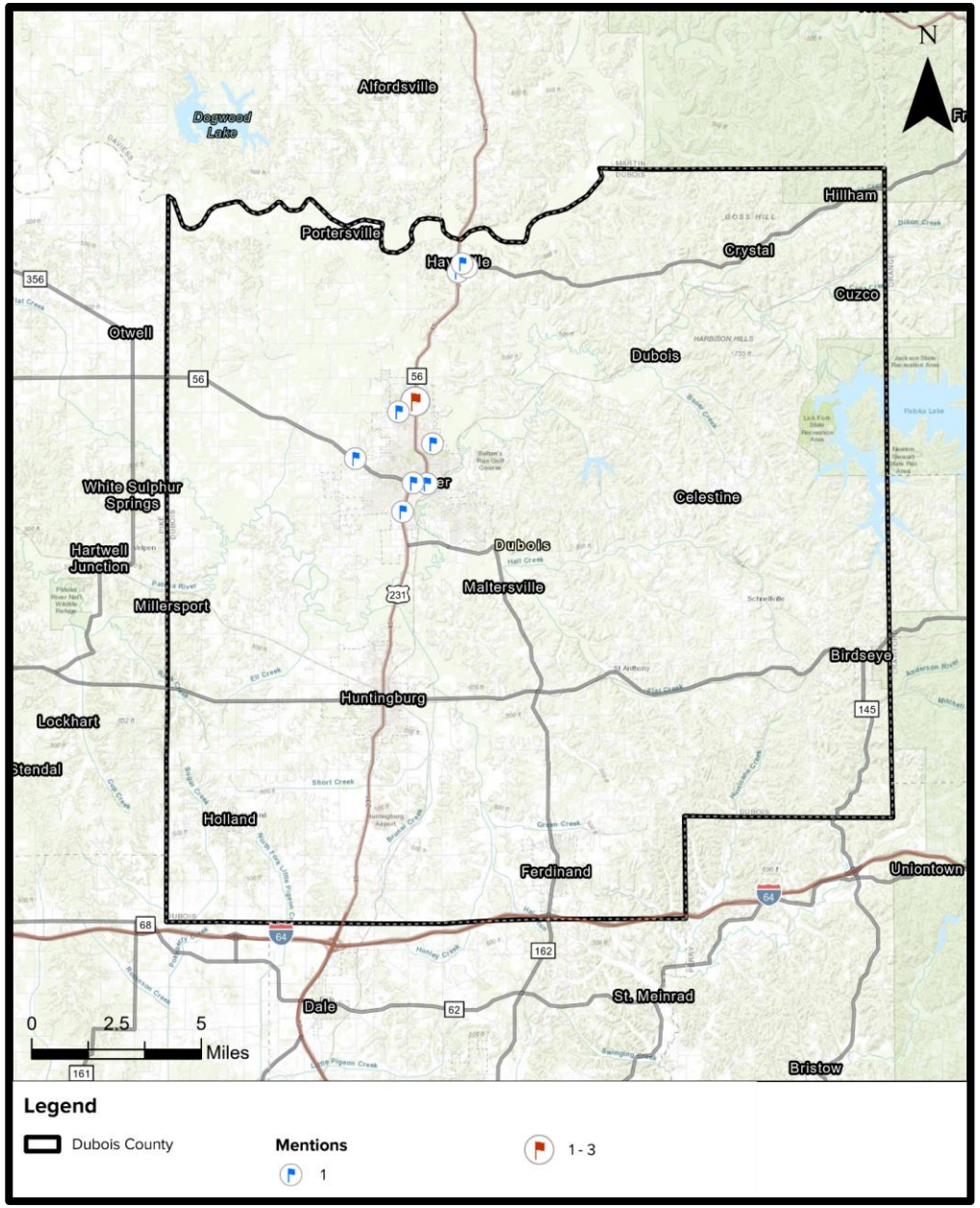
Safety Issue Types Perceived by Motorists



Unsafe Intersections Perceived by Non-Motorists

Intersection	Problem	Mentions
Baden Strasse and US 231	No sidewalks/crosswalks/Traffic congestion	3
St. Charles Street and West 300 North	No sidewalks/crosswalks	1
West 6th Street and US 231	Driver speed/Traffic congestion	1
North Mill Street and East 23rd Street	Driver speed/Traffic congestion	1
State Road 56th and North 350 West	Poor road conditions/No sidewalks/crosswalks	1
West Division Road and US 231	Confusing or unsafe road design/Driver speed/Confusing or unsafe road design	1
US 231 and State Route 56th	Driver speed/Traffic congestion/	1
US 231 and State Route 56th	Driver speed/Confusing or unsafe road design/No sidewalks/crosswalks	1
State Route 56th and Haysville Road	Driver speed/Confusing or unsafe road design/No sidewalks/crosswalks	1
Haysville Road and Haysville Road	Driver speed/Confusing or unsafe road design/No sidewalks/crosswalks	1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Ferdinand
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Dubois County
Mentions
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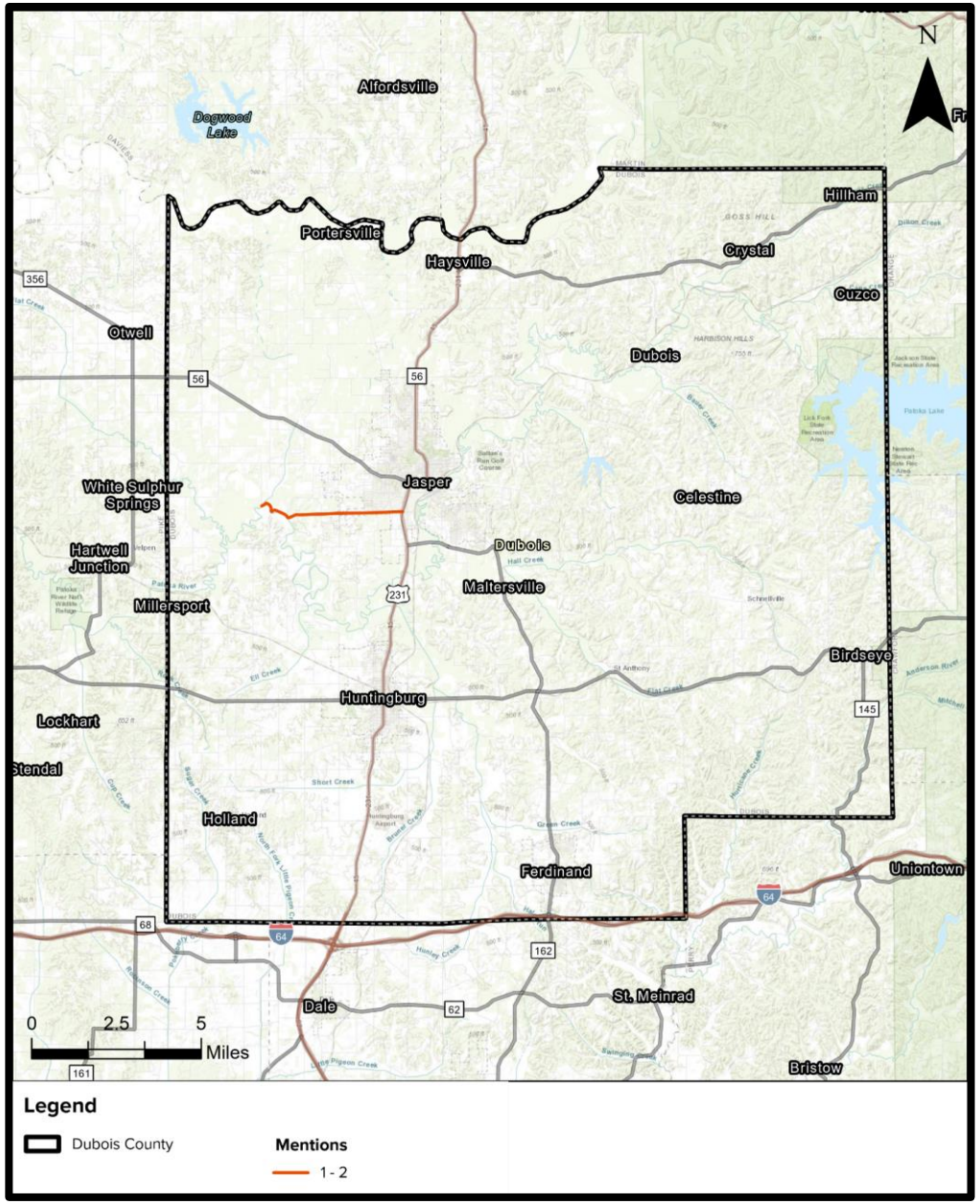
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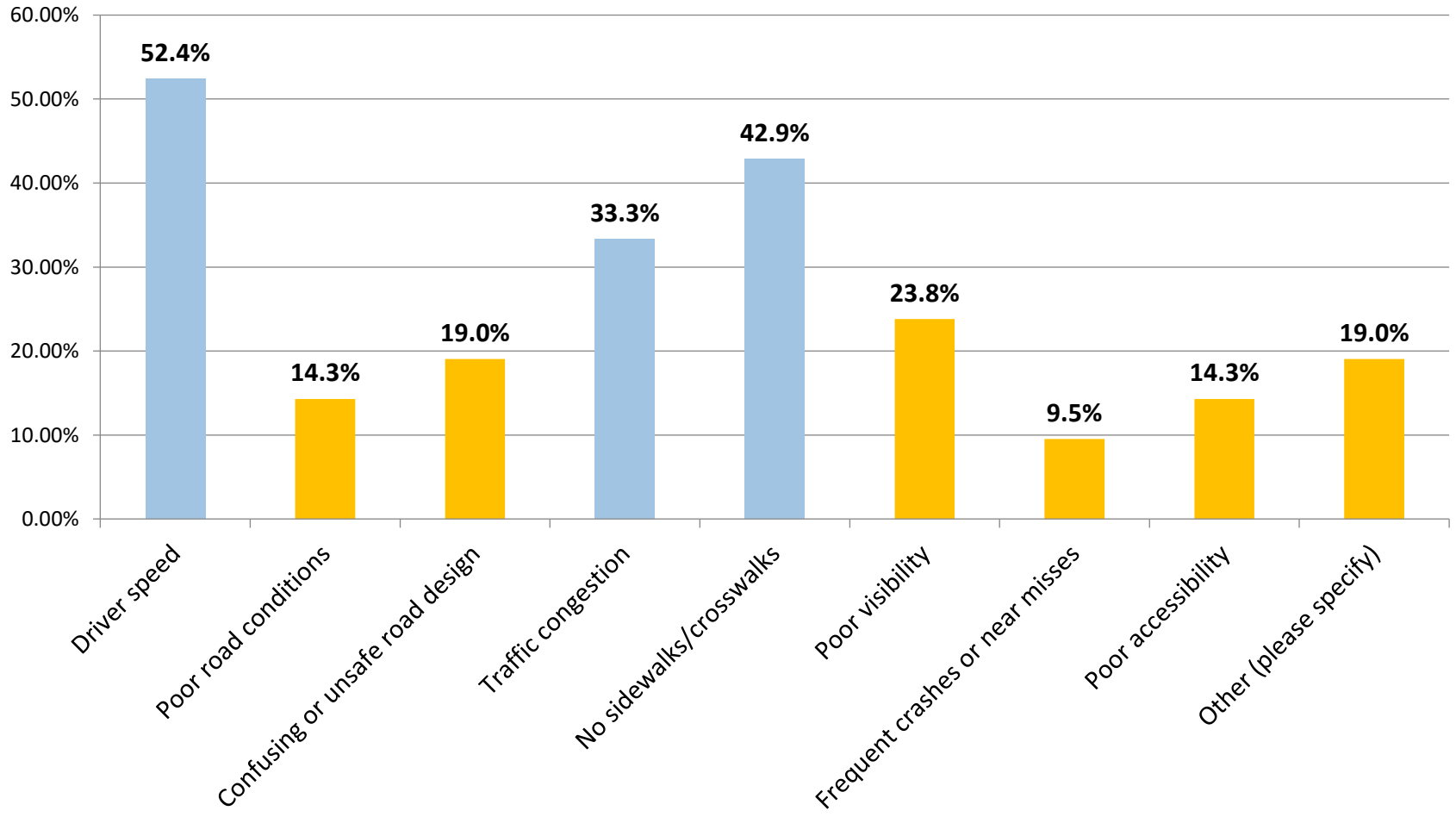
Uniontown
Dale
St. Meinrad
Bristow
0 2.5 5 Miles
Legend
Dubois County
Mentions
1 - 2

Safety Issue Types Perceived by Non - Motorists



Policy Review

Policies Reviewed

- Jasper Comprehensive Plan
- Dubois County Code of Ordinance
- Jasper Unified Development Ordinance (UDO)

Opportunities for Improvement

1. Implement lower speed limits in residential areas and near schools.
2. Use traffic signals that adjust based on real-time traffic conditions to reduce congestion and improve safety.
3. Adopt a policy that requires streets to be designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.
4. Incorporate green infrastructure to manage stormwater and improve street aesthetics and safety.
5. Ensure adequate street lighting, particularly in high-traffic and pedestrian areas, to enhance visibility and safety at night.
6. Require ramps, tactile paving, and other accessibility features to ensure compliance with the Americans with Disabilities Act (ADA).
7. Increase traffic enforcement measures to deter speeding and other unsafe driving behaviors.

Safety Analysis & Countermeasures

Safety Analysis Insights

- Roadway Departure was the predominant crash type at 7/10 Hotspot Locations and 11/12 High Injury Network Locations
- Crashes in dark (not lighted) conditions occurred at 8/10 Hotspot Locations and 10/12 High Injury Network Locations
- Crashes in wet, snow or ice surface conditions occurred at 8/10 Hotspot Locations and 10/12 High Injury Network Locations
- High speed was identified as a safety concern for both motorized and non-motorized users during public engagement surveys;
    - **High speed is often associated with roadway departure crashes**

Common Targets for Countermeasures:

Vehicle speeds, roadway departures

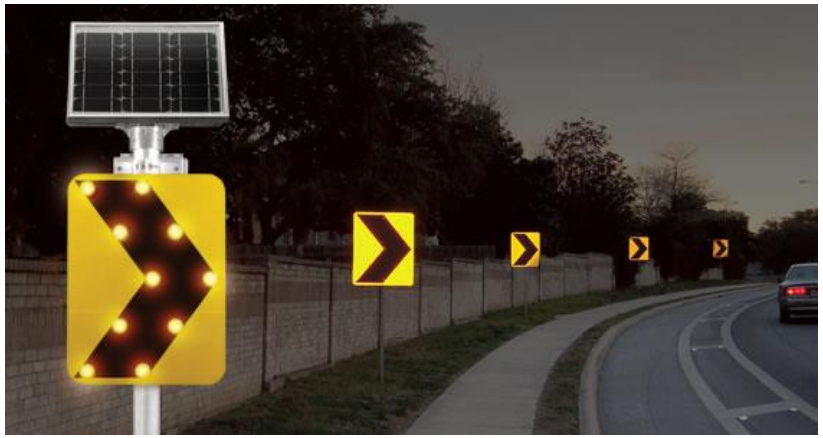
Systemic Safety Improvement Countermeasures

1. **Enhanced Delineation for Horizontal Curves**
2. **Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections**
    - **Refresh striping**
    - **Install doubled-up (both sides of roadway) and oversized signs on approaches and at the intersection**
3. **Appropriate Speed Limits for All Road Users**

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

Safety Improvement Treatments and Countermeasures

1. Enhanced Delineation for Curves



- Oversized Chevron Signs: 15% reduction in fatal and injury (F&I) crashes
- Sequential Dynamic Chevrons: 60% reduction F&I
- Upgrade to New Fluorescent Sheeting: 18% reduction in non-intersection, head-on, road departure, and sideswipe crashes

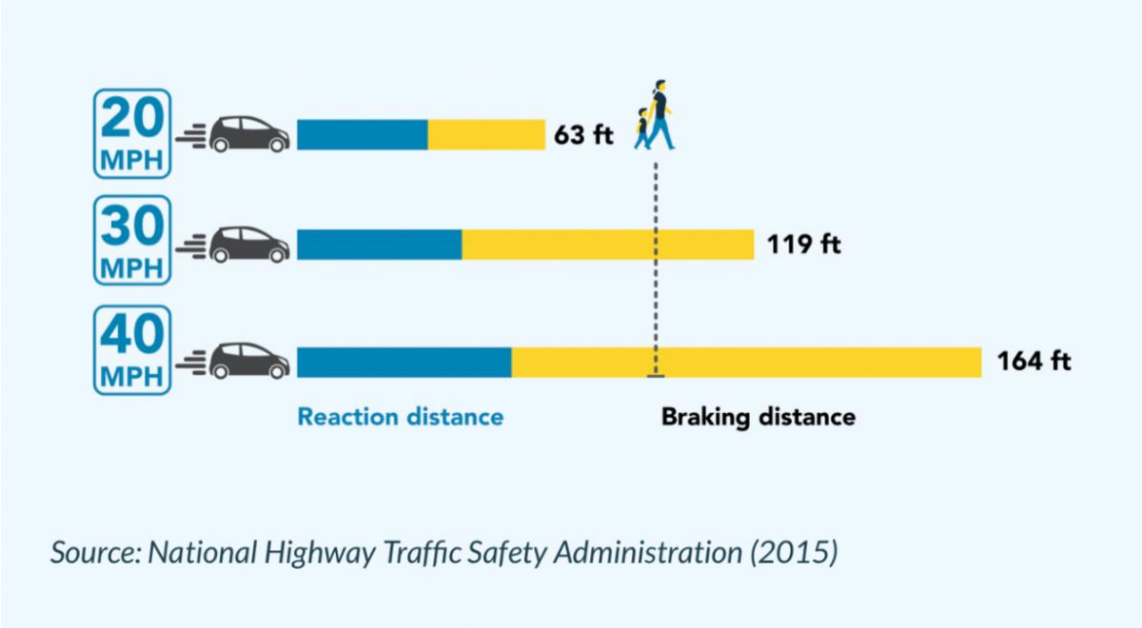
Safety Improvement Treatments and Countermeasures

2. Low-Cost Countermeasures at Two-Way Stop Control Intersections

- 27% reduction in fatal and injury (F&I) crashes at rural intersections
- High benefit-to-cost ratio: 12:1 (average)

Safety Improvement Treatments and Countermeasures

3. Appropriate Speed Limits for All Road Users



Source: National Highway Traffic Safety Administration (2015)

Speed Limit Pavement Legend

Contrast Border Speed Limit Sign

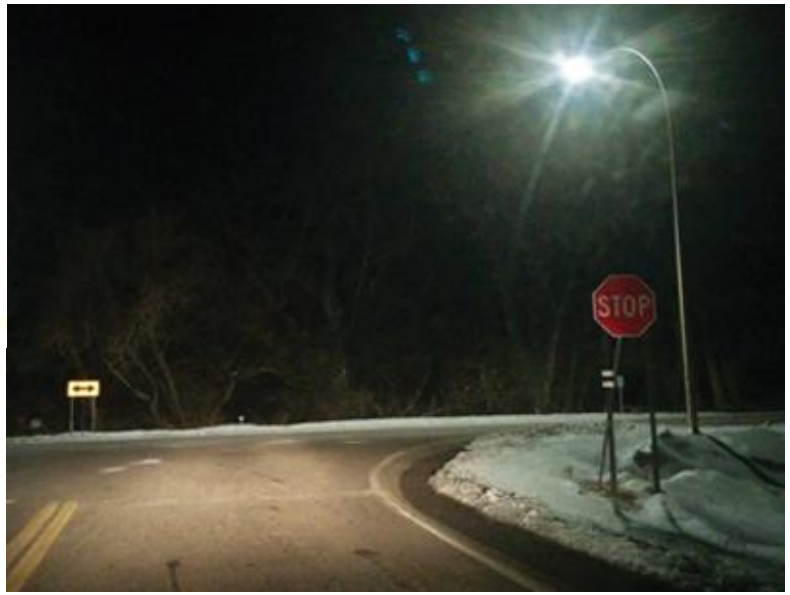
Speed Feedback Sign

Short-Term Countermeasures (Low-Cost)

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

1. Roadway Illumination/Lighting



Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

2. Wider lane edge lines

6-inch-wide edge line (4-in regular)

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

3. Shoulder Rumble Strips

Shoulder rumble strip

Edge-line rumble stripe

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

4. Centerline Rumble Strips

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

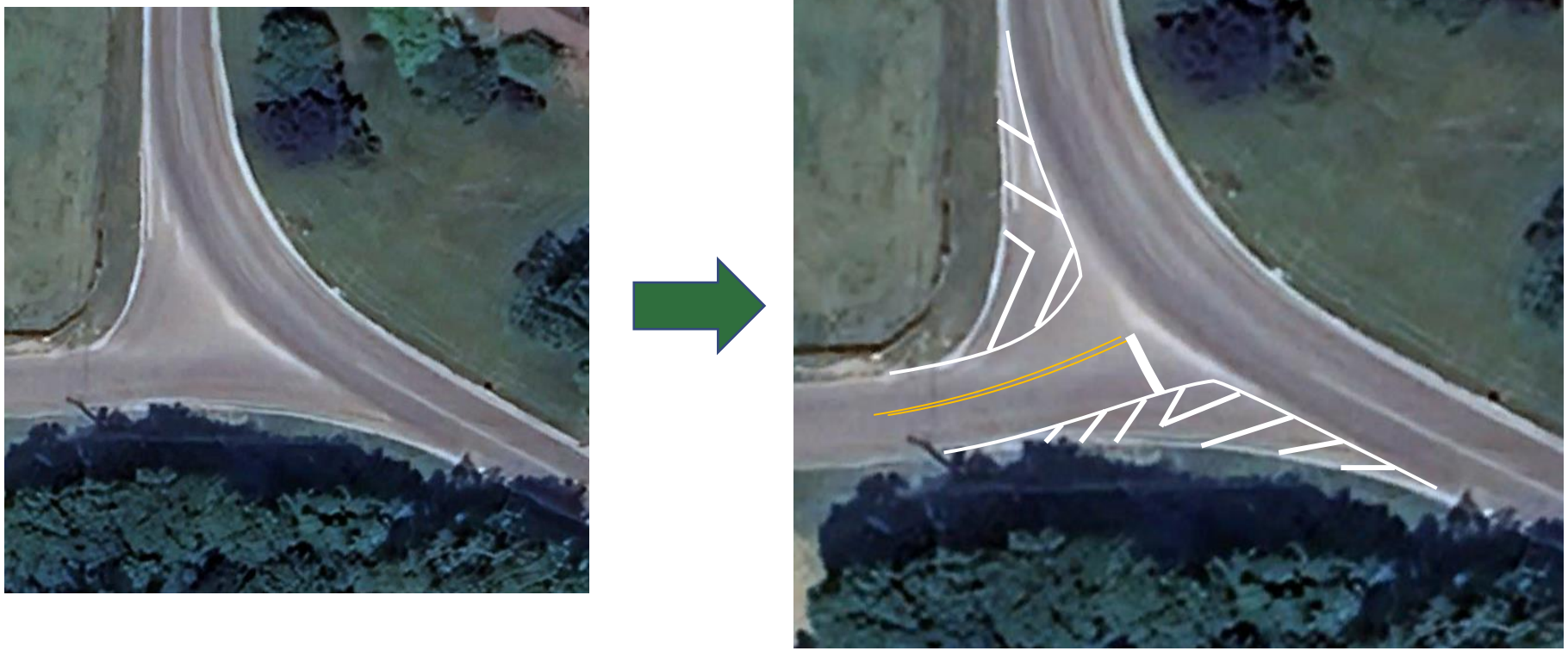
5. Pavement Friction Management

High Friction Surface Treatment

Short-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

6. Restripe Intersection Approach to Reduce Skew Angle



Long-Term Countermeasures (Higher cost)

Long-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

1. Dedicated Turn Lanes at Intersections

Long-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

2. Reconstruct Intersection Approaches to Intersect at a 90-degree Angle

Long-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

3. Roadside Design Improvements

Flatten side-slope

Increase shoulder width

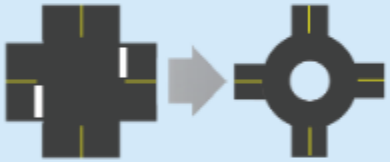
Long-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

4. Modern Roundabouts

Safety Benefits:

Two-Way Stop-Controlled Intersection to a Roundabout



82%

Reduction in fatal and injury crashes[1]

Long-Term Safety Treatments and Countermeasures

GIVE US YOUR FEEDBACK

5. Access Management

Consolidate or relocate driveways – Potential for conflict point reduction

Dubois County
List of SS4A Projects

Projects – HIN/Corridors – 1 of 2

Project Location	Corridor
1	CR 350 W - Phoenix Dr to CR 150 S
2	CR 600 W - CR 400S to W Division Rd
3	CR 500 W - CR 300 N to CR 400 N
4	CR 400 W - W Phoenix Dr to W 6th St
5	E Schnellville Rd - S Saint Anthony Rd W to CR 1025 E
6	N Kellerville Rd - CR 600 N to Cathy Ln

Safety Analysis Webmap:
https://www.arcgis.com/apps/mapviewer/index.html?webmap=57d6dc4fb74a478c93174a0b9327fae9

Projects – HIN/Corridors – 2 of 2

Project Location	Corridor
7	CR 300 N - CR 325 N to N Kellerville Rd
8	S Club Rd - E SR 64 to E 23rd St
9	E Jasper Dubois Rd - N SR 545 to CR 300 E
10	E Jasper Dubois Rd - CR 325 E to Farm Driveway
11	CR 675 N - CR 500 W to N Portersville Rd
12	S St Anthony Rd W - E Schnelvile to CR 230 S

Projects – Hotspot Intersections

Project Location	Intersection
1	N 500 W & W 150 N
2	S Santine Rd & E Hall Creek Rd
3	S St Anthony Rd W & E Schnellville Rd
4	W 400 N & N 500 W
5	S 600 W & W 400 S
6	E Schnellville Rd & S 1025 E
7	N Kellerville Rd & E 400 N
8	S Ferdinand Rd NW & S 100 W
9	E Schnellville Rd & S 330 E
10	W 1075 S and S 720 W

Projects – Additional Focus Areas

Project Location	Name
1	SR-56 & N 350 W
2	SR-56 & St. Charles Street
3	SR-56 & W 180 N
4	Newton St (US-231/SR-56) & Baden Strasse
5	W Division Rd - 620 W to US 231
6	W 300 N - St. Charles Street to N 500 W

Strategies

GIVE US YOUR FEEDBACK

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

Schedule

Milestone	Anticipated Completion
Vision Zero Resolution Adoption	**February 20, 2024**
Draft Action Plan	**July 31, 2024**
Review by County staff and Steering Committee	**3-weeks**
Final Action Plan	**30-days from Review**
Council Adoption	**TBD**
Implementation Grant Application	**2025 NOFO**

Thank You!

APPENDIX E: COMPREHENSIVE SAFETY ACTION PLAN PROJECTS

Dubois County SS4A CSAP

Project Score - Intersections

No.	Project Location	Total Crash Rate (per MEV)	Score	Env. Justice Criteria (within EJ?)	Score	F&I Crash Rate (per MEV)	Score	Steakholder & Public Input (# of Mentions)	Score	Weighted Total Score	Tier/ Prroritization
1	W 400 N & N 500 W	2.44	5	Not in EJ Area	0	0.73	2	4	5	31	1
2	W 1075 S and S 720 W	4.35	5	Not in EJ Area	0	2.61	5	0	0	30	2
3	S Santine Rd & E Hall Creek Rd	2.19	5	Not in EJ Area	0	1.1	3	0	0	24	3
4	S Ferdinand Rd NW & S 100 W	1.31	3	Bordering/Partially EJ	3	0.87	2	0	0	21	4
5	N 500 W & W 150 N	0.71	2	Not in EJ Area	0	0.47	1	1	3	15	5
6	S 600 W & W 400 S	1.46	3	Not in EJ Area	0	0.97	2	0	0	15	5
7	E Schnellville Rd & S 1025 E	1.26	3	Not in EJ Area	0	0.63	2	0	0	15	5
8	N Newton St (US-231) & Baden Strasse	0	0	Not in EJ Area	0	0	1	6	5	13	8
9	W SR-56 & N 350 W	0	0	Not in EJ Area	0	0	1	24	5	13	8
10	US-231 & W Division Rd	0	0	Not in EJ Area	0	0	1	4	5	13	8
11	SR-64 & E 550 S	0	0	Not in EJ Area	0	0	1	5	5	13	8
12	SR-64 & SR-162	0	0	Not in EJ Area	0	0	1	5	5	13	8
13	N Kellerville Rd & E 400 N	0.64	2	Not in EJ Area	0	0.64	2	0	0	12	13
14	E Schnellville Rd & S 330 E	1.48	3	Not in EJ Area	0	0.42	1	0	0	12	13
15	S Cherry St & E 1st St	0	0	Entirely within EJ Area			1	2	3	9	15
16	S St Anthony Rd W & E Schnellville Rd	0.79	2	Not in EJ Area	0	0.4	1	0	0	9	15

EJ = Environmental Justice (Area of disadvantage/undeserved population)

Dubois County SS4A CSAP

Project Score - Corridors

No.	Project Location	Total Crash Rate (per MEV)	Score	Env. Justice Criteria (within EJ?)	Score	F&I Crash Rate (per MEV)	Score	Steakholder & Public Input (# of Mentions)	Score	Weighted Total Score	Tier/ Prroritization
1	S Club Rd - E SR 64 to E 23rd St	779.79	4	Not in EJ Area	0	139.96	3	3	5	31	1
2	S St. Anthony Rd W - E Schnellvile to CR 230 S	650.15	3	Not in EJ Area	0	325.07	5	0	0	24	2
3	W Division Rd - CR 620 W to US 231	62.36021811	3	Not in EJ Area	0	0	1	2	3	18	3
4	CR 300 N - St. Charles Street to CR 500 W	139.6570368	3	Not in EJ Area	0	24.65	1	1	3	18	3
5	E Jasper Dubois Rd - CR 325 E to Farm Driveway	485.3	2	Not in EJ Area	0	132.35	3	0	0	15	5
6	CR 400 W - W Phoenix Dr to W 6th St	198.73	1	Bordering/Partially EJ	3	42.58	1	0	0	12	6
7	CR 600 W - CR 400S to W Division Rd	314.6	2	Not in EJ Area	0	78.65	2	0	0	12	6
8	CR 500 W - CR 300 N to CR 400 N	270.75	2	Not in EJ Area	0	64.46	2	0	0	12	6
9	E Schnellville Rd - S St. Anthony Rd W to CR 1025 E	336.81	2	Not in EJ Area	0	58.94	2	0	0	12	6
10	CR 675 N - CR 500 W to N Portersville Rd	148.46	1	Not in EJ Area	0	148.46	3	0	0	12	6
11	SR-64 - SR-162 to N Main Street	0	0	Bordering/Partially EJ	3	0	0	1	3	12	6
12	CR 350 W - Phoenix Dr to CR 150 S	219.5	1	Not in EJ Area	0	73.17	2	0	0	9	12
13	CR 300 N - CR 325 N to N Kellerville Rd	228.14	1	Not in EJ Area	0	76.05	2	0	0	9	12
14	E Jasper Dubois Rd - SR 545 N to CR 300 E	229.3	1	Not in EJ Area	0	91.72	2	0	0	9	12
15	N Kellerville Rd - CR 600 N to Cathy Ln	222.27	1	Not in EJ Area	0	42.05	1	0	0	6	15
16	SR-162 - SR-64 to 13th Street	0	0	Not in EJ Area	0	0	0	2	3	6	15

EJ = Environmental Justice (Area of disadvantage/undeserved population)

Dubois County SS4A CSAP

Project Scoring Key

Scoring Criteria, Points and Weightage							
Total Crash Rate (30% Weight)	**Points**	**Env. Justice Criteria (20% Weight)**	**Points**	**F&I Crash Rate (30% Weight)**	**Points**	**Stakeholder and Public Input Criteria (20% Weight)**	**Points**
Crash Rate 0-250 seg, <0.5 int)	1	Not in EJ Area	0	0-50 segment, <0.5 intersection	1	0 mentions	0
Crash Rate 250-500 seg, 0.5-1 int)	2	Bordering/Partially EJ	3	50-100 segment, 0.5-1 intersection	2	1-2 mentions	3
Crash Rate 500-750 seg, 1-1.5 int)	3	Entirely within EJ	5	100-150 segment, 0.1-1.5 intersection	3	>2 mentions	5
Crash Rate 750-1000 seg, 1.5-2 int)	4	-	-	150-200 segment, 1.5-2 intersection	4	-	-
Crash Rate >1000 seg, >2 int)	5	-	-	>200 segment, >2 intersection	5	-	-

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