WARRICK COUNTY SAFETY ACTION PLAN

Evansville MPO

Henderson • Vanderburgh • Warrick

WARRICK COUNTY SAFETY ACTION PLAN

Evansville MPO Policy Committee Adoption: May 11, 2023

Evansville Metropolitan Planning Organization
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This project was partially funded through the U.S. Department of Transportation's Federal Highway Administration and Federal Transit Administration.

RESOLUTION
ADOPTING THE EVANSVILLE METROPOLITAN PLANNING ORGANIZATION
WARRICK COUNTY SAFETY ACTION PLAN

WHEREAS the Evansville Metropolitan Planning Organization (MPO) is the organization designated by the Governor as the Metropolitan Planning Organization responsible, together with the State, for carrying out the provisions of 23 U.S.C. 134 (Federal-Aid Highway planning requirements), and capable of meeting the requirements of 49 U.S.C. 5303 (Federal Transit planning requirements) in the Evansville Urbanized Area: and

WHEREAS the Evansville MPO Policy Committee is the policy body of the Evansville Metropolitan Planning Organization; and

WHEREAS the Evansville MPO Policy Committee is a committee of officials that includes representatives from the local public agencies in Warrick County, Indiana; and

WHEREAS the Infrastructure Investment and Jobs Act (IIJA), signed into law in 2021, authorized and appropriated funds for the Safe Streets and Roads for All (SS4A) Discretionary Grant Program the purpose of which is to improve roadway safety by significantly reducing or eliminating roadway fatalities and serious injuries through safety action plan development and implementation focused on all users; and

WHEREAS the development of a Safety Action Plan meeting DOT requirements, would enable the jurisdictions to subsequently qualify for consideration of US DOT SS4A Implementation Discretionary Grants; and

WHEREAS the Safety Action Plan used a data driven approach and best practices to outline specific steps in planning, engineering, policy, enforcement, engagement, and education to reach interim steps toward zero traffic deaths; and

WHEREAS the development of the Safety Action Plan has involved the public and interested stakeholders in an open and transparent process.

BE IT THEREFORE RESOLVED that the Evansville Metropolitan Planning Organization Policy Committee, at its regular meeting of May 11, 2023 adopts the Evansville Metropolitan Planning Organization *Warrick County Safety Action Plan.*

Mr. Jack Corn, Jr., Chairperson
Evansville Metropolitan Planning Organization
Policy Committee

May 11, 2023

Evansville MPO Policy Committee Members

Jack Corn, Jr.	Chairperson, Evansville City Council Appointment
Rusty Fowler	Vice-Chairperson, Indiana Department of Transportation
Lloyd Winnecke	Mayor, City of Evansville
William "Buzzy" Newman	Henderson City Manager, City of Henderson Appointment
Ron Beane	Councilmember, Evansville City Council
Ben Shoulders	Commissioner, Vanderburgh County Commission
Jill Hahn	Councilmember, Vanderburgh County Council
Dan Saylor	Commissioner, Warrick County Commission
Nick Stallings	County Engineer, Henderson County Appointment
John Stoll	County Engineer, Vanderburgh County Commission Appointment
Todd M. Robertson	Transportation and Services Director, City of Evansville Mayoral Appointment
Christy Powell	Town Manager, Town of Newburgh Appointment
Deneatra Henderson	Chief District Engineer, Kentucky Transportation Cabinet
Michael Smith	Indiana Department of Transportation (NV)
Jermaine Hannon	Indiana Federal Highway Administration (NV)
Kari Carmany-George	Indiana Federal Highway Administration (NV)
Shawn Seals	Indiana Department of Environmental Management (NV)
Kelley Brookins	Federal Transit Administration Region V (NV)
Cecilia Godfrey	Federal Transit Administration Region V (NV)
Todd Jeter	Kentucky Federal Highway Administration (NV)
John Ballantyne	Kentucky Federal Highway Administration (NV)
Jim Gray	Kentucky Transportation Cabinet (NV)
Mikael Pelfrey	Kentucky Transportation Cabinet (NV)
Michael Kennedy	Kentucky Division of Air Quality (NV)

(NV) = Non-voting

Safety Partner Task Force

Boonville Police Department
Chandler Police Department
City of Boonville
EMS Manager for Warrick County
Newburgh Police Department
Ohio Township
Ohio Township Fire Department
Town of Chandler
Town of Elberfeld
Town of Lynnville
Town of Newburgh
Town of Tennyson
Warrick County Area Plan Commission
Warrick County Emergency Management Office
Warrick County Engineer Office
Warrick County Highway Department
Warrick County Local Emergency Planning Committee
Warrick County Purchasing and Grants Department
Warrick County Sheriff's Office
Warrick County Surveyor
INDOT Vincennes District

ACKNOWLEDGEMENTS

Evansville MPO Technical Committee Members

Nate Hahn, Chairperson	Executive Director, Evansville Vanderburgh Airport Authority
Rick Wilson, Vice Chairperson	Superintendent of Operations, METS

The following organizations are represented on the Technical Committee:

American Medical Response
American Structurepoint, Inc.
Arc of Evansville
Ascension St. Vincent
Black Chamber of Commerce Evansville
Carver Community Organization
Commonwealth Engineers, Inc.
CSX Transportation
David Matthews Associates
Dpatrick Automotive
Easterseals Rehabilitation Center
Eastland Mall
Evansville Regional Economic Partnership
EnviroKinetics, Inc.
Evansville Bicycle Club
Evansville Board of Public Safety
Evansville City Engineer
Evansville Department of Metropolitan Development
Evansville Department of Transportation and Services
Evansville Department of Urban Forestry
Evansville Deputy Mayor
Evansville Environmental Protection Agency
Evansville Parks and Recreation Department
Evansville Police Department
Evansville Regional Airport
Evansville Trails Coalition
Evansville/Vanderburgh County Area Plan Commission
Evansville/Vanderburgh County Emergency Management Agency
Evansville Water and Sewer Department
Federal Highway Administration (Indiana)
Federal Highway Administration (Kentucky)
Federal Transit Administration (Region V)
Green River Area Development District
Henderson Area Rapid Transit
Henderson City Engineer
HOLA Evansville
Henderson City Manager
Henderson County Engineer
Henderson County Riverport Authority
Henderson-Henderson County Chamber of Commerce
Henderson-Henderson County Plan Commission
Henderson County Judge Executive
Indiana Department of Environmental Management (Indianapolis)
Indiana Department of Transportation (Indianapolis)
Indiana Department of Transportation (Vincennes)
Indiana Southern Railroad
Kentucky Transportation Cabinet (Frankfort)
Kentucky Transportation Cabinet (Madisonville)
Lochmueller Group
Metropolitan Evansville Transit System
Port of Indiana-Mount Vernon
Posey County Chamber of Commerce
Qk4 Inc.
Shrewsberry & Associates, LLC
Southern Indiana Resource Solutions, Inc. (SIRS)
Town of Chandler
United Neighborhoods of Evansville (UNOE)
University of Evansville
US House of Representatives District 8
Vanderburgh County Emergency Management Agency
Vanderburgh County Engineer
Warrick County Economic Development
Warrick County Plan Commission
Warrick County School Corporation
Westside Improvement Association

Evansville MPO Staff

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Laura Lamb	Transportation Advisor

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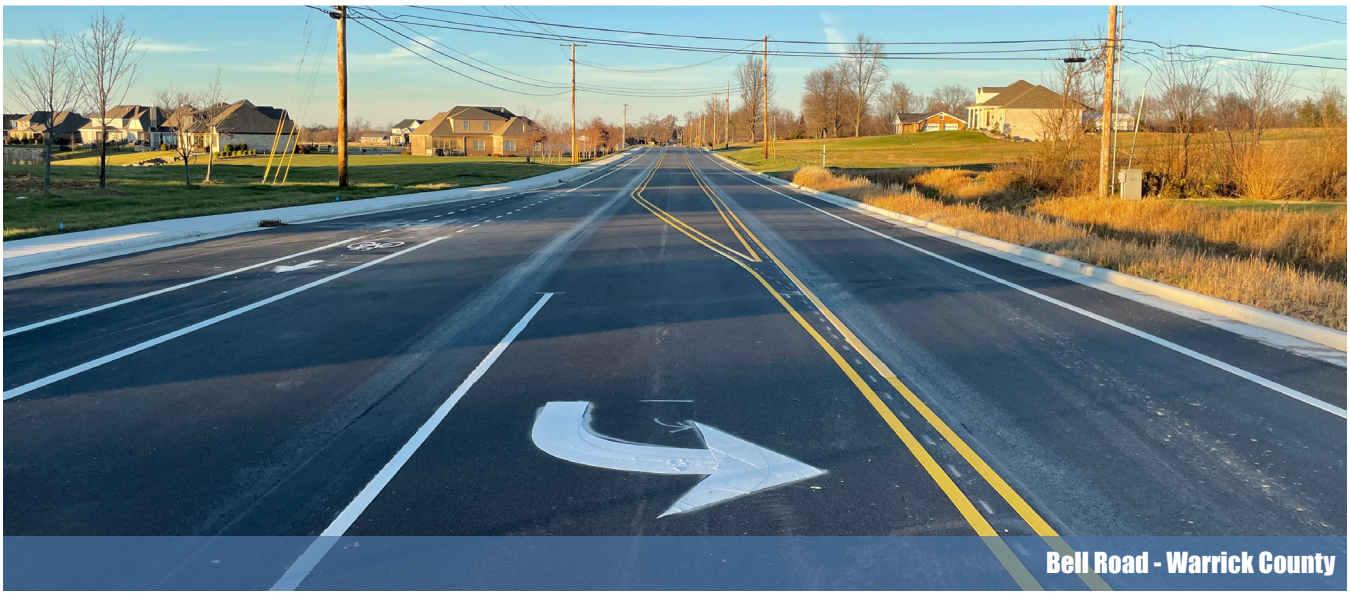
Introduction

The Evansville Metropolitan Planning Organization (MPO) is committed to prioritizing safety in order to reduce the risk of death and serious injury that result from incidents on transportation systems in our region. This plan identifies safety needs and outlines strategies to help achieve Federal Highway Administration's (FHWA) Zero Deaths Vision and was approved by the Evansville MPO Policy Committee on May 11, 2023. Implementation of the plan will improve transportation safety for the users of the Evansville MPO regional network. This plan focuses on the local road network only. State roads and intersections with state roads were not evaluated as part of this plan. Any comments that were received during the process on state roads were forwarded to Indiana Department of Transportation (INDOT) for the consideration and INDOT was also present during the Stakeholder meetings.

The Evansville MPO supports FHWA's Safe System Approach. The Safe System Approach aims to eliminate fatal and serious injuries for all road users. Safe System elements include safe road users, safe vehicles, safe speeds, safe roads, and post-crash care.

SAFETY ACTION PLAN



Bell Road - Warrick County

The Evansville MPO will focus on the 4 E's of Safety in order to create safer roads in the region. The 4 E's of Safety include engineering, enforcement, education, and emergency management. Engineering addresses transportation infrastructure improvements to prevent crashes or reduce the severity. Education ensures the users are knowledgeable of traffic laws and provides the users information to make better decisions while driving. Enforcement encourages a more visible police presence and enforcement of traffic laws to deter motorists from unsafe driving behavior, especially those that lead to fatalities/injuries. Emergency Response helps ensure rapid response when responding to incidents and reliability of the transportation network to help ensure safe and efficient connectivity to hospitals.

Vision and Goals

Vision

Establish a safety focused culture that promotes and implements Toward Zero Deaths strategies.

Goals

- Encourage Implementing proven safety solutions systemically to reduce fatal and severe crashes.
- Improve the safety and security of the transportation system for all users.
- Support the INDOT state performance targets and their goal towards reducing fatalities from 862 in 2020 to 550 in 2042.

Existing Efforts

Safety was reviewed during the development of the Regional Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP). The Evansville MPO also has a Complete Streets Policy that helps ensure all roadway users are considered in project development. Each of those documents are available on the Evansville MPO website. During the development of the MTP and Safety Action Plan, current policies, plans, guidelines, and/or standards were reviewed. The Recommendation Section in both documents identify opportunities for additional updates/ documents that were identified during the process.

Process/Stakeholder Involvement

A Safety Partner Task Force was created to gather input from city/county agencies and emergency responders. Table 1 lists the agencies that were included in the Safety Partner Task Force. The first step in the data gathering process was sending the Safety Partner Task Force a survey. The survey included questions related to vehicle safety, pedestrian safety, and bicyclist safety. It also asked a general question on areas that were safety concerns or caused delays for maintenance activities and responding to emergencies. The private sector freight carriers were also engaged with a survey.

The Evansville MPO used the survey results, information from the MTP, and the 2016-2020 Automated Reporting Information Exchange System (ARIES) crash database to analyze the data and determine potential high-risk areas on the local road network. See the Data Used and Data Analysis sections later in the plan for additional

Table 1: Safety Partner Task Force Agencies

Boonville Police Department	Ohio Township	Town of Newburgh	Warrick County Highway Department
Chandler Police Department	Ohio Township Fire Department	Town of Tennyson	Warrick County Local Emergency Planning Committee
City of Boonville	Town of Chandler	Warrick County Area Plan Commission	Warrick County Purchasing and Grants Department
EMS Manager for Warrick County	Town of Elberfeld	Warrick County Emergency Management Office	Warrick County Sheriff's Office
Newburgh Police Department	Town of Lynnville	Warrick County Engineer Office	Warrick County Surveyor

information. A meeting was held in April 2023 with the Safety Partner Task Force and INDOT to discuss the results of the survey and the preliminary countywide analysis. Additional discussions also occurred with those who were not able to attend the in-person meeting. Appendix A includes the overall summary table of the roads that were identified during the analysis as focus areas with input from the survey.

Public Involvement

In addition to stakeholder involvement, the Evansville MPO also held public involvement as part of the Metropolitan Transportation Plan (approved in March 2023) which included a focus on safety. The Metropolitan Transportation Plan 2050 includes additional information on the public involvement process. This information was used in the development of the Safety Action Plan. An opportunity for public involvement was also available during the May 2023 Policy and Technical Committee meetings.

Data Used

- 2016-2020 Aries Crash Data was used for crash analysis
- 2021 AADT from Streetlight was used to determine the Crash Rates
- Evansville MPO functional class layer
- USDOT Equitable Transportation Community (ETC) Explorer to determine the undeserved community
- National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS) (2017-2021)

Data Analysis

Intersection/Segment Analysis

The data was analyzed at a countywide level. This plan analyzed crashes identified in the 2016-2020 ARIES Crash Database on the local road network only. State roads and intersections with state roads were not evaluated as part of this plan. This countywide level analysis was completed to determine locations that should be considered as focus areas. Additional detail and analysis are recommended beyond this countywide level plan for location specific crash analysis.

The crashes were associated with an intersection if they fell within a certain distance from the intersection based on functional class type.

- Arterial/Arterial Intersection 200-foot radius
- Arterial/Collector Intersection 150 -foot radius
- Collector/Collector Intersection 150-foot radius
- Arterial/Local Intersection 100-foot radius
- Collector/Local Intersection 100-foot radius
- Local/Local Intersection 100-foot radius

Segments were determined by using the Open Street Map Layer Zone ID and Name. The Segments were then separated using arterial/arterial, arterial/collector, and collector/collector intersections to make them individual segments.

Once the Intersections and the Segments were identified the crashes were analyzed and the total number of crashes, crashes involving a fatality, incapacitating injury crashes, injury crashes, deer crashes, bike crashes, and pedestrian crashes were identified for each location. The following information was identified on a countywide level and were presented during the stakeholder meetings in April 2023:

- Highest Number of Crashes for Arterial/Collector, Collector/Collector, Arterial/Local, Collector/Local, and Local/Local Intersections
- Intersection and Segment Top Crash Rate
- Intersection and Segments Highest Number of Accidents with Injuries where at least one was Incapacitating or a Fatality
- Highest Number of Accidents with Injuries (Segments)
- Highest Number of Accidents Involving Deer (Segments)
- Top Crash Location per Manner for Intersections and Segments

The information identified above and the number of crashes involving a fatality or an incapacitating injury by year and jurisdiction using ARIES data are included in Appendix A and B.

Systemic/General Data Analysis

The 2016-2020 ARIES Crash Data was utilized for this analysis. Crashes that occurred on state facilities were not analyzed as part of this process, only crashes on local roads were included. The crashes that occurred in Tennyson were only along the state facilities, so no analysis was completed for that jurisdiction. Various factors were analyzed by jurisdiction including manner of crash, primary factor, light condition, roadway characteristic, weather condition, surface condition, vehicle type, and roadway junction. Appendix C through H contains this information for each jurisdiction.

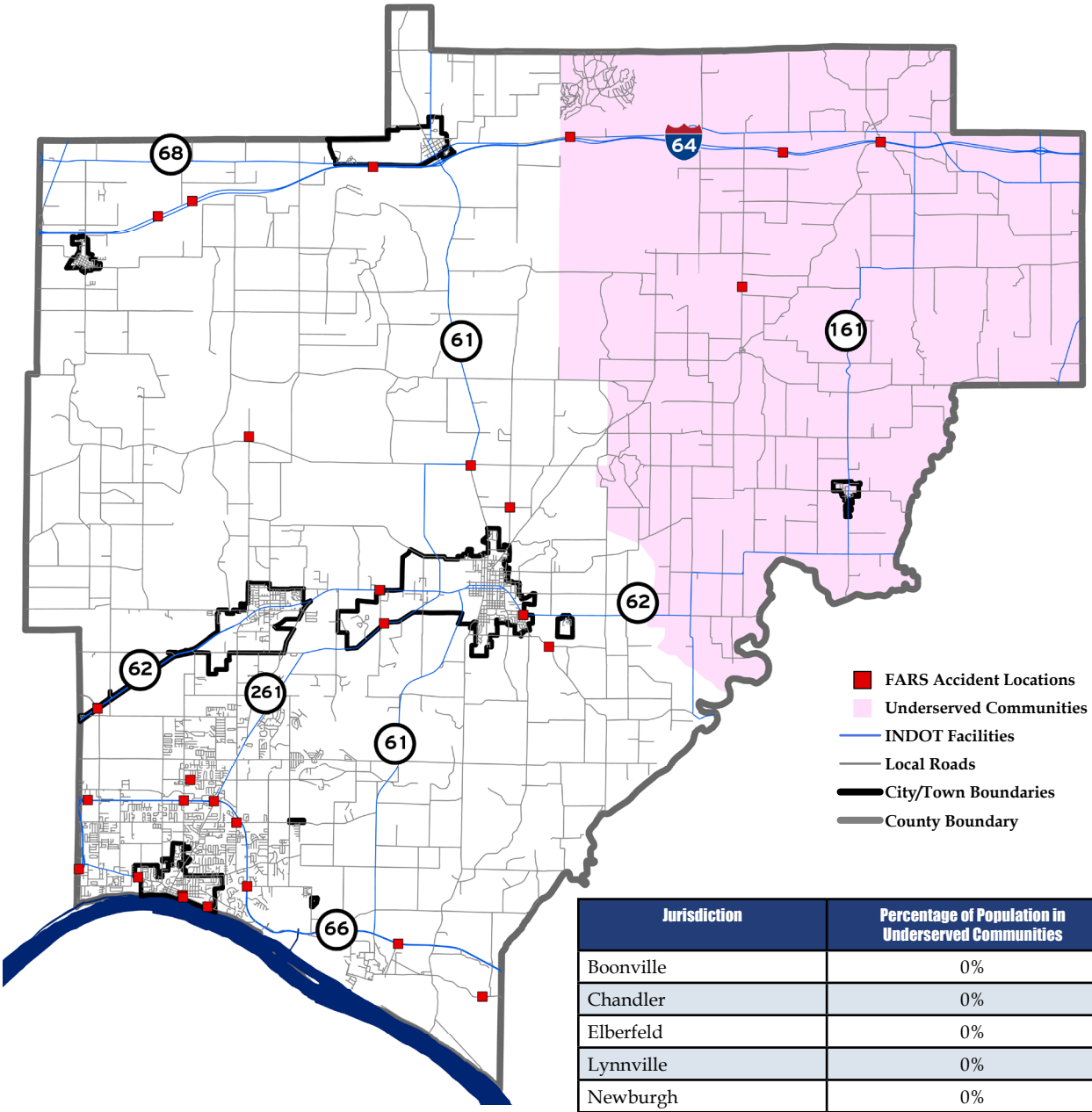
NHTSA FARS Data Analysis

The 2017-2021 FARS Data was used for this analysis. The analysis included crashes on all roadways in the jurisdiction (including state facilities) as well as crashes that occurred only on local roads. Summary tables for each jurisdiction that had fatality crashes identified can be found in Appendix I. Based on the available data, FARS did not indicate that Elberfeld, Lynnville, or Tennyson had fatal crashes during this time frame based on the current city limits. Figure 1 shows the FARS crash locations in Warrick County.

Equity Data Analysis

The USDOT Equitable Transportation Community (ETC) Explorer was used to determine the undeserved communities. According to the website, Boonville, Chandler, Elberfeld, Lynnville, and Newburgh do not have a population of individuals by census tract level that is classified as an underserved community.

Figure 1: FARS Crash Locations



Jurisdiction	Percentage of Population in Underserved Communities
Boonville	0%
Chandler	0%
Elberfeld	0%
Lynnville	0%
Newburgh	0%
Tennyson	100%
Warrick County*	6%

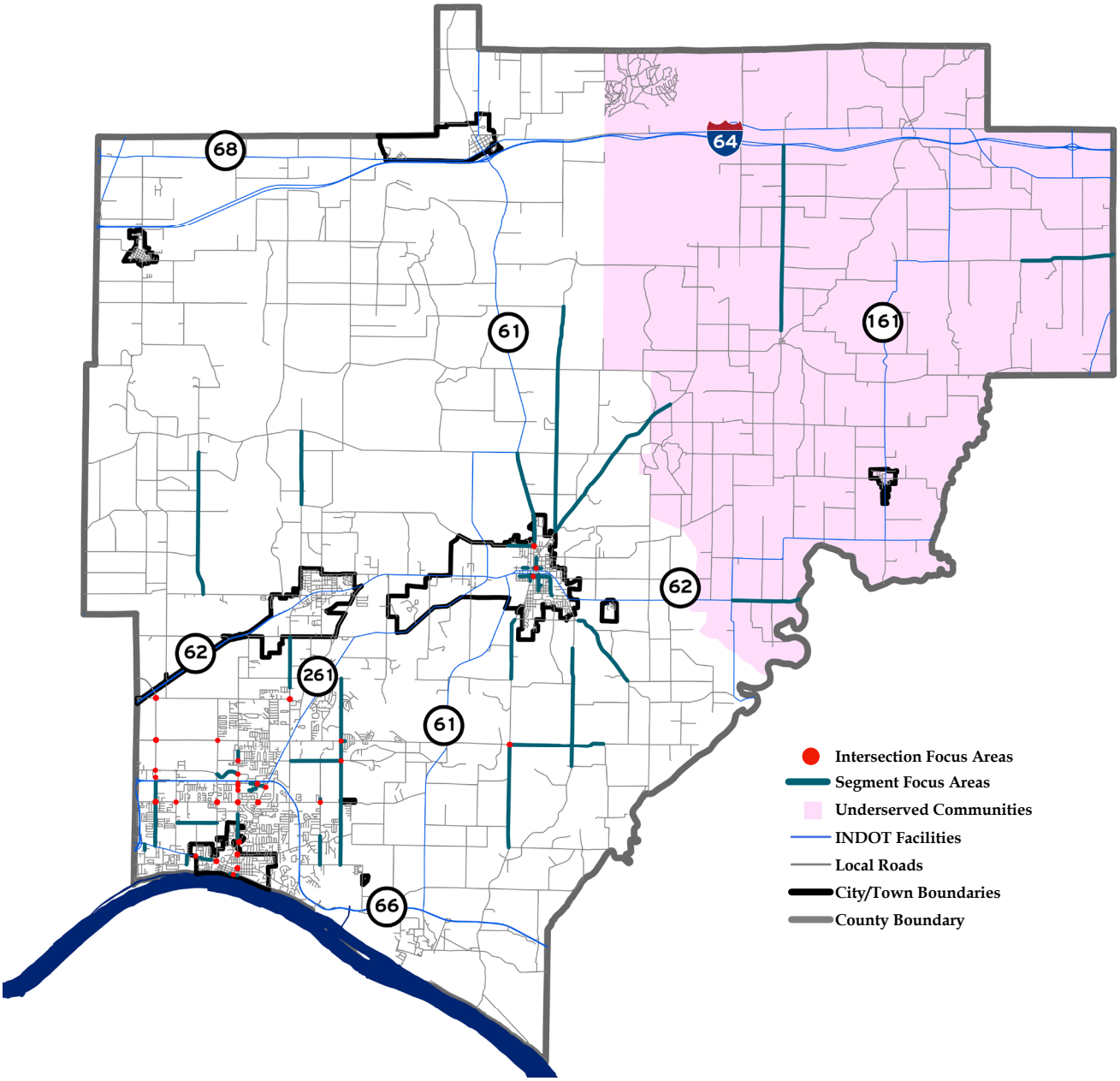
*this includes the county-wide percentage of population in underserved communities

Figure 2 identifies the percentage of population in underserved communities per jurisdiction and shows the intersection and segment focus areas that were identified during the countywide analysis and discussed with the Safety Partner Task Force.

Additional analysis regarding equity was completed during the MTP 2050 development process. According to the U. S. Environmental Protection Agency (EPA), environmental justice is defined as "the fair treatment and meaningful involvement of all people regardless of race, color, culture, national origin, income and educational levels with respect to the development, implementation and enforcement of protective environmental laws, regulations and policies."

The MPO has identified EJ Population Areas based on Census Tracts with concentrations of underserved and disadvantaged populations. These areas are considered when planning for transportation projects to ensure projects do not cause a disproportionately high and/or adverse impact.

Figure 2: Intersection and Segment Focus Areas with Percentage of Underserved Communities



The EJ Population Areas were developed based on 2016-2020 American Community Survey (ACS) data from the U.S. Census Bureau. Percentages for the following factors were gathered for all census tracts within Warrick County:

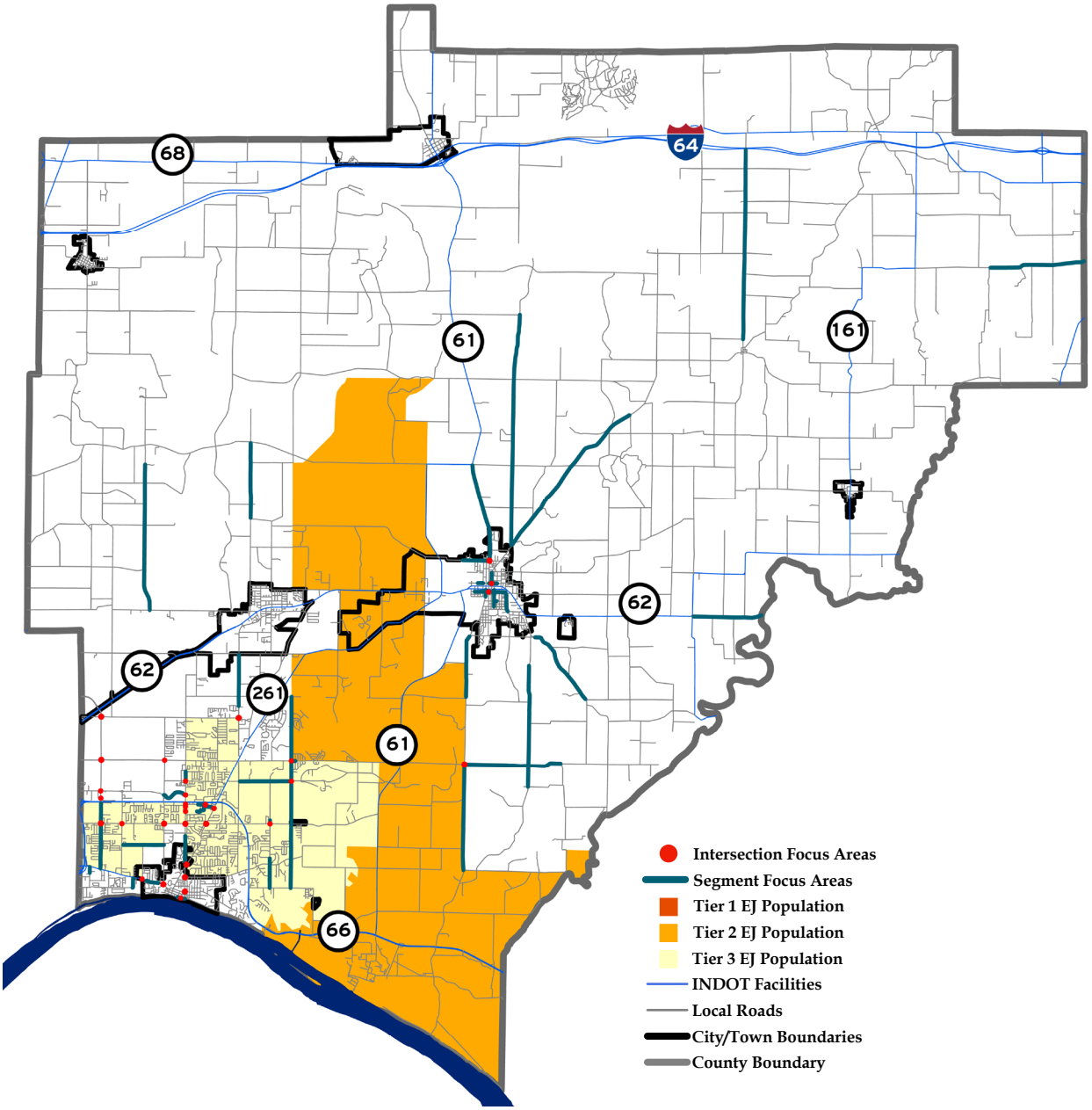
- individuals below poverty;
- individuals age 65 and older;
- minority population;
- Hispanic population;
- individuals with limited English proficiency (speak English "less than very well"); and
- individuals with a disability.

For each census tract, EJ Population Tiers were created based on the number of factors within the census tract that exceeded the Threshold. The EJ Population Area Tiers are:

- Tier 1: Exceeds 6-7 EJ Population Thresholds
- Tier 2: Exceeds 4-5 EJ Population Thresholds
- Tier 3: Exceeds 2-3 EJ Population Thresholds

These EJ Population Tiers can be found on the Evansville MPO website. Figure 3 shows the Environmental Justice Tiers along with the top intersections and segments that were identified during the countywide analysis in Warrick County.

Figure 3: EJ Population Tiers and Intersection and Segment Focus Areas



Recommendations

The evaluation of data and the stakeholder engagement process identified four focus areas. Objectives for the focus areas and countermeasures found in Appendix J include engineering, enforcement, education, and emergency management.

1. Safe Roads for All Users
2. Infrastructure
3. Additional Data Gathering/General Strategies
4. Education/Enforcement

Objectives	Partners
Safe Roads for All Users	
• Prioritize projects that reduce serious injuries and fatalities to ensure safe and secure transportation networks for all users. • Maintain and monitor transportation infrastructure conditions to preserve regional transportation networks. • Maintain a state of good repair for transit and paratransit vehicles and facilities to ensure a safe and secure transit system.	MPO, LPAs, Transit Agencies
Infrastructure	
• Complete safety audits to identify safety issues and opportunities for safety improvements on both a site specific and system level. • Complete additional planning documents at an intersection/segment specific or corridor level. • Prioritize and Implement projects that will improve safety at intersections and segments identified in this plan in Appendix A and B using proven safety countermeasures including, but not limited to, those found in Appendix J. • Evaluate and implement speed management techniques in roadway design and traffic control.	LPAs
Additional Data Gathering/General Strategies	
• Evaluate implemented safety projects before and after to determine their effectiveness. • Analyze safety data at least every two years to identify high severity crash areas. • Improve responder and motorist safety through traffic incident management trainings and technology deployment. • Evaluate the current programs and technology being utilized by each agency and make improvements as necessary. • Hold stakeholder meetings at least every 2 years to discuss potential safety issues/ strategies. • Review existing data gaps and prioritize improvements and implement strategies and/or technology to fill the gaps.	MPO, LPAs, Transit Agencies, Law Enforcement Agencies, INDOT
Education/Enforcement	
• Expand enforcement of traffic laws including but not limited to speeding, running red lights, distracted driving, and driving under the influence.	Law Enforcement
• Expand current education and awareness efforts for bicyclist and pedestrian education, safety, and awareness. • Expand current education and awareness efforts for school zone awareness and construction zone awareness. • Expand current education and awareness efforts on the dangers of distracted driving, driving under the influence, and aggressive driving. • Expand current education and awareness efforts on how to navigate roundabouts or other newly designed intersections/ road layouts.	MPO, LPAs, Law Enforcement

Recommended Project Prioritization and Time Frame

Locations with the highest number/rate of fatalities and/or incapacitating injuries will be prioritized as well as Low Cost Countermeasures to ensure that resources are maximized.

Short-Term (1-3 years)

Recommended strategies that should be considered to be implemented in the short-term time frame include:

- Expand current education and awareness efforts.
- Expand Enforcement.
- Review existing data gaps and prioritize improvements.
- Evaluate the current programs and technology being utilized.
- Evaluate speed management techniques in roadway design and traffic control.
- Complete safety audits.
- Complete additional planning documents.
- Prioritize projects that reduce serious injuries and fatalities to ensure safe and secure transportation networks for all users and projects that will improve safety at intersections and segments identified in this plan.

Mid-Term (3-5 years)

Recommended strategies that should be considered to be implemented in the mid-term time frame include:

- Maintain and monitor transportation infrastructure conditions to preserve regional transportation networks.
- Improve responder and motorist safety through traffic incident management trainings and technology deployment.
- Maintain a state of good repair for transit and paratransit vehicles and facilities to ensure a safe and secure transit system.
- Implement projects that will improve safety at intersections and segments identified in this plan.
- Implement speed management techniques in roadway design and traffic control.
- Implement strategies and/or technology to fill data gaps.

Long-Term (5+ years)

Recommended strategies that should be considered to be implemented in the long-term time frame include:

- Evaluate implemented safety projects before and after to determine their effectiveness.

Each jurisdiction should evaluate their own needs and their own projects/strategies that are currently under development. Project prioritization and implementation time frames may differ based on various factors per jurisdiction. If a project or strategy is currently under development, the jurisdiction may add a higher priority or speed up the time frame for implementation.

Progress and Transparency

This Safety Action Plan will be available on the Evansville MPO website. Progress will be shown during each Evansville MPO Metropolitan Transportation Plan update as well as incorporated during any update to this Safety Action Plan. The State Baseline Data will be utilized in the MTP updates and the 2017-2021 FARS data Total Fatality Count, Average Annual Motor-Vehicle Involved Fatalities, and the 5-Year Fatality Rate per jurisdiction will be used as the baseline data for any Safety Action Plan updates. Any updates to these documents will also be made available on the Evansville MPO website.

A

OVERALL DATA (2016-2020 ARIES DATA)

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B

COUNTYWIDE DATA (2016-2020 ARIES DATA)

Highest Total Number of Crashes (2016-2020) - Arterial/Collector & Collector/Collector Intersections

East to West Road	North to South Road	Road Type	Number of Crashes	Jurisdiction
Lincoln Avenue	Old State Route 261	Intersection-Arterial/ Collector	30	Warrick County
Lincoln Avenue	Frame Road	Intersection-Collector/ Collector	28	Warrick County
Lincoln Avenue	Bell Road	Intersection-Collector/ Collector	27	Warrick County
Lincoln Avenue	Epworth Road	Intersection-Collector/ Collector	23	Warrick County
Oak Grove Road	Epworth Road	Intersection-Collector/ Collector	21	Warrick County
Telephone Road	Epworth Road	Intersection-Collector/ Collector	20	Warrick County
Old State Route 662	Yorkshire Drive/Frame Road	Intersection-Arterial/ Collector	15	Newburgh
Telephone Road	Fuquay Road	Intersection-Collector/ Collector	14	Warrick County
Roeder Road/New Hope Road	Yankeetown Road	Intersection-Collector/ Collector	11	Warrick County
Gray Street	State Street	Intersection-Collector/ Collector	9	Newburgh
Sharon Road	State Street	Intersection-Collector/ Collector	8	Newburgh
State Street	Bell Road	Intersection-Arterial/ Collector	8	Newburgh/Warrick County
North Street	3rd Street	Intersection-Arterial/ Collector	5	Boonville

Highest Total Number of Crashes (2016-2020) - Arterial/Local & Collector/Local Intersections

East to West Road	North to South Road	Road Type	Number of Crashes	Jurisdiction
Bell Oaks Drive (East) (south intersection)	Bell Road	Intersection-Collector/ Local	33	Warrick County
Stahl Road	Epworth Road	Intersection-Collector/ Local	29	Warrick County
Vann Road	Bell Road	Intersection-Collector/ Local	25	Warrick County
Bell Oaks Drive (West) (North Intersection)	Bell Road	Intersection-Collector/ Local	23	Warrick County
Vann Road	Anderson Road	Intersection-Collector/ Local	23	Warrick County
Lincoln Avenue	Grimm Road	Intersection-Collector/ Local	16	Warrick County
Bell Oaks Drive	Old State Route 261	Intersection-Arterial/ Local	12	Warrick County
Lakeshore Drive	Bell Road	Intersection-Collector/ Local	12	Warrick County
High Pointe Drive	Bell Road	Intersection-Collector/ Local	11	Warrick County
Oak Grove Road	Libbert Road	Intersection-Collector/ Local	11	Warrick County
Lincoln Avenue	Martin Road	Intersection-Collector/ Local	10	Warrick County
Venetian Drive	Epworth Road	Intersection-Collector/ Local	10	Warrick County
Old State Route 662	Ellerbusch Road	Intersection-Arterial/ Local	8	Newburgh/Warrick County
Sycamore Street	4th Street	Intersection-Arterial/ Local	5	Boonville

Highest Total Number of Crashes (2016-2020) - Local/Local Intersections

East to West Road	North to South Road	Road Type	Number of Crashes	Jurisdiction
Bell Oaks Drive	Wyntree Drive	Intersection-Local/Local	20	Warrick County
Maken Drive	Wyntree Drive	Intersection-Local/Local	20	Warrick County
Oak Grove Road	Anderson Road	Intersection-Local/Local	13	Warrick County
Walnut Street	3rd Street	Intersection-Local/Local	5	Boonville
Water Street	Monroe Street	Intersection-Local/Local	4	Newburgh

Intersection Top Crash Rate

East to West Road	North to South Road	Crash Rate	Jurisdiction	Top Crash Type	#	Second Highest Crash Type	#
Bell Oaks Drive	Wyntree Drive	2.222	Warrick County	Right Angle	14	Left Turn	3
Roeder Road/ New Hope Road	Yankeetown Road	2.2	Warrick County	Right Angle	9	Collision with Deer	2
Maken Drive	Wyntree Drive	2	Warrick County	Right Angle	14	Left Turn	3
Water Street	Monroe Street	2	Newburgh	Rear End	3	Other-Explain in Narrative	1
Vann Road	Bell Road	1.786	Warrick County	Right Angle	21	Multiple types had 1	0
Vann Road	Anderson Road	1.438	Warrick County	Right Angle	13	Rear End	4
Stahl Road	Epworth Road	1.381	Warrick County	Right Angle	14	Rear End	6
Lincoln Avenue	Frame Road	1.333	Warrick County	Right Angle	25	Multiple types had 1	0
Bell Oaks Drive (East) (South Intersection)	Bell Road	1.32	Warrick County	Right Angle	17	Rear End	5
Telephone Road	Fuquay Road	1.273	Warrick County	Ran off Road	6	Rear End	5
Lincoln Avenue	Old State Route 261	1.034	Warrick County	Rear End	17	Right Angle	4

Highest Number of Accidents with Injuries where at least one was an Incapacitating Injury - Intersection

East to West Road	North to South Road	Number of Crashes	Jurisdiction
Stahl Road	Epworth Road	10	Warrick County
Lincoln Avenue	Bell Road	8	Warrick County
Lincoln Avenue	Frame Road	8	Warrick County
Vann Road	Bell Road	8	Warrick County
Oak Grove Road	Epworth Road	7	Warrick County
Bell Oaks Drive (East) (South intersection)	Bell Road	6	Warrick County

Top Crash Locations per Manner of Crash - Intersection

East to West Road	North to South Road	Number of Crashes	Manner of Crash	Jurisdiction
Lincoln Avenue	Frame Road	25	Right Angle	Warrick County
Vann Road	Bell Road	21	Right Angle	Warrick County
Lincoln Avenue	Old State Route 261	17	Rear End	Warrick County
Bell Oaks Drive (East) (South intersection)	Bell Road	17	Right Angle	Warrick County
Stahl Road	Epworth Road	14	Right Angle	Warrick County
Bell Oaks Drive	Wyntree Drive	14	Right Angle	Warrick County
Maken Drive	Wyntree Drive	14	Right Angle	Warrick County
Vann Road	Anderson Road	13	Right Angle	Warrick County
Lincoln Avenue	Epworth Road	13	Rear End	Warrick County
Oak Grove Road	Anderson Road	13	Right Angle	Warrick County
Bell Oaks Drive (West) (North intersection)	Bell Road	11	Right Angle	Warrick County
State Route 662	Yorkshire Drive/Frame Road	10	Rear End	Newburgh
Lincoln Avenue	Grimm Road	10	Right Angle	Warrick County
Lincoln Avenue	Bell Road	10	Rear End	Warrick County
Lincoln Avenue	Bell Road	10	Right Angle	Warrick County

Segment Top Crash Rate - Collector or Above

Road	Location	Crash Rate	Jurisdiction	Top Crash Type	#	Second Highest Crash Type	#
Bell Road	East Bell Oaks Drive to West Bell Oaks Drive	37.908	Warrick	Right Angle	21	Rear End	8
2nd Street	Cherry Street to Locust Street	15.293	Boonville	Left Turn & Right Angle	3	Same Direction Sideswipe	3
Bell Road	Vann Road to Kingston Drive	14.708	Warrick	Right Angle	22	Ran off Road	5
Stacer Road	south of Ferguson Street to SR 662	13.251	Warrick	Ran off Road	3	Rear End	2
3rd Street	Olive Street to South of Lovers Lane	9.791	Boonville	Collision with Deer	2	Multiple types had 1	0
North Street	west of Ratliff Court to 3rd Street	8.491	Boonville	Collision with Deer & Opposite Direction Sideswipe	2	Ran off Road& Right Angle	2
4th Street	Sycamore Street to Poplar Street	8.073	Boonville	Right Angle	5	Ran off Road	3
8th Street	Millis Avenue to Walnut Street	7.307	Boonville	Backing Crash	2	Rear End	2
Dale-Heilman Road	Deer Fly Lane to County Line	7.133	Warrick	Ran off Road	6	Opposite Direction Sideswipe	2
Maxville Road	Maxville Road to County Line	5.008	Warrick	Collision with Deer	4	Ran off Road	3

Segment Top Crash Rate - Local

Road	Location	Crash Rate	Jurisdiction	Top Crash Type	#	Second Highest Crash Type	#
Water Street	Madison Street to Monroe Street	97.561	Newburgh	Rear End	4	Other-Explain in Narrative	3
Water Street	Monroe Street to State Street	96.746	Newburgh	Other-Explain in Narrative	6	Rear End	3
Sycamore Street	3rd Street to 4th Street	90.684	Boonville	Right Angle	5	Left Turn	2
Division Street	5th Street to 6th Street	83.893	Boonville	Right Angle	3	Left Turn & Other-Explain in Narrative	1
Martin Road	Lincoln Avenue to Danielle Lane	82.803	Warrick	Ran off Road	4	Right Angle	4
Sycamore Street	4th Street to 6th Street	63.114	Boonville	Right Angle	5	Multiple types had 1	0
Sycamore Street	Vine Street to 1st Street	48.9	Boonville	Right Angle	5	Multiple types had 1	0
Walnut Street	Cypress Street to 3rd Street	38.43	Boonville	Right Angle	8	Left Turn	3
Walnut Street	3rd Street to 8th Street	32.92	Boonville	Right Angle	7	Multiple types had 1	0
Oak Grove Road	Anderson Road to Megan Drive	24.574	Warrick	Right Angle	13	Head On	1

Highest Number of Accidents with Injuries - Segments

Road	Location	Number of Crashes	Jurisdiction
Bell Oaks Drive	west of Merchant Drive to Old State Route 261	9	Warrick County
Epworth Road	Lincoln Avenue to State Route 66	9	Warrick County
Bell Road	East Bell Oaks Drive to West Bell Oaks Drive	8	Warrick County
Bell Road	Vann Road to Kingston Drive	8	Warrick County
Folsomville Road	Eby Road to Polk Road	7	Warrick County
Anderson Road	Vann Road to Jenner Road	6	Warrick County
Fuquay Road	Bosma Drive to Gardner Road	6	Warrick County
Oak Grove Road	Anderson Road to Megan Drive	6	Warrick County
Wyntree Drive	SR 66 to the end of the road	6	Warrick County
Folsomville Road	Gentry Road to I-64	5	Warrick County

Highest Number of Accidents with Injuries with at least one Incapacitating Injury or Fatality - Segments

Road	Location	Number of Crashes	Jurisdiction
Folsomville Road	Gentry Road to I-64	6	Warrick County
Bell Road	East Bell Oaks Drive to West Bell Oaks Drive	8	Warrick County
Bell Road	Vann Road to Kingston Drive	8	Warrick County
Folsomville Road	Eby Road to Polk Road	7	Warrick County
New Hope Road	Yankeetown Road to Pigeon Valley Road	4	Warrick County

Highest Number of Accidents Involving Deer - Segments

Road	Location	Number of Crashes	Jurisdiction
Folsomville Road	Eby Road to Polk Road	31	Warrick County
Old State Road 61	Stonehaven Circle to Shelton Road	19	Boonville/ Warrick County
Vann Road	Casey Road to Anderson Road	15	Warrick County
Folsomville Road	Gentry Road to I-64	13	Warrick County
Yankeetown Road	Eble Road to New Hope Road	8	Warrick County
Rockport Road	Metzger Road to Maple Grove Road	8	Warrick County
Pelzer Road	Flemming Road to south of Caney Creek	7	Warrick County
Asbury Cemetery Road	Helm Road to Remington Drive	7	Warrick County
Bell Road	Edgewood Drive to Yorkridge Court	7	Newburgh/ Warrick County

Top Crash Locations per Manner of Crash - Segments

East to West Road	North to South Road	Manner of Crash	Number of Crashes	Jurisdiction
Folsomville Road	Eby Road to Polk Road	Collision with Deer	29	Warrick County
Epworth Road	Lincoln Avenue to State Route 66	Rear End	23	Warrick County
Bell Road	Vann Road to Kingston Drive	Right Angle	22	Warrick County
Bell Road	East Bell Oaks Drive to West Bell Oaks Drive	Right Angle	21	Warrick County
Bell Oaks Drive	West of Merchant Drive to Old State Route 261	Right Angle	20	Warrick County
Old State Road 61	Stonehaven Circle to Shelton Road	Collision with Deer	19	Boonville/ Warrick County
Vann Road	Casey Road to Anderson Road	Collision with Deer	15	Warrick County
Wyntree Drive	SR 66 to the end of the road	Right Angle	14	Warrick County
Anderson Road	Vann Road to Jenner Road	Right Angle	13	Warrick County

Number of Crashes on Non-State Roads Involving a Fatality by Jurisdiction

Year	Boonville	Chandler	Elberfeld	Lynnville	Newburgh	Tennyson	Warrick County (Unincorporated)
2016	0	0	0	0	0	0	1
2017	0	0	0	0	0	0	1
2018	0	0	0	0	3	0	2
2019	0	0	0	0	0	0	1
2020	0	0	0	0	0	0	1
Total	**0**	**0**	**0**	**0**	**3**	**0**	**6**

Number of Crashes on Non-State Roads Involving an Incapacitating Injury by Jurisdiction

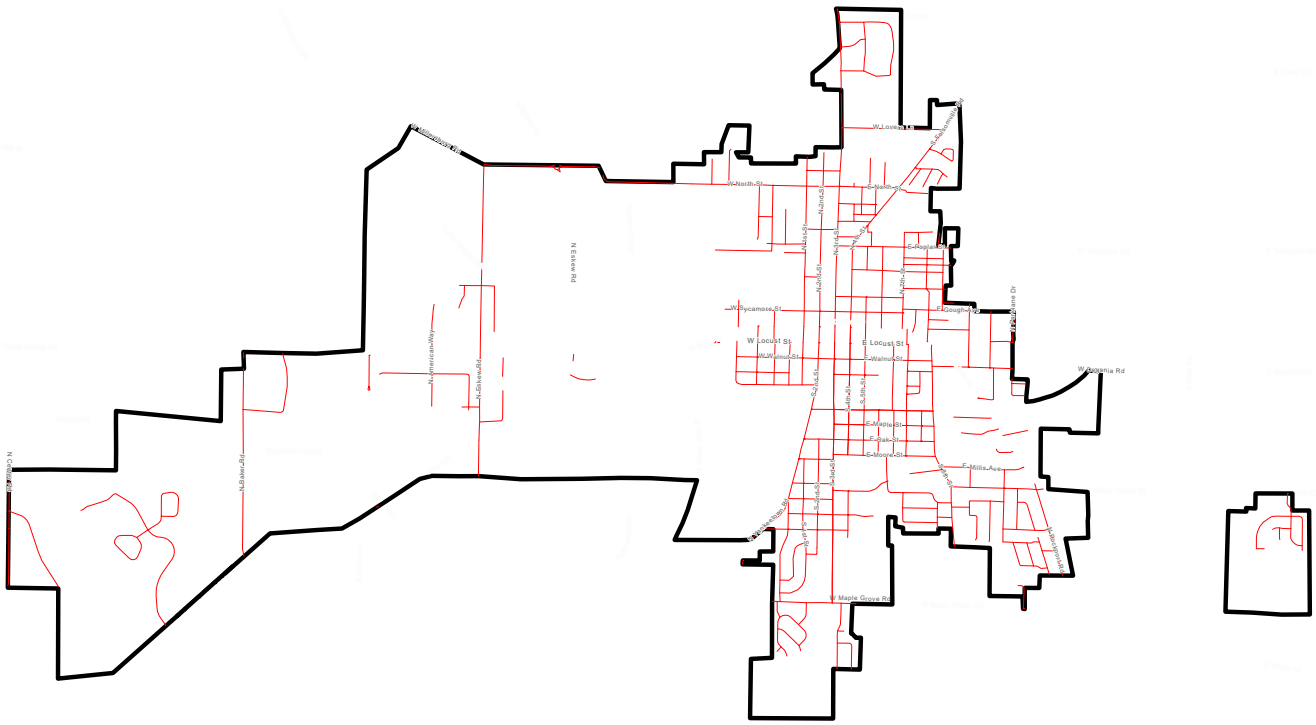
Year	Boonville	Chandler	Elberfeld	Lynnville	Newburgh	Tennyson	Warrick County (Unincorporated)
2016	4	1	0	0	4	0	9
2017	5	0	0	0	0	0	4
2018	3	3	0	0	1	0	9
2019	0	1	0	0	0	0	13
2020	0	0	1	0	0	0	5
Total	**12**	**5**	**1**	**0**	**5**	**0**	**40**

Warrick County Non-State Road Crash Statistics - Top 5

Manner of Crash	Percentage of Total Crashes
Ran off Road	22.4%
Rear End	18.2%
Right Angle	15.1%
Collision with Deer	14.7%
Backing Crash	6.6%
Primary Factor	**Percentage of Total Crashes**
Failure to Yield Right of Way	17.2%
Animal/Object in Roadway	16.7%
Ran Off Road Right	13.7%
Unsafe Backing	13.2%
Disregard Signal/Reg Sign	6.9%
Light Condition	**Percentage of Total Crashes**
Daylight	61.7%
Dark (Not Lighted)	22.2%
Dark (Lighted)	10.5%
Dawn/Dusk	5.5%
Unknown	0.1%
Roadway Characteristic	**Percentage of Total Crashes**
Straight/Level	64.0%
Straight/Grade	18.5%
Straight/Hillcrest	7.1%
Curve/Level	5.9%
Curve/Grade	3.8%
Weather Condition	**Percentage of Total Crashes**
Clear	66.5%
Cloudy	16.6%
Rain	12.9%
Snow	2.3%
Fog/Smoke/Smog	0.9%
Surface Condition	**Percentage of Total Crashes**
Dry	76.0%
Wet	17.8%
Ice	2.7%
Snow/Slush	1.9%
Loose Material on Road	1.3%
Vehicle Type	**Percentage of Total Crashes**
Car/Station Wagon/Pick-Up/SUV	95.6%
Motorcycle	0.9%
Unknown	0.7%
Truck (Single 2 Axle, 6 Tires)	0.5%
Bus/Seats 15+ Persons with Driver & Truck (Single 3 or More Axles)	0.4% each
Roadway Junction	**Percentage of Total Crashes**
No Junction Involved	56.8%
Four-Way Intersection	26.8%
T-Intersection	15.5%
Y-Intersection	0.5%
Five Point or More, Interchange, Railroad Crossings, & Traffic Circle/ Roundabout	0.1% each

C BOONVILLE DATA

Boonville Local Roads



	Total Crashes Involving a Fatality Including State Roads	Total Number of Fatalities Including State Roads	Total Crashes Involving a Fatality Not Including State Roads	Total Number of Fatalities Not Including State Roads
Total Fatality Count	2	2	1	1
Average Annual Motor-Vehicle Involved Roadway Fatalities	0.4	0.4	0.2	0.2
5-Year Fatality Rate (per 100,000 persons)	5.96	5.96	2.98	2.98
Percentage of Population in Underserved Communities				
0%				

Boonville Non-State Road Crash Manner

All Crashes	
Manner of Crash	**Percentage of Total Crashes**
Right Angle	17.9%
Ran off Road	16.0%
Rear End	11.8%
Backing Crash	11.5%
Other-Explain in Narrative	8.0%
Fatality or Incapacitating Injury Crash	
Manner of Crash	**Percentage of Total Crashes**
Right Angle	41.7%
Ran Off Road	25.0%
Rear End	25.0%
Left Turn	8.3%

Boonville Non-State Road Crash Primary Factor

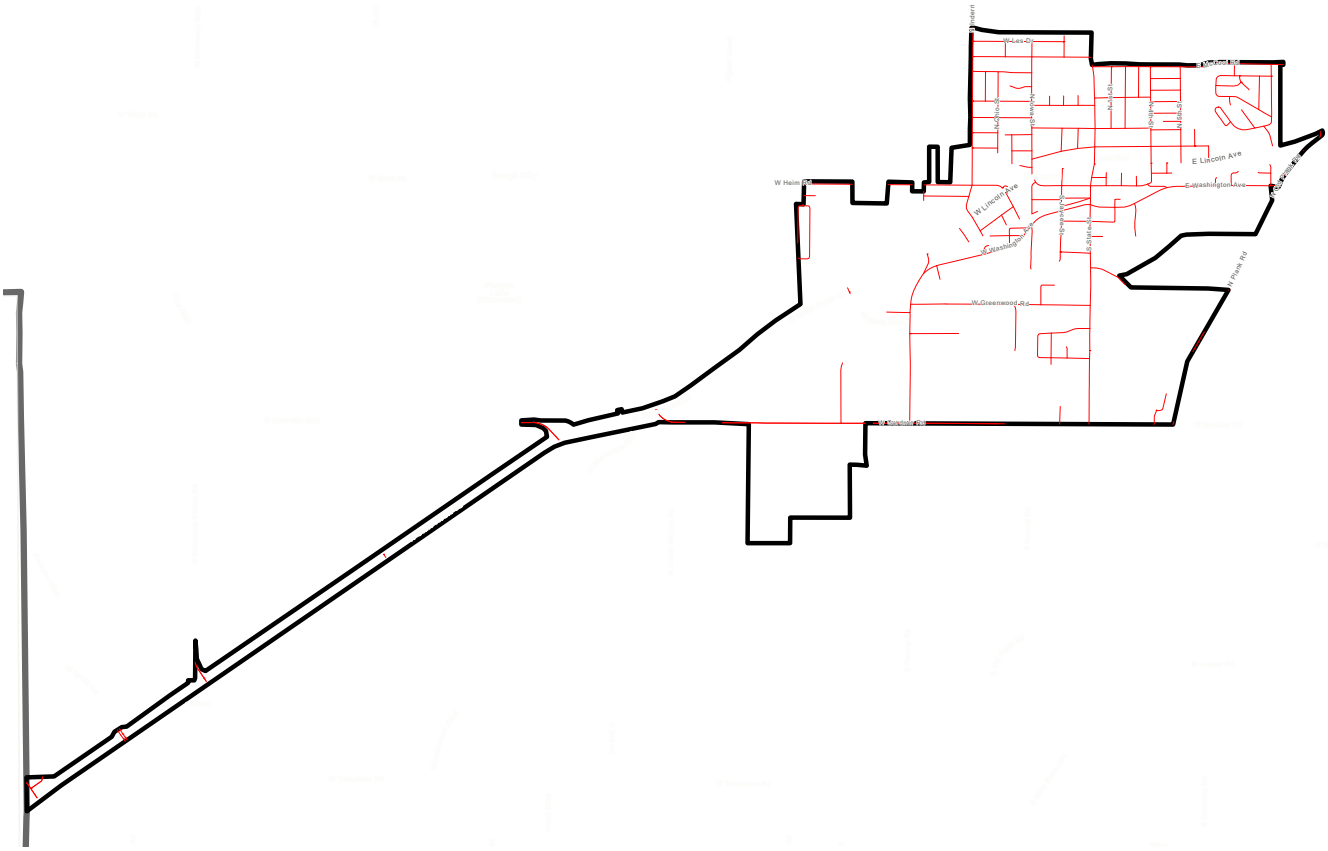
All Crashes	
Primary Factor	**Percentage of Total Crashes**
Failure to Yield Right of Way	22.0%
Animal/Object in Roadway	9.6%
Unsafe Backing	9.6%
Ran off Road Right	9.3%
Improper Turning	7.0%
Fatality or Incapacitating Injury Crash	
Primary Factor	**Percentage of Total Crashes**
Failure to Yield Right of Way	50.0%
Following too Closely	25.0%
Ran off Road Right	16.7%
Other (Driver)-Explain in Narrative	8.3%

Boonville Non-State Road Crash Statistics - Top 5

Light Condition	Percentage of Total Crashes
Daylight	69.0%
Dark (Lighted)	14.7%
Dark (Not Lighted)	12.8%
Dawn/Dusk	3.2%
Unknown	0.3%
Roadway Characteristic	**Percentage of Total Crashes**
Straight/Level	69.6%
Straight/ Grade	19.5%
Straight/Hillcrest	6.1%
Curve/Level	2.2%
Curve/Grade & Curve/Hillcrest	1.0% each
Weather Condition	**Percentage of Total Crashes**
Clear	69.3%
Cloudy	17.6%
Rain	8.9%
Snow	2.2%
Severe Cross Wind & Blowing Sand/Soil/Snow	0.6% each
Surface Condition	**Percentage of Total Crashes**
Dry	80.5%
Wet	15.0%
Snow/Slush	2.9%
Ice	0.6%
Loose Material on Road	0.6%
Vehicle Type	**Percentage of Total Crashes**
Car/Station Wagon/Pick-up/SUV/Van	95.6%
Bus/Seats 15+ Persons with Driver	0.9%
Truck (Single 2 Axle, 6 Tires)	0.9%
Bus Seats 9-15 Persons with Driver, Motor Driven Cycle Class A or B, Motorcycle, Tractor/One Semi Trailer, Truck (Single 3 or more axles), & Unknown Type	0.4% each
Roadway Junction	**Percentage of Total Crashes**
No Junction Involved	67.1%
Four-Way Intersection	19.2%
T-Intersection	12.1%
Interchange	0.6%
Railroad Crossings	0.6%

D CHANDLER DATA

Chandler Local Roads



	Total Crashes Involving a Fatality Including State Roads	Total Number of Fatalities Including State Roads	Total Crashes Involving a Fatality Not Including State Roads	Total Number of Fatalities Not Including State Roads
Total Fatality Count	2	2	0	0
Average Annual Motor-Vehicle Involved Roadway Fatalities	0.4	0.4	0	0
5-Year Fatality Rate (per 100,000 persons)	10.83	10.83	0.00	0.00
Percentage of Population in Underserved Communities				
0%				

Chandler Non-State Road Crash Manner

All Crashes	
Manner of Crash	**Crash Percentage**
Ran off Road	19.3%
Rear End	17.6%
Backing Crash	16.0%
Right Angle	16.0%
Left Turn	7.6%
Fatality or Incapacitating Injury Crash	
Manner of Crash	**Crash Percentage**
Ran off Road	60%
Head On	20%
Left Turn	20%

Chandler Non-State Road Crash Primary Factor

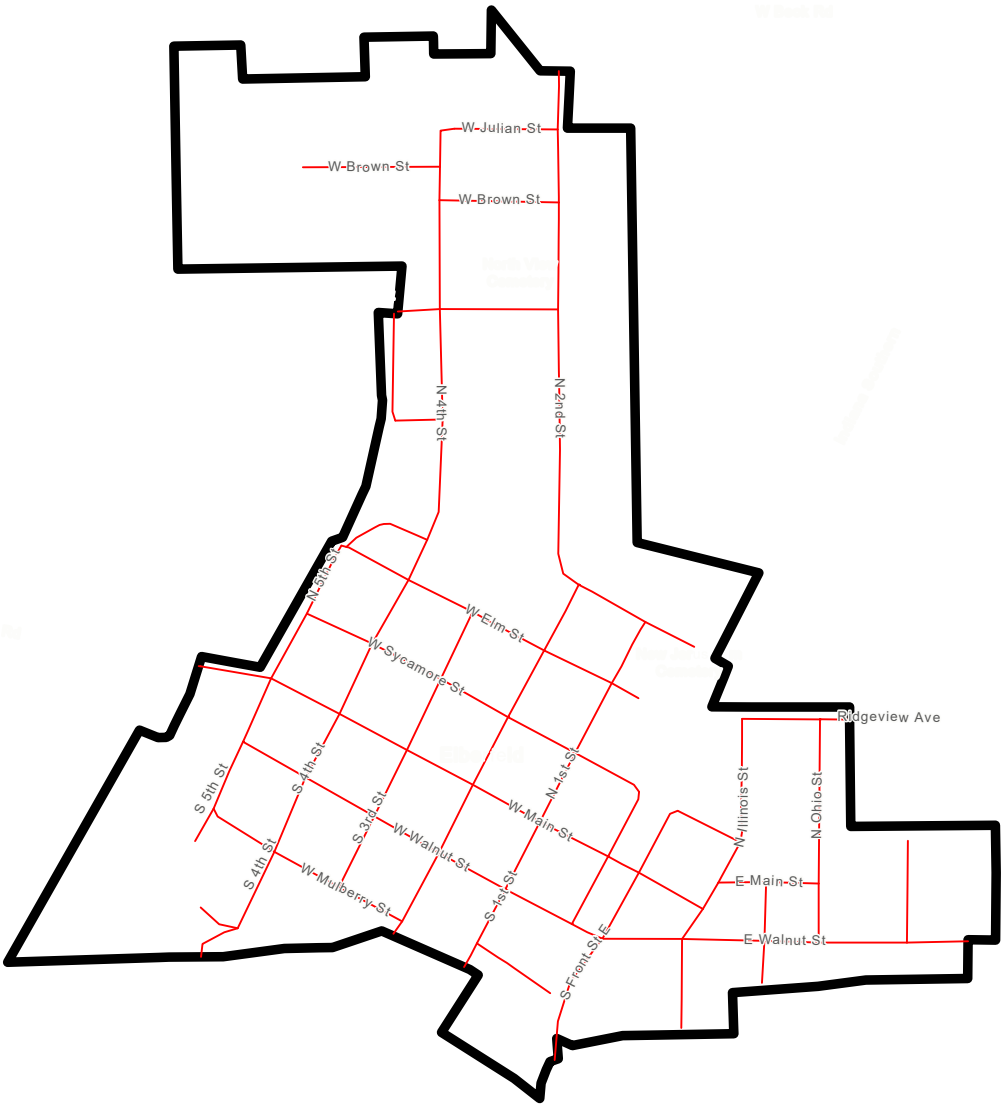
All Crashes	
Primary Factor	**Percentage**
Failure to Yield Right of Way	22.7%
Unsafe Backing	16.0%
Following too Closely	15.1%
Animal/Object in Roadway	8.4%
Disregard Signal/ Reg Sign	7.6%
Fatality or Incapacitating Injury Crash	
Primary Factor	**Percentage**
Failure to Yield Right of Way	40%
Overcorrecting/Oversteering	20%
Ran off Road Right	20%
Other (Driver)- Explain in Narrative	20%

Chandler Non-State Road Crash Statistics - Top 5

Light Condition	Percentage of Total Crashes
Daylight	65.5%
Dark (Not Lighted)	19.3%
Dark (Lighted)	10.9%
Dawn/Dusk	4.2%
Roadway Characteristic	**Percentage of Total Crashes**
Straight/Level	65.5%
Straight/Grade	15.1%
Curve/Level	11.8%
Straight/Hillcrest	5.0%
Curve/Grade & Curve Hillcrest	0.8% each
Weather Condition	**Percentage of Total Crashes**
Clear	67.2%
Cloudy	16.8%
Rain	12.6%
Blowing Sand/Soil/Snow	1.7%
Fog/Smoke/Smog & Severe Cross Wind	0.8% each
Surface Condition	**Percentage of Total Crashes**
Dry	79.0%
Wet	18.5%
Snow/Slush	1.7%
Water Standing or Moving	0.8%
Vehicle Type	**Percentage of Total Crashes**
Car/Station Wagon/Pick-up/SUV/Van	95.2%
Motor Driven Cycle Class A or B	1.2%
Unknown	1.2%
Tractor/One Semi Trailer	1.2%
Truck (Single 2 Axle, 6 Tires)	1.2%
Roadway Junction	**Percentage of Total Crashes**
No Junction Involved	55.5%
Four-Way Intersection	26.1%
T-Intersection	15.1%
Y-Intersection	1.7%
Five Point or More	0.8%
Railroad Crossings	0.8%

E ELBERFELD DATA

Elberfeld Local Roads



	Total Crashes Involving a Fatality Including State Roads	Total Number of Fatalities Including State Roads	Total Crashes Involving a Fatality Not Including State Roads	Total Number of Fatalities Not Including State Roads
Total Fatality Count	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Average Annual Motor-Vehicle Involved Roadway Fatalities	Not Applicable	Not Applicable	Not Applicable	Not Applicable
5-Year Fatality Rate (per 100,000 persons)	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Percentage of Population in Underserved Communities				
0%				

Elberfeld Non-State Road Crash Manner - Top 5

All Crashes	
Manner of Crash	**Crash Percentage**
Ran off Road	25%
Backing Crash	12.5%
Head On	12.5%
Opposite Direction Sideswipe	12.5%
Other-Explain in Narrative	12.5%
Right Angle	12.5%
Same Direction Sideswipe	12.5%
Fatality or Incapacitating Injury Crash	
Manner of Crash	**Crash Percentage**
Ran off Road	100%

Elberfeld Non-State Road Crash Primary Factor - Top 5

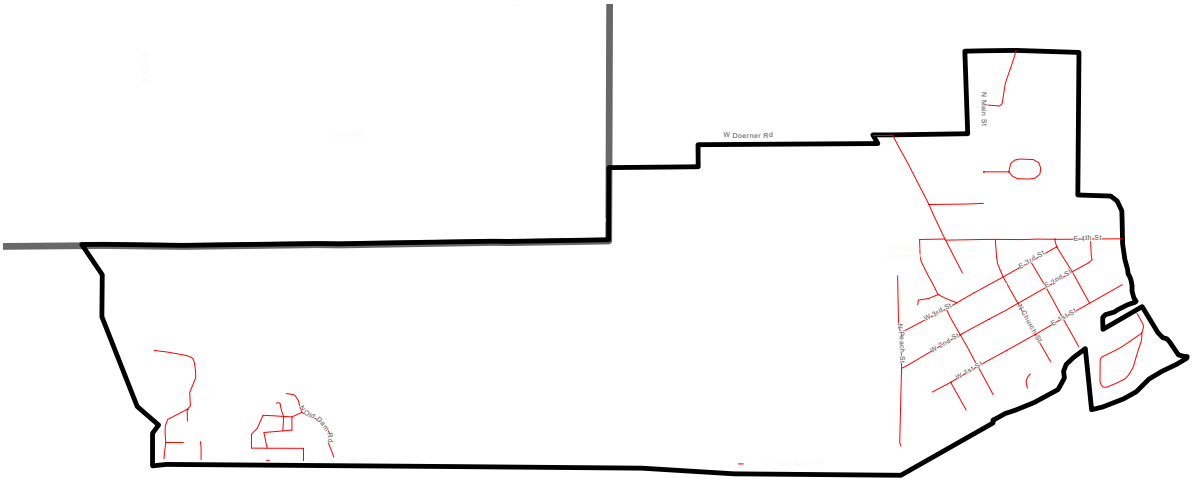
All Crashes	
Primary Factor	**Percentage**
Left of Center	25%
Ran off Road Right	25%
Disregard Signal/Reg Sign	12.5%
Improper Passing	12.5%
Unsafe Backing	12.5%
Unsafe Speed	12.5%
Fatality or Incapacitating Injury Crash	
Primary Factor	**Percentage**
Ran off Road Right	100%

Elberfeld Non-State Road Crash Statistics - Top 5

Light Condition	Percentage of Total Crashes
Dark (Lighted)	50%
Daylight	37.5%
Dawn/Dusk	12.5%
Roadway Characteristic	**Percentage of Total Crashes**
Straight/Level	75%
Curve/Level	25%
Weather Condition	**Percentage of Total Crashes**
Clear	75%
Rain	25%
Surface Condition	**Percentage of Total Crashes**
Dry	75%
Wet	25%
Vehicle Type	**Percentage of Total Crashes**
Car/Station Wagon/Pick-up/SUV/Van	100%
Roadway Junction	**Percentage of Total Crashes**
No Junction Involved	62.5%
T-Intersection	25.0%
Four-Way Intersection	12.5%

F LYNNVILLE DATA

Lynnville Local Roads



	Total Crashes Involving a Fatality Including State Roads	Total Number of Fatalities Including State Roads	Total Crashes Involving a Fatality Not Including State Roads	Total Number of Fatalities Not Including State Roads
Total Fatality Count	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Average Annual Motor-Vehicle Involved Roadway Fatalities	Not Applicable	Not Applicable	Not Applicable	Not Applicable
5-Year Fatality Rate (per 100,000 persons)	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Percentage of Population in Underserved Communities				
0%				

Lynnville Non-State Road Crash Manner - Top 5

All Crashes	
Manner of Crash	**Crash Percentage**
Ran off Road	37.5%
Opposite Direction Sideswipe	25%
Backing Crash	12.5%
Right Angle	12.5%
Same Direction Sideswipe	12.5%
Fatality or Incapacitating Injury Crash	
Manner of Crash	**Crash Percentage**
Not Applicable	

Lynnville Non-State Road Crash Primary Factor - Top 5

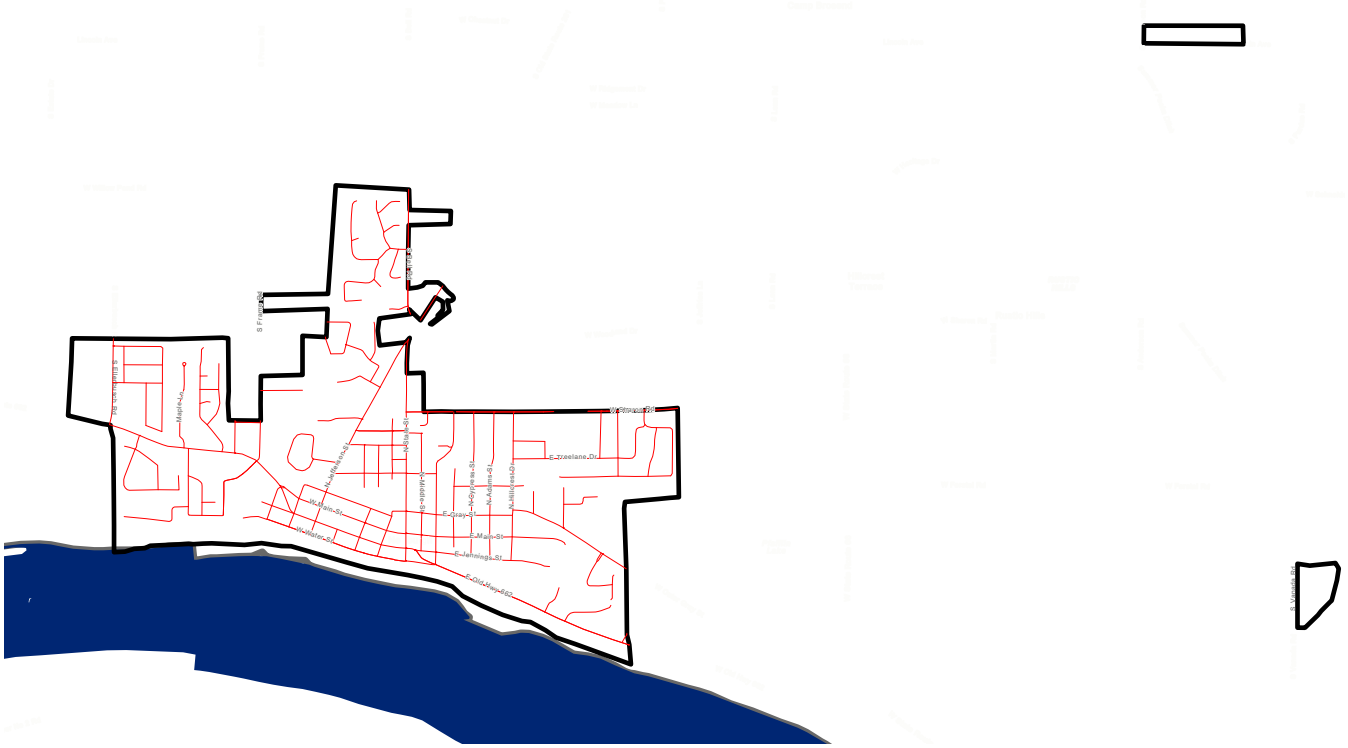
All Crashes	
Primary Factor	**Percentage**
Ran off Road Right	25%
Unsafe Backing	25%
Failure to Yield Right of Way	12.5%
Improper Lane Usage	12.5%
Left of Center	12.5%
Unsafe Speed	12.5%
Fatality or Incapacitating Injury Crash	
Primary Factor	**Percentage**
Not Applicable	

Lynnville Non-State Road Crash Statistics - Top 5

Light Condition	Percentage of Total Crashes
Daylight	87.5%
Dark (Lighted)	12.5%
Roadway Characteristic	**Percentage of Total Crashes**
Straight/Level	37.5%
Straight/Grade	25%
Curve/Grade	12.5%
Curve/Level	12.5%
Straight/Hillcrest	12.5%
Weather Condition	**Percentage of Total Crashes**
Clear	87.5%
Cloudy	12.5%
Surface Condition	**Percentage of Total Crashes**
Dry	87.5%
Loose Material on Road	12.5%
Vehicle Type	**Percentage of Total Crashes**
Car/Station Wagon/Pick-up/SUV/Van	83.3%
Unknown	16.7%
Roadway Junction	**Percentage of Total Crashes**
No Junction Involved	75%
T-Intersection	25%

G NEWBURGH DATA

Newburgh Local Roads



	Total Crashes Involving a Fatality Including State Roads	Total Number of Fatalities Including State Roads	Total Crashes Involving a Fatality Not Including State Roads	Total Number of Fatalities Not Including State Roads
Total Fatality Count	4	4	2	2
Average Annual Motor-Vehicle Involved Roadway Fatalities	0.8	0.8	0.4	0.4
5-Year Fatality Rate (per 100,000 persons)	23.92	23.92	11.96	11.96
Percentage of Population in Underserved Communities				
0%				

Newburgh Non-State Road Crash Manner - Top 5

All Crashes	
Manner of Crash	**Crash Percentage**
Rear End	30.1%
Right Angle	12.9%
Ran off Road	11.5%
Other-Explain in Narrative	9.6%
Backing Crash	9.1%
Fatality or Incapacitating Injury Crash	
Manner of Crash	**Crash Percentage**
Right Angle	25%
Non-Collision	25%
Collision with Object in Road	12.5%
Other Explain in Narrative	12.5%
Ran off Road	12.5%
Rear End	12.5%

Newburgh Non-State Road Crash Primary Factor - Top 5

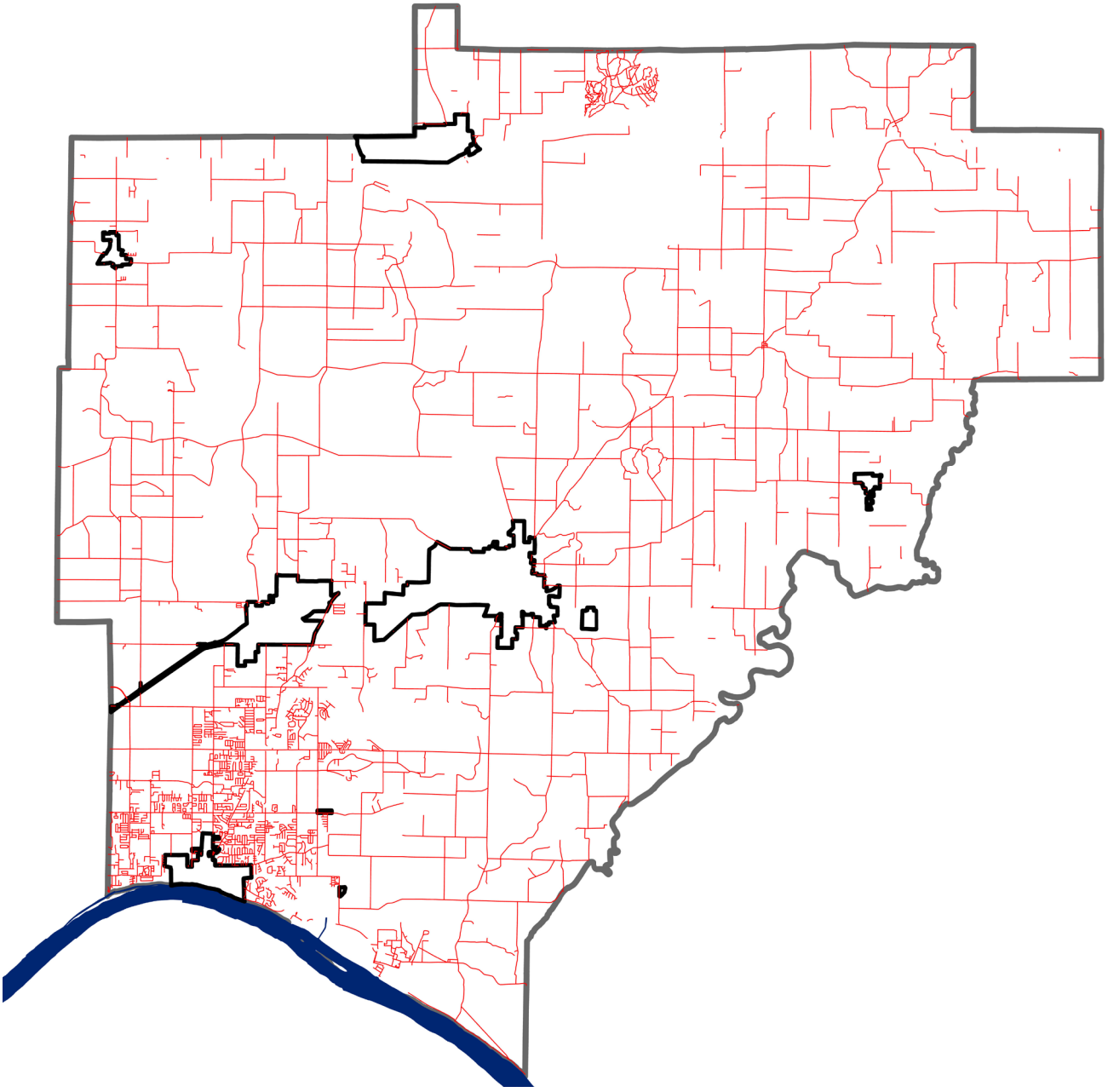
All Crashes	
Primary Factor	**Percentage**
Following too Closely	16.7%
Failure to Yield Right of Way	15.8%
Unsafe Backing	9.6%
Driver Distracted-Explain in Narrative	8.6%
Ran off Road Right	7.2%
Fatality or Incapacitating Injury Crash	
Primary Factor	**Percentage**
Other (Driver)-Explain in Narrative	25%
Failure to Yield Right of Way	12.5%
Accelerator Failure or Defective	12.5%
Holes/Ruts in Surface	12.5%
Following too Closely	12.5%
Pedestrian Action	12.5%
Unsafe Speed	12.5%

Newburgh Non-State Road Crash Statistics - Top 5

Light Condition	Percentage of Total Crashes
Daylight	69.9%
Dark (Lighted)	22.0%
Dawn/Dusk	5.3%
Dark (Not Lighted)	2.9%
Roadway Characteristic	**Percentage of Total Crashes**
Straight/Level	45.0%
Straight/Grade	32.5%
Straight/Hillcrest	8.6%
Curve/Grade	7.2%
Curve/Level	6.2%
Weather Condition	**Percentage of Total Crashes**
Clear	66.0%
Cloudy	17.7%
Rain	13.9%
Snow	1.4%
Sleet/Hail/Freezing Rain	1.0%
Surface Condition	**Percentage of Total Crashes**
Dry	79.9%
Wet	17.2%
Snow/Slush	1.9%
Ice	0.5%
Water (Standing or Moving)	0.5%
Vehicle Type	**Percentage of Total Crashes**
Car/Station Wagon/Pick-up/SUV/Van	95.8%
Motorcycle	2.5%
Motor Driven Cycle Class A or B	0.8%
School Bus	0.8%
Roadway Junction	**Percentage of Total Crashes**
No Junction Involved	56.9%
Four-Way Intersection	24.4%
T-Intersection	16.3%
Y-Intersection	2.4%

H WARRICK (UNINCORPORATED) DATA

Warrick County (Unincorporated) Local Roads



	Total Crashes Involving a Fatality Including State Roads	Total Number of Fatalities Including State Roads	Total Crashes Involving a Fatality Not Including State Roads	Total Number of Fatalities Not Including State Roads
Total Fatality Count	22	23	7	8
Average Annual Motor-Vehicle Involved Roadway Fatalities	4.4	4.6	1.4	1.6
5-Year Fatality Rate (per 100,000 persons)	9.08	9.49	2.89	3.30
Percentage of Population in Underserved Communities				
6%*				

*this includes the county-wide percentage of population in underserved communities

Warrick County (Unincorporated) Non-State Road Crash Manner - Top 5

All Crashes	
Manner of Crash	**Crash Percentage**
Rear End	30.1%
Right Angle	12.9%
Ran off Road	11.5%
Other-Explain in Narrative	9.6%
Backing Crash	9.1%
Fatality or Incapacitating Injury Crash	
Manner of Crash	**Crash Percentage**
Ran off Road	55.6%
Right Angle	17.8%
Other-Explain in Narrative	8.9%
Rear End	4.4%
Non-Collision	4.4%

Warrick County (Unincorporated) Non-State Road Crash Primary Factor Top - 5

All Crashes	
Primary Factor	**Percentage**
Animal/Object in Roadway	18.9%
Failure to Yield Right of Way	16.6%
Ran off Road Right	14.5%
Following too Closely	14.4%
Unsafe Backing	5.8%
Fatality or Incapacitating Injury Crash	
Primary Factor	**Percentage**
Ran off Road Right	33.3%
Failure to Yield Right of Way	11.1%
Other (Driver)-Explain in Narrative	8.9%
Unsafe Speed	8.9%
Animal/Object in Roadway, Disregard Signal/Reg Sign, Driver Illness, Overcorrecting/Oversteering, & Roadway Surface Condition	4.4% each

Warrick County (Unincorporated) Non-State Road Crash Statistics - Top 5

Light Condition	Percentage of Total Crashes
Daylight	59.9%
Dark (Not Lighted)	25.3%
Dark (Lighted)	8.9%
Dawn/Dusk	5.9%
Roadway Characteristic	**Percentage of Total Crashes**
Straight/Level	64.8%
Straight/Grade	17.4%
Straight/Hillcrest	7.3%
Curve/Level	5.9%
Curve/Grade	4.0%
Weather Condition	**Percentage of Total Crashes**
Clear	66.0%
Cloudy	16.4%
Rain	13.4%
Snow	2.5%
Fog/Smoke/Smog	1.1%
Surface Condition	**Percentage of Total Crashes**
Dry	74.9%
Wet	18.2%
Ice	3.3%
Snow/Slush	1.8%
Loose Material on Road	1.5%
Vehicle Type	**Percentage of Total Crashes**
Car/Station Wagon/Pick-up/SUV/Van	96.2%
Motorcycle	0.9%
Truck (Single 2 Axle, 6 Tires)	0.5%
Truck (Single 3 or more axles)	0.4%
Unknown	0.4%
Roadway Junction	**Percentage of Total Crashes**
No Junction Involved	55.4%
Four-Way Intersection	28.2%
T-Intersection	15.9%
Y-Intersection	0.4%
Traffic Circle/Roundabout	0.1%

I FARS DATA

Boonville FARS Data Summary

Year	Total Crashes Involving a Fatality Including State Roads	Total Number of Fatalities Including State Roads	Total Crashes Involving a Fatality Not including State Roads	Total Number of Fatalities Not Including State Roads
2017	1	1	1	1
2018	0	0	0	0
2019	0	0	0	0
2020	0	0	0	0
2021	1	1	0	0
Total Fatality Count	2	2	1	1
Average Annual Motor-Vehicle Involved Roadway Fatalities	0.4	0.4	0.2	0.2
5-Year Fatality Rate (per 100,000 persons)	5.96	5.96	2.98	2.98

Chandler FARS Data Summary

Year	Total Crashes Involving a Fatality Including State Roads	Total Number of Fatalities Including State Roads	Total Crashes Involving a Fatality Not including State Roads	Total Number of Fatalities Not Including State Roads
2017	0	0	0	0
2018	0	0	0	0
2019	0	0	0	0
2020	1	1	0	0
2021	1	1	0	0
Total Fatality Count	2	2	0	0
Average Annual Motor-Vehicle Involved Roadway Fatalities	0.4	0.4	0	0
5-Year Fatality Rate (per 100,000 persons)	10.83	10.83	0	0

Newburgh FARS Data Summary

Year	Total Crashes Involving a Fatality Including State Roads	Total Number of Fatalities Including State Roads	Total Crashes Involving a Fatality Not including State Roads	Total Number of Fatalities Not Including State Roads
2017	1	1	0	0
2018	3	3	2	2
2019	0	0	0	0
2020	0	0	0	0
2021	0	0	0	0
Total Fatality Count	4	4	2	2
Average Annual Motor-Vehicle Involved Roadway Fatalities	0.8	0.8	0.4	0.4
5-Year Fatality Rate (per 100,000 persons)	23.92	23.92	11.96	11.96

Warrick County (Unincorporated) FARS Data Summary

Year	Total Crashes Involving a Fatality Including State Roads	Total Number of Fatalities Including State Roads	Total Crashes Involving a Fatality Not including State Roads	Total Number of Fatalities Not Including State Roads
2017	3	3	1	1
2018	8	8	1	1
2019	3	4	1	2
2020	3	3	1	1
2021	5	5	3	3
Total Fatality Count	22	23	7	8
Average Annual Motor-Vehicle Involved Roadway Fatalities	4.4	4.6	1.4	1.6
5-Year Fatality Rate (per 100,000 persons)	9.08	9.49	2.89	3.3

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J COUNTERMEASURES

Intersection

	Action	Safety Benefit
Engineering		
	Adding backplates with retroreflective borders to traffic signals to improve visibility	15% reduction in total crashes **Safety Impact of Increased Traffic Signal Backboards Conspicuity*
	Reduced Left-Turn Conflict Intersections by utilizing reduced crossing U-turns (RCUT) and Median U-Turns (MUT)	• 54% reduction in fatal and injury crashes two way stop controlled to RCUT • 22% reduction in fatal and injury crashes signalized intersection to signalized RCUT • 63% reduction in fatal and injury crashes unsignalized intersection to unsignalized RCUT • 30% reduction in intersection related injury crash rate with MUT **FHWA, MoDOT, NC State University*
	Modifying the yellow change intervals can reduce the amount of red lights ran	• 36-50% reduction in red light running • 8-14% reduction in total crashes • 12% reduction in injury crashes **NCHRP Report 731: Guidelines for Timing Yellow and All-Red Intervals at Signalized Intersections*
	Incorporate corridor access management by • Reducing density through driveway closure, consolidation, or relocation • Manage spacing of intersection and access points • Limit allowable movements at driveways (such as right in/right out only) • Place driveways on an intersection approach corner rather than a receiving corner • Implement raised medians that preclude across-roadway movements • Provide turn lanes • Use lower speed one way or two way off arterial circulation roads	• 5-23% reduction in total crashes along 2-lane rural roads by reducing driveway density • 25-31% reduction in fatal and injury crashes along urban/suburban arterials reducing driveway density
	Replace signals, 2-way-stop controls, and all way stop controls with roundabouts	• 82% reduction in fatal and injury crashes at 2-way-stop controlled intersection to a roundabout • 78% reduction in fatal and injury crashes at signalized intersections to a roundabout
	Dedicated left and right turn lanes at intersections	• 28-48% reduction in total crashes by adding left turn lanes • 36% reduction in fatal and injury crashes with positive offest left turn lanes • 14-26% reduction in total crashes by adding right turn lanes **FHWA*
	Systematic application of multiple low-cost countermeasures at stop-controlled intersections ***On the Through Approach*** • Doubled up oversized advance intersection warning signs with supplemental street name signs • Retroflective sheeting on sign post • Enhanced pavement markings that identify the street edges ***On the Stop Approach*** • Doubled up oversized advance "Stop Ahead" intersection warning signs with flashing beacons • Doubled up (left and right) oversized stop signs • Retroflective sheeting on sign post • Properly placed stop bar • Removal of vegetation, parking, or obstructions that limit sight distance • Double arrow warning signs at stem T-Intersections	• 10% reduction of fatal and injury crashes at all locations/types/areas • 15% reduction of nighttime crashes at all locations/types/areas • 27% reduction of fatal and injury crashes at rural intersections • 19% reduction of fatal and injury crashes at 2-lane by 2 lane intersections • Average cost benefit ratio 12:1
Enforcement		
	Enforcement blitz for intersections that have a high rate of crashes due to running lights or speed	No statistics available on benefit
Education		
	Public service announcements regarding dangers of running red lights and stop signs	No statistics found

Roadway Departure

	Action	Safety Benefit
Engineering		
	• Wider edge lanes (6”) • Roadside design improvements at curves • Longitudinal rumble strips and stripes • Median barriers	• 37% reduction for non-intersection, fatal, and injury crashes on rural, two lane roads • 22% reduction in fatal and injury crashes on rural freeways • Benefit Cost Ratio of 25:1 for fatal and serious injury crashes on two lane rural roads
	SafetyEdge Technology shapes the edge of pavement at approximately 30 degrees from the pavement cross slope during the paving process	• 11% reduction in fatal and injury crashes • 21% reduction in run off road crashes • 19% reduction in head on crashes • 700:1 to 1,500:1 benefit cost ratio
	Enhanced delineation for horizontal curves • Pavement markings • In-lane curve warning pavement markings • Retroflective strips on sign post • Delineators • Chevron signs • Enhanced conspicuity • Dynamic curve warning signs • Sequential dynamic chevrons	• 25% reduction in night time crashes and 16% reduction in non-intersection fatal and injury crashes with chevron signs • 15% reduction in fatal and injury cases with oversized chevron signs • 60% reduction in fatal and injury crashes with sequential dynamic chevrons • 35-38% reduction in all crashes with in lane curve warning
	Roadside design improvements at curves • Clear zone improvements • Slope flattening • Adding or widening shoulders • Cable barrier • Metal beam guardrail • Concrete barrier	• 8% reduction for single vehicle crashes by flattening the side slope from 1V:3H to 1V:4H • 12% reduction for single vehicle crashes by flattening side slope from 1V:4H to 1V:6H • 22% reduction for all crashes by increasing the distance to roadside features from 3.3 ft to 16.7 ft • 44% reduction for all crashes by increasing the distance to roadside features from 16.7 to 30 ft.
	Longitudinal rumble strips and stripes on two-lane roads	• 44-64% reduction in head-on fatal and injury crashes on two lane rural roads by adding center line rumble strips • 13-51% reduction in single vehicle run off road fatal and injury crashes on two lane rural roads.
	Median barriers • Cable barriers • Metal-beam guardrails • Concrete barriers	• 97% reduction in cross-median crashes when median barriers are installed on rural four lane freeways

Speed Management

	Action	Safety Benefit
Engineering		
	Variable Speed Limits (VSL)	• VSL can reduce total crashes on freeway up to 34%, reduce rear-end crashes by 65%, reduce fatal and injury crashes by 51% • Benefit cost ratios range between 9:1 and 40:1
	Incorporating appropriate speed limits for all users	**no real stats**
Enforcement		
	Speed Safety Cameras	• Fixed units reduce crashes on urban principal arterials up to 54% for all crashes and 47% for injury crashes • P2P units can reduce fatal and injury crashes on urban expressways, freeways, and principal arterials up to 37% • Mobile units can reduce fatal and injury crashes on urban principal arterials up to 20%

Pedestrian/Bicyclist

	Action	Safety Benefit
Engineering		
	Crosswalk Visibility Enhancements-Multilane road crossings with vehicle volumes greater than 10,000 AADT, a marked crosswalk is typically not sufficient. This could include incorporating high visibility crosswalks, increased lighting, and signing and pavement markings	• 40% reduction in pedestrian injury crashes by incorporating high visibility crosswalks • 42% reduction in pedestrian crashes by incorporating intersection lighting • 25% reduction in pedestrian crashes by adding advance yield or stop markings and signs
	Leading pedestrian interval	• 13% reduction in pedestrian vehicle crashes at intersections
	Roadway diets	• 19-47% reduction in total crashes with 4 lanes to 3 lane road diet conversions
	Bicycle Lanes	• 49% reduction in crashes on urban 4-lane undivided collector and local roads by adding a bicycle lane • 30% reduction in crashes on urban 2-lane undivided collectors and local roads
	Medians and pedestrian refuge islands in urban and suburban areas	• 46% reduction in pedestrian crashes with medians with marked crosswalks • 56% reduction in pedestrian crashes with pedestrian refuse islands
	Walkways	• 56-89% reduction in crashes involving pedestrians walking along the roadway by adding sidewalks • 71% reduction in crashes involving pedestrians walking along roadways by adding paved shoulders
	Rectangular Rapid Flashing Beacons (RRFB)	• 47% reduction in pedestrian crashes with RRFBs • 98% increase in motorist yielding rate by incorporating RRFBs.
	Pedestrian Hybrid Beacons	• 55% reduction in pedestrian crashes • 29% reduction in total crashes • 15% reduction in serious injury and fatal crashes

Distracted Driving

	Action	Safety Benefit
Enforcement		
	Increase enforcement on distracted driving and increase fines	No statistics found
Education		
	Communications outreach on distracted driving dangers	No statistics found

Drowsy Driving

	Action	Safety Benefit
Education		
	Communications outreach out drowsy driving dangers	No statistics found

Drunk Driving

Action	Safety Benefit
Enforcement	
 Increase enforcement and punishment for drunk driving	No statistics found
Education	
 Communications outreach on drunk driving	No statistics found

Rear-End Crash

Action	Safety Benefit
Engineering	
 Replace permissive left turns with protected left turns	No statistics found
 Restrict or eliminate turning maneuvers	No statistics found
 Employ Signal Coordination-platooning can help reduce major road rear end crashes due to speed changes	No statistics found

Emergency Response Time

Action	Safety Benefit
Emergency Management	
 Traffic Incident Management	No statistics found

Failure to Yield Right of Way

Action	Safety Benefit
Education	
 Provide driver refresher courses to those who have their licenses	No statistics found

Roadway Departure, Intersection, and Pedestrian Crashes

Action	Safety Benefit
Engineering	
 Pavement Friction Management • horizontal curves • interchange ramps • intersection approaches ◦ higher speed signalized and stop controlled intersections ◦ steep downward grades • locations with a history of ◦ rear-end ◦ failure to yield ◦ wet weather ◦ red light running crashes ◦ crosswalk approaches	• VSL can reduce total crashes on freeway up to 34%, reduce rear-end crashes by 65%, reduce fatal and injury crashes by 51% • Benefit cost ratios range between 9:1 and 40:1
 Lighting • Continuous lighting along rural and urban highways • Increased lighting at intersections and pedestrian crossings	• 42% reduction in nighttime injury pedestrian crashes at intersections • 33-38% reduction in nighttime crashes at rural and urban intersections • 28% reduction in nighttime injury crashes on rural and urban highways

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WARRICK COUNTY
SAFETY ACTION PLAN

Evansville MPO

Henderson • Vanderburgh • Warrick