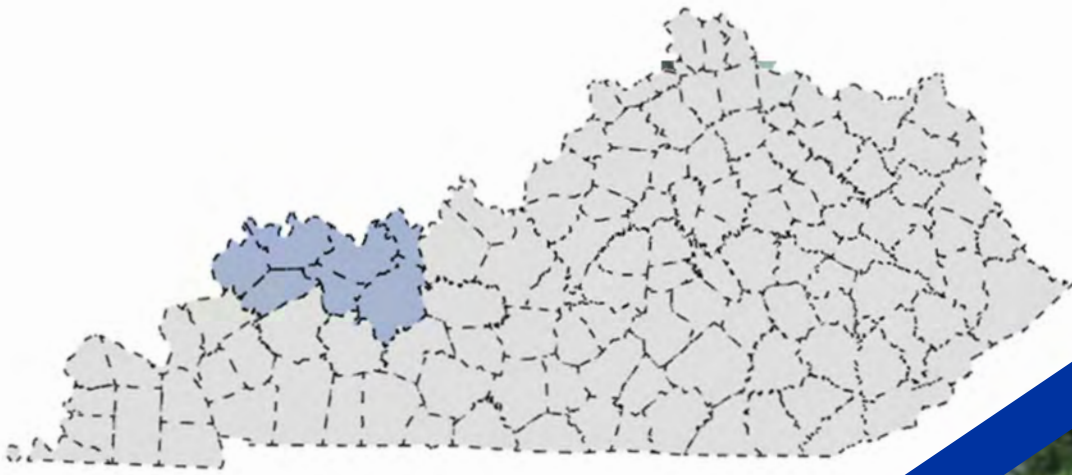


# SAFETY ACTION PLAN



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## INTRODUCTION

This Safety Action Plan, funded in part by the USDOT Safe Streets and Roads for All (SS4A) discretionary grant program, summarizes the background, methodology and recommendations of crash analyses conducted for the development of a Safety Action Plan for the Green River Area Development District (GRADD), which includes Daviess, Hancock, Henderson, McLean, Ohio, Union, and Webster counties in Kentucky. This study evaluated crash data on county roads from 2020-2024 to determine over represented crash types and identify high crash areas on the roadway network.

Recommendations for safety-related improvements to the local transportation network focus on low-cost systemic improvements that may be completed through county forces one road at a time, or through larger capital projects to implement county-wide or regional improvements.

This report provides a region wide analysis of crash patterns within GRADD and an overview of data sources and methodologies used in identifying high crash roadways, public involvement input, and an overview of crash countermeasures recommended within the region. The Appendices to this report, evaluate each individual county within GRADD and present crash analysis, Road Safety Assessments (RSAs) summaries and recommended improvements for all reviewed roadways within the region.

## OVERVIEW OF SS4A PROGRAM

The Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary program with \$5 billion in appropriated funds over 5 years between 2022-2026. The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries in support of the U.S. Department of Transportation's (USDOT) National Roadway Safety Strategy goal of zero roadway deaths using a Safe System Approach. GRADD was awarded an Action Plan Grant in FY 22 to develop a Safety Action Plan for its seven county region.

A Safety Action Plan is a strategic document aimed at identifying and addressing safety issues related to transportation infrastructure. Based on SS4A criteria a Safety Action Plan must include items 1, 2, and 3 below and at least four of items 4 through 9.

1. **Safety Analysis.** Collecting and analyzing crash data to pinpoint high-risk areas and crash types.
2. **Strategy and Process Selections.** Developing specific interventions, such as roadway improvements, policy changes, and educational initiatives, to enhance safety.
3. **Action Plan Date.** Be completed using data compiled during the last 5 years.

4. **Leadership Commitment and Goals Setting.** *An official commitment by the governing body to an eventual goal of zero roadway fatalities and serious injuries.*
5. **Planning Structure.** *A task force charged with oversight of the Action Plan development, implementation, and monitoring.*
6. **Engagement and Collaboration.** *Involving local stakeholders, including residents, advocacy groups, and underserved communities to gather insights and prioritize concerns.*
7. **Equity Considerations.** *Underserved communities are identified through data and other analyses in collaboration with appropriate partners including both population characteristics and impact assessments of the proposed projects and strategies on equity.*
8. **Policy and Process Changes.** *Assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize transportation safety.*
9. **Implementation and Evaluation Metrics.** *Setting up methods to implement and assess the effectiveness of the actions taken.*

The goal of the Safety Action Plan is to create safer streets and reduce fatalities and serious injuries for all road users, including pedestrians, cyclists, and motorists by providing a strategic plan that an agency can follow towards reaching the goal of zero deaths and serious injuries.

## SAP TASK FORCE

This Safety Action Plan is cooperative effort between the Green River Area Development District, ADD member counties, the Kentucky Transportation Cabinet and the Technology Transfer Program at the University of Kentucky, Kentucky Transportation Center. Direction, focus and review of plan documents and efforts has been provided by the standing GRADD Regional Transportation Committee (RTC). The RTC plays a critical role in developing the Regional Transportation Program for the GRADD area. As new projects are developed and existing ones evaluated and prioritized using criteria of regional significance. The Regional Transportation Committee is composed of interested stakeholders in the region who meet quarterly at the Green River ADD office. In addition to its prioritization and evaluation duties, the Committee is a forum to work together in solving regional transportation problems, act as an advocacy body on transportation issues, provide input for the Statewide Transportation Plan, Six Year Road Plan and Unscheduled Needs List, as well as provide assistance to the ADD in its Annual Work Program. Direction provided by the RTC will allow the projects identified within the Safety Action Plan to be directly integrated into the regional transportation planning process.

## STUDY AREA

This Safety Action Plan covers the GRADD region which includes Daviess, Hancock, Henderson, McLean, Ohio, Union, and Webster counties. The plan focused on city and county roadways to provide direction and resources to road departments to address local road crashes. Exhibit 1 shows the study area.

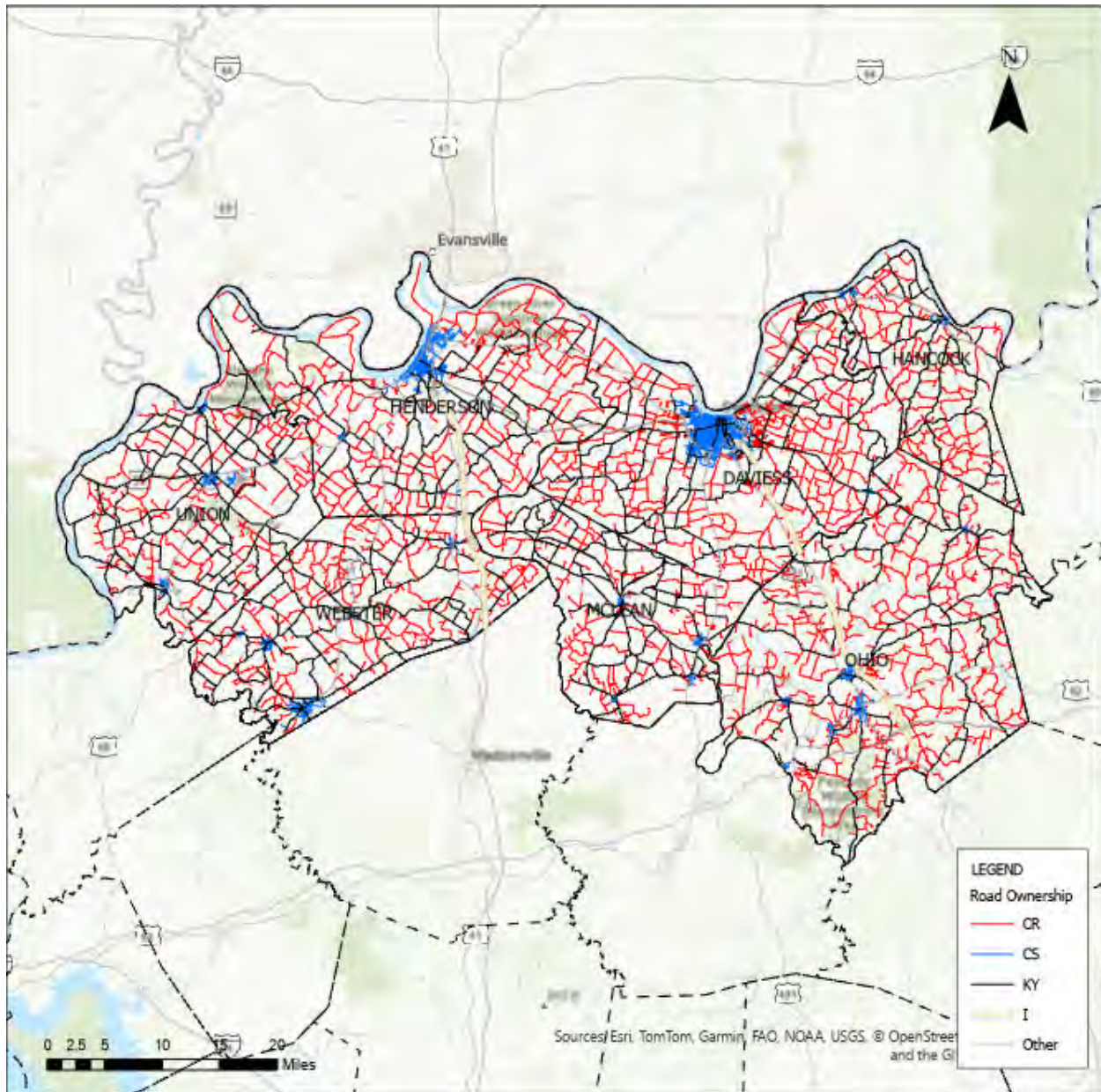
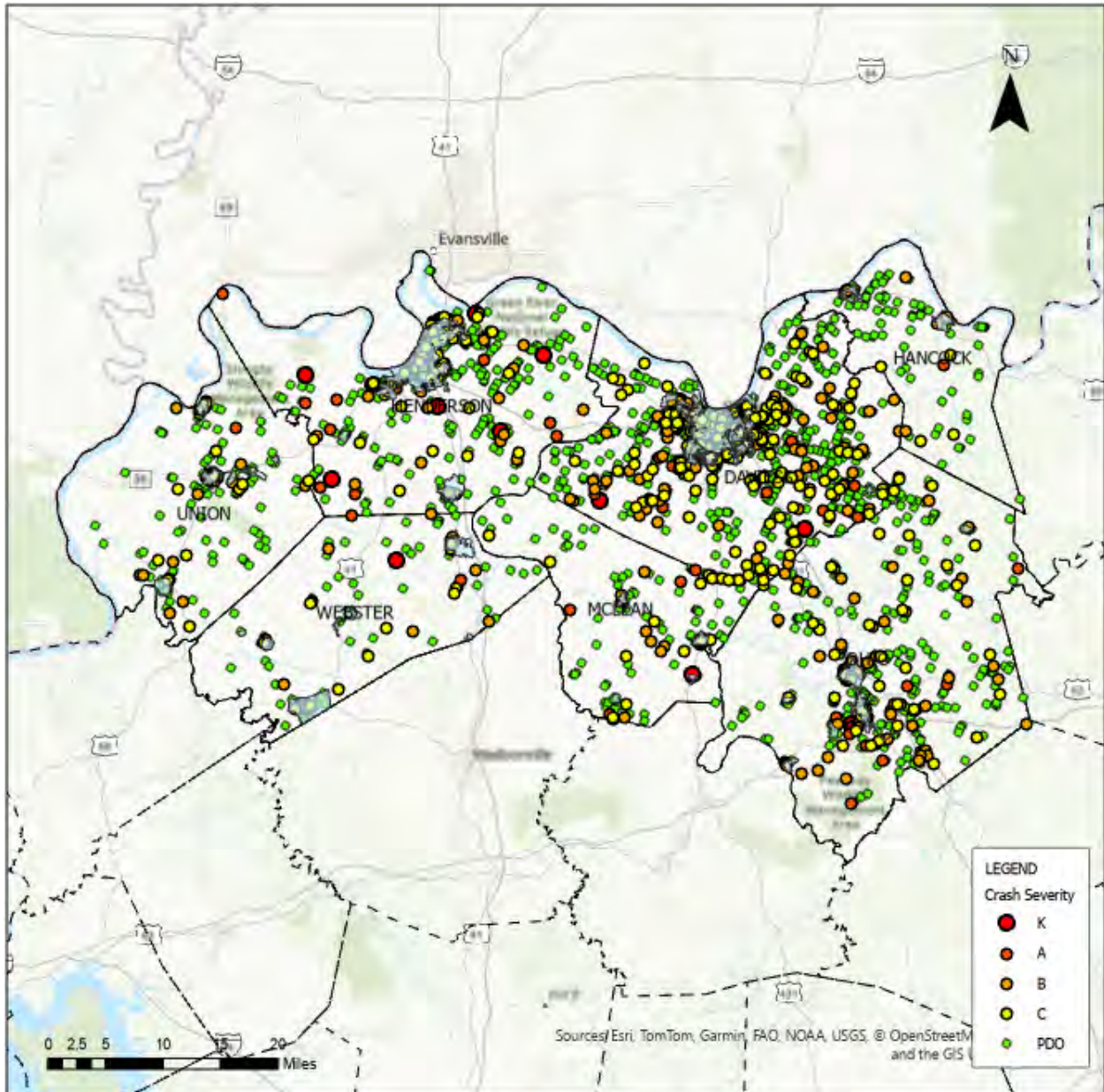


Exhibit 1: Study Area

## CRASH ANALYSIS

A crash analysis was conducted to identify common crash types and identify priority locations for improvements. Crash data for the study area was obtained from the

Kentucky State Police Crash database available at [crashinformationky.gov](http://crashinformationky.gov). Data was obtained for the five-year period of January 1, 2020 to December 31, 2024. During this period 2,555 crashes were recorded, resulting in 9 fatalities and 976 injuries. **Exhibit 2** shows all crashes recorded in the study area during the 5-year period.



**Exhibit 2: Crash Distribution**

Crash data was provided in a database format with latitude and longitude provided for each crash, and crash characteristics such as crash severity, manner of collision, and human, vehicular and environmental contributing factors. Crash data was spatially joined to the roadway network available from the Kentucky Transportation Cabinet (KYTC) website

(transportation.ky.gov). Crashes were assigned to the nearest roadway in order to determine if the crash occurred on a city, county, or state roadway.

Prior to the identification of high crash locations, area wide crash analyses were completed to determine emphasis areas within the roadways that may be the focus of safety efforts.



Exhibit 3: Crash Severity by Year

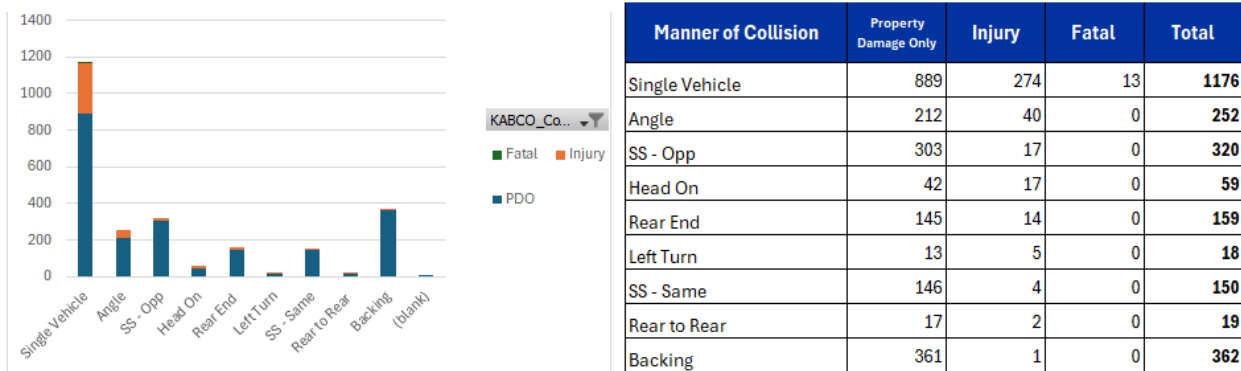


Exhibit 4: Crash Type by Severity

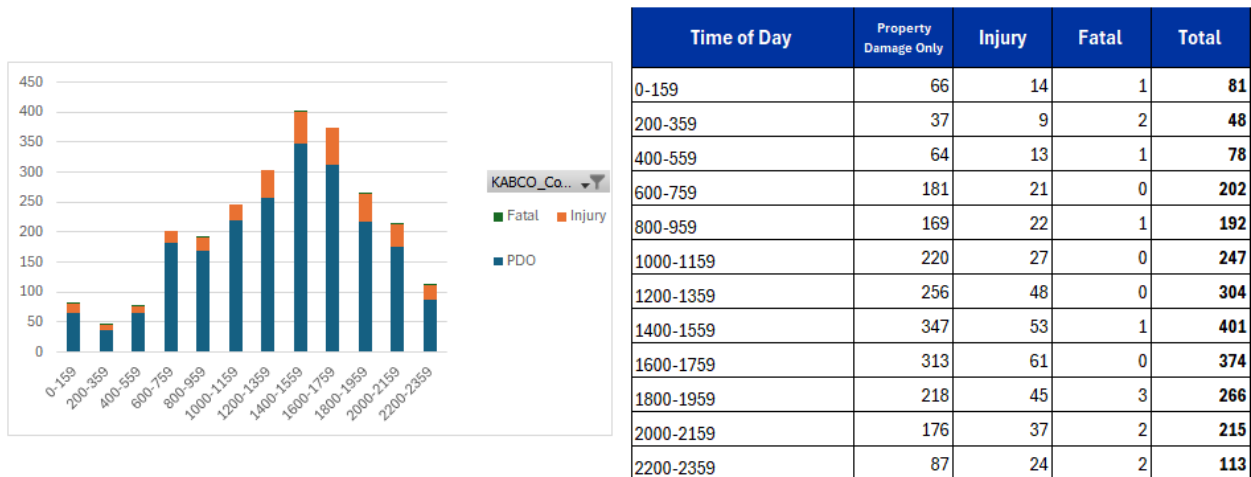
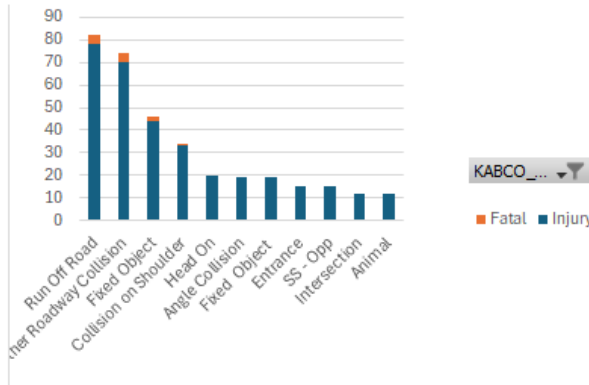


Exhibit 5: Crash Distribution (County Road Crashes)



Time of Day	Injury	Fatal	Total
Run Off Road	78	4	82
Other Roadway Collision	70	4	74
Fixed Object	44	2	46
Collision on Shoulder	33	1	34
Head On	20	0	20
Angle Collision	19	0	19
Fixed Object	19	0	19
Entrance	15	0	15
SS - Opp	15	0	15
Intersection	12	0	12

**Exhibit 6: Directional Analysis (Top 10 Injury/Fatal Crash Types)**

## FOCUS ROADWAYS

While the goal of the Safety Action Plan is to improve safety on all roadways, for all users, the primary focus is to reduce fatal and injury crashes. A systemic analysis approach was taken to identify roadways which have the highest probability of future injury or fatal crashes. These roadways, designated “Focus Roadways” are identified based on

- Injury and fatal crashes
- Role in the county road network.

Roadways were ranked based on the previous crash history and severity, as well as anticipated roadway use. Additionally, the Task Force assembled for this Action Plan reviewed the initial focus roadway list and provided community input to identify community- sensitive areas, such as schools and other service areas that required increased attention to traffic and safety.

Crash History Score was based on three factors listed below:

1. *Equivalent Property Damage Only (EPDO) crashes.* A weighted rating technique based on crash severity. The EPDO formula used in this analysis assigned a weight of 10 to crashes resulting in a fatality or incapacitating injury, 5 for crashes resulting in a minor or possible injury (B or C Injury), and 1 to crashes resulting in property damage only (PDO).
2. *Total Fatal and Injury Crashes.* The frequency of all injury and fatal crashes.
3. *Vulnerable Road User (VRU) Crashes.* The frequency of pedestrian, bicyclist or other non- motorized crashes with a motorized vehicle.

Network, or Use, Score was based on two factors:

1. *HERE Traffic Analytics.* This location and technology company provides a record of traffic volume and speed observations on roads from GPS probe data points. The number of observations recorded on each road segment was used as a surrogate for roadway use in the absence of Average Daily Traffic volumes.

2. *Road Network Connectivity Analysis.* Spatial analysis was conducted in ArcGIS to quantify the role each road segment plays in the roadway network. Connectivity analysis identifies the percentage of times a roadway segment is part of the shortest path between any two origin-destination points within the state-wide roadway network.

All of the evaluation factors were normalized on a scale of 1-10, with 1 representing the minimum value observed within each county and 10 representing the highest value in county. All other values were rated proportionally between the highest and lowest values. A total Crash Score was then developed as the sum of the EPDO, Injury and Fatal Crashes, and VRU data and a Use Score was developed based on HERE Data and Connectivity Scores. A final score was determined based on the sum of the Crash and Use scores. Roadways were then ranked by total score. Focus Roadways for each county were identified as the top ranked roadways which accounted for 95 percent of all injury and fatal crashes in a county. These roadways represent the top 12 percent of roadways with injury and fatal crashes in the ADD and from 6-17 percent of each county’s total mileage.

County	Total Mileage	Focus Rd Mileage	Focus Rd Percent
Daviess	560	261	47%
Hancock	189	17	9%
Henderson	397	86	22%
McLean	176	44	25%
Ohio	560	150	27%
Union	248	28	11%
Webster	305	34	11%

**Exhibit 7: Focus Road Mileage**

*Note: Initial focus road lists were determined from 2018-2023 data available at the beginning of data collection. This list was updated based on 2020-2024 data which resulted in minor shifting of roadway rankings.*

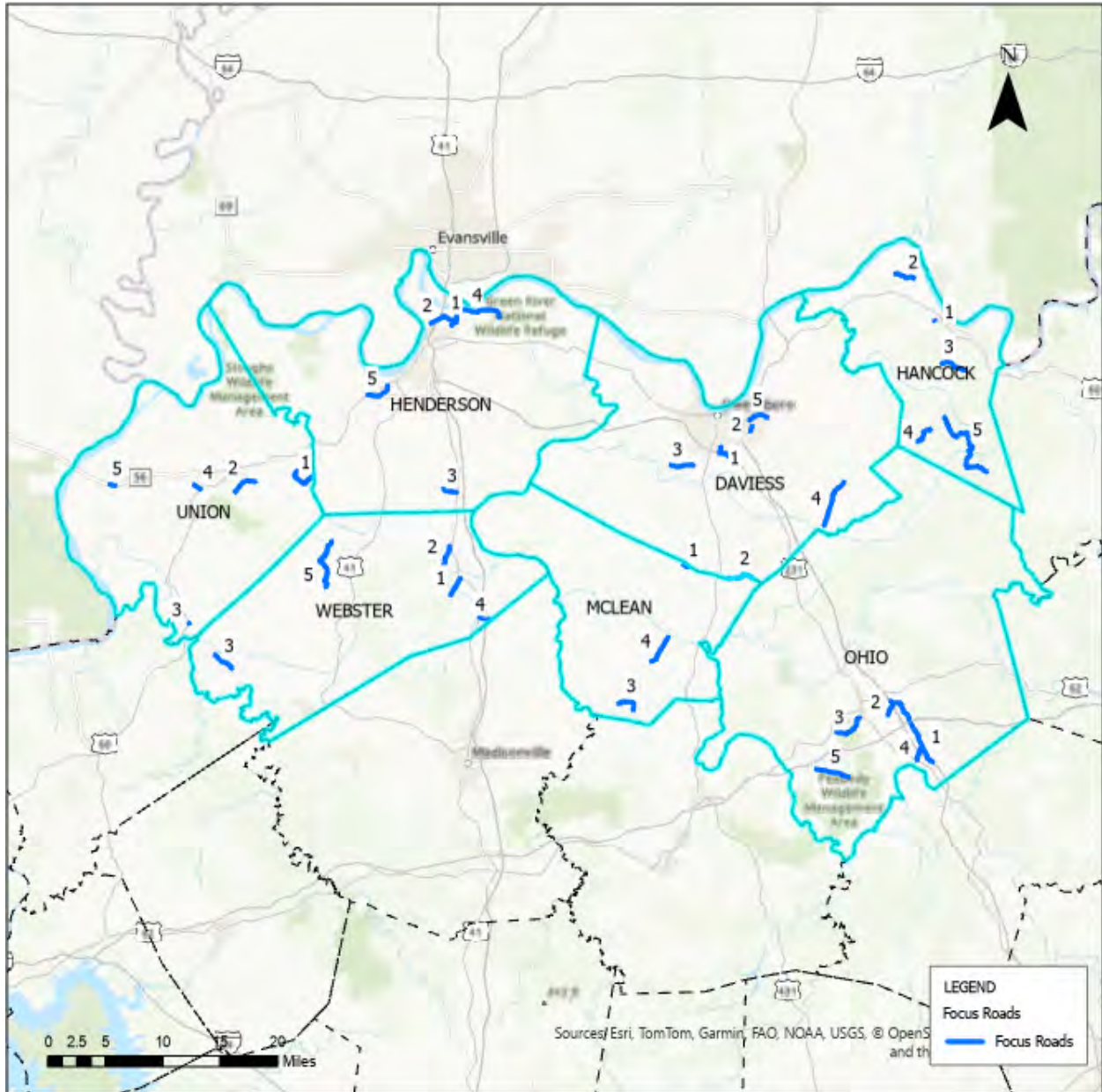


Exhibit 8: Top 5 Focus Roads by County

RT_UNIQUE	Length	County	AD	Road Name	Injury Crashes	Fatal Crashes	Total	Score	Rank
<b>Daviess</b>									
030-CR-1215 -000	1.97297	Daviess	GRADD	VEACH RD	5	9	100	3.32	1
030-CR-1507L -000	0.50595	Daviess	GRADD	FAIRVIEW DR	2	4	39	2.56	2
030-CR-1301 -000	2.07655	Daviess	GRADD	KELLER RD	4	3	19	2.32	3
030-CR-1190 -000	4.38222	Daviess	GRADD	BOSTON-LAFFOON RD	5	3	15	1.99	4
030-CR-1089 -000	1.8096	Daviess	GRADD	HAYDEN RD	2	3	26	1.72	5
<b>Hancock</b>									
046-CR-1045 -000	0.05186	Hancock	GRADD	FAIRGROUNDS LN	1	0	2	2.82	1
046-CR-1314 -000	1.88629	Hancock	GRADD	BEAUCHAMP RD	1	0	2	1.69	2
046-CR-1007 -000	2.42192	Hancock	GRADD	COAL BANK HOLW RD	1	0	1	1.63	3
046-CR-1213 -000	2.10606	Hancock	GRADD	CROWE RD	0	1	3	1.17	4
046-CR-1111 -000	9.29869	Hancock	GRADD	HAWESVILLE EASTON RD	0	1	2	1.08	5
<b>Henderson</b>									
051-CR-1073 -000	1.63995	Henderson	GRADD	WOLF HILLS RD	2	1	22	2.29	1
051-CR-1052 -000	0.85407	Henderson	GRADD	STRATMAN RD	3	1	14	1.94	2
051-CR-1140 -000	1.28313	Henderson	GRADD	ROCKHOUSE RD	4	0	4	1.79	3
051-CR-1063 -000	5.89387	Henderson	GRADD	GREEN RIVER RD #1	3	0	15	1.72	4
051-CR-1304 -000	2.16337	Henderson	GRADD	OLD CORYDON RD	2	2	9	1.64	5
<b>McLean</b>									
075-CR-1050 -000	0.53304	McLean	GRADD	WEST HARMONS FERRY RD	1	0	4	2.48	1
075-CR-1016 -000	3.4725	McLean	GRADD	EAST HARMONS FERRY RD	1	2	9	2.15	2
075-CR-1134 -000	2.13681	McLean	GRADD	STRINGER RD	0	1	3	1.73	3
075-CR-1103 -000	2.80676	McLean	GRADD	STROUD-LEVY RD	2	0	3	1.55	4
075-CR-1056 -000	0.67147	McLean	GRADD	MILLPORT RD	1	1	2	1.40	5
<b>Ohio</b>									
092-CR-1172 -000	6.64339	Ohio	GRADD	ROB ROY RD	4	2	25	2.71	1
092-CR-1204 -000	1.21848	Ohio	GRADD	DAVIS RD	2	0	5	2.33	2
092-CR-1244 -000	3.20268	Ohio	GRADD	TAYLOR MINE RD	5	1	9	2.06	3
092-CR-1175 -000	1.30271	Ohio	GRADD	CROMWELL RD	3	0	13	2.04	4
092-CR-1263 -000	3.06374	Ohio	GRADD	NINETEEN SCHOOL RD	3	0	4	1.52	5
<b>Union</b>									
113-CR-1029 -000	3.04357	Union	GRADD	BARKER RD	2	1	7	2.07	1
113-CR-1087 -000	2.25938	Union	GRADD	MEADOWS RD	1	4	10	1.85	2
113-CR-1134B -000	0.06822	Union	GRADD	VAUGHN LOOP	0	0	0	1.21	3
113-CR-1050 -000	0.69888	Union	GRADD	JIM VEATCH RD	1	0	4	1.04	4
113-CR-1339 -000	0.58132	Union	GRADD	OLD SHAWNEETOWN RD	0	0	0	0.83	5
<b>Webster</b>									
117-CR-1105 -000	1.72853	Webster	GRADD	BRETON RD	2	2	5	2.58	1
117-CR-1013 -000	1.88139	Webster	GRADD	ROGER POWELL RD	0	0	1	1.17	2
117-CR-1243 -000	2.05091	Webster	GRADD	FISHTRAP DERBY MINE RD	0	0	1	0.90	3
117-CR-1114 -000	0.84349	Webster	GRADD	FRANK BENSON RD	1	0	2	0.90	4
117-CR-1310 -000	5.23766	Webster	GRADD	LITTLE ZION TILDEN RD	1	0	3	0.86	5

**Exhibit 9: List of Top 5 Focus Roads by County**

Mapping and a listing of all identified Focus Roads is provided in the Appendices of this report which provides detailed recommendations for each county within the GRADD region.

## DATA COLLECTION

Road Safety Assessments (RSAs) were conducted on the Focus Roadways by GRADD Staff. The purpose of this review was to collect basic roadway information such as road width, pavement condition and roadside conditions, as well as identify potential hazards along the roadway. The review focused on hazards related to single vehicle and lane departure crashes, as these represented the highest injury and fatality rates within the region based on the crash analysis presented above. The roadway review included the following items.

- General Roadway Information such as condition and width
- Road Signs
- Fixed Objects within 5 feet of the roadway
- Curve Hazards
- Intersection Hazards
- Guardrail
- Bridge / Culvert locations
- Edge Drop Offs
- Other hazards

This data was collected through a Survey123 mobile application and custom survey to capture hazard information, location and associated photos.

In addition to the hazard information, ball bank data was collected on each roadway using the “Ballbank” app developed for the Apple app store by Christopher Dry. This data was used to set preliminary advisory speeds for all curves on reviewed roadways.

Appendix A contains a guide detailing all data collected on the roadways. Exhibit 10 shows all 1,577 collected data points within the region.

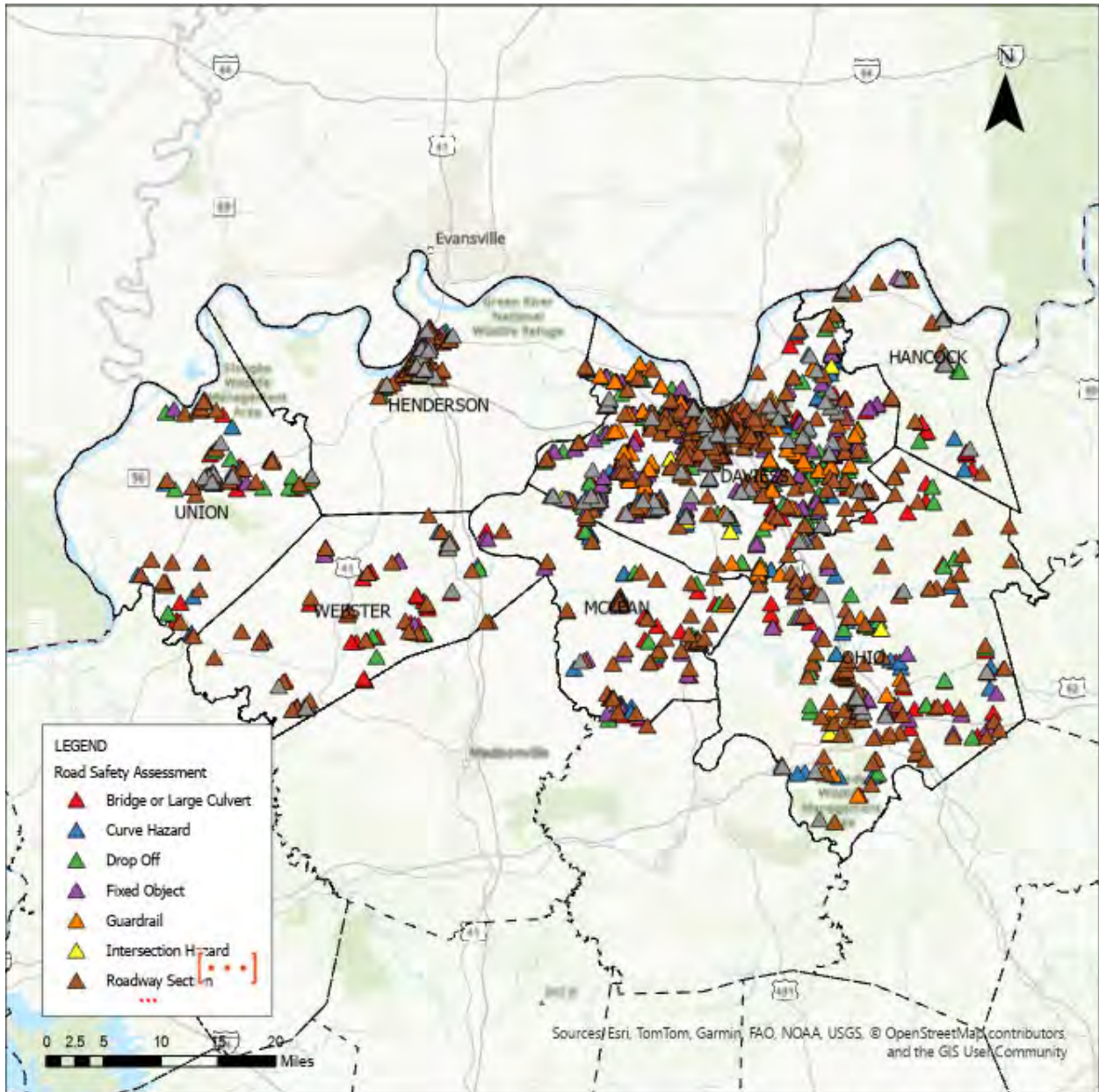


Exhibit 10: Road Safety Assessment Data Points

County	Bridge or Culvert	Curve Hazard	Drop Off	Fixed Object	Guardrail	Int. Hazard	Other	Roadway Section	Sign	Total
Daviess	115	121	192	241	140	44	57	346	2655	3911
Hancock	13	2	5	6	1	4	7	14	82	134
McLean	20	10	12	17	2	0	1	48	113	223
Ohio	47	26	28	24	12	3	12	101	290	543
Webster	23	2	13	7	1	0	5	32	110	193
Union	13	10	14	18	1	0	9	45	190	300
Henderson	4	1	9	52	3	2	15	112	409	607
Total	235	172	273	365	160	53	106	698	3849	5911

Exhibit 11: Road Safety Assessment Data by Type and County

Roadway width, pavement condition and Roadside Hazard Rating (RHR) were collected on all of the focus roads reviewed. Summary information is provided below and information on each rating scale is provided in Appendix A.

- Based on the American Association of State Highway Officials Guidelines for Geometric Design of Low Volume Roads, the recommended minimum roadway width for new construction is 18 feet. Reviewing roadway width data collected on the Focus Roads, 38 percent of reviewed roadways are 18 feet in width or less.. AASHTO Guidance states that existing roads “need not be modified except in those cases where there is evidence of a site specific crash pattern.”
- Roadside hazard rating is rated on a scale of 1 to 7 with 1 having adequate clear zone and 7 indicating minimal or no clear zone and high chance of injury if a vehicle departs the roadway. Over 76 percent of roadways reviewed were shown to have a RHR of 4 or less indicating relative low severity clear zones on county roadways.
- Pavement Condition Ratings used the Pavement Serviceability Rating (PSR) scale from 1 to 5 with 5 indicating new well maintained pavements and 1 indicating failed pavement that requires users to slow down to navigate a roadway due to pavement condition. Eighty-three (83) percent of county roadways in GRADD were shown to have a PSR of 3 or greater indicating good overall pavement condition.

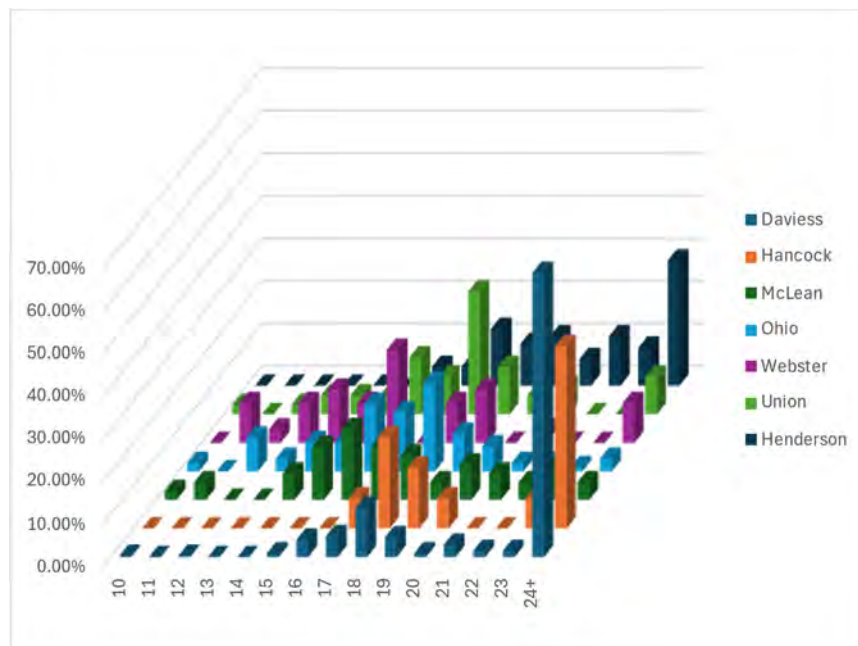


Exhibit 12: Roadway Width by County

County	Pavement Servicability Rating				
	1	2	3	4	5
Daviess	4%	16%	51%	26%	3%
Hancock	7%	21%	21%	50%	0%
McLean	8%	4%	25%	60%	2%
Ohio	16%	7%	32%	44%	2%
Webster	6%	16%	34%	41%	3%
Union	4%	11%	22%	56%	7%
Henderson	2%	4%	23%	68%	4%
<b>Grand Total</b>	<b>6%</b>	<b>11%</b>	<b>39%</b>	<b>41%</b>	<b>3%</b>

**Exhibit 13: Roadway Condition by County**



**Exhibit 14: Roadway Condition by County**

## PUBLIC INVOLVEMENT

As part of the Safety Action Plan, a public survey was conducted to understand how the traveling public perceived roadway safety within GRADD. The survey asked general demographic questions as well as what were the major concerns and priority issues of the public. Finally, an interactive map was provided to allow respondents to identify specific concerns or issues within their area. 15 unique responses were collected for the survey. The results of this survey are summarized below and Appendix C contains the full survey questionnaire.

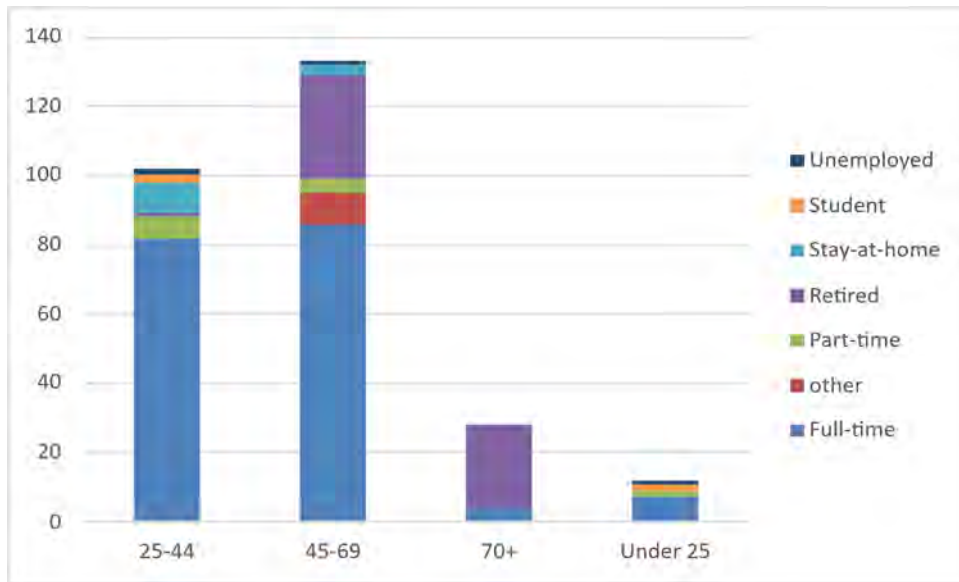


Exhibit 15: Public Survey Demographic Information

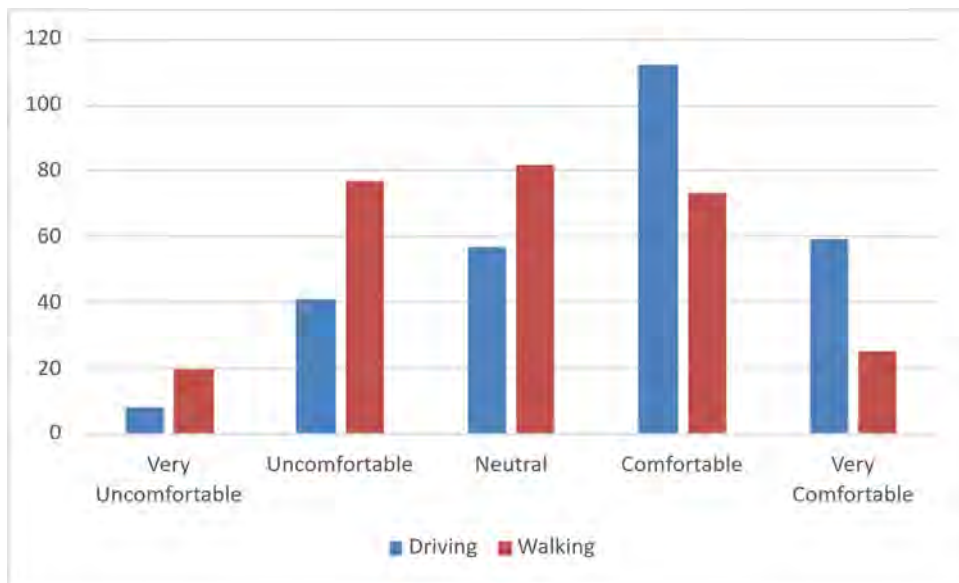
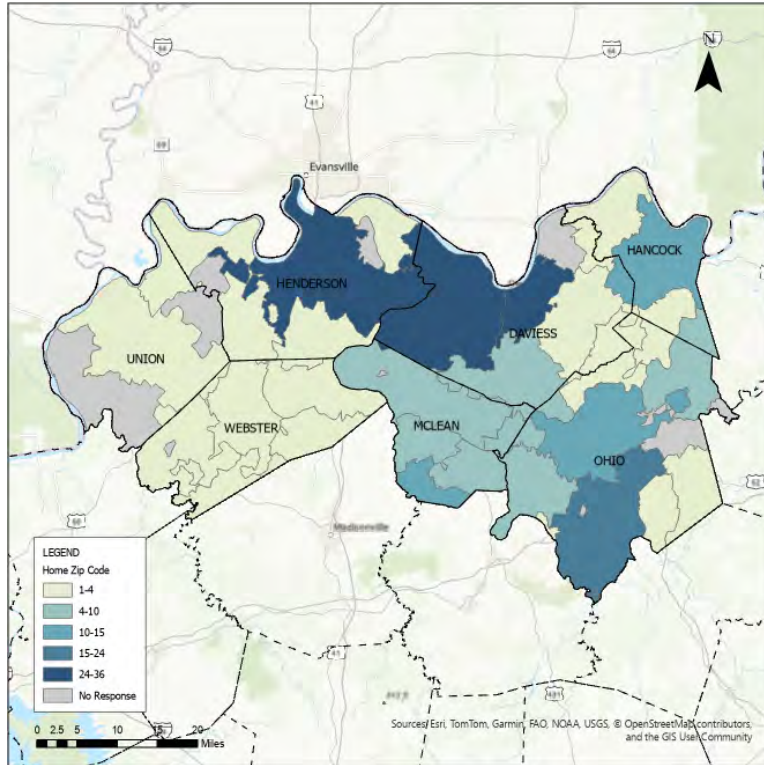
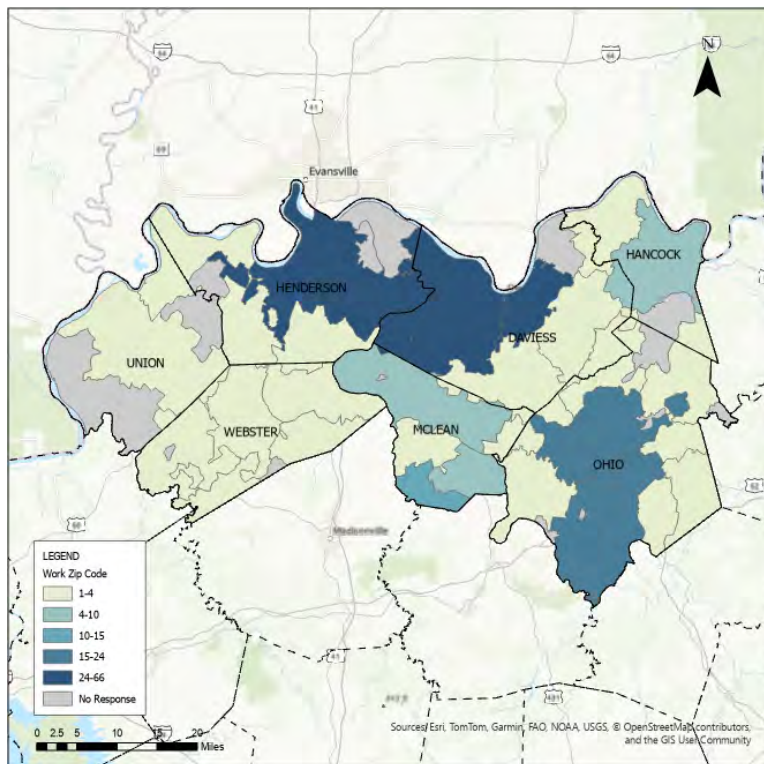


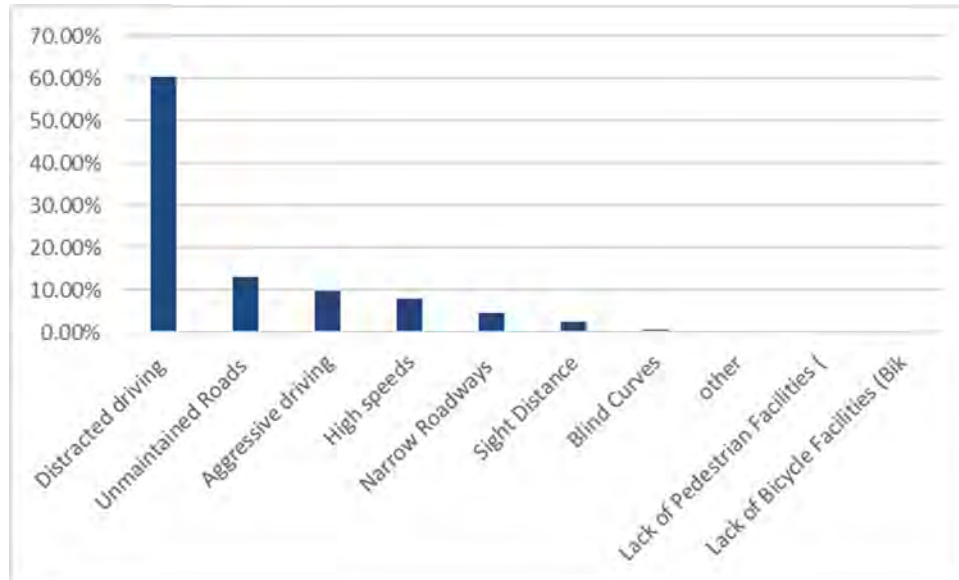
Exhibit 16: Public Survey Driving/Walking Comfort Level



**Exhibit 17: Public Survey Residency by Zip Code**  
(Note: Two respondents live outside of GRADD)



**Exhibit 18: Public Survey Work Location by Zip Code**



**Exhibit 19: Public Survey Top Safety Issues**

It is noted that human factors represent 4 of the top 4 safety concerns for the region, with Distracted Driving being the most frequently cited, six times more than other of issue. High Speeds, and Aggressive Driving were the 3<sup>rd</sup> and 4<sup>th</sup> most cited after unmaintained roads.

Twenty-Six specific issues were identified through the interactive mapping survey. These are shown in the exhibit below and summarized in the table.

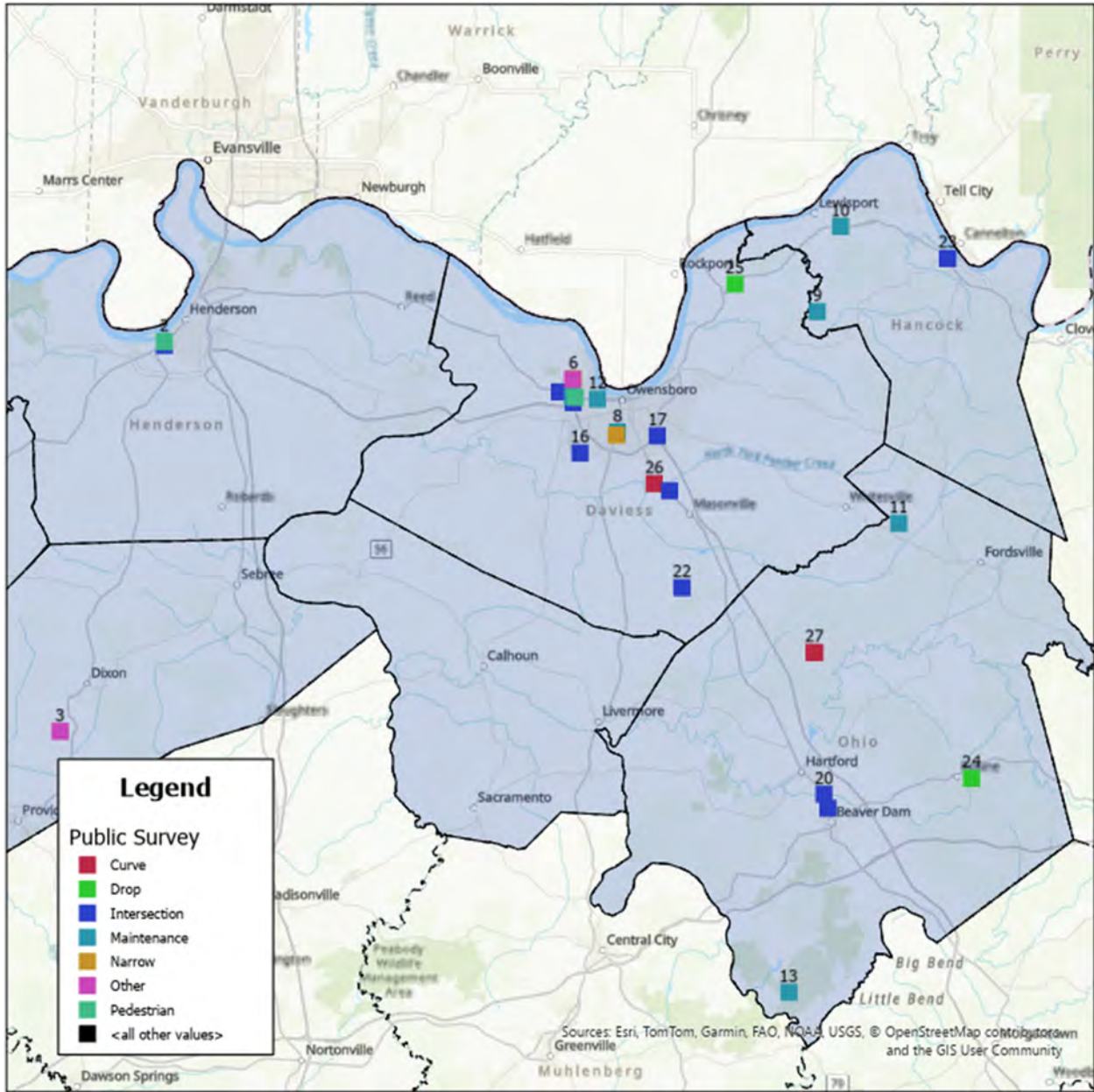


Exhibit 20: Public Survey Identified Site Specific Issues Location

County	Issue Type	Comment	Road Name
Daviness	Curve	Veach Road in Daviess County is narrow, extremely curvy, overcrowded and not well maintained. This road is very dangerous and has a community college entering and exiting on it.	NEW HARTFORD RD
	Drop		KY-2830
	Intersection	Need an extra lane for merging traffic since there isn't enough room for right lane drivers to get over and then turn right onto 2nd St	AUDUBON PKWY RAMP to KY 60
	Intersection	Several bad accidents at this intersection over the past years. Some drivers are speeding through the stop signs on Red Hill Maxwell Rd of which has resulted in bad accidents. The speeding along this area is bad as well.	RED HILL-MAXWELL RD
	Intersection		I-165 RAMP to US 60
	Intersection	With new construction this intersection has become more dangerous	CARTER RD
	Intersection	Need turning lane from 60 West onto Boothfield Road going North	US-60
	Intersection	High traffic area, dangerous left turn out of subdivision	US-231
	Maintenance	Frequent pooling water lasts months, crumbles pavement. Several spots between here and benttee drive	BON HARBOR HILLS
	Maintenance	Railroad tracks are extremely rough, everyone in the entire town	WEST 2ND ST
	Maintenance	pothole by storm drain	FREDERICA ST
	Narrow	Road is extremely narrow and big trucks and school buses do not slow down for oncoming traffic	MEDLEY RD
	Narrow	Turning right onto Byers is too difficult. Utility pole needs to be moved and Byers widened.	WEST BYERS AVE
	Other	No storm drains until the end of the road	TURTLE CREEK DR
	Hancock	Pedestrian	No sidewalks this are to cart Rd, frequent pedestrian traffic and bikes even a sand gravel path would help
Intersection		Dangerous intersection. Semi trucks fly through this area and will often run the red light.	US-60
Maintenance		Needs new signs alerting of dangerous curve. Hwy 662 washing out, needs pavement.	ESTES RD
Henderson	Maintenance	Road conditions are rough.	US-60 NC
	Intersection	Speeding seems to be an issue + ignoring stop signs when kids are around. Maybe a speed bump might mitigate?	KRESGE DR
Henderson	Pedestrian	Green St. needs more pedestrian friendly infrastructure such as sidewalks. also needs lower speed limits	SOUTH GREEN ST
	Intersection		
Ohio	Curve	Blind curve	TAFFY RD
	Curve	Blind curve	TAFFY RD
	Drop	South of this location within a mile, plus or minus, there is an extremely steep drop-off on the east side of the northbound lane of 505 South.	KY-505
	Intersection	Need another stoplight somewhere in these area	WEST 14TH ST
	Intersection	Need a stoplight to many wrecks in front of this shopping center	NORTH MAIN ST
	Maintenance	Wysox- Cool Springs Rd is bad in places	WYSOX RD
	Maintenance	Bad potholes starting here and going towards Daviess County line.	DEANFIELD DR
Webster	Other	This is a large hill on a narrow road and you cannot see oncoming traffic. Drivers tend to go a little fast on this road and if you were to meet someone at the top it could be harmful.	LISMAN MOUNT MYRIA RD

**Exhibit 21: Public Survey Identified Site Specific Issues**

## RECOMMENDED IMPROVEMENTS

Recommended countermeasures to address identify potential hazards were developed from state specific and national guidance including the Federal Highway Administration provide Safety Countermeasures, <https://highways.dot.gov/safety/proven-safety-countermeasures>, Crash Modification Factor (CMF) Clearinghouse, and common low cost safety measures implemented by the Kentucky Safety Circuit Rider Program. Typical with rural crash patterns, most crashes are scattered throughout the roadway network, with no definitive high crash “hot spot.” Therefore, low-cost measures that could be widely applied in a systemic manner were the focus of safety improvements for this Safety Action Plan. These improvements may be implemented through county forces one project or road at a time, or through larger capital projects to implement county-wide or region wide improvements. Potential improvements include:

- Edgeline Striping
- Shouldering / Shoulder Improvements
- Horizontal Alignment Signing
- Object Markers
- Advanced Intersection Warning Signs
- Wet Weather Countermeasures
- Vegetation Management
- Fixed Objects
- Guardrail

It is noted that much guidance for low volume rural roads do not specify guidance or recommend such as roadway width, clear zone width, pavement striping etc. However, the focus roads which represent 12 percent of the total county road mileage within GRADD, may require an increased level of maintenance and mitigation to minimize injury and fatal crashes on local roadways. Therefore the following guidance was used in determining countermeasures to recommend.

**Edgeline Striping.** Edgeline striping has been shown to have a 15-22 percent crash reduction factor for single vehicle and head-on crashes, due to the ability to provide additional guidance during low visibility. Edgleine striping is recommended on all paved roadways, in which the pavement condition is sufficient to support striping (Present Servicability Rating (PSR) of 4-5. Roadways with a PSR of 3 should be manually reviewed to determine is shoulder conditions can support striping, while pavement poor and very poor conditions (PSR 1 or 2) should not be striped until the roadway is resurfaced.

**Horizontal Alignment Signing** is recommended on all Focus Roadways, due to the cost effectiveness and project crash reduction of 13-29 percent. Preliminary advisory speeds are provided for all reviewed roadways.

**Roadside Design.** It is desirable to maintain an appropriate width clear zone on all roadways. Clear zone are the portion of the roadside that is free of obstructions and sufficiently flat to allow errant vehicles to recover control. The desirable clear zone for low volume rural roads is 6 ft, though AASHTO Guidance recognizes rural roadway constraints make this impractical and indicates that designs with zero (0) ft clear zones may be used. The following guidance was used in establishing clear zone on Focus Roadways.

- Remove Fixed objects if practical within 2 ft of the roadway on tangent roadway sections and within 5 ft of roadway on the outside of curves, due to the increased probability of vehicle running off the roadway. If multiple fixed objects, such as a tree line or fence line, are within this distance, only objects closer than the object line should be cleared.
- Install object markers on hazards that cannot be removed, (i.e. utility poles, drop offs etc.) within 5 feet of the road edge, unless the hazards are consistent and typical of the continuous roadside, then object markers are not recommended.
- Provide shouldering where practical to minimize pavement edge drop-off on narrow roads.
- Guardrail has been shown to not be generally cost effective on low volume roadways and serves as an additional fixed object on roadways.
  - Where guardrail appears warranted and currently exists and is in acceptable condition, maintain existing guardrail.
  - Improve existing guardrail that appears to be warranted through the installation of appropriate end treatments and/or object markers.
  - Remove poor condition guardrail and unwarranted guardrail installations.

**Bridges and Culverts** should be maintained in accordance with state and national best practices and guidance. All structures over 20 feet are inspected every two years as part of the National Bridge Inspection Report and condition/load ratings are provided to local agencies. Bridges should have guardrail installations with appropriate end treatments to protect errant vehicles. In the absence of guardrail, object markers should be installed. A critical safety component of bridges is that they should provide the same width as the approaching roadway. If bridges are more narrow than the roadway approach, consideration should be given to widening the structure during replacement.

Additional guidance for improvements is provided in Appendix B, which contains one-page “TAP-It” sheets for improvements developed by T2. These sheets provide general guidance and identify additional resources for each of the countermeasures.

Recommended improvements have been identified for each focus road reviewed and each issue identified within the RSA. These improvements are listed and identified in the Appendices D-J. RSA and recommendation information is also available in digital format and can be accessed at <https://kyt2.uky.edu/graddSAP>.

## **POLICY RECOMMENDATIONS**

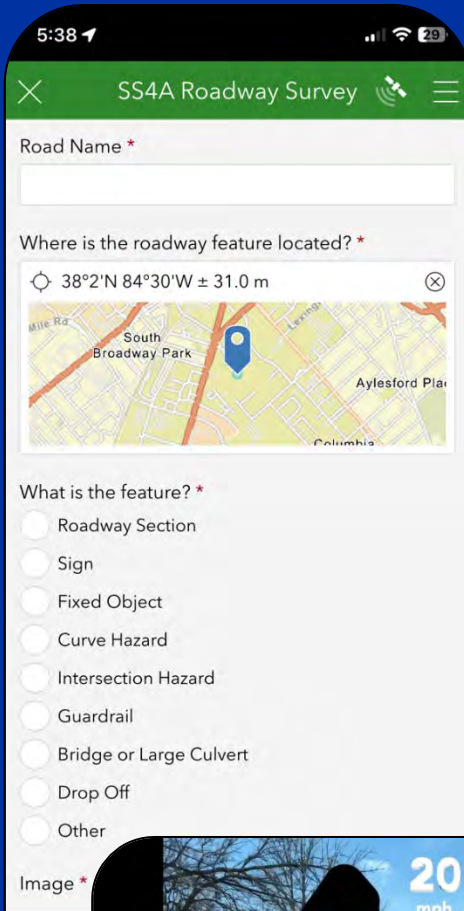
The following policy recommendations are made to assist agencies in addressing roadway safety on local roadways based on the Crash Analysis, Road Safety Assessments and Public outreach activities outlined above.

1. **Adopt and Implement Safety Action Plan.** Local agencies should adopt and maintain a comprehensive Safety Action Plan that is regularly updated to reflect evolving roadway conditions and crash trends. The plan should serve as a strategic guidance tool for counties and cities to prioritize and implement roadway safety improvements, ensuring resources are directed where they will have the greatest impact. To maintain its effectiveness, the plan should be reviewed annually with updates to recommended improvements, while a full crash analysis and roadway review should be conducted at least every three years to identify changing crash patterns and emerging safety concerns. This ongoing process will allow local agencies to make data-driven decisions, improve roadway safety outcomes, and advance toward long-term safety goals.
2. **Vision Zero Statement.** As part of this plan, it is recommended that each community adopt a Vision Zero Statement with a goal to eliminating fatalities and severe injuries on agency roadways. Adopting a Vision Zero statement shows an agency’s clear commitment to prioritizing the safety of all roadway users and reducing serious injuries and fatalities to zero. By adopting Vision Zero, local governments demonstrate leadership, accountability, and a proactive approach to creating safer, healthier, and more livable communities.
3. **Minimum Road Standards.** As identified in the roadway reviews, a majority of county roadways provide minimum width and present roadside hazards. While these roadways perform with minimal crashes, it is primarily due to the low volume and familiar local traffic which uses these roadways. As urbanization reaches into increasingly rural areas, it is recommended that Local agencies consider adopt minimum roadway standards to ensure rural roads can safely accommodate future

traffic demands associated with development. These standards should establish baseline roadway width and sight distance standards that support safe two-way travel, and adequate space for emergency vehicles, while accounting for surrounding land use. When evaluating development proposals, agencies should look to require roadway widening or other improvements if existing conditions fall below the minimum standard, ensuring safety is not compromised by increased traffic volumes. In doing so, local agencies can guide responsible growth, reduce crash risk, and maintain the long-term safety and functionality of rural roadways.

4. **Right of Way Encroachment.** It is recommended that agencies consider a ROW encroachment policy to ensure that all new driveway access points to public roadways be designed and constructed in accordance with established safety and drainage standards. The policy should ensure that driveway culverts and drainage features are properly sized and installed to prevent roadway flooding or erosion, and that no fixed objects such as brick mailboxes, stone walls, or decorative structures are placed within the clear zone where they could pose a hazard to motorists. Driveway permits should be reviewed and approved by the agency prior to construction, with inspections conducted to verify compliance. This policy will help protect roadway integrity, maintain proper drainage, and enhance safety for all roadway users.
5. **Public Education Campaigns.** Consider partnering with the Kentucky Office of Highway Safety and the National Highway Traffic Safety Administration (NHTSA) to implement public education campaigns to address concerns over aggressive and distracted driving. NHTSA campaigns such as “*U Drive. U Text. U Pay.*” and “*Drive Sober or Get Pulled Over*” raise awareness and change driver behavior through media outreach and enforcement partnerships. NHTSA also provides grant funding opportunities under Section 402 and Section 405 programs that support state and local initiatives for distracted driving prevention, speed management, and high-visibility enforcement campaigns. The High-ive Rural Safety Program led by KOHS through NHTSA pairs enforcement, education and engineering improvements to address driver behavior and reduce crashes. By leveraging these programs, local agencies can enhance enforcement, promote safer driving behaviors, and reduce crashes linked to distraction and aggression on their roadways.

## APPENDIX A: ROAD SAFETY ASSESSMENT DATA COLLECTION GUIDE



# KY Area Development District SS4A Data Collection Procedures



# GUIDE OVERVIEW

The purpose of this guide to provide direction and supplemental reference materials for the data collection procedures in support of the development of a Safety Action Plan for locally maintained roadways. This guide is intended to be used in combination with a mobile device and the Ballbank and ArcGIS Survey123 data collections apps from the Apple App Store.



**ArcGIS Survey123**



**Ballbank**

If you have any questions regarding the data collection procedures you may contact your Area Development District (ADD) Transportation Planner at the information on the back of this document.

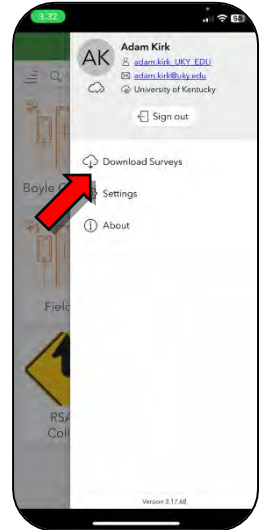
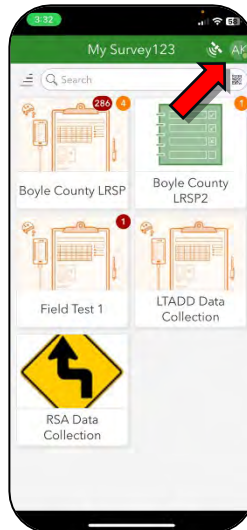
For each of the focus roadways you will need to

1. Drive the roadway in each direction using the Ballbank app to record horizontal curves, and:
2. Drive the roadway a second time to log potential roadway hazards, and key roadway information using the Survey123 app.

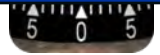
# IOS MOBILE DEVICE SETUP

Follow these steps to set up your device.

1. Turn on and log into the iPad.
2. Ensure Wi-Fi is connected.
3. Download the **ArcGIS Survey123** app and **Ballbank** app from the Apple App Store. (You will need the **appleID** and **password** associated with your mobile device to download the apps).
4. Open and Sign into the ArcGIS Survey123 app. Survey123 licenses are managed by the ADD. If there are issues signing in please contact your local ADD for further assistance.
5. Click your user initials in the upper right corner of the screen and select download surveys from the dropdown. Locate the survey titled “*XXADD Data Collection*” and click the cloud with a down arrow to download the survey to your device.
6. Hit the back button in the upper left corner to return to the main screen.



# BALLBANK APP

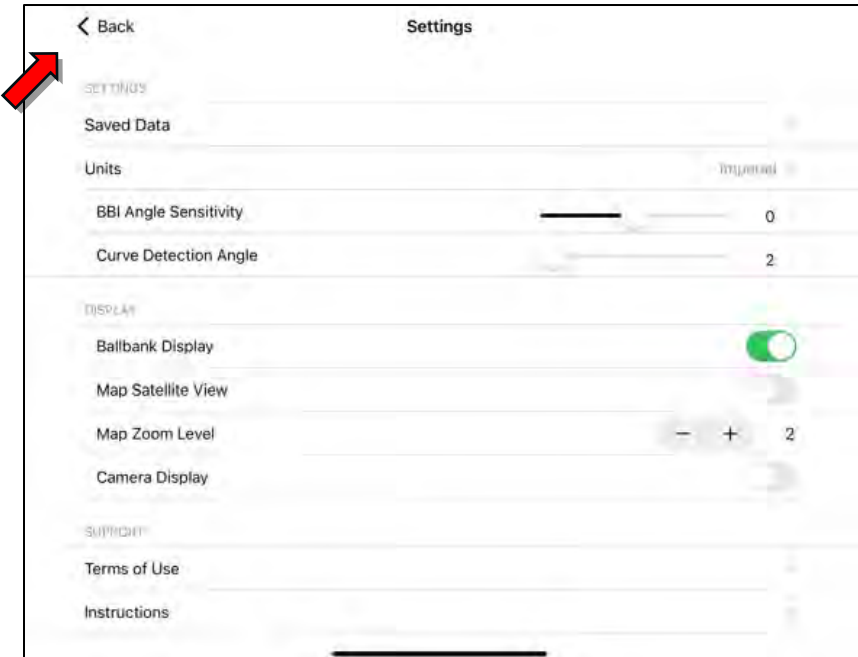


The Ballbank app is used to assist in determining where horizontal alignment (curve) signs are needed and to set advisory speeds at horizontal curves.

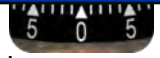
1. To set up the app click on the settings (gear) button in the top right of the screen.



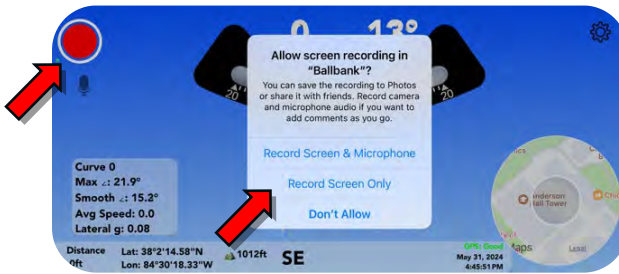
2. Configure the settings to match those shown in the figure below. Once completed, hit the back button.




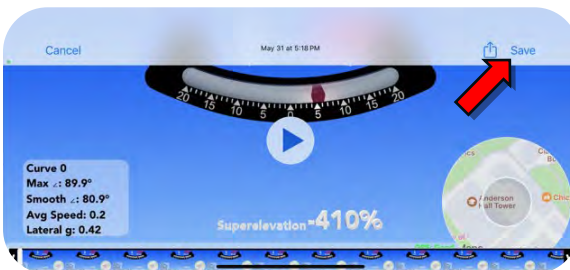
# BALLBANK APP



3. The mobile device should be mounted horizontally in the vehicle, **level with the vehicles chassis**. Check level by placing the device with the ballbank app running on a level surface in the vehicle, such as the dashboard. The BBI Angle displayed should match the BBI Angle when mounted.
4. Drive to safe spot near the beginning of the roadway where you can stop the vehicle and begin recording. To begin data collection hit the “Record” button in the top left corner of the app. Then select “Record Screen Only.”



5. Drive the roadway in **BOTH DIRECTIONS** at a comfortable speed, maintaining your lane as much as possible, i.e., do not straighten out the curves or cross a centerline.
6. Once completed hit the "Stop Recording"  button in the top left corner of the screen.
7. When presented with the option, hit “Save.”



8. Curve data for this roadway has been completed and you can move to the next data collection element or roadway.



## Data Collection

The Survey123 app is used to collect general roadway information as well as potential safety hazards along the roadway. Data collection items are summarized below.

5:38

SS4A Roadway Survey

Road Name \*

Where is the roadway feature located? \*

38°2'N 84°30'W ± 31.0 m

What is the feature? \*

- Roadway Section
- Sign
- Fixed Object
- Curve Hazard
- Intersection Hazard
- Guardrail
- Bridge or Large Culvert
- Drop Off
- Other

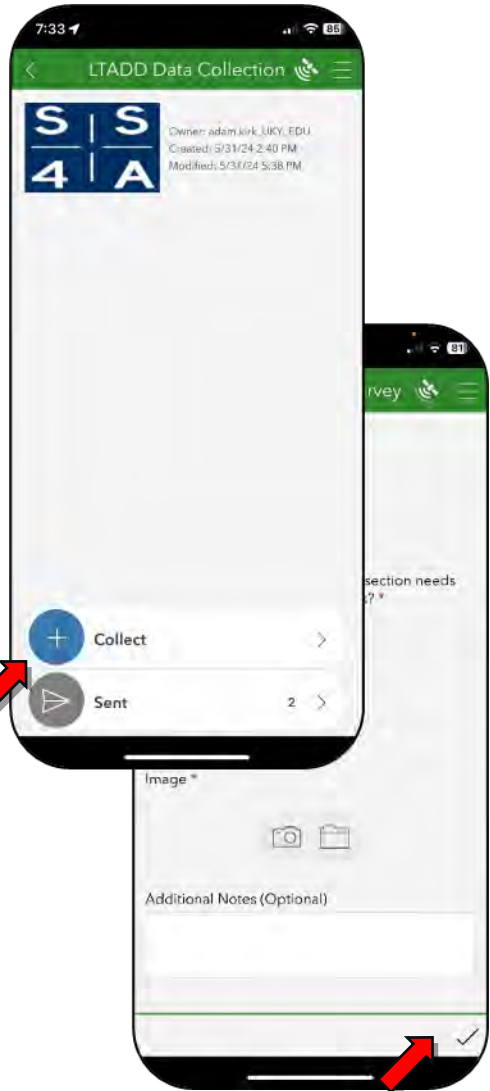
Image \*

1. General Roadway Information such as condition and width
2. Road Signs
3. Fixed Objects within 5 feet of the roadway
4. Curve Hazards
5. Intersection Hazards
6. Guardrail
7. Bridge / Culvert locations
8. Edge Drop Offs
9. Other hazards noted by the survey team.

Additional information on each survey item can be found in their respective sections in this guide.



1. Once the Survey is downloaded, it should display on your Survey 123 home screen. Select the survey to begin data collection.
2. To collect a data point, select “Collect” at the bottom of the screen. The survey page will appear as shown to the left.
3. Log the information about the feature based on guidance in the following sections.
4. Note that “feature location” information is automatically updated from the GPS of the mobile device.
5. Once completed, hit the checkmark in the lower right corner of the screen, then select save in outbox.





8:43

SS4A Roadway Survey

Road Name \*

Main Street

Where is the roadway feature located? \*

38°2'N 84°30'W ± 16.1 m

Map showing location near South Broadway Park and Aylesford Place, Columbia.

What is the feature? \*

Roadway Section

What is the pavement width (feet)? \*

What is the pavement condition? \*

What roadside hazard rating is most representative of the roadway? \*

1  
2  
3  
4  
5  
6  
7

What percentage of the roadway section needs shoulder and ditch improvements? \*

0-20%  
20-40%  
40-60%  
60-80%  
80-100%

Roadway Section features collect general roadway characteristic information including 1) pavement condition, 2) pavement width, 3) Roadside condition and 4) shoulder condition. Roadway section data should be recorded periodically along the roadway whenever there is a significant change in one of these elements.

**Pavement Width** should be measured with a measuring wheel and recorded to the nearest foot.

The following sections provide detailed information on the remaining roadway section data information.

Once finished, take a picture showing the entire roadway cross section including pavement, shoulders and roadside.



**Pavement Condition** is rated based on the AASHTO Present Serviceability Rating Scale (PSR) based on rideability and visual inspection of the pavement.

Verbal	Description	PSR
Very Good	Only new, superior (or nearly new) pavements are likely to be smooth enough and distress free (sufficiently free of cracks and patches) to qualify for this category. Most pavements constructed or resurfaced during the data year would normally be rated very good.	5.0
		4.0
Good	Pavements in this category, although not quite as smooth as those described above, give a first class ride and exhibit few, if any, visible signs of surface deterioration. Flexible pavements may be beginning to show evidence of rutting and fine random cracks. Rigid pavements may be beginning to show evidence of slight surface deterioration, such as minor cracks and spalding.	3.9
		3.0
Fair	The riding qualities of pavements in this category are noticeably inferior to those of new pavements, and may be barely tolerable for high speed traffic. Surface defects of flexible pavements may include rutting, map cracking and extensive patching. Rigid pavements in this group may have a few joint failures, faulting and cracking, and some pumping.	2.9
		2.0
Poor	Pavements in this category have deteriorated to such an extent that they affect the speed of free-flow traffic. Flexible pavement may have large potholes and deep cracks. Distress includes raveling, cracking, rutting, and occurs over 50 percent, or more, of the surface. Rigid pavement distress includes joint spalling, faulting, patching, cracking, scaling, and may include pumping and faulting.	1.9
		1.0
Very Poor	Pavements in this category are in an extremely deteriorated condition. The facility is passable only at reduced speeds, and with considerable ride discomfort. Large potholes and deep cracks exist. Distress occurs over 75 percent or more of the surface.	0.9
		0.0



**Roadside Hazard Rating.** Roadside Rating evaluates the presence of fixed objects such as trees and embankments near the roadway and the steepness of the roadside slope. Roadside hazards are rated on a scale from 1 being the best and 7 being unrecoverable.

## **RHR = 1 & 2**

- Clear zone > 20 ft
- Sideslope  $\geq$  4:1.
- Recoverable.



## **RHR = 3**

- Clear zone ~10 ft
- Sideslope 3:1 to 4:1.
- Rough roadside surface.
- Marginally recoverable.



## **RHR = 4**

- Clear zone 5 to 10 ft
- Sideslope 3:1 to 4:1.
- May have guardrail (5 to 6.5 ft from road).
- Exposed trees, poles, or other objects (~10 ft from road).
- Marginally forgiving, but increased chance of a roadside collision.





## RHR = 5

- Clear zone 5 to 10 ft
- Sideslope 3:1
- May have guardrail (0 to 5 ft from pavement edgeline).
- Fixed Objects within 6.5 to 10 ft of road
- Virtually non-recoverable.



## RHR = 6

- Clear zone <5 ft
- Sideslope 2:1
- No Guardrail
- Fixed Object 0 to 5 ft
- Non-recoverable.



## RHR = 7

- Clear zone <5 ft
- Sideslope 2:1 or steeper
- No Guardrail
- Fixed Object 0 to 5 ft
- Non-recoverable. High Likelihood of injuries or rollover





## Shoulder and Ditch

**Improvements.** For the roadway section being evaluating, indicate how much of the section needing improvements.

Proper shoulders and ditches should be have the following characteristics.

1. Edge drop off from pavement surface to roadside less than 3 inches.
2. Slope flatter than a 3:1 slope from road edge to ditch.
3. Adequate ditch width and depth to carry surface water. Not significantly impeded by debris and/or sediment.



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# SURVEY123-Signs



11:14

SS4A Roadway Survey

Road Name \*  
Main Street

Where is the roadway feature located? \*  
38°2'N 84°30'W ± 16.1 m

What is the feature? \*  
Roadway Section  
 Sign

What type of sign is it? \*  
Horizontal Curve  
Object Marker  
Speed Limit  
Stop  
Other

Is vegetation blocking the sign? \*  
 Yes  
 No

Rate the following:

	Good	Fair	Poor
Sign Condition *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sign Placement *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Image \*  
[Camera icon] [Folder icon]

Log all highway signs along the roadway being surveyed. Any non-highway signs should be excluded.

*Note: Object markers at bridges and large culverts should be logged with the bridge/culvert feature.*

### What type of sign is it?

Select the type of sign from the drop-down menu. If the type is not shown on the drop-down list, select other and describe in the notes section.

### Rate the Sign Placement

*Good.* Near edge of sign is at least 2 feet from the edge of the roadway, plumb, and easy visible from the roadway.

*Fair.* Sign may be leaning, or 1-2 feet from pavement edge. Some minor vegetation may limit visibility of the sign.

*Poor.* Sign is less than 1 foot from edge or road, blocked by vegetation, or post is leaning and not secure in the ground and/or not oriented towards traffic limited visibility.

## Rate the sign condition

*Good.* Appear to be in new or like new condition and show little, if any, signs of deterioration and easy to read.



*Fair.* Some visible deterioration, not impacting legibility of the sign. Some common forms of sign deterioration are minor bending, cracking, fading, peeling, rusting, or vandalism.



*Poor.* Showing significant deterioration or sign is non-standard. The deterioration is impacting the legibility of the sign. Signs in this category need to be replaced.



# SURVEY123-Fixed Objects



The screenshot shows the SURVEY123 mobile application interface. At the top, the title bar reads "SS4A Roadway Survey". Below the title bar, there are several input fields and options:

- Road Name \***: A text input field containing "Main Street".
- Where is the roadway feature located? \***: A location selection field showing coordinates "38°2'N 84°30'W ± 16.1 m" and a map view of the area around "South Broadway Park" and "Aylesford Plak".
- What is the feature? \***: A list of options with radio buttons: "Roadway Section", "Sign", "Fixed Object" (which is selected), and "Other".
- What is the object? \***: A list of options with radio buttons: "Tree", "Utility Pole", "Culvert Headwall", and "Other".
- Roughly how far from the pavement edge is the fixed object (feet)? \***: A list of distance options: "0-1", "1-3", "3-5", and ">5".
- Is it a single fixed object or part of a series? \***: A list of options with radio buttons: "Single" and "Series".
- Image \***: A section with icons for a camera and a folder.
- Additional Notes (Optional)**: A text input field at the bottom.

Log fixed objects that meet one or more of the following criteria:

- On straight sections, within 3 ft. of the pavement edge or within the ditch line.
- On the outside of curves, within 5 ft. of the pavement edge.
- Doesn't meet the above criteria but appears to be a significant hazard.

## What is the object?

Select the type of fixed object from the list. If the object is not listed select other and describe in the notes.

## Roughly how far from the pavement edge is the fixed object in feet?

Estimate the distance from the pavement edge to the nearest edge of the fixed object.

# SURVEY123-Fixed Objects



## Is it a single fixed object or part of a series?

If there is just one object on the side of the road you are evaluating, select single. If there are a series of the same fixed object, select series. For

example: A row of trees within 2 ft. of the pavement edge would be a series, a single tree within 2 ft. of the pavement edge would be a single fixed object.



Note: If a roadway has the same fixed object hazard for a significant portion of its length, log the object once and estimate the percentage of the roadway length which the hazard is present. Then, enter that estimate into the additional notes section. An example of this would be if a roadway has trees within 2 ft. of the pavement edge for approximately 15% of its length.



# SURVEY123-Curve Hazards



1:17

SS4A Roadway Survey

Road Name \*  
Main Street

Where is the roadway feature located? \*  
38°2'N 84°30'W ± 16.1 m

What is the feature? \*  
 Roadway Section  
 Sign  
 Fixed Object  
 Curve Hazard

What is causing the curve hazard? \*  
Select all that apply.  
 Intersection in Curve  
 Entrance in Curve  
 Curve Obscured by Alignment/Embankment  
 Curve Obscured by Vegetation  
 Other

Is vegetation blocking the view of the curve? \*  
 Yes  
 No

Image \*  
[Camera icon] [Gallery icon]

Additional Notes (Optional)

✓

Identify hazards at all significant horizontal curves. Hazards include sight distance restrictions, intersections and/or entrances within the curve or other hazards identified during the review. A sharp turn and/or curve itself is not considered a hazard and will be identified during the advisory speed runs.

# SURVEY123-Curve Hazards



Intersection in Curve



Curve Obscured by Embankment

# SURVEY123-Intersections



1:46

SS4A Roadway Survey

Road Name \*  
Main Street

Where is the roadway feature located? \*  
38°2'N 84°30'W ± 16.1 m

What is the feature? \*

- Roadway Section
- Sign
- Fixed Object
- Curve Hazard
- Intersection Hazard

What is causing the intersection hazard? \*  
Select all that apply.

- Intersection Obscured on Approach
- Intersection Skew
- Insufficient Sight Distance at Intersection
- Other

Is vegetation blocking sight distance? \*

- Yes
- No

Image \*

Additional Notes (Optional)

✓

Log all significant intersections. Intersections where traffic on the focus roadway must stop or yield are considered significant.

## Is there any intersection hazards?

Log any hazards identified on the next page. If there is something about the intersection that appears hazardous but not listed, log it as other and provide a description of the issue.

# SURVEY123-Intersections



Skewed intersection



Intersection  
Obscured on  
Approach

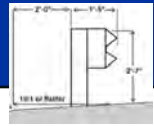


Restricted Sight  
Distance



Restricted Sight  
Distance

# SURVEY123-Guardrail



1:59

SS4A Roadway Survey

Road Name \*  
Main Street

Where is the roadway feature located? \*  
38°2'N 84°30'W ± 16.1 m

What is the feature? \*

- Roadway Section
- Sign
- Fixed Object
- Curve Hazard
- Intersection Hazard
- Guardrail

What is the condition? \*

- Good
- Fair
- Poor

Does it appear to meet warrants? \*

- Yes
- No
- Maybe

Do the end treatments meet guidelines? \*

- All
- None
- Some

Image \*

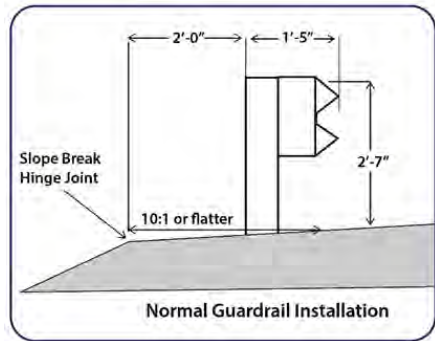
Additional Notes (Optional)

Log each guardrail segment along the roadway.

*Note: Guardrail at bridges and large culverts should be logged with the bridge/culvert feature.*

## Condition Rating

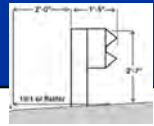
Visually rate the guardrail to determine if it is in good repair and properly installed per the figure below.



Good. Meets height requirements and no noticeable damage.

Fair. Minor visible damage, may or may not meet height requirements, but still serves as effective barrier.

# SURVEY123-Guardrail



Poor. Significant damage, does not meet height requirements, limiting utility.

## Guardrail Warrants

Guardrail is typically warranted when the drop is greater than 10 feet and the backslope is steeper than 3:1. If you are unable to determine if a section meets warrants but it appears as if it may, indicate “maybe.”

## End Treatments

Indicate whether all, some, or none of the end treatments meet current guidelines. The three types of end treatments that meet current guidelines from the AASHTO Manual for Assessing Safety Hardware are shown below.



A screenshot of a mobile application titled "SS4A Roadway Survey". The interface includes a green header with a close button (X), a title, and navigation icons. The main form has several sections: "Road Name \*" with a text input field containing "Main Street"; "Where is the roadway feature located? \*" with a location pin icon, coordinates "38°2'N 84°30'W ± 16.1 m", and a map showing a location in Columbia, South Carolina; "What is the feature? \*" with a radio button selected for "Bridge or Large Culvert"; "What is the width of the bridge/culvert in feet? \*" with an empty text input field; "How many corners of the bridge/culvert have guardrail? \*" with radio buttons for 0, 1, 2, 3, 4, and other; "how many corners of the bridge/culvert have object markers? \*" with radio buttons for 0, 1, 2, 3, 4, and other; and "Image \*" with a camera icon and a checkmark at the bottom right.

Log all bridges and large culverts along the roadway being surveyed. Large culverts are sometimes indistinguishable from a bridge from the roadway, they are generally made of concrete, square, and have openings that are 5+ feet diagonally. Figure X shows an example of a large culvert that would need to be logged.

### **What is the width of the bridge/culvert in feet?**

Estimate the width between the inside face of both sides of the bridge/culvert. The yellow line on figure X shows an example measurement.

### **How many corners of the bridge/culvert have guardrail / Object Markers**

Indicate how many corners of the bridge or culvert guardrail is attached to or protecting and/or marked with Object Markers.

# SURVEY123-Bridges



Large Box Culvert



Bridge Width Measurement

# SURVEY123-Drop Offs



2:36

SS4A Roadway Survey

Road Name \*

Main Street

Where is the roadway feature located? \*

38°2'N 84°30'W ± 16.1 m

What is the feature? \*

Drop Off

Other

How many feet from the pavement edge is the drop off? \*

0-1

1-3

3-5

>5

How many feet is the drop? \*

<2

2-5

5-10

>10

Image \*

Camera icon | Gallery icon

✓

Log all significant drop offs along the roadway. Significant drop-offs are those that may injure a motorist if their vehicle departs the roadway where the drop off is located.

## How many feet from the pavement edge is the drop off?

Estimate the offset from the nearest edge of the pavement to the beginning of the drop off.

## How many feet is the drop?

Estimate the depth of the drop off from the pavement surface to its deepest point.



## Drop Off Examples



Significant edge drop off due to driveway culvert/creek. Depth and offset measurements shown in yellow.

Significant edge drop off due to steep slope. Creek at bottom of slope is greater than 10 ft. below road surface.



Insignificant edge drop off due to small culvert pipe. Do not log.

# Contact Information



If you have any questions regarding the data collection or hazards found in reviewing the roadway, you may contact your Area Development District Transportation Planner at the information below.

ADD Name	Contact	Email
Barren River	Austin Sims	<a href="mailto:austin.sims@bradd.org">austin.sims@bradd.org</a>
Gateway	Jocelyn Gross	<a href="mailto:jocelynr.gross@ky.gov">jocelynr.gross@ky.gov</a>
Bufallo Trace	Melissa Hardy	<a href="mailto:mhardy@btadd.com">mhardy@btadd.com</a>
Green River	Jennifer Alvey	<a href="mailto:jenniferalvey@gradd.com">jenniferalvey@gradd.com</a>
Kentucky River	Scott Melton	<a href="mailto:scott@kradd.org">scott@kradd.org</a>
Lake Cumberland	Ian Cole	<a href="mailto:ian@lcadd.org">ian@lcadd.org</a>
Lincoln Trail	Jake Zimmerer	<a href="mailto:jake@ltadd.org">jake@ltadd.org</a>
Northern Kentucky	Jeff Thelen	<a href="mailto:jeff.thelen@nkadd.org">jeff.thelen@nkadd.org</a>
Pennyrile	Angela Herndon	<a href="mailto:angelas.herndon@ky.gov">angelas.herndon@ky.gov</a>
Purchase	Jim LeFevre	<a href="mailto:jim.lefevre@purchaseadd.org">jim.lefevre@purchaseadd.org</a>

Should you need further assistance, please contact Adam Kirk at the University of Kentucky Transportation center at [adam.kirk@uky.edu](mailto:adam.kirk@uky.edu).

## APPENDIX B: ROADWAY IMPROVEMENT GUIDES

### Low-Cost Safety Measures







Both urban and rural areas are challenged with high crash rates. However, they face unique challenges when trying to resolve roadway issues. Often, rural areas struggle with funding, availability of engineering staff, and available resources. These limitations adversely affect rural roads.

The Federal Highway Administration (FHWA) recommends a few actions to mitigate this problem. Deemed Low-Cost Safety Enhancements<sup>1</sup> and Proven Safety Countermeasures,<sup>2</sup> these established methods lead to a 15-50% reduction in crashes. Low-cost and high-crash-reduction measures provide a significant benefit-to-cost ratio. Utilizing low-cost safety measures to reduce roadway departures helps to resolve a rampant problem without overrunning the budget.

The two main collision types on rural roads are collisions with other motor vehicles and collisions with fixed objects. Keeping a vehicle in its lane significantly reduces the risk of collision. There are many methods to ensure that a vehicle does not depart from the roadway. Striping, rumble strips, center line, edgeline, and signage are a few ways to minimize lane departure. Vegetation control can also play an important factor in preventing collisions and roadway departures.

#### Curve Signing

Inadequate or improper signage is the leading reason for payouts related to collision or departure claims. Curve signing is used to advise motorists of changes in the roadway alignment. Advance warning signs, guidance through curves, and advisory speed plaques make up curve signing. For more information on curve signing and how to set appropriate advisory speeds for curves, see the TapIT! Sheets on Horizontal Alignment Signing and Setting Curve Advisory Speeds.

# of curves	Less than or equal to 30 mph	Greater than 30 mph
1	 W 1-1	 W 1-2
2	 W 1-3	 W 1-4
3 or more	 W 1-5	 W 1-5

Roadway Width	Edgelines	Centerlines
<16 ft	Permitted	Prohibited
≥ 16 ft < 20 ft	Either EL or CL NOT both	
≥ 20ft	Required ADT > 1000	Required

#### Pavement Markings

Pavement markings are also effective in providing guidance for vehicles to negotiate a roadway. Even on narrow roadways, edgelines have proven to be effective in reducing both single vehicle and head-on crashes by providing demarcation of the road edge for drivers at night. Edgeline only striping is recommended for roadways with crash potential or experience for roadways under 16 feet and may be used on roadways between 16-20 ft in width. For low-volume roads under 400

vpd, edgeline striping may be more beneficial than centerline striping due to the low exposure for multi-vehicle crashes.

### Clear Zones

Maintain an unobstructed, relatively flat area beyond the edge of the traveled way that allows drivers to stop safely or regain control of a vehicle that leaves the traveled way. Factors include roadway design speed, traffic volume, and embankment slope. As a general rule, get as much clear zone as you can, and keep what you get.

Recoverable Slope	Non-Recoverable Slope	Critical Slope
A slope on which a motorist may retain or regain control of the vehicle	A slope that is considered traversable but on which the bottom errant vehicle will continue to the bottom	A slope on which the vehicle is likely to overturn
Slopes 4:1 and flatter	Slopes between 3:1 and 4:1	Slopes steeper than 3:1

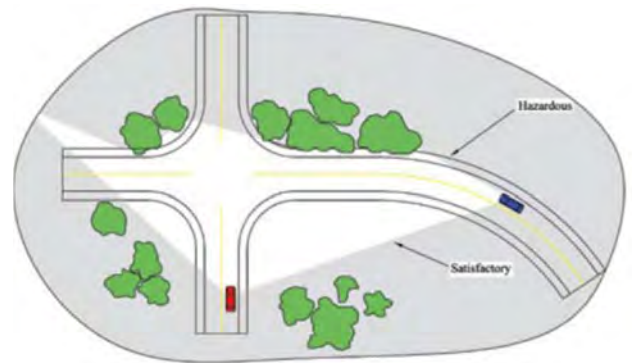
Fixed objects in the clear zone include trees, utility poles, headwalls, signs, guardrails, etc. These fixed objects often result in fatal crashes.

To address clear zone impediments, the following priority of mitigation measures should be followed:

Remove obstacle → Relocate obstacle → Make traversable →  
Reduce impact severity → Shield obstacle → Delineate obstacle

### Vegetation Management

Clearing vegetation around signs and intersections is one of the most cost-effective safety measures you can take. It will also help with snow and ice removal by allowing more sunlight to reach the roads. Consider sight triangles as guidance as to how much vegetation should be cleared.



### Roadway Maintenance






Consider drainage, pavement edge dropoff/shouldering, and superelevation as additional low-cost safety measures. Drive your roads during poor weather conditions to look for potential hazards. Use the Safety Edge or other dropoff countermeasures to ensure recoverability.

1. Low-Cost Safety Enhancements for Stop-Controlled and Signalized Intersections, Federal Highway Administration. 2020. [https://safety.fhwa.dot.gov/provencountermeasures/syst\\_stop\\_control.cfm](https://safety.fhwa.dot.gov/provencountermeasures/syst_stop_control.cfm)
2. Proven Safety Countermeasures, Federal Highway Administration. <https://highways.dot.gov/safety/proven-safety-countermeasures>

### Horizontal Alignment Signing

Implementing low-cost safety measures for rural roads is vital to reduce roadway crashes and deaths. One of the largest proven countermeasures for reducing fatal crashes is to address single vehicle crashes near horizontal curves. Twenty percent of all crashes occur at curves, and these crashes account for 40 percent of all fatal crashes. Furthermore, inadequate or improper signage is the leading reason for payouts related to collision or departure claims.

Horizontal alignment signing is used to advise motorists of changes in the roadway alignment consisting of advance warning signs, guidance through curve, and advisory speed plaques.

# of curves	Less than or equal to 30 mph	Greater than 30 mph
1	 W 1-1	 W 1-2
2	 W 1-3	 W 1-4
3 or more	 W 1-5	 W 1-5

MUTCD Chapter 2C provides guidance on the use of Horizontal Alignment signing and establishes standards for roadways having an Average Daily Traffic (ADT) of over 1,000 vehicles. While not required on roadways with lesser traffic volumes, improved signing can address high crash locations or be used to proactively reduce crashes on horizontal curves. MUTCD guidance is summarized below.

**Advanced warning signs**, such as the W1-1, W1-3 and W1-5, and advisory speed plaques (W13-1) are recommended on curves where the posted or 85<sup>th</sup> percentile speed is 5 mph or greater than the advisory speed and required when 10 mph or greater than the advisory speed. The specific type of advanced warning sign to be used is shown in the figure to the right. Advanced warning signs should be placed far enough in advance of the hazard to allow the sign to be seen and for a driver to decelerate to the appropriate speed. The table summarizes how far in advance signs should be placed before a horizontal curve based on the approach speed and advisory speed.

Speed	Advisory Speed (mph)				
	10	20	30	40	50
20 mph	100 ft	—	—	—	—
25 mph	100 ft	100 ft	—	—	—
30 mph	100 ft	100 ft	—	—	—
35 mph	100 ft	100 ft	100 ft	—	—
40 mph	100 ft	100 ft	100 ft	—	—
45 mph	125 ft	100 ft	100 ft	100 ft	—
50 mph	200 ft	175 ft	125 ft	100 ft	—
55 mph	275 ft	225 ft	200 ft	125 ft	100 ft
60 mph	350 ft	325 ft	275 ft	200 ft	100 ft
65 mph	450 ft	400 ft	350 ft	275 ft	200 ft
70 mph	525 ft	500 ft	450 ft	375 ft	275 ft
75 mph	625 ft	600 ft	550 ft	475 ft	375 ft



**Guidance signing**, including chevrons (W1-8) and/or One-Direction Large Arrows (W1-6), are recommended when the posted speed limit is 10 mph or greater than the advisory speed and required when 15 mph or greater. Guide signs should be oriented toward approaching traffic and spaced consistently so that two or more chevrons can be seen at one time. The table on the next

page provides a summary of chevron spacing requirements, based on the posted advisory speed.

Advisory Speed	Chevron Spacing
15 mph or less	40 feet
20 to 30 mph	80 feet
35 to 45 mph	120 feet
50 to 60 mph	160 feet
More than 60 mph	200 feet

The first figure below shows a standard signing layout for a roadway with a posted speed of 55 mph and a curve advisory speed of 35 mph. In this example, advanced warning signs (W1-2) are placed 200 feet in advance of the horizontal curve. Chevrons are then used to provide additional guidance through the curve and are placed with a spacing of 120 feet apart. The second figure shows enhanced signing, which provides dual mounted advanced warning signs and adds dual-mounted supplemented signs at the point of curvature. Note that the supplemental signs (W1-2a) which show alignment and posted advisory speed can only be used at the point of curvature and NOT as an advanced warning sign.



For more information on setting advisory speeds for horizontal curves, see the “Setting Advisory Speeds” TapIT! Sheet.

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## Setting Curve Advisory Speeds

### Setting Advisory Speeds



When a roadway has a curve and/or turn that requires motorists to slow down to safely negotiate it, advanced warning signs are used to identify the hazard to the roadway users. Central to proper signing is identifying the “safe” speed that a driver can negotiate the curve. This is called the “advisory speed.” When the posted or 85<sup>th</sup> percentile speed of the roadway is greater than 10 mph over the advisory speed, the MUTCD requires that an Advisory Speed Plaque is installed with the advanced warning sign. Several methods exist to set advisory speeds including 1) accelerometer, 2) design speed equations, and 3) a traditional ball-bank indicator. The ball bank indicator is the most common and quickest method to determine advisory speeds for a small number of curves.

### Ball Bank Indicator

The ball bank indicator (BBI), shown to the right, measures the horizontal forces as a vehicle maneuvers through a curve. These forces are dependent upon the speed of the vehicle and the superelevation (or bank) of the roadway. Measurements are expressed in terms of degree of deflection with which the “ball” travels through the curve. Manual BBIs have been replaced by the digital Ball Bank Indicator which provide measurement based on the same principal.



### Using a Ball Bank Indicator:

1. Mount the ball bank indicator in the vehicle when the vehicle is stopped on a level surface so that the BBI reads 0.
2. Drive through the curve at a consistent speed (e.g. 35, 30, 25, 20 mph). Perform test in each direction, and in each lane, multiple times, due to variations in path, pavement condition, etc.



Speed (mph)	Degrees of Bank
≤20 mph	16°
25 - 30 mph	14°
≥35 mph	12°

Tests should be performed at 5 mph decreasing increments starting at the posted speed until the ball bank deflection remains within limits set in the table at left. When a run can be successfully completed without exceeding these values, this speed is chosen as the advisory speed.

Learn more in the Horizontal Alignment TapIT! Sheet.

### Object Markers

On low-volume roadways, it may not be cost effective to remove or relocate fixed objects within the clear zone due to their prevalence and the lower speeds associated with the local road system. In those cases, object markers are recommended by the MUTCD to demarcate roadside obstacles.

The MUTCD provides standards for Type 2 and Type 3 markers as shown in Figure 1. It is recommended that Type 3 object markers be used to mark significant obstacles directly adjacent to the roadside, such as culvert headwalls, while Type 2 markers may be used to delineate frequent occurrences such as utility pole locations.<sup>1</sup>

Figure 1: MUTCD Object Marker



The recommended minimum height for object markers is lower than standard signing, with a minimum height of 4 ft above the edge of the roadway. This lowered height allows for the object markers to be within the direct eye line of the driver and indicate the obstacle position relative to the vehicle. Additionally, when placing Type 2 and Type 3 object markers, the near edge of the object marker should be placed in-line with the near edge of the obstacle to provide further guidance to the driver. Figure 2 delineates the application of object markers on a roadway.

Figure 2: Object Marker Application



1. Manual on Uniform Traffic Control Devices, Federal Highway Administration. 2009. <https://mutcd.fhwa.dot.gov/>

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## Guardrail

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### Guardrail

Guardrail may be used to protect against critical slopes and/or fixed objects. Guardrail is in and of itself a fixed object, so it should be placed with consideration. Guardrail should meet crashworthy standards in all placements. Guardrail should be considered on slopes steeper than 3:1 with a fill height over 10 feet. To give vehicles sufficient opportunity to recover without impacting an obstacle, guardrail should be placed as far away from the traveled way as is practical. Additional guidance on guardrail should be sought from the AASHTO Roadside Design Guide.

#### Barrier Installation

To protect against rollover crashes, guardrail should be 31" ( $\pm 1$ " ) above the road surface and should have a minimum of 2' soil backing at a slope of 10:1 or flatter. If placing 2' of fill material behind the barrier is not practical, longer post lengths may be used.

#### Barrier End Treatments

If the end of the barrier system/guardrail is located within the clear zone, it must be anchored and shielded with end treatments. Guardrail end treatments are frequently used to minimize the severity of impacts with fixed objects by gradually decelerating an impacting vehicle to a stop or redirecting it around the object of concern. Barrier end treatments should comply with MASH guidelines.

The preferred end treatment for guardrail sections is to anchor the guardrail in a backslope terminal, known as a Type 3 end treatment, at appropriate height. If the guardrail can be anchored out of the clear zone, an anchored end treatment Type 2A may be used, which installs a terminal Section No. 1. When these types of end treatments are not feasible, a Type 1 (Energy Absorbing Straight-Line Terminal) is preferred.



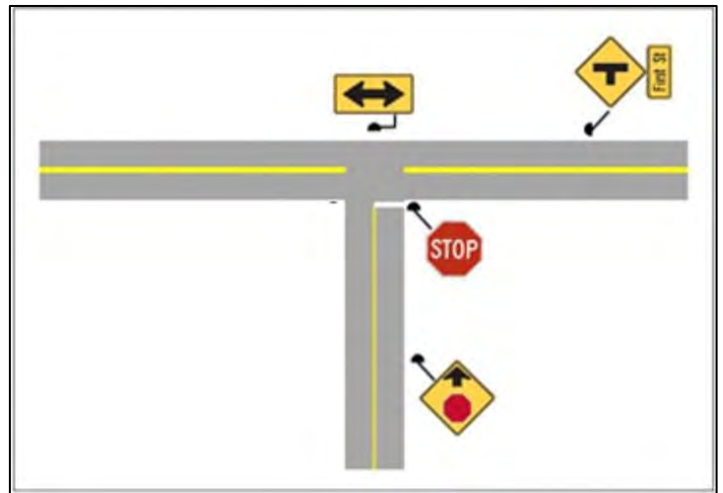
A Type 7, commonly known as a turn down end treatment, does not meet MASH crash guidelines and is only permitted on low speed / low volume roadways. These should be used only when adequate recovery zones are unavailable for other preferred end treatment types.

### Stop-Controlled Intersections

Stop-controlled intersections are the most prevalent form of intersection traffic control on Kentucky's roadway. Additionally, common intersection crash types, such as angle and left turn crashes, have a high severity rate due to the speeds involved in the crash. Often, stop-controlled intersections have minimally-placed traffic control, particularly at 'T' intersections.

At 'T' intersections, especially in unlit areas, the presence of the intersection may be even more difficult to discern for some drivers. In addition to the risk associated with entering the intersection, fixed object crashes if a driver proceeds through a 'T' intersection are common. A Two Direction Large Arrow sign (W1-7) is a low-cost method to reinforce stop control at 'T' intersections.<sup>1</sup>

In cases where vegetation partially or fully blocks existing signs, vegetation should be trimmed back. In cases where other sight distance limitations exist, such as horizontal or vertical curves, advance traffic control signs like stop ahead signing (W3-1) should be used. For intersections with persistent crash history or demonstrated high frequency/high severity of crashes, dual mounted signing may be utilized.



### Pavement Markings

In addition to signing, pavement markings, specifically painted stop bars, can be effective in delineating the intended stopping point of vehicles at intersections and indicating the presence of the intersection. While pavement markings can present additional maintenance requirements, they are recommended for installation at:

- 1) Wide or skewed access points and intersections with curves which increase driver uncertainty as to the intended stop location
- 2) Intersections or on corridors with a documented intersection crash history
- 3) Intersections with high exposure for severe crashes, such as high volume/high speed uncontrolled cross streets (e.g., state highways or low-volume county roadways)

1. Manual on Uniform Traffic Control Devices (MUTCD), Federal Highway Administration. 2009. <https://mutcd.fhwa.dot.gov/>

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## Wet Weather Crashes

### Wet Weather Crashes

Wet or icy pavement conditions are a frequent contributing factor to crashes in Kentucky. When wet conditions are shown to contribute to a high incidence of crashes (wet pavement in over 50 percent of crashes) mitigation measures are often warranted. Determining the incidence rate of wet weather crashes can be done by examining crash data statistics for your area. Potential treatments for wet weather crashes include the following:

#### *Improved Drainage*

Improving drainage may impact roadway conditions during wet weather events. Clogged or absent drainage culverts and/or vegetation growth preventing water from reaching the ditch can both impact roadway conditions. Superelevation and rutting may also impact roadway conditions during heavy rain.

#### *High Friction Surface Treatment (HFST)*

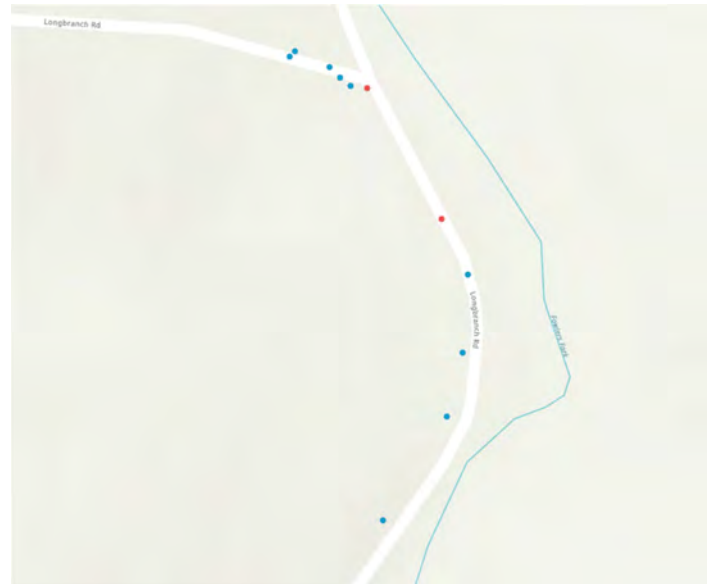
Installing High Friction Surface Treatment (HFST) can increase surface friction during wet weather events, where worn or polished pavement has been identified as being a significant contributor to the crash.<sup>1</sup>

Areas identified as having a higher concentration of wet weather crashes should be observed during significant rain events to identify areas of ponding and/or excessive sheet flow. If no drainage issues are identified, friction testing is recommended to determine if HFST would be a suitable mitigation measure.



At left, superelevation on the roadway and rutting on the shoulder contribute significantly to ponding water on the inside of the curve.

1. High Friction Surface Treatments (HFST), Federal Highway Administration. 2022.  
[https://safety.fhwa.dot.gov/roadway\\_dept/pavement\\_friction/high\\_friction/](https://safety.fhwa.dot.gov/roadway_dept/pavement_friction/high_friction/)



## APPENDIX C: PUBLIC SURVEY

## Green River Area Development District

The Green River ADD is currently developing a Safety Action Plan for Daviess, Hancock, McLean, Ohio, Union and Webster counties. This survey will be combined with crash analysis and local agency review of roadways to identify potential safety issues on county roadways. Once identified, the ADD and local counties will work to identify countermeasures to improve safety. The Safety Action Plan will then be used to direct local forces and funds and pursue additional funding available from the Kentucky Transportation Cabinet and USDOT.



### SAFETY SURVEY

This survey collects general demographic information and seeks information about overall safety trends within your area. Please answer the questions below and click SUBMIT at the end of the survey. In the next section, you will be able to identify specific areas of concern on the roadway system.

#### GRADD Safety Survey

How old are you?

Under 25

25-44

45-69

70+

What is your employment status?\*

Full-time

Part-time

Student

Stay-at-home

Retired

Unemployed

Other

**KRADD Safety Survey**

What is your home zip code?\*

What is your work/school zip code?\*

How comfortable do you feel driving on local roads in your area?\*

Very Comfortable

Comfortable

Neutral

Uncomfortable

Very Uncomfortable

### KRADD Safety Survey

What are your top five safety concerns in your area.\*

Distracted driving

Aggressive driving

High speeds

Limited Sight Distance

Unmaintained Roads

Narrow Roadways

Roadside Objects (Trees)

Blind Curves

Sharp Curves

Blind Intersections

Pavement Drop Offs

Lack of Pedestrian Facilities (Sidewalks)

Lack of Bicycle Facilities (Bike Lanes)

Other

What is something that you would like this plan to focus on to make roadways safer in your area?

255

Submit

Powered by ArcGIS Survey123

## IDENTIFY A SAFETY CONCERN

On the map below you can identify areas of concern or propose solutions for areas viewed as safety hazards on local roadways. This project is primarily looking for issues on county and/or city maintained roadways; however, concerns on other agency roads will be shared with those agencies. Follow the steps below to report a safety concern:

1. Click "Report a Concern" at the bottom of the map,
2. Select the type of concern (Speeding, Roadside Drop off, etc.)
3. Zoom into the map and locate the roadway / concern.
4. Click on the map where you suspect the issue to be.

To watch an instructional video on how to use the interactive map, [click here](#).

Green River ADD Transportation Safety Needs

Sign in

Safety Concerns

Roadside Object	(1)	>
Roadside Drop Off	(18)	>
Curve	(27)	>
Narrow Roadway	(31)	>
Intersection Concern	(68)	>
Road Maintenance Needed	(48)	>
Speeding	(1)	>
Distracted Driving	(5)	>
Bicycle	(36)	>
Pedestrian	(72)	>

REPORT A CONCERN

Earthstar Geographics | Original dataset digitized from USGS 7.5 Minute Topographic Quadrangles by the Kentucky ... Powered by Esri

## APPENDIX D: DAVIESS COUNTY

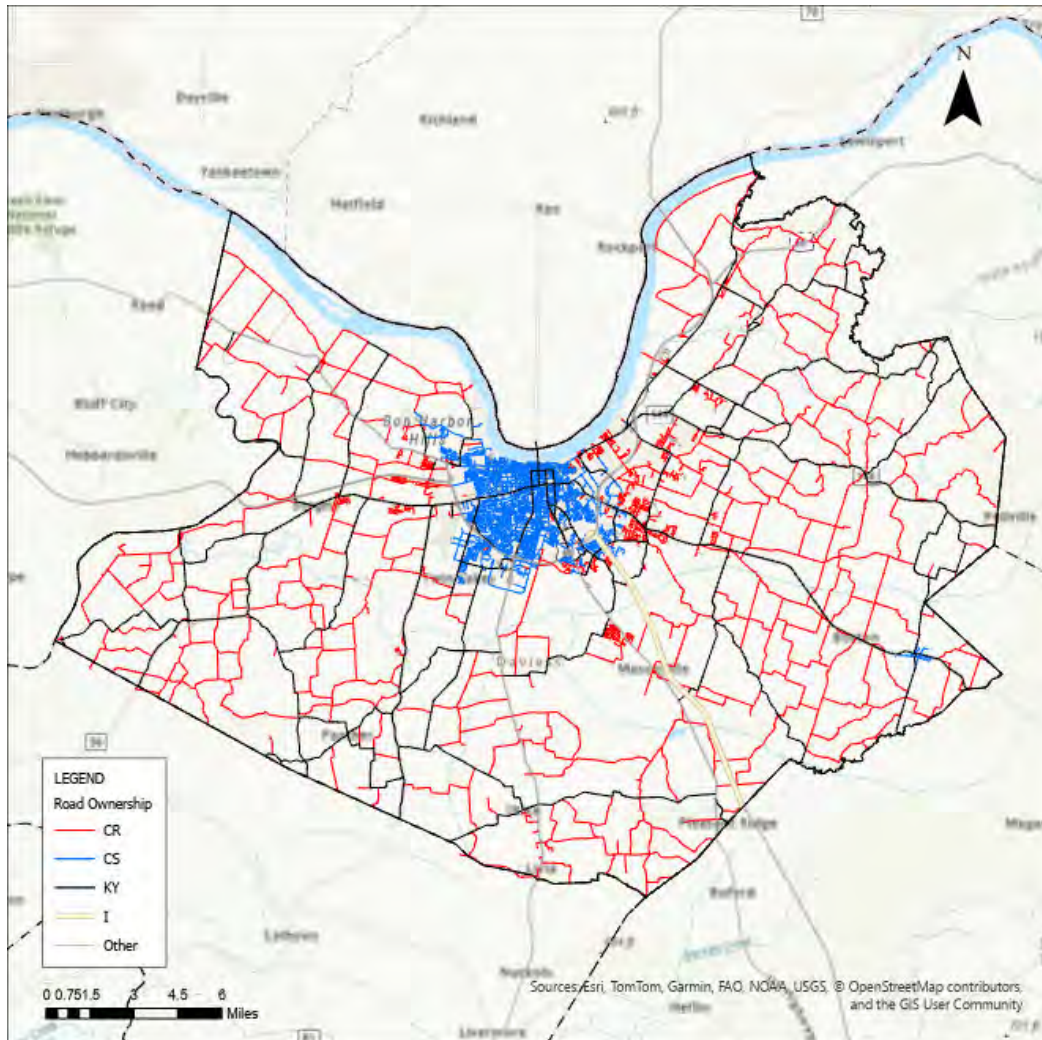
## Daviess County Overview



**Exhibit Daviess-1: Location Map**

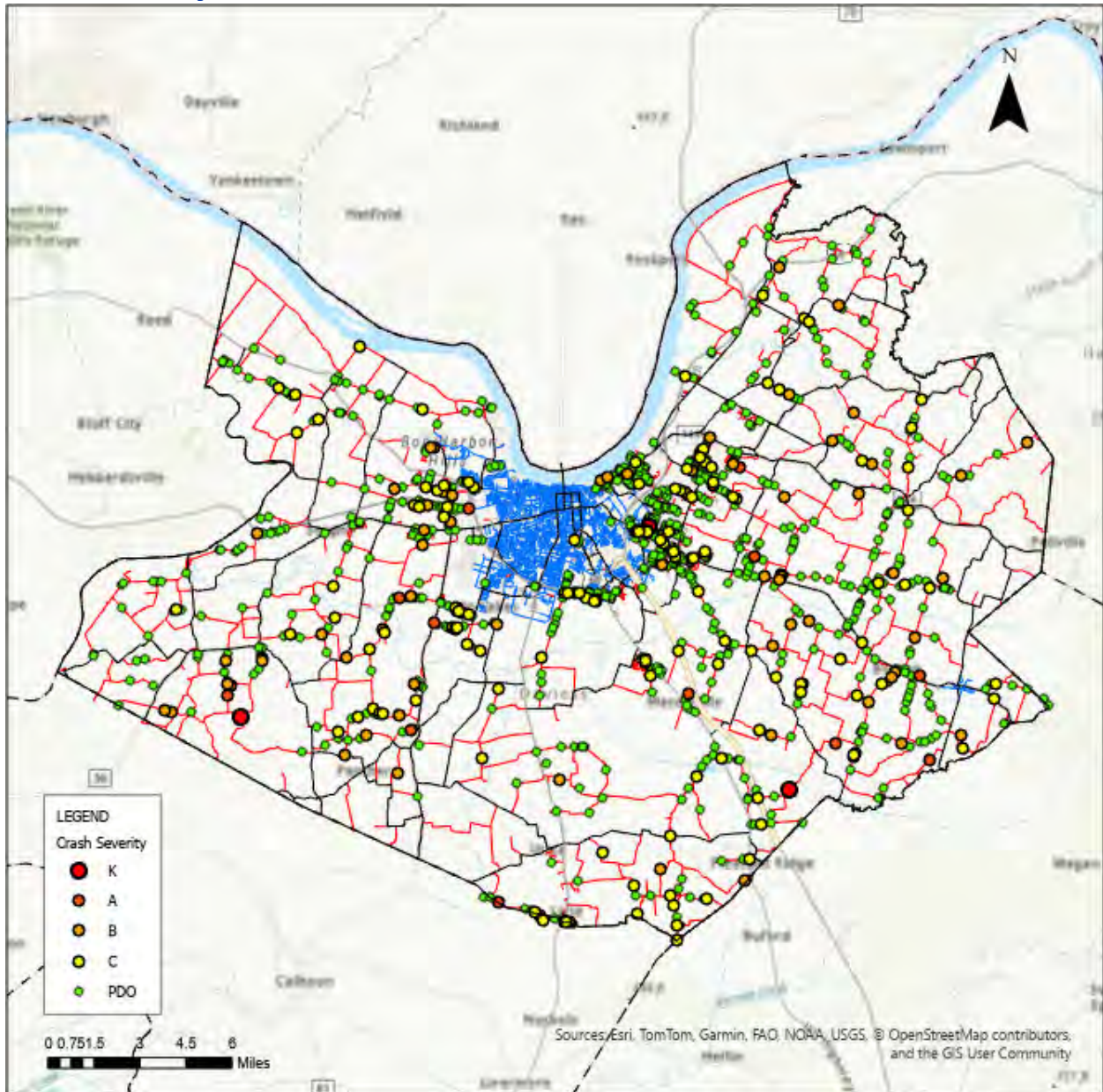
Key Information Table Daviess County	
Population	103,458
Population in Persistent Poverty	16%
Underserved Community	No
Fatalities (All Roads)	58
Fatalities (County Roads)	4
Fatality rate per 100,000 persons	56.1
County Road Mileage	566.4
State Road Mileage	341.9
<b>Total Mileage</b>	<b>908.3</b>

**Exhibit Daviess-2: Key Information**



**Exhibit Daviess-3: Map of County Roadways**

## Crash Analysis



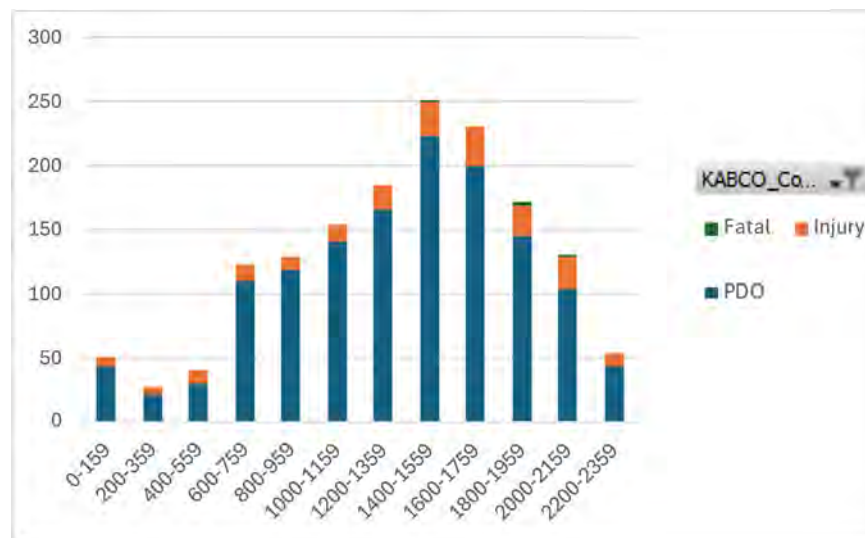
**Exhibit Daviess-4: Map of County Road Crashes**



**Exhibit Daviess-5: Crash Distribution by Year**

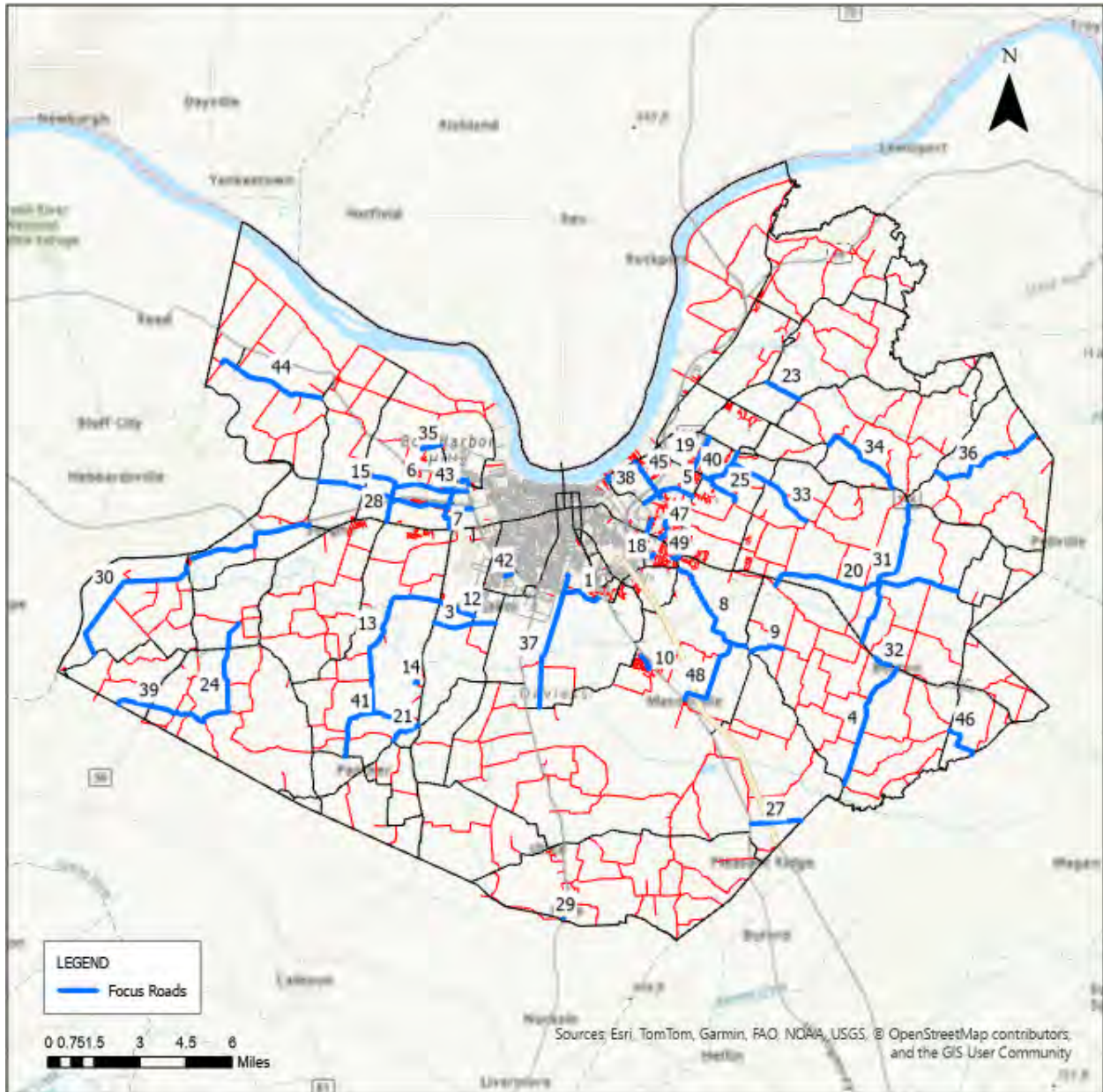
Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	479	141	4	<b>624</b>
Angle	165	28	0	<b>193</b>
SS - Opp	161	7	0	<b>168</b>
Rear End	115	7	0	<b>122</b>
Head On	25	5	0	<b>30</b>
Left Turn	12	3	0	<b>15</b>
SS - Same	116	3	0	<b>119</b>
Rear to Rear	15	2	0	<b>17</b>
(blank)	7	0	0	<b>7</b>

**Exhibit Daviess-6: Crash Frequency and Severity by Manner of Collision**



**Exhibit Daviess-7: Crashes and Severity by Time of Day**

## Focus Roadways



**Exhibit Daviess-8: Focus Roads**

RT_UNIQUE	Length	County	AD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
<b>Daviess</b>										
030-CR-1215 -000	1.97297	Daviess	GRADD	VEACH RD	5	9	86	3.33	3.30	1
030-CR-1507L -000	0.50595	Daviess	GRADD	FAIRVIEW DR	2	4	32	3.01	1.65	2
030-CR-1301 -000	2.07655	Daviess	GRADD	KELLER RD	4	3	12	1.85	3.28	3
030-CR-1190 -000	4.38222	Daviess	GRADD	BOSTON-LAFFOON RD	5	3	7	2.18	1.61	4
030-CR-1089 -000	1.8096	Daviess	GRADD	HAYDEN RD	2	3	21	1.17	2.84	5
030-CR-1340 -000	3.62673	Daviess	GRADD	LEE RUDY RD	1	2	6	2.26	0.37	6
030-CR-1336 -000	1.42063	Daviess	GRADD	WORTHINGTON RD	3	1	14	1.32	2.06	7
030-CR-1125 -000	3.82333	Daviess	GRADD	MILLERS MILL RD	0	2	20	2.00	0.55	8
030-CR-1126 -000	1.24012	Daviess	GRADD	BEN HEAD RD	1	1	0	2.12	0.18	9
030-CR-1234 -000	0.68418	Daviess	GRADD	AUTUMN VALLEY TRCE	1	0	2	2.06	0.23	10
030-CR-1092M -000	0.58422	Daviess	GRADD	EAST 8TH ST	1	0	1	2.05	0.23	11
030-CR-1302 -000	1.28288	Daviess	GRADD	FISHER RD	4	3	11	1.84	0.65	12
030-CR-1299 -000	5.64127	Daviess	GRADD	WAYNE BRIDGE RD	4	3	14	1.86	0.55	13
030-CR-1305C -000	0.12417	Daviess	GRADD	GERALD DR	1	0	0	2.04	0.08	14
030-CR-1339 -000	5.22976	Daviess	GRADD	WEST 5TH ST RD	3	5	17	1.68	0.76	15
030-CR-1412D -000	0.45648	Daviess	GRADD	BERNHEIM DR	0	1	1	1.76	0.26	16
030-CR-1013 -000	0.42493	Daviess	GRADD	PLEASANT VALLEY RD - 1	1	4	45	1.08	1.63	17
030-CR-1506H -000	0.13871	Daviess	GRADD	WOODLAKE RUN	0	0	3	1.69	0.15	18
030-CR-1081 -000	1.23583	Daviess	GRADD	GRAHAM LN	3	1	18	1.36	0.79	19
030-CR-1021 -000	6.43314	Daviess	GRADD	JACK HINTON RD	2	2	30	1.16	0.99	20
030-CR-1247 -000	1.11579	Daviess	GRADD	ASHBYBURG RD	2	0	3	0.77	1.48	21
030-CR-1342 -000	0.19175	Daviess	GRADD	BON HARBOR HILLS	2	2	15	1.04	0.69	22
030-CR-1053 -000	1.23103	Daviess	GRADD	GRAVES LN	1	2	6	0.59	1.49	23
030-CR-1268 -000	5.39858	Daviess	GRADD	MULLIGAN RD	3	0	5	1.17	0.26	24
030-CR-1085 -000	1.5027	Daviess	GRADD	REID RD	1	4	17	0.85	0.86	25
030-CR-1170 -000	0.79604	Daviess	GRADD	EAST HARMONS FERRY RD	2	2	2	0.93	0.60	26
030-CR-1161 -000	1.686	Daviess	GRADD	CRANE POND RD	0	1	3	0.11	2.26	27
030-CR-1394 -000	1.18733	Daviess	GRADD	LYDDANE BRIDGE RD	1	0	4	0.41	1.32	28
030-CR-1243 -000	2.9239	Daviess	GRADD	WEST HARMONS FERRY RD	1	2	4	0.57	0.86	29
030-CR-1381 -000	9.61098	Daviess	GRADD	CJRDSVILLE-DELAWARE RD	1	0	25	0.58	0.83	30
030-CR-1030 -000	5.21168	Daviess	GRADD	SHORT STATION RD	2	1	9	0.91	0.15	31
030-CR-1181 -000	0.57776	Daviess	GRADD	SAWMILL RD	0	0	2	0.02	1.94	32
030-CR-1023 -000	3.10081	Daviess	GRADD	SOUTH HAMPTON RD	2	0	3	0.77	0.36	33
030-CR-1048 -000	3.06295	Daviess	GRADD	KNOTTVILLE-MOUNT ZIO	2	1	4	0.87	0.14	34
030-CR-1344 -000	0.69269	Daviess	GRADD	MEDLEY RD	2	0	1	0.76	0.35	35
030-CR-1038 -000	4.16701	Daviess	GRADD	INDIAN HILL RD	2	0	4	0.78	0.30	36
030-CR-1216 -000	3.91841	Daviess	GRADD	SUTHERLAND RD	1	1	9	0.53	0.78	37
030-CR-1510 -000	0.23061	Daviess	GRADD	COMMERCE DR	1	1	20	0.62	0.57	38
030-CR-1269 -000	3.06107	Daviess	GRADD	POSSUM TROT RD	2	0	0	0.75	0.30	39
030-CR-1083 -000	1.4093	Daviess	GRADD	JONES RD	1	0	13	0.48	0.83	40
030-CR-1250 -000	3.39161	Daviess	GRADD	WINDY HOLLOW RD	1	3	7	0.68	0.33	41
030-CR-1441 -000	0.2392	Daviess	GRADD	TAMARACK RD	0	0	2	0.02	1.62	42
030-CR-1411 -000	0.11308	Daviess	GRADD	BENTTREE DR	0	0	2	0.02	1.61	43
030-CR-1363 -000	4.08232	Daviess	GRADD	SAUER LN	1	2	14	0.66	0.29	44
030-CR-1090 -000	1.48213	Daviess	GRADD	DANIELS LN	0	2	13	0.27	1.05	45
030-CR-1146 -000	1.45944	Daviess	GRADD	MORGANTOWN RD	1	1	1	0.47	0.64	46
030-CR-1010A -000	0.73947	Daviess	GRADD	BOLD FORBES WAY	0	1	4	0.12	1.35	47
030-CR-1124 -000	2.95217	Daviess	GRADD	MASONVILLE-HABIT RD	1	1	8	0.52	0.51	48
030-CR-1006E -000	0.31107	Daviess	GRADD	WATER WHEEL WAY	0	0	3	0.02	1.52	49
030-CR-1138 -000	3.04953	Daviess	GRADD	HAYNES STATION RD	1	1	5	0.50	0.51	50

**Exhibit Daviess-9: List of Focus Roadways (Top 50)**

## Recommended Improvements (Top 5 Roads)

### VEACH RD (030-CR-1215 -000)

Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	38	3	0	41
SS - Opp	9	1	0	10
(blank)	0	0	0	0
Rear to Rear	0	0	0	0
Head On	1	0	0	1
Backing	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	8	0	0	8

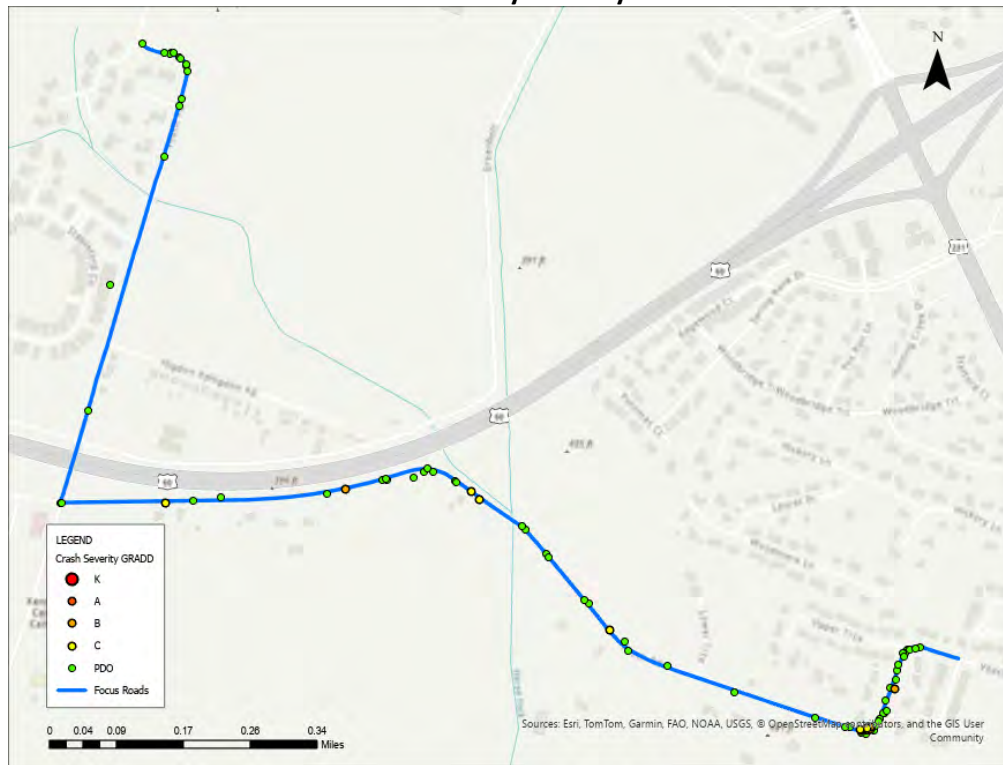
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (ft)
951	030-CR-1215 -000	VEACH RD	18	3	4	40-60
2683	030-CR-1215 -000	VEACH RD	21	2	5	80-100

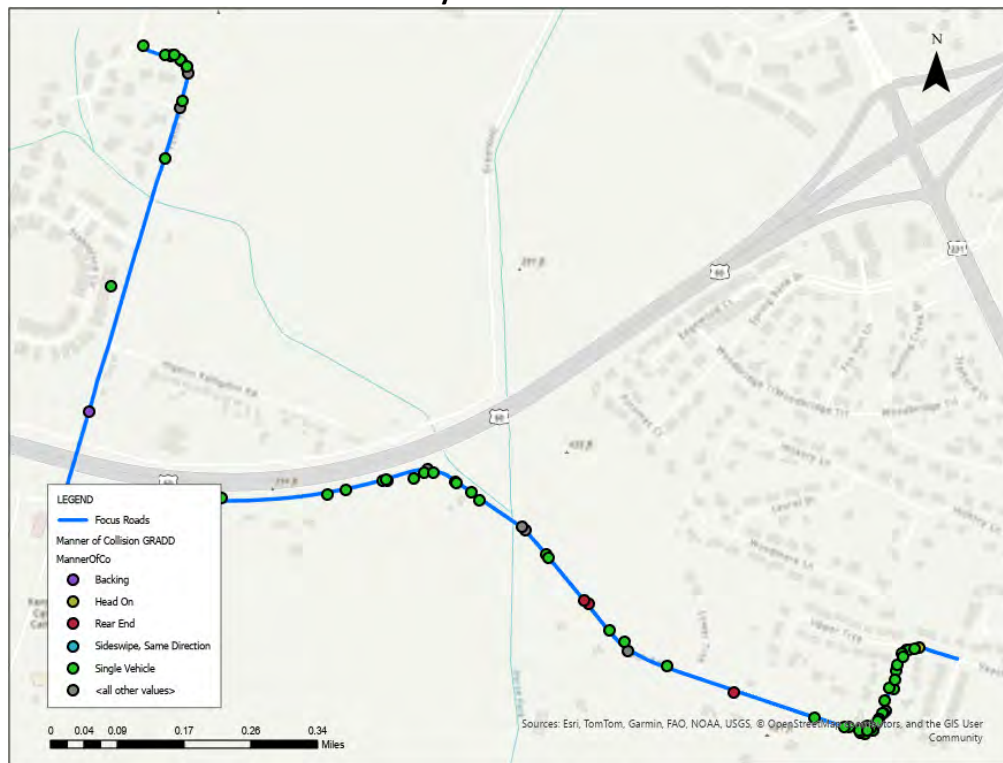
Roadway Typical Section



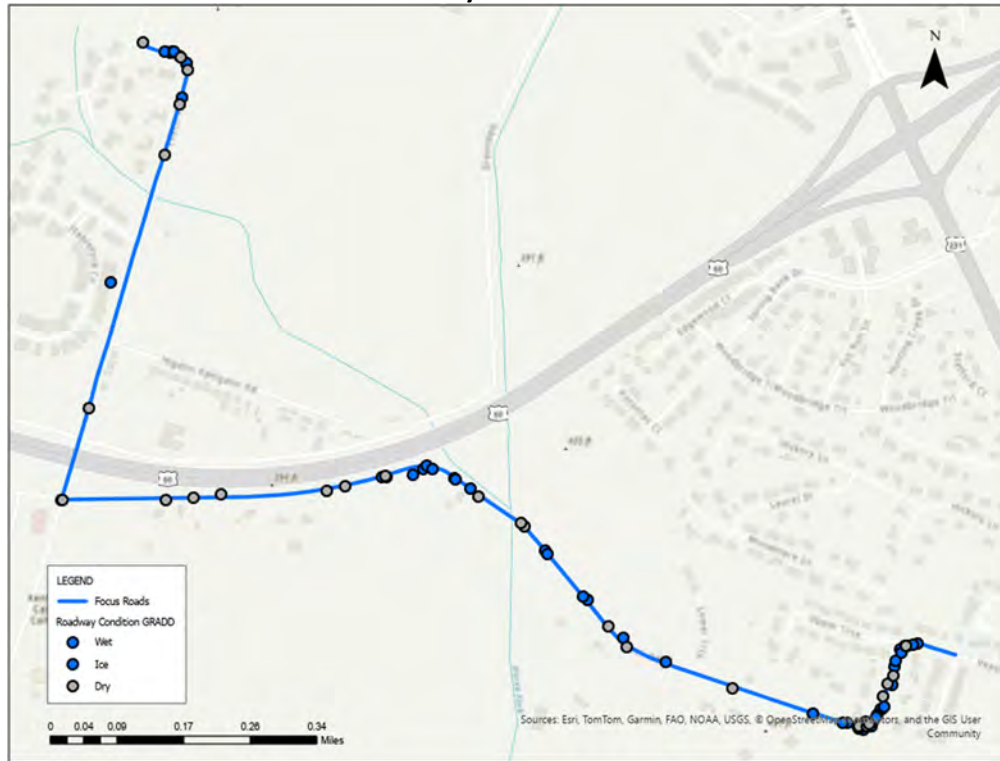
### Crashes by Severity



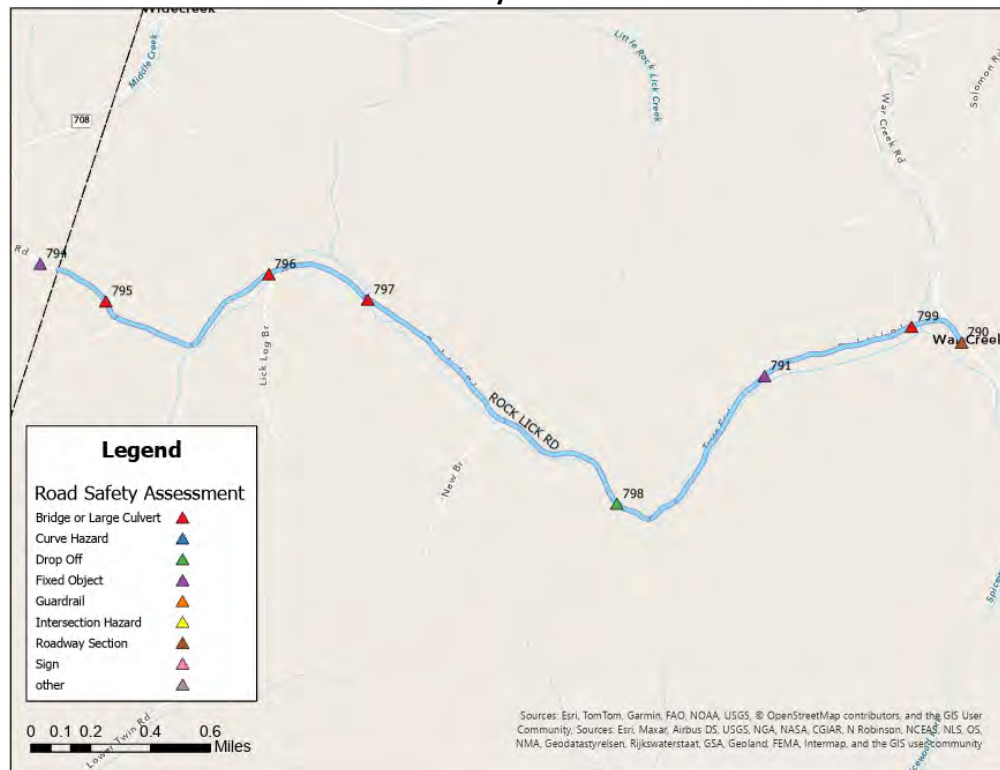
### Crashes by Manner of Collision



### Crashes by Road Condition



### Road Safety Assessment



**General Recommendations**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin	Other Recommendations
951	030-CR-1215 -000	VEACH RD	18	3	4	40-60	✓	✓	✓	
2683	030-CR-1215 -000	VEACH RD	21	2	5	80-100	✓	EL & CL	✓	Resurface

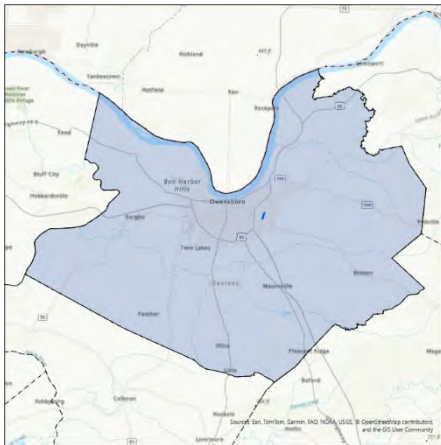
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
957	030-CR-1215 -000	VEACH RD	Fixed Object	Tree;	Series	3-5	--
2682	030-CR-1215 -000	VEACH RD	Fixed Object	Tree;	Series	3-5	--

Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
2678	030-CR-1215 -000	VEACH RD	Bridge or Large Culvert	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
2679	030-CR-1215 -000	VEACH RD	Bridge or Large Culvert	18	4	3	Replace Type 3 Object Markers

### FAIRVIEW DR (030-CR-1507L -000)

#### Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Angle	9	3	0	12
Rear to Rear	3	1	0	4
SS - Opp	2	1	0	3
Head On	2	1	0	3
Rear End	19	1	0	20
Single Vehicle	7	0	1	8
Left Turn	2	0	0	2
(blank)	0	0	0	0
Backing	10	0	0	10

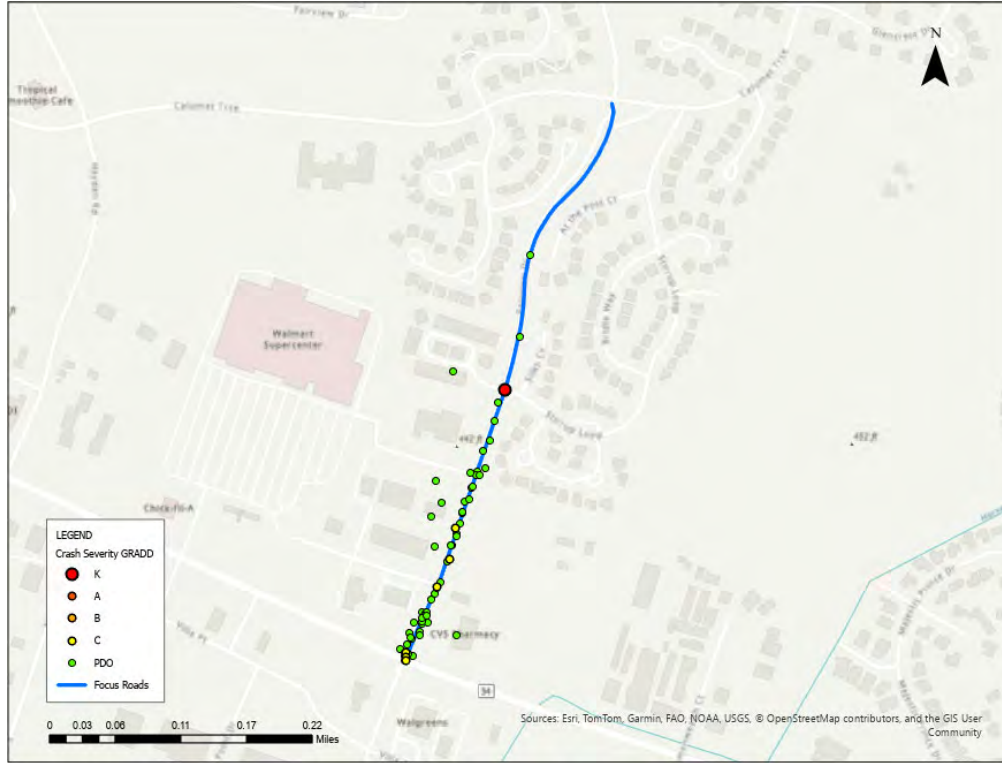
#### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (
2392	030-CR-1507L -000	FAIRVIEW DR	24+	1	4	0-20

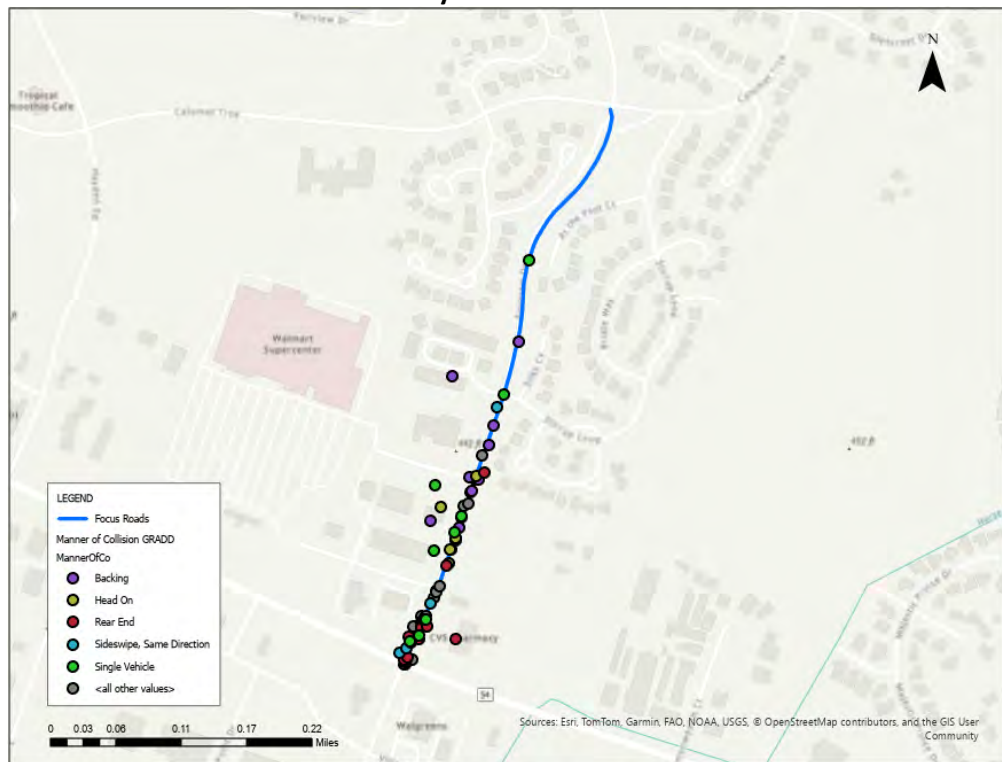
#### Roadway Typical Section



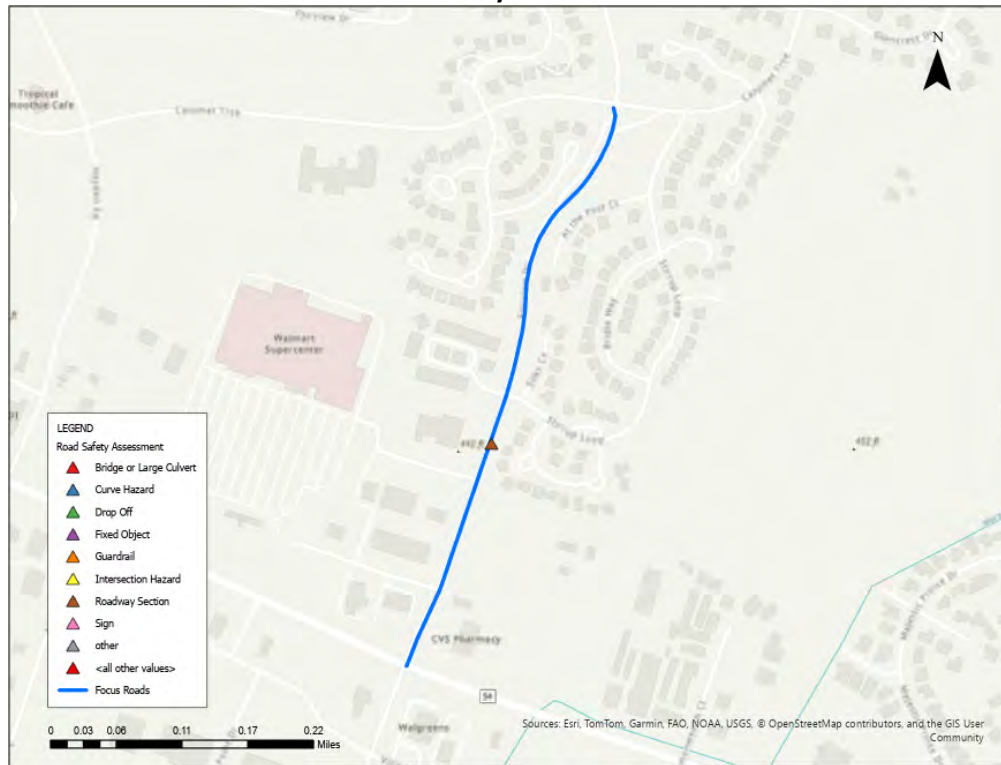
#### Crashes by Severity



**Crashes by Manner of Collision**



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (	Improve Should	Edgelim	Curve Signin	Other Recommendations
2392	030-CR-1507L-000	FAIRVIEW DR	24+	1	4	0-20		EL & CL	✓	Resurface

**KELLER RD (030-CR-1301 -000)**

**Road Location Map and Crash History**



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	6	11	0	17
(blank)	0	0	0	0
SS - Opp	0	0	0	0
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

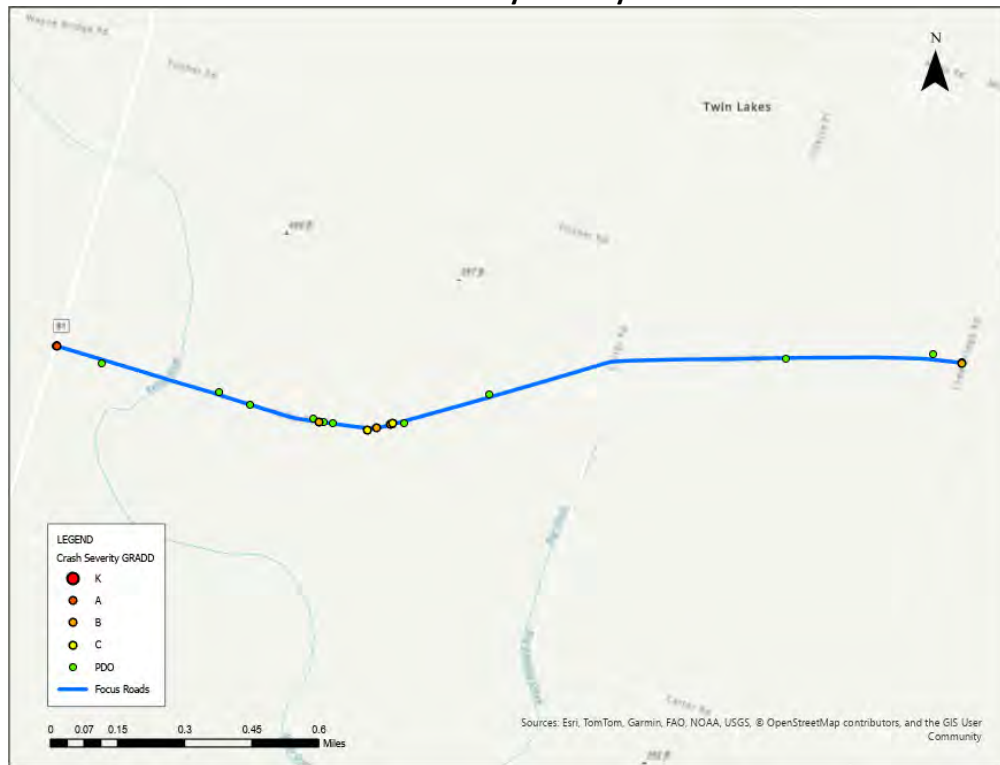
**General Roadway Conditions**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (
858	030-CR-1301 -000	KELLER RD	21	3	2	20-40

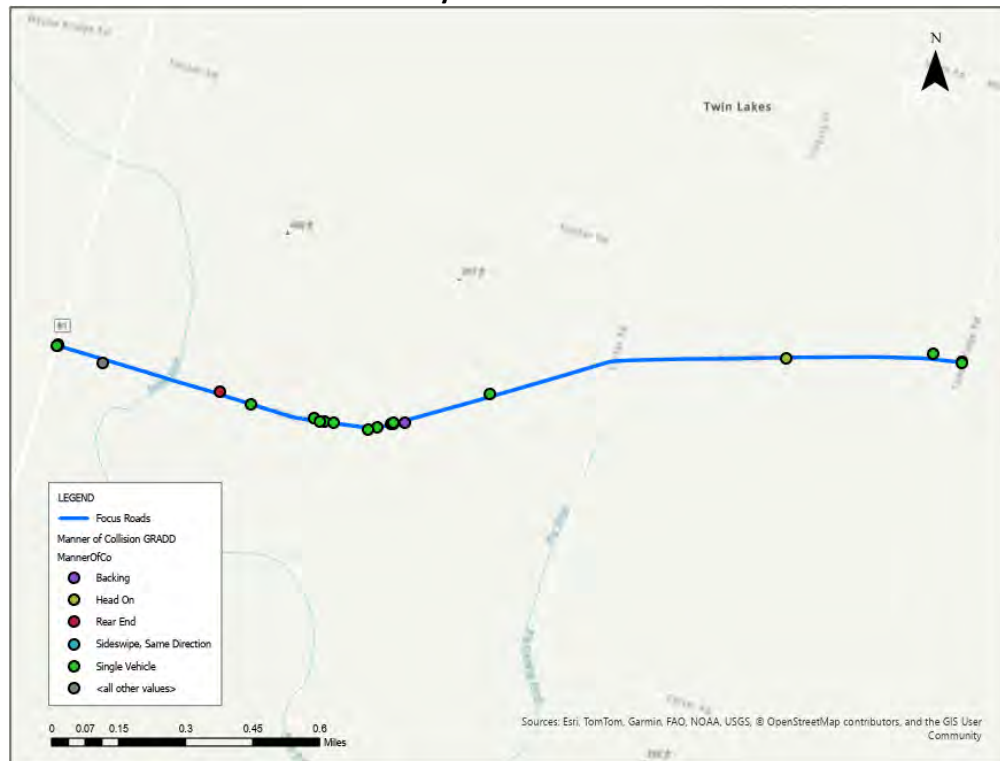
**Roadway Typical Section**



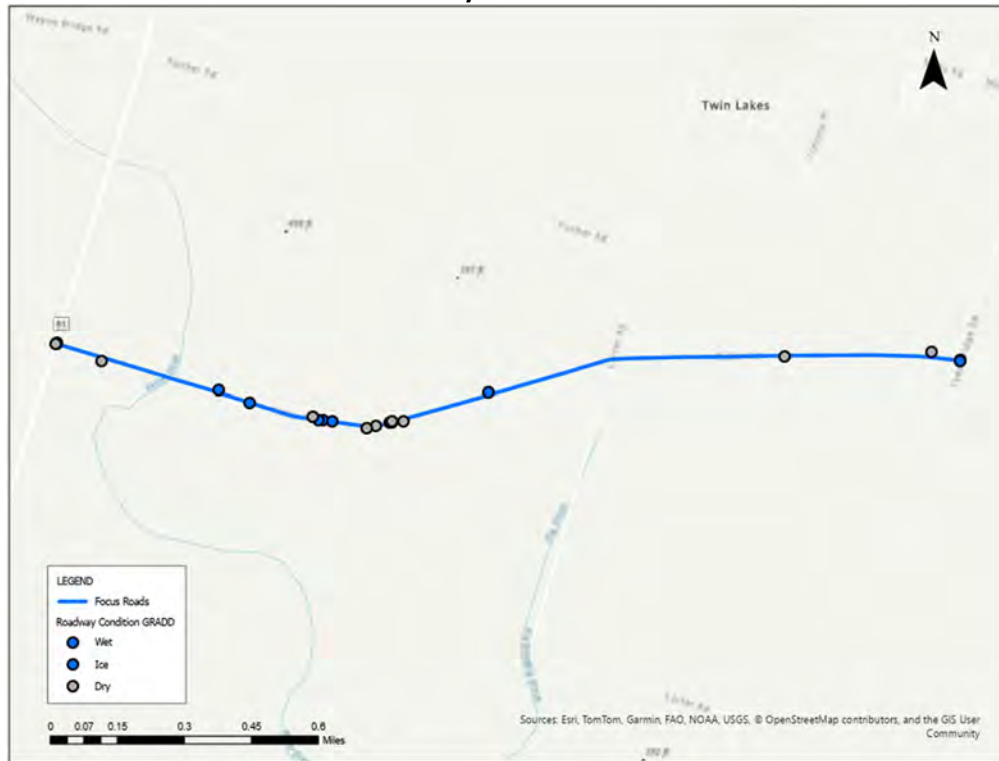
### Crashes by Severity



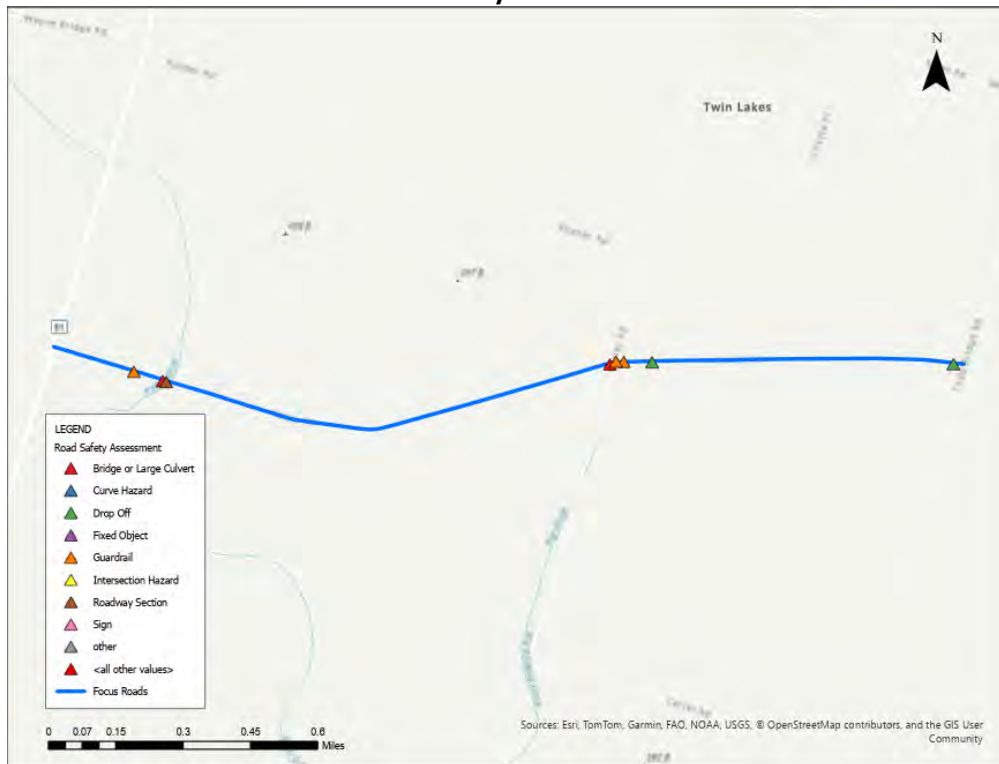
### Crashes by Manner of Collision



### Crashes by Road Condition



### Road Safety Assessment



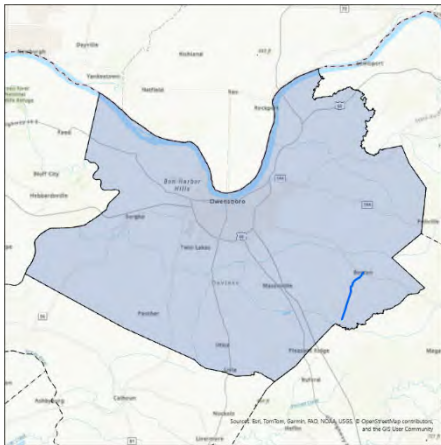
### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rate	Shoulder Improve (	Improve Should	Edgelin	Curve Signin	Other Recommendations
858	030-CR-1301 -000	KELLER RD	21	3	2	20-40	✓	EL & CL	✓	

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
864	030-CR-1301 -000	KELLER RD	Drop Off	3-5	2-5	Daviess	Install Type 2 Object Marker(s) or Delineator(s)
866	030-CR-1301 -000	KELLER RD	Drop Off	1-3	2-5	Daviess	Install Type 2 Object Marker(s) or Delineator(s)
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation
856	030-CR-1301 -000	KELLER RD	Guardrail	Fair	Yes	All	--
869	030-CR-1301 -000	KELLER RD	Guardrail	Fair	No	Some	Remove
871	030-CR-1301 -000	KELLER RD	Guardrail	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
857	030-CR-1301 -000	KELLER RD	Bridge or Large Culvert	21	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
862	030-CR-1301 -000	KELLER RD	Bridge or Large Culvert	41	4	2	Evaluate need for Type 3 Object Markers

### BOSTON-LAFFOON RD (030-CR-1190 -000)

#### Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	4	1	0	5
SS - Opp	5	1	0	6
Left Turn	0	1	0	1
Head On	0	0	0	0
Backing	0	0	0	0
SS - Same	0	0	0	0
(blank)	0	0	0	0
Rear to Rear	0	0	0	0
Angle	0	0	0	0

#### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (%)
3957	030-CR-1190 -000	BOSTON-LAFFOON RD	18	3	4	80-100

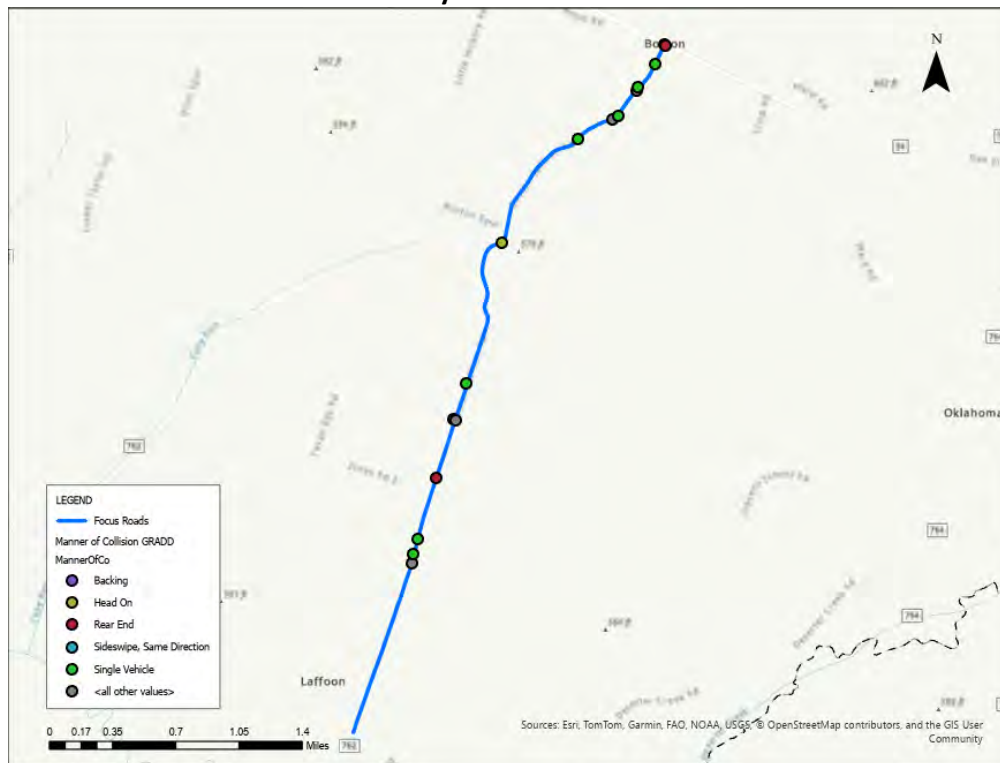
#### Roadway Typical Section



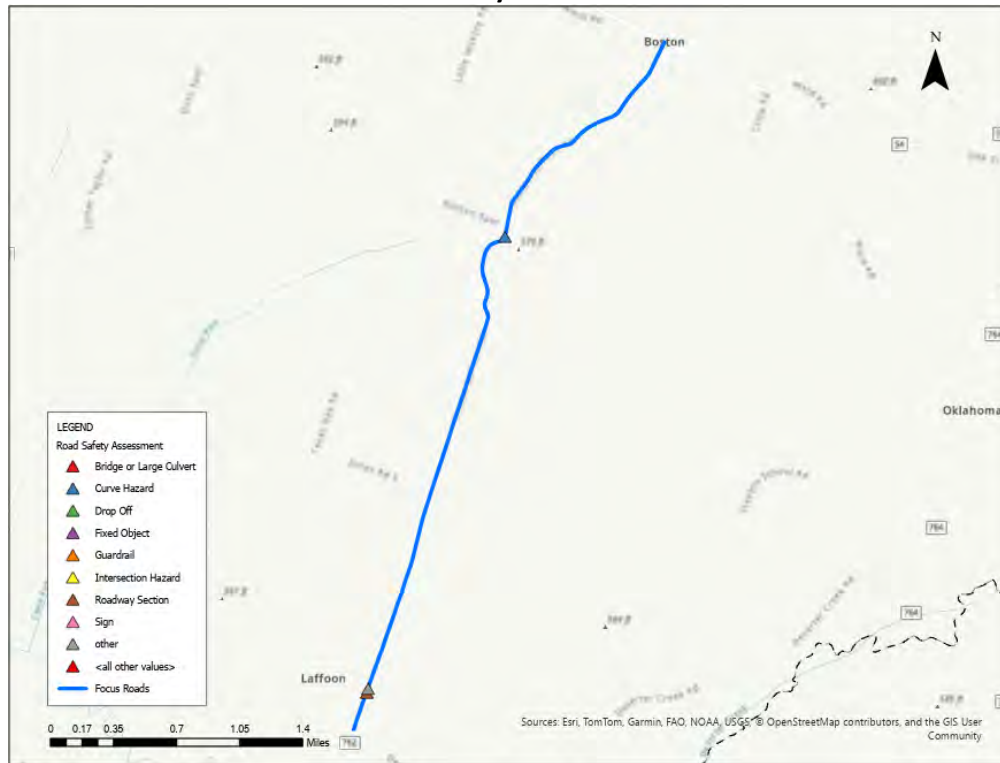
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (ft)	Improve Should	Edgelin	Curve Signin	Other Recommendations	
3957	030-CR-1190 -000	BOSTON-LAFFOON RD	18	3	4	80-100	✓	✓	✓		
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation				
3960	030-CR-1190 -000	BOSTON-LAFFOON RD	Curve Hazard	Yes	--	vegetation	Install Curve Warning Sign; Clear Vegetation				
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation				
3956	030-CR-1190 -000	BOSTON-LAFFOON RD	other	--	--	Flood;	Install "Road May Flood" (W8-18) sign(s)				

### HAYDEN RD (030-CR-1089 -000)

#### Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Angle	4	3	0	7
Single Vehicle	7	2	0	9
SS - Same	2	2	0	4
SS - Opp	9	0	0	9
Rear to Rear	1	0	0	1
Head On	1	0	0	1
Left Turn	0	0	0	0
Backing	0	0	0	0
(blank)	0	0	0	0

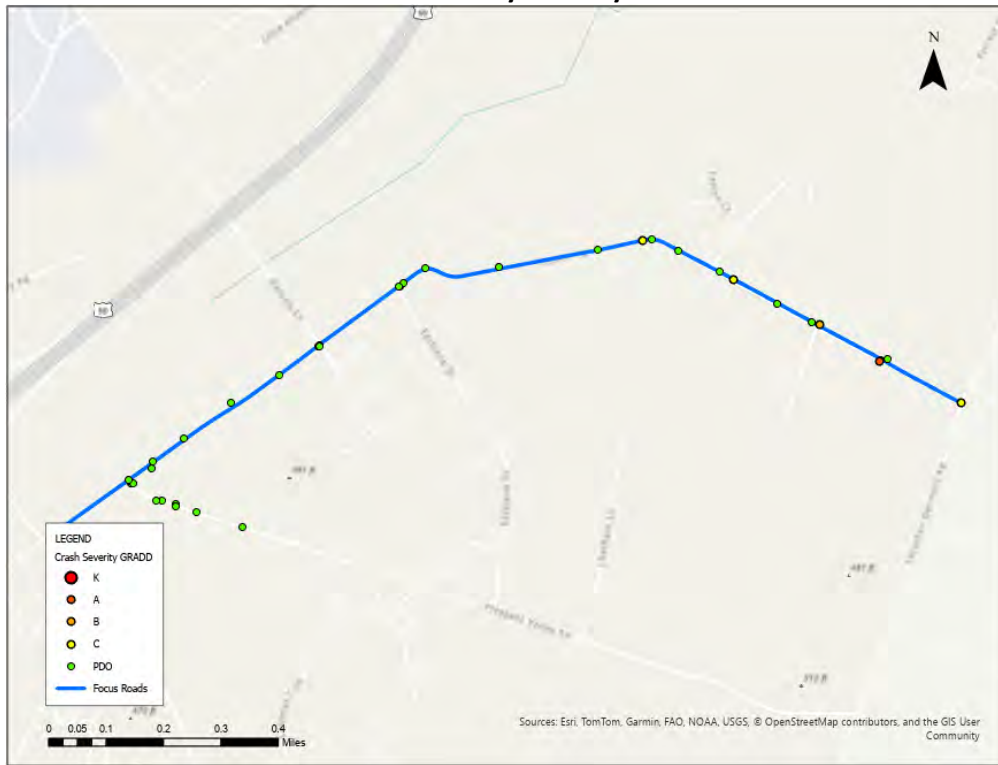
#### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Ratio	Shoulder Improve (%)
2400	030-CR-1089 -000	HAYDEN RD	23	2	4	60-80
2408	030-CR-1089 -000	HAYDEN RD	18	3	5	80-100

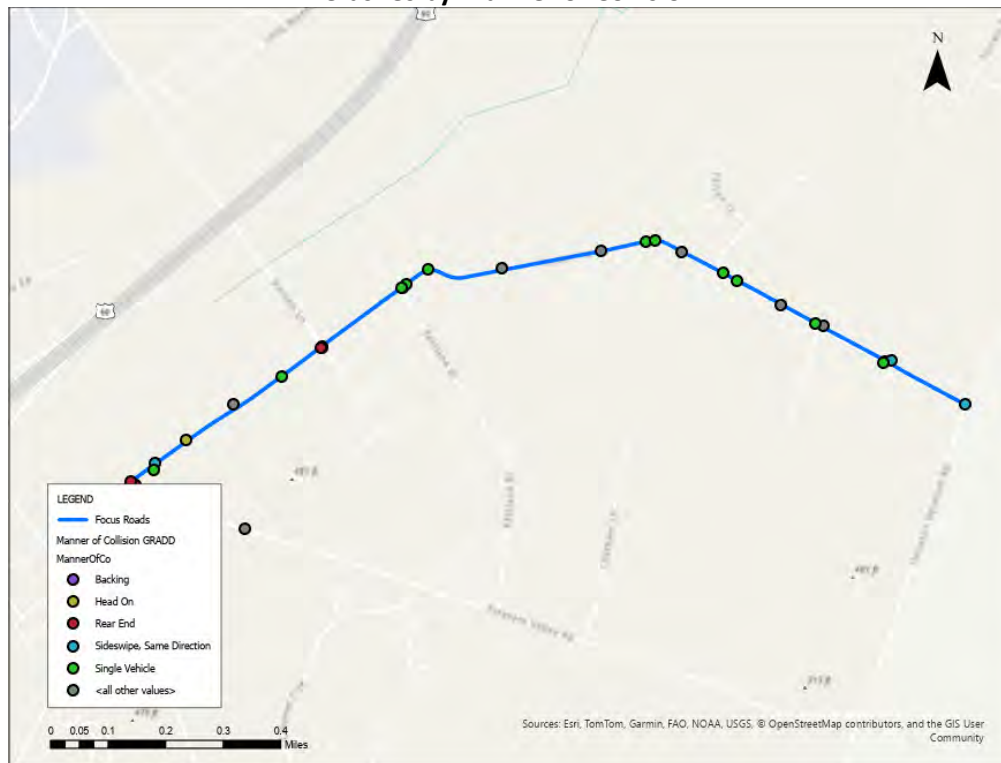
#### Roadway Typical Section



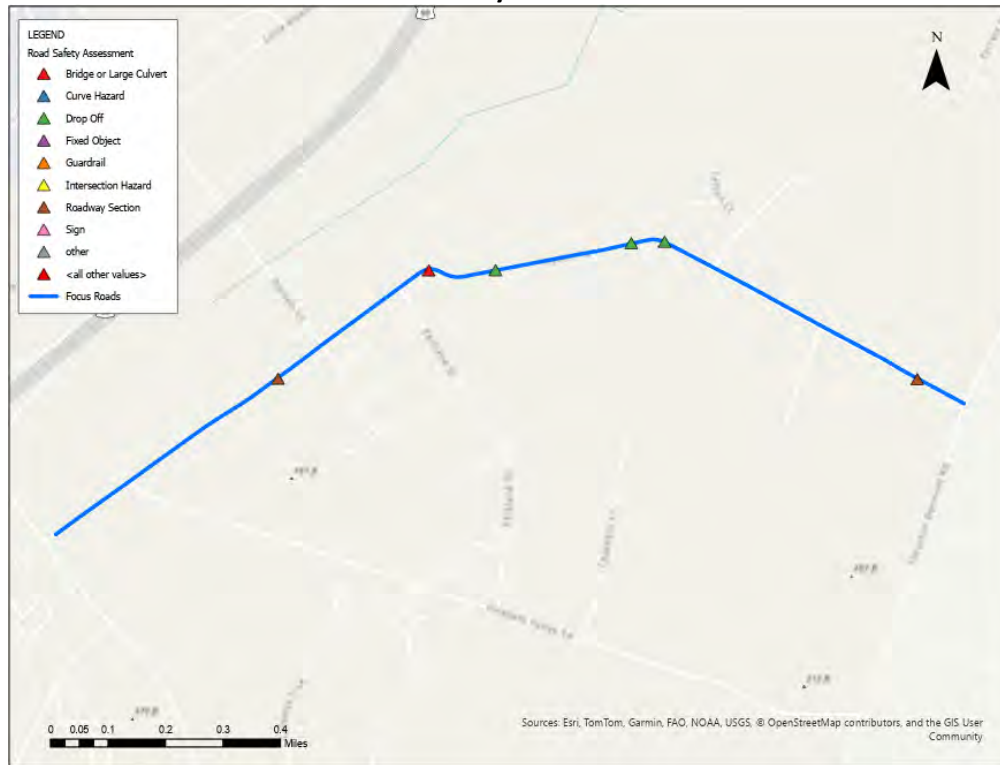
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Ratio	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin	Other Recommendations
2400	030-CR-1089 -000	HAYDEN RD	23	2	4	60-80	✓	EL & CL	✓	Resurface
2408	030-CR-1089 -000	HAYDEN RD	18	3	5	80-100	✓	✓	✓	

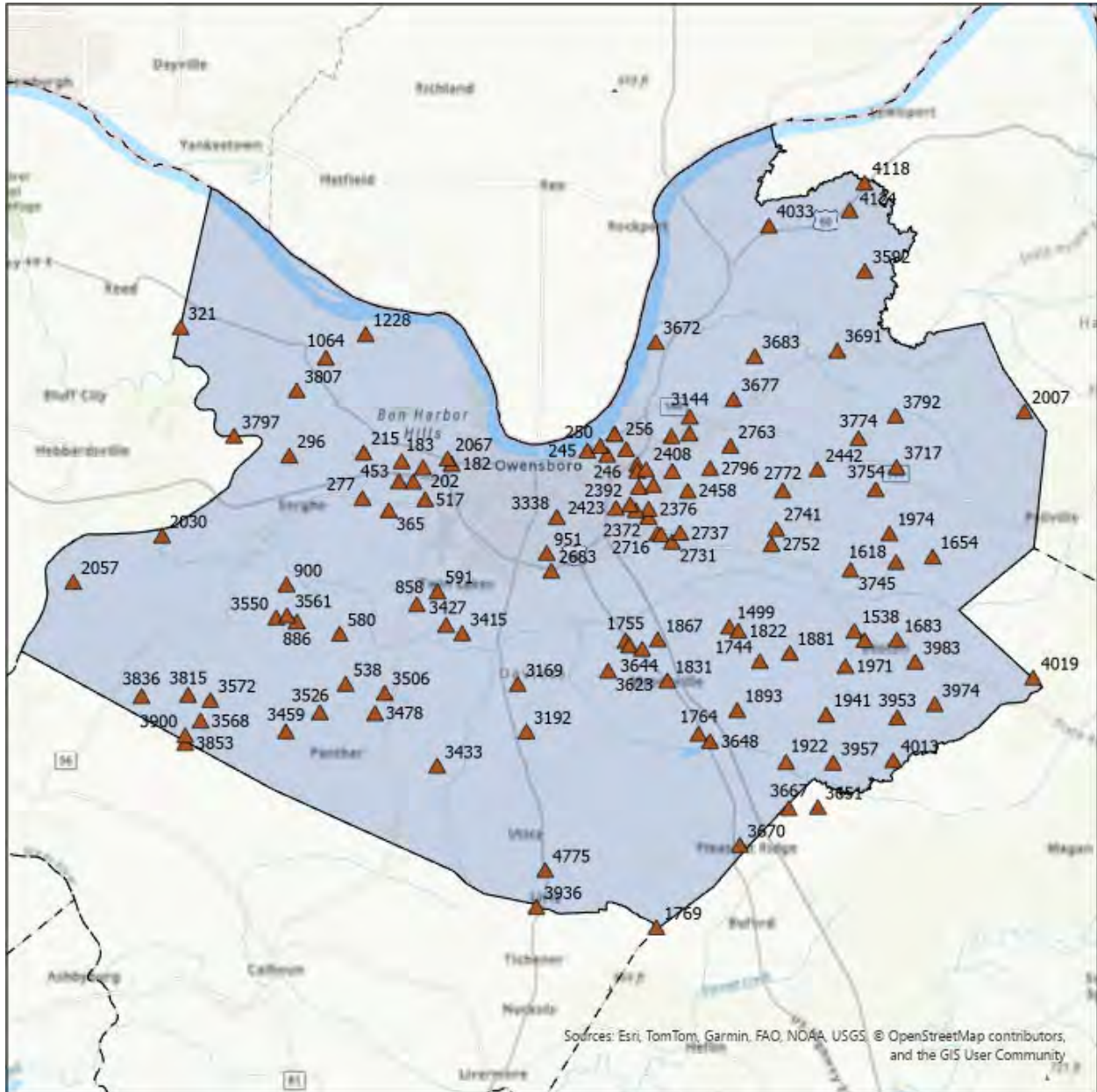
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
2411	030-CR-1089 -000	HAYDEN RD	Drop Off	3-5	5-10	Daviess	Install Type 2 Object Marker(s) or Delineator(s)
2412	030-CR-1089 -000	HAYDEN RD	Drop Off	3-5	5-10	Daviess	Install Type 2 Object Marker(s) or Delineator(s)
2414	030-CR-1089 -000	HAYDEN RD	Drop Off	3-5	>10	Daviess	Evaluate need for guardrail

Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
2402	030-CR-1089 -000	HAYDEN RD	Bridge or Large Culvert	23	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers

## Other Roadways

### General Roadway Conditions and Recommendations (Davie County)



**Exhibit Davie-10: General Roadway Conditions**

*See Attachment for Davie County Roadway Recommendations.*

Point ID	RT UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (%)	Improve Shoulder	Edgetine <sup>1</sup>	Curve Signing	Other Recommendations
2724	030-CR-1006E -000	WATER WHEEL WAY	24+	4	3	0-20		EL & CL	✓	
2731	030-CR-1006P -000	KINGS MILL DR	24+	3	4	0-20		EL & CL	✓	
2376	030-CR-1010A -000	BOLD FORBES WAY	24+	3	3	0-20		EL & CL	✓	
2387	030-CR-1010V -000	COMMONWEALTH CT	24+	3	3	0-20		EL & CL	✓	
246	030-CR-1013 -000	PLEASANT VALLEY RD - 1	22	4	3	20-40	✓	EL & CL	✓	
250	030-CR-1013 -000	PLEASANT VALLEY RD - 1	22	3	2	0-20		EL & CL	✓	
2752	030-CR-1020 -000	KING RD	18	3	5	80-100	✓	✓	✓	
1618	030-CR-1021 -000	JACK HINTON RD	19	4	5	60-80	✓	✓	✓	
2763	030-CR-1023 -000	SOUTH HAMPTON RD	18	3	6	80-100	✓	✓	✓	
2772	030-CR-1023 -000	SOUTH HAMPTON RD	19	3	6	80-100	✓	✓	✓	
2741	030-CR-1027 -000	PLEASANT POINT RD	18	3	5	80-100	✓	✓	✓	
3754	030-CR-1029 -000	MONARCH RD	19	3	6	80-100	✓	✓	✓	
1974	030-CR-1030 -000	SHORT STATION RD	18	3	6	40-60	✓	✓	✓	
1654	030-CR-1031 -000	AULL RD	18	3	5	60-80	✓	✓	✓	
2007	030-CR-1038 -000	INDIAN HILL RD	19	3	7	40-60	✓	✓	✓	
3792	030-CR-1044 -000	LANHAM RD	19	2	7	80-100	✓	✓	✓	Resurface
3717	030-CR-1045 -000	FREE SILVER RD	19	3	7	80-100	✓	✓	✓	
3774	030-CR-1048 -000	KNOTTSVILLE-MOUNT ZION RD	18	2	7	80-100	✓	✓	✓	Resurface
3683	030-CR-1053 -000	GRAVES LN	21	3	6	60-80	✓	EL & CL	✓	
3691	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	17	2	7	80-100	✓	✓	✓	Resurface
3592	030-CR-1058 -000	CAMPGROUND RD	21	3	5	80-100	✓	EL & CL	✓	
4118	030-CR-1063 -000	FULLENWIDER RD	15	2	4	40-60	✓	✓	✓	Resurface
4124	030-CR-1063 -000	FULLENWIDER RD	16	4	3	40-60	✓	✓	✓	
4033	030-CR-1065 -000	KELLY CEMETERY RD	17	3	7	80-100	✓	✓	✓	
3672	030-CR-1079 -000	WRIGHTS LANDING RD	16	2	5	60-80	✓	✓	✓	Resurface
3144	030-CR-1081 -000	GRAHAM LN	20	3	5	60-80	✓	EL & CL	✓	
2796	030-CR-1085 -000	REID RD	18	3	5	80-100	✓	✓	✓	
3165	030-CR-1086D -000	CAMBRIDGE DR	24+	3	2	20-40	✓	EL & CL	✓	
2400	030-CR-1089 -000	HAYDEN RD	23	2	4	60-80	✓	EL & CL	✓	Resurface
2408	030-CR-1089 -000	HAYDEN RD	18	3	5	80-100	✓	✓	✓	
261	030-CR-1090 -000	DANIELS LN	24+	4	2	0-20		EL & CL	✓	
264	030-CR-1090 -000	DANIELS LN	24+	4	1	0-20		EL & CL	✓	
256	030-CR-1092D -000	RIVERSIDE DR	24+	2	2	0-20		EL & CL	✓	Resurface
257	030-CR-1092D -000	RIVERSIDE DR	24+	2	1	0-20		EL & CL	✓	Resurface
2442	030-CR-1099 -000	PLEASANT VALLEY RD - 2	18	3	5	80-100	✓	✓	✓	
2458	030-CR-1099 -000	PLEASANT VALLEY RD - 2	18	3	6	80-100	✓	✓	✓	
2461	030-CR-1099 -000	PLEASANT VALLEY RD - 2	17	3	4	80-100	✓	✓	✓	
2423	030-CR-1106 -000	ALVEY PARK DR W	24+	4	3	20-40	✓	EL & CL	✓	
3677	030-CR-1113A -000	SUMMIT DR	24+	3	4	20-40	✓	EL & CL	✓	
3152	030-CR-1114A -000	GRAHAM LN E	24+	3	2	20-40	✓	EL & CL	✓	
3136	030-CR-1116A -000	EASTLAND DR	24+	5	3	0-20		EL & CL	✓	
2737	030-CR-1117D -000	STONEGATE DR	24+	4	3	0-20		EL & CL	✓	
2372	030-CR-1118A -000	WOOD TRCE	24+	3	4	0-20		EL & CL	✓	
1867	030-CR-1123 -000	SUTHERLIN LN	17	3	5	40-60	✓	✓	✓	
1831	030-CR-1124 -000	MASONVILLE-HABIT RD	17	3	6	60-80	✓	✓	✓	
1499	030-CR-1125 -000	MILLERS MILL RD	18	2	3	20-40	✓	✓	✓	Resurface
1822	030-CR-1126 -000	BEN HEAD RD	17	3	6	60-80	✓	✓	✓	
1538	030-CR-1129 -000	OLD HIGHWAY 54	18	3	2	0-20		✓	✓	
1744	030-CR-1130 -000	OLD STATE RD	17	3	1	0-20		✓	✓	
1881	030-CR-1131 -000	LUTHER TAYLOR RD	18	3	2	20-40	✓	✓	✓	
3745	030-CR-1134 -000	KARNS GROVE RD	19	3	7	80-100	✓	✓	✓	
1971	030-CR-1135 -000	LITTLE HICKORY RD	18	3	5	20-40	✓	✓	✓	
1683	030-CR-1138 -000	HAYNES STATION RD	18	3	5	40-60	✓	✓	✓	
4019	030-CR-1140 -000	OLD LEITCHFIELD RD	18	3	4	60-80	✓	✓	✓	
3974	030-CR-1147 -000	WARD RD	18	3	4	80-100	✓	✓	✓	
3983	030-CR-1147 -000	WARD RD	18	4	6	60-80	✓	✓	✓	
3953	030-CR-1149 -000	CRISP RD	18	4	4	80-100	✓	✓	✓	
4013	030-CR-1151 -000	DESERTER CREEK RD	18	3	4	80-100	✓	✓	✓	
1922	030-CR-1153 -000	POPLAR LOG BRIDGE RD	20	3	5	40-60	✓	EL & CL	✓	
1941	030-CR-1154 -000	TEXAS GAS RD	16	3	6	40-60	✓	✓	✓	

1764	030-CR-1156 -000	SUGAR GROVE CHURCH RD	17	3	5	20-40	✓	✓	✓	
1893	030-CR-1157 -000	BRATCHER HILL RD	18	3	5	20-40	✓	✓	✓	
3648	030-CR-1159 -000	OLD HARTFORD RD	18	3	3	40-60	✓	✓	✓	
3651	030-CR-1161 -000	CRANE POND RD	16	3	6	60-80	✓	✓	✓	
3667	030-CR-1161 -000	CRANE POND RD	16	2	4	40-60	✓	✓	✓	Resurface
3670	030-CR-1162 -000	PLEASANT RIDGE LN	18	2	4	60-80	✓	✓	✓	Resurface
1769	030-CR-1170 -000	EAST HARMONS FERRY RD	16	3	2	20-40	✓	✓	✓	
4775	030-CR-1175 -000	EAST LOCUST GROVE RD	18	4	4	20-40	✓	✓	✓	
1695	030-CR-1181 -000	SAWMILL RD	17	4	5	20-40	✓	✓	✓	
3644	030-CR-1185C -000	GARDEN DR	24+	4	1	20-40	✓	EL & CL	✓	
3623	030-CR-1188 -000	BURTON RD	18	3	6	60-80	✓	✓	✓	
3957	030-CR-1190 -000	BOSTON-LAFFOON RD	18	3	4	80-100	✓	✓	✓	
365	030-CR-1196 -000	WHISPERING MEADOWS DR	24+	4	1	20-40	✓	EL & CL	✓	
3338	030-CR-1211 -000	EAST 27TH ST	19	3	2	20-40	✓	✓	✓	
951	030-CR-1215 -000	VEACH RD	18	3	4	40-60	✓	✓	✓	
2683	030-CR-1215 -000	VEACH RD	21	2	5	80-100	✓	EL & CL	✓	Resurface
3169	030-CR-1216 -000	SUTHERLAND RD	18	2	4	80-100	✓	✓	✓	Resurface
3433	030-CR-1222 -000	WEST MARKSBERRY RD	16	2	7	80-100	✓	✓	✓	Resurface
3192	030-CR-1225 -000	EAST MARKSBERRY RD	18	1	4	80-100	✓	✓	✓	Resurface
1759	030-CR-1234 -000	AUTUMN VALLEY TRCE	24+	4	1	0-20		EL & CL	✓	
3936	030-CR-1243 -000	WEST HARMONS FERRY RD	18	4	5	0-20		✓	✓	
3478	030-CR-1247 -000	ASHBYBURG RD	19	2	6	80-100	✓	✓	✓	Resurface
3526	030-CR-1250 -000	WINDY HOLLOW RD	18	3	6	80-100	✓	✓	✓	
3506	030-CR-1251 -000	OLD HIGHWAY 81	19	3	6	80-100	✓	✓	✓	
580	030-CR-1256 -000	BALLARD RD	18	4	5	20-40	✓	✓	✓	
3459	030-CR-1259 -000	LONESOME PINE TRL	24+	3	7	80-100	✓	EL & CL	✓	
3568	030-CR-1265 -000	HOBBS RD	20	1	7	80-100	✓	EL & CL	✓	Resurface
3572	030-CR-1265 -000	HOBBS RD	17	1	7	80-100	✓	✓	✓	Resurface
3815	030-CR-1268 -000	MULLIGAN RD	18	3	5	60-80	✓	✓	✓	
3853	030-CR-1268 -000	MULLIGAN RD	16	3	5	80-100	✓	✓	✓	
3900	030-CR-1268 -000	MULLIGAN RD	16	3	6	20-40	✓	✓	✓	
3836	030-CR-1269 -000	POSSUM TROT RD	16	3	4	80-100	✓	✓	✓	
1755	030-CR-1287 -000	DEER VALLEY BLVD	24+	4	1	0-20		EL & CL	✓	
3550	030-CR-1294 -000	HORRELL RD	17	2	6	80-100	✓	✓	✓	Resurface
3561	030-CR-1294 -000	HORRELL RD	17	1	6	80-100	✓	✓	✓	Resurface roadway
886	030-CR-1296 -000	HAYDEN BRIDGE RD	18	2	7	40-60	✓	✓	✓	Resurface
900	030-CR-1296 -000	HAYDEN BRIDGE RD	18	4	5	20-40	✓	✓	✓	
538	030-CR-1299 -000	WAYNE BRIDGE RD	18	3	6	40-60	✓	✓	✓	
858	030-CR-1301 -000	KELLER RD	21	3	2	20-40	✓	EL & CL	✓	
591	030-CR-1302 -000	FISHER RD	18	2	4	60-80	✓	✓	✓	Resurface
3415	030-CR-1304 -000	CARTER RD	17	1	7	80-100	✓	✓	✓	Resurface
3427	030-CR-1304 -000	CARTER RD	17	2	7	80-100	✓	✓	✓	Resurface
517	030-CR-1336 -000	WORTHINGTON RD	21	4	3	20-40	✓	EL & CL	✓	
296	030-CR-1339 -000	WEST 5TH ST RD	17	1	6	40-60	✓	✓	✓	Resurface
451	030-CR-1339 -000	WEST 5TH ST RD	19	3	4	20-40	✓	✓	✓	
453	030-CR-1339 -000	WEST 5TH ST RD	19	2	4	40-60	✓	✓	✓	Resurface
202	030-CR-1340 -000	LEE RUDY RD	18	4	2	0-20		✓	✓	
215	030-CR-1340 -000	LEE RUDY RD	16	4	5	0-20		✓	✓	
183	030-CR-1341 -000	RUDY RD	19	3	4	20-40	✓	✓	✓	
1064	030-CR-1348 -000	GRIFFITH STATION RD	16	3	6	20-40	✓	✓	✓	
1228	030-CR-1354 -000	FRENCH ISLAND RD	17	3	2	20-40	✓	✓	✓	
321	030-CR-1363 -000	SAUER LN	17	2	5	60-80	✓	✓	✓	Resurface
3797	030-CR-1371 -000	STANLEY-BIRK CITY RD	16	2	7	80-100	✓	✓	✓	Resurface
3807	030-CR-1371 -000	STANLEY-BIRK CITY RD	19	2	7	80-100	✓	✓	✓	Resurface
2030	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	18	3	4	20-40	✓	✓	✓	
2057	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	21	3	4	20-40	✓	EL & CL	✓	
277	030-CR-1394 -000	LYDDANE BRIDGE RD	19	4	5	0-20		✓	✓	
182	030-CR-1410 -000	LAKEWOOD DR	12	4	1	0-20		✓	✓	
2067	030-CR-1410 -000	LAKEWOOD DR	24+	3	3	0-20		EL & CL	✓	
2716	030-CR-1506B -000	SPRINGHILL DR	24+	4	3	0-20		EL & CL	✓	
2431	030-CR-1507A -000	CALUMET TRCE	24+	4	3	0-20		EL & CL	✓	
2392	030-CR-1507L -000	FAIRVIEW DR	24+	1	4	0-20		EL & CL	✓	Resurface

245	030-CR-1510 -000	COMMERCE DR	24+	3	1	0-20		EL & CL	✓	
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### Bridge / Culvert Recommendations (Daviness County)

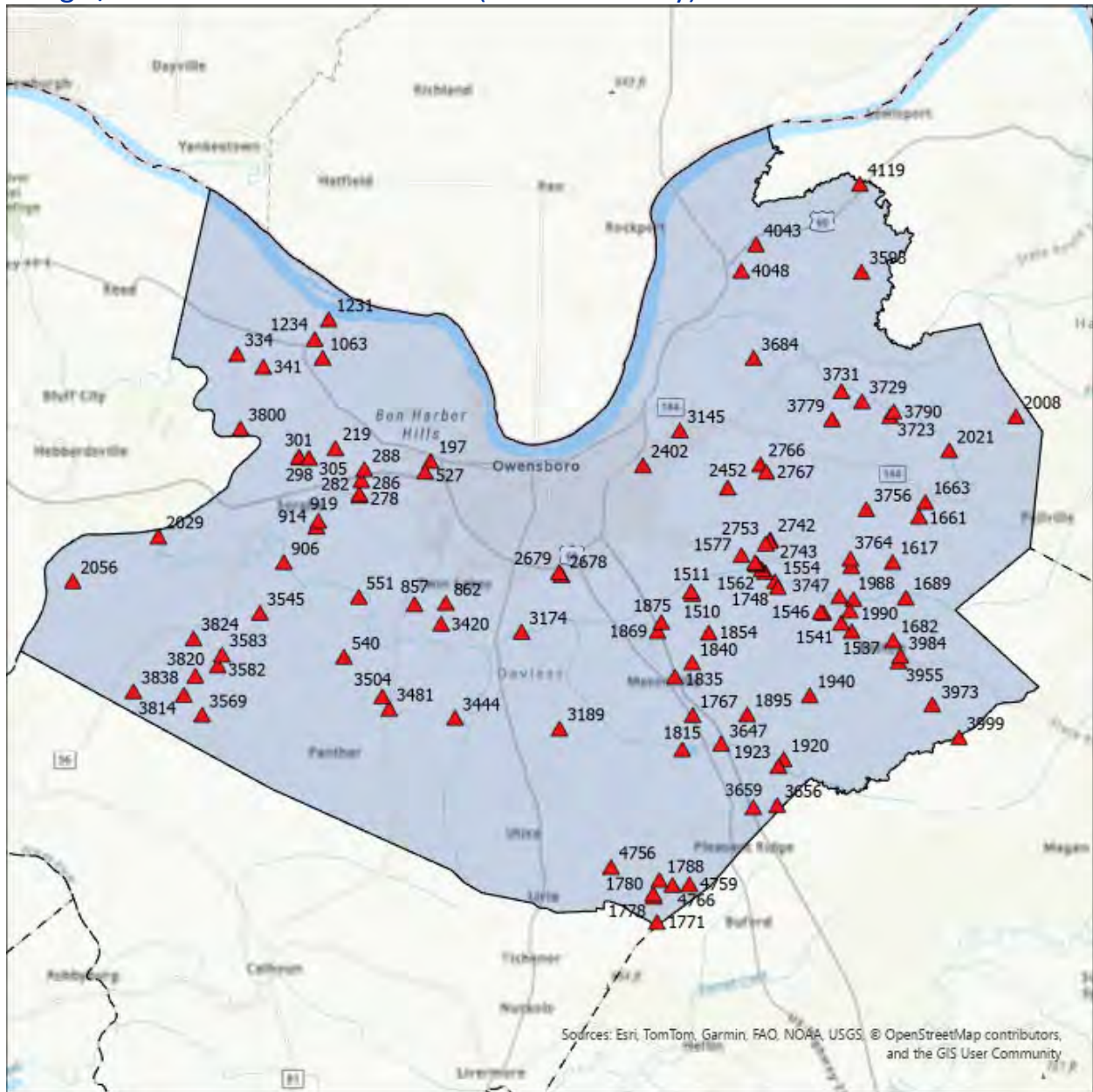


Exhibit Daviess-11: Focus Road Bridge / Culvert Locations

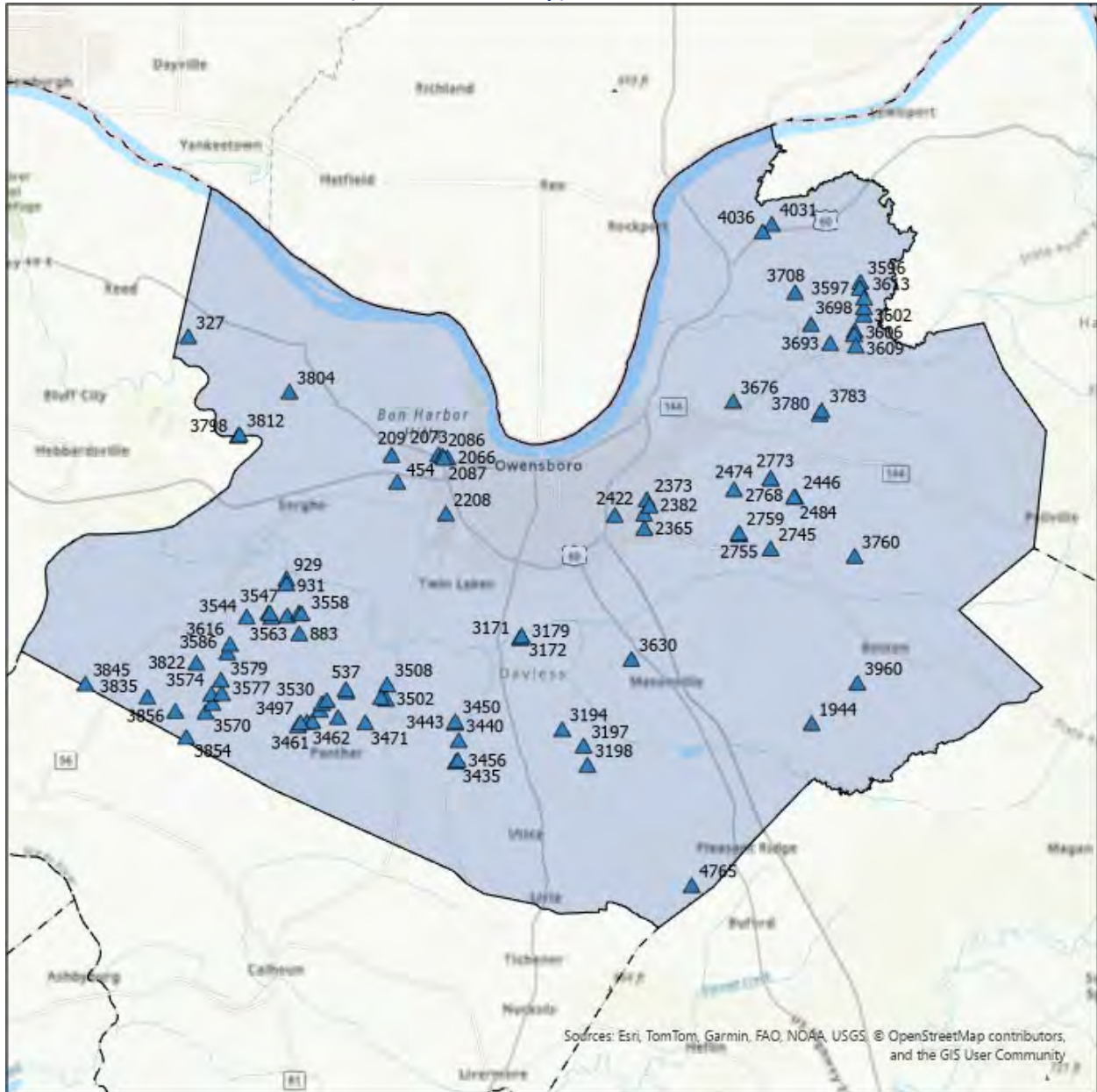
See Attachment for Daviess County Bridge Recommendations.

RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
030-CS-1068 -000	MEDLEY RD	10	0	2	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
030-CR-1340 -000	LEE RUDY RD	17	4	0	Evaluate need for Type 3 Object Markers
030-CR-1340 -000	LEE RUDY RD	16	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1394 -000	LYDDANE BRIDGE RD	19	4	4	Reinstall Type 3 Object Markers in proper location
030-CR-1394 -000	LYDDANE BRIDGE RD	19	4	0	Evaluate need for Type 3 Object Markers
030-CR-1394 -000	LYDDANE BRIDGE RD	29	4	0	Evaluate need for Type 3 Object Markers
030-CR-1394 -000	LYDDANE BRIDGE RD	29	4	0	Evaluate need for Type 3 Object Markers
030-CR-1339 -000	WEST 5TH ST RD	17	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1339 -000	WEST 5TH ST RD	19	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1339 -000	WEST 5TH ST RD	17	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
030-CR-1363 -000	SAUER LN	17	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1363 -000	SAUER LN	17	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CS-1101 -000	WEST 5TH ST RD	44	4	0	Evaluate need for Type 3 Object Markers
030-CR-1336 -000	WORTHINGTON RD	19	4	0	Evaluate need for Type 3 Object Markers
030-CR-1299 -000	WAYNE BRIDGE RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1299 -000	WAYNE BRIDGE RD	18	4	2	Evaluate need for Type 3 Object Markers
030-CR-1301 -000	KELLER RD	21	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1301 -000	KELLER RD	41	4	2	Evaluate need for Type 3 Object Markers
030-CR-1296 -000	HAYDEN BRIDGE RD	23	4	0	Evaluate need for Type 3 Object Markers
030-CR-1296 -000	HAYDEN BRIDGE RD	18	0	0	Install Guardrail w/ end treatments on approaches
030-CR-1296 -000	HAYDEN BRIDGE RD	18	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
030-CS-1574 -000	EAST BYERS AVE	28	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1348 -000	GRIFFITH STATION RD	16	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
030-CR-1354 -000	FRENCH ISLAND RD	17	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1354 -000	FRENCH ISLAND RD	17	4	1	Evaluate need for Type 3 Object Markers
030-CR-1125 -000	MILLERS MILL RD	18	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
030-CR-1125 -000	MILLERS MILL RD	21	4	0	Evaluate need for Type 3 Object Markers
030-CR-1129 -000	OLD HIGHWAY 54	21	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1129 -000	OLD HIGHWAY 54	18	0	4	Evaluate need for guardrail on approach.
030-CR-1129 -000	OLD HIGHWAY 54	21	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1129 -000	OLD HIGHWAY 54	21	4	2	Evaluate need for Type 3 Object Markers
030-CR-1129 -000	OLD HIGHWAY 54	21	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1129 -000	OLD HIGHWAY 54	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1129 -000	OLD HIGHWAY 54	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1129 -000	OLD HIGHWAY 54	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1129 -000	OLD HIGHWAY 54	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1129 -000	OLD HIGHWAY 54	18	0	4	Evaluate need for guardrail on approach.
030-CR-1021 -000	JACK HINTON RD	19	4	0	Evaluate need for Type 3 Object Markers
030-CR-1021 -000	JACK HINTON RD	19	4	0	Evaluate need for Type 3 Object Markers
030-CR-1031 -000	AULL RD	18	4	2	Evaluate need for Type 3 Object Markers
030-CR-1031 -000	AULL RD	20	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers

030-CR-1138 -000	HAYNES STATION RD	18	4	0	Evaluate need for Type 3 Object Markers
030-CR-1138 -000	HAYNES STATION RD	20	4	0	Evaluate need for Type 3 Object Markers
030-CR-1130 -000	OLD STATE RD	19	4	0	Evaluate need for Type 3 Object Markers
030-CR-1156 -000	SUGAR GROVE CHURCH RD	16	4	0	Evaluate need for Type 3 Object Markers
030-CR-1168 -000	RED HILL-MAXWELL RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1168 -000	RED HILL-MAXWELL RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1168 -000	RED HILL-MAXWELL RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1168 -000	RED HILL-MAXWELL RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1168 -000	RED HILL-MAXWELL RD	20	4	0	Evaluate need for Type 3 Object Markers
030-CR-1124 -000	MASONVILLE-HABIT RD	17	4	0	Evaluate need for Type 3 Object Markers
030-CR-1124 -000	MASONVILLE-HABIT RD	17	4	other	Evaluate Condition of Guardrail; Install Type 3 Object Markers
030-CR-1124 -000	MASONVILLE-HABIT RD	17	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
030-CR-1123 -000	SUTHERLIN LN	22	4	0	Evaluate need for Type 3 Object Markers
030-CR-1123 -000	SUTHERLIN LN	17	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install Road Narrows Sign (W5-1)
030-CR-1157 -000	BRATCHER HILL RD	22	4	3	Evaluate need for Type 3 Object Markers
030-CR-1153 -000	POPLAR LOG BRIDGE RD	22	4	0	Evaluate need for Type 3 Object Markers
030-CR-1153 -000	POPLAR LOG BRIDGE RD	20	4	0	Evaluate need for Type 3 Object Markers
030-CR-1154 -000	TEXAS GAS RD	16	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
030-CR-1030 -000	SHORT STATION RD	20	4	0	Evaluate need for Type 3 Object Markers
030-CR-1030 -000	SHORT STATION RD	18	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
030-CR-1038 -000	INDIAN HILL RD	19	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
030-CR-1038 -000	INDIAN HILL RD	21	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
030-CR-1381 -000	CURDSVILLE-DELAWARE RD	22	4	0	Evaluate need for Type 3 Object Markers
030-CR-1381 -000	CURDSVILLE-DELAWARE RD	21	4	0	Evaluate need for Type 3 Object Markers
030-CR-1089 -000	HAYDEN RD	23	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
030-CR-1099 -000	PLEASANT VALLEY RD - 2	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1215 -000	VEACH RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1215 -000	VEACH RD	18	4	3	Replace Type 3 Object Markers
030-CR-1027 -000	PLEASANT POINT RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1027 -000	PLEASANT POINT RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1020 -000	KING RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1023 -000	SOUTH HAMPTON RD	18	4	4	Evaluate need to extend guardrail on approach with appropriate end treatment
030-CR-1023 -000	SOUTH HAMPTON RD	18	4	4	Evaluate need to extend guardrail on approach with appropriate end treatment
030-CR-1081 -000	GRAHAM LN	20	4	2	Evaluate need for Type 3 Object Markers
030-CR-1216 -000	SUTHERLAND RD	18	4	0	Evaluate need for Type 3 Object Markers
030-CR-1225 -000	EAST MARKSBERRY RD	18	4	0	Evaluate need for Type 3 Object Markers
030-CR-1304 -000	CARTER RD	17	4	3	Evaluate need for Type 3 Object Markers
030-CR-1219 -000	FITTS RD	16	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1247 -000	ASHBYBURG RD	18	4	0	Evaluate need for Type 3 Object Markers
030-CR-1251 -000	OLD HIGHWAY 81	24	4	2	Evaluate need for Type 3 Object Markers
030-CR-1294 -000	HORRELL RD	17	4	0	Evaluate need for Type 3 Object Markers
030-CR-1265 -000	HOBBS RD	20	4	0	Evaluate need for Type 3 Object Markers
030-CR-1265 -000	HOBBS RD	17	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1265 -000	HOBBS RD	17	0	0	Remove existing rails and install Type 3 Object Markers
030-CR-1058 -000	CAMPGROUND RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)

030-CR-1159 -000	OLD HARTFORD RD	24	4	0	Road closed. Review road closure signing and barricades on both approaches. Repair Bridge
030-CR-1161 -000	CRANE POND RD	16	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1161 -000	CRANE POND RD	22	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1053 -000	GRAVES LN	20	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1045 -000	FREE SILVER RD	19	4	0	Evaluate need for Type 3 Object Markers
030-CR-1045 -000	FREE SILVER RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1045 -000	FREE SILVER RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1134 -000	KARNS GROVE RD	19	4	0	Evaluate need for Type 3 Object Markers
030-CR-1029 -000	MONARCH RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1029 -000	MONARCH RD	18	4	0	Evaluate need for Type 3 Object Markers
030-CR-1048 -000	KNOTTSVILLE-MOUNT ZION RD	18	4	0	Evaluate need for Type 3 Object Markers
030-CR-1044 -000	LANHAM RD	19	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1371 -000	STANLEY-BIRK CITY RD	19	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1268 -000	MULLIGAN RD	17	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1268 -000	MULLIGAN RD	17	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1268 -000	MULLIGAN RD	18	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1269 -000	POSSUM TROT RD	17	4	0	Evaluate need for Type 3 Object Markers
030-CS-2003 -000	WALNUT ST	3	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
030-CR-1149 -000	CRISP RD	31.5	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1147 -000	WARD RD	39	2	3	Evaluate need for guardrail on approach, repair guardrail or remove and install Type 3 Object Markers.
030-CR-1147 -000	WARD RD	5	1	4	Evaluate condition of existing and need for guardrail on approach. Replace Type 3 Object Markers
030-CR-1146 -000	MORGANTOWN RD	21.5	4	4	Install Narrow Bridge Ahead Sign to improve visibility of bridge on curve.
030-CR-1065 -000	KELLY CEMETERY RD	32	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1065 -000	KELLY CEMETERY RD	41	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
030-CR-1063 -000	FULLENWIDER RD	5	0	1	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
030-CR-1167 -000	GREENBRIAR RD	14	4	0	Evaluate need for Type 3 Object Markers
030-CR-1167 -000	GREENBRIAR RD	10	4	other	Evaluate Condition of Guardrail; Evaluate need to extend guardrail on approach; Install Type 3 Object Markers
030-CR-1167 -000	GREENBRIAR RD	8	4	0	Evaluate need for Type 3 Object Markers

### Curve Recommendations (Davie County)



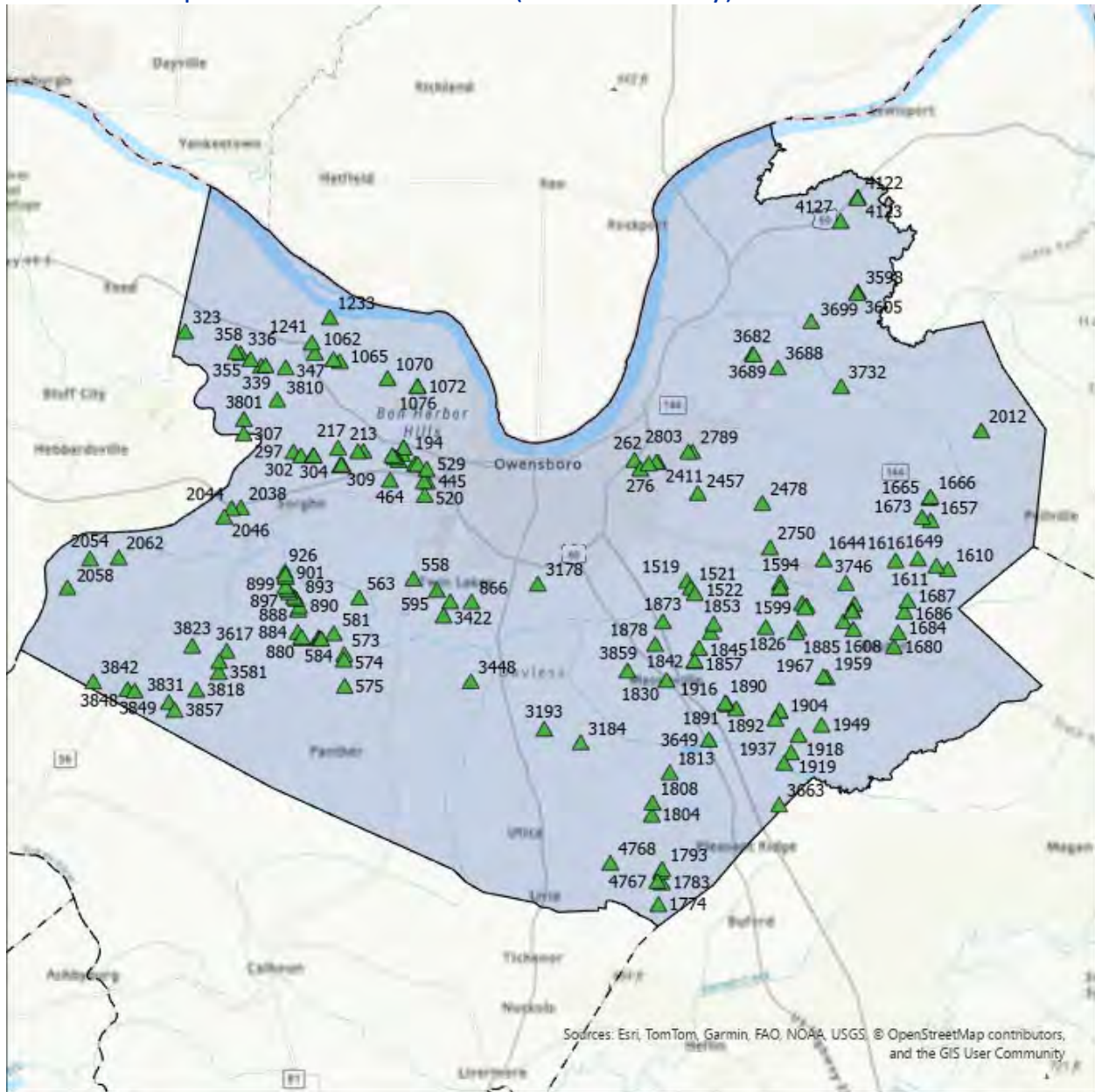
**Exhibit Davie-12: Focus Road Curves**

*See Attachment for Davie County Curve Recommendations.*

Point ID	RT_UNIQUE	Road Name	Comments	Vegetation	Recommendation
209	030-CR-1340 -000	LEE RUDY RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
327	030-CR-1363 -000	SAUER LN	other	No	Install Curve Warning Sign; Evaluate other obstructions
454	030-CR-1339 -000	WEST 5TH ST RD	vegetation,Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
536	030-CR-1299 -000	WAYNE BRIDGE RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
537	030-CR-1299 -000	WAYNE BRIDGE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
883	030-CR-1296 -000	HAYDEN BRIDGE RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
929	030-CR-1296 -000	HAYDEN BRIDGE RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
931	030-CR-1296 -000	HAYDEN BRIDGE RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
1944	030-CR-1154 -000	TEXAS GAS RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
2066	030-CR-1410 -000	LAKEWOOD DR	Intersection_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
2073	030-CR-1411 -000	BENTTREE DR	Intersection_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
2086	030-CR-1342 -000	BON HARBOR HILLS	Intersection_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
2087	030-CR-1342 -000	BON HARBOR HILLS	Intersection_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
2208	030-CR-1332 -000	BITTEL RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2365	030-CR-1118A -000	WOOD TRCE	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
2373	030-CR-1010A -000	BOLD FORBES WAY	Intersection_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
2379	030-CR-1010A -000	BOLD FORBES WAY	Intersection_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
2382	030-CR-1010A -000	BOLD FORBES WAY	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
2422	030-CR-1106 -000	ALVEY PARK DR W	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
2446	030-CR-1099 -000	PLEASANT VALLEY RD - 2	vegetation,Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
2474	030-CR-1099 -000	PLEASANT VALLEY RD - 2	Intersection_in_Curve,Entrance_in_Curve	No	Install Curve Warning Sign; Evaluate other obstructions; Consider striping enhancements at intersection
2484	030-CR-1099 -000	PLEASANT VALLEY RD - 2	Curve_Obscured,vegetation	No	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
2745	030-CR-1027 -000	PLEASANT POINT RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2755	030-CR-1020 -000	KING RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
2759	030-CR-1020 -000	KING RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
2768	030-CR-1023 -000	SOUTH HAMPTON RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
2773	030-CR-1023 -000	SOUTH HAMPTON RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3171	030-CR-1216 -000	SUTHERLAND RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3172	030-CR-1216 -000	SUTHERLAND RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3179	030-CR-1216 -000	SUTHERLAND RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3194	030-CR-1225 -000	EAST MARKSBERRY RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3197	030-CR-1225 -000	EAST MARKSBERRY RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
3198	030-CR-1225 -000	EAST MARKSBERRY RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3435	030-CR-1222 -000	WEST MARKSBERRY RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3440	030-CR-1219 -000	FITTS RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
3443	030-CR-1219 -000	FITTS RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3450	030-CR-1219 -000	FITTS RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3456	030-CR-1222 -000	WEST MARKSBERRY RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
3461	030-CR-1259 -000	LONESOME PINE TRL	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3462	030-CR-1259 -000	LONESOME PINE TRL	vegetation,other	No	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
3465	030-CR-1259 -000	LONESOME PINE TRL	other	No	Install Curve Warning Sign; Evaluate other obstructions
3471	030-CR-1259 -000	LONESOME PINE TRL	other	No	Install Curve Warning Sign; Evaluate other obstructions
3496	030-CR-1259 -000	LONESOME PINE TRL	other	No	Install Curve Warning Sign; Evaluate other obstructions
3497	030-CR-1259 -000	LONESOME PINE TRL	other	No	Install Curve Warning Sign; Evaluate other obstructions
3502	030-CR-1251 -000	OLD HIGHWAY 81	other	No	Install Curve Warning Sign; Evaluate other obstructions
3508	030-CR-1251 -000	OLD HIGHWAY 81	other	No	Install Curve Warning Sign; Evaluate other obstructions
3518	030-CR-1250 -000	WINDY HOLLOW RD	vegetation,Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
3529	030-CR-1250 -000	WINDY HOLLOW RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3530	030-CR-1250 -000	WINDY HOLLOW RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3531	030-CR-1250 -000	WINDY HOLLOW RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3544	030-CR-1294 -000	HORRELL RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3547	030-CR-1294 -000	HORRELL RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3552	030-CR-1294 -000	HORRELL RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3554	030-CR-1294 -000	HORRELL RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3558	030-CR-1294 -000	HORRELL RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3563	030-CR-1294 -000	HORRELL RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
3564	030-CR-1294 -000	HORRELL RD	vegetation,other	No	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
3570	030-CR-1265 -000	HOBBS RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3571	030-CR-1265 -000	HOBBS RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
3574	030-CR-1265 -000	HOBBS RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation

3577	030-CR-1265 -000	HOBBS RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3579	030-CR-1265 -000	HOBBS RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
3586	030-CR-1265 -000	HOBBS RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
3596	030-CR-1058 -000	CAMPGROUND RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3597	030-CR-1058 -000	CAMPGROUND RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
3602	030-CR-1058 -000	CAMPGROUND RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3606	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3607	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3609	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3611	030-CR-1058 -000	CAMPGROUND RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3613	030-CR-1058 -000	CAMPGROUND RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3616	030-CR-1265 -000	HOBBS RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3630	030-CR-1188 -000	BURTON RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3676	030-CR-1113A -000	SUMMIT DR	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3693	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
3698	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
3708	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3760	030-CR-1029 -000	MONARCH RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3780	030-CR-1048 -000	KNOTTSVILLE-MOUNT ZION RD	vegetation,Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
3783	030-CR-1048 -000	KNOTTSVILLE-MOUNT ZION RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
3798	030-CR-1371 -000	STANLEY-BIRK CITY RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3804	030-CR-1371 -000	STANLEY-BIRK CITY RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3812	030-CR-1371 -000	STANLEY-BIRK CITY RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
3822	030-CR-1268 -000	MULLIGAN RD	other,Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3835	030-CR-1269 -000	POSSUM TROT RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3845	030-CR-1269 -000	POSSUM TROT RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3854	030-CR-1268 -000	MULLIGAN RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3856	030-CR-1268 -000	MULLIGAN RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3960	030-CR-1190 -000	BOSTON-LAFFOON RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
4031	030-CR-1065 -000	KELLY CEMETERY RD	Entrance_in_Curve	Yes	Install Curve Warning Sign; Clear Vegetation; Consider striping enhancements at intersection
4036	030-CR-1065 -000	KELLY CEMETERY RD	Intersection_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
4765	030-CR-1167 -000	GREENBRIAR RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation

### Roadside Drop Off Recommendations (Daviss County)



**Exhibit Daviess-13: Roadside Drop Off Locations**

*See Attachment for Daviess County Roadside Drop Off Recommendations.*

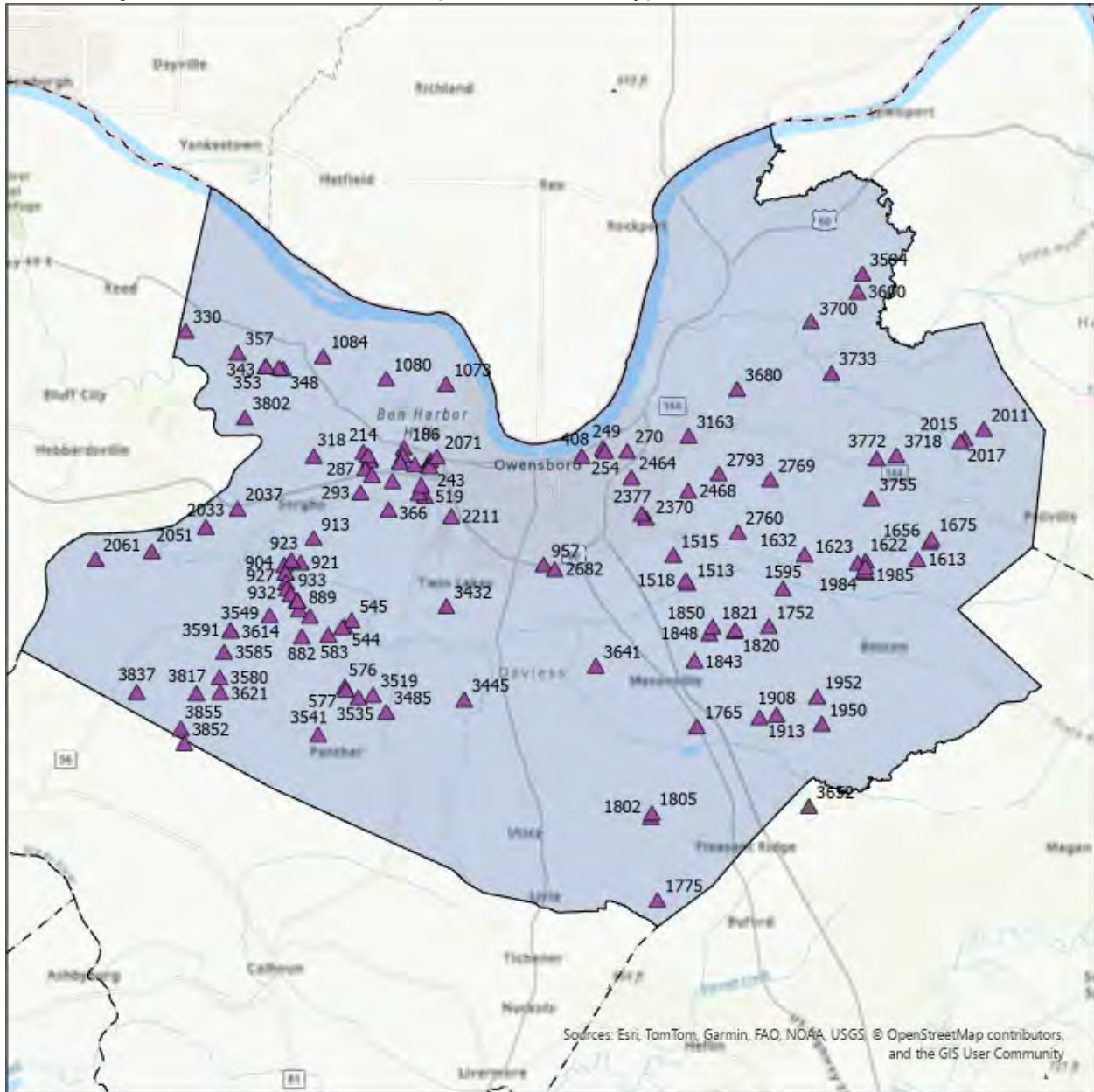
Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
1610	030-CR-1021 -000	JACK HINTON RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1611	030-CR-1021 -000	JACK HINTON RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1616	030-CR-1021 -000	JACK HINTON RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1644	030-CR-1021 -000	JACK HINTON RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1649	030-CR-1021 -000	JACK HINTON RD	1-3	>10	Evaluate need for guardrail
2750	030-CR-1027 -000	PLEASANT POINT RD	3-5	>10	Evaluate need for guardrail
1989	030-CR-1030 -000	SHORT STATION RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1991	030-CR-1030 -000	SHORT STATION RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1993	030-CR-1030 -000	SHORT STATION RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1657	030-CR-1031 -000	AULL RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1665	030-CR-1031 -000	AULL RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1666	030-CR-1031 -000	AULL RD	3-5	>10	Evaluate need for guardrail
1673	030-CR-1031 -000	AULL RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2012	030-CR-1038 -000	INDIAN HILL RD	1-3	>10	Evaluate need for guardrail
3732	030-CR-1045 -000	FREE SILVER RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3682	030-CR-1053 -000	GRAVES LN	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
3688	030-CR-1053 -000	GRAVES LN	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3689	030-CR-1053 -000	GRAVES LN	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
3699	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	1-3	>10	Evaluate need for guardrail
3598	030-CR-1058 -000	CAMPGROUND RD	0-1	>10	Evaluate need for guardrail
3605	030-CR-1058 -000	CAMPGROUND RD	0-1	>10	Evaluate need for guardrail
4122	030-CR-1063 -000	FULLENWIDER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4123	030-CR-1063 -000	FULLENWIDER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4127	030-CR-1063 -000	FULLENWIDER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2789	030-CR-1083 -000	JONES RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2803	030-CR-1085 -000	REID RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2411	030-CR-1089 -000	HAYDEN RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2412	030-CR-1089 -000	HAYDEN RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2414	030-CR-1089 -000	HAYDEN RD	3-5	>10	Evaluate need for guardrail
262	030-CR-1090 -000	DANIELS LN	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
276	030-CR-1090 -000	DANIELS LN	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2457	030-CR-1099 -000	PLEASANT VALLEY RD - 2	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2478	030-CR-1099 -000	PLEASANT VALLEY RD - 2	3-5	>10	Evaluate need for guardrail
1873	030-CR-1123 -000	SUTHERLIN LN	0-1	>10	Evaluate need for guardrail
1878	030-CR-1123 -000	SUTHERLIN LN	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1830	030-CR-1124 -000	MASONVILLE-HABIT RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1842	030-CR-1124 -000	MASONVILLE-HABIT RD	1-3	>10	Evaluate need for guardrail
1845	030-CR-1124 -000	MASONVILLE-HABIT RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1849	030-CR-1124 -000	MASONVILLE-HABIT RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1853	030-CR-1124 -000	MASONVILLE-HABIT RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1857	030-CR-1124 -000	MASONVILLE-HABIT RD	0-1	>10	Evaluate need for guardrail
1519	030-CR-1125 -000	MILLERS MILL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1521	030-CR-1125 -000	MILLERS MILL RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1522	030-CR-1125 -000	MILLERS MILL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1826	030-CR-1126 -000	BEN HEAD RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1594	030-CR-1129 -000	OLD HIGHWAY 54	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1599	030-CR-1129 -000	OLD HIGHWAY 54	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1600	030-CR-1129 -000	OLD HIGHWAY 54	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1604	030-CR-1129 -000	OLD HIGHWAY 54	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1608	030-CR-1129 -000	OLD HIGHWAY 54	3-5	>10	Evaluate need for guardrail
1747	030-CR-1130 -000	OLD STATE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1751	030-CR-1130 -000	OLD STATE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1882	030-CR-1131 -000	LUTHER TAYLOR RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1884	030-CR-1131 -000	LUTHER TAYLOR RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1885	030-CR-1131 -000	LUTHER TAYLOR RD	1-3	>10	Evaluate need for guardrail

3746	030-CR-1134 -000	KARNS GROVE RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1959	030-CR-1135 -000	LITTLE HICKORY RD	1-3	>10	Evaluate need for guardrail
1967	030-CR-1135 -000	LITTLE HICKORY RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1680	030-CR-1138 -000	HAYNES STATION RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1684	030-CR-1138 -000	HAYNES STATION RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1686	030-CR-1138 -000	HAYNES STATION RD	>5	5-10	--
1687	030-CR-1138 -000	HAYNES STATION RD	>5	>10	--
1918	030-CR-1153 -000	POPLAR LOG BRIDGE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1919	030-CR-1153 -000	POPLAR LOG BRIDGE RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1937	030-CR-1153 -000	POPLAR LOG BRIDGE RD	>5	>10	--
1949	030-CR-1154 -000	TEXAS GAS RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1890	030-CR-1157 -000	BRATCHER HILL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1891	030-CR-1157 -000	BRATCHER HILL RD	1-3	>10	Evaluate need for guardrail
1892	030-CR-1157 -000	BRATCHER HILL RD	3-5	>10	Evaluate need for guardrail
1902	030-CR-1157 -000	BRATCHER HILL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1904	030-CR-1157 -000	BRATCHER HILL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1909	030-CR-1157 -000	BRATCHER HILL RD	3-5	>10	Evaluate need for guardrail
1916	030-CR-1157 -000	BRATCHER HILL RD	3-5	>10	Evaluate need for guardrail
3649	030-CR-1159 -000	OLD HARTFORD RD	3-5	>10	Evaluate need for guardrail
3663	030-CR-1161 -000	CRANE POND RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4767	030-CR-1167 -000	GREENBRIAR RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4768	030-CR-1167 -000	GREENBRIAR RD	1-3	<2	Install Type 2 Object Marker(s) or Delineator(s)
1774	030-CR-1168 -000	RED HILL-MAXWELL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1783	030-CR-1168 -000	RED HILL-MAXWELL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1792	030-CR-1168 -000	RED HILL-MAXWELL RD	1-3	>10	Evaluate need for guardrail
1793	030-CR-1168 -000	RED HILL-MAXWELL RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1804	030-CR-1168 -000	RED HILL-MAXWELL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1808	030-CR-1168 -000	RED HILL-MAXWELL RD	3-5	>10	Evaluate need for guardrail
1813	030-CR-1168 -000	RED HILL-MAXWELL RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
3859	030-CR-1188 -000	BURTON RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3178	030-CR-1216 -000	SUTHERLAND RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
3448	030-CR-1219 -000	FITTS RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3184	030-CR-1225 -000	EAST MARKSBERRY RD	0-1	>10	Evaluate need for guardrail
3193	030-CR-1225 -000	EAST MARKSBERRY RD	0-1	>10	Evaluate need for guardrail
581	030-CR-1256 -000	BALLARD RD	0-1	>10	Evaluate need for guardrail
584	030-CR-1256 -000	BALLARD RD	3-5	>10	Evaluate need for guardrail
587	030-CR-1256 -000	BALLARD RD	1-3	>10	Evaluate need for guardrail
588	030-CR-1256 -000	BALLARD RD	1-3	>10	Evaluate need for guardrail
589	030-CR-1256 -000	BALLARD RD	3-5	>10	Evaluate need for guardrail
3581	030-CR-1265 -000	HOBBS RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3617	030-CR-1265 -000	HOBBS RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
3618	030-CR-1265 -000	HOBBS RD	1-3	>10	Evaluate need for guardrail
3818	030-CR-1268 -000	MULLIGAN RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
3823	030-CR-1268 -000	MULLIGAN RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
3857	030-CR-1268 -000	MULLIGAN RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3831	030-CR-1269 -000	POSSUM TROT RD	>5	5-10	--
3842	030-CR-1269 -000	POSSUM TROT RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
3848	030-CR-1269 -000	POSSUM TROT RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
3849	030-CR-1269 -000	POSSUM TROT RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
880	030-CR-1296 -000	HAYDEN BRIDGE RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
881	030-CR-1296 -000	HAYDEN BRIDGE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
884	030-CR-1296 -000	HAYDEN BRIDGE RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
888	030-CR-1296 -000	HAYDEN BRIDGE RD	3-5	>10	Evaluate need for guardrail
890	030-CR-1296 -000	HAYDEN BRIDGE RD	>5	>10	--
893	030-CR-1296 -000	HAYDEN BRIDGE RD	1-3	>10	Evaluate need for guardrail
894	030-CR-1296 -000	HAYDEN BRIDGE RD	3-5	>10	Evaluate need for guardrail
896	030-CR-1296 -000	HAYDEN BRIDGE RD	3-5	>10	Evaluate need for guardrail

897	030-CR-1296 -000	HAYDEN BRIDGE RD	1-3	>10	Evaluate need for guardrail
899	030-CR-1296 -000	HAYDEN BRIDGE RD	1-3	>10	Evaluate need for guardrail
901	030-CR-1296 -000	HAYDEN BRIDGE RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
926	030-CR-1296 -000	HAYDEN BRIDGE RD	1-3	>10	Evaluate need for guardrail
928	030-CR-1296 -000	HAYDEN BRIDGE RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
939	030-CR-1296 -000	HAYDEN BRIDGE RD	3-5	>10	Evaluate need for guardrail
558	030-CR-1299 -000	WAYNE BRIDGE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
563	030-CR-1299 -000	WAYNE BRIDGE RD	3-5	>10	Evaluate need for guardrail
573	030-CR-1299 -000	WAYNE BRIDGE RD	1-3	>10	Evaluate need for guardrail
574	030-CR-1299 -000	WAYNE BRIDGE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
575	030-CR-1299 -000	WAYNE BRIDGE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
864	030-CR-1301 -000	KELLER RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
866	030-CR-1301 -000	KELLER RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
595	030-CR-1302 -000	FISHER RD	1-3	>10	Evaluate need for guardrail
3422	030-CR-1304 -000	CARTER RD	3-5	>10	Evaluate need for guardrail
520	030-CR-1336 -000	WORTHINGTON RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineators
529	030-CR-1336 -000	WORTHINGTON RD	0-1	>10	Evaluate need for guardrail
297	030-CR-1339 -000	WEST 5TH ST RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
302	030-CR-1339 -000	WEST 5TH ST RD	1-3	>10	Evaluate need to extend existing guardrail
304	030-CR-1339 -000	WEST 5TH ST RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
306	030-CR-1339 -000	WEST 5TH ST RD	3-5	>10	Evaluate need for guardrail
309	030-CR-1339 -000	WEST 5TH ST RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
310	030-CR-1339 -000	WEST 5TH ST RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
311	030-CR-1339 -000	WEST 5TH ST RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineators
314	030-CR-1339 -000	WEST 5TH ST RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineators
317	030-CR-1339 -000	WEST 5TH ST RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
319	030-CR-1339 -000	WEST 5TH ST RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
445	030-CR-1339 -000	WEST 5TH ST RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
464	030-CR-1339 -000	WEST 5TH ST RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
469	030-CR-1339 -000	WEST 5TH ST RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
203	030-CR-1340 -000	LEE RUDY RD	1-3	>10	Evaluate need for guardrail
204	030-CR-1340 -000	LEE RUDY RD	1-3	>10	Evaluate need for guardrail
207	030-CR-1340 -000	LEE RUDY RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
208	030-CR-1340 -000	LEE RUDY RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
213	030-CR-1340 -000	LEE RUDY RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
217	030-CR-1340 -000	LEE RUDY RD	>5	2-5	--
227	030-CR-1340 -000	LEE RUDY RD	>5	5-10	--
234	030-CR-1340 -000	LEE RUDY RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
240	030-CR-1340 -000	LEE RUDY RD	1-3	>10	Evaluate need for guardrail
187	030-CR-1341 -000	RUDY RD	>5	5-10	--
192	030-CR-1341 -000	RUDY RD	0-1	>10	Evaluate need for guardrail
194	030-CR-1341 -000	RUDY RD	1-3	>10	Evaluate need for guardrail
1062	030-CR-1348 -000	GRIFFITH STATION RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1065	030-CR-1348 -000	GRIFFITH STATION RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1070	030-CR-1348 -000	GRIFFITH STATION RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1072	030-CR-1348 -000	GRIFFITH STATION RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1076	030-CR-1348 -000	GRIFFITH STATION RD	1-3	>10	Evaluate need for guardrail
1083	030-CR-1348 -000	GRIFFITH STATION RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1233	030-CR-1354 -000	FRENCH ISLAND RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1241	030-CR-1354 -000	FRENCH ISLAND RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
323	030-CR-1363 -000	SAUER LN	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
336	030-CR-1363 -000	SAUER LN	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
339	030-CR-1363 -000	SAUER LN	0-1	5-10	Consider extending guardrail or install Type 2 Object Markers or Delineators
347	030-CR-1363 -000	SAUER LN	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
350	030-CR-1363 -000	SAUER LN	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
355	030-CR-1363 -000	SAUER LN	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)

358	030-CR-1363 -000	SAUER LN	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
307	030-CR-1371 -000	STANLEY-BIRK CITY RD	1-3	>10	Evaluate need for guardrail
3801	030-CR-1371 -000	STANLEY-BIRK CITY RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
3810	030-CR-1371 -000	STANLEY-BIRK CITY RD	0-1	>10	Evaluate need for guardrail
2038	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2044	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	1-3	>10	Evaluate need for guardrail
2046	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2054	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	3-5	>10	Evaluate need for guardrail
2058	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	3-5	>10	Evaluate need for guardrail
2062	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)

### Fixed Object Recommendations (Daviness County)



**Exhibit Daviess-14: Fixed Object Locations**

*See Attachment for Daviess County Fixed Object Recommendations.*

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
186	030-CR-1341 -000	RUDY RD	other; Large concrete pillars in front of home	Series	1-3	Consider removal/relocation; Install Type 2 Object Markers
191	030-CR-1340 -000	LEE RUDY RD	Utility Pole;	Series	3-5	--
193	030-CR-1341 -000	RUDY RD	Tree;	Single	3-5	--
195	030-CR-1412D -000	BERNHEIM DR	Tree;	Series	>5	--
196	030-CR-1412D -000	BERNHEIM DR	Tree;	Single	1-3	Remove
199	030-CR-1340 -000	LEE RUDY RD	Tree;	Series	3-5	--
212	030-CR-1340 -000	LEE RUDY RD	Tree;	Single	0-1	Remove
214	030-CR-1340 -000	LEE RUDY RD	Tree;	Single	0-1	Remove
226	030-CR-1340 -000	LEE RUDY RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
229	030-CR-1340 -000	LEE RUDY RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
236	030-CR-1340 -000	LEE RUDY RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
238	030-CR-1340 -000	LEE RUDY RD	Tree;	Single	1-3	Remove
239	030-CR-1340 -000	LEE RUDY RD	Tree;	Single	1-3	Remove
243	030-CR-1340 -000	LEE RUDY RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
248	030-CR-1013 -000	PLEASANT VALLEY RD - 1	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
249	030-CR-1013 -000	PLEASANT VALLEY RD - 1	Tree;	Single	1-3	Remove
254	030-CR-1013 -000	PLEASANT VALLEY RD - 1	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
270	030-CR-1090 -000	DANIELS LN	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
287	030-CR-1394 -000	LYDDANE BRIDGE RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
293	030-CR-1394 -000	LYDDANE BRIDGE RD	Tree;	Single	3-5	--
318	030-CR-1339 -000	WEST 5TH ST RD	Tree;	Series	3-5	--
330	030-CR-1363 -000	SAUER LN	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
343	030-CR-1363 -000	SAUER LN	Tree;	Series	1-3	--
348	030-CR-1363 -000	SAUER LN	other;	Series	>5	--
349	030-CR-1363 -000	SAUER LN	other;	Single	>5	--
353	030-CR-1363 -000	SAUER LN	Utility Pole;	Single	>5	--
357	030-CR-1363 -000	SAUER LN	Tree;	Single	>5	--
366	030-CR-1196 -000	WHISPERING MEADOWS DR	other; Street light pole	Series	0-1	Relocate
408	030-CR-1092A8-000	ALSOP LN	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
462	030-CR-1339 -000	WEST 5TH ST RD	Culvert Headwall;	Single	>5	--
465	030-CR-1339 -000	WEST 5TH ST RD	Culvert Headwall;	Single	1-3	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
519	030-CR-1336 -000	WORTHINGTON RD	Tree;	Single	>5	--
522	030-CR-1336 -000	WORTHINGTON RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
523	030-CR-1336 -000	WORTHINGTON RD	Tree;	Single	0-1	Remove
544	030-CR-1299 -000	WAYNE BRIDGE RD	Culvert Headwall;	Single	1-3	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
545	030-CR-1299 -000	WAYNE BRIDGE RD	Tree;	Series	>5	--
570	030-CR-1299 -000	WAYNE BRIDGE RD	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
576	030-CR-1299 -000	WAYNE BRIDGE RD	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
577	030-CR-1299 -000	WAYNE BRIDGE RD	Tree;	Single	1-3	Remove
583	030-CR-1256 -000	BALLARD RD	Tree;	Series	3-5	--
882	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Single	3-5	--
889	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Single	1-3	Remove
891	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Single	1-3	Remove
892	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Series	1-3	--
902	030-CR-1296 -000	HAYDEN BRIDGE RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
904	030-CR-1296 -000	HAYDEN BRIDGE RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
913	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Single	1-3	Remove
921	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Series	1-3	--
923	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Single	1-3	Remove
927	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Single	3-5	--
930	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Series	3-5	--
932	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Series	3-5	--
933	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Single	>5	--
935	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Single	1-3	Remove
936	030-CR-1296 -000	HAYDEN BRIDGE RD	Tree;	Single	3-5	--
957	030-CR-1215 -000	VEACH RD	Tree;	Series	3-5	--
1073	030-CR-1348 -000	GRIFFITH STATION RD	other; Stone	Single	>5	--
1080	030-CR-1348 -000	GRIFFITH STATION RD	Tree;	Single	1-3	Remove
1084	030-CR-1348 -000	GRIFFITH STATION RD	Tree;	Single	1-3	Remove

1513	030-CR-1125 -000	MILLERS MILL RD	Tree;	Single	3-5	--
1515	030-CR-1125 -000	MILLERS MILL RD	Tree;	Single	1-3	Remove
1518	030-CR-1125 -000	MILLERS MILL RD	Culvert Headwall;	Single	1-3	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
1595	030-CR-1129 -000	OLD HIGHWAY 54	Tree;	Series	1-3	--
1613	030-CR-1021 -000	JACK HINTON RD	Tree;	Single	3-5	--
1622	030-CR-1021 -000	JACK HINTON RD	Tree;	Single	>5	--
1623	030-CR-1021 -000	JACK HINTON RD	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
1632	030-CR-1021 -000	JACK HINTON RD	Tree;	Series	1-3	--
1656	030-CR-1031 -000	AULL RD	Tree;	Series	1-3	--
1675	030-CR-1031 -000	AULL RD	Tree;	Single	>5	--
1752	030-CR-1130 -000	OLD STATE RD	Tree;	Single	1-3	Remove
1765	030-CR-1156 -000	SUGAR GROVE CHURCH RD	Tree;	Single	0-1	Remove
1775	030-CR-1168 -000	RED HILL-MAXWELL RD	Tree;	Series	1-3	--
1802	030-CR-1168 -000	RED HILL-MAXWELL RD	Tree;	Single	0-1	Remove
1805	030-CR-1168 -000	RED HILL-MAXWELL RD	Tree;	Single	1-3	Remove
1820	030-CR-1126 -000	BEN HEAD RD	Tree;	Single	0-1	Remove
1821	030-CR-1126 -000	BEN HEAD RD	Tree;	Series	1-3	--
1843	030-CR-1124 -000	MASONVILLE-HABIT RD	Tree;	Single	3-5	--
1848	030-CR-1124 -000	MASONVILLE-HABIT RD	Tree;	Series	1-3	--
1850	030-CR-1124 -000	MASONVILLE-HABIT RD	Tree;	Series	1-3	--
1908	030-CR-1157 -000	BRATCHER HILL RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
1913	030-CR-1157 -000	BRATCHER HILL RD	Tree;	Single	1-3	Remove
1950	030-CR-1154 -000	TEXAS GAS RD	Tree;	Single	1-3	Remove
1952	030-CR-1154 -000	TEXAS GAS RD	Tree;	Single	1-3	Remove
1984	030-CR-1030 -000	SHORT STATION RD	Tree;	Series	3-5	--
1985	030-CR-1030 -000	SHORT STATION RD	Tree;	Series	3-5	--
1998	030-CR-1030 -000	SHORT STATION RD	Tree;	Single	0-1	Remove
1999	030-CR-1030 -000	SHORT STATION RD	Tree;	Series	1-3	--
2011	030-CR-1038 -000	INDIAN HILL RD	Tree;	Series	1-3	--
2015	030-CR-1038 -000	INDIAN HILL RD	Tree;	Series	3-5	--
2017	030-CR-1038 -000	INDIAN HILL RD	Tree;	Series	3-5	--
2033	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Tree;	Series	3-5	--
2037	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Tree;	Series	>5	--
2051	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Tree;	Series	1-3	--
2061	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Tree;	Series	>5	--
2071	030-CR-1411 -000	BENTTREE DR	other; Mailbox	Single	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
2211	030-CR-1332 -000	BITTEL RD	Tree;	Single	3-5	--
2370	030-CR-1118A -000	WOOD TRCE	other; Stone Wall	Single	3-5	--
2377	030-CR-1010A -010	BOLD FORBES WAY NC	other; Neighborhood sign	Single	3-5	Relocate
2464	030-CR-1099 -000	PLEASANT VALLEY RD - 2	Tree;	Series	>5	--
2468	030-CR-1099 -000	PLEASANT VALLEY RD - 2	Tree;	Series	>5	--
2682	030-CR-1215 -000	VEACH RD	Tree;	Series	3-5	--
2760	030-CR-1020 -000	KING RD	Tree;	Series	>5	--
2769	030-CR-1023 -000	SOUTH HAMPTON RD	Tree;	Single	>5	--
2793	030-CR-1085 -000	REID RD	Tree;	Series	>5	--
3163	030-CR-1114A -000	GRAHAM LN E	other; Stone poles	Series	0-1	Remove/Relocate
3432	030-CR-1304 -000	CARTER RD	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
3445	030-CR-1219 -000	FITTS RD	Tree;	Series	1-3	--
3485	030-CR-1247 -000	ASHBYBURG RD	Tree;	Series	3-5	--
3519	030-CR-1250 -000	WINDY HOLLOW RD	Tree;	Series	1-3	--
3535	030-CR-1250 -000	WINDY HOLLOW RD	Tree;	Series	1-3	--
3541	030-CR-1250 -000	WINDY HOLLOW RD	Tree;	Series	1-3	--
3549	030-CR-1294 -000	HORRELL RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
3555	030-CR-1294 -000	HORRELL RD	Tree;	Series	3-5	--
3580	030-CR-1265 -000	HOBBS RD	Tree;	Series	1-3	--
3585	030-CR-1265 -000	HOBBS RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
3591	030-CR-1265 -000	HOBBS RD	other; Concrete wall in curve	Single	0-1	Review; Consider removal/relocation of concrete wall
3594	030-CR-1058 -000	CAMPGROUND RD	Tree;	Series	3-5	--
3600	030-CR-1058 -000	CAMPGROUND RD	Tree;	Series	1-3	--
3614	030-CR-1265 -000	HOBBS RD	other; Concrete wall in curve	Single	0-1	Review; Consider removal/relocation of concrete wall
3621	030-CR-1265 -000	HOBBS RD	Tree;	Single	1-3	Remove

3641	030-CR-1188 -000	BURTON RD	Tree;	Series	1-3	--
3652	030-CR-1161 -000	CRANE POND RD	Tree;	Series	1-3	--
3680	030-CR-1113A -000	SUMMIT DR	Tree;	Series	1-3	--
3700	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	Tree;	Series	1-3	--
3718	030-CR-1045 -000	FREE SILVER RD	Tree;	Series	1-3	--
3733	030-CR-1045 -000	FREE SILVER RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
3755	030-CR-1029 -000	MONARCH RD	Tree;	Series	1-3	--
3772	030-CR-1048 -000	KNOTTSVILLE-MOUNT ZION RD	Tree;	Series	1-3	--
3802	030-CR-1371 -000	STANLEY-BIRK CITY RD	Tree;	Series	1-3	--
3817	030-CR-1268 -000	MULLIGAN RD	Tree;	Series	1-3	--
3837	030-CR-1269 -000	POSSUM TROT RD	Tree;	Series	>5	--
3852	030-CR-1268 -000	MULLIGAN RD	Tree;	Series	3-5	--
3855	030-CR-1268 -000	MULLIGAN RD	Tree;	Series	3-5	--

### Guardrail Recommendations (Davie County)

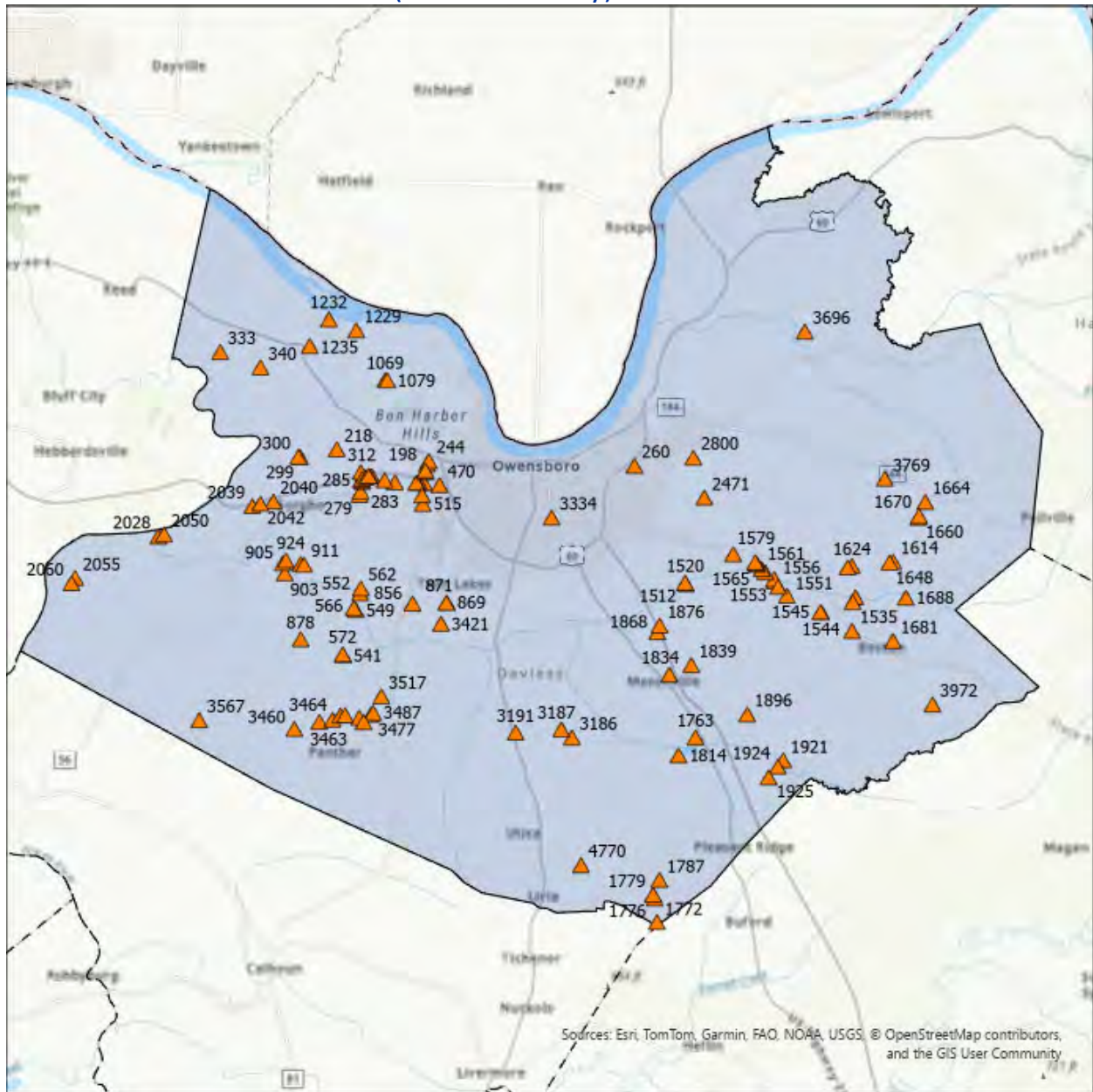


Exhibit Davie-15: Guardrail Locations

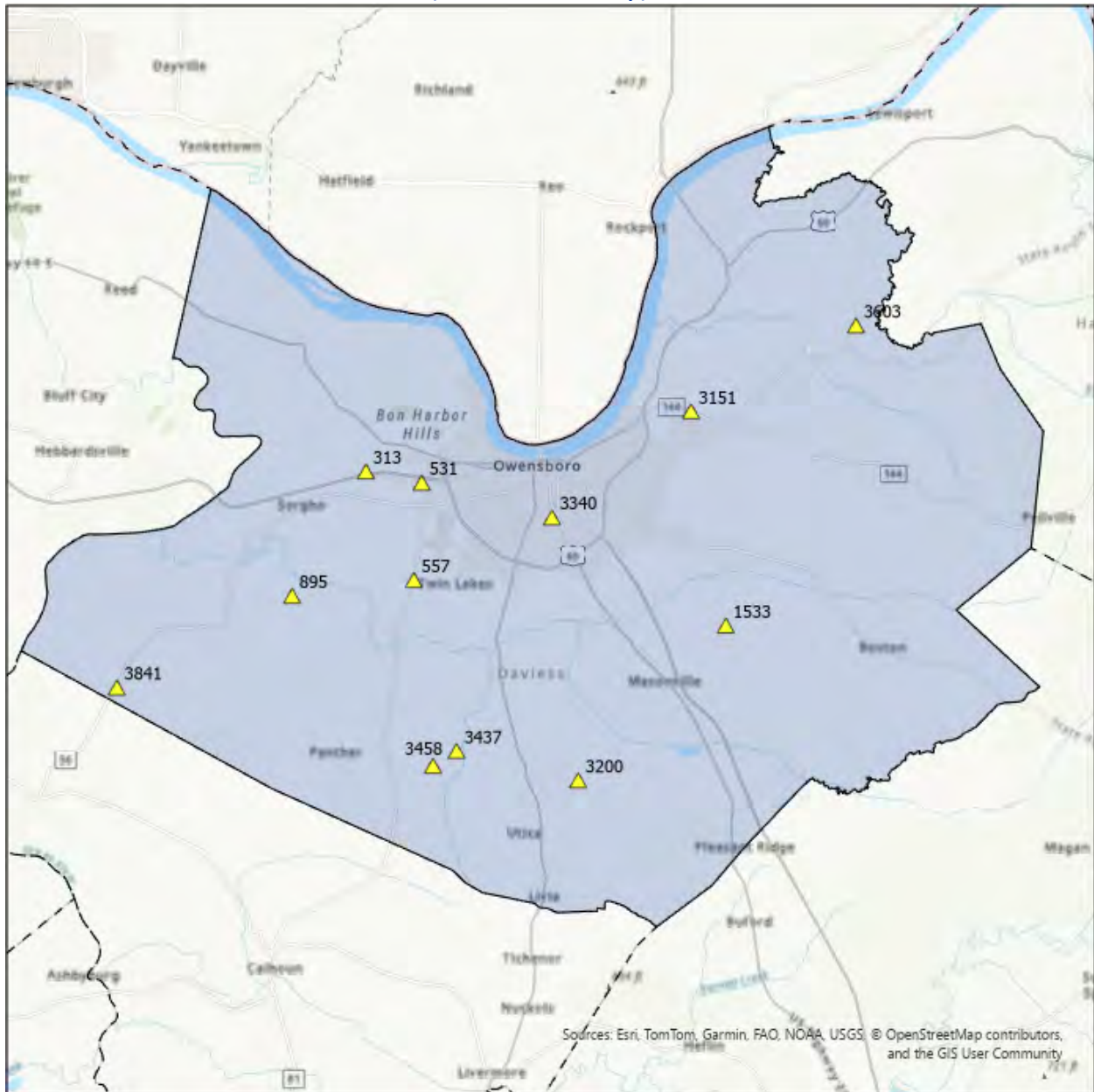
See Attachment for Davie County Guardrail Recommendations.

Point ID	RT_UNIQUE	Road Name	Condition	Meet Warrants	End Treatments	Recommendation	Comments
198	030-CR-1412D -000	BERNHEIM DR	Poor	No	None	Remove	
218	030-CR-1340 -000	LEE RUDY RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
244	030-CR-1412D -000	BERNHEIM DR	Fair	No	Some	Remove	
260	030-CR-1090 -000	DANIELS LN	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	Type 2A. The one side of the guardrail seems to be too far away from the pavement (left in image)
279	030-CR-1394 -000	LYDDANE BRIDGE RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	Type 3 guardrails
283	030-CR-1394 -000	LYDDANE BRIDGE RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	Type 3 but not anchored into backslope, into concrete pillar No object markers
284	030-CR-1394 -000	LYDDANE BRIDGE RD	Poor	Yes	Some	Upgrade or replace guardrail installation w/ proper end treatments	
285	030-CR-1394 -000	LYDDANE BRIDGE RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
290	030-CR-1339 -000	WEST 5TH ST RD	Poor	Yes	Some	Upgrade or replace guardrail installation w/ proper end treatments	Guardrail bent
299	030-CR-1339 -000	WEST 5TH ST RD	Poor	Yes	None	Upgrade or replace guardrail installation w/ proper end treatments	
300	030-CR-1339 -000	WEST 5TH ST RD	Poor	Yes	Some	Upgrade or replace guardrail installation w/ proper end treatments	
312	030-CR-1339 -000	WEST 5TH ST RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	No object markers Backslope type
333	030-CR-1363 -000	SAUER LN	Fair	Yes	All	--	
340	030-CR-1363 -000	SAUER LN	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	Ends do not meet requirements
446	030-CR-1339 -000	WEST 5TH ST RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
448	030-CR-1339 -000	WEST 5TH ST RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
449	030-CR-1339 -000	WEST 5TH ST RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
450	030-CR-1339 -000	WEST 5TH ST RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
455	030-CR-1339 -000	WEST 5TH ST RD	Good	Yes	None	Evaluate need to extend guardrail; Install End Treatments and/or Type 3 Object Marker(s)	On left hand side, guardrail starts after drop
456	030-CR-1339 -000	WEST 5TH ST RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
457	030-CR-1339 -000	WEST 5TH ST RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
458	030-CR-1394 -000	LYDDANE BRIDGE RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
459	030-CR-1339 -000	WEST 5TH ST RD	Good	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments	
461	030-CR-1339 -000	WEST 5TH ST RD	Poor	Maybe	Some	Evaluate warrants and cost to repair; Upgrade/install end treatments and/or Type 3 Object Markers	Damaged area
463	030-CR-1339 -000	WEST 5TH ST RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
470	030-CR-1339 -000	WEST 5TH ST RD	Good	Yes	All	--	
515	030-CR-1336 -000	WORTHINGTON RD	Poor	Yes	None	Upgrade or replace guardrail installation w/ proper end treatments	
526	030-CR-1336 -000	WORTHINGTON RD	Good	Yes	None	Evaluate need to extend guardrail.	Can miss the guardrail and still hit the drop off
528	030-CR-1336 -000	WORTHINGTON RD	Good	Yes	None	Evaluate need to extend guardrail.	Hazardous as the car could still run off into the drop off as the guardrail doesn't extend
534	030-CR-1336 -000	WORTHINGTON RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
541	030-CR-1299 -000	WAYNE BRIDGE RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
549	030-CR-1299 -000	WAYNE BRIDGE RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
552	030-CR-1299 -000	WAYNE BRIDGE RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
562	030-CR-1299 -000	WAYNE BRIDGE RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
566	030-CR-1299 -000	WAYNE BRIDGE RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	Some damage from prior collisions
572	030-CR-1299 -000	WAYNE BRIDGE RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
856	030-CR-1301 -000	KELLER RD	Fair	Yes	All	--	

869	030-CR-1301 -000	KELLER RD	Fair	No	Some	Remove	
871	030-CR-1301 -000	KELLER RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
878	030-CR-1296 -000	HAYDEN BRIDGE RD	Fair	No	None	Remove	
903	030-CR-1296 -000	HAYDEN BRIDGE RD	Poor	No	None	Remove	
905	030-CR-1296 -000	HAYDEN BRIDGE RD	Fair	No	None	Remove	
909	030-CR-1296 -000	HAYDEN BRIDGE RD	Good	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments	
911	030-CR-1296 -000	HAYDEN BRIDGE RD	Poor	No	None	Remove	
924	030-CR-1296 -000	HAYDEN BRIDGE RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
1069	030-CR-1348 -000	GRIFFITH STATION RD	Fair	No	None	Remove	
1079	030-CR-1348 -000	GRIFFITH STATION RD	Fair	No	None	Remove	
1229	030-CR-1354 -000	FRENCH ISLAND RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
1232	030-CR-1354 -000	FRENCH ISLAND RD	Fair	Yes	All	--	
1235	030-CR-1354 -000	FRENCH ISLAND RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
1512	030-CR-1125 -000	MILLERS MILL RD	Fair	No	None	Remove	
1520	030-CR-1125 -000	MILLERS MILL RD	Fair	No	None	Remove	
1535	030-CR-1129 -000	OLD HIGHWAY 54	Good	Yes	All	--	
1544	030-CR-1129 -000	OLD HIGHWAY 54	Good	Yes	All	--	
1545	030-CR-1129 -000	OLD HIGHWAY 54	Fair	No	Some	Remove	
1551	030-CR-1129 -000	OLD HIGHWAY 54	Fair	No	None	Remove	
1553	030-CR-1129 -000	OLD HIGHWAY 54	Fair	No	None	Remove	
1556	030-CR-1129 -000	OLD HIGHWAY 54	Fair	No	None	Remove	
1558	030-CR-1129 -000	OLD HIGHWAY 54	Fair	No	None	Remove	
1561	030-CR-1129 -000	OLD HIGHWAY 54	Fair	No	None	Remove	
1565	030-CR-1129 -000	OLD HIGHWAY 54	Fair	No	None	Remove	
1568	030-CR-1129 -000	OLD HIGHWAY 54	Fair	No	None	Remove	
1571	030-CR-1129 -000	OLD HIGHWAY 54	Fair	No	None	Remove	
1579	030-CR-1129 -000	OLD HIGHWAY 54	Good	No	None	Evaluate need and cost of installing proper end treatments; Consider Removal	
1614	030-CR-1021 -000	JACK HINTON RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1624	030-CR-1021 -000	JACK HINTON RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1646	030-CR-1021 -000	JACK HINTON RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1648	030-CR-1021 -000	JACK HINTON RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1660	030-CR-1031 -000	AULL RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1664	030-CR-1031 -000	AULL RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1670	030-CR-1031 -000	AULL RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1681	030-CR-1138 -000	HAYNES STATION RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
1688	030-CR-1138 -000	HAYNES STATION RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
1749	030-CR-1130 -000	OLD STATE RD	Fair	No	None	Remove	
1763	030-CR-1168 -000	RED HILL-MAXWELL RD	Fair	No	None	Remove	
1772	030-CR-1168 -000	RED HILL-MAXWELL RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1776	030-CR-1168 -000	RED HILL-MAXWELL RD	Good	No	None	Evaluate need and cost of installing proper end treatments; Consider Removal	
1779	030-CR-1168 -000	RED HILL-MAXWELL RD	Fair	No	None	Remove	
1787	030-CR-1168 -000	RED HILL-MAXWELL RD	Good	No	None	Evaluate need and cost of installing proper end treatments; Consider Removal	
1814	030-CR-1168 -000	RED HILL-MAXWELL RD	Poor	No	None	Remove	
1834	030-CR-1124 -000	MASONVILLE-HABIT RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
1839	030-CR-1124 -000	MASONVILLE-HABIT RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1868	030-CR-1123 -000	SUTHERLIN LN	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1876	030-CR-1123 -000	SUTHERLIN LN	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1896	030-CR-1157 -000	BRATCHER HILL RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	

1921	030-CR-1153 -000	POPLAR LOG BRIDGE RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
1924	030-CR-1153 -000	POPLAR LOG BRIDGE RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
1925	030-CR-1153 -000	POPLAR LOG BRIDGE RD	Poor	Yes	None	Upgrade or replace guardrail installation w/ proper end treatments	
1987	030-CR-1030 -000	SHORT STATION RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
1994	030-CR-1030 -000	SHORT STATION RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
2028	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
2039	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Good	Yes	All	--	
2040	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Good	Yes	All	--	
2042	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
2050	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
2055	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
2060	030-CR-1381 -000	CURDSVILLE-DELAWARE RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
2471	030-CR-1099 -000	PLEASANT VALLEY RD - 2	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
2800	030-CR-1085 -000	REID RD	Fair	Yes	All	--	
3186	030-CR-1225 -000	EAST MARKSBERRY RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
3187	030-CR-1225 -000	EAST MARKSBERRY RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)	
3191	030-CR-1225 -000	EAST MARKSBERRY RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
3334	030-CR-1211 -000	EAST 27TH ST	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
3421	030-CR-1304 -000	CARTER RD	Poor	No	None	Remove	
3460	030-CR-1259 -000	LONESOME PINE TRL	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
3463	030-CR-1259 -000	LONESOME PINE TRL	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
3464	030-CR-1259 -000	LONESOME PINE TRL	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
3467	030-CR-1259 -000	LONESOME PINE TRL	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
3468	030-CR-1259 -000	LONESOME PINE TRL	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
3469	030-CR-1259 -000	LONESOME PINE TRL	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	More signs needed
3477	030-CR-1247 -000	ASHBYBURG RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
3487	030-CR-1247 -000	ASHBYBURG RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
3491	030-CR-1259 -000	LONESOME PINE TRL	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers	
3517	030-CR-1250 -000	WINDY HOLLOW RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
3567	030-CR-1265 -000	HOBBS RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
3696	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
3769	030-CR-1029 -000	MONARCH RD	Fair	No	None	Remove	
3972	030-CR-1147 -000	WARD RD	Poor	No	Some	Remove	Gguard rail destroyed
4770	030-CR-1175 -000	EAST LOCUST GROVE RD	Fair	No	Some	Remove	

### Intersection Recommendations (Davie County)

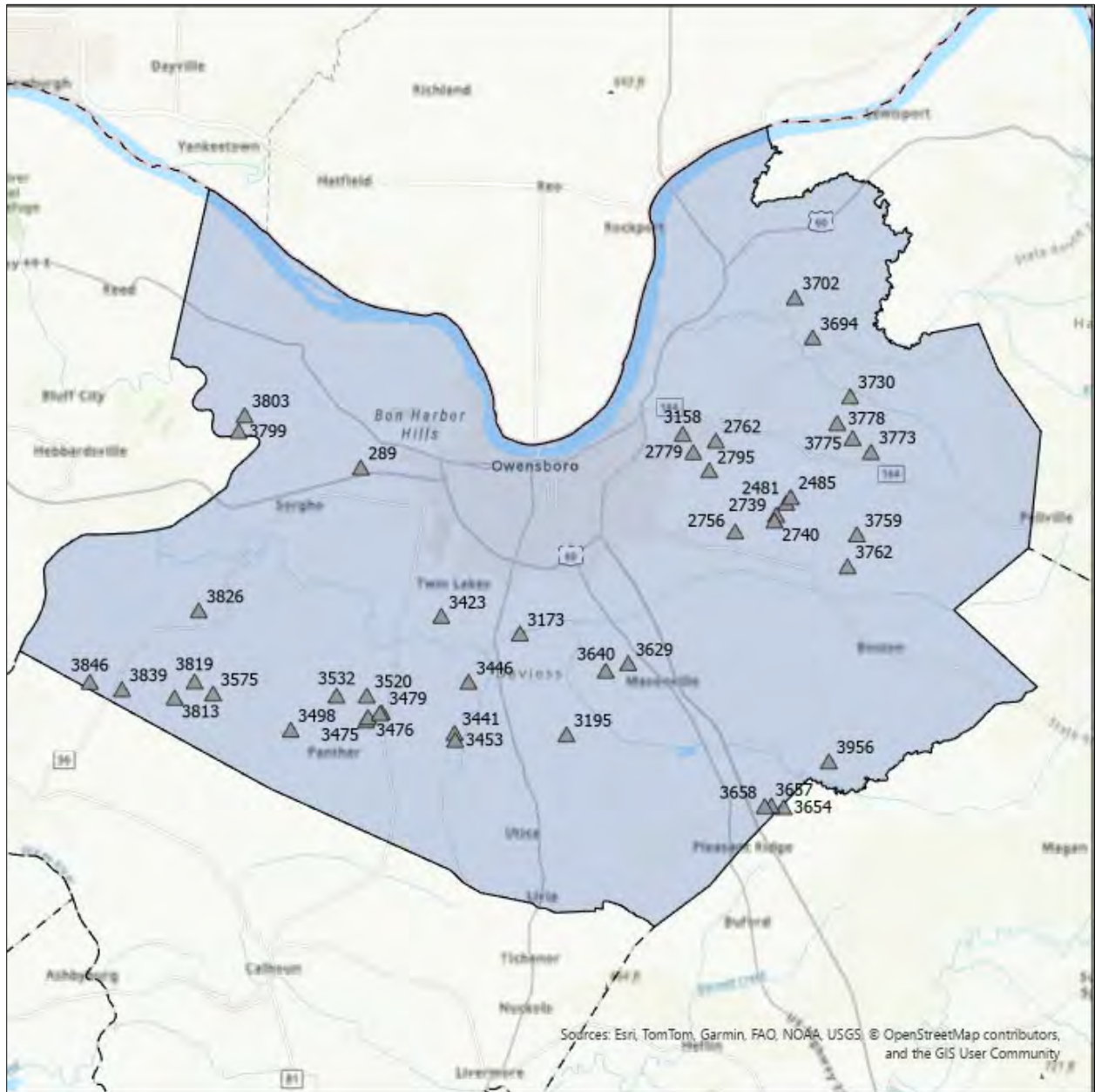


**Exhibit Davie County-16: Intersection Locations**

Point ID	RT_UNIQUE	Road Name	Vegetation	Comments	Recommendation
313	030-CR-1394 -000	LYDDANE BRIDGE RD	Yes	Insufficient Sight Distance; Blocking to right	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
531	030-CR-1336 -000	WORTHINGTON RD	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
557	030-CR-1299 -000	WAYNE BRIDGE RD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
895	030-CR-1296 -000	HAYDEN BRIDGE RD	No	Intersection Skew	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
1533	030-CR-1125 -000	MILLERS MILL RD	No	Intersection Skew	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
3151	030-CR-1081 -000	GRAHAM LN	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3200	030-CR-1225 -000	EAST MARKSBERRY RD	Yes	Insufficient Sight Distance; Cannot see up the hill. Hill has no stop sign	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3340	030-CR-1211 -000	EAST 27TH ST	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3437	030-CR-1219 -000	FITTS RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3458	030-CR-1222 -000	WEST MARKSBERRY RD	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3603	030-CR-1058 -000	CAMPGROUND RD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3841	030-CR-1269 -000	POSSUM TROT RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)

**Exhibit Daviess-17: Intersection Recommendations**

### Other Recommendations (Daviss County)



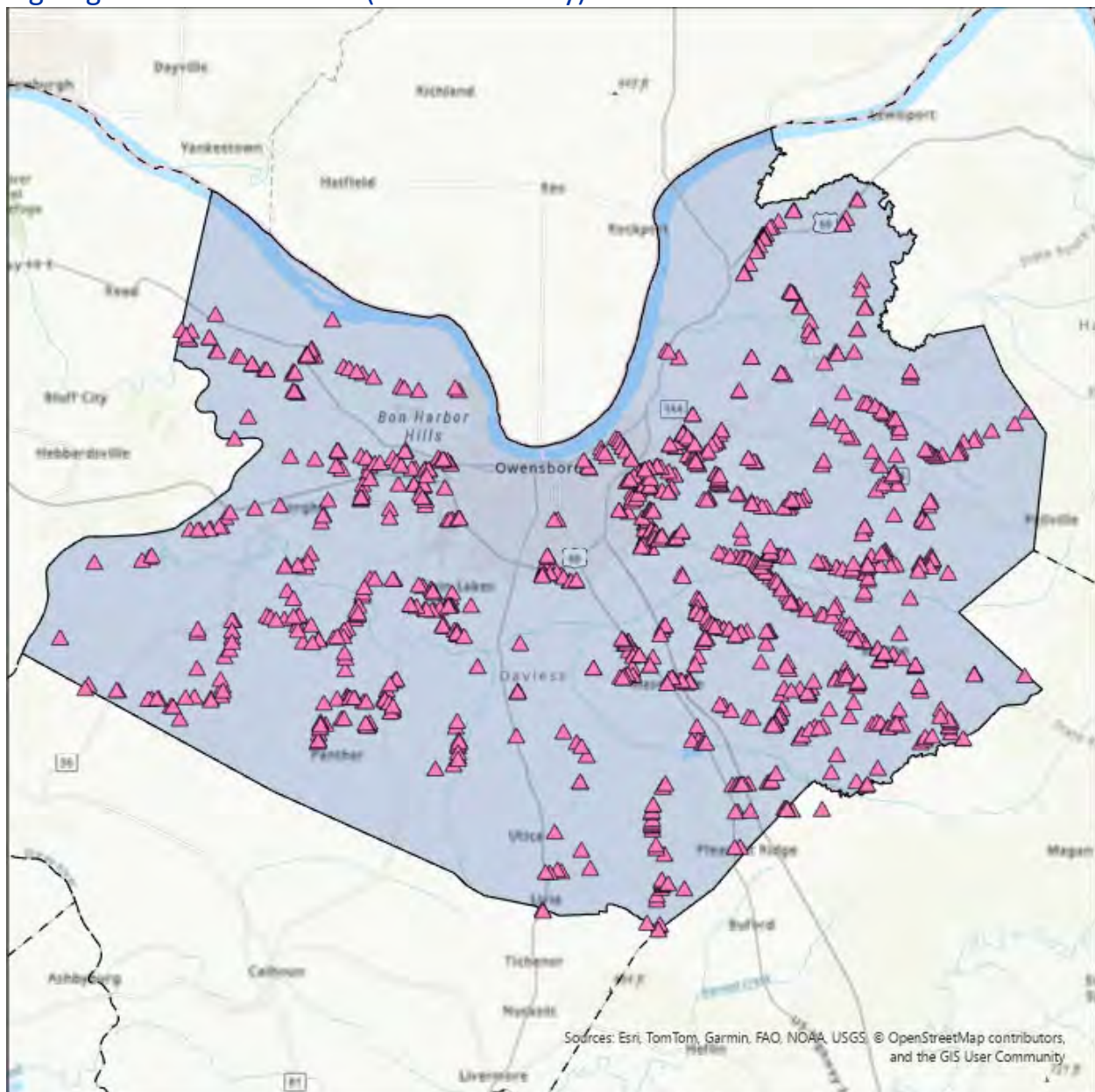
**Exhibit Daviess-18: Other Item Locations**

*See Attachment for Daviess County Other Recommendations.*

Point ID	RT_UNIQUE	RD_NAME	Description	Recommendation
289	030-CR-1394 -000	LYDDANE BRIDGE RD	Guardrail interrupted by prior road no longer in use;	Extend Guardrail across roadway
2481	030-CR-1099 -000	PLEASANT VALLEY RD - 2	Road lines; Road lines barely visible on road	See Roadway Section Recommended Improvements for striping recommendations
2485	030-CR-1099 -000	PLEASANT VALLEY RD - 2	Deer; Deer	Remove
2739	030-CR-1027 -000	PLEASANT POINT RD	Hill that blocks view; Steep hill that blocks hill and is only about 18 feet wide	Install "Hill Blocks View" Sign (W7-6)
2740	030-CR-1027 -000	PLEASANT POINT RD	Road lines; Road lines are faded and hard to see	See Roadway Section Recommended Improvements for striping recommendations
2756	030-CR-1020 -000	KING RD	Dangerous hill; Hill blocks view amd is only about 18 feet wide	Install "Hill Blocks View" Sign (W7-6)
2762	030-CR-1023 -000	SOUTH HAMPTON RD	Road lines; Road lines are faded and need repainted	See Roadway Section Recommended Improvements for striping recommendations
2779	030-CR-1083 -000	JONES RD	Road lines; Road lines are faded and need new paint	See Roadway Section Recommended Improvements for striping recommendations
2795	030-CR-1085 -000	REID RD	Road lines; Road lines are faded. Need painting	See Roadway Section Recommended Improvements for striping recommendations
3158	030-CR-1114A -000	GRAHAM LN E	Speed bumps need improvements with paint;	Paint Speed Bumps
3173	030-CR-1216 -000	SUTHERLAND RD	Road is a flood hazard;	Install "Road May Flood" (W8-18) sign(s)
3195	030-CR-1225 -000	EAST MARKSBERRY RD	Hill blocks view. No lines or reduce speed signs;	Install "Hill Blocks View" Sign (W7-6); see roadway recommendations for edgeline and signing recommendations.
3423	030-CR-1304 -000	CARTER RD	Lines are faded;	See Roadway Section Recommended Improvements for striping recommendations
3441	030-CR-1219 -000	FITTS RD	Lines are faded. Cannot be seen;	See Roadway Section Recommended Improvements for striping recommendations
3446	030-CR-1219 -000	FITTS RD	No road lines;	See Roadway Section Recommended Improvements for striping recommendations
3453	030-CR-1219 -000	FITTS RD	No curve sign;	See Roadway Section Recommended Improvements for signing recommendation
3475	030-CR-1247 -000	ASHBYBURG RD	Curve no signs;	Install Curve Warning Sign
3476	030-CR-1247 -000	ASHBYBURG RD	Curve no signs;	Install Curve Warning Sign
3479	030-CR-1247 -000	ASHBYBURG RD	Curve no signs;	Install Curve Warning Sign
3486	030-CR-1247 -000	ASHBYBURG RD	Curve no signs;	Install Curve Warning Sign
3498	030-CR-1259 -000	LONESOME PINE TRL	Hill blocks view; No curve signs	Install "Hill Blocks View" Sign (W7-6); see roadway recommendations for edgeline and signing recommendations.
3520	030-CR-1250 -000	WINDY HOLLOW RD	Hill blocks view;	Install "Hill Blocks View" Sign (W7-6)
3532	030-CR-1250 -000	WINDY HOLLOW RD	Lines are faded;	See Roadway Section Recommended Improvements for striping recommendations
3575	030-CR-1265 -000	HOBBS RD	No lines; No lines on road	Evaluate guardrail warrants and cost to install
3629	030-CR-1188 -000	BURTON RD	Hill blocks view;	Install "Hill Blocks View" Sign (W7-6)
3640	030-CR-1188 -000	BURTON RD	Hill blocks view;	Install "Hill Blocks View" Sign (W7-6)
3654	030-CR-1161 -000	CRANE POND RD	Vegetation no curve signs in curve;	Clear Vegetation; See Roadway Improvement Recommendations for Signing Recommendations
3657	030-CR-1161 -000	CRANE POND RD	Hill blocks view;	Install "Hill Blocks View" Sign (W7-6)
3658	030-CR-1161 -000	CRANE POND RD	Road has no painted lines;	See Roadway Section Recommended Improvements for striping recommendations
3694	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	Hill blocks view;	Install "Hill Blocks View" Sign (W7-6)
3702	030-CR-1055 -000	YELVINGTON-KNOTTSVILLE RD	Hill and vegetation block view;	Install "Hill Blocks View" Sign (W7-6)
3730	030-CR-1045 -000	FREE SILVER RD	Lines are very faded;	See Roadway Section Recommended Improvements for striping recommendations
3759	030-CR-1029 -000	MONARCH RD	Hill blocks view. Series of these on this road. Hazard and no signs;	Install "Hill Blocks View" Sign (W7-6); see roadway recommendations for edgeline and signing recommendations.
3762	030-CR-1029 -000	MONARCH RD	Lines are faded. Need to be repainted;	See Roadway Section Recommended Improvements for striping recommendations

3773	030-CR-1048 -000	KNOTTSVILLE-MOUNT ZION RD	Lines are faded;	See Roadway Section Recommended Improvements for striping recommendations
3775	030-CR-1048 -000	KNOTTSVILLE-MOUNT ZION RD	Hill blocks view;	Install "Hill Blocks View" Sign (W7-6)
3778	030-CR-1048 -000	KNOTTSVILLE-MOUNT ZION RD	Entrances in hill/curve;	Evaluate potential to improve visibility; check sight distance for exiting vehicles
3799	030-CR-1371 -000	STANLEY-BIRK CITY RD	Lines are faded;	See Roadway Section Recommended Improvements for striping recommendations
3803	030-CR-1371 -000	STANLEY-BIRK CITY RD	Weird intersection with no signs;	Review Intersection
3813	030-CR-1268 -000	MULLIGAN RD	Hill blocks view;	Install "Hill Blocks View" Sign (W7-6)
3819	030-CR-1268 -000	MULLIGAN RD	Hill blocks view;	Install "Hill Blocks View" Sign (W7-6)
3826	030-CR-1268 -000	MULLIGAN RD	Lines are faded;	See Roadway Section Recommended Improvements for striping recommendations
3839	030-CR-1269 -000	POSSUM TROT RD	Hill blocks view;	Install "Hill Blocks View" Sign (W7-6)
3846	030-CR-1269 -000	POSSUM TROT RD	No road lines;	See Roadway Section Recommended Improvements for striping recommendations
3956	030-CR-1190 -000	BOSTON-LAFFOON RD	Flood;	Install "Road May Flood" (W8-18) sign(s)

## Signing Recommendations (Daviss County)



**Exhibit Daviess-19: Sign Locations**

As part of the RSA data collection effort, existing signs were inventoried along reviewed Focus Roadways, including a condition assessment and a photo of each sign. Additionally, preliminary Advisory Speed recommendations were calculated for each focus roadway to assist in the installation of horizontal alignment (curve) signs. Signing and advisory speed information is provided in digital format at <https://kvt2.uky.edu/graddSAP>.

## APPENDIX E: HANCOCK COUNTY

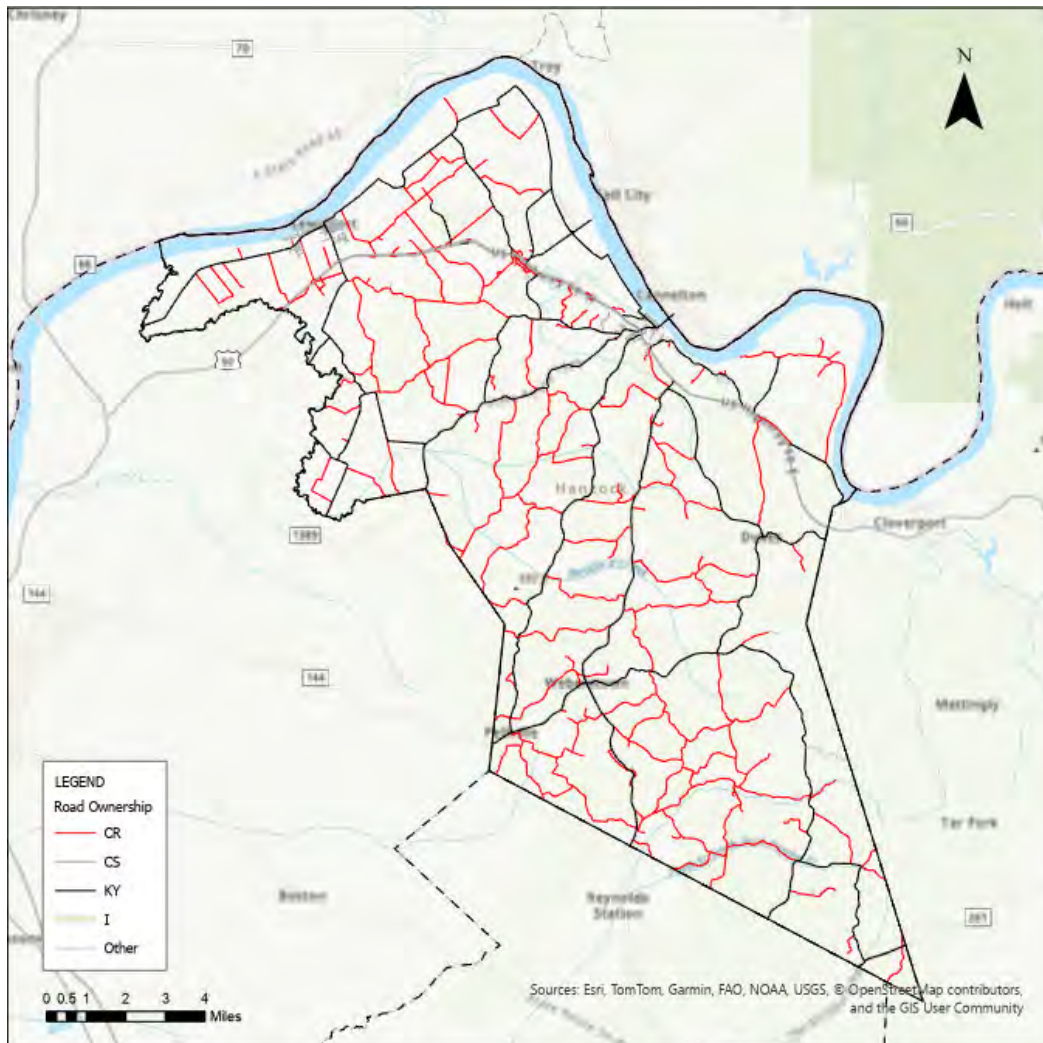
## Hancock County Overview



**Exhibit Hancock-1: Location Map**

Key Information Table Hancock County	
Population	8,920
Population in Persistent Poverty	15%
Underserved Community	No
Fatalities (All Roads)	8
Fatalities (County Roads)	0
Fatality rate per 100,000 persons	89.7
County Road Mileage	190.7
State Road Mileage	139.8
<b>Total Mileage</b>	<b>330.4</b>

**Exhibit Hancock-2: Key Information**



**Figure Hancock-3: Map of County Roadways**

## Crash Analysis

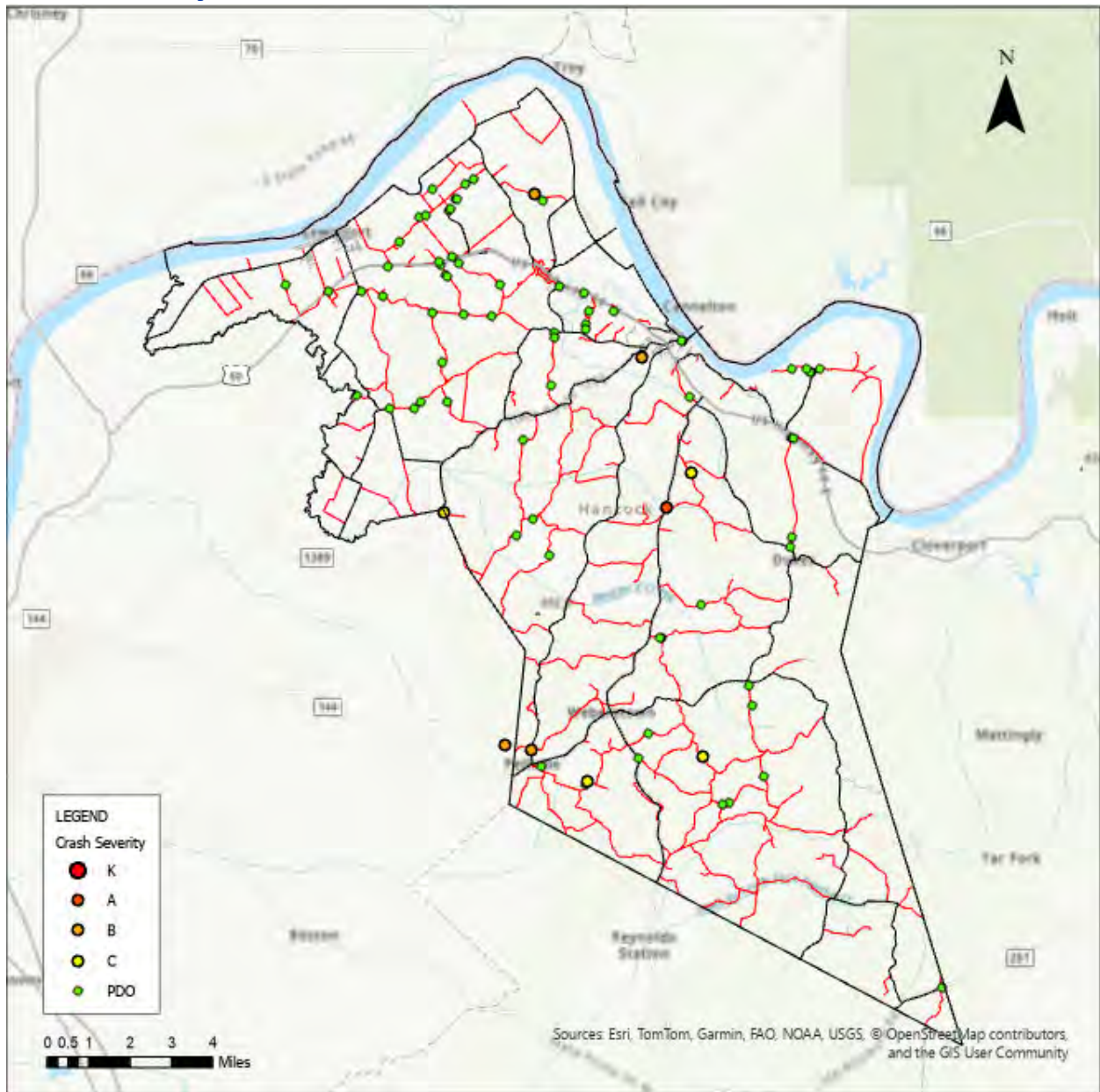


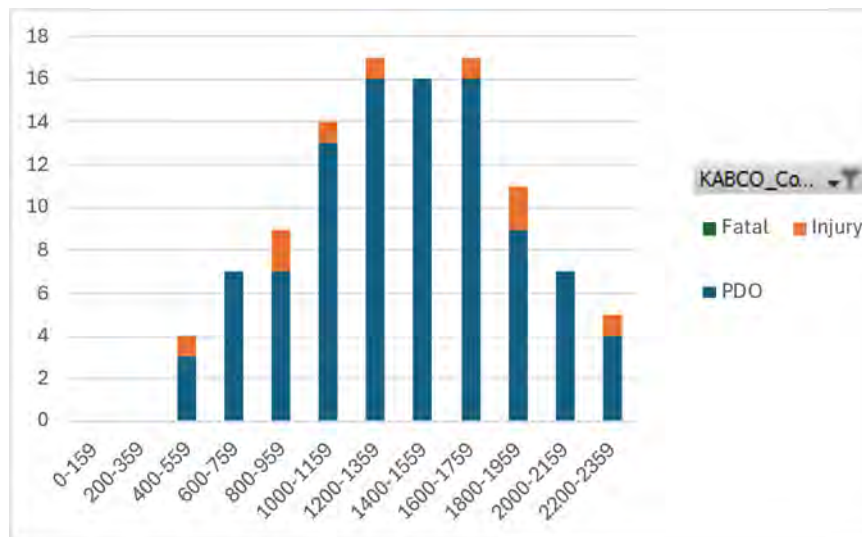
Figure Hancock-4: Map of County Road Crashes



Figure Hancock-5: Crash Distribution by Year

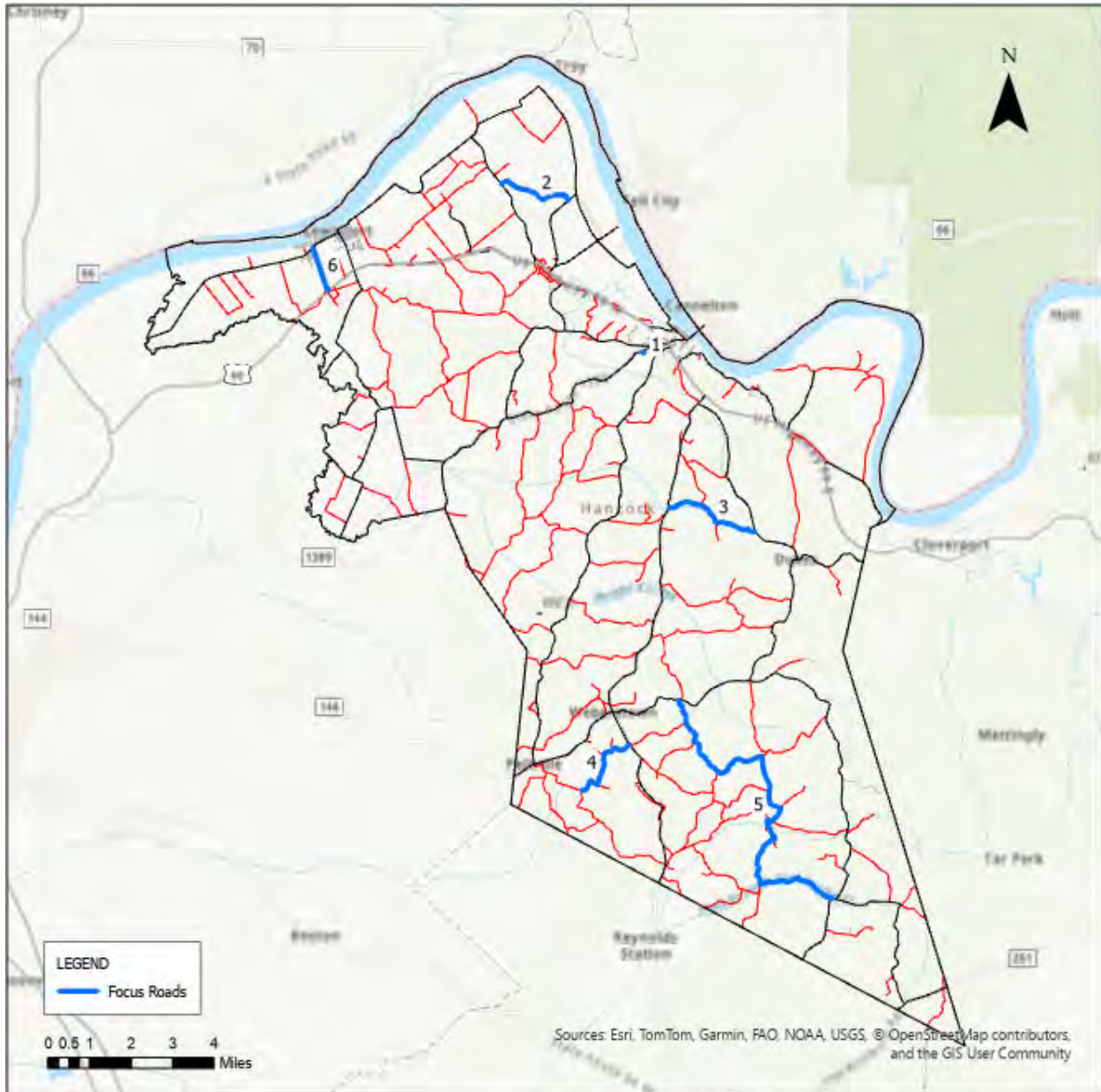
Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	41	5	0	<b>46</b>
Rear End	5	3	0	<b>8</b>
Head On	1	1	0	<b>2</b>
SS - Opp	18	0	0	<b>18</b>
Backing	18	0	0	<b>18</b>
SS - Same	9	0	0	<b>9</b>
Angle	6	0	0	<b>6</b>
Left Turn	0	0	0	<b>0</b>
(blank)	0	0	0	<b>0</b>

**Exhibit Hancock-6: Crash Frequency and Severity by Manner of Collision**



**Figure Hancock-7: Crashes and Severity by Time of Day**

## Focus Roadways



**Exhibit Hancock-8: Focus Roads**

RT_UNIQUE	Length	County	ADP	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
<b>Hancock</b>										
046-CR-1045 -000	0.05186	Hancock	GRADD	FAIRGROUNDS LN	1	0	1	4.17	0.08	1
046-CR-1314 -000	1.88629	Hancock	GRADD	BEAUCHAMP RD	1	0	1	2.50	0.05	2
046-CR-1007 -000	2.42192	Hancock	GRADD	COAL BANK HOLW RD	1	0	0	2.36	0.14	3
046-CR-1213 -000	2.10606	Hancock	GRADD	CROWE RD	0	1	2	1.67	0.15	4
046-CR-1111 -000	9.29869	Hancock	GRADD	HAWESVILLE EASTON RD	0	1	1	1.53	0.17	5
046-CR-1337 -000	1.11808	Hancock	GRADD	MORTON LN	0	0	1	0.14	2.64	6

**Exhibit Hancock-9: List of Focus Roadways**

## Recommended Improvements (Top 5 Roads)

### FAIRGROUNDS LN (046-CR-1045 -000)

Road Location Map and Crash History

Manner of Collision	Crash History			
	Property Damage Only	Injury	Fatal	Total
Single Vehicle	0	1	0	1
(blank)	0	0	0	0
SS - Opp	0	0	0	0
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Backing	1	0	0	1
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (%)
161	046-CR-1045 -000	FAIRGROUNDS LN	24+	2	4	40-60

Roadway Typical Section



### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment

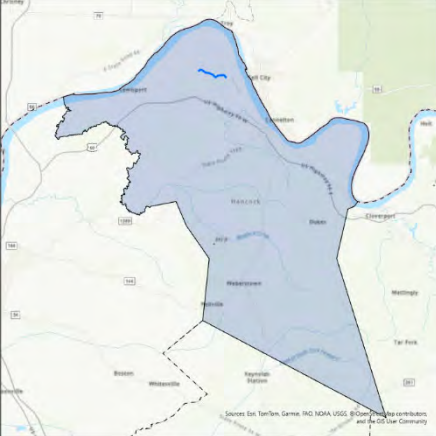


### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rate	Shoulder Improve	Improve Should	Edgelin	Curve Signin	Other Recommendations
161	046-CR-1045 -000	FAIRGROUNDS LN	24+	2	4	40-60	✓	EL & CL	✓	Resurface
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
159	046-CR-1045 -000	FAIRGROUNDS LN	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			

**BEAUCHAMP RD (046-CR-1314 -000)**

**Road Location Map and Crash History**

	Manner of Collision	Property Damage Only	Injury	Fatal	Total
	Single Vehicle	0	1	0	1
(blank)	0	0	0	0	
SS - Opp	0	0	0	0	
Rear to Rear	0	0	0	0	
Head On	0	0	0	0	
Backing	0	0	0	0	
SS - Same	0	0	0	0	
Left Turn	0	0	0	0	
Angle	0	0	0	0	

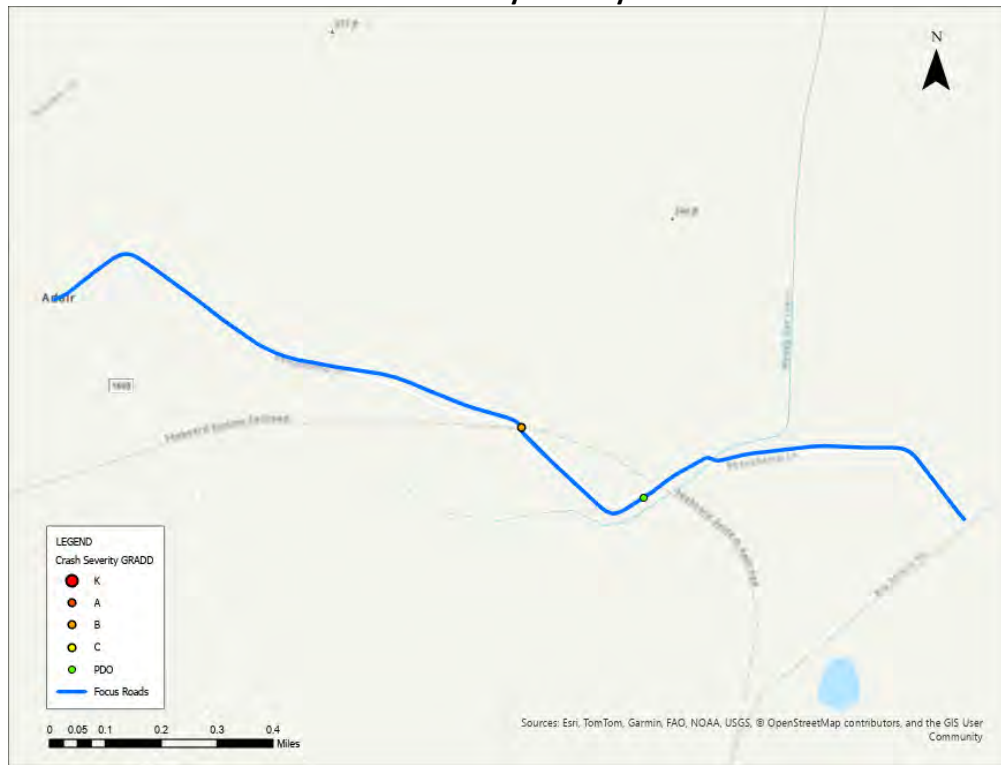
**General Roadway Conditions**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (%)
126	046-CR-1314 -000	BEAUCHAMP RD	19	1	7	80-100

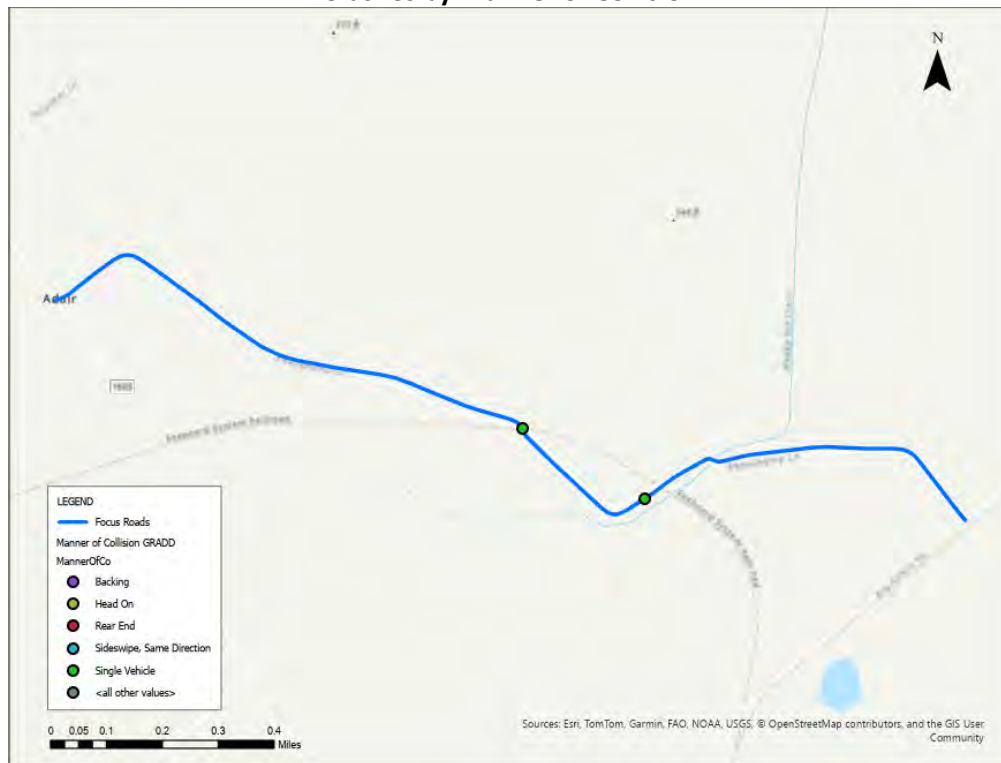
**Roadway Typical Section**



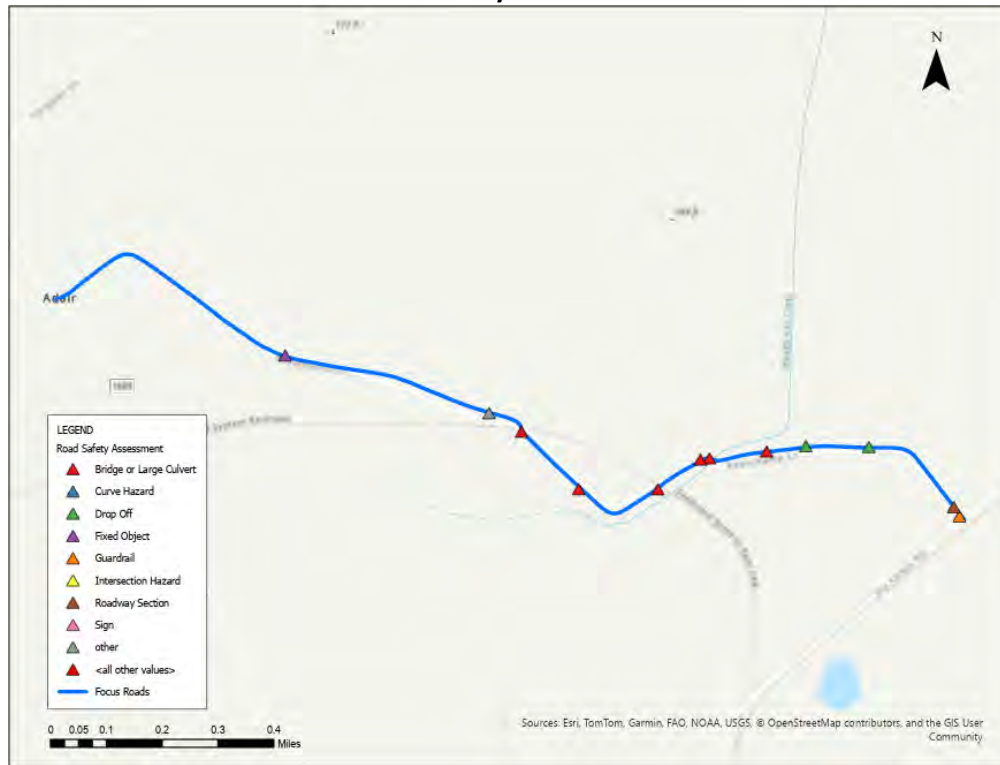
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment

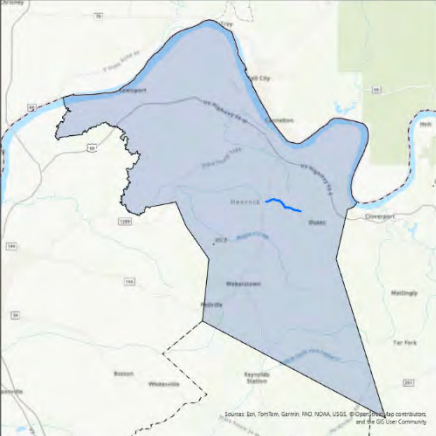


### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate	Shoulder Improve	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
126	046-CR-1314 -000	BEAUCHAMP RD	19	1	7	80-100	✓	✓	✓	Resurface
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
128	046-CR-1314 -000	BEAUCHAMP RD	Drop Off	1-3	2-5	Hancock	Install Type 2 Object Marker(s) or Delineator(s)			
129	046-CR-1314 -000	BEAUCHAMP RD	Drop Off	1-3	5-10	Hancock	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
137	046-CR-1314 -000	BEAUCHAMP RD	Fixed Object	Tree;	Series	0-1	Remove trees within 3 ft of roadway			
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
125	046-CR-1314 -000	BEAUCHAMP RD	Guardrail	Fair	Maybe	All	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
130	046-CR-1314 -000	BEAUCHAMP RD	Bridge or Large Culvert	15	4	0	Evaluate need for Type 3 Object Markers			
131	046-CR-1314 -000	BEAUCHAMP RD	Bridge or Large Culvert	15	4	0	Evaluate need for Type 3 Object Markers			
132	046-CR-1314 -000	BEAUCHAMP RD	Bridge or Large Culvert	10	4	0	Evaluate need for Type 3 Object Markers			
133	046-CR-1314 -000	BEAUCHAMP RD	Bridge or Large Culvert	10	4	0	Evaluate need for Type 3 Object Markers			
134	046-CR-1314 -000	BEAUCHAMP RD	Bridge or Large Culvert	10	4	0	Evaluate need for Type 3 Object Markers			
135	046-CR-1314 -000	BEAUCHAMP RD	Bridge or Large Culvert	10	4	0	Evaluate need for Type 3 Object Markers			
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation			
136	046-CR-1314 -000	BEAUCHAMP RD	other	--	--	Ditch;	Improve ditch and shoulder			

### COAL BANK HOLW RD (046-CR-1007 -000)

#### Road Location Map and Crash History

	Manner of Collision	Property Damage Only	Injury	Fatal	Total
	SS - Same	0	0	0	0
	Rear to Rear	0	0	0	0
	(blank)	0	0	0	0
	Backing	0	0	0	0
	SS - Opp	1	0	0	1
	Head On	0	0	0	0
	Single Vehicle	0	0	0	0
	Left Turn	0	0	0	0
	Angle	1	0	0	1

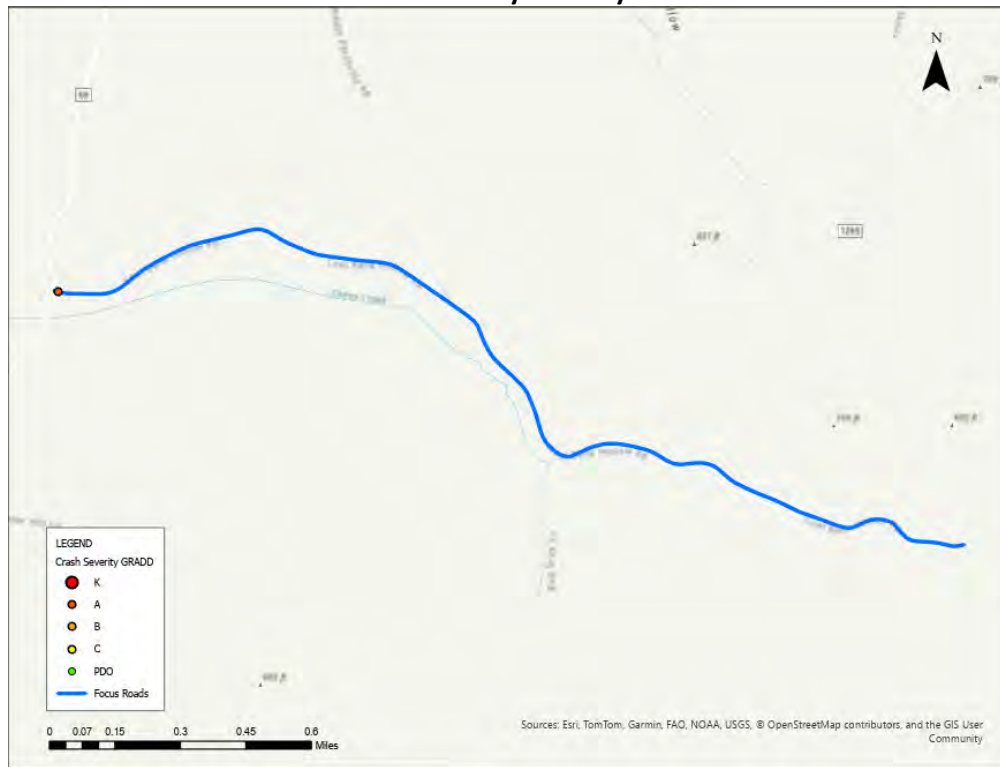
#### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate	Shoulder Improve (%)
181	046-CR-1007 -000	COAL BANK HOLW RD	17	4	4	20-40

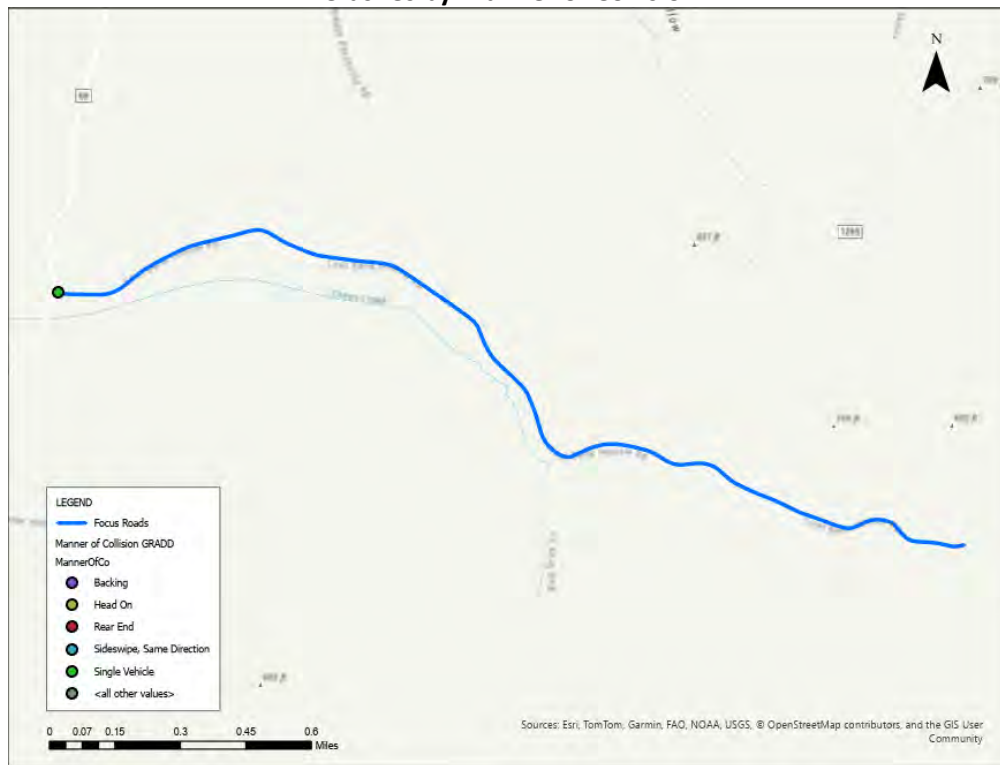
#### Roadway Typical Section



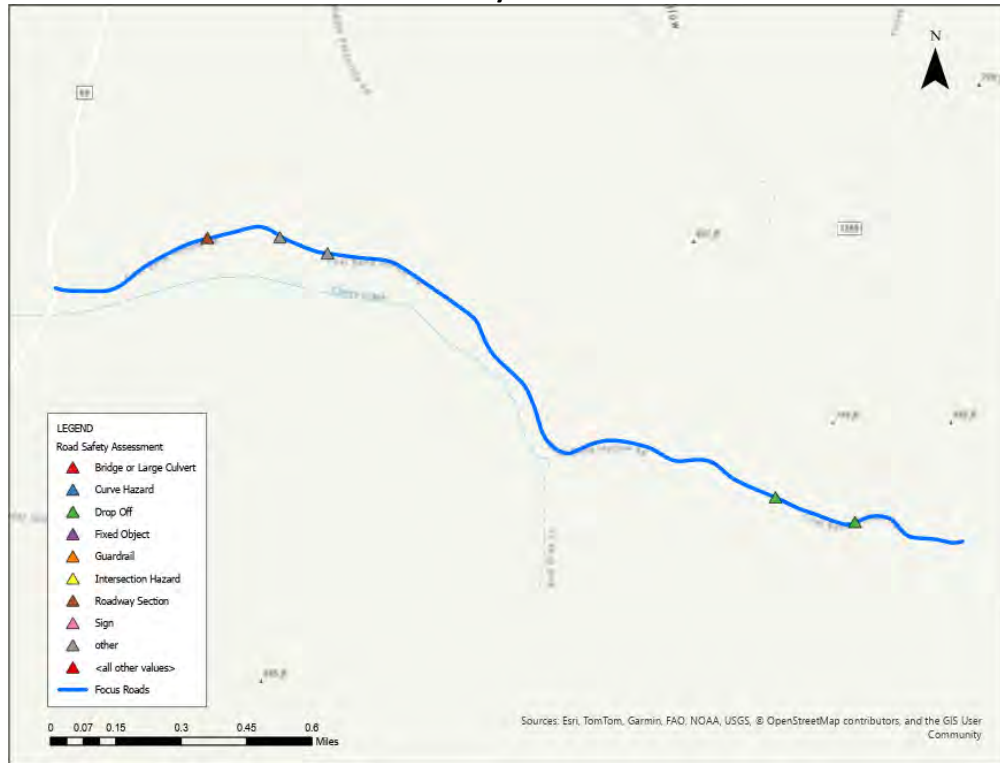
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment

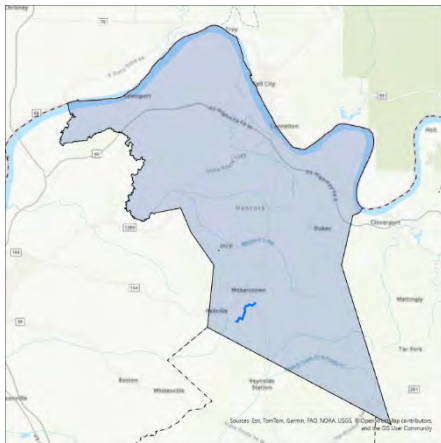


### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
181	046-CR-1007 -000	COAL BANK HOLW RD	17	4	4	20-40	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
173	046-CR-1007 -000	COAL BANK HOLW RD	Drop Off	0-1	<2	Hancock	Install Type 2 Object Marker(s) or Delineator(s)			
176	046-CR-1007 -000	COAL BANK HOLW RD	Drop Off	0-1	<2	Hancock	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	RD_NAME	Issue Type			Description	Recommendation			
170	046-CR-1007 -000	COAL BANK HOLW RD	other	--	--	Ditch; 5 feet fro, road	Improve ditch and shoulder			
180	046-CR-1007 -000	COAL BANK HOLW RD	other	--	--	Ditch;	Improve ditch and shoulder			

**CROWE RD (046-CR-1213 -000)**

**Road Location Map and Crash History**

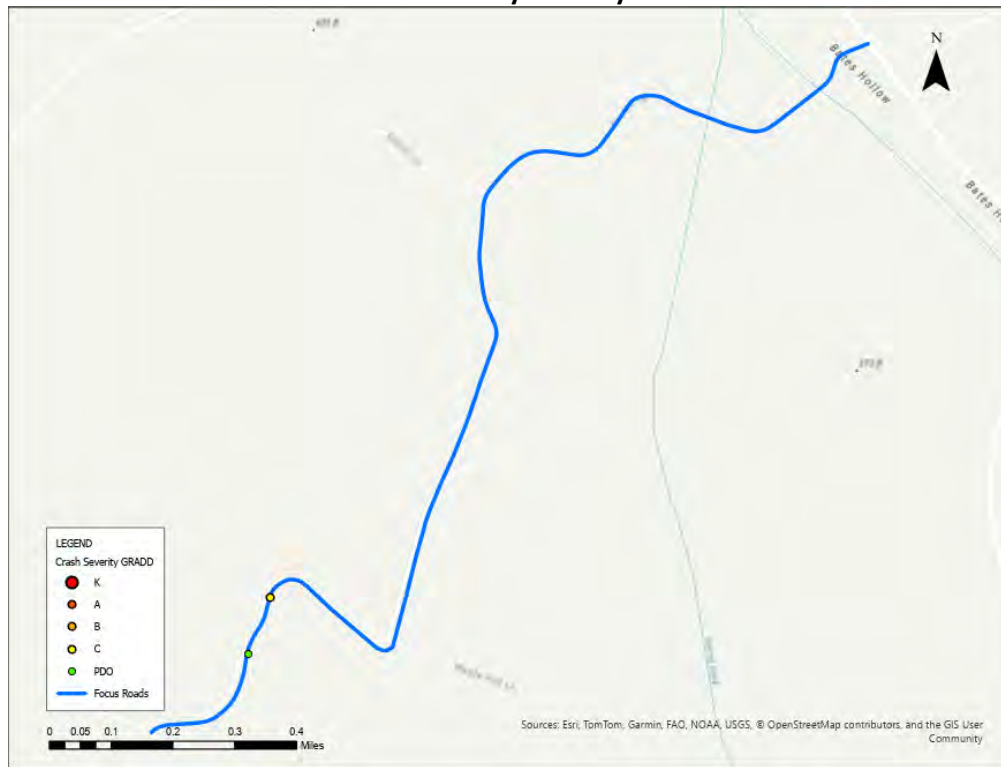
	Manner of Collision	Property Damage Only	Injury	Fatal	Total
	SS - Same	0	0	0	0
	Rear to Rear	0	0	0	0
	(blank)	0	0	0	0
	Backing	0	0	0	0
	SS - Opp	0	0	0	0
	Head On	0	0	0	0
	Single Vehicle	1	0	0	1
	Left Turn	0	0	0	0
	Angle	0	0	0	0

*Roadway Section Data Not Collected*

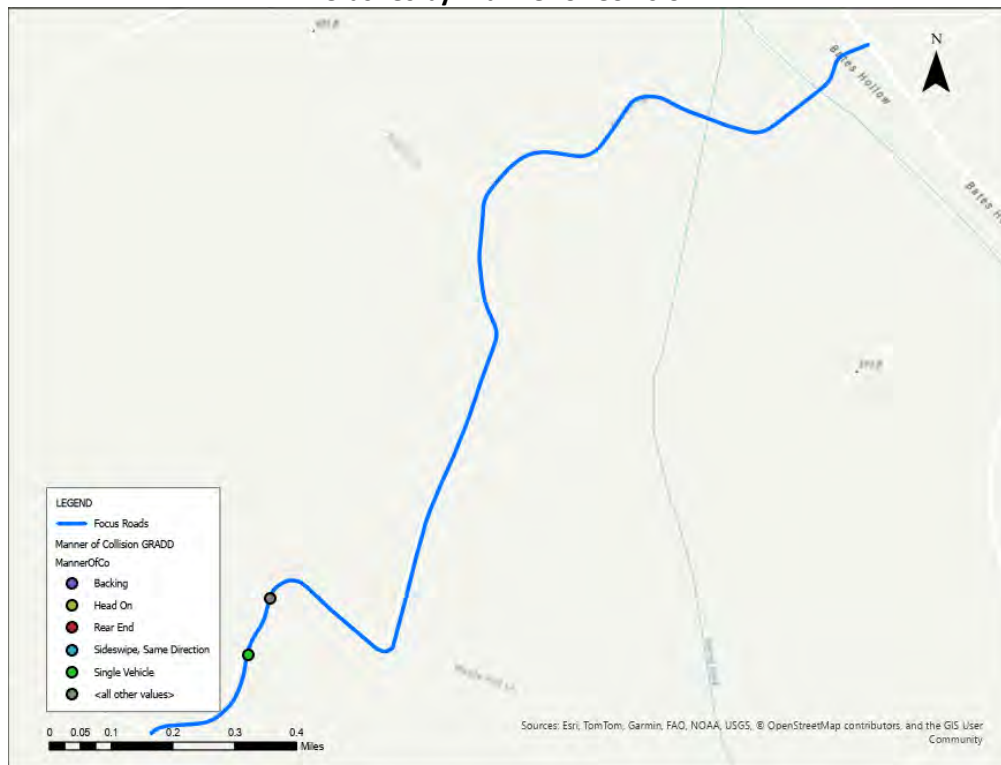
**Roadway Typical Section**



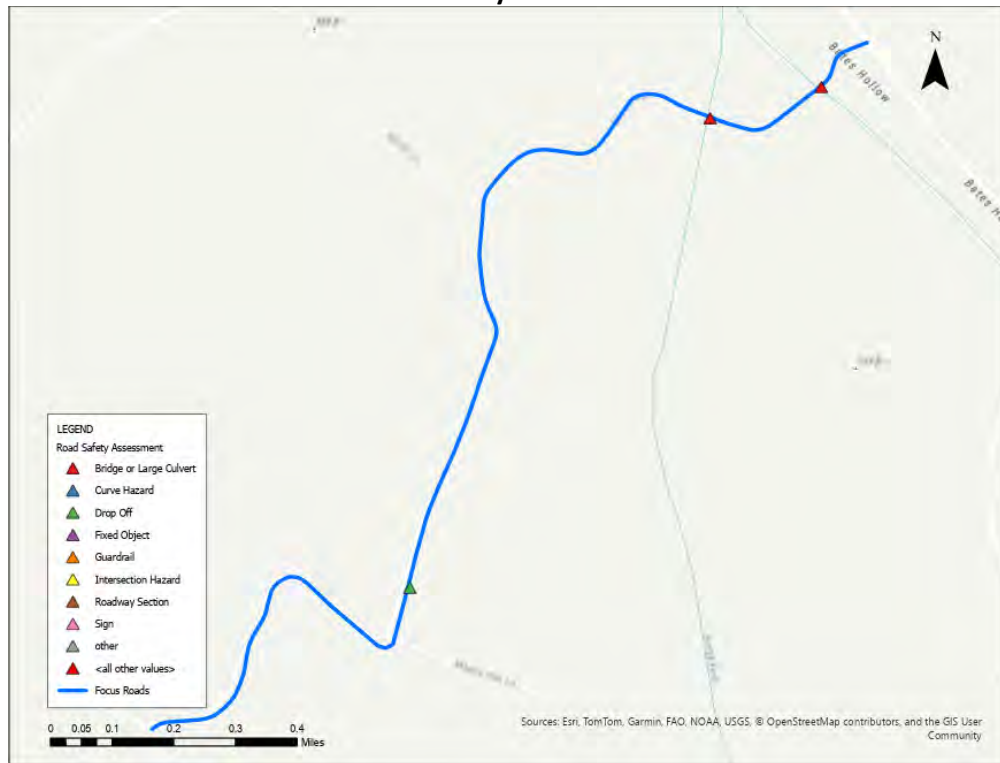
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
4155	046-CR-1213 -000	CROWE RD	Drop Off	1-3	5-10	Hancock	Install Type 2 Object Marker(s) or Delineator(s)
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
4157	046-CR-1213 -000	CROWE RD	Bridge or Large Culvert	12	4	0	Evaluate need for Type 3 Object Markers
4158	046-CR-1213 -000	CROWE RD	Bridge or Large Culvert	20	4	0	Evaluate need for Type 3 Object Markers

### HAWESVILLE EASTON RD (046-CR-1111 -000)

#### Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
SS - Same	0	0	0	0
Rear to Rear	0	0	0	0
(blank)	0	0	0	0
Backing	0	0	0	0
SS - Opp	0	0	0	0
Head On	0	0	0	0
Single Vehicle	1	0	0	1
Left Turn	0	0	0	0
Angle	0	0	0	0

#### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (
4131	046-CR-1111 -000	HAWESVILLE EASTON RD	18	3	4	40-60

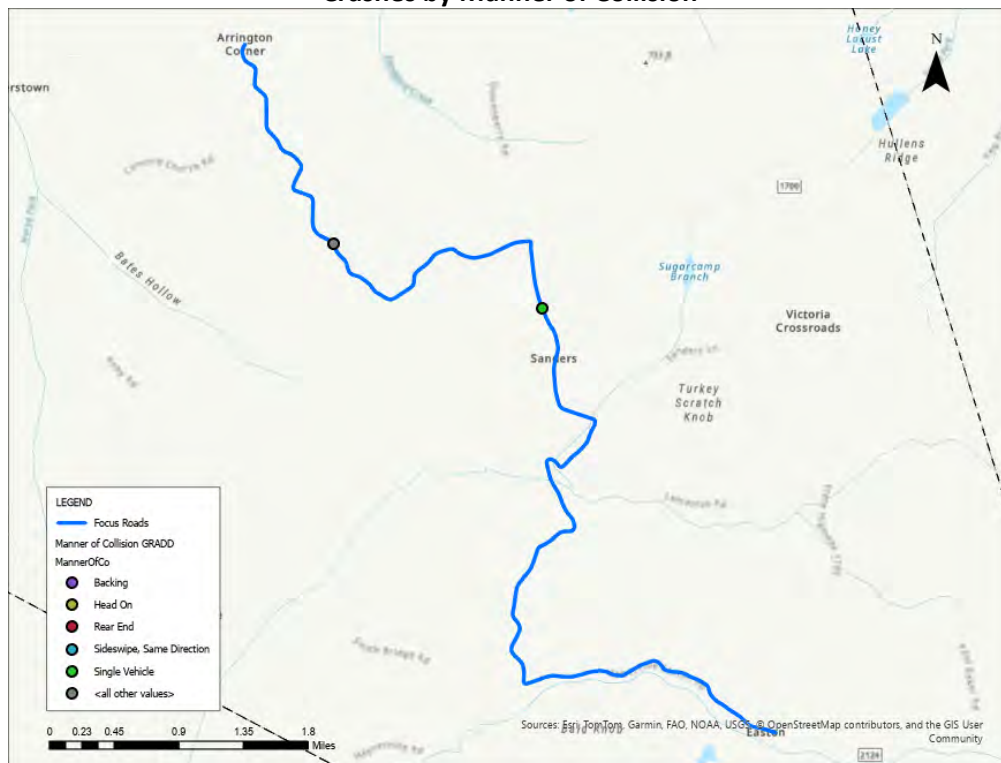
#### Roadway Typical Section



### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment

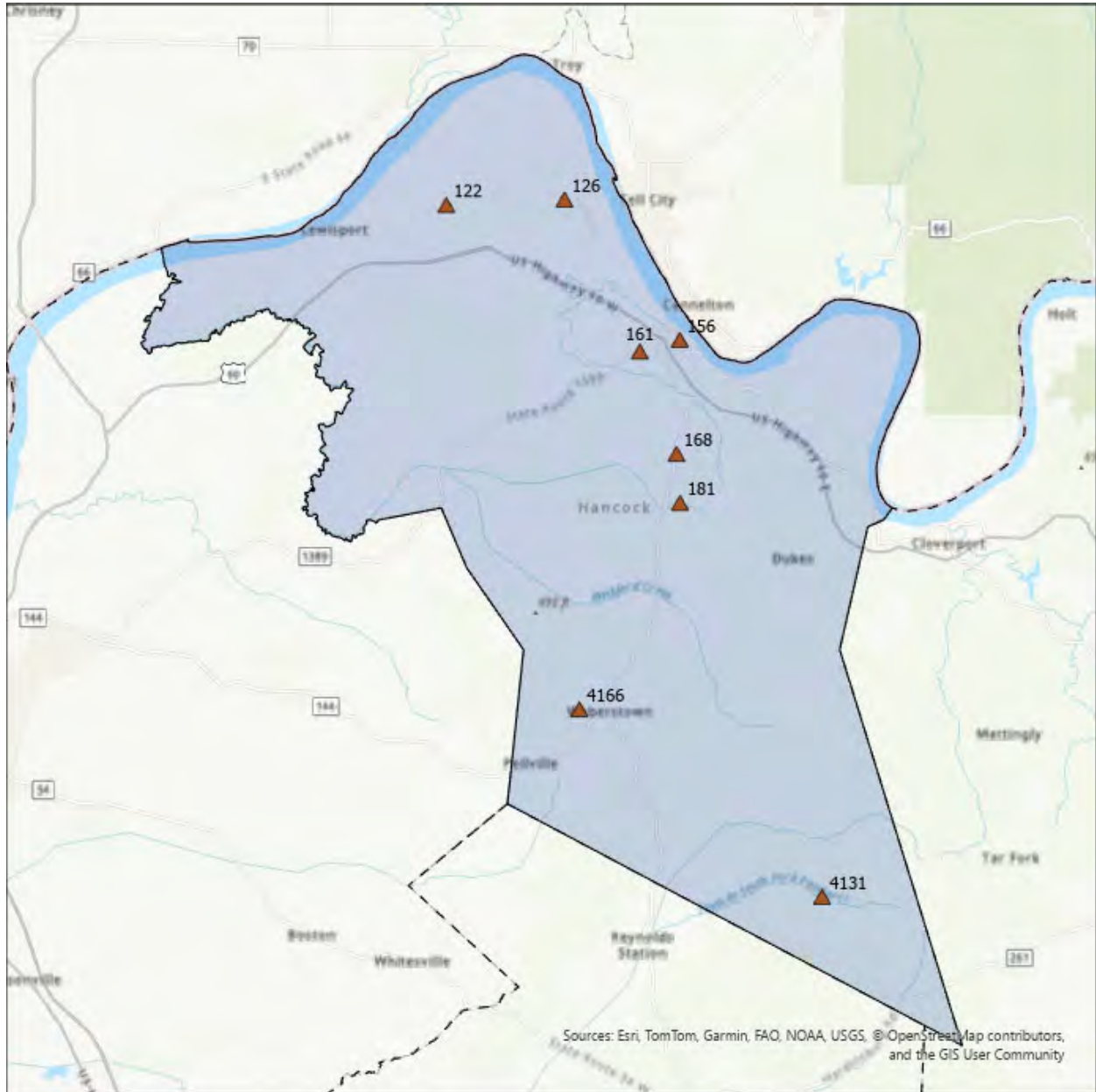


### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
4131	046-CR-1111 -000	HAWESVILLE EASTON RD	18	3	4	40-60	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
4132	046-CR-1111 -000	HAWESVILLE EASTON RD	Bridge or Large Culvert	4	0	2	Evaluate need for guardrail on approach; install Type 3 Object Markers; Install One Lane Bridge			
4138	046-CR-1111 -000	HAWESVILLE EASTON RD	Bridge or Large Culvert	37.5	3	0	Evaluate condition of existing and need for guardrail on approach; Install Type 3 Object			
4140	046-CR-1111 -000	HAWESVILLE EASTON RD	Bridge or Large Culvert	16	4	0	Evaluate need for Type 3 Object Markers			
4141	046-CR-1111 -000	HAWESVILLE EASTON RD	Bridge or Large Culvert	15	4	0	Evaluate need for Type 3 Object Markers			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation			
4134	046-CR-1111 -000	HAWESVILLE EASTON RD	Curve Hazard	No	--	Entrance_in_Curve, Curve_Obscured, Intersection_in_Cur	Install Curve Warning Sign; Evaluate other obstructions; Consider striping enhancements			
4148	046-CR-1111 -000	HAWESVILLE EASTON RD	Curve Hazard	No	--	other	Install Curve Warning Sign; Evaluate other obstructions			
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation			
4144	046-CR-1111 -000	HAWESVILLE EASTON RD	other	--	--	;	Review Location			

## Other Roadways

### General Roadway Conditions and Recommendations (Hancock County)



**Exhibit Hancock-10: General Roadway Conditions**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rat	Shoulder Improve (ft)	Improve Should	Edgelin	Curve Signin	Other Recommendations
181	046-CR-1007 -000	COAL BANK HOLW RD	17	4	4	20-40	✓	✓	✓	
168	046-CR-1008 -000	MIDDLE PATESVILLE RD	20	4	1	0-20		EL & CL	✓	
156	046-CR-1022 -000	COURT SQ	24+	4	5	0-20		EL & CL	✓	
161	046-CR-1045 -000	FAIRGROUNDS LN	24+	2	4	40-60	✓	EL & CL	✓	Resurface
4131	046-CR-1111 -000	HAWESVILLE EASTON RD	18	3	4	40-60	✓	✓	✓	
4166	046-CR-1217 -000	VIRGIL BROWN RD	18	4	3	0-20		✓	✓	
126	046-CR-1314 -000	BEAUCHAMP RD	19	1	7	80-100	✓	✓	✓	Resurface
122	046-CR-1341 -000	LEE HENDERSON SPUR	23	4	4	0-20		EL & CL	✓	

**Exhibit Hancock-11: General Roadway Recommendations**

### Bridge / Culvert Recommendations (Hancock County)

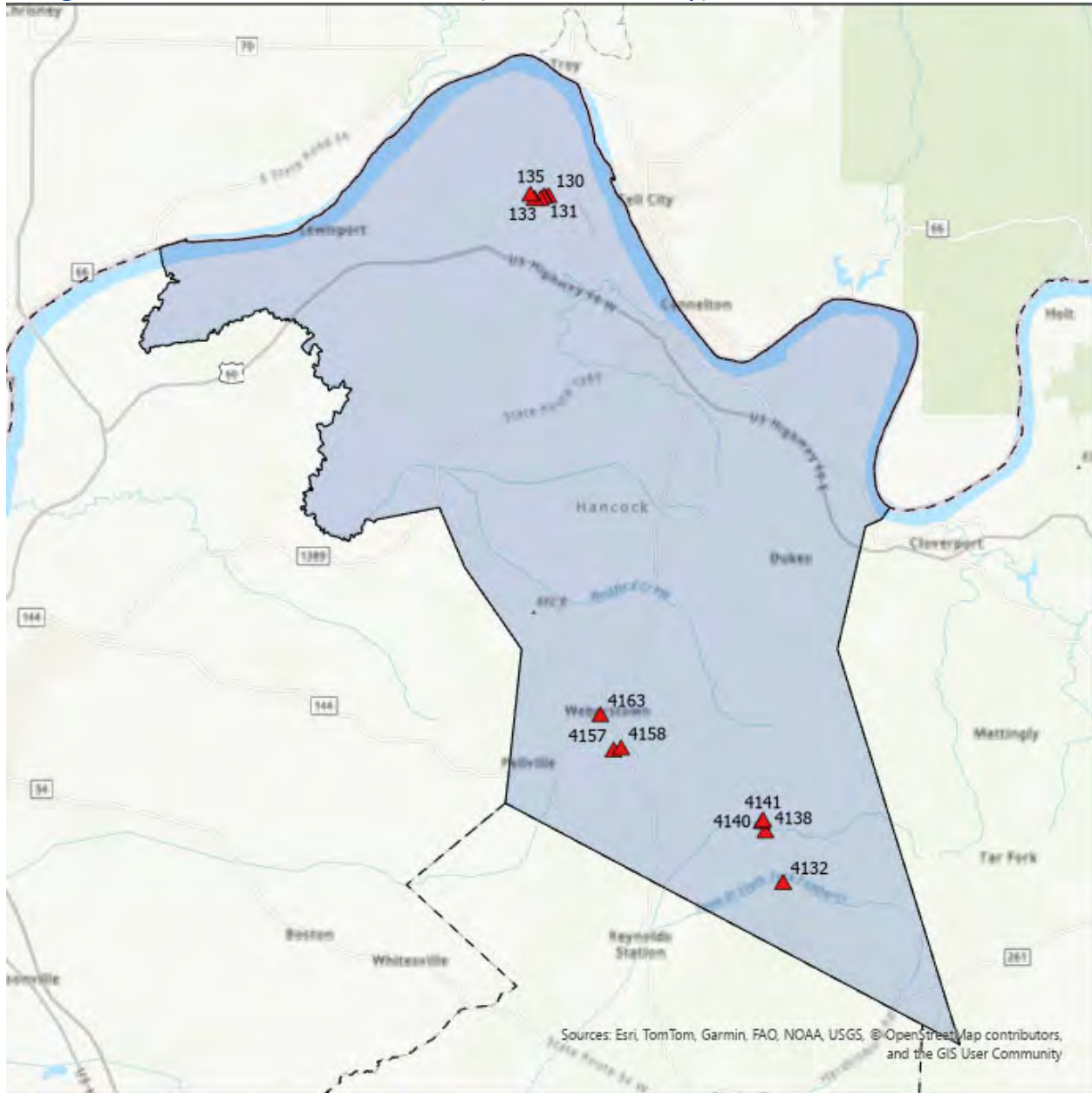
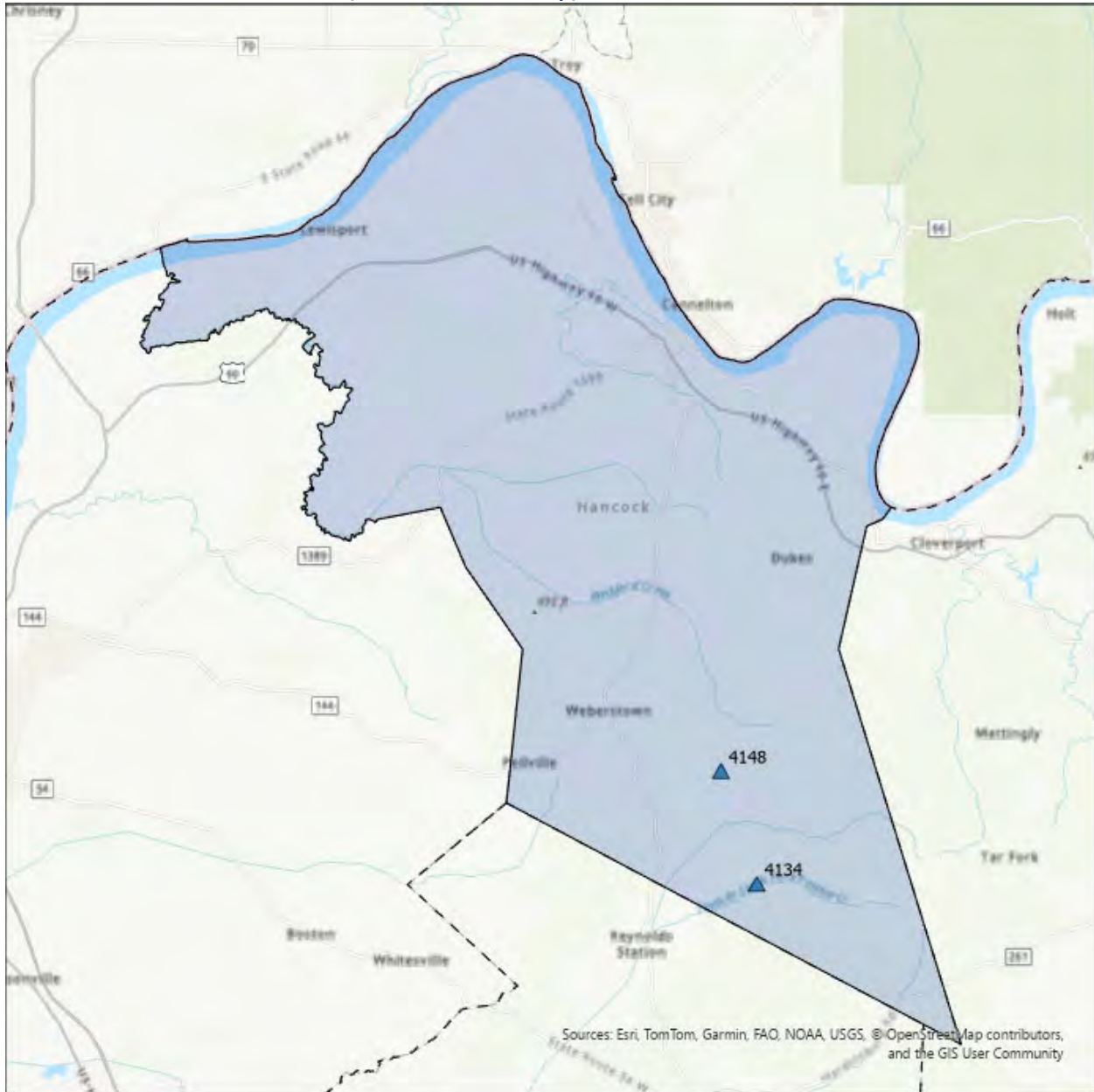


Exhibit Hancock-12: Bridge / Culvert Locations

RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
046-CR-1314 -000	BEAUCHAMP RD	15	4	0	Evaluate need for Type 3 Object Markers
046-CR-1314 -000	BEAUCHAMP RD	15	4	0	Evaluate need for Type 3 Object Markers
046-CR-1314 -000	BEAUCHAMP RD	10	4	0	Evaluate need for Type 3 Object Markers
046-CR-1314 -000	BEAUCHAMP RD	10	4	0	Evaluate need for Type 3 Object Markers
046-CR-1314 -000	BEAUCHAMP RD	10	4	0	Evaluate need for Type 3 Object Markers
046-CR-1314 -000	BEAUCHAMP RD	10	4	0	Evaluate need for Type 3 Object Markers
046-CR-1111 -000	HAWESVILLE EASTON RD	4	0	2	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
046-CR-1111 -000	HAWESVILLE EASTON RD	37.5	3	0	Evaluate condition of existing and need for guardrail on approach; Install Type 3 Object Markers
046-CR-1111 -000	HAWESVILLE EASTON RD	16	4	0	Evaluate need for Type 3 Object Markers
046-CR-1111 -000	HAWESVILLE EASTON RD	15	4	0	Evaluate need for Type 3 Object Markers
046-CR-1213 -000	CROWE RD	12	4	0	Evaluate need for Type 3 Object Markers
046-CR-1213 -000	CROWE RD	20	4	0	Evaluate need for Type 3 Object Markers
046-CR-1217 -000	VIRGIL BROWN RD	16	4	0	Evaluate need for Type 3 Object Markers

**Exhibit Hancock-13: Bridge / Culvert Recommendations**

### Curve Recommendations (Hancock County)

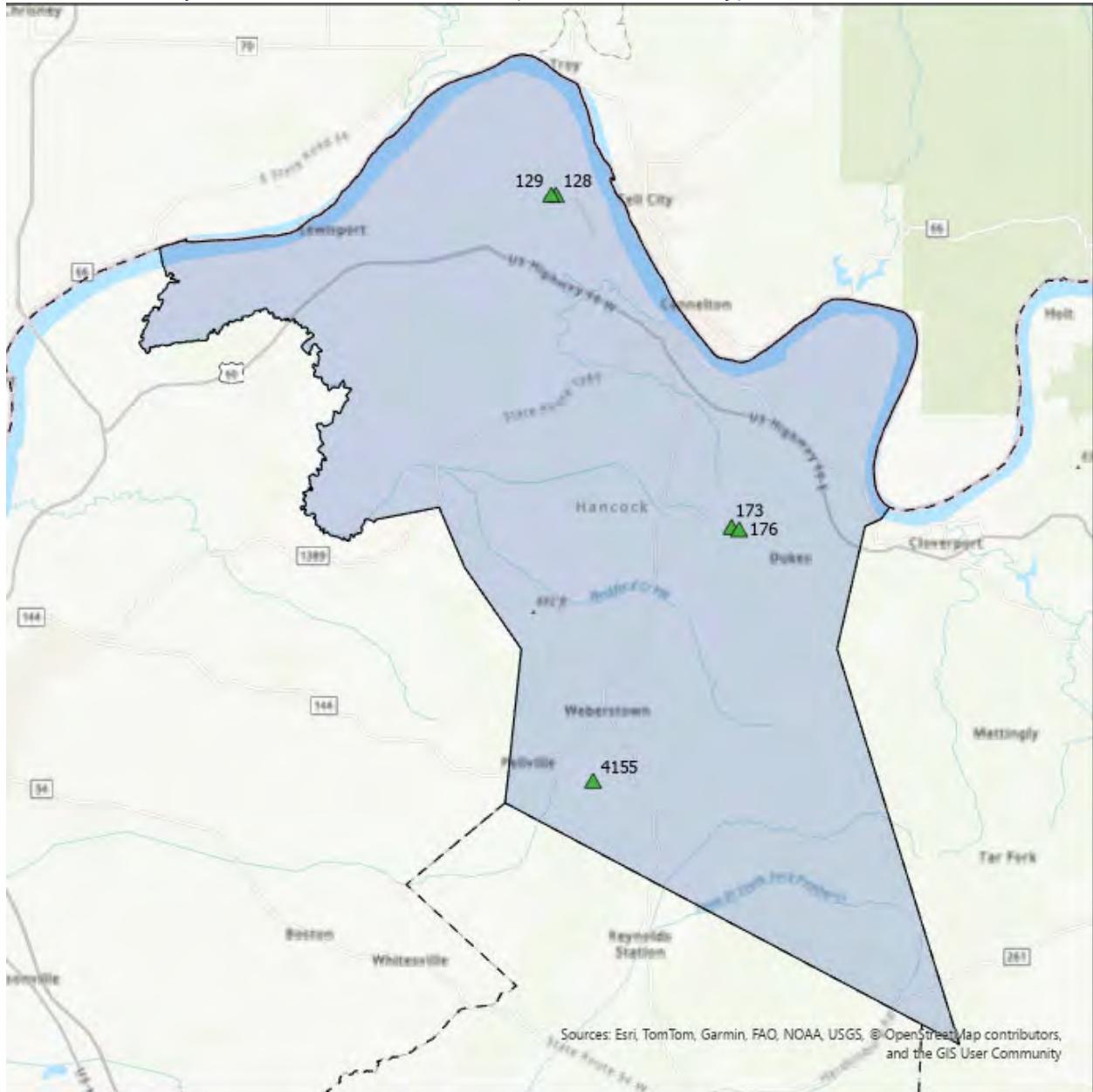


**Exhibit Hancock-14: Focus Road Curve Locations**

Point ID	RT_UNIQUE	Road Name	Comments	Vegetation	Recommendation
4134	046-CR-1111 -000	HAWESVILLE EASTON RD	Entrance_in_Curve, Curve_Obscured, Intersection_in_Curve	No	Install Curve Warning Sign; Evaluate other obstructions; Consider striping enhancements at intersection
4148	046-CR-1111 -000	HAWESVILLE EASTON RD	other	No	Install Curve Warning Sign; Evaluate other obstructions

**Exhibit Hancock-15: Curve Recommendations**

### Roadside Drop Off Recommendations (Hancock County)

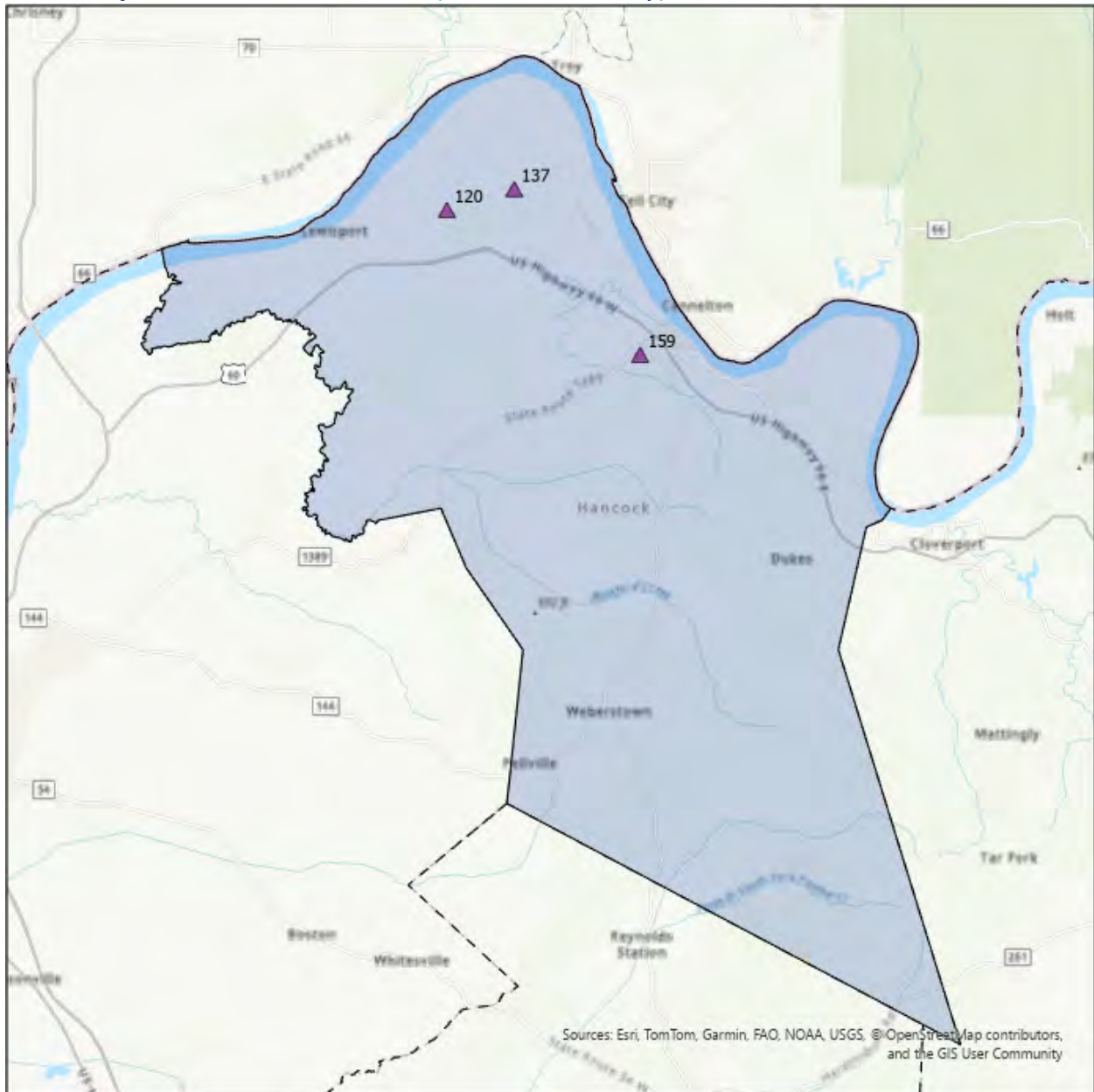


**Exhibit Hancock-16: Roadside Drop Off Locations**

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
128	046-CR-1314 -000	BEAUCHAMP RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
129	046-CR-1314 -000	BEAUCHAMP RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
173	046-CR-1007 -000	COAL BANK HOLW RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
176	046-CR-1007 -000	COAL BANK HOLW RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
4155	046-CR-1213 -000	CROWE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)

**Exhibit Hancock-17: Roadside Drop Off Locations**

### Fixed Object Recommendations (Hancock County)

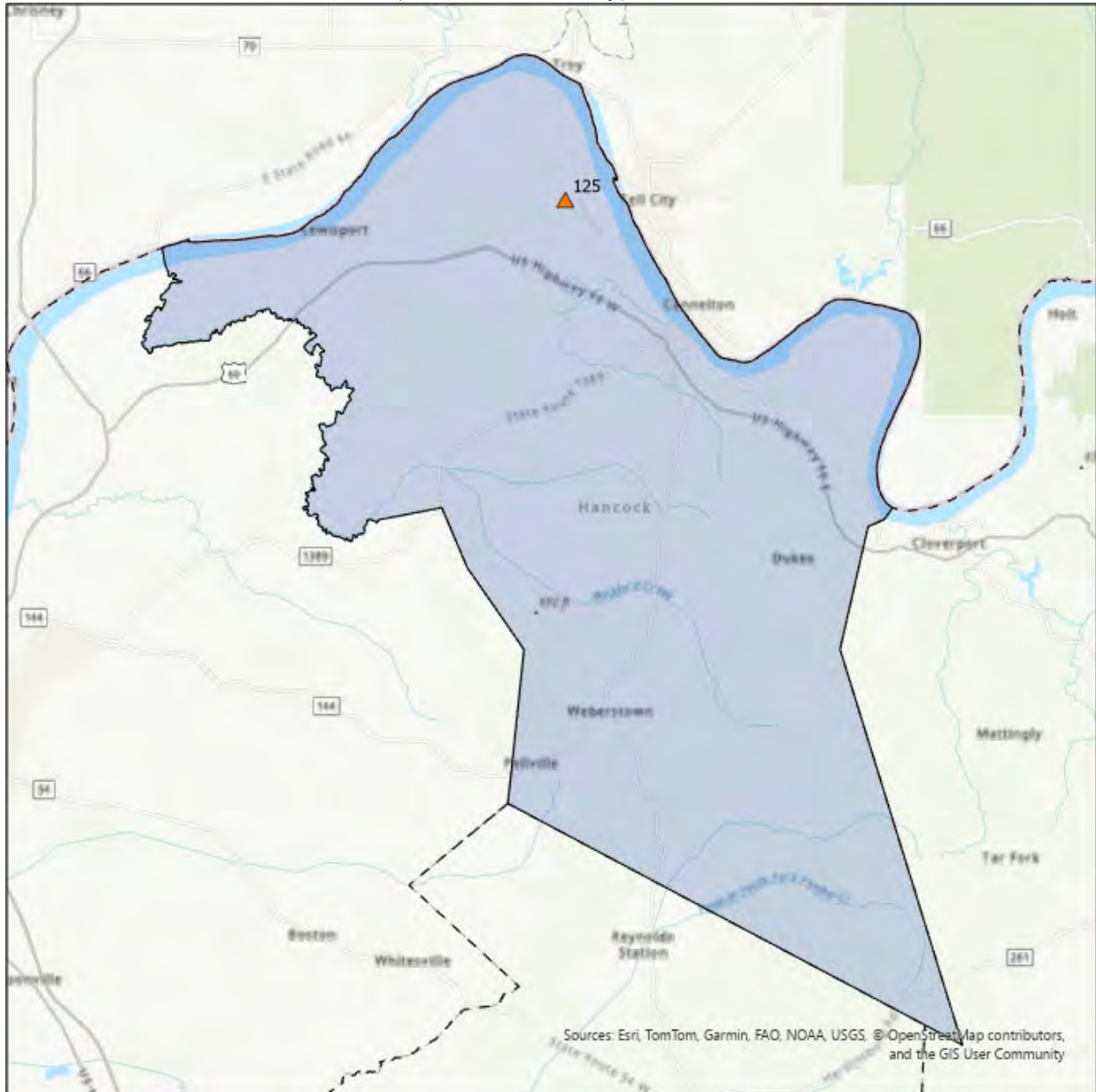


**Exhibit Hancock-18: Fixed Object Locations**

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
120	046-CR-1341 -000	LEE HENDERSON SPUR	other;	Single	1-3	Install Type 2 or 3 Object Marker(s)
137	046-CR-1314 -000	BEAUCHAMP RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
159	046-CR-1045 -000	FAIRGROUNDS LN	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)

**Exhibit Hancock-19: Fixed Object Recommendations**

### Guardrail Recommendations (Hancock County)

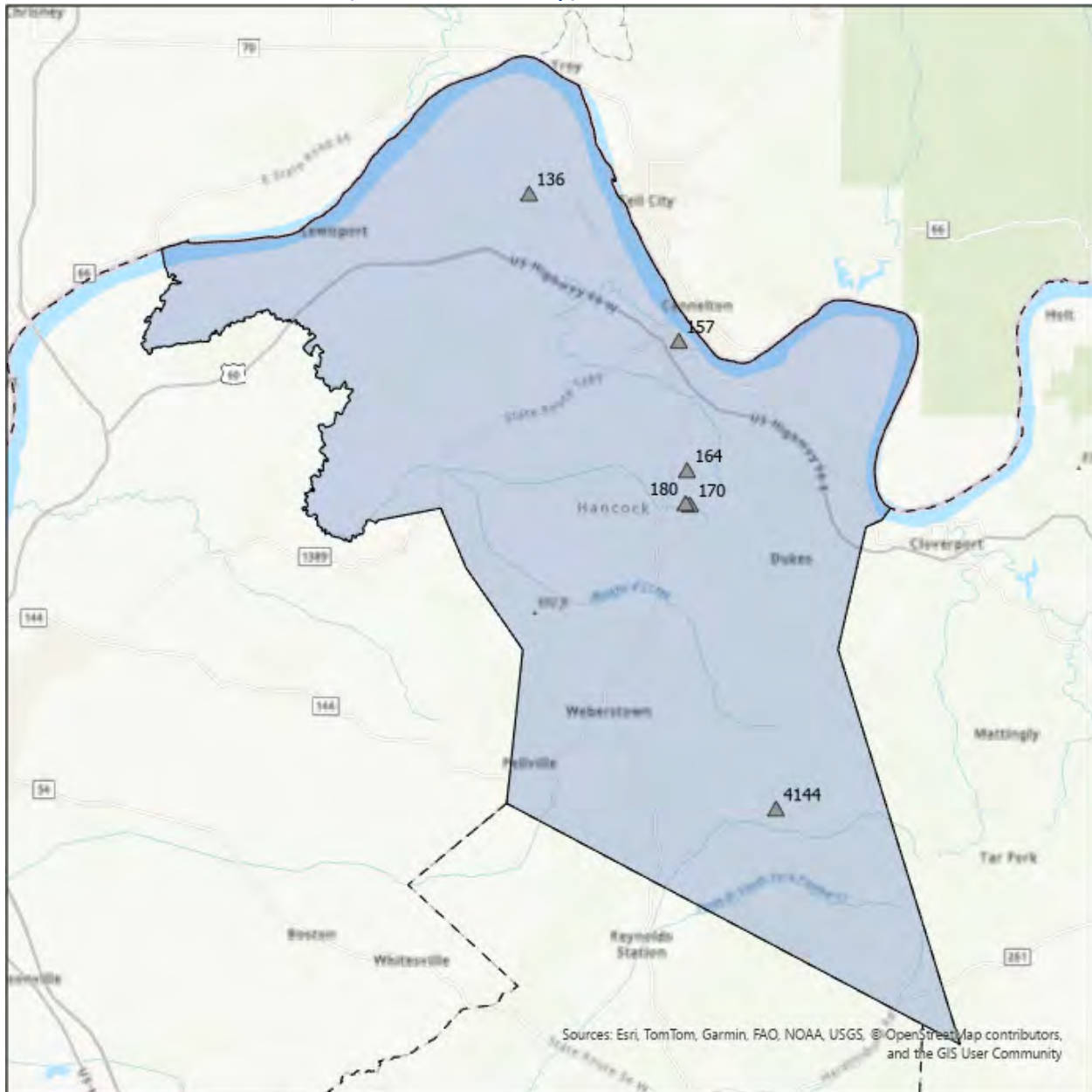


**Exhibit Hancock-19: Guardrail Locations**

Point ID	RT_UNIQUE	Road Name	Condition	Meet Warrant	End Treatment	Recommendation
125	046-CR-1314 -000	BEAUCHAMP RD	Fair	Maybe	All	--

**Exhibit Hancock-20: Guardrail Recommendations**

### Other Recommendations (Hancock County)

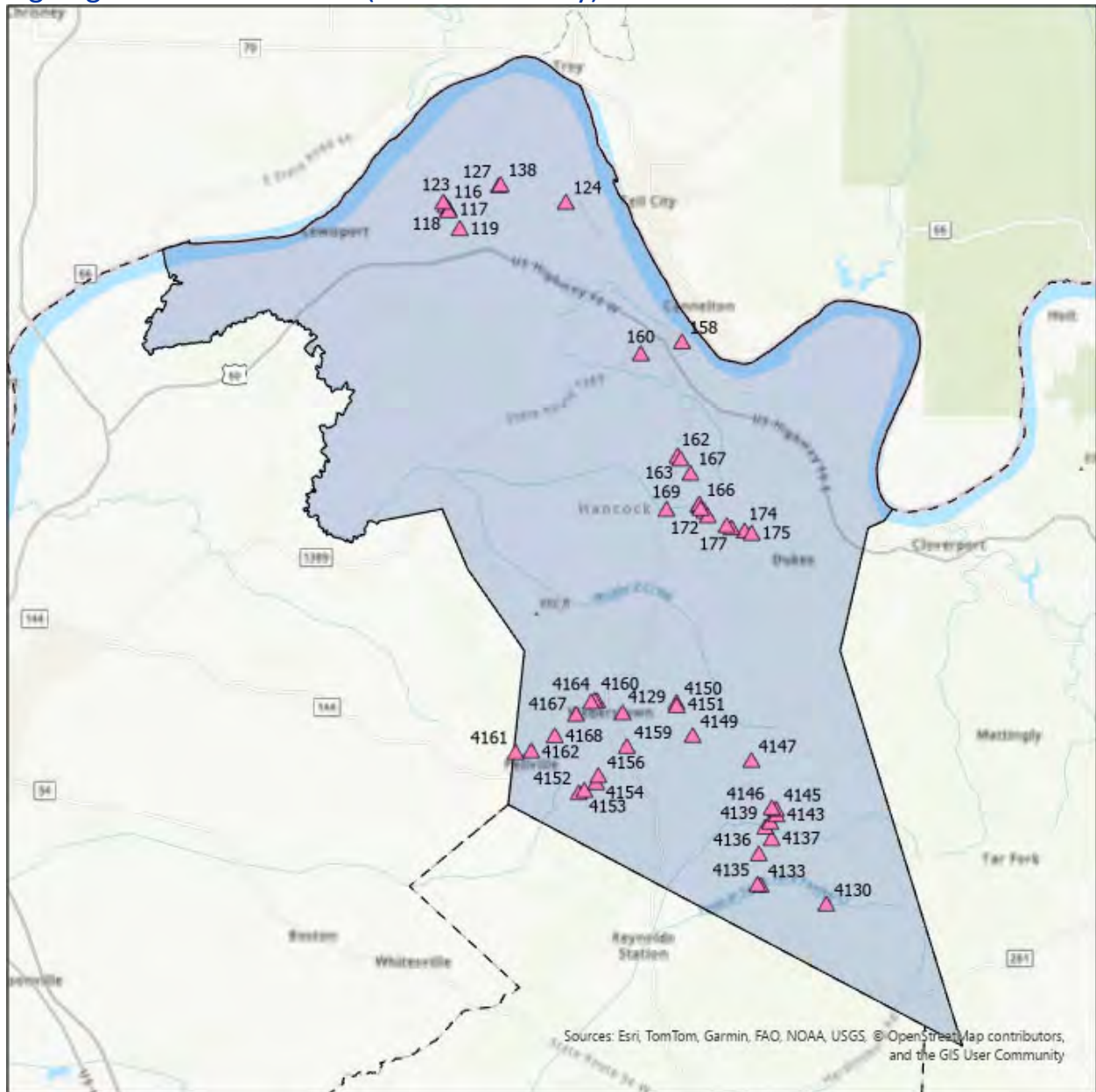


**Exhibit Hancock-20: Other Item Locations**

Point ID	RT_UNIQUE	RD_NAME	Description	Recommendation
136	046-CR-1314 -000	BEAUCHAMP RD	Ditch;	Improve ditch and shoulder
157	046-CR-1022 -000	COURT SQ	Pot hole;	Repair pothole
164	046-CR-1008 -000	MIDDLE PATESVILLE RD	Ditch and sign;	Improve ditch and shoulder
170	046-CR-1007 -000	COAL BANK HOLW RD	Ditch; 5 feet fro, road	Improve ditch and shoulder
180	046-CR-1007 -000	COAL BANK HOLW RD	Ditch;	Improve ditch and shoulder
4144	046-CR-1111 -000	HAWESVILLE EASTON RD	;	Review Location

**Exhibit Hancock-21: Other Item Recommendations**

### Signing Recommendations (Hancock County)



**Exhibit Hancock-22: Sign Locations**

As part of the RSA data collection effort, existing signs were inventoried along reviewed Focus Roadways, including a condition assessment and a photo of each sign. Additionally, preliminary Advisory Speed recommendations were calculated for each focus roadway to assist in the installation of horizontal alignment (curve) signs. Signing and advisory speed information is provided in digital format at <https://kyt2.uky.edu/graddSAP>.

## APPENDIX F: MCLEAN COUNTY

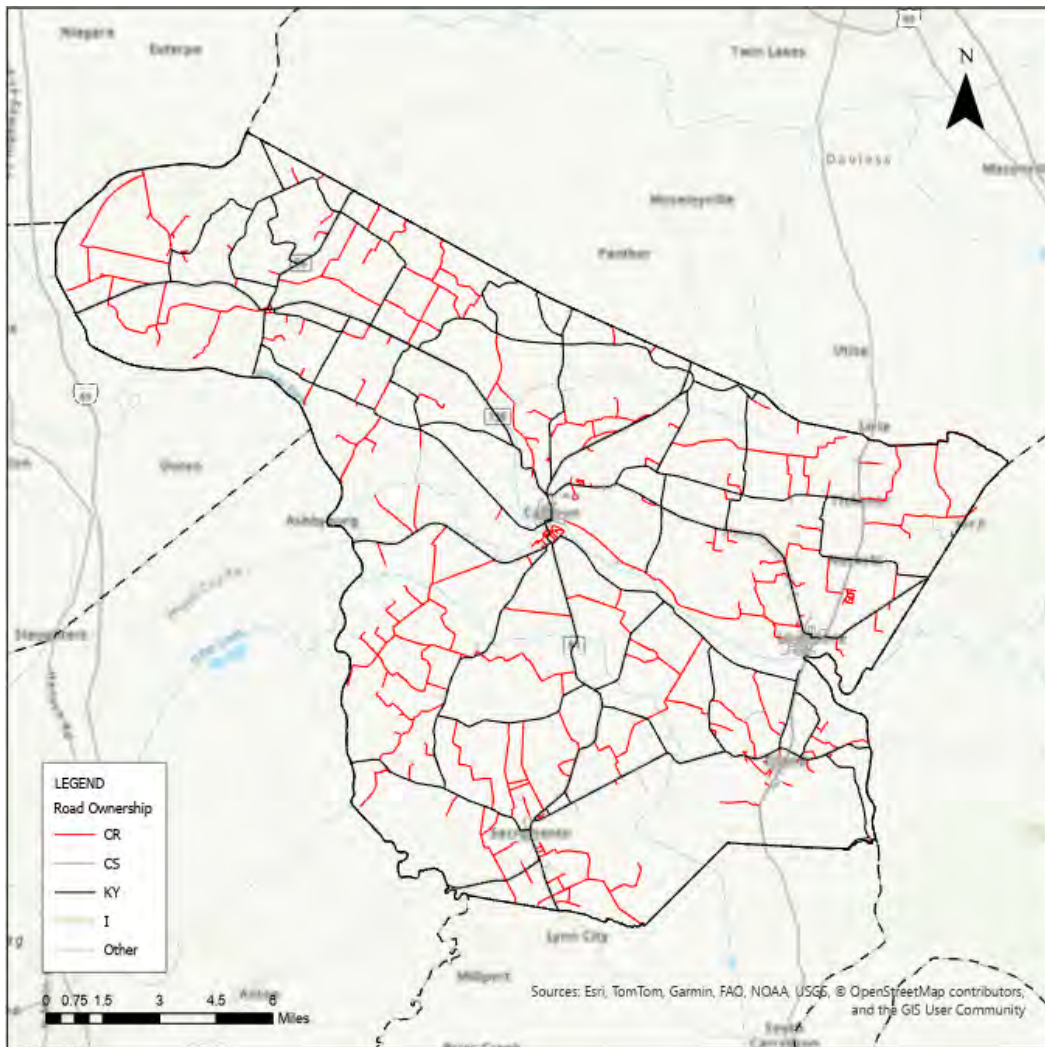
## McLean County Overview



**Exhibit McLean-1: Location Map**

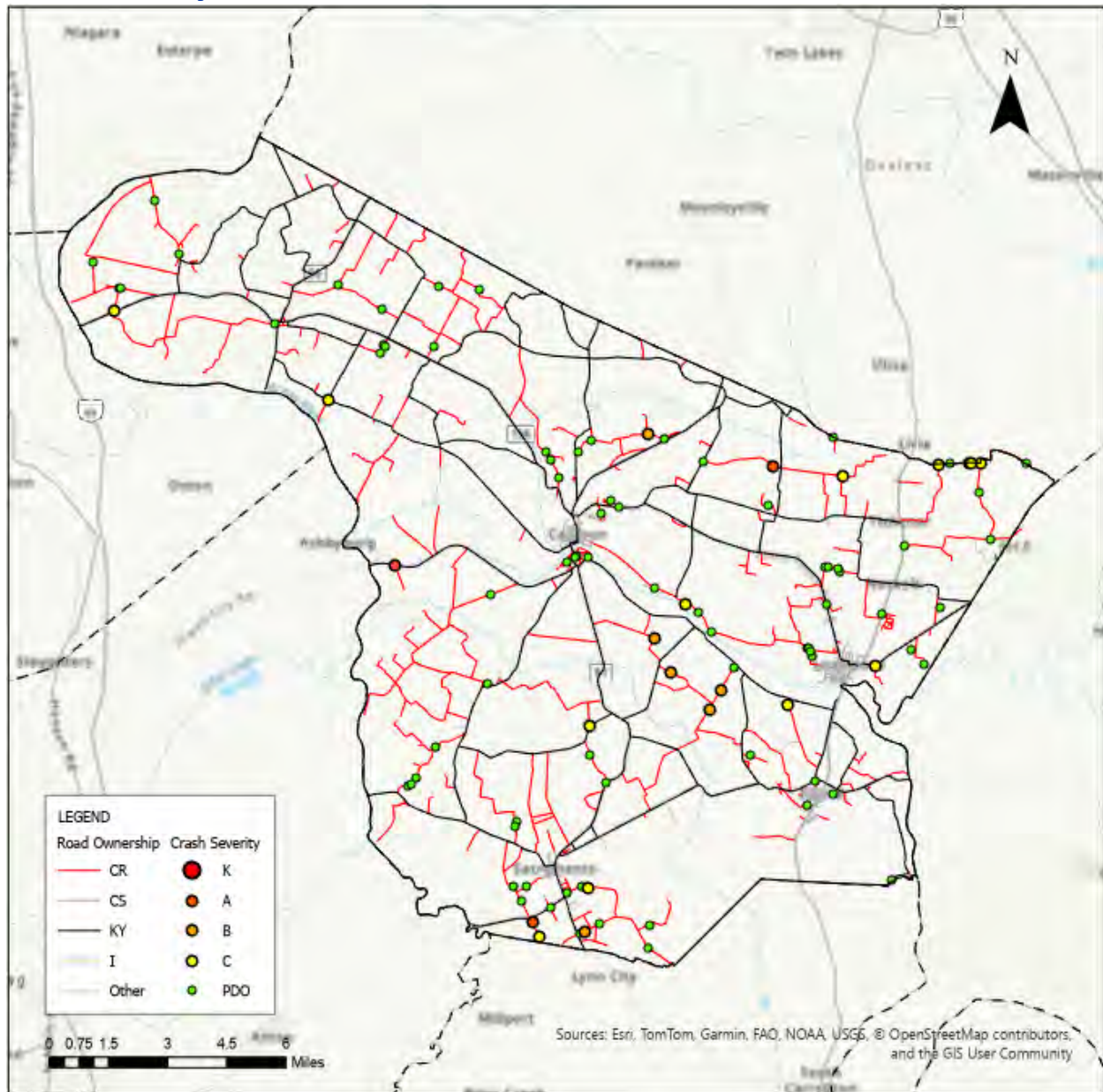
Key Information Table McLean County	
Population	9,054
Population in Persistent Poverty	17%
Underserved Community	No
Fatalities (All Roads)	7
Fatalities (County Roads)	0
Fatality rate per 100,000 persons	77.3
County Road Mileage	203.4
State Road Mileage	202.5
<b>Total Mileage</b>	<b>405.9</b>

**Exhibit McLean-2: Key Information**



**Figure McLean-3: Map of County Roadways**

## Crash Analysis



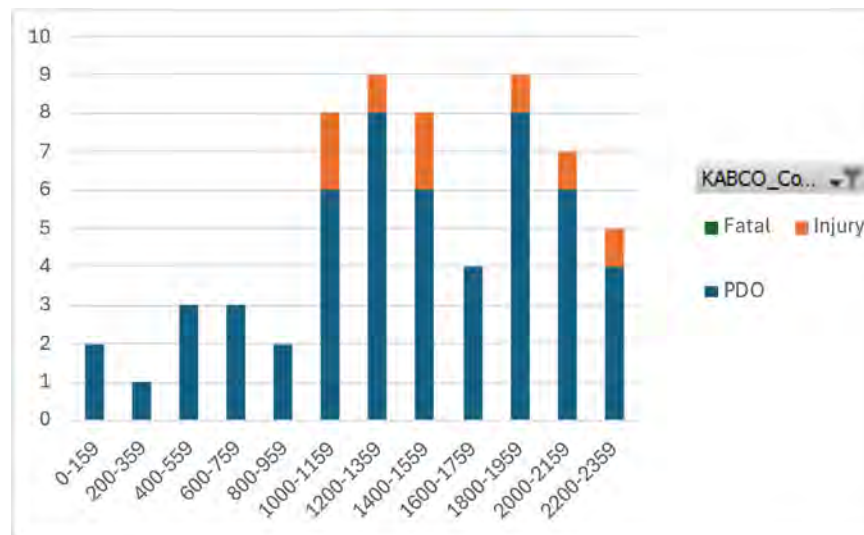
**Figure McLean-4: Map of County Road Crashes**



**Table McLean-5: Crash Distribution by Year**

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	32	6	0	<b>38</b>
Head On	2	1	0	<b>3</b>
Angle	1	1	0	<b>2</b>
SS - Opp	10	0	0	<b>10</b>
Backing	8	0	0	<b>8</b>
SS - Same	0	0	0	<b>0</b>
(blank)	0	0	0	<b>0</b>
Left Turn	0	0	0	<b>0</b>
Rear to Rear	0	0	0	<b>0</b>

**Exhibit McLean-6: Crash Frequency and Severity by Manner of Collision**



**Figure McLean-7: Crashes and Severity by Time of Day**

## Focus Roadways

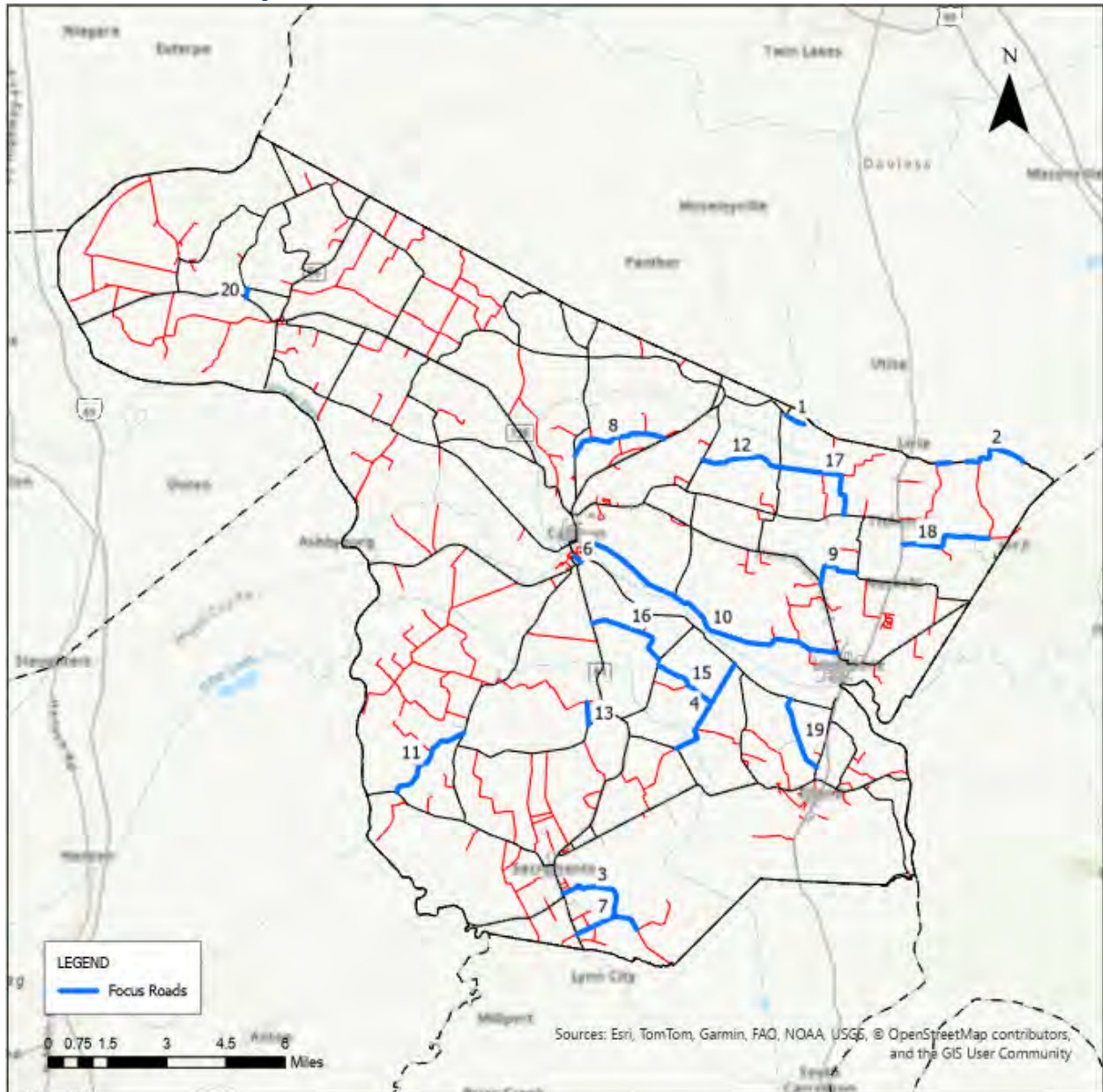


Exhibit McLean-8: Focus Roads

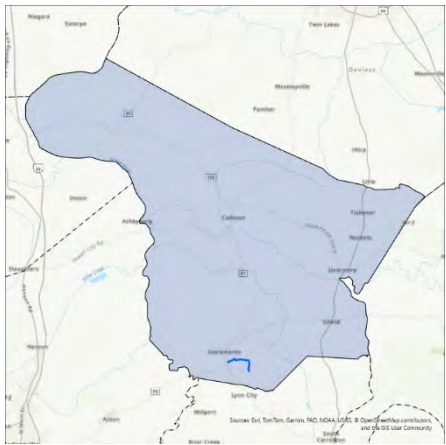
RT_UNIQUE	Length	County	ADD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
<b>McLean</b>										
075-CR-1050 -000	0.53304	McLean	GRADD	WEST HARMONS FERRY RD	1	0	3	2.93	1.57	1
075-CR-1016 -000	3.4725	McLean	GRADD	EAST HARMONS FERRY RD	1	2	6	2.50	1.45	2
075-CR-1134 -000	2.13681	McLean	GRADD	STRINGER RD	0	1	2	2.31	0.56	3
075-CR-1103 -000	2.80676	McLean	GRADD	STROUD-LEVY RD	2	0	1	2.26	0.13	4
075-CR-1056 -000	0.67147	McLean	GRADD	MILLPORT RD	1	1	0	1.64	0.93	5
075-CR-1043L -000	0.22784	McLean	GRADD	CHESTNUT ST	0	0	0	0.00	3.51	6
075-CR-1129 -000	3.10506	McLean	GRADD	COFFMAN SCHOOLHOUSE	1	0	2	1.21	0.63	7
075-CR-1036 -000	2.64088	McLean	GRADD	BROOKS SCHOOLHOUSE R	1	0	2	1.21	0.59	8
075-CR-1009 -000	1.40792	McLean	GRADD	NUCKOLS-OLD BUCK CREE	0	0	4	0.22	2.41	9
075-CR-1004 -000	7.35475	McLean	GRADD	RICHLAND RD	0	1	5	0.81	1.01	10
075-CR-1220 -000	2.56251	McLean	GRADD	BRANCH SCHOOLHOUSE R	0	0	4	0.22	2.18	11
075-CR-1020 -000	2.11454	McLean	GRADD	TROUTMAN HILLS RD	1	0	0	1.10	0.33	12
075-CR-1143 -000	0.59611	McLean	GRADD	WHOBRY RD	0	0	0	0.00	2.50	13
075-CR-1015 -000	2.08178	McLean	GRADD	BRIARFIELD SCHOOLHOU	0	1	2	0.65	0.98	14
075-CR-1101 -000	1.71056	McLean	GRADD	BOEHLERS KNOB RD	1	0	0	1.10	0.05	15
075-CR-1002 -000	2.36156	McLean	GRADD	BUNN-COBB RD	1	0	0	1.10	0.04	16
075-CR-1057 -000	2.7069	McLean	GRADD	HATFIELD STEVENS RD	0	1	0	0.54	0.45	17
075-CR-1014 -000	3.28876	McLean	GRADD	BARRETT HILL RD	0	0	2	0.11	1.19	18
075-CR-1110 -000	1.9766	McLean	GRADD	JIM DANIELS RD	0	1	1	0.59	0.17	19
075-CR-1322 -000	0.24857	McLean	GRADD	COX RD	0	0	0	0.00	1.25	20

**Exhibit McLean-9: List of Focus Roadways**

## Recommended Improvements (Top 5 Roads)

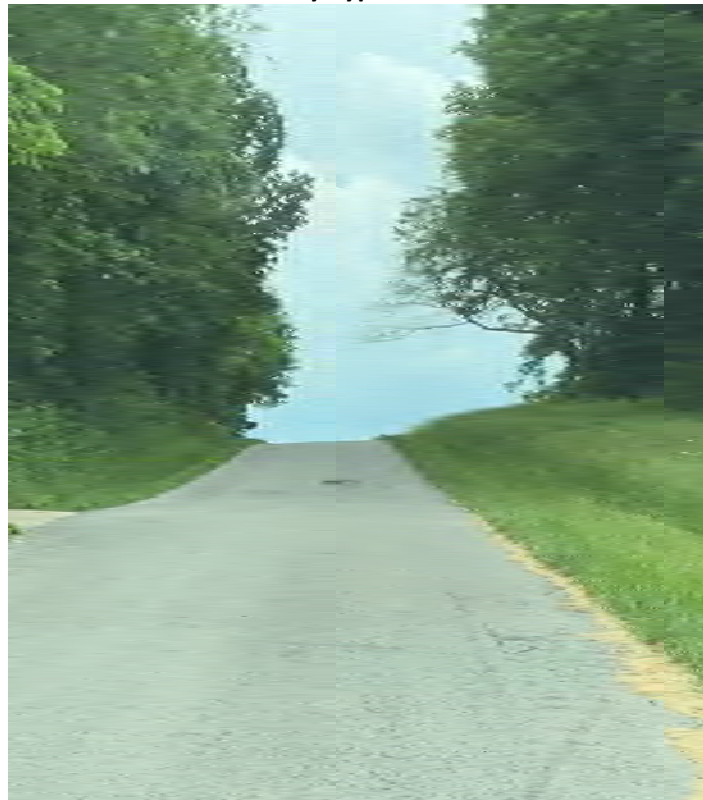
### STRINGER RD (075-CR-1134 -000)

Road Location Map and Crash History

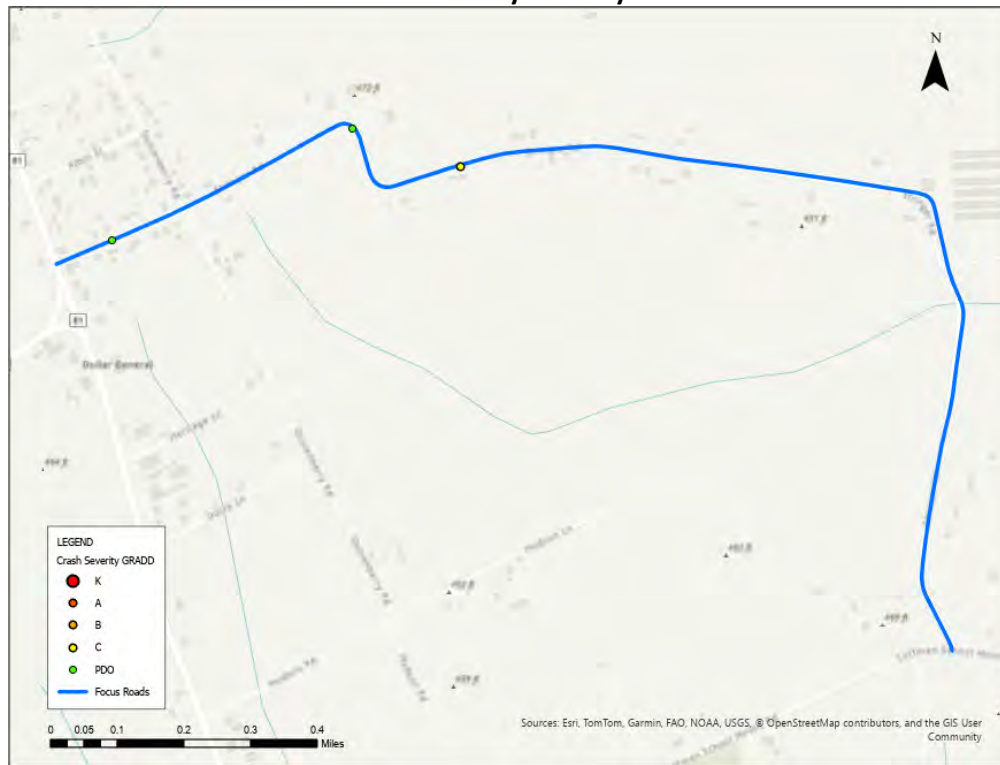
	Manner of Collision	Property Damage Only	Injury	Fatal	Total
	SS - Same	0	0	0	0
	Rear to Rear	0	0	0	0
	(blank)	0	0	0	0
	Backing	0	0	0	0
	SS - Opp	0	0	0	0
	Head On	0	0	0	0
	Single Vehicle	2	0	0	2
	Left Turn	0	0	0	0
	Angle	0	0	0	0

*Roadway Section Data Not Collected*

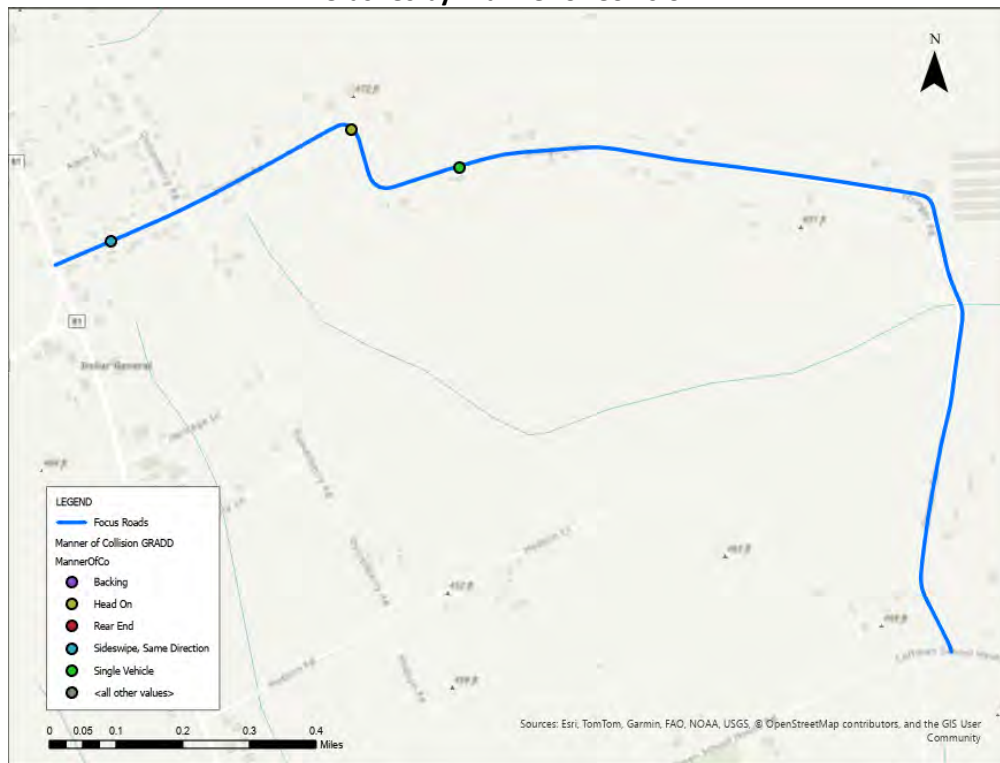
Roadway Typical Section



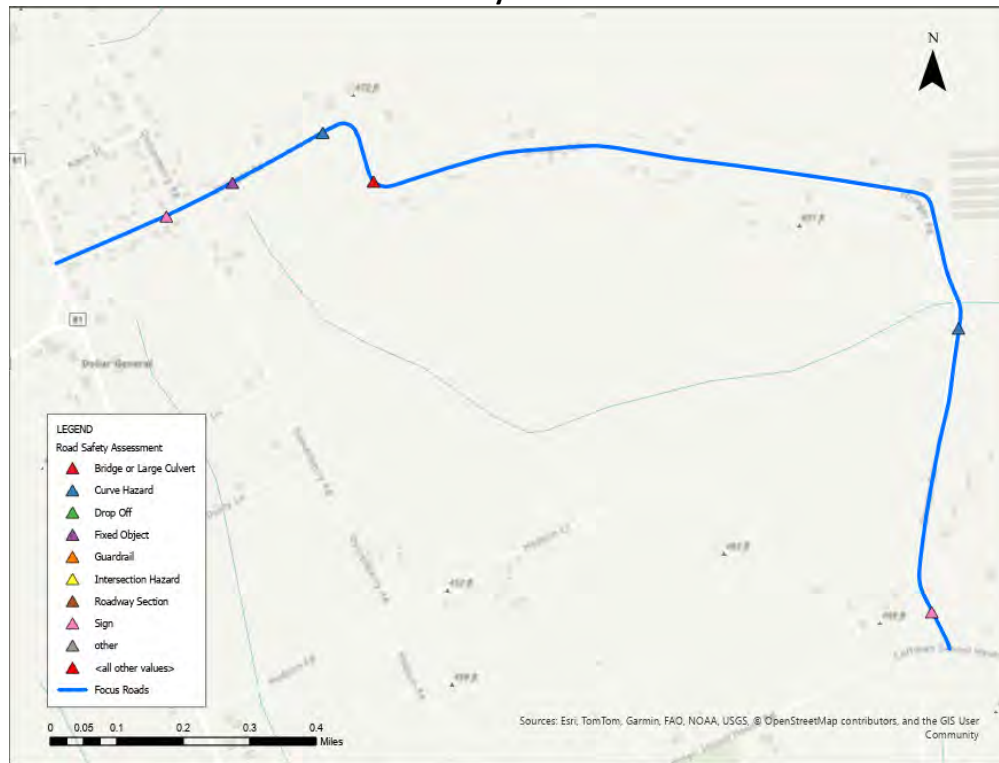
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
5209	075-CR-1134 -000	STRINGER RD	Fixed Object	Utility Pole;	Series	3-5	--
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
5211	075-CR-1134 -000	STRINGER RD	Bridge or Large Culvert	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation
5210	075-CR-1134 -000	STRINGER RD	Curve Hazard	No	--	other	Install Curve Warning Sign; Evaluate other obstructions
5212	075-CR-1134 -000	STRINGER RD	Curve Hazard	No	--	other	Install Curve Warning Sign; Evaluate other obstructions

**Recommendations (continued)**

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	--	Recommendation
345	065-CR-1244 -000	SPENCER RIDGE RD	Drop Off	1-3	>10	--	Install Guardrail
347	065-CR-1244 -000	SPENCER RIDGE RD	Drop Off	1-3	>10	--	Install Guardrail
355	065-CR-1244 -000	SPENCER RIDGE RD	Drop Off	0-1	>10	--	Install Guardrail
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation
354	065-CR-1244 -000	SPENCER RIDGE RD	Guardrail	Good	Maybe	Some	Evaluate for Warrants; remove if not met, install appropriate end treatments if warranted; Type 3 Object markers be installed as a temporary measure.
357	065-CR-1244 -000	SPENCER RIDGE RD	Guardrail	Poor	No	None	Remove
358	065-CR-1244 -000	SPENCER RIDGE RD	Guardrail	Poor	No	None	Remove
Point ID	RT_UNIQUE	Road Name	Issue Type	Comments	Vegetation	Recommendation	
348	065-CR-1244 -000	SPENCER RIDGE RD	Intersection Hazard	Intersection Skew	No	Evaluate for Stop Bar	
350	065-CR-1244 -000	SPENCER RIDGE RD	Intersection Hazard	Intersection Skew	No	Evaluate for Stop Bar	
352	065-CR-1244 -000	SPENCER RIDGE RD	Intersection Hazard	Intersection Obscured on approach, Intersection Skew, Insufficient Sight Distance at Intersection	No	Install Intersection Ahead / Stop Ahead Sign on Approach; Evaluate for Stop Bar	
353	065-CR-1244 -000	SPENCER RIDGE RD	Intersection Hazard	Intersection Obscured on approach, Intersection Skew, Insufficient Sight Distance at Intersection	Yes	Install Intersection Ahead / Stop Ahead Sign on Approach; Evaluate for Stop Bar; Clear vegetation	
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Comments	Recommendation
344	065-CR-1244 -000	SPENCER RIDGE RD	Curve Hazard	Yes	--	Curve Obscured, vegetation	Add Curve Warning Sign; Clear Vegetation
346	065-CR-1244 -000	SPENCER RIDGE RD	Curve Hazard	Yes	--	Curve Obscured, vegetation	Add Curve Warning Sign; Clear Vegetation
349	065-CR-1244 -000	SPENCER RIDGE RD	Curve Hazard	Yes	--	Curve Obscured, vegetation	Add Curve Warning Sign; Clear Vegetation
351	065-CR-1244 -000	SPENCER RIDGE RD	Curve Hazard	Yes	--	Curve Obscured, vegetation	Add Curve Warning Sign; Clear Vegetation
356	065-CR-1244 -000	SPENCER RIDGE RD	Curve Hazard	Yes	--	Curve Obscured, vegetation	Add Curve Warning Sign; Clear Vegetation

## STROUD-LEVY RD (075-CR-1103 -000)

### Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	0	1	0	1
(blank)	0	0	0	0
SS - Opp	0	0	0	0
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

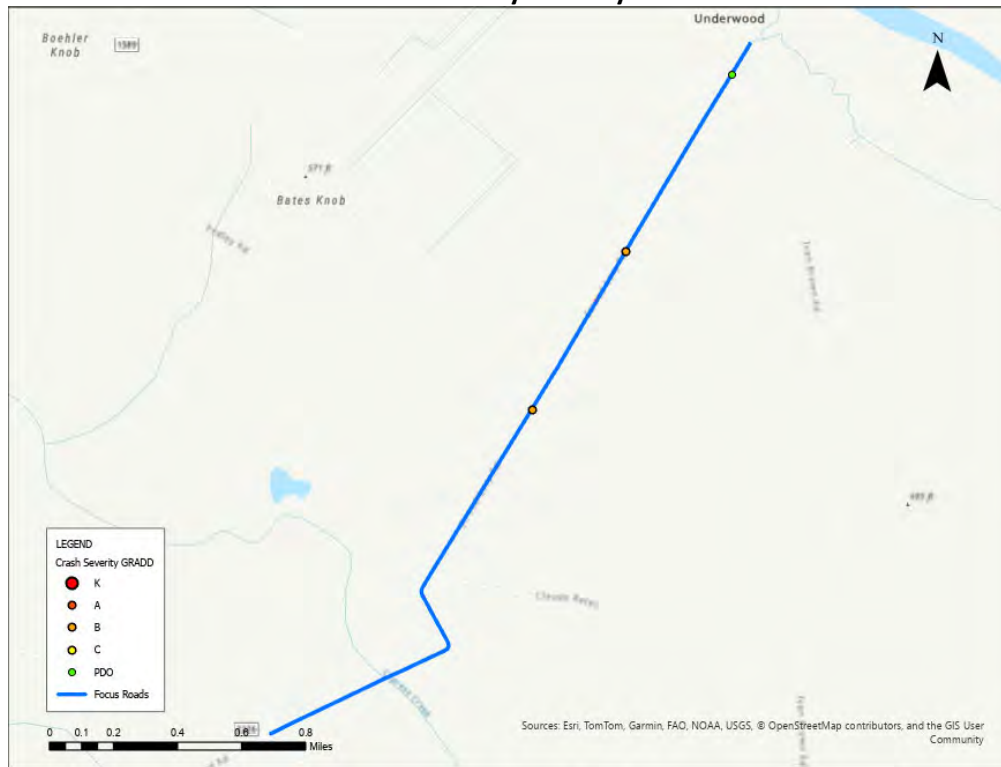
### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (%)
5237	075-CR-1103 -000	STROUD-LEVY RD	15	1	5	80-100
5241	075-CR-1103 -000	STROUD-LEVY RD	16	3	3	60-80
5245	075-CR-1103 -000	STROUD-LEVY RD	15	2	3	40-60

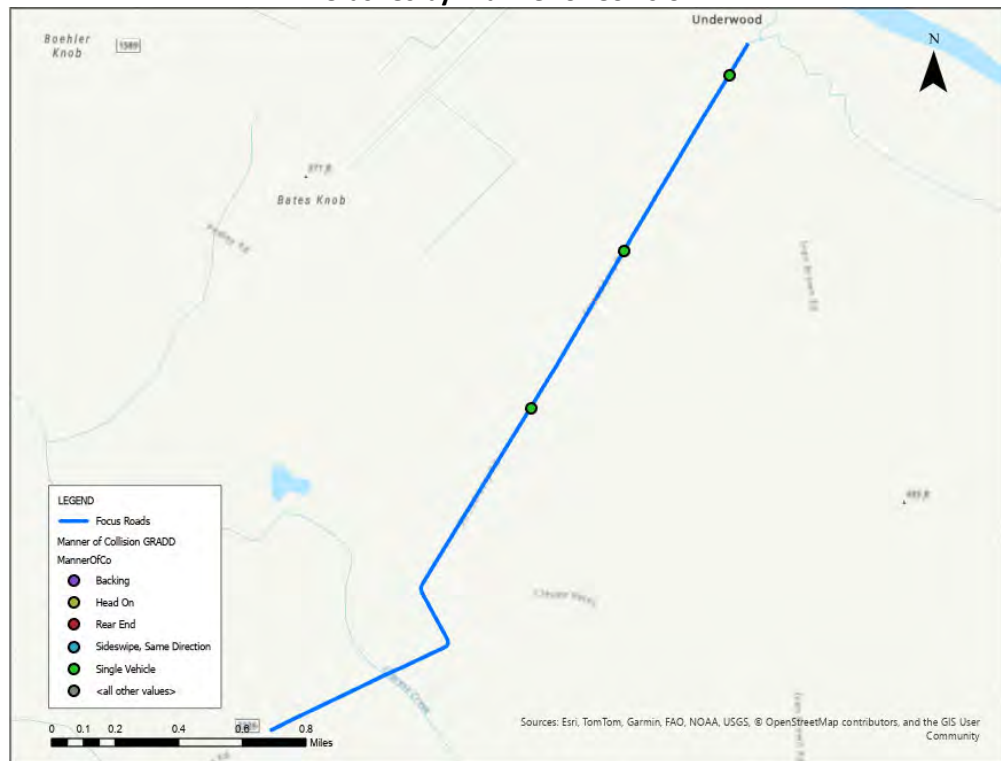
### Roadway Typical Section



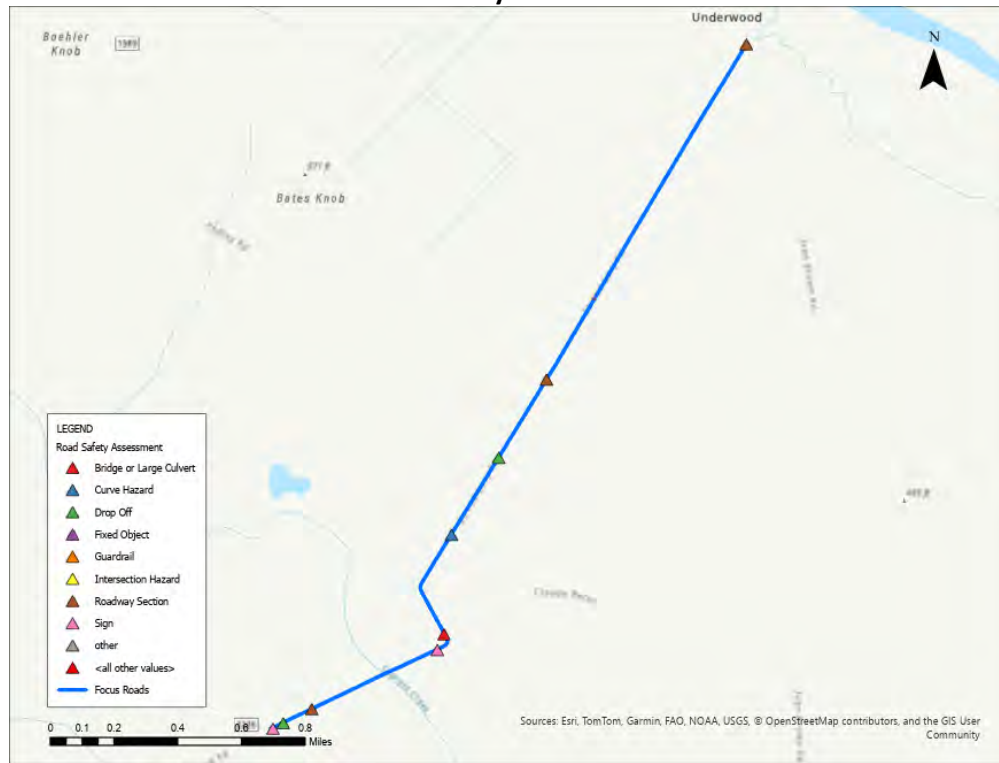
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rate	Shoulder Improve	Improve Should	Edgelin	Curve Signin	Other Recommendations
5237	075-CR-1103 -000	STROUD-LEVY RD	15	1	5	80-100	✓	✓	✓	Resurface
5241	075-CR-1103 -000	STROUD-LEVY RD	16	3	3	60-80	✓	✓	✓	
5245	075-CR-1103 -000	STROUD-LEVY RD	15	2	3	40-60	✓	✓	✓	Resurface
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
5238	075-CR-1103 -000	STROUD-LEVY RD	Drop Off	3-5	5-10	McLean	Install Type 2 Object Marker(s) or Delineator(s)			
5243	075-CR-1103 -000	STROUD-LEVY RD	Drop Off	1-3	<2	McLean	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
5240	075-CR-1103 -000	STROUD-LEVY RD	Bridge or Large Culvert	16	4	0	Evaluate need for Type 3 Object Markers			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetatio	0	Comments	Recommendation			
5239	075-CR-1103 -000	STROUD-LEVY RD	Curve Hazard	No	--	other	Install Curve Warning Sign; Evaluate other obstructions			

## COFFMAN SCHOOLHOUSE RD (075-CR-1129 -000)

### Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
SS - Same	0	0	0	0
Rear to Rear	0	0	0	0
(blank)	0	0	0	0
Backing	0	0	0	0
SS - Opp	1	0	0	1
Head On	0	0	0	0
Single Vehicle	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

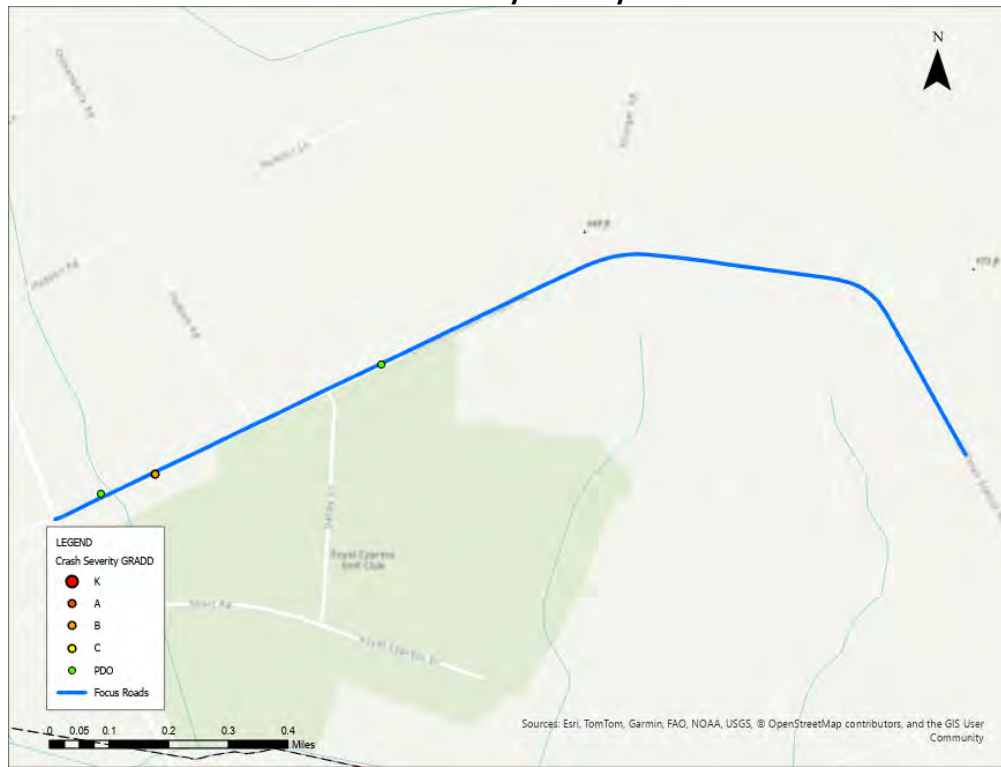
### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (%)
5215	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	18	4	4	40-60
5218	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	15	4	4	20-40
5223	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	21	3	3	40-60

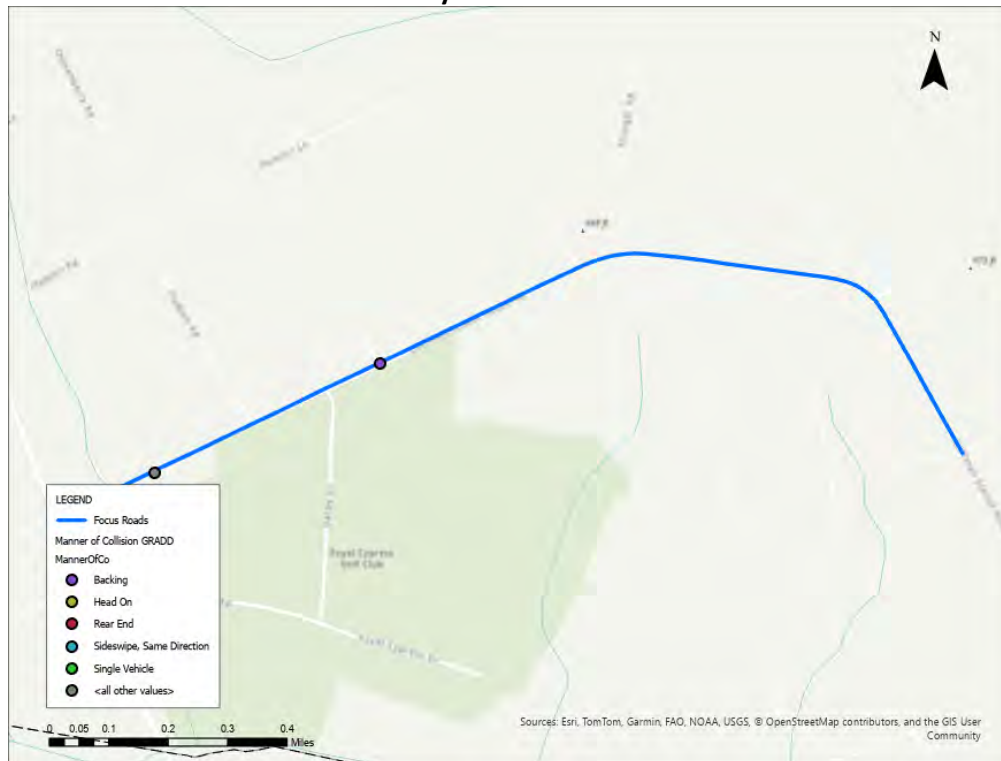
### Roadway Typical Section



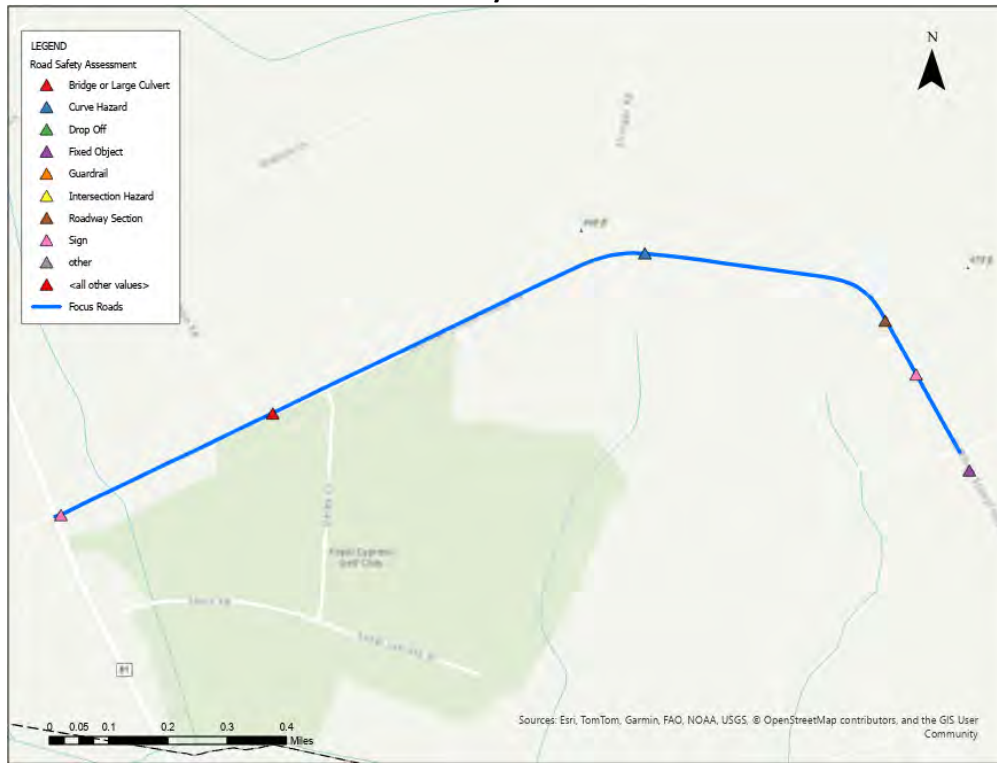
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve	Improve Should	Edgeline	Curve Signin	Other Recommendations
5215	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	18	4	4	40-60	✓	✓	✓	
5218	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	15	4	4	20-40	✓	✓	✓	
5223	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	21	3	3	40-60	✓	EL & CL	✓	

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
5216	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	Fixed Object	Utility Pole;	Series	3-5	
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
5217	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	Bridge or Large Culvert	15	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
5221	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	Bridge or Large Culvert	6	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation
5214	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	Curve Hazard	No		other	Install Curve Warning Sign; Evaluate other obstructions

## BROOKS SCHOOLHOUSE RD (075-CR-1036 -000)

### Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Head On	0	1	0	1
Single Vehicle	3	1	0	4
Rear to Rear	0	0	0	0
Backing	0	0	0	0
SS - Opp	0	0	0	0
SS - Same	0	0	0	0
(blank)	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

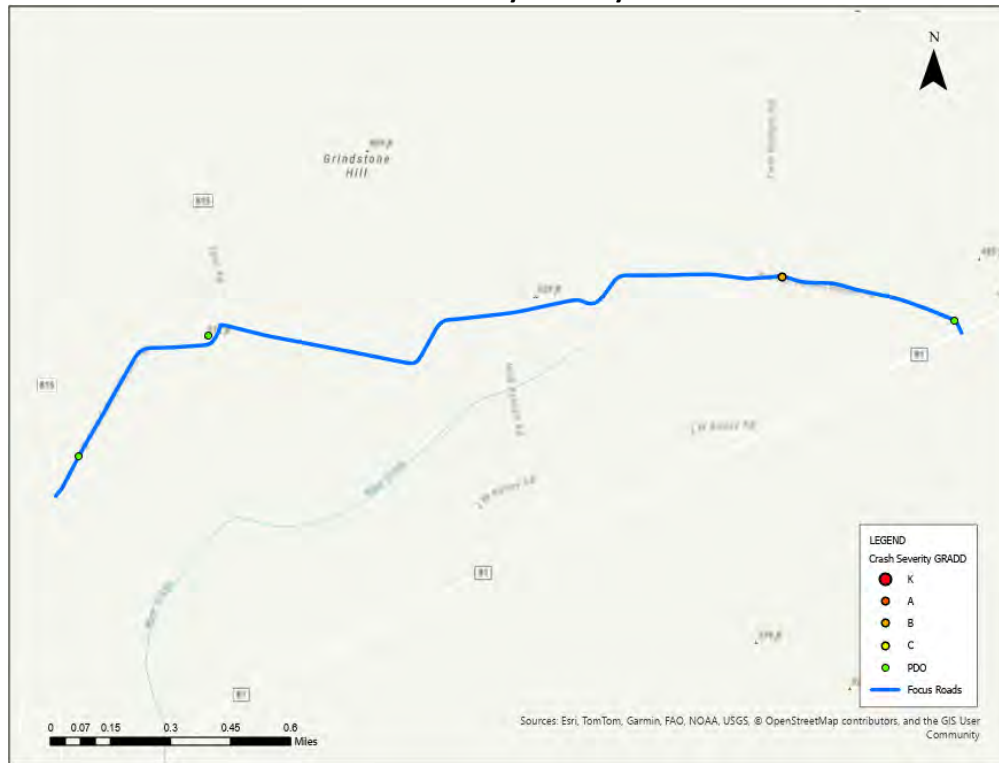
### General Roadway Conditions

RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (%)
075-CR-1036 -000	BROOKS SCHOOLHOUSE RD	15	4	6	40-60

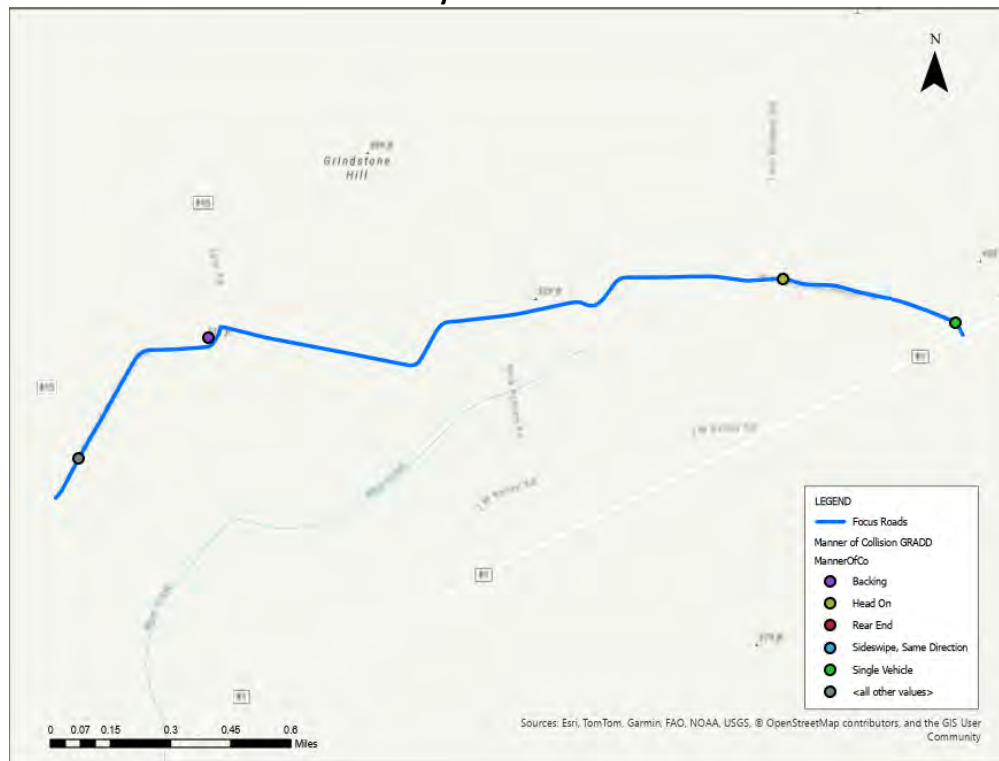
### Roadway Typical Section



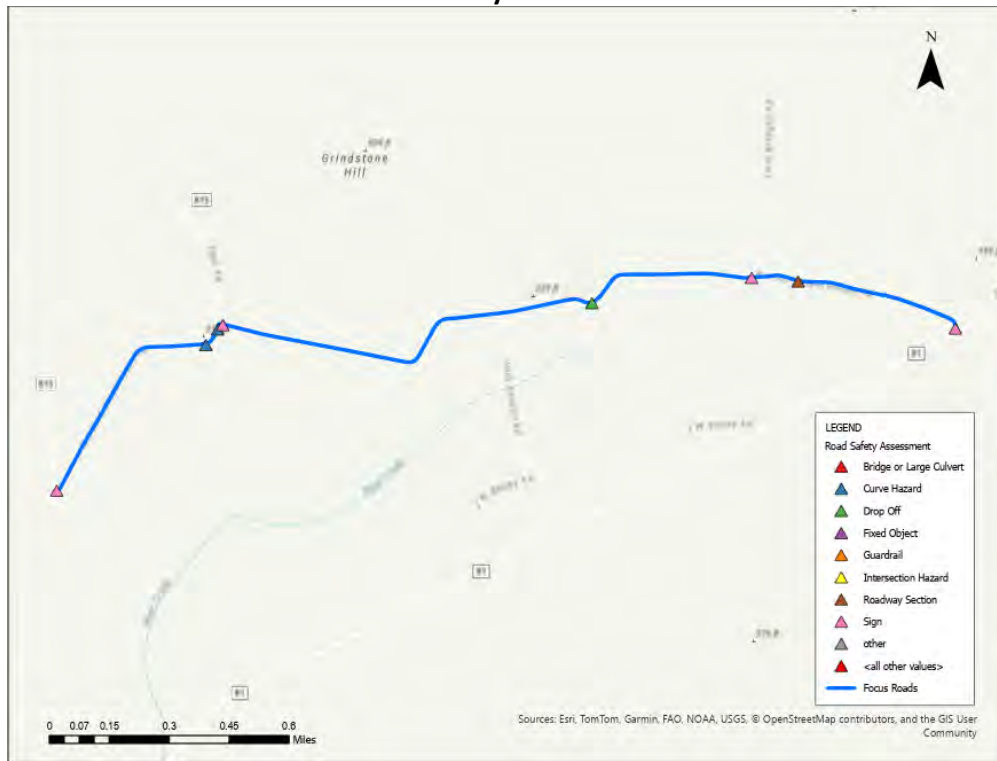
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin
3921	075-CR-1036 -000	BROOKS SCHOOLHOUSE RD	15	4	6	40-60	✓	✓	✓
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0		
3919	075-CR-1036 -000	BROOKS SCHOOLHOUSE RD	Drop Off	0-1	5-10	McLean	Install Type 2 Object Marker(s) or Delineator(s)		
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation		
3916	075-CR-1036 -000	BROOKS SCHOOLHOUSE RD	Curve Hazard	No	--	Entrance_in_Curve	Install Curve Warning Sign; Consider striping enhancements at intersection		
3917	075-CR-1036 -000	BROOKS SCHOOLHOUSE RD	Curve Hazard	No	--	Intersection_in_Curve	Install Curve Warning Sign; Consider striping enhancements at intersection		

## NUCKOLS-OLD BUCK CREEK RD (075-CR-1009 -000)

### Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Head On	0	1	0	1
Single Vehicle	3	1	0	4
Rear to Rear	0	0	0	0
Backing	0	0	0	0
SS - Opp	0	0	0	0
SS - Same	0	0	0	0
(blank)	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

### General Roadway Conditions

RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (%)
075-CR-1009 -000	NUCKOLS-OLD BUCK CREEK RD	15	4	3	20-40

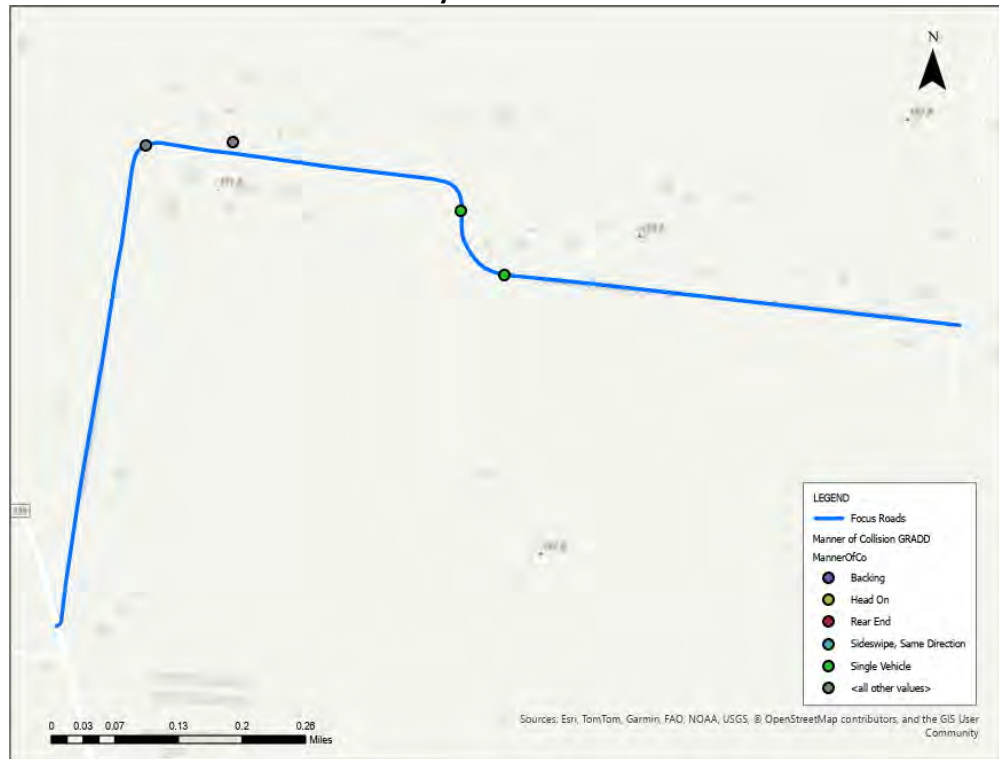
### Roadway Typical Section



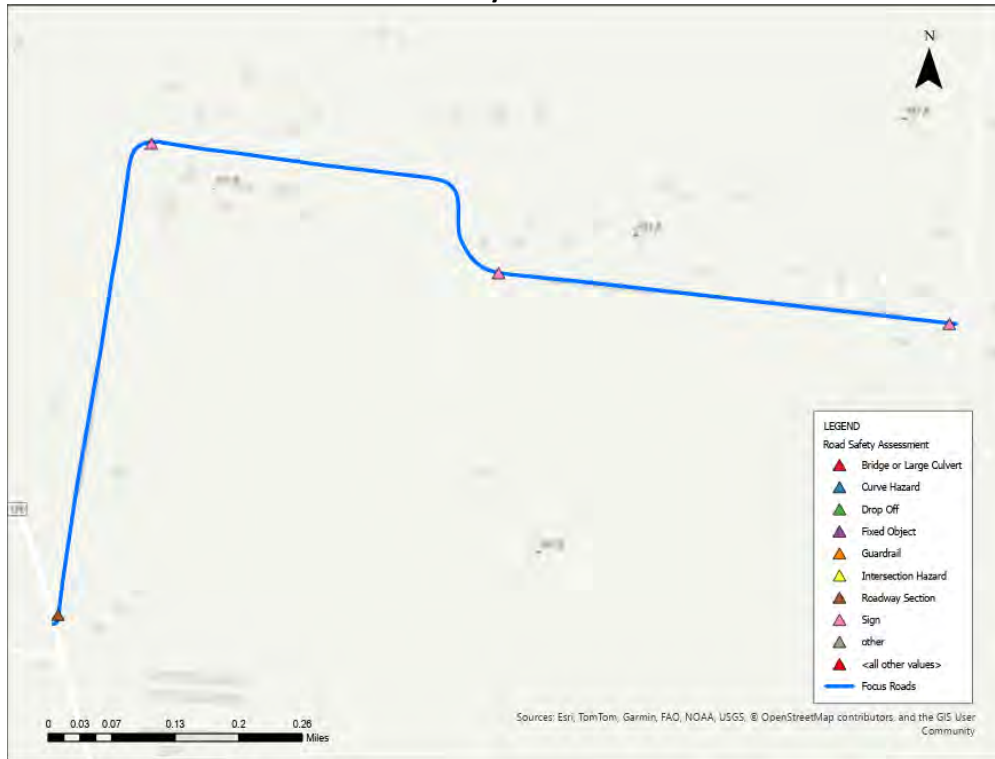
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (+)	Improve Shoulder	Edgeline	Curve Signin
4791	075-CR-1009 -000	NUCKOLS-OLD BUCK CREEK RD	15	4	3	20-40	✓	✓	✓

## Other Roadways

### General Roadway Conditions and Recommendations (McLean County)

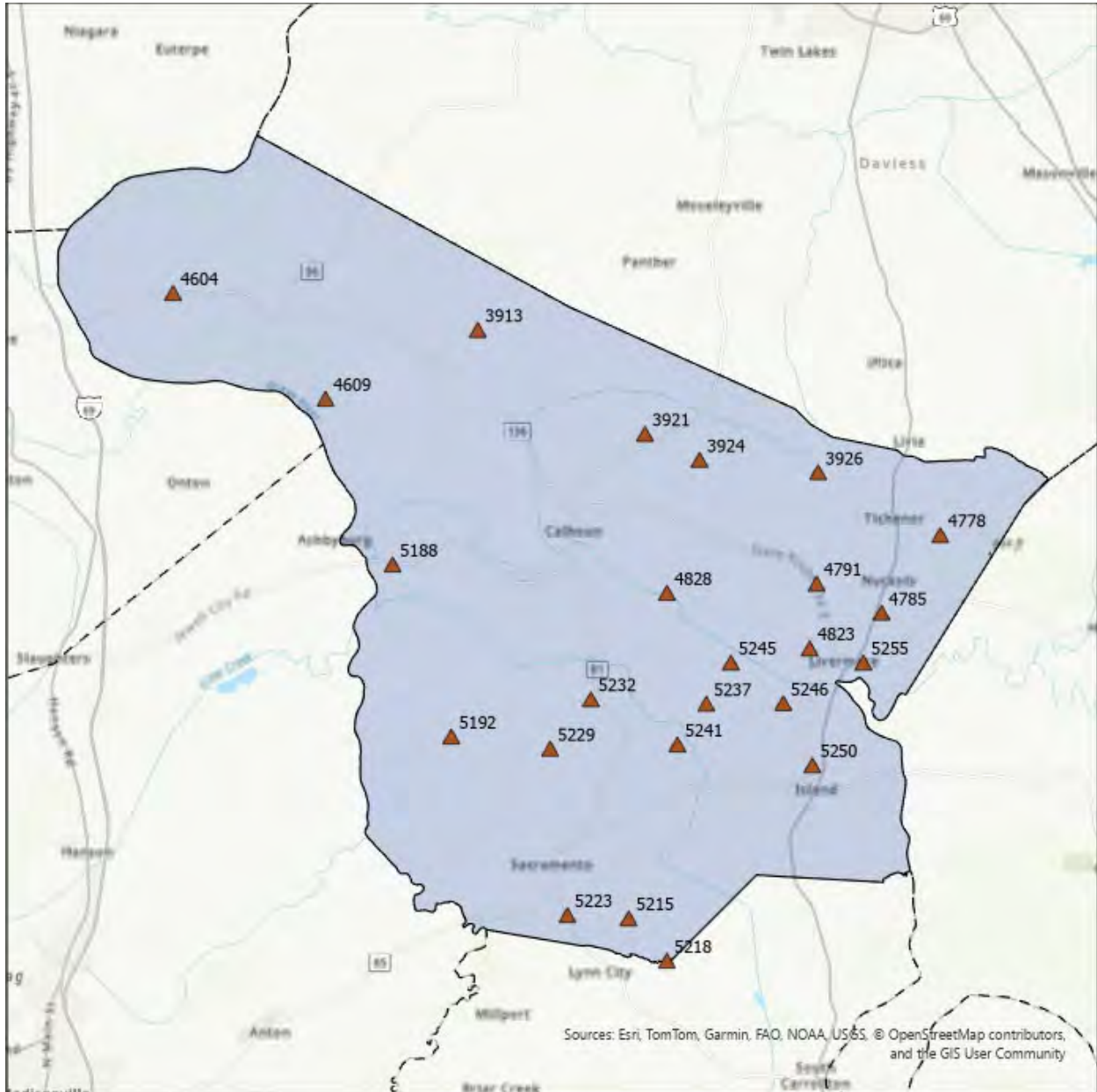


Exhibit McLean-10: General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rat	Shoulder Improve (	Improve Shoud	Edgelin	Curve Signin	Other Recommendations
4823	075-CR-1004 -000	RICHLAND RD	22	4	4	40-60	✓	EL & CL	✓	
4828	075-CR-1004 -000	RICHLAND RD	21	4	4	40-60	✓	EL & CL	✓	
4791	075-CR-1009 -000	NUCKOLS-OLD BUCK CREEK RD	15	4	3	20-40	✓	✓	✓	
4778	075-CR-1014 -000	BARRETT HILL RD	20	3	3	40-60	✓	EL & CL	✓	
3924	075-CR-1020 -000	TROUTMAN HILLS RD	17	4	6	20-40	✓	✓	✓	
3921	075-CR-1036 -000	BROOKS SCHOOLHOUSE RD	15	4	6	40-60	✓	✓	✓	
4785	075-CR-1044A -000	SHULTZ LN	11	4	3	20-40	✓	✓	✓	
3926	075-CR-1057 -000	HATFIELD STEVENS RD	16	4	4	0-20		✓	✓	
5237	075-CR-1103 -000	STROUD-LEVY RD	15	1	5	80-100	✓	✓	✓	Resurface
5241	075-CR-1103 -000	STROUD-LEVY RD	16	3	3	60-80	✓	✓	✓	
5245	075-CR-1103 -000	STROUD-LEVY RD	15	2	3	40-60	✓	✓	✓	Resurface
5246	075-CR-1110 -000	JIM DANIELS RD	18	1	3	60-80	✓	✓	✓	Resurface
5250	075-CR-1110 -000	JIM DANIELS RD	20	4	3	20-40	✓	EL & CL	✓	
5255	075-CR-1115 -000	HOMER AUSTIN LN	18	3	5	40-60	✓	✓	✓	
5215	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	18	4	4	40-60	✓	✓	✓	
5218	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	15	4	4	20-40	✓	✓	✓	
5223	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	21	3	3	40-60	✓	EL & CL	✓	
5229	075-CR-1143 -000	WHOBRY RD	15	4	4	40-60	✓	✓	✓	
5232	075-CR-1143 -000	WHOBRY RD	14	1	4	80-100	✓	✓	✓	Resurface
5188	075-CR-1207 -000	EVERETT MILLER LN	11	1	3	80-100	✓	✓	✓	Resurface
5192	075-CR-1220 -000	BRANCH SCHOOLHOUSE RD	16	4	4	40-60	✓	✓	✓	
3913	075-CR-1305 -000	HOWARDS MILL RD	19	5	7	0-20		✓	✓	
4604	075-CR-1328 -000	MCGHEE CHAPEL RD	16	4	4	40-60	✓	✓	✓	
4609	075-CR-1337 -000	LEMON LN	14	3	3	20-40	✓	✓	✓	

**Exhibit McLean-11: General Roadway Recommendations**

### Bridge / Culvert Recommendations (McLean County)

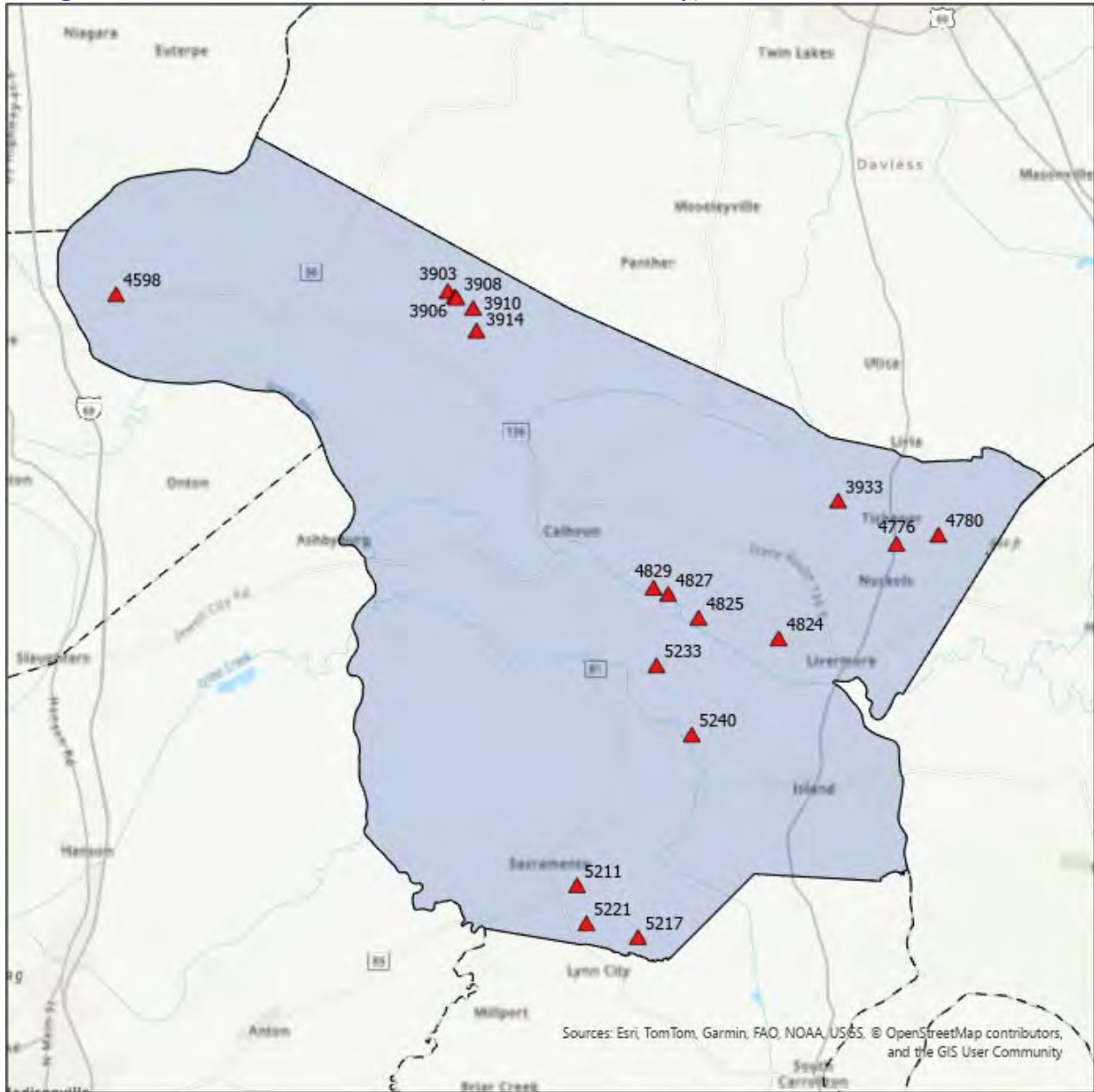


Exhibit McLean-12: Bridge / Culvert Locations

RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
075-CR-1305 -000	HOWARDS MILL RD	23	2	0	Evaluate condition of existing and need for guardrail on approach.
075-CR-1305 -000	HOWARDS MILL RD	8	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
075-CR-1305 -000	HOWARDS MILL RD	8	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
075-CR-1305 -000	HOWARDS MILL RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
075-CR-1305 -000	HOWARDS MILL RD	28	2	3	Evaluate condition of and need for guardrail on approach, install Type 3 Object Markers
075-CR-1057 -000	HATFIELD STEVENS RD	50	2	0	Evaluate condition of existing and need for guardrail on approach.
075-CR-1328 -000	MCGHEE CHAPEL RD	17	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
075-CR-1014 -000	BARRETT HILL RD	15	4	2	Evaluate need for Type 3 Object Markers
075-CR-1014 -000	BARRETT HILL RD	4	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
075-CR-1004 -000	RICHLAND RD	62	4	0	Evaluate need for Type 3 Object Markers
075-CR-1004 -000	RICHLAND RD	57	4	0	Evaluate need for Type 3 Object Markers
075-CR-1004 -000	RICHLAND RD	6	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
075-CR-1004 -000	RICHLAND RD	91	4	0	Evaluate need for Type 3 Object Markers
075-CS-3008 -000	ROSS ST	4	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
075-CR-1134 -000	STRINGER RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	15	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	6	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
075-CR-1101 -000	BOEHLERS KNOB RD	3	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
075-CR-1103 -000	STROUD-LEVY RD	16	4	0	Evaluate need for Type 3 Object Markers
075-CS-4015 -000	WEST MAIN ST	25	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers

**Exhibit McLean-13: Bridge / Culvert Recommendations**

### Curve Recommendations (McLean County)

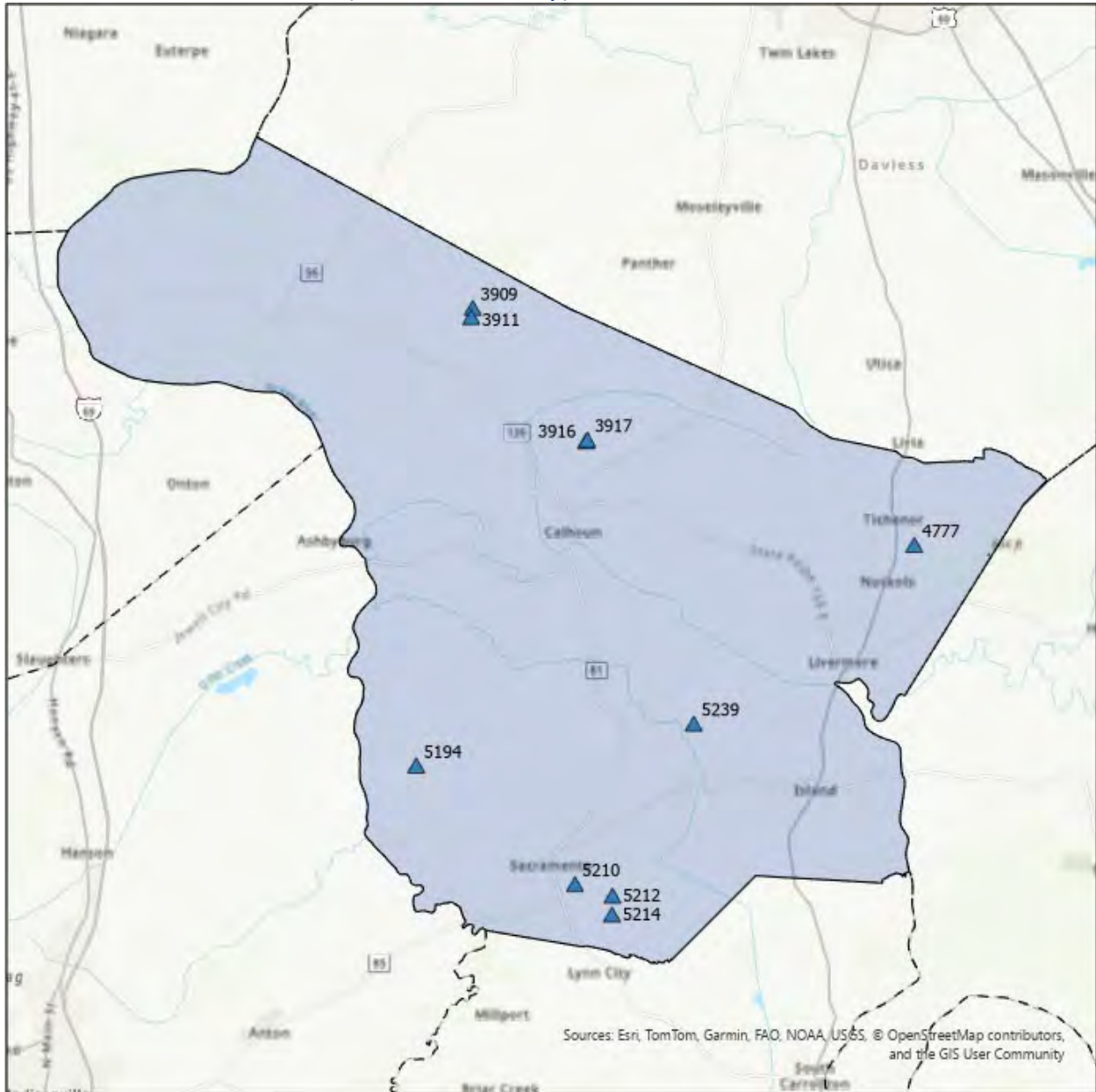
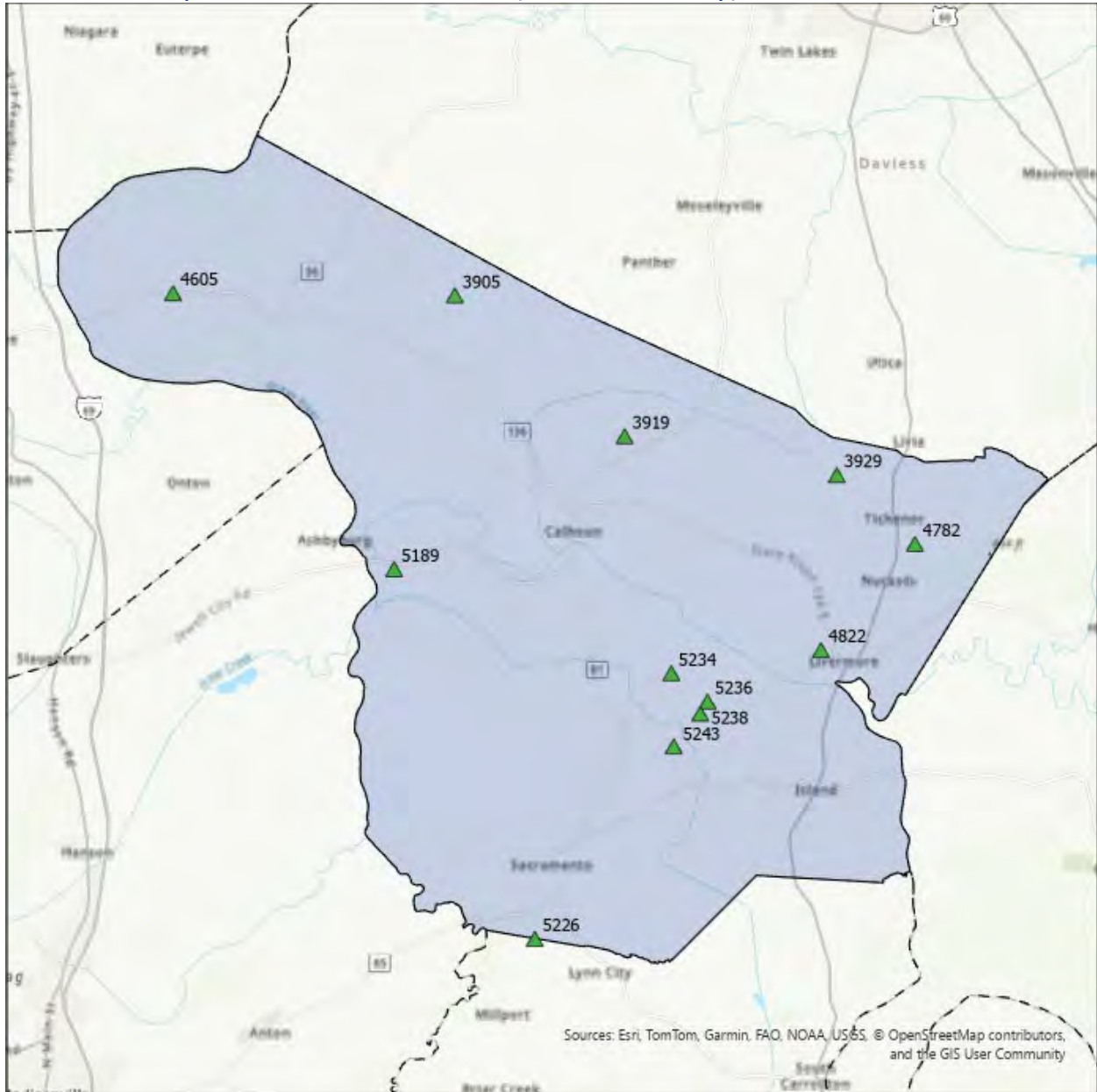


Exhibit McLean-14: Focus Road Curves

Point ID	RT_UNIQUE	Road Name	Comments	Vegetation	Recommendation
4777	075-CR-1014 -000	BARRETT HILL RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
3916	075-CR-1036 -000	BROOKS SCHOOLHOUSE RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
3917	075-CR-1036 -000	BROOKS SCHOOLHOUSE RD	Intersection_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
5239	075-CR-1103 -000	STROUD-LEVY RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5214	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5210	075-CR-1134 -000	STRINGER RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5212	075-CR-1134 -000	STRINGER RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5194	075-CR-1220 -000	BRANCH SCHOOLHOUSE RD	other	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
3909	075-CR-1305 -000	HOWARDS MILL RD	Entrance_in_Curve	Yes	Install Curve Warning Sign; Clear Vegetation; Consider striping enhancements at intersection
3911	075-CR-1305 -000	HOWARDS MILL RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection

**Exhibit McLean-15: Curve Recommendations**

### Roadside Drop Off Recommendations (McLean County)



**Exhibit McLean-16: Roadside Drop Off Locations**

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
3905	075-CR-1305 -000	HOWARDS MILL RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3919	075-CR-1036 -000	BROOKS SCHOOLHOUSE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3929	075-CR-1057 -000	HATFIELD STEVENS RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4605	075-CR-1328 -000	MCGHEE CHAPEL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4782	075-CR-1014 -000	BARRETT HILL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4822	075-CR-1004 -000	RICHLAND RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
5189	075-CR-1207 -000	EVERETT MILLER LN	1-3	<2	Install Type 2 Object Marker(s) or Delineator(s)
5226	075-CR-1056 -000	MILLPORT RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
5234	075-CR-1101 -000	BOEHLERS KNOB RD	1-3	<2	Install Type 2 Object Marker(s) or Delineator(s)
5236	075-CR-1101 -000	BOEHLERS KNOB RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
5238	075-CR-1103 -000	STROUD-LEVY RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
5243	075-CR-1103 -000	STROUD-LEVY RD	1-3	<2	Install Type 2 Object Marker(s) or Delineator(s)

**Exhibit McLean-17: Roadside Drop Off Recommendations**

### Fixed Object Recommendations (McLean County)

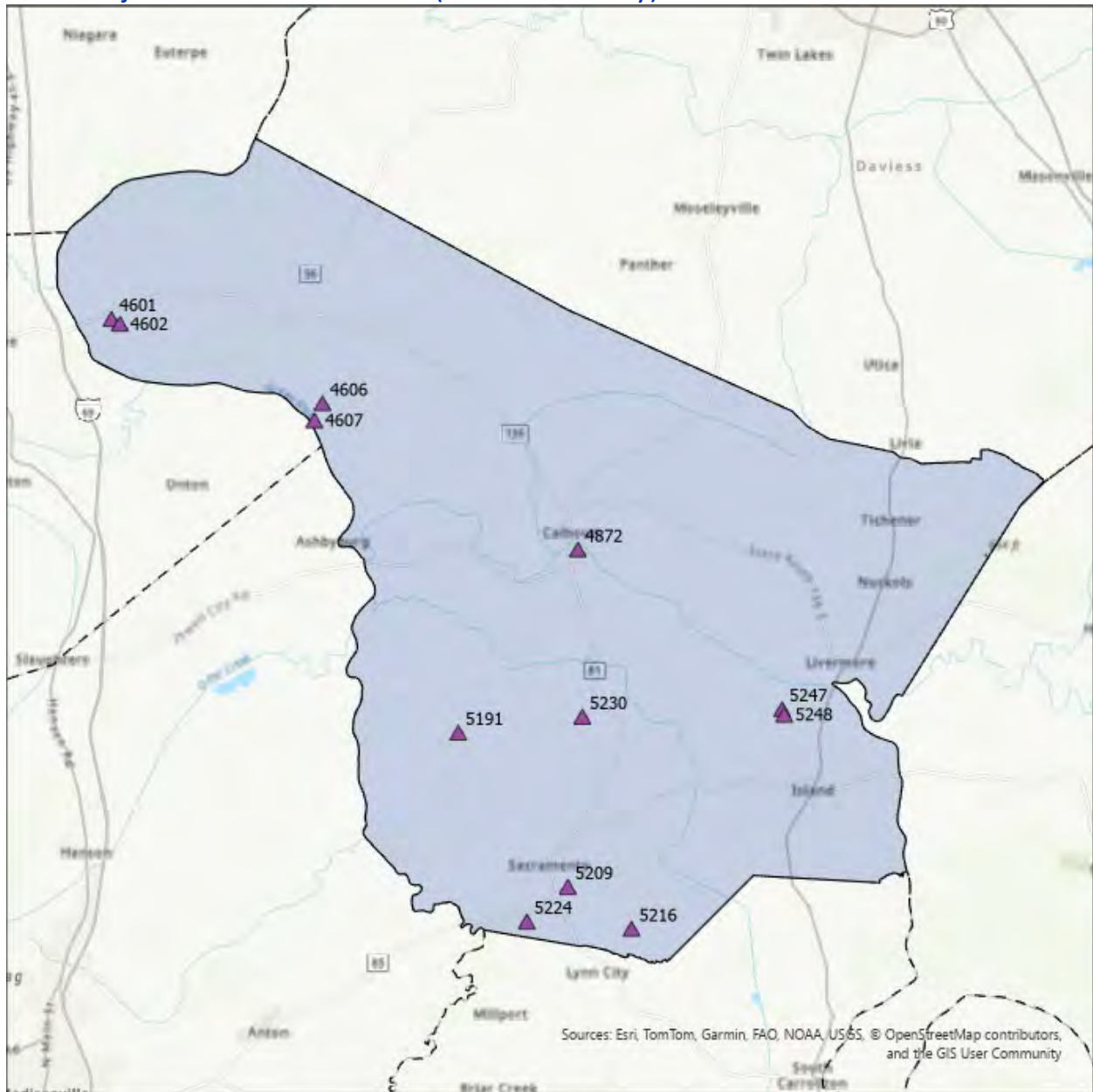
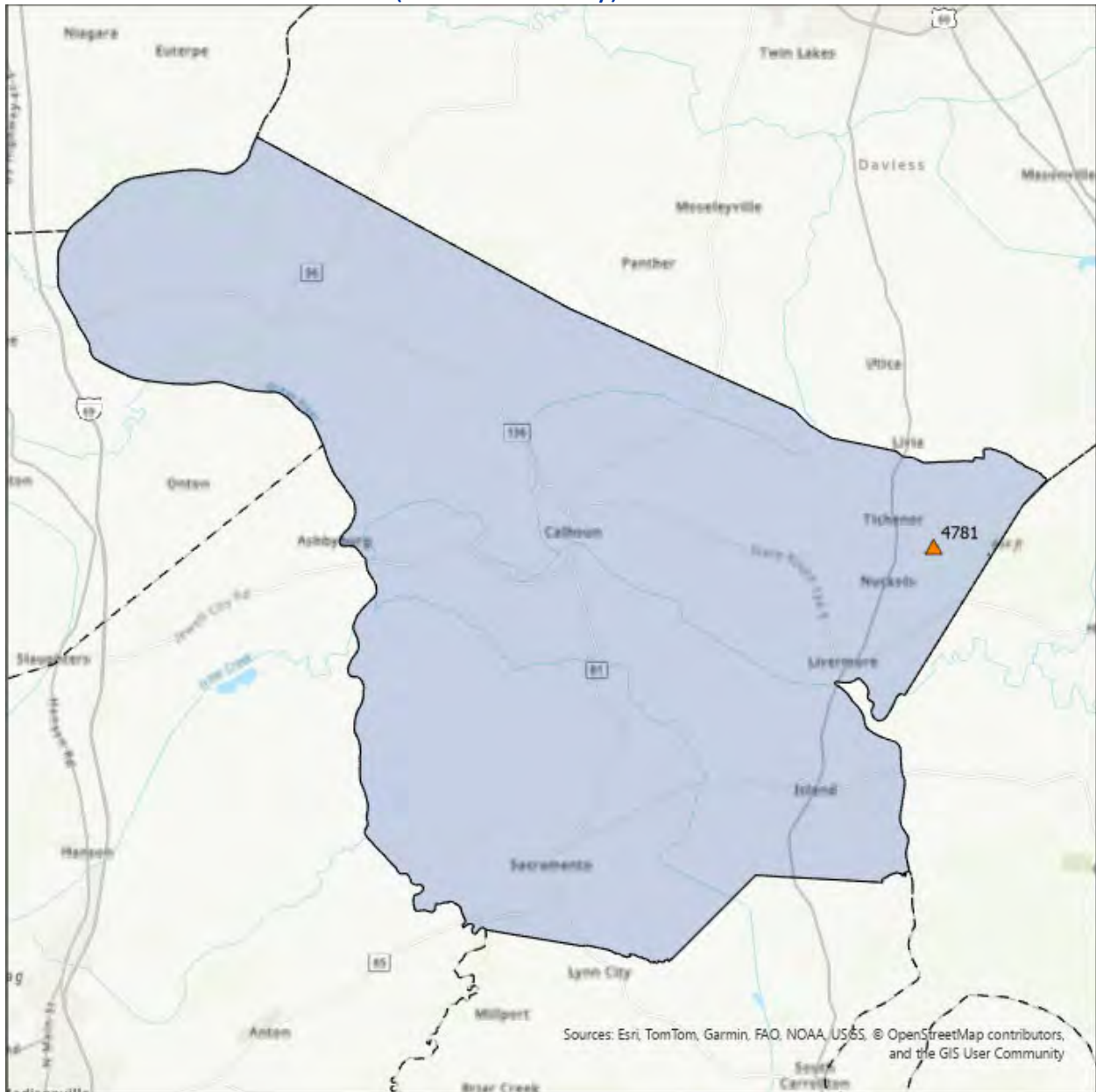


Exhibit McLean-18: Fixed Object Locations

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
4601	075-CR-1328 -000	MCGHEE CHAPEL RD	other; Fence	Series	1-3	Consider removal/relocation
4602	075-CR-1328 -000	MCGHEE CHAPEL RD	Tree;	Single	1-3	Remove
4606	075-CR-1337 -000	LEMON LN	Utility Pole;	Series	3-5	--
4607	075-CR-1337 -000	LEMON LN	Tree;	Series	1-3	--
4872	075-CR-1043G -000	NORTH CANAL ST	Tree;	Series	0-1	Remove trees within 3 ft of roadway
5191	075-CR-1220 -000	BRANCH SCHOOLHOUSE RD	Utility Pole;	Series	3-5	--
5209	075-CR-1134 -000	STRINGER RD	Utility Pole;	Series	3-5	--
5216	075-CR-1129 -000	COFFMAN SCHOOLHOUSE RD	Utility Pole;	Series	3-5	--
5224	075-CR-1056 -000	MILLPORT RD	Utility Pole;	Series	3-5	--
5230	075-CR-1143 -000	WHOBRY RD	Utility Pole;	Series	3-5	--
5247	075-CR-1110 -000	JIM DANIELS RD	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
5248	075-CR-1110 -000	JIM DANIELS RD	Tree;	Series	3-5	--

**Exhibit McLean-19: Fixed Object Recommendations**

### Guardrail Recommendations (McLean County)

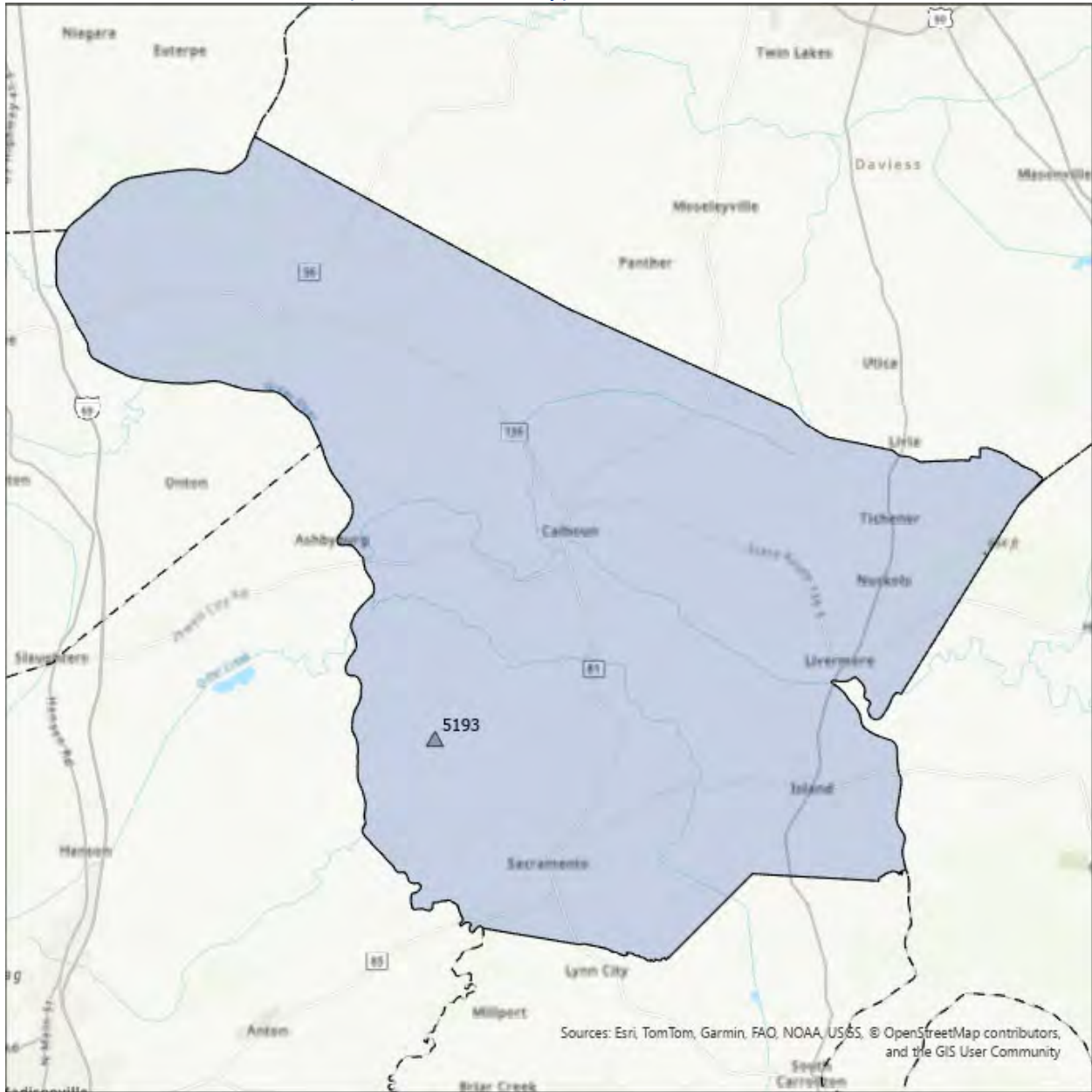


**Exhibit McLean-20: Guardrail Locations**

Point ID	RT_UNIQUE	Road Name	Condition	Meet Warrant	End Treatment	Recommendation
4781	075-CR-1014 -000	BARRETT HILL RD	Fair	No	Some	Remove
4809	075-CS-2052 -000	WEST THIRD ST	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers

**Exhibit McLean-21: Guardrail Recommendations**

Other Recommendations (McLean County)

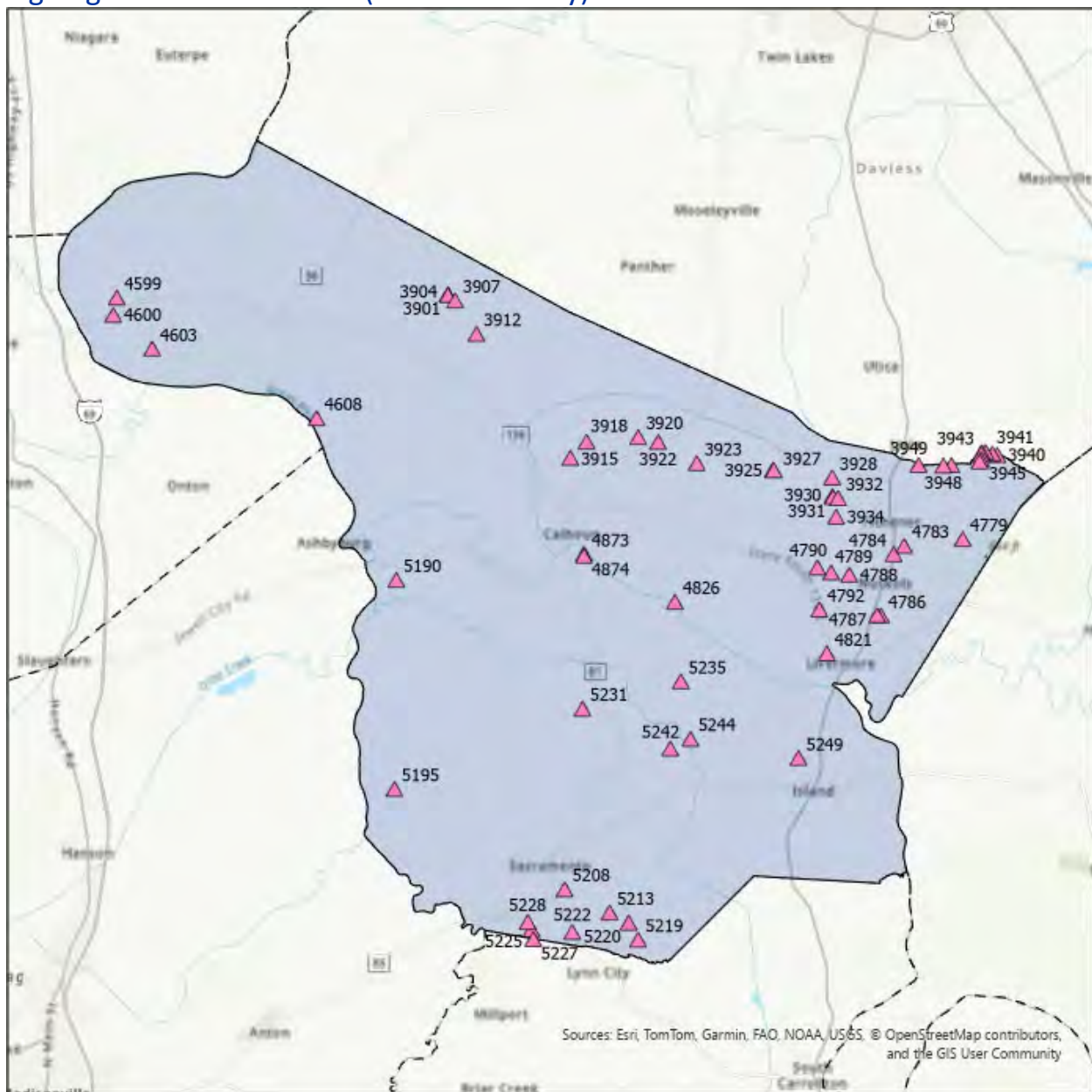


**Exhibit McLean-22: Other Item Locations**

Point ID	RT_UNIQUE	RD_NAME	Description	Recommendation
5193	075-CR-1220 -000	BRANCH SCHOOLHOUSE RD	Lack of curve signage;	See Roadway Section Recommended Improvements for signing recommendation

**Exhibit McLean-23: Other Item Recommendations**

### Signing Recommendations (McLean County)

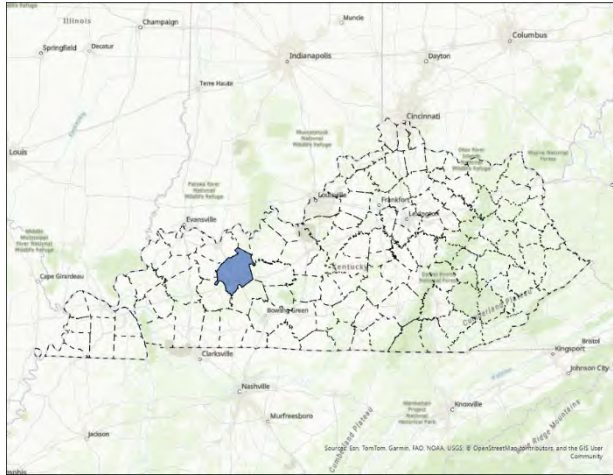


**Exhibit McLean-24: Sign Locations**

As part of the RSA data collection effort, existing signs were inventoried along reviewed Focus Roadways, including a condition assessment and a photo of each sign. Additionally, preliminary Advisory Speed recommendations were calculated for each focus roadway to assist in the installation of horizontal alignment (curve) signs. Signing and advisory speed information is provided in digital format at <https://kyt2.uky.edu/graddSAP>.

## APPENDIX G: OHIO COUNTY

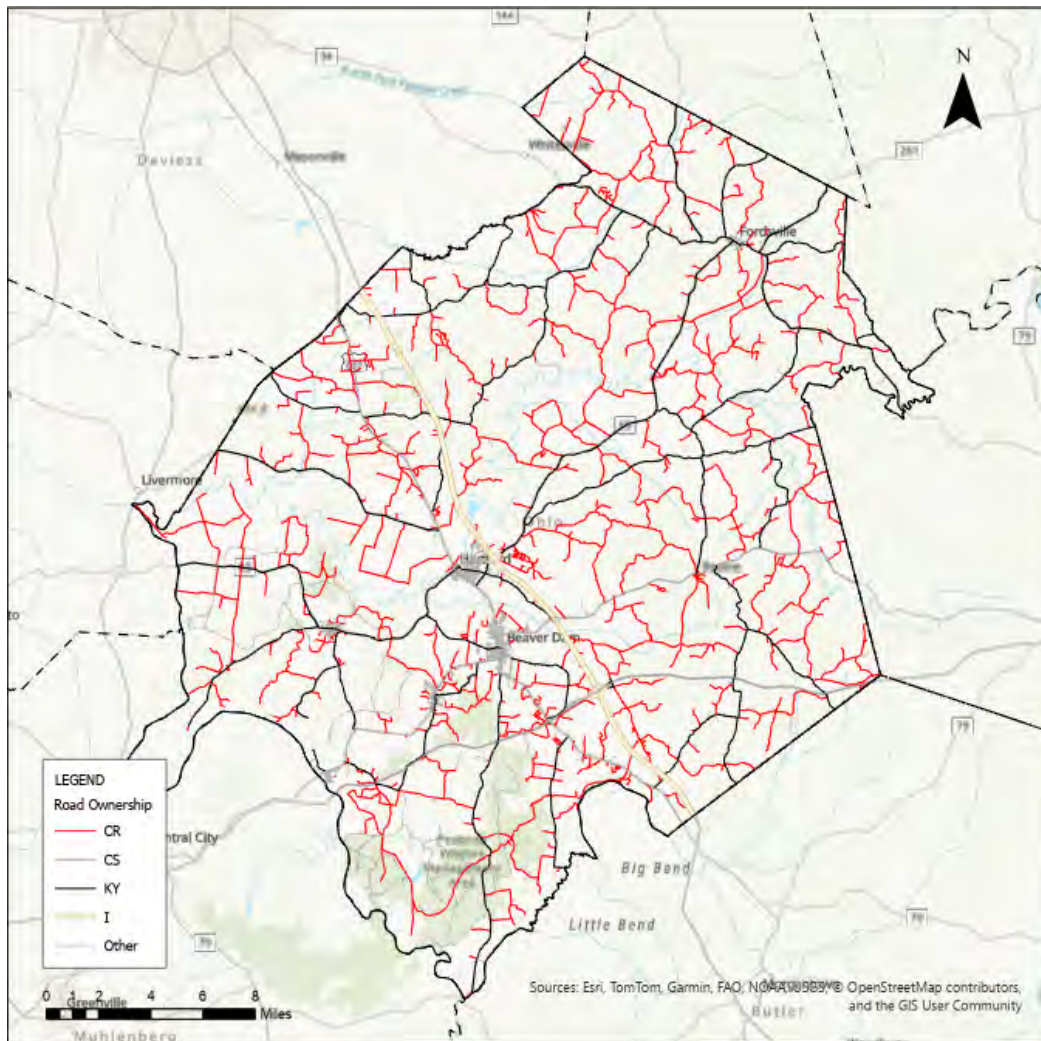
## Ohio County Overview



**Exhibit Ohio-1: Location Map**

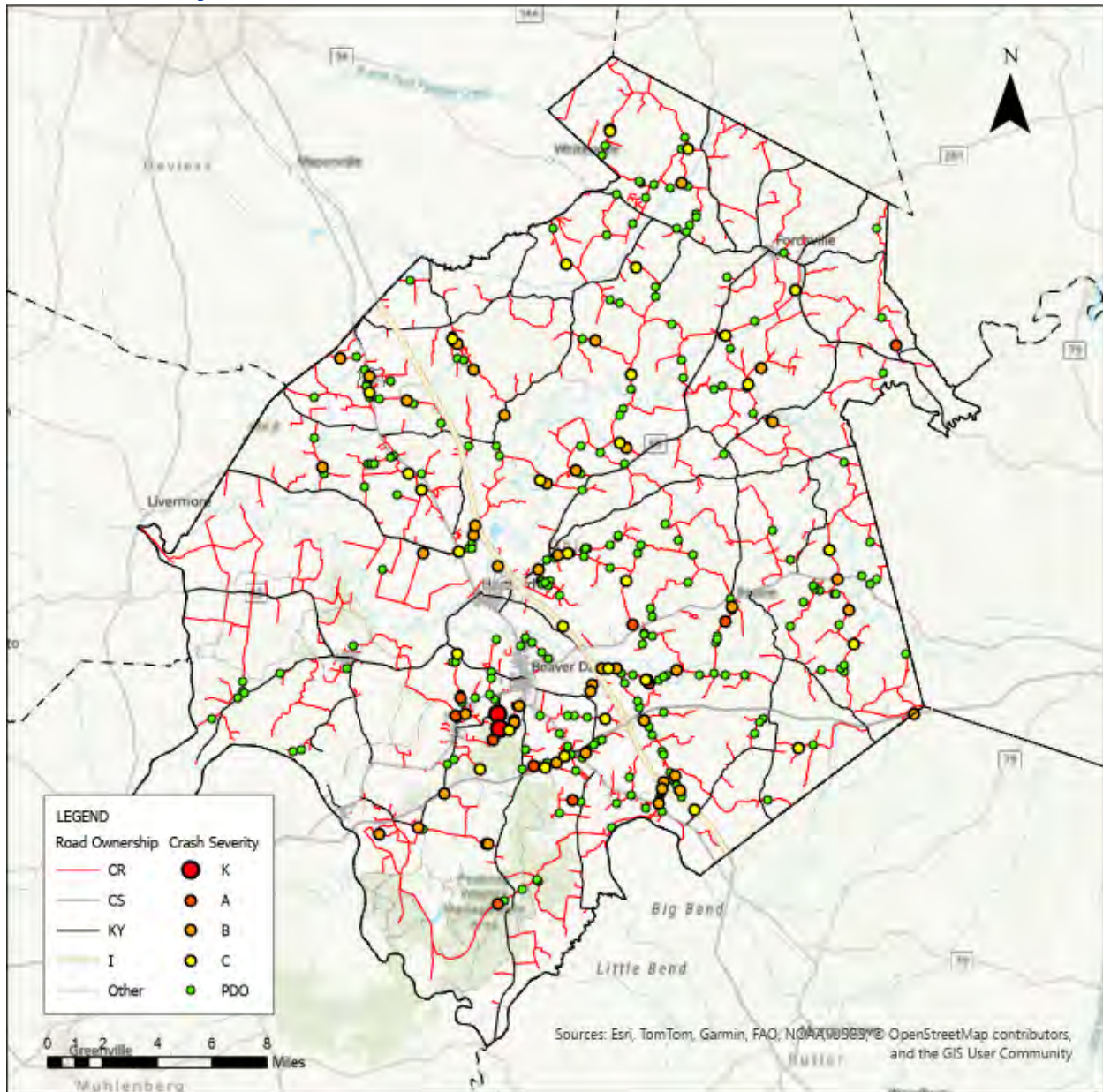
Key Information Table Ohio County	
Population	23,626
Population in Persistent Poverty	20%
Underserved Community	No
Fatalities (All Roads)	32
Fatalities (County Roads)	3
Fatality rate per 100,000 persons	135.4
County Road Mileage	564.3
State Road Mileage	326.8
<b>Total Mileage</b>	<b>891.1</b>

**Exhibit Ohio-2: Key Information**



**Figure Ohio-3: Map of County Roadways**

## Crash Analysis



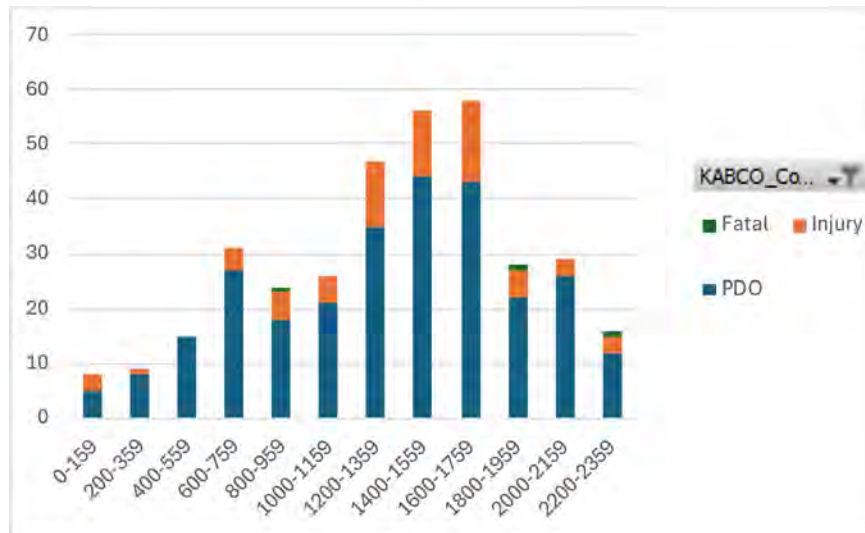
**Figure Ohio-4: Map of County Road Crashes**



**Figure Ohio-5: Crash Distribution by Year**

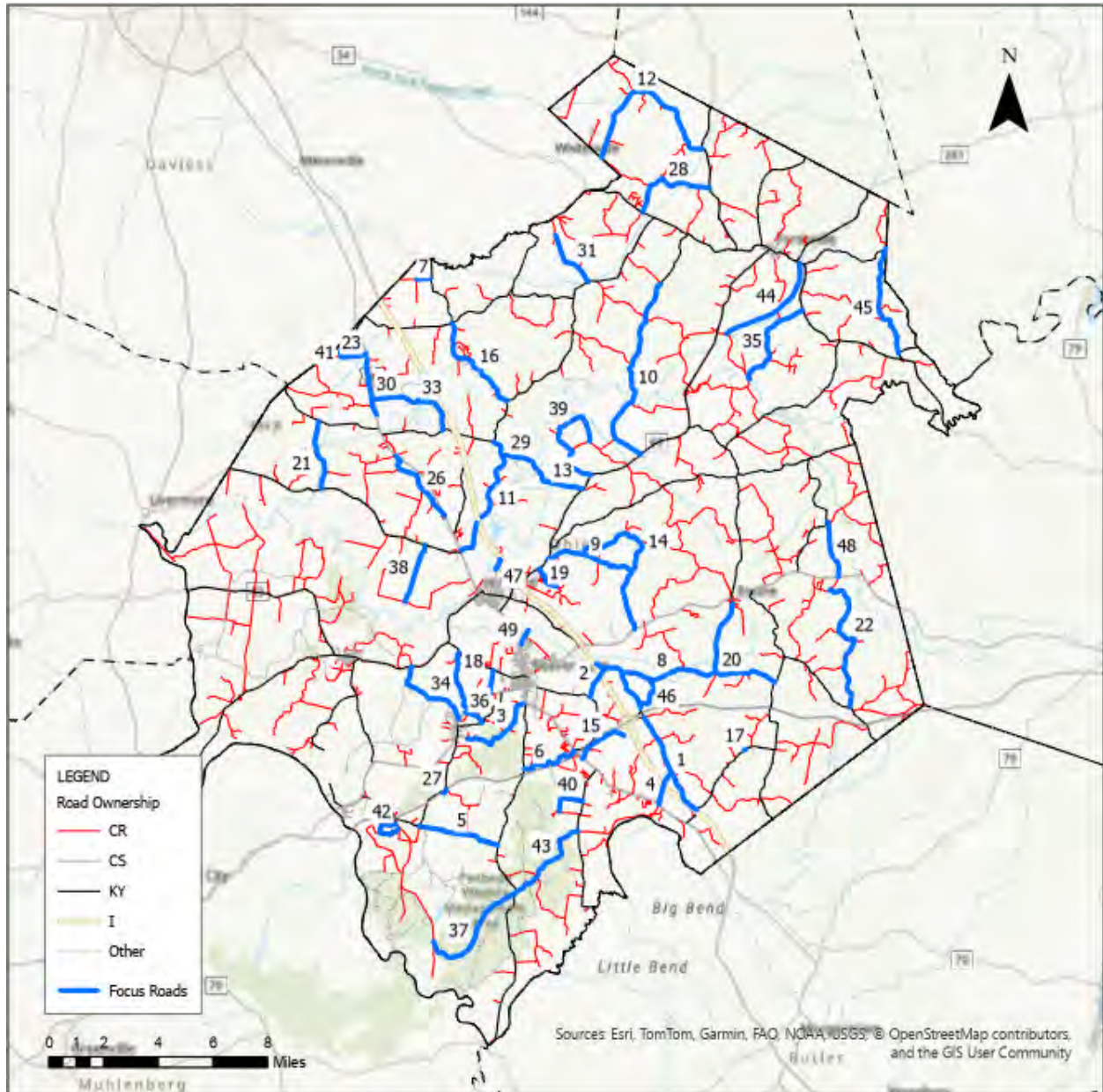
Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	150	54	3	<b>207</b>
SS - Opp	54	7	0	<b>61</b>
Head On	9	5	0	<b>14</b>
Angle	14	1	0	<b>15</b>
Rear End	7	1	0	<b>8</b>
Backing	37	0	0	<b>37</b>
SS - Same	4	0	0	<b>4</b>
Rear to Rear	1	0	0	<b>1</b>
Left Turn	0	0	0	<b>0</b>

**Exhibit Ohio-6: Crash Frequency and Severity by Manner of Collision**



**Exhibit Ohio-7: Crashes and Severity by Time of Day**

## Focus Roadways



**Exhibit Ohio-8: Focus Roads**

RT_UNIQUE	Length	County	ADD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
<b>Ohio</b>										
092-CR-1172 -000	6.64339	Ohio	GRADD	ROB ROY RD	4	2	19	3.00	2.14	1
092-CR-1204 -000	1.21848	Ohio	GRADD	DAVIS RD	2	0	3	1.03	4.98	2
092-CR-1244 -000	3.20268	Ohio	GRADD	TAYLOR MINE RD	5	1	3	2.74	0.68	3
092-CR-1175 -000	1.30271	Ohio	GRADD	CROMWELL RD	3	0	10	1.71	2.71	4
092-CR-1263 -000	3.06374	Ohio	GRADD	NINETEEN SCHOOL RD	3	0	1	1.45	1.67	5
092-CR-1258 -000	2.4246	Ohio	GRADD	APPLE HOUSE RD	1	2	10	1.32	1.42	6
092-CR-1372 -000	1.16563	Ohio	GRADD	CRANE POND RD	0	0	2	0.06	3.91	7
092-CR-1199 -000	3.6653	Ohio	GRADD	SANDEFUR CROSSING RD	2	1	5	1.37	1.00	8
092-CR-1117 -000	3.45157	Ohio	GRADD	HAMLIN CHAPEL RD	1	1	6	0.93	1.85	9
092-CR-1067 -000	7.61074	Ohio	GRADD	SUNNYDALE RD	1	3	6	1.49	0.70	10
092-CR-1356 -000	4.15306	Ohio	GRADD	HOOPEE HILL RD	2	0	10	1.23	0.96	11
092-CR-1056 -000	6.61361	Ohio	GRADD	HERBERT RD	1	2	4	1.15	0.87	12
092-CR-1449 -000	1.77651	Ohio	GRADD	COMBS BRIDGE RD	1	1	1	0.79	1.47	13
092-CR-1212 -000	6.28123	Ohio	GRADD	BETHEL CHURCH RD	1	1	7	0.95	1.10	14
092-CR-1193 -000	1.99076	Ohio	GRADD	OLD LIBERTY CHURCH RD	1	0	6	0.64	1.60	15
092-CR-1365 -000	4.07057	Ohio	GRADD	TAFFY RD	1	1	4	0.87	1.03	16
092-CR-1231 -000	0.14397	Ohio	GRADD	BAIZE LP	0	0	0	0.00	2.76	17
092-CR-1250 -000	2.27302	Ohio	GRADD	MILLER RD	1	1	4	0.87	0.98	18
092-CR-1211A -000	0.11831	Ohio	GRADD	SOCCER FIELD LN	0	0	0	0.00	2.69	19
092-CR-1125 -000	5.1281	Ohio	GRADD	MT PLEASANT RD	2	0	6	1.12	0.39	20
092-CR-1396 -000	2.68572	Ohio	GRADD	HEFLIN RD	1	0	2	0.53	1.37	21
092-CR-1148 -000	5.74657	Ohio	GRADD	ARNOLD LEACH RD	1	1	5	0.90	0.50	22
092-CR-1390 -000	1.39315	Ohio	GRADD	GREENBRIAR RD	1	0	1	0.50	1.30	23
092-CR-1068 -000	1.87145	Ohio	GRADD	OLD LEITCHFIELD RD	0	0	6	0.17	1.84	24
092-CR-1455A -000	1.01641	Ohio	GRADD	ENTRANCE RD	0	0	2	0.06	2.06	25
092-CR-1379 -000	3.20635	Ohio	GRADD	BEDA RD	0	2	0	0.56	1.01	26
092-CR-1213 -000	0.22664	Ohio	GRADD	CHAPMAN CEMETERY LN	2	0	0	0.95	0.09	27
092-CR-1066 -000	3.53779	Ohio	GRADD	ZION CHURCH RD	1	0	3	0.56	0.73	28
092-CR-1361 -000	2.4303	Ohio	GRADD	PARK RIDGE RD	0	0	2	0.06	1.75	29
092-CR-1386 -000	2.14974	Ohio	GRADD	BUFORD RD	0	1	3	0.37	1.06	30
092-CR-1071 -000	2.84922	Ohio	GRADD	MORGANTOWN RD	0	1	1	0.31	1.10	31
092-CR-1241 -000	0.89474	Ohio	GRADD	GOSHEN CHURCH RD	0	0	3	0.08	1.55	32
092-CR-1374 -000	3.54676	Ohio	GRADD	BARNETTS CREEK RD	1	0	3	0.56	0.57	33
092-CR-1343 -000	3.25487	Ohio	GRADD	RIVERVIEW RD	1	0	1	0.50	0.51	34
092-CR-1024 -000	3.83867	Ohio	GRADD	BUD BAUGHN RD	1	0	0	0.47	0.50	35
092-CR-1337 -000	0.84988	Ohio	GRADD	RENDER RD	1	0	0	0.47	0.49	36
092-CR-1277 -000	4.52622	Ohio	GRADD	WYSOX RD	1	0	1	0.50	0.42	37
092-CR-1415 -000	2.26455	Ohio	GRADD	MUD COLLEGE RD	1	0	0	0.47	0.47	38
092-CR-1089 -000	4.58863	Ohio	GRADD	ROUND HILL RD	1	0	2	0.53	0.34	39
092-CR-1189 -000	1.34645	Ohio	GRADD	PATTERSON RD	1	0	0	0.47	0.42	40
092-CR-1389 -000	1.1879	Ohio	GRADD	BOLING RD	0	0	0	0.00	1.38	41
092-CR-1284 -000	1.70428	Ohio	GRADD	SCOTTOWN RD	1	0	0	0.47	0.38	42
092-CR-1266 -000	3.67437	Ohio	GRADD	COOL SPRINGS RD	0	0	1	0.03	1.27	43
092-CR-1036 -000	4.0995	Ohio	GRADD	RAILROAD BED RD	0	1	1	0.31	0.66	44
092-CR-1033 -000	6.44402	Ohio	GRADD	ASKINS RD	1	0	2	0.53	0.21	45
092-CR-1196 -000	1.45321	Ohio	GRADD	HICKORY CHURCH RD	1	0	0	0.47	0.29	46
092-CR-1447 -000	0.50481	Ohio	GRADD	IRON MOUNTAIN DR	1	0	0	0.47	0.29	47
092-CR-1153 -000	2.15535	Ohio	GRADD	OLATON RD	0	1	0	0.28	0.64	48
092-CR-1310 -000	0.60674	Ohio	GRADD	OLD HARTFORD RD	0	0	1	0.03	1.11	49
092-CR-1020 -000	2.89697	Ohio	GRADD	UNDERWOOD RD	1	0	1	0.50	0.13	50

**Exhibit Ohio-9: List of Focus Roadways**

## Recommended Improvements (Top 5 Roads)

### ROB ROY RD (092-CR-1172 -000)

Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	9	3	0	12
(blank)	0	0	0	0
SS - Opp	4	0	0	4
Rear to Rear	0	0	0	0
Head On	1	0	0	1
Backing	2	0	0	2
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

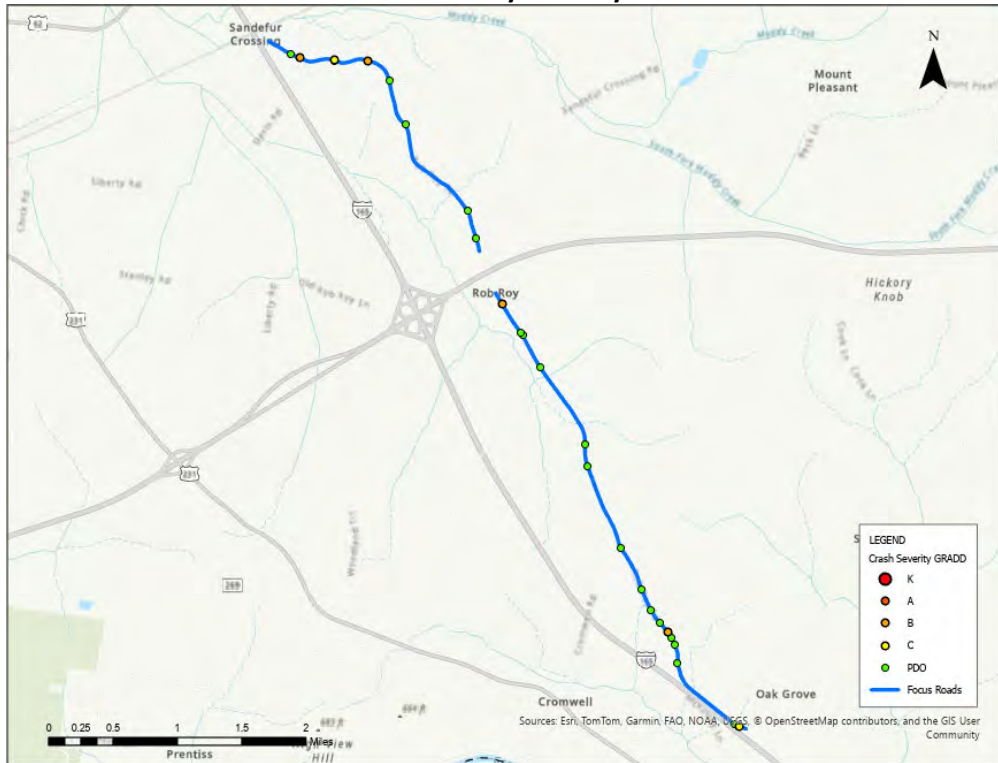
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (
5357	092-CR-1172 -000	ROB ROY RD	16	3	4	60-80
5364	092-CR-1172 -000	ROB ROY RD	17	3	4	60-80
5369	092-CR-1172 -000	ROB ROY RD	15	1	4	80-100
5371	092-CR-1172 -000	ROB ROY RD	15	4	4	60-80

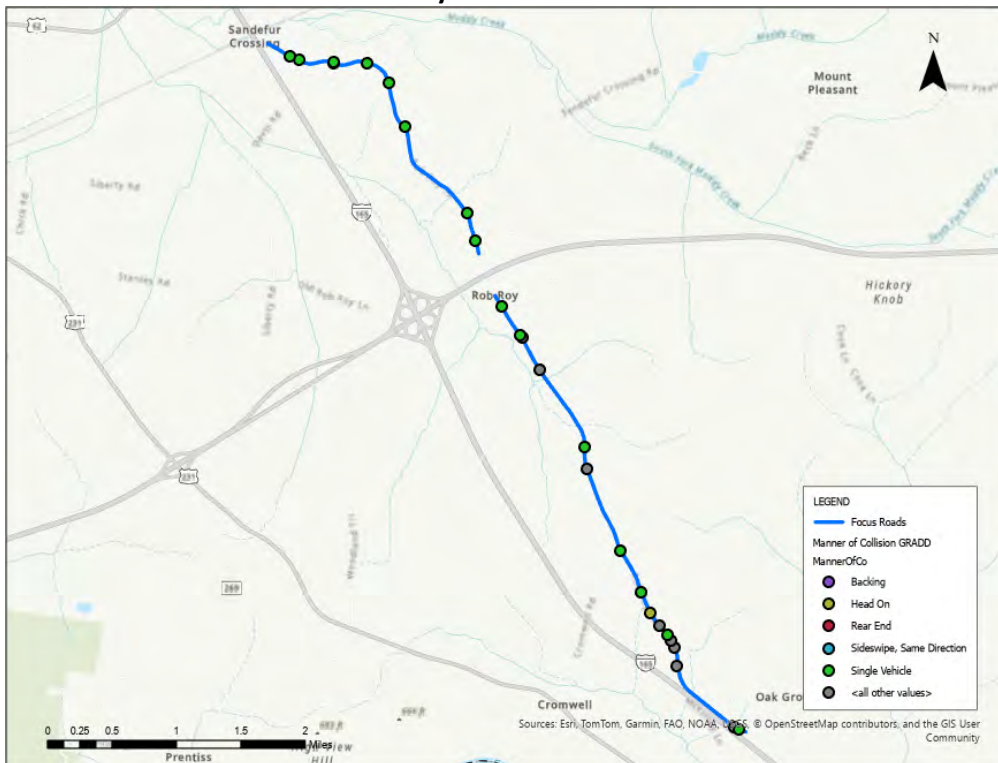
Roadway Typical Section



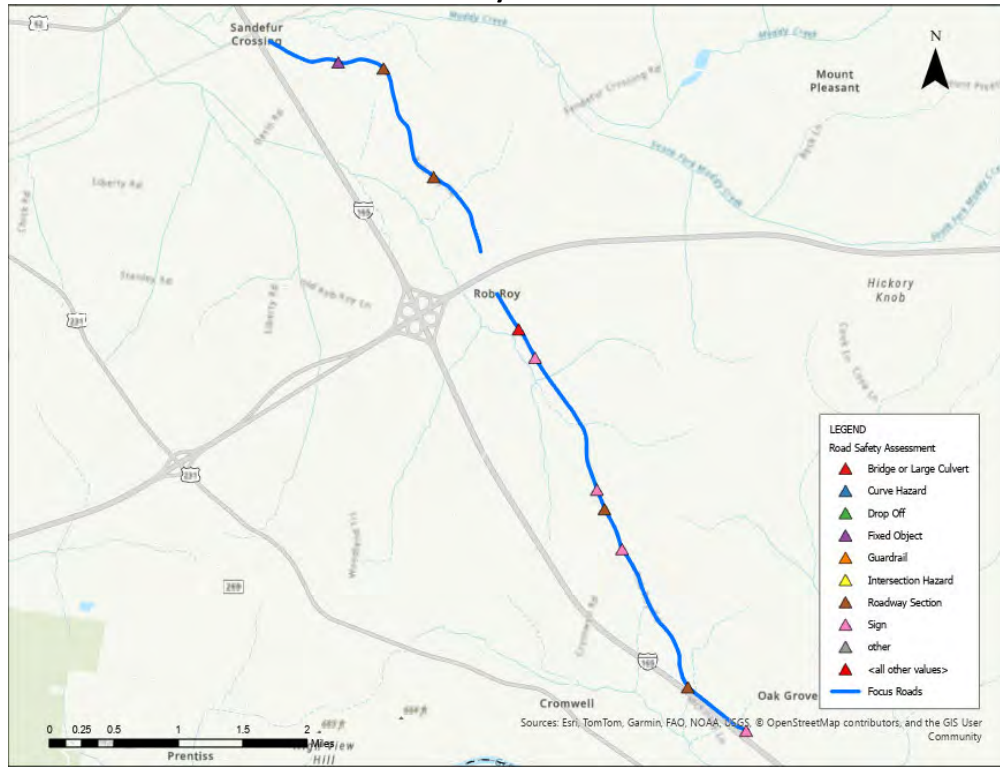
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
5357	092-CR-1172 -000	ROB ROY RD	16	3	4	60-80	✓	✓	✓	
5364	092-CR-1172 -000	ROB ROY RD	17	3	4	60-80	✓	✓	✓	
5369	092-CR-1172 -000	ROB ROY RD	15	1	4	80-100	✓	✓	✓	Resurface
5371	092-CR-1172 -000	ROB ROY RD	15	4	4	60-80	✓	✓	✓	

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
5363	092-CR-1172 -000	ROB ROY RD	Fixed Object	Tree;	Series	1-3	--

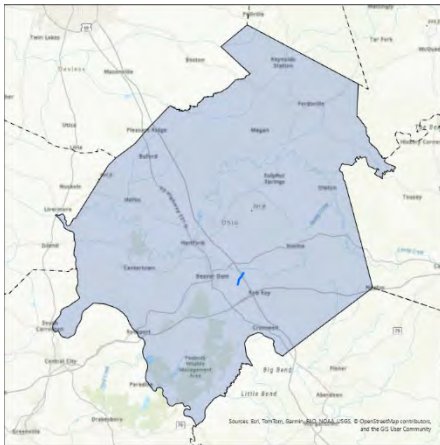
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation
5374	092-CR-1172 -000	ROB ROY RD	Guardrail	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers

Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
5365	092-CR-1172 -000	ROB ROY RD	Bridge or Large Culvert	18	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers

**DAVIS RD (092-CR-1204 -000)**

**Road Location Map and Crash History**



Manner of Collision	Property Damage Only	Injury	Fatal	Total
SS - Opp	0	2	0	2
Single Vehicle	2	1	0	3
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
SS - Same	0	0	0	0
(blank)	0	0	0	0
Left Turn	0	0	0	0
Angle	1	0	0	1

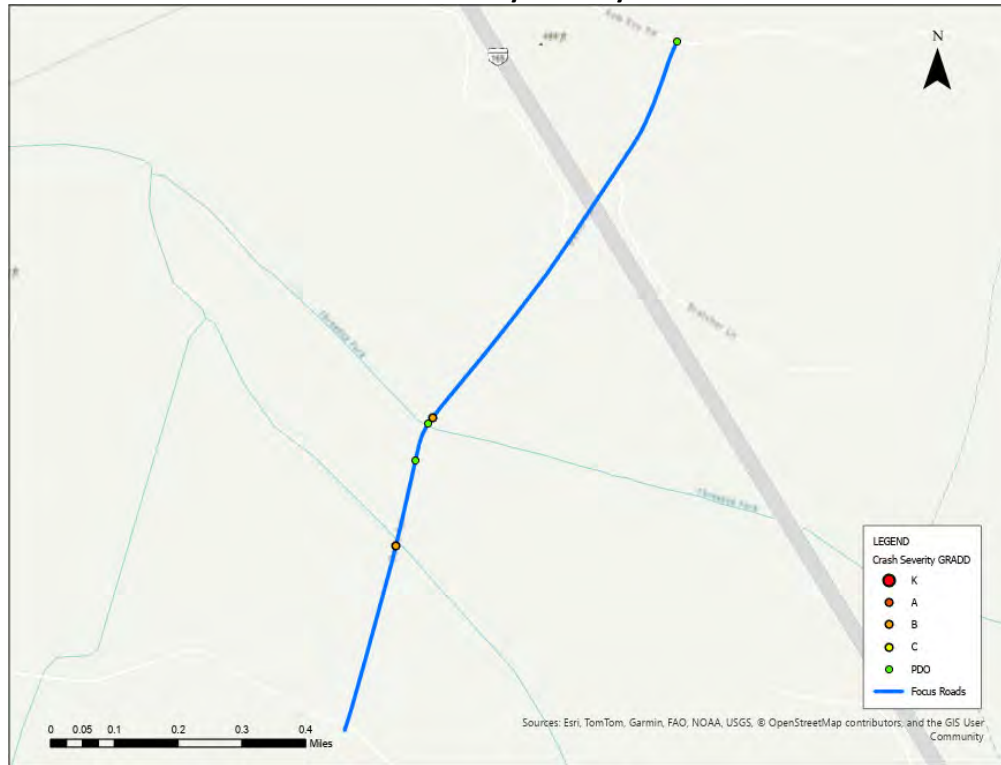
**General Roadway Conditions**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (ft)
5362	092-CR-1204 -000	DAVIS RD	19	3	4	40-60

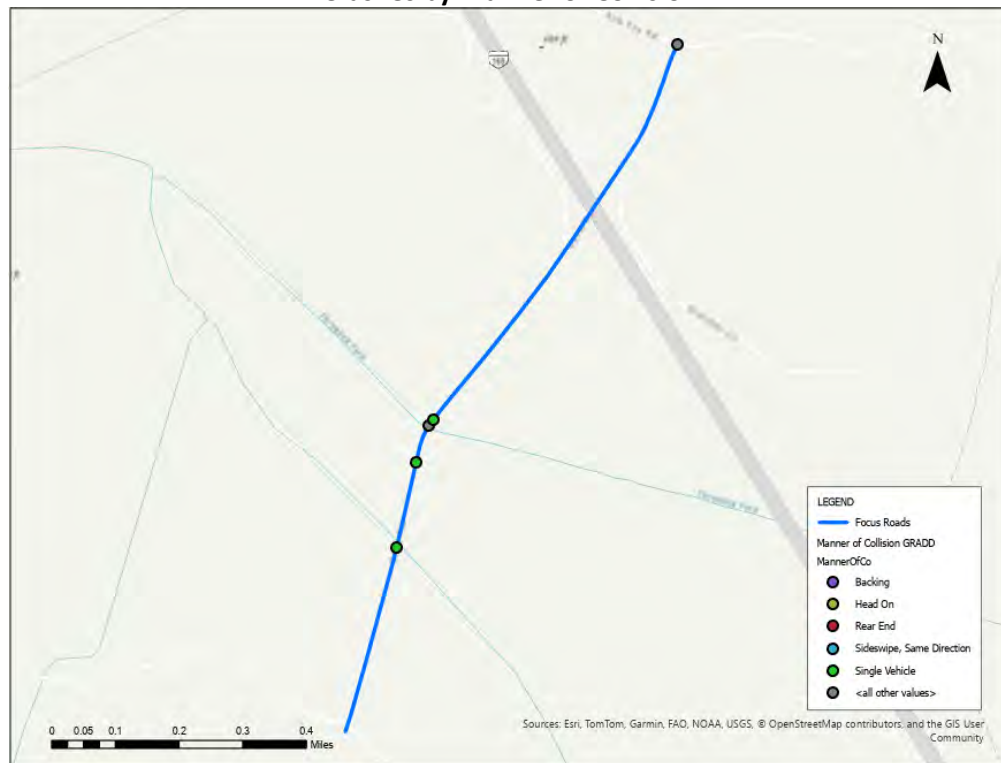
**Roadway Typical Section**



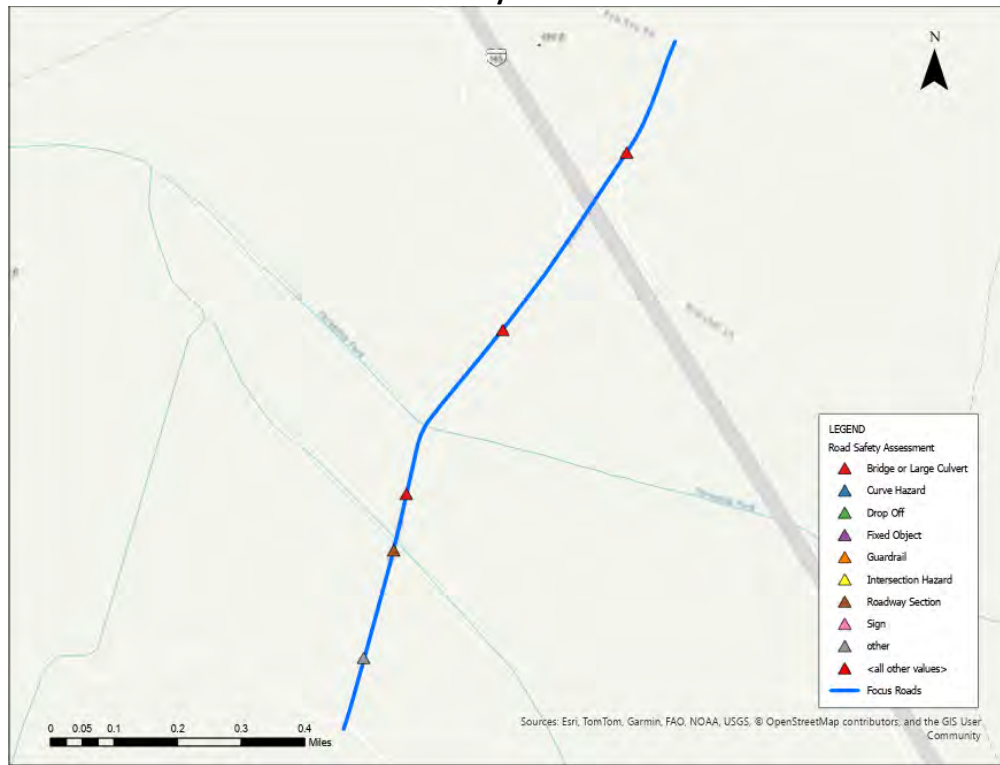
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
5362	092-CR-1204 -000	DAVIS RD	19	3	4	40-60	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
5358	092-CR-1204 -000	DAVIS RD	Bridge or Large Culvert	23	4	0	Evaluate need for Type 3 Object Markers			
5359	092-CR-1204 -000	DAVIS RD	Bridge or Large Culvert	19	4	0	Evaluate need for Type 3 Object Markers			
5360	092-CR-1204 -000	DAVIS RD	Bridge or Large Culvert	19	4	0	Evaluate need for Type 3 Object Markers			
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation			
5361	092-CR-1204 -000	DAVIS RD	other	--	--	No stop sign;	Install Stop Sign			

**TAYLOR MINE RD (092-CR-1244 -000)**

**Road Location Map and Crash History**

Manner of Collision	Property Damage Only	Injury	Fatal	Total
SS - Same	0	0	0	0
Rear to Rear	0	0	0	0
(blank)	0	0	0	0
Backing	0	0	0	0
SS - Opp	0	0	0	0
Head On	0	0	0	0
Single Vehicle	2	0	0	2
Left Turn	0	0	0	0
Angle	0	0	0	0

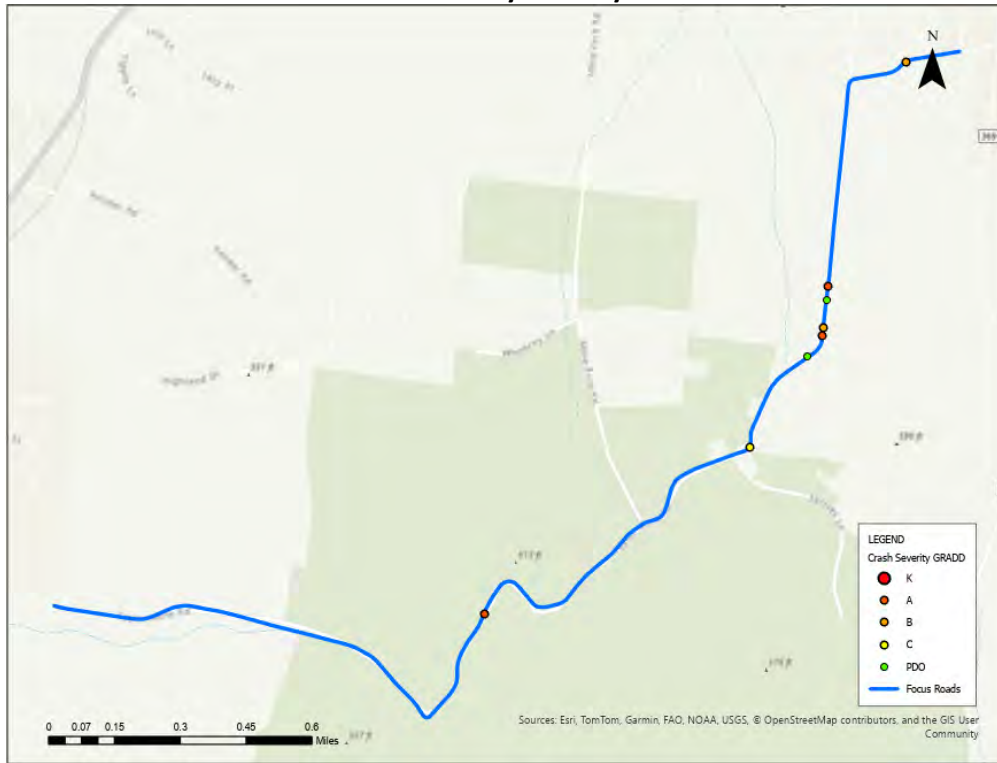
**General Roadway Conditions**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (%)
5715	092-CR-1244 -000	TAYLOR MINE RD	17	4	4	0-20
5716	092-CR-1244 -000	TAYLOR MINE RD	18	1	6	20-40
5717	092-CR-1244 -000	TAYLOR MINE RD	19	3	5	0-20

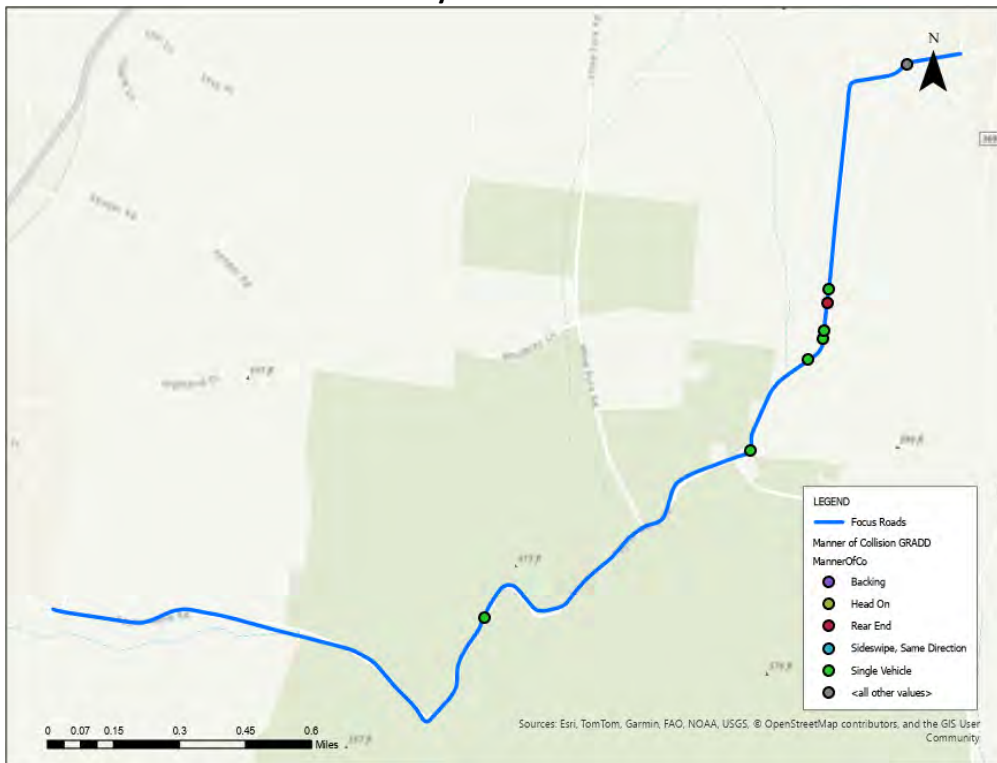
**Roadway Typical Section**



### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (	Improve Should	Edgelin	Curve Signin	Other Recommendations
5715	092-CR-1244 -000	TAYLOR MINE RD	17	4	4	0-20		✓	✓	
5716	092-CR-1244 -000	TAYLOR MINE RD	18	1	6	20-40	✓	✓	✓	Resurface
5717	092-CR-1244 -000	TAYLOR MINE RD	19	3	5	0-20		✓	✓	

### CROMWELL RD (092-CR-1175 -000)

#### Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	9	2	0	11
Angle	3	1	0	4
Head On	1	0	0	1
SS - Same	2	0	0	2
SS - Opp	1	0	0	1
Left Turn	0	0	0	0
Backing	2	0	0	2
(blank)	0	0	0	0
Rear to Rear	0	0	0	0

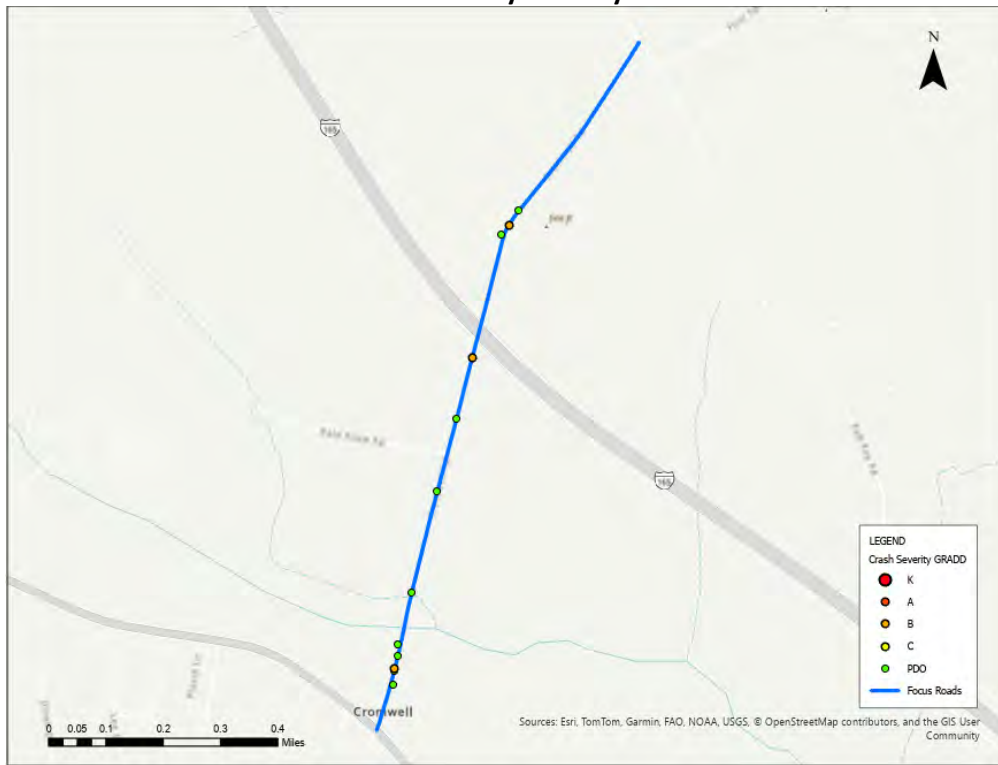
#### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (
4105	092-CR-1175 -000	CROMWELL RD	18	3	6	20-40

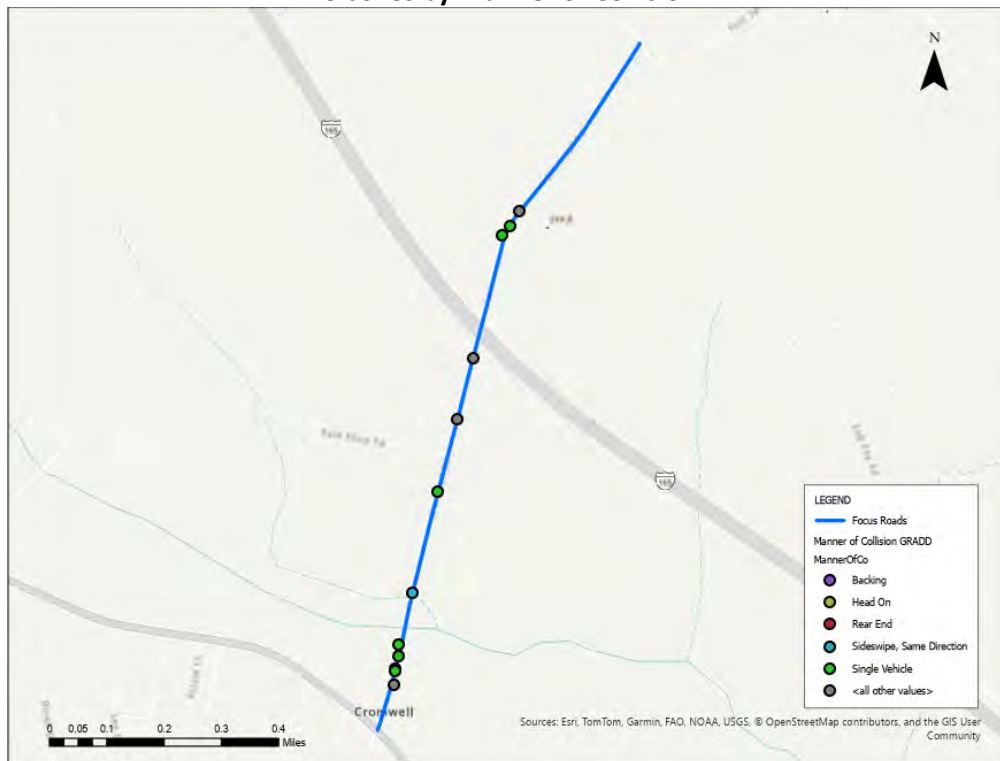
#### Roadway Typical Section



### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rate	Shoulder Improve	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
4105	092-CR-1175 -000	CROMWELL RD	18	3	6	20-40	✓	✓	✓	

Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
4106	092-CR-1175 -000	CROMWELL RD	Bridge or Large Culvert	28	4	0	Evaluate need for Type 3 Object Markers

### NINETEEN SCHOOL RD (092-CR-1263 -000)

#### Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	2	1	0	3
(blank)	0	0	0	0
SS - Opp	0	0	0	0
Rear to Rear	0	0	0	0
Head On	1	0	0	1
Backing	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

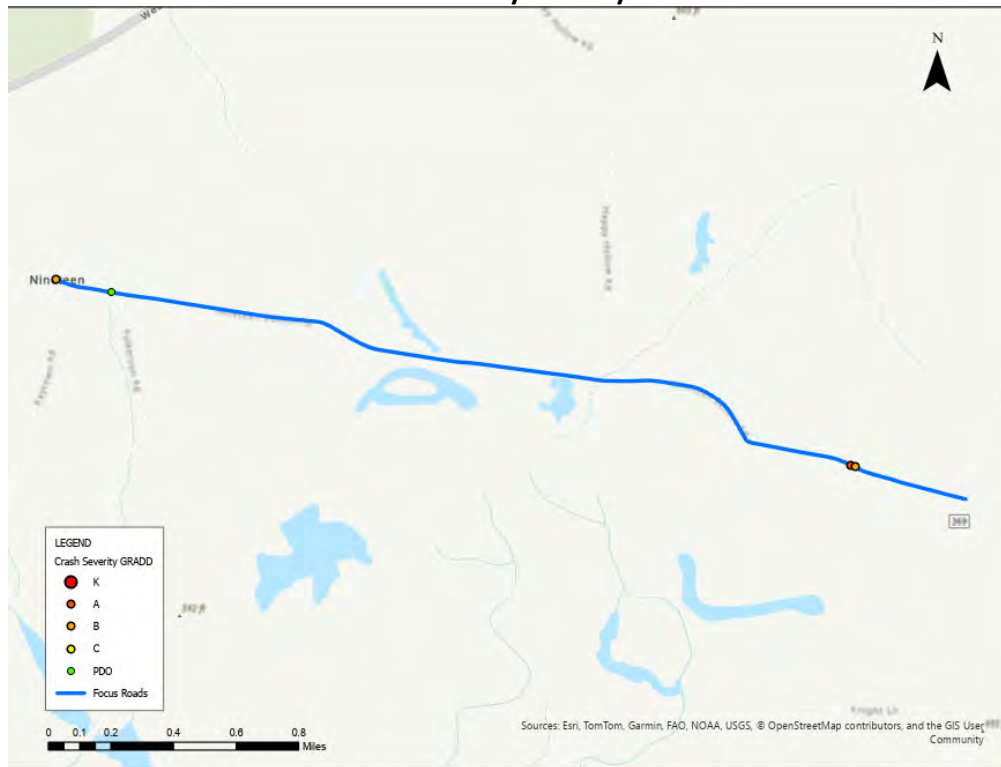
#### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (
4067	092-CR-1263 -000	NINETEEN SCHOOL RD	19	4	4	20-40

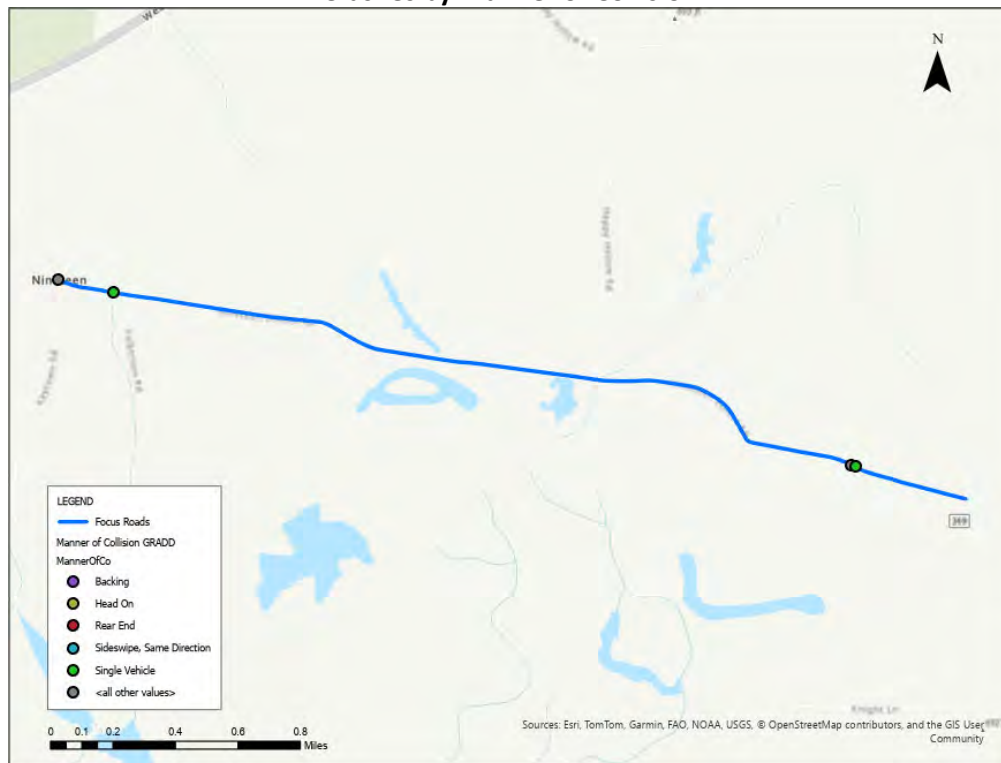
#### Roadway Typical Section



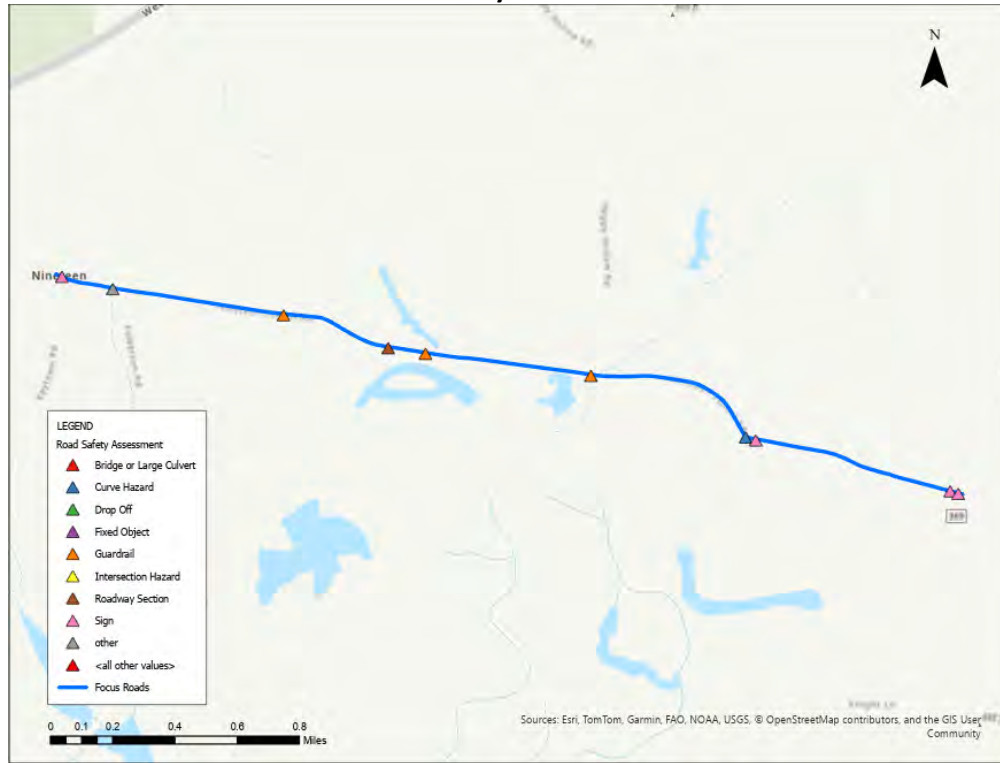
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
4067	092-CR-1263 -000	NINETEEN SCHOOL RD	19	4	4	20-40	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
4066	092-CR-1263 -000	NINETEEN SCHOOL RD	Guardrail	Fair	No	None	Remove			
4068	092-CR-1263 -000	NINETEEN SCHOOL RD	Guardrail	Fair	No	None	Remove			
4069	092-CR-1263 -000	NINETEEN SCHOOL RD	Guardrail	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation			
4070	092-CR-1263 -000	NINETEEN SCHOOL RD	Curve Hazard	Yes	--	Curve_Obscured	Install Curve Warning Sign; Clear Vegetation			
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation			
4065	092-CR-1263 -000	NINETEEN SCHOOL RD	other	--	--	Roadway hazard; Roadway hazard. Gravel over	Remove Gravel and review nearby drainage to identify source of washout			

## Other Roadways

### General Roadway Conditions and Recommendations (Ohio County)

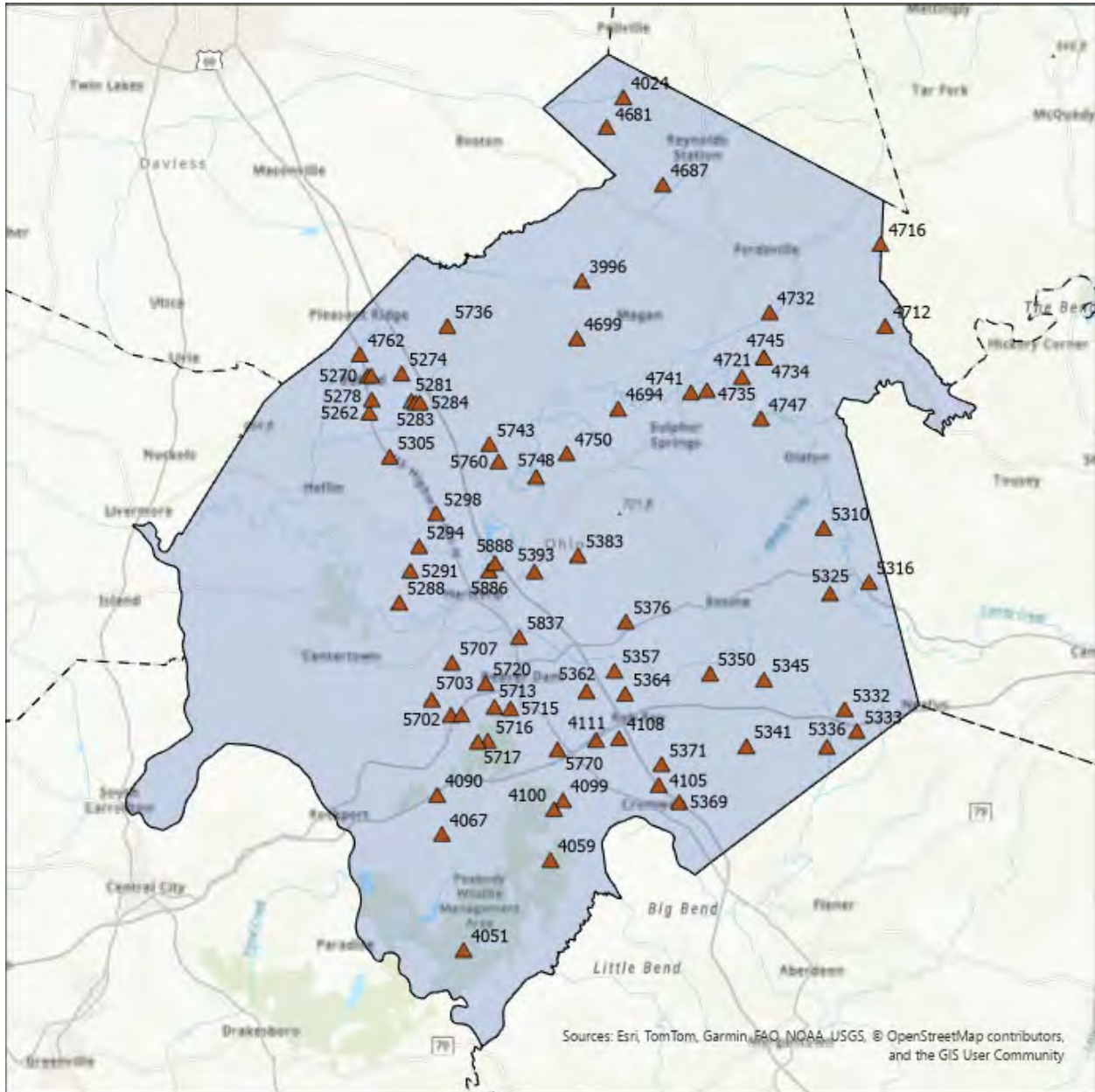


Exhibit Ohio-1: General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rat	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin	Other Recommendations
3996	092-CR-1071 -000	MORGANTOWN RD	16	1	6	80-100	✓	✓	✓	Resurface roadway
4024	092-CR-1056 -000	HERBERT RD	16	2	6	60-80	✓	✓	✓	Resurface
4051	092-CR-1277 -000	WYSOX RD	16	2	4	0-20		✓	✓	Resurface roadway
4059	092-CR-1266 -000	COOL SPRINGS RD	16	2	5	0-20		✓	✓	Resurface
4067	092-CR-1263 -000	NINETEEN SCHOOL RD	19	4	4	20-40	✓	✓	✓	
4090	092-CR-1213 -000	CHAPMAN CEMETERY LN	12	1	7	80-100	✓	✓	✓	Resurface
4099	092-CR-1189 -000	PATTERSON RD	16	4	6	80-100	✓	✓	✓	
4100	092-CR-1189 -000	PATTERSON RD	15	3	6	60-80	✓	✓	✓	
4105	092-CR-1175 -000	CROMWELL RD	18	3	6	20-40	✓	✓	✓	
4108	092-CR-1193 -000	OLD LIBERTY CHURCH RD	18	1	2	0-20		✓	✓	Resurface
4111	092-CR-1193 -000	OLD LIBERTY CHURCH RD	23	4	5	0-20		EL & CL	✓	
4681	092-CR-1056 -000	HERBERT RD	16	2	5	40-60	✓	✓	✓	Resurface
4687	092-CR-1066 -000	ZION CHURCH RD	18	3	6	40-60	✓	✓	✓	
4694	092-CR-1067 -000	SUNNYDALE RD	12	3	6	60-80	✓	✓	✓	
4699	092-CR-1084 -000	BEECH VALLEY RD	12	1	6	80-100	✓	✓	✓	Resurface roadway
4712	092-CR-1033 -000	ASKINS RD	14	3	5	80-100	✓	✓	✓	
4716	092-CR-1033 -000	ASKINS RD	10	1	7	80-100	✓	✓	✓	Resurface
4721	092-CR-1025 -000	NARROWS RD	13	3	6	60-80	✓	✓	✓	
4732	092-CR-1036 -000	RAILROAD BED RD	14	3	6	60-80	✓	✓	✓	
4734	092-CR-1024 -000	BUD BAUGHN RD	16	5	5	0-20		✓	✓	
4735	092-CR-1012 -000	DUNDEE NARROWS RD	12	1	2	80-100	✓	✓	✓	Improve drainage to prevent mud and washout; resurface
4741	092-CR-1012 -000	DUNDEE NARROWS RD	12	1	7	80-100	✓	✓	✓	Resurface
4745	092-CR-1024 -000	BUD BAUGHN RD	16	5	5	20-40	✓	✓	✓	
4747	092-CR-1020 -000	UNDERWOOD RD	12	1	3	60-80	✓	✓	✓	Resurface
4750	092-CR-1089 -000	ROUND HILL RD	14	2	6	60-80	✓	✓	✓	Resurface
4762	092-CR-1390 -000	GREENBRIAR RD	21	4	4	20-40	✓	EL & CL	✓	
5262	092-CR-1386 -000	BUFORD RD	18	3	3	20-40	✓	✓	✓	
5270	092-CR-1373 -000	MAPLELEAF LAKE LN	17	4	4	40-60	✓	✓	✓	
5271	092-CR-1373 -000	MAPLELEAF LAKE LN	14	4	5	40-60	✓	✓	✓	
5274	092-CR-1373 -000	MAPLELEAF LAKE LN	12	1	4	40-60	✓	✓	✓	Resurface
5278	092-CR-1374 -000	BARNETTS CREEK RD	18	4	3	20-40	✓	✓	✓	
5281	092-CR-1374 -000	BARNETTS CREEK RD	14	3	4	40-60	✓	✓	✓	
5283	092-CR-1374 -000	BARNETTS CREEK RD	12	1	4	20-40	✓	✓	✓	Resurface
5284	092-CR-1374 -000	BARNETTS CREEK RD	18	1	4	80-100	✓	✓	✓	Resurface
5288	092-CR-1415 -000	MUD COLLEGE RD	14	1	4	60-80	✓	✓	✓	Resurface
5291	092-CR-1415 -000	MUD COLLEGE RD	15	3	3	40-60	✓	✓	✓	
5294	092-CR-1415 -000	MUD COLLEGE RD	19	4	3	40-60	✓	✓	✓	
5298	092-CR-1379 -000	BEDA RD	17	3	3	40-60	✓	✓	✓	
5305	092-CR-1379 -000	BEDA RD	15	4	4	40-60	✓	✓	✓	
5310	092-CR-1153 -000	OLATON RD	15	3	3	40-60	✓	✓	✓	
5316	092-CR-1141 -000	HOPEWELL RD	17	4	3	20-40	✓	✓	✓	
5325	092-CR-1148 -000	ARNOLD LEACH RD	17	4	5	60-80	✓	✓	✓	
5332	092-CR-1148 -000	ARNOLD LEACH RD	18	3	4	40-60	✓	✓	✓	
5333	092-CR-1160 -000	BAIZETOWN RD	16	2	4	60-80	✓	✓	✓	Resurface
5336	092-CR-1160 -000	BAIZETOWN RD	14	2	4	80-100	✓	✓	✓	Resurface
5341	092-CR-1163 -000	WEEDMAN LP	17	4	4	40-60	✓	✓	✓	
5345	092-CR-1125 -000	MT PLEASANT RD	16	4	4	40-60	✓	✓	✓	
5350	092-CR-1199 -000	SANDEFUR CROSSING RD	18	4	5	40-60	✓	✓	✓	
5357	092-CR-1172 -000	ROB ROY RD	16	3	4	60-80	✓	✓	✓	
5362	092-CR-1204 -000	DAVIS RD	19	3	4	40-60	✓	✓	✓	
5364	092-CR-1172 -000	ROB ROY RD	17	3	4	60-80	✓	✓	✓	
5369	092-CR-1172 -000	ROB ROY RD	15	1	4	80-100	✓	✓	✓	Resurface
5371	092-CR-1172 -000	ROB ROY RD	15	4	4	60-80	✓	✓	✓	
5376	092-CR-1212 -000	BETHEL CHURCH RD	19	4	4	40-60	✓	✓	✓	
5383	092-CR-1117 -000	HAMLIN CHAPEL RD	20	4	4	40-60	✓	EL & CL	✓	

**Exhibit Ohio-2: General Roadway Recommendations**

Point ID	RT_UNIQUE	Road Name	Pymt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (	Improve Should	Edgetim	Curve Signin	Other Recommendations
5702	092-CR-1343 -000	RIVERVIEW RD	16	3	6	20-40	✓	✓	✓	
5703	092-CR-1343 -000	RIVERVIEW RD	15	1	7	80-100	✓	✓	✓	Resurface
5707	092-CR-1250 -000	MILLER RD	19	1	6	60-80	✓	✓	✓	Resurface
5710	092-CR-1337 -000	RENDER RD	16	3	6	60-80	✓	✓	✓	
5713	092-CR-1247 -000	MINE FORK RD	18	4	6	20-40	✓	✓	✓	
5715	092-CR-1244 -000	TAYLOR MINE RD	17	4	4	0-20		✓	✓	
5716	092-CR-1244 -000	TAYLOR MINE RD	18	1	6	20-40	✓	✓	✓	Resurface
5717	092-CR-1244 -000	TAYLOR MINE RD	19	3	5	0-20		✓	✓	
5720	092-CR-1241 -000	GOSHEN CHURCH RD	17	3	4	0-20		✓	✓	
5736	092-CR-1365 -000	TAFFY RD	18	3	4	40-60	✓	✓	✓	
5743	092-CR-1361 -000	PARK RIDGE RD	18	4	4	40-60	✓	✓	✓	
5748	092-CR-1449 -000	COMBS BRIDGE RD	18	4	4	20-40	✓	✓	✓	
5760	092-CR-1356 -000	HOOPEE HILL RD	18	4	4	40-60	✓	✓	✓	
5770	092-CR-1323D -000	SILVER ST	18	4	3	20-40	✓	✓	✓	
5837	092-CR-1236 -000	DUVALL RD	13	3	3	20-40	✓	✓	✓	
5886	092-CR-1447 -000	IRON MOUNTAIN DR	16	4	4	20-40	✓	✓	✓	
5888	092-CR-1447 -000	IRON MOUNTAIN DR	10	3	5	40-60	✓	✓	✓	

**Exhibit Ohio-3: General Roadway Recommendations (Continued)**

### Bridge / Culvert Recommendations (Ohio County)

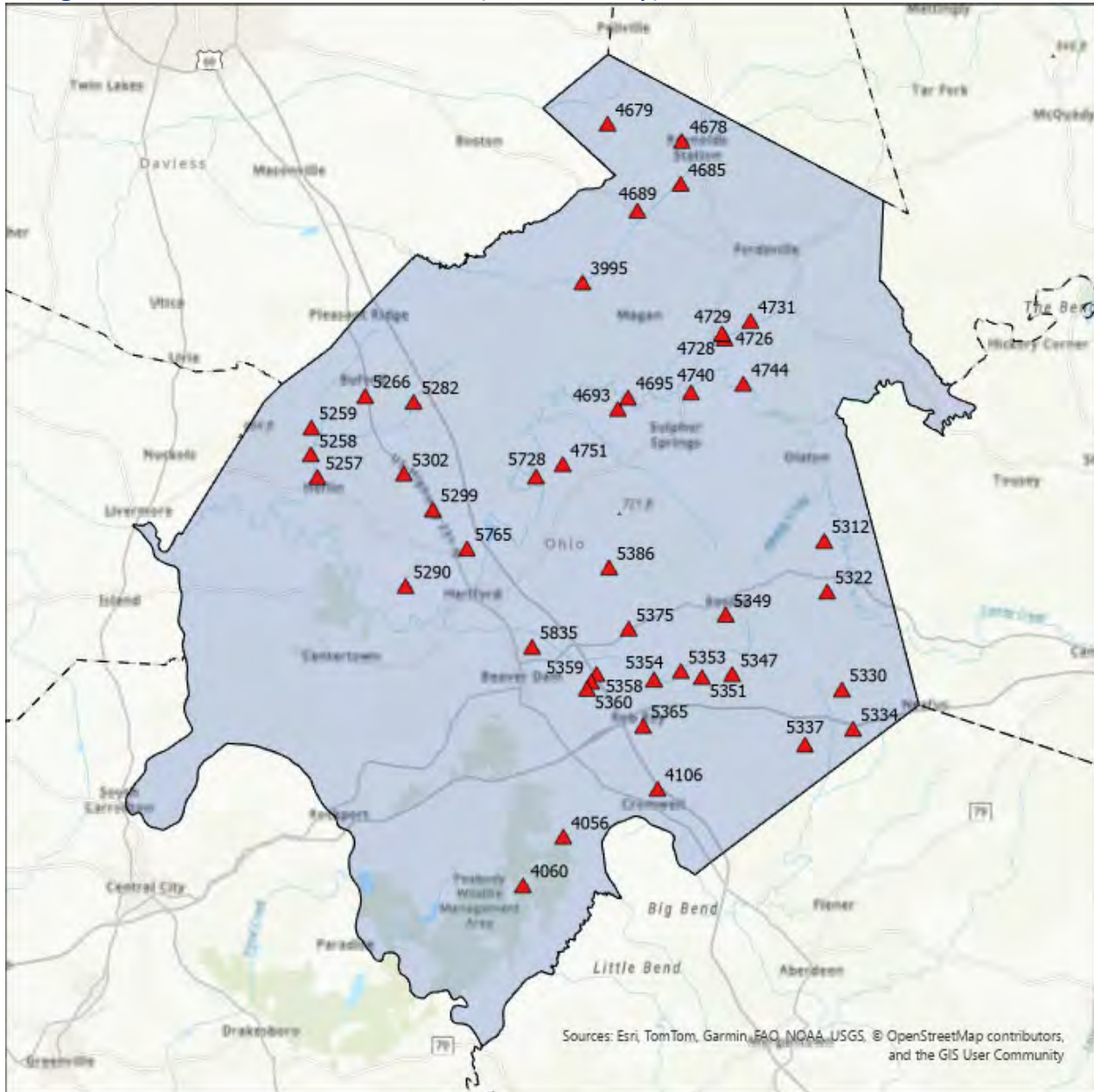


Exhibit Ohio-4: Bridge / Culvert Locations

RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
092-CR-1071 -000	MORGANTOWN RD	60	4	0	Evaluate need for Type 3 Object Markers
092-CR-1266 -000	COOL SPRINGS RD	22	4	other	Evaluate Condition of Guardrail; Install Type 3 Object Markers
092-CR-1266 -000	COOL SPRINGS RD	27.1	4	0	Evaluate need for Type 3 Object Markers
092-CR-1175 -000	CROMWELL RD	28	4	0	Evaluate need for Type 3 Object Markers
092-CR-1056 -000	HERBERT RD	42	4	0	Evaluate need for Type 3 Object Markers
092-CR-1056 -000	HERBERT RD	39	4	0	Evaluate need for Type 3 Object Markers
092-CR-1066 -000	ZION CHURCH RD	118	4	0	Evaluate need for Type 3 Object Markers
092-CR-1066 -000	ZION CHURCH RD	26	4	0	Evaluate need for Type 3 Object Markers
092-CR-1067 -000	SUNNYDALE RD	40	4	0	Evaluate need for Type 3 Object Markers
092-CR-1067 -000	SUNNYDALE RD	214	4	0	Evaluate need for Type 3 Object Markers
092-CR-1025 -000	NARROWS RD	8	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
092-CR-1025 -000	NARROWS RD	40	4	0	Evaluate need for Type 3 Object Markers
092-CR-1036 -000	RAILROAD BED RD	50	4	0	Evaluate need for Type 3 Object Markers
092-CR-1036 -000	RAILROAD BED RD	93	4	0	Evaluate need for Type 3 Object Markers
092-CR-1012 -000	DUNDEE NARROWS RD	48	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
092-CR-1012 -000	DUNDEE NARROWS RD	257	4	0	Evaluate need for Type 3 Object Markers
092-CR-1089 -000	ROUND HILL RD	8	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
092-CR-1396 -000	HEFLIN RD	87	4	0	Evaluate need for Type 3 Object Markers
092-CR-1396 -000	HEFLIN RD	10	4	0	Evaluate need for Type 3 Object Markers
092-CR-1396 -000	HEFLIN RD	8	4	0	Evaluate need for Type 3 Object Markers
092-CR-1386 -000	BUFORD RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
092-CR-1374 -000	BARNETTS CREEK RD	17	4	0	Evaluate need for Type 3 Object Markers
092-CR-1415 -000	MUD COLLEGE RD	10	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
092-CR-1379 -000	BEDA RD	14	4	0	Evaluate need for Type 3 Object Markers
092-CR-1379 -000	BEDA RD	14	4	0	Evaluate need for Type 3 Object Markers
092-CR-1153 -000	OLATON RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
092-CR-1148 -000	ARNOLD LEACH RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
092-CR-1148 -000	ARNOLD LEACH RD	23	4	0	Evaluate need for Type 3 Object Markers
092-CR-1160 -000	BAIZETOWN RD	19	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
092-CR-1160 -000	BAIZETOWN RD	16	4	other	Evaluate Condition of Guardrail; Install Type 3 Object Markers
092-CR-1125 -000	MT PLEASANT RD	19	4	0	Evaluate need for Type 3 Object Markers
092-CR-1125 -000	MT PLEASANT RD	23	4	0	Evaluate need for Type 3 Object Markers
092-CR-1199 -000	SANDEFUR CROSSING RD	14	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
092-CR-1199 -000	SANDEFUR CROSSING RD	15	4	0	Evaluate need for Type 3 Object Markers
092-CR-1199 -000	SANDEFUR CROSSING RD	20	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
092-CR-1204 -000	DAVIS RD	23	4	0	Evaluate need for Type 3 Object Markers
092-CR-1204 -000	DAVIS RD	19	4	0	Evaluate need for Type 3 Object Markers
092-CR-1204 -000	DAVIS RD	19	4	0	Evaluate need for Type 3 Object Markers
092-CR-1172 -000	ROB ROY RD	18	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
092-CR-1212 -000	BETHEL CHURCH RD	18	4	0	Evaluate need for Type 3 Object Markers
092-CR-1117 -000	HAMLIN CHAPEL RD	15	4	0	Evaluate need for Type 3 Object Markers
092-CS-5008 -000	JAMES ST	22	4	0	Evaluate need for Type 3 Object Markers
092-CR-1449 -000	COMBS BRIDGE RD	173	4	0	Evaluate need for Type 3 Object Markers
092-CR-1356 -000	HOOPEE HILL RD	6	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
092-CS-6009 -000	BROAD ST	4	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
092-CS-6009 -000	BROAD ST	5	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
092-CR-1236 -000	DUVALL RD	29	4	0	Evaluate need for Type 3 Object Markers

**Exhibit Ohio-5: Bridge / Culvert Recommendations**

### Curve Recommendations (Ohio County)

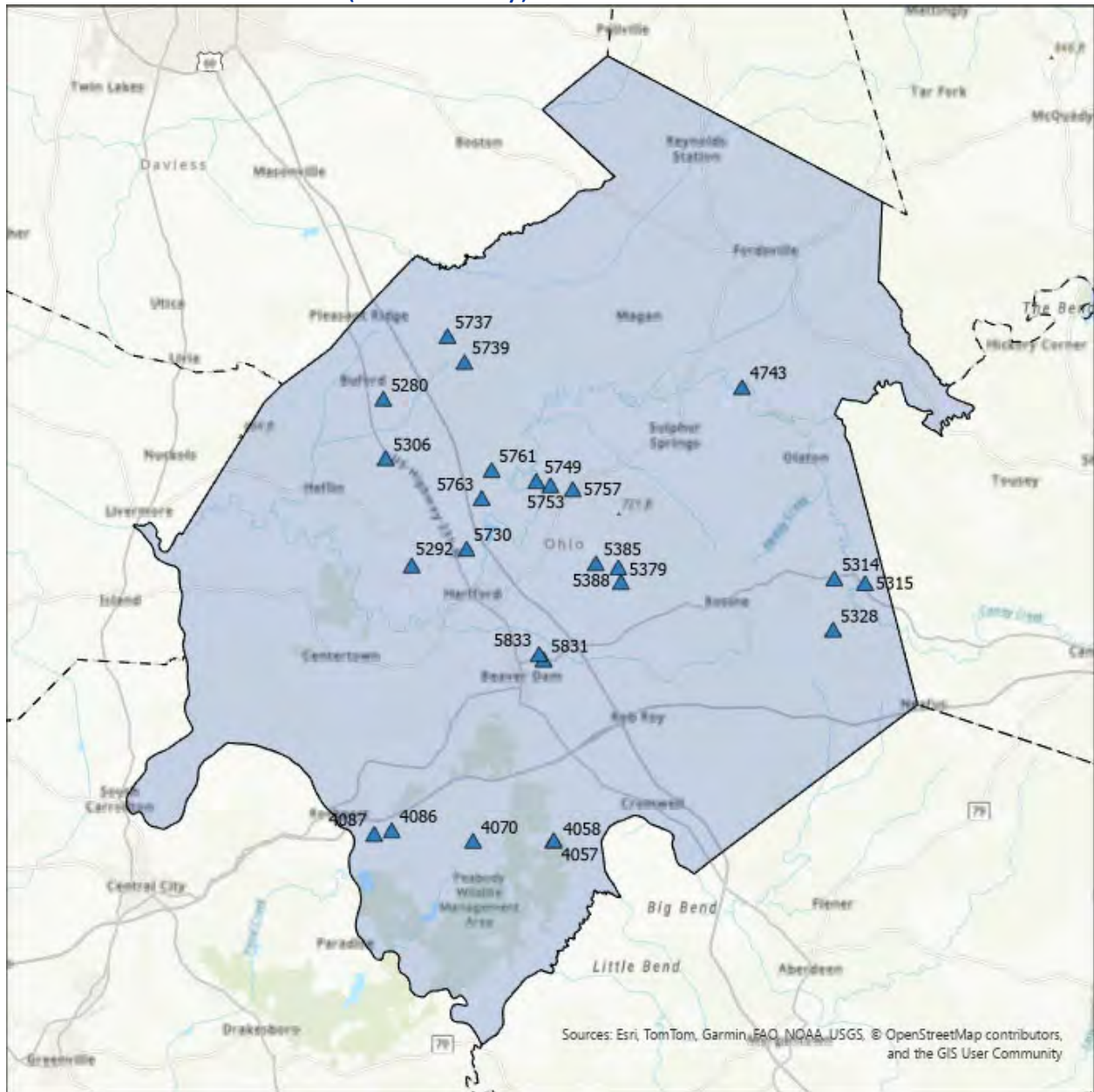


Exhibit Ohio-6: Focus Road Curves

Point ID	RT_UNIQUE	Road Name	Comments	Vegetation	Recommendation
4743	092-CR-1012 -000	DUNDEE NARROWS RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
5385	092-CR-1117 -000	HAMLIN CHAPEL RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
5388	092-CR-1117 -000	HAMLIN CHAPEL RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5315	092-CR-1141 -000	HOPEWELL RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5328	092-CR-1148 -000	ARNOLD LEACH RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5314	092-CR-1153 -000	OLATON RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5379	092-CR-1212 -000	BETHEL CHURCH RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5831	092-CR-1236 -000	DUVALL RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5833	092-CR-1236 -000	DUVALL RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
4070	092-CR-1263 -000	NINETEEN SCHOOL RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
4057	092-CR-1266 -000	COOL SPRINGS RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
4058	092-CR-1266 -000	COOL SPRINGS RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
4086	092-CR-1284 -000	SCOTTOWN RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
4087	092-CR-1284 -000	SCOTTOWN RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
5730	092-CR-1356 -000	HOOPEE HILL RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5761	092-CR-1356 -000	HOOPEE HILL RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5763	092-CR-1356 -000	HOOPEE HILL RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5737	092-CR-1365 -000	TAFFY RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5739	092-CR-1365 -000	TAFFY RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5280	092-CR-1374 -000	BARNETTS CREEK RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5306	092-CR-1384 -000	J T KING RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5292	092-CR-1415 -000	MUD COLLEGE RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5749	092-CR-1449 -000	COMBS BRIDGE RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5753	092-CR-1449 -000	COMBS BRIDGE RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
5757	092-CR-1449 -000	COMBS BRIDGE RD	other	No	Install Curve Warning Sign; Evaluate other obstructions

**Exhibit Ohio-7: Curve Recommendations**

### Roadside Drop Off Recommendations (Ohio County)

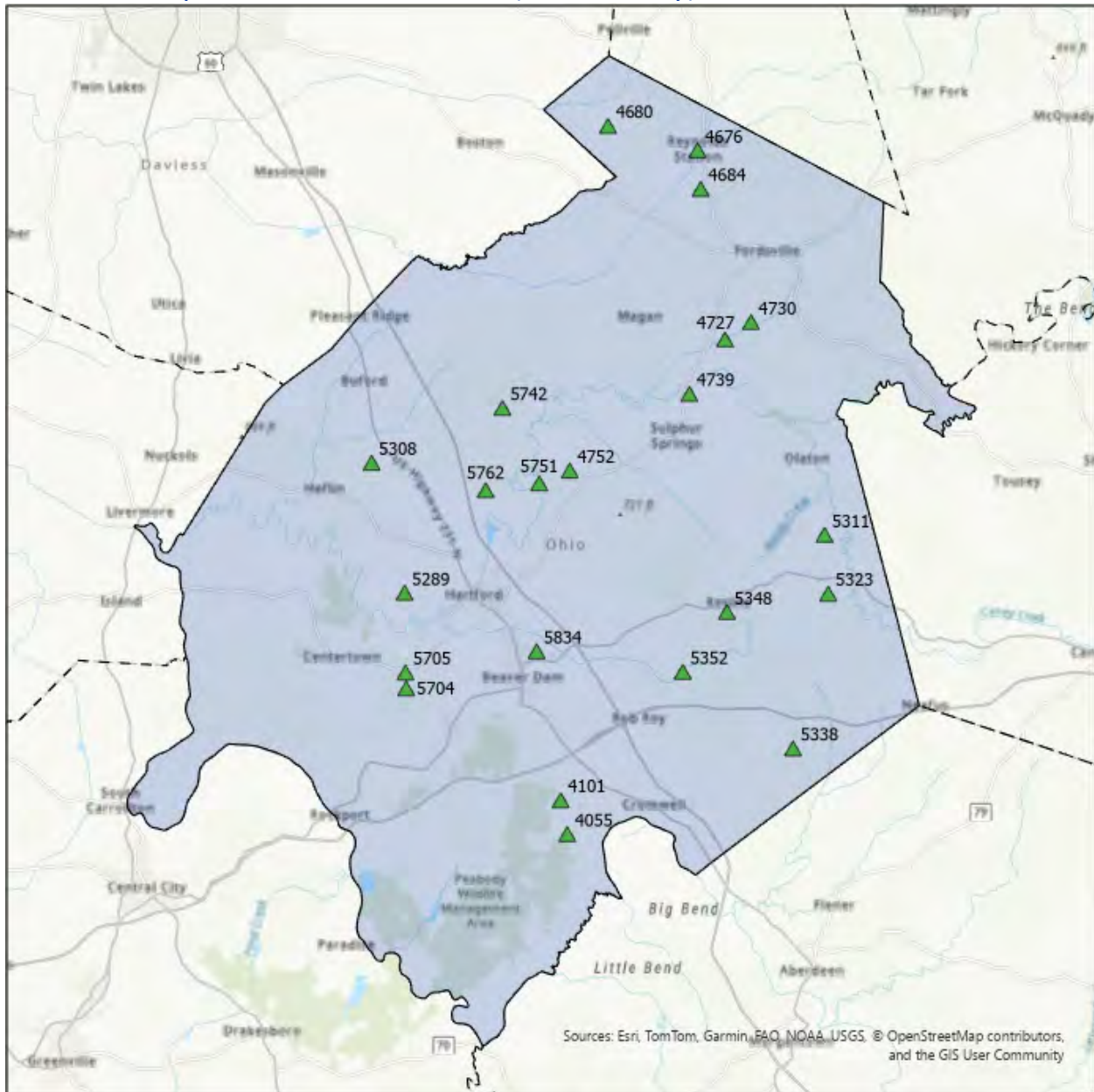
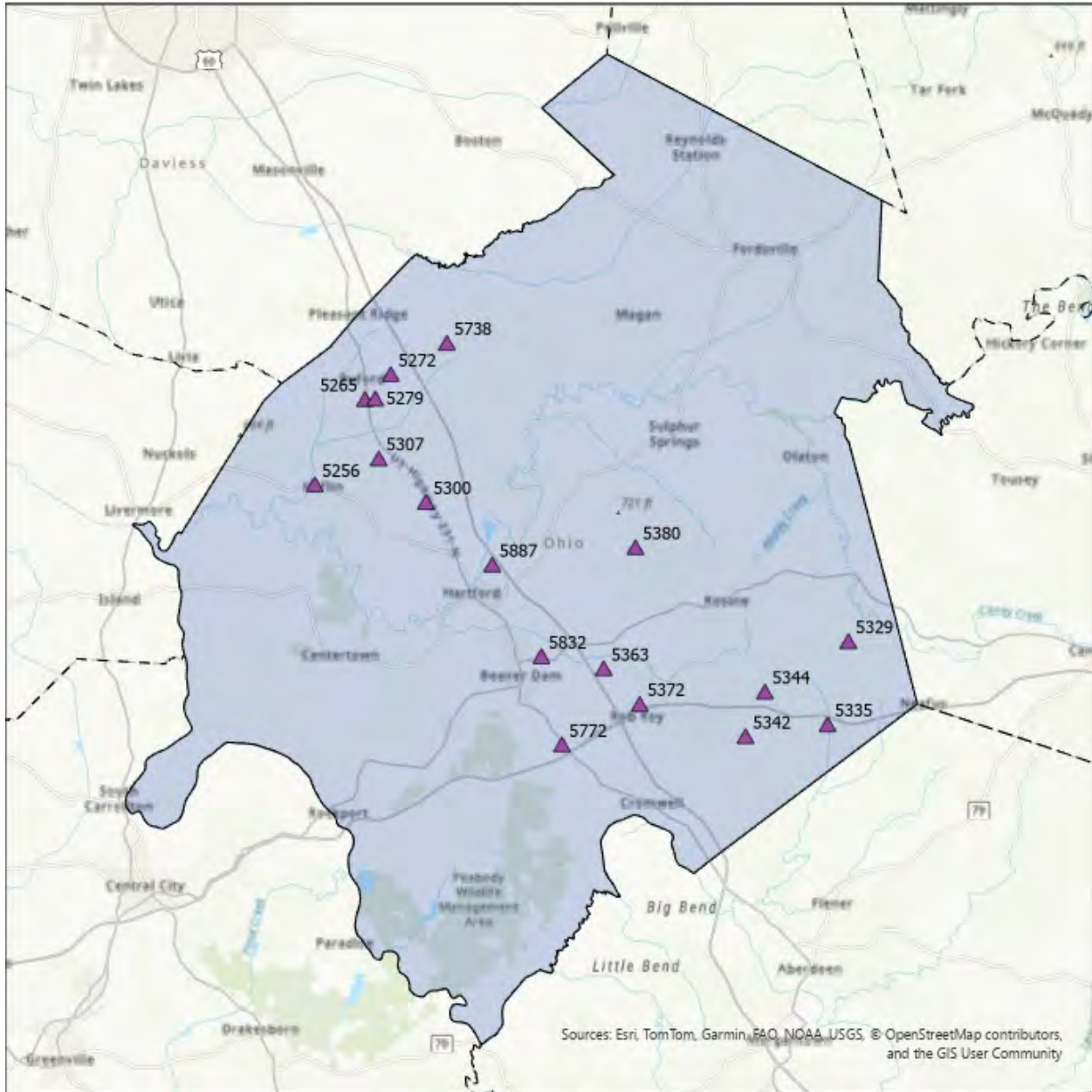


Exhibit Ohio-8: Roadside Drop Off Locations

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
4055	092-CR-1266 -000	COOL SPRINGS RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
4101	092-CR-1189 -000	PATTERSON RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
4676	092-CR-1056 -000	HERBERT RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4680	092-CR-1056 -000	HERBERT RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4684	092-CR-1066 -000	ZION CHURCH RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4727	092-CR-1025 -000	NARROWS RD	0-1	>10	Evaluate need for guardrail
4730	092-CR-1036 -000	RAILROAD BED RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4739	092-CR-1012 -000	DUNDEE NARROWS RD	0-1	>10	Evaluate need for guardrail
4752	092-CR-1089 -000	ROUND HILL RD	1-3	>10	Evaluate need for guardrail
5287	092-CS-1009 -000	EAST WASHINGTON ST	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
5289	092-CR-1415 -000	MUD COLLEGE RD	3-5	<2	--
5308	092-CR-1384 -000	J T KING RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
5311	092-CR-1153 -000	OLATON RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
5323	092-CR-1148 -000	ARNOLD LEACH RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
5338	092-CR-1160 -000	BAIZETOWN RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
5348	092-CR-1125 -000	MT PLEASANT RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
5352	092-CR-1199 -000	SANDEFUR CROSSING RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
5704	092-CR-1343 -000	RIVERVIEW RD	3-5	>10	Evaluate need for guardrail
5705	092-CR-1343 -000	RIVERVIEW RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
5742	092-CR-1365 -000	TAFFY RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
5751	092-CR-1449 -000	COMBS BRIDGE RD	1-3	>10	Evaluate need for guardrail
5762	092-CR-1356 -000	HOOPEE HILL RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
5810	092-CS-6064 -000	EAST 2ND ST	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
5834	092-CR-1236 -000	DUVALL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
5853	092-CS-1017 -000	OLD MAIN ST	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
5854	092-CS-1017 -000	OLD MAIN ST	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
5875	092-CS-1075 -000	GRIFFIN ST	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
5915	092-CS-6009 -000	BROAD ST	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)

**Exhibit Ohio-9: Roadside Drop Off Recommendations**

### Fixed Object Recommendations (Ohio County)

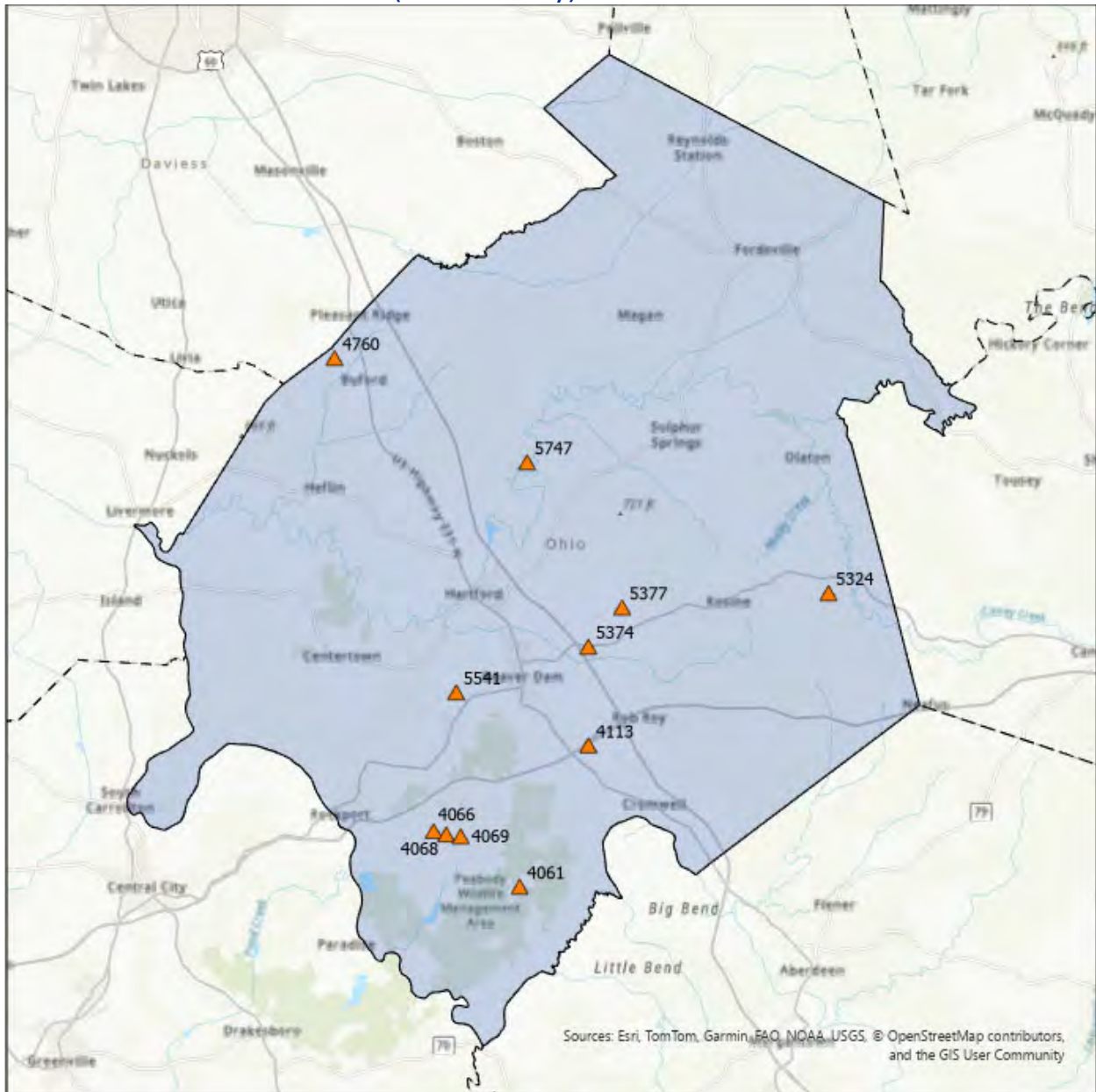


**Exhibit Ohio-10: Fixed Object Locations**

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
5256	092-CR-1396 -000	HEFLIN RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
5265	092-CR-1386 -000	BUFORD RD	Utility Pole;	Series	3-5	--
5272	092-CR-1373 -000	MAPLELEAF LAKE LN	Tree;	Series	1-3	--
5279	092-CR-1374 -000	BARNETTS CREEK RD	Tree;	Series	1-3	--
5300	092-CR-1379 -000	BEDA RD	Utility Pole;	Series	3-5	--
5307	092-CR-1384 -000	J T KING RD	Tree;	Series	1-3	--
5329	092-CR-1148 -000	ARNOLD LEACH RD	Utility Pole;	Series	3-5	--
5335	092-CR-1160 -000	BAIZETOWN RD	Tree;	Single	1-3	Remove
5342	092-CR-1163 -000	WEEDMAN LP	Tree;	Series	1-3	--
5344	092-CR-1125 -000	MT PLEASANT RD	Utility Pole;	Series	3-5	--
5363	092-CR-1172 -000	ROB ROY RD	Tree;	Series	1-3	--
5372	092-CR-1196 -000	HICKORY CHURCH RD	Tree;	Series	1-3	--
5380	092-CR-1212 -000	BETHEL CHURCH RD	Utility Pole;	Series	3-5	--
5738	092-CR-1365 -000	TAFFY RD	Utility Pole;	Series	3-5	--
5772	092-CR-1323D -000	SILVER ST	Utility Pole;	Series	3-5	--
5832	092-CR-1236 -000	DUVALL RD	Utility Pole;	Series	3-5	--
5887	092-CR-1447 -000	IRON MOUNTAIN DR	Utility Pole;	Series	3-5	--

**Exhibit Ohio-11: Fixed Object Recommendations**

### Guardrail Recommendations (Ohio County)

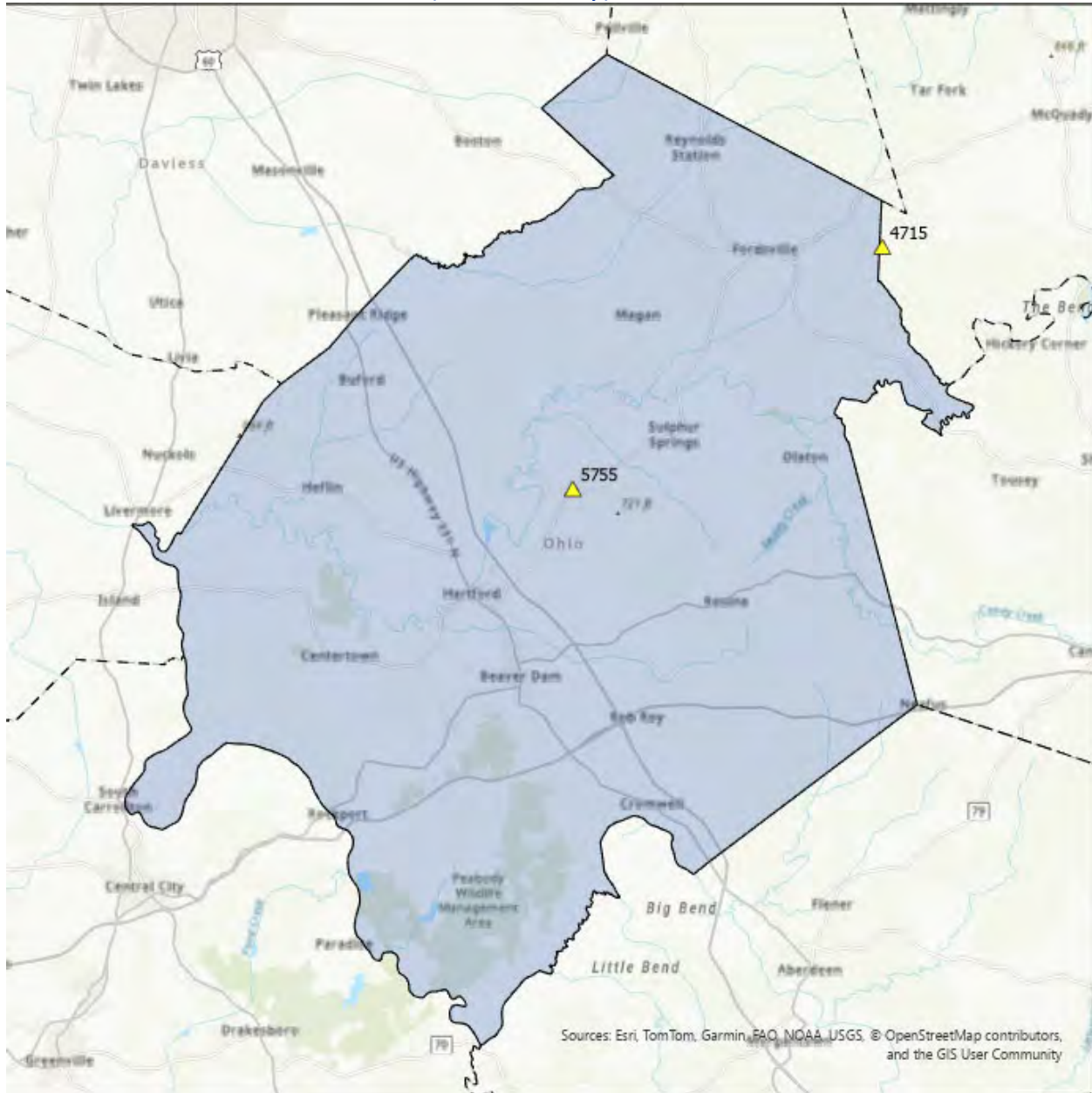


**Exhibit Ohio-12: Guardrail Locations**

Point ID	RT_UNIQUE	Road Name	Condition	Meet Warrant	End Treatment	Recommendation
4061	092-CR-1266 -000	COOL SPRINGS RD	Fair	No	None	Remove
4066	092-CR-1263 -000	NINETEEN SCHOOL RD	Fair	No	None	Remove
4068	092-CR-1263 -000	NINETEEN SCHOOL RD	Fair	No	None	Remove
4069	092-CR-1263 -000	NINETEEN SCHOOL RD	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers
4113	092-CR-1193 -000	OLD LIBERTY CHURCH RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers
4760	092-CR-1390 -000	GREENBRIAR RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers
4781	075-CR-1014 -000	BARRETT HILL RD	Fair	No	Some	Remove
4809	075-CS-2052 -000	WEST THIRD ST	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers
5324	092-CR-1148 -000	ARNOLD LEACH RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers
5374	092-CR-1172 -000	ROB ROY RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers
5377	092-CR-1212 -000	BETHEL CHURCH RD	Fair	No	None	Remove
5541	092-CR-1250 -000	MILLER RD	Poor	No	None	Remove
5747	092-CR-1361 -000	PARK RIDGE RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers
5811	092-CS-6054 -000	EAST 1ST ST	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers

**Exhibit Ohio-13: Guardrail Recommendations**

### Intersection Recommendations (Ohio County)

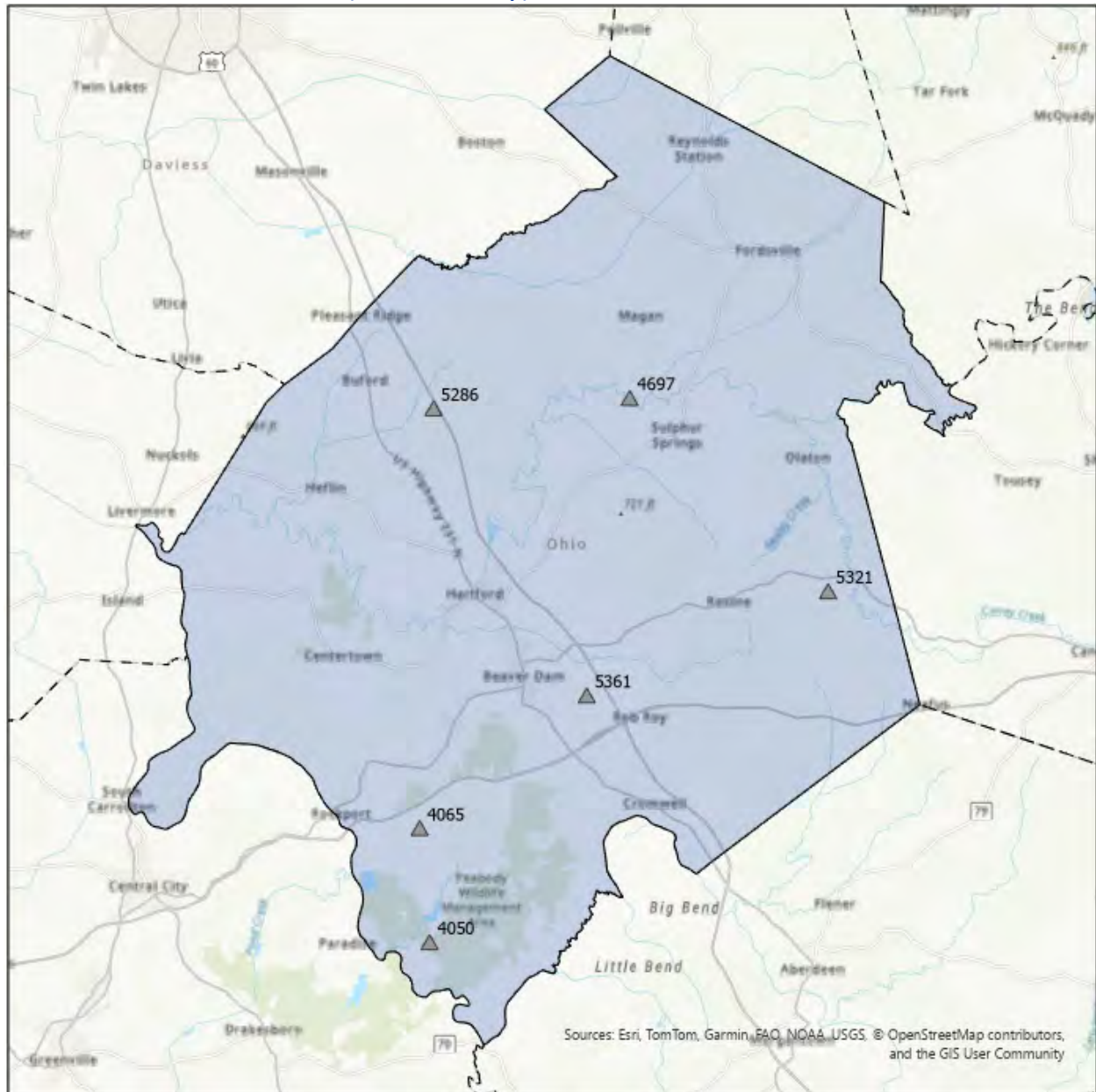


**Exhibit Ohio-14: Intersection Locations**

Point ID	RT_UNIQUE	Road Name	Vegetation	Comments	Recommendation
4715	092-CR-1033 -000	ASKINS RD	Yes	Intersection Obscured on Approach, Insufficient Sight Distance at	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
5755	092-CR-1449 -000	COMBS BRIDGE RD	No	Other	Review Intersection; Issue noted as "Other"

**Exhibit Ohio-15: Intersection Recommendations**

### Other Recommendations (Ohio County)

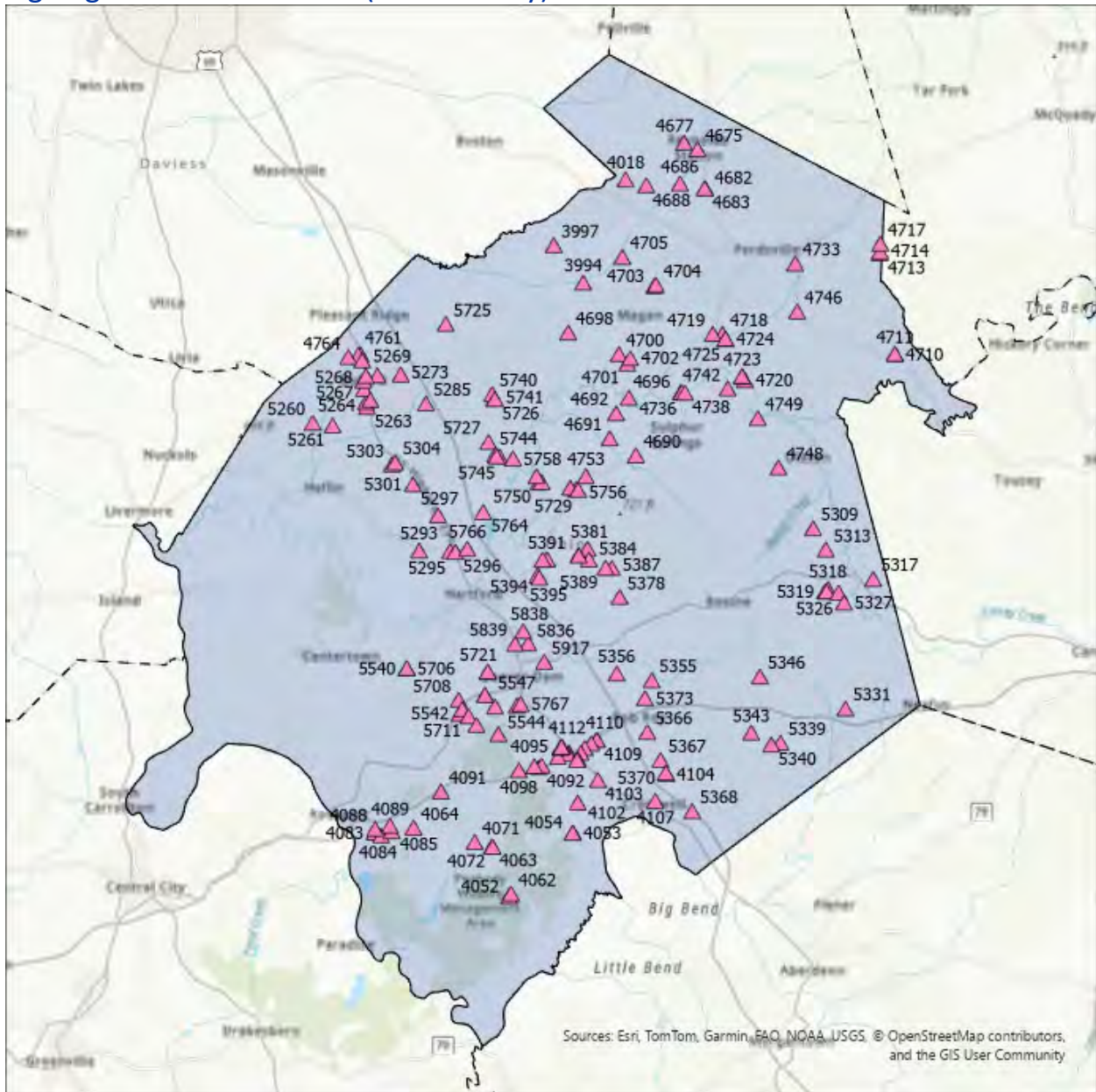


**Exhibit Ohio-16: Other Item Locations**

Point ID	RT_UNIQUE	RD_NAME	Description	Recommendation
4050	092-CR-1277 -000	WYSOX RD	Unmarked road change. Not clear where WYSOX RD ends and POND RUN CHURCH RD begins. No signage; Roads merge and are not marked	Review Road Termini
4065	092-CR-1263 -000	NINETEEN SCHOOL RD	Roadway hazard; Roadway hazard. Gravel over roadway	Remove Gravel and review nearby drainage to identify source of washout
4697	092-CR-1067 -000	SUNNYDALE RD	Blind hill on bridge;	Install "Hill Blocks View" Sign (W7-6)
5286	092-CR-1374 -000	BARNETTS CREEK RD	No stop sign;	Install Stop Sign
5321	092-CR-1148 -000	ARNOLD LEACH RD	Railroad;	Review RR crossing
5361	092-CR-1204 -000	DAVIS RD	No stop sign;	Install Stop Sign

**Exhibit Ohio-17: Other Item Recommendations**

### Signing Recommendations (Ohio County)



**Exhibit Ohio-18: Sign Locations**

As part of the RSA data collection effort, existing signs were inventoried along reviewed Focus Roadways, including a condition assessment and a photo of each sign. Additionally, preliminary Advisory Speed recommendations were calculated for each focus roadway to assist in the installation of horizontal alignment (curve) signs. Signing and advisory speed information is provided in digital format at <https://kyt2.uky.edu/graddSAP>.

## APPENDIX H: UNION COUNTY

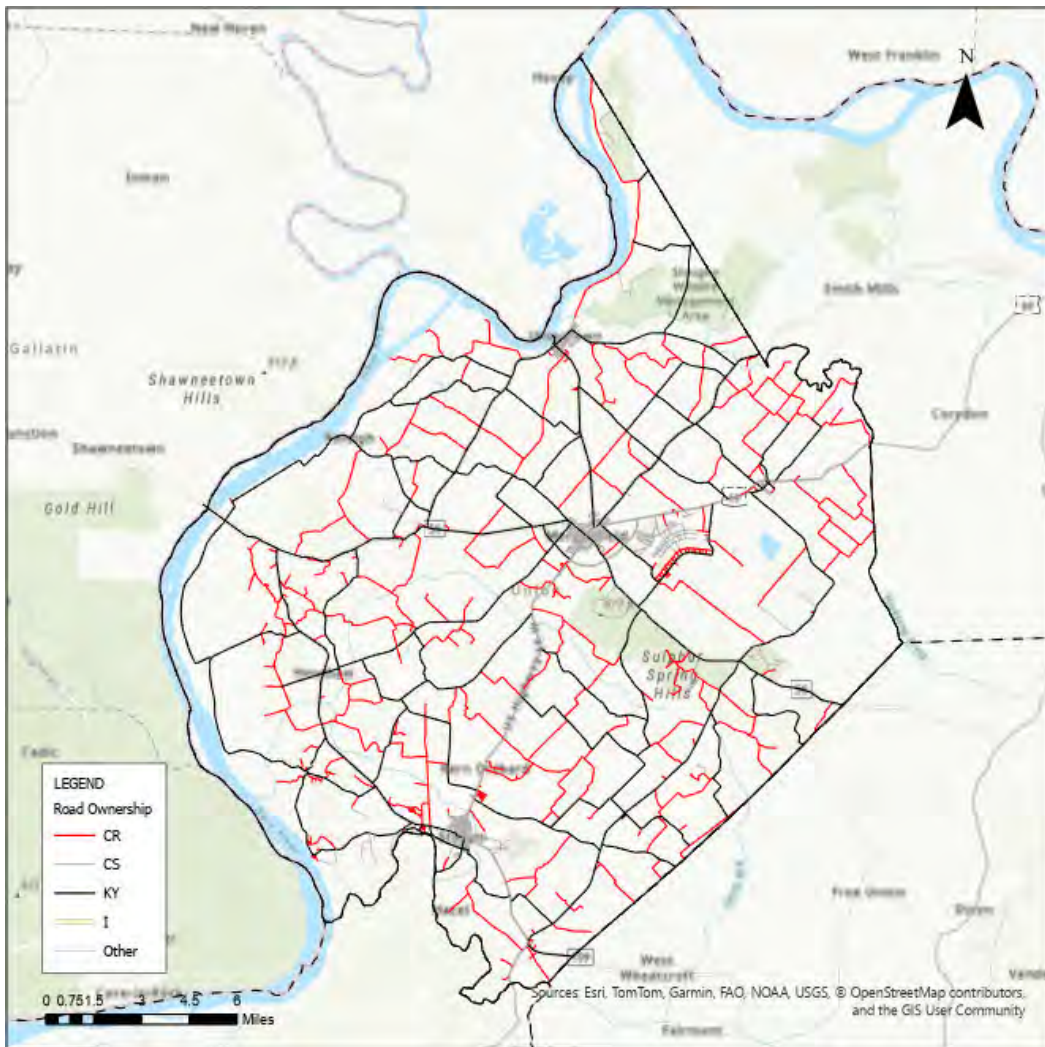
## Union County Overview



**Exhibit Union-1: Location Map**

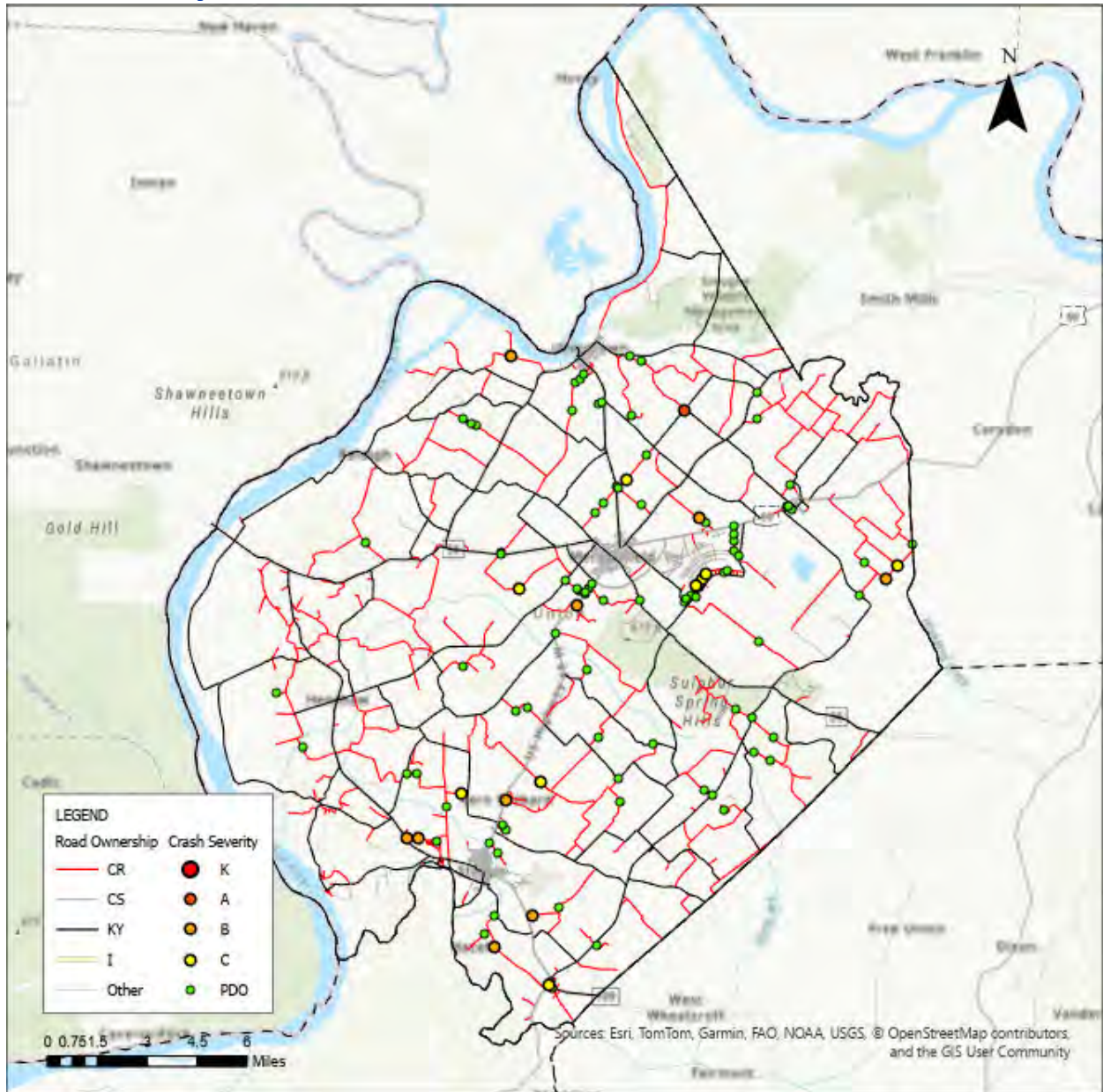
Key Information Table Union County	
Population	13,106
Population in Persistent Poverty	22%
Underserved Community	No
Fatalities (All Roads)	10
Fatalities (County Roads)	1
Fatality rate per 100,000 persons	76.3
County Road Mileage	252.3
State Road Mileage	284.6
<b>Total Mileage</b>	<b>536.9</b>

**Exhibit Union-2: Key Information**



**Exhibit Union-3: Map of County Roadways**

## Crash Analysis



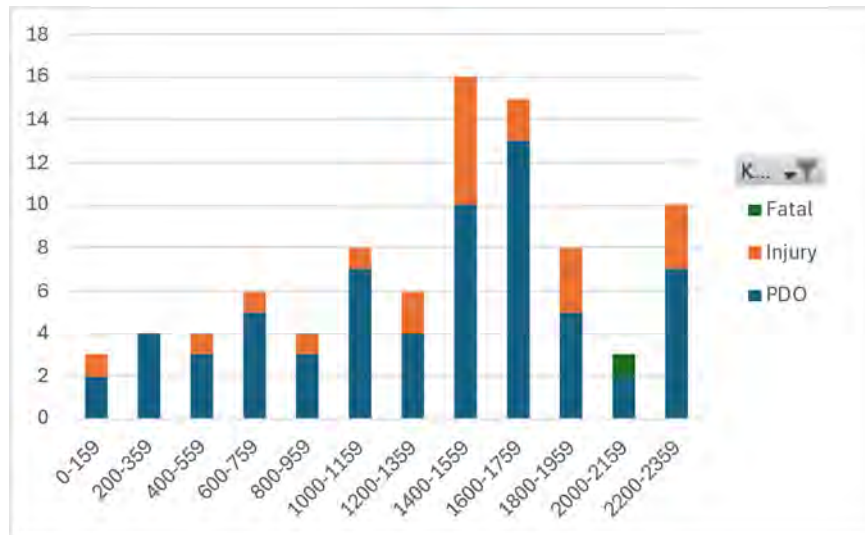
**Exhibit Union-4: Map of County Road Crashes**



**Exhibit Lextcher-5: Crash Distribution by Year**

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	38	17	1	<b>56</b>
Angle	4	2	0	<b>6</b>
SS - Opp	4	1	0	<b>5</b>
Left Turn	0	1	0	<b>1</b>
SS - Same	2	0	0	<b>2</b>
Backing	13	0	0	<b>13</b>
Head On	0	0	0	<b>0</b>
Rear to Rear	0	0	0	<b>0</b>
Rear End	4	0	0	<b>4</b>

**Exhibit Union-6: Crash Frequency and Severity by Manner of Collision**



**Figure Union-7: Crashes and Severity by Time of Day**

## Focus Roadways

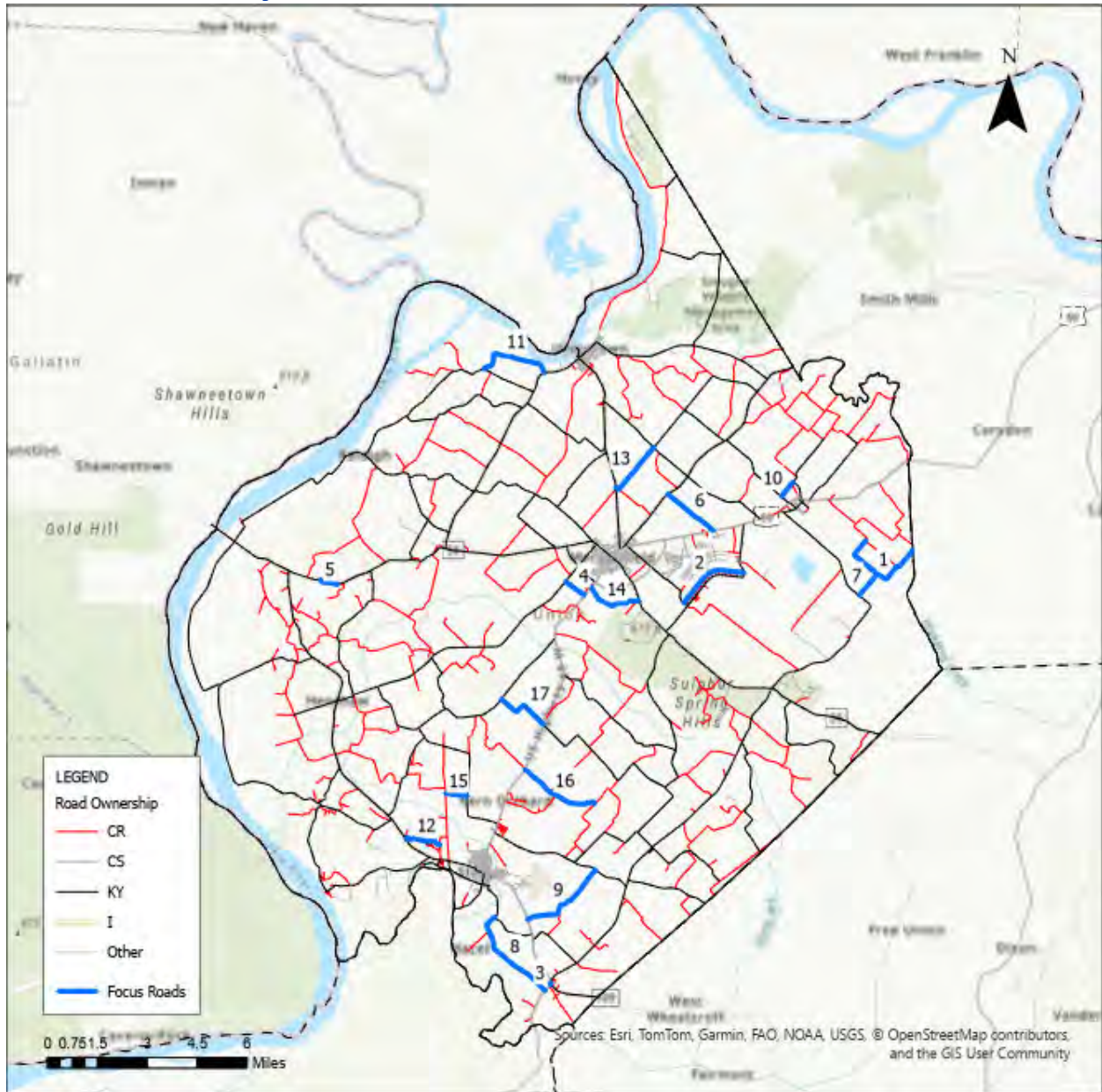


Exhibit Union-8: Focus Roads

RT_UNIQUE	Length	County	ADD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
<b>Union</b>										
113-CR-1029 -000	3.04357	Union	GRADD	BARKER RD	2	1	4	2.47	1.25	1
113-CR-1087 -000	2.25938	Union	GRADD	MEADOWS RD	1	4	5	2.50	0.53	2
113-CR-1134B -000	0.06822	Union	GRADD	VAUGHN LOOP	0	0	0	0.00	3.67	3
113-CR-1050 -000	0.69888	Union	GRADD	JIM VEATCH RD	1	0	3	1.10	0.91	4
113-CR-1339 -000	0.58132	Union	GRADD	OLD SHAWNEETOWN RD	0	0	0	0.00	2.50	5
113-CR-1007 -000	1.76405	Union	GRADD	BUCHANAN RD	1	0	1	1.03	0.30	6
113-CR-1048 -000	0.8517	Union	GRADD	T L BISHOP RD	0	0	0	0.00	2.38	7
113-CR-1224 -000	3.10446	Union	GRADD	SULLIVAN RD	1	0	0	1.00	0.32	8
113-CR-1137 -000	2.76337	Union	GRADD	POPLAR RDG RD	1	0	1	1.03	0.17	9
113-CR-1016 -000	0.57414	Union	GRADD	J W BERRY RD	1	0	1	1.03	0.15	10
113-CR-1308 -000	2.35559	Union	GRADD	RALEIGH RD	1	0	0	1.00	0.22	11
113-CR-1220 -000	1.20665	Union	GRADD	MARKHAM RD	1	0	1	1.03	0.14	12
113-CR-1012 -000	1.7477	Union	GRADD	HITE SCHOOL RD	0	1	3	0.43	1.04	13
113-CR-1051 -000	1.76279	Union	GRADD	T P LUCKETT RD	0	0	2	0.07	0.72	14
113-CR-1214 -000	0.6654	Union	GRADD	VOSS RD	0	1	0	0.33	0.14	15
113-CR-1142 -000	2.49807	Union	GRADD	ONAN DYER RD	0	1	0	0.33	0.11	16
113-CR-1208 -000	1.72264	Union	GRADD	MCFALL RD	0	0	2	0.07	0.65	17

**Exhibit Union-9: List of Focus Roadways**

## Recommended Improvements (Top 5 Roads)

### BARKER RD (113-CR-1029 -000)

Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	3	1	1	5
(blank)	0	0	0	0
SS - Opp	0	0	0	0
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (%)
4596	113-CR-1029 -000	BARKER RD	18	4	4	40-60

Roadway Typical Section



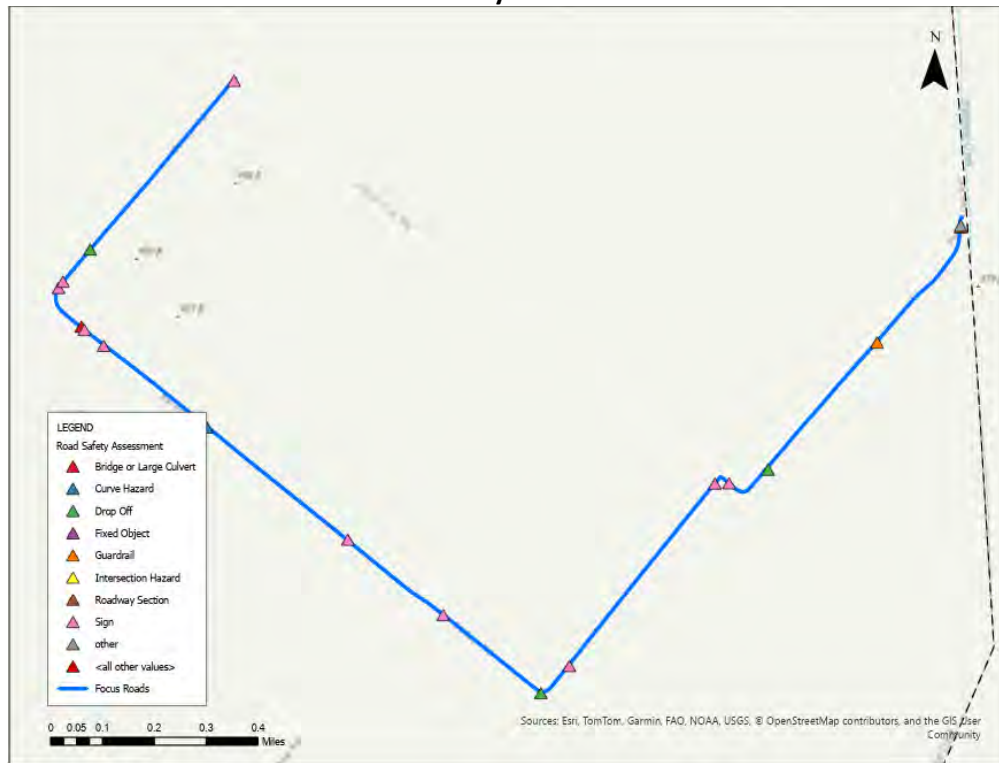
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment

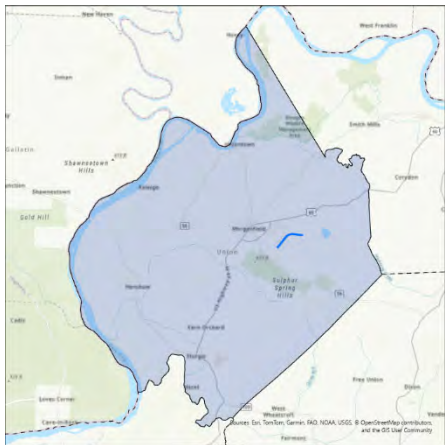


### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
4596	113-CR-1029 -000	BARKER RD	18	4	4	40-60	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
4585	113-CR-1029 -000	BARKER RD	Drop Off	0-1	2-5	Union	Install Type 2 Object Marker(s) or Delineator(s)			
4590	113-CR-1029 -000	BARKER RD	Drop Off	1-3	5-10	Union	Install Type 2 Object Marker(s) or Delineator(s)			
4594	113-CR-1029 -000	BARKER RD	Drop Off	1-3	2-5	Union	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
4595	113-CR-1029 -000	BARKER RD	Guardrail	Good	No	Some	Evaluate need and cost of installing proper end treatments; Consider Removal			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
4582	113-CR-1029 -000	BARKER RD	Bridge or Large Culvert	5	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation			
4588	113-CR-1029 -000	BARKER RD	Curve Hazard	Yes	--	Intersection_in_Curve	Install Curve Warning Sign; Clear Vegetation; Consider striping enhancements at intersection			
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation			
4597	113-CR-1029 -000	BARKER RD	other	--	--	No stop sign facing intersection;	Install Stop Sign			

**MEADOWS RD (113-CR-1087 -000)**

**Road Location Map and Crash History**

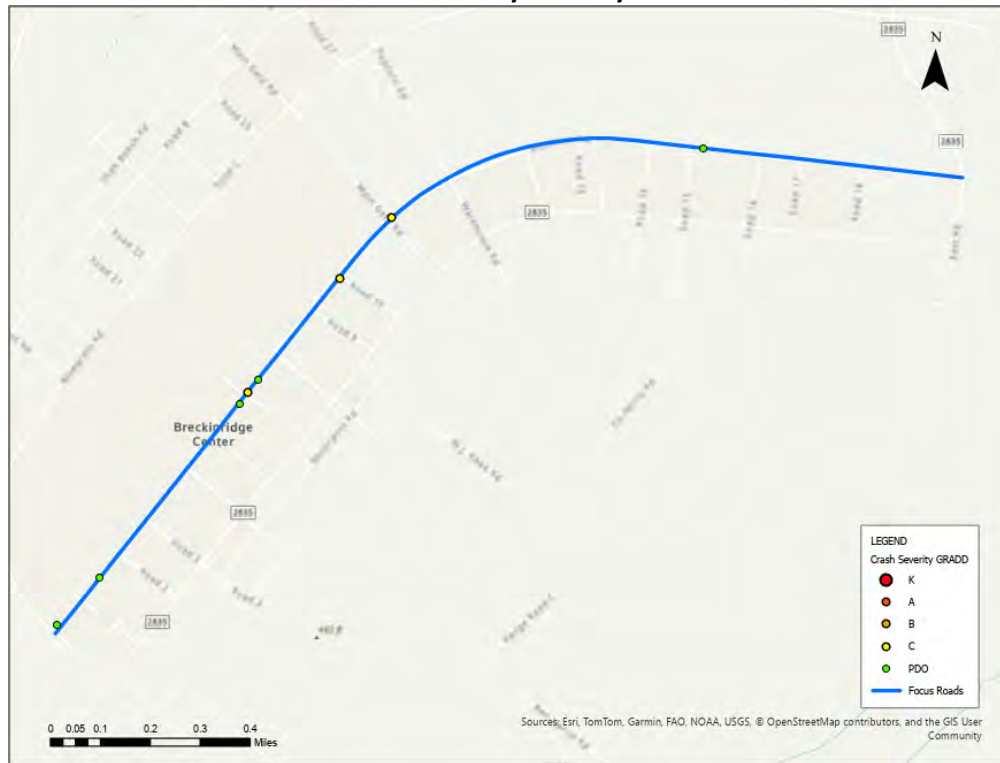
	<b>Manner of Collision</b>	<b>Property Damage Only</b>	<b>Injury</b>	<b>Fatal</b>	<b>Total</b>
	Single Vehicle	2	1	0	3
	Angle	1	1	0	2
	Head On	0	0	0	0
	SS - Same	0	0	0	0
	SS - Opp	1	0	0	1
	Left Turn	0	0	0	0
	Backing	1	0	0	1
	(blank)	0	0	0	0
	Rear to Rear	0	0	0	0

*Roadway Section Data Not Collected*

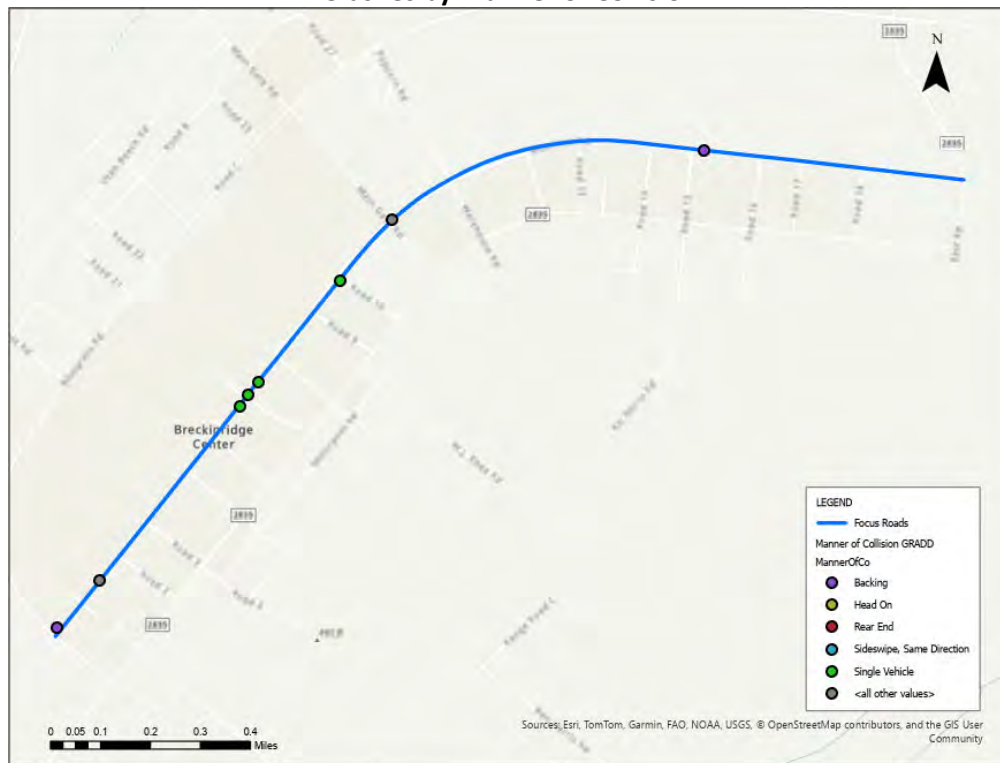
**Roadway Typical Section**



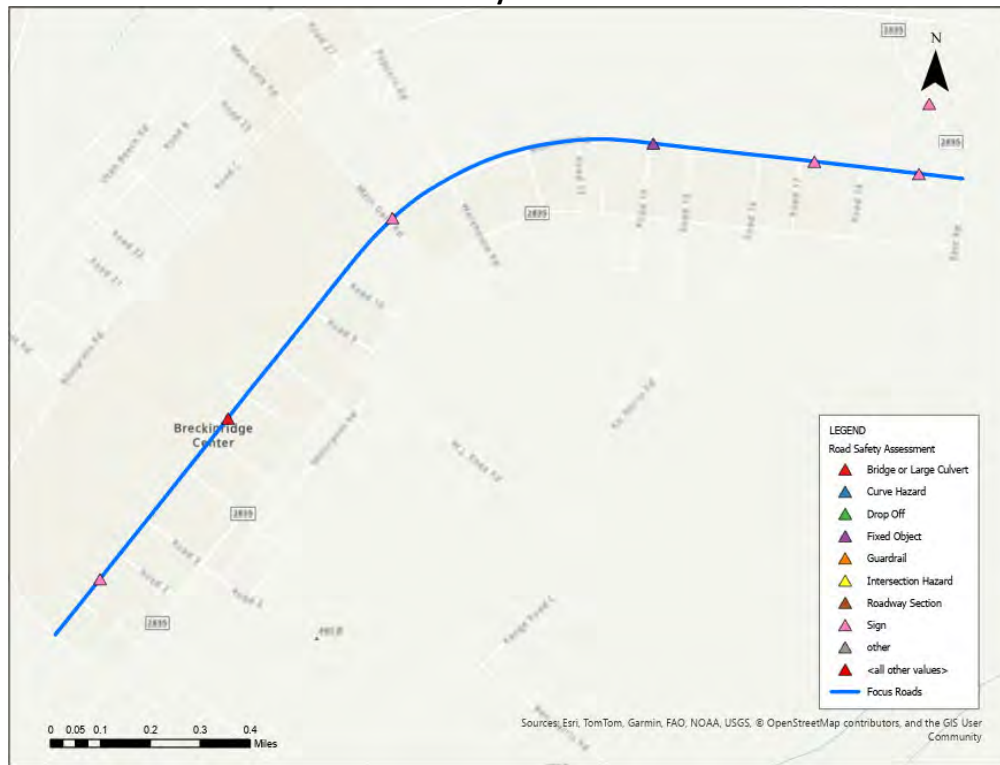
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
4671	113-CR-1087 -000	MEADOWS RD	Fixed Object	other; Mailboxes	Series	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
4673	113-CR-1087 -000	MEADOWS RD	Bridge or Large Culvert	3	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)

**JIM VEATCH RD (113-CR-1050 -000)**

**Road Location Map and Crash History**

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	0	2	0	2
Left Turn	0	1	0	1
Rear to Rear	0	0	0	0
SS - Same	0	0	0	0
SS - Opp	0	0	0	0
Backing	3	0	0	3
Head On	0	0	0	0
(blank)	0	0	0	0
Angle	0	0	0	0

**General Roadway Conditions**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (%)
4452	113-CR-1050 -000	JIM VEATCH RD	18	3	5	40-60

**Roadway Typical Section**



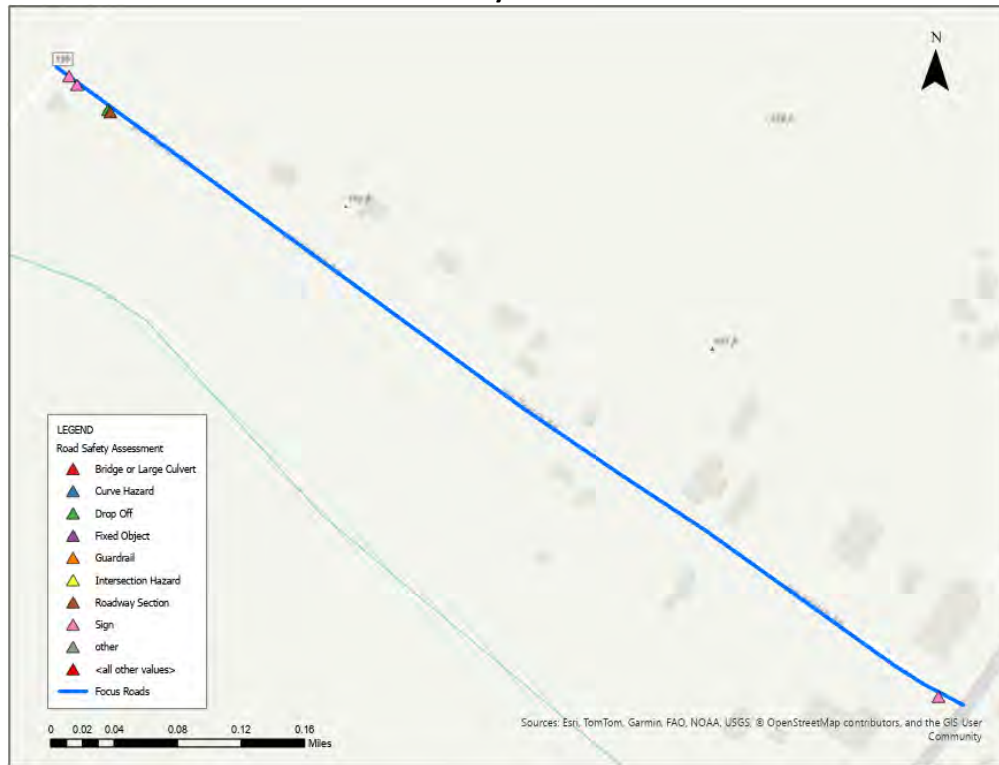
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (	Improve Should	Edgelin	Curve Signin	Other Recommendations
4452	113-CR-1050 -000	JIM VEATCH RD	18	3	5	40-60	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
4453	113-CR-1050 -000	JIM VEATCH RD	Drop Off	1-3	>10	Union	Evaluate need for guardrail			

**BUCHANAN RD (113-CR-1007 -000)**

**Road Location Map and Crash History**

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	1	1	0	2
(blank)	0	0	0	0
SS - Opp	0	0	0	0
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

**General Roadway Conditions**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (
4523	113-CR-1007 -000	BUCHANAN RD	18	4	3	20-40

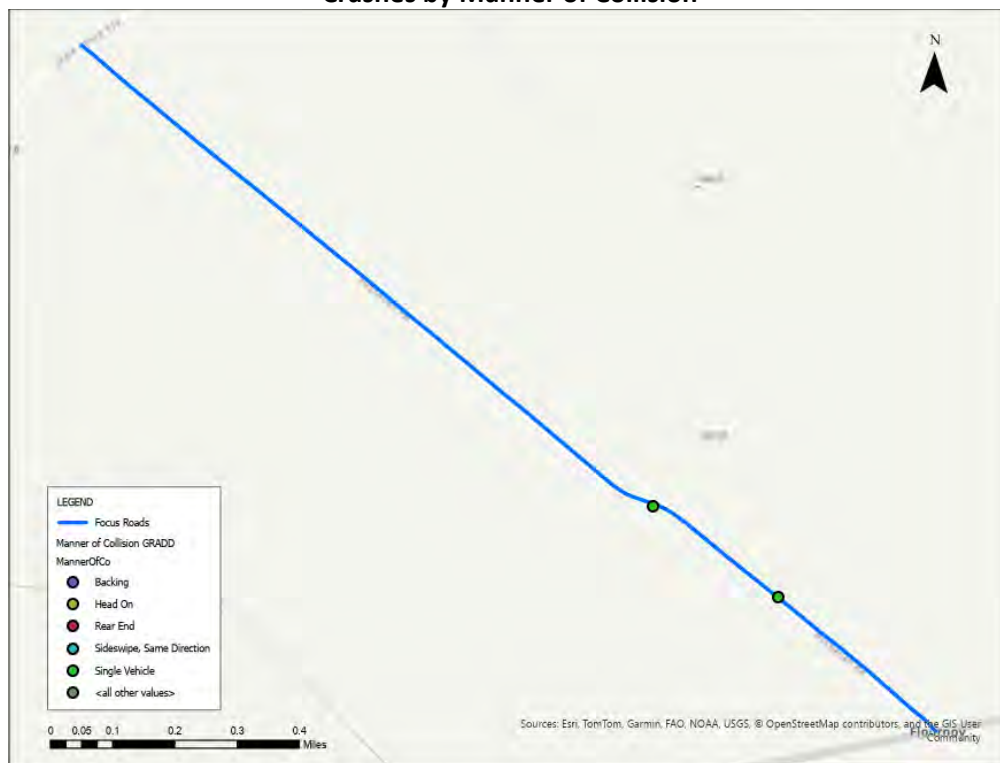
**Roadway Typical Section**



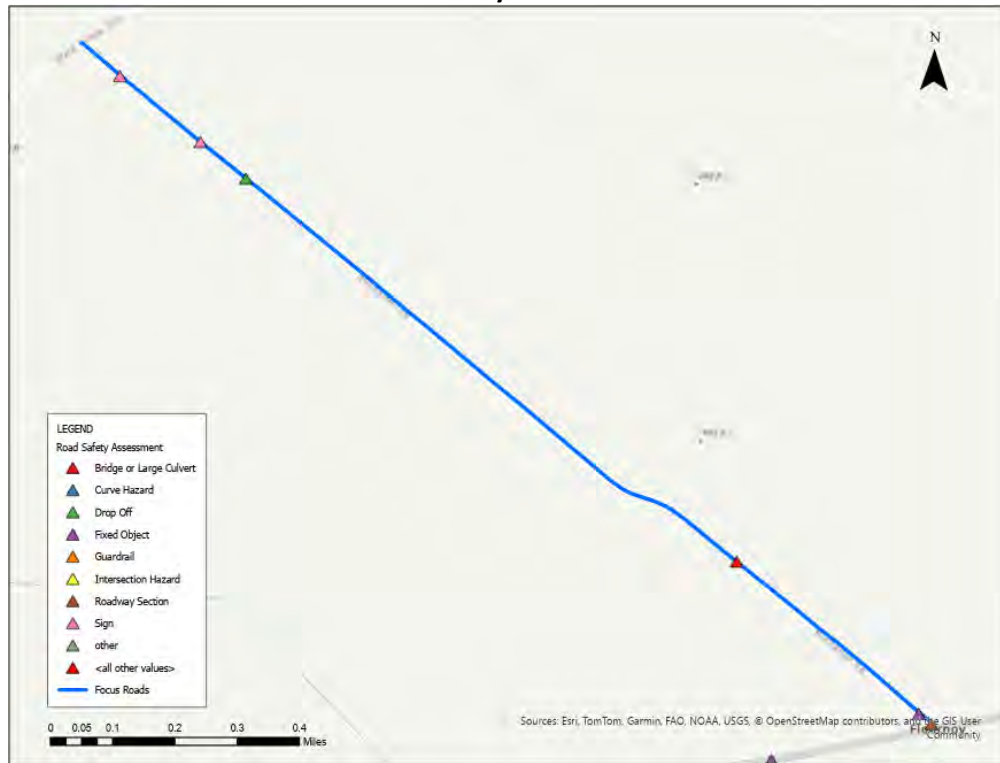
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve	Improve Shoulder	Edgelining	Curve Signin	Other Recommendations
4523	113-CR-1007 -000	BUCHANAN RD	18	4	3	20-40	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
4526	113-CR-1007 -000	BUCHANAN RD	Drop Off	1-3	2-5	Union	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
4524	113-CR-1007 -000	BUCHANAN RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
4664	113-CR-1007 -000	BUCHANAN RD	Fixed Object	Utility Pole;	Series	>5	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
4525	113-CR-1007 -000	BUCHANAN RD	Bridge or Large Culvert	3	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)			

### T L BISHOP RD (113-CR-1048 -000)

#### Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	0	0	0	0
(blank)	0	0	0	0
SS - Opp	0	0	0	0
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

#### General Roadway Conditions

RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (%)
113-CR-1048 -000	T L BISHOP RD	17	4	3	20-40

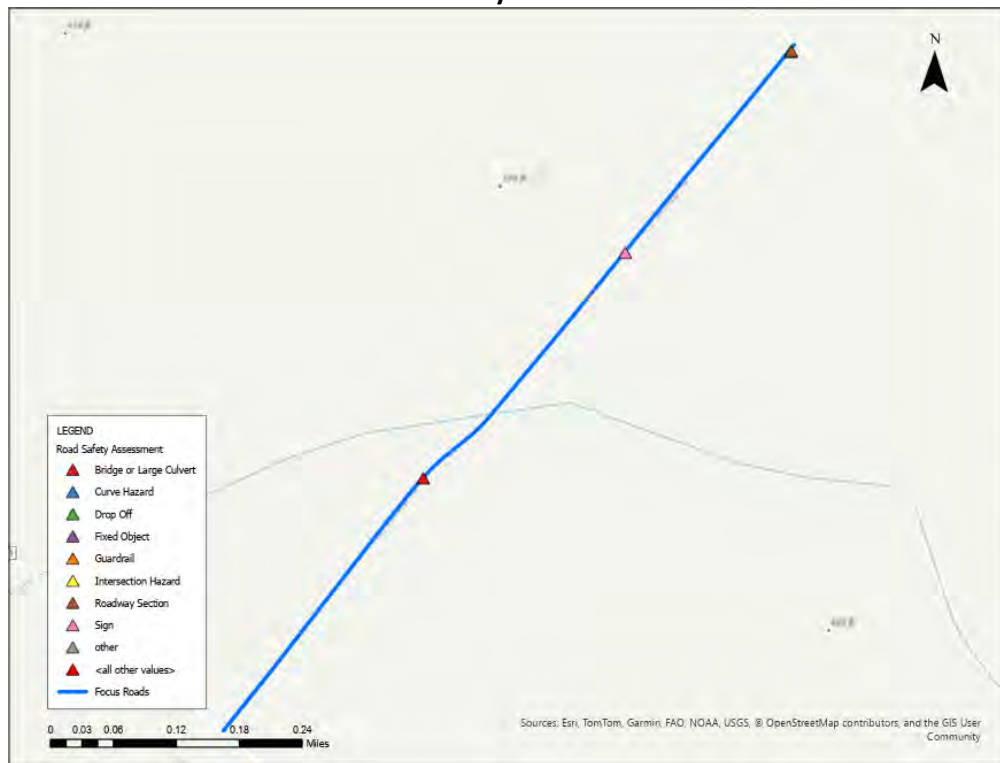
#### Roadway Typical Section



### Crashes by Severity



### Road Safety Assessment

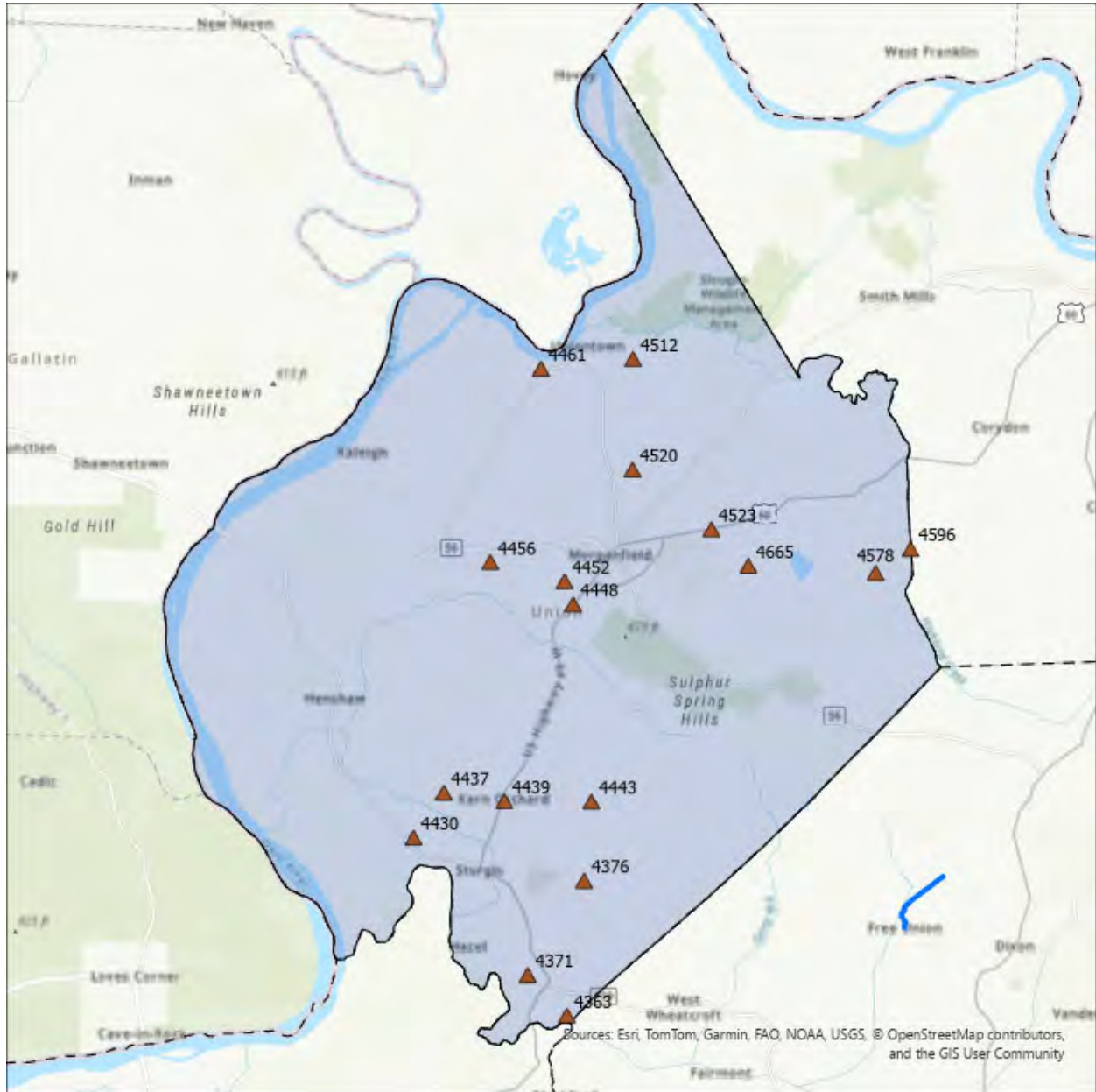


**General Recommendations**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin
4578	113-CR-1048 -000	T L BISHOP RD	17	4	3	20-40	✓	✓	✓
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0		
4575	113-CR-1048 -000	T L BISHOP RD	Drop Off	0-1	<2	Union	Install Type 2 Object Marker(s) or Delineator(s)		
4579	113-CR-1048 -000	T L BISHOP RD	Drop Off	1-3	2-5	Union	Install Type 2 Object Marker(s) or Delineator(s)		
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation		
4576	113-CR-1048 -000	T L BISHOP RD	Bridge or Large Culvert	28	4	0	Evaluate need for Type 3 Object Markers		

## Other Roadways

### General Roadway Conditions and Recommendations (Union County)

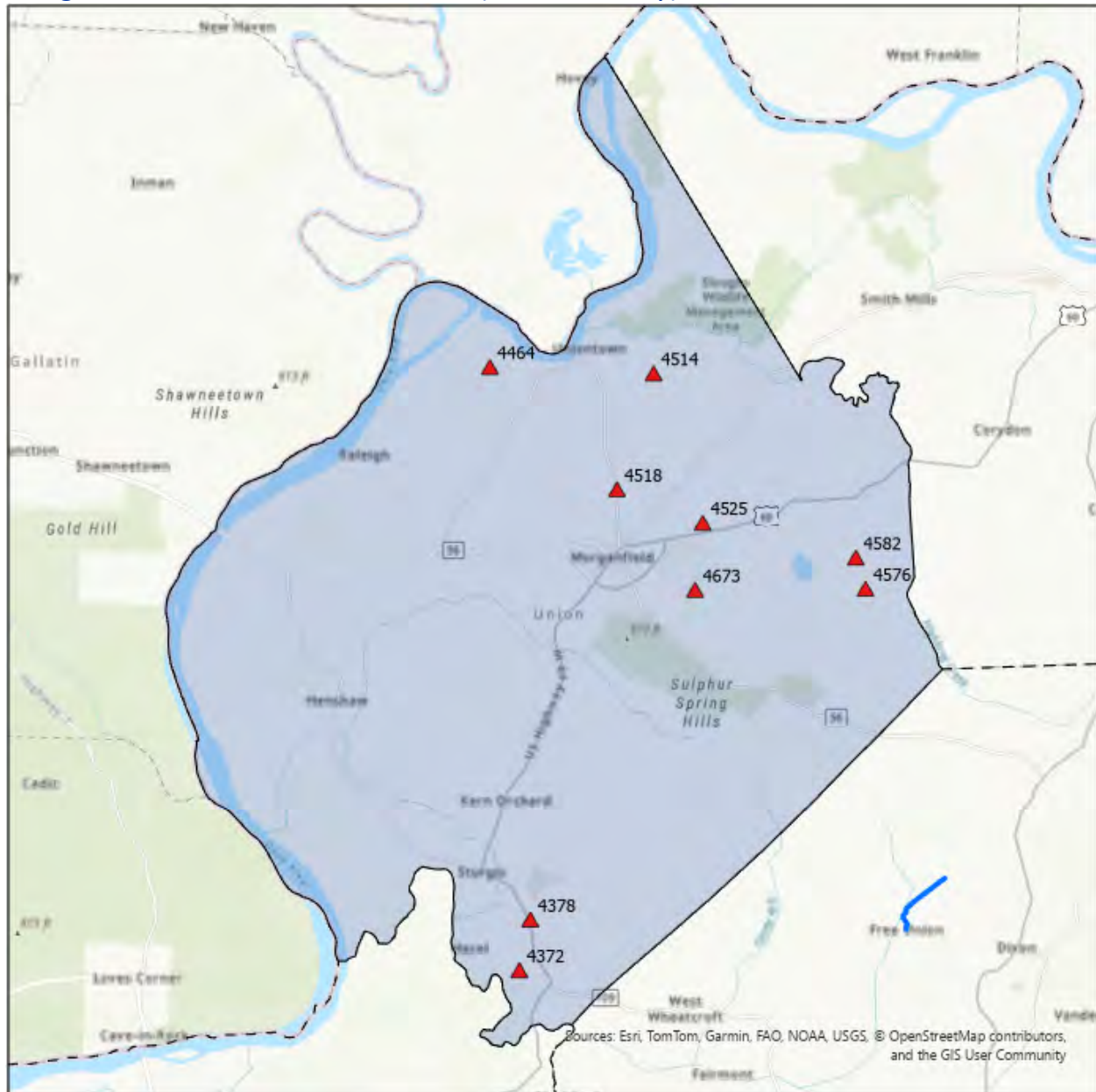


**Exhibit Union-1: General Roadway Conditions**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin	Other Recommendations
4448	113-CR-1001 -000	ROBINSON RD	19	3	4	40-60	✓	✓	✓	
4523	113-CR-1007 -000	BUCHANAN RD	18	4	3	20-40	✓	✓	✓	
4665	113-CR-1010 -000	MCCLURE CHAPEL RD	15	3	4	20-40	✓	✓	✓	
4520	113-CR-1012 -000	HITE SCHOOL RD	24+	4	4	40-60	✓	EL & CL	✓	
4512	113-CR-1013 -000	WAVERLY RD	18	3	3	40-60	✓	✓	✓	
4596	113-CR-1029 -000	BARKER RD	18	4	4	40-60	✓	✓	✓	
4578	113-CR-1048 -000	T L BISHOP RD	17	4	3	20-40	✓	✓	✓	
4452	113-CR-1050 -000	JIM VEATCH RD	18	3	5	40-60	✓	✓	✓	
4363	113-CR-1133 -000	COWEN RD	14	1	6	80-100	✓	✓	✓	Resurface
4376	113-CR-1137 -000	POPLAR RDG RD	18	4	3	20-40	✓	✓	✓	
4443	113-CR-1142 -000	ONAN DYER RD	16	4	4	20-40	✓	✓	✓	
4437	113-CR-1214 -000	VOSS RD	16	4	4	20-40	✓	✓	✓	
4439	113-CR-1215 -000	BEN DYER RD	18	4	4	40-60	✓	✓	✓	
4430	113-CR-1220 -000	MARKHAM RD	13	3	5	40-60	✓	✓	✓	
4371	113-CR-1224 -000	SULLIVAN RD	19	5	3	0-20		✓	✓	
4456	113-CR-1300 -000	W A ANDERSON RD	16	1	4	80-100	✓	✓	✓	Resurface
4461	113-CR-1308 -000	RALEIGH RD	19	2	4	40-60	✓	✓	✓	Resurface

**Exhibit Union-2: General Roadway Recommendations**

### Bridge / Culvert Recommendations (Union County)

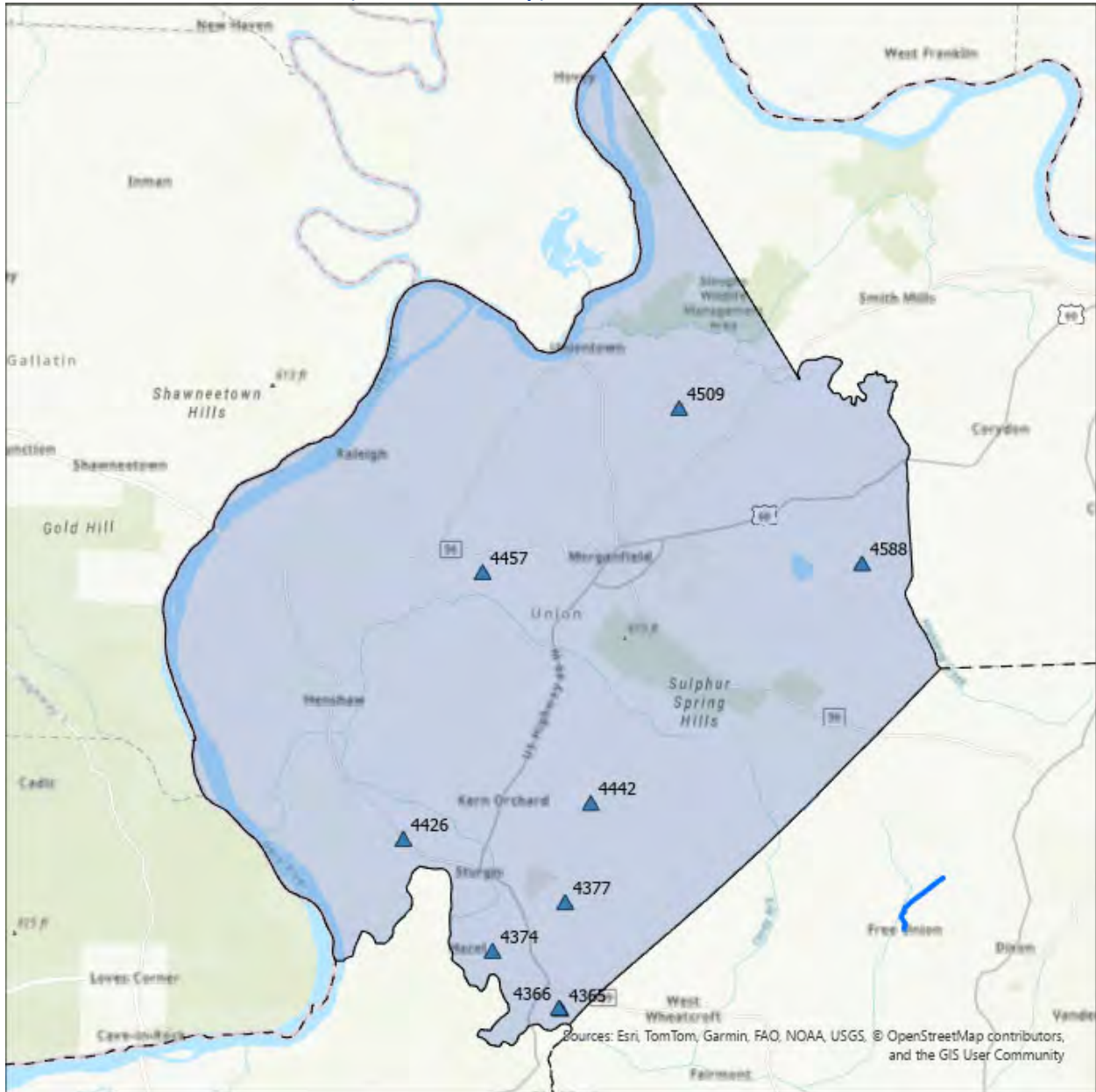


**Exhibit Union-3: Bridge / Culvert Locations**

RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
113-CR-1224 -000	SULLIVAN RD	41.4	4	2	Evaluate need for Type 3 Object Markers
113-CR-1137 -000	POPLAR RDG RD	88	4	0	Evaluate need for Type 3 Object Markers
113-CR-1308 -000	RALEIGH RD	44	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
113-CS-3019 -000	SIGSBEE ST	93	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
113-CR-1013 -000	WAVERLY RD	4	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
113-CR-1012 -000	HITE SCHOOL RD	34	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
113-CR-1007 -000	BUCHANAN RD	3	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
113-CS-4006 -000	SOUTH MILL ST	4	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
113-CS-4006 -000	SOUTH MILL ST	10	0	4	Evaluate need for guardrail on approach.
113-CR-1048 -000	T L BISHOP RD	28	4	0	Evaluate need for Type 3 Object Markers
113-CR-1029 -000	BARKER RD	5	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
113-CS-1033 -000	EAST LYON ST	4	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
113-CR-1087 -000	MEADOWS RD	3	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)

**Exhibit Union-4: Bridge / Culvert Recommendations**

### Curve Recommendations (Union County)

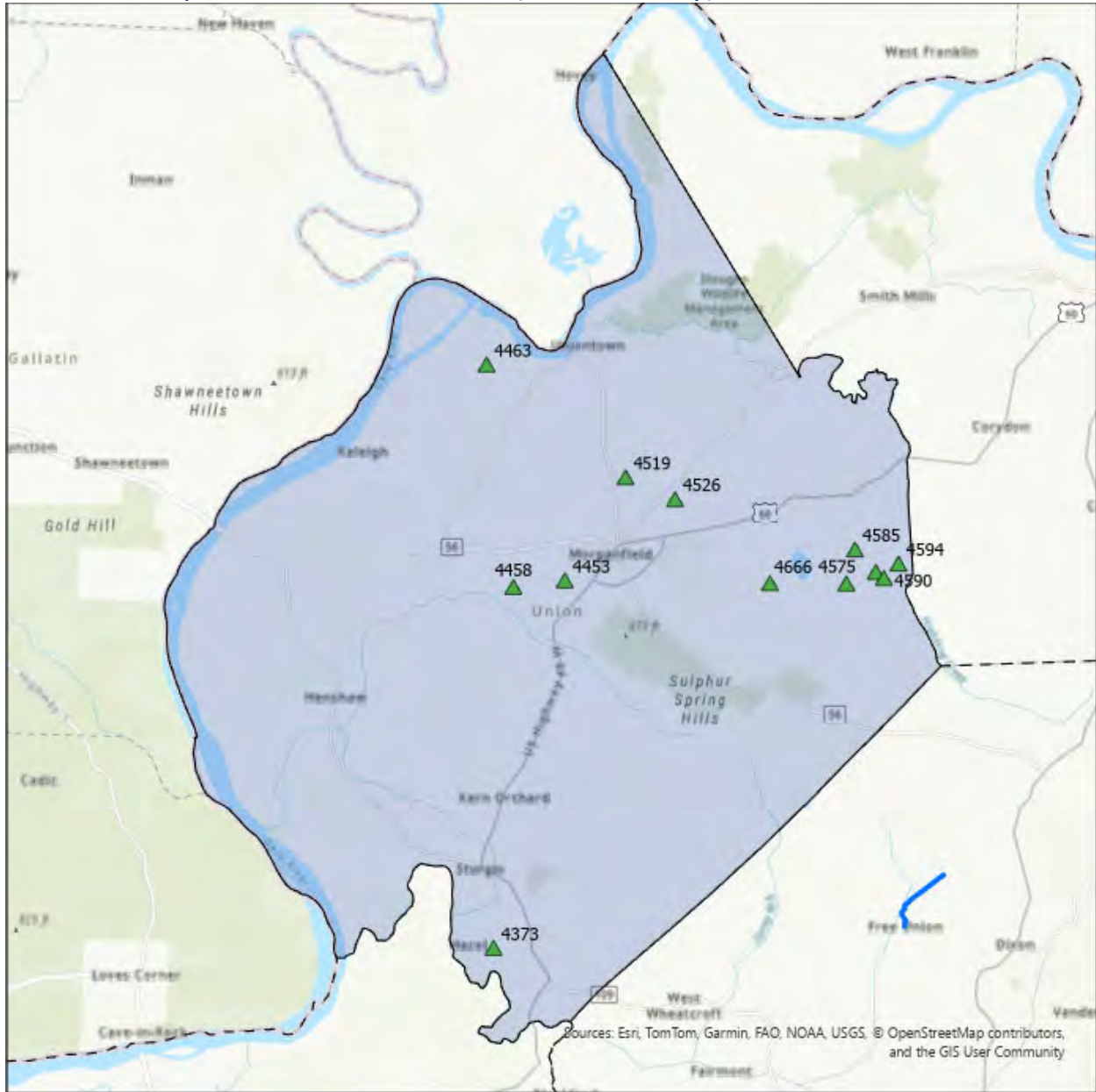


**Exhibit Union-5: Focus Road Curves**

Point ID	RT_UNIQUE	Road Name	Comments	Vegetation	Recommendation
4509	113-CR-1013 -000	WAVERLY RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
4588	113-CR-1029 -000	BARKER RD	Intersection_in_Curve	Yes	Install Curve Warning Sign; Clear Vegetation; Consider striping enhancements at intersection
4365	113-CR-1133 -000	COWEN RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
4366	113-CR-1133 -000	COWEN RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
4377	113-CR-1137 -000	POPLAR RDG RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
4442	113-CR-1142 -000	ONAN DYER RD	other	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
4426	113-CR-1220 -000	MARKHAM RD	Intersection_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
4374	113-CR-1224 -000	SULLIVAN RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
4457	113-CR-1300 -000	W A ANDERSON RD	other,vegetation	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions

**Exhibit Union-6: Curve Recommendations**

### Roadside Drop Off Recommendations (Union County)

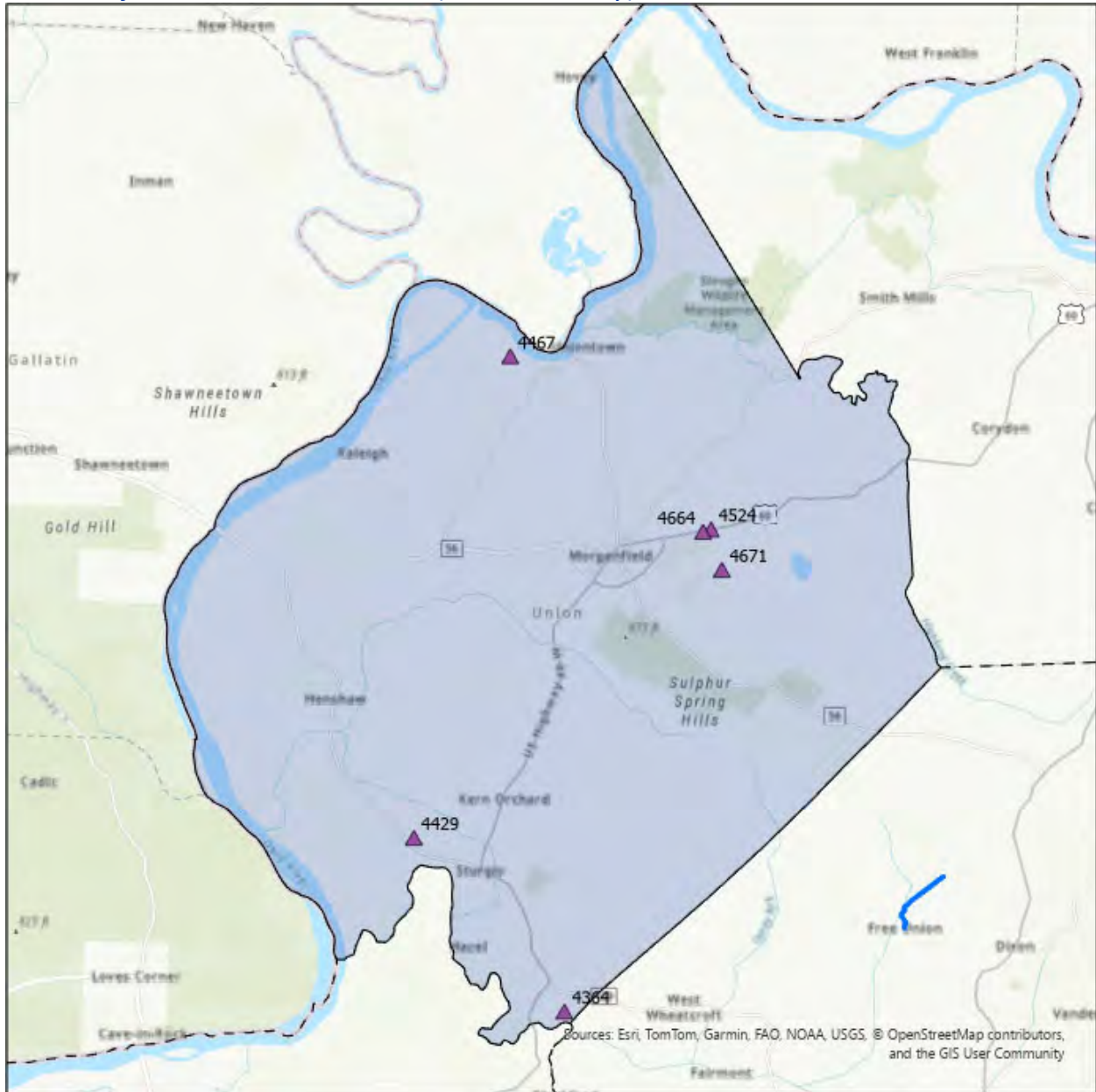


**Exhibit Union-7: Roadside Drop Off Locations**

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
4373	113-CR-1224 -000	SULLIVAN RD	3-5	>10	Evaluate need for guardrail
4453	113-CR-1050 -000	JIM VEATCH RD	1-3	>10	Evaluate need for guardrail
4458	113-CR-1300 -000	W A ANDERSON RD	3-5	>10	Evaluate need for guardrail
4463	113-CR-1308 -000	RALEIGH RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4519	113-CR-1012 -000	HITE SCHOOL RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4526	113-CR-1007 -000	BUCHANAN RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4571	113-CS-4001 -000	EAST MAIN ST	1-3	<2	Install Type 2 Object Marker(s) or Delineator(s)
4575	113-CR-1048 -000	T L BISHOP RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
4579	113-CR-1048 -000	T L BISHOP RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4585	113-CR-1029 -000	BARKER RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4590	113-CR-1029 -000	BARKER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4594	113-CR-1029 -000	BARKER RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4642	113-CS-1098 -000	PARK ST	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4666	113-CR-1010 -000	MCCLURE CHAPEL RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)

**Exhibit Union-8: Roadside Drop Off Recommendations**

### Fixed Object Recommendations (Union County)

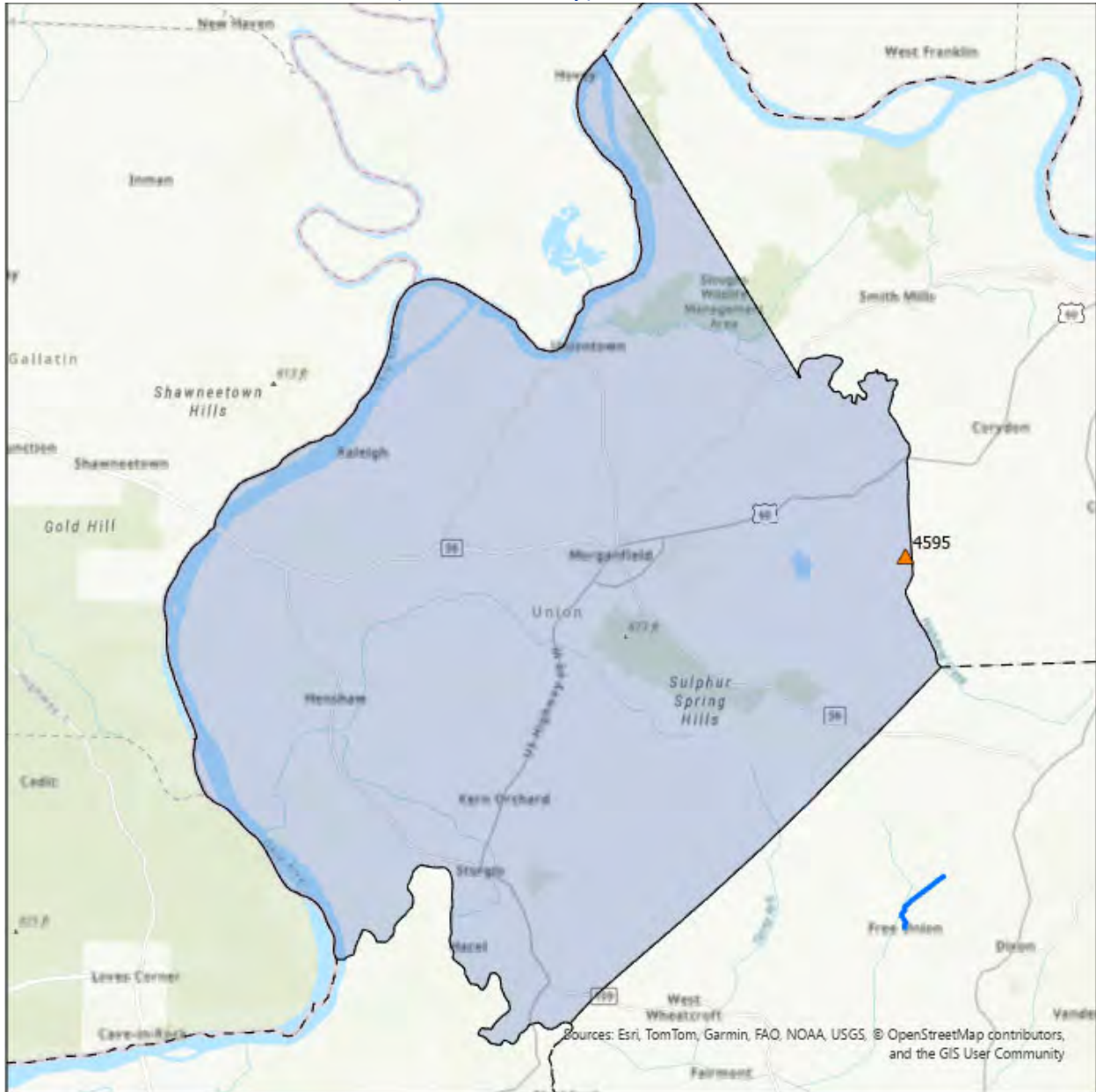


**Exhibit Union-9: Fixed Object Locations**

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
4364	113-CR-1133 -000	COWEN RD	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)
4429	113-CR-1220 -000	MARKHAM RD	Tree;	Series	1-3	--
4467	113-CR-1308 -000	RALEIGH RD	Utility Pole;	Series	3-5	--
4524	113-CR-1007 -000	BUCHANAN RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
4664	113-CR-1007 -000	BUCHANAN RD	Utility Pole;	Series	>5	--
4671	113-CR-1087 -000	MEADOWS RD	other; Mailboxes	Series	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations

**Exhibit Union-10: Fixed Object Recommendations**

### Guardrail Recommendations (Union County)

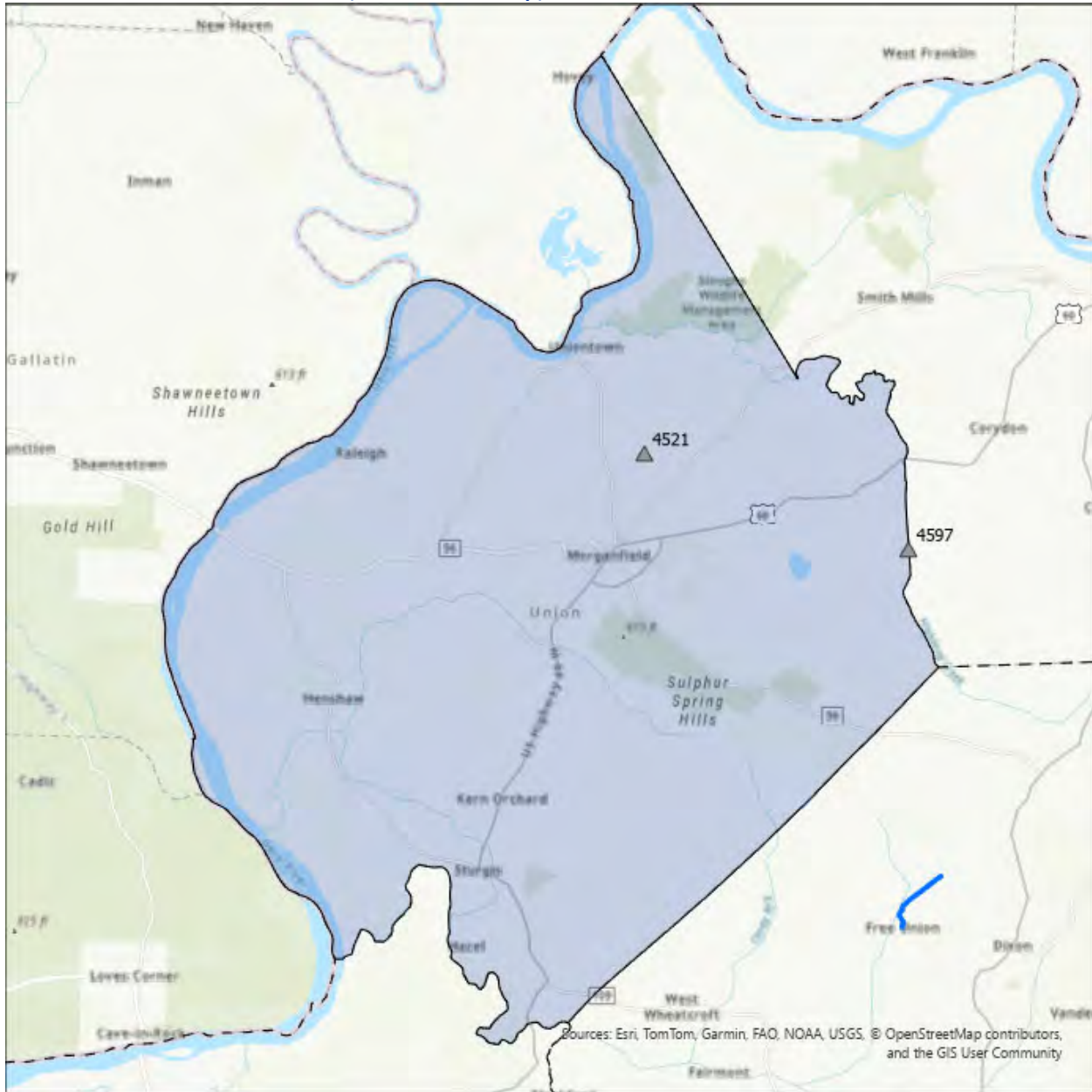


**Exhibit Lecher-11: Guardrail Locations**

Point ID	RT_UNIQUE	Road Name	Condition	Meet Warrant	End Treatment	Recommendation
4595	113-CR-1029 -000	BARKER RD	Good	No	Some	Evaluate need and cost of installing proper end treatments; Consider Removal

**Exhibit Union-12: Guardrail Recommendations**

### Other Recommendations (Union County)

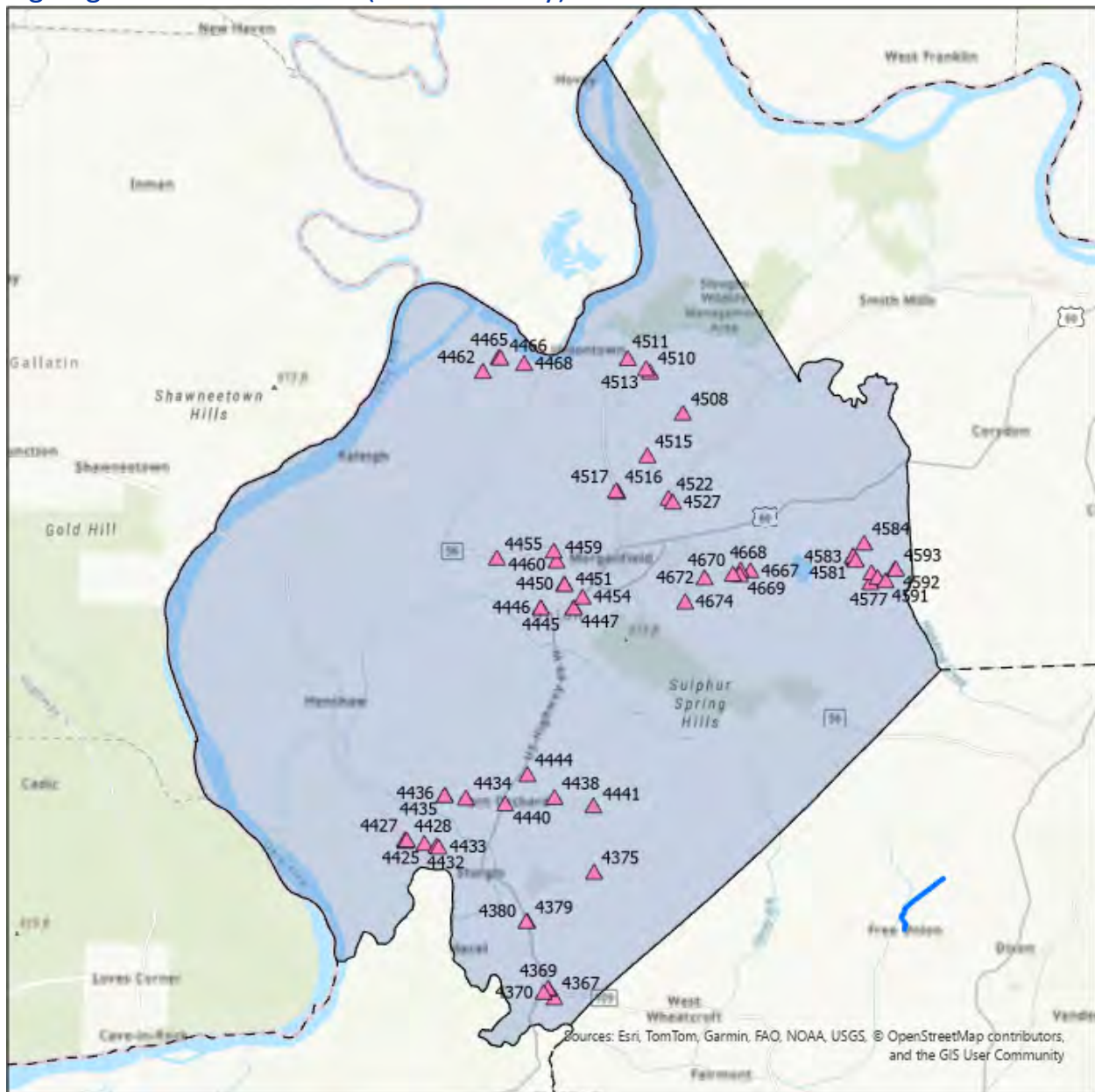


**Exhibit Union-13: Other Item Locations**

Point ID	RT_UNIQUE	RD_NAME	Description	Recommendation
4521	113-CR-1012 -000	HITE SCHOOL RD	;	Review Location
4597	113-CR-1029 -000	BARKER RD	No stop sign facing intersection;	Install Stop Sign

**Exhibit Union-14: Other Item Recommendations**

### Signing Recommendations (Union County)



**Exhibit Union-15: Sign Locations**

As part of the RSA data collection effort, existing signs were inventoried along reviewed Focus Roadways, including a condition assessment and a photo of each sign. Additionally, preliminary Advisory Speed recommendations were calculated for each focus roadway to assist in the installation of horizontal alignment (curve) signs. Signing and advisory speed information is provided in digital format at <https://kyt2.uky.edu/graddSAP>.

## APPENDIX I: WEBSTER COUNTY

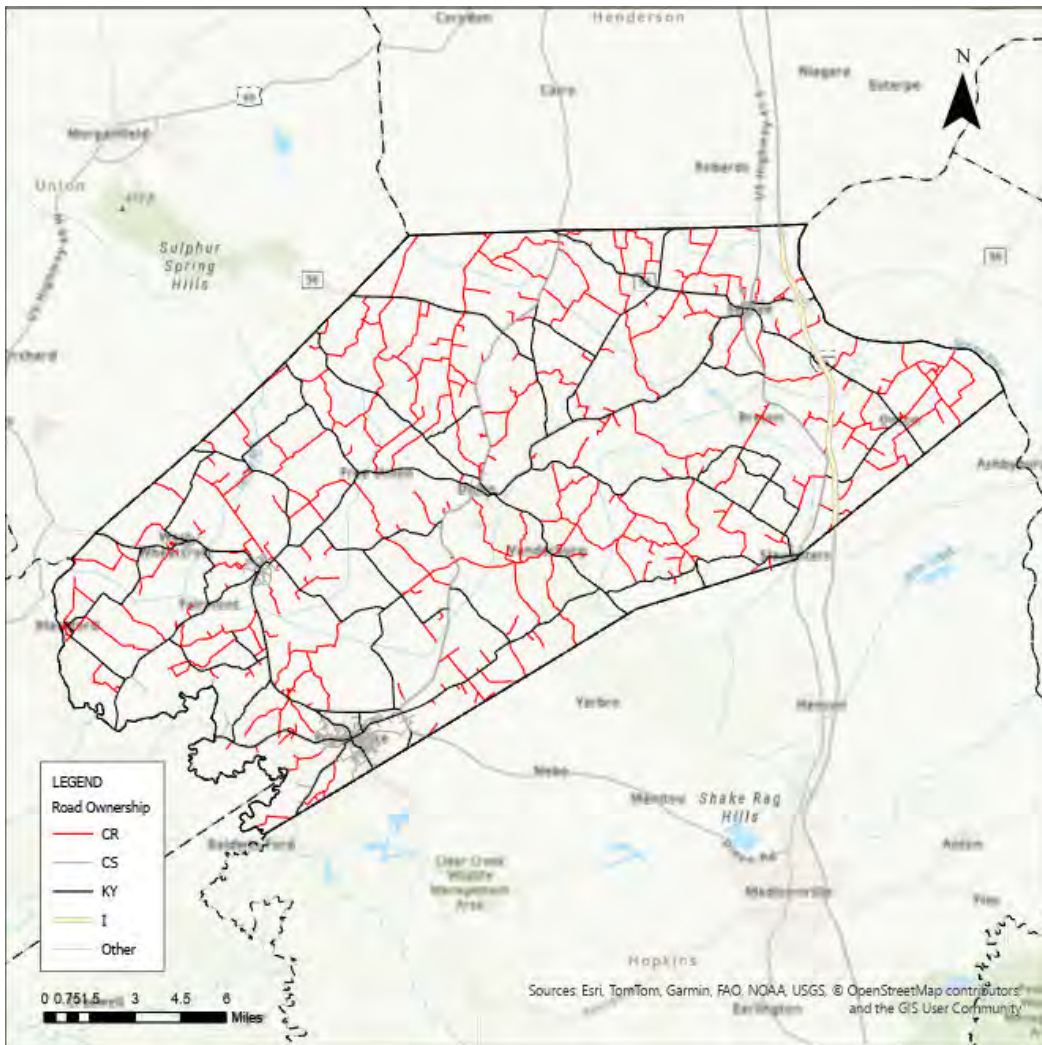
## Webster County Overview



**Exhibit Webster-1: Location Map**

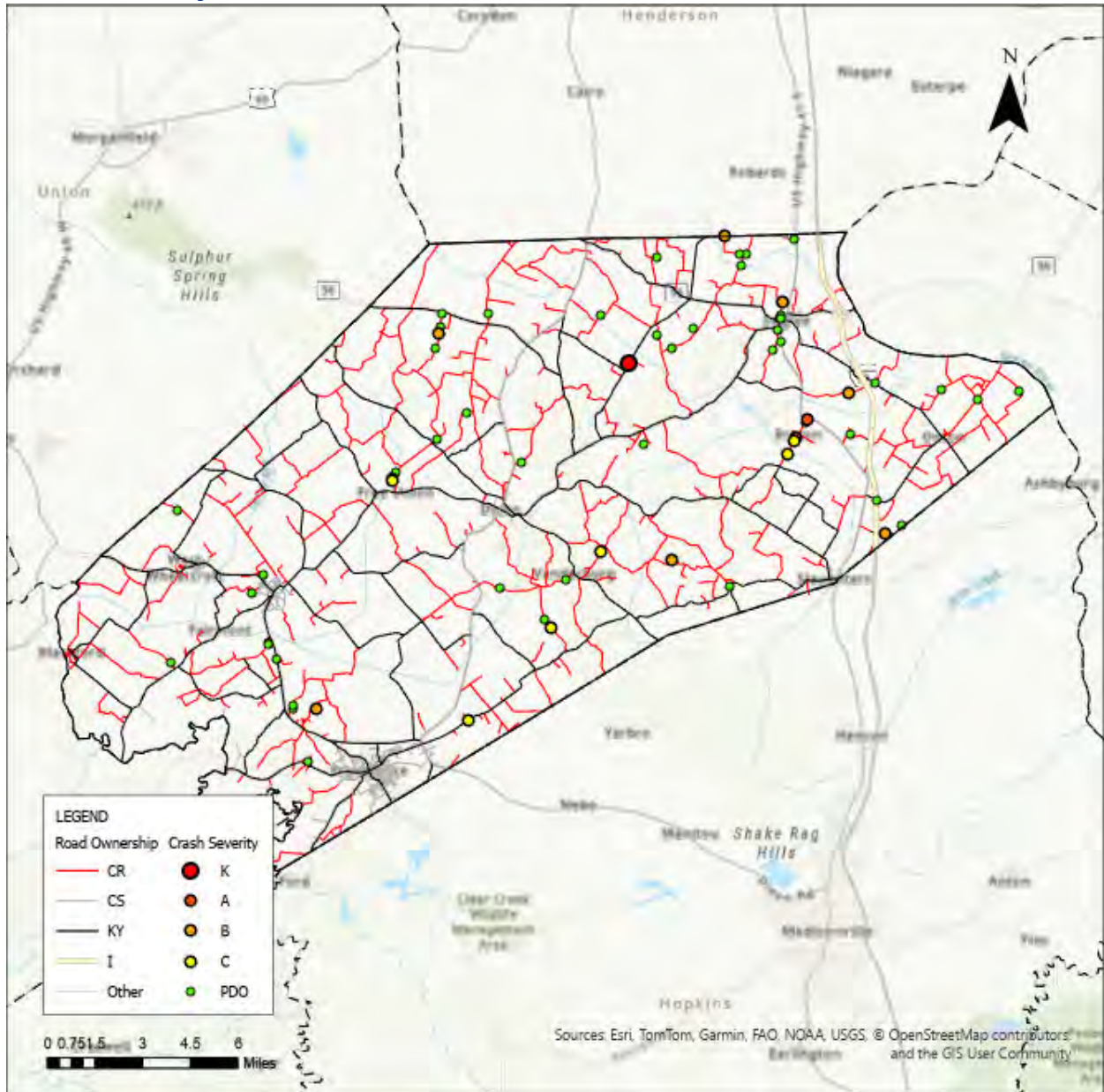
Key Information Table Webster County	
Population	12,726
Population in Persistent Poverty	19%
Underserved Community	No
Fatalities (All Roads)	13
Fatalities (County Roads)	2
Fatality rate per 100,000 persons	102.2
County Road Mileage	308.1
State Road Mileage	253.7
<b>Total Mileage</b>	<b>561.8</b>

**Exhibit Webster-2: Key Information**



**Figure Webster-3: Map of County Roadways**

## Crash Analysis



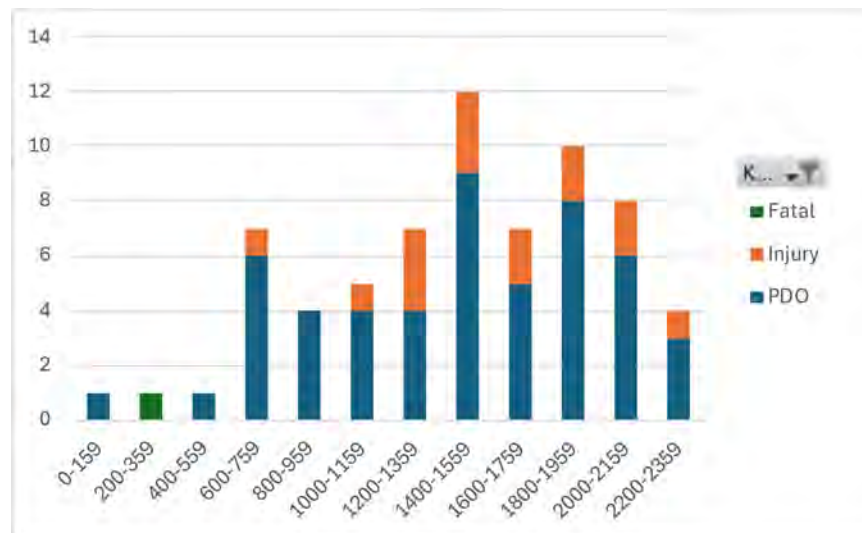
**Figure Webster-4: Map of County Road Crashes**



**Table Webster-5: Crash Distribution by Year**

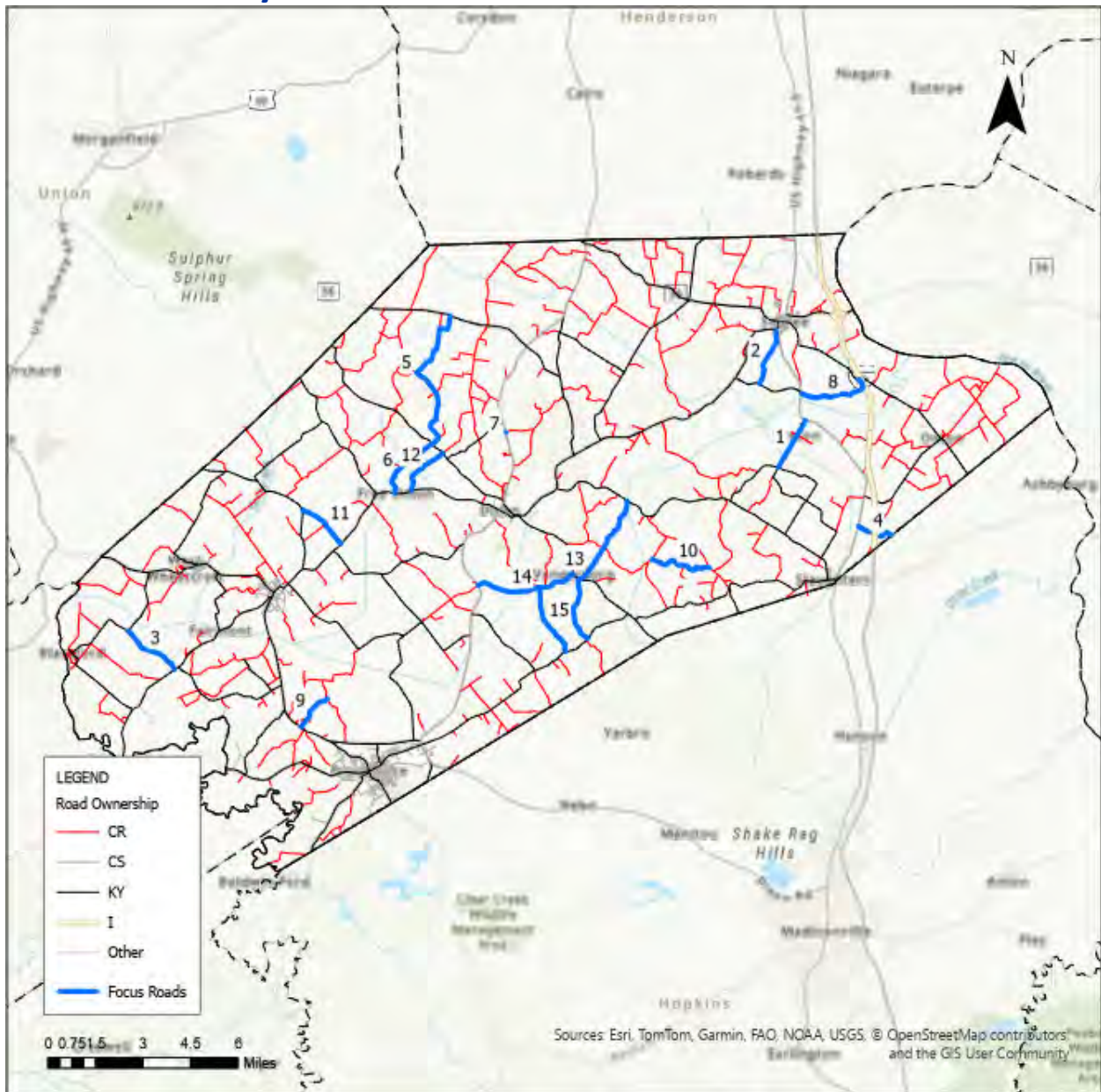
Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	27	11	1	<b>39</b>
Angle	3	3	0	<b>6</b>
Head On	0	1	0	<b>1</b>
Rear to Rear	1	0	0	<b>1</b>
SS - Opp	10	0	0	<b>10</b>
Backing	5	0	0	<b>5</b>
SS - Same	2	0	0	<b>2</b>
Left Turn	0	0	0	<b>0</b>
Rear End	3	0	0	<b>3</b>

**Exhibit Webster-6: Crash Frequency and Severity by Manner of Collision**



**Exhibit Webster-7: Crashes and Severity by Time of Day**

## Focus Roadways



**Exhibit Webster-8: Focus Roads**

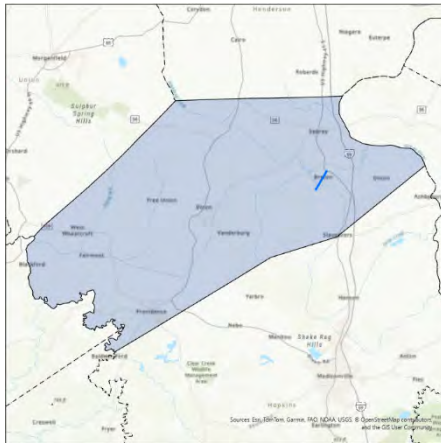
RT_UNIQUE	Length	County	AD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
<b>Webster</b>										
117-CR-1105 -000	1.72853	Webster	GRADD	BRETON RD	2	2	1	3.33	1.04	1
117-CR-1013 -000	1.88139	Webster	GRADD	ROGER POWELL RD	0	0	1	1.72	0.04	2
117-CR-1243 -000	2.05091	Webster	GRADD	FISHTRAP DERBY MINE RD	0	0	1	0.05	2.63	3
117-CR-1114 -000	0.84349	Webster	GRADD	FRANK BENSON RD	1	0	1	1.16	0.39	4
117-CR-1310 -000	5.23766	Webster	GRADD	LITTLE ZION TILDEN RD	1	0	2	1.21	0.16	5
117-CR-1304 -000	2.24252	Webster	GRADD	FREE UNION-TILDEN RD	0	2	2	1.18	0.19	6
117-CR-1001 -020	0.01375	Webster	GRADD	ASHER RD Y	0	0	0	0.00	2.50	7
117-CR-1015 -000	2.43731	Webster	GRADD	COLLINS RD	1	0	0	1.10	0.21	8
117-CR-1256 -000	1.34085	Webster	GRADD	BILL DORRIS RD	1	0	0	1.10	0.13	9
117-CR-1127 -000	2.18046	Webster	GRADD	MARKS POOLE RD	1	0	0	1.10	0.09	10
117-CR-1355 -000	1.68441	Webster	GRADD	SPRINGER CURRY RD	0	0	0	0.00	2.03	11
117-CR-1303 -000	1.7455	Webster	GRADD	NAT TAYLOR RD	0	0	0	0.00	1.74	12
117-CR-1142 -000	5.18171	Webster	GRADD	CATESVILLE-PROVIDENCE	0	1	1	0.59	0.20	13
117-CR-1146 -000	3.28996	Webster	GRADD	VANDERBURG LISMAN RD	0	0	2	0.11	1.04	14
117-CR-1141 -000	2.34632	Webster	GRADD	LETCHER MELTON RD	0	1	1	0.59	0.02	15

**Exhibit Webster-9: List of Focus Roadways**

## Recommended Improvements (Top 5 Roads)

### BRETON RD (117-CR-1105 -000)

Road Location Map and Crash History

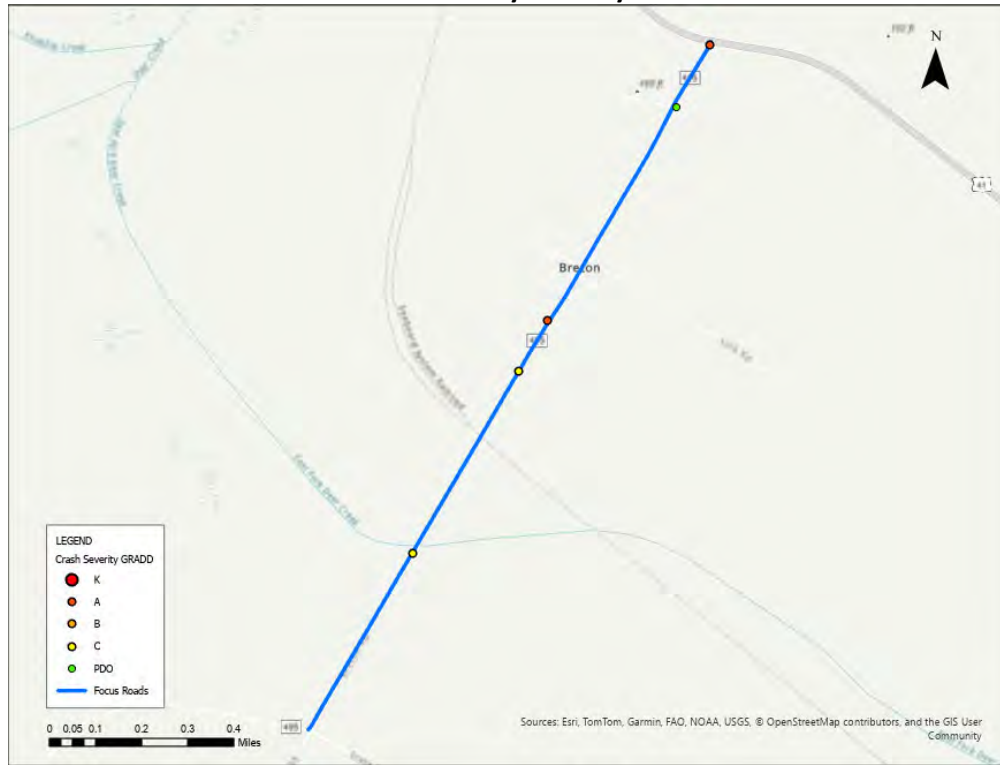
	Manner of Collision	Property Damage Only	Injury	Fatal	Total
	SS - Same	0	0	0	0
	Rear to Rear	0	0	0	0
	(blank)	0	0	0	0
	Backing	1	0	0	1
	SS - Opp	0	0	0	0
	Head On	0	0	0	0
	Single Vehicle	0	0	0	0
	Left Turn	0	0	0	0
	Angle	0	0	0	0

*Roadway Section Data Not Collected*

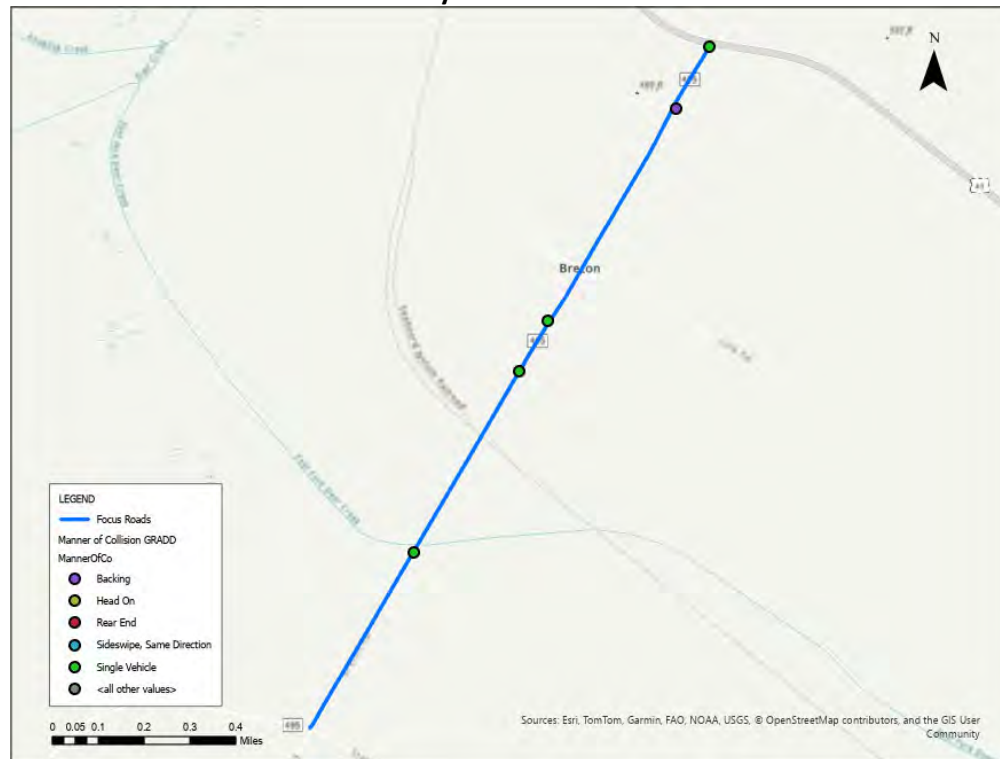
Roadway Typical Section



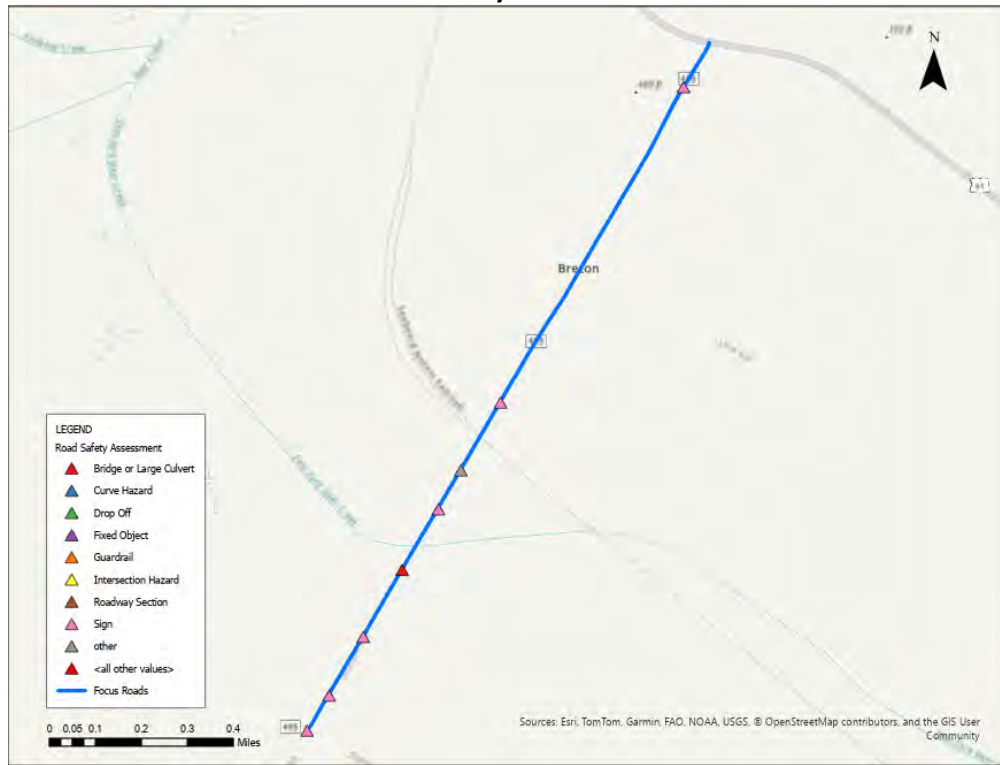
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment

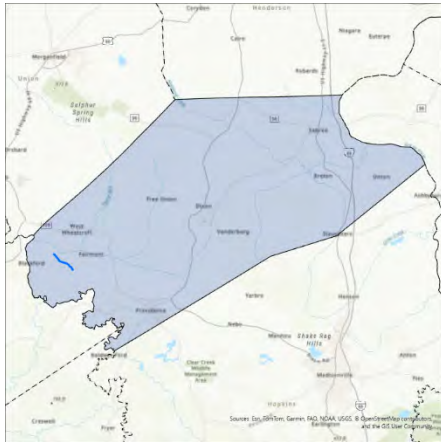


### General Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
4323	117-CR-1105 -000	BRETON RD	Bridge or Large Culvert	23	4	0	Evaluate need for Type 3 Object Markers
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation
4325	117-CR-1105 -000	BRETON RD	other	--	--	Railroad;	Review RR crossing

### FISHTRAP DERBY MINE RD (117-CR-1243 -000)

#### Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	0	0	0	0
(blank)	0	0	0	0
SS - Opp	0	0	0	0
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

#### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (%)
4204	117-CR-1243 -000	FISHTRAP DERBY MINE RD	14	4	3	20-40

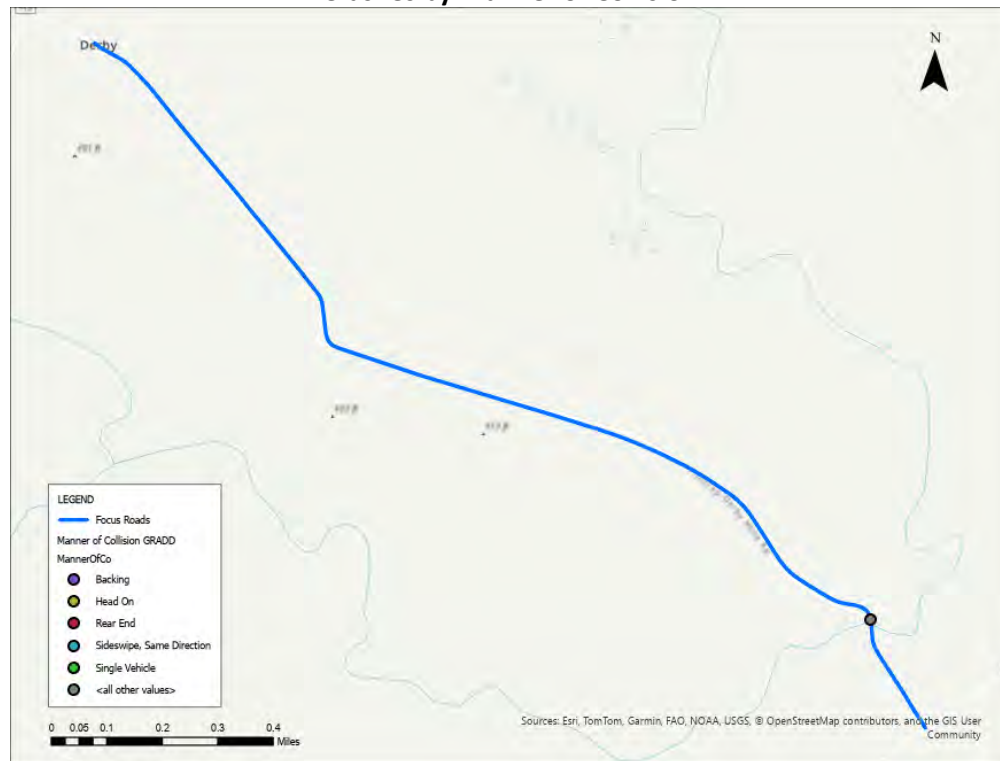
#### Roadway Typical Section



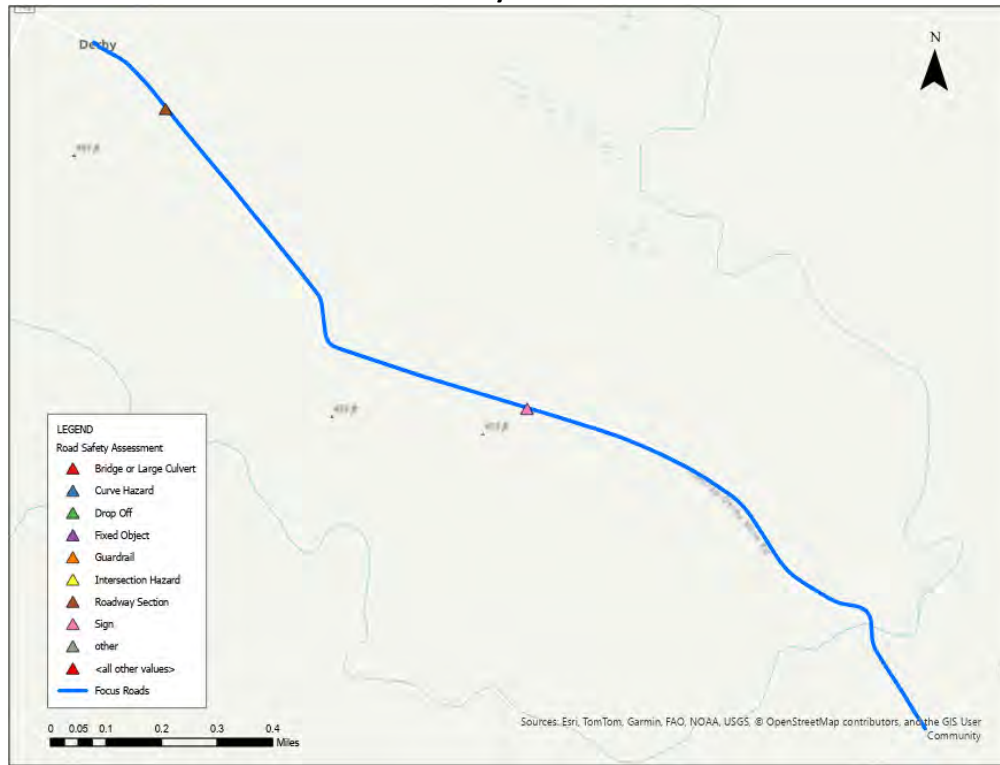
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rate	Shoulder Improve	Improve Should	Edgeline	Curve Signin	Other Recommendations
4204	117-CR-1243 -000	FISHTRAP DERBY MINE RD	14	4	3	20-40	✓	✓	✓	

## FRANK BENSON RD (117-CR-1114 -000)

### Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	0	1	0	1
(blank)	0	0	0	0
SS - Opp	0	0	0	0
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (
4327	117-CR-1114 -000	FRANK BENSON RD	16	4	3	20-40
4328	117-CR-1114 -000	FRANK BENSON RD	16	4	2	20-40

### Roadway Typical Section



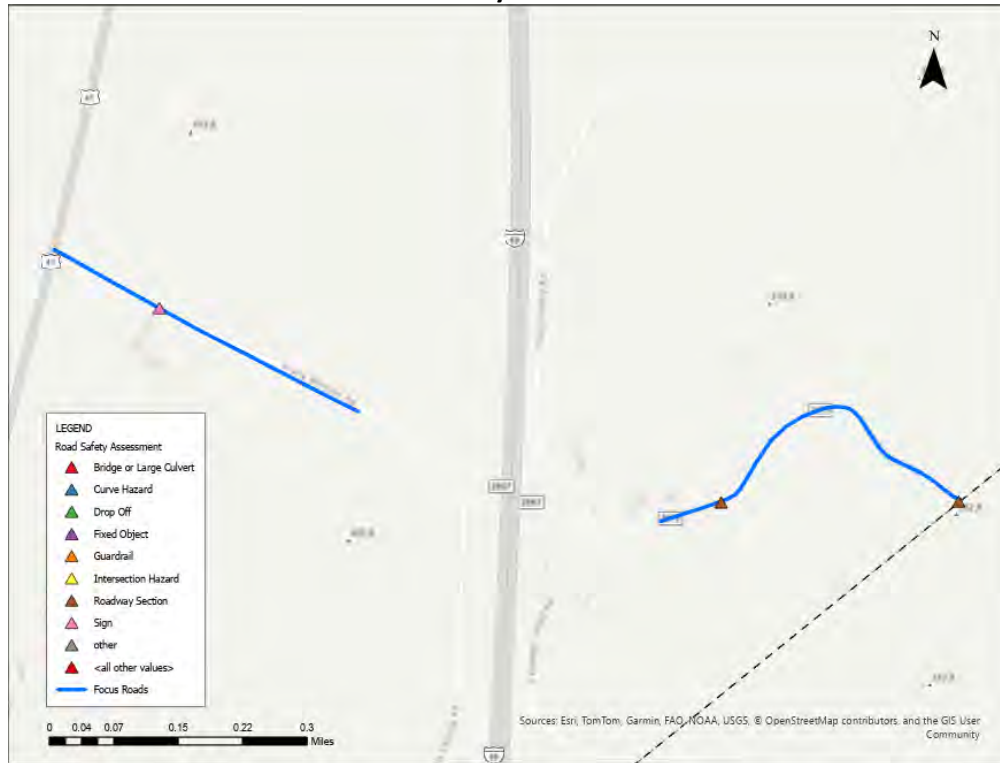
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment



### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (ft)	Improve Shoulder	Edgelim	Curve Signin	Other Recommendations
4327	117-CR-1114 -000	FRANK BENSON RD	16	4	3	20-40	✓	✓	✓	
4328	117-CR-1114 -000	FRANK BENSON RD	16	4	2	20-40	✓	✓	✓	

### LITTLE ZION TILDEN RD (117-CR-1310 -000)

#### Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Head On	0	1	0	1
Single Vehicle	2	1	0	3
Rear to Rear	0	0	0	0
Backing	0	0	0	0
SS - Opp	0	0	0	0
SS - Same	0	0	0	0
(blank)	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

#### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (%)
4172	117-CR-1310 -000	LITTLE ZION TILDEN RD	15	3	5	60-80

#### Roadway Typical Section



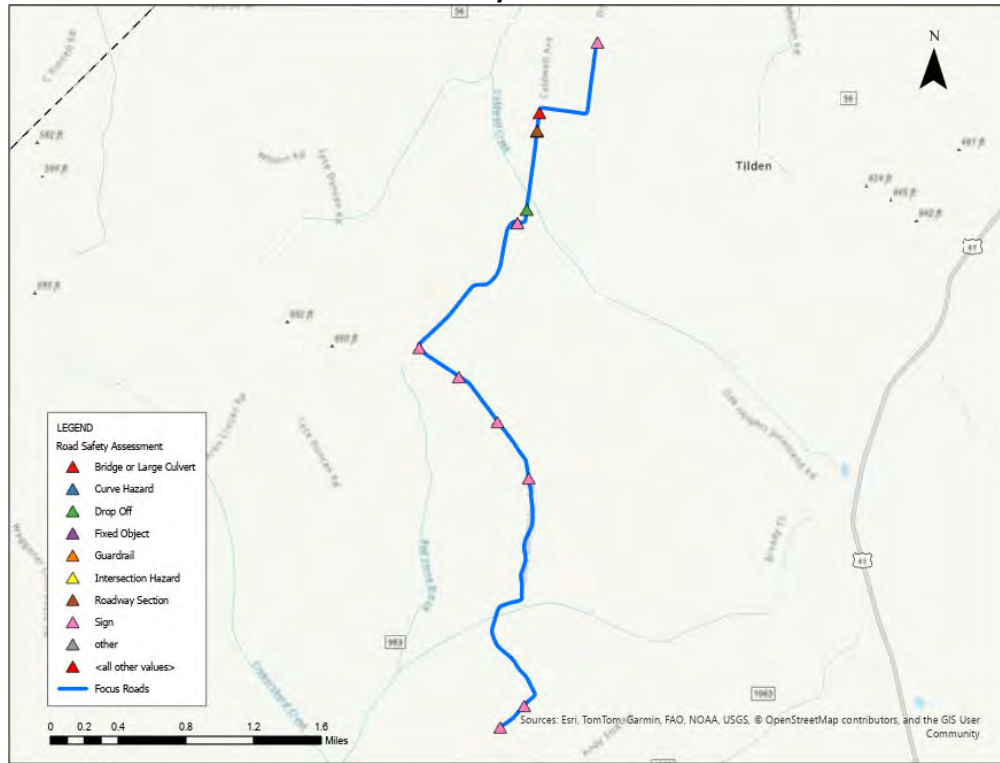
### Crashes by Severity



### Crashes by Manner of Collision



### Road Safety Assessment

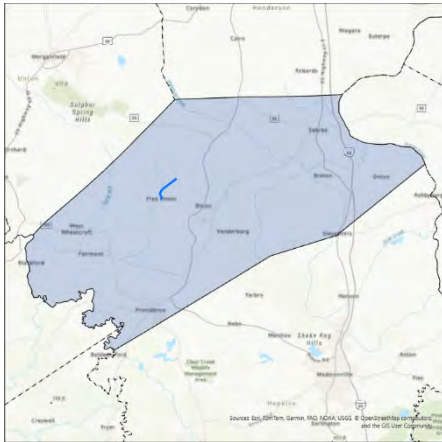


### General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve	Improve Shoulder	Edgelining	Curve Signin	Other Recommendations
4172	117-CR-1310 -000	LITTLE ZION TILDEN RD	15	3	5	60-80	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
4174	117-CR-1310 -000	LITTLE ZION TILDEN RD	Drop Off	1-3	2-5	Webster	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
4175	117-CR-1310 -000	LITTLE ZION TILDEN RD	Fixed Object	Tree;	Single	0-1	Remove			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
4171	117-CR-1310 -000	LITTLE ZION TILDEN RD	Bridge or Large Culvert	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)			
4173	117-CR-1310 -000	LITTLE ZION TILDEN RD	Bridge or Large Culvert	27	4	0	Evaluate need for Type 3 Object Markers			

### FREE UNION-TILDEN RD (117-CR-1304 -000)

#### Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	2	1	0	3
(blank)	0	0	0	0
SS - Opp	0	0	0	0
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Angle	0	0	0	0

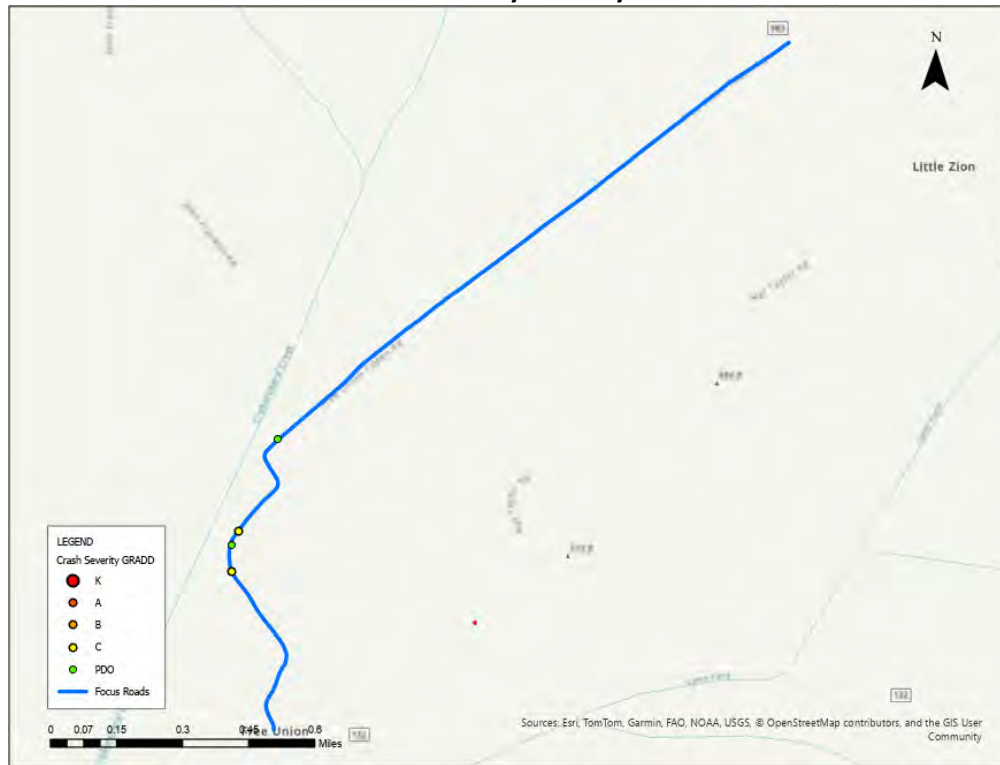
#### General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (%)
4185	117-CR-1304 -000	FREE UNION-TILDEN RD	18	3	3	40-60

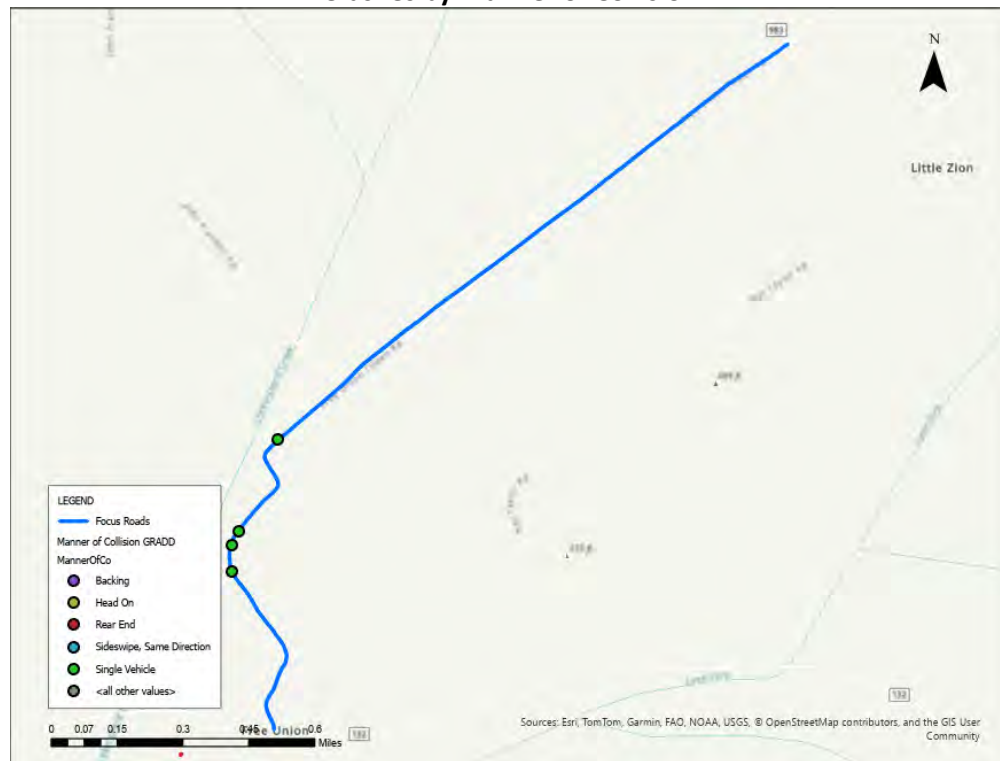
#### Roadway Typical Section



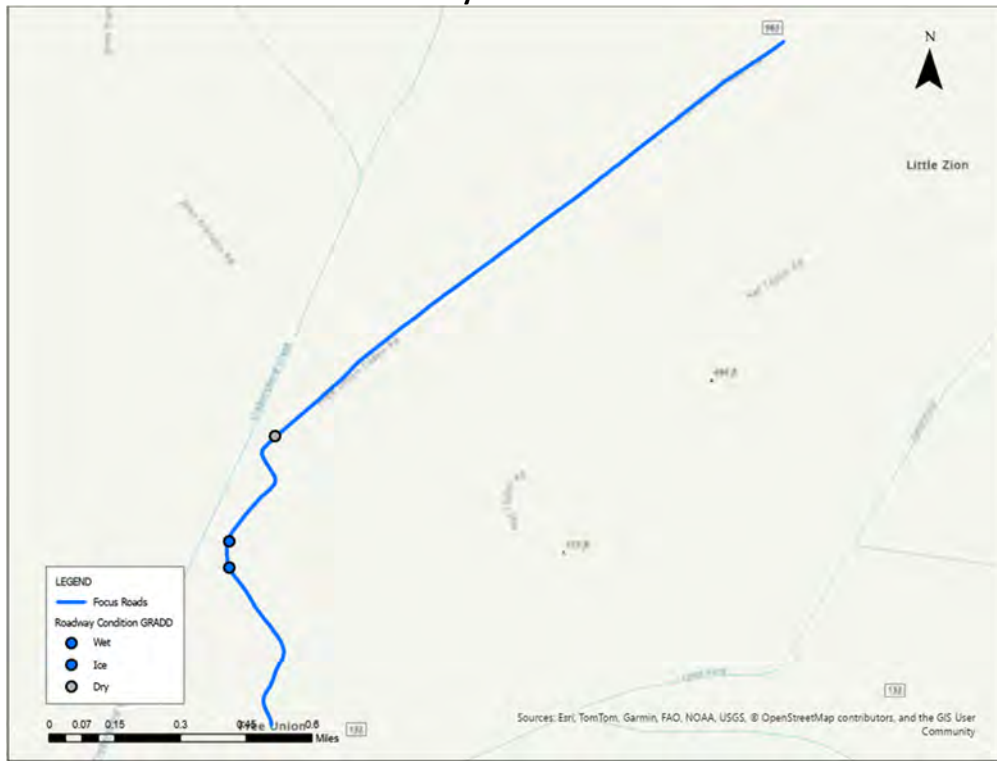
### Crashes by Severity



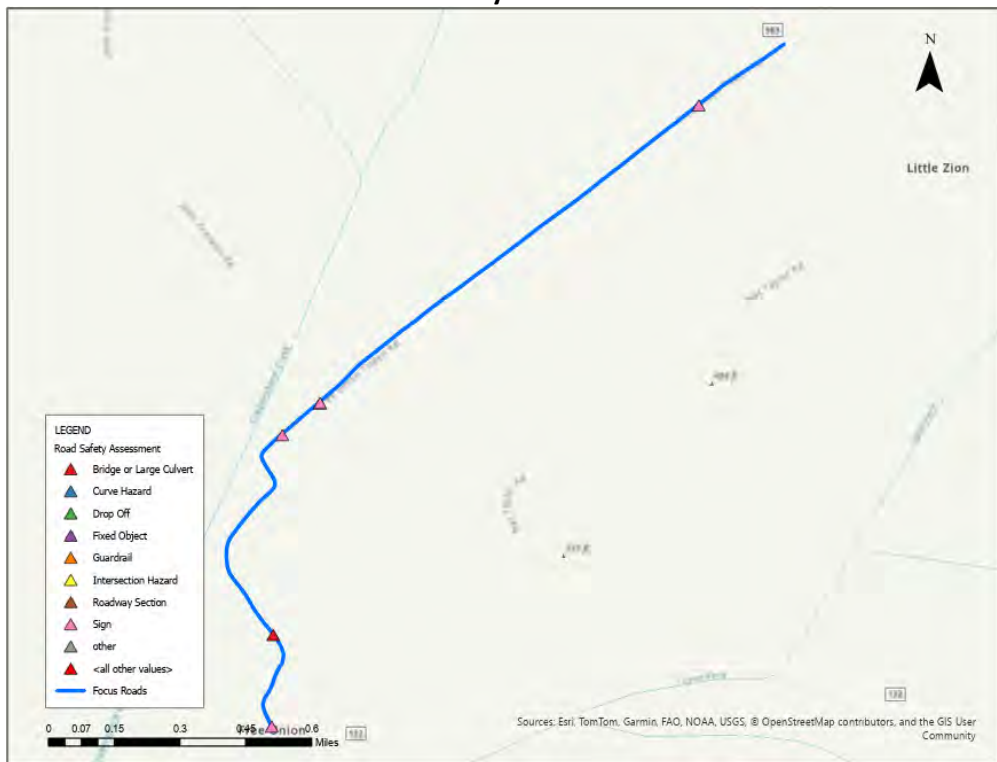
### Crashes by Manner of Collision



### Crashes by Road Condition



### Road Safety Assessment



**General Recommendations**

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rate	Shoulder Improve (ft)	Improve Shoulder	Edgelin	Curve Signin	Other Recommendations
4185	117-CR-1304 -000	FREE UNION-TILDEN RD	18	3	3	40-60	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
4183	117-CR-1304 -000	FREE UNION-TILDEN RD	Bridge or Large Culvert	6	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)			



Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rate	Shoulder Improve (	Improve Shoud	Edgelin	Curve Signin	Other Recommendations
4295	117-CR-1002 -000	WANAMAHER RD	13	3	4	40-60	✓	✓	✓	
4315	117-CR-1015 -000	COLLINS RD	16	4	3	40-60	✓	✓	✓	
4344	117-CR-1040 -000	WATKINS SEBREE RD	16	3	5	60-80	✓	✓	✓	
4359	117-CR-1043 -000	ROYSTER-ROBARDS RD	14	3	4	40-60	✓	✓	✓	
4299	117-CR-1055 -000	COTTINGHAM PRATT RD S	11	1	6	80-100	✓	✓	✓	Resurface
4306	117-CR-1102 -000	RAKESTRAW BOTTOMS RD	16	1	5	60-80	✓	✓	✓	Resurface
4327	117-CR-1114 -000	FRANK BENSON RD	16	4	3	20-40	✓	✓	✓	
4328	117-CR-1114 -000	FRANK BENSON RD	16	4	2	20-40	✓	✓	✓	
4283	117-CR-1124 -000	OLD DIXON-SLAUGHTERS RD	16	4	4	20-40	✓	✓	✓	
4287	117-CR-1127 -000	MARKS POOLE RD	14	4	5	40-60	✓	✓	✓	
4290	117-CR-1127 -000	MARKS POOLE RD	11	2	3	20-40	✓	✓	✓	Resurface
4255	117-CR-1146 -000	VANDEBURG LISMAN RD	19	4	4	20-40	✓	✓	✓	
4204	117-CR-1243 -000	FISHTRAP DERBY MINE RD	14	4	3	20-40	✓	✓	✓	
4208	117-CR-1256 -000	BILL DORRIS RD	15	3	3	40-60	✓	✓	✓	
4185	117-CR-1304 -000	FREE UNION-TILDEN RD	18	3	3	40-60	✓	✓	✓	
4172	117-CR-1310 -000	LITTLE ZION TILDEN RD	15	3	5	60-80	✓	✓	✓	

**Exhibit Webster-2: General Roadway Recommendations**

### Bridge / Culvert Recommendations (Webster County)

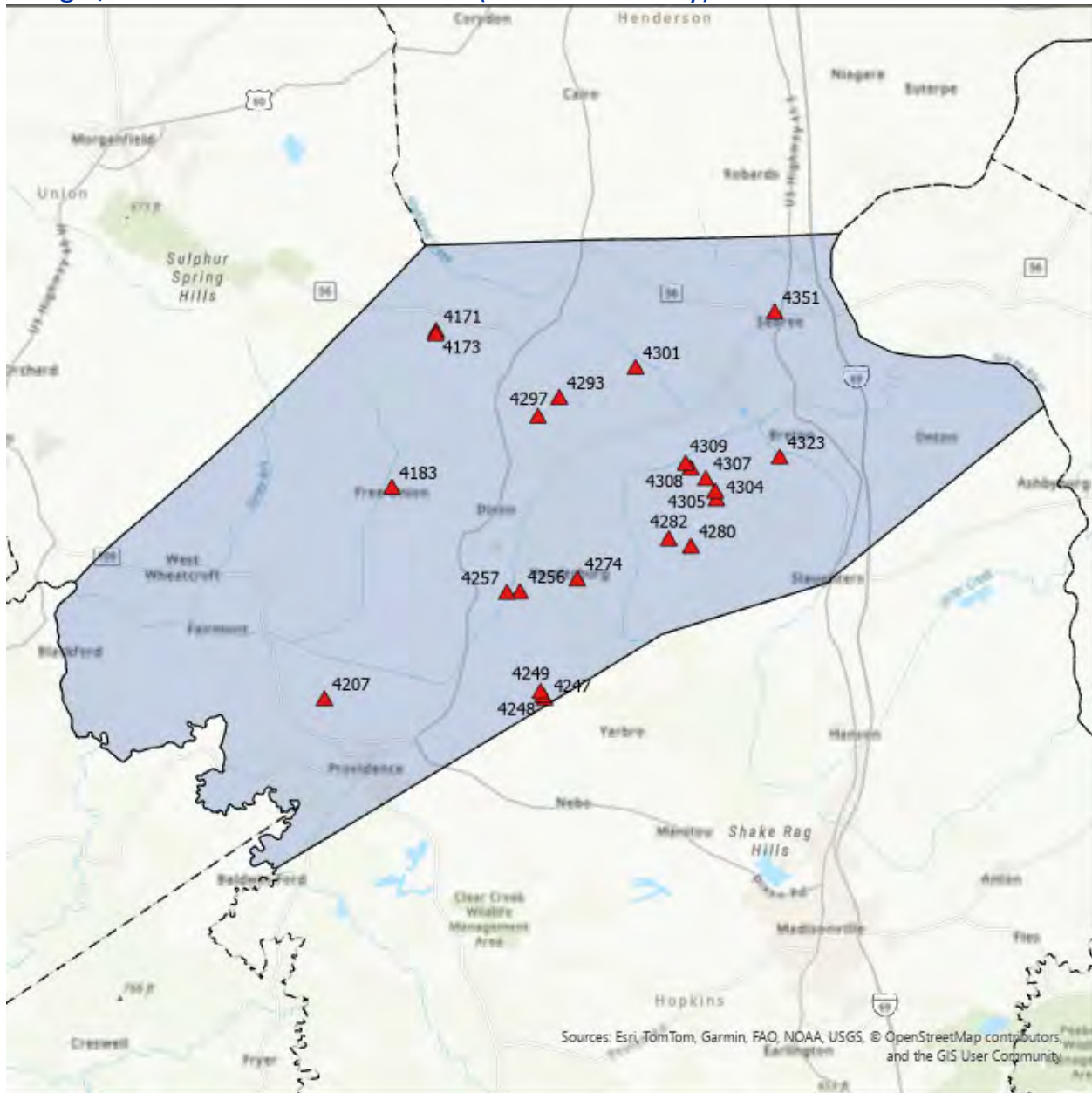
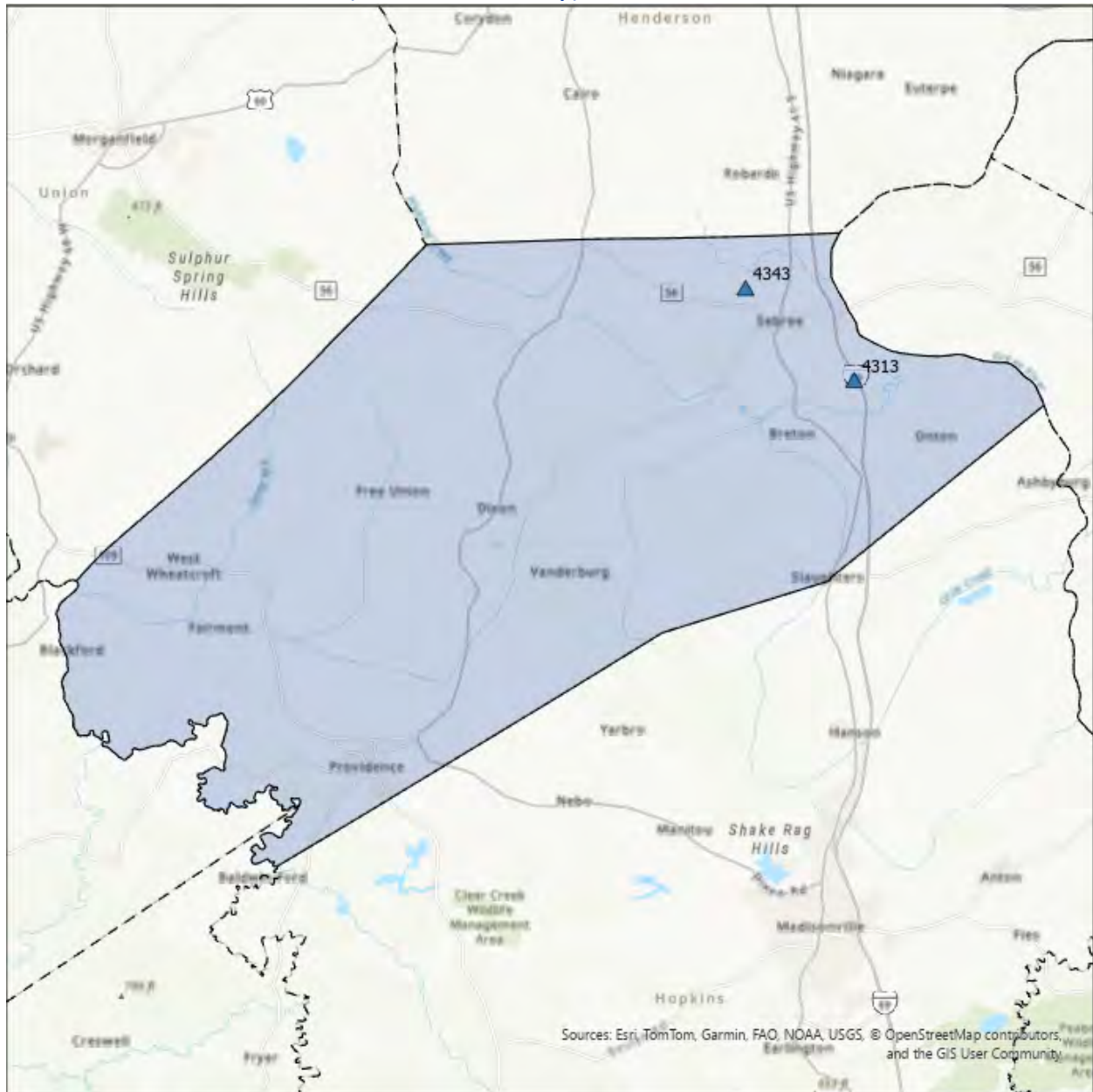


Exhibit Webster-3: Bridge / Culvert Locations

RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
117-CR-1310 -000	LITTLE ZION TILDEN RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
117-CR-1310 -000	LITTLE ZION TILDEN RD	27	4	0	Evaluate need for Type 3 Object Markers
117-CR-1304 -000	FREE UNION-TILDEN RD	6	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
117-CR-1256 -000	BILL DORRIS RD	4	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
117-CR-1134 -000	PICAS AUSTIN RD	4	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
117-CR-1134 -000	PICAS AUSTIN RD	32	4	0	Evaluate need for Type 3 Object Markers
117-CR-1134 -000	PICAS AUSTIN RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
117-CR-1146 -000	VANDERBURG LISMAN RD	25	4	0	Evaluate need for Type 3 Object Markers
117-CR-1146 -000	VANDERBURG LISMAN RD	25	0	4	Evaluate need for guardrail on approach.
117-CR-1142 -000	CATESVILLE-PROVIDENCE RD	10	0	4	Evaluate need for guardrail on approach.
117-CR-1124 -000	OLD DIXON-SLAUGHTERS RD	15	0	4	Evaluate need for guardrail on approach.
117-CR-1124 -000	OLD DIXON-SLAUGHTERS RD	6	0	4	Evaluate need for guardrail on approach.
117-CR-1002 -000	WANAMAHER RD	13	0	4	Evaluate need for guardrail on approach.
117-CR-1002 -000	WANAMAHER RD	8	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
117-CR-1055 -000	COTTINGHAM PRATT RD S	5	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
117-CR-1102 -000	RAKESTRAW BOTTOMS RD	4	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
117-CR-1102 -000	RAKESTRAW BOTTOMS RD	4	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
117-CR-1102 -000	RAKESTRAW BOTTOMS RD	3	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
117-CR-1102 -000	RAKESTRAW BOTTOMS RD	10	other	4	Evaluate need for Guardrail; Install Type 3 Object Markers
117-CR-1102 -000	RAKESTRAW BOTTOMS RD	42	4	0	Evaluate need for Type 3 Object Markers
117-CR-1105 -000	BRETON RD	23	4	0	Evaluate need for Type 3 Object Markers
117-CR-1040 -000	WATKINS SEBREE RD	32	4	0	Evaluate need for Type 3 Object Markers
117-CS-4027 -000	EAST JEFFERSON ST	37	4	0	Evaluate need for Type 3 Object Markers

**Exhibit Lee-4: Bridge / Culvert Recommendations**

### Curve Recommendations (Webster County)

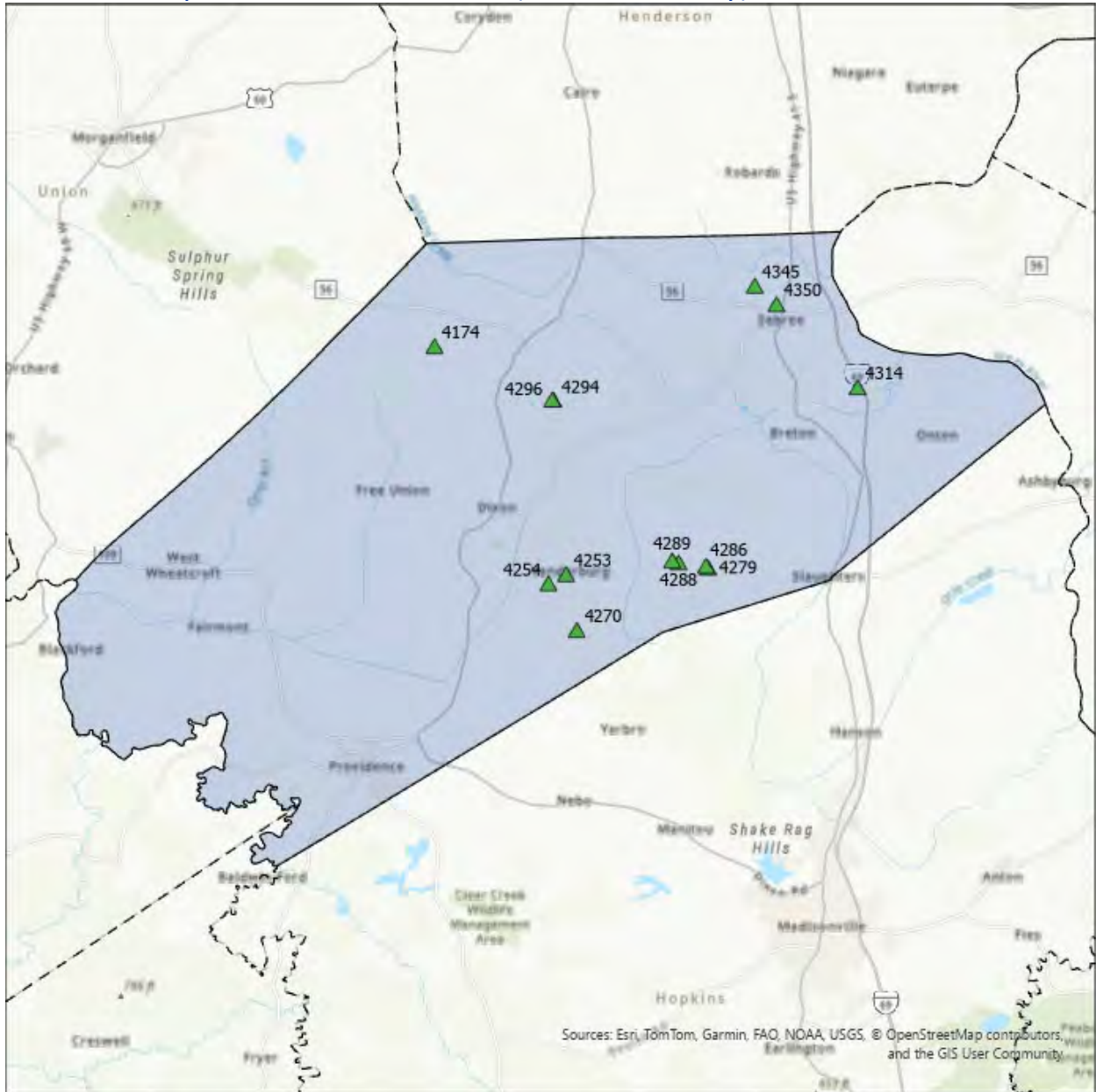


**Exhibit Webster-5: Focus Road Curves**

Point ID	RT_UNIQUE	Road Name	Comments	Vegetation	Recommendation
4313	117-CR-1015 -000	COLLINS RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
4343	117-CR-1040 -000	WATKINS SEBREE RD	other	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions

**Exhibit Webster-6: Curve Recommendations**

### Roadside Drop Off Recommendations (Webster County)

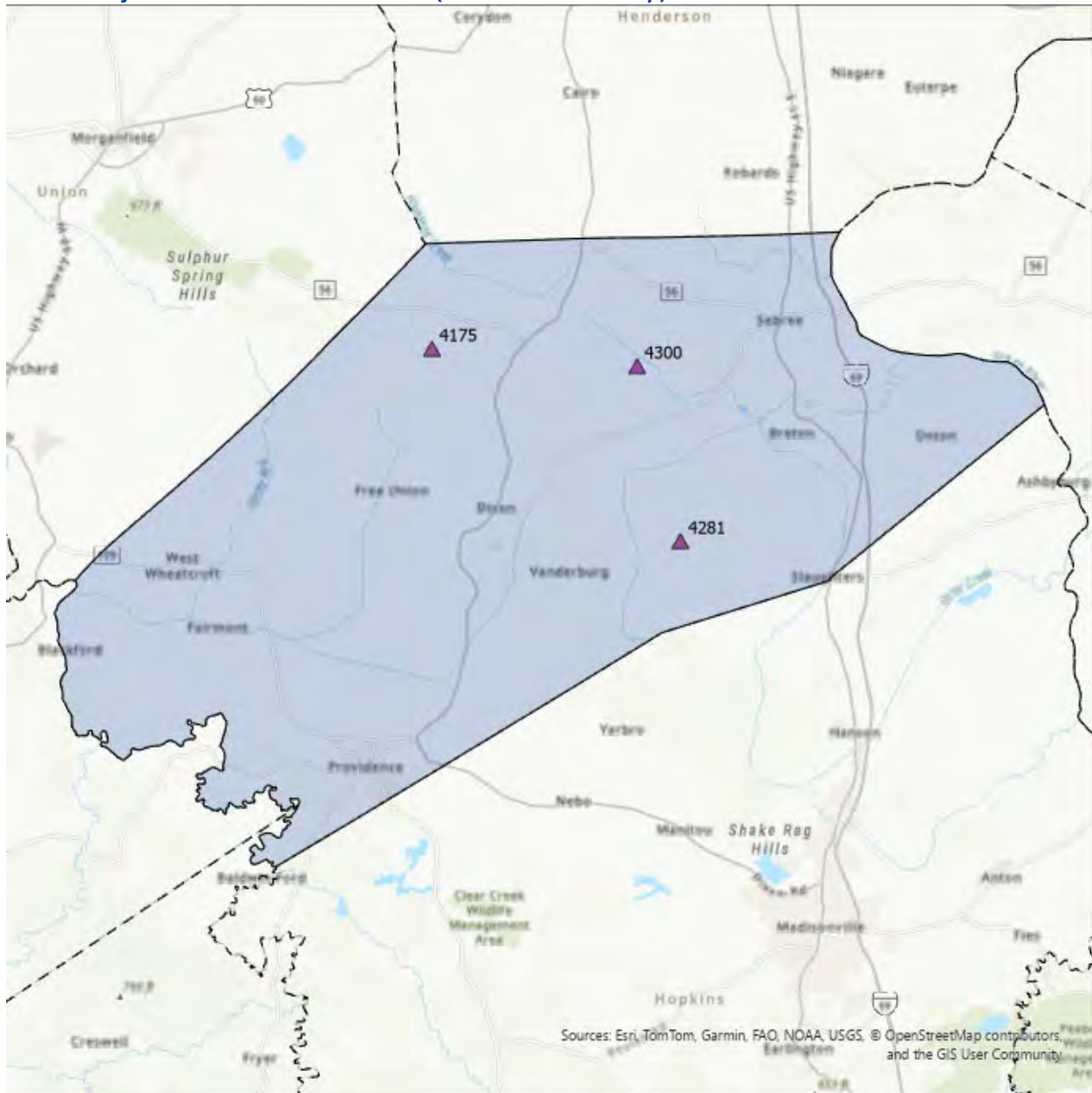


**Exhibit Webster-7: Roadside Drop Off Locations**

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
4174	117-CR-1310 -000	LITTLE ZION TILDEN RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4253	117-CR-1146 -000	VANDEBURG LISMAN RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4254	117-CR-1146 -000	VANDEBURG LISMAN RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4270	117-CR-1142 -000	CATESVILLE-PROVIDENCE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4279	117-CR-1124 -000	OLD DIXON-SLAUGHTERS RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
4286	117-CR-1127 -000	MARKS POOLE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4288	117-CR-1127 -000	MARKS POOLE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4289	117-CR-1127 -000	MARKS POOLE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
4294	117-CR-1002 -000	WANAMAKER RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4296	117-CR-1002 -000	WANAMAKER RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
4314	117-CR-1015 -000	COLLINS RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
4345	117-CR-1040 -000	WATKINS SEBREE RD	1-3	5-10	Install Type 2 Object Marker(s)
4350	117-CR-1040 -000	WATKINS SEBREE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)

**Exhibit Webster-8: Roadside Drop Off Recommendations**

### Fixed Object Recommendations (Webster County)

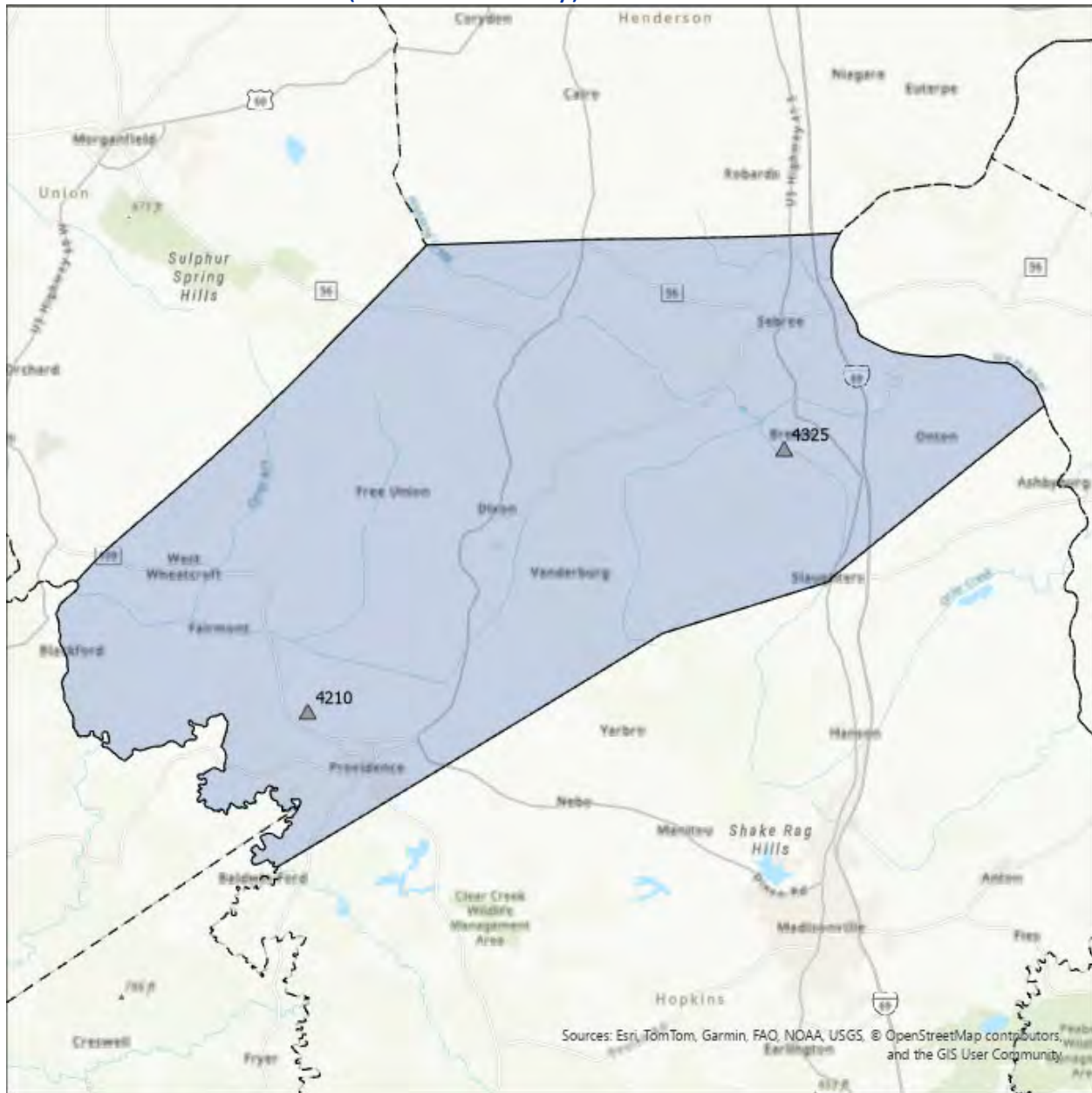


**Exhibit Webster-9: Fixed Object Locations**

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
4175	117-CR-1310 -000	LITTLE ZION TILDEN RD	Tree;	Single	0-1	Remove
4281	117-CR-1124 -000	OLD DIXON-SLAUGHTERS RD	Culvert Headwall;	Single	0-1	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
4300	117-CR-1055 -000	COTTINGHAM PRATT RD S	Tree;	Series	3-5	--

**Exhibit Webster-10: Fixed Object Recommendations**

### Other Recommendations (Webster County)

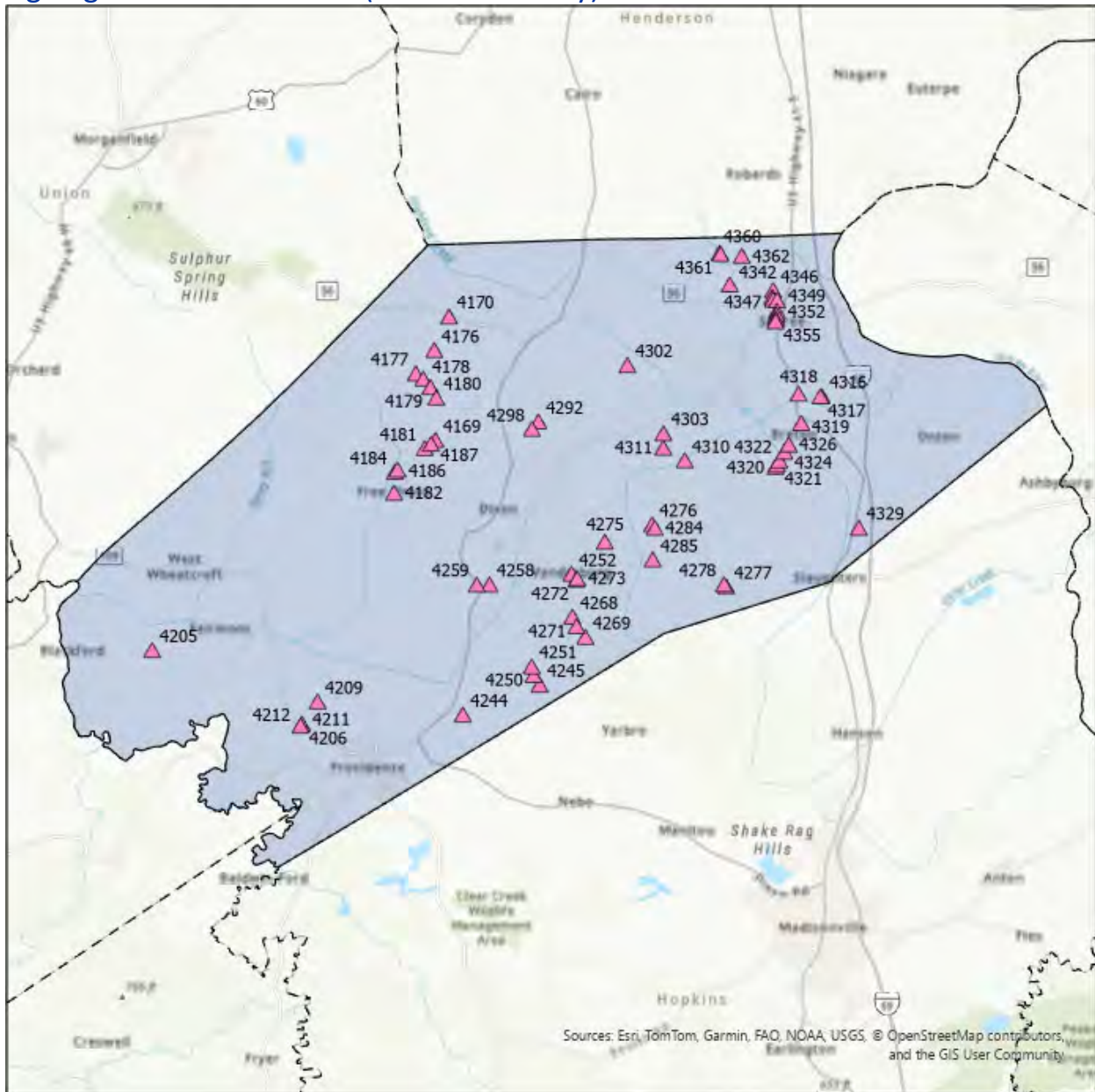


**Exhibit Webster-11: Other Item Locations**

Point ID	RT_UNIQUE	RD_NAME	Description	Recommendation
4210	117-CR-1256 -000	BILL DORRIS RD	Railroad;	Review RR crossing
4325	117-CR-1105 -000	BRETON RD	Railroad;	Review RR crossing

**Exhibit Webster-12: Other Item Recommendations**

### Signing Recommendations (Webster County)



**Exhibit Webster-13: Sign Locations**

As part of the RSA data collection effort, existing signs were inventoried along reviewed Focus Roadways, including a condition assessment and a photo of each sign. Additionally, preliminary Advisory Speed recommendations were calculated for each focus roadway to assist in the installation of horizontal alignment (curve) signs. Signing and advisory speed information is provided in digital format at <https://kyt2.uky.edu/graddSAP>.

## APPENDIX J: CITY OF HENDERSON

### FOCUS ROADWAYS

## CITY OF HENDERSON OVERVIEW

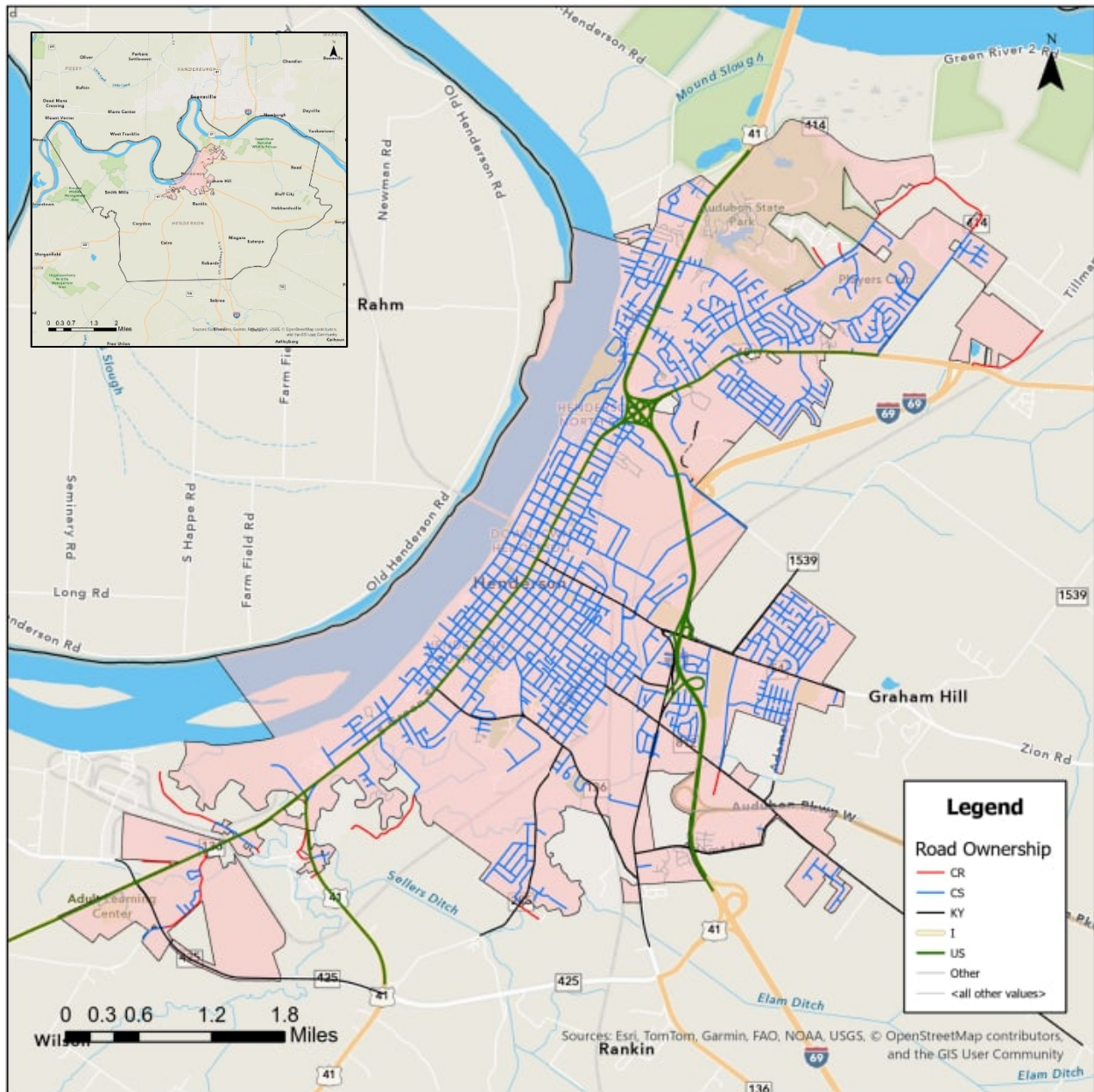


Exhibit Henderson-1: Map of City Roadways

## Crash Analysis

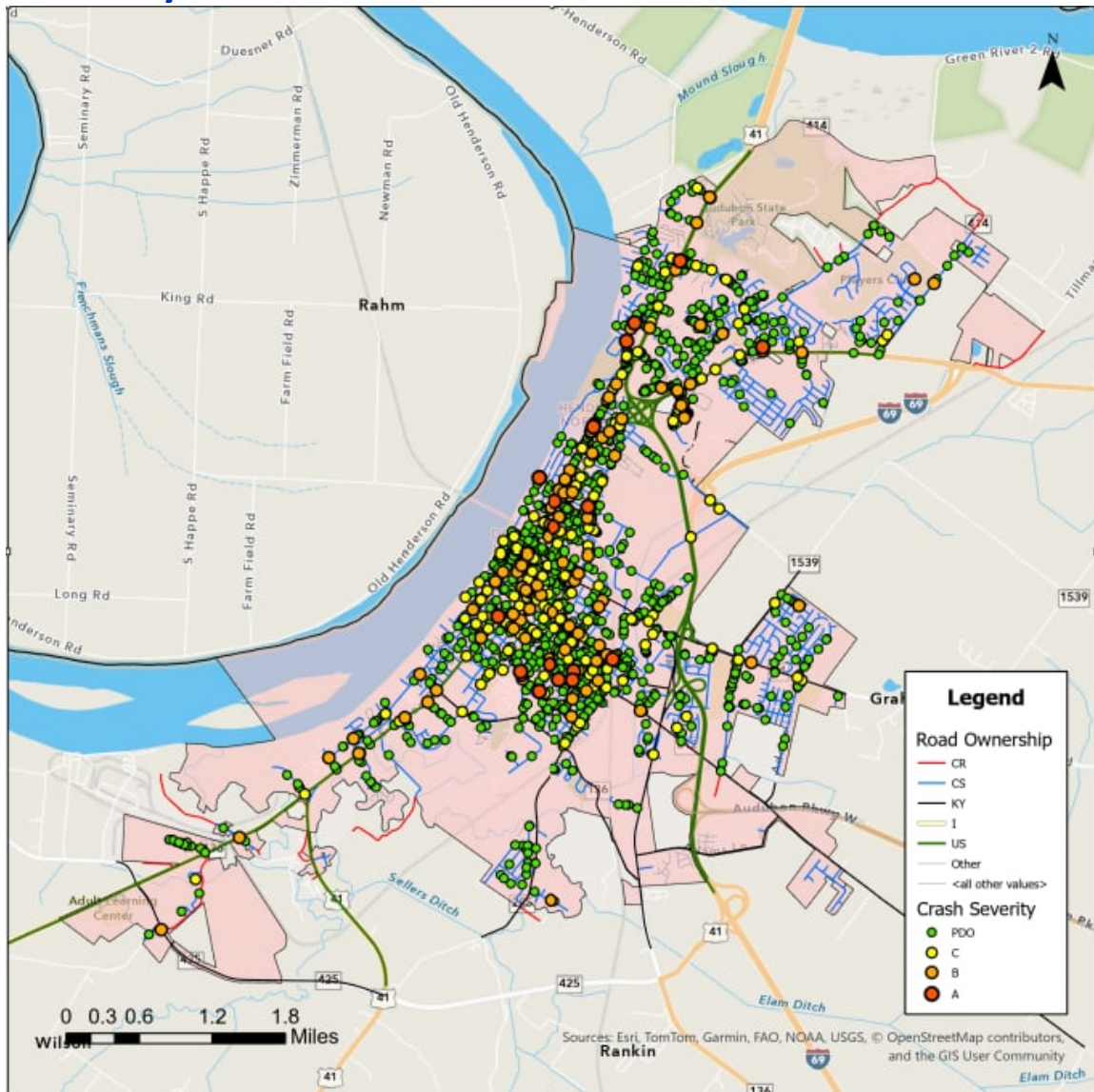


Exhibit Henderson-2: Map of City Street Crashes

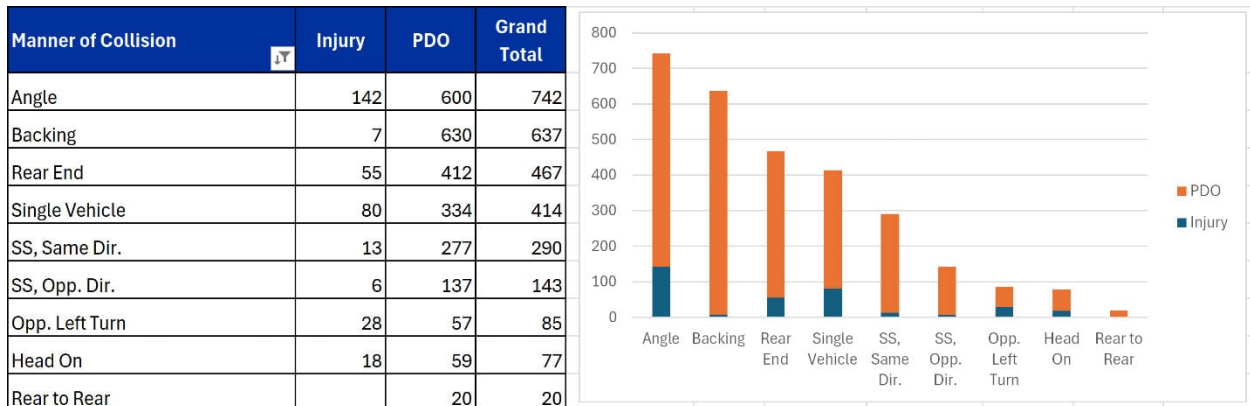
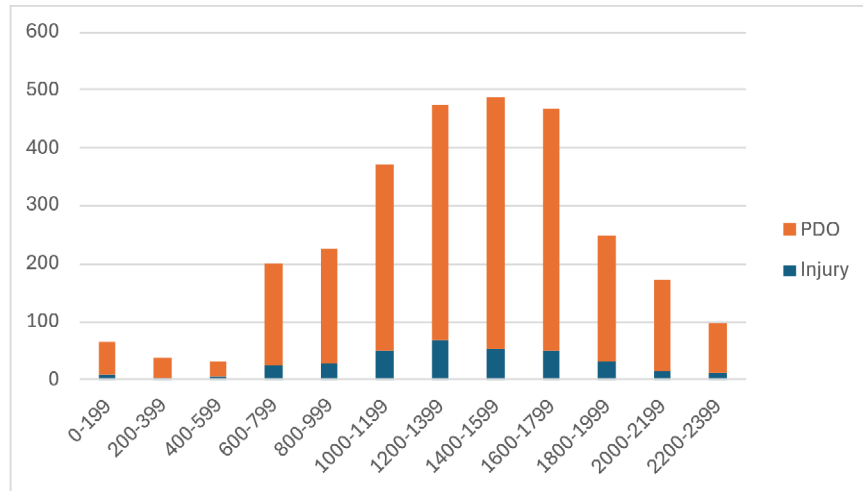
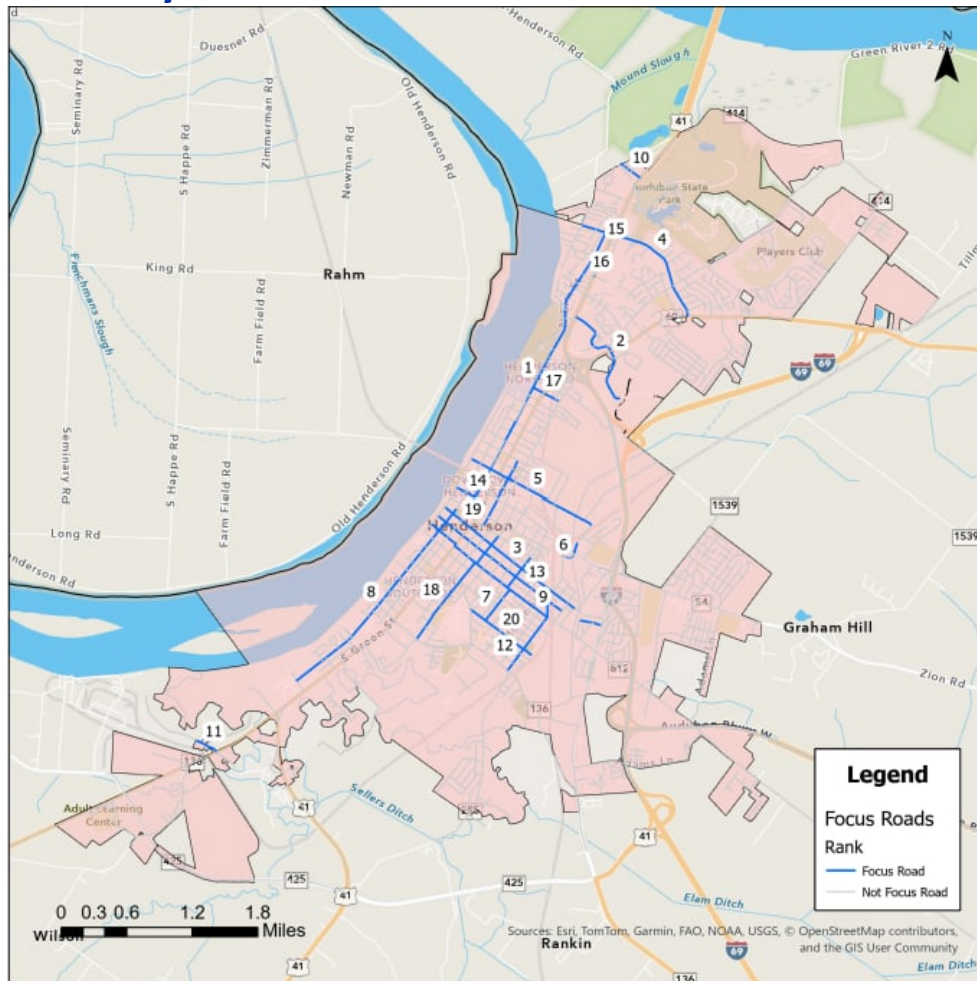


Exhibit Henderson-3: Crash Frequency and Severity by Manner of Collision



**Exhibit Henderson-4: Crashes and Severity by Time of Day**

## Focus Roadways



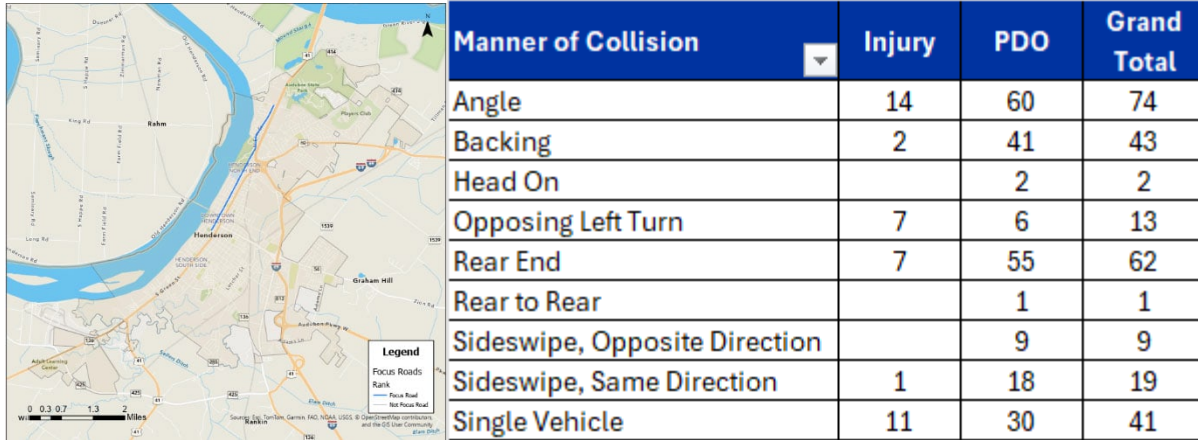
**Exhibit Henderson-5: Focus Roads**

See Attachment for city of Henderson Focus Road list.

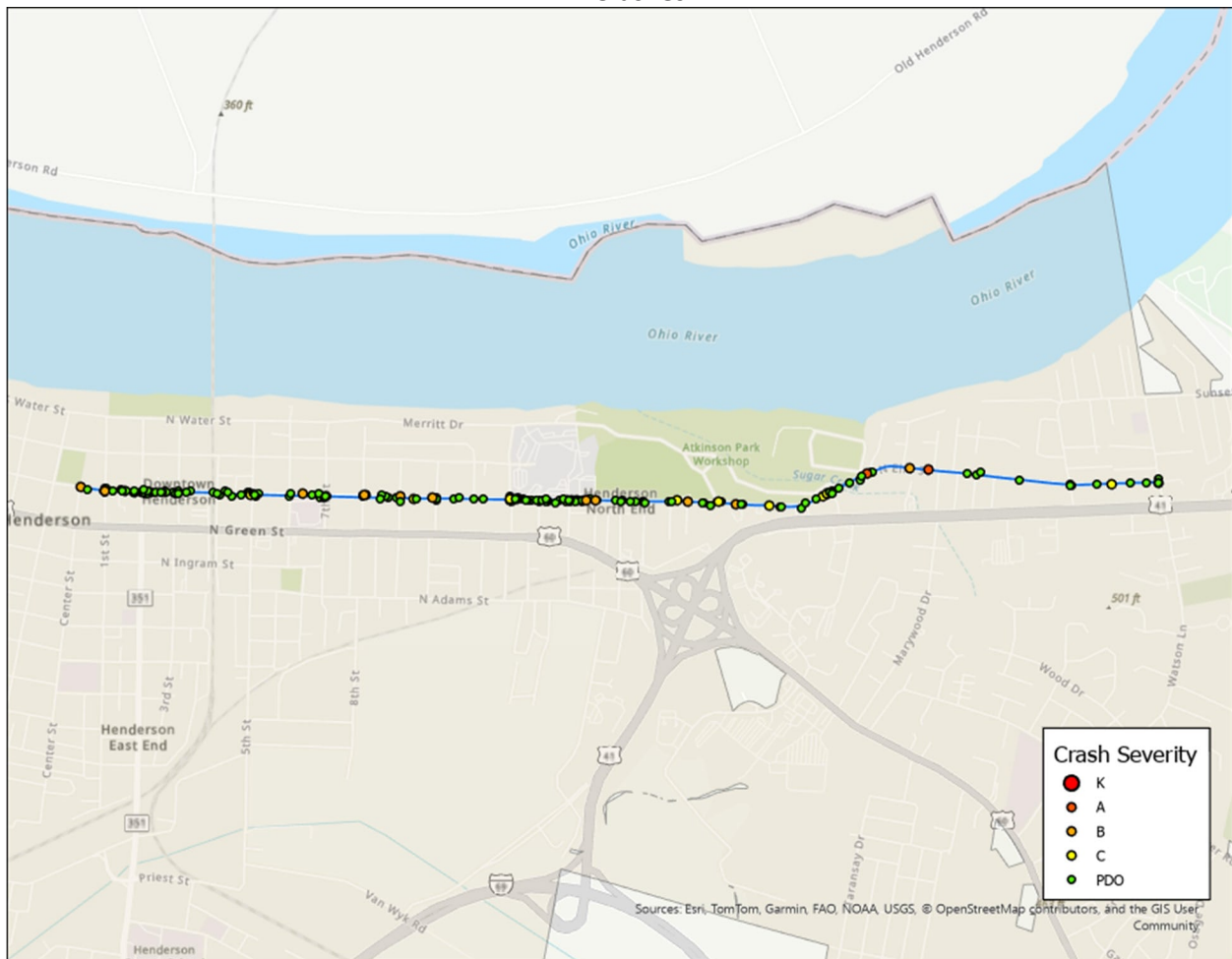
## RECOMMENDED IMPROVEMENTS (TOP 5 ROADS)

### North Elm Street (051-CS-1115 -000)

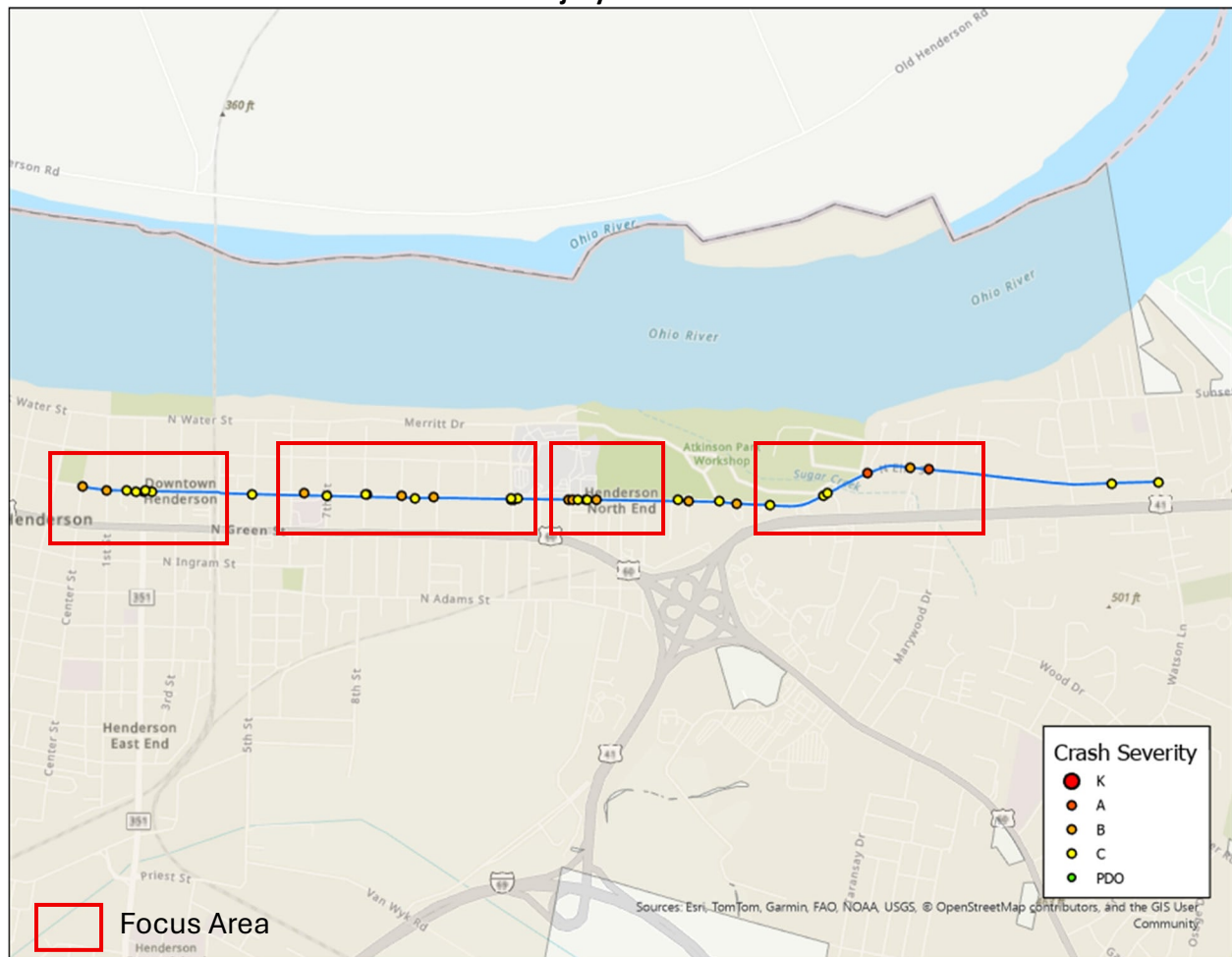
Road Location Map and Crash History



All Crashes



### Injury Crashes



### North Elm Street (1<sup>st</sup> Street to 4<sup>th</sup> Street (Railroad Underpass))

#### Existing Conditions

North Elm Street between 1<sup>st</sup> Street and 4<sup>th</sup> Street at the Railroad underpass is an urban roadway with on-street parking. The intersections at 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Street are signalized with left turn lanes on N. Elm Street at 1<sup>st</sup> and 2<sup>nd</sup> Streets.

### Roadway Layout



### Roadway Typical Section



### Crashes by Severity



### Crashes by Manner of Collision





## North Elm Street (4<sup>th</sup> Street to 12<sup>th</sup> Street)

### *Existing Conditions*

North Elm Street between 4<sup>th</sup> Street and 12<sup>th</sup> Street maintains a 2-lane cross-section with a landscaped center median. Each lane is approximately 20 feet wide with on-street parallel parking permitted. All intersections, except North Elm Street at 12<sup>th</sup> Street, are two-way stop control with controlled movements on the cross streets and uncontrolled movements on N. Elm Street. On-street parking appears to be restricted within 25 feet of intersections. It is noted that the majority of injury crashes on this section are angle crashes at intersections.

**Typical Layout (9<sup>th</sup> Street to 12<sup>th</sup> Street)**



**Roadway Typical Section**



### Crashes by Severity



### Crashes by Manner of Collision



### *Recommendations*

The following recommendations are made for this section of Elm Street.

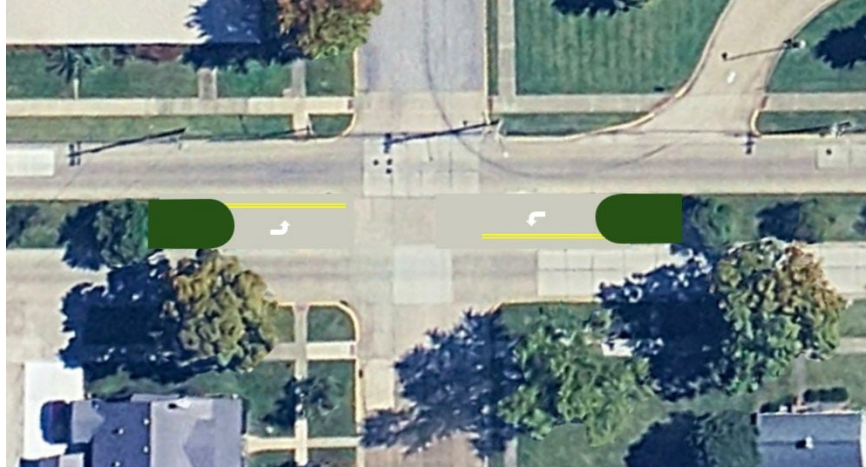
1. Check sight distance at all intersections for movements from the cross street. Old growth trees (see below) within the right of way and utility poles are prevalent along the roadway and may contribute to sight distance restrictions for turning vehicles. Additionally, parking restrictions should be revisited to ensure that on-street parking does not restrict visibility of approaching traffic. The primary concern for this restriction would be on the near side left parking.



2. Consider installation of stop bars and oversize stop signs (min. 36 inches) on cross streets to reinforce the presence of the intersection. Heavy vegetation and the straight alignment of the roadway can provide a visual indication that cross-streets are the primary roadway (see below).



3. Consider pulling the nose of the raised median back from the intersection to create a 50 foot left turn lane or pocket to eliminate negative offsets of opposing left turn vehicles (see below). It is recommended that if pursued that traffic counts be conducted at the intersections to identify those areas where left turns are heaviest.



## North Elm Street (12<sup>th</sup> Street to Herron Avenue (Henderson Hospital))

### *Existing Conditions*

In this section, North Elm Street transitions from having the raised median to the west of 12<sup>th</sup> street to a two-lane undivided highway west of Herron Avenue. In addition to the transition, the intersections of 12<sup>th</sup> Street and 14<sup>th</sup> street provide access to the Deaconess Henderson Hospital and the Medical Building. Auxiliary right turn lanes are present at 12<sup>th</sup> Street with shared left-through lanes on Elm Street. The intersection of 12<sup>th</sup> Street and N. Elm Street is all-way stop controlled. Observation of traffic conditions indicates that some delay and queuing does occur during typical peak hours. Operations at the intersection of N. Elm Street and 12<sup>th</sup> appear to be complicated by hospital access located within 50 feet of the intersection from parking areas to the east. Egress from this access to 12<sup>th</sup> Street appears to be signed as restricted to Right turns only. Flashing Caution lights are present at N. Elm Street and 14<sup>th</sup> Street. On Street parking appears to be permitted between 13<sup>th</sup> Street and 14<sup>th</sup> Street. It is noted that an alley behind residential properties on the east side of N. Elm Street maintain access to an alleyway.

**Typical Layout (9<sup>th</sup> Street to 12<sup>th</sup> Street)**



### Traffic Conditions North Elm Street at 12<sup>th</sup> Street



### Roadway Typical Section (Approaching 12<sup>th</sup> Street)



### Roadway Typical Section (Approaching 13<sup>th</sup> Street)



### Crashes by Severity



**Crashes by Manner of Collision**



**Recommendations**

The following recommendations are made for this section of Elm Street.

1. Conduct a traffic study to determine the most appropriate traffic control and lane configuration for the intersection of N. Elm Street and 12<sup>th</sup> Street. The roadway currently maintains 47-48 feet of width allowing up to 4 lanes at the intersection. The shared left/through lanes on N. Elm Street may contribute to confusion as to the intended path of vehicles in the lanes which may increase the number of angle crashes at the intersection. A potential configuration is shown. A mini roundabout may also be considered for this location.



2. Evaluate access to the hospital. Consider a right-in entrance to the eastern parking areas to reduce traffic at the intersection at 12<sup>th</sup> Street. Consider internal connections between parking areas to accommodate traffic heading west on 12<sup>th</sup> Street and convert the parallel access roadway to one into the hospital complex. Reconfigure the access roadway to increase separation from the primary intersection.



3. Consider installing left turn lanes on N. Elm Street at 14<sup>th</sup> Street to address the high number of angle crashes at the intersection.
4. Consider converting the access at the Medical Building to a right-in/right-out, accommodating left turn access through internal connections.

## North Elm Street ('S' Curve near Parkway Street)

### *Existing Conditions*

North Elm Street in this section is a 25-foot wide two-lane undivided roadway with a large amount of commercial access points. Many of these businesses maintain direct access to both N. Elm Street and US 41 and may be used as a cut through route. Parkway Street (shown in red), located between the two curves, is a public roadway and provides a direct connection between the roadways as well. The primary crashes resulting in injury are angle crashes associated with access points. The largest cluster of crashes in the section is near the intersection of S. Parkway Road and is primarily associated with rear end crashes. Review of these roadways also indicates that crashes at the intersection are overrepresented for wet weather; however, review of the site indicates that the area was resurfaced in 2023-2024.

**Typical Layout (9<sup>th</sup> Street to 12<sup>th</sup> Street)**



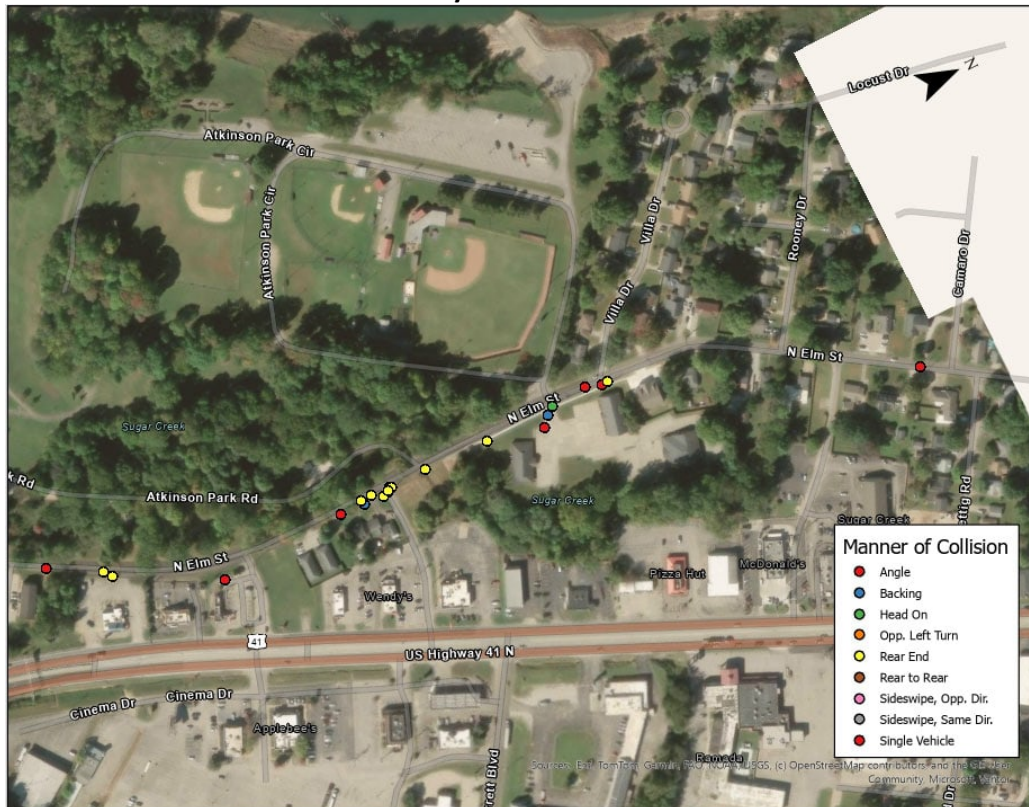
### Roadway Typical Section (Approaching Parkway Street)



### Crashes by Severity



### Crashes by Manner of Collision



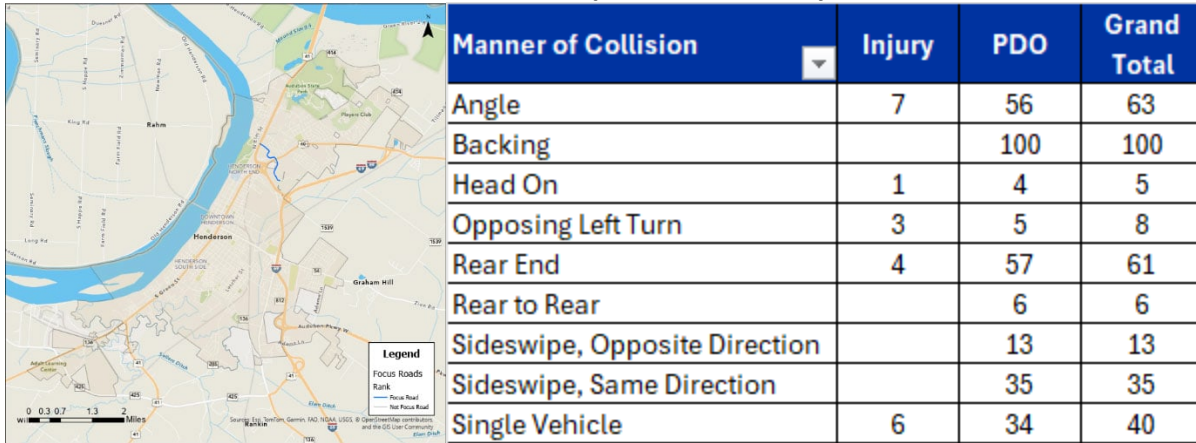
#### Recommendations

The following recommendations are made for this section of Elm Street.

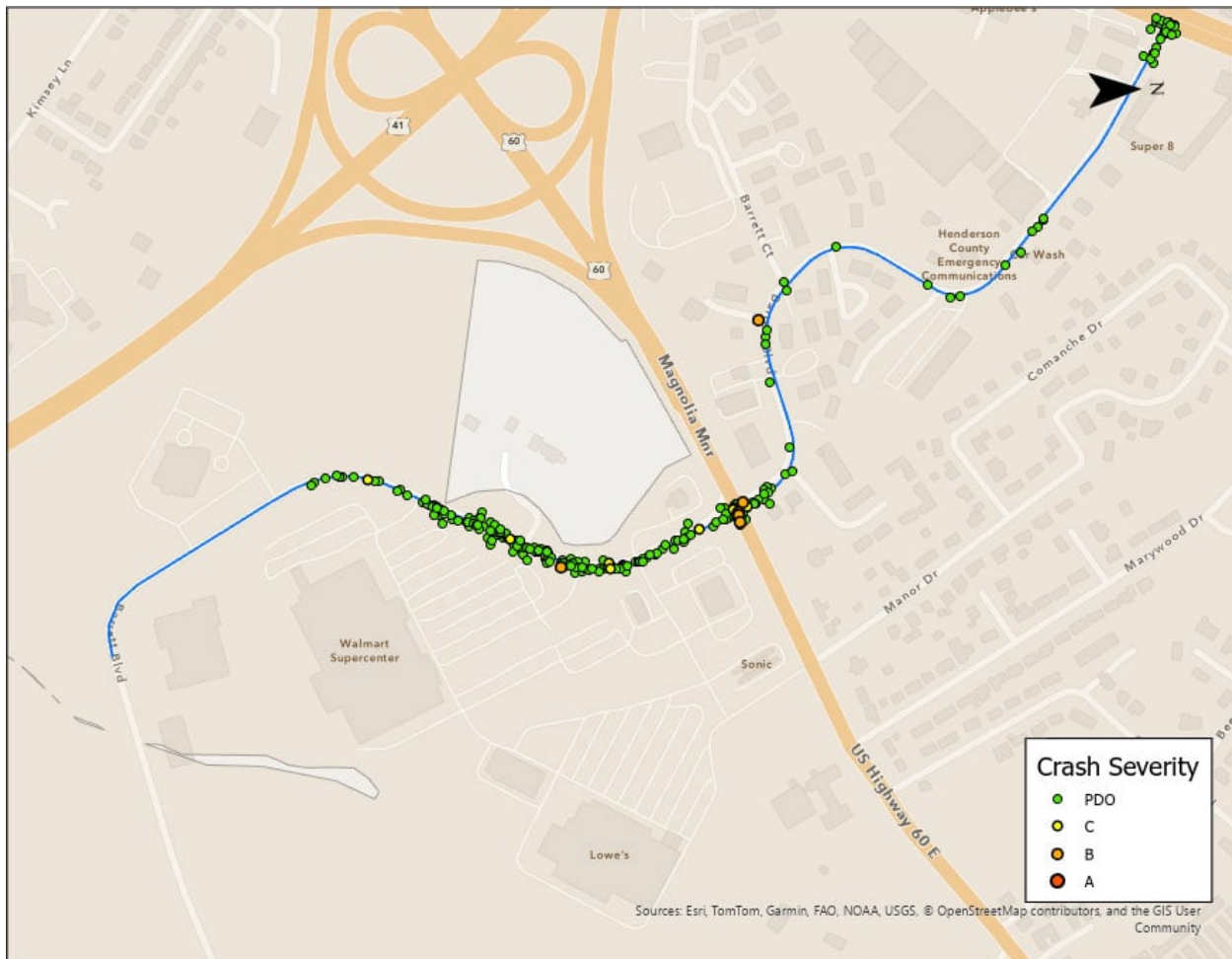
1. Install stop bars and review stop sign condition on all approaches to N. Elm Street in this section.

## Barrett Blvd (051-CS-1024 -000)

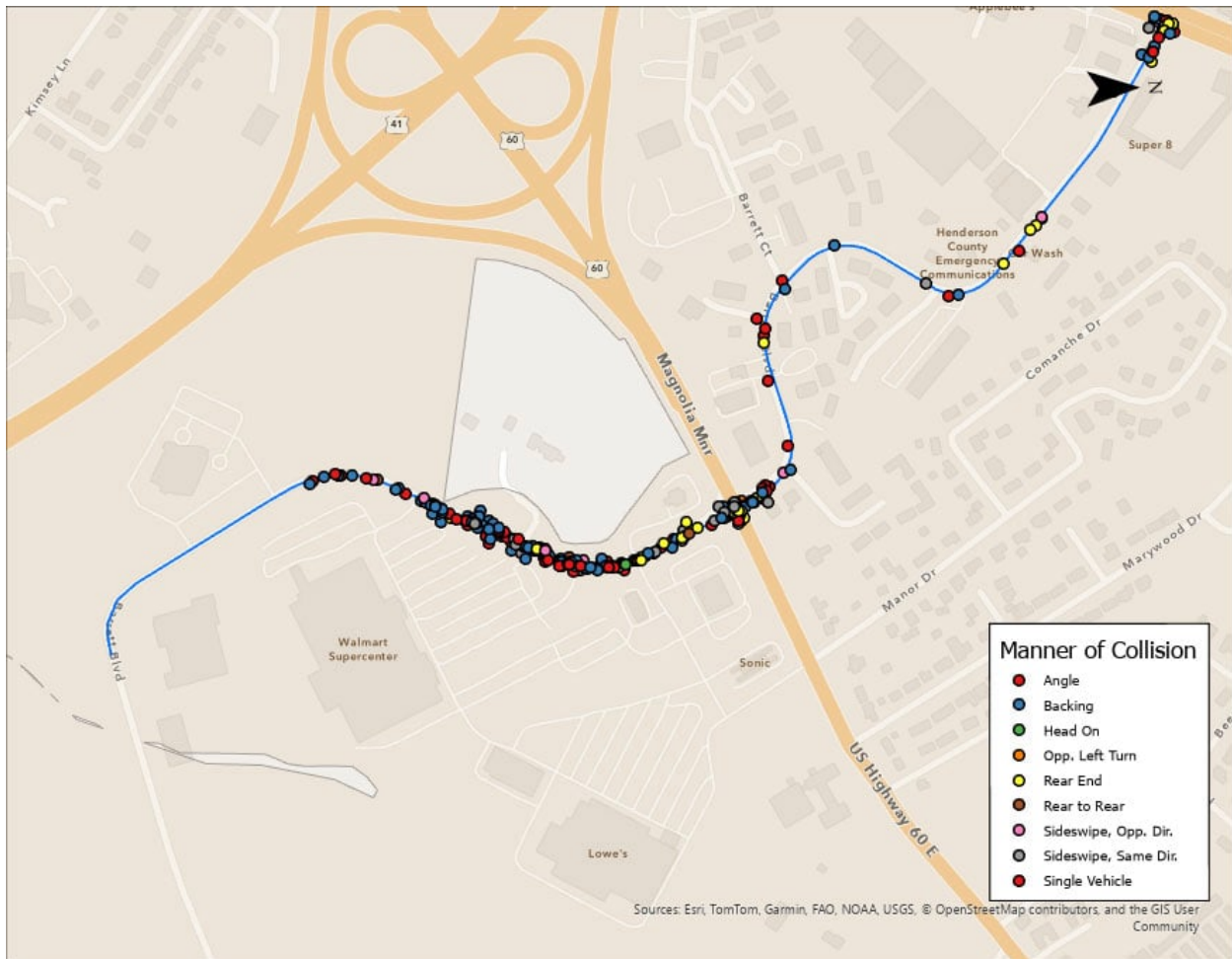
Road Location Map and Crash History



All Crashes



### Manner of Collision



### Existing Conditions

Barrett Blvd connects US 41 to the north and US 60 to the south and provides direct access to the commercial development. South of US 60 Barrett Blvd is strictly a commercial corridor serving Walmart and additional developing and land which has the potential for significant traffic generation. South of US 60 side of the roadway, Barrett Blvd maintains a 3 lane section as shown below. 2 lanes are provided southbound and 1 lane northbound.

As shown in the crash summary the majority of the crashes are “backing” related, which may have occurred within the Walmart parking lot and located on Barrett Blvd for the crash report. Still a significant number of angle crashes have occurred on the corridor.

Additionally, several injury crashes have occurred at the intersection of Barrett Blvd and US 60. A cluster of crashes is also present at US 41, though all are identified as property damage only crashes.

### Roadway Layout



### Roadway Typical Section



## Recommendations

The following recommendations are made for Barrett Blvd.

1. Restripe Barrett Blvd to a typical 3-lane section having a single lane of travel in each direction and a center two-way left turn lane (TWLTL). The center lane may be striped as a dedicated left turn lane at intersections and major access points. Striping should be continued for the length of the roadway, which does not appear to be present based on aerial imagery.
2. Conduct a traffic study of the corridor and the intersections of US 60 at Barrett and US 41 at Barret to ensure that adequate capacity exists to accommodate the additional traffic generated by the proposed development on the south end of Barrett Avenue. Alternate intersection designs such as signalized RCUTs and median U-turns intersections may be considered for these intersections as well to reduce stops and crashes on the primary state routes.

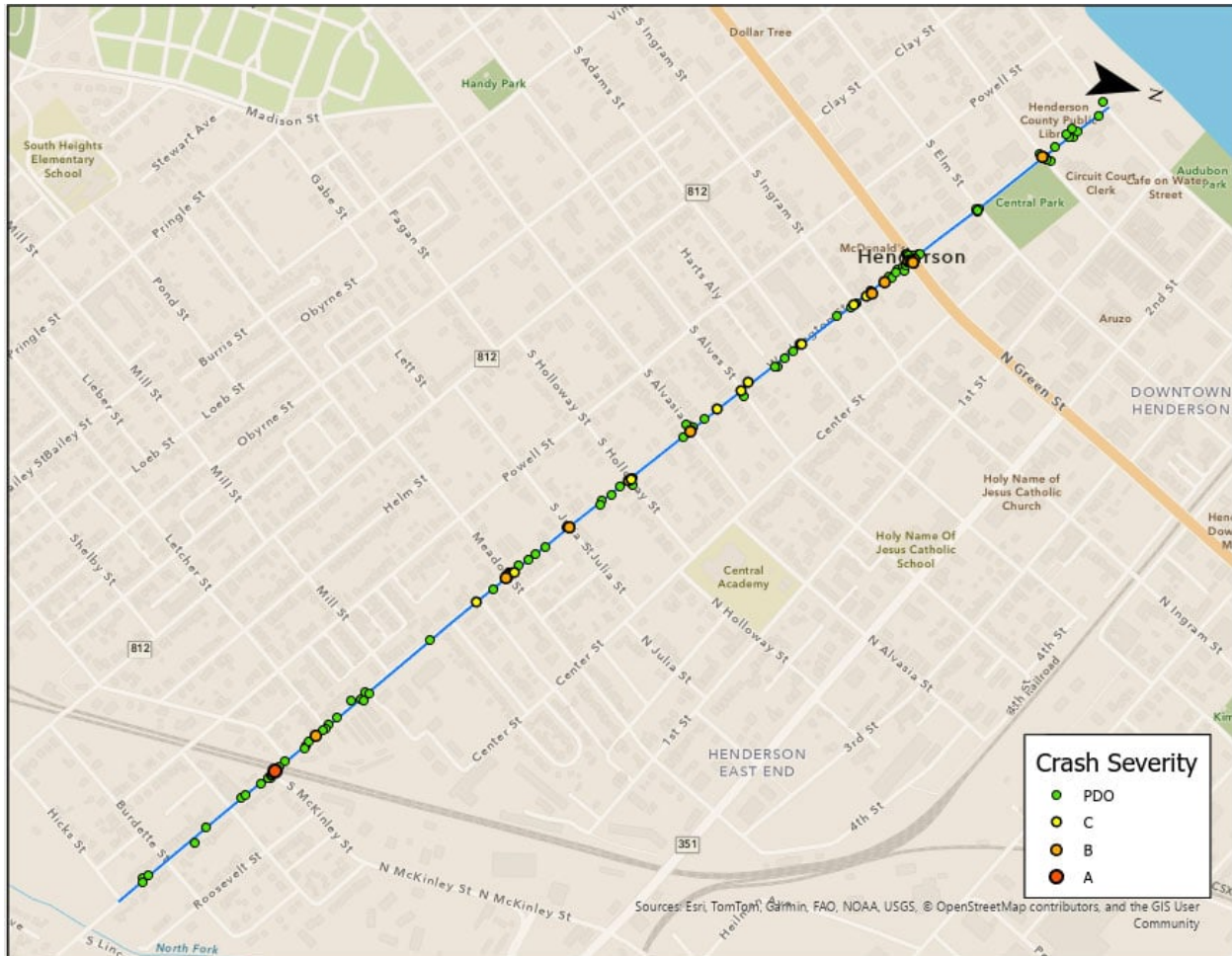
# Washington Street (051-CS-1368 -000)

Road Location Map and Crash History



Manner of Collision	Injury	PDO	Grand Total
Angle	19	53	72
Backing	1	26	27
Head On		5	5
Opposing Left Turn	3	2	5
Rear End	1	29	30
Rear to Rear		1	1
Sideswipe, Opposite Direction		7	7
Sideswipe, Same Direction	1	18	19
Single Vehicle	5	12	17

All Crashes



### Manner of Collision



### Existing Conditions

Washington Street is a 2-way 2-lane undivided roadway with a nominal width of 30-33 feet with primarily residential properties on each side. Adjacent properties in this area have limited direct access to Washington Street with rear alleyways providing access. Aerial imagery does not indicate any on-street parking north of Julia Street, with moderate parking activity to the south.

Washington Street also has an at-grade rail crossing to the south. An offset intersection of Atkinson Road and S. McKinley Street which are directly adjacent to the intersection and is the location of a crash cluster including injury crashes, unrelated to rail traffic.

The majority of crashes on the corridor are angle crashes followed by rear end and backing. However, Single Vehicle and left turn crashes contribute to higher frequency of injury crashes.

### Roadway Layout



### Roadway Typical Section



**Washington Street at Rail Crossing**



**S. Mckinley Street approaching Washington Street at Rail Crossing**



## Recommendations

The following recommendations are made for Barrett Blvd.

1. Conduct a traffic study at the intersections of US 41 and Washington Street to ensure that adequate capacity exists to safely accommodate traffic at the intersection.
2. Implement a Lane Configuration converting the roadway from a 2-way/2-lane cross-section to a 3-lane section with a center two-way left turn lane.
3. Install stop bars and oversize stop signs (min. 36 inches) on cross streets to reinforce the presence of the intersection.

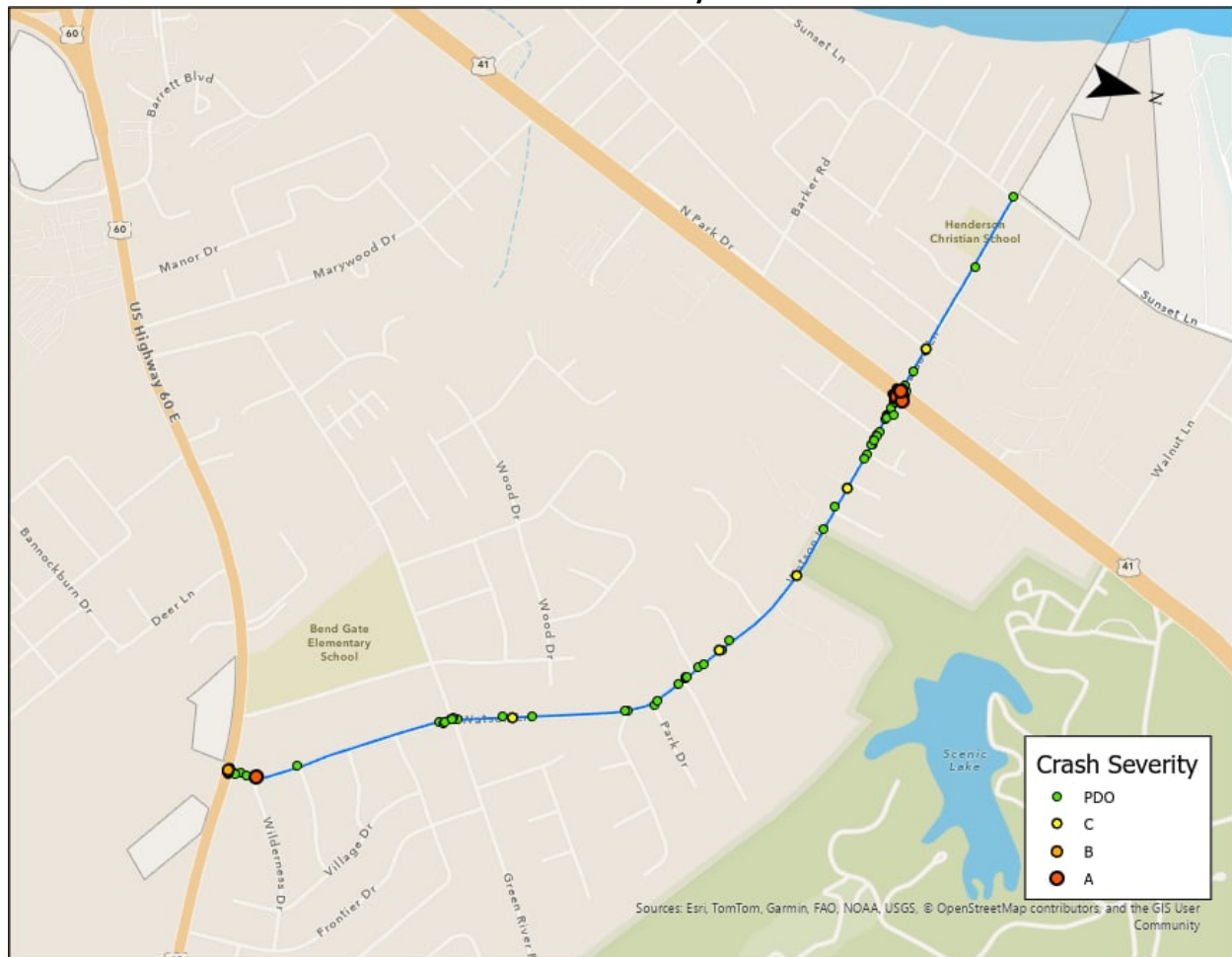
# Watson Lane (051-CS-1372 -000)

Road Location Map and Crash History

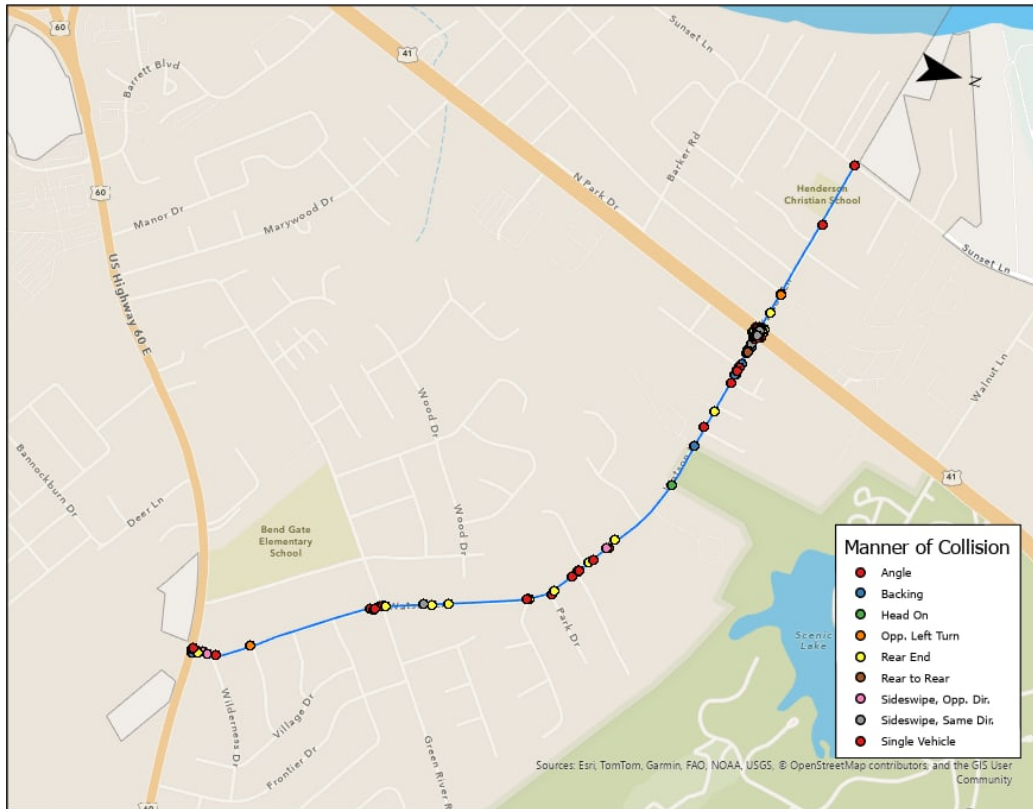


Manner of Collision	Injury	PDO	Grand Total
Angle	11	34	45
Backing		16	16
Head On	1		1
Rear End	6	63	69
Rear to Rear		1	1
Sideswipe, Opposite Direction	1	2	3
Sideswipe, Same Direction	1	9	10
Single Vehicle	2	15	17

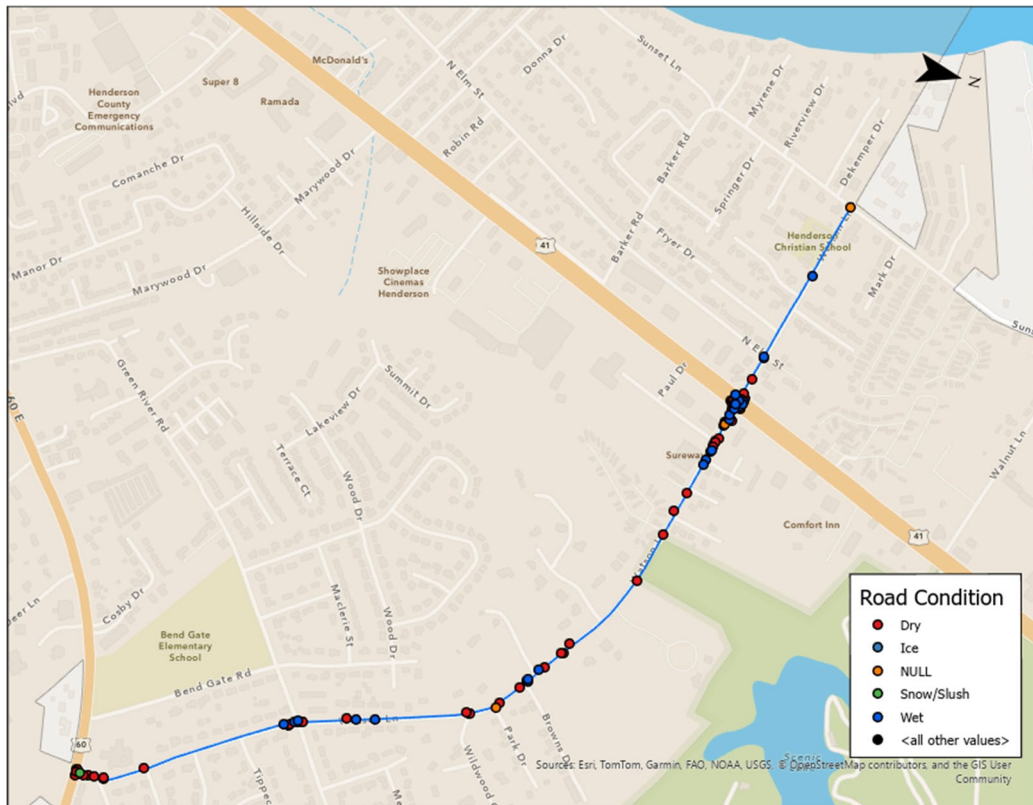
Crash Severity



### Manner of Collision



### Road Condition



## Existing Conditions

Watson Lane is a 2-way, 2-lane roadway with suburban residential land use. Direct access to Watson from residential properties is prevalent as well as stop controlled intersections from residential streets. Watson Lane is approximately 23 feet wide with no shoulder. Centerline stripes are present along the entire route. As can be seen from the figure below, the corridor has significant vegetation along the roadway and at minor intersections.

Commercial properties are located on all quadrants of the intersection with US 41 with uncontrolled access and several public streets intersecting within the functional area of the intersection.

The only controlled intersection other than the traffic signal installation at US 60 and US 41 is the all-way stop controlled intersection at Green River Road. Watson lane has a slight shift through the intersection and is the location of several rear end and angle crashes.

Injury crashes are primarily concentrated at the intersections of US 41 to the north and US 60 to the south. However, several PDO and Type C Injury crashes are present along the roadway segment.

Crash road conditions were also reviewed as shown above which indicates a higher presence of wet roadway conditions for crashes at the intersection with US 41 and along the horizontal curves on between US 41 and Green River Road.

**Roadway Layout (Wildwood to US 41)**



Typical Section



Watson Lane at US 41



Watson at US 60



Watson Lane at Wildwood Creek Lane looking west



Watson Lane at Green River Road (Looking South)



Watson Lane at Green River Road



## Recommendations

The following recommendations are made for Watson Lane.

1. Conduct a traffic study at the intersections of US 41 and Watson Lane to ensure that adequate capacity exists to safely accommodate traffic at the intersection. This analysis should evaluate the potential to eliminate the shared left-through lane on the northbound approach of Watson Lane, which can lead to confusion of intended vehicle path. Additionally, any study should evaluate the potential to eliminate or consolidate access points within the functional area of the intersection.
2. Review sight distance at all intersections along Watson Lane and identify any vegetation that may need to be addressed. Additionally, the stop location at all intersections should be reviewed to maximize sight distance from minor street approaches.
3. Evaluate pavement surface friction on Watson Lane from US 41 to Green River Road and resurface, or treat pavement to increase surface friction if needed.
4. Install stop bars and oversize stop signs (min. 36 inches) at all approaches to the intersection of Watson Lane and Green River Road to enhance visibility of the intersection on all approaches.
5. Restripe the length of Watson Lane to increase visibility and provide positive guidance along the roadway, especially at the intersection with Green River Road.
6. Install Horizontal Alignment Warning Signs at the horizontal curves between US 41 and Green River Road.

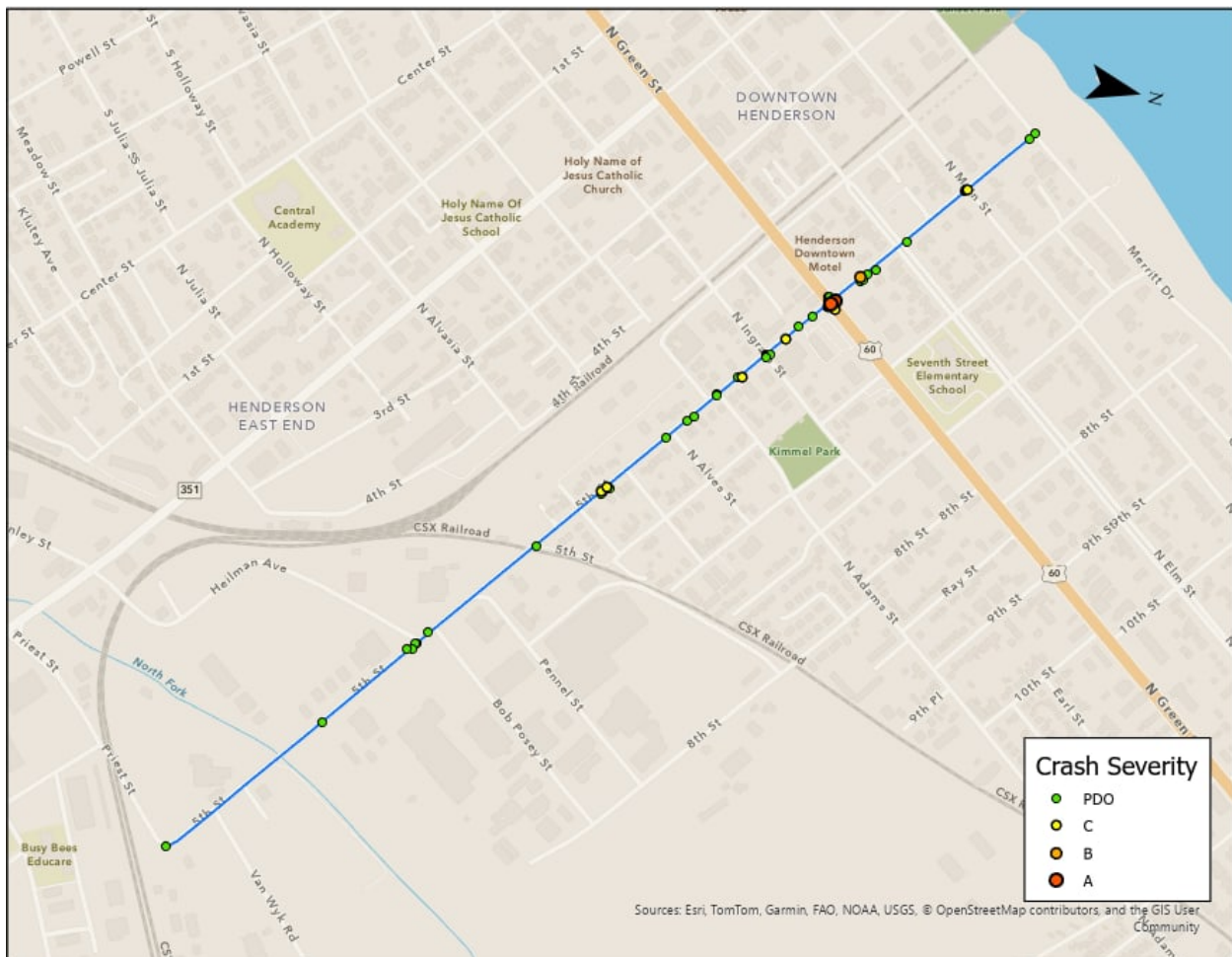
## 5<sup>th</sup> Street (051-CS-1387 -000)

Road Location Map and Crash History



Manner of Collision	Injury	PDO	Grand Total
Angle	9	21	30
Backing		5	5
Head On	2	1	3
Rear End	2	26	28
Sideswipe, Opposite Direction		1	1
Sideswipe, Same Direction	1	14	15
Single Vehicle	4	7	11

All Crashes



### Manner of Collision



### Existing Conditions

Between US 41 and the CSX railroad crossing 5<sup>th</sup> Street is a 2-way 2-lane undivided roadway with a nominal width of 43 feet with primarily residential properties on each side. Adjacent properties in this area have limited direct access to 5<sup>th</sup> Street with rear alleyways providing access. While parking is permitted on the roadway, aerial imagery indicates moderate to light use of on-street parking creating a wide drive lane in each direction. Between the RR crossing and Priest Street the roadway narrows to 28 feet and is surrounded by industrial uses. KYTC recorded ADT on 5<sup>th</sup> Street is 3,179 vehicles per day.

All intersections along the roadway are uncontrolled on 5<sup>th</sup> Street with stop control on the minor approaches. The one exception is the signalized intersection with US 41.

**Roadway Layout (US 41 to CSX Railroad)**



**Roadway Typical Section (US 41 to CSX Railroad)**



**Minor Street Approach (Ingram Street approaching 5<sup>th</sup> Street )**



**5<sup>th</sup> Street at Heilman Ave/Bob Posey St**



*5<sup>th</sup> Street at Heilman Ave/Bob Posey St.* Several crashes are located at the intersection with Heilman Avenue and Bob Posey Street which operates as an offset stop controlled

intersection. Pavement wear through the intersection indicates that the through movement across 5<sup>th</sup> Street from Bob Posey to Heilman is a heavy movement. It is noted that centerline markings terminate just prior to this intersection.

## Recommendations

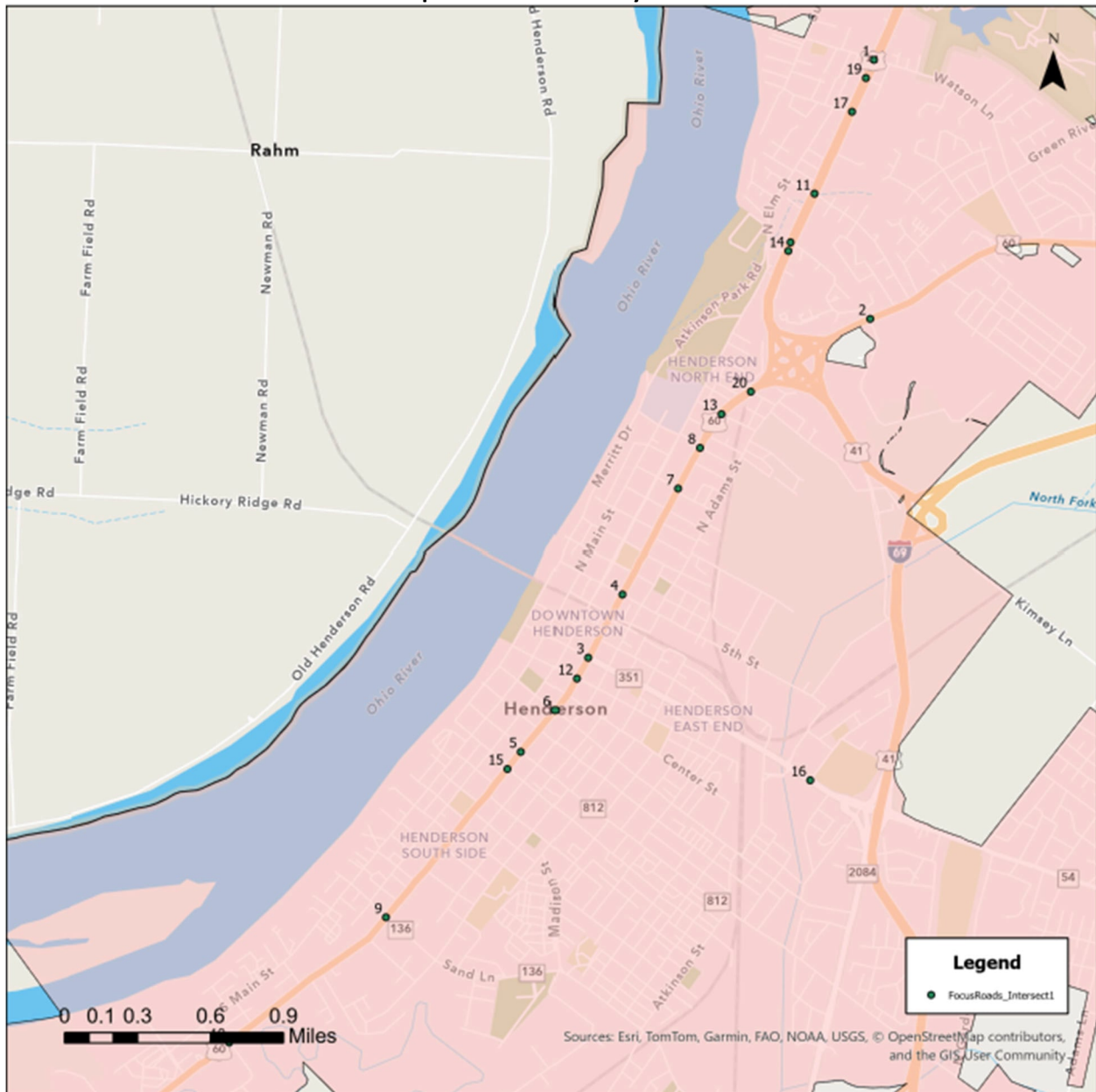
The following recommendations are made for Barrett Blvd.

1. Evaluate the potential for a lane reconfiguration of 5<sup>th</sup> Street between US 41 and the CSX Railroad Crossing. This reconfiguration would implement a 3-lane section with center Two-Way Left Turn Lane to remove turning traffic from through lanes and to accommodate left turning traffic from cross-streets. Parking would be allocated to one-side of the street and would require pedestrian enhancement and/or midblock crossings to accommodate parking.
2. Install stop bars and oversize stop signs (min. 36 inches) on cross streets to reinforce the presence of the intersection.
3. Continue centerline striping on 5<sup>th</sup> Street north of Bob Posey Way to Priest Street to reinforce right of way designation through the industrial area.
4. Conduct a traffic study at major cross streets along 5<sup>th</sup> Street such as at N. Ingram Street and N. Adams Street to evaluate the potential for all-way stop or mini-roundabouts to address any capacity issues and to assist in reducing speed throughout the long uncontrolled corridor.
5. Conduct a traffic study of the intersections of US 41 at 5<sup>th</sup> Street to ensure that adequate capacity exists to accommodate existing demand. Alternate intersection designs such as RCUTs and median U-turns intersections may be considered for these intersections as well to reduce stops and crashes on the primary state routes.

## TOP 20 INTERSECTIONS

The following is a crash review of the top 20 intersections ranked based on Equivalent Property Damage Only (EPDO) crashes. EPDO was determined based on an EPDO equivalency of 5 for injury crashes and 10 for fatal crashes. Only intersections that included at least one city maintained street were ranked. Each intersection is identified, provided summary crash data and general recommendations developed. Recommendations identified for these intersections may also be used to inform potential improvements for lower ranked intersections.

Top 20 Intersections by EPDO



Intersection	EPDO	Injury	K	EPDO	Rank	Int. Control
US 41 at Watson Lane	220	20	0	120	1	Signal
US 60 at Barrett Blvd	203	18	0	113	2	Signal
Green Street at 2nd St	188	10	0	138	3	Signal
Green Street at 5th St	171	17	1	76	4	Signal
Green Street at Clay St	153	13	0	88	5	TWSC
Green Street at Washington St	128	13	0	63	6	Signal
Green Street at 10th St	124	11	0	69	7	TWSC
Green Street at 12th St	115	12	0	55	8	Signal
Green Street at Sand Lane	103	9	0	58	9	Signal
Green Street at Kresge Dr	95	14	0	25	10	TWSC
Green Street at Marywood Dr	94	9	0	49	11	Signal
Green Street at 1st St	92	10	0	42	12	Signal
Green Street at 14th St	89	8	0	49	13	TWSC
US 41 at S. Parkway St	87	4	0	67	14	TWSC
Green Street at MLK JR Ave	80	7	0	45	15	TWSC
2nd St at Klutey Park Dr	76	7	0	41	16	TWSC
US 41 at Barker Rd	69	8	0	29	17	TWSC
US 41 at Barrett Blvd	67	3	0	52	18	TWSC
US 41 at Paul Dr	65	4	0	45	19	TWSC
Green St. at Richardson Ave	61	5	0	36	20	TWSC

The majority of the intersections are located on US 41/Green Street. Crash history on this roadway is likely due to the high volume of traffic. Recorded ADTs range from over 42,000 vehicles per day on US 41 which is a 4-lane divided highway to between 22,000 and 26,000 on Green Street, which operates as a 4-lane undivided highway. Similar roadways often experience high rates of angle crashes, rear end and sideswipe crashes resulting from left turning vehicles turning from the through lane and sight distance restrictions resulting from opposing left turning vehicles.

It is recommended that a major corridor study be performed on Green Street to identify mitigating measures that are also capable of providing sufficient capacity for the roadway. Road Diets, 4-lane to 3-lane conversions may be effective, but the current ADT on Green Street is near the upper end of the 3-lane section capacity and detailed capacity



analysis would need to be completed to consider the alternative further. Other alternatives may include identifying and improving alternative parallel routes that can carry traffic through the city to relieve congestion on the corridor. A major impediment to this approach would be identifying an additional rail crossing south of Green Street.