

SAFETY ACTION PLAN



NORTHERN KENTUCKY AREA DEVELOPMENT DISTRICT

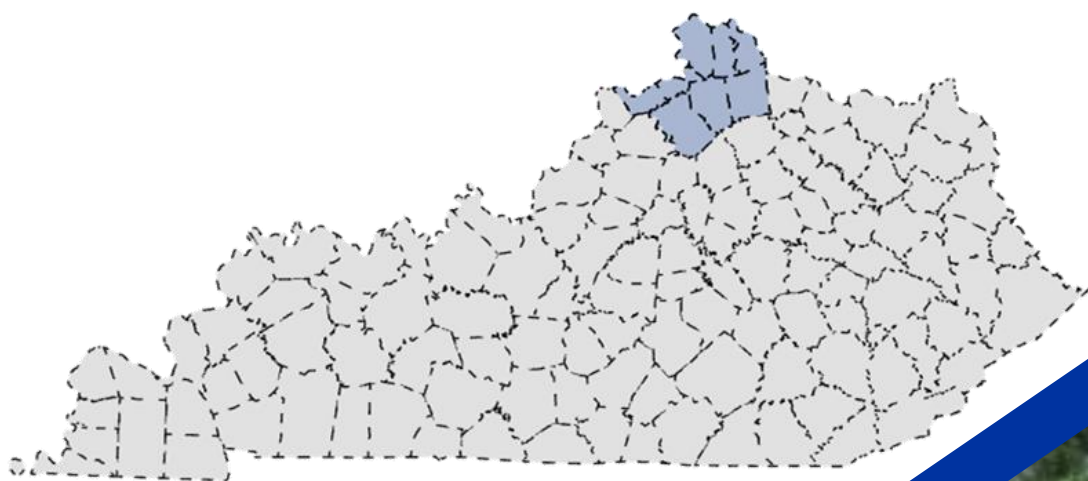


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INTRODUCTION

This Safety Action Plan, funded by the USDOT Safe Streets and Roads for All (SS4A) discretionary grant program and the Kentucky Transportation Cabinet (KYTC) Division of Program Management, summarizes the background, methodology and recommendations of crash analyses conducted for the development of a Safety Action Plan for the Northern Kentucky Area Development District (NKADD), which includes Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen and Pendleton counties in Kentucky. (Boone County had previously developed a Safety Action Plan, and project recommendations are not included in this study). This study evaluated crash data on county roads from 2020-2024 to determine overrepresented 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 by 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 NKADD 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 NKADD 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. NKADD was awarded an Action Plan Grant in FY 22 to develop a Safety Action Plan for its 8 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 Northern Kentucky 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 NKADD Regional Transportation Committee (RTC). The RTC plays a critical role in developing the Regional Transportation Program for the NKADD 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 Northern Kentucky 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 Northern Kentucky ADD region which includes Campbell, Carroll, Gallatin, Grant, Kenton, Owen and Pendleton counties. The plan focused on county roadways to provide direction and resources to county road departments to address local road crashes. Exhibit 1 shows the study area.

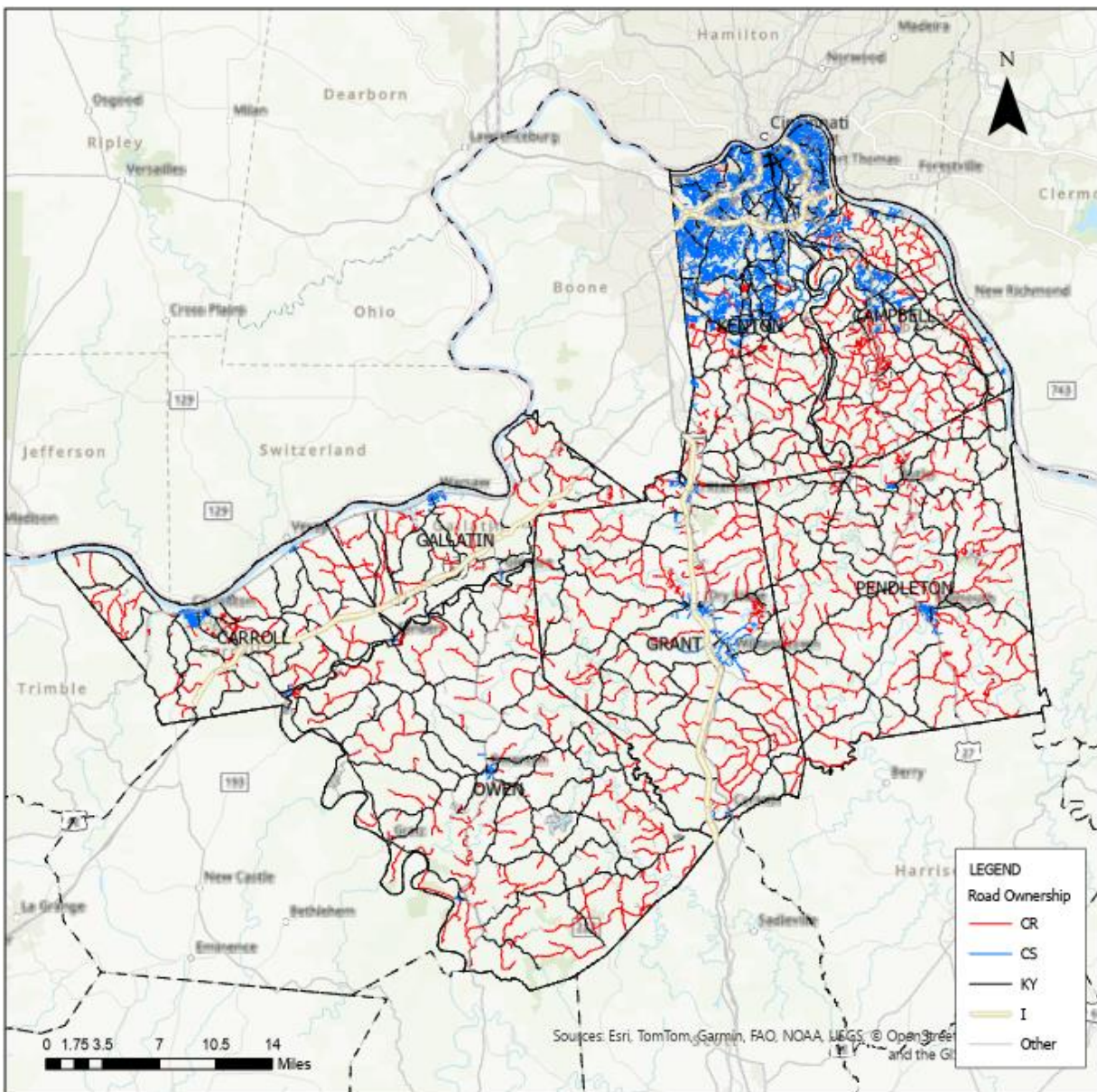


Exhibit 1: Study Area

CRASH ANALYSIS

A crash analysis was conducted to identify common crash types and identify priority locations within the city limits. Crash data for the study area was obtained from the Kentucky State Police Crash database available at 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.

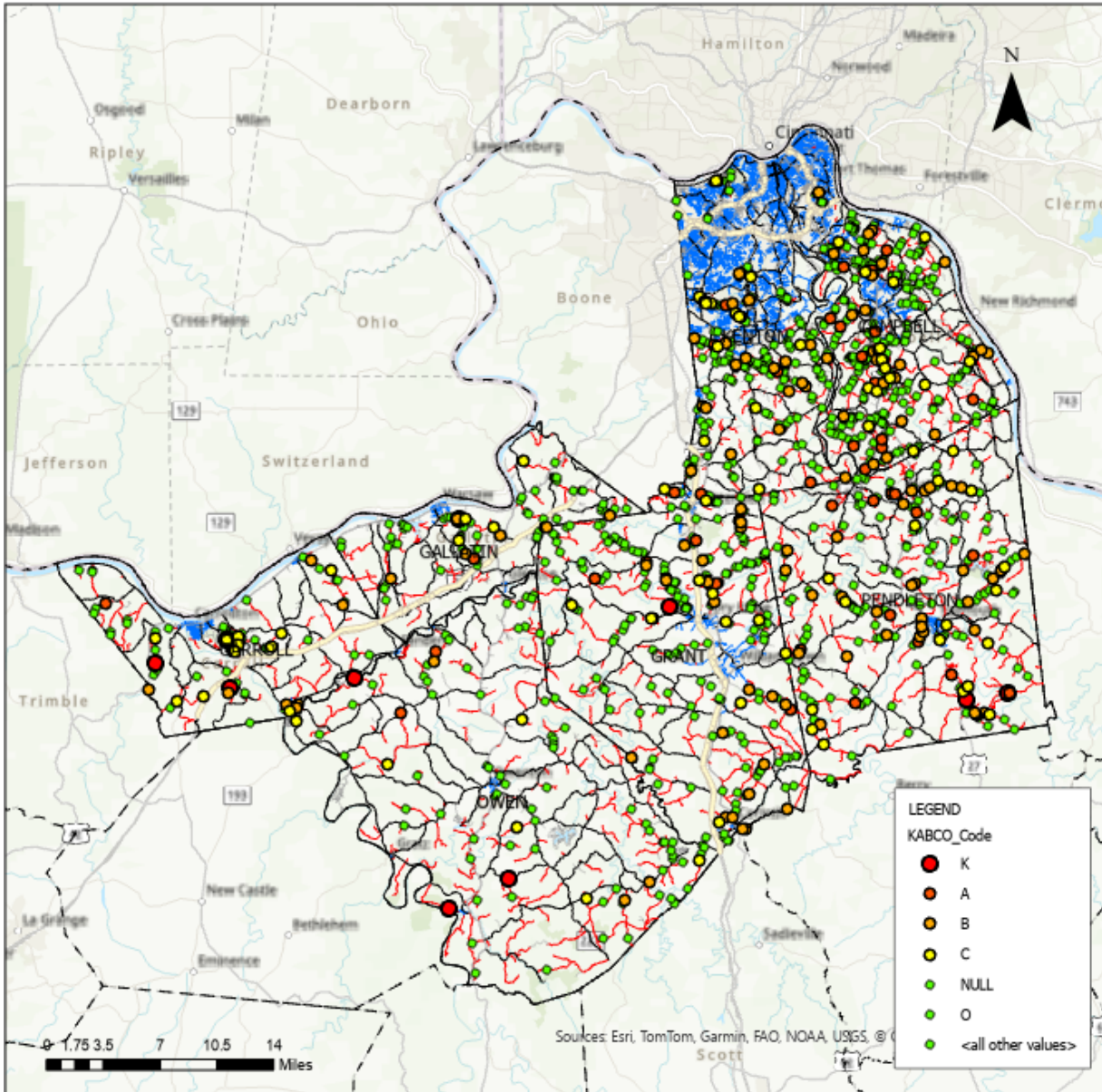


Exhibit 2: Crash Distribution

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 city 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 or state roadway.

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



Exhibit 3: Crash Severity by Year

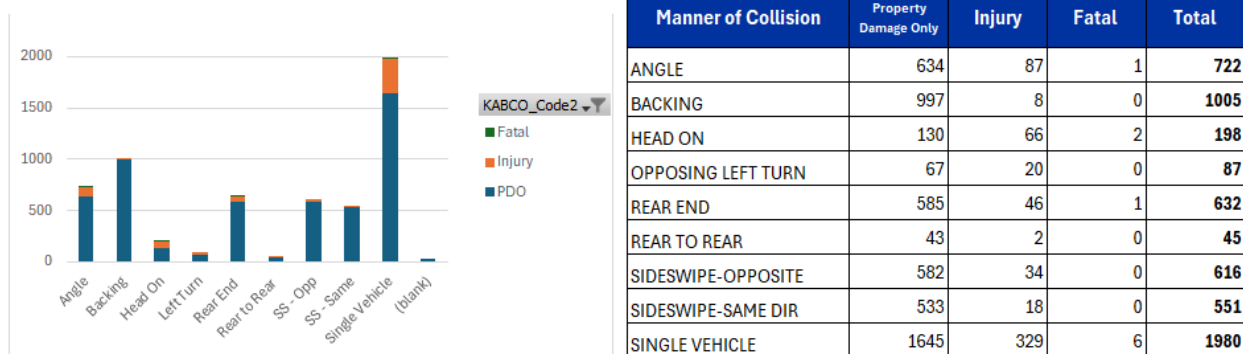


Exhibit 4: Crash Type by Severity

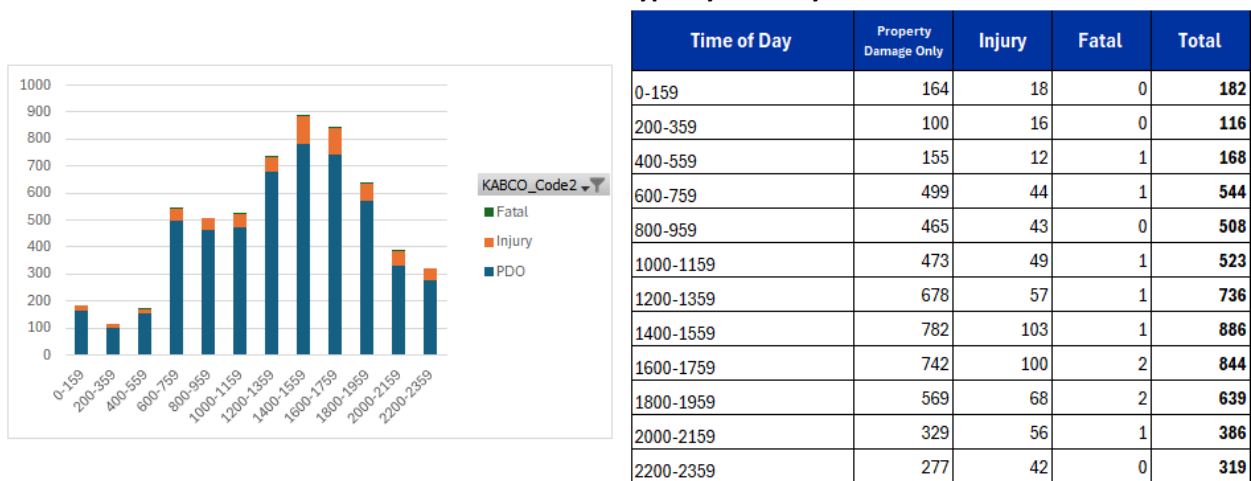
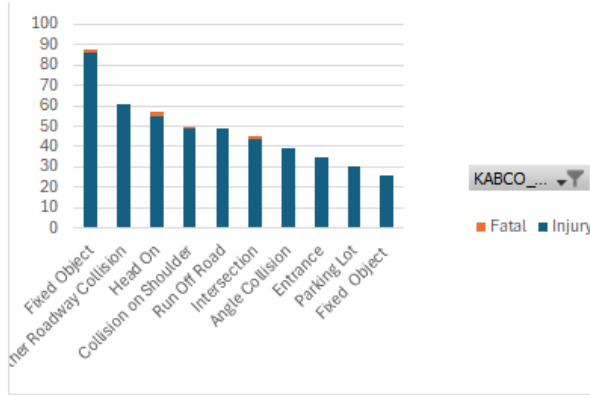


Exhibit 5: Crash Distribution (County Road Crashes)



Time of Day	Injury	Fatal	Total
Fixed Object	86	2	88
Other Roadway Collision	61	0	61
Head On	55	2	57
Collision on Shoulder	49	1	50
Run Off Road	49	0	49
Intersection	44	1	45
Angle Collision	39	0	39
Entrance	35	0	35
Parking Lot	30	0	30
Fixed Object	26	0	26

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 32 percent of roadways with injury and fatal crashes in the ADD and from 16-51 percent of each county’s total mileage as shown in Exhibit 7. The top five ranked five focus roadways for each county are shown in Exhibit 8 and listed in Exhibit 9.

County	Total Mileage	Focus Rd Mileage	Focus Rd Percent
Campbell County	190	76	40%
Carroll County	87	22	25%
Gallatin County	67	11	16%
Grant County	231	83	36%
Kenton County	88	45	51%
Owen County	224	44	20%
Pendleton County	265	93	35%

Exhibit 7: Focus Road Mileage

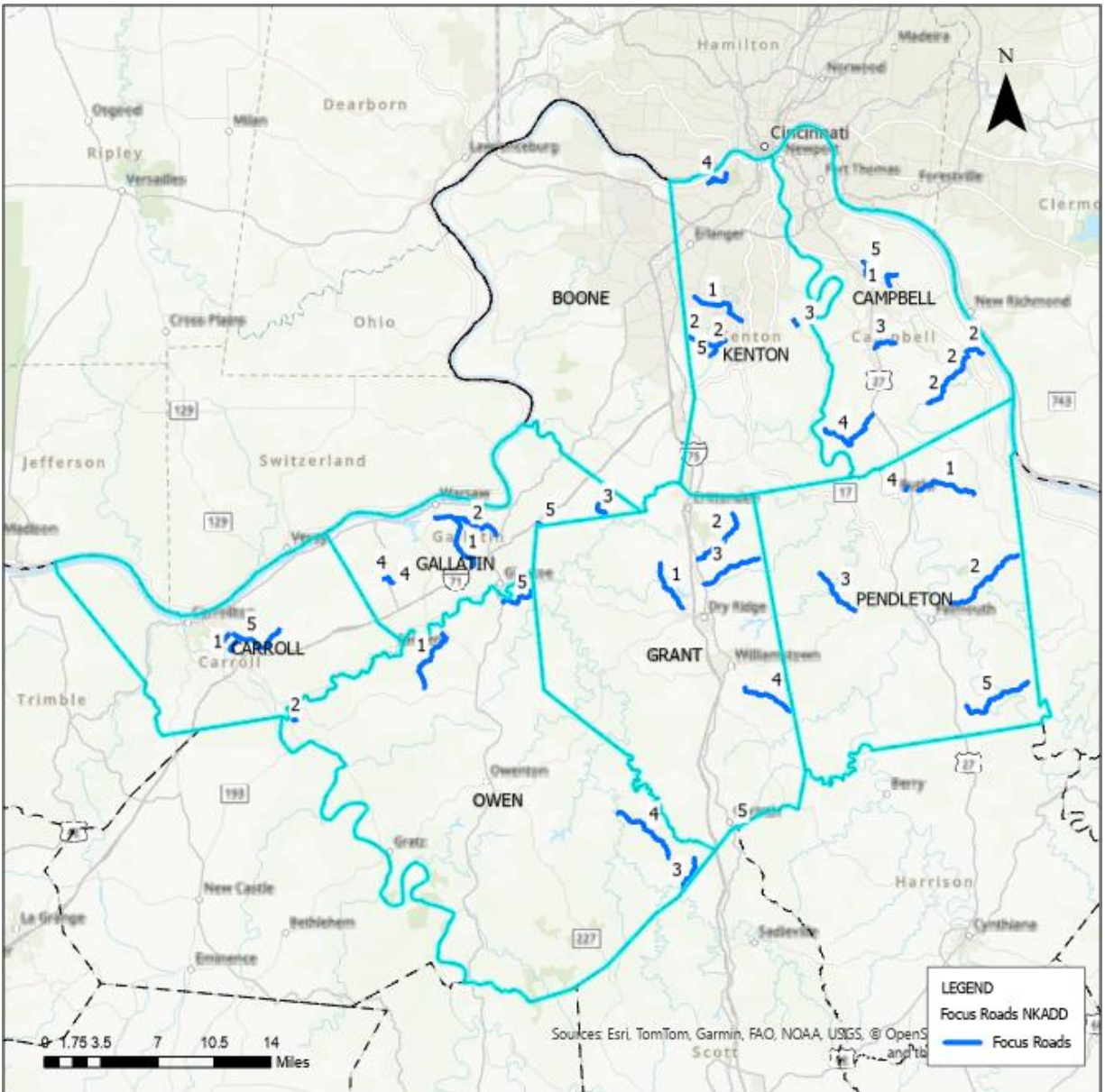


Exhibit 8: Top 5 Focus Roads by County

RT_UNIQUE	Length	County	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Score	Rank
Campbell										
019-CR-1027 -000	1.381	Campbell	POPLAR RIDGE RD	4	0	16	19.73	15.80	3.55	1
019-CR-1103 -000	5.846	Campbell	CALIFORNIA XRD	3	0	22	17.50	9.65	2.71	2
019-CR-1202 -000	1.684	Campbell	LICKERT RD	2	0	12	10.95	12.76	2.37	3
019-CR-1217 -000	4.801	Campbell	CLAY RIDGE RD	2	0	21	14.73	8.67	2.34	4
019-CR-1304A -000	1.073	Campbell	E ALEXANDRIA PIKE	2	0	11	12.03	9.70	2.17	5
Carroll										
021-CR-1125 -000	0.275	Carroll	FLOYD DR	1	0	72	13.33	10.00	2.33	1
021-CR-1107 -000	0.593	Carroll	MALL RD	3	0	25	15.19	7.95	2.31	2
021-CR-1300 -000	0.617	Carroll	W. JAY LOUDEN RD	1	1	15	10.56	11.73	2.23	3
021-CR-1216 -000	4.742	Carroll	CARLISLE RD	2	1	6	13.38	0.47	1.38	4
021-CR-1019 -000	3.92	Carroll	BOONE RD	3	0	4	12.47	1.10	1.36	5
Gallatin										
039-CR-1301 -000	5.122	Gallatin	DRY CREEK RD	4	1	18	20.00	6.50	2.65	1
039-CR-1100 -000	3.439	Gallatin	SPENCER RD	3	0	6	9.96	13.40	2.34	2
039-CR-1005 -000	1.259	Gallatin	CONCORD RD	1	0	4	3.70	14.99	1.87	3
039-CR-1209 -000	0.813	Gallatin	GOULD RD	1	0	1	3.13	15.31	1.84	4
039-CR-1105 -000	0.302	Gallatin	ELLISTON-NAPOLEON RD	2	0	2	6.26	10.06	1.63	5
Grant										
041-CR-1005 -000	3.622	Grant	DRY RIDGE-MOUNT ZION RD	2	0	17	11.00	20.00	3.10	1
041-CR-1021 -000	4.508	Grant	SHERMAN-NEWTON RD	4	0	11	16.89	4.80	2.17	2
041-CR-1033 -000	4.871	Grant	LEMON-NORTHOUTT RD	1	0	35	12.50	9.18	2.17	3
041-CR-1108 -000	3.807	Grant	CYNTHIANA RD	4	0	2	16.00	5.15	2.11	4
041-CR-1126 -000	0.129	Grant	CORINTH-STRINGTOWN RD	2	0	2	7.67	11.22	1.89	5
Kenton										
059-CR-1146 -000	3.942	Kenton	INDEPENDENCE STATION RD	23	0	106	20.00	15.27	3.53	1
059-CR-1231 -000	1.997	Kenton	MAHER RD	3	0	7	2.50	18.14	2.06	2
059-CR-1080 -000	0.435	Kenton	PRUETT RD	0	0	5	0.22	8.27	0.85	3
059-CR-1072 -000	1.827	Kenton	HIGHWATER RD	2	0	7	1.62	4.90	0.65	4
059-CR-1232 -000	1.574	Kenton	INDEPENDENCE RD	1	0	4	0.83	5.17	0.60	5
Owen										
094-CR-1307 -000	4.563	Owen	NEW LIBERTY SPARTA RD	3	0	8	20.00	8.09	2.81	1
094-CR-1321 -000	0.216	Owen	EAGLE CREEK CIRCLE RD	1	0	0	5.12	12.36	1.75	2
094-CR-1114 -000	3.581	Owen	LEANING OAK RD	1	0	3	6.19	10.63	1.68	3
094-CR-1102 -000	5.046	Owen	PLEASANT GROVE RD	0	0	9	3.21	12.52	1.57	4
094-CR-1202 -000	2.589	Owen	SLIPPERY ROCK RD	1	0	2	5.83	6.08	1.19	5
Pendleton										
096-CR-1022 -000	4.233	Pendleton	FLOUR CREEK RD	6	0	16	20.00	9.45	2.94	1
096-CR-1064 -000	6.683	Pendleton	LENOXBURG RD	5	0	13	15.78	13.43	2.92	2
096-CR-1203 -000	3.59	Pendleton	STRAIGHT SHOOT RD	3	0	9	9.71	11.04	2.07	3
096-CR-1072B -000	0.249	Pendleton	LOCK RD	1	0	1	2.84	16.33	1.92	4
096-CR-1117 -000	5.371	Pendleton	MCKINNEYSBURG RD	5	0	5	15.20	2.99	1.82	5

Exhibit 9: List of Top 5 Focus Roads by County

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. Additionally, some roadways initially identified as focus roads were removed after local review.

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 NKADD region.

DATA COLLECTION

Road Safety Assessments (RSAs) were conducted on the Focus Roadways by NKADD 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 determine 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 2,699 collected data points within the region.

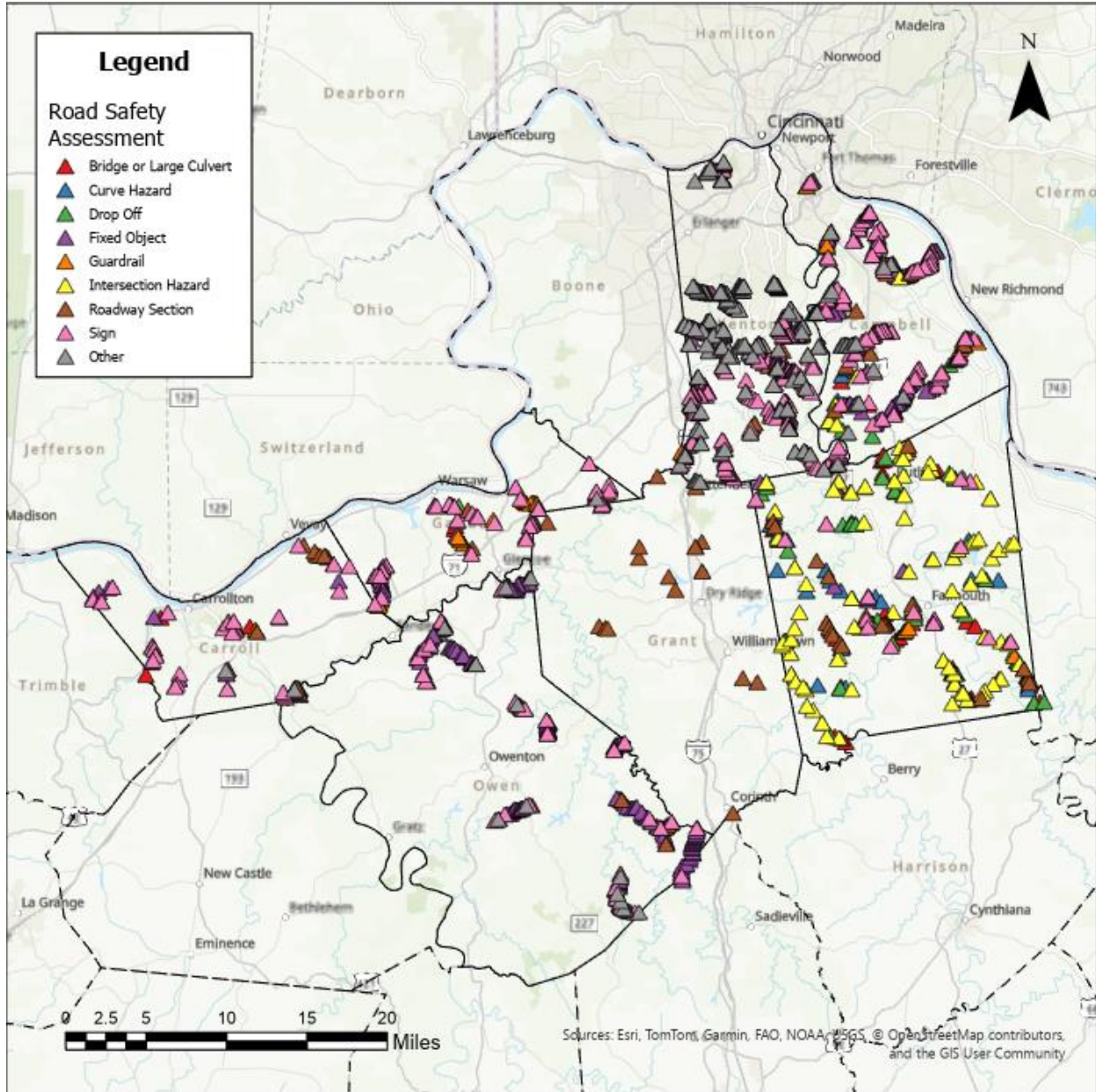


Exhibit 10: Road Safety Assessment Data Points

County	Bridge or Culvert	Curve Hazard	Drop Off	Fixed Object	Guardrail	Int. Hazard	Other	Roadway Section	Sign	Total
Kenton	28	24	61	132	60	47	137	58	609	1156
Boone	1	0	0	6	3	0	3	8	20	41
Pendleton	65	44	44	13	8	101	0	28	21	324
Carroll	7	0	0	13	4	0	1	8	49	82
Campbell	22	27	91	174	34	28	24	21	119	540
Gallatin	12	0	15	31	15	0	1	10	49	133
Grant	0	6	6	10	0	1	0	20	5	48
Total	135	101	217	379	124	177	166	153	872	2324

Exhibit 11: Road Safety Assessment Data by Type and County

One of the items collected in the review was the roadway width on county roads. 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, 57 percent are 10 or less feet in width with only 7 percent of roadways equal to or greater than 18 feet. 83 percent of roadways are under 14 feet, the minimum width requirements to accommodate two seven-foot wide passenger vehicles. AASHTO Guidance states that existing roads “need not be modified except in those cases where there is evidence of a site specific crash pattern.” These narrow widths are consistent with the high degree of run off the road, head-on and opposite direction sideswipe crashes identified in the crash review.

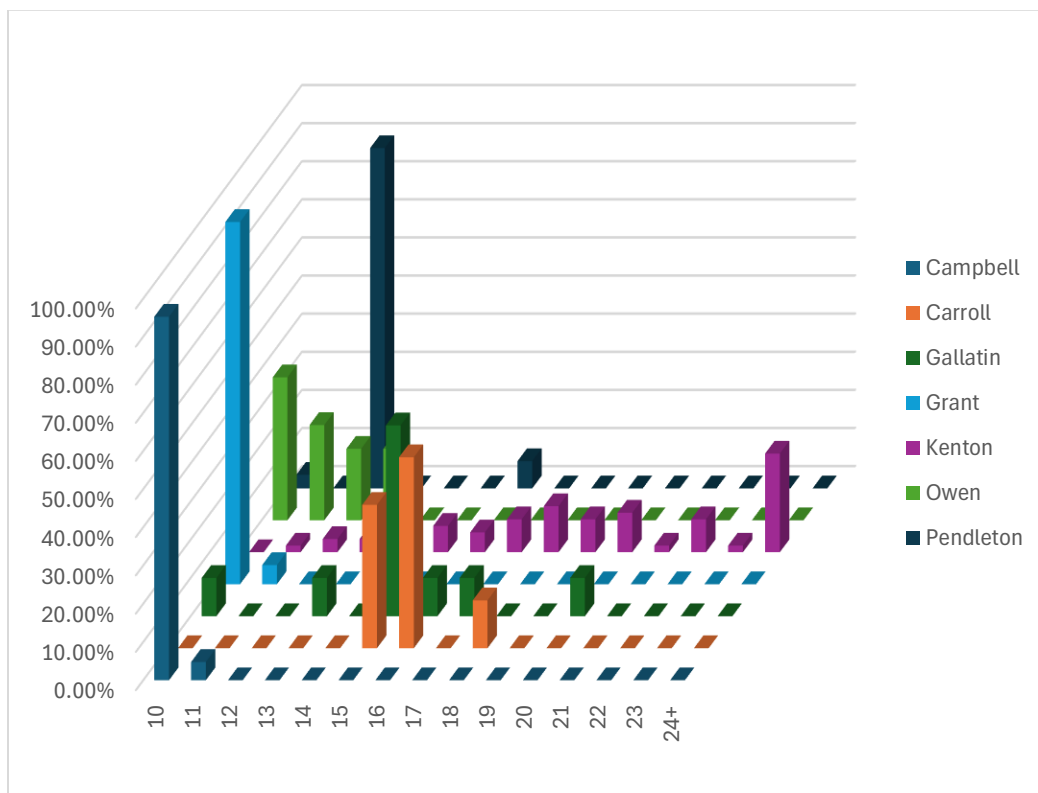


Exhibit 12: Roadway Width by County

County	Pavement Servicability Rating				
	1	2	3	4	5
Kenton	0%	0%	43%	57%	0%
Boone	0%	0%	50%	50%	0%
Pendleton	0%	11%	68%	11%	11%
Carroll	0%	88%	0%	13%	0%
Campbell	0%	14%	24%	62%	0%
Gallatin	0%	10%	50%	30%	10%
Grant	0%	10%	60%	25%	5%
Owen	0%	6%	44%	50%	0%
Grand Total	0%	10%	46%	41%	3%

Exhibit 13: Roadway Condition by County

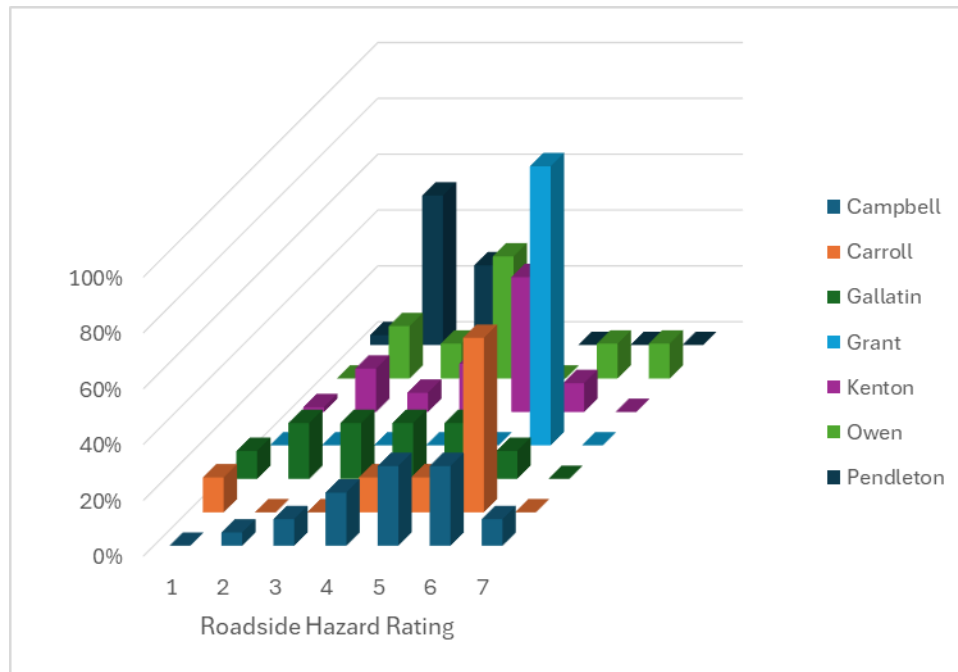


Exhibit 14: Roadside Hazard Rating by County

Evaluating the crash analysis presented above which shows that single vehicle-fixed object crashes are the most frequent type of crash involving fatalities or injuries, the roadways were reviewed for both pavement width and roadside hazard rating as shown in Exhibits 12 and 14. This demonstrates that the majority of roadways, with the exception of Kenton County, have relatively narrow roads (<16 feet) and poor Roadside Hazard Ratings with the average RHR being 5 and 6, indicating minimum clear zone and the prevalence of fixed objects.

PUBLIC INVOLVEMENT

As part of the Safety Action Plan, a public survey was conducted to understand how the traveling public perceived roadway safety within NKADD. 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.

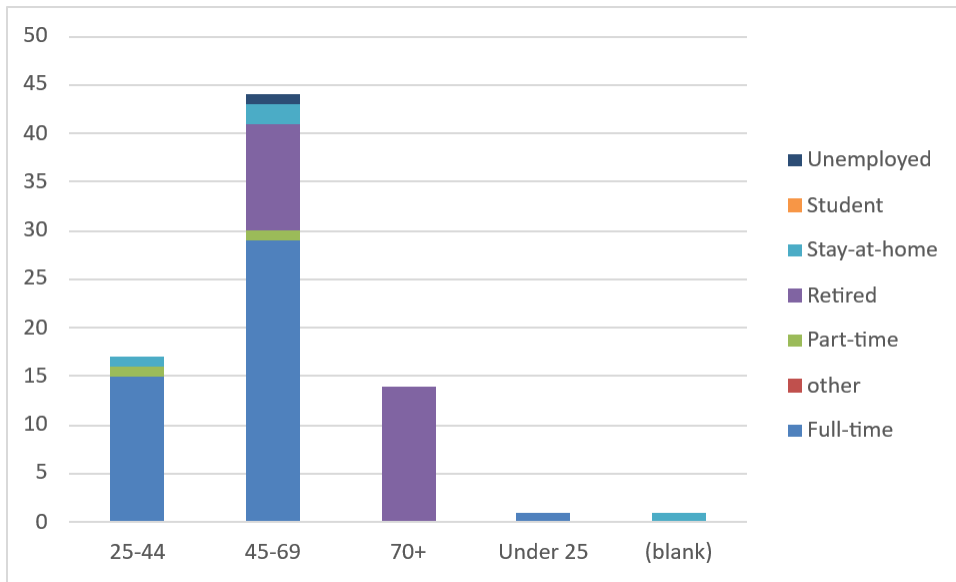


Exhibit 15: Public Survey Demographic Information

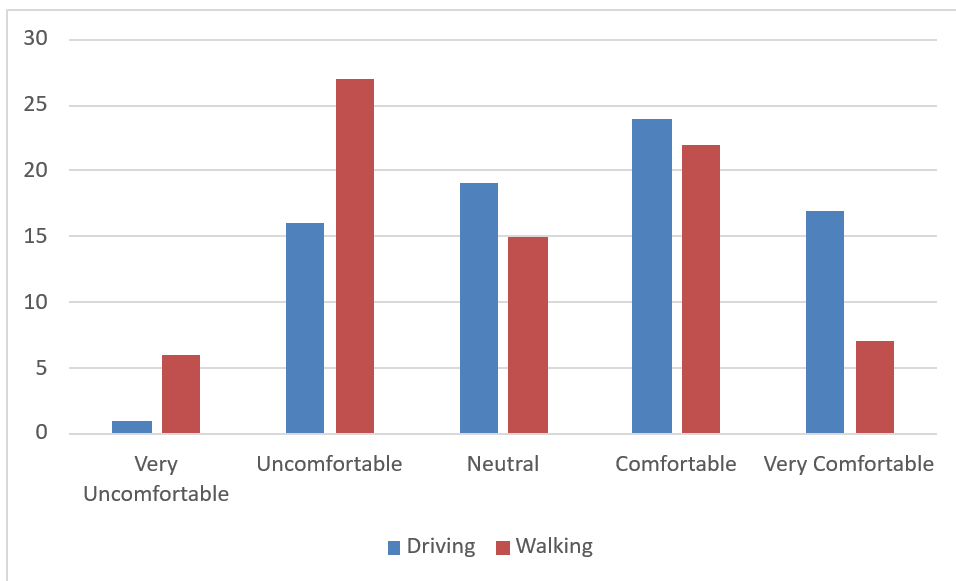


Exhibit 16: Public Survey Driving/Walking Comfort Level

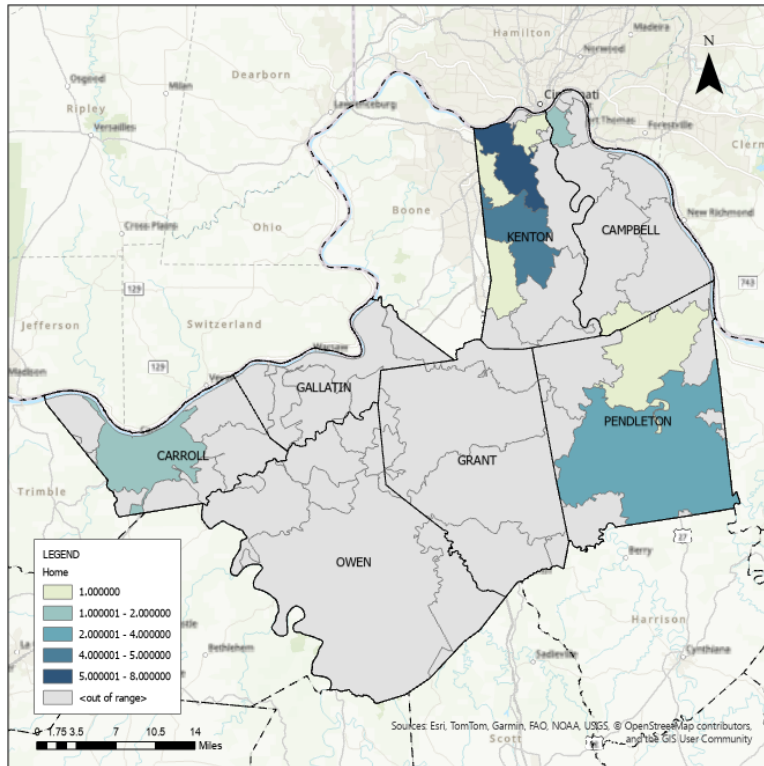


Exhibit 17: Public Survey Residency by Zip Code
(Note: Two respondents live outside of NKADD)

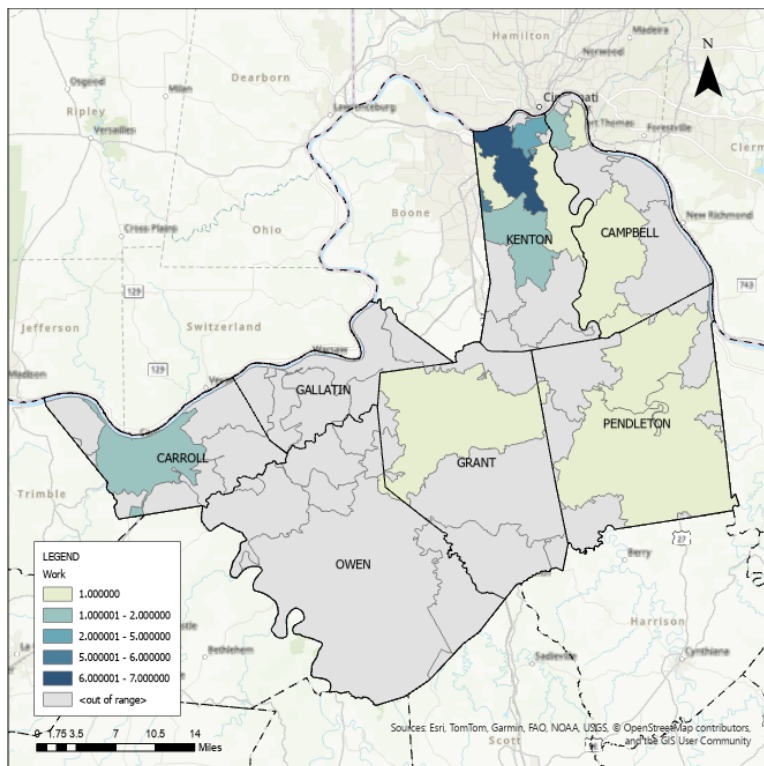


Exhibit 18: Public Survey Work Location by Zip Code

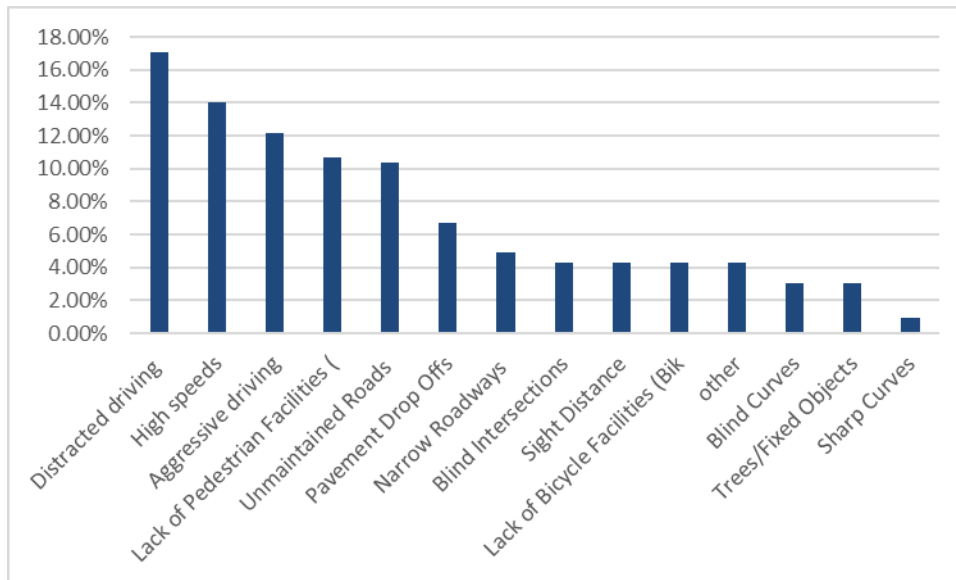


Exhibit 19: Public Survey Top Safety Issues

It is noted that human factors are the top 3 safety concerns for the region, with Distracted Driving, High Speeds, and Aggressive Driving being the most frequently cited concerns. Lack of Pedestrian Facilities was the 4th most frequent concerns and is consistent with comfort ratings which indicated that NO respondents indicated that the majority of respondents do not feel comfortable walking in the region.

Six issues within the study area were identified in the survey interactive mapping, and one within Boone County. These comments are summarized below and general locations shown in Exhibit 20.

1. Roadside Drop Off located near Raleigh Lane and KY 16. Comment: Wolf Road, Decoursey Pike
2. Pedestrian issue located at Taylor Mill Elementary. Comment: The schools needs a crosswalk that can activate a traffic light.
3. Narrow Road located along Wayman Branch Road. Comment: Wayman Branch Rd is too narrow and curvy
4. Intersection located at Taylor Creek Drive and Pride Parkway. Comment: A traffic light is needed at this intersection. The parkway is 45 MPH and there are subdivisions worth of people trying to make left turns. It's dangerous.
5. Intersection located at Taylor Mill Road and Pride Parkway. Comment: Vehicles do not stay in lanes turning left Southbound and Northbound traffic doesn't through intersection because of curvature. Stay in lanes
6. Other Comment located near Taylor Mill Road and Pride Parkway. Comment: This intersection lacks lighting. It is difficult to see the lanes at night especially when the pavement is wet.

7. Other Comment located near Burlington Pike and Zig Zag Road. Comment: Frequent running of the red light, drivers coming off of zig zag road must wait longer than expected and look both ways before pulling onto Burlington Pike because other drivers run this red light almost every time.

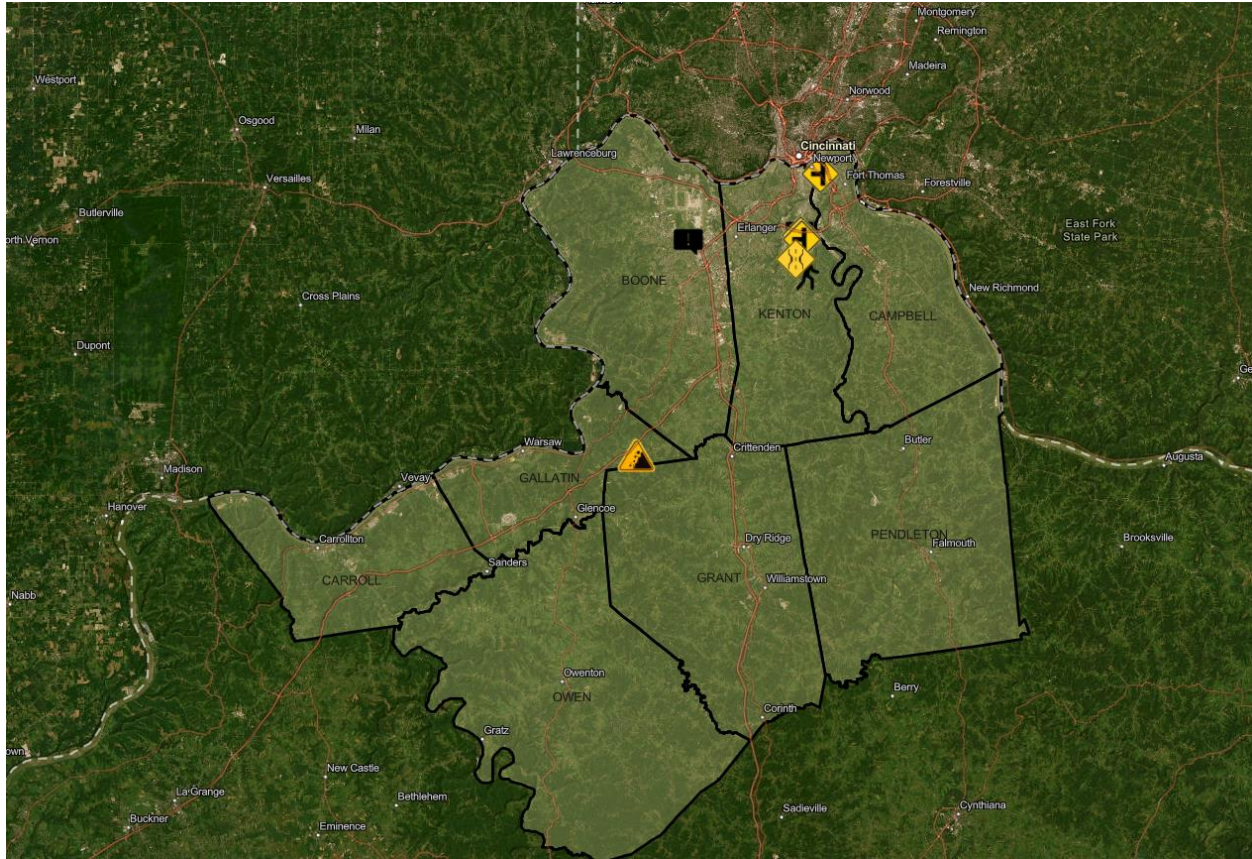


Exhibit 20: Public Survey Identified Site Specific Issues

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 NKADD, 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 for each county. RSA and recommendation information is also available in digital format and can be accessed at <https://kvt2.uky.edu/nkaddSAP>.

POLICY RECOMMENDATIONS

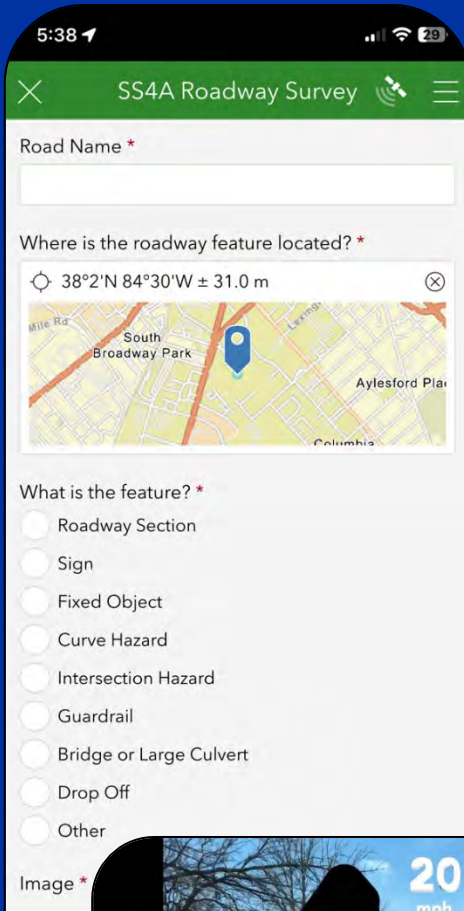
The following policy recommendations are made to assist agencies in addressing roadway safety on local roadways based on the Crash Analysis, Road Safety Assessments and Public outreach activities outlined above.

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. Target dates for ambitious percentage reduction of roadway fatalities and serious injuries will be a goal of 20% reduction by 2030 and a 50% reduction by 2035. With the date of 2045 of achieving zero fatalities and serious injuries.
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. The vision zero statement that was adopted by the Northern Kentucky Area Development District is provided in the attached link. [NKADD SS4A Vision Zero.pdf](#)
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-Five 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.

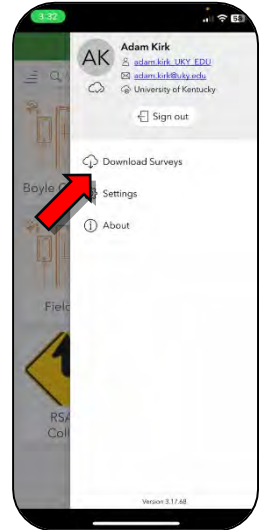
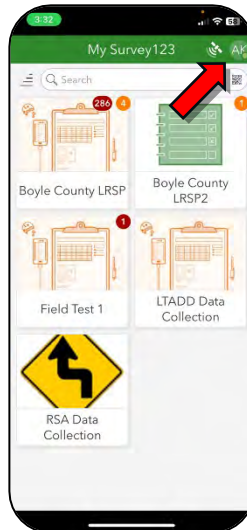
For each of the focus roadways you will need to

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.

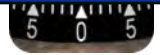
IOS MOBILE DEVICE SETUP

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

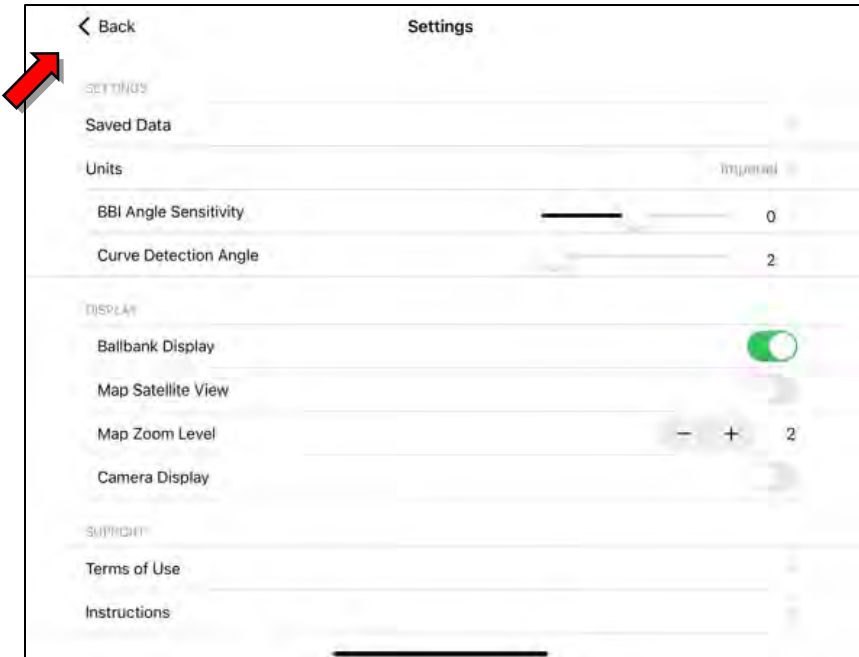


The Ballbank app is used to assist in determining where horizontal alignment (curve) signs are needed and to set advisory speeds at horizontal curves.

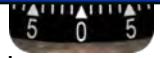
1. To set up the app click on the settings (gear) button in the top right of the screen.



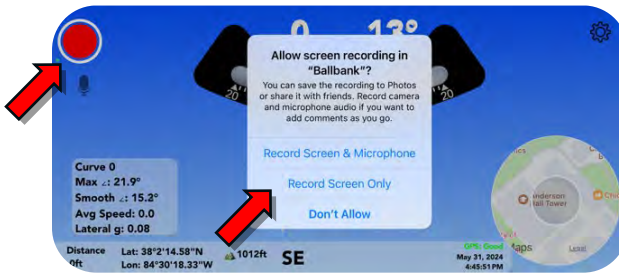
2. Configure the settings to match those shown in the figure below. Once completed, hit the back button.




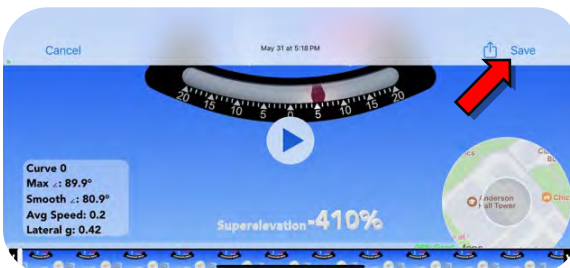
BALLBANK APP



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

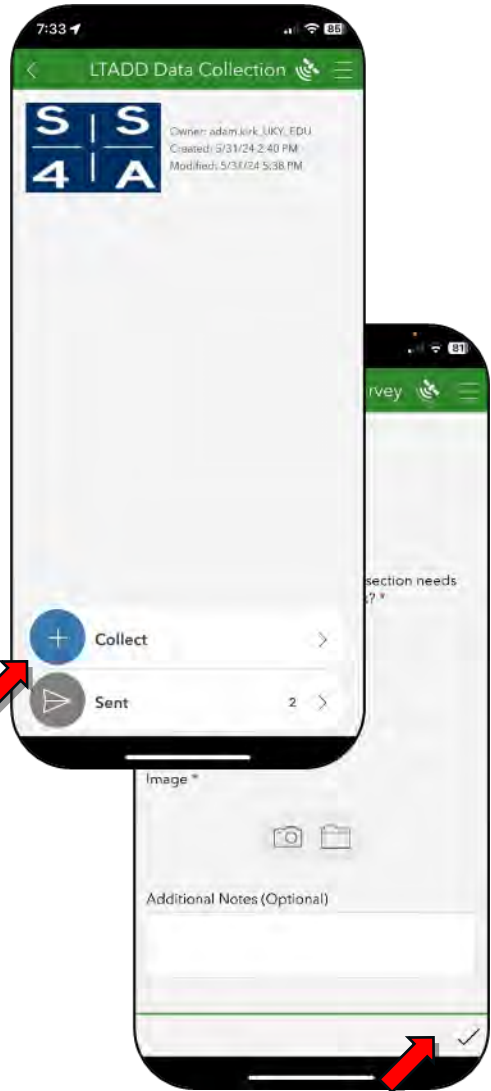
Image *

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

South Broadway Park

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.

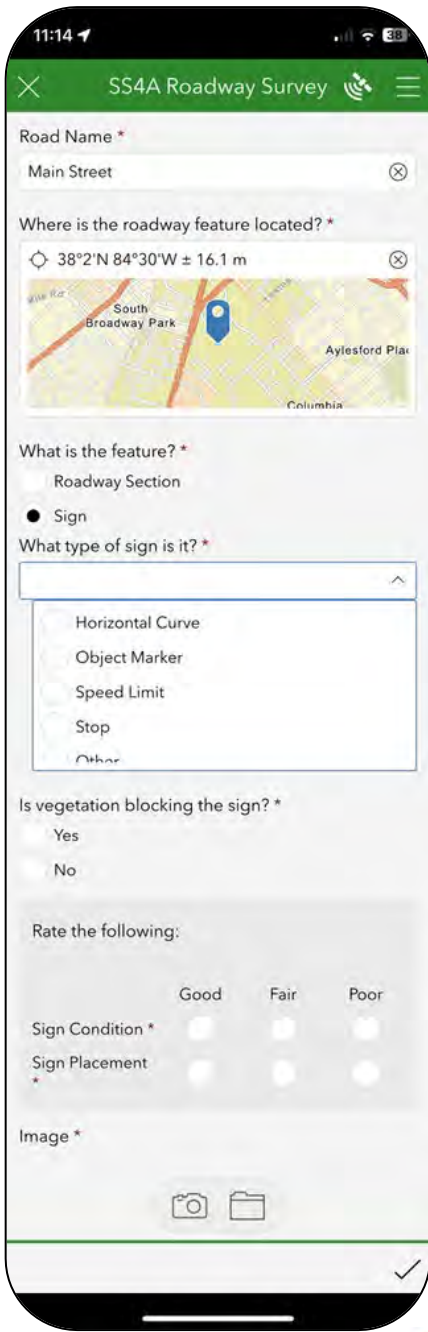
Proper shoulders and ditches should be have the following characteristics.

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



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 is "SS4A Roadway Survey". Below the title, 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 *
 

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

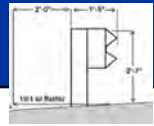


Restricted Sight
Distance



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 *

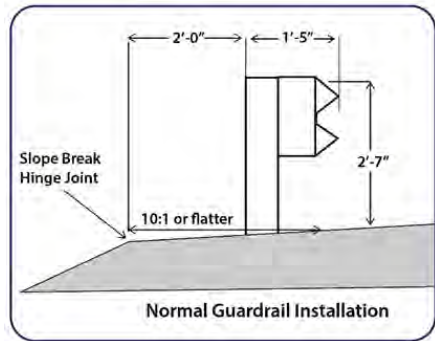
Additional Notes (Optional)

Log each guardrail segment along the roadway.

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

Condition Rating

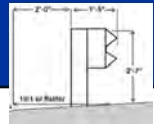
Visually rate the guardrail to determine if it is in good repair and properly installed per the figure below.



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, a text input for "Road Name" containing "Main Street", a location selection screen showing a map of Columbia, Missouri, with a blue pin and coordinates "38°2'N 84°30'W ± 16.1 m", a radio button selection for "Bridge or Large Culvert", and two dropdown menus for "How many corners of the bridge/culvert have guardrail?" and "how many corners of the bridge/culvert have object markers?". Both dropdowns have options 0, 1, 2, 3, 4, and other. There is an "Image" field at the bottom with a camera icon and a checkmark.

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

Map showing location near South Broadway Park and Aylesford Plaz.

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

Checkmark

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.

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 Enhancements¹ and Proven Safety Countermeasures,² 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

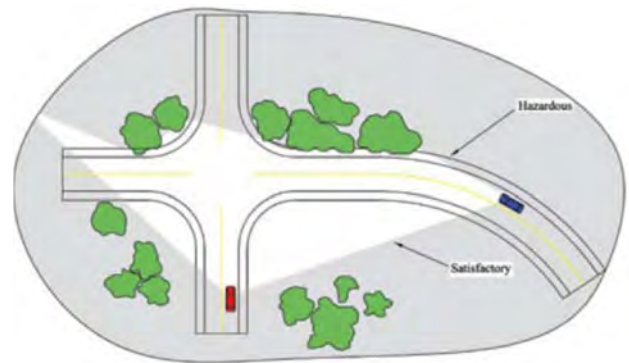
Fixed objects in the clear zone include trees, utility poles, headwalls, signs, guardrails, etc. These fixed objects often result in fatal crashes.

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
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 85th 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 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 85th 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.

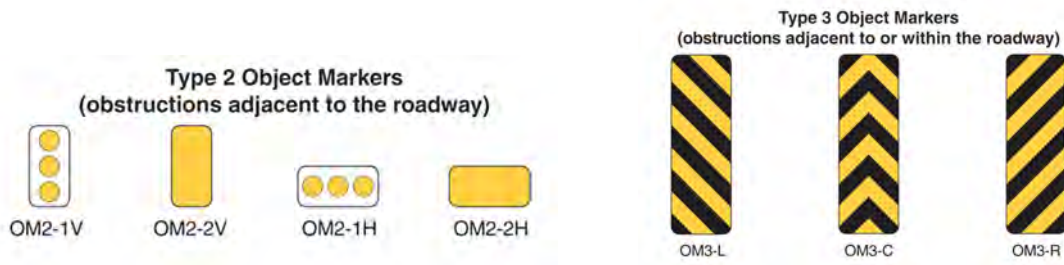
Learn more in the Horizontal Alignment TapIT! Sheet.

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.¹

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" (± 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.



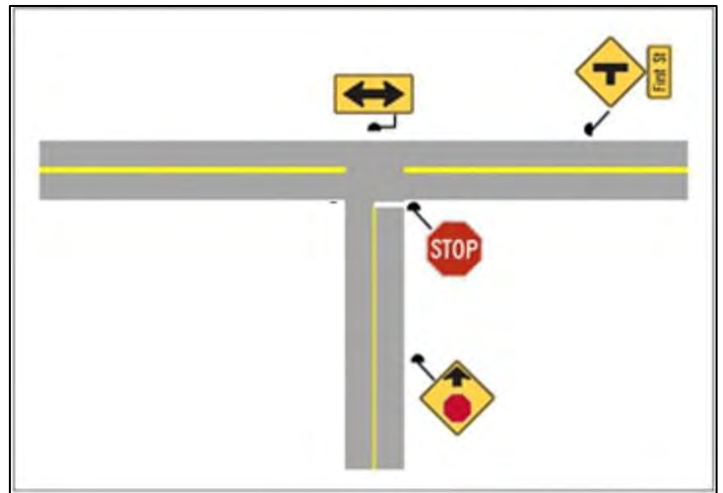
A Type 7, commonly known as a turn down end treatment, does not meet MASH crash guidelines and is only permitted on low speed / low volume roadways. These should be used only when adequate recovery zones are unavailable for other preferred end treatment types.

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.¹

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:

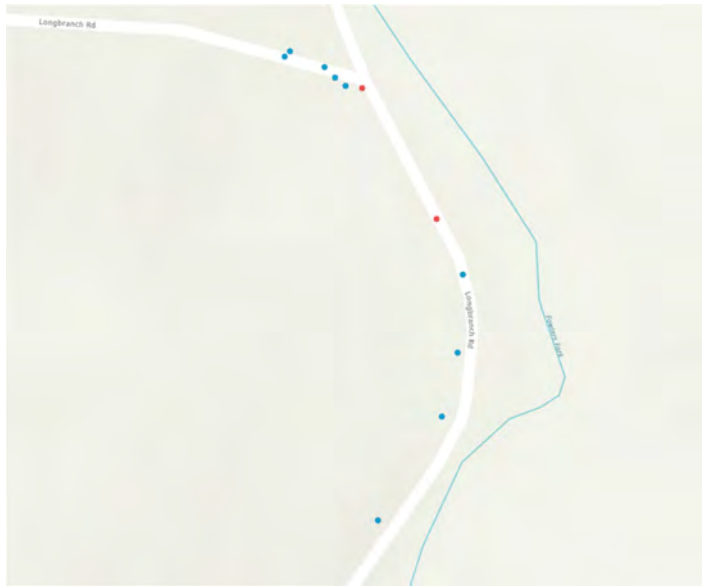
Improved Drainage

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.¹

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/

APPENDIX C: PUBLIC SURVEY

Northern Kentucky Area Development District

The Northern Kentucky ADD is currently developing a Safety Action Plan for Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen and Pendleton 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.

NKADD 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

NKADD 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

NKADD 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](#).

Northern KY ADD Transportation Safety Needs

Sign in

Safety Concerns

Roadside Object	(3)	>
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: CAMPBELL COUNTY SAFETY ACTION PLAN

Campbell County Overview

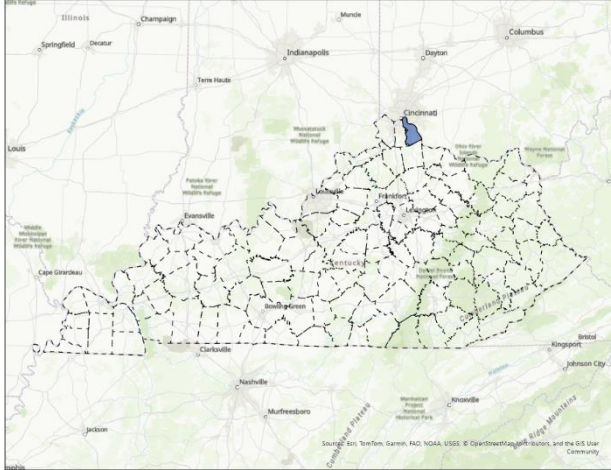


Exhibit Campbell-1: Location Maps

Key Information Table Campbell County	
Population	93,702
Population in Persistent Poverty	13%
Underserved Community	No
Fatalities (All Roads)	35
Fatalities (County Roads)	1
Fatality rate per 100,000 persons	37.35
County Road Mileage	189.0
State Road Mileage	184.5
Total Mileage	373.4

Exhibit Campbell-2: Key Information

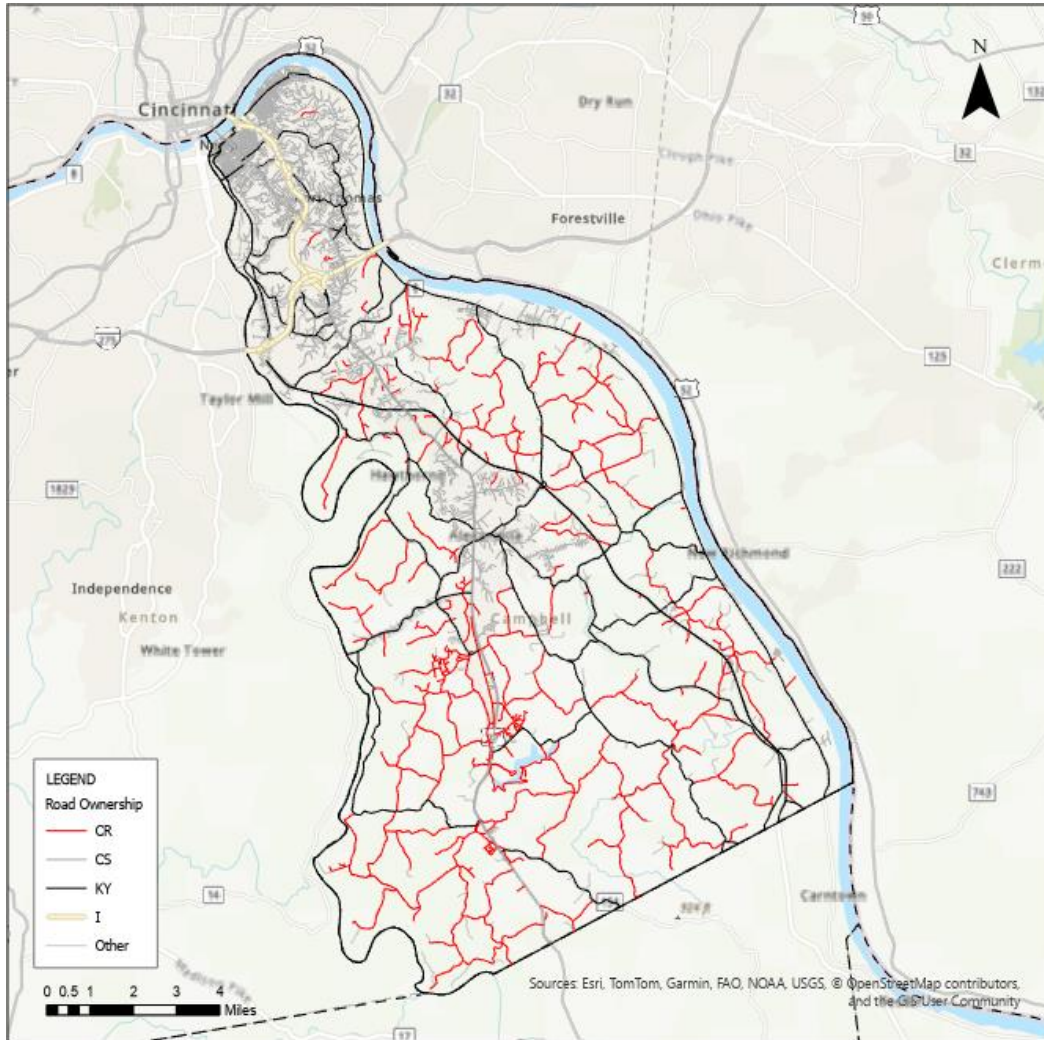


Exhibit Campbell-3: Map of County Roadways

Crash Analysis

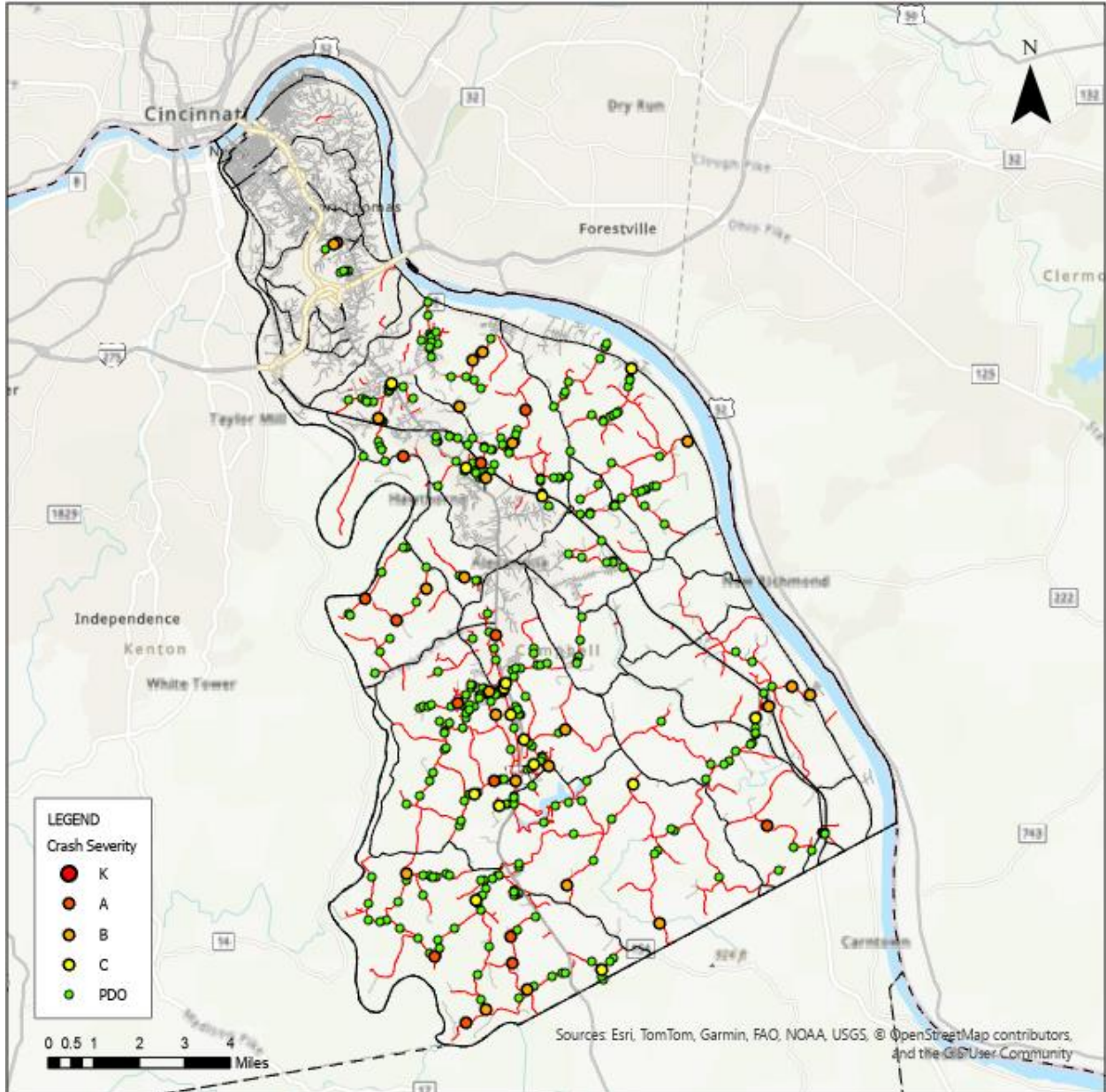


Exhibit Campbell-4: Map of County Road Crashes



Exhibit Campbell-5: Crash Distribution by Year

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	198	33	1	232
SS - Opp	51	4	0	55
Backing	50	0	0	50
SS - Same	26	0	0	26
Angle	24	1	0	25
Rear End	12	0	0	12
Head On	7	4	0	11
Left Turn	6	0	0	6
Rear to Rear	0	0	0	0

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

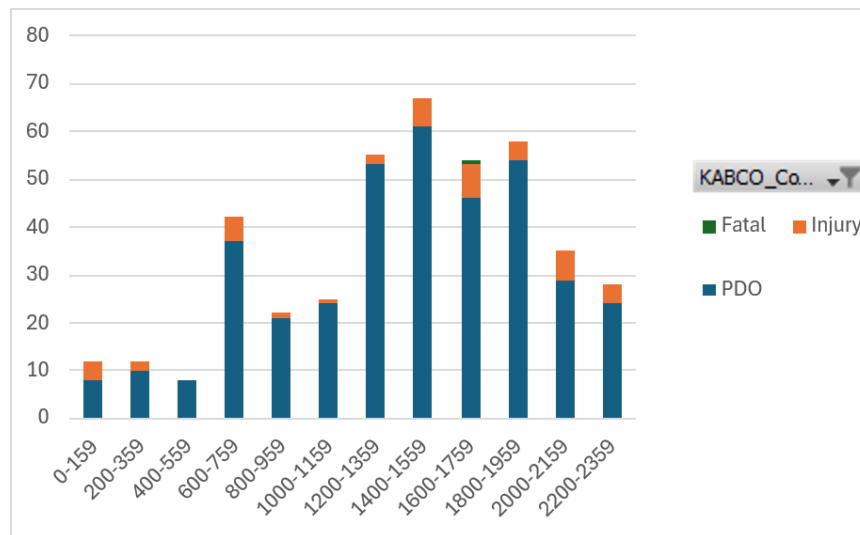


Exhibit Campbell-7: Crashes and Severity by Time of Day

Focus Roadways

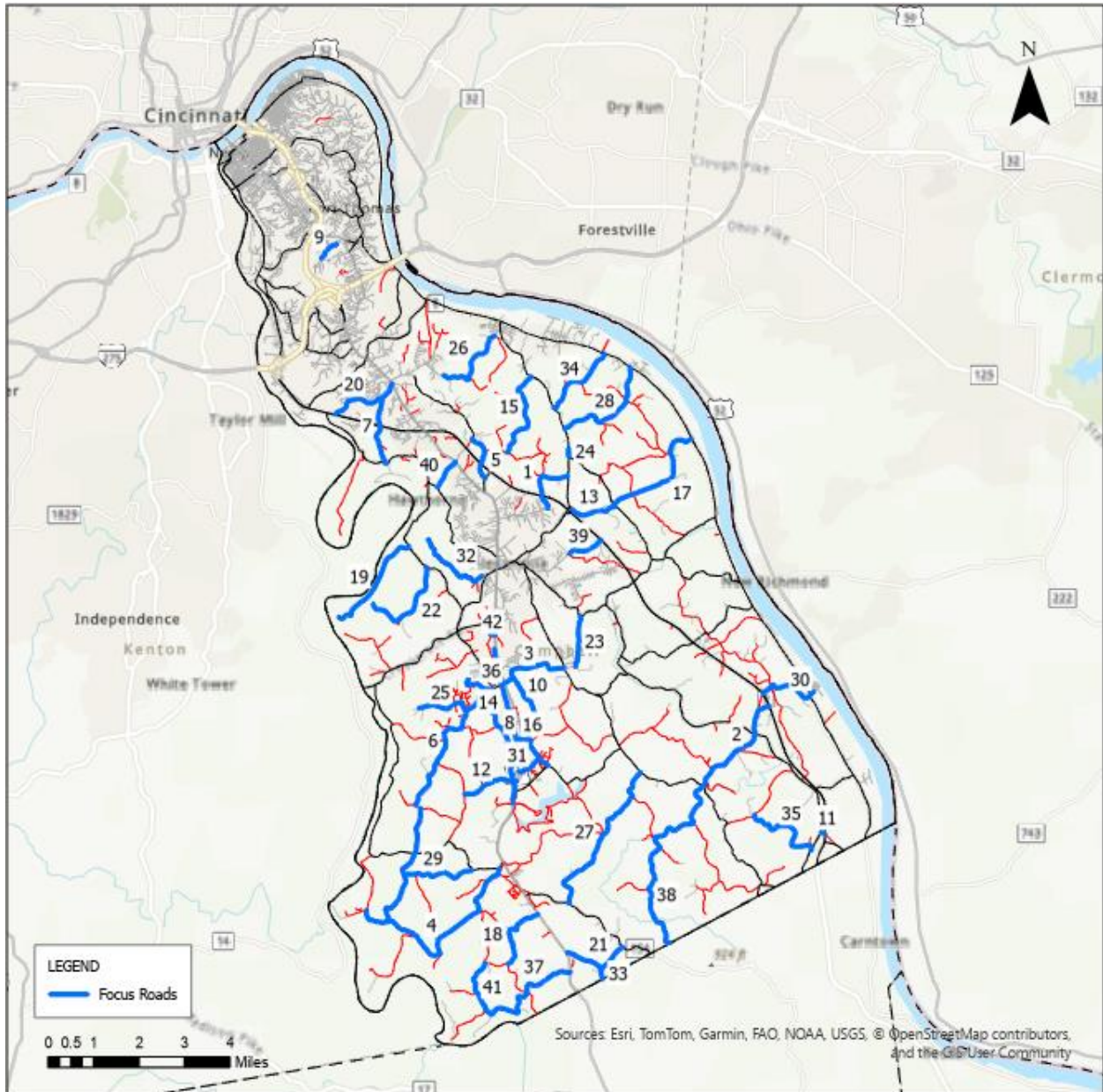


Exhibit Campbell-8: Focus Roads

RT_UNIQUE	Length	County	AD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
Campbell										
019-CR-1027 -000	1.381	Campbell	NKADD	POPLAR RIDGE RD	4	0	16	19.73	15.80	1
019-CR-1103 -000	5.846	Campbell	NKADD	CALIFORNIA XRD	3	0	22	17.50	9.65	2
019-CR-1202 -000	1.684	Campbell	NKADD	LICKERT RD	2	0	12	10.95	12.76	3
019-CR-1217 -000	4.801	Campbell	NKADD	CLAY RIDGE RD	2	0	21	14.73	8.67	4
019-CR-1304A -000	1.073	Campbell	NKADD	E ALEXANDRIA PIKE	2	0	11	12.03	9.70	5
019-CR-1224 -000	6.424	Campbell	NKADD	PLEASANT RIDGE RD	1	0	28	11.42	9.54	6
019-CR-1350 -000	1.944	Campbell	NKADD	MURNAN RD	3	0	16	15.88	4.88	7
019-CR-1233 -000	2.312	Campbell	NKADD	SOUTH LICKING PIKE	2	0	19	12.84	7.64	8
019-CR-1334 -000	0.499	Campbell	NKADD	BLOSSOM LN	2	0	2	9.59	9.87	9
019-CR-1204 -000	2.288	Campbell	NKADD	WOESTE RD	1	0	2	4.39	12.28	10
019-CR-1109 -000	0.086	Campbell	NKADD	SHORT CUT RD	0	0	19	5.14	10.82	11
019-CR-1229 -000	1.177	Campbell	NKADD	TARVIN RD	2	0	7	10.95	4.33	12
019-CR-1030 -000	1.033	Campbell	NKADD	NELSON RD	0	0	10	2.70	12.53	13
019-CR-1048 -000	3.201	Campbell	NKADD	ALEXANDRIA PIKE	2	0	16	12.03	2.64	14
019-CR-1022 -000	2.159	Campbell	NKADD	LOWER TUG FORK RD	2	0	4	10.14	3.91	15
019-CR-1231 -000	0.317	Campbell	NKADD	COOPER BAIN RD	1	0	3	4.66	9.14	16
019-CR-1011 -000	2.702	Campbell	NKADD	FENDER RD	1	0	9	6.28	7.11	17
019-CR-1211 -000	1.652	Campbell	NKADD	NAGEL RD	2	0	2	10.95	2.14	18
019-CR-1355 -000	2.48	Campbell	NKADD	RIFLE RANGE RD	1	0	7	7.09	5.78	19
019-CR-1349 -000	1.291	Campbell	NKADD	DRY CREEK RD	0	0	11	2.97	9.20	20
019-CR-1119 -000	0.69	Campbell	NKADD	YELTON HILL RD	1	0	2	4.39	7.69	21
019-CR-1356 -000	2.256	Campbell	NKADD	POPLAR THICKET RD	2	0	2	9.59	2.44	22
019-CR-1100 -000	1.17	Campbell	NKADD	BARRS BRANCH RD	0	0	9	2.43	9.08	23
019-CR-1032 -000	0.205	Campbell	NKADD	GRESSKAMP RD	0	0	1	0.27	11.10	24
019-CR-1236 -000	1.256	Campbell	NKADD	MADDOX RD	1	0	6	6.82	4.38	25
019-CR-1312 -000	1.899	Campbell	NKADD	UHL RD	2	0	4	8.78	2.40	26
019-CR-1121 -000	3.873	Campbell	NKADD	BURNS RD	2	0	2	8.24	2.81	27
019-CR-1015 -000	2.554	Campbell	NKADD	NINE MILE RD	1	0	10	6.55	4.41	28
019-CR-1222 -000	1.673	Campbell	NKADD	BOONE SMITH RD	1	0	8	6.01	4.22	29
019-CR-1105 -000	0.065	Campbell	NKADD	UNION ST	1	0	0	3.85	5.89	30
019-CR-1207A -000	0.57	Campbell	NKADD	PARKSIDE DR	1	0	2	4.39	5.02	31
019-CR-1301 -000	1.754	Campbell	NKADD	GILBERT RIDGE RD	1	0	1	4.12	4.82	32
019-CR-1118 -000	1.147	Campbell	NKADD	PLUM CREEK RD	1	0	5	5.20	3.57	33
019-CR-1033 -000	1.814	Campbell	NKADD	EIGHT MILE RD	0	0	5	1.35	7.18	34
019-CR-1112 -000	2.116	Campbell	NKADD	DANIELS RD	1	0	3	6.01	2.24	35
019-CR-1237G -000	0.533	Campbell	NKADD	MALLARD DR	0	0	5	1.35	6.54	36
019-CR-1212 -000	2.708	Campbell	NKADD	FAIRLANE RD	1	0	5	5.20	2.39	37
019-CR-1120 -000	2.808	Campbell	NKADD	FISHER RD	1	0	2	4.39	2.99	38
019-CR-1004 -000	0.816	Campbell	NKADD	UPPER LICK BRANCH RD	0	0	1	0.27	6.70	39
019-CR-1306 -000	0.698	Campbell	NKADD	WEST LOW GAP RD	0	0	4	1.08	5.77	40
019-CR-1214 -000	1.246	Campbell	NKADD	AULICK RD	1	0	2	4.39	2.36	41
019-CR-1203F -000	0.113	Campbell	NKADD	MIDWAY DR	1	0	2	5.74	0.75	42
019-CR-1215 -000	1.12	Campbell	NKADD	DEMOSSVILLE RD	1	0	0	5.20	1.04	43
019-CR-1314 -000	0.299	Campbell	NKADD	CABIN CREEK DR E	1	0	0	3.85	2.36	44
019-CR-1305 -000	0.246	Campbell	NKADD	DEER RUN RD	1	0	0	5.20	0.90	45
019-CR-1316 -000	1.342	Campbell	NKADD	DODSWORTH LN	0	0	9	2.43	3.60	46

Exhibit Campbell-9: List of Focus Roadways

Recommended Improvements (Top 5 Roads)

POPLAR RIDGE RD (019-CR-1027 -000)

Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	9	1	0	10
Rear End	3	0	0	3
Angle	2	0	0	2
SS - Same	2	0	0	2
Backing	1	0	0	1
SS - Opp	1	0	0	1
Rear to Rear	0	0	0	0
Head On	0	0	0	0
Left Turn	0	0	0	0

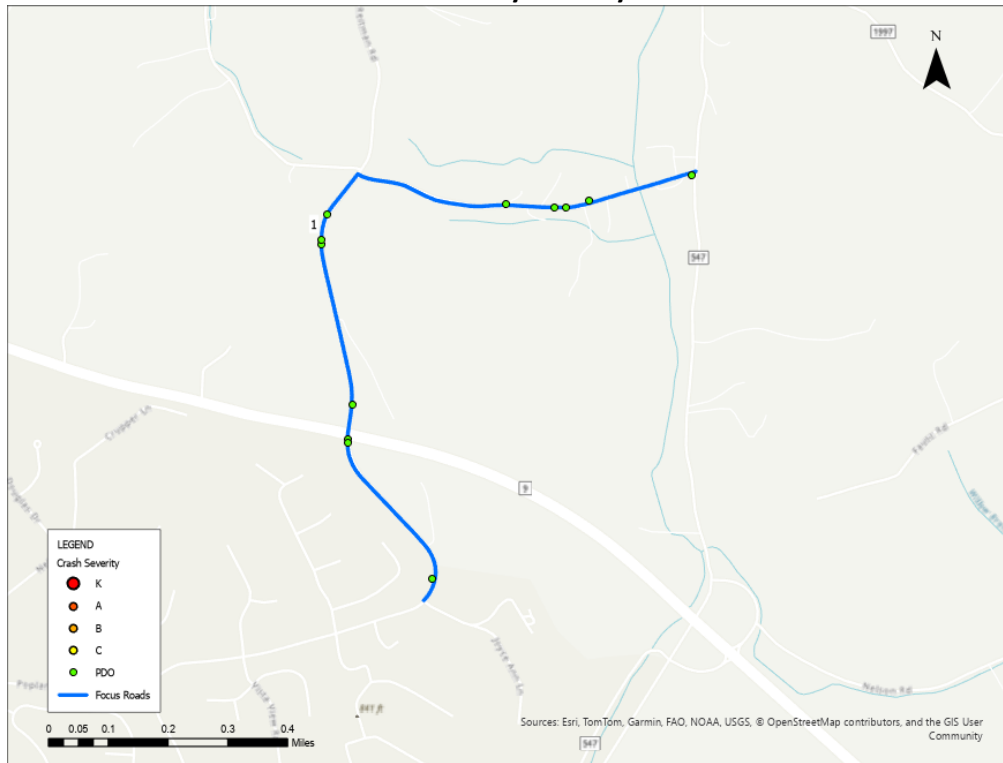
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (
2902	019-CR-1027 -000	POPLAR RIDGE RD	10	4	6	60-80

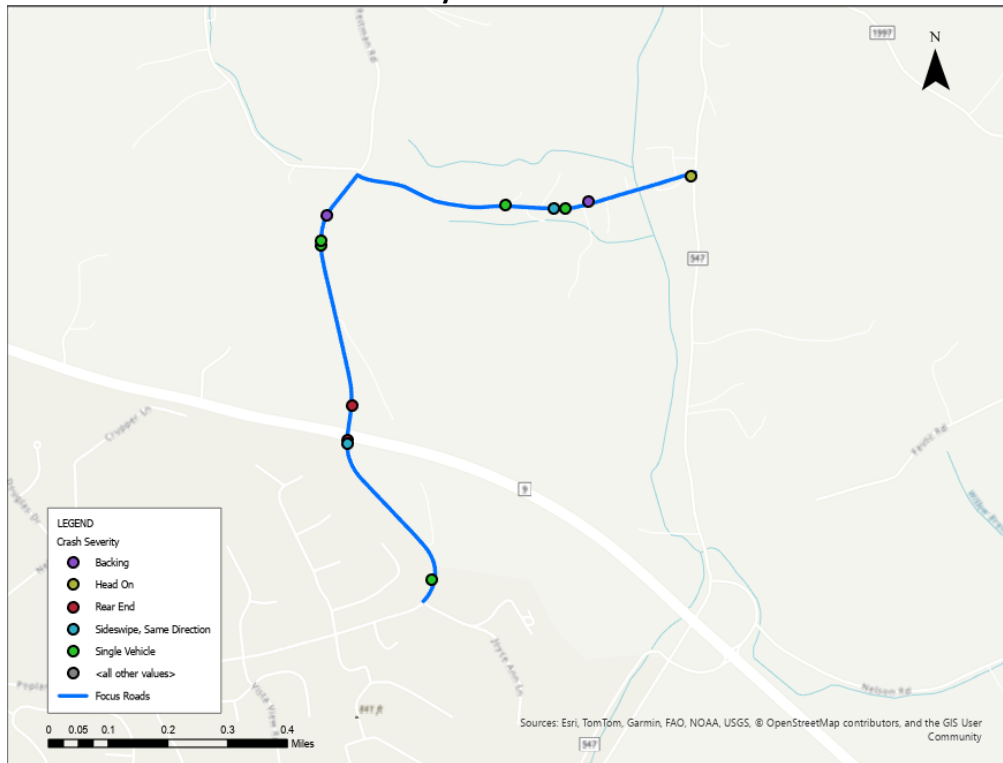
Roadway Typical Section



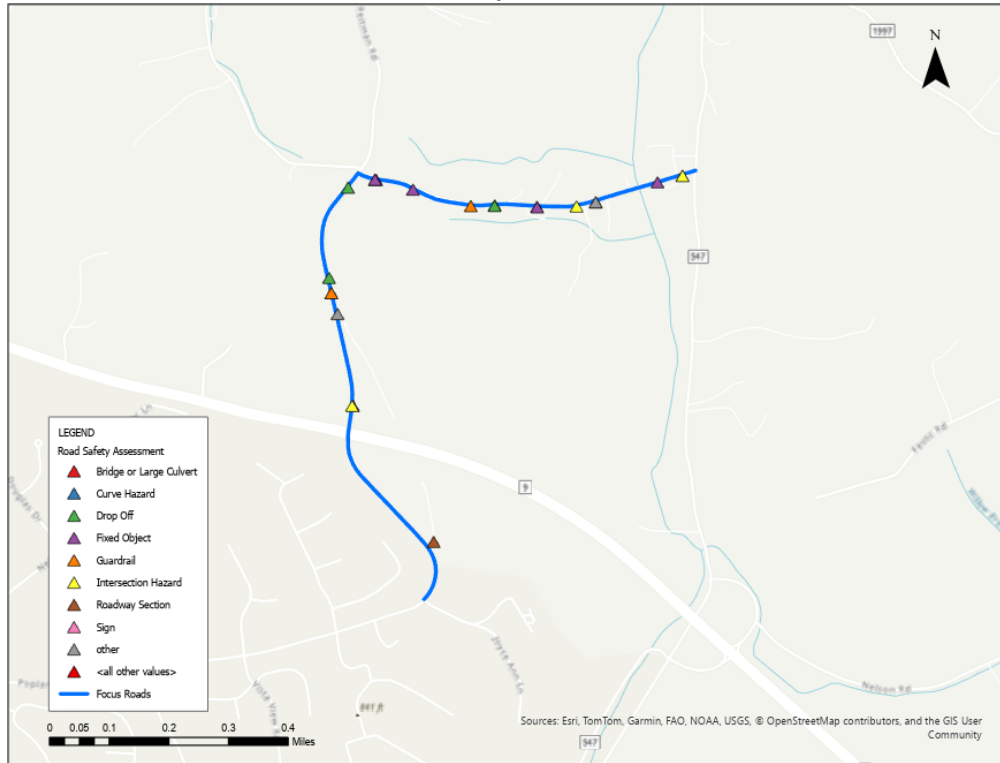
Crashes by Severity



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
2902	019-CR-1027 -000	POPLAR RIDGE RD	10	4	6	60-80	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
2876	019-CR-1027 -000	POPLAR RIDGE RD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)			
2881	019-CR-1027 -000	POPLAR RIDGE RD	Drop Off	0-1	2-5	Campbell	Install Type 2 Object Marker(s) or Delineator(s)			
2886	019-CR-1027 -000	POPLAR RIDGE RD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)			
2888	019-CR-1027 -000	POPLAR RIDGE RD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)			
2889	019-CR-1027 -000	POPLAR RIDGE RD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)			
2892	019-CR-1027 -000	POPLAR RIDGE RD	Drop Off	1-3	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)			
2894	019-CR-1027 -000	POPLAR RIDGE RD	Drop Off	1-3	>10	Campbell	Evaluate need for guardrail			
2897	019-CR-1027 -000	POPLAR RIDGE RD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
2875	019-CR-1027 -000	POPLAR RIDGE RD	Fixed Object	Tree;	Series	1-3	--			
2877	019-CR-1027 -000	POPLAR RIDGE RD	Fixed Object	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)			
2879	019-CR-1027 -000	POPLAR RIDGE RD	Fixed Object	Tree;	Series	1-3	--			
2887	019-CR-1027 -000	POPLAR RIDGE RD	Fixed Object	Tree;	Series	1-3	--			
2891	019-CR-1027 -000	POPLAR RIDGE RD	Fixed Object	Tree;	Series	3-5	--			
2893	019-CR-1027 -000	POPLAR RIDGE RD	Fixed Object	Tree;	Series	1-3	--			
2899	019-CR-1027 -000	POPLAR RIDGE RD	Fixed Object	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
2874	019-CR-1027 -000	POPLAR RIDGE RD	Guardrail	Good	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments			
2890	019-CR-1027 -000	POPLAR RIDGE RD	Guardrail	Good	Yes	All	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation				
2872	019-CR-1027 -000	POPLAR RIDGE RD	Intersection	No	--	Other	Review Intersection; Issue noted as "Other"			
2878	019-CR-1027 -000	POPLAR RIDGE RD	Intersection	Yes	--	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)			
2882	019-CR-1027 -000	POPLAR RIDGE RD	Intersection	No	--	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
2884	019-CR-1027 -000	POPLAR RIDGE RD	Bridge or Large Culvert	16	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers			
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation			
2885	019-CR-1027 -000	POPLAR RIDGE RD	other	--	--	Brick entry;	Install Type 2 or 3 Object Marker; See Policy Recommendations			
2898	019-CR-1027 -000	POPLAR RIDGE RD	other	--	--	Blind hill;	Install "Hill Blocks View" Sign (W7-6)			

CALIFORNIA XRD (019-CR-1103 -000)

Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	12	1	0	13
SS - Opp	2	0	0	2
Head On	1	0	0	1
Angle	1	0	0	1
Rear End	1	0	0	1
SS - Same	0	0	0	0
Backing	0	0	0	0
Left Turn	0	0	0	0
Rear to Rear	0	0	0	0

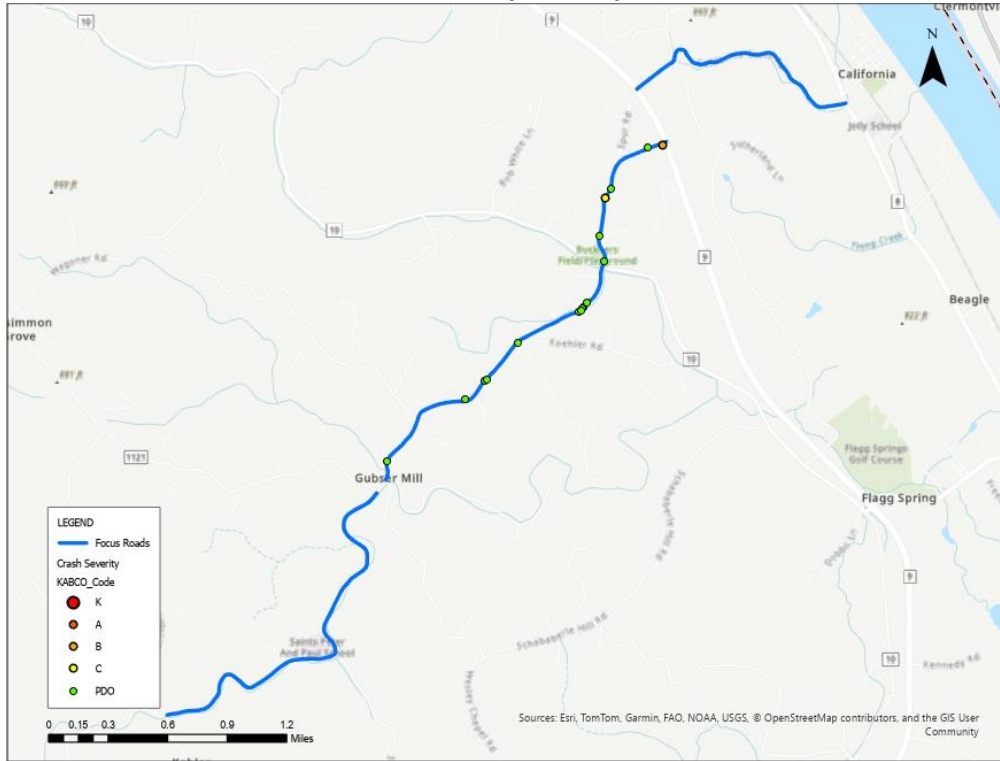
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (%)	Improve Shoulder	Edgelin	Curve Signin
3143	019-CR-1103 -000	CALIFORNIA XRD	10	4	5	60-80	✓	✓	✓
3154	019-CR-1103 -000	CALIFORNIA XRD	10	4	4	40-60	✓	✓	✓

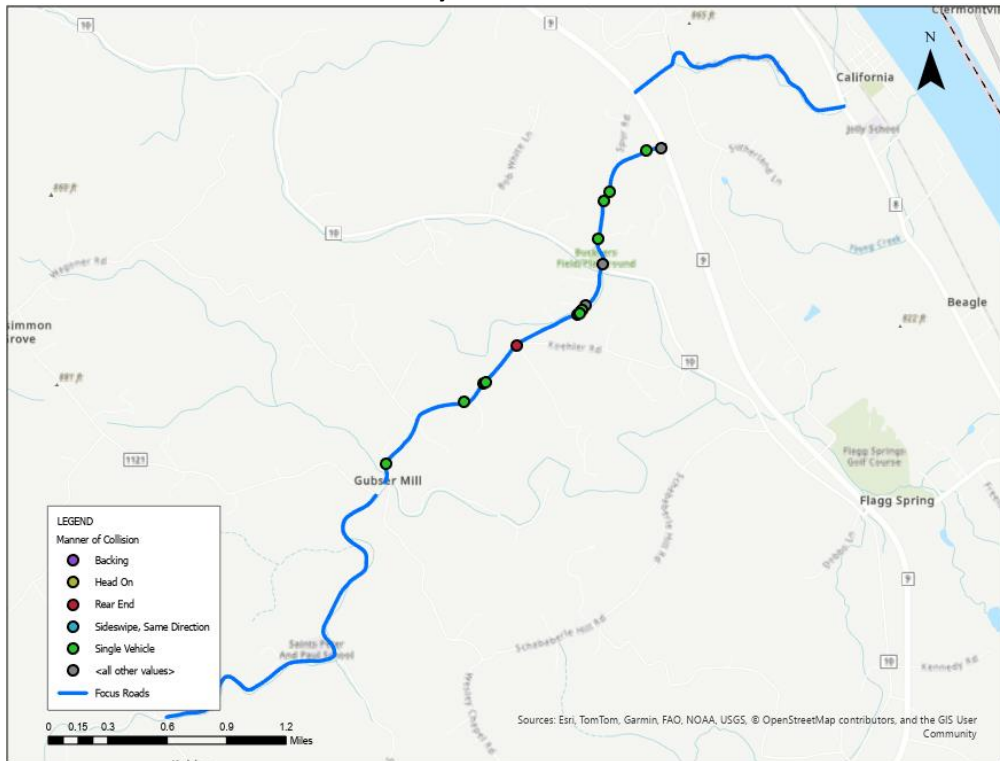
Roadway Typical Section



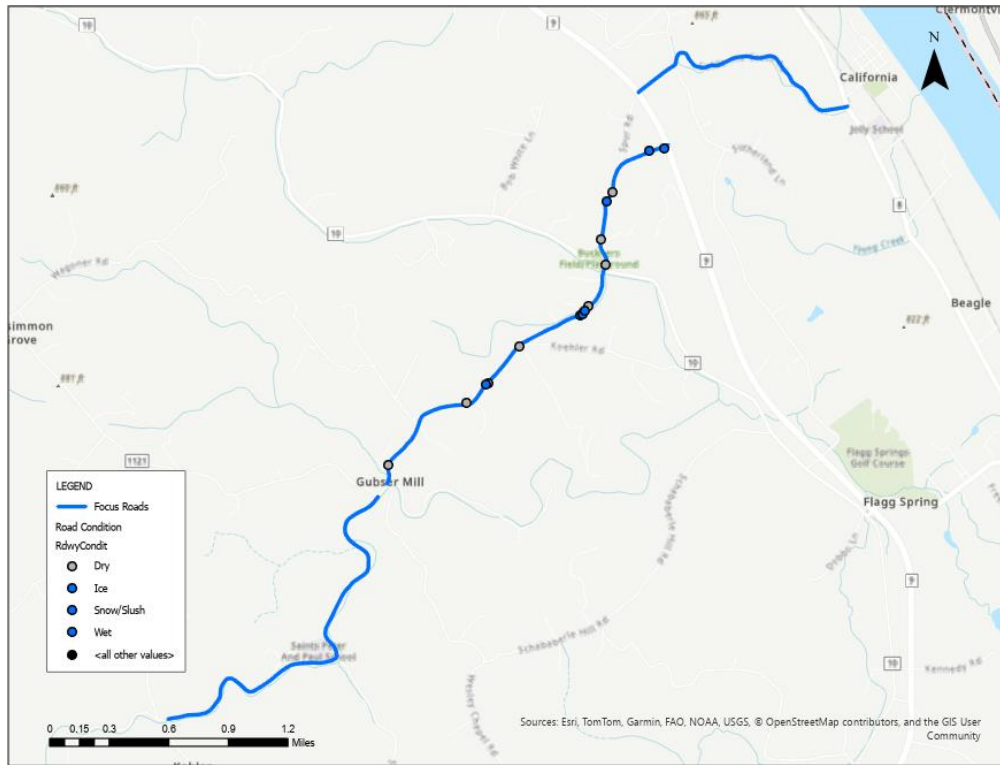
Crashes by Severity



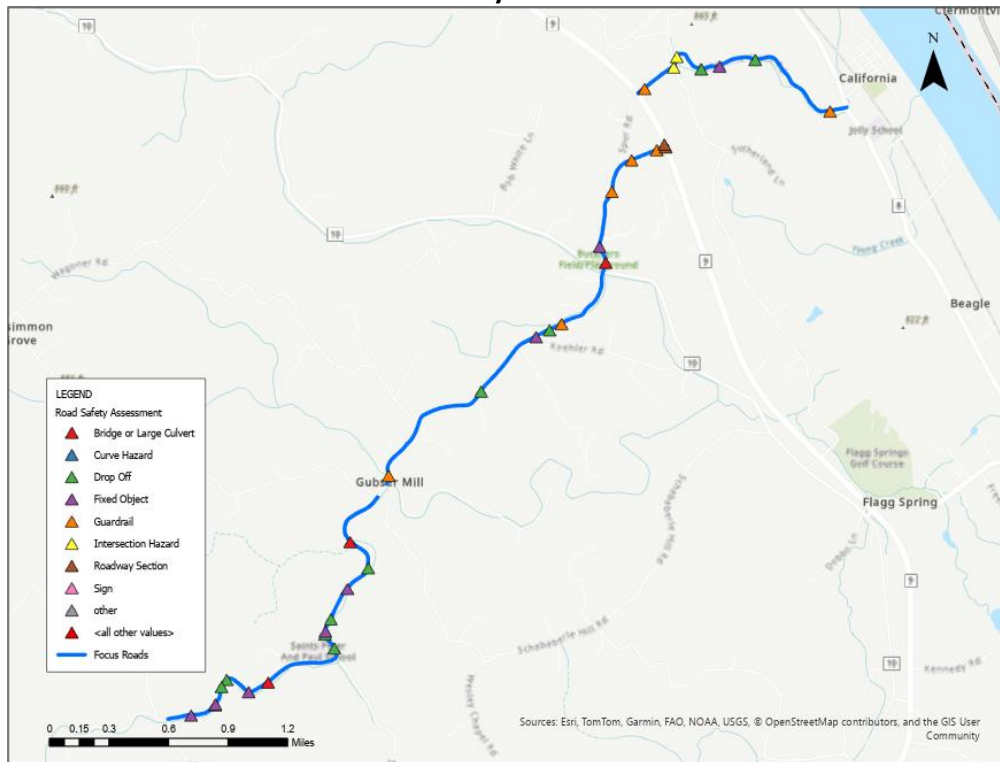
Crashes by Manner of Collision



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
3143	019-CR-1103 -000	CALIFORNIA XRD	10	4	5	60-80	✓	✓	✓	
3154	019-CR-1103 -000	CALIFORNIA XRD	10	4	4	40-60	✓	✓	✓	

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
3112	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	1-3	>10	Campbell	Evaluate need for guardrail
3114	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	3-5	>10	Campbell	Evaluate need for guardrail
3116	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	0-1	>10	Campbell	Evaluate need for guardrail
3119	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)
3123	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)
3124	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	>5	5-10	Campbell	--
3126	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)
3128	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	1-3	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)
3134	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)
3147	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	1-3	>10	Campbell	Evaluate need for guardrail
3149	019-CR-1103 -000	CALIFORNIA XRD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
3113	019-CR-1103 -000	CALIFORNIA XRD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3115	019-CR-1103 -000	CALIFORNIA XRD	Fixed Object	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
3117	019-CR-1103 -000	CALIFORNIA XRD	Fixed Object	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
3122	019-CR-1103 -000	CALIFORNIA XRD	Fixed Object	Tree;	Series	0-1	Remove trees within 3ft of roadway
3125	019-CR-1103 -000	CALIFORNIA XRD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3127	019-CR-1103 -000	CALIFORNIA XRD	Fixed Object	Tree;	Series	1-3	--
3139	019-CR-1103 -000	CALIFORNIA XRD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3148	019-CR-1103 -000	CALIFORNIA XRD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)

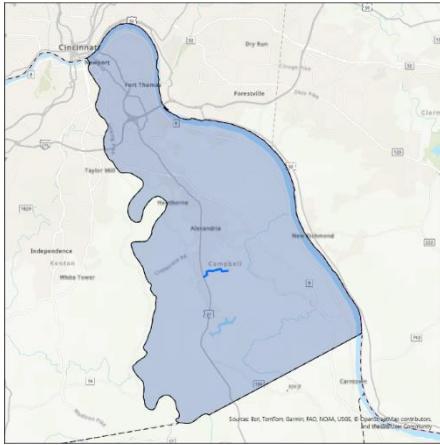
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation
3133	019-CR-1103 -000	CALIFORNIA XRD	Guardrail	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)
3135	019-CR-1103 -000	CALIFORNIA XRD	Guardrail	Good	Yes	All	--
3140	019-CR-1103 -000	CALIFORNIA XRD	Guardrail	Good	Yes	All	--
3141	019-CR-1103 -000	CALIFORNIA XRD	Guardrail	Good	No	Some	Evaluate need and cost of installing proper end treatments; Consider Removal
3142	019-CR-1103 -000	CALIFORNIA XRD	Guardrail	Good	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments
3145	019-CR-1103 -000	CALIFORNIA XRD	Guardrail	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers
3153	019-CR-1103 -000	CALIFORNIA XRD	Guardrail	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)

Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation
3144	019-CR-1103 -000	CALIFORNIA XRD	Intersection	No	--	Intersection Obscured on Approach Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3152	019-CR-1103 -000	CALIFORNIA XRD	Intersection	No	--	Intersection Obscured on Approach Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)

Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
3121	019-CR-1103 -000	CALIFORNIA XRD	Bridge or Large Culvert	8	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
3130	019-CR-1103 -000	CALIFORNIA XRD	Bridge or Large Culvert	10	4	0	Evaluate need for Type 3 Object Markers
3138	019-CR-1103 -000	CALIFORNIA XRD	Bridge or Large Culvert	12	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers

LICKERT RD (019-CR-1202 -000)

Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	5	2	0	7
SS - Opp	1	0	0	1
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
Angle	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

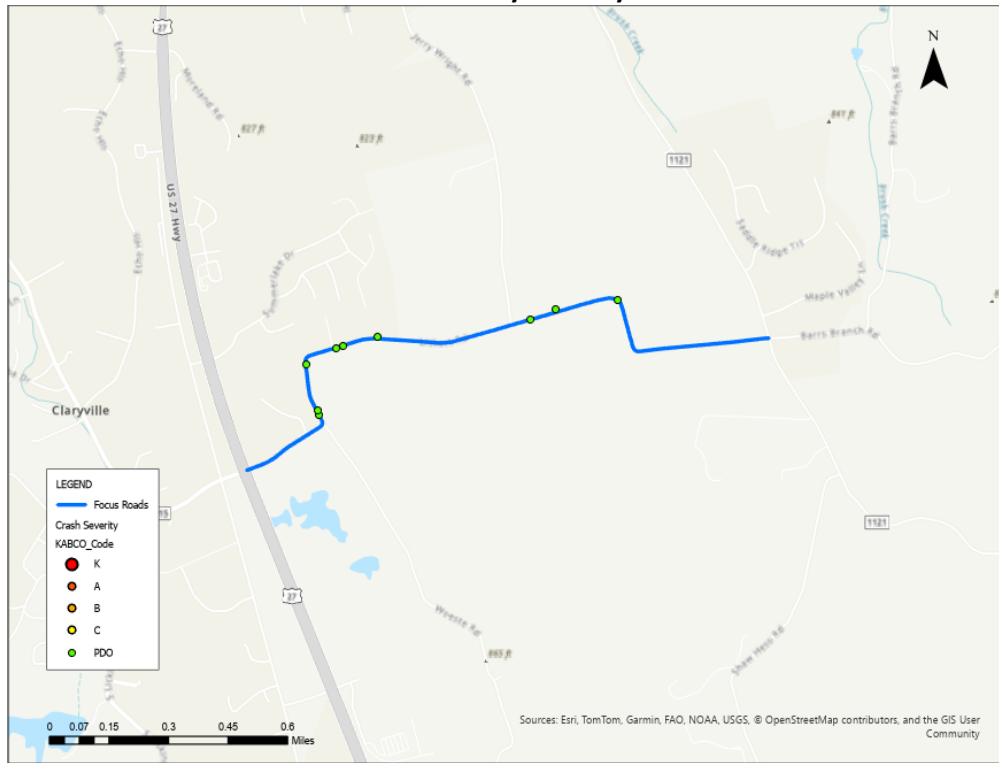
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (ft)
2794	019-CR-1202 -000	LICKERT RD	10	4	5	40-60

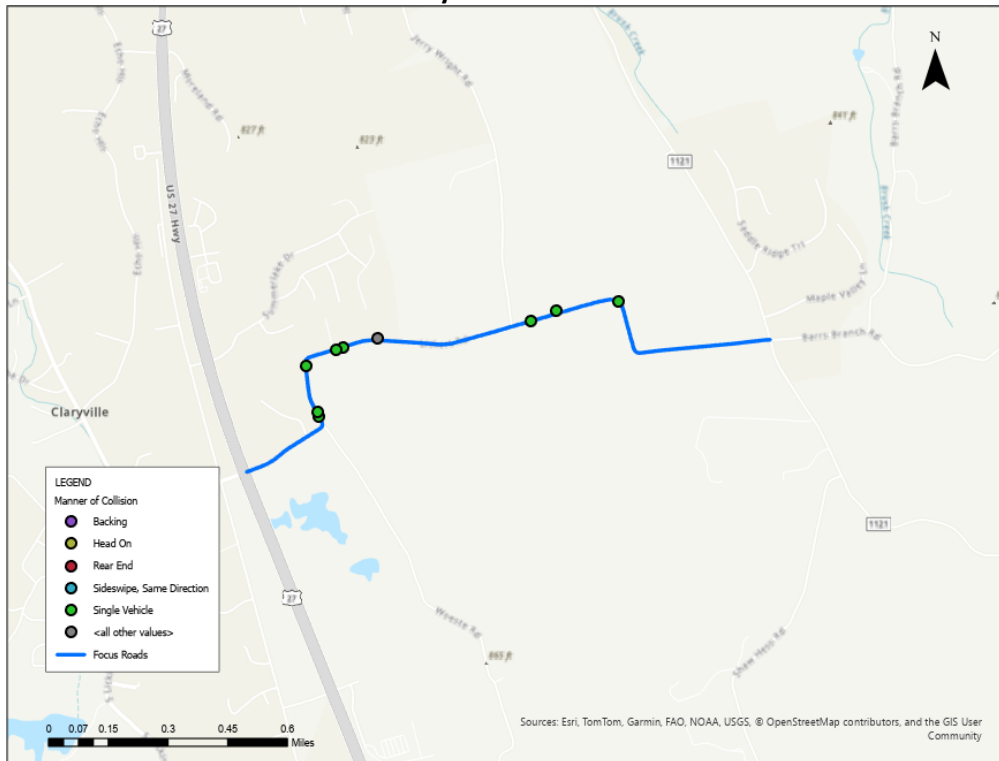
Roadway Typical Section



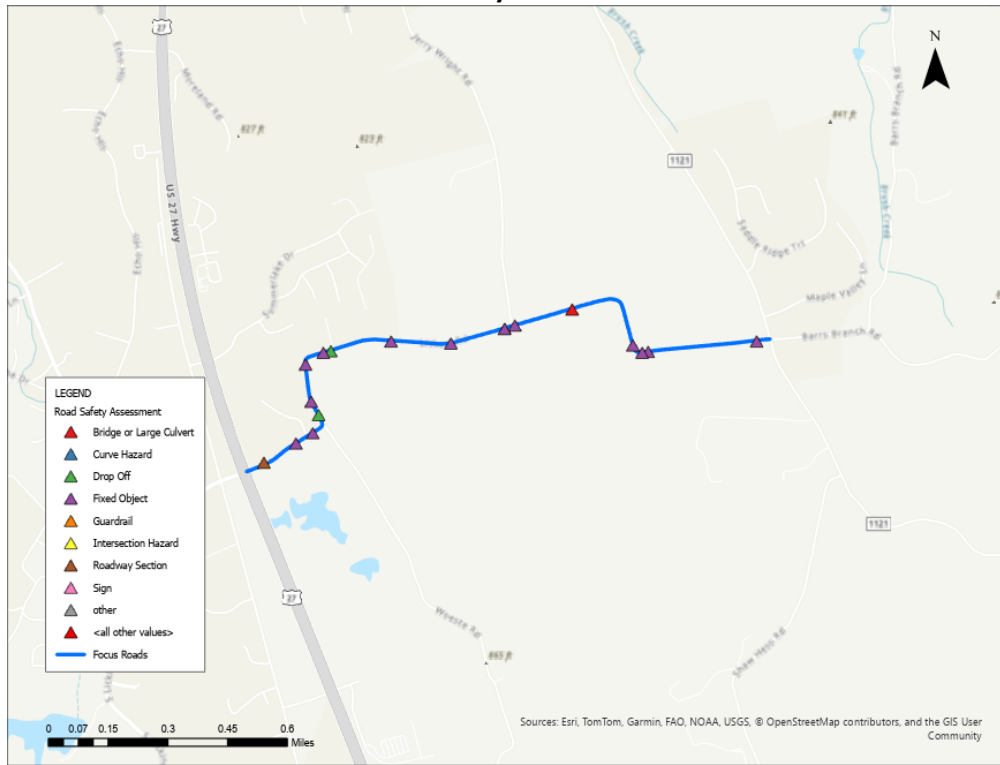
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment

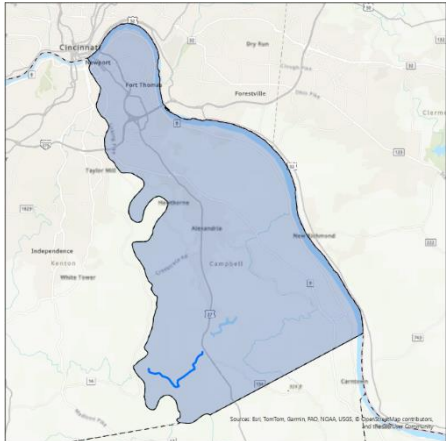


General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
2794	019-CR-1202 -000	LICKERT RD	10	4	5	40-60	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
2784	019-CR-1202 -000	LICKERT RD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)			
2788	019-CR-1202 -000	LICKERT RD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
2764	019-CR-1202 -000	LICKERT RD	Fixed Object	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)			
2766	019-CR-1202 -000	LICKERT RD	Fixed Object	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)			
2768	019-CR-1202 -000	LICKERT RD	Fixed Object	Tree;	Single	3-5	--			
2769	019-CR-1202 -000	LICKERT RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
2771	019-CR-1202 -000	LICKERT RD	Fixed Object	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)			
2772	019-CR-1202 -000	LICKERT RD	Fixed Object	other; Fence	Single	3-5	Consider Removal/Relocation			
2774	019-CR-1202 -000	LICKERT RD	Fixed Object	other; Brick entrance	Single	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations			
2775	019-CR-1202 -000	LICKERT RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
2779	019-CR-1202 -000	LICKERT RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
2780	019-CR-1202 -000	LICKERT RD	Fixed Object	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)			
2783	019-CR-1202 -000	LICKERT RD	Fixed Object	Tree;	Series	3-5	--			
2785	019-CR-1202 -000	LICKERT RD	Fixed Object	Tree;	Series	1-3	--			
2789	019-CR-1202 -000	LICKERT RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
2791	019-CR-1202 -000	LICKERT RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
2777	019-CR-1202 -000	LICKERT RD	Bridge or Large Culvert	16	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers			

CLAY RIDGE RD (019-CR-1217 -000)

Road Location Map and Crash History

	Manner of Collision	Property Damage Only	Injury	Fatal	Total
	Single Vehicle	10	3	0	13
	SS - Opp	3	0	0	3
	Rear End	1	0	0	1
	Head On	0	0	0	0
	Angle	0	0	0	0
	Backing	0	0	0	0
	SS - Same	0	0	0	0
	Rear to Rear	0	0	0	0
	Left Turn	0	0	0	0

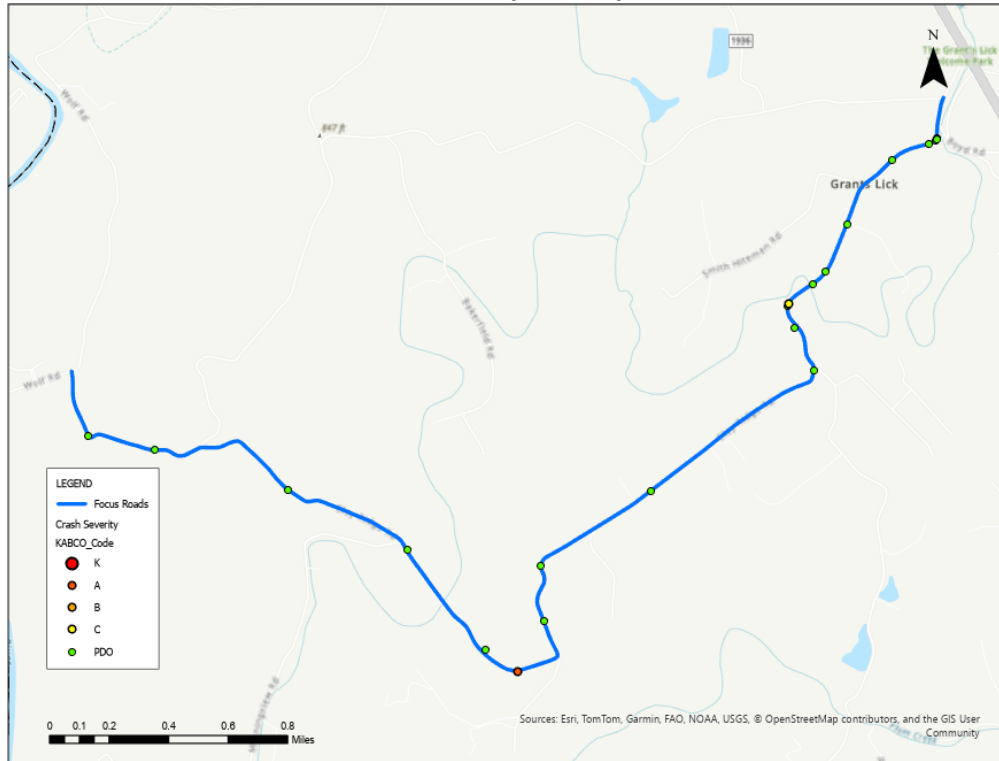
General Roadway Conditions

Roadway Section Information Not Collected

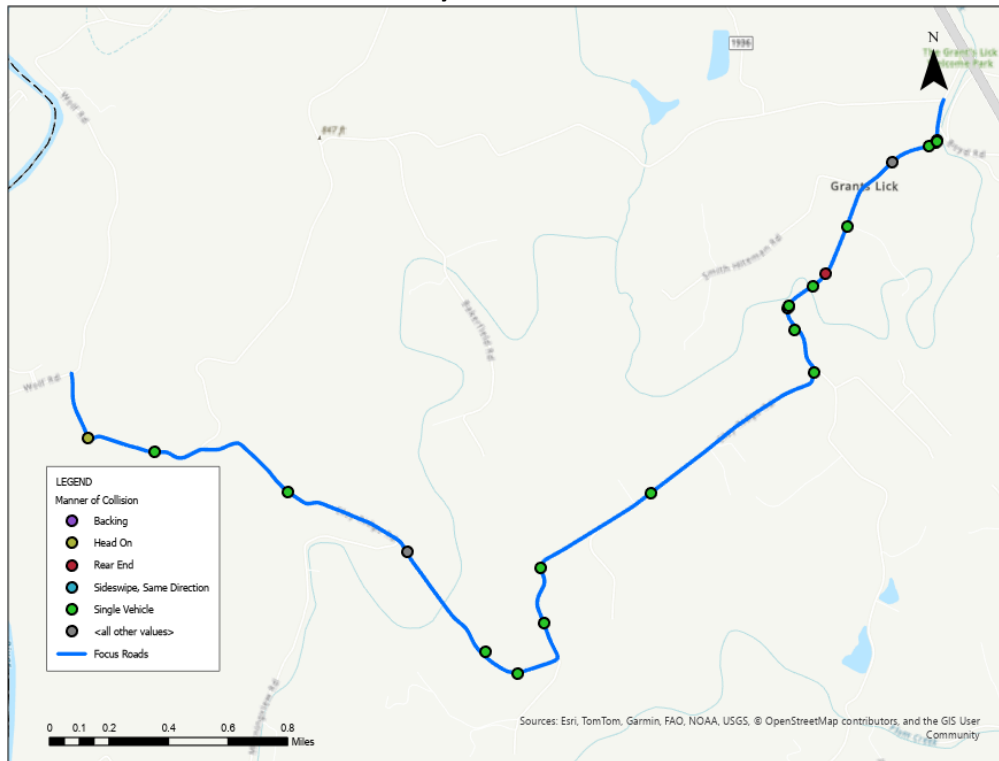
Roadway Typical Section



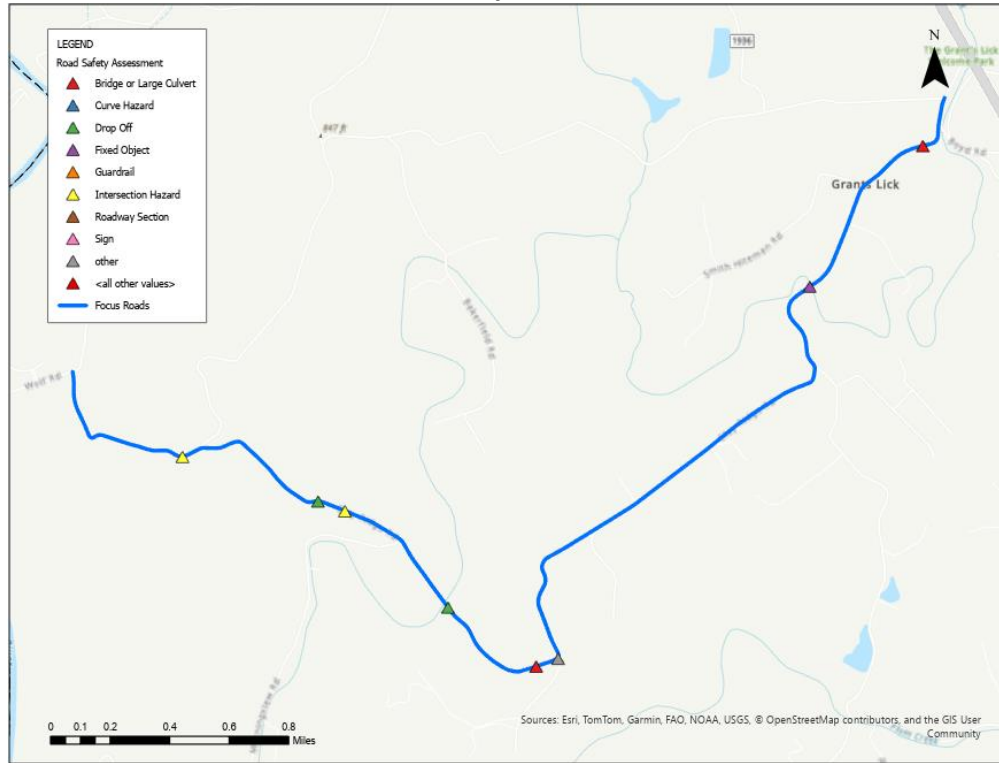
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment

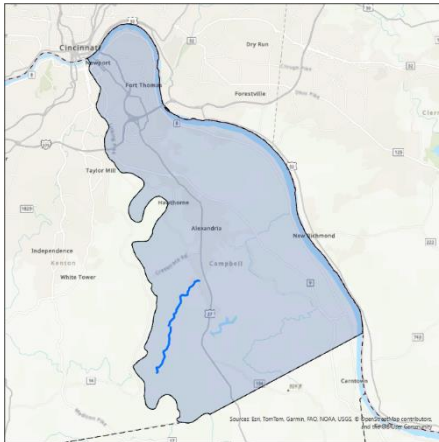


General Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
3185	019-CR-1217 -000	CLAY RIDGE RD	Drop Off	0-1	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)
3188	019-CR-1217 -000	CLAY RIDGE RD	Drop Off	0-1	>10	Campbell	Evaluate need for guardrail
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
3190	019-CR-1217 -000	CLAY RIDGE RD	Fixed Object	Tree;	Series	1-3	--
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation	
3168	019-CR-1217 -000	CLAY RIDGE RD	Intersection	No	--	Intersection Obscured on Approach; Blind	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Evaluate intersection obstruction/visibility.
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
3189	019-CR-1217 -000	CLAY RIDGE RD	Bridge or Large Culvert	20	0	4	Evaluate need for guardrail on approach.
3191	019-CR-1217 -000	CLAY RIDGE RD	Bridge or Large Culvert	20	0	4	Evaluate need for guardrail on approach.
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation
3186	019-CR-1217 -000	CLAY RIDGE RD	other	--	--	Stone mailbox next to road;	Install Type 2 or 3 Object Marker; See Policy Recommendations

PLEASANT RIDGE RD (019-CR-1224 -000)

Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	15	1	0	16
SS - Opp	2	0	0	2
Backing	1	0	0	1
Left Turn	1	0	0	1
Angle	1	0	0	1
Head On	0	0	0	0
SS - Same	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

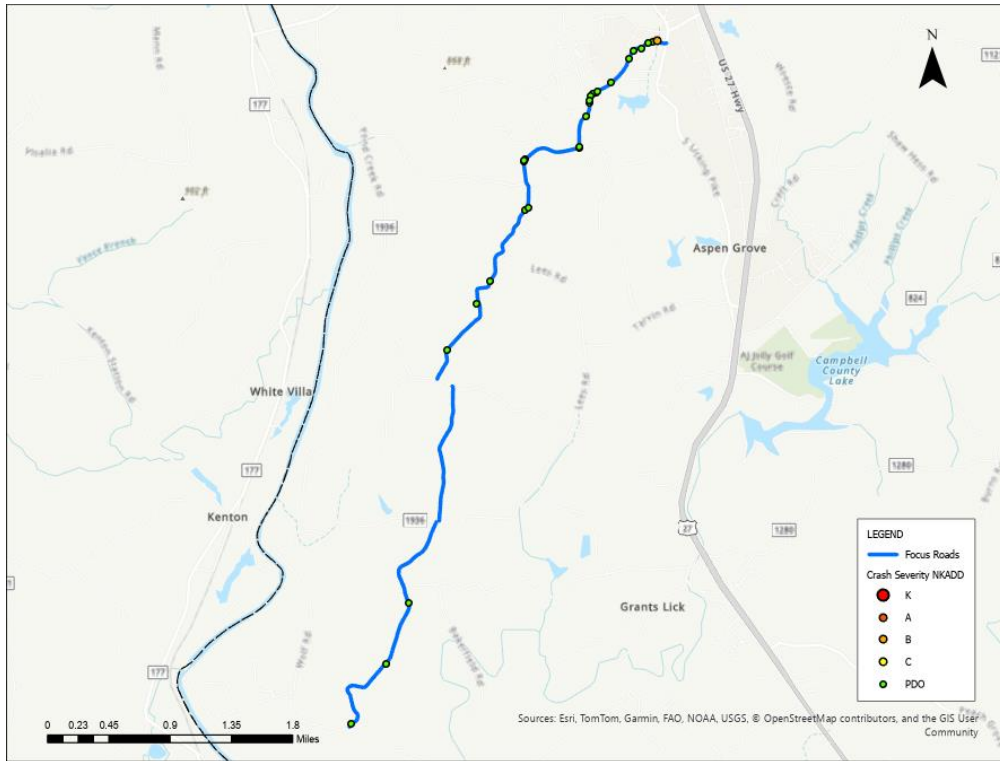
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (
3166	019-CR-1224 -000	PLEASANT RIDGE RD	10	4	3	60-80
3176	019-CR-1224 -000	PLEASANT RIDGE RD	10	3	6	60-80

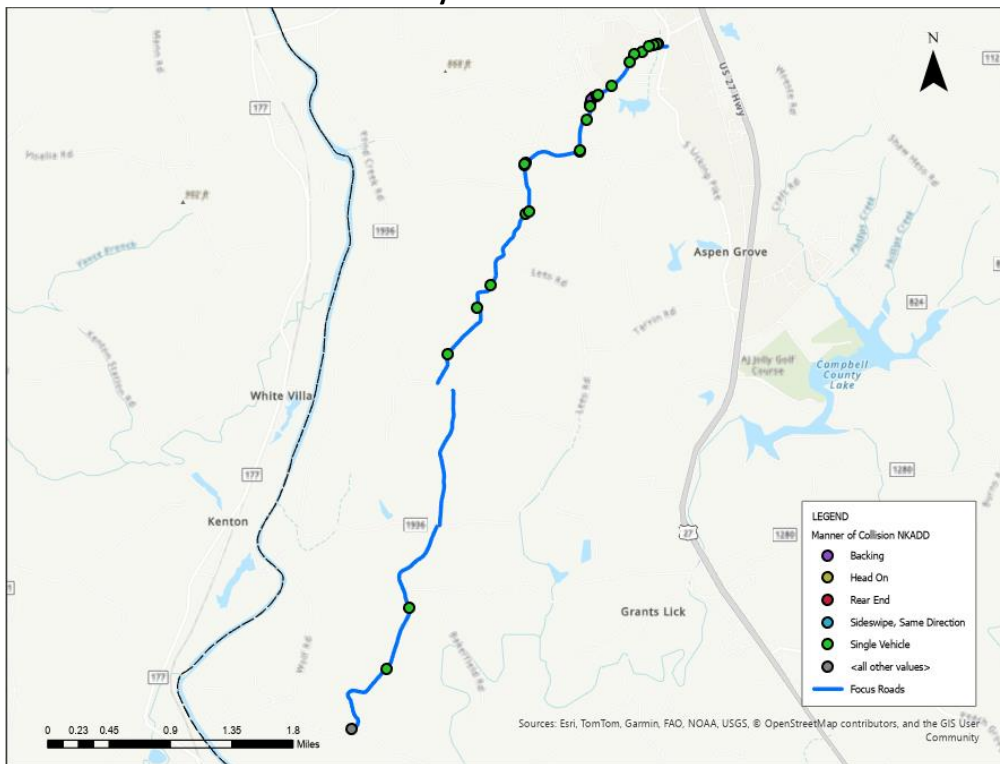
Roadway Typical Section



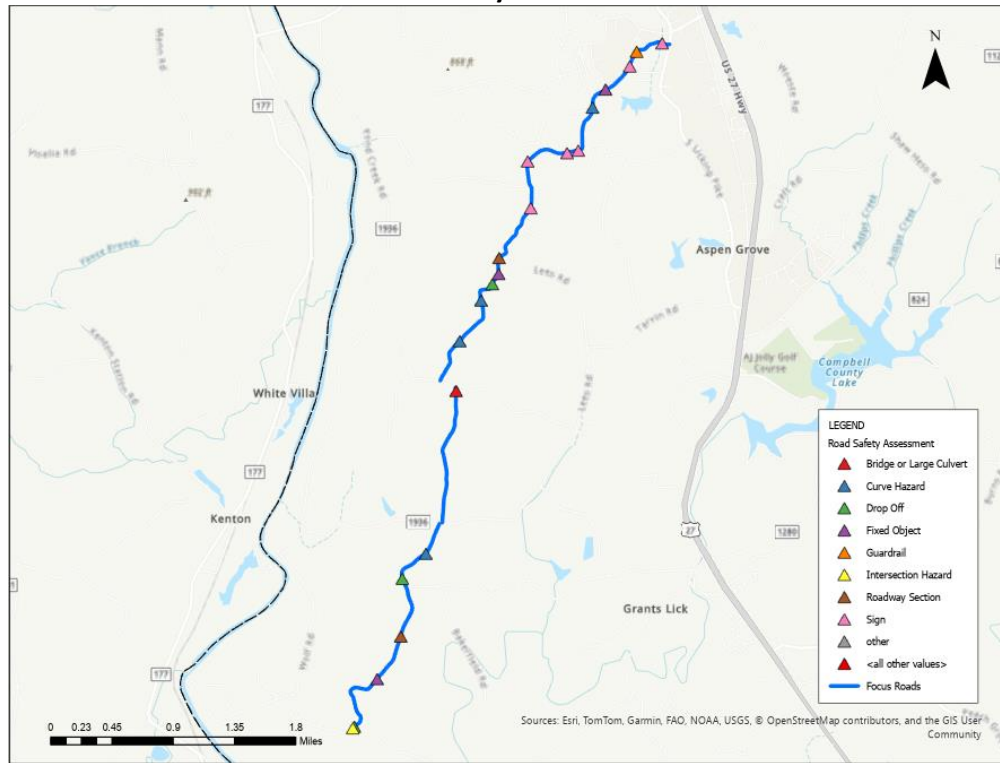
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Ratio	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
3166	019-CR-1224 -000	PLEASANT RIDGE RD	10	4	3	60-80	✓	✓	✓	
3176	019-CR-1224 -000	PLEASANT RIDGE RD	10	3	6	60-80	✓	✓	✓	

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
3167	019-CR-1224 -000	PLEASANT RIDGE RD	Drop Off	1-3	>10	Campbell	Evaluate need for guardrail
3171	019-CR-1224 -000	PLEASANT RIDGE RD	Drop Off	1-3	5-10	Campbell	Install Type 2 Object Marker(s) or Delineator(s)
3175	019-CR-1224 -000	PLEASANT RIDGE RD	Drop Off	1-3	>10	Campbell	Evaluate need for guardrail

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
2695	019-CR-1224 -000	PLEASANT RIDGE RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3164	019-CR-1224 -000	PLEASANT RIDGE RD	Fixed Object	Tree;	Series	3-5	--
3170	019-CR-1224 -000	PLEASANT RIDGE RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)

Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation
3163	019-CR-1224 -000	PLEASANT RIDGE RD	Guardrail	Fair	Maybe	All	--

Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation	
3169	019-CR-1224 -000	PLEASANT RIDGE RD	Intersection	No	--	Other	Review Intersection; Issue noted as "Other"

Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
3173	019-CR-1224 -000	PLEASANT RIDGE RD	Bridge or Large Culvert	14	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers

Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation
3165	019-CR-1224 -000	PLEASANT RIDGE RD	Curve Hazard	No	--	Curve_Obscured	Install Curve Warning Sign; Evaluate other obstructions
3172	019-CR-1224 -000	PLEASANT RIDGE RD	Curve Hazard	No	--	Curve_Obscured	Install Curve Warning Sign; Evaluate other obstructions
3174	019-CR-1224 -000	PLEASANT RIDGE RD	Curve Hazard	No	--	other	Install Curve Warning Sign; Evaluate other obstructions
3181	019-CR-1224 -000	PLEASANT RIDGE RD	Curve Hazard	No	--	Intersection_in_Curve	Install Curve Warning Sign; Consider striping enhancements at intersection

Other Roadways

General Roadway Conditions and Recommendations (Campbell County)

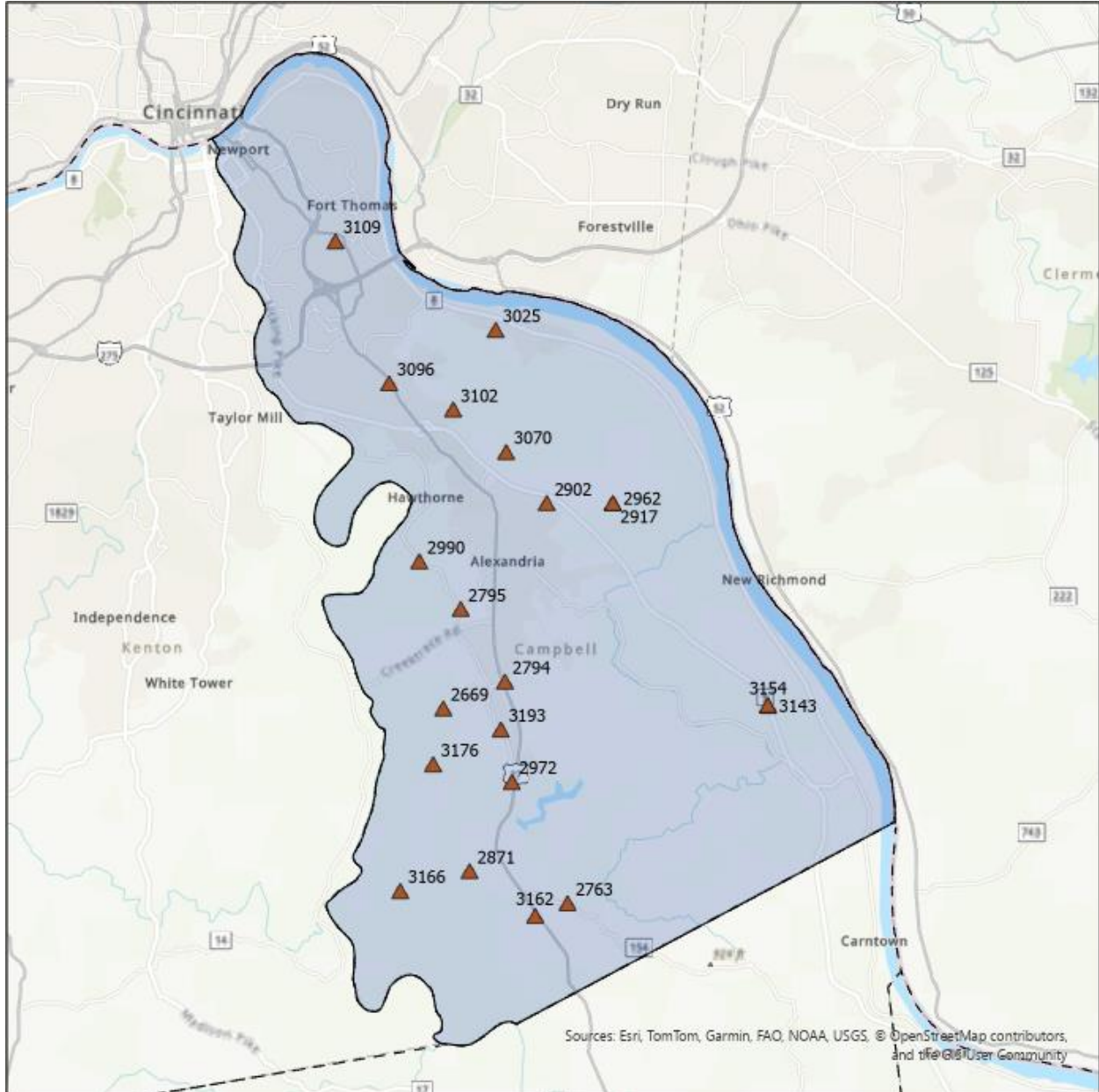


Exhibit Campbell-F1: General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rat	Shoulder Improve (Improve Should	Edgelin	Curve Signin	Other Recommendations
2917	019-CR-1011 -000	FENDER RD	10	4	4	60-80	✓	✓	✓	
2962	019-CR-1011 -000	FENDER RD	10	4	5	60-80	✓	✓	✓	
3070	019-CR-1022 -000	LOWER TUG FORK RD	10	2	6	80-100	✓	✓	✓	Resurface roadway
2902	019-CR-1027 -000	POPLAR RIDGE RD	10	4	6	60-80	✓	✓	✓	
2972	019-CR-1048 -000	ALEXANDRIA PIKE	10	4	5	60-80	✓	✓	✓	
3143	019-CR-1103 -000	CALIFORNIA XRD	10	4	5	60-80	✓	✓	✓	
3154	019-CR-1103 -000	CALIFORNIA XRD	10	4	4	40-60	✓	✓	✓	
2763	019-CR-1121 -000	BURNS RD	10	3	5	40-60	✓	✓	✓	
2794	019-CR-1202 -000	LICKERT RD	10	4	5	40-60	✓	✓	✓	
3162	019-CR-1211 -000	NAGEL RD	10	4	4	40-60	✓	✓	✓	
2871	019-CR-1222 -000	BOONE SMITH RD	10	4	6	60-80	✓	✓	✓	
3166	019-CR-1224 -000	PLEASANT RIDGE RD	10	4	3	60-80	✓	✓	✓	
3176	019-CR-1224 -000	PLEASANT RIDGE RD	10	3	6	60-80	✓	✓	✓	
3193	019-CR-1233 -000	SOUTH LICKING PIKE	10	3	7	60-80	✓	✓	✓	
2669	019-CR-1236 -000	MADDOX RD	10	3	6	60-80	✓	✓	✓	
2795	019-CR-1301 -000	GILBERT RIDGE RD	10	4	7	60-80	✓	✓	✓	
3102	019-CR-1314 -000	CABIN CREEK DR E	11	3	2	0-20		✓	✓	
3096	019-CR-1350 -000	MURNAN RD	10	4	5	60-80	✓	✓	✓	
2990	019-CR-1356 -000	POPLAR THICKET RD	10	2	4	80-100	✓	✓	✓	
3025	019-CS-3501 -000	W THIRD ST	10	2	6	80-100		✓		Resurface / Patch Potholes
3109	019-CS-4023 -000	BLOSSOM LN	10	4	3	60-80				

Exhibit Campbell-F2: General Roadway Recommendations

Bridge / Culvert Recommendations (Campbell County)

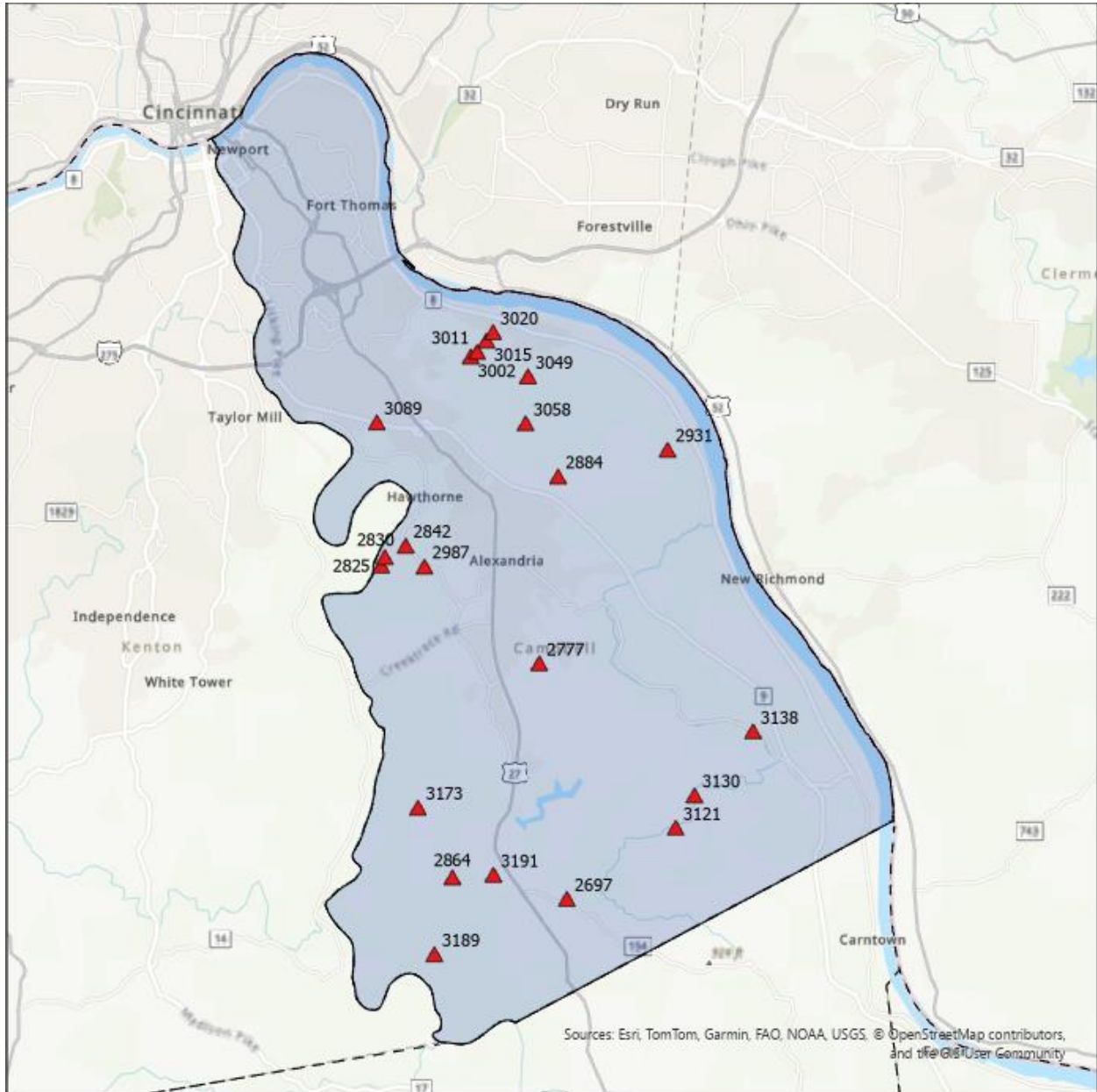


Exhibit Campbell-F3: Focus Road Bridge / Culvert Locations

Point ID	RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
2931	019-CR-1011 -000	FENDER RD	20	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
3049	019-CR-1022 -000	LOWER TUG FORK RD	8	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
3058	019-CR-1022 -000	LOWER TUG FORK RD	16	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
2884	019-CR-1027 -000	POPLAR RIDGE RD	16	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
3121	019-CR-1103 -000	CALIFORNIA XRD	8	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
3130	019-CR-1103 -000	CALIFORNIA XRD	10	4	0	Evaluate need for Type 3 Object Markers
3138	019-CR-1103 -000	CALIFORNIA XRD	12	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
2697	019-CR-1121 -000	BURNS RD	10	0	4	Evaluate need for guardrail on approach.
2777	019-CR-1202 -000	LICKERT RD	16	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
3189	019-CR-1217 -000	CLAY RIDGE RD	20	0	4	Evaluate need for guardrail on approach.
3191	019-CR-1217 -000	CLAY RIDGE RD	20	0	4	Evaluate need for guardrail on approach.
2864	019-CR-1222 -000	BOONE SMITH RD	17	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
3173	019-CR-1224 -000	PLEASANT RIDGE RD	14	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
3002	019-CR-1312 -000	UHL RD	16	0	4	Evaluate need for guardrail on approach.
3011	019-CR-1312 -000	UHL RD	14	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
3015	019-CR-1312 -000	UHL RD	16	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
3089	019-CR-1350 -000	MURNAN RD	20	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
2825	019-CR-1355 -000	RIFLE RANGE RD	10	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
2830	019-CR-1355 -000	RIFLE RANGE RD	10	0	other	Evaluate need for guardrail on approach. Install Type 3 Object Markers
2842	019-CR-1355 -000	RIFLE RANGE RD	16	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
2987	019-CR-1356 -000	POPLAR THICKET RD	10	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
3020	019-CS-3511 -000	W FOURTH ST	14	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers

Exhibit Campbell-F4: Bridge / Culvert Recommendations

Curve Recommendations (Campbell County)

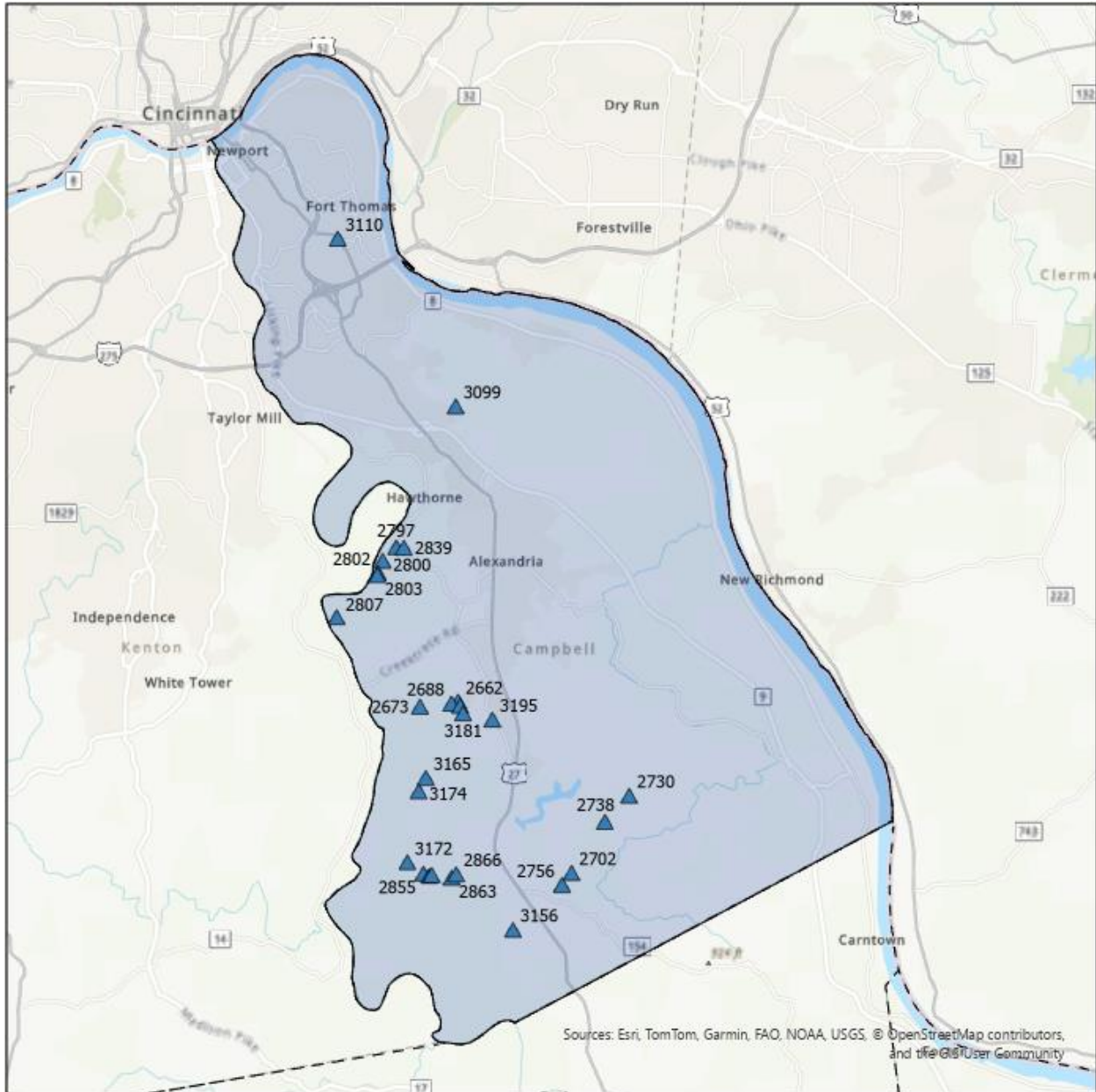


Exhibit COUNTY-F5: Focus Road Curves

Point ID	RT_UNIQUE	Road Name	Comments	Vegetation	Recommendation
2702	019-CR-1121 -000	BURNS RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2730	019-CR-1121 -000	BURNS RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
2738	019-CR-1121 -000	BURNS RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2756	019-CR-1121 -000	BURNS RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3156	019-CR-1211 -000	NAGEL RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2855	019-CR-1222 -000	BOONE SMITH RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2857	019-CR-1222 -000	BOONE SMITH RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2858	019-CR-1222 -000	BOONE SMITH RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2863	019-CR-1222 -000	BOONE SMITH RD	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
2866	019-CR-1222 -000	BOONE SMITH RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3165	019-CR-1224 -000	PLEASANT RIDGE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3172	019-CR-1224 -000	PLEASANT RIDGE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3174	019-CR-1224 -000	PLEASANT RIDGE RD	other	No	Install Curve Warning Sign; Evaluate other obstructions
3181	019-CR-1224 -000	PLEASANT RIDGE RD	Intersection_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
3195	019-CR-1233 -000	SOUTH LICKING PIKE	Entrance_in_Curve	Yes	Install Curve Warning Sign; Clear Vegetation; Consider striping enhancements at intersection
2662	019-CR-1236 -000	MADDOX RD	other; No signage	No	Install Curve Warning Sign; Evaluate other obstructions
2673	019-CR-1236 -000	MADDOX RD	other;	No	Install Curve Warning Sign; Evaluate other obstructions
2688	019-CR-1236 -000	MADDOX RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2693	019-CR-1236 -000	MADDOX RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3099	019-CR-1314 -000	CABIN CREEK DR E	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection
2797	019-CR-1355 -000	RIFLE RANGE RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
2800	019-CR-1355 -000	RIFLE RANGE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2802	019-CR-1355 -000	RIFLE RANGE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
2803	019-CR-1355 -000	RIFLE RANGE RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
2807	019-CR-1355 -000	RIFLE RANGE RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
2839	019-CR-1355 -000	RIFLE RANGE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
3110	019-CS-4023 -000	BLOSSOM LN	Entrance_in_Curve	No	Install Curve Warning Sign; Consider striping enhancements at intersection

Exhibit COUNTY-F6: Curve Recommendations

Roadside Drop Off Recommendations (Campbell County)

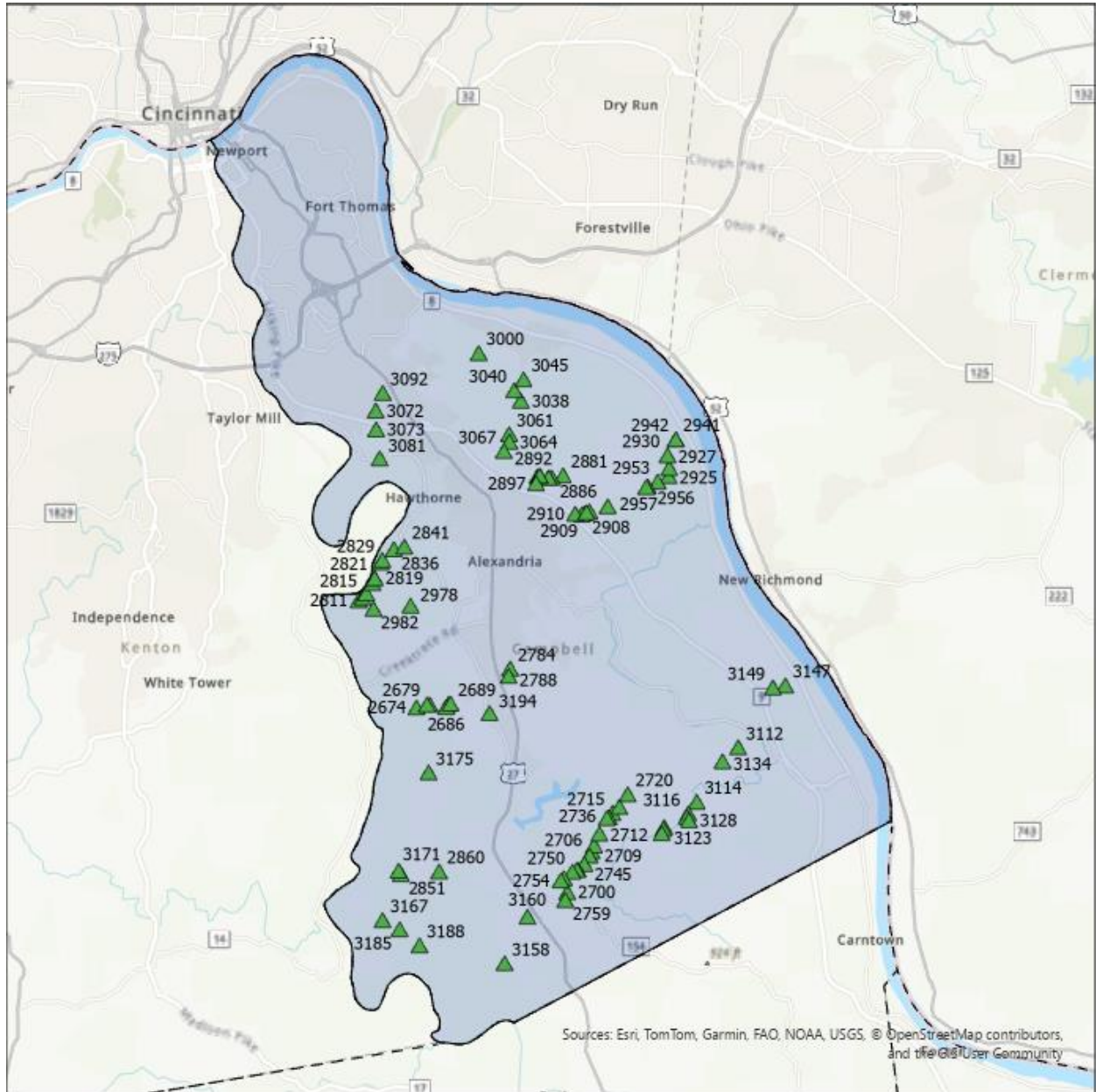


Exhibit Campbell-F7: Roadside Drop Off Locations

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
2664	019-CR-1236 -000	MADDOX RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2671	019-CR-1236 -000	MADDOX RD	0-1	>10	Evaluate need for guardrail
2674	019-CR-1236 -000	MADDOX RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2679	019-CR-1236 -000	MADDOX RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2686	019-CR-1236 -000	MADDOX RD	0-1	>10	Evaluate need for guardrail
2689	019-CR-1236 -000	MADDOX RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2700	019-CR-1121 -000	BURNS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2706	019-CR-1121 -000	BURNS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2709	019-CR-1121 -000	BURNS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2712	019-CR-1121 -000	BURNS RD	0-1	>10	Evaluate need for guardrail
2715	019-CR-1121 -000	BURNS RD	0-1	>10	Evaluate need for guardrail
2717	019-CR-1121 -000	BURNS RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2720	019-CR-1121 -000	BURNS RD	1-3	>10	Evaluate need for guardrail
2734	019-CR-1121 -000	BURNS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2736	019-CR-1121 -000	BURNS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2744	019-CR-1121 -000	BURNS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2745	019-CR-1121 -000	BURNS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2747	019-CR-1121 -000	BURNS RD	0-1	>10	Evaluate need for guardrail
2749	019-CR-1121 -000	BURNS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2750	019-CR-1121 -000	BURNS RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2752	019-CR-1121 -000	BURNS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2754	019-CR-1121 -000	BURNS RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2759	019-CR-1121 -000	BURNS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2784	019-CR-1202 -000	LICKERT RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2788	019-CR-1202 -000	LICKERT RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2811	019-CR-1355 -000	RIFLE RANGE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2813	019-CR-1355 -000	RIFLE RANGE RD	0-1	>10	Evaluate need for guardrail
2815	019-CR-1355 -000	RIFLE RANGE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2817	019-CR-1355 -000	RIFLE RANGE RD	0-1	>10	Evaluate need for guardrail
2819	019-CR-1355 -000	RIFLE RANGE RD	0-1	>10	Evaluate need for guardrail
2821	019-CR-1355 -000	RIFLE RANGE RD	0-1	>10	Evaluate need for guardrail
2827	019-CR-1355 -000	RIFLE RANGE RD	0-1	>10	Evaluate need for guardrail
2829	019-CR-1355 -000	RIFLE RANGE RD	0-1	>10	Evaluate need for guardrail
2836	019-CR-1355 -000	RIFLE RANGE RD	0-1	>10	Evaluate need for guardrail
2841	019-CR-1355 -000	RIFLE RANGE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2851	019-CR-1222 -000	BOONE SMITH RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2860	019-CR-1222 -000	BOONE SMITH RD	0-1	>10	Evaluate need for guardrail
2876	019-CR-1027 -000	POPLAR RIDGE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2881	019-CR-1027 -000	POPLAR RIDGE RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2886	019-CR-1027 -000	POPLAR RIDGE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2888	019-CR-1027 -000	POPLAR RIDGE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2889	019-CR-1027 -000	POPLAR RIDGE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2892	019-CR-1027 -000	POPLAR RIDGE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2894	019-CR-1027 -000	POPLAR RIDGE RD	1-3	>10	Evaluate need for guardrail
2897	019-CR-1027 -000	POPLAR RIDGE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2907	019-CR-1030 -000	NELSON RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2908	019-CR-1030 -000	NELSON RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2909	019-CR-1030 -000	NELSON RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2910	019-CR-1030 -000	NELSON RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2913	019-CR-1030 -000	NELSON RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2915	019-CR-1030 -000	NELSON RD	0-1	>10	Evaluate need for guardrail
2925	019-CR-1011 -000	FENDER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2927	019-CR-1011 -000	FENDER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2930	019-CR-1011 -000	FENDER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)

Exhibit Campbell-F8: Roadside Drop Off Recommendations

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
2941	019-CR-1011 -000	FENDER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2942	019-CR-1011 -000	FENDER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2953	019-CR-1011 -000	FENDER RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2956	019-CR-1011 -000	FENDER RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2957	019-CR-1011 -000	FENDER RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2978	019-CR-1356 -000	POPLAR THICKET RD	0-1	>10	Evaluate need for guardrail
2982	019-CR-1356 -000	POPLAR THICKET RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3000	019-CR-1312 -000	UHL RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3038	019-CR-1022 -000	LOWER TUG FORK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3040	019-CR-1022 -000	LOWER TUG FORK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3045	019-CR-1022 -000	LOWER TUG FORK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3061	019-CR-1022 -000	LOWER TUG FORK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3064	019-CR-1022 -000	LOWER TUG FORK RD	0-1	>10	Evaluate need for guardrail
3067	019-CR-1022 -000	LOWER TUG FORK RD	0-1	>10	Evaluate need for guardrail
3072	019-CR-1350 -000	MURNAN RD	0-1	>10	Evaluate need for guardrail
3073	019-CR-1350 -000	MURNAN RD	1-3	>10	Evaluate need for guardrail
3081	019-CR-1350 -000	MURNAN RD	0-1	>10	Evaluate need for guardrail
3092	019-CR-1350 -000	MURNAN RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3112	019-CR-1103 -000	CALIFORNIA XRD	1-3	>10	Evaluate need for guardrail
3114	019-CR-1103 -000	CALIFORNIA XRD	3-5	>10	Evaluate need for guardrail
3116	019-CR-1103 -000	CALIFORNIA XRD	0-1	>10	Evaluate need for guardrail
3119	019-CR-1103 -000	CALIFORNIA XRD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3123	019-CR-1103 -000	CALIFORNIA XRD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3124	019-CR-1103 -000	CALIFORNIA XRD	>5	5-10	--
3126	019-CR-1103 -000	CALIFORNIA XRD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3128	019-CR-1103 -000	CALIFORNIA XRD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3134	019-CR-1103 -000	CALIFORNIA XRD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3147	019-CR-1103 -000	CALIFORNIA XRD	1-3	>10	Evaluate need for guardrail
3149	019-CR-1103 -000	CALIFORNIA XRD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3158	019-CR-1211 -000	NAGEL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3160	019-CR-1211 -000	NAGEL RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3167	019-CR-1224 -000	PLEASANT RIDGE RD	1-3	>10	Evaluate need for guardrail
3171	019-CR-1224 -000	PLEASANT RIDGE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3175	019-CR-1224 -000	PLEASANT RIDGE RD	1-3	>10	Evaluate need for guardrail
3185	019-CR-1217 -000	CLAY RIDGE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
3188	019-CR-1217 -000	CLAY RIDGE RD	0-1	>10	Evaluate need for guardrail
3194	019-CR-1233 -000	SOUTH LICKING PIKE	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)

Exhibit Campbell-F8: Roadside Drop Off Recommendations (continued)

Fixed Object Recommendations (Campbell County)

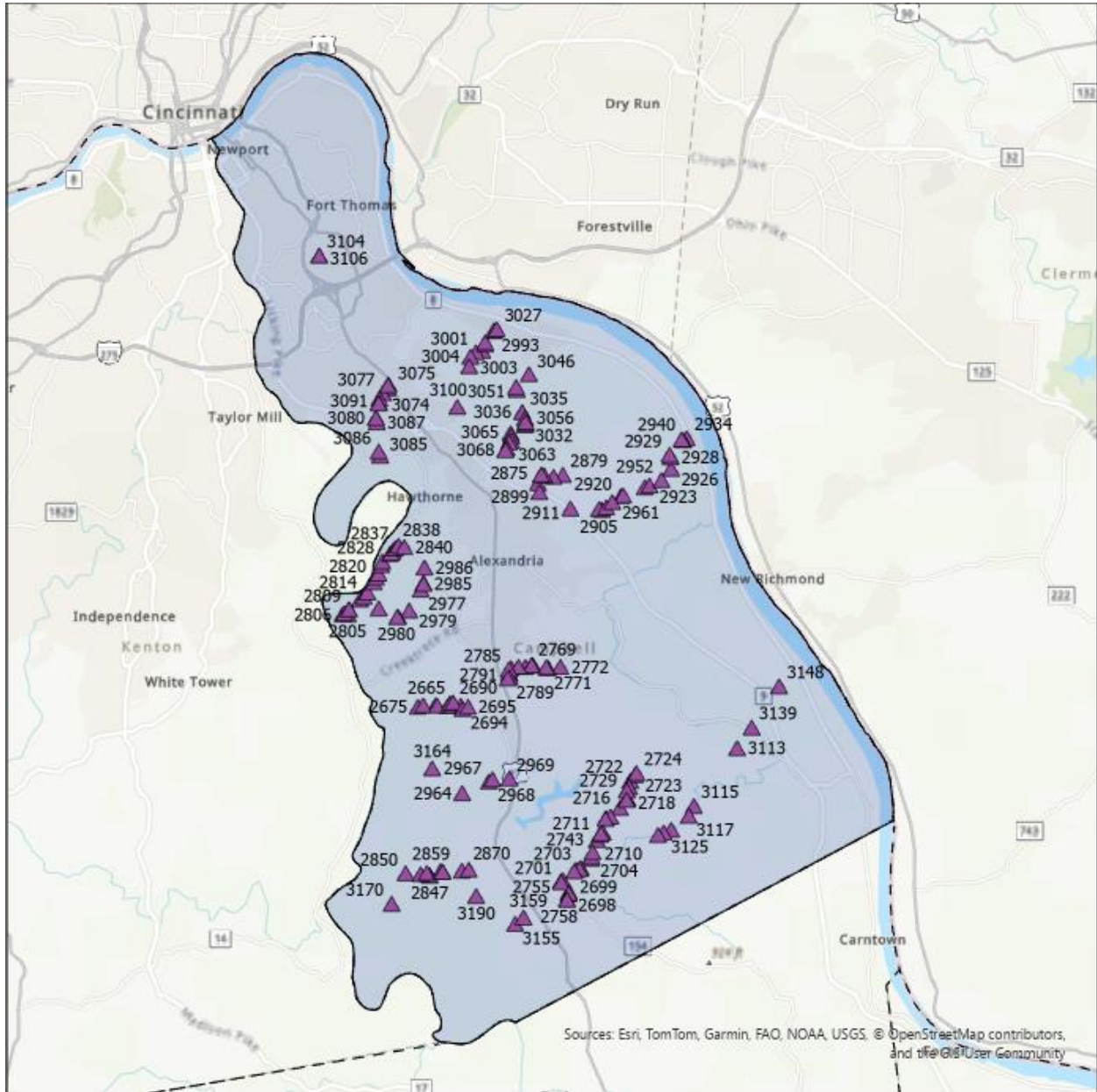


Exhibit Campbell-F9: Fixed Object Locations

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
2661	019-CR-1236 -000	MADDOX RD	Tree;	Single	1-3	Remove
2665	019-CR-1236 -000	MADDOX RD	Tree;	Single	0-1	Remove
2667	019-CR-1236 -000	MADDOX RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
2670	019-CR-1236 -000	MADDOX RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2675	019-CR-1236 -000	MADDOX RD	Utility Pole;	Series	>5	--
2678	019-CR-1236 -000	MADDOX RD	other; Fence	Single	3-5	Consider Removal/Relocation
2683	019-CR-1236 -000	MADDOX RD	Tree;	Series	1-3	--
2687	019-CR-1236 -000	MADDOX RD	other; Hydrant	Single	3-5	Install Type 2 Object Marker(s)
2690	019-CR-1236 -000	MADDOX RD	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
2694	019-CR-1236 -000	MADDOX RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2695	019-CR-1224 -000	PLEASANT RIDGE RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2698	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2699	019-CR-1121 -000	BURNS RD	Tree;	Single	1-3	Remove
2701	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2703	019-CR-1121 -000	BURNS RD	Tree;	Series	1-3	--
2704	019-CR-1121 -000	BURNS RD	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
2705	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2710	019-CR-1121 -000	BURNS RD	Tree;	Series	1-3	--
2711	019-CR-1121 -000	BURNS RD	Tree;	Series	1-3	--
2714	019-CR-1121 -000	BURNS RD	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
2716	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2718	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2719	019-CR-1121 -000	BURNS RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
2722	019-CR-1121 -000	BURNS RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
2723	019-CR-1121 -000	BURNS RD	Tree;	Series	1-3	--
2724	019-CR-1121 -000	BURNS RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2728	019-CR-1121 -000	BURNS RD	Tree;	Series	>5	--
2729	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2733	019-CR-1121 -000	BURNS RD	Utility Pole;	Series	>5	--
2735	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2737	019-CR-1121 -000	BURNS RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2740	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2741	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2743	019-CR-1121 -000	BURNS RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2746	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2748	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2751	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2753	019-CR-1121 -000	BURNS RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2755	019-CR-1121 -000	BURNS RD	Tree;	Series	1-3	--
2757	019-CR-1121 -000	BURNS RD	Tree;	Series	1-3	--
2758	019-CR-1121 -000	BURNS RD	Tree;	Series	3-5	--
2760	019-CR-1121 -000	BURNS RD	Tree;	Single	3-5	--
2764	019-CR-1202 -000	LICKERT RD	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)
2766	019-CR-1202 -000	LICKERT RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
2768	019-CR-1202 -000	LICKERT RD	Tree;	Single	3-5	--
2769	019-CR-1202 -000	LICKERT RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2771	019-CR-1202 -000	LICKERT RD	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
2772	019-CR-1202 -000	LICKERT RD	other; Fence	Single	3-5	Consider Removal/Relocation
2774	019-CR-1202 -000	LICKERT RD	other; Brick entrance	Single	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
2775	019-CR-1202 -000	LICKERT RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2779	019-CR-1202 -000	LICKERT RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2780	019-CR-1202 -000	LICKERT RD	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)
2783	019-CR-1202 -000	LICKERT RD	Tree;	Series	3-5	--
2785	019-CR-1202 -000	LICKERT RD	Tree;	Series	1-3	--
2789	019-CR-1202 -000	LICKERT RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2791	019-CR-1202 -000	LICKERT RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2798	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Series	1-3	--
2805	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Series	1-3	--

Exhibit Campbell-F10: Fixed Object Recommendations

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
2806	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Series	1-3	--
2808	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Series	1-3	--
2809	019-CR-1355 -000	RIFLE RANGE RD	other; Fence	Single	0-1	Remove/Relocate
2810	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Series	1-3	--
2812	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Series	1-3	--
2814	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Series	3-5	--
2816	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Series	1-3	--
2818	019-CR-1355 -000	RIFLE RANGE RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2820	019-CR-1355 -000	RIFLE RANGE RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2823	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Series	1-3	--
2826	019-CR-1355 -000	RIFLE RANGE RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2828	019-CR-1355 -000	RIFLE RANGE RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2833	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Single	0-1	Remove
2835	019-CR-1355 -000	RIFLE RANGE RD	Tree;	Series	1-3	--
2837	019-CR-1355 -000	RIFLE RANGE RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2838	019-CR-1355 -000	RIFLE RANGE RD	other; Fence	Single	1-3	Consider removal of Fence
2840	019-CR-1355 -000	RIFLE RANGE RD	other; Concrete wall	Single	1-3	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
2846	019-CR-1222 -000	BOONE SMITH RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2847	019-CR-1222 -000	BOONE SMITH RD	other; Fence	Single	1-3	Consider removal of Fence
2848	019-CR-1222 -000	BOONE SMITH RD	other; Fence	Single	>5	--
2849	019-CR-1222 -000	BOONE SMITH RD	Tree;	Single	0-1	Remove
2850	019-CR-1222 -000	BOONE SMITH RD	other; Fence	Single	3-5	Consider Removal/Relocation
2854	019-CR-1222 -000	BOONE SMITH RD	other; Fence	Single	1-3	Consider removal of Fence
2856	019-CR-1222 -000	BOONE SMITH RD	Tree;	Series	1-3	--
2859	019-CR-1222 -000	BOONE SMITH RD	Tree;	Series	1-3	--
2861	019-CR-1222 -000	BOONE SMITH RD	Tree;	Series	3-5	--
2862	019-CR-1222 -000	BOONE SMITH RD	Tree;	Series	1-3	--
2870	019-CR-1222 -000	BOONE SMITH RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2875	019-CR-1027 -000	POPLAR RIDGE RD	Tree;	Series	1-3	--
2877	019-CR-1027 -000	POPLAR RIDGE RD	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
2879	019-CR-1027 -000	POPLAR RIDGE RD	Tree;	Series	1-3	--
2887	019-CR-1027 -000	POPLAR RIDGE RD	Tree;	Series	1-3	--
2891	019-CR-1027 -000	POPLAR RIDGE RD	Tree;	Series	3-5	--
2893	019-CR-1027 -000	POPLAR RIDGE RD	Tree;	Series	1-3	--
2899	019-CR-1027 -000	POPLAR RIDGE RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
2905	019-CR-1030 -000	NELSON RD	other; Mail box	Single	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
2906	019-CR-1030 -000	NELSON RD	Tree;	Series	1-3	--
2911	019-CR-1030 -000	NELSON RD	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
2914	019-CR-1030 -000	NELSON RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2920	019-CR-1011 -000	FENDER RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
2922	019-CR-1011 -000	FENDER RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2923	019-CR-1011 -000	FENDER RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2926	019-CR-1011 -000	FENDER RD	Culvert Headwall;	Single	3-5	Install Type 2 Object Marker(s)
2928	019-CR-1011 -000	FENDER RD	Culvert Headwall;	Series	1-3	Install Type 2 or 3 Object Marker(s)
2929	019-CR-1011 -000	FENDER RD	Tree;	Series	1-3	--
2934	019-CR-1011 -000	FENDER RD	Tree;	Series	1-3	--
2939	019-CR-1011 -000	FENDER RD	Tree;	Series	1-3	--
2940	019-CR-1011 -000	FENDER RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2952	019-CR-1011 -000	FENDER RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
2959	019-CR-1011 -000	FENDER RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2961	019-CR-1011 -000	FENDER RD	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
2964	019-CR-1229 -000	TARVIN RD	Tree;	Series	1-3	--
2967	019-CR-1229 -000	TARVIN RD	Tree;	Series	1-3	--
2968	019-CR-1229 -000	TARVIN RD	Tree;	Series	1-3	--
2969	019-CR-1229 -000	TARVIN RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2975	019-CR-1356 -000	POPLAR THICKET RD	Tree;	Series	1-3	--
2977	019-CR-1356 -000	POPLAR THICKET RD	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)

Exhibit Campbell-F10: Fixed Object Recommendations (continued)

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
2979	019-CR-1356 -000	POPLAR THICKET RD	other; Mailbox	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
2980	019-CR-1356 -000	POPLAR THICKET RD	other; Rock mailbox	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
2981	019-CR-1356 -000	POPLAR THICKET RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2984	019-CR-1356 -000	POPLAR THICKET RD	other; Barn	Single	0-1	Review
2985	019-CR-1356 -000	POPLAR THICKET RD	other; Structure	Series	1-3	Install Type 2 or Type 3 Object Marker(s)
2986	019-CR-1356 -000	POPLAR THICKET RD	Tree;	Series	1-3	--
2993	019-CS-3511 -000	W FOURTH ST	Tree;	Series	1-3	--
2999	019-CR-1312 -000	UHL RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3001	019-CR-1312 -000	UHL RD	other;	Series	3-5	Review
3003	019-CR-1312 -000	UHL RD	Tree;	Single	1-3	Remove
3004	019-CR-1312 -000	UHL RD	Tree;	Single	1-3	Remove
3013	019-CR-1312 -000	UHL RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3014	019-CR-1312 -000	UHL RD	Tree;	Single	1-3	Remove
3023	019-CS-3511 -000	W FOURTH ST	Tree;	Single	1-3	Remove
3027	019-CS-3501 -000	W THIRD ST	other; Concrete wall	Single	1-3	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
3032	019-CR-1022 -000	LOWER TUG FORK RD	other; Fence	Single	3-5	Consider Removal/Relocation
3033	019-CR-1022 -000	LOWER TUG FORK RD	other; Fence	Series	1-3	Consider removal/relocation
3035	019-CR-1022 -000	LOWER TUG FORK RD	Tree;	Series	1-3	--
3036	019-CR-1022 -000	LOWER TUG FORK RD	Tree;	Series	1-3	--
3039	019-CR-1022 -000	LOWER TUG FORK RD	Tree;	Series	3-5	--
3046	019-CR-1022 -000	LOWER TUG FORK RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3051	019-CR-1022 -000	LOWER TUG FORK RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3055	019-CR-1022 -000	LOWER TUG FORK RD	other; Hydrant	Series	1-3	Install Type 2 Object Marker(s)
3056	019-CR-1022 -000	LOWER TUG FORK RD	other; Brick mail box	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
3060	019-CR-1022 -000	LOWER TUG FORK RD	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)
3062	019-CR-1022 -000	LOWER TUG FORK RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3063	019-CR-1022 -000	LOWER TUG FORK RD	Tree;	Single	1-3	Remove
3065	019-CR-1022 -000	LOWER TUG FORK RD	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)
3066	019-CR-1022 -000	LOWER TUG FORK RD	other;	Single	0-1	Review for removal/relocation; Install Type 2 or 3 Object Marker(s)
3068	019-CR-1022 -000	LOWER TUG FORK RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3074	019-CR-1350 -000	MURNAN RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
3075	019-CR-1350 -000	MURNAN RD	other; Fence	Single	1-3	Consider removal of Fence
3076	019-CR-1350 -000	MURNAN RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3077	019-CR-1350 -000	MURNAN RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3078	019-CR-1350 -000	MURNAN RD	other; Rock wall	Single	1-3	Consider removal/relocation; Install Type 2 Object Markers
3079	019-CR-1350 -000	MURNAN RD	other; Rock wall	Single	1-3	Consider removal/relocation; Install Type 2 Object Markers
3080	019-CR-1350 -000	MURNAN RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3085	019-CR-1350 -000	MURNAN RD	other; Fence	Series	>5	--
3086	019-CR-1350 -000	MURNAN RD	Tree;	Series	1-3	--
3087	019-CR-1350 -000	MURNAN RD	Tree;	Series	1-3	--
3090	019-CR-1350 -000	MURNAN RD	other; Mail box	Series	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
3091	019-CR-1350 -000	MURNAN RD	other; Mail box	Series	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
3093	019-CR-1350 -000	MURNAN RD	other; Fence	Series	0-1	Relocate
3100	019-CR-1314 -000	CABIN CREEK DR E	other; Mail boxes	Series	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
3104	019-CR-1334 -000	BLOSSOM LN	Tree;	Series	3-5	--
3106	019-CR-1334 -000	BLOSSOM LN	other; Boulders	Series	1-3	Remove/Relocate
3113	019-CR-1103 -000	CALIFORNIA XRD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3115	019-CR-1103 -000	CALIFORNIA XRD	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
3117	019-CR-1103 -000	CALIFORNIA XRD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
3122	019-CR-1103 -000	CALIFORNIA XRD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
3125	019-CR-1103 -000	CALIFORNIA XRD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3127	019-CR-1103 -000	CALIFORNIA XRD	Tree;	Series	1-3	--

Exhibit Campbell-F10: Fixed Object Recommendations (continued)

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
3139	019-CR-1103 -000	CALIFORNIA XRD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3148	019-CR-1103 -000	CALIFORNIA XRD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3155	019-CR-1211 -000	NAGEL RD	Tree;	Series	3-5	--
3159	019-CR-1211 -000	NAGEL RD	Tree;	Series	3-5	--
3164	019-CR-1224 -000	PLEASANT RIDGE RD	Tree;	Series	3-5	--
3170	019-CR-1224 -000	PLEASANT RIDGE RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
3190	019-CR-1217 -000	CLAY RIDGE RD	Tree;	Series	1-3	--

Exhibit Campbell-F10: Fixed Object Recommendations (continued)

Guardrail Recommendations (Campbell County)

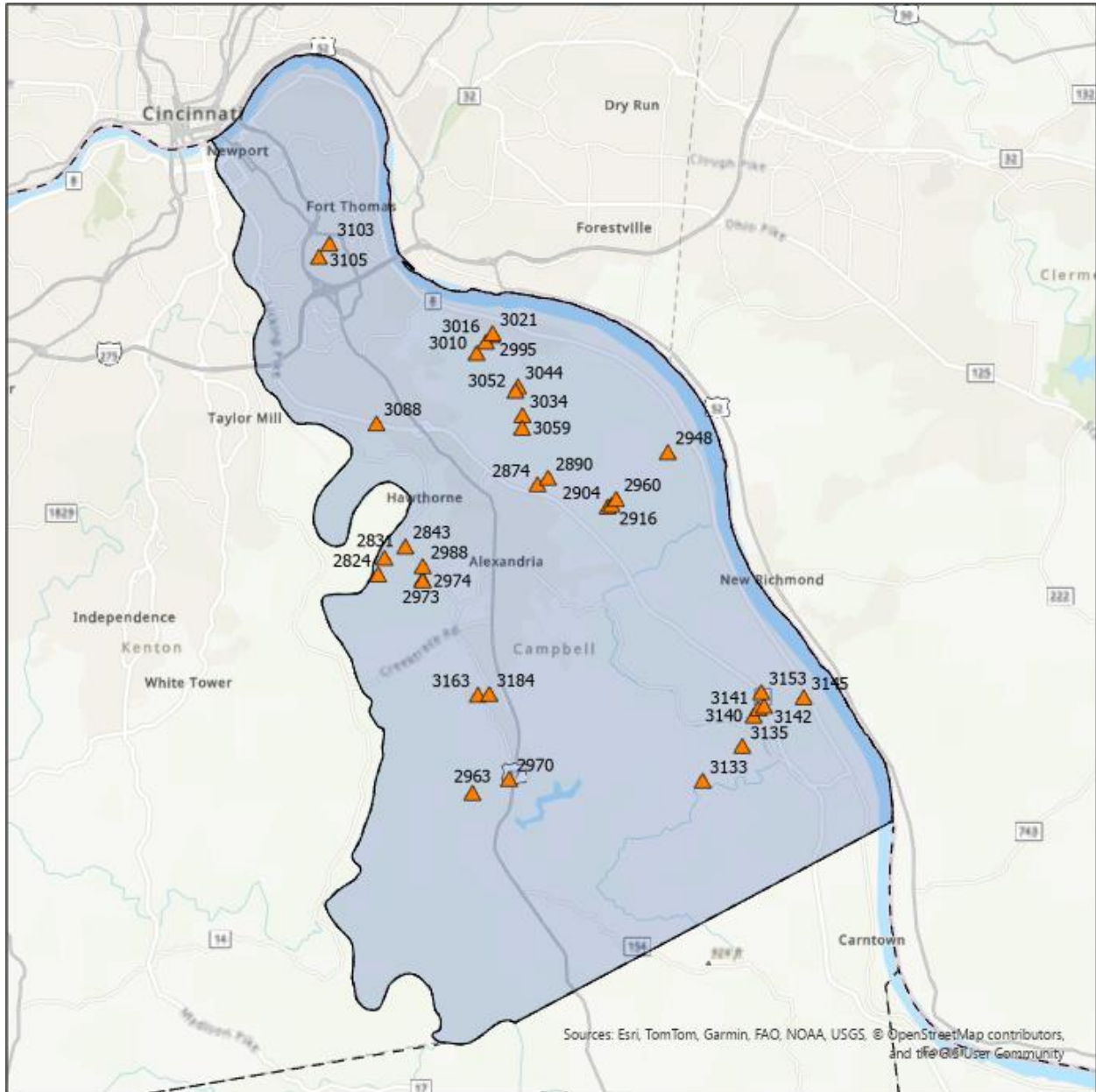


Exhibit Campbell-F11: Guardrail Locations

Point ID	RT_UNIQUE	Road Name	Condition	Meet Warrant	End Treatment	Recommendation
2824	019-CR-1355 -000	RIFLE RANGE RD	Good	Yes	All	--
2831	019-CR-1355 -000	RIFLE RANGE RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)
2843	019-CR-1355 -000	RIFLE RANGE RD	Fair	Yes	All	--
2874	019-CR-1027 -000	POPLAR RIDGE RD	Good	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments
2890	019-CR-1027 -000	POPLAR RIDGE RD	Good	Yes	All	--
2904	019-CR-1030 -000	NELSON RD	Good	Yes	None	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)
2916	019-CR-1011 -000	FENDER RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers
2948	019-CR-1011 -000	FENDER RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)
2960	019-CR-1011 -000	FENDER RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers
2963	019-CR-1229 -000	TARVIN RD	Good	Yes	All	--
2970	019-CR-1229 -000	TARVIN RD	Good	Yes	All	--
2973	019-CR-1356 -000	POPLAR THICKET RD	Good	Yes	All	--
2974	019-CR-1356 -000	POPLAR THICKET RD	Good	Yes	All	--
2988	019-CR-1356 -000	POPLAR THICKET RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)
2995	019-CR-1312 -000	UHL RD	Fair	Maybe	All	--
3010	019-CR-1312 -000	UHL RD	Fair	Yes	All	--
3016	019-CR-1312 -000	UHL RD	Fair	Yes	None	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers
3021	019-CS-3511 -000	W FOURTH ST	Good	Yes	All	--
3034	019-CR-1022 -000	LOWER TUG FORK RD	Good	Yes	All	--
3044	019-CR-1022 -000	LOWER TUG FORK RD	Good	Yes	All	--
3052	019-CR-1022 -000	LOWER TUG FORK RD	Good	Yes	All	--
3059	019-CR-1022 -000	LOWER TUG FORK RD	Good	Yes	All	--
3088	019-CR-1350 -000	MURNAN RD	Good	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments
3103	019-CR-1334 -000	BLOSSOM LN	Good	Yes	All	--
3105	019-CR-1334 -000	BLOSSOM LN	Good	Yes	All	--
3133	019-CR-1103 -000	CALIFORNIA XRD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)
3135	019-CR-1103 -000	CALIFORNIA XRD	Good	Yes	All	--
3140	019-CR-1103 -000	CALIFORNIA XRD	Good	Yes	All	--
3141	019-CR-1103 -000	CALIFORNIA XRD	Good	No	Some	Evaluate need and cost of installing proper end treatments; Consider Removal
3142	019-CR-1103 -000	CALIFORNIA XRD	Good	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments
3145	019-CR-1103 -000	CALIFORNIA XRD	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers
3153	019-CR-1103 -000	CALIFORNIA XRD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)
3163	019-CR-1224 -000	PLEASANT RIDGE RD	Fair	Maybe	All	--
3184	019-CR-1233 -000	SOUTH LICKING PIKE	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers

Exhibit Campbell-F12: Guardrail Locations Recommendations

Intersection Recommendations (Campbell County)

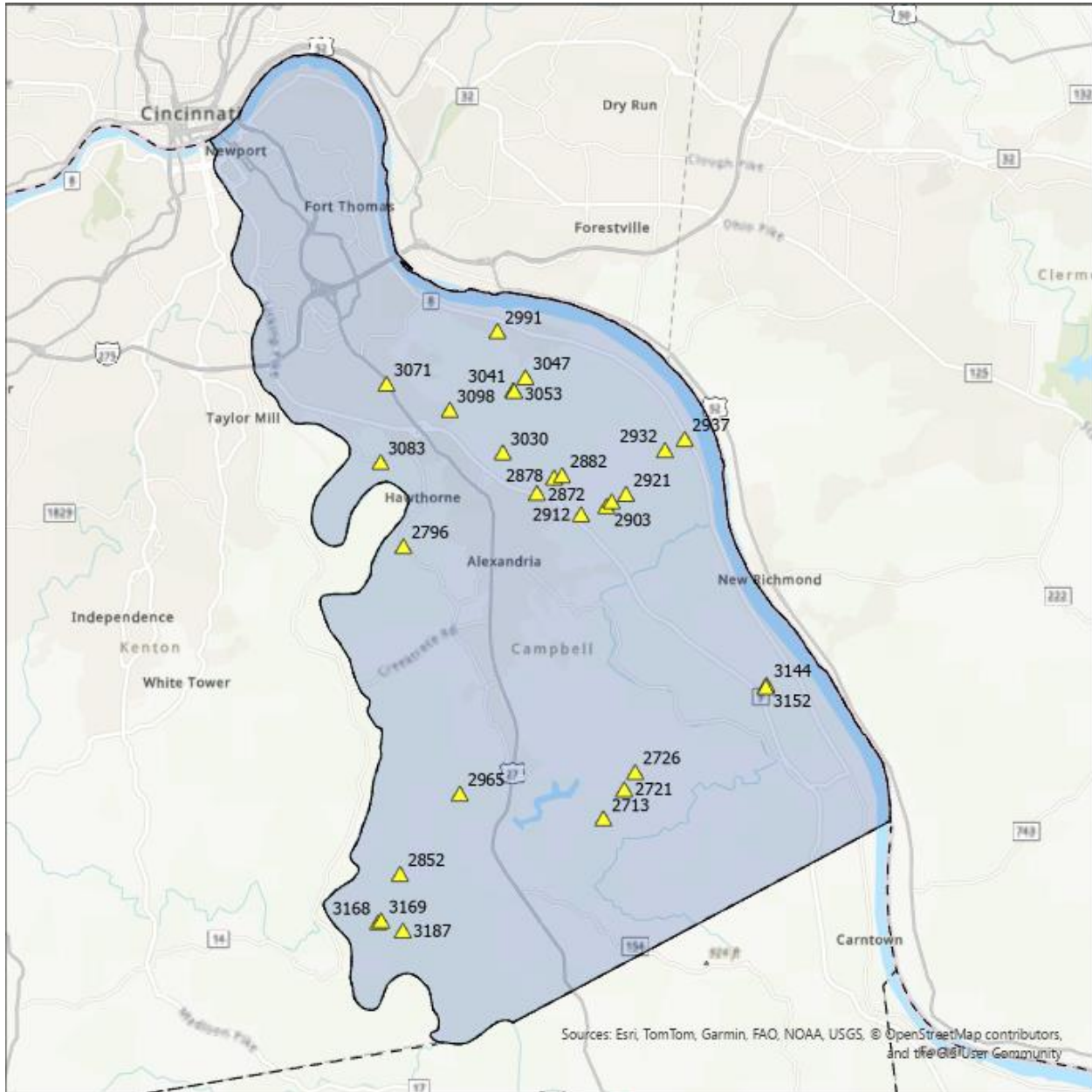


Exhibit Campbell-F12: Intersection Locations

Point ID	RT_UNIQUE	Road Name	Vegetation	Comments	Recommendation
2713	019-CR-1121 -000	BURNS RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2721	019-CR-1121 -000	BURNS RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2726	019-CR-1121 -000	BURNS RD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2796	019-CR-1355 -000	RIFLE RANGE RD	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2852	019-CR-1222 -000	BOONE SMITH RD	No	Insufficient Sight Distance; Very busy high speed	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2872	019-CR-1027 -000	POPLAR RIDGE RD	No	Other	Review Intersection; Issue noted as "Other"
2878	019-CR-1027 -000	POPLAR RIDGE RD	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2882	019-CR-1027 -000	POPLAR RIDGE RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2903	019-CR-1030 -000	NELSON RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2912	019-CR-1030 -000	NELSON RD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2918	019-CR-1011 -000	FENDER RD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2921	019-CR-1011 -000	FENDER RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2932	019-CR-1011 -000	FENDER RD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2937	019-CR-1011 -000	FENDER RD	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2965	019-CR-1229 -000	TARVIN RD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2991	019-CS-3502 -000	E THIRD ST	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3030	019-CR-1022 -000	LOWER TUG FORK RD	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3041	019-CR-1022 -000	LOWER TUG FORK RD	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3047	019-CR-1022 -000	LOWER TUG FORK RD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3053	019-CR-1022 -000	LOWER TUG FORK RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3071	019-CR-1350 -000	MURNAN RD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3083	019-CR-1350 -000	MURNAN RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3098	019-CR-1314 -000	CABIN CREEK DR E	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3144	019-CR-1103 -000	CALIFORNIA XRD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3152	019-CR-1103 -000	CALIFORNIA XRD	No	Intersection Obscured on Approach	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
3168	019-CR-1217 -000	CLAY RIDGE RD	No	Intersection Obscured on Approach; Blind	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Evaluate intersection obstruction/visibility.
3169	019-CR-1224 -000	PLEASANT RIDGE RD	No	Other	Review Intersection; Issue noted as "Other"

Exhibit Campbell-F13: Intersection Recommendations

Other Recommendations (Campbell County)

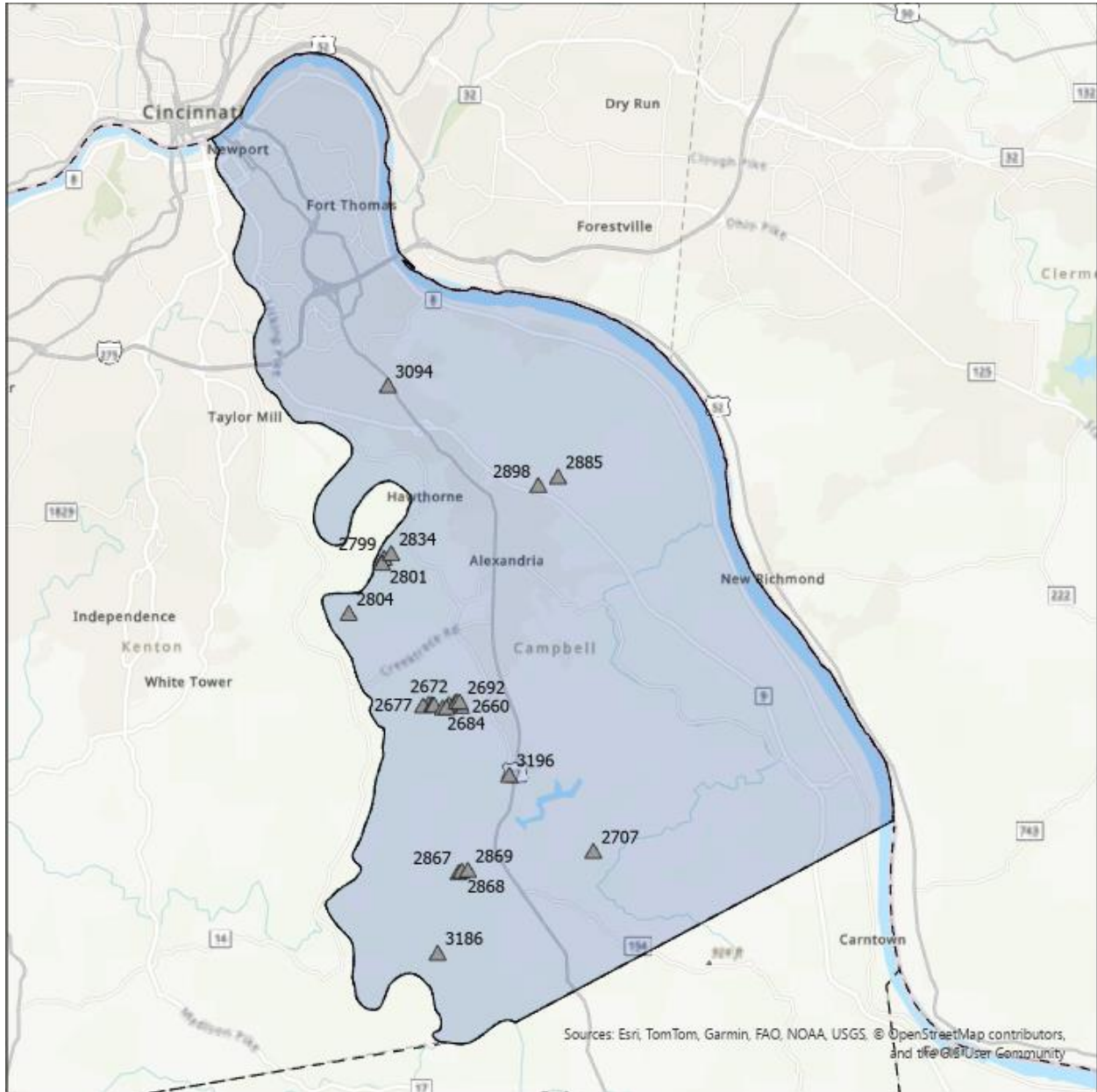
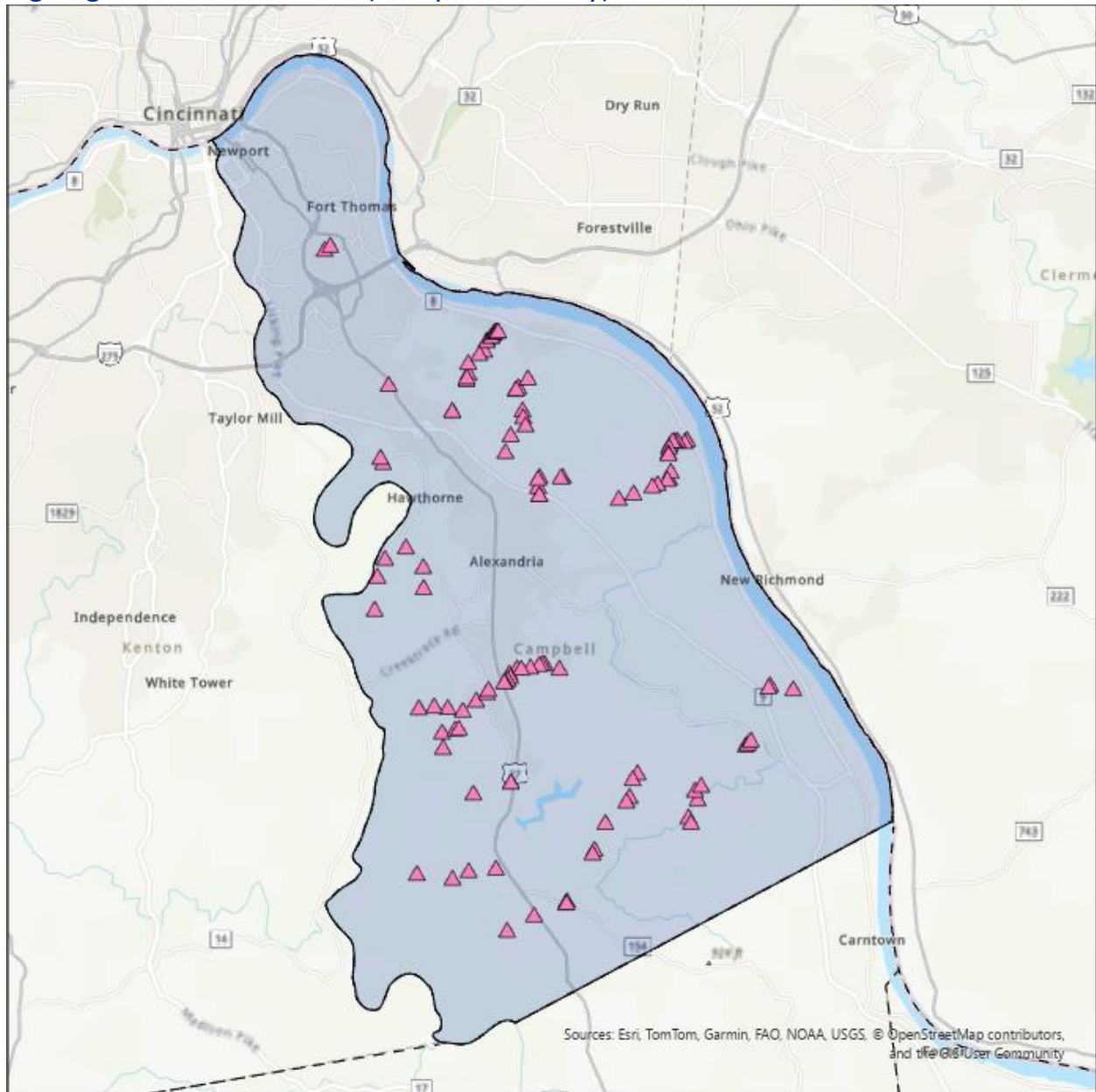


Exhibit Campbell-F14: Other Item Locations

Point ID	RT_UNIQUE	RD_NAME	Description	Recommendation
2660	019-CR-1236 -000	MADDOX RD	Stone wall;	Install Type 2 or 3 Object Marker; See Policy Recommendations
2663	019-CR-1236 -000	MADDOX RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
2666	019-CR-1236 -000	MADDOX RD	Brick wall;	Install Type 2 or 3 Object Marker; See Policy Recommendations
2672	019-CR-1236 -000	MADDOX RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
2677	019-CR-1236 -000	MADDOX RD	Blin hill;	Install "Hill Blocks View" Sign (W7-6)
2680	019-CR-1236 -000	MADDOX RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
2681	019-CR-1236 -000	MADDOX RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
2684	019-CR-1236 -000	MADDOX RD	Stone entrances;	Install Type 2 or 3 Object Marker; See Policy Recommendations
2685	019-CR-1236 -000	MADDOX RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
2691	019-CR-1236 -000	MADDOX RD	No outlet;	Install "No Outlet" (W14-1) sign at beginning of road; Install "Road Ends" (W8-26) sign at end of roadway.
2692	019-CR-1236 -000	MADDOX RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
2707	019-CR-1121 -000	BURNS RD	Hill block view;	Install "Hill Blocks View" Sign (W7-6)
2799	019-CR-1355 -000	RIFLE RANGE RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
2801	019-CR-1355 -000	RIFLE RANGE RD	One lane bridge;	Install One-Lane Bridge Sign(s) (W5-3)
2804	019-CR-1355 -000	RIFLE RANGE RD	Weight limit;	Install Appropriate Weight Limit Signs
2834	019-CR-1355 -000	RIFLE RANGE RD	Brick mail box;	Install Type 2 or 3 Object Marker; See Policy Recommendations
2867	019-CR-1222 -000	BOONE SMITH RD	Fence;	Consider removing/relocating fence
2868	019-CR-1222 -000	BOONE SMITH RD	Brick mailbox;	Install Type 2 or 3 Object Marker; See Policy Recommendations
2869	019-CR-1222 -000	BOONE SMITH RD	Fence;	Consider removing/relocating fence
2885	019-CR-1027 -000	POPLAR RIDGE RD	Brick entry;	Install Type 2 or 3 Object Marker; See Policy Recommendations
2898	019-CR-1027 -000	POPLAR RIDGE RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
3094	019-CR-1350 -000	MURNAN RD	Hill block view;	Install "Hill Blocks View" Sign (W7-6)
3186	019-CR-1217 -000	CLAY RIDGE RD	Stone mailbox next to road;	Install Type 2 or 3 Object Marker; See Policy Recommendations
3196	019-CR-1233 -000	SOUTH LICKING PIKE	Hill block view;	Install "Hill Blocks View" Sign (W7-6)

Exhibit Campbell-F15: Other Item Recommendations

Signing Recommendations (Campbell County)



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/nkaddSAP>.

APPENDIX E: CARROLL COUNTY SAFETY ACTION PLAN

Carroll County Overview

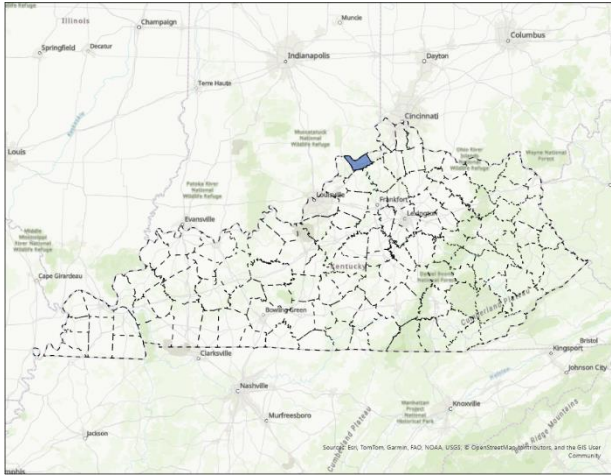


Exhibit Carroll-1: Location Map

Key Information Table Carroll County	
Population	10,987
Population in Persistent Poverty	21%
Underserved Community	No
Fatalities (All Roads)	14
Fatalities (County Roads)	2
Fatality rate per 100,000 persons	127.42
County Road Mileage	87.7
State Road Mileage	135.8
Total Mileage	223.5

Exhibit Carroll-2: Key Information

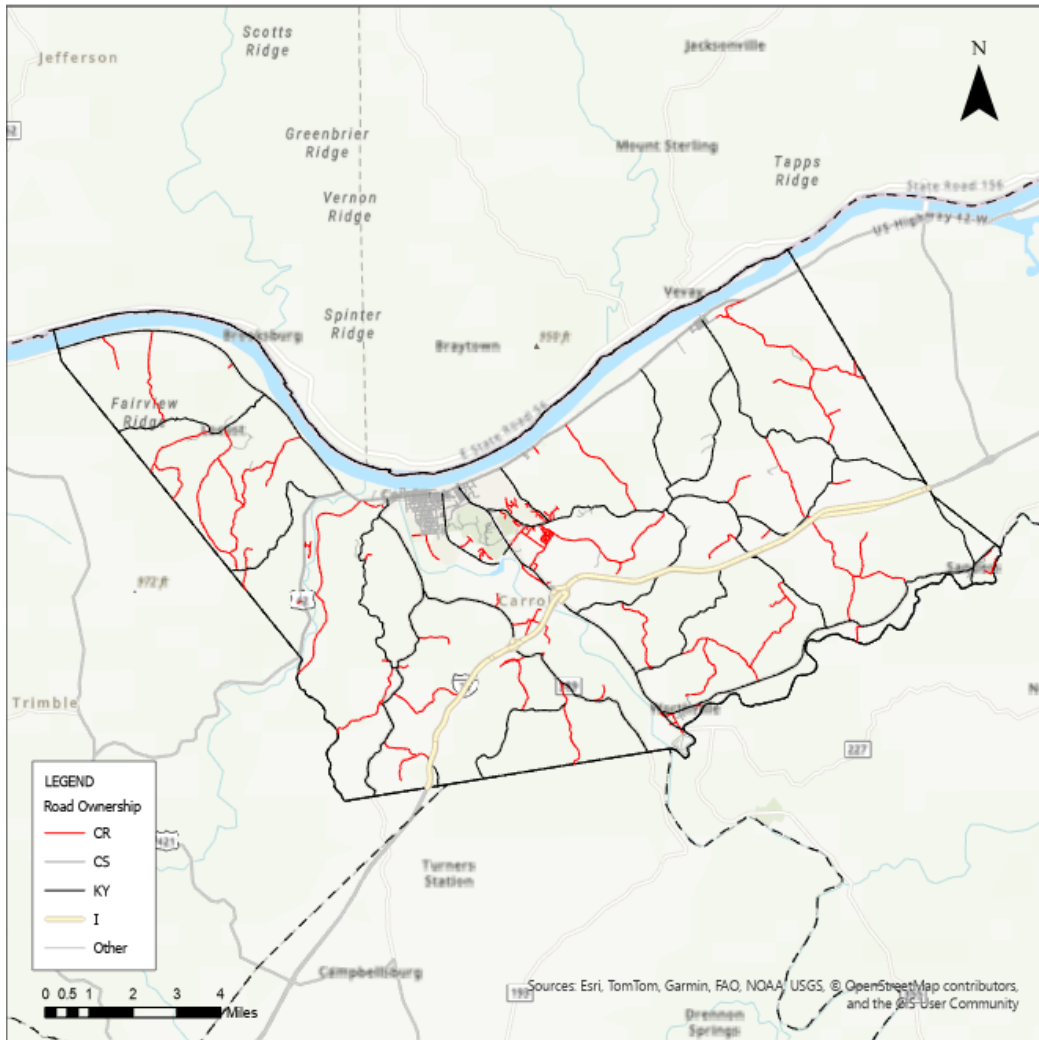


Figure Carroll-3: Map of County Roadways

Crash Analysis

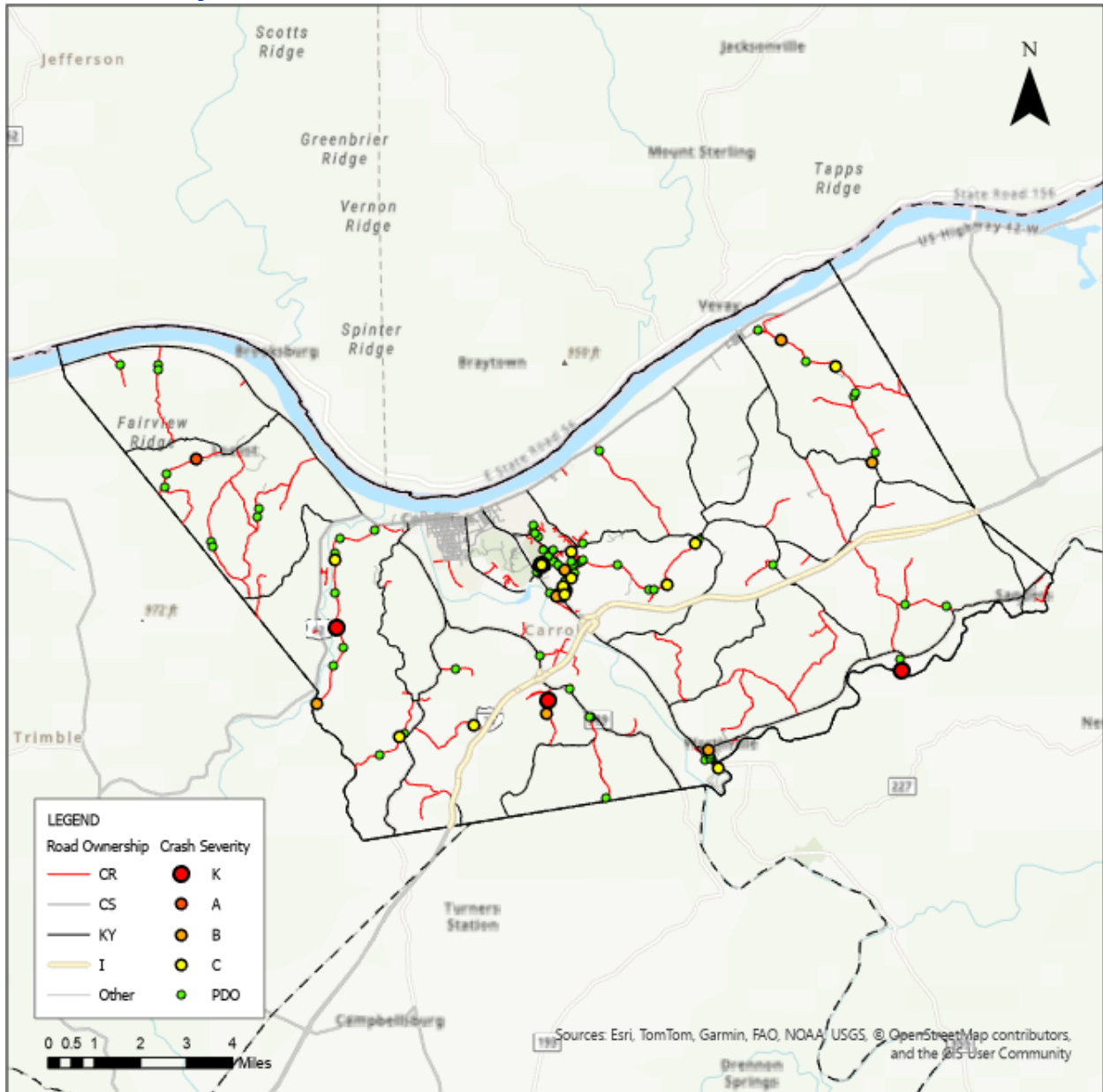


Figure Carroll-4: Map of County Road Crashes



Figure Carroll-5: Crash Distribution by Year

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	40	12	1	53
Angle	29	3	0	32
Backing	29	0	0	29
SS - Same	19	0	0	19
SS - Opp	16	0	0	16
Rear End	14	0	1	15
Head On	8	2	0	10
Left Turn	4	1	0	5
Rear to Rear	0	0	0	0

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

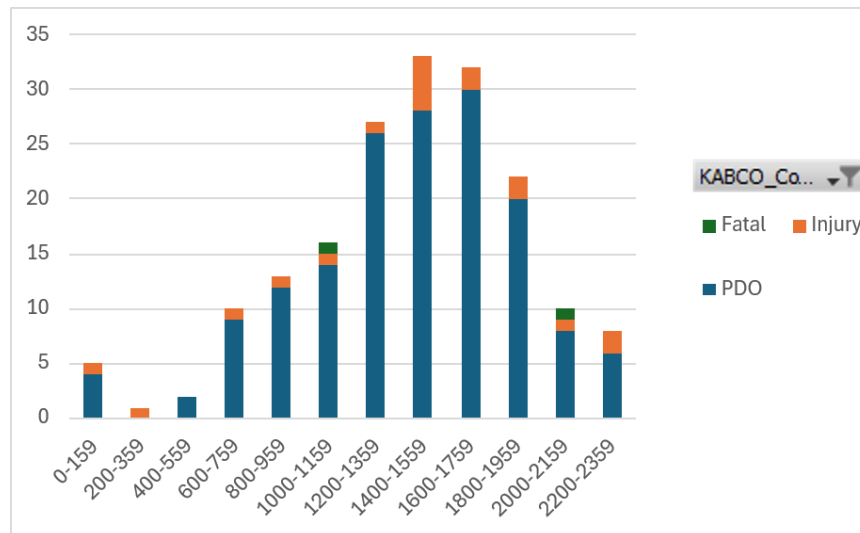


Figure Carroll-7: Crashes and Severity by Time of Day

Focus Roadways

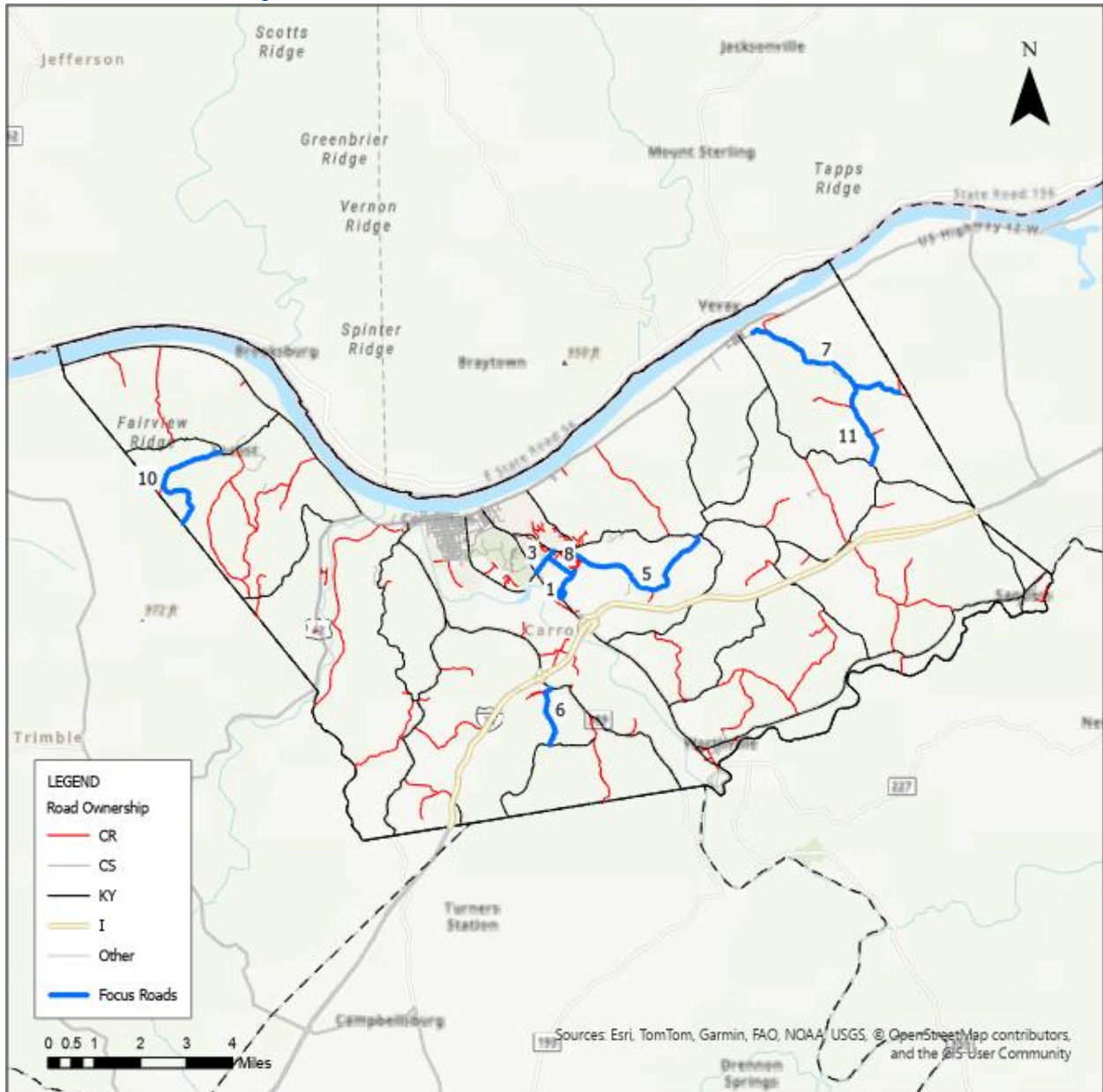


Exhibit Carroll-8: Focus Roads

RT_UNIQUE	Length	County	ADD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
Carroll										
021-CR-1125 -000	0.275	Carroll	NKADD	FLOYD DR	1	0	72	13.33	10.00	1
021-CR-1107 -000	0.593	Carroll	NKADD	MALL RD	3	0	25	15.19	7.95	2
021-CR-1300 -000	0.617	Carroll	NKADD	W. JAY LOUDEN RD	1	1	15	10.56	11.73	3
021-CR-1216 -000	4.742	Carroll	NKADD	CARLISLE RD	2	1	6	13.38	0.47	4
021-CR-1019 -000	3.92	Carroll	NKADD	BOONE RD	3	0	4	12.47	1.10	5
021-CR-1203 -000	1.429	Carroll	NKADD	GILGAL BRANCH RD	1	1	0	8.61	0.69	6
021-CR-1004 -000	4.082	Carroll	NKADD	BLACKROCK RD	2	0	3	8.35	0.27	7
021-CR-1021E -000	0.66	Carroll	NKADD	LADDER LN	1	0	7	4.89	2.45	8
021-CR-1110 -000	0.474	Carroll	NKADD	STEPHANUS RD	0	1	2	4.89	0.99	9
021-CR-1311 -000	3.035	Carroll	NKADD	WEST PRONG LOCUST RD	1	0	2	4.89	0.13	10
021-CR-1005 -000	1.909	Carroll	NKADD	SHARON RD	1	0	3	4.37	0.63	11
021-CR-1102 -000	0.137	Carroll	NKADD	SOUTH CEMETERY LN	1	0	2	4.24	0.57	12
021-CR-1123B -000	0.359	Carroll	NKADD	CEMETERY RD	1	0	1	4.11	0.69	13

Exhibit Carroll-7: List of Focus Roadways

Floyd Drive, Mall Road, W. Jay Louden Road and Ladder Lane were not included in the data collection and analysis as these roads surround the urbanized areas within the county and several crashes were attributed to parking lot and access related crashes.

Recommended Improvements (Top 5 Roads)

CARLISLE RD (021-CR-1216 -000)

Road Location Map and Crash History

Manner of Collision	Crash History			
	Property Damage Only	Injury	Fatal	Total
Single Vehicle	6	0	0	6
SS - Opp	1	0	0	1
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
Angle	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

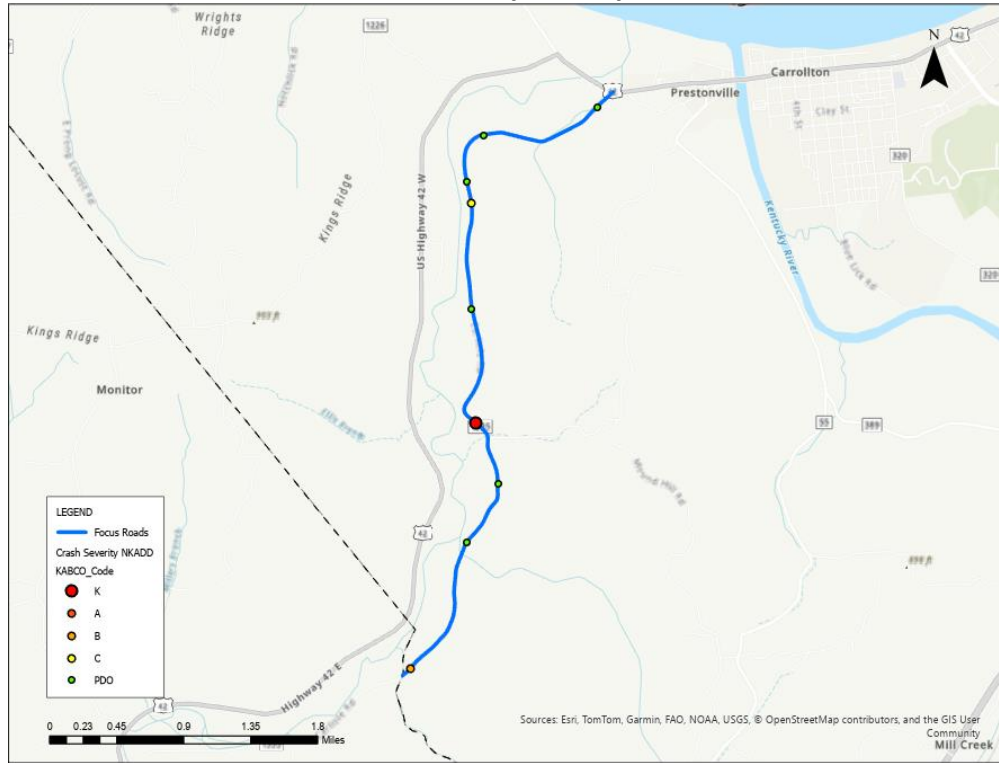
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (
2658	021-CR-1216 -000	CARLISLE RD	16	2	4	20-40

Roadway Typical Section



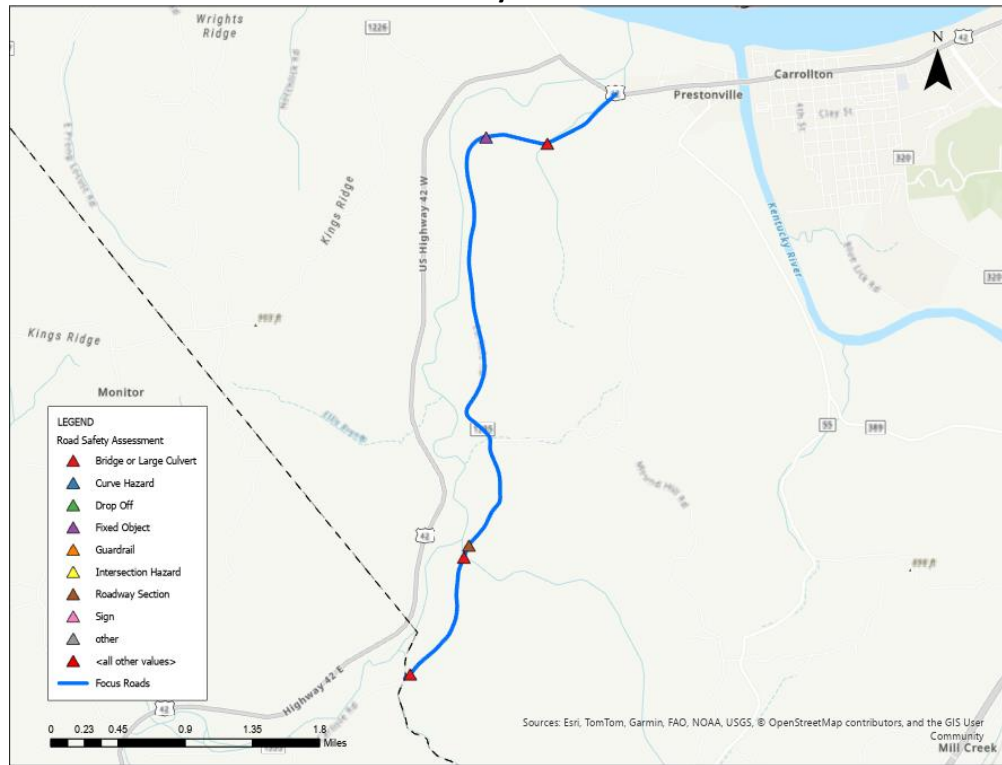
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment

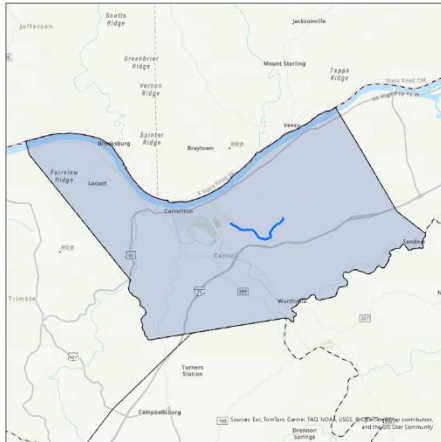


General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (Improve Should	Edgelin	Curve Signin	Other Recommendations
2658	021-CR-1216 -000	CARLISLE RD	16	2	4	20-40	✓	✓	✓	Repair Road Slip; Resurface
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
2627	021-CR-1216 -000	CARLISLE RD	Fixed Object	other; Rock wall	Series	1-3	Consider Removal or Relocation; Install Type 2 or 3 Object Marker(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail	OM Present	Recommendation			
2626	021-CR-1216 -000	CARLISLE RD	Bridge or Large Culvert	17	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers			
2636	021-CR-1216 -000	CARLISLE RD	Bridge or Large Culvert	17	4	2	Evaluate need for Type 3 Object Markers			
2637	021-CR-1216 -000	CARLISLE RD	Bridge or Large Culvert	17	4	0	Evaluate need for Type 3 Object Markers			

BOONE RD (021-CR-1019 -000)

Road Location Map and Crash History

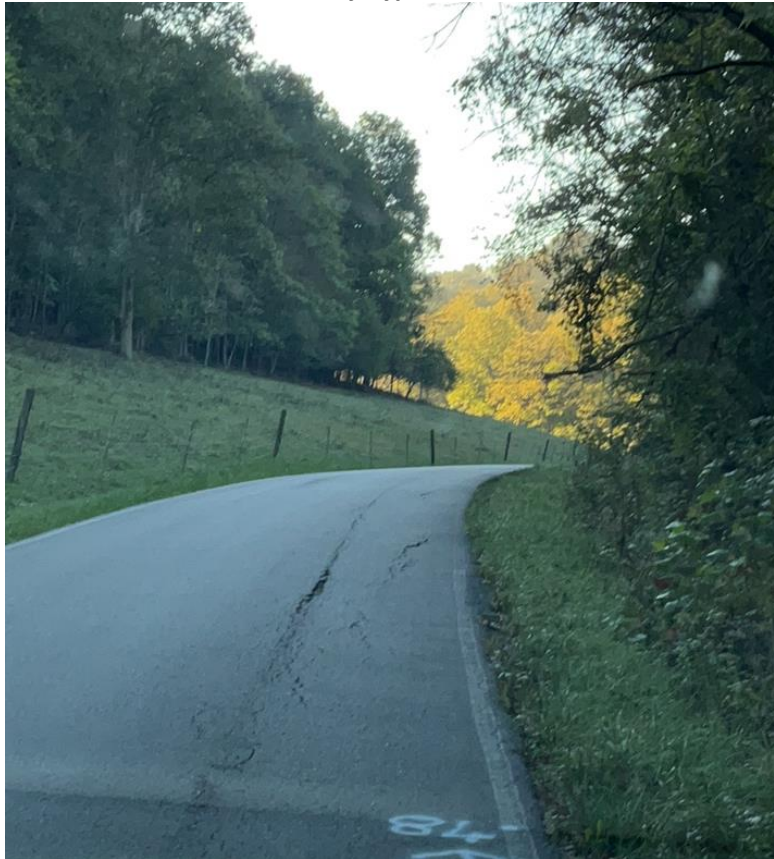


Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	4	1	0	5
SS - Same	1	0	0	1
SS - Opp	1	0	0	1
Angle	1	0	0	1
Backing	0	0	0	0
Head On	0	0	0	0
Left Turn	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

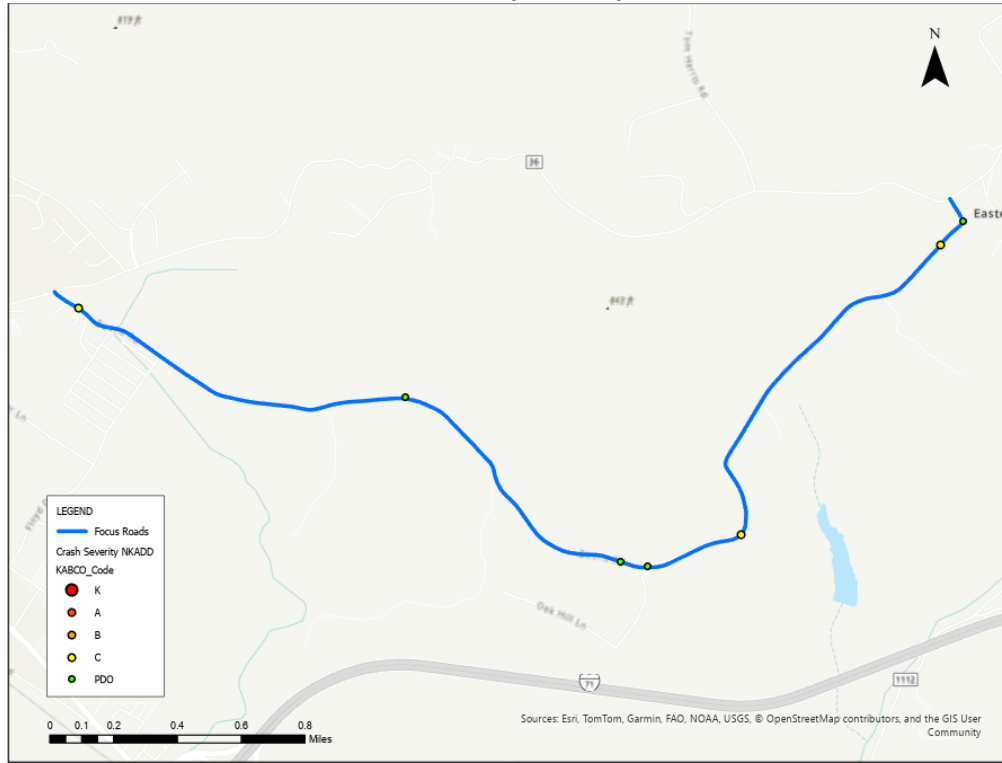
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (%)
2652	021-CR-1019 -000	BOONE RD	15	2	6	40-60
2653	021-CR-1019 -000	BOONE RD	15	2	5	40-60

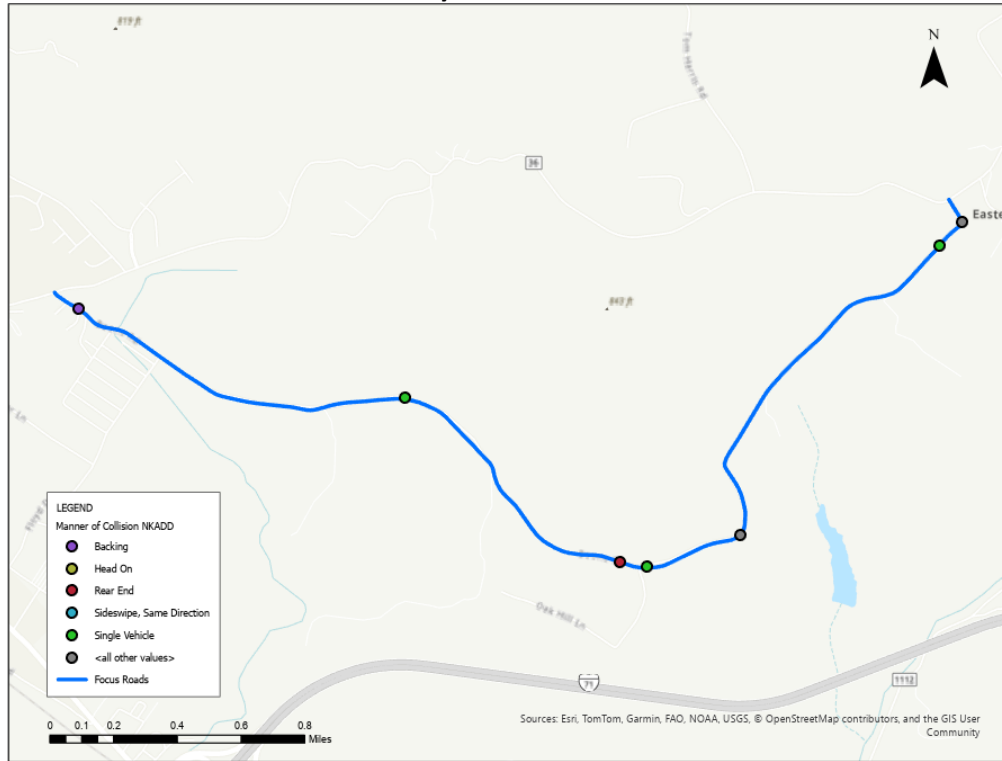
Roadway Typical Section



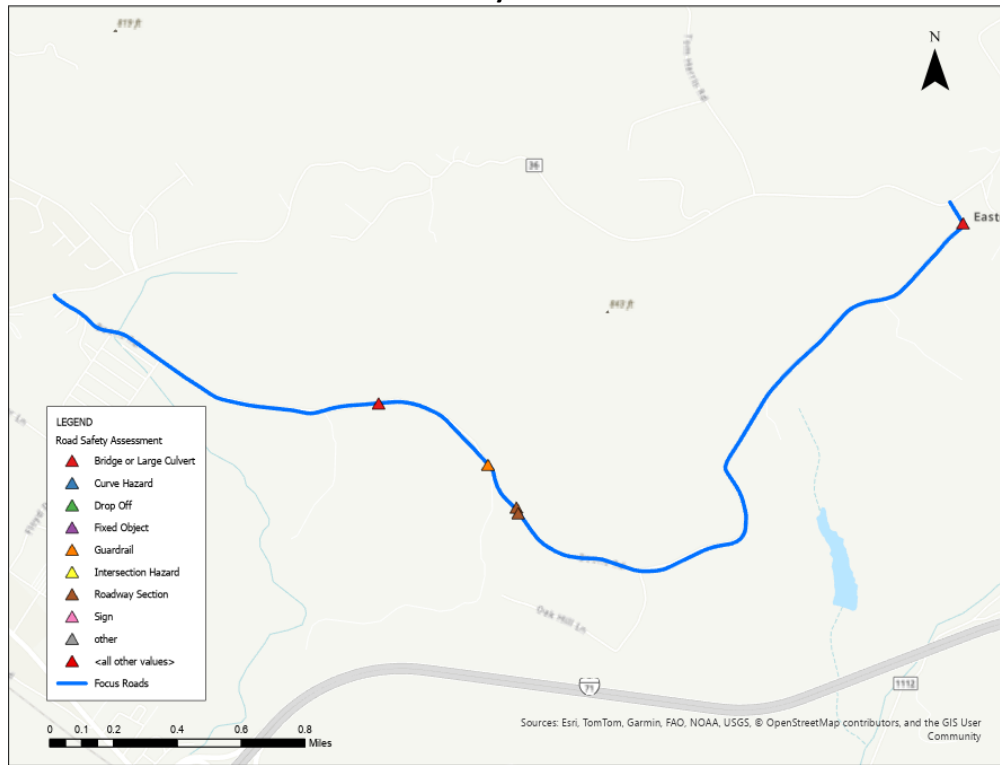
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



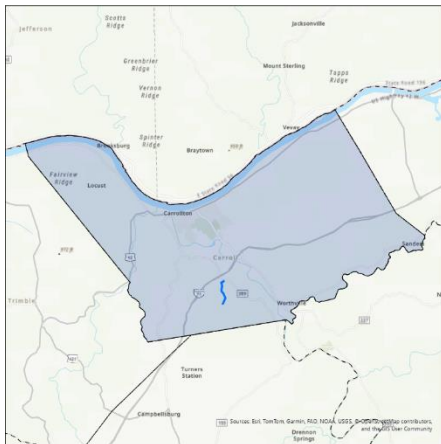
General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Ratio	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
2652	021-CR-1019 -000	BOONE RD	15	2	6	40-60	✓	✓	✓	Resurface
2653	021-CR-1019 -000	BOONE RD	15	2	5	40-60	✓	✓	✓	Resurface

Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation
603	021-CR-1019 -000	BOONE RD	Guardrail	Poor	No	None	Remove
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
602	021-CR-1019 -000	BOONE RD	Bridge or Large Culvert	22	4	0	Evaluate need for Type 3 Object Markers
605	021-CR-1019 -000	BOONE RD	Bridge or Large Culvert	23	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers

GILGAL BRANCH RD (021-CR-1203 -000)

Road Location Map and Crash History



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

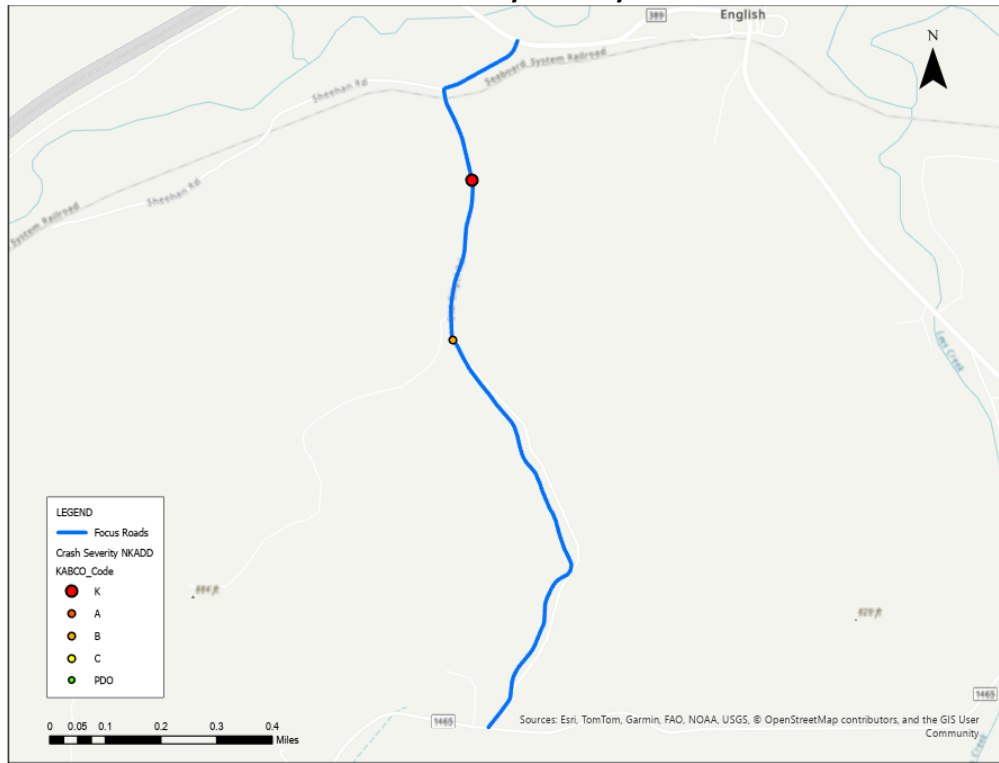
General Roadway Conditions

Roadway Section Information Not Collected

Roadway Typical Section



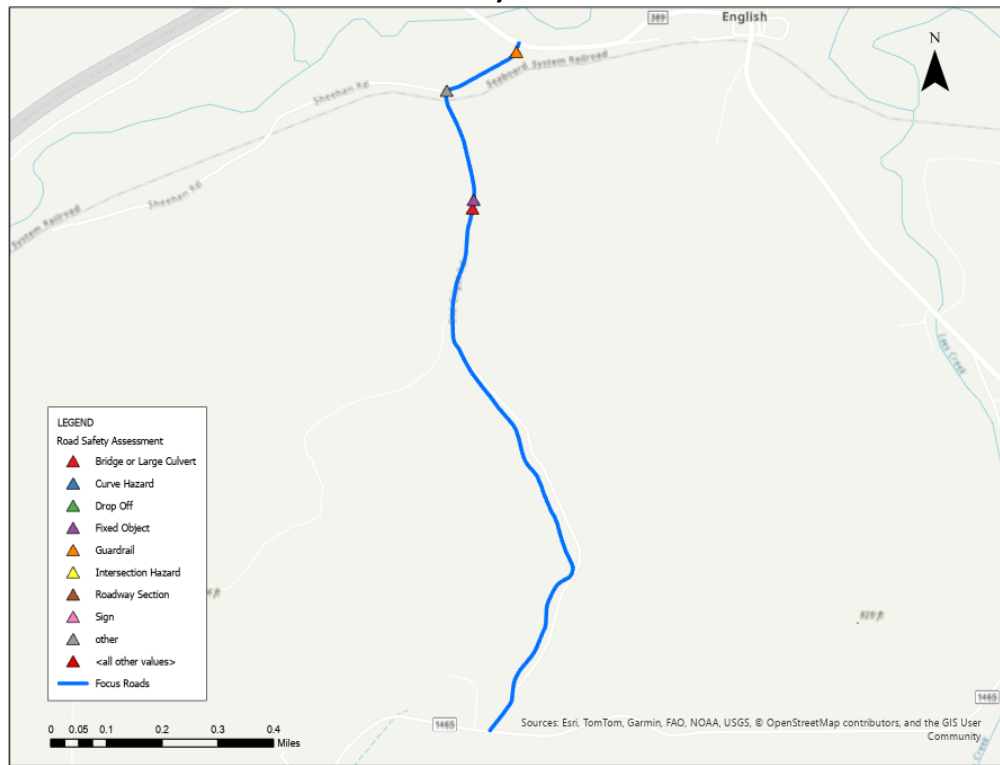
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



General Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
2648	021-CR-1203 -000	GILGAL BRANCH 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
2645	021-CR-1203 -000	GILGAL BRANCH RD	Guardrail	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
2649	021-CR-1203 -000	GILGAL BRANCH RD	Bridge or Large Culvert	11	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation
2647	021-CR-1203 -000	GILGAL BRANCH RD	other	--	--	Railroad under past;	Review RR crossing

BLACKROCK RD (021-CR-1004 -000)

Road Location Map and Crash History

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

General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (%)
2654	021-CR-1004 -000	BLACKROCK RD	16	2	6	40-60
2655	021-CR-1004 -000	BLACKROCK RD	16	2	6	60-80
2656	021-CR-1004 -000	BLACKROCK RD	15	2	6	80-100
2657	021-CR-1004 -000	BLACKROCK RD	16	2	6	40-60

Roadway Typical Section



Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



General Recommendations

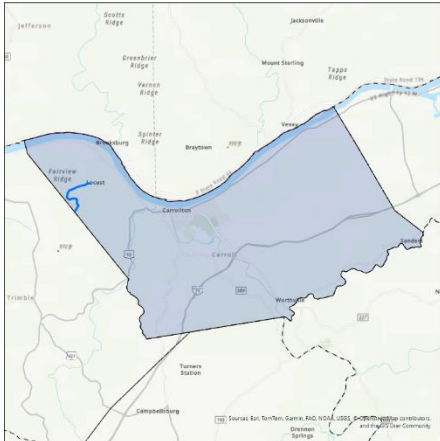
Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
2654	021-CR-1004 -000	BLACKROCK RD	16	2	6	40-60	✓	✓	✓	Resurface
2655	021-CR-1004 -000	BLACKROCK RD	16	2	6	60-80	✓	✓	✓	Resurface
2656	021-CR-1004 -000	BLACKROCK RD	15	2	6	80-100	✓	✓	✓	Resurface
2657	021-CR-1004 -000	BLACKROCK RD	16	2	6	40-60	✓	✓	✓	Resurface

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
608	021-CR-1004 -000	BLACKROCK RD	Fixed Object	Tree;	Single	1-3	Remove
611	021-CR-1004 -000	BLACKROCK RD	Fixed Object	Tree;	Single	0-1	Remove

Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation
609	021-CR-1004 -000	BLACKROCK RD	Guardrail	Poor	No	None	Remove
610	021-CR-1004 -000	BLACKROCK RD	Guardrail	Poor	No	None	Remove

WEST PRONG LOCUST RD (021-CR-1311 -000)

Road Location Map and Crash History



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

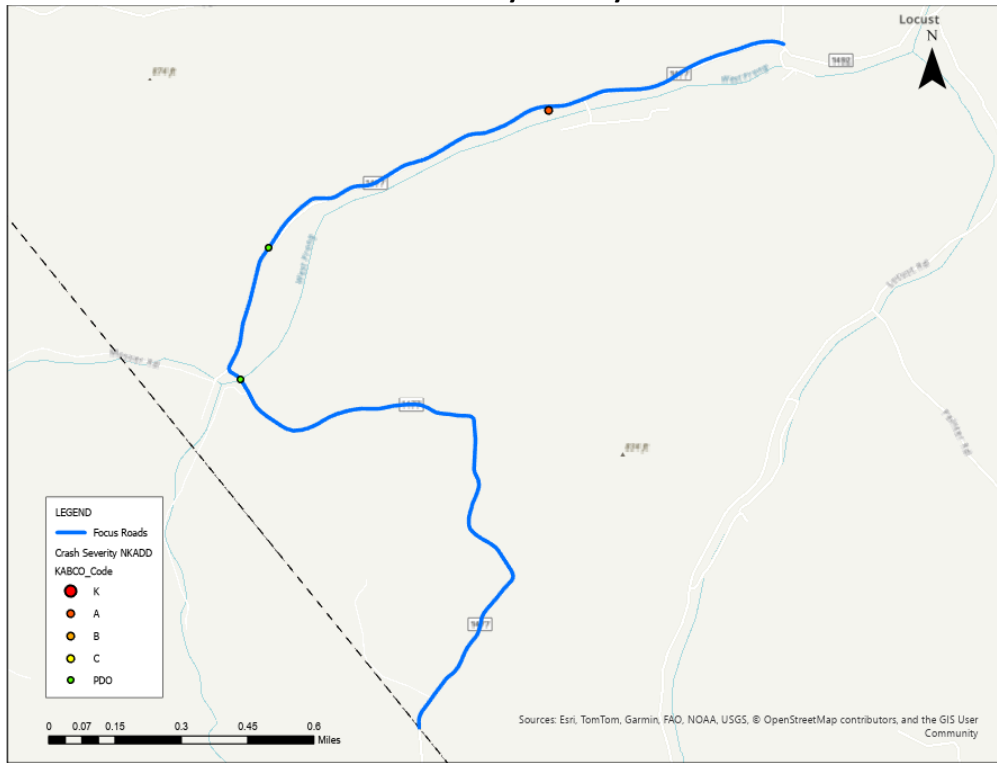
General Roadway Conditions

Roadway Section Information Not Collected

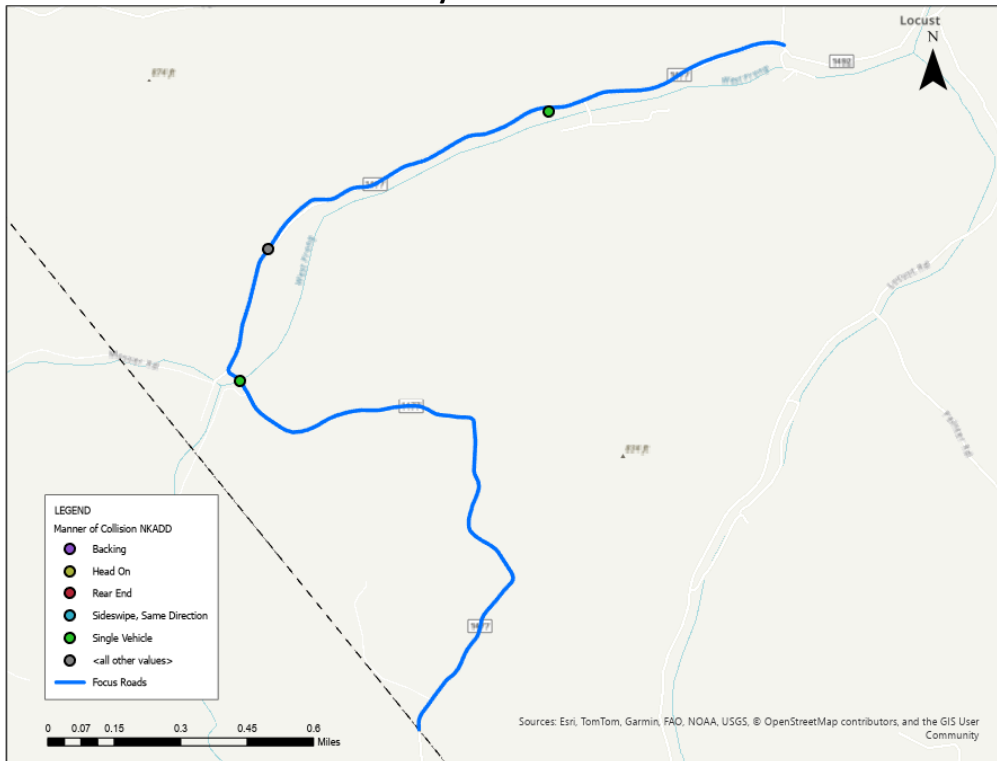
Roadway Typical Section



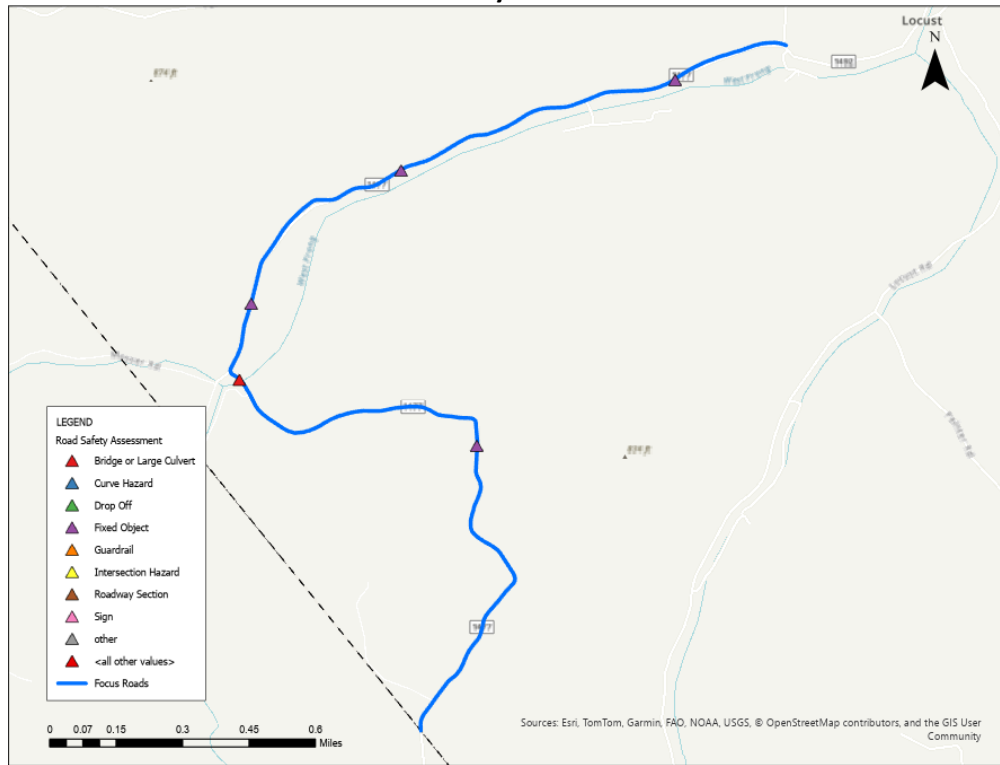
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



General Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
2616	021-CR-1311 -000	WEST PRONG LOCUST RD	Fixed Object	other; Head wall	Single	0-1	Review ability to extend culvert; Remove Trees; Install Type 2 or 3 Object Marker(s)
2617	021-CR-1311 -000	WEST PRONG LOCUST RD	Fixed Object	Culvert Headwall;	Single	0-1	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
2618	021-CR-1311 -000	WEST PRONG LOCUST RD	Fixed Object	Culvert Headwall;	Single	0-1	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
2622	021-CR-1311 -000	WEST PRONG LOCUST RD	Fixed Object	Tree;	Series	0-1	Remove trees within 3 ft of roadway
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
2620	021-CR-1311 -000	WEST PRONG LOCUST RD	Bridge or Large Culvert	16	2	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)

Other Roadways

General Roadway Conditions and Recommendations (Carroll County)

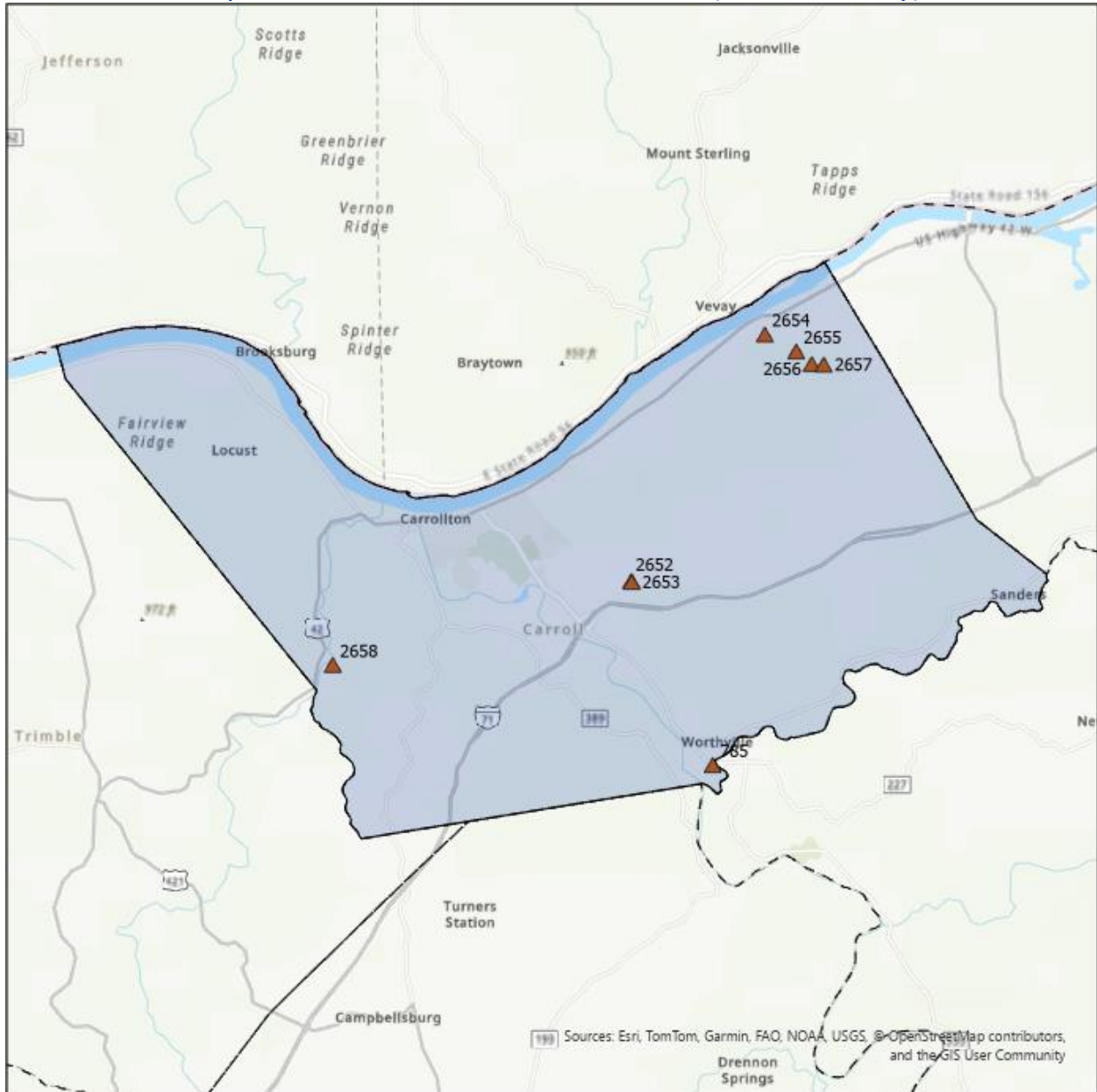


Exhibit Carroll-F1: General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rat	Shoulder Improve (ft)	Improve Should	Edgelin	Curve Signin	Other Recommendations
2654	021-CR-1004 -000	BLACKROCK RD	16	2	6	40-60	✓	✓	✓	Resurface
2655	021-CR-1004 -000	BLACKROCK RD	16	2	6	60-80	✓	✓	✓	Resurface
2656	021-CR-1004 -000	BLACKROCK RD	15	2	6	80-100	✓	✓	✓	Resurface
2657	021-CR-1004 -000	BLACKROCK RD	16	2	6	40-60	✓	✓	✓	Resurface
2652	021-CR-1019 -000	BOONE RD	15	2	6	40-60	✓	✓	✓	Resurface
2653	021-CR-1019 -000	BOONE RD	15	2	5	40-60	✓	✓	✓	Resurface
785	021-CR-1102 -000	SOUTH CEMETERY LN	18	4	1	0-20		✓	✓	
2658	021-CR-1216 -000	CARLISLE RD	16	2	4	20-40	✓	✓	✓	Repair Road Slip; Resurface

Exhibit Carroll-F2: General Roadway Recommendations

Bridge / Culvert Recommendations (Carroll County)

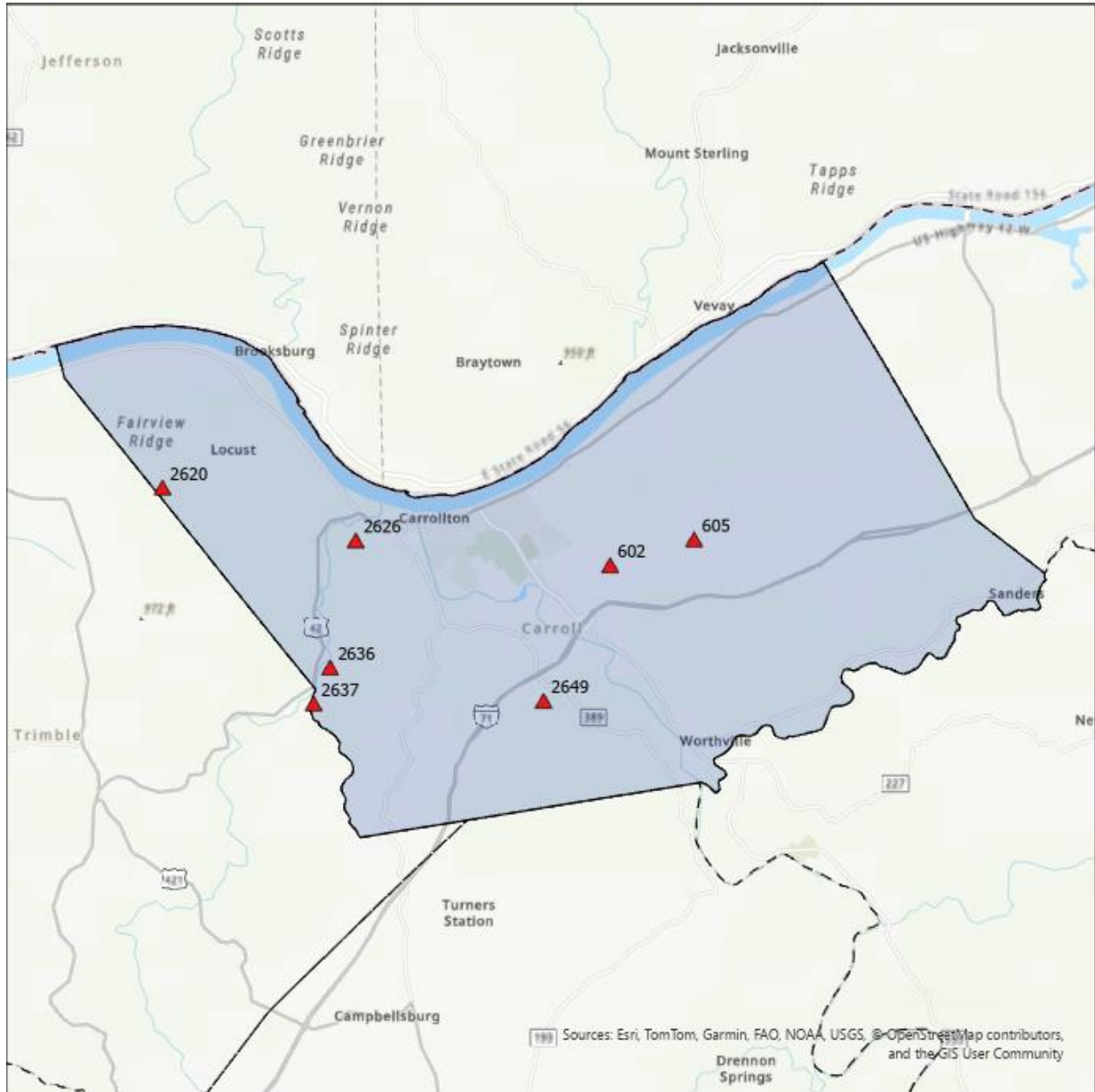


Exhibit Carroll-F3: Bridge / Culvert Locations

Point ID	RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
602	021-CR-1019 -000	BOONE RD	22	4	0	Evaluate need for Type 3 Object Markers
605	021-CR-1019 -000	BOONE RD	23	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
2649	021-CR-1203 -000	GILGAL BRANCH RD	11	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2626	021-CR-1216 -000	CARLISLE RD	17	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
2636	021-CR-1216 -000	CARLISLE RD	17	4	2	Evaluate need for Type 3 Object Markers
2637	021-CR-1216 -000	CARLISLE RD	17	4	0	Evaluate need for Type 3 Object Markers
2620	021-CR-1311 -000	WEST PRONG LOCUST RD	16	2	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)

Exhibit Carroll-F4: Bridge / Culvert Recommendations

Fixed Object Recommendations (Carroll County)

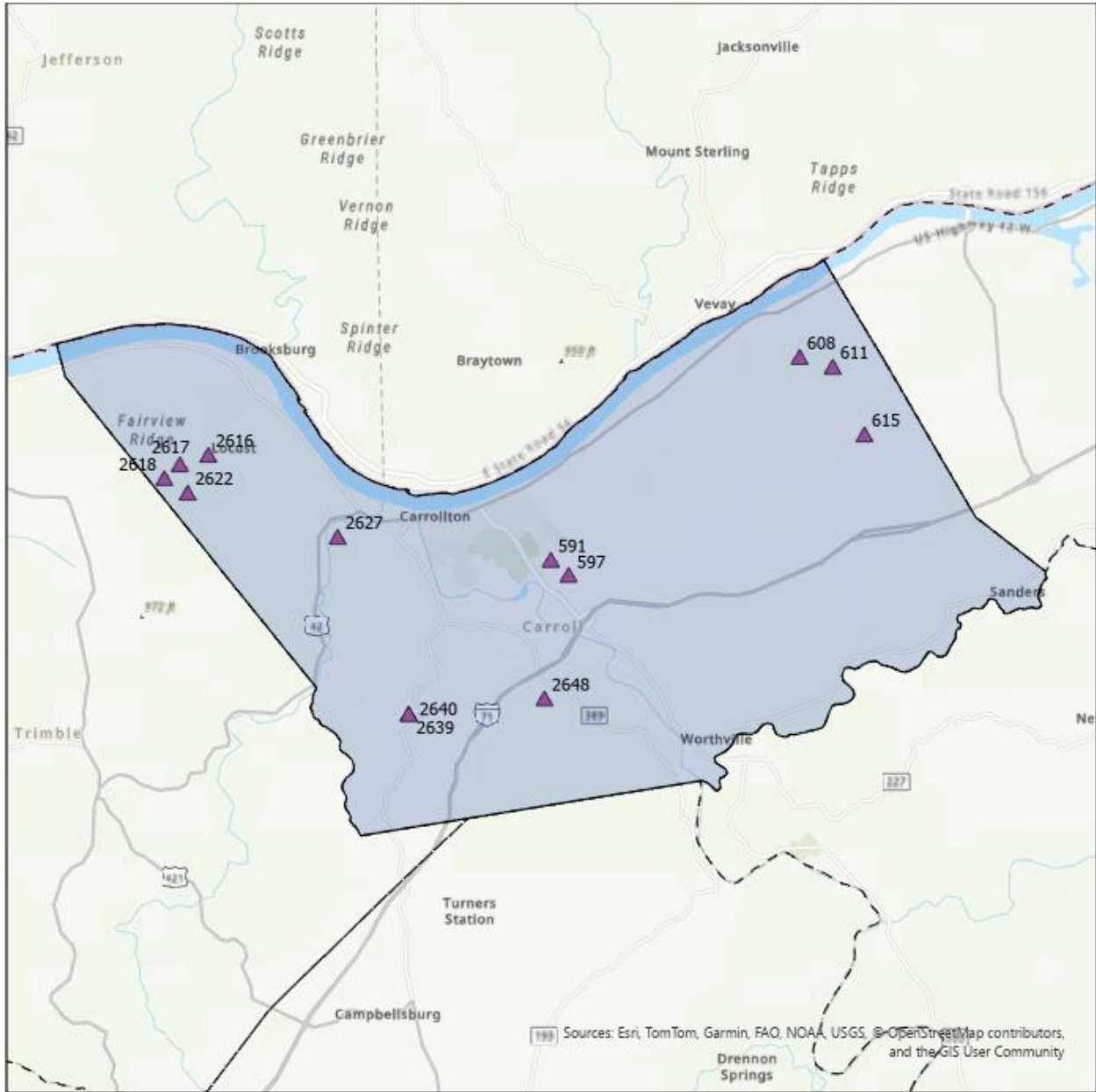


Exhibit Carroll-F9: Fixed Object Locations

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
591	021-CR-1021E -000	LADDER LN	other; Concrete blocks	Series	1-3	Remove
597	021-CR-1107 -000	MALL RD	other; Concrete blocks	Series	1-3	Remove
608	021-CR-1004 -000	BLACKROCK RD	Tree;	Single	1-3	Remove
611	021-CR-1004 -000	BLACKROCK RD	Tree;	Single	0-1	Remove
615	021-CR-1005 -000	SHARON RD	Tree;	Single	0-1	Remove
2616	021-CR-1311 -000	WEST PRONG LOCUST RD	other; Head wall	Single	0-1	Review ability to extend culvert; Remove Trees; Install Type 2 or 3 Object Marker(s)
2617	021-CR-1311 -000	WEST PRONG LOCUST RD	Culvert Headwall;	Single	0-1	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
2618	021-CR-1311 -000	WEST PRONG LOCUST RD	Culvert Headwall;	Single	0-1	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
2622	021-CR-1311 -000	WEST PRONG LOCUST RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
2627	021-CR-1216 -000	CARLISLE RD	other; Rock wall	Series	1-3	Consider Removal or Relocation; Install Type 2 or 3 Object Marker(s)
2639	021-CR-1211 -000	CALENDAR RD	Tree;	Single	1-3	Remove
2640	021-CR-1211 -000	CALENDAR RD	Tree;	Single	0-1	Remove
2648	021-CR-1203 -000	GILGAL BRANCH RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway

Exhibit Carroll-F10: Fixed Object Recommendations

Guardrail Recommendations (Carroll County)

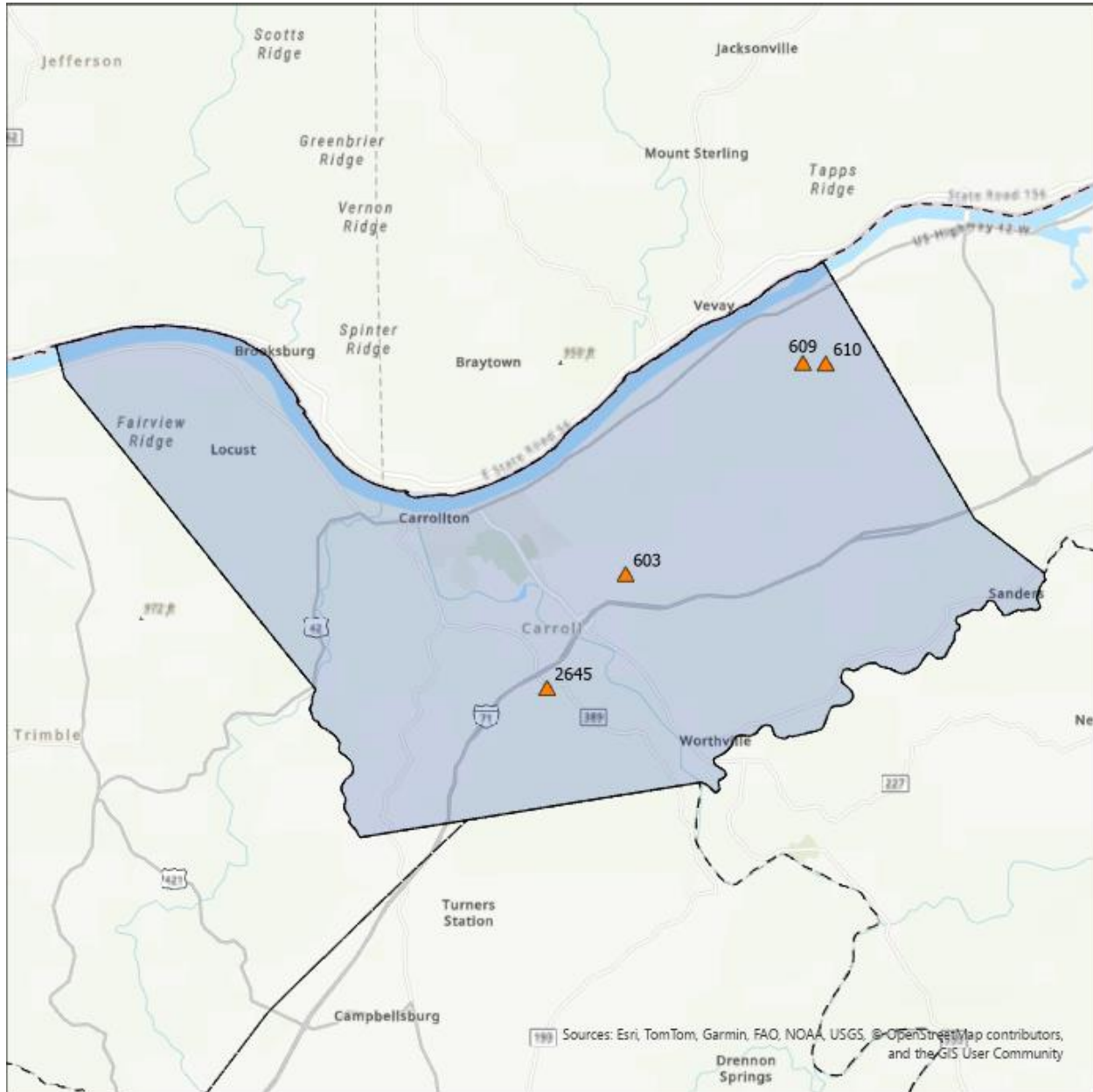


Exhibit Carroll-F11: Guardrail Locations

Point ID	RT_UNIQUE	Road Name	Condition	Meet Warrant	End Treatment	Recommendation
603	021-CR-1019 -000	BOONE RD	Poor	No	None	Remove
609	021-CR-1004 -000	BLACKROCK RD	Poor	No	None	Remove
610	021-CR-1004 -000	BLACKROCK RD	Poor	No	None	Remove
2645	021-CR-1203 -000	GILGAL BRANCH RD	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers

Exhibit Carroll-F12: Guardrail Recommendations

Other Recommendations (Carroll County)

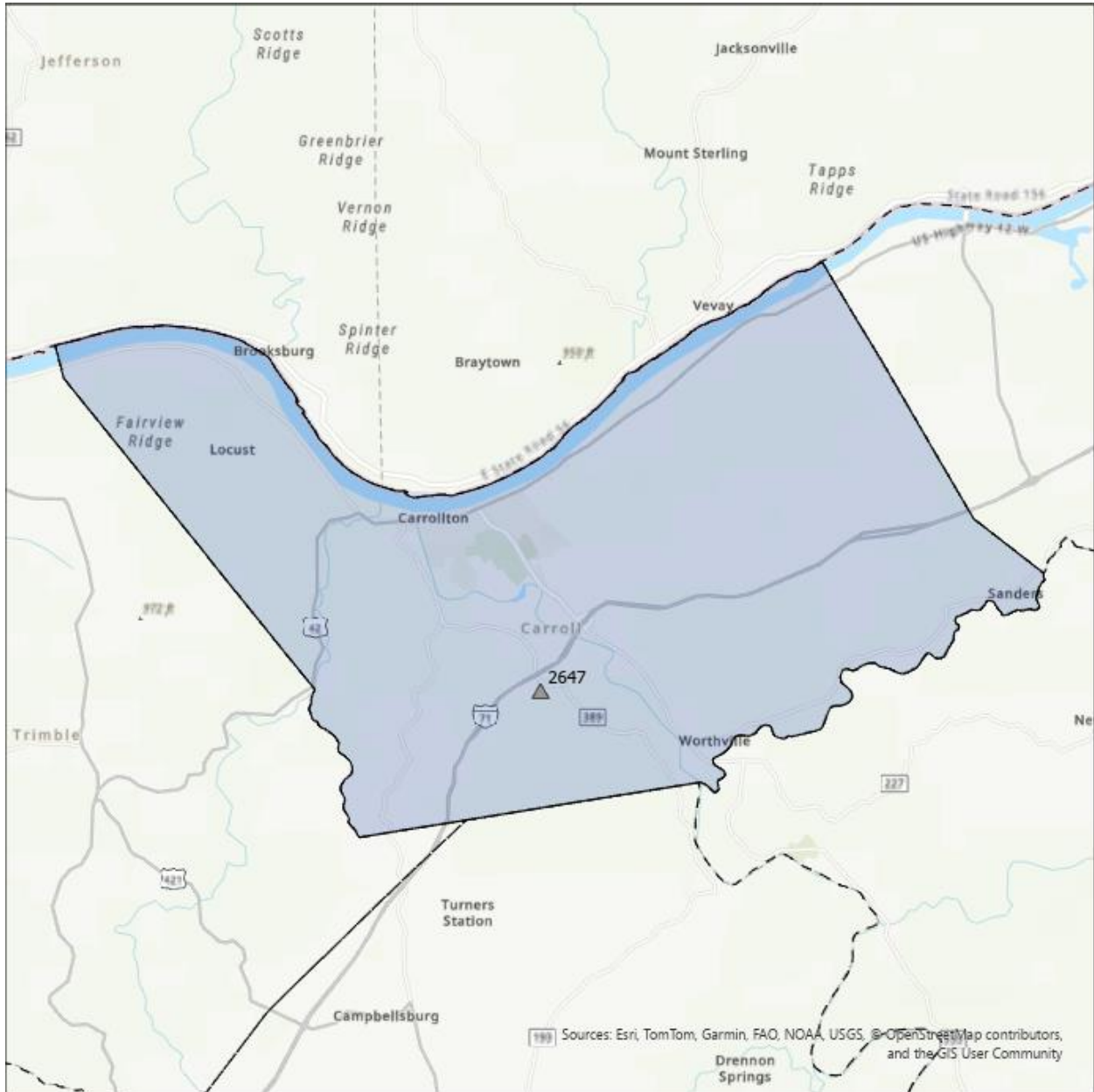
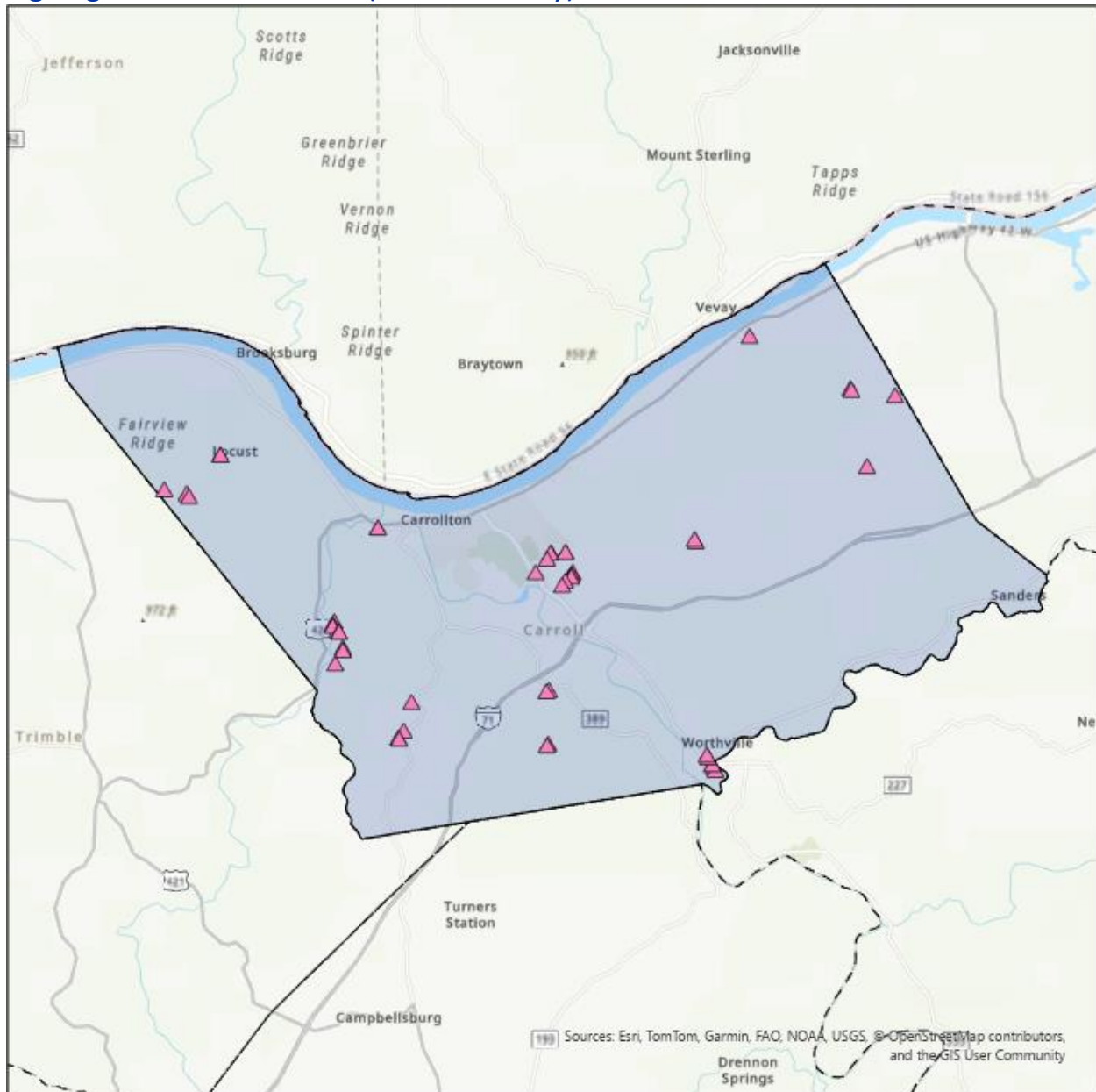


Exhibit Carroll-F11: Guardrail Locations

Point ID	RT_UNIQUE	RD_NAME	Description	Recommendation
2647	021-CR-1203 -000	GILGAL BRANCH RD	Railroad under past;	Review RR crossing

Exhibit Carroll-F12: Guardrail Recommendations

Signing Recommendations (Carroll County)



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/nkaddSAP>.

APPENDIX F: GALLATIN COUNTY SAFETY ACTION PLAN

Gallatin County Overview

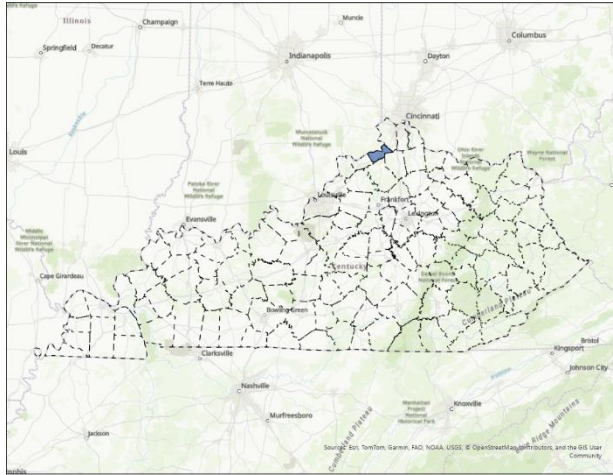


Exhibit Gallatin-1: Location Map

Key Information Table Gallatin County	
Population	8,792
Population in Persistent Poverty	18%
Underserved Community	No
Fatalities (All Roads)	16
Fatalities (County Roads)	0
Fatality rate per 100,000 persons	181.98
County Road Mileage	72.6
State Road Mileage	117.9
Total Mileage	190.5

Exhibit Gallatin-2: Key Information

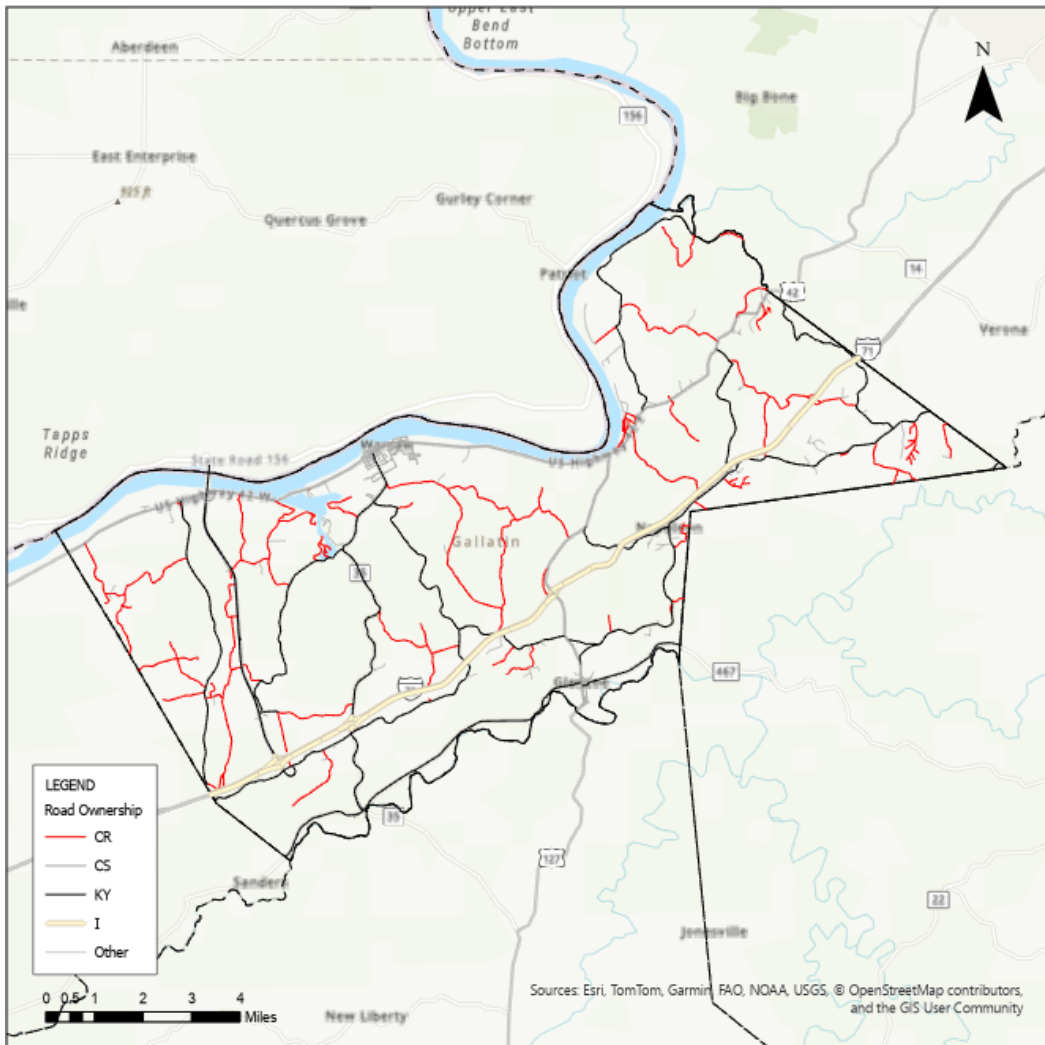


Figure Gallatin-3: Map of County Roadways

Crash Analysis

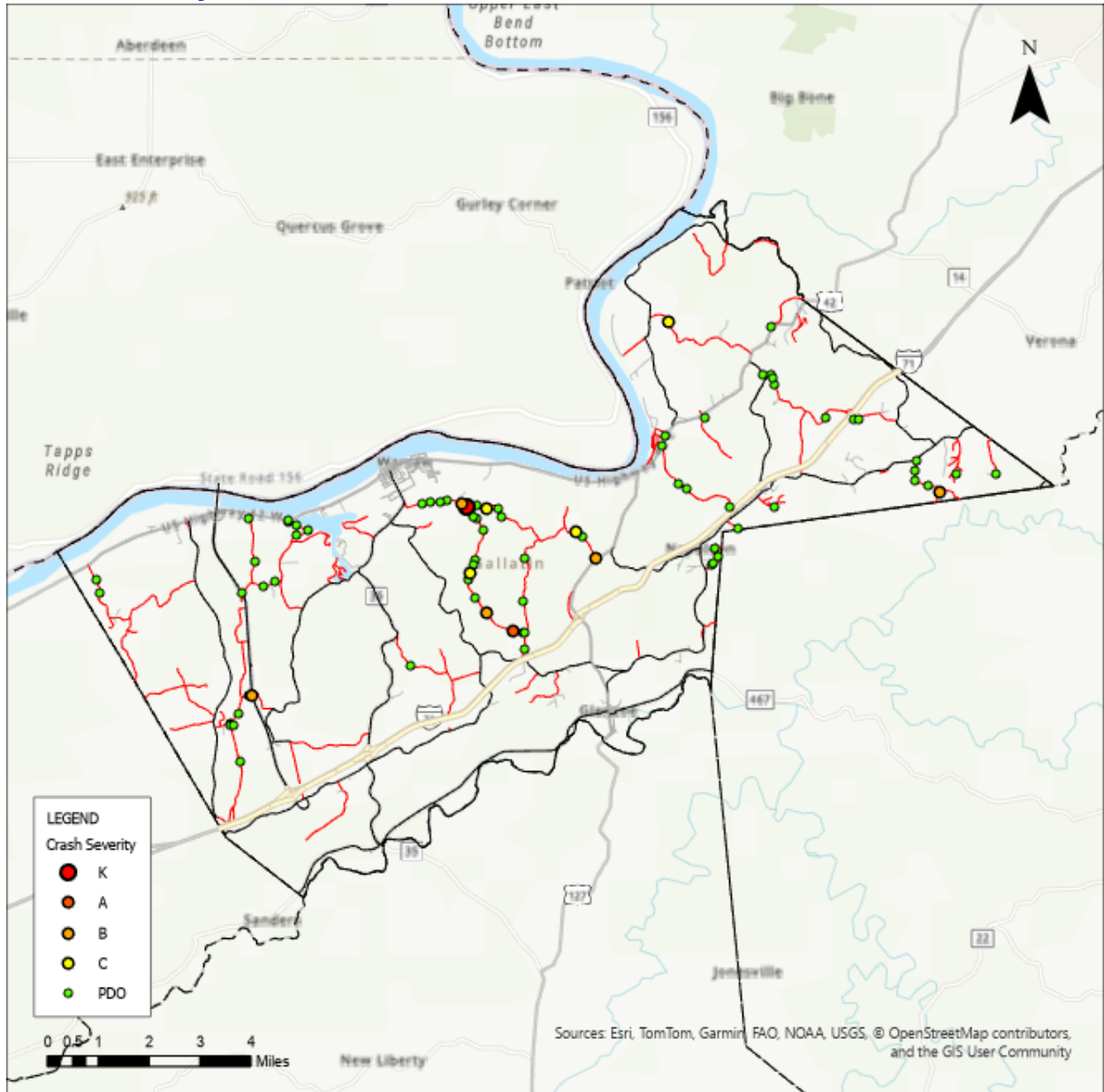


Figure Gallatin-4: Map of County Road Crashes



Table Gallatin-5: Crash Distribution by Year

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	42	5	0	47
SS - Opp	15	0	0	15
Angle	8	0	0	8
SS - Same	5	1	0	6
Rear End	4	1	0	5
Backing	4	0	0	4
Head On	2	2	0	4
Rear to Rear	0	0	0	0
Left Turn	0	0	0	0

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

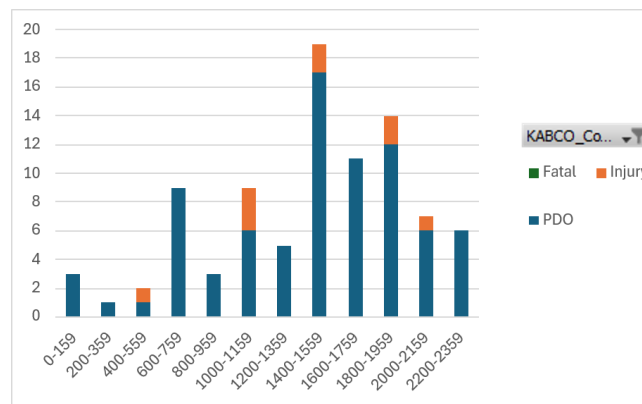


Figure Gallatin-7: Crashes and Severity by Time of Day

Focus Roadways

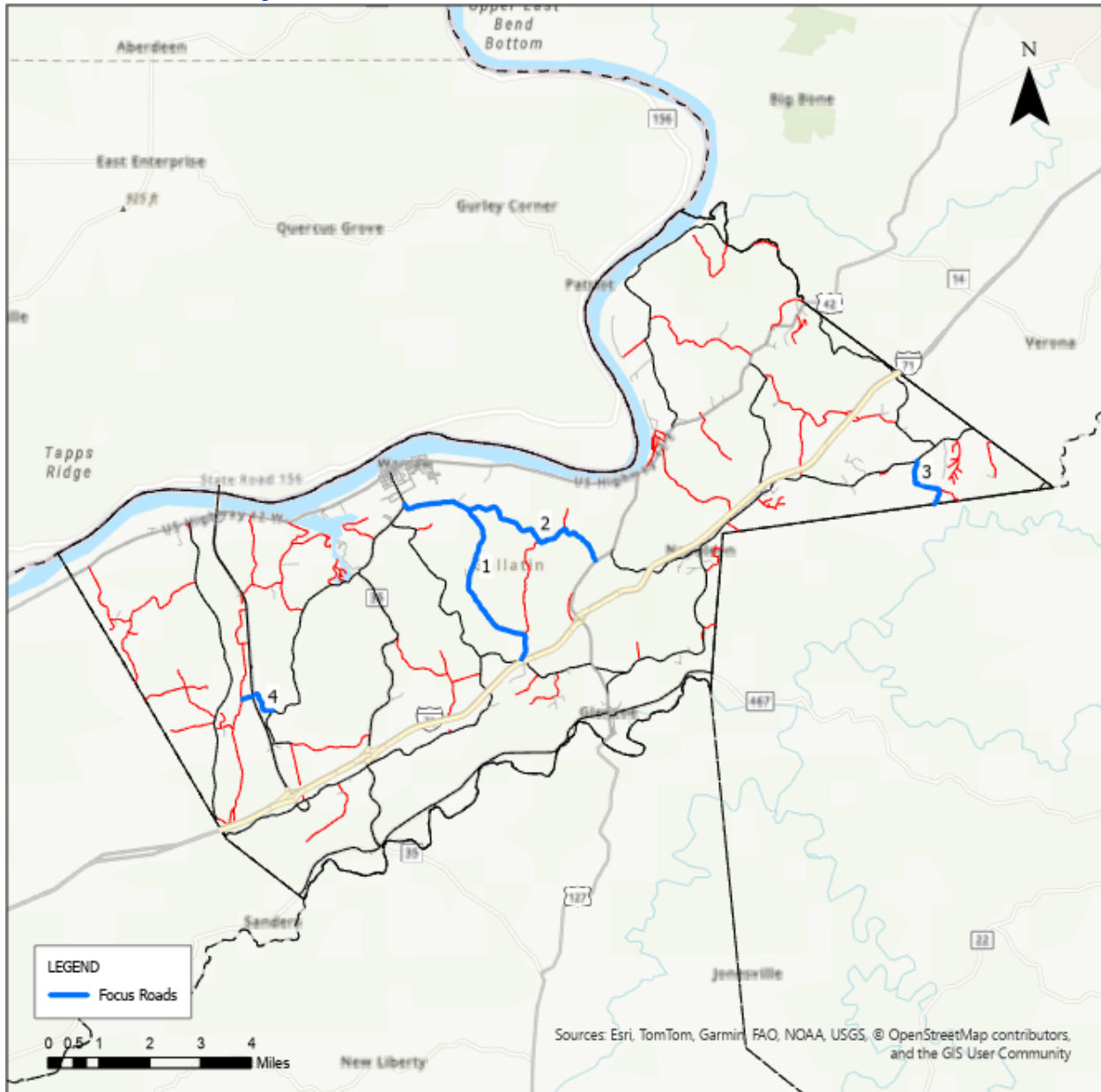


Exhibit Gallatin-8: Focus Roads

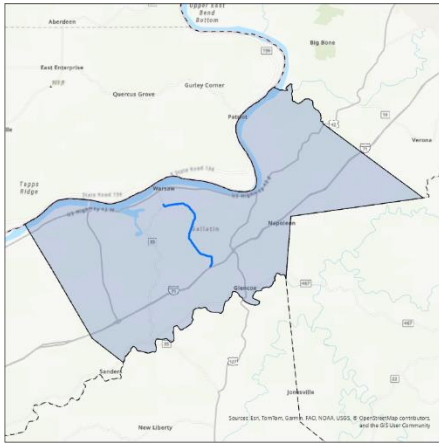
RT UNIQUE	Length	County	ADP	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
Gallatin										
039-CR-1301 -000	5.122	Gallatin	NKADD	DRY CREEK RD	4	1	18	20.00	6.50	1
039-CR-1100 -000	3.439	Gallatin	NKADD	SPENCER RD	3	0	6	9.96	13.40	2
039-CR-1005 -000	1.259	Gallatin	NKADD	CONCORD RD	1	0	4	3.70	14.99	3
039-CR-1209 -000	0.813	Gallatin	NKADD	GOULD RD	1	0	1	3.13	15.31	4
039-CR-1105 -000	0.302	Gallatin	NKADD	ELLISTON-NAPOLEON RD	2	0	2	6.26	10.06	5
039-CR-1208 -000	5.516	Gallatin	NKADD	KNOX-LILLARD RD	0	0	13	2.45	13.65	6
039-CR-1210 -000	0.427	Gallatin	NKADD	CHAPEL HILL RD	0	0	3	0.57	13.80	7
039-CR-1015A -000	0.419	Gallatin	NKADD	MILLERS RIDGE RD	0	0	1	0.19	9.24	8

Exhibit Gallatin-9: List of Focus Roadways

Recommended Improvements (Top 5 Roads)

DRY CREEK RD (039-CR-1301 -000)

Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	6	3	0	9
Head On	2	0	0	2
SS - Opp	2	0	0	2
Angle	1	0	0	1
SS - Same	0	0	0	0
Backing	0	0	0	0
Left Turn	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

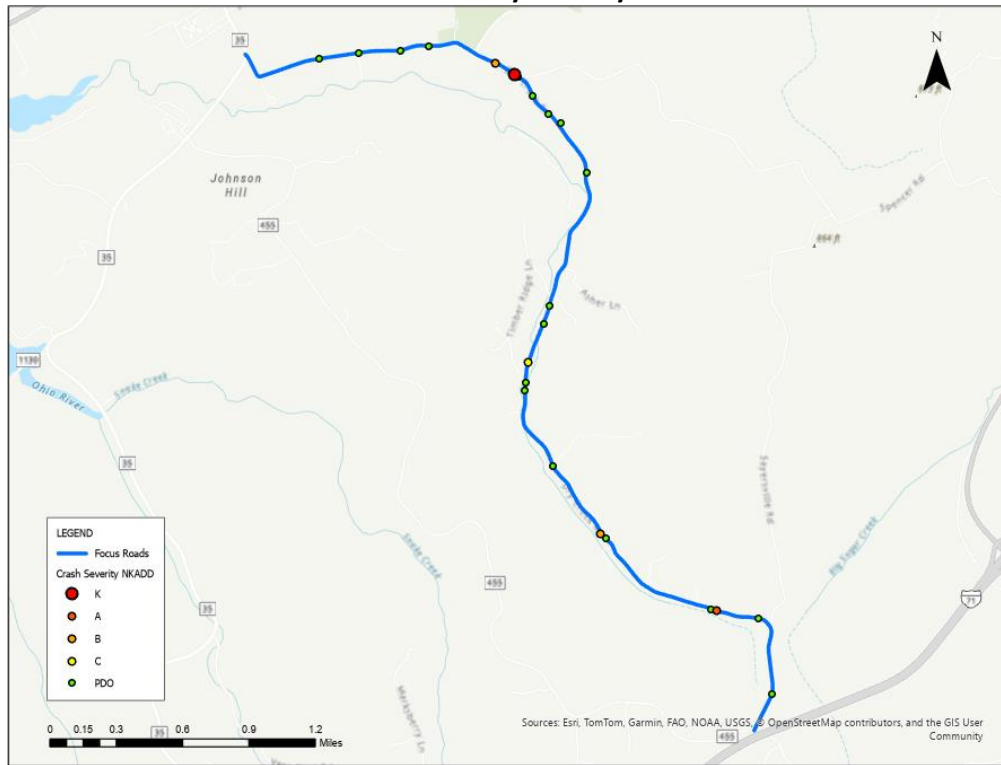
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Ratl
1518	039-CR-1301 -000	DRY CREEK RD	15	2	5

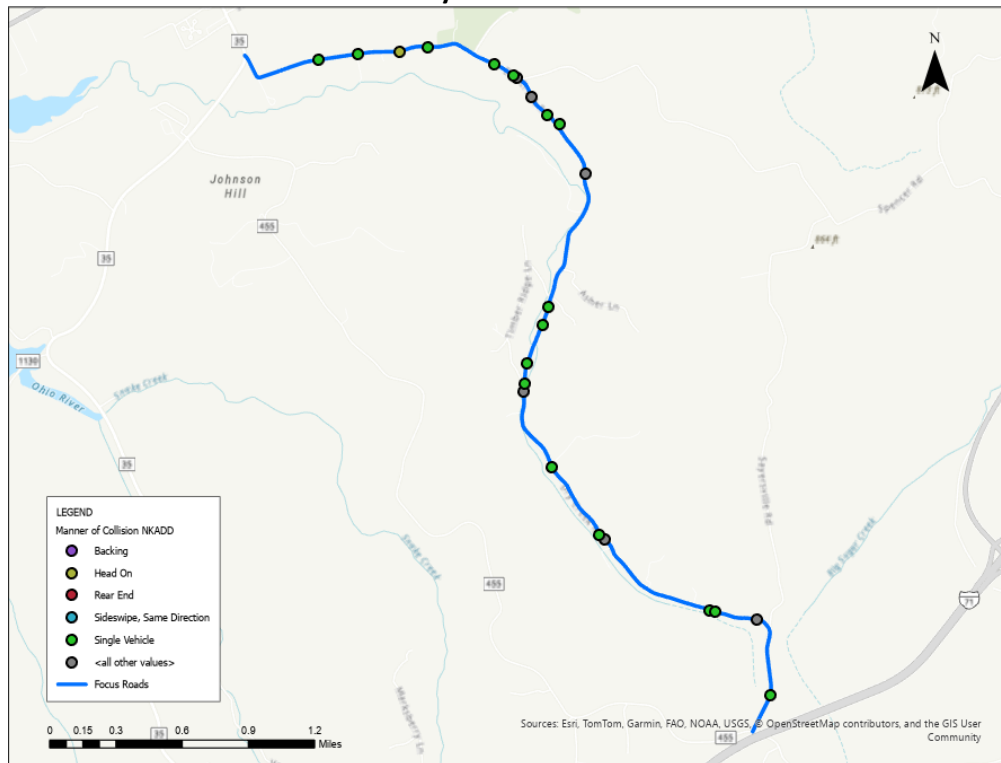
Roadway Typical Section



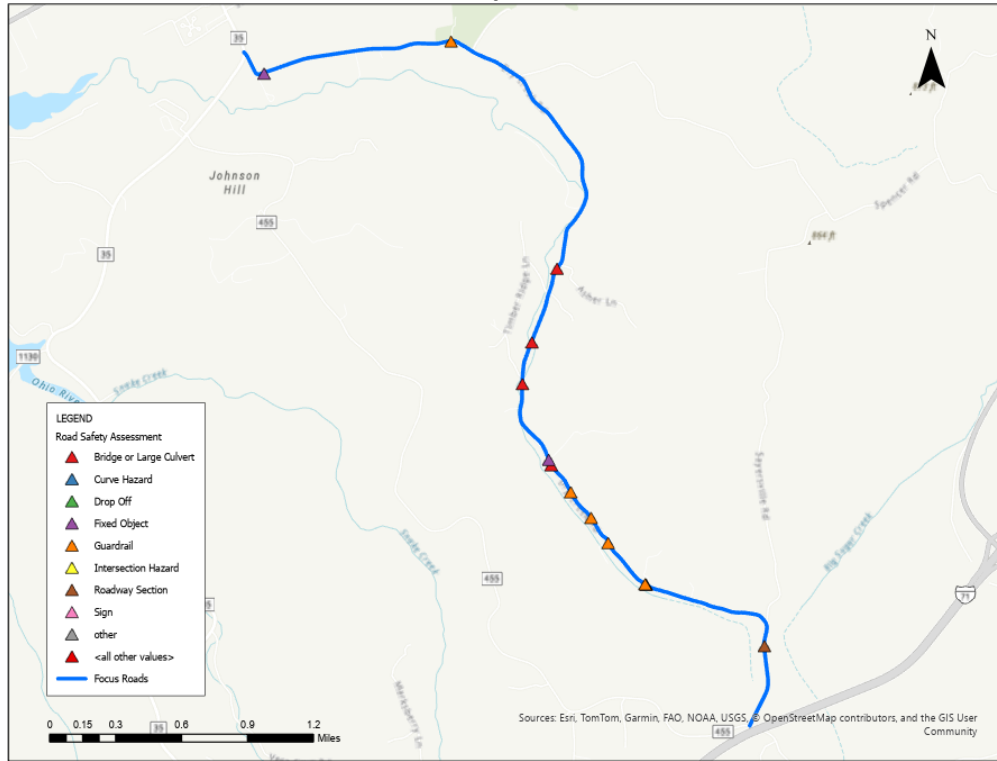
Crashes by Severity



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 (ft)	Improve Should	Edgeline	Curve Signing	Other Recommendations
1518	039-CR-1301-000	DRY CREEK RD	15	2	5	20-40	✓	✓	✓	Resurface
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
1519	039-CR-1301-000	DRY CREEK RD	Drop Off	3-5	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
1526	039-CR-1301-000	DRY CREEK RD	Fixed Object	Utility Pole;	Series	3-5	--			
1539	039-CR-1301-000	DRY CREEK RD	Fixed Object	Utility Pole;	Series	3-5	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
1521	039-CR-1301-000	DRY CREEK RD	Guardrail	Fair	Yes	All	--			
1522	039-CR-1301-000	DRY CREEK RD	Guardrail	Fair	Yes	All	--			
1523	039-CR-1301-000	DRY CREEK RD	Guardrail	Fair	Yes	All	--			
1524	039-CR-1301-000	DRY CREEK RD	Guardrail	Poor	Yes	All	Upgrade or replace guardrail installation.			
1541	039-CR-1301-000	DRY CREEK RD	Guardrail	Good	No	All	Evaluate need			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
1520	039-CR-1301-000	DRY CREEK 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)			
1525	039-CR-1301-000	DRY CREEK RD	Bridge or Large Culvert	10	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers			
1527	039-CR-1301-000	DRY CREEK RD	Bridge or Large Culvert	10	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers			
1528	039-CR-1301-000	DRY CREEK RD	Bridge or Large Culvert	10	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers			
1530	039-CR-1301-000	DRY CREEK RD	Bridge or Large Culvert	8	0	2	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)			

SPENCER RD (039-CR-1100 -000)

Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	4	0	0	4
SS - Opp	2	0	0	2
Head On	0	1	0	1
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Backing	0	0	0	0
Angle	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate
1547	039-CR-1100 -000	SPENCER RD	15	5	3

Roadway Typical Section



Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment

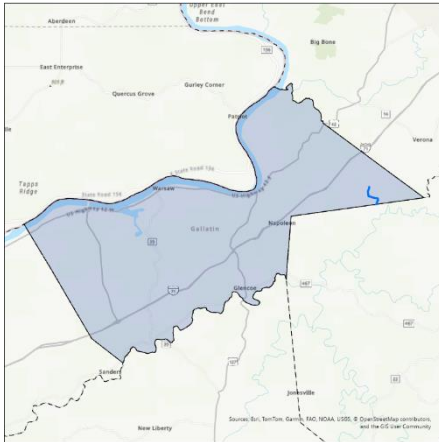


General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
1547	039-CR-1100 -000	SPENCER RD	15	5	3	0-20		✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
1546	039-CR-1100 -000	SPENCER RD	Drop Off	3-5	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
1550	039-CR-1100 -000	SPENCER RD	Fixed Object	Tree;	Series	1-3	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
1552	039-CR-1100 -000	SPENCER RD	Guardrail	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)			

CONCORD RD (039-CR-1005 -000)

Road Location Map and Crash History



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

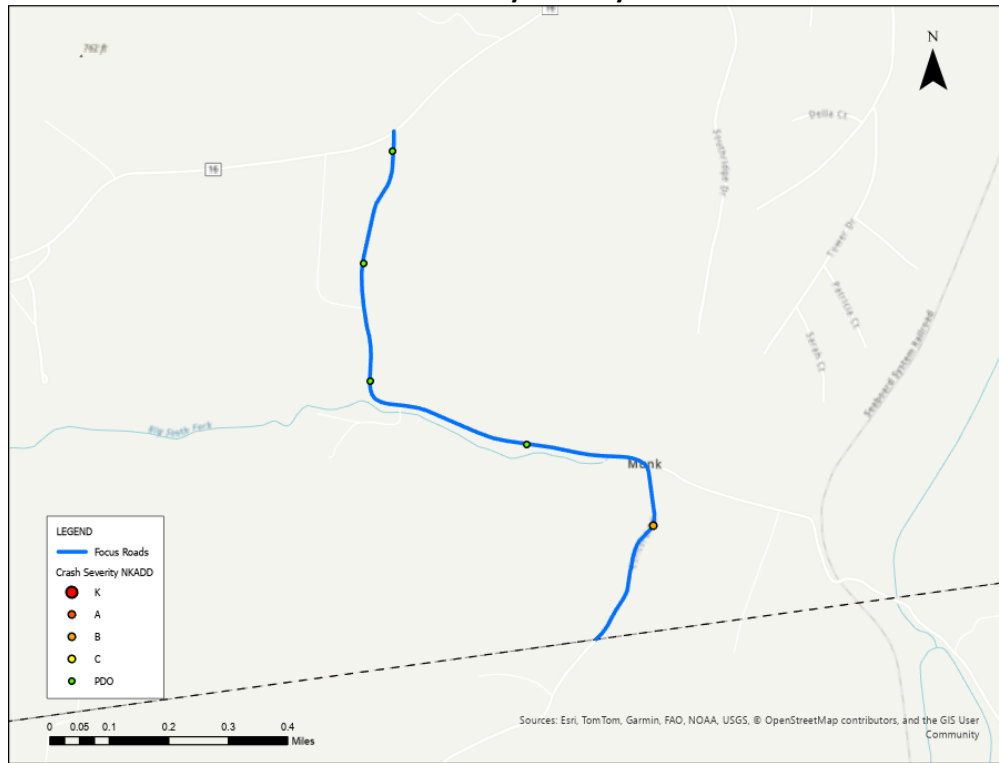
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Ratio
1567	039-CR-1005 -000	CONCORD RD	15	4	2
1610	039-CR-1005 -000	CONCORD RD	15	3	5

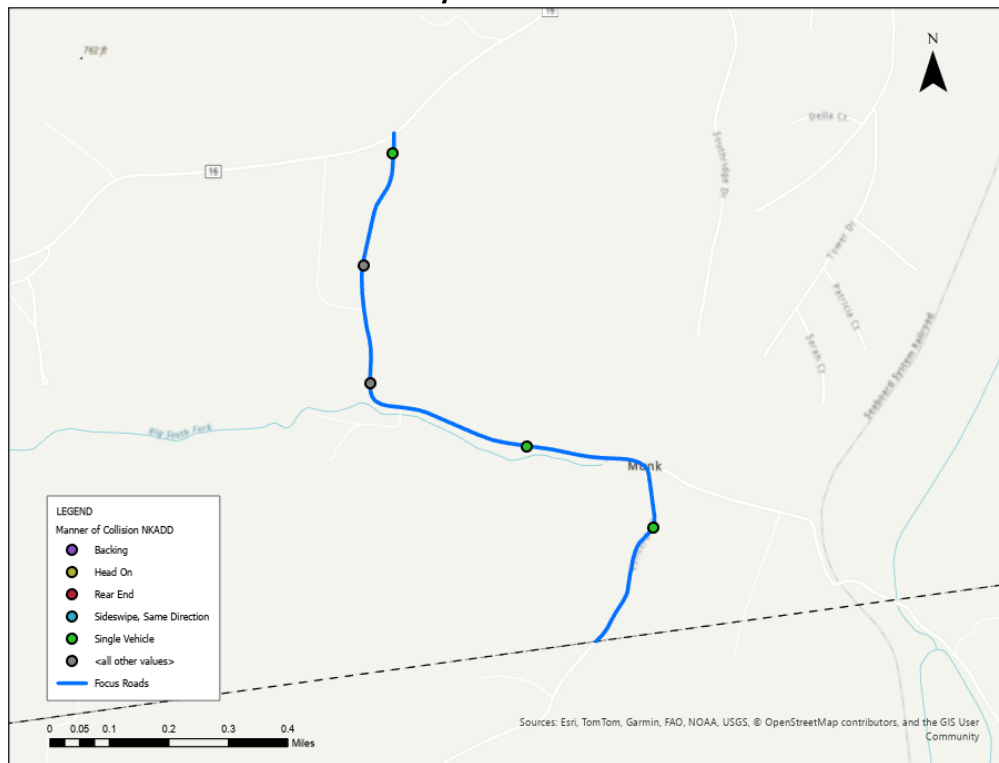
Roadway Typical Section



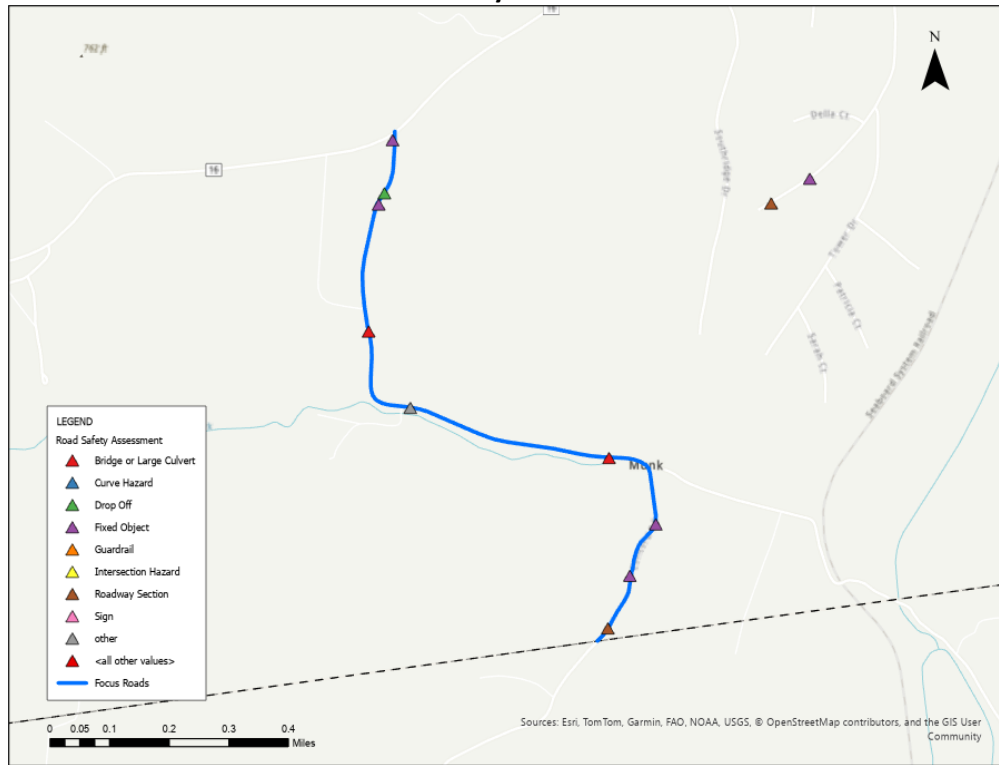
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



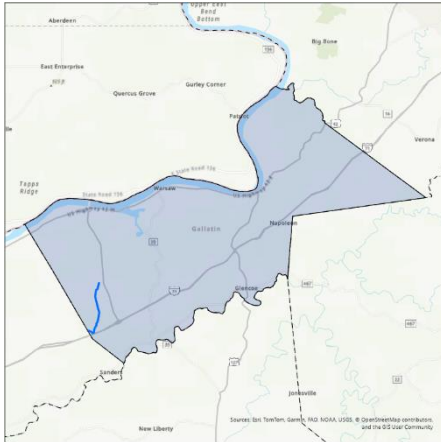
General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
1567	039-CR-1005 -000	CONCORD RD	15	4	2	0-20		✓	✓	
1610	039-CR-1005 -000	CONCORD RD	15	3	5	20-40	✓	✓	✓	

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
1600	039-CR-1005 -000	CONCORD RD	Drop Off	3-5	5-10	--	Install Type 2 Object Marker(s) or Delineators
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
1566	039-CR-1005 -000	CONCORD RD	Fixed Object	other; 4x4 stake	Single	0-1	Remove
1599	039-CR-1005 -000	CONCORD RD	Fixed Object	Utility Pole;	Series	3-5	--
1601	039-CR-1005 -000	CONCORD RD	Fixed Object	Tree;	Series	3-5	--
1605	039-CR-1005 -000	CONCORD RD	Fixed Object	Tree;	Single	0-1	Remove
1606	039-CR-1005 -000	CONCORD RD	Fixed Object	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
1602	039-CR-1005 -000	CONCORD RD	Bridge or Large Culvert	18	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
1604	039-CR-1005 -000	CONCORD RD	Bridge or Large Culvert	16	4	0	Evaluate need for Type 3 Object Markers
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation
1603	039-CR-1005 -000	CONCORD RD	other	--	--	Concrete head wall, but not very large;	Install Type 2 or 3 Object Marker(s)

KNOX-LILLARD RD (039-CR-1208 -000)

Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
SS - Opp	8	0	0	8
Single Vehicle	8	0	0	8
Angle	3	0	0	3
Backing	1	0	0	1
SS - Same	1	0	0	1
Rear End	1	0	0	1
Head On	0	0	0	0
Left Turn	0	0	0	0
Rear to Rear	0	0	0	0

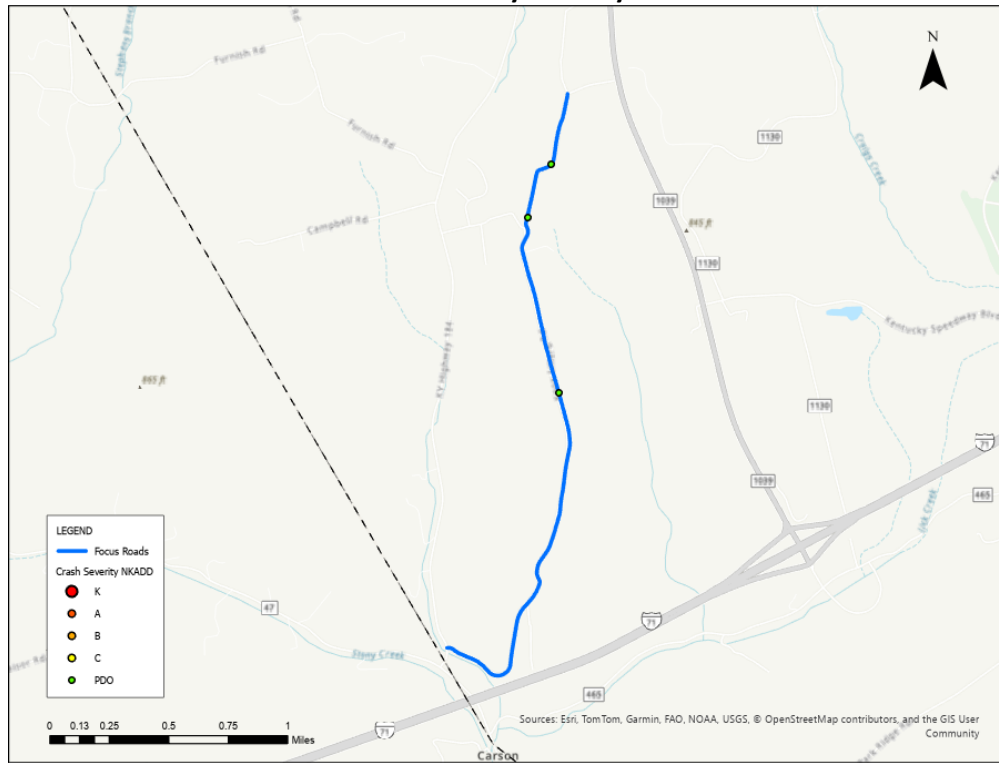
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating
1616	039-CR-1208 -000	KNOX-LILLARD RD	13	3	4

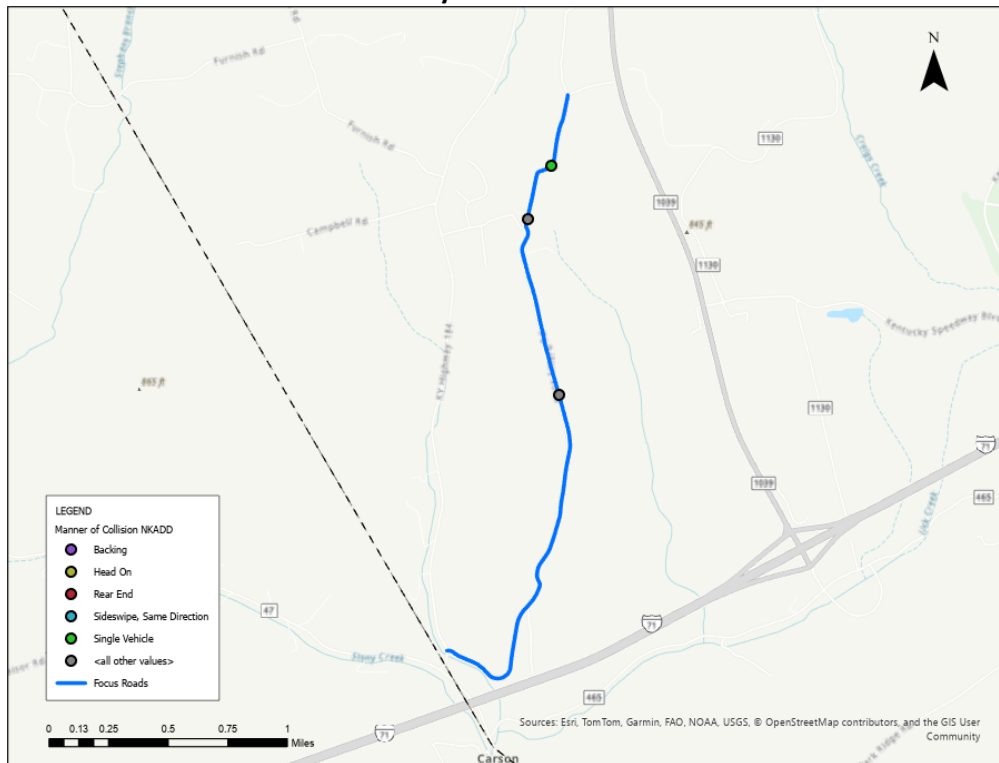
Roadway Typical Section



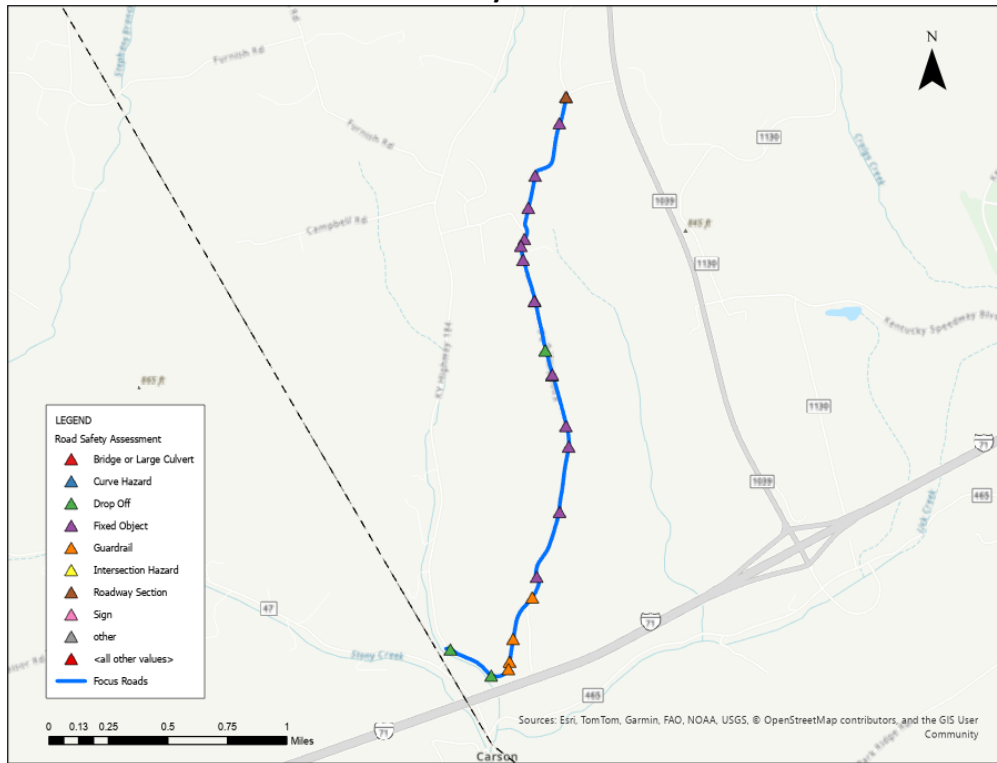
Crashes by Severity



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
1616	039-CR-1208 -000	KNOX-LILLARD RD	13	3	4	0-20		✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
1629	039-CR-1208 -000	KNOX-LILLARD RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
1630	039-CR-1208 -000	KNOX-LILLARD RD	Drop Off	3-5	2-5	--	Install Type 2 Object Marker(s) or Delineators			
1632	039-CR-1208 -000	KNOX-LILLARD RD	Drop Off	3-5	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
1642	039-CR-1208 -000	KNOX-LILLARD RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineators			
1643	039-CR-1208 -000	KNOX-LILLARD RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineators			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
1617	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Utility Pole;	Series	3-5	--			
1618	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Tree;	Series	0-1	Remove trees within 3 ft of roadway			
1621	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
1622	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Tree;	Series	1-3	--			
1625	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Tree;	Series	1-3	--			
1626	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)			
1627	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
1628	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Utility Pole;	Series	3-5	--			
1631	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Tree;	Single	1-3	Remove			
1633	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
1634	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Tree;	Series	1-3	--			
1635	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)			
1637	039-CR-1208 -000	KNOX-LILLARD RD	Fixed Object	Tree;	Series	1-3	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
1638	039-CR-1208 -000	KNOX-LILLARD RD	Guardrail	Fair	No	All	--			
1639	039-CR-1208 -000	KNOX-LILLARD RD	Guardrail	Poor	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers			
1640	039-CR-1208 -000	KNOX-LILLARD RD	Guardrail	Poor	No	Some	Remove			
1641	039-CR-1208 -000	KNOX-LILLARD RD	Guardrail	Poor	Yes	All	Upgrade or replace guardrail installation.			

LITTLE SUGAR CREEK RD (039-CR-1001 -000)

Road Location Map and Crash History

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

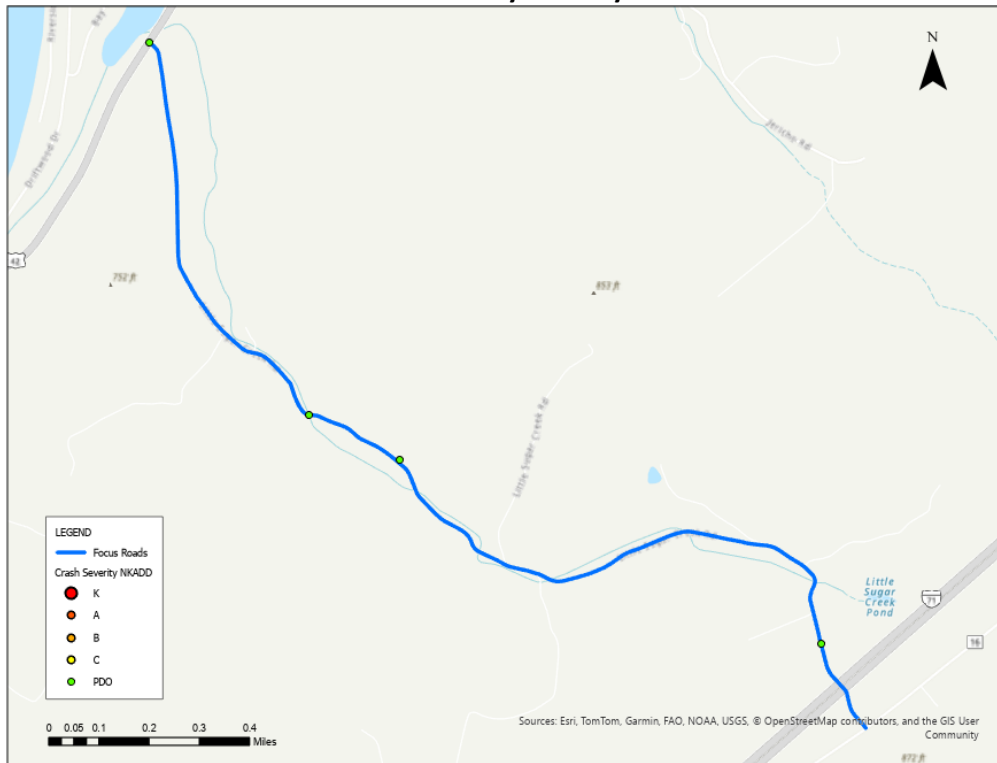
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate
1576	039-CR-1001 -000	LITTLE SUGAR CREEK RD	15	3	6

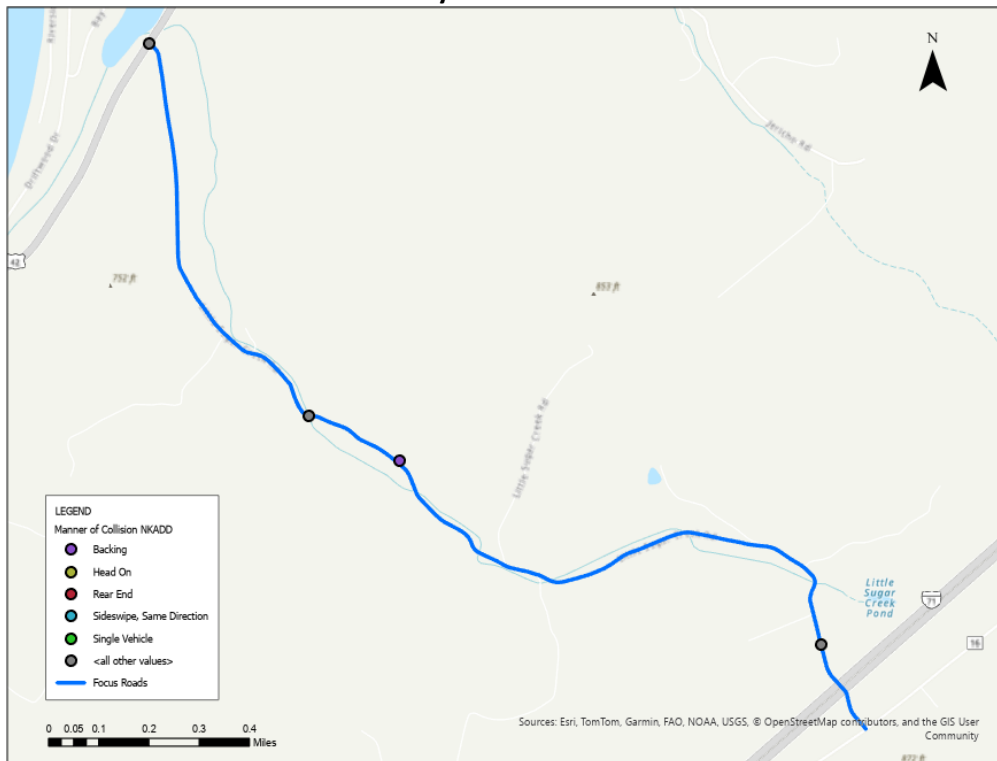
Roadway Typical Section



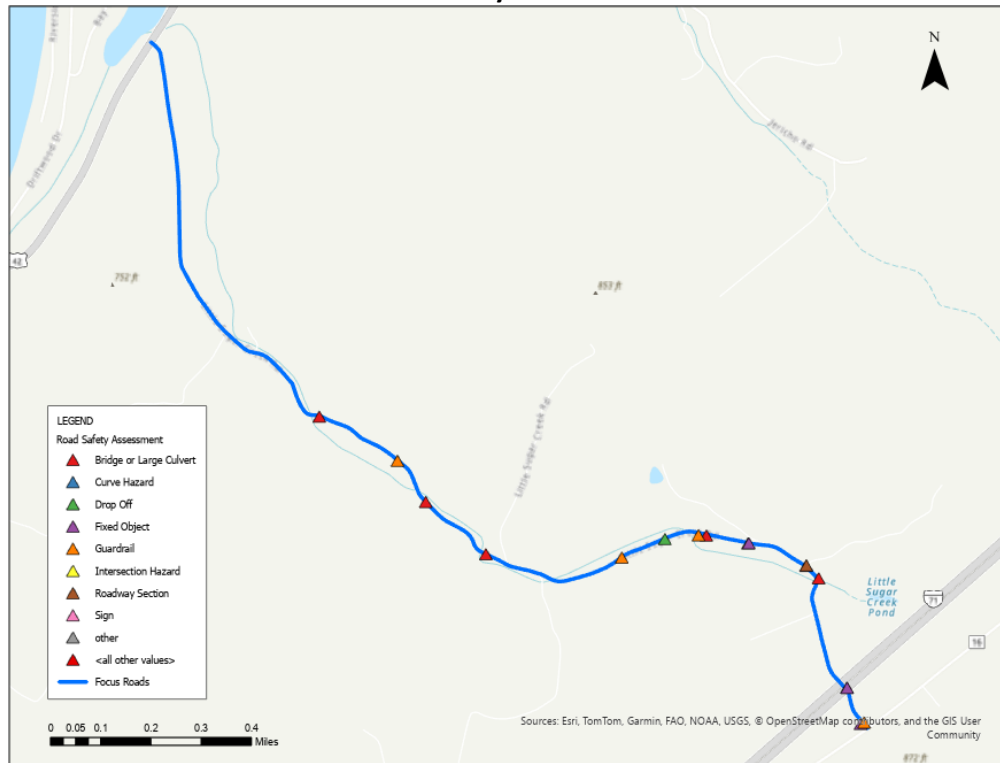
Crashes by Severity



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	Edgeline	Curve Signin	Other Recommendations
1576	039-CR-1001 -000	LITTLE SUGAR CREEK RD	15	3	6	20-40	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
1572	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
1578	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Drop Off	3-5	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
1581	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Drop Off	0-1	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
1571	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Fixed Object	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)			
1573	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Fixed Object	other; Bridge underpass	Series	3-5	--			
1575	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Fixed Object	Tree;	Single	3-5	--			
1577	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
1569	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Guardrail	Poor	Yes	Some	Upgrade or replace guardrail installation w/ proper end treatments			
1579	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Guardrail	Fair	Yes	All	--			
1582	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Guardrail	Fair	Yes	All	--			
1585	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Guardrail	Fair	Yes	All	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
1574	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Bridge or Large Culvert	17	4	0	Evaluate need for Type 3 Object Markers			
1580	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Bridge or Large Culvert	17	4	0	Evaluate need for Type 3 Object Markers			
1583	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Bridge or Large Culvert	15	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers			
1584	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Bridge or Large Culvert	17	4	0	Evaluate need for Type 3 Object Markers			
1586	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Bridge or Large Culvert	15	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers			

Other Roadways

General Roadway Conditions and Recommendations (Gallatin County)

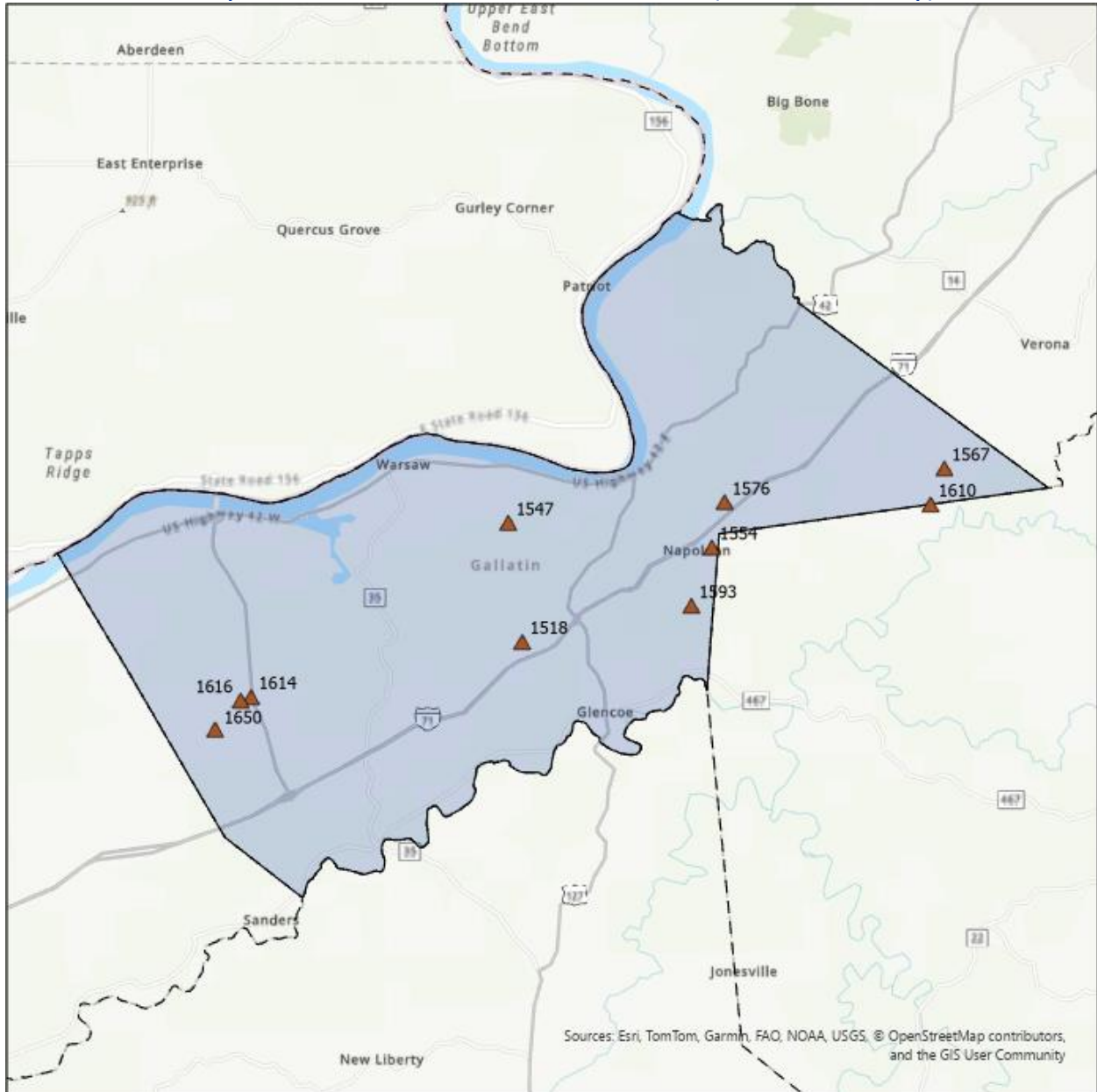


Exhibit Gallatin-F1: General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rat	Shoulder Improve (ft)	Improve Should	Edgelin	Curve Signin	Other Recommendations
1576	039-CR-1001 -000	LITTLE SUGAR CREEK RD	15	3	6	20-40	✓	✓	✓	
1567	039-CR-1005 -000	CONCORD RD	15	4	2	0-20		✓	✓	
1610	039-CR-1005 -000	CONCORD RD	15	3	5	20-40	✓	✓	✓	
1547	039-CR-1100 -000	SPENCER RD	15	5	3	0-20		✓	✓	
1554	039-CR-1110 -000	WILLOW POINTE DR	16	4	1	0-20		✓	✓	
1616	039-CR-1208 -000	KNOX-LILLARD RD	13	3	4	0-20		✓	✓	
1614	039-CR-1209 -000	GOULD RD	20	4	3	0-20		EL & CL	✓	
1650	039-CR-1210 -000	CHAPEL HILL RD	17	3	4	0-20		✓	✓	
1518	039-CR-1301 -000	DRY CREEK RD	15	2	5	20-40	✓	✓	✓	Resurface
1593	039-KY-0016 -000	KY-16	10	3	2	0-20				

Exhibit Gallatin-F2: General Roadway Recommendations

Bridge / Culvert Recommendations (Gallatin County)

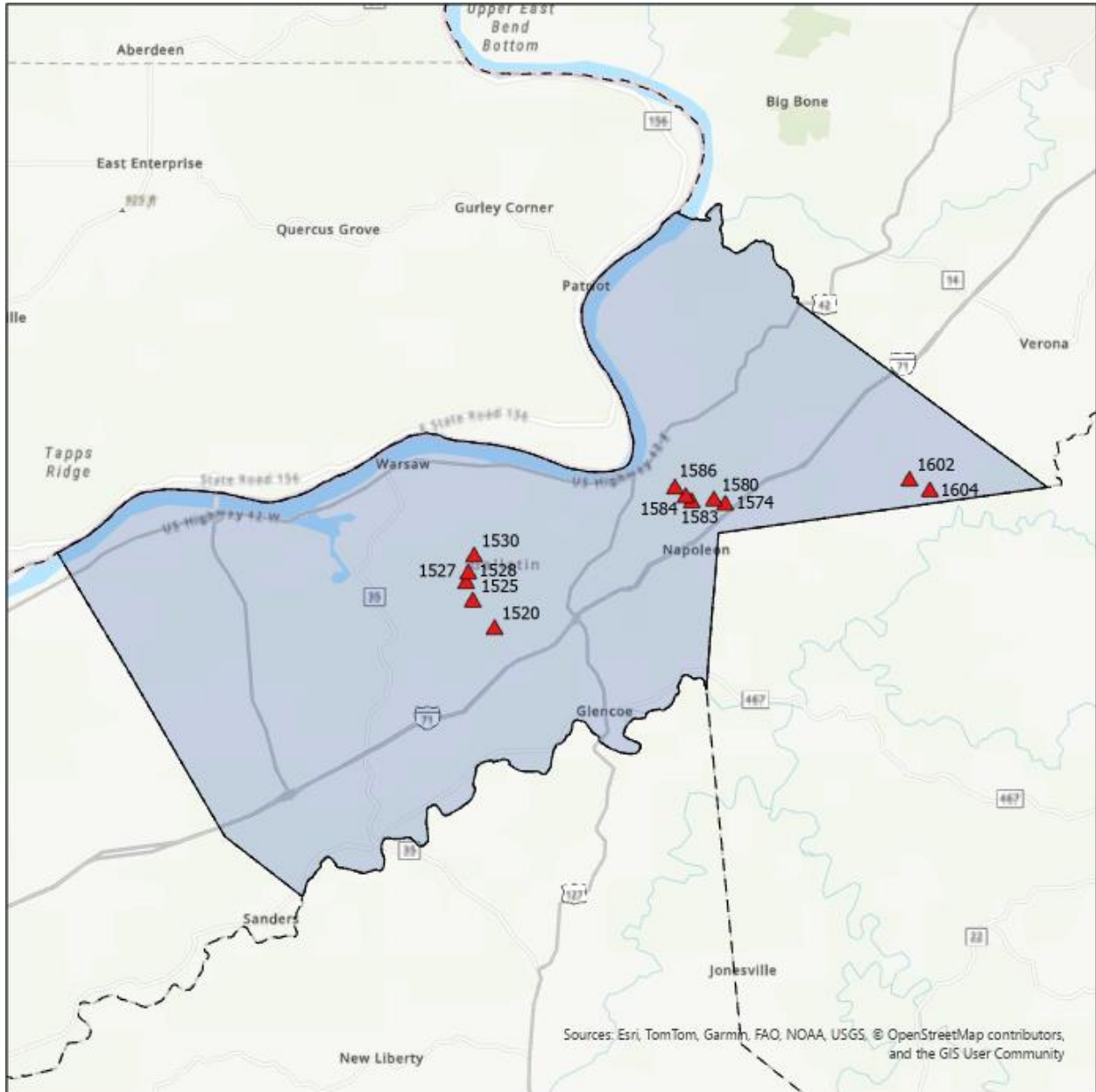


Exhibit Gallatin-F3: Bridge / Culvert Locations

Point ID	RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
1574	039-CR-1001 -000	LITTLE SUGAR CREEK RD	17	4	0	Evaluate need for Type 3 Object Markers
1580	039-CR-1001 -000	LITTLE SUGAR CREEK RD	17	4	0	Evaluate need for Type 3 Object Markers
1583	039-CR-1001 -000	LITTLE SUGAR CREEK RD	15	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
1584	039-CR-1001 -000	LITTLE SUGAR CREEK RD	17	4	0	Evaluate need for Type 3 Object Markers
1586	039-CR-1001 -000	LITTLE SUGAR CREEK RD	15	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
1602	039-CR-1005 -000	CONCORD RD	18	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
1604	039-CR-1005 -000	CONCORD RD	16	4	0	Evaluate need for Type 3 Object Markers
1520	039-CR-1301 -000	DRY CREEK RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
1525	039-CR-1301 -000	DRY CREEK RD	10	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
1527	039-CR-1301 -000	DRY CREEK RD	10	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
1528	039-CR-1301 -000	DRY CREEK RD	10	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
1530	039-CR-1301 -000	DRY CREEK RD	8	0	2	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)

Exhibit Gallatin-F4: Bridge / Culvert Recommendations

Roadside Drop Off Recommendations (Gallatin County)

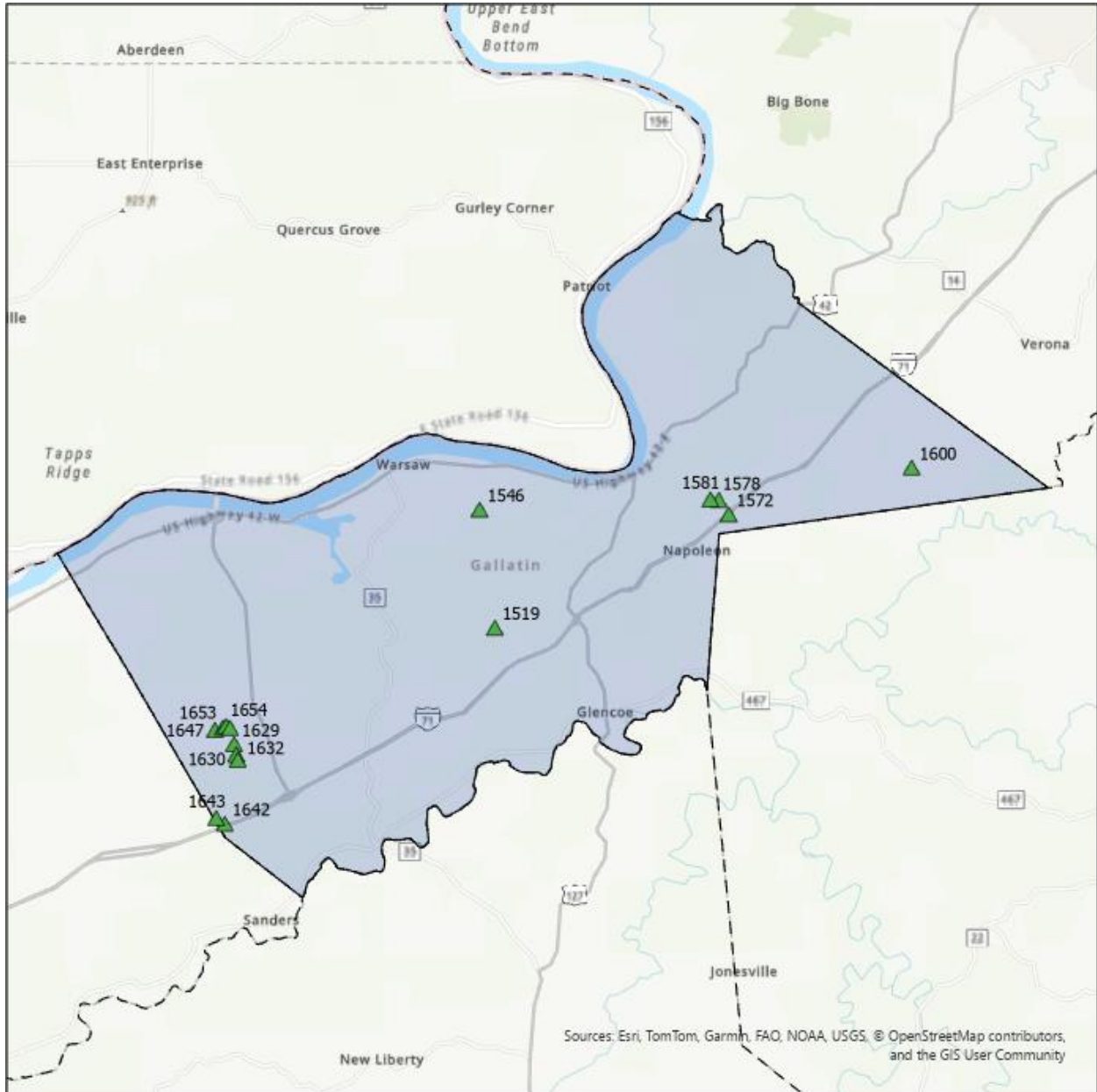


Exhibit Gallatin-F7: Roadside Drop Off Locations

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
1572	039-CR-1001 -000	LITTLE SUGAR CREEK RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1578	039-CR-1001 -000	LITTLE SUGAR CREEK RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1581	039-CR-1001 -000	LITTLE SUGAR CREEK RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1600	039-CR-1005 -000	CONCORD RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineators
1546	039-CR-1100 -000	SPENCER RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1629	039-CR-1208 -000	KNOX-LILLARD RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1630	039-CR-1208 -000	KNOX-LILLARD RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineators
1632	039-CR-1208 -000	KNOX-LILLARD RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1642	039-CR-1208 -000	KNOX-LILLARD RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineators
1643	039-CR-1208 -000	KNOX-LILLARD RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineators
1647	039-CR-1210 -000	CHAPEL HILL RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1653	039-CR-1210 -000	CHAPEL HILL RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1654	039-CR-1210 -000	CHAPEL HILL RD	1-3	5-10	--
1656	039-CR-1210 -000	CHAPEL HILL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineators
1519	039-CR-1301 -000	DRY CREEK RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)

Exhibit Gallatin-F8: Roadside Drop Off Recommendations

Fixed Object Recommendations (Gallatin County)

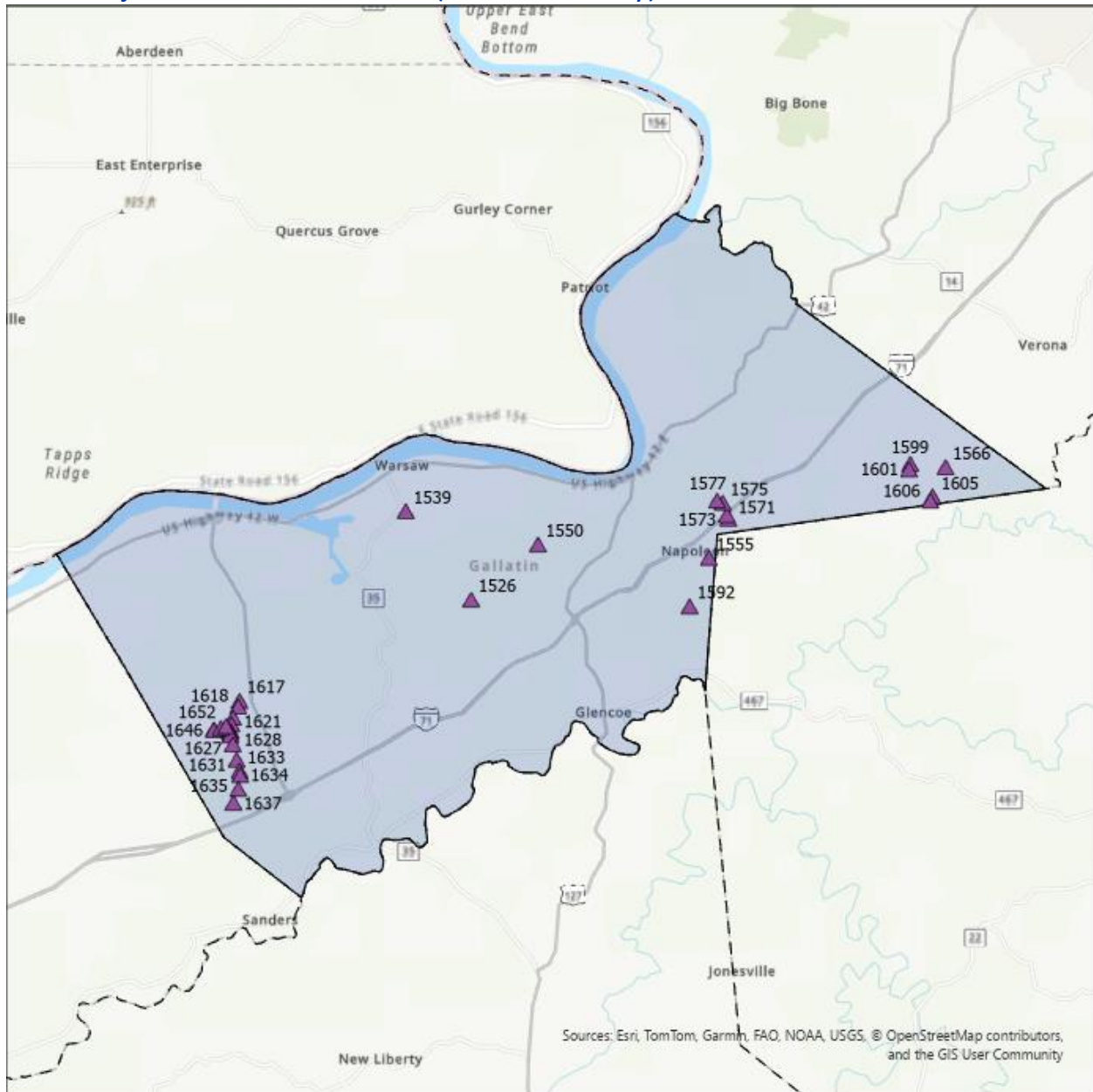


Exhibit Gallatin-F9: Fixed Object Locations

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
1526	039-CR-1301 -000	DRY CREEK RD	Utility Pole;	Series	3-5	--
1539	039-CR-1301 -000	DRY CREEK RD	Utility Pole;	Series	3-5	--
1550	039-CR-1100 -000	SPENCER RD	Tree;	Series	1-3	--
1555	039-CR-1110 -000	WILLOW POINTE DR	Utility Pole;	Series	3-5	--
1566	039-CR-1005 -000	CONCORD RD	other; 4x4 stake	Single	0-1	Remove
1571	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)
1573	039-CR-1001 -000	LITTLE SUGAR CREEK RD	other; Bridge underpass	Series	3-5	--
1575	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Tree;	Single	3-5	--
1577	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1592	039-KY-0016 -000	KY-16	Tree;	Series	0-1	Remove trees within 3 ft of roadway
1599	039-CR-1005 -000	CONCORD RD	Utility Pole;	Series	3-5	--
1601	039-CR-1005 -000	CONCORD RD	Tree;	Series	3-5	--
1605	039-CR-1005 -000	CONCORD RD	Tree;	Single	0-1	Remove
1606	039-CR-1005 -000	CONCORD RD	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)
1617	039-CR-1208 -000	KNOX-LILLARD RD	Utility Pole;	Series	3-5	--
1618	039-CR-1208 -000	KNOX-LILLARD RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
1621	039-CR-1208 -000	KNOX-LILLARD RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1622	039-CR-1208 -000	KNOX-LILLARD RD	Tree;	Series	1-3	--
1625	039-CR-1208 -000	KNOX-LILLARD RD	Tree;	Series	1-3	--
1626	039-CR-1208 -000	KNOX-LILLARD RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
1627	039-CR-1208 -000	KNOX-LILLARD RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1628	039-CR-1208 -000	KNOX-LILLARD RD	Utility Pole;	Series	3-5	--
1631	039-CR-1208 -000	KNOX-LILLARD RD	Tree;	Single	1-3	Remove
1633	039-CR-1208 -000	KNOX-LILLARD RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1634	039-CR-1208 -000	KNOX-LILLARD RD	Tree;	Series	1-3	--
1635	039-CR-1208 -000	KNOX-LILLARD RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
1637	039-CR-1208 -000	KNOX-LILLARD RD	Tree;	Series	1-3	--
1646	039-CR-1210 -000	CHAPEL HILL RD	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)
1649	039-CR-1210 -000	CHAPEL HILL RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1652	039-CR-1210 -000	CHAPEL HILL RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1655	039-CR-1210 -000	CHAPEL HILL RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)

Exhibit Gallatin-F10: Fixed Object Recommendations

Guardrail Recommendations (Gallatin County)

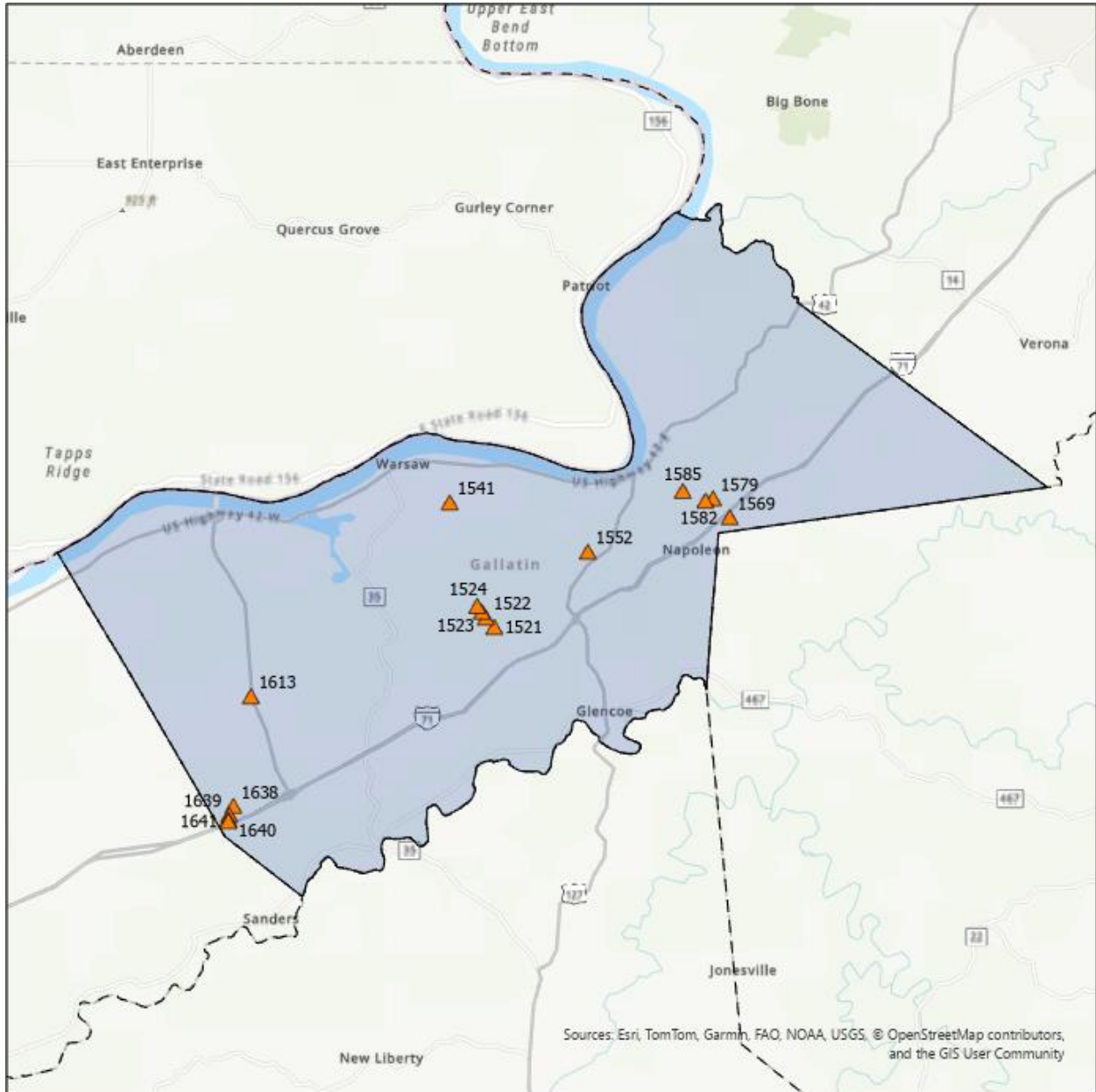


Exhibit Gallatin-F11: Guardrail Locations

Point ID	RT_UNIQUE	Road Name	Condition	Meet Warrant	End Treatment	Recommendation
1521	039-CR-1301 -000	DRY CREEK RD	Fair	Yes	All	--
1522	039-CR-1301 -000	DRY CREEK RD	Fair	Yes	All	--
1523	039-CR-1301 -000	DRY CREEK RD	Fair	Yes	All	--
1524	039-CR-1301 -000	DRY CREEK RD	Poor	Yes	All	Upgrade or replace guardrail installation.
1541	039-CR-1301 -000	DRY CREEK RD	Good	No	All	Evaluate need
1552	039-CR-1100 -000	SPENCER RD	Good	Yes	Some	Install/Upgrade End Treatments and/or Type 3 Object Marker(s)
1569	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Poor	Yes	Some	Upgrade or replace guardrail installation w/ proper end treatments
1579	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Fair	Yes	All	--
1582	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Fair	Yes	All	--
1585	039-CR-1001 -000	LITTLE SUGAR CREEK RD	Fair	Yes	All	--
1613	039-CR-1209 -000	GOULD RD	Fair	Yes	All	--
1638	039-CR-1208 -000	KNOX-LILLARD RD	Fair	No	All	--
1639	039-CR-1208 -000	KNOX-LILLARD RD	Poor	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers
1640	039-CR-1208 -000	KNOX-LILLARD RD	Poor	No	Some	Remove
1641	039-CR-1208 -000	KNOX-LILLARD RD	Poor	Yes	All	Upgrade or replace guardrail installation.

Exhibit Gallatin-F12: Guardrail Recommendations

Other Recommendations (Gallatin County)

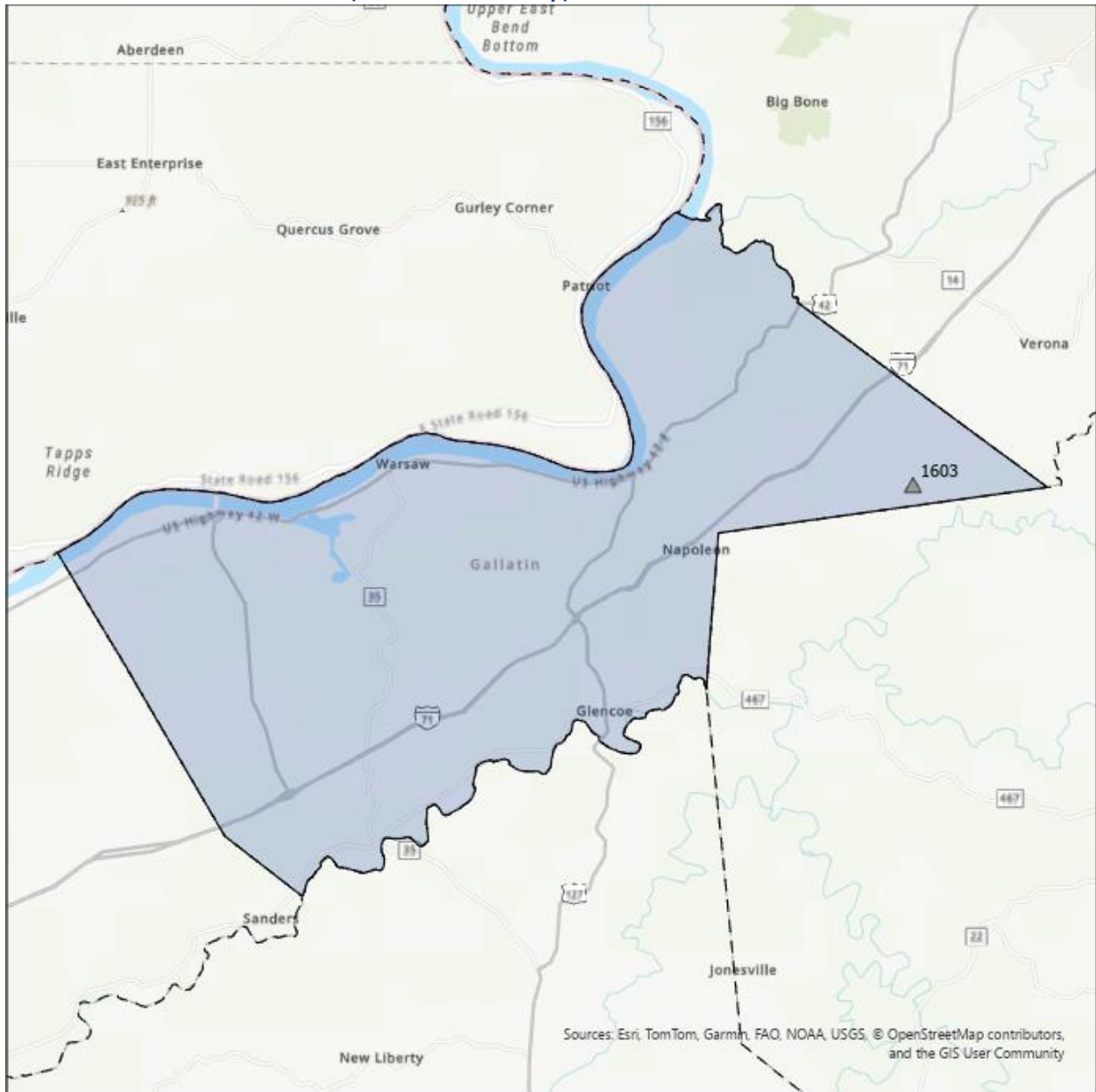
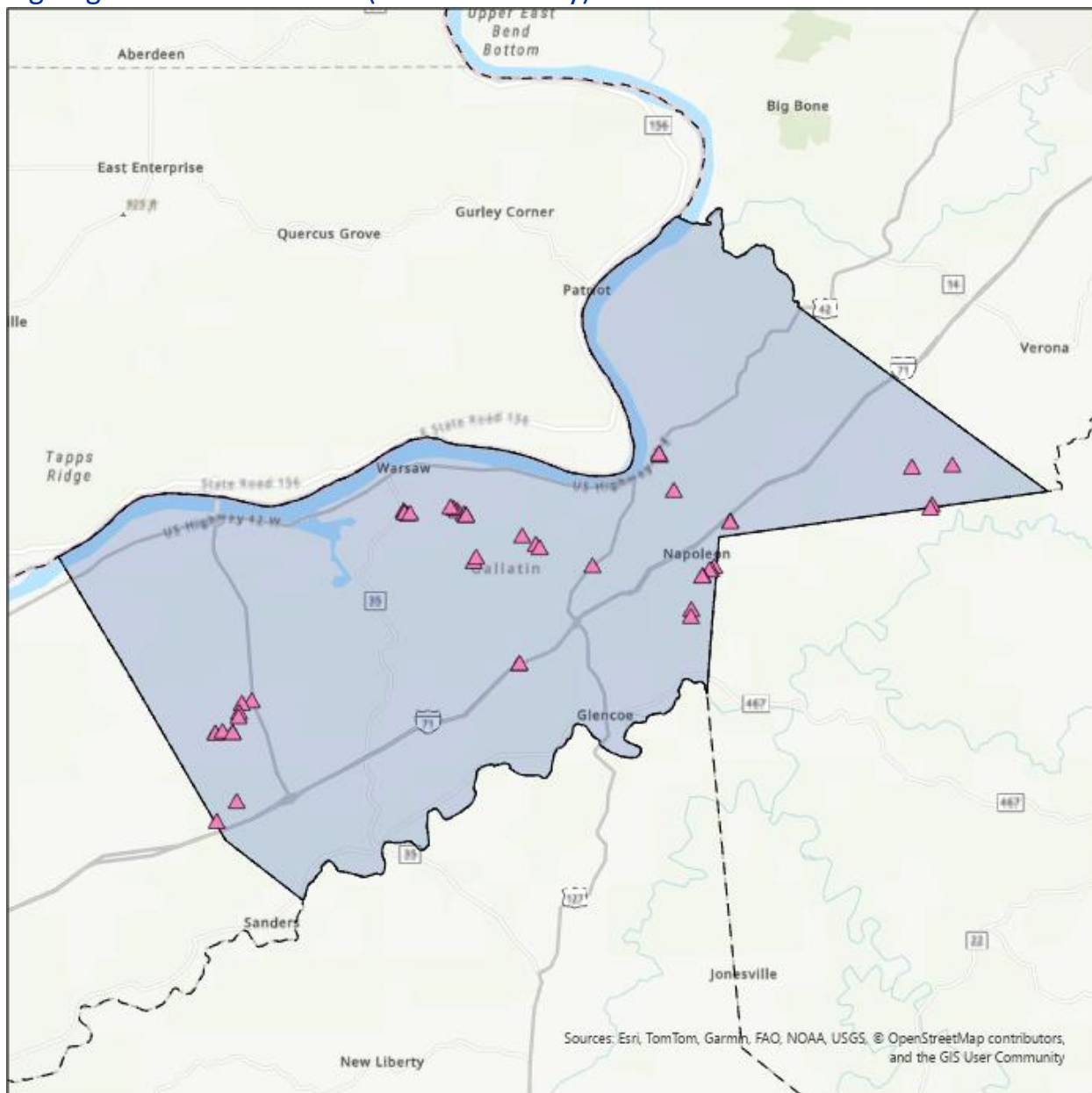


Exhibit Gallatin-F15: Other Item Locations

Point ID	RT_UNIQUE	RD_NAME	Description	Recommendation
1603	039-CR-1005 -000	CONCORD RD	Concrete head wall, but not very large;	Install Type 2 or 3 Object Marker(s)

Exhibit Gallatin-F16: Other Item Recommendations

Signing Recommendations (Gallatin County)



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/nkaddSAP>.

APPENDIX G: GRANT COUNTY SAFETY ACTION PLAN

Grant County Overview

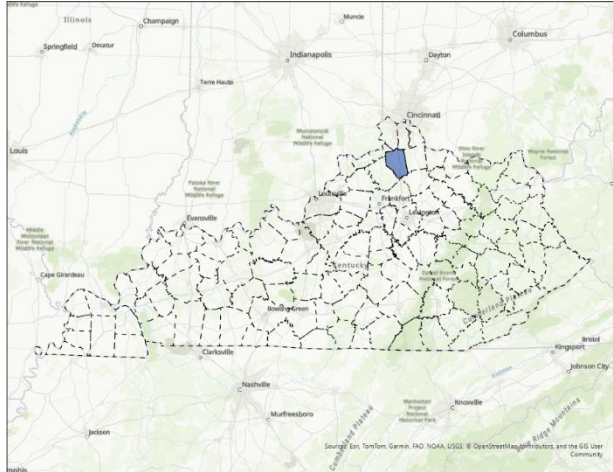


Exhibit Grant-1: Location Map

Key Information Table Grant County	
Population	25,619
Population in Persistent Poverty	16%
Underserved Community	No
Fatalities (All Roads)	35
Fatalities (County Roads)	3
Fatality rate per 100,000 persons	136.62
County Road Mileage	231.9
State Road Mileage	189.5
Total Mileage	421.4

Exhibit Grant-2: Key Information

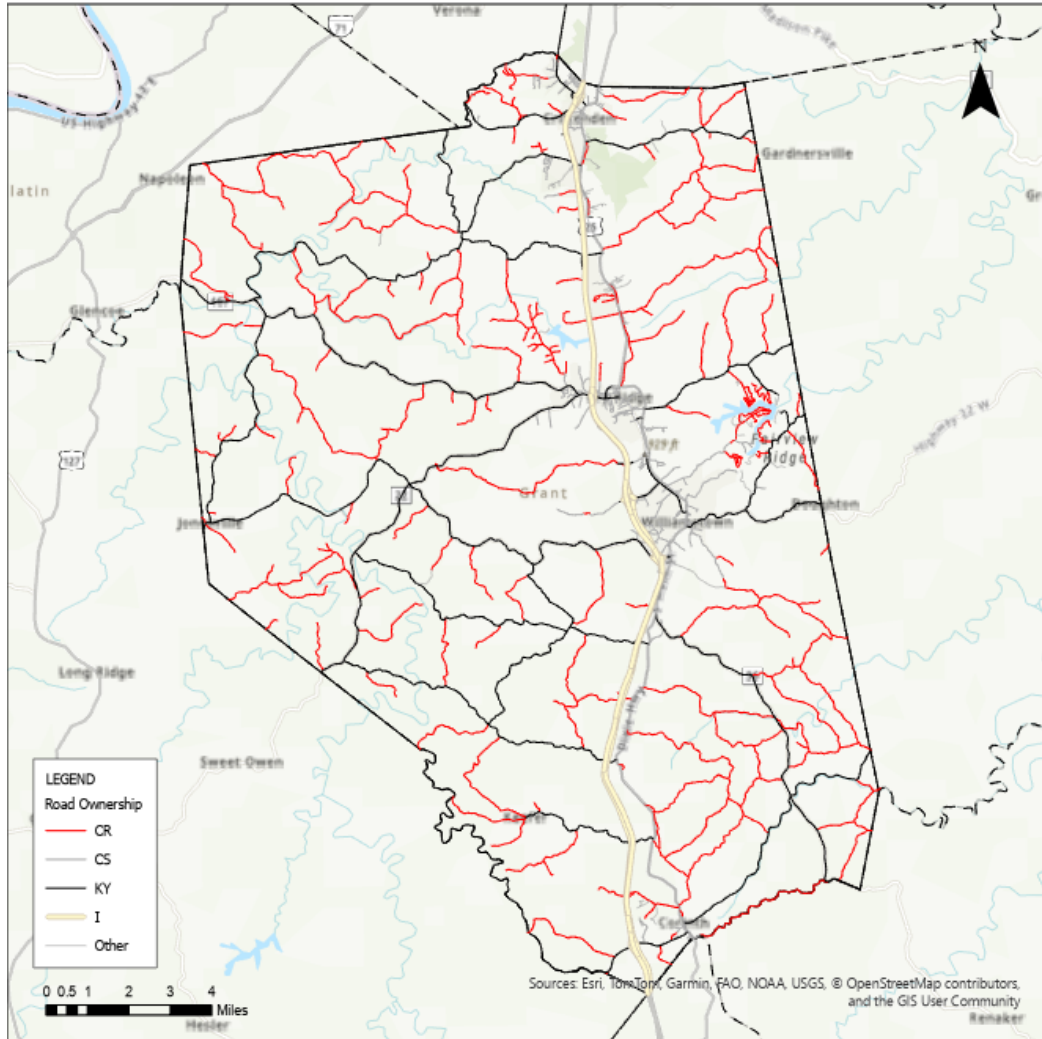


Figure Grant-3: Map of County Roadways

Crash Analysis

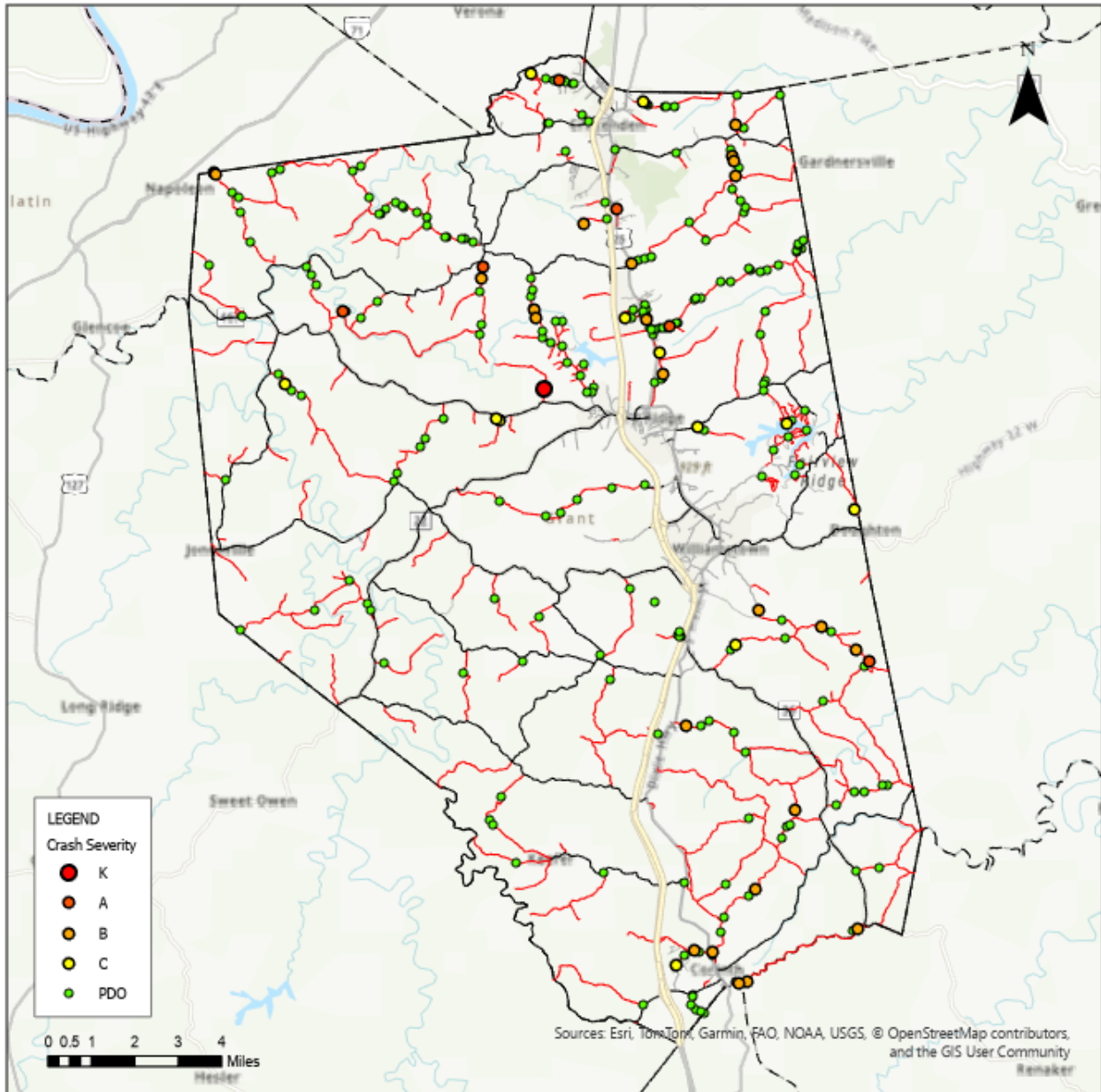


Figure Grant-4: Map of County Road Crashes



Figure Grant-5: Crash Distribution by Year

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	120	23	2	145
SS - Opp	54	3	0	57
Head On	16	11	1	28
Backing	18	0	0	18
Angle	11	3	0	14
Rear End	9	0	0	9
SS - Same	7	1	0	8
Left Turn	1	0	0	1
Rear to Rear	0	0	0	0

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

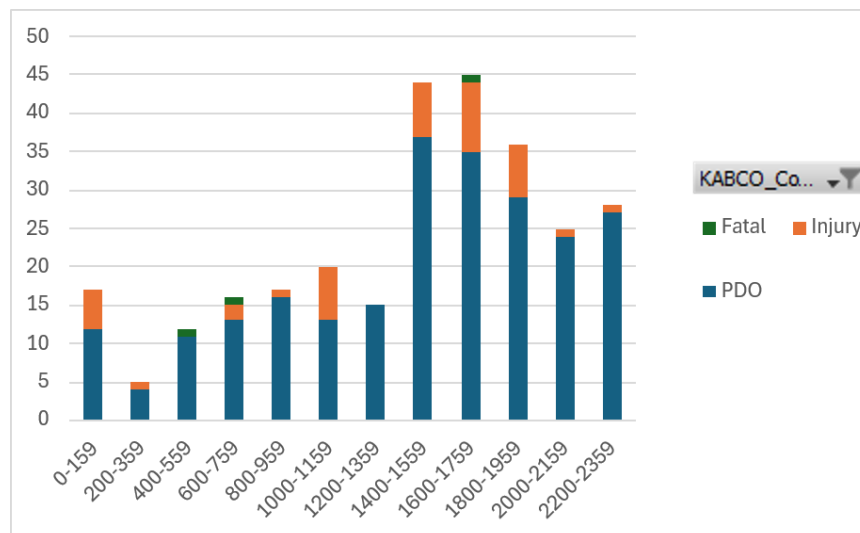


Exhibit Grant-7: Crashes and Severity by Time of Day

Focus Roadways

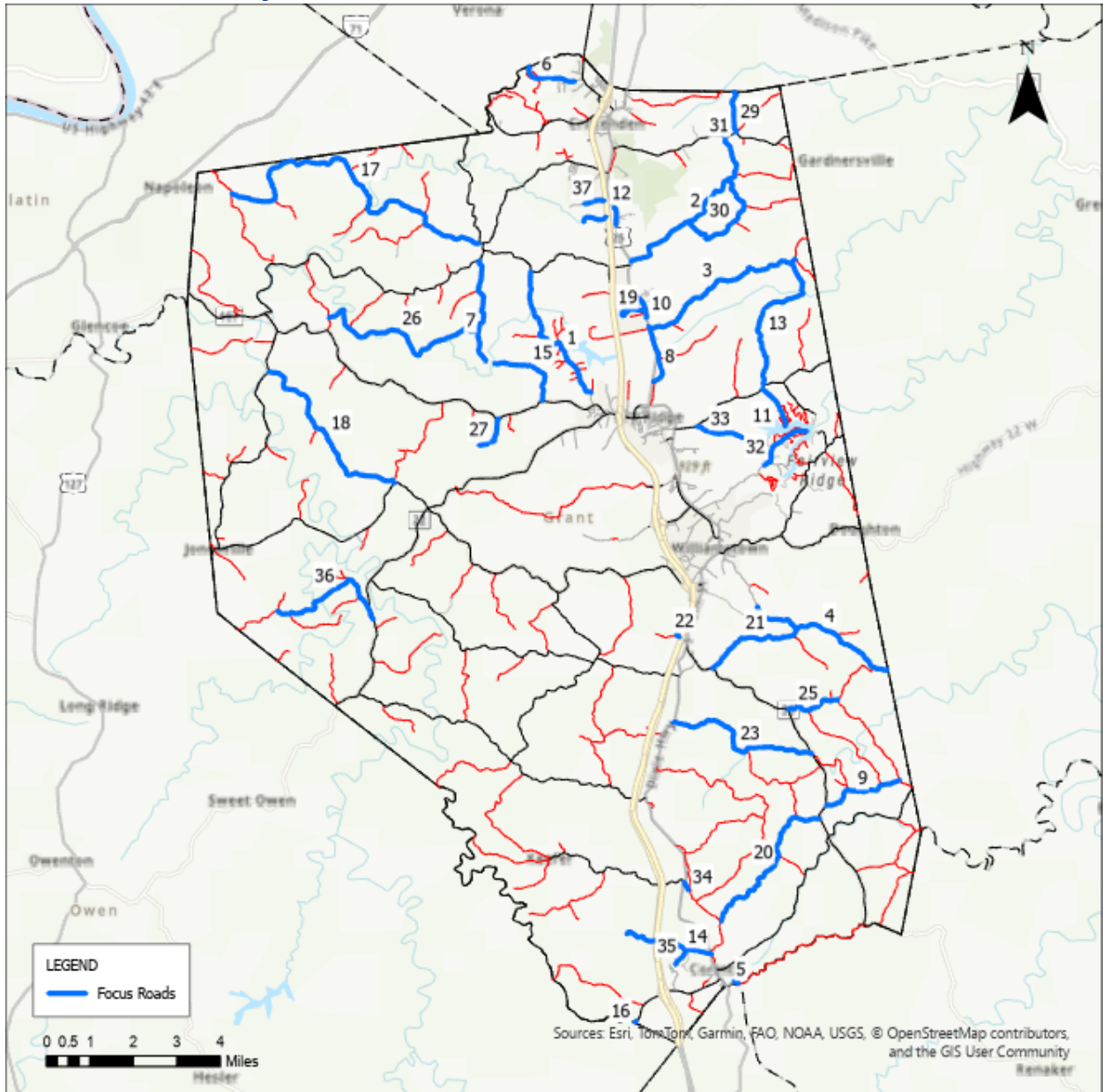


Exhibit Grant-8: Focus Roads

RT_UNIQUE	Length	County	ADD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
Grant										
041-CR-1005 -000	3.622	Grant	NKADD	DRY RIDGE-MOUNT ZION F	2	0	17	11.00	20.00	1
041-CR-1021 -000	4.508	Grant	NKADD	SHERMAN-NEWTON RD	4	0	11	16.89	4.80	2
041-CR-1033 -000	4.871	Grant	NKADD		0	1	35	12.50	9.18	3
041-CR-1108 -000	3.807	Grant	NKADD	CYNTHIANA RD	4	0	2	16.00	5.15	4
041-CR-1126 -000	0.129	Grant	NKADD	CORINTH-STRINGTOWN R	2	0	2	7.67	11.22	5
041-CR-1014 -000	1.281	Grant	NKADD		0	2	7	9.89	5.68	6
041-CR-1331 -000	2.565	Grant	NKADD		0	2	3	9.00	2.99	7
041-CR-1040 -000	1.383	Grant	NKADD	DRY RIDGE RD	2	0	6	8.56	3.17	8
041-CR-1117 -000	2.045	Grant	NKADD	DUNN-MAZIE RD	0	0	5	1.11	8.93	9
041-CR-1031 -000	0.541	Grant	NKADD	NEEDHAM LN	1	0	11	6.06	3.42	10
041-CR-1047 -000	1.068	Grant	NKADD	REEVES RD	1	0	1	3.83	5.45	11
041-CR-1030 -000	0.427	Grant	NKADD	HYDE RD	1	0	2	5.17	3.82	12
041-CR-1036 -000	3.736	Grant	NKADD	GREENVILLE RD	0	0	5	1.11	7.59	13
041-CR-1130 -000	2.226	Grant	NKADD	RAGTOWN RD	1	0	2	4.06	3.75	14
041-CR-1338 -000	1.902	Grant	NKADD	OSBORNE RD	0	1	4	5.61	2.06	15
041-CR-1121 -000	0.057	Grant	NKADD	LEANING OAK	0	0	1	0.22	7.44	16
041-CR-1315 -000	8.316	Grant	NKADD	NAPOLEON-ZION STATION	0	0	19	4.22	3.44	17
041-CR-1303 -000	4.605	Grant	NKADD	FORDS MILL RD	1	0	3	4.28	3.26	18
041-CR-1001 -000	0.827	Grant	NKADD	SPILLMAN DR	1	0	2	4.06	3.42	19
041-CR-1133 -000	4.03	Grant	NKADD	BAKER-WILLIAMS RD	1	0	7	5.17	1.78	20
041-CR-1112 -000	2.506	Grant	NKADD	OAK RIDGE RD	1	0	3	4.28	2.55	21
041-CR-1153 -000	0.101	Grant	NKADD	EIBECK LN	0	0	9	2.00	4.75	22
041-CR-1148 -000	3.902	Grant	NKADD	LINCOLN RIDGE RD	1	0	4	4.50	2.23	23
041-CR-1317 -000	0.877	Grant	NKADD	CONCORD RD	0	0	2	0.44	6.05	24
041-CR-1114 -000	1.334	Grant	NKADD	ASHBROOK RD	0	0	1	0.22	6.12	25
041-CR-1335 -000	4.606	Grant	NKADD		0	1	1	4.94	1.21	26
041-CR-1301 -000	0.946	Grant	NKADD	HUFF RD	1	0	1	3.83	2.17	27
041-CR-1012 -000	0.674	Grant	NKADD	EAGLE RIDGE DR	1	0	1	3.83	2.05	28
041-CR-1020 -000	1.008	Grant	NKADD	MENEFFEE RD	1	0	1	3.83	1.99	29
041-CR-1024 -000	2.759	Grant	NKADD	HEATHEN RIDGE RD	0	0	5	1.11	4.65	30
041-CR-1019 -000	1.429	Grant	NKADD	ROGERS RD	0	0	2	0.44	5.20	31
041-CR-1049 -000	1.432	Grant	NKADD		0	0	2	0.44	5.05	32
041-CR-1051 -000	1.161	Grant	NKADD	PEACEFUL HOLLOW RD	1	0	1	3.83	1.58	33
041-CR-1138 -000	2.231	Grant	NKADD	BLANCHET RD	1	0	2	4.06	1.31	34
041-CR-1131 -000	0.501	Grant	NKADD	McFARLAND DR	1	0	2	4.06	1.31	35
041-CR-1208 -000	4.346	Grant	NKADD	GOLDS VALLEY RD	0	0	4	0.89	4.44	36
041-CR-1061 -000	0.828	Grant	NKADD	CLAIBORNE DR	0	0	1	0.22	5.10	37
041-CR-1228 -000	2.302	Grant	NKADD	LUSBY MILL RD	1	0	1	3.83	1.22	38
041-CR-1032 -000	0.381	Grant	NKADD	GRANTLAND DR	0	0	2	0.44	4.59	39
041-CR-1028 -000	0.583	Grant	NKADD	WILDLIFE RD	0	0	1	0.22	4.52	40
041-CR-1330 -000	2.007	Grant	NKADD	SIPPLE RD	0	0	3	0.67	3.95	41
041-CR-1327 -000	1.449	Grant	NKADD	ALEXANDER RD	0	0	2	0.44	3.93	42
041-CR-1046 -000	1.84	Grant	NKADD		0	1	0	3.61	0.67	43

Exhibit Grant-9: List of Focus Roadways

Recommended Improvements (Top 5 Roads)

DRY RIDGE-MOUNT ZION RD (041-CR-1005 -000)

Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	15	3	0	18
SS - Opp	4	0	0	4
Head On	1	1	0	2
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Backing	0	0	0	0
Angle	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

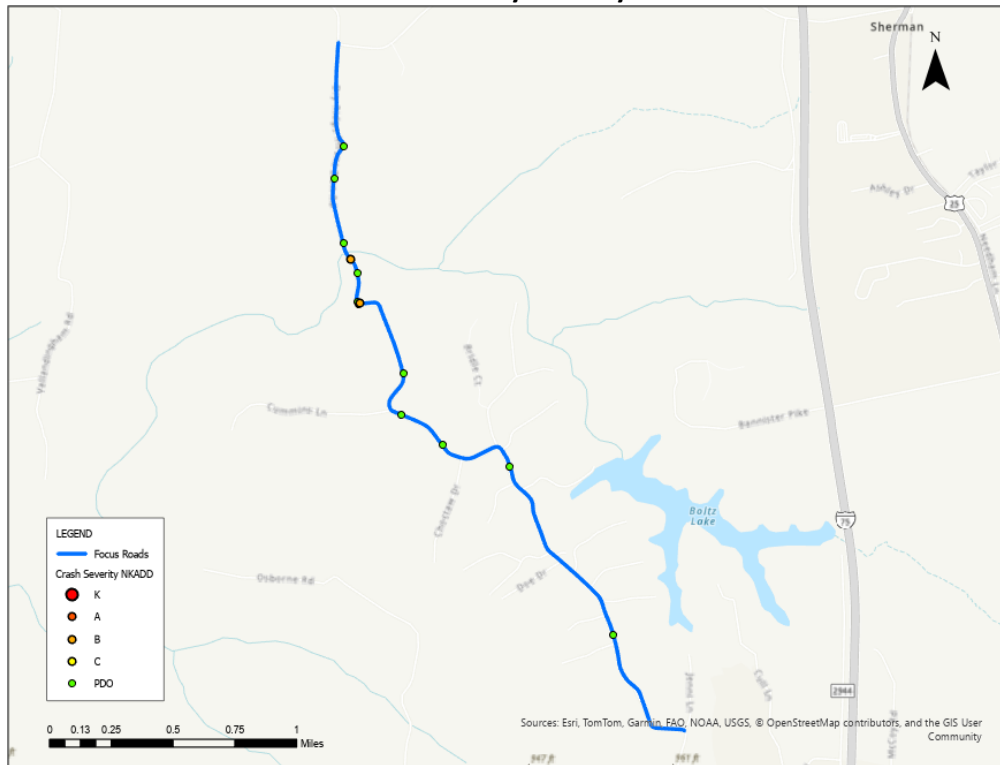
General Roadway Conditions

RT_UNIQUE	Road Name	Issue Type	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate	Shoulder Improve (ft)
041-CR-1005 -000	DRY RIDGE-MOUNT ZION RD	Roadway Section	10	4	3	20-40

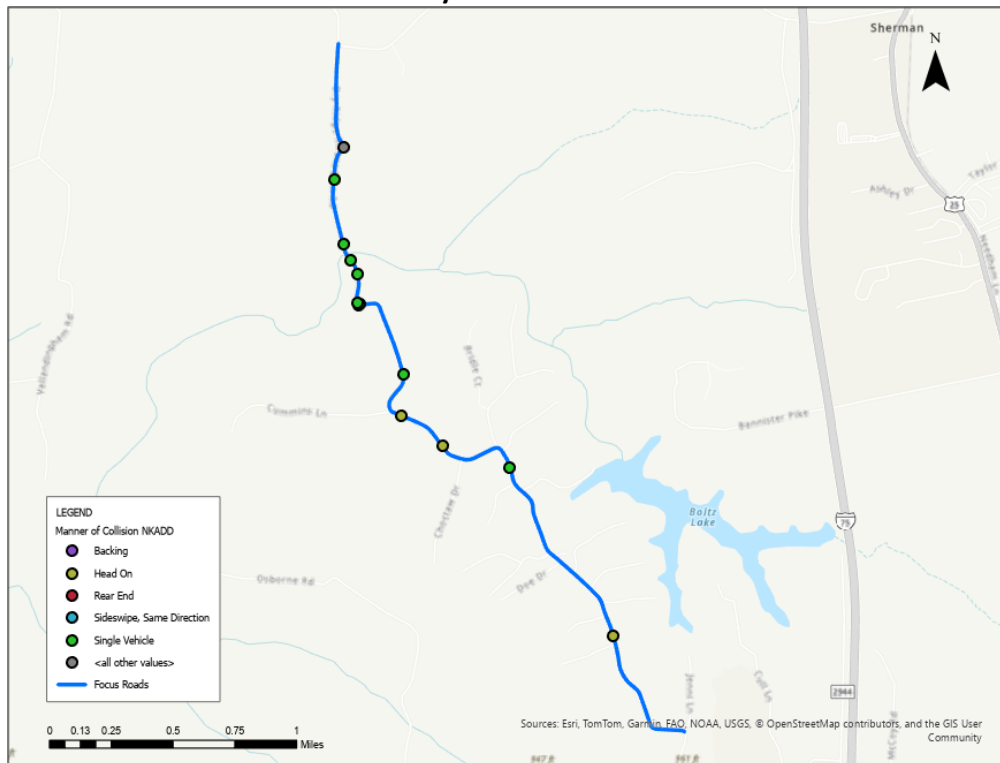
Roadway Typical Section



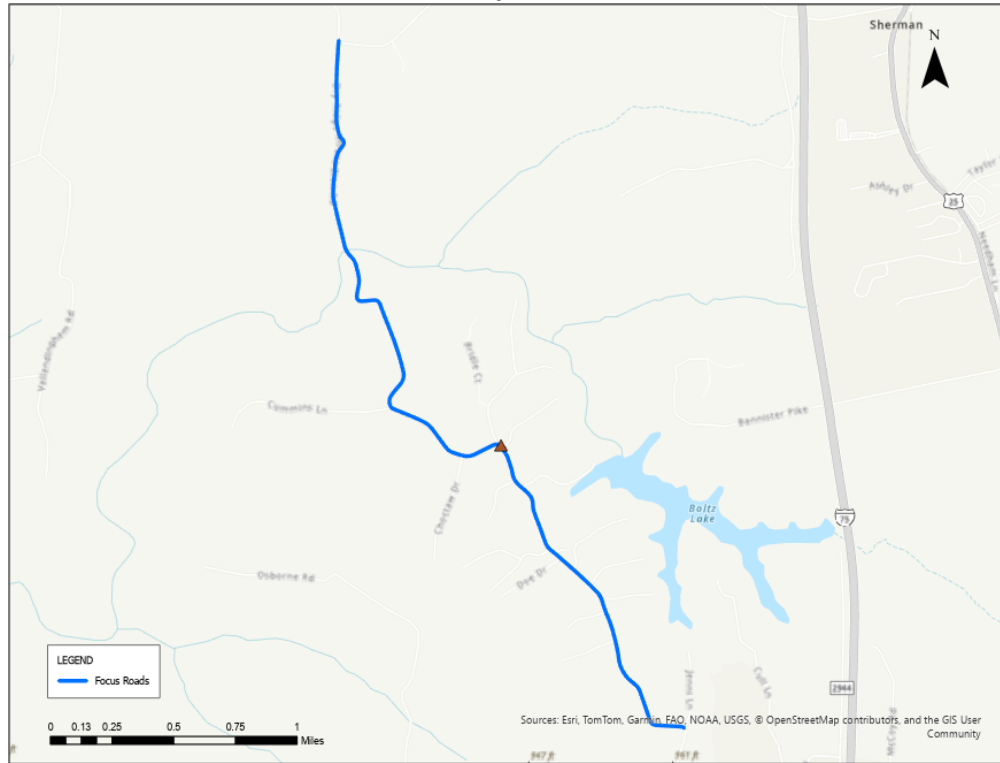
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment

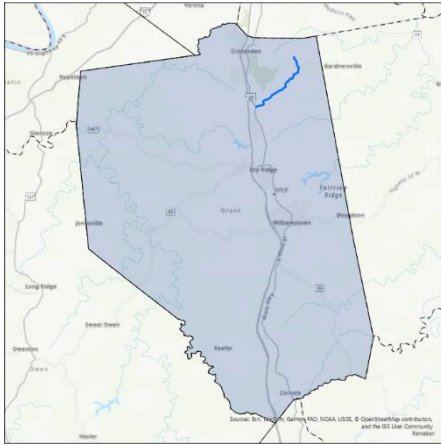


General Recommendations

RT_UNIQUE	Road Name	Issue Type	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (ft)	Improve Should	Edge Lin	Curve Signin
041-CR-1005 -000	DRY RIDGE-MOUNT ZION RD	Roadway Section	10	4	3	20-40	✓	✓	✓

SHERMAN-NEWTON RD (041-CR-1021 -000)

Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	4	1	0	5
Head On	1	1	0	2
Angle	1	0	0	1
SS - Opp	0	1	0	1
Rear End	1	0	0	1
SS - Same	0	0	0	0
Backing	0	0	0	0
Left Turn	0	0	0	0
Rear to Rear	0	0	0	0

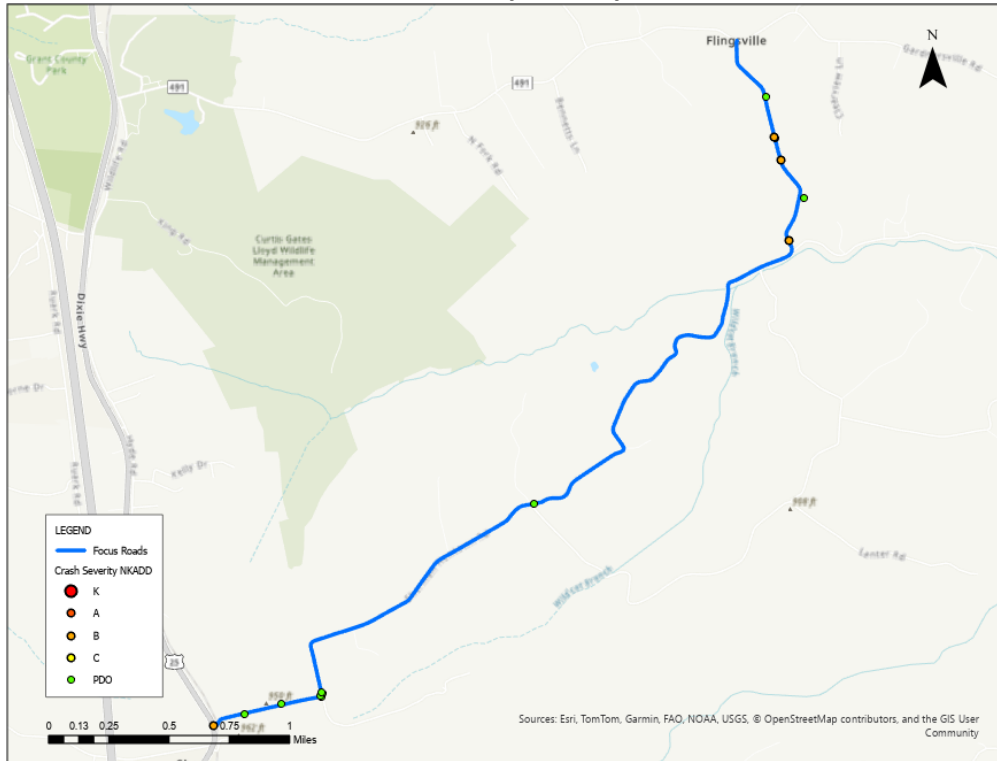
General Roadway Conditions

RT_UNIQUE	Road Name	Issue Type	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (%)
041-CR-1021 -000	SHERMAN-NEWTON RD	Roadway Section	10	3	5	40-60
041-CR-1021 -000	SHERMAN-NEWTON RD	Roadway Section	10	2	5	40-60

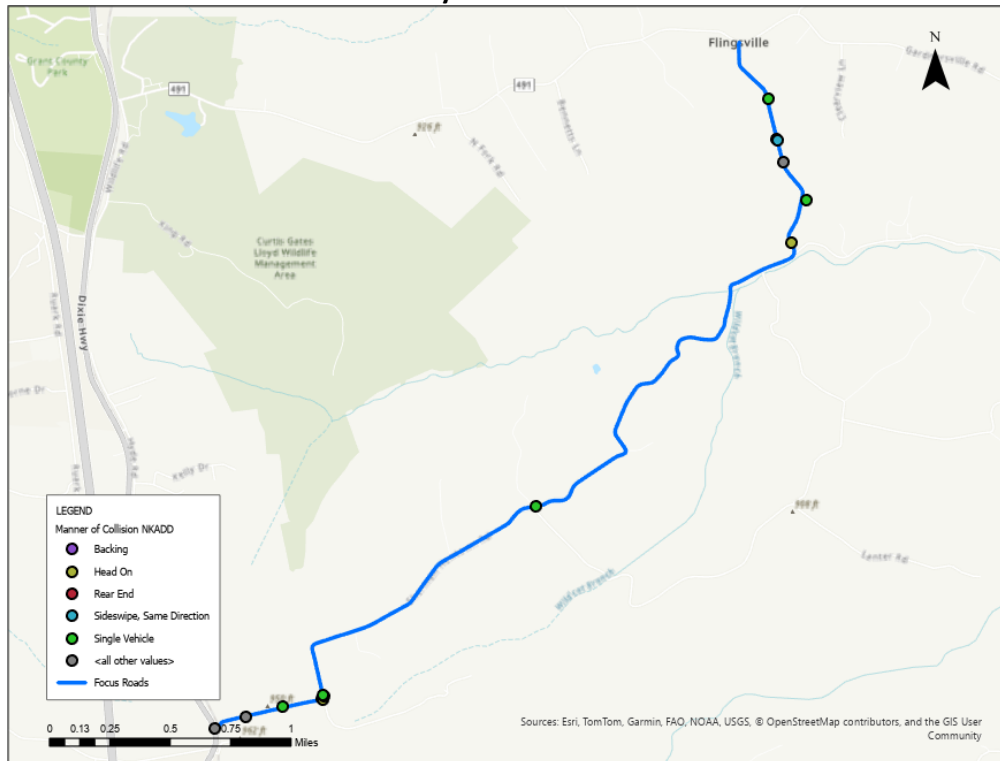
Roadway Typical Section



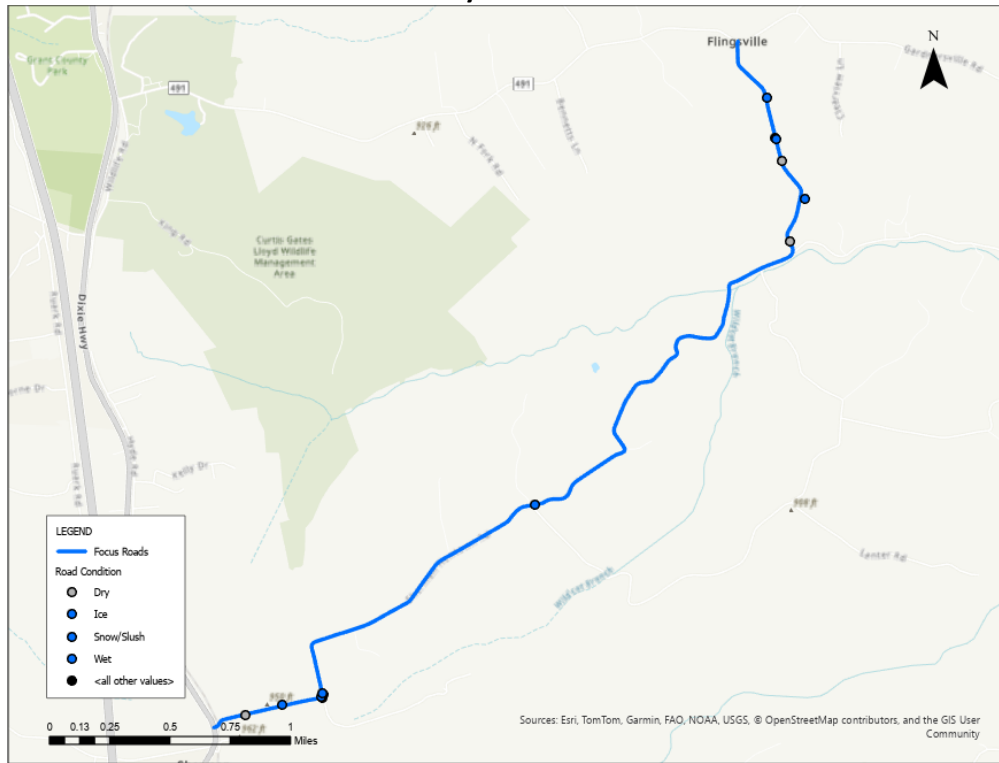
Crashes by Severity



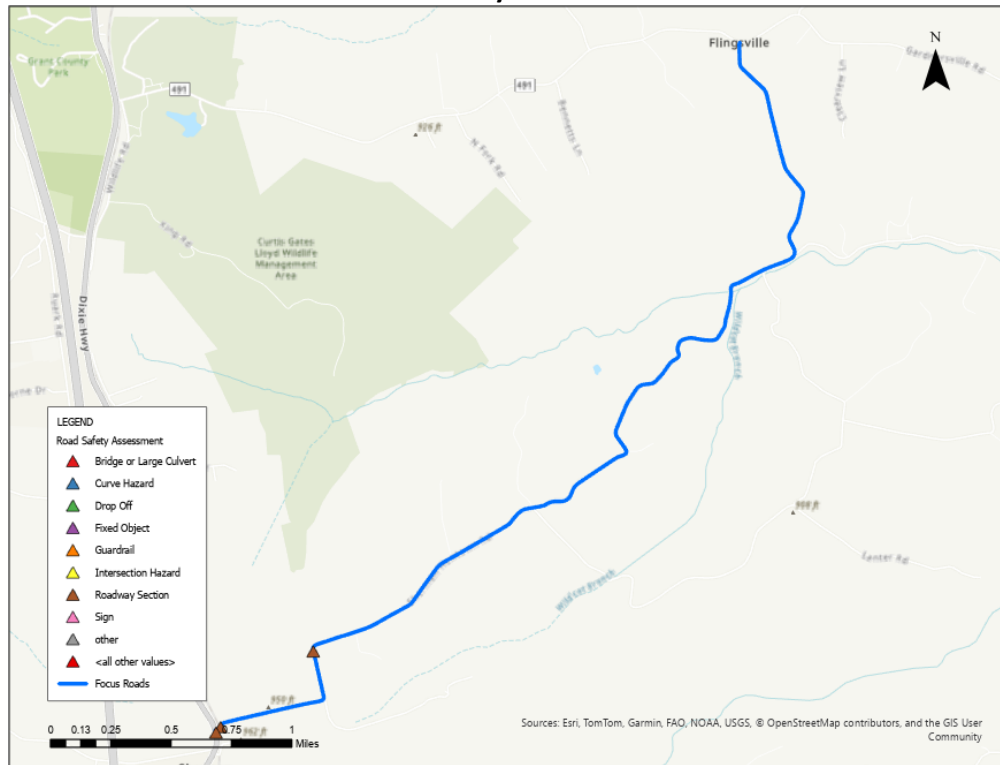
Crashes by Manner of Collision



Crashes by Road Condition



Road Safety Assessment

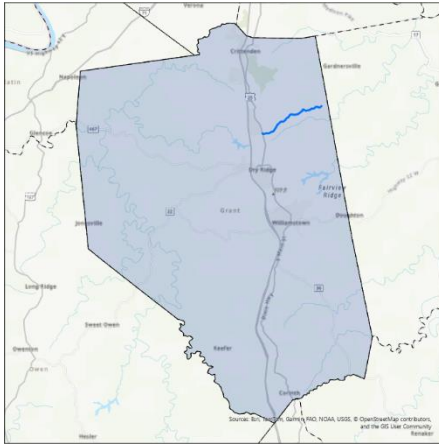


General Recommendations

RT_UNIQUE	Road Name	Issue Type	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (ft)	Improve Should	EdgeIn	Curve Signin
041-CR-1021 -000	SHERMAN-NEWTON RD	Roadway Section	10	3	5	40-60	✓	✓	✓
041-CR-1021 -000	SHERMAN-NEWTON RD	Roadway Section	10	2	5	40-60	✓	✓	✓

LEMON-NORTHCUTT RD (041-CR-1033 -000)

Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	23	2	0	25
SS - Opp	5	0	0	5
Head On	1	1	0	2
Backing	1	0	0	1
Angle	1	0	0	1
SS - Same	0	0	0	0
Left Turn	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

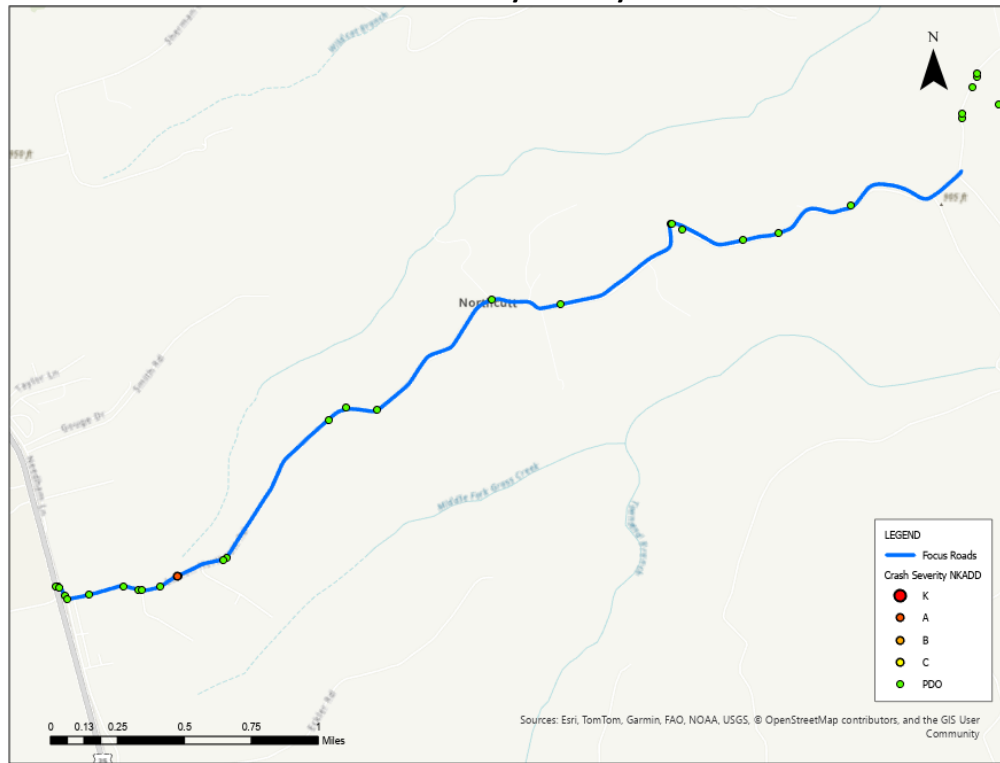
General Roadway Conditions

RT_UNIQUE	Road Name	Issue Type	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (%)
041-CR-1033 -000	LEMON-NORTHCUTT RD	Roadway Section	10	3	4	60-80
041-CR-1033 -000	LEMON-NORTHCUTT RD	Roadway Section	10	3	4	60-80

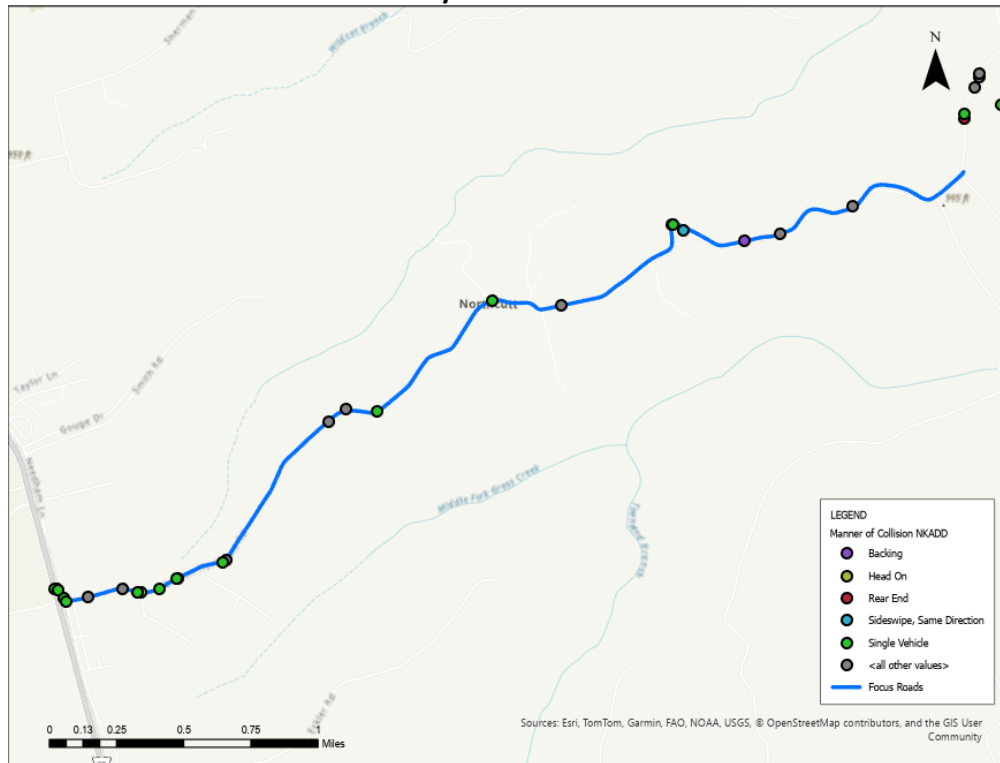
Roadway Typical Section



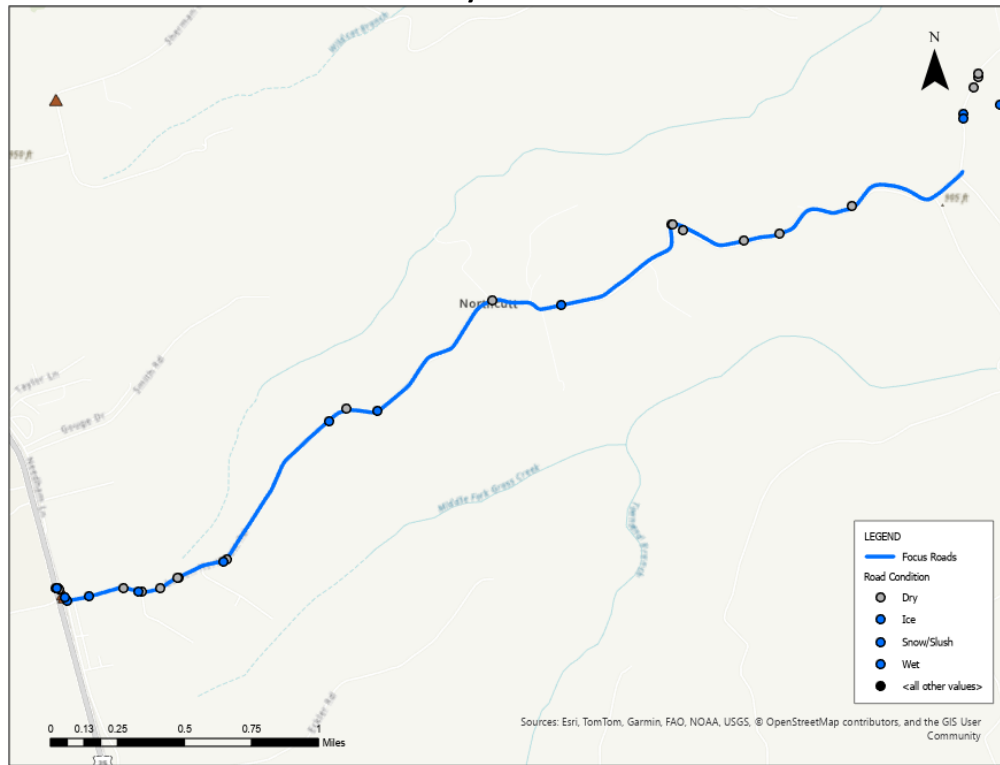
Crashes by Severity



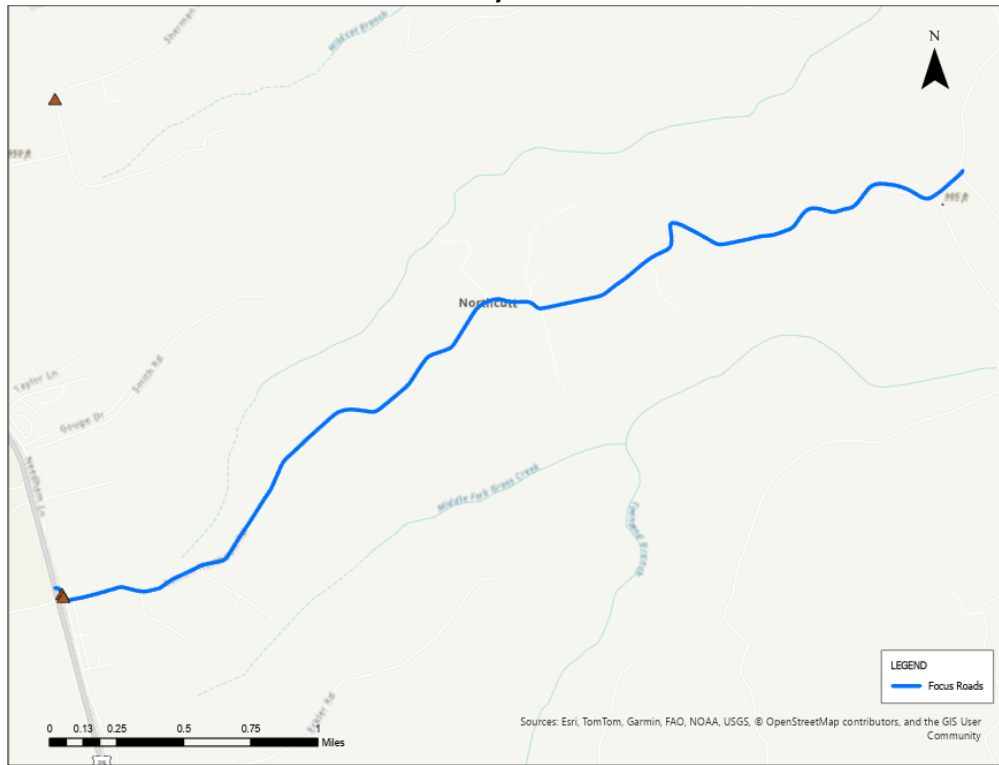
Crashes by Manner of Collision



Crashes by Road Condition



Road Safety Assessment

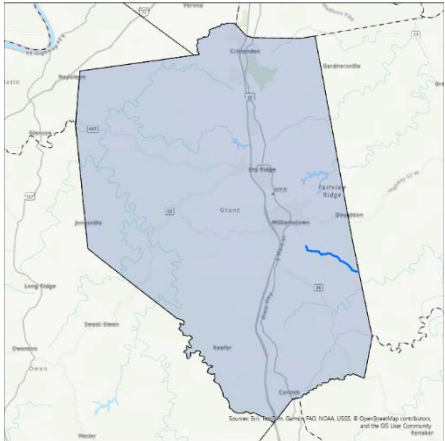


General Recommendations

RT_UNIQUE	Road Name	Issue Type	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (ft)	Improve Should	Edgelin	Curve Signin
041-CR-1033 -000	LEMON-NORTHCUTT RD	Roadway Section	10	3	4	60-80	✓	✓	✓
041-CR-1033 -000	LEMON-NORTHCUTT RD	Roadway Section	10	3	4	60-80	✓	✓	✓

CYNTHIANA RD (041-CR-1108 -000)

Road Location Map and Crash History



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

General Roadway Conditions

Roadway Section Information Not Collected

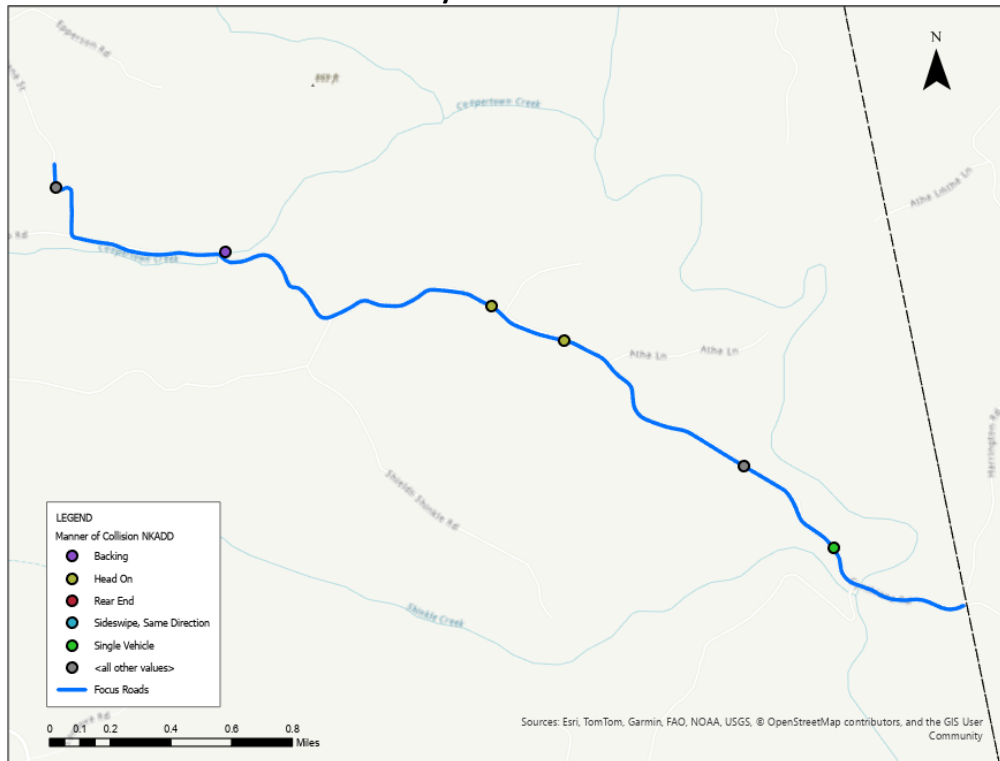
Roadway Typical Section



Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



CORINTH-STRINGTOWN RD (041-CR-1126 -000)

Road Location Map and Crash History



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

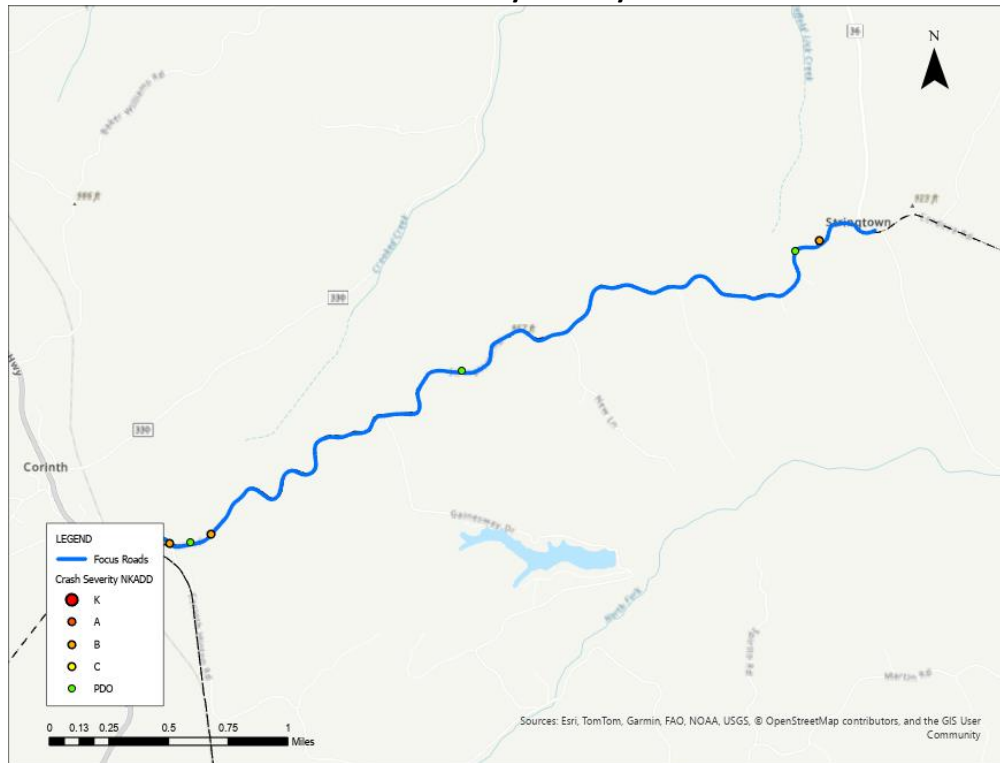
General Roadway Conditions

RT_UNIQUE	Road Name	Issue Type	Pvmt Width (ft)	Pave ment Conditio	Roadside Hazard Rat	Shoulder Improve (ft)
041-CR-1126 -000	CORINTH-STRINGTOWN RD	Roadway Section	10	3	5	40-60

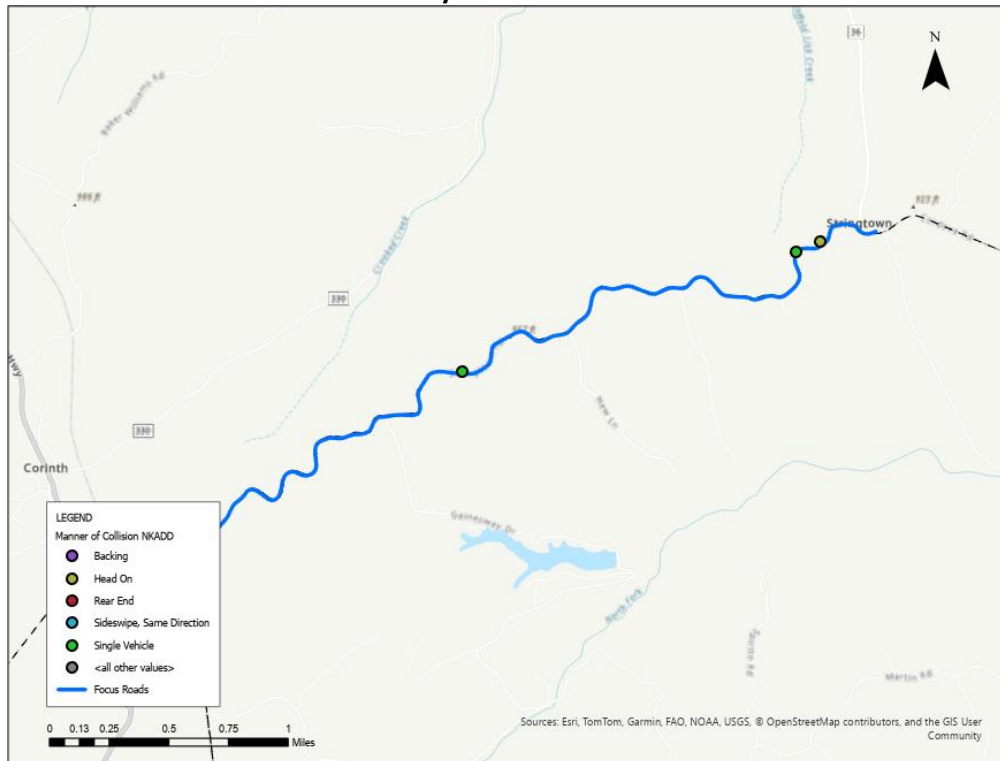
Roadway Typical Section



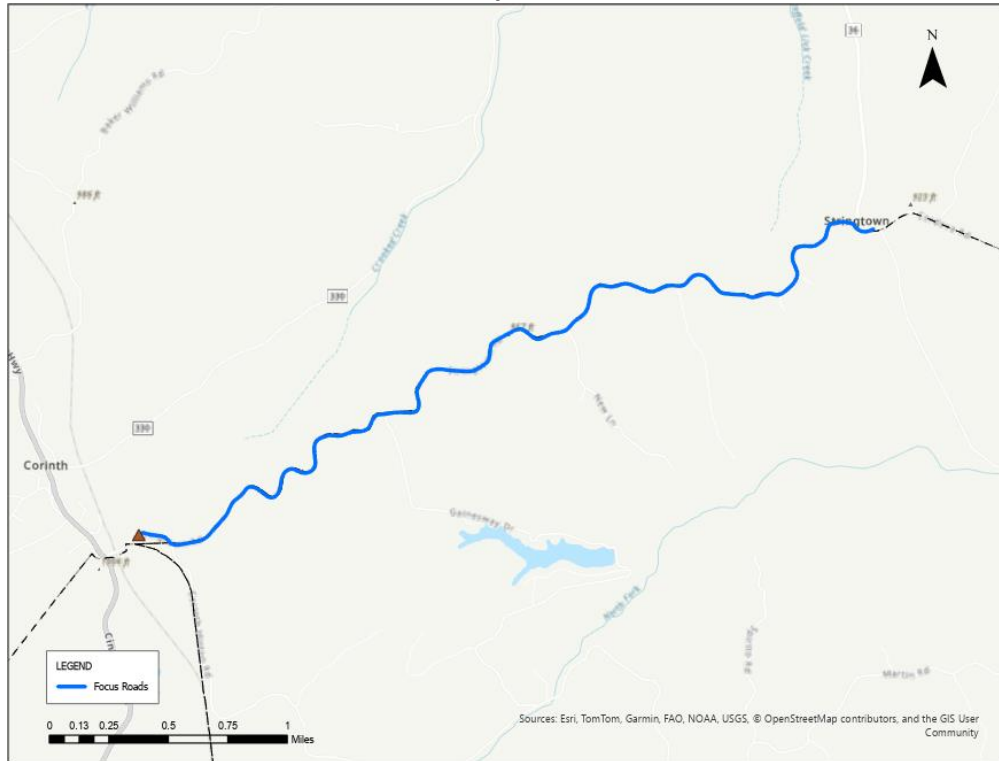
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



General Recommendations

RT_UNIQUE	Road Name	Issue Type	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin
041-CR-1126 -000	CORINTH-STRINGTOWN RD	Roadway Section	10	3	5	40-60	✓	✓	✓

Other Roadways

General Roadway Conditions and Recommendations (Grant County)

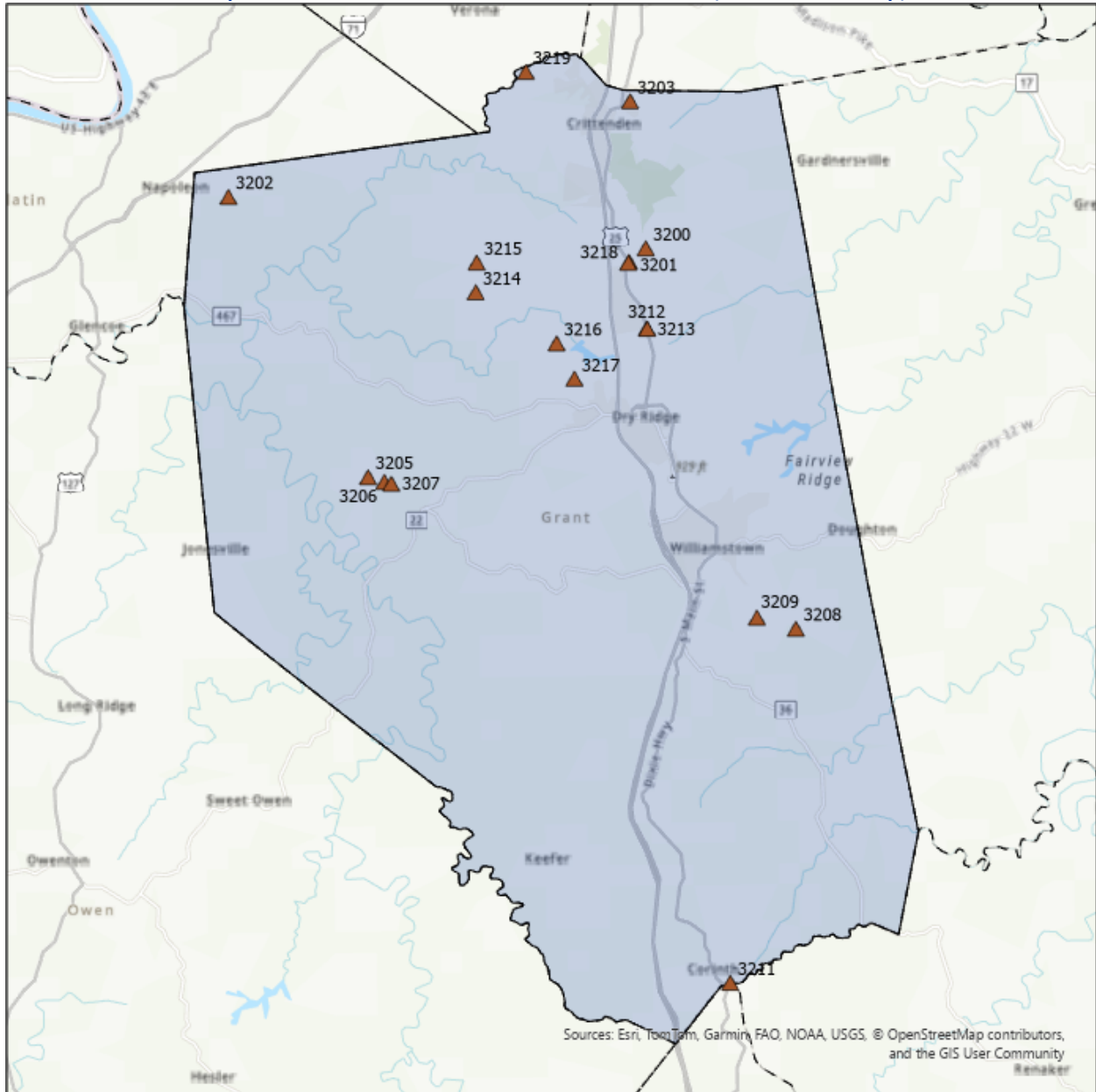


Exhibit Grant-F1: General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pavement Width	Pavement Condition	Roadside Hazard Rating	Shoulder/ Ditch Improvements (%)	Additional Comments	Improve Shoulder / Ditch	Edgeline ¹	Install Curve Alignment Signing	Other Recommendations
1319	066-CR-1302 -000	SHORT CREEK RD	10	3	5	60-80		✓	✓	✓	
490	066-CR-1051 -000	OWLS NEST RD	14	1	3	40-60		✓	✓	✓	
479	066-CR-1051 -000	OWLS NEST RD	10	1	5	60-80	Gravel section	✓		✓	
1266	066-CR-1528 -000	COON CREEK RD	12	1	5	60-80	Gravel section	✓		✓	
1277	066-CR-1528 -000	COON CREEK RD	10	2	6	60-80		✓	✓	✓	
506	066-CR-1423 -000	GREG WELLS DR	10	1	4	80-100		✓	✓	✓	
1233	066-CR-1040 -000	LOWER MCINTOSH RD	14	1	4	60-80	Gravel	✓			
542	066-CR-1041 -000	PLEASANT VALLEY RD	13	3	4	40-60		✓			
225	066-CR-1018 -000	DALEY RD	12	4	3	40-60		✓			
1291	066-CR-1034 -000	DOWN CJTSHIN CREEK RD	10	3	5	60-80		✓			
1304	066-CR-1034 -000	DOWN CJTSHIN CREEK RD	10	3	5	60-80	Trees need trimmed over road	✓			Trim Vegetation
1336	066-CR-1335 -000	JIM HOLLOW RD	10	3	5	60-80		✓			
1347	066-CR-1216 -000	VERMONT DR	10	3	4	20-40		✓			
1242	066-CR-1040 -000	LOWER MCINTOSH RD	10	2	5	60-80		✓			

Exhibit Grant-F2: General Roadway Recommendations

APPENDIX H: KENTON COUNTY SAFETY ACTION PLAN

Kenton County Overview

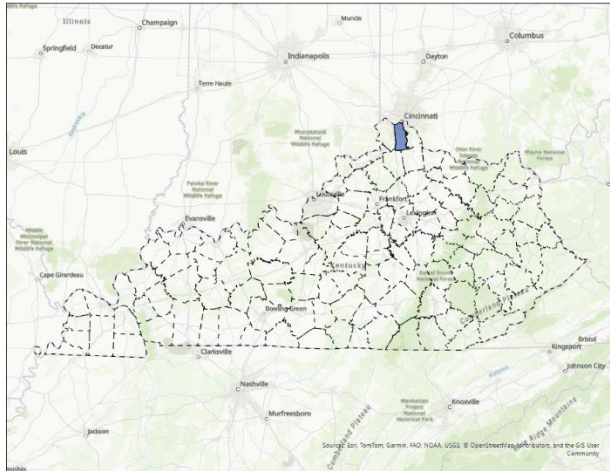


Exhibit Kenton-1: Location Map

Key Information Table Kenton County	
Population	171,321
Population in Persistent Poverty	14%
Underserved Community	No
Fatalities (All Roads)	45
Fatalities (County Roads)	0
Fatality rate per 100,000 persons	26.27
County Road Mileage	100.6
State Road Mileage	220.6
Total Mileage	321.2

Exhibit Kenton-2: Key Information

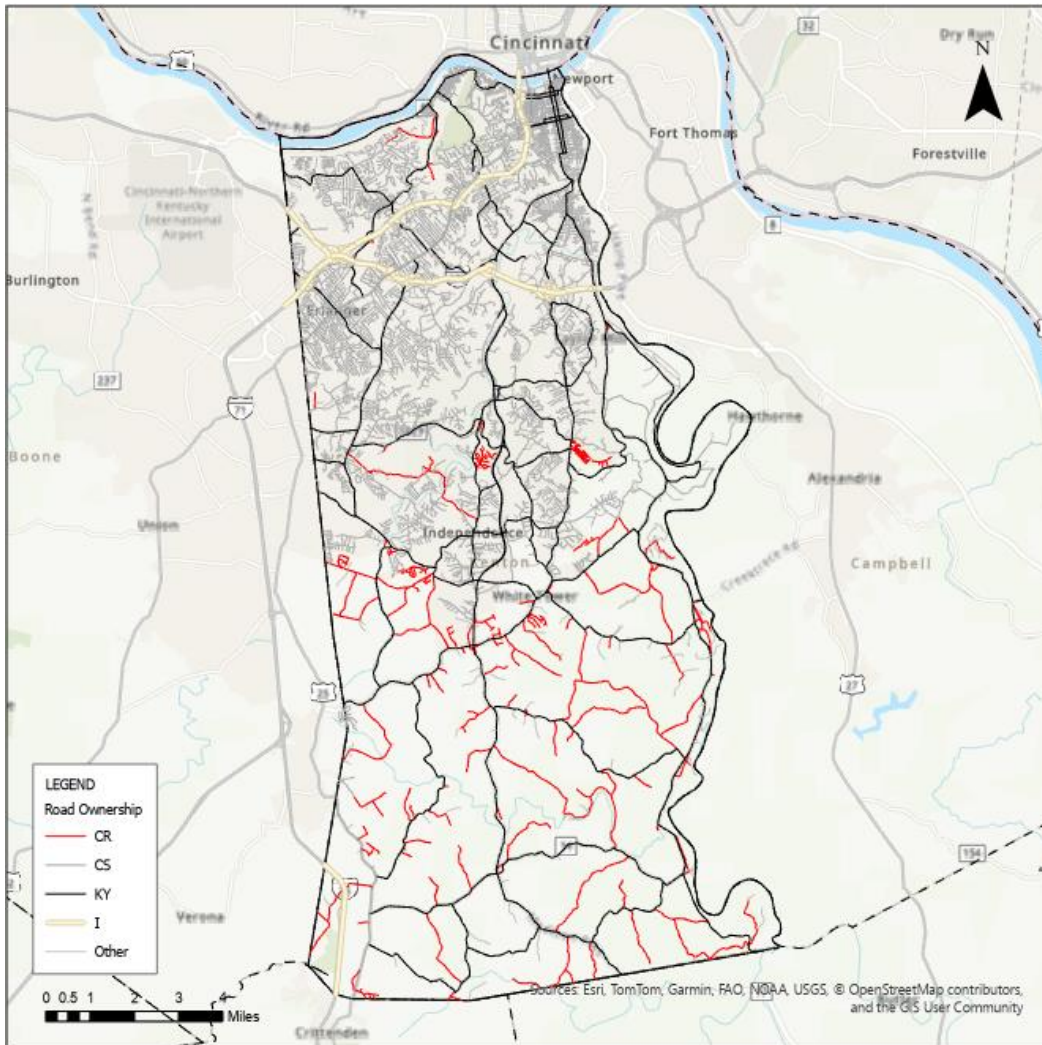


Exhibit Kenton-3: Map of County Roadways

Crash Analysis

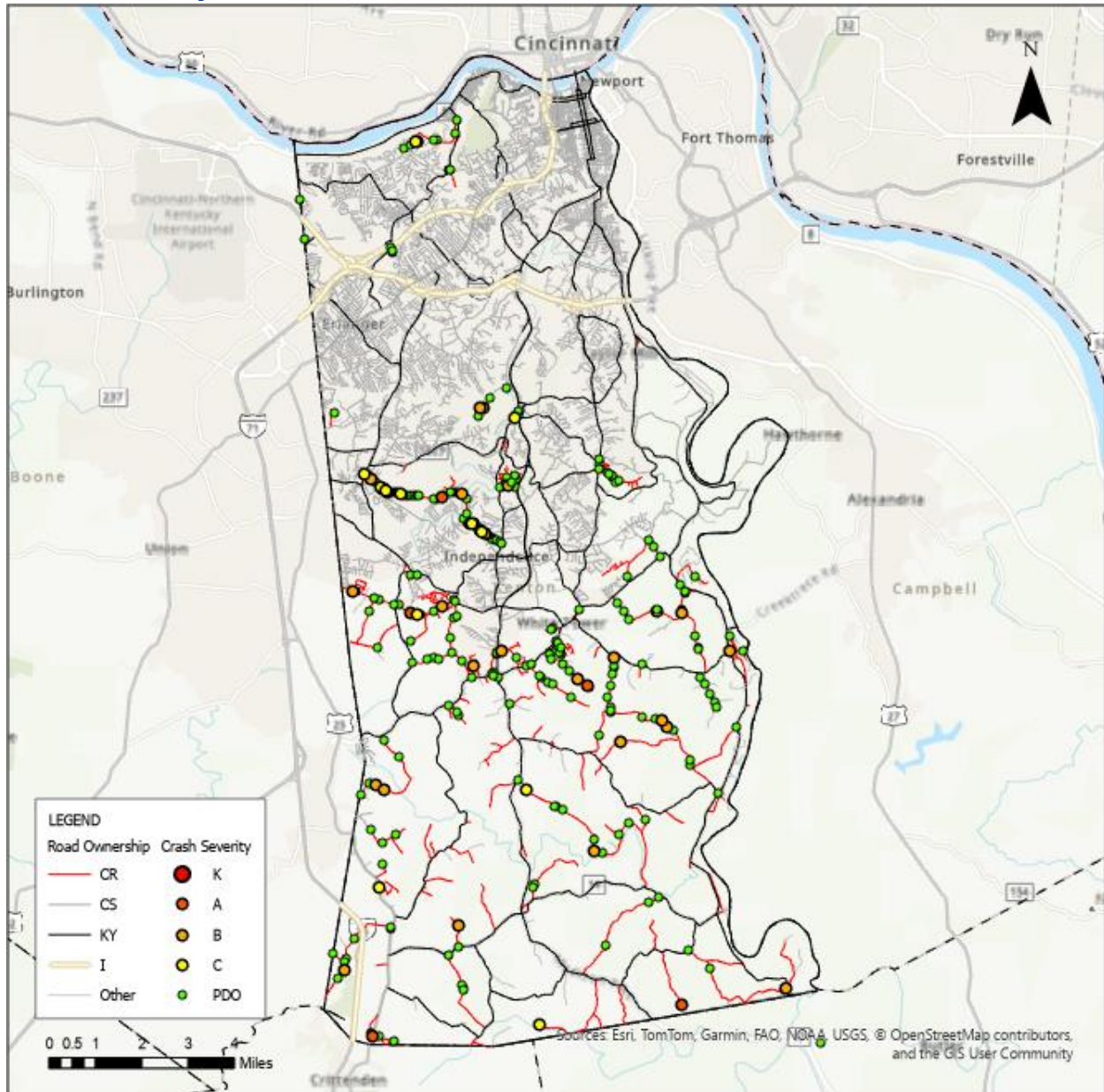


Exhibit Kenton-4: Map of County Road Crashes



Exhibit Lextcher-5: Crash Distribution by Year

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	135	37	0	172
SS - Opp	48	2	0	50
Backing	41	0	0	41
Rear End	33	1	0	34
Angle	27	4	0	31
SS - Same	20	0	0	20
Head On	10	10	0	20
Left Turn	4	1	0	5
Rear to Rear	1	0	0	1

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

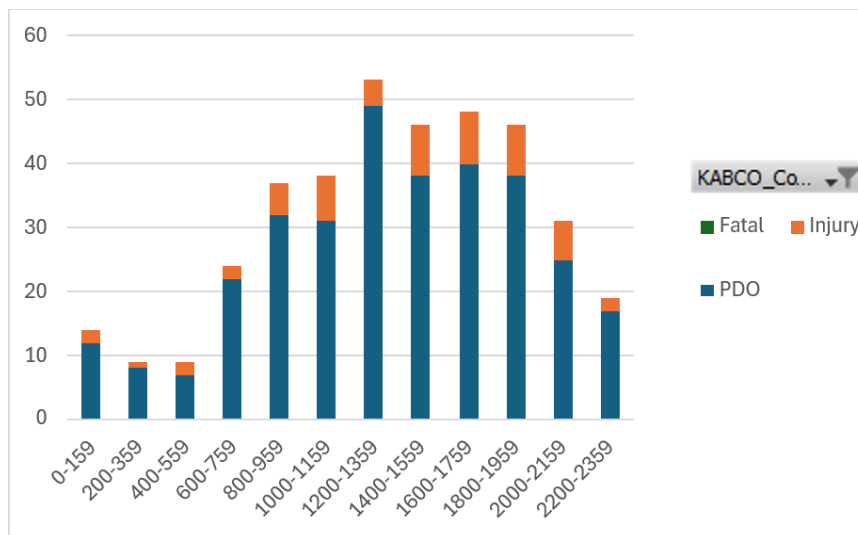


Figure Kenton-7: Crashes and Severity by Time of Day

Focus Roadways

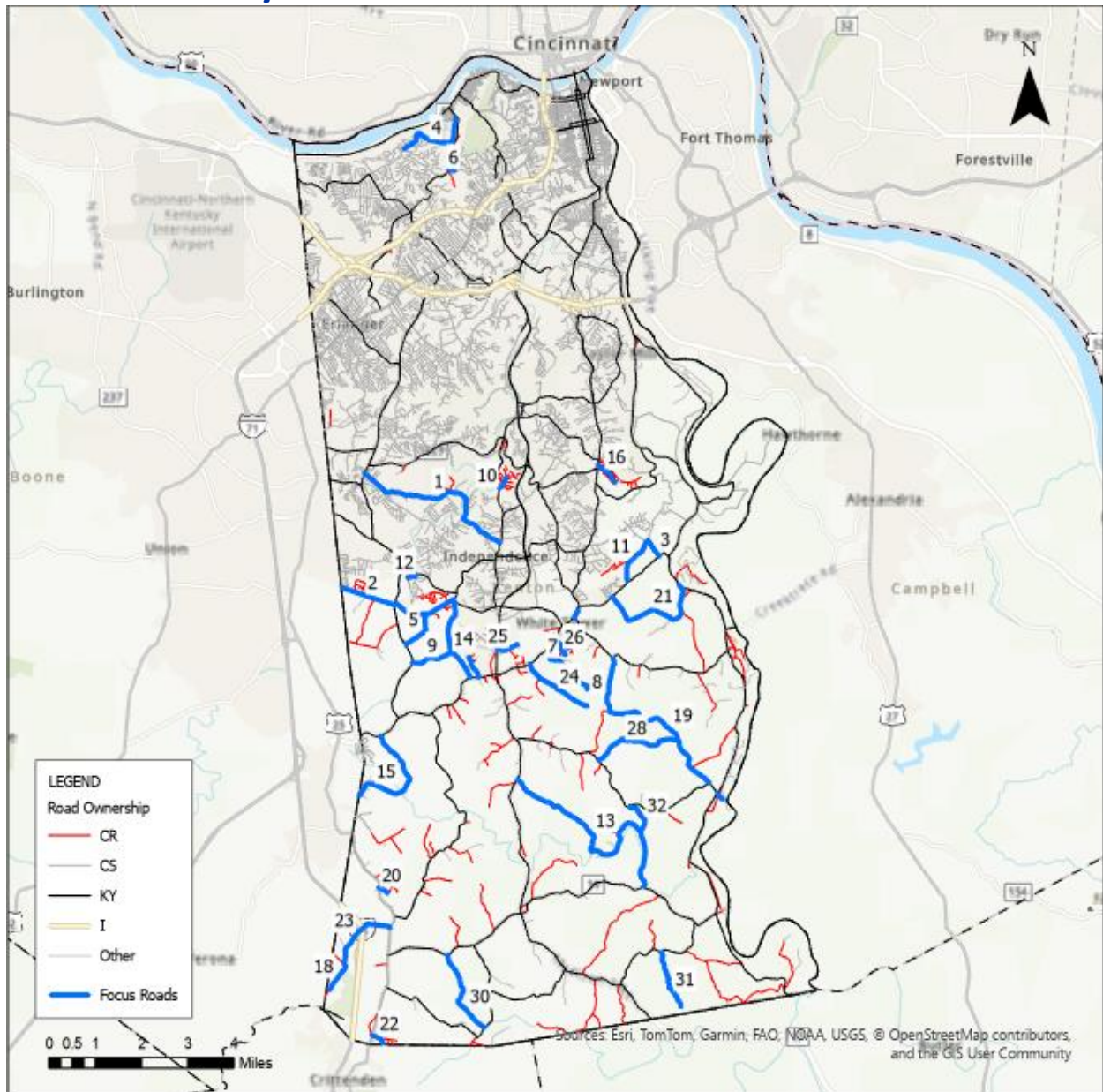


Exhibit Kenton-8: Focus Roads

RT_UNIQUE	Length	County	ADD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
Kenton										
059-CR-1146 -000	3.942	Kenton	NKADD	INDEPENDENCE STATION	23	0	106	20.00	15.27	1
059-CR-1231 -000	1.997	Kenton	NKADD	MAHER RD	3	0	7	2.50	18.14	2
059-CR-1080 -000	0.435	Kenton	NKADD	PRUETT RD	0	0	5	0.22	8.27	3
059-CR-1072 -000	1.827	Kenton	NKADD	HIGHWATER RD	2	0	7	1.62	4.90	4
059-CR-1232 -000	1.574	Kenton	NKADD	INDEPENDENCE RD	1	0	4	0.83	5.17	5
059-CR-1317 -000	0.139	Kenton	NKADD	AMSTERDAM EAST RD	0	0	7	0.31	5.41	6
059-CR-1103 -000	1.375	Kenton	NKADD	RIGGS RD	2	0	9	1.93	2.97	7
059-CR-1102 -000	1.426	Kenton	NKADD	STAFFORDSBURG RD	1	0	9	1.05	2.98	8
059-CR-1229 -000	0.913	Kenton	NKADD	BRAMLAGE RD	0	0	5	0.22	3.58	9
059-CR-1320 -000	0.33	Kenton	NKADD	HARVEST HILLS DR	0	0	5	0.22	3.40	10
059-CR-1007 -000	1.008	Kenton	NKADD	MARSHALL RD	0	0	1	0.04	3.50	11
059-CR-1346 -000	0.228	Kenton	NKADD	BRISTOW LAKES DR	0	0	2	0.09	2.99	12
059-CR-1061 -000	5.435	Kenton	NKADD	HEMPFLING RD	2	0	9	1.71	1.28	13
059-CR-1202 -000	1.865	Kenton	NKADD	WILSON RD	0	0	6	0.27	2.69	14
059-CR-1228 -000	2.626	Kenton	NKADD	PERCIVAL RD	2	0	4	1.49	1.22	15
059-CR-1027 -000	0.558	Kenton	NKADD	CLUBHOUSE DR	0	0	4	0.18	2.51	16
059-CR-1073 -000	1.156	Kenton	NKADD	BULLOCK PEN RD	2	0	4	1.49	1.19	17
059-CR-1254 -000	0.836	Kenton	NKADD	COURTNEY RD	1	0	1	0.70	1.90	18
059-CR-1132 -000	3.106	Kenton	NKADD	KENTON STATION RD	2	0	6	1.58	0.90	19
059-CR-1239 -000	0.238	Kenton	NKADD	SOUTH FORK DR	1	0	0	0.66	1.59	20
059-CR-1104 -000	2.64	Kenton	NKADD	STEEP CREEK RD	2	0	8	1.67	0.55	21
059-CR-1206 -000	0.311	Kenton	NKADD	DERBY DR	1	0	0	0.88	1.31	22
059-CR-1222 -000	1.584	Kenton	NKADD	EADS RD	0	0	5	0.22	1.95	23
059-CR-1136 -000	1.596	Kenton	NKADD	BOWMAN RD	0	0	7	0.31	1.84	24
059-CR-1245 -000	0.485	Kenton	NKADD	MAPLE TREE LN	1	0	0	0.66	1.45	25
059-CR-1017 -000	0.337	Kenton	NKADD	SILVERBELL WAY	0	0	3	0.13	1.90	26
059-CR-1241 -000	0.509	Kenton	NKADD	CADILLAC DR	1	0	0	0.66	1.35	27
059-CR-1112 -000	2.038	Kenton	NKADD	RECTOR RD	1	0	0	0.66	1.13	28
059-CR-1014 -000	0.06	Kenton	NKADD	ALDERBROOK DR	0	0	4	0.18	1.55	29
059-CR-1220 -000	1.947	Kenton	NKADD	CARLISLE RD	0	0	5	0.22	1.48	30
059-CR-1124 -000	1.335	Kenton	NKADD	PFANSTIEL RD	1	0	0	0.88	0.76	31
059-CR-1079 -000	0.768	Kenton	NKADD	OAK ISLAND RD	0	0	1	0.04	1.57	32
059-CR-1155 -000	0.145	Kenton	NKADD	VISALIA RD	1	0	3	0.79	0.80	33
059-CR-1313 -000	0.905	Kenton	NKADD	OPEN MEADOW DR	1	0	0	0.66	0.92	34
059-CR-1219 -000	0.496	Kenton	NKADD	DON ST	0	0	2	0.09	1.38	35
059-CR-1315 -000	0.189	Kenton	NKADD	MOONLIGHT WAY	0	0	2	0.09	1.36	36
059-CR-1121 -000	4.472	Kenton	NKADD	ALEXANDER RD	1	0	4	0.83	0.60	37
059-CR-1120 -000	1.593	Kenton	NKADD	DIXON RD	0	0	2	0.09	1.21	38
059-CR-1149 -000	0.38	Kenton	NKADD	MANOR LAKE DR	0	0	3	0.13	1.12	39
059-CR-1026 -000	0.168	Kenton	NKADD	FAIR VALLEY RD	0	0	1	0.04	1.07	40
059-CR-1108 -000	0.991	Kenton	NKADD	KLEIN RD	0	0	5	0.22	0.84	41
059-CR-1227 -000	0.968	Kenton	NKADD	JONES RD	0	0	3	0.13	0.91	42

Exhibit Kenton-9: List of Focus Roadways

Recommended Improvements (Top 5 Roads)

INDEPENDENCE STATION RD (059-CR-1146 -000)

Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	41	12	0	53
Rear End	22	0	0	22
SS - Opp	17	1	0	18
Angle	10	3	0	13
Head On	3	6	0	9
SS - Same	7	0	0	7
Left Turn	4	1	0	5
Backing	4	0	0	4
Rear to Rear	0	0	0	0

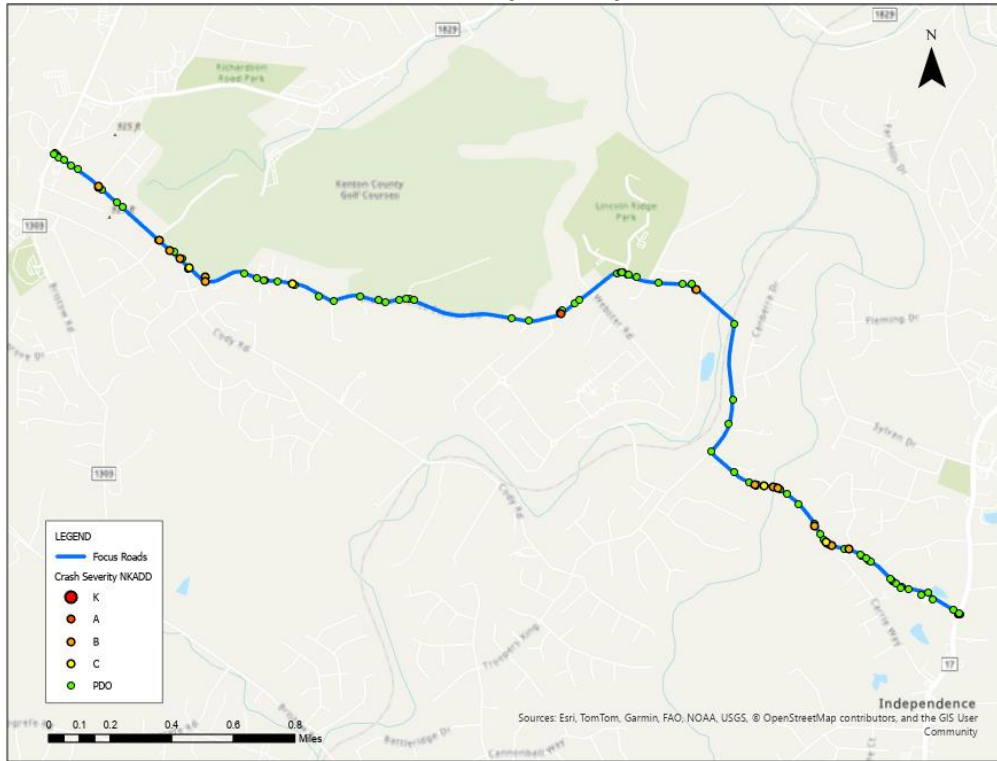
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Ratio
2182	059-CR-1146 -000	INDEPENDENCE STATION RD	22	4	6

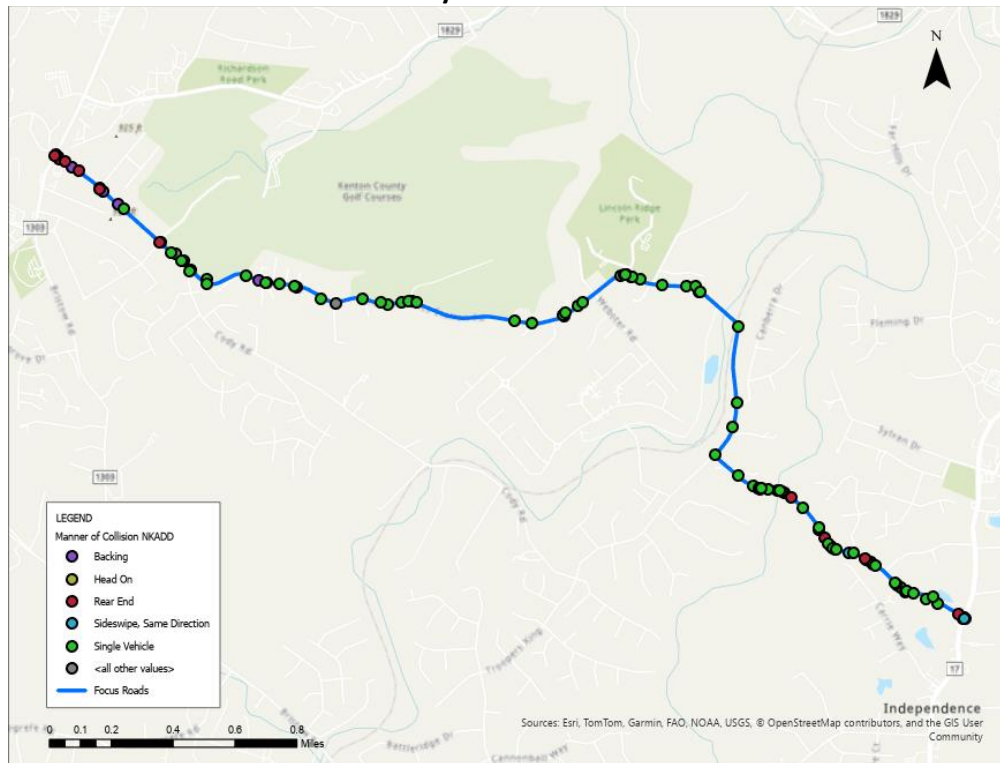
Roadway Typical Section



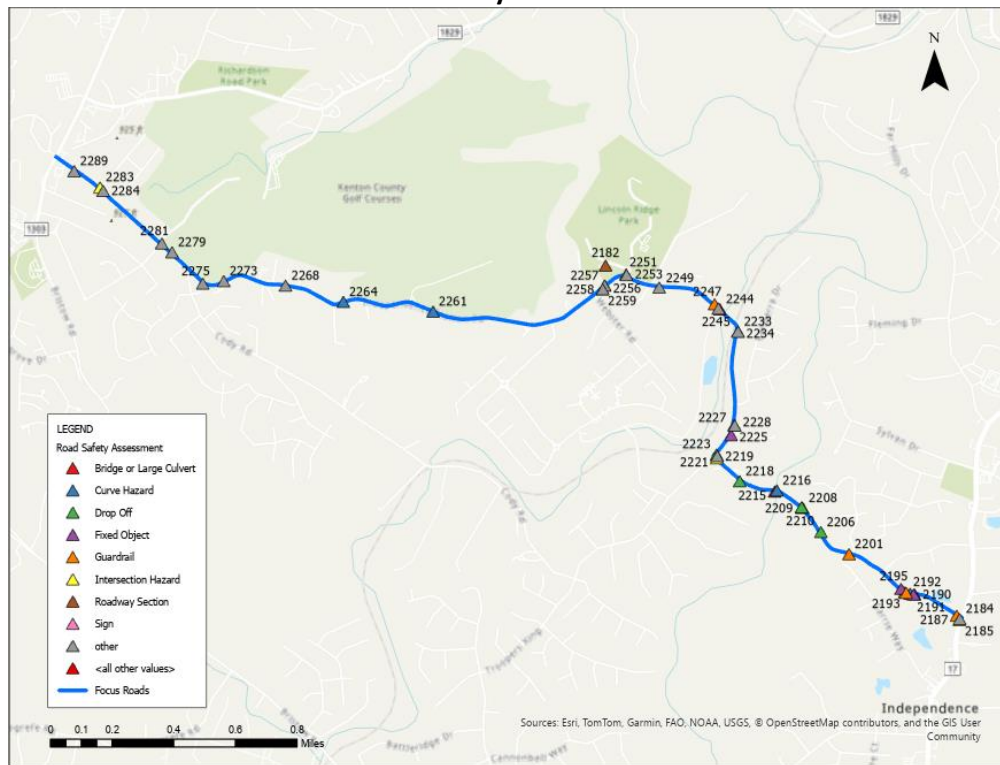
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



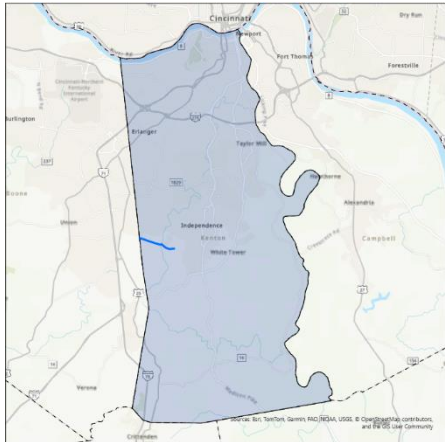
General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve	Improve Should	Edgeline	Curve Signin	Other Recommendations
2182	059-CR-1146 -000	INDEPENDENCE STATION RD	22	4	6	20-40	✓	EL & CL	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
2194	059-CR-1146 -000	INDEPENDENCE STATION RD	Drop Off	0-1	<2	--	Install Type 2 Object Marker(s) or Delineator(s)			
2206	059-CR-1146 -000	INDEPENDENCE STATION RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
2208	059-CR-1146 -000	INDEPENDENCE STATION RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
2209	059-CR-1146 -000	INDEPENDENCE STATION RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
2218	059-CR-1146 -000	INDEPENDENCE STATION RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
2223	059-CR-1146 -000	INDEPENDENCE STATION RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
2190	059-CR-1146 -000	INDEPENDENCE STATION RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
2191	059-CR-1146 -000	INDEPENDENCE STATION RD	Fixed Object	other; Retaining wall	Single	1-3	Install Type 3 Object Marker(s)			
2195	059-CR-1146 -000	INDEPENDENCE STATION RD	Fixed Object	other; Retaining wall	Series	1-3	Install Type 2 Object Marker(s)			
2225	059-CR-1146 -000	INDEPENDENCE STATION RD	Fixed Object	Tree;	Series	3-5	--			
2256	059-CR-1146 -000	INDEPENDENCE STATION RD	Fixed Object	other;	Series	0-1	Review			
2258	059-CR-1146 -000	INDEPENDENCE STATION RD	Fixed Object	other; Fence	Series	1-3	Consider removal/relocation			
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
2187	059-CR-1146 -000	INDEPENDENCE STATION RD	Guardrail	Good	Yes	Some	--			
2193	059-CR-1146 -000	INDEPENDENCE STATION RD	Guardrail	Good	Yes	Some	--			
2201	059-CR-1146 -000	INDEPENDENCE STATION RD	Guardrail	Good	Yes	Some	--			
2227	059-CR-1146 -000	INDEPENDENCE STATION RD	Guardrail	Poor	Yes	None	Upgrade or replace guardrail installation w/ proper end treatments			
2233	059-CR-1146 -000	INDEPENDENCE STATION RD	Guardrail	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers			
2247	059-CR-1146 -000	INDEPENDENCE STATION RD	Guardrail	Fair	Yes	Some	Evaluate need for repair; install proper end treatments and/or install Type 3 Object Markers			

Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation	
2185	059-CR-1146 -000	INDEPENDENCE STATION RD	Intersection	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)	
2221	059-CR-1146 -000	INDEPENDENCE STATION RD	Intersection	Yes	--	Intersection Obscured on Approach; Fence blocking view Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider removal of fence	
2251	059-CR-1146 -000	INDEPENDENCE STATION RD	Intersection	No	--	Intersection Obscured on Approach, Insufficient Sight Distance at 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)	
2283	059-CR-1146 -000	INDEPENDENCE STATION RD	Intersection	No	--	Insufficient Sight Distance, Intersection Obscured on Approach; Intersection has good site distance both directions Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X).	
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
2215	059-CR-1146 -000	INDEPENDENCE STATION RD	Bridge or Large Culvert	22	1	4	Evaluate condition of existing and need for guardrail on approach.
2244	059-CR-1146 -000	INDEPENDENCE STATION RD	Bridge or Large Culvert	22	0	4	Evaluate need for guardrail on approach.
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation
2192	059-CR-1146 -000	INDEPENDENCE STATION RD	Curve Hazard	No	--	other; Objects near road	Install Curve Warning Sign; Evaluate other obstructions
2210	059-CR-1146 -000	INDEPENDENCE STATION RD	Curve Hazard	No	--	other; No sign	Install Curve Warning Sign; Evaluate other obstructions
2216	059-CR-1146 -000	INDEPENDENCE STATION RD	Curve Hazard	Yes	--	other; Dangerous	Install Curve Warning Sign; Clear Vegetation
2261	059-CR-1146 -000	INDEPENDENCE STATION RD	Curve Hazard	No	--	other; No signs	Install Curve Warning Sign; Evaluate other obstructions
2264	059-CR-1146 -000	INDEPENDENCE STATION RD	Curve Hazard	No	--	other; No signs. Series	Install Curve Warning Sign; Evaluate other obstructions
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation
2184	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with KY 17X	Review Intersection
2219	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Cody Rd	Review Intersection
2228	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Canberra Dr	Review Intersection
2234	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	RR crossing;	Review RR crossing
2245	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Mchugh Ln	Review Intersection
2249	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Justice Ln	Review Intersection
2253	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Gary Lee Hall Dr	Review Intersection
2257	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Webster Dr	Review Intersection
2259	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Meadow Glen	Review Intersection
2268	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Jam Ct	Review Intersection
2273	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Elite Dr	Review Intersection
2275	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Cody Rd	Review Intersection
2279	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Pearl Dr	Review Intersection
2281	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Willowview Dr	Review Intersection
2284	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with Kimberly Dr	Review Intersection
2289	059-CR-1146 -000	INDEPENDENCE STATION RD	other	--	--	Intersection with KY 1303 (Turkeyfoot Rd)	Review Intersection

MAHER RD (059-CR-1231 -000)

Road Location Map and Crash History

	Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	8	2	0	10	
SS - Same	2	0	0	2	
Head On	0	1	0	1	
SS - Opp	1	0	0	1	
Backing	1	0	0	1	
Rear End	0	1	0	1	
Rear to Rear	0	0	0	0	
Angle	0	0	0	0	
Left Turn	0	0	0	0	

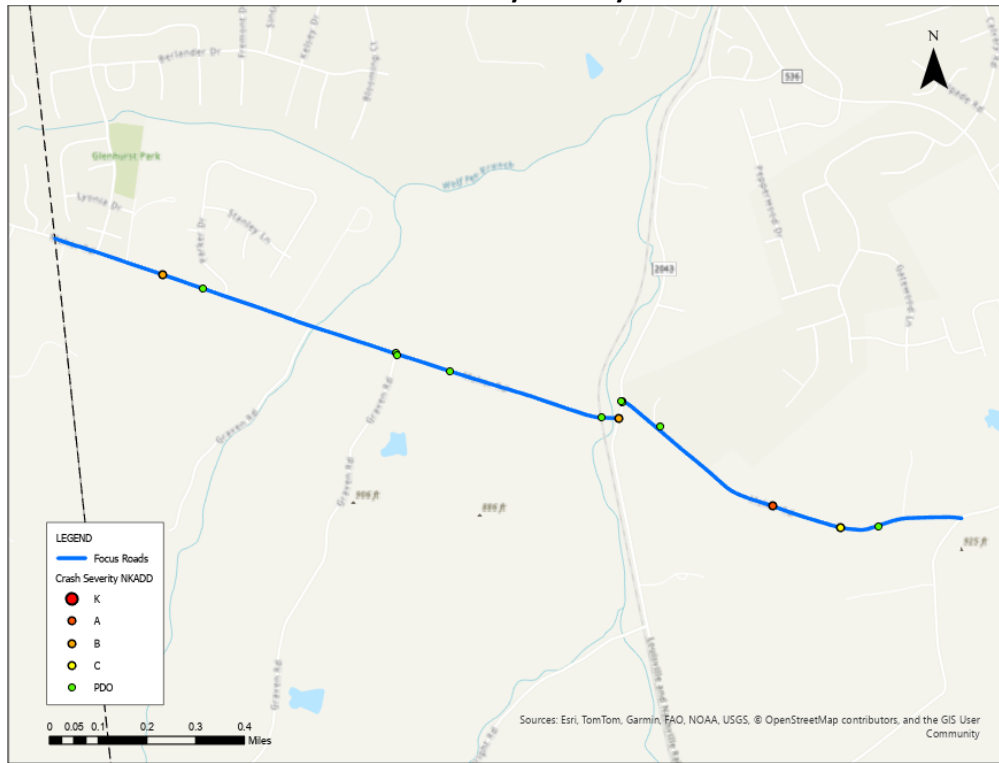
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating
1891	059-CR-1231 -000	MAHER RD	22	4	5
2154	059-CR-1231 -000	MAHER RD	22	3	4

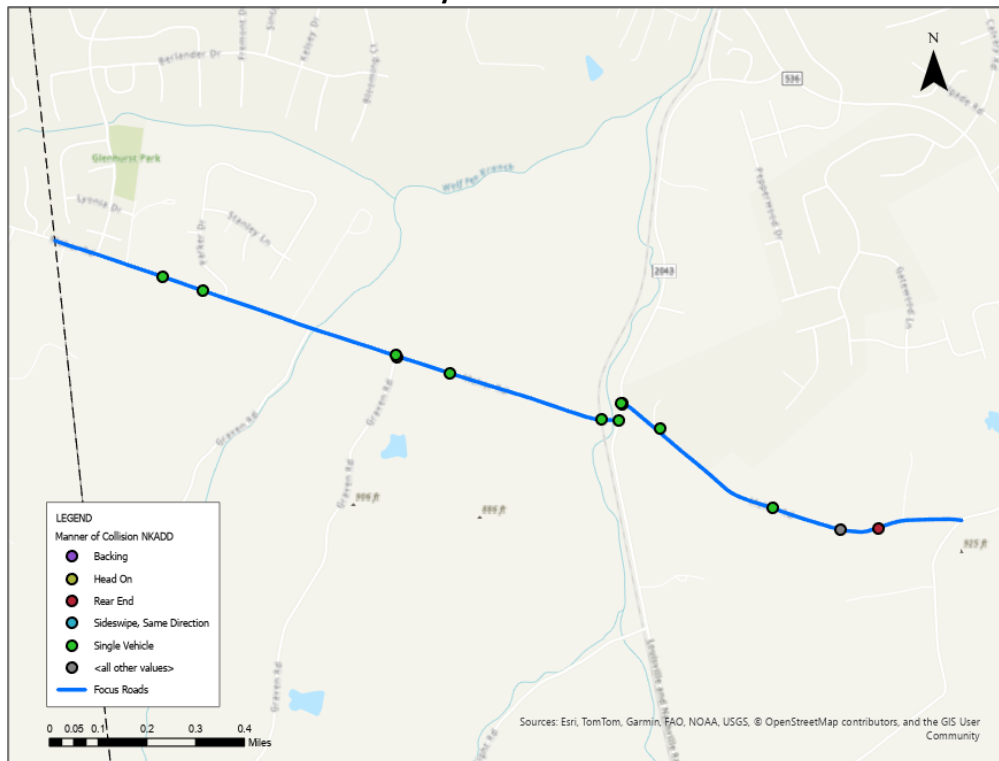
Roadway Typical Section



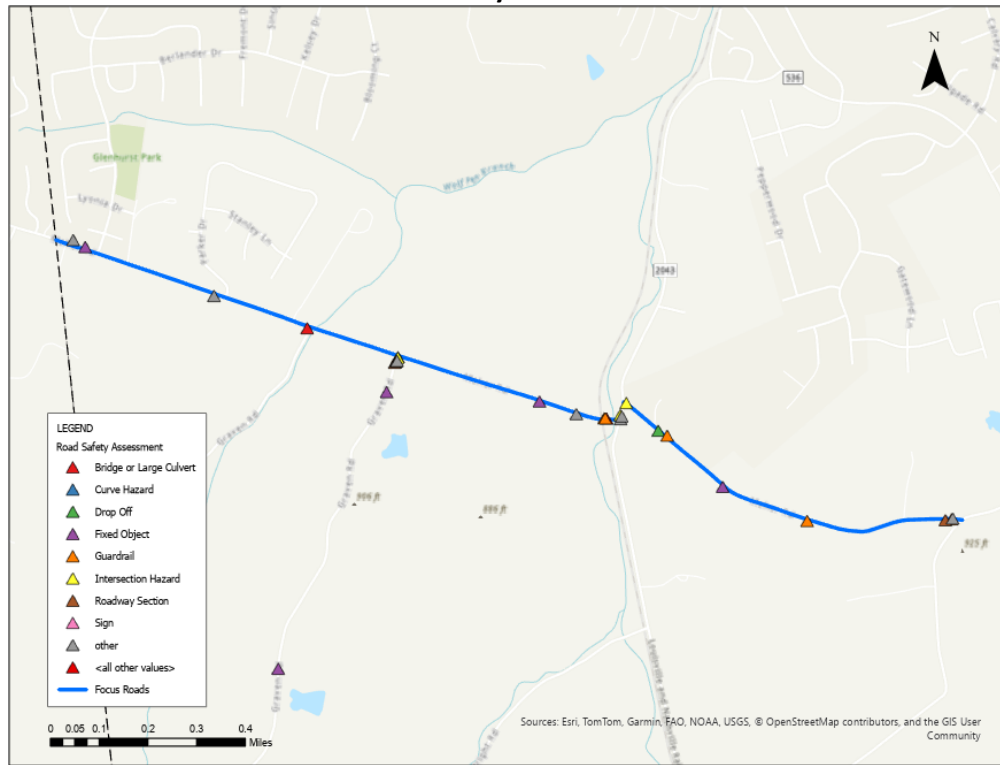
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



General Recommendations

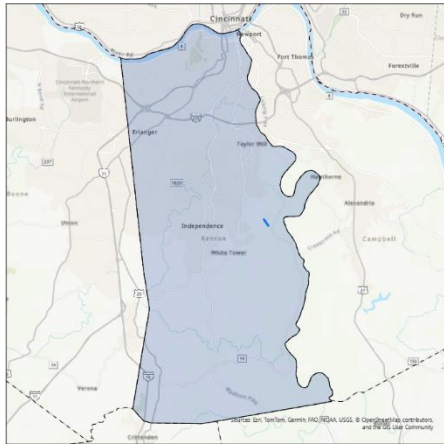
Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin	Other Recommendations
1891	059-CR-1231 -000	MAHER RD	22	4	5	0-20		EL & CL	✓	
2154	059-CR-1231 -000	MAHER RD	22	3	4	0-20		EL & CL	✓	

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
1881	059-CR-1231 -000	MAHER RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
1841	059-CR-1231 -000	MAHER RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1860	059-CR-1231 -000	MAHER RD	Fixed Object	other; Stone columns	Series	1-3	Consider Removal or Relocation; Install Type 2 or 3 Object Marker(s)
1883	059-CR-1231 -000	MAHER RD	Fixed Object	other; Landscape planter	Series	3-5	Relocate
2158	059-CR-1231 -000	MAHER RD	Fixed Object	other; Fence	Series	1-3	Consider removal/relocation
2160	059-CR-1231 -000	MAHER RD	Fixed Object	Tree;	Single	1-3	Remove
2161	059-CR-1231 -000	MAHER RD	Fixed Object	other; Masonry mailbox	Series	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation
1872	059-CR-1231 -000	MAHER RD	Guardrail	Poor	Yes	Some	Upgrade or replace guardrail installation w/ proper end treatments
1873	059-CR-1231 -000	MAHER RD	Guardrail	Poor	Yes	Some	Upgrade or replace guardrail installation w/ proper end treatments
1882	059-CR-1231 -000	MAHER RD	Guardrail	Fair	Maybe	None	Evaluate warrants, need to extend guardrail and cost to upgrade/install end treatments and/or Type 3 Object Markers
1884	059-CR-1231 -000	MAHER RD	Guardrail	Good	Yes	Some	--
1888	059-CR-1231 -000	MAHER RD	Guardrail	Poor	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	Vegetation	--	Recommendation	
1856	059-CR-1231 -000	MAHER RD	Intersection	No	--	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1876	059-CR-1231 -000	MAHER RD	Intersection	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)
1878	059-CR-1231 -000	MAHER RD	Intersection	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)
2157	059-CR-1231 -000	MAHER RD	Intersection	Yes	--	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
1847	059-CR-1231 -000	MAHER RD	Bridge or Large Culvert	22	0	4	Evaluate need for guardrail on approach.
1871	059-CR-1231 -000	MAHER RD	Bridge or Large Culvert	23	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation
1840	059-CR-1231 -000	MAHER RD	other	--	--	Intersection with Glenhurst Dr	Review Intersection
1843	059-CR-1231 -000	MAHER RD	other	--	--	Intersection with Parker Dr	Review Intersection
1854	059-CR-1231 -000	MAHER RD	other	--	--	Intersection with Graven Rd	Review Intersection
1863	059-CR-1231 -000	MAHER RD	other	--	--	RR Crossing;	Review RR crossing
1874	059-CR-1231 -000	MAHER RD	other	--	--	Intersection with Banklick Rd	Review Intersection
1875	059-CR-1231 -000	MAHER RD	other	--	--	Intersection with Banklick Rd	Review Intersection
1889	059-CR-1231 -000	MAHER RD	other	--	--	Intersection with Independence Rd	Review Intersection
2156	059-CR-1231 -000	MAHER RD	other	--	--	Intersection with Maher Rd	Review Intersection

PRUETT RD (059-CR-1080 -000)

Road Location Map and Crash History



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

General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate
454	059-CR-1080 -000	PRUETT RD	19	3	6

Roadway Typical Section



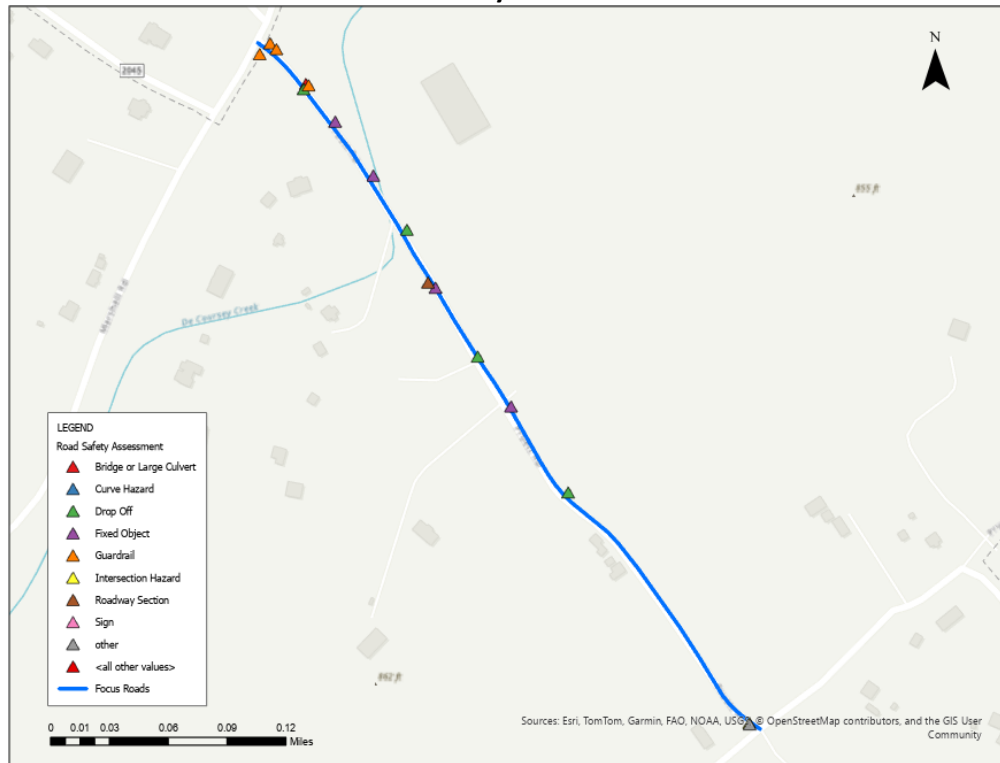
Crashes by Severity



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	Edgeline	Curve Signin	Other Recommendations
454	059-CR-1080 -000	PRUETT RD	19	3	6	20-40	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
464	059-CR-1080 -000	PRUETT RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
467	059-CR-1080 -000	PRUETT RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
469	059-CR-1080 -000	PRUETT RD	Drop Off	1-3	>10	--	Evaluate need for guardrail			
472	059-CR-1080 -000	PRUETT RD	Drop Off	0-1	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
465	059-CR-1080 -000	PRUETT RD	Fixed Object	Tree;	Series	1-3	--			
466	059-CR-1080 -000	PRUETT RD	Fixed Object	Culvert Headwall;	Series	1-3	Install Type 2 or 3 Object Marker(s)			
468	059-CR-1080 -000	PRUETT RD	Fixed Object	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)			
471	059-CR-1080 -000	PRUETT RD	Fixed Object	Tree;	Series	1-3	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
458	059-CR-1080 -000	PRUETT RD	Guardrail	Fair	Yes	Some	Repair damage; Install/Upgrade End Treatments and/or Type 3 Object Marker(s)			
459	059-CR-1080 -000	PRUETT RD	Guardrail	Good	Yes	Some	--			
460	059-CR-1080 -000	PRUETT RD	Guardrail	Good	Yes	Some	--			
461	059-CR-1080 -000	PRUETT RD	Guardrail	Good	Yes	Some	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation				
474	059-CR-1080 -000	PRUETT RD	Intersection	Yes	--	Intersection Obscured on Approach		Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)		
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
463	059-CR-1080 -000	PRUETT RD	Bridge or Large Culvert	20	4	0	Evaluate need for Type 3 Object Markers			
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation			
475	059-CR-1080 -000	PRUETT RD	other	--	--	Intersection with Pruettd/Petty	Review Intersection			

HIGHWATER RD (059-CR-1072 -000)

Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	7	1	0	8
SS - Opp	2	1	0	3
Angle	1	0	0	1
Rear End	1	0	0	1
Backing	0	0	0	0
SS - Same	0	0	0	0
Rear to Rear	0	0	0	0
Left Turn	0	0	0	0
Head On	0	0	0	0

General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate
2111	059-CR-1072 -000	HIGHWATER RD	22	3	5

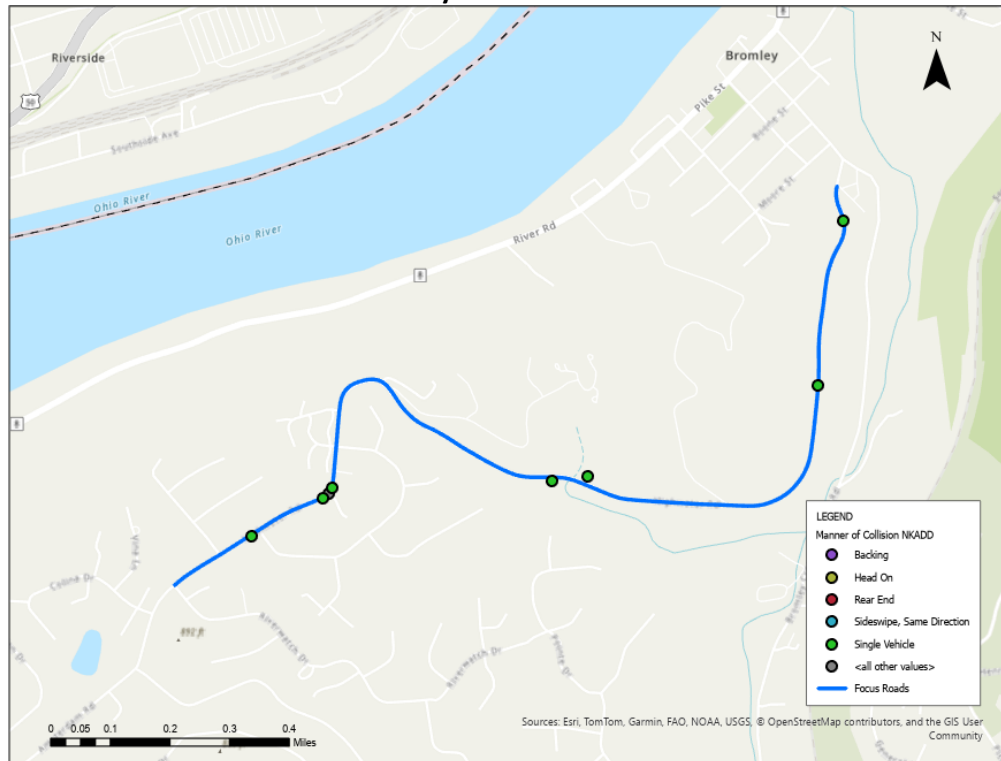
Roadway Typical Section



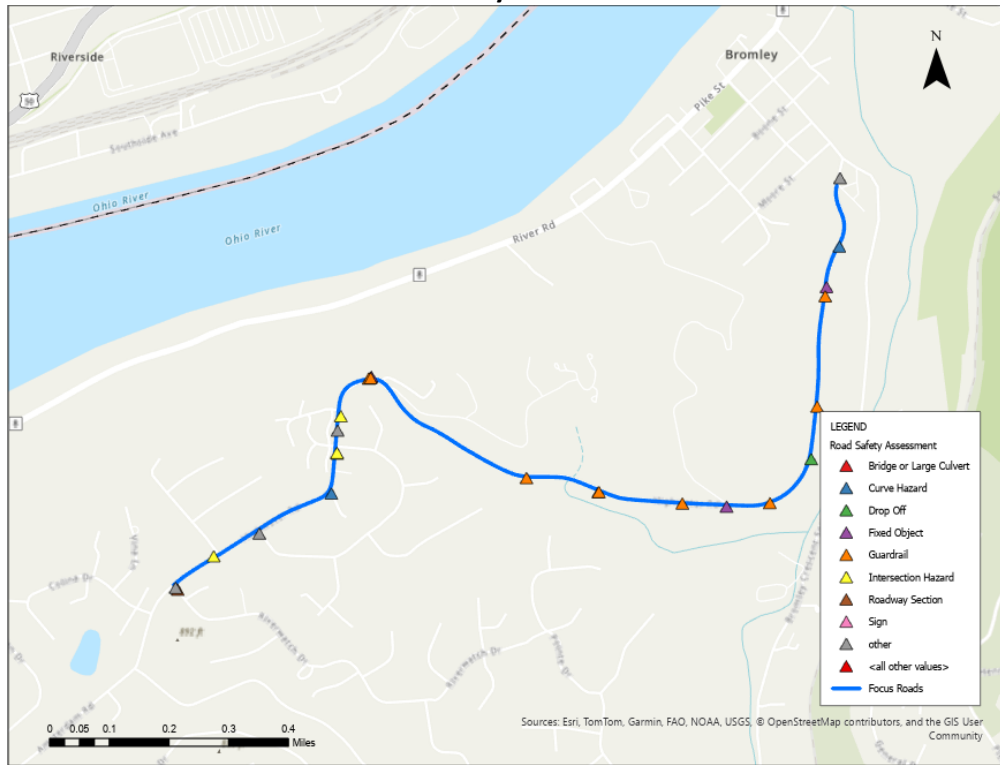
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment

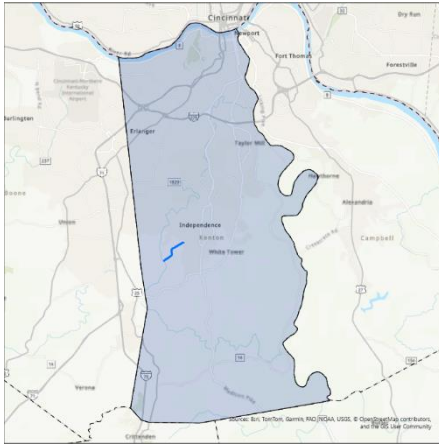


General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin	Other Recommendations
2111	059-CR-1072 -000	HIGHWATER RD	22	3	5	40-60	✓	EL & CL	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
2138	059-CR-1072 -000	HIGHWATER RD	Drop Off	0-1	>10	--	Evaluate need for guardrail			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
2126	059-CR-1072 -000	HIGHWATER RD	Fixed Object	other;	Series	3-5	Install Type 2 or 3 Object Marker(s); See policy			
2127	059-CR-1072 -000	HIGHWATER RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
2131	059-CR-1072 -000	HIGHWATER RD	Fixed Object	other; Concrete	Series	3-5	--			
2136	059-CR-1072 -000	HIGHWATER RD	Fixed Object	other; Concrete	Series	1-3	Install Type 2 or Type 3 Object Marker(s)			
2143	059-CR-1072 -000	HIGHWATER RD	Fixed Object	other; Retaining wall	Single	3-5	Install Type 2 or 3 Object Marker(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation			
2125	059-CR-1072 -000	HIGHWATER RD	Guardrail	Poor	Yes	None	Upgrade or replace guardrail installation w/			
2129	059-CR-1072 -000	HIGHWATER RD	Guardrail	Good	Yes	Some	--			
2130	059-CR-1072 -000	HIGHWATER RD	Guardrail	Poor	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers			
2132	059-CR-1072 -000	HIGHWATER RD	Guardrail	Poor	Maybe	None	Evaluate warrants and cost to upgrade/install			
2135	059-CR-1072 -000	HIGHWATER RD	Guardrail	Good	Yes	Some	--			
2137	059-CR-1072 -000	HIGHWATER RD	Guardrail	Good	Yes	Some	--			
2140	059-CR-1072 -000	HIGHWATER RD	Guardrail	Good	Yes	All	--			
2141	059-CR-1072 -000	HIGHWATER RD	Guardrail	Good	Yes	Some	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation				
2113	059-CR-1072 -000	HIGHWATER RD	Intersection	Yes	--	Insufficient Sight Distance; Intersection with	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and			
2119	059-CR-1072 -000	HIGHWATER RD	Intersection	Yes	--	Insufficient Sight Distance; Intersection with Steamboat	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and			
2120	059-CR-1072 -000	HIGHWATER RD	Intersection	Yes	--	Insufficient Sight Distance; Intersection with Steamboat	Clear vegetation and evaluate sight distance ;			
2122	059-CR-1072 -000	HIGHWATER RD	Intersection	Yes	--	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ;			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation			
2116	059-CR-1072 -000	HIGHWATER RD	Curve Hazard	Yes	--	other; No signs	Install Curve Warning Sign; Clear Vegetation			
2128	059-CR-1072 -000	HIGHWATER RD	Curve Hazard	No	--	other; No signs	Install Curve Warning Sign; Evaluate other			
2146	059-CR-1072 -000	HIGHWATER RD	Curve Hazard	No	--	other; No signs or	Install Curve Warning Sign; Evaluate other			
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation			
2112	059-CR-1072 -000	HIGHWATER RD	other	--	--	Intersection with River View	Review Intersection			
2114	059-CR-1072 -000	HIGHWATER RD	other	--	--	Intersection with	Review Intersection			
2121	059-CR-1072 -000	HIGHWATER RD	other	--	--	Intersection with Steamboat	Review Intersection			
2152	059-CR-1072 -000	HIGHWATER RD	other	--	--	Intersection with Bromley-	Review Intersection			

INDEPENDENCE RD (059-CR-1232 -000)

Road Location Map and Crash History



Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	3	2	0	5
Rear End	1	0	0	1
SS - Opp	0	0	0	0
Backing	0	0	0	0
Head On	0	0	0	0
Rear to Rear	0	0	0	0
Angle	0	0	0	0
SS - Same	0	0	0	0
Left Turn	0	0	0	0

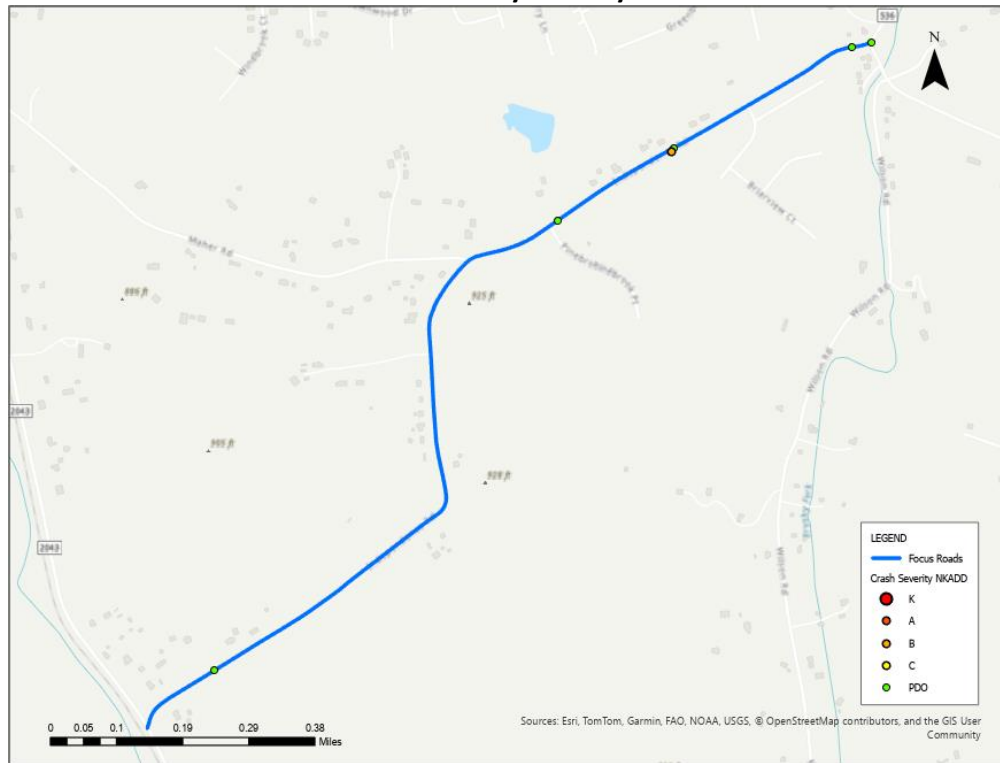
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Ratio
1963	059-CR-1232 -000	INDEPENDENCE RD	20	3	5
1979	059-CR-1232 -000	INDEPENDENCE RD	18	4	5

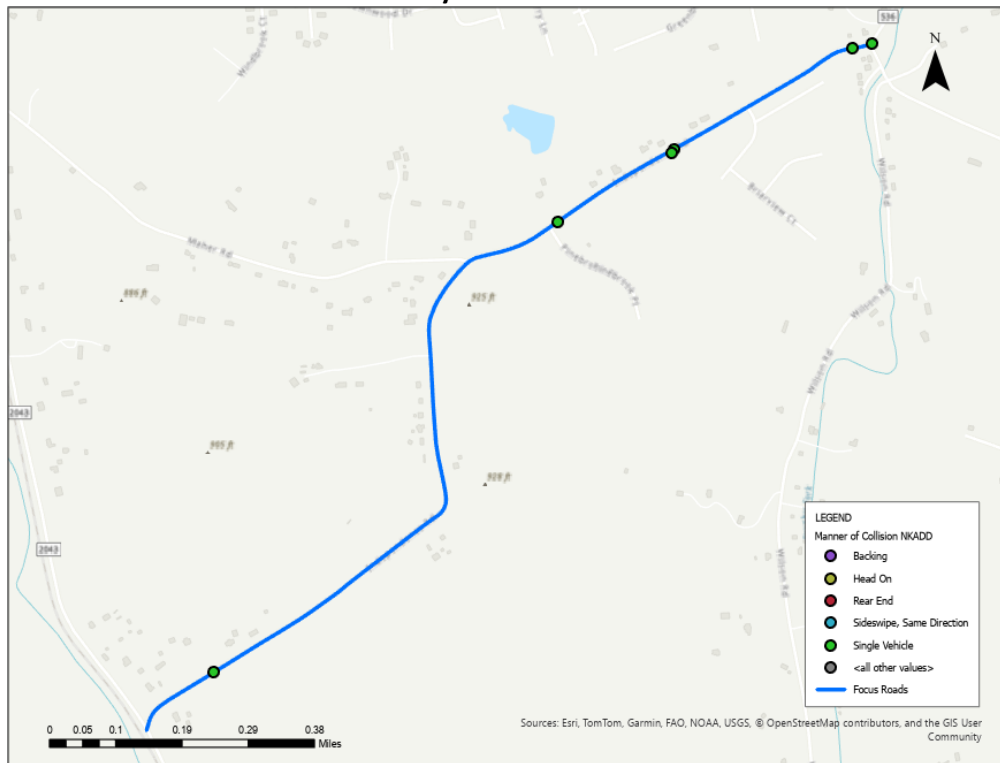
Roadway Typical Section



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	Edgeline	Curve Signin	Other Recommendations
1963	059-CR-1232 -000	INDEPENDENCE RD	20	3	5	0-20		EL & CL	✓	
1979	059-CR-1232 -000	INDEPENDENCE RD	18	4	5	0-20		✓	✓	

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
1966	059-CR-1232 -000	INDEPENDENCE RD	Fixed Object	Utility Pole;	Series	3-5	--
1970	059-CR-1232 -000	INDEPENDENCE RD	Fixed Object	Tree;	Series	1-3	--

Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation
1967	059-CR-1232 -000	INDEPENDENCE RD	Guardrail	Good	Yes	Some	--

Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation	
1890	059-CR-1232 -000	INDEPENDENCE RD	Intersection	Yes	--	Intersection Obscured on Approach, Intersection Skew, Insufficient Sight Distance at	
1972	059-CR-1232 -000	INDEPENDENCE RD	Intersection	Yes	--	Intersection Skew	Clear vegetation and evaluate sight distance ; Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew

Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation
1964	059-CR-1232 -000	INDEPENDENCE RD	other	--	--	Intersection with Woodmont Way	Review Intersection
1971	059-CR-1232 -000	INDEPENDENCE RD	other	--	--	Intersection with KY 536	Review Intersection
1973	059-CR-1232 -000	INDEPENDENCE RD	other	--	--	Intersection with pine brook dr	Review Intersection
1975	059-CR-1232 -000	INDEPENDENCE RD	other	--	--	Intersection with Maher rd	Review Intersection
1978	059-CR-1232 -000	INDEPENDENCE RD	other	--	--	Intersection with cedora ln	Review Intersection
1984	059-CR-1232 -000	INDEPENDENCE RD	other	--	--	Intersection with KY 2043	Review Intersection

Other Roadways

General Roadway Conditions and Recommendations (Kenton County)

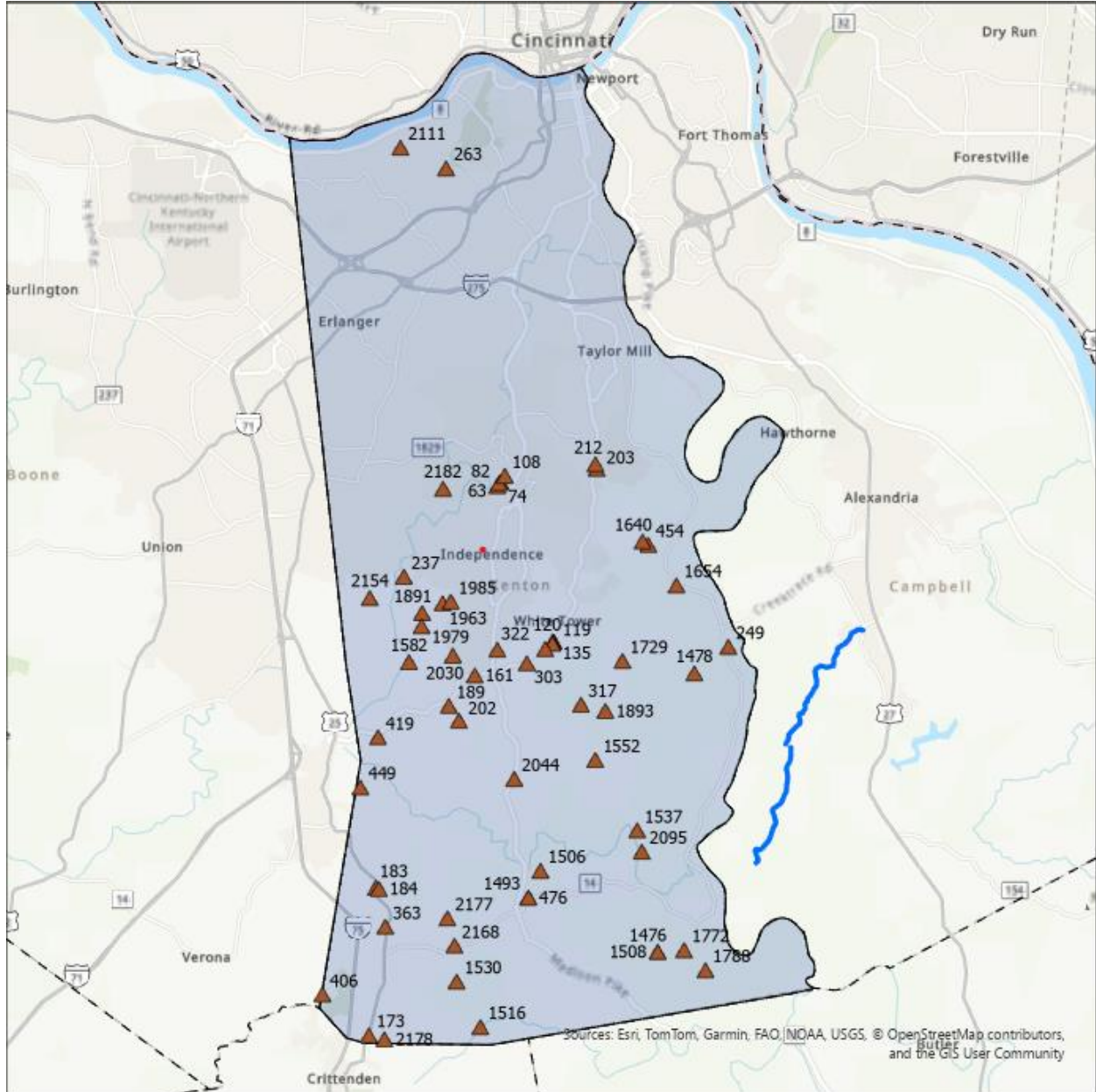


Exhibit Kenton-F1: General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin
63	059-CR-1320 -000	HARVEST HILLS DR	24+	3	3	0-20		CL	✓
74	059-CR-1320 -000	HARVEST HILLS DR	24+	3	3	0-20		CL	✓
82	059-CR-1313 -000	OPEN MEADOW DR	24+	3	2	0-20		EL & CL	✓
108	059-CR-1315 -000	MOONLIGHT WAY	24+	4	1	0-20		EL & CL	✓
119	059-CR-1014 -000	ALDERBROOK DR	24+	4	2	0-20		EL & CL	✓
120	059-CR-1014 -000	ALDERBROOK DR	24+	4	2	0-20		EL & CL	✓
135	059-CR-1149 -000	MANOR LAKE DR	24+	4	3	0-20		EL & CL	✓
151	059-CR-1017 -000	SILVERBELL WAY	24+	4	2	0-20		EL & CL	✓
161	059-CR-1241 -000	CADILLAC DR	24+	3	4	0-20		EL & CL	✓
173	059-CR-1206 -000	DERBY DR	24+	4	2	0-20		EL & CL	✓
183	059-CR-1239 -000	SOUTH FORK DR	24+	4	2	0-20		EL & CL	✓
184	059-CR-1239 -000	SOUTH FORK DR	24+	3	2	0-20		EL & CL	✓
189	059-CR-1219 -000	DON ST	20	3	4	0-20		EL & CL	✓
202	059-CR-1219 -000	DON ST	24+	3	4	0-20		EL & CL	✓
203	059-CR-1026 -000	FAIR VALLEY RD	17	4	5	0-20		✓	✓
212	059-CR-1027 -000	CLUBHOUSE DR	23	4	5	0-20		EL & CL	✓
237	059-CR-1346 -000	BRISTOW LAKES DR	24+	4	2	0-20		EL & CL	✓
249	059-CR-1155 -000	VISALIA RD	18	4	5	0-20		✓	✓
263	059-CR-1317 -000	AMSTERDAM EAST RD	20	4	6	20-40	✓	EL & CL	✓
280	059-CR-1103 -000	RIGGS RD	19	3	5	0-20		✓	✓
303	059-CR-1136 -000	BOWMAN RD	21	4	5	0-20		EL & CL	✓
317	059-CR-1136 -000	BOWMAN RD	15	4	5	0-20		✓	✓
322	059-CR-1245 -000	MAPLE TREE LN	24+	3	3	0-20		EL & CL	✓
363	059-CR-1222 -000	EADS RD	17	4	4	0-20		✓	✓
406	059-CR-1254 -000	COURTNEY RD	18	4	4	0-20		✓	✓
419	059-CR-1228 -000	PERCIVAL RD	18	4	5	0-20		✓	✓
449	059-CR-1228 -000	PERCIVAL RD	16	3	5	0-20		✓	✓
454	059-CR-1080 -000	PRUETT RD	19	3	6	20-40	✓	✓	✓
476	059-CR-1120 -000	DIXON RD	17	3	5	0-20		✓	✓
1476	059-CR-1124 -000	PFANSTIEL RD	13	4	4	40-60	✓	✓	✓
1478	059-CR-1108 -000	KLEIN RD	18	3	5	20-40	✓	✓	✓
1493	059-CR-1120 -000	DIXON RD	17	3	5	0-20		✓	✓
1506	059-CR-1120 -000	DIXON RD	12	3	5	0-20		✓	✓
1508	059-CR-1124 -000	PFANSTIEL RD	13	4	4	40-60	✓	✓	✓
1516	059-CR-1220 -000	CARLISLE RD	15	4	6	40-60	✓	✓	✓
1530	059-CR-1220 -000	CARLISLE RD	15	4	5	20-40	✓	✓	✓
1537	059-CR-1079 -000	OAK ISLAND RD	14	3	5	40-60	✓	✓	✓
1552	059-CR-1112 -000	RECTOR RD	19	4	5	40-60	✓	✓	✓
1582	059-CR-1229 -000	BRAMLAGE RD	20	4	4	0-20		EL & CL	✓
1640	059-CR-1007 -000	MARSHALL RD	19	4	4	0-20		✓	✓
1654	059-CR-1104 -000	STEEP CREEK RD	20	3	6	20-40	✓	EL & CL	✓
1729	059-CR-1102 -000	STAFFORDSBURG RD	17	4	5	0-20		✓	✓
1772	059-CR-1121 -000	ALEXANDER RD	16	3	5	40-60	✓	✓	✓
1788	059-CR-1121 -000	ALEXANDER RD	12	3	5	20-40	✓	✓	✓
1891	059-CR-1231 -000	MAHER RD	22	4	5	0-20		EL & CL	✓

Exhibit Kenton-F2: General Roadway Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rati	Shoulder Improve (ft)	Improve Should	Edgelin ¹	Curve Signin
1893	059-CR-1102 -000	STAFFORDSBURG RD	18	4	5	20-40	✓	✓	✓
1963	059-CR-1232 -000	INDEPENDENCE RD	20	3	5	0-20		EL & CL	✓
1979	059-CR-1232 -000	INDEPENDENCE RD	18	4	5	0-20		✓	✓
1985	059-CR-1202 -000	WILSON RD	18	4	5	0-20		✓	✓
2030	059-CR-1202 -000	WILSON RD	20	4	5	0-20		EL & CL	✓
2044	059-CR-1061 -000	HEMPFLING RD	19	4	5	40-60	✓	✓	✓
2095	059-CR-1061 -000	HEMPFLING RD	15	3	5	40-60	✓	✓	✓
2111	059-CR-1072 -000	HIGHWATER RD	22	3	5	40-60	✓	EL & CL	✓
2154	059-CR-1231 -000	MAHER RD	22	3	4	0-20		EL & CL	✓
2168	059-CR-1218 -000	LUNSFORD RD	16	3	5	20-40	✓	✓	✓
2177	059-CR-1218 -000	LUNSFORD RD	11	3	6	40-60	✓	✓	✓
2178	059-CR-1206 -000	DERBY DR	22	4	2	0-20		EL & CL	✓
2182	059-CR-1146 -000	INDEPENDENCE STATION RD	22	4	6	20-40	✓	EL & CL	✓

Exhibit Kenton-F2: General Roadway Recommendations (continued)

Bridge / Culvert Recommendations (Kenton County)

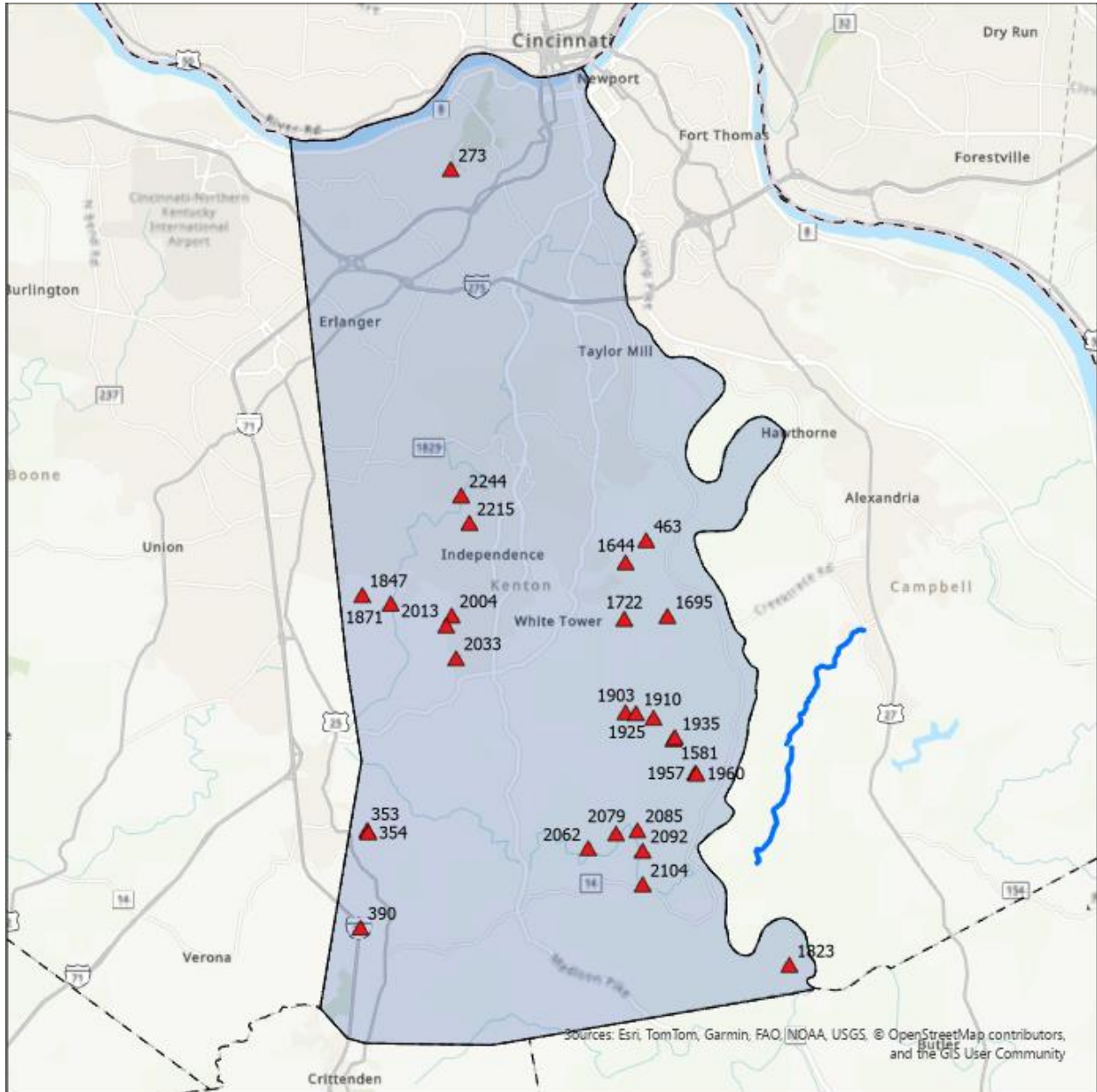


Exhibit Kenton-F3: Bridge / Culvert Locations

Point ID	RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
273	059-CR-1317 -000	AMSTERDAM EAST RD	20	2	2	Evaluate need for guardrail on approach, install appropriate end treatment or remove and install Type 3 Object Markers.
353	059-CR-1227 -000	JONES RD	16	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
354	059-CR-1227 -000	JONES RD	16	0	1	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
390	059-CR-1222 -000	EADS RD	28	4	0	Evaluate need for Type 3 Object Markers
463	059-CR-1080 -000	PRUETT RD	20	4	0	Evaluate need for Type 3 Object Markers
1581	059-CR-1112 -000	RECTOR RD	22	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
1644	059-CR-1007 -000	MARSHALL RD	23	4	3	Evaluate condition of existing and need for guardrail on approach, install Type 3 Object Markers
1695	059-CR-1104 -000	STEEP CREEK RD	16	0	4	Evaluate need for guardrail on approach.
1722	059-CR-1104 -000	STEEP CREEK RD	22	2	4	Evaluate condition of and need for guardrail on approach,
1823	059-CR-1121 -000	ALEXANDER RD	13	0	4	Evaluate need for guardrail on approach.
1847	059-CR-1231 -000	MAHER RD	22	0	4	Evaluate need for guardrail on approach.
1871	059-CR-1231 -000	MAHER RD	23	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
1903	059-CR-1132 -000	KENTON STATION RD	22	0	4	Evaluate need for guardrail on approach.
1910	059-CR-1132 -000	KENTON STATION RD	22	0	4	Evaluate need for guardrail on approach.
1925	059-CR-1132 -000	KENTON STATION RD	22	0	4	Evaluate need for guardrail on approach.
1935	059-CR-1132 -000	KENTON STATION RD	18	0	4	Evaluate need for guardrail on approach.
1957	059-CR-1132 -000	KENTON STATION RD	22	0	4	Evaluate need for guardrail on approach.
1960	059-CR-1132 -000	KENTON STATION RD	18	0	other	Evaluate need for guardrail on approach. Install Type 3 Object Markers
2004	059-CR-1202 -000	WILSON RD	22	2	4	Evaluate condition of and need for guardrail on approach,
2013	059-CR-1202 -000	WILSON RD	19	0	4	Evaluate need for guardrail on approach.
2033	059-CR-1202 -000	WILSON RD	21	0	4	Evaluate need for guardrail on approach.
2062	059-CR-1061 -000	HEMPFLING RD	19	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers
2079	059-CR-1061 -000	HEMPFLING RD	22	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
2085	059-CR-1061 -000	HEMPFLING RD	20	0	4	Evaluate need for guardrail on approach.
2092	059-CR-1061 -000	HEMPFLING RD	14	0	3	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2104	059-CR-1061 -000	HEMPFLING RD	21.5	4	4	Evaluate Condition of Guardrail and Type 3 Object Markers
2215	059-CR-1146 -000	INDEPENDENCE STATION RD	22	1	4	Evaluate condition of existing and need for guardrail on approach.
2244	059-CR-1146 -000	INDEPENDENCE STATION RD	22	0	4	Evaluate need for guardrail on approach.

Exhibit Kenton-F4: Bridge / Culvert Recommendations

Curve Recommendations (Kenton County)

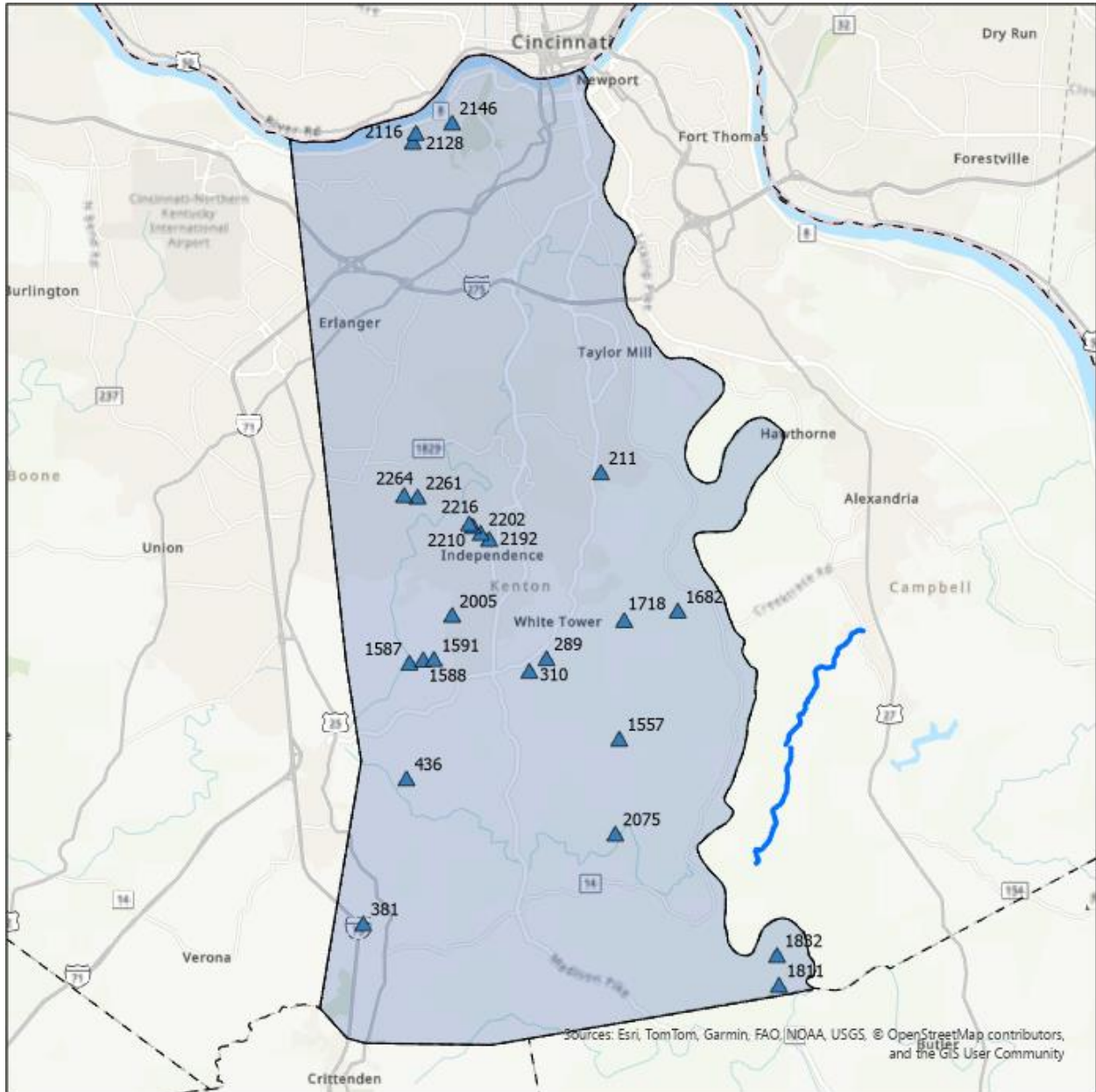


Exhibit Kenton-F5: Focus Road Curves

Point ID	RT_UNIQUE	Road Name	Comments	Vegetation	Recommendation
211	059-CR-1026 -000	FAIR VALLEY RD	other; Utility pole	No	Install Curve Warning Sign; Evaluate other obstructions; Consider relocation of utility pole or installation of Type 2 Object Marker
289	059-CR-1103 -000	RIGGS RD	other; Straight street no curve issues	Yes	Install Curve Warning Sign; Clear Vegetation
310	059-CR-1136 -000	BOWMAN RD	other; No signs	No	Install Curve Warning Sign; Evaluate other obstructions
381	059-CR-1222 -000	EADS RD	other; Needs curve signs, back switches with no warning	No	Install Curve Warning Sign; Evaluate other obstructions
436	059-CR-1228 -000	PERCIVAL RD	other; Needs sign reflective	No	Install Curve Warning Sign; Evaluate other obstructions
1557	059-CR-1112 -000	RECTOR RD	other; Needs curve sign for darkness	No	Install Curve Warning Sign; Evaluate other obstructions
1587	059-CR-1229 -000	BRAMLAGE RD	other; Drop off	Yes	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker or Delineator at dropoff
1588	059-CR-1229 -000	BRAMLAGE RD	other; Cross culvert close to edge of road	Yes	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker at Culvert
1591	059-CR-1229 -000	BRAMLAGE RD	other; S curve blind spot	No	Install Curve Warning Sign; Evaluate other obstructions
1682	059-CR-1104 -000	STEEP CREEK RD	other; Barn blocking view	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
1718	059-CR-1104 -000	STEEP CREEK RD	other; Sharp angle	Yes	Install Curve Warning Sign; Clear Vegetation
1811	059-CR-1121 -000	ALEXANDER RD	other; Drop off in outer edge of curve	Yes	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker or Delineator at dropoff
1832	059-CR-1121 -000	ALEXANDER RD	other; Needs curve signs	No	Install Curve Warning Sign; Evaluate other obstructions
2005	059-CR-1202 -000	WILSON RD	other; Curve with no sign	Yes	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker at Culvert
2075	059-CR-1061 -000	HEMPFLING RD	other; No signs	No	Install Curve Warning Sign; Evaluate other obstructions
2116	059-CR-1072 -000	HIGHWATER RD	other; No signs	Yes	Install Curve Warning Sign; Clear Vegetation
2128	059-CR-1072 -000	HIGHWATER RD	other; No signs	No	Install Curve Warning Sign; Evaluate other obstructions
2146	059-CR-1072 -000	HIGHWATER RD	other; No signs or guardrails	No	Install Curve Warning Sign; Evaluate other obstructions
2192	059-CR-1146 -000	INDEPENDENCE STATION RD	other; Objects near road	No	Install Curve Warning Sign; Evaluate other obstructions
2202	059-CS-1257 -000	CRISTOPHER DR	other; No guardrails	Yes	Install Curve Warning Sign; Clear Vegetation
2210	059-CR-1146 -000	INDEPENDENCE STATION RD	other; No sign	No	Install Curve Warning Sign; Evaluate other obstructions
2216	059-CR-1146 -000	INDEPENDENCE STATION RD	other; Dangerous	Yes	Install Curve Warning Sign; Clear Vegetation
2261	059-CR-1146 -000	INDEPENDENCE STATION RD	other; No signs	No	Install Curve Warning Sign; Evaluate other obstructions
2264	059-CR-1146 -000	INDEPENDENCE STATION RD	other; No signs. Series	No	Install Curve Warning Sign; Evaluate other obstructions

Exhibit Kenton-F5: Curve Recommendations

Roadside Drop Off Recommendations (Kenton County)

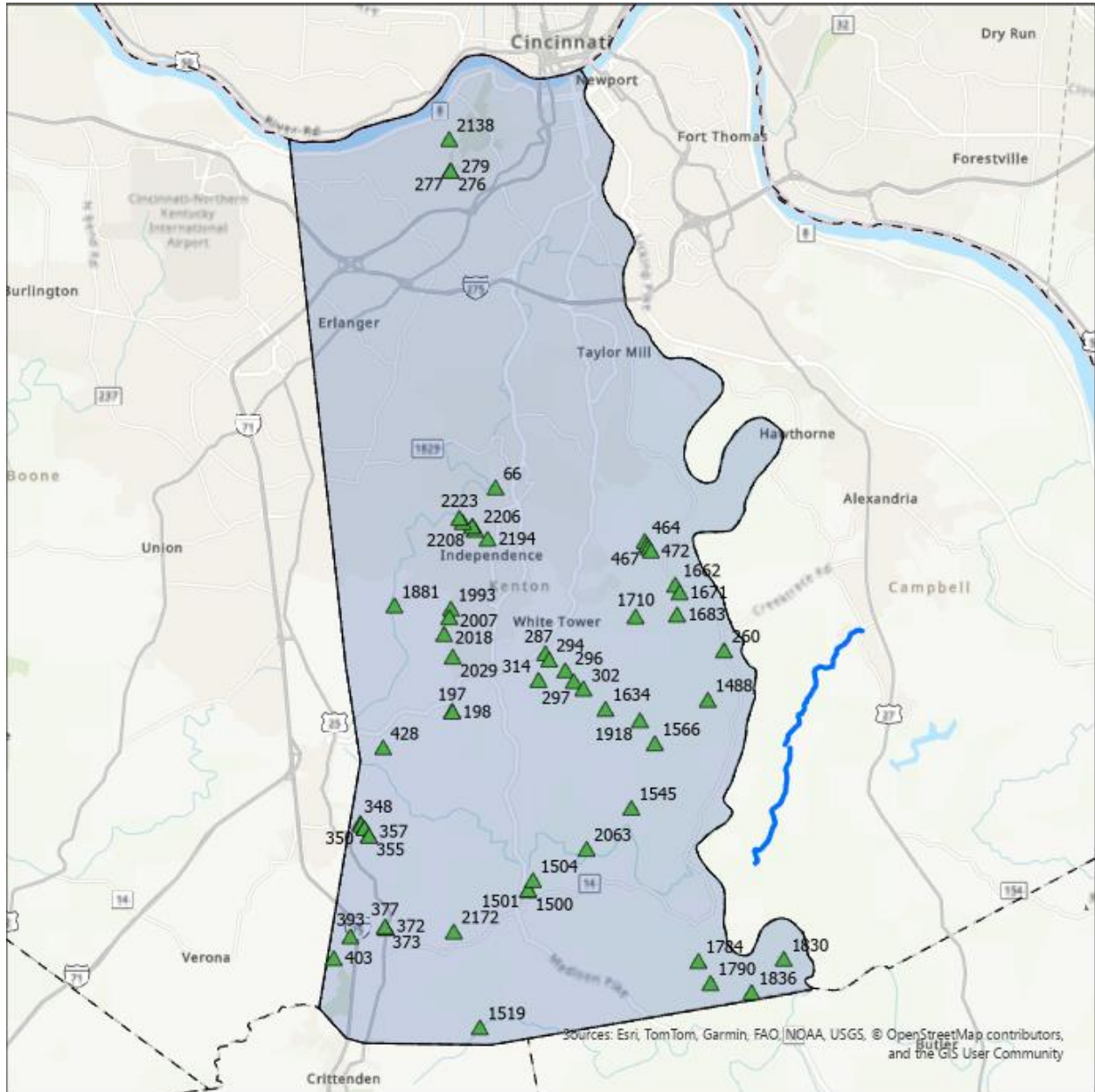


Exhibit Kenton-F7: Roadside Drop Off Locations

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
66	059-CR-1320 -000	HARVEST HILLS DR	0-1	<2	Repair Shoulder; Install Object Markers
197	059-CR-1219 -000	DON ST	1-3	<2	Install Type 2 Object Marker(s)
198	059-CR-1219 -000	DON ST	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
260	059-CR-1155 -000	VISALIA RD	1-3	<2	Install Type 2 Object Marker(s)
276	059-CR-1317 -000	AMSTERDAM EAST RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
277	059-CR-1317 -000	AMSTERDAM EAST RD	>5	>10	--
279	059-CR-1317 -000	AMSTERDAM EAST RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
287	059-CR-1103 -000	RIGGS RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
294	059-CR-1103 -000	RIGGS RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
296	059-CR-1103 -000	RIGGS RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
297	059-CR-1103 -000	RIGGS RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
302	059-CR-1103 -000	RIGGS RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
314	059-CR-1136 -000	BOWMAN RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
348	059-CR-1227 -000	JONES RD	1-3	<2	Install Type 2 Object Marker(s) or Delineator(s)
350	059-CR-1227 -000	JONES RD	1-3	<2	Install Type 2 Object Marker(s) or Delineator(s)
351	059-CR-1227 -000	JONES RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
352	059-CR-1227 -000	JONES RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
355	059-CR-1227 -000	JONES RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
357	059-CR-1227 -000	JONES RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
372	059-CR-1222 -000	EADS RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
373	059-CR-1222 -000	EADS RD	0-1	<2	Install Type 2 Object Marker(s)
376	059-CR-1222 -000	EADS RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
377	059-CR-1222 -000	EADS RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
393	059-CR-1222 -000	EADS RD	1-3	>10	Evaluate need for guardrail
403	059-CR-1222 -000	EADS RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
428	059-CR-1228 -000	PERCIVAL RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
464	059-CR-1080 -000	PRUETT RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
467	059-CR-1080 -000	PRUETT RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
469	059-CR-1080 -000	PRUETT RD	1-3	>10	Evaluate need for guardrail
472	059-CR-1080 -000	PRUETT RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1488	059-CR-1108 -000	KLEIN RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1500	059-CR-1120 -000	DIXON RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
1501	059-CR-1120 -000	DIXON RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
1504	059-CR-1120 -000	DIXON RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1519	059-CR-1220 -000	CARLISLE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineators
1545	059-CR-1079 -000	OAK ISLAND RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1566	059-CR-1112 -000	RECTOR RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1634	059-CR-1102 -000	STAFFORDSBURG RD	1-3	>10	Evaluate need for guardrail
1662	059-CR-1104 -000	STEEP CREEK RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1671	059-CR-1104 -000	STEEP CREEK RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1683	059-CR-1104 -000	STEEP CREEK RD	1-3	>10	Evaluate need for guardrail
1710	059-CR-1104 -000	STEEP CREEK RD	1-3	>10	Evaluate need for guardrail
1784	059-CR-1121 -000	ALEXANDER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1790	059-CR-1121 -000	ALEXANDER RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)
1830	059-CR-1121 -000	ALEXANDER RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
1836	059-CR-1121 -000	ALEXANDER RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1881	059-CR-1231 -000	MAHER RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
1918	059-CR-1132 -000	KENTON STATION RD	0-1	>10	Evaluate need for guardrail
1993	059-CR-1202 -000	WILSON RD	>5	5-10	--
2007	059-CR-1202 -000	WILSON RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2018	059-CR-1202 -000	WILSON RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2029	059-CR-1202 -000	WILSON RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2063	059-CR-1061 -000	HEMPFLING RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2138	059-CR-1072 -000	HIGHWATER RD	0-1	>10	Evaluate need for guardrail
2172	059-CR-1218 -000	LUNSFORD RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2194	059-CR-1146 -000	INDEPENDENCE STATION RD	0-1	<2	Install Type 2 Object Marker(s) or Delineator(s)

Exhibit Kenton-F8: Roadside Drop Off Recommendations

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
2206	059-CR-1146 -000	INDEPENDENCE STATION RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2208	059-CR-1146 -000	INDEPENDENCE STATION RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2209	059-CR-1146 -000	INDEPENDENCE STATION RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2218	059-CR-1146 -000	INDEPENDENCE STATION RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2223	059-CR-1146 -000	INDEPENDENCE STATION RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)

Exhibit Kenton-F8: Roadside Drop Off Recommendations (continued)

Fixed Object Recommendations (Kenton County)

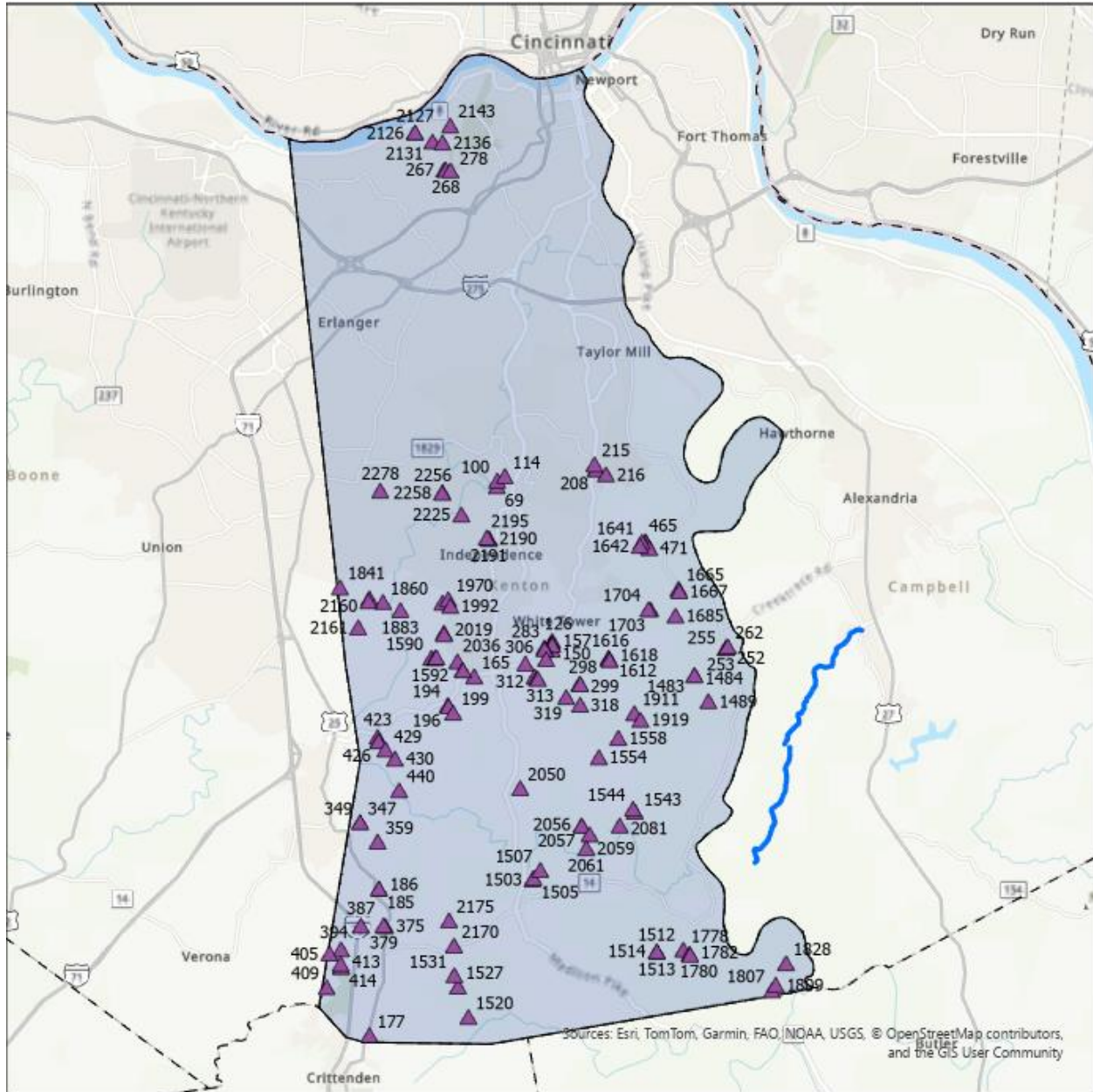


Exhibit Kenton-F9: Fixed Object Locations

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
69	059-CR-1320 -000	HARVEST HILLS DR	other; Landscaping boulders	Series	0-1	Relocate
100	059-CR-1313 -000	OPEN MEADOW DR	other; Masonry mailboxes	Series	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
114	059-CR-1315 -000	MOONLIGHT WAY	other; Masonry mailbox	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
126	059-CR-1014 -000	ALDERBROOK DR	other; Light pole	Series	0-1	Relocate
142	059-CR-1149 -000	MANOR LAKE DR	other; Light pole	Series	0-1	Relocate
145	059-CR-1149 -000	MANOR LAKE DR	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
150	059-CR-1149 -000	MANOR LAKE DR	other; Masonry mailbox	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
156	059-CR-1017 -000	SILVERBELL WAY	other; Light pole	Series	0-1	Relocate
157	059-CR-1017 -000	SILVERBELL WAY	other; Masonry mailbox	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
165	059-CR-1241 -000	CADILLAC DR	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
177	059-CR-1206 -000	DERBY DR	other; Old mailbox pad	Single	0-1	Remove
185	059-CR-1239 -000	SOUTH FORK DR	other; Masonry mailbox	Series	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
186	059-CR-1239 -000	SOUTH FORK DR	other; Light pole	Series	3-5	--
194	059-CR-1219 -000	DON ST	other; Bollard and solar panel for gas line	Single	0-1	Consider Removal/Relocation; Install Type 2 or 3 Object Marker(s)
196	059-CR-1219 -000	DON ST	other; Masonry mailbox	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
199	059-CR-1219 -000	DON ST	other; Bollards	Single	1-3	Remove
208	059-CR-1026 -000	FAIR VALLEY RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
210	059-CR-1026 -000	FAIR VALLEY RD	other; Manhole	Single	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
215	059-CR-1027 -000	CLUBHOUSE DR	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
216	059-CR-1027 -000	CLUBHOUSE DR	other; Rock pillars	Series	1-3	Remove/Relocate
252	059-CR-1155 -000	VISALIA RD	other; Stone wall	Single	1-3	Install Type 2 Object Marker(s)
253	059-CR-1155 -000	VISALIA RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
255	059-CR-1155 -000	VISALIA RD	other; Concrete steps	Single	1-3	Evaluate Relocation or Removal; Install Type 2 or 3 Object Marker(s)
262	059-CR-1155 -000	VISALIA RD	Culvert Headwall;	Single	0-1	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
267	059-CR-1317 -000	AMSTERDAM EAST RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
268	059-CR-1317 -000	AMSTERDAM EAST RD	Tree;	Series	1-3	--
278	059-CR-1317 -000	AMSTERDAM EAST RD	other; RR bridge pier	Single	>5	--
283	059-CR-1103 -000	RIGGS RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
286	059-CR-1103 -000	RIGGS RD	Tree;	Series	1-3	--
293	059-CR-1103 -000	RIGGS RD	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
298	059-CR-1103 -000	RIGGS RD	other; Concrete steps and pile of rock	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
299	059-CR-1103 -000	RIGGS RD	other; Masonry mailbox	Single	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
306	059-CR-1136 -000	BOWMAN RD	Utility Pole;	Series	3-5	--
312	059-CR-1136 -000	BOWMAN RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
313	059-CR-1136 -000	BOWMAN RD	other; Rock wall	Single	3-5	--
315	059-CR-1136 -000	BOWMAN RD	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
318	059-CR-1136 -000	BOWMAN RD	other; Basketball goal	Single	0-1	Remove
319	059-CR-1136 -000	BOWMAN RD	other; Unknown wooden structure	Single	1-3	Review
347	059-CR-1227 -000	JONES RD	Tree;	Series	1-3	--
349	059-CR-1227 -000	JONES RD	Culvert Headwall;	Single	1-3	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
359	059-CR-1227 -000	JONES RD	Culvert Headwall;	Series	0-1	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
375	059-CR-1222 -000	EADS RD	other; RR crossing signal/gate	Series	1-3	Review RR Crossing
379	059-CR-1222 -000	EADS RD	Utility Pole;	Series	3-5	--
387	059-CR-1222 -000	EADS RD	Tree;	Series	1-3	--
394	059-CR-1222 -000	EADS RD	other; Retaining wall	Single	>5	--
405	059-CR-1222 -000	EADS RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)

Exhibit Kenton-F10: Fixed Object Recommendations

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
409	059-CR-1254 -000	COURTNEY RD	other; Masonry mailbox	Series	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
413	059-CR-1254 -000	COURTNEY RD	Utility Pole;	Series	3-5	--
414	059-CR-1254 -000	COURTNEY RD	Tree;	Series	3-5	--
418	059-CR-1254 -000	COURTNEY RD	other; Fence	Series	3-5	Consider Relocation
423	059-CR-1228 -000	PERCIVAL RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
426	059-CR-1228 -000	PERCIVAL RD	other; Masonry mailbox	Series	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
427	059-CR-1228 -000	PERCIVAL RD	Tree;	Series	1-3	--
429	059-CR-1228 -000	PERCIVAL RD	Culvert Headwall;	Series	1-3	Install Type 2 or 3 Object Marker(s)
430	059-CR-1228 -000	PERCIVAL RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
440	059-CR-1228 -000	PERCIVAL RD	other; Stapes	Single	1-3	Remove/Relocate
465	059-CR-1080 -000	PRUETT RD	Tree;	Series	1-3	--
466	059-CR-1080 -000	PRUETT RD	Culvert Headwall;	Series	1-3	Install Type 2 or 3 Object Marker(s)
468	059-CR-1080 -000	PRUETT RD	Utility Pole;	Series	0-1	Consider Relocation; Install Type 2 Object Marker(s)
471	059-CR-1080 -000	PRUETT RD	Tree;	Series	1-3	--
1483	059-CR-1108 -000	KLEIN RD	other; Masonry mailbox	Series	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
1484	059-CR-1108 -000	KLEIN RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1489	059-CR-1108 -000	KLEIN RD	Tree;	Series	1-3	--
1503	059-CR-1120 -000	DIXON RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
1505	059-CR-1120 -000	DIXON RD	Tree;	Series	1-3	--
1507	059-CR-1120 -000	DIXON RD	other; Collapsed barn	Single	1-3	Remove
1512	059-CR-1124 -000	PFANSTIEL RD	Tree;	Series	3-5	--
1513	059-CR-1124 -000	PFANSTIEL RD	other; Utility boxes	Single	1-3	--
1514	059-CR-1124 -000	PFANSTIEL RD	other; Masonry mailbox	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
1520	059-CR-1220 -000	CARLISLE RD	Tree;	Series	1-3	--
1527	059-CR-1220 -000	CARLISLE RD	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)
1531	059-CR-1220 -000	CARLISLE RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1543	059-CR-1079 -000	OAK ISLAND RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1544	059-CR-1079 -000	OAK ISLAND RD	Tree;	Series	1-3	--
1554	059-CR-1112 -000	RECTOR RD	Culvert Headwall;	Single	1-3	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
1558	059-CR-1112 -000	RECTOR RD	Tree;	Series	1-3	--
1590	059-CR-1229 -000	BRAMLAGE RD	other; Masonry mailbox	Single	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
1592	059-CR-1229 -000	BRAMLAGE RD	Utility Pole;	Series	3-5	--
1593	059-CR-1229 -000	BRAMLAGE RD	Tree;	Single	1-3	Remove
1612	059-CR-1102 -000	STAFFORDSBURG RD	Tree;	Single	1-3	Remove
1616	059-CR-1102 -000	STAFFORDSBURG RD	other; Private sign	Single	1-3	Consider removal/relocation; Install Type 2 Object Markers
1617	059-CR-1102 -000	STAFFORDSBURG RD	other; Debris	Single	0-1	Remove
1618	059-CR-1102 -000	STAFFORDSBURG RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1641	059-CR-1007 -000	MARSHALL RD	other; Masonry mailbox	Series	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
1642	059-CR-1007 -000	MARSHALL RD	Tree;	Series	1-3	--
1665	059-CR-1104 -000	STEEP CREEK RD	other; Rock wall	Single	1-3	Consider removal/relocation; Install Type 2 Object Markers
1667	059-CR-1104 -000	STEEP CREEK RD	Tree;	Series	1-3	--
1685	059-CR-1104 -000	STEEP CREEK RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1703	059-CR-1104 -000	STEEP CREEK RD	other; Rock wall	Single	1-3	Consider removal/relocation; Install Type 2 Object Markers
1704	059-CR-1104 -000	STEEP CREEK RD	other; Concrete wall	Series	1-3	Install Type 2 or Type 3 Object Marker(s)
1778	059-CR-1121 -000	ALEXANDER RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1780	059-CR-1121 -000	ALEXANDER RD	Tree;	Series	1-3	--
1782	059-CR-1121 -000	ALEXANDER RD	Culvert Headwall;	Series	0-1	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
1807	059-CR-1121 -000	ALEXANDER RD	other; Retaining wall	Single	1-3	Install Type 3 Object Marker(s)
1809	059-CR-1121 -000	ALEXANDER RD	Culvert Headwall;	Single	1-3	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
1828	059-CR-1121 -000	ALEXANDER RD	Tree;	Series	0-1	Remove trees within 3 ft of roadway
1841	059-CR-1231 -000	MAHER RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)

Exhibit Kenton-F10: Fixed Object Recommendations (continued)

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
1860	059-CR-1231 -000	MAHER RD	other; Stone columns	Series	1-3	Consider Removal or Relocation; Install Type 2 or 3 Object Marker(s)
1883	059-CR-1231 -000	MAHER RD	other; Landscape planter	Series	3-5	Relocate
1911	059-CR-1132 -000	KENTON STATION RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
1919	059-CR-1132 -000	KENTON STATION RD	Tree;	Series	1-3	--
1966	059-CR-1232 -000	INDEPENDENCE RD	Utility Pole;	Series	3-5	--
1970	059-CR-1232 -000	INDEPENDENCE RD	Tree;	Series	1-3	--
1992	059-CR-1202 -000	WILSON RD	Utility Pole;	Series	3-5	--
2017	059-CR-1202 -000	WILSON RD	other; Masonry mailbox	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations
2019	059-CR-1202 -000	WILSON RD	Tree;	Series	1-3	--
2036	059-CR-1202 -000	WILSON RD	Tree;	Series	3-5	--
2038	059-CR-1202 -000	WILSON RD	Culvert Headwall;	Series	0-1	Review ability to extend culvert; Install Type 2 or 3 Object Marker(s)
2039	059-CR-1202 -000	WILSON RD	other; Retaining wall	Series	3-5	--
2050	059-CR-1061 -000	HEMPFLING RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2056	059-CR-1061 -000	HEMPFLING RD	other; Fence	Single	1-3	Consider removal of Fence
2057	059-CR-1061 -000	HEMPFLING RD	other; Masonry mailbox	Series	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
2059	059-CR-1061 -000	HEMPFLING RD	other; Concert utility box	Single	3-5	Review
2061	059-CR-1061 -000	HEMPFLING RD	other; Cribbing for slip repair	Single	1-3	Install Type 2 or 3 Object Marker(s)
2081	059-CR-1061 -000	HEMPFLING RD	Tree;	Series	1-3	--
2126	059-CR-1072 -000	HIGHWATER RD	other; Mansony driveway pillars	Series	3-5	Install Type 2 or 3 Object Marker(s); See policy Recommendations for Mailbox
2127	059-CR-1072 -000	HIGHWATER RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2131	059-CR-1072 -000	HIGHWATER RD	other; Concrete retaining wall	Series	3-5	--
2136	059-CR-1072 -000	HIGHWATER RD	other; Concrete retaining wall	Series	1-3	Install Type 2 or Type 3 Object Marker(s)
2143	059-CR-1072 -000	HIGHWATER RD	other; Retaining wall	Single	3-5	Install Type 2 or 3 Object Marker(s)
2158	059-CR-1231 -000	MAHER RD	other; Fence	Series	1-3	Consider removal/relocation
2160	059-CR-1231 -000	MAHER RD	Tree;	Single	1-3	Remove
2161	059-CR-1231 -000	MAHER RD	other; Masonry mailbox	Series	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
2170	059-CR-1218 -000	LUNSFORD RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2175	059-CR-1218 -000	LUNSFORD RD	Tree;	Series	1-3	--
2190	059-CR-1146 -000	INDEPENDENCE STATION RD	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
2191	059-CR-1146 -000	INDEPENDENCE STATION RD	other; Retaining wall	Single	1-3	Install Type 3 Object Marker(s)
2195	059-CR-1146 -000	INDEPENDENCE STATION RD	other; Retaining wall	Series	1-3	Install Type 2 Object Marker(s)
2225	059-CR-1146 -000	INDEPENDENCE STATION RD	Tree;	Series	3-5	--
2256	059-CR-1146 -000	INDEPENDENCE STATION RD	other;	Series	0-1	Review
2258	059-CR-1146 -000	INDEPENDENCE STATION RD	other; Fence	Series	1-3	Consider removal/relocation
2278	059-CS-1045 -000	CODY RD	other; Concrete retaining wall	Single	3-5	Consider Removal; Install Type 2 Object Marker(s)

Exhibit Kenton-F10: Fixed Object Recommendations (continued)

Guardrail Recommendations (Kenton County)

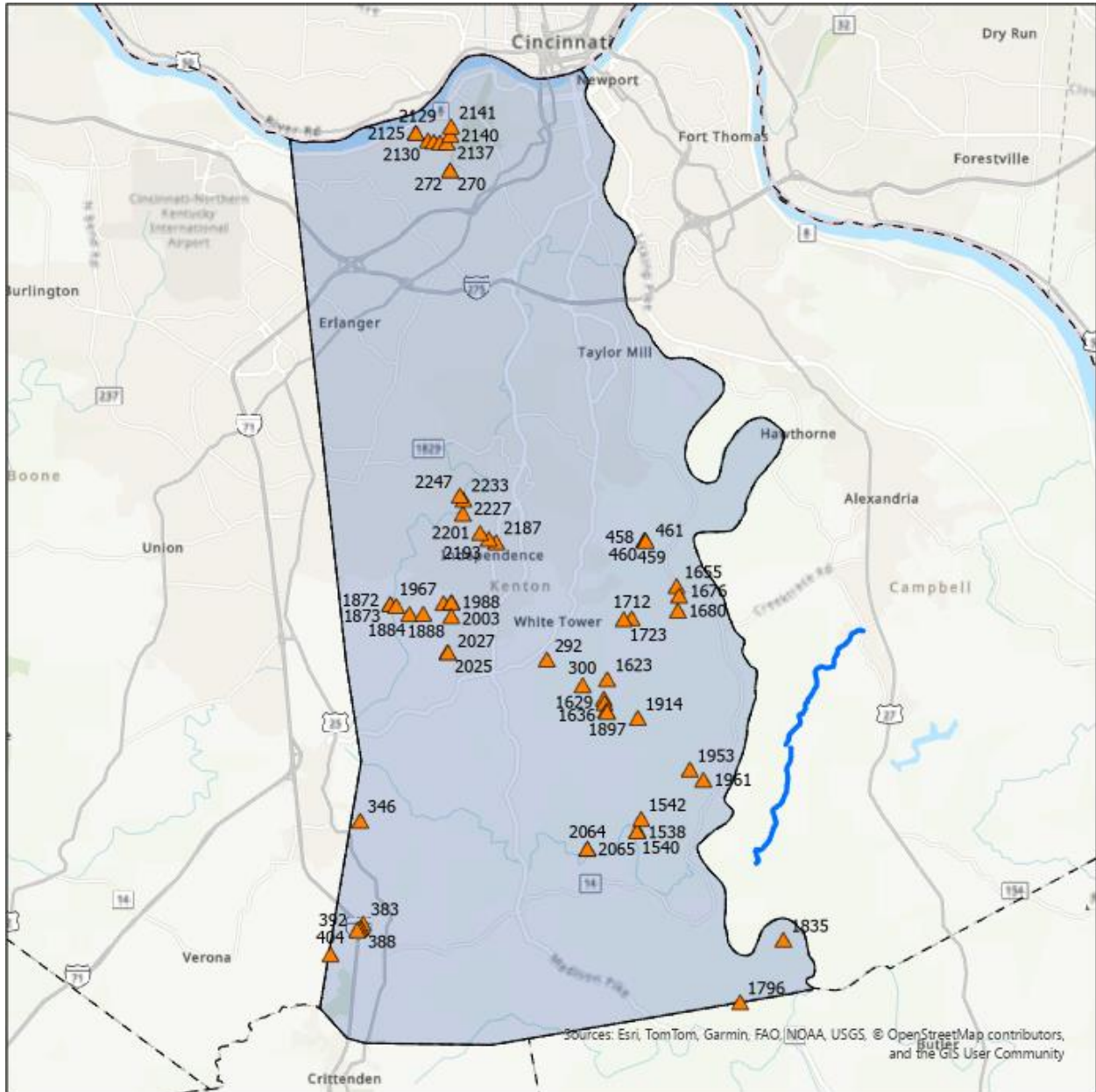


Exhibit Lecher-F11: Guardrail Locations

See Attachment for Kenton County Guardrail Recommendations

Intersection Recommendations (Kenton County)

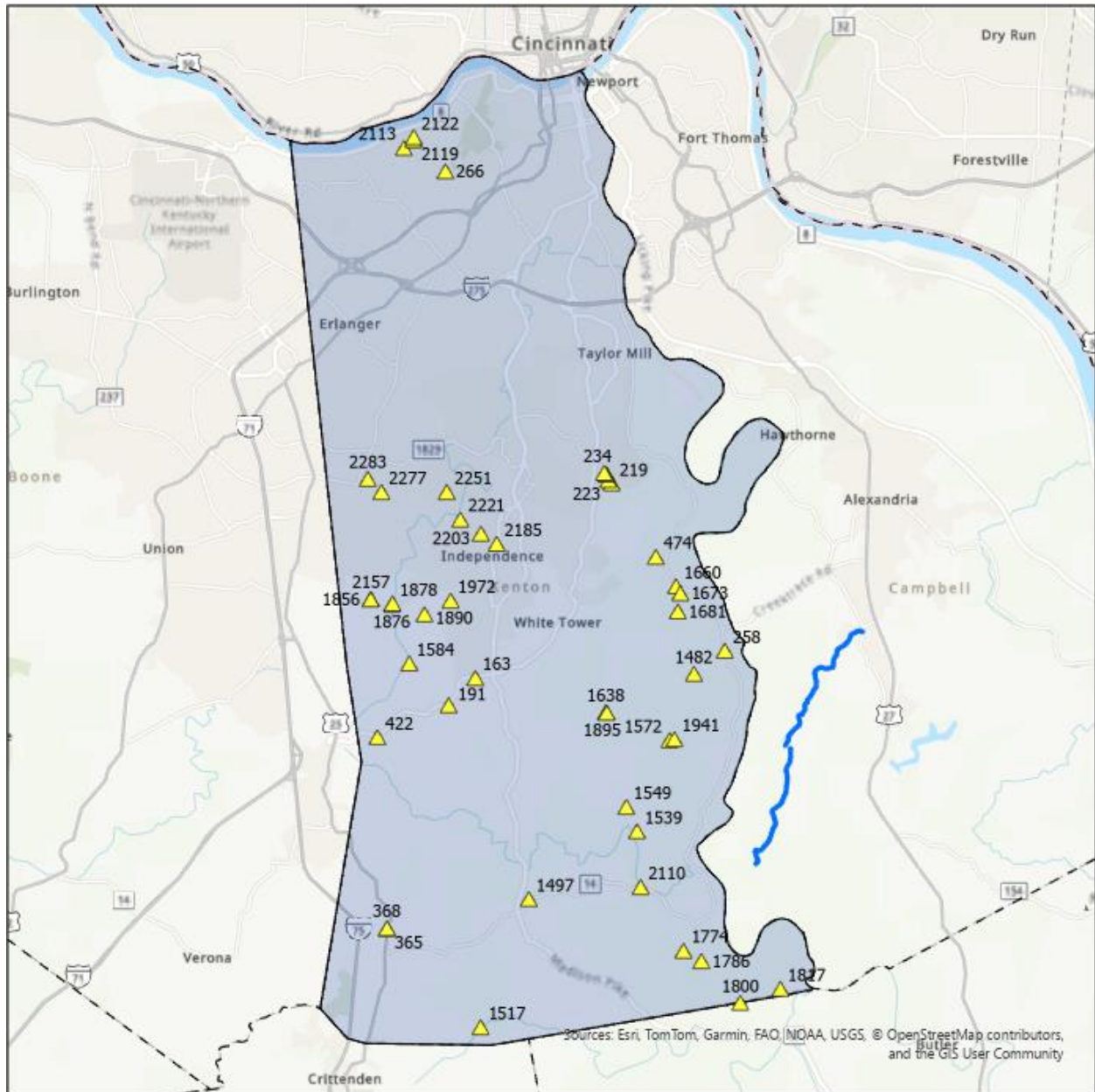


Exhibit Kenton-F13: Intersection Locations

Point ID	RT_UNIQUE	Road Name	Vegetation	Comments	Recommendation
163	059-CR-1241 -000	CADILLAC DR	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
191	059-CR-1219 -000	DON ST	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
219	059-CR-1027 -000	CLUBHOUSE DR	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
223	059-CR-1027 -000	CLUBHOUSE DR	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
228	059-CR-1027 -000	CLUBHOUSE DR	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
230	059-CR-1027 -000	CLUBHOUSE DR	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
234	059-CR-1027 -000	CLUBHOUSE DR	Yes	Intersection Obscured on Approach; ICWS in place	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
258	059-CR-1155 -000	VISALIA RD	Yes	Insufficient Sight Distance; Intersection has multiple roads converging at awkward angles, making it difficult to see traffic approaching from all directions	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Evaluate for intersection reconfiguration.
266	059-CR-1317 -000	AMSTERDAM EAST RD	No	Intersection Skew; ICWS at intersection	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
365	059-CR-1222 -000	EADS RD	No	Intersection Skew; Steepgrade	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
368	059-CR-1222 -000	EADS RD	No	Other	Review Intersection; Issue noted as "Other"
422	059-CR-1228 -000	PERCIVAL RD	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
474	059-CR-1080 -000	PRUETT RD	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1482	059-CR-1108 -000	KLEIN RD	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1497	059-CR-1120 -000	DIXON RD	Yes	Insufficient Sight Distance, Intersection Obscured on Approach	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)
1517	059-CR-1220 -000	CARLISLE RD	Yes	Insufficient Sight Distance, Intersection Obscured on Approach	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)
1539	059-CR-1061 -000	HEMPFLING RD	Yes	Intersection Obscured on Approach, Insufficient Sight Distance at ; Tree blocking view	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)
1549	059-CR-1079 -000	OAK ISLAND RD	Yes	Intersection Obscured on Approach; Intersection with Kenton Station Rd	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1572	059-CR-1112 -000	RECTOR RD	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1584	059-CR-1229 -000	BRAMLAGE RD	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1638	059-CR-1102 -000	STAFFORDSBURG RD	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1660	059-CR-1104 -000	STEEP CREEK RD	Yes	Intersection Skew, Insufficient Sight Distance, Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; 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)
1673	059-CR-1104 -000	STEEP CREEK RD	Yes	Intersection Obscured on Approach, Intersection Skew, Insufficient Sight Distance at	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1681	059-CR-1104 -000	STEEP CREEK RD	Yes	Intersection Obscured on Approach, Intersection Skew	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew

Exhibit Kenton-F14: Intersection Recommendations

Point ID	RT_UNIQUE	Road Name	Vegetation	Comments	Recommendation
1774	059-CR-1121 -000	ALEXANDER RD	Yes	Intersection Obscured on Approach, Intersection Skew, Insufficient Sight Distance at	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1786	059-CR-1121 -000	ALEXANDER RD	No	Intersection Obscured on Approach, Intersection Skew, Insufficient Sight Distance at	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1800	059-CR-1121 -000	ALEXANDER RD	Yes	Intersection Obscured on Approach, Intersection Skew, Insufficient Sight Distance at	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1817	059-CR-1121 -000	ALEXANDER RD	Yes	Intersection Obscured on Approach, Intersection Skew, Insufficient Sight Distance at	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1856	059-CR-1231 -000	MAHER RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1876	059-CR-1231 -000	MAHER 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)
1878	059-CR-1231 -000	MAHER 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)
1890	059-CR-1232 -000	INDEPENDENCE RD	Yes	Intersection Obscured on Approach, Intersection Skew, Insufficient Sight Distance at	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1895	059-CR-1132 -000	KENTON STATION RD	Yes	Intersection Obscured on Approach, Intersection Skew	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
1941	059-CR-1132 -000	KENTON STATION RD	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
1972	059-CR-1232 -000	INDEPENDENCE RD	Yes	Intersection Skew	Clear vegetation and evaluate sight distance ; Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
2110	059-CR-1061 -000	HEMPFLING RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2113	059-CR-1072 -000	HIGHWATER RD	Yes	Insufficient Sight Distance; Intersection with Appleblossom Dr	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2119	059-CR-1072 -000	HIGHWATER RD	Yes	Insufficient Sight Distance; Intersection with Appleblossom Dr	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2120	059-CR-1072 -000	HIGHWATER RD	Yes	Insufficient Sight Distance; Intersection with Steamboat Way	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2122	059-CR-1072 -000	HIGHWATER RD	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2157	059-CR-1231 -000	MAHER RD	Yes	Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2185	059-CR-1146 -000	INDEPENDENCE STATION 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)
2203	059-CS-1257 -000	CRISTOPHER DR	Yes	Intersection Obscured on Approach	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2221	059-CR-1146 -000	INDEPENDENCE STATION RD	Yes	Intersection Obscured on Approach; Fence blocking view	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider removal of fence

Exhibit Kenton-F14: Intersection Recommendations (continued)

Point ID	RT_UNIQUE	Road Name	Vegetation	Comments	Recommendation
2221	059-CR-1146 -000	INDEPENDENCE STATION RD	Yes	Intersection Obscured on Approach; Fence blocking view	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider removal of fence
2251	059-CR-1146 -000	INDEPENDENCE STATION RD	No	Intersection Obscured on Approach, Insufficient Sight Distance at	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)
2277	059-CS-1045 -000	CODY RD	Yes	Intersection Obscured on Approach; ICWS being installed	Clear vegetation and evaluate sight distance ; Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X) currently being installed
2283	059-CR-1146 -000	INDEPENDENCE STATION RD	No	Insufficient Sight Distance, Intersection Obscured on Approach; Intersection has good site distance both directions	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X).

Exhibit Kenton-F14: Intersection Recommendations (continued)

Other Recommendations (Kenton County)

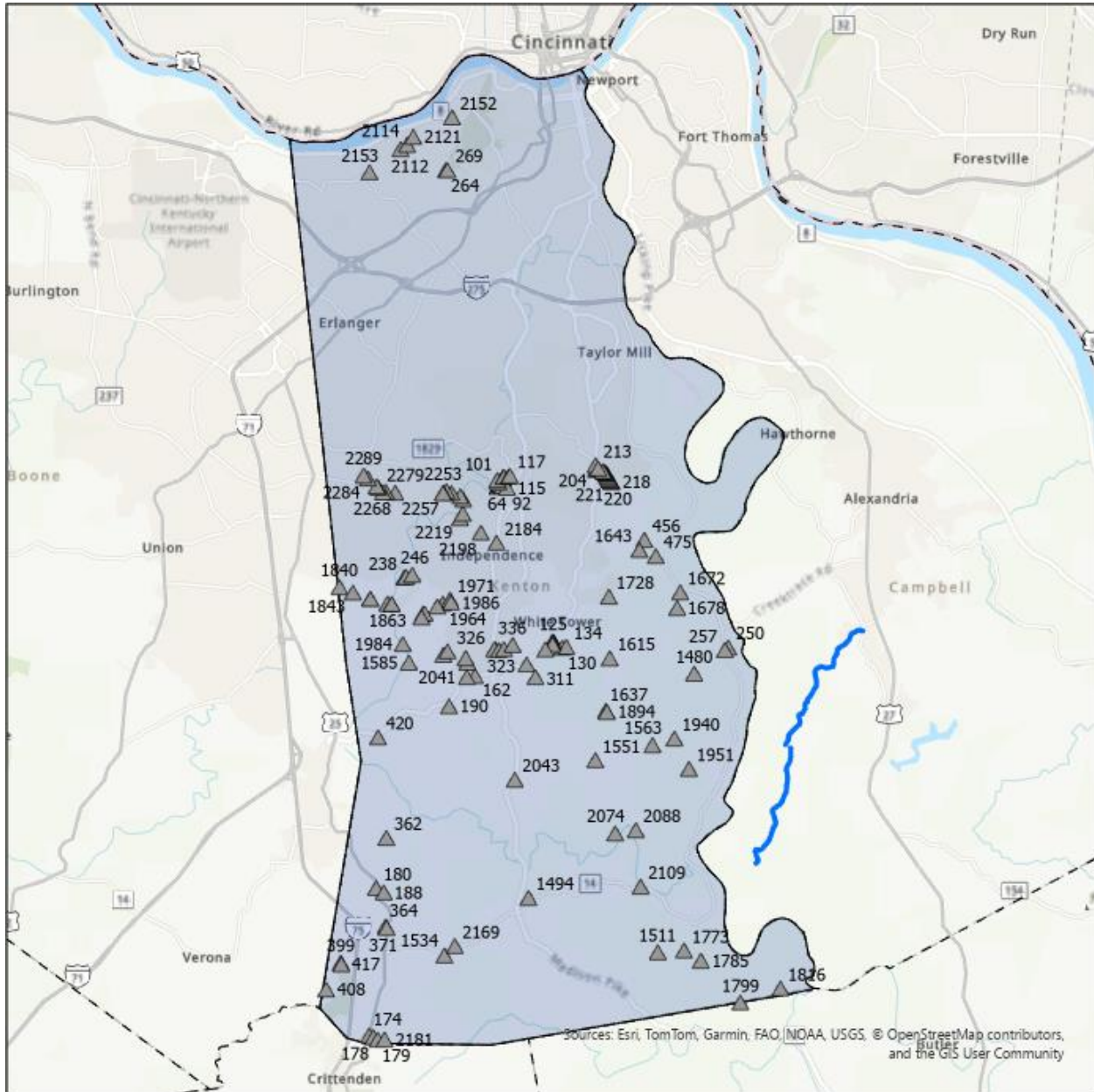
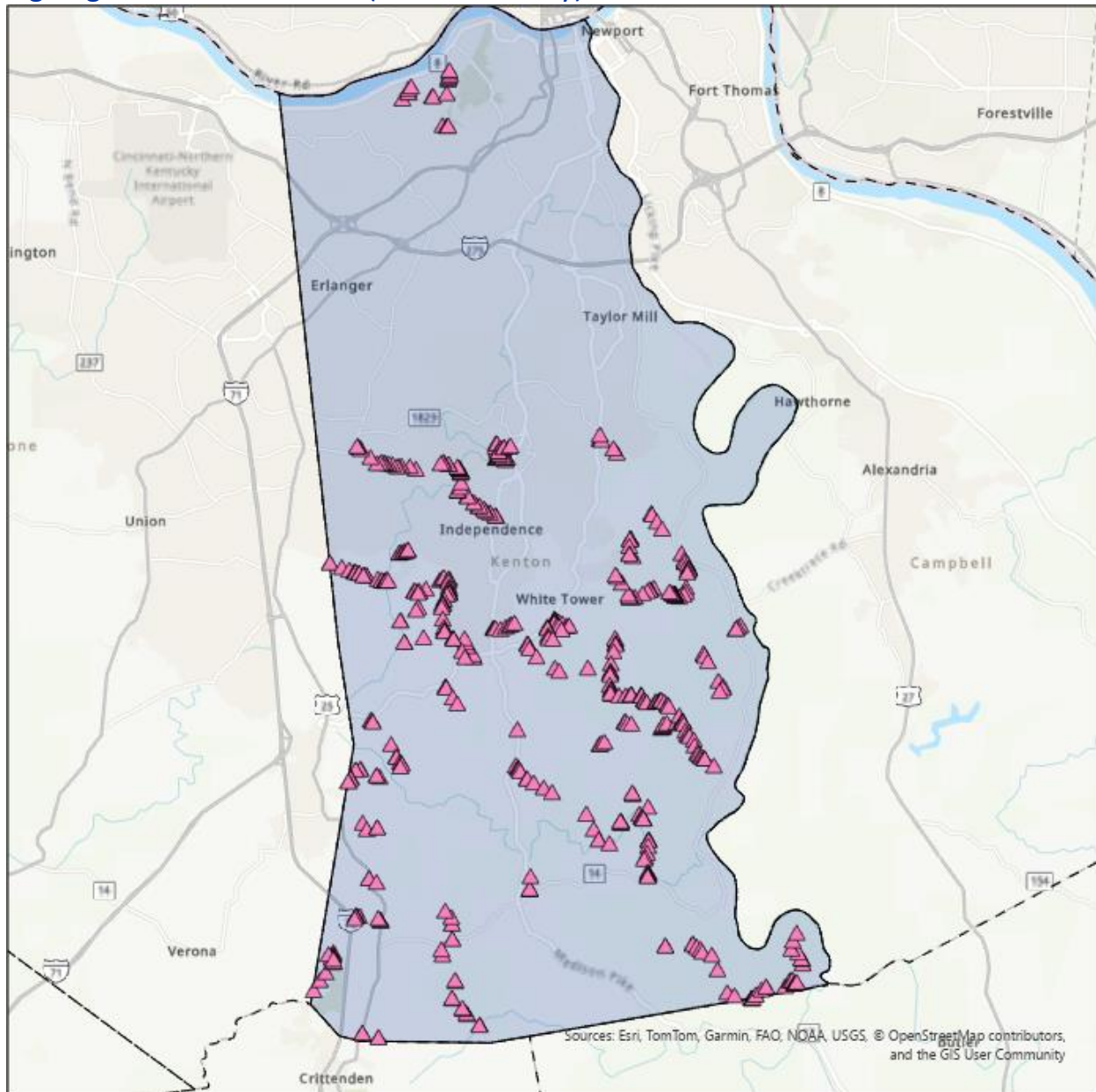


Exhibit Kenton-F15: Other Item Locations

See Attachment for Kenton County Other Recommendations

Signing Recommendations (Kenton County)



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/nkaddSAP>.

APPENDIX I: OWEN COUNTY SAFETY ACTION PLAN

Owen County Overview

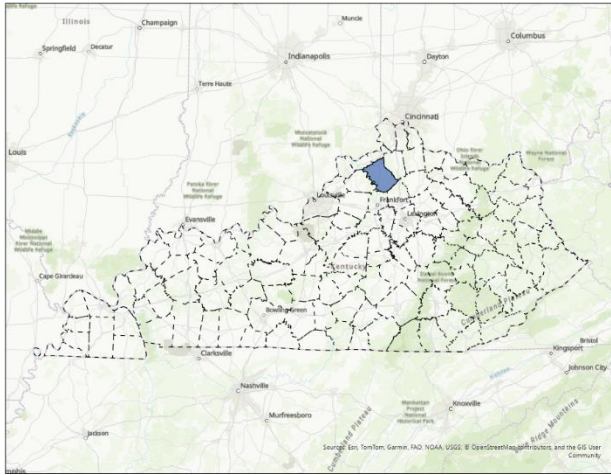


Exhibit Owen-1: Location Map

Key Information Table Owen County	
Population	11,313
Population in Persistent Poverty	19%
Underserved Community	No
Fatalities (All Roads)	9
Fatalities (County Roads)	0
Fatality rate per 100,000 persons	79.55
County Road Mileage	221.4
State Road Mileage	245.1
Total Mileage	466.5

Exhibit Owen-2: Key Information

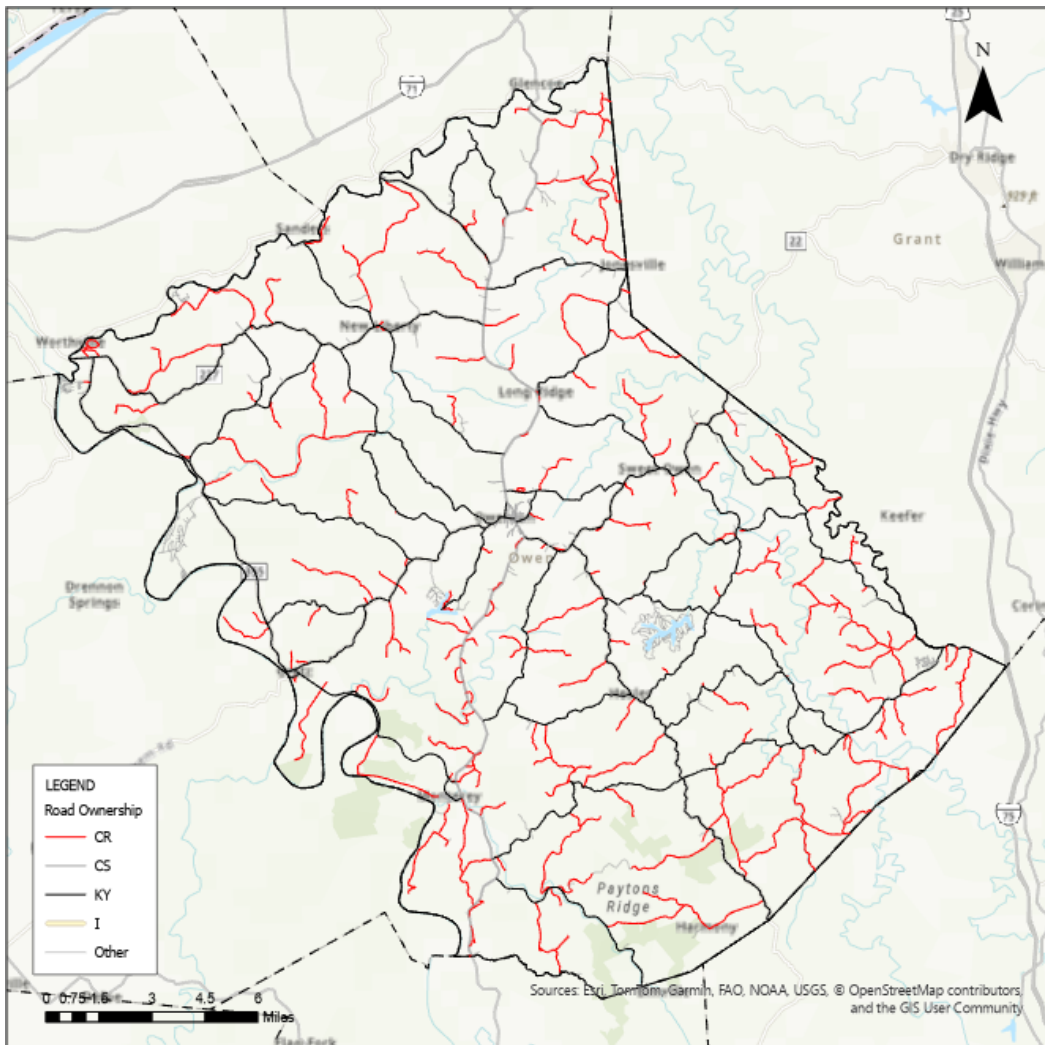


Figure Owen-3: Map of County Roadways

Crash Analysis

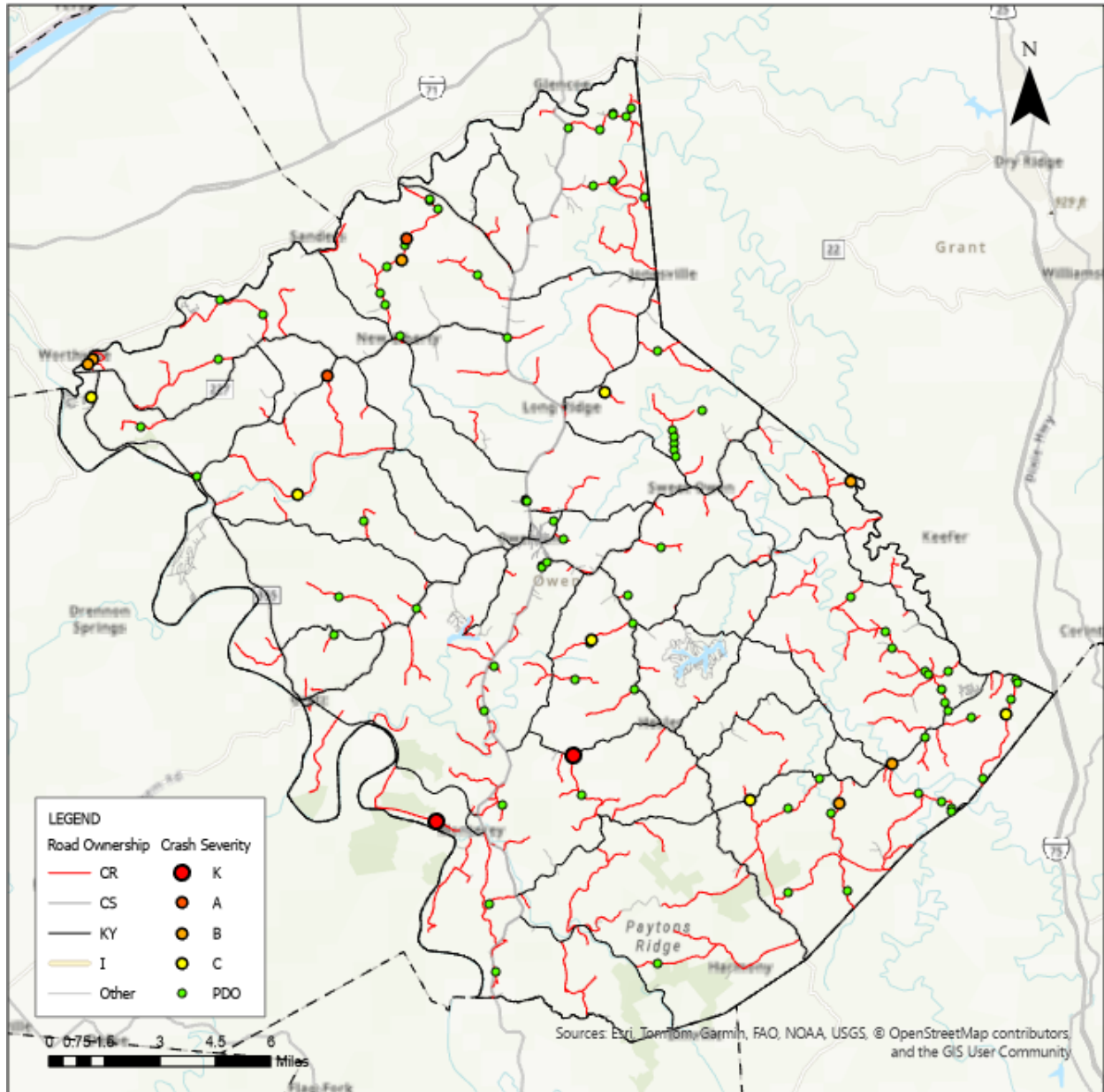


Figure Owen-4: Map of County Road Crashes



Table Owen-5: Crash Distribution by Year

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	41	10	0	51
SS - Opp	14	1	0	15
Backing	11	0	0	11
Angle	4	0	0	4
Head On	2	0	0	2
Rear End	2	0	0	2
SS - Same	1	0	0	1
Left Turn	0	0	0	0
Rear to Rear	0	0	0	0

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

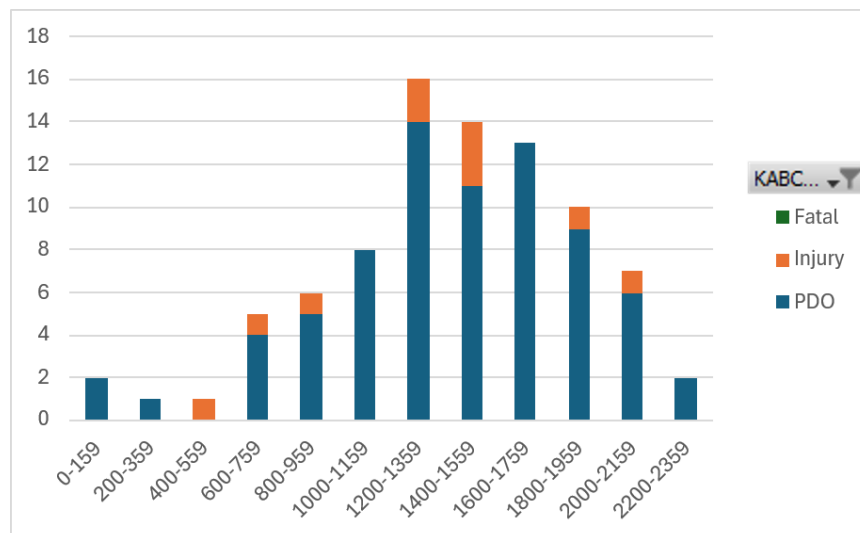


Exhibit Owen-7: Crashes and Severity by Time of Day

Focus Roadways

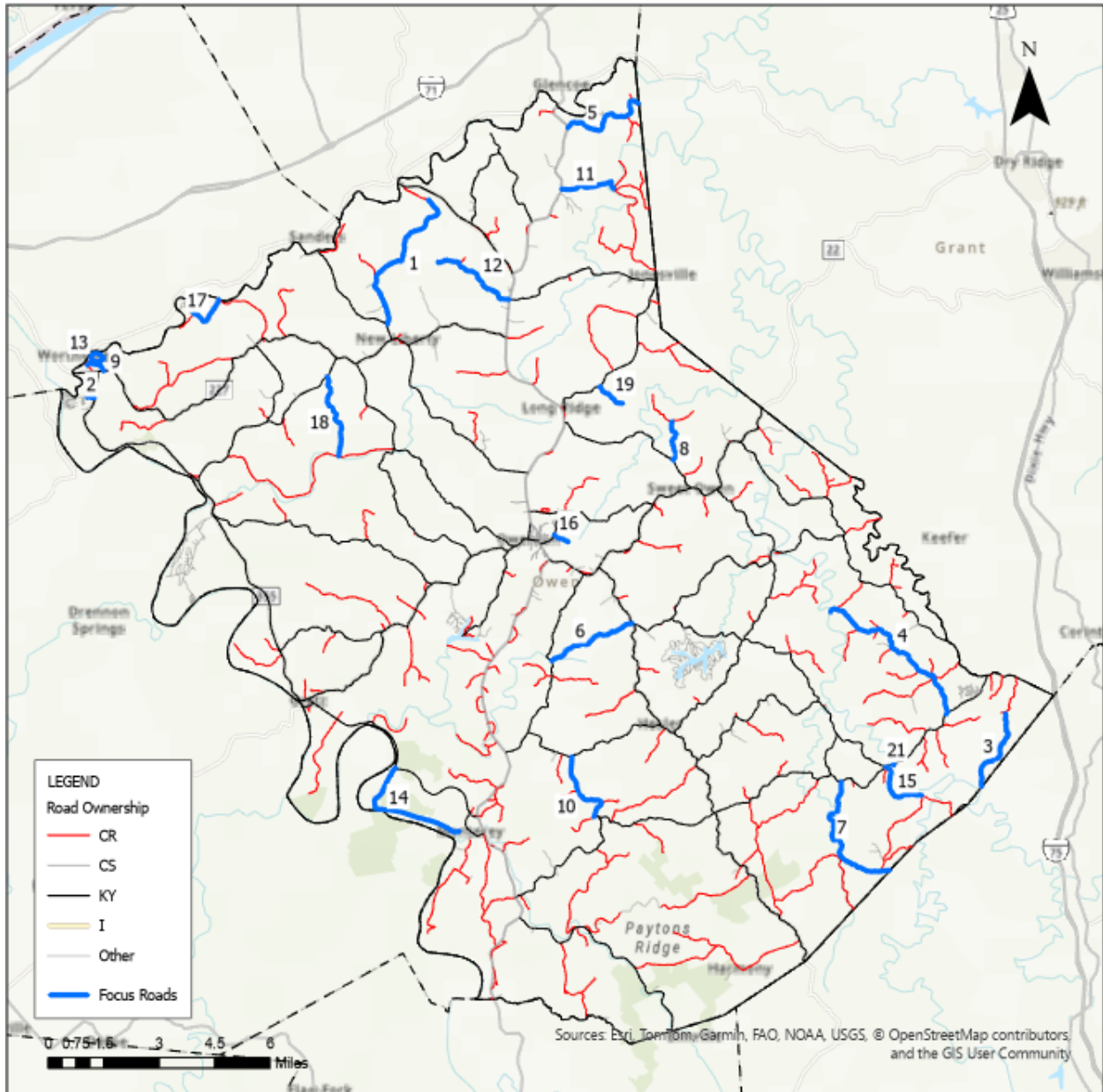


Exhibit Owen-8: Focus Roads

RT_UNIQUE	Length	County	ADD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
Owen										
094-CR-1307 -000	4.563	Owen	NKADD	NEW LIBERTY SPARTA RD	3	0	8	20.00	8.09	1
094-CR-1321 -000	0.216	Owen	NKADD	EAGLE CREEK CIRCLE RD	1	0	0	5.12	12.36	2
094-CR-1114 -000	3.581	Owen	NKADD	LEANING OAK RD	1	0	3	6.19	10.63	3
094-CR-1102 -000	5.046	Owen	NKADD	PLEASANT GROVE RD	0	0	9	3.21	12.52	4
094-CR-1032 -000	2.817	Owen	NKADD	EAGLE HILL RD	0	0	6	2.14	12.64	5
094-CR-1202 -000	2.589	Owen	NKADD	SLIPPERY ROCK RD	1	0	2	5.83	6.08	6
094-CR-1123 -000	4.005	Owen	NKADD	ROCKDALE RD	1	0	1	5.48	5.22	7
094-CR-1020 -000	1.237	Owen	NKADD	AGEE RD	0	0	6	2.14	8.50	8
094-CR-1336 -000	0.574	Owen	NKADD	OLD KY 227 RD	1	0	0	5.12	5.30	9
094-CR-1211 -000	2.289	Owen	NKADD	LUCAS LN	0	1	1	7.26	2.99	10
094-CR-1030 -000	1.67	Owen	NKADD	BEVERLY LN	0	0	2	0.71	9.18	11
094-CR-1305 -000	2.481	Owen	NKADD	STEWART LN	0	0	1	0.36	8.87	12
094-CR-1337 -000	1.093	Owen	NKADD	EAGLE CREEK CAMPGROUN	1	0	1	5.48	3.07	13
094-CR-1226 -000	3.697	Owen	NKADD	OLD LANDING RD	0	1	0	6.90	1.61	14
094-CR-1119 -000	2.76	Owen	NKADD	NATLEE SLATIN RD	0	0	4	1.43	6.56	15
094-CR-1005 -000	0.445	Owen	NKADD	GREEN ACRES RD	0	0	1	0.36	7.61	16
094-CR-1314 -000	1.138	Owen	NKADD	EAGLE VALLEY RD	0	0	1	0.36	7.41	17
094-CR-1330 -000	2.523	Owen	NKADD	BALL RIDGE RD	1	0	0	6.90	0.86	18
094-CR-1023 -000	0.85	Owen	NKADD	HANDY LN	1	0	0	5.12	2.40	19
094-CR-1051 -000	0.429	Owen	NKADD	INDUSTRIAL PARK RD	0	0	5	1.79	5.71	20
094-CR-1100 -000	0.067	Owen	NKADD	GLASS LN W	1	0	0	5.12	2.26	21
094-CR-1131 -000	3.463	Owen	NKADD	OLD OWENTON-GEORGET	1	0	0	5.12	2.08	22
094-CR-1313 -000	2.103	Owen	NKADD	EAGLE STATION RD	0	0	1	0.36	6.67	23
094-CR-1024 -000	1.295	Owen	NKADD	GOLDS VALLEY RD	0	0	2	0.71	5.94	24
094-CR-1103 -000	1.184	Owen	NKADD	DOGWALK RD	0	0	1	0.36	6.25	25

Exhibit Owen-9: List of Focus Roadways

Recommended Improvements (Top 5 Roads)

NEW LIBERTY SPARTA RD (094-CR-1307 -000)

Road Location Map and Crash History

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	5	2	0	7
SS - Same	0	0	0	0
SS - Opp	0	0	0	0
Left Turn	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
Angle	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

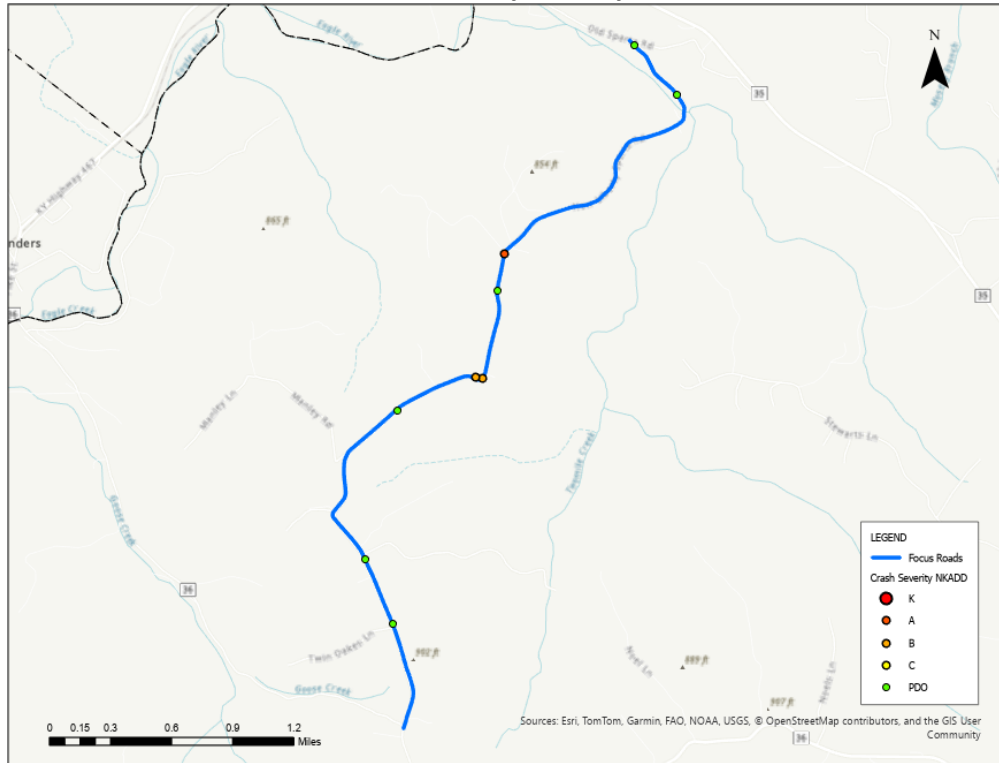
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate
6561	094-CR-1307 -000	NEW LIBERTY SPARTA RD	10	4	2
6857	094-CR-1307 -000	NEW LIBERTY SPARTA RD	13	3	4

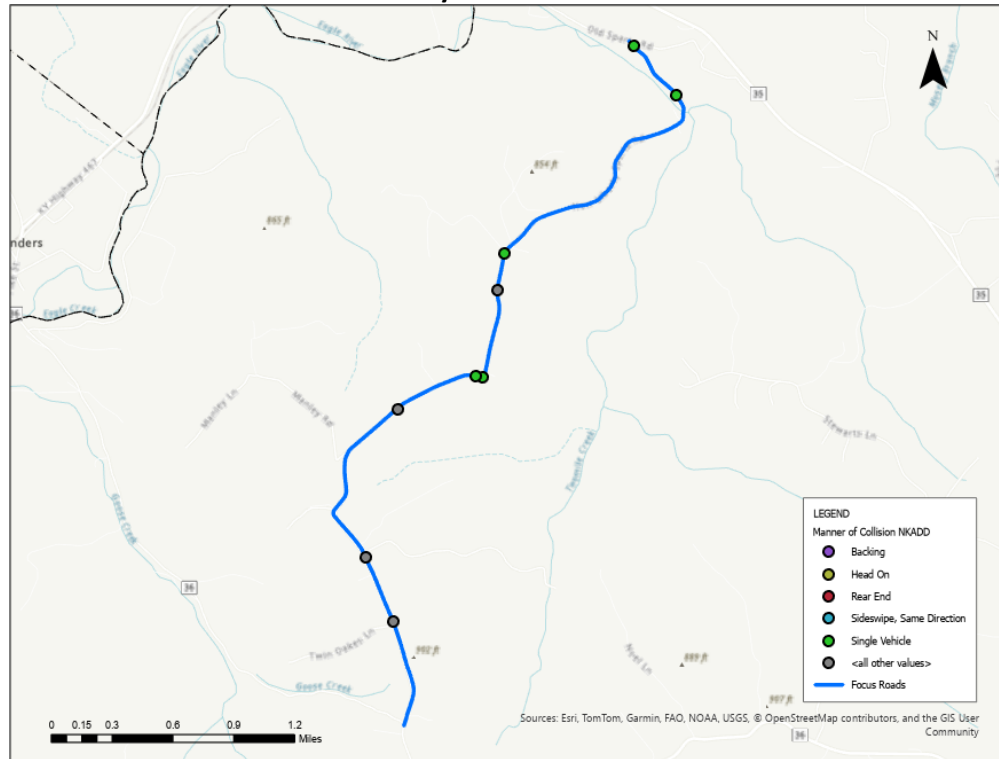
Roadway Typical Section



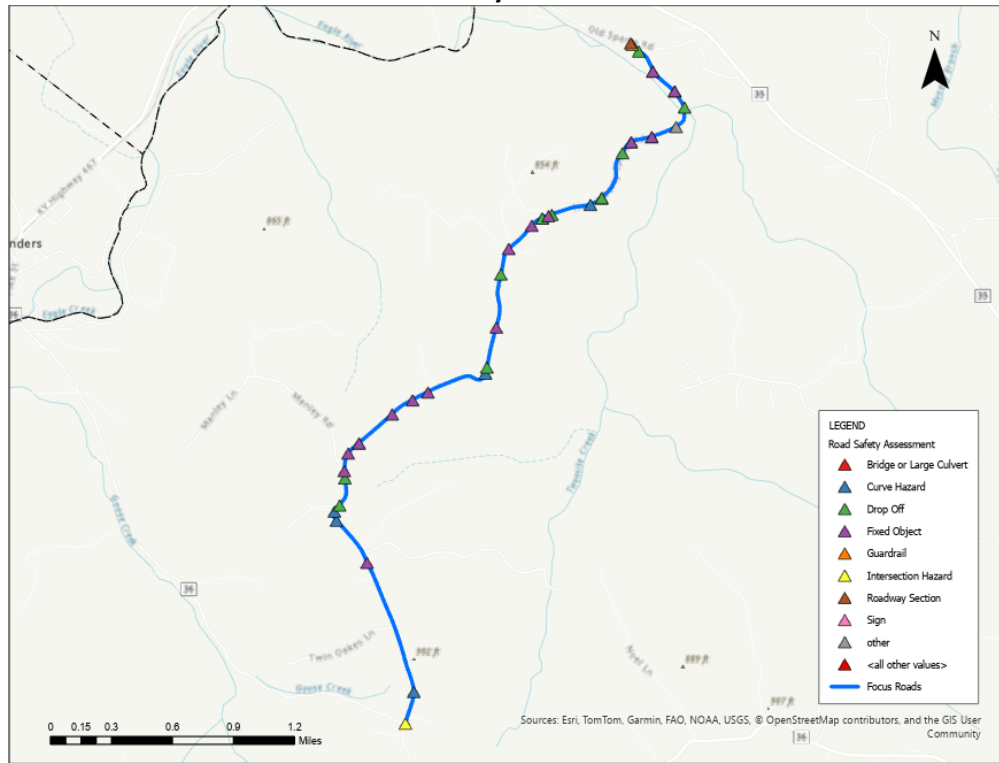
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



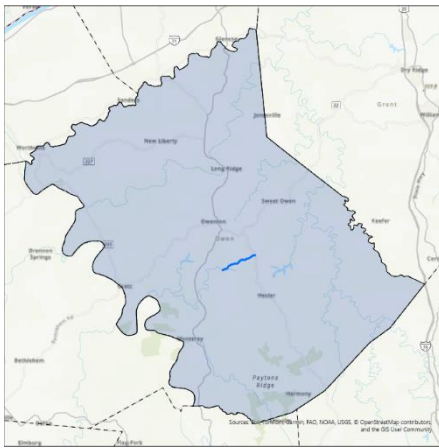
General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating	Shoulder Improve (ft)	Improve Shoulder	Edgeline	Curve Signin	Other Recommendations
6561	094-CR-1307 -000	NEW LIBERTY SPARTA RD	10	4	2	0-20		✓	✓	
6857	094-CR-1307 -000	NEW LIBERTY SPARTA RD	13	3	4	20-40	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
6556	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6813	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6815	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6821	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6822	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6830	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6836	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6838	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	3-5	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6842	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	0-1	>10	--	Evaluate need for guardrail			
6843	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
6845	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6847	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6848	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6849	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6852	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
6855	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
6555	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Utility Pole;	Single	>5	--			
6557	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Utility Pole;	Single	0-1	Consider Relocation; Install Type 2 Object Marker(s)			
6560	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Tree;	Single	1-3	Remove			
6812	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Tree;	Series	1-3	--			
6814	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Tree;	Series	1-3	--			
6816	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Tree;	Single	3-5	--			
6817	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	other; Fence	Single	3-5	Consider Removal/Relocation			
6818	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Tree;	Single	1-3	Remove			
6819	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Tree;	Series	>5	--			
6820	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Tree;	Series	3-5	--			
6827	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Utility Pole;	Series	>5	--			
6831	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	other; Fence	Single	>5	--			
6832	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	other; Fence	Single	>5	--			
6833	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Utility Pole;	Series	>5	--			
6839	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Utility Pole;	Series	3-5	--			
6840	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Tree;	Series	3-5	--			
6851	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Fixed Object	Utility Pole;	Single	>5	--			

Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation	
6809	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Intersection	No	--	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
6824	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Intersection	No	--	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
6850	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Bridge or Large Culvert	13	4	0	Evaluate need for Type 3 Object Markers
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation
6823	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve Hazard	No	--	Curve_Obscured	Install Curve Warning Sign; Evaluate other obstructions
6826	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve Hazard	Yes	--	Curve_Obscured	Install Curve Warning Sign; Clear Vegetation
6828	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve Hazard	No	--	Curve_Obscured	Install Curve Warning Sign; Evaluate other obstructions
6835	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve Hazard	Yes	--	Curve_Obscured,vegetation	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
6841	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve Hazard	No	--	Curve_Obscured	Install Curve Warning Sign; Evaluate other obstructions
6844	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve Hazard	Yes	--	vegetation	Install Curve Warning Sign; Clear Vegetation
6846	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve Hazard	Yes	--	Curve_Obscured,vegetation	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation
6811	094-CR-1307 -000	NEW LIBERTY SPARTA RD	other	--	--	Roadway flood;	Install "Road May Flood" (W8-18) sign(s)

SLIPPERY ROCK RD (094-CR-1202 -000)

Road Location Map and Crash History



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

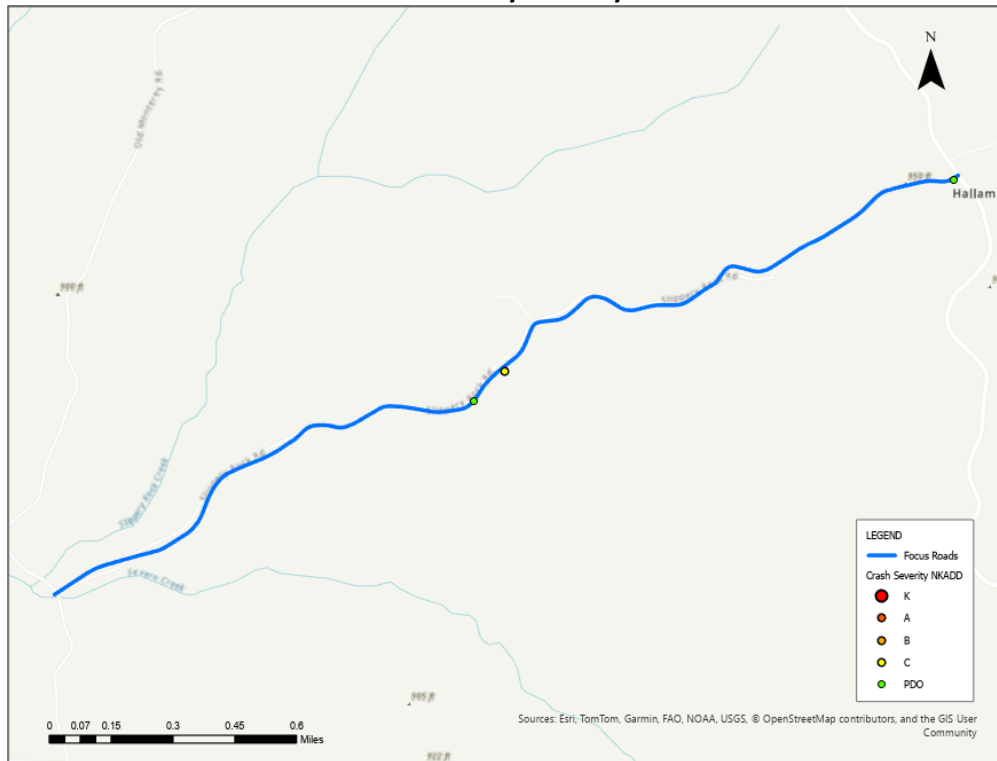
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati
6808	094-CR-1202 -000	SLIPPERY ROCK RD	12	4	4

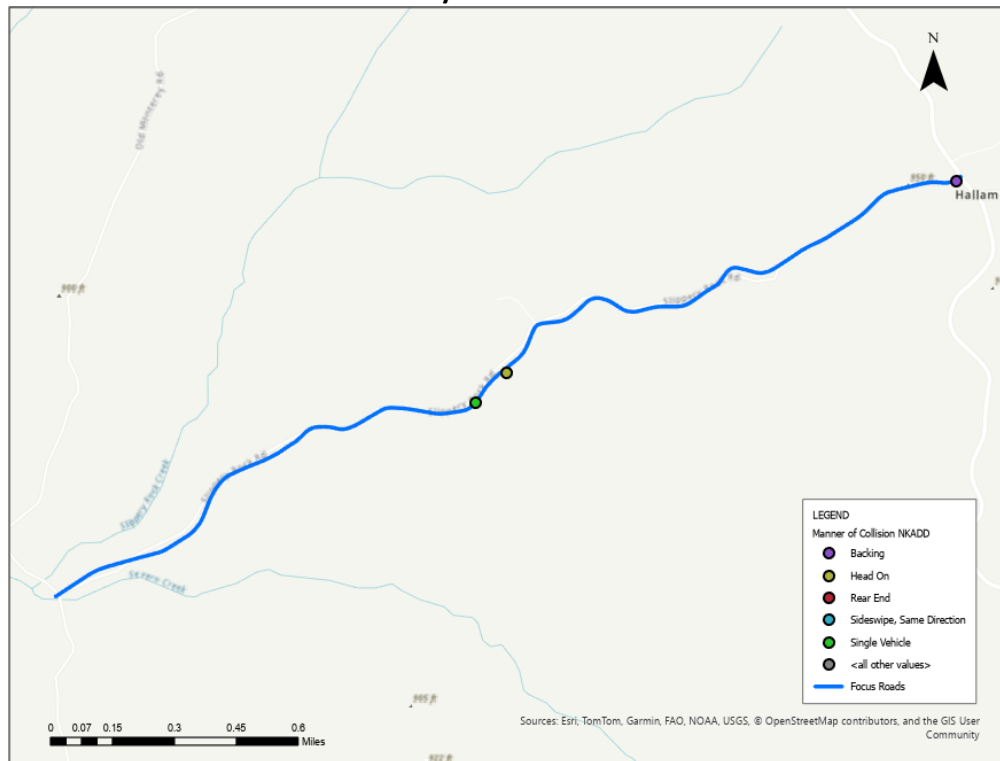
Roadway Typical Section



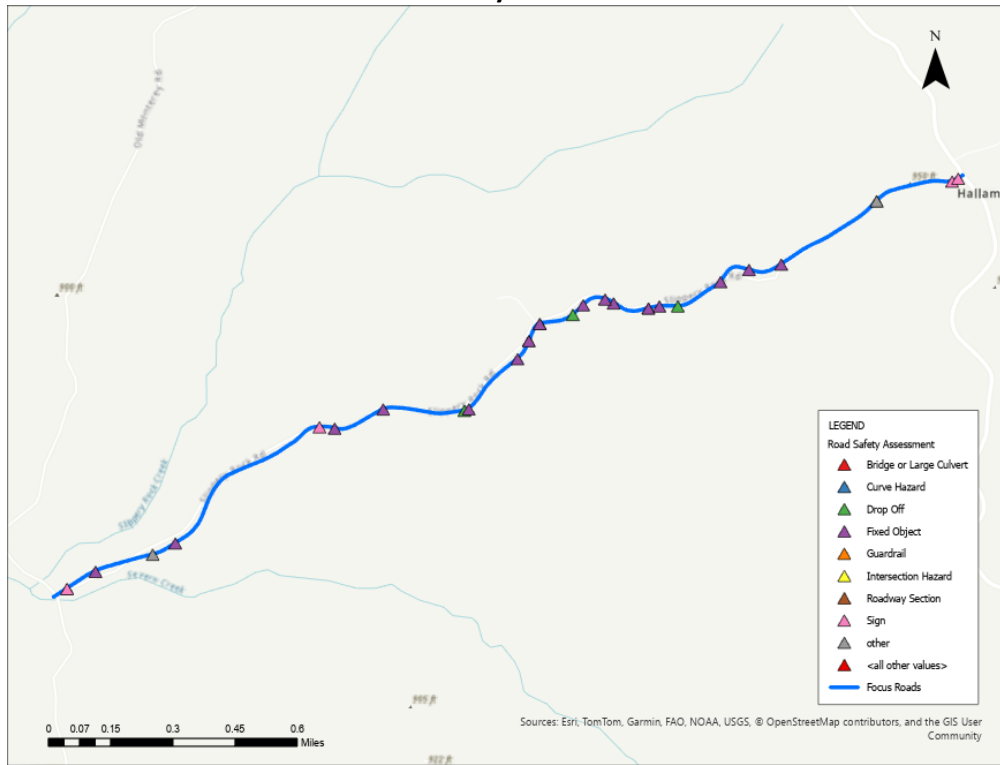
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment

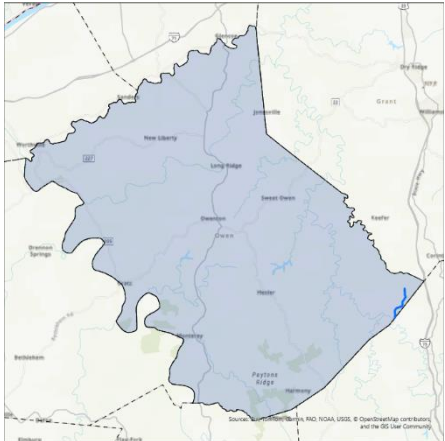


General Recommendations

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Ratio	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin	Other Recommendations
6808	094-CR-1202 -000	SLIPPY ROCK RD	12	4	4	40-60	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation				
6789	094-CR-1202 -000	SLIPPY ROCK RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6792	094-CR-1202 -000	SLIPPY ROCK RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6796	094-CR-1202 -000	SLIPPY ROCK RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6798	094-CR-1202 -000	SLIPPY ROCK RD	Drop Off	0-1	>10	--	Evaluate need for guardrail			
6800	094-CR-1202 -000	SLIPPY ROCK RD	Drop Off	0-1	>10	--	Evaluate need for guardrail			
6806	094-CR-1202 -000	SLIPPY ROCK RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
6778	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)			
6779	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Tree;	Single	1-3	Remove			
6780	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)			
6781	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Utility Pole;	Single	>5	--			
6785	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Tree;	Single	3-5	--			
6787	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	other; Brick mailbox	Single	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations			
6788	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	other; Fences	Series	3-5	Consider Relocation			
6790	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	other; Fences	Series	3-5	Consider Relocation			
6791	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Tree;	Single	3-5	--			
6793	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	other; Fence	Single	1-3	Consider removal of Fence			
6795	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Tree;	Single	1-3	Remove			
6797	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)			
6799	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Tree;	Single	1-3	Remove			
6801	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)			
6802	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)			
6803	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	other; Brick mail box	Single	0-1	Install Type 2 or 3 Object Marker(s); See policy Recommendations			
6805	094-CR-1202 -000	SLIPPY ROCK RD	Fixed Object	Utility Pole;	Single	>5	--			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation				
6782	094-CR-1202 -000	SLIPPY ROCK RD	Intersection	No	--	Other	Review Intersection; Issue noted as "Other"			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation			
6794	094-CR-1202 -000	SLIPPY ROCK RD	Curve Hazard	No	--	Curve_Obscured	Install Curve Warning Sign; Evaluate other obstructions			
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation			
6784	094-CR-1202 -000	SLIPPY ROCK RD	other	--	--	Fences;	Consider removing/relocating fence			
6804	094-CR-1202 -000	SLIPPY ROCK RD	other	--	--	Fence;	Consider removing/relocating fence			

LEANING OAK RD (094-CR-1114 -000)

Road Location Map and Crash History

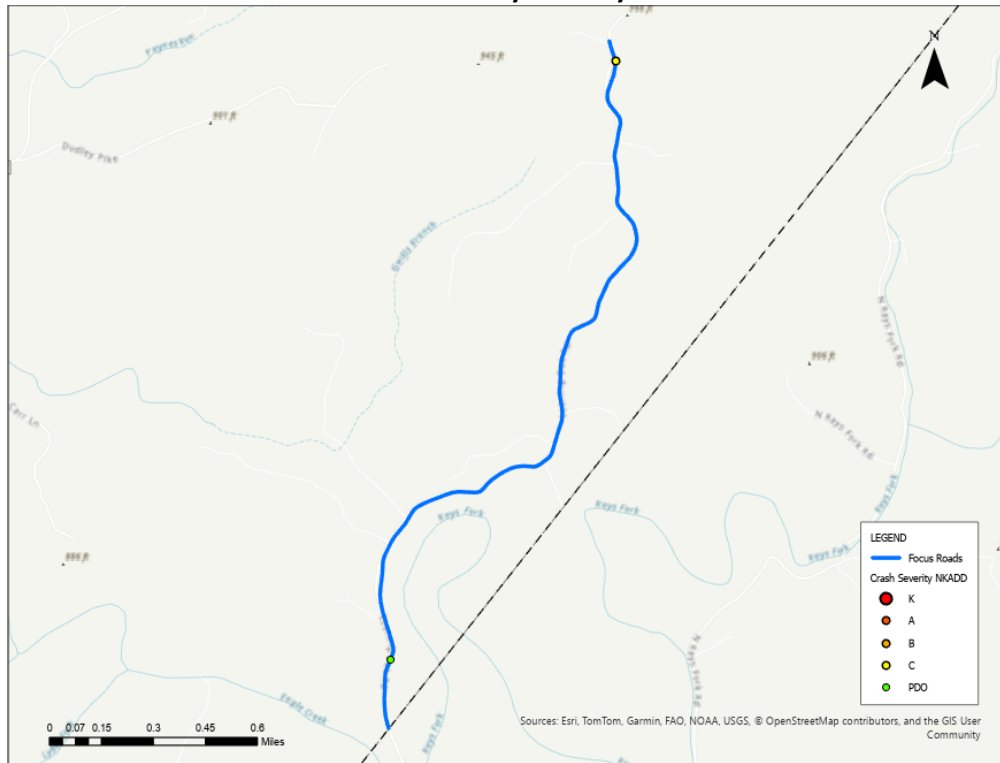
	Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	2	1	0	3	
SS - Same	0	0	0	0	
SS - Opp	0	0	0	0	
Left Turn	0	0	0	0	
Head On	0	0	0	0	
Backing	0	0	0	0	
Angle	0	0	0	0	
Rear to Rear	0	0	0	0	
Rear End	0	0	0	0	

General Roadway Conditions
Roadway Section Data Not Collected

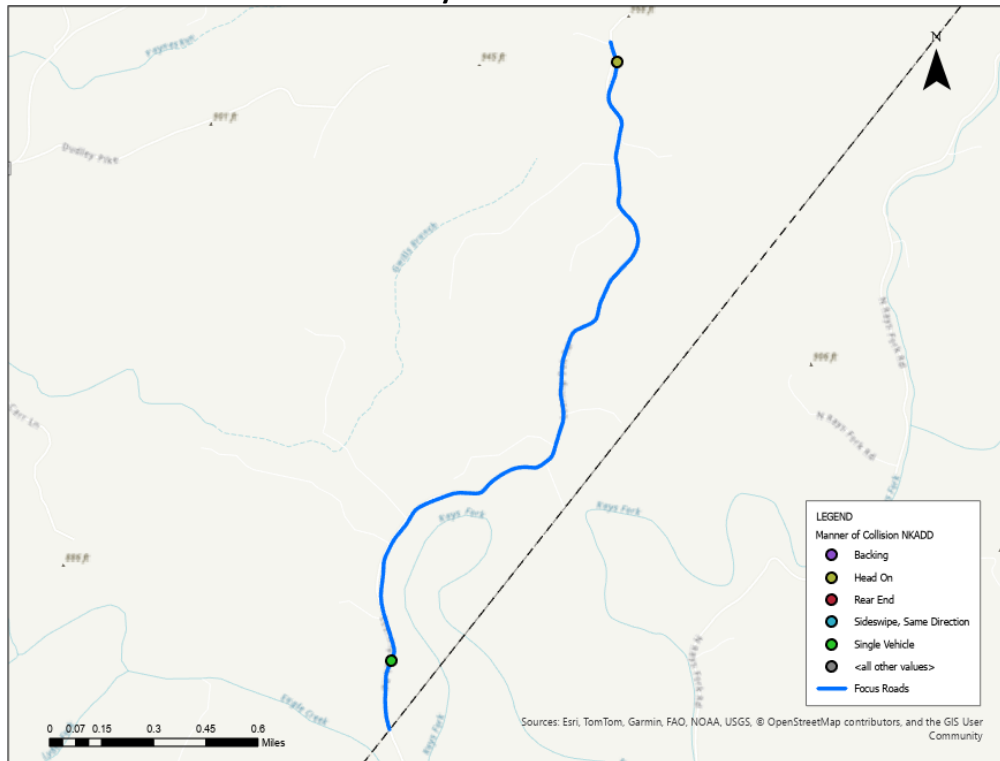
Roadway Typical Section



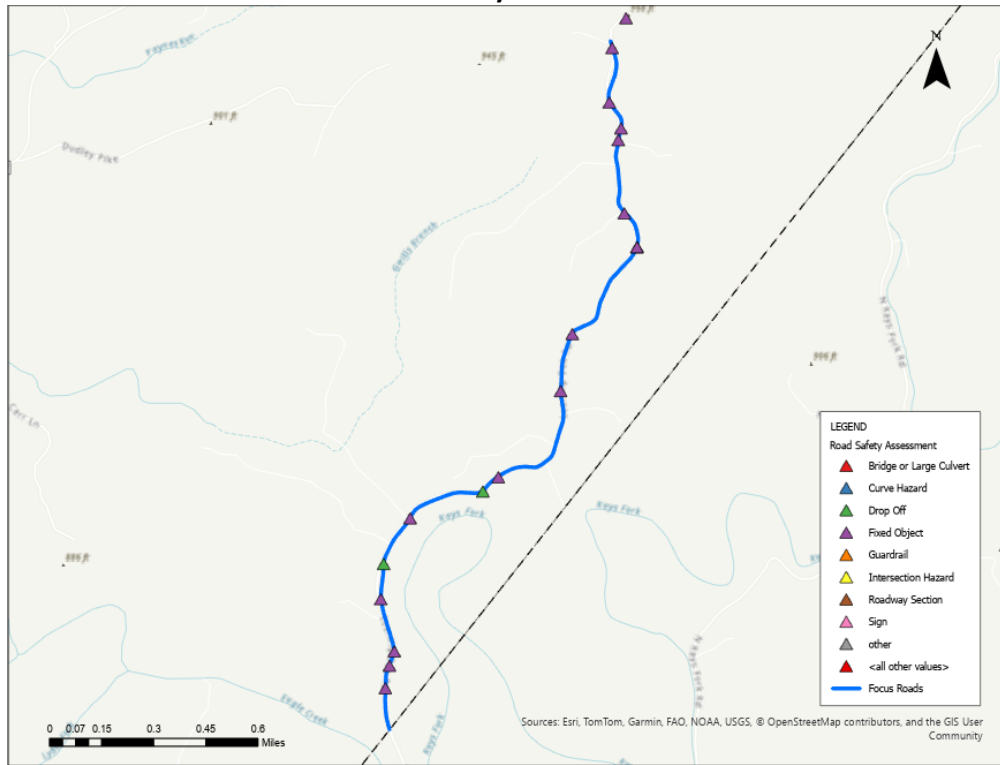
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment

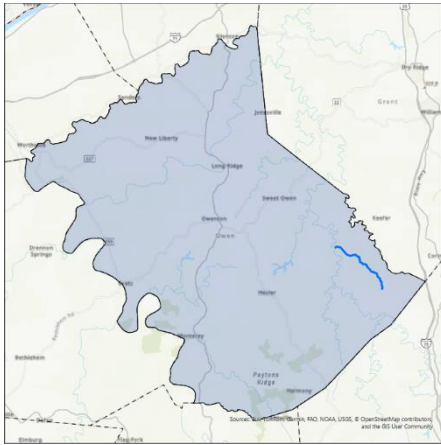


General Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
6743	094-CR-1114 -000	LEANING OAK RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
6751	094-CR-1114 -000	LEANING OAK RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
6755	094-CR-1114 -000	LEANING OAK RD	Drop Off	1-3	>10	--	Evaluate need for guardrail
6757	094-CR-1114 -000	LEANING OAK RD	Drop Off	0-1	>10	--	Evaluate need for guardrail
6764	094-CR-1114 -000	LEANING OAK RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
6765	094-CR-1114 -000	LEANING OAK RD	Drop Off	0-1	>10	--	Evaluate need for guardrail
6767	094-CR-1114 -000	LEANING OAK RD	Drop Off	0-1	>10	--	Evaluate need for guardrail
6773	094-CR-1114 -000	LEANING OAK RD	Drop Off	1-3	>10	--	Evaluate need for guardrail
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
6741	094-CR-1114 -000	LEANING OAK RD	Fixed Object	other; Fence	Single	>5	--
6742	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6744	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6745	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	0-1	Remove trees within 3 ft of roadway
6746	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	0-1	Remove trees within 3 ft of roadway
6747	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6749	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6750	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6752	094-CR-1114 -000	LEANING OAK RD	Fixed Object	other; Fence	Single	3-5	Consider Removal/Relocation
6753	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	3-5	--
6754	094-CR-1114 -000	LEANING OAK RD	Fixed Object	other; Fence	Single	0-1	Remove/Relocate
6756	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6758	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Utility Pole;	Series	1-3	Install Type 2 Object Marker(s)
6759	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6760	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6761	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6762	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6763	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Single	1-3	Remove
6766	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--
6768	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
6769	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Utility Pole;	Series	>5	--
6770	094-CR-1114 -000	LEANING OAK RD	Fixed Object	other; Fence	Single	3-5	Consider Removal/Relocation
6771	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Single	1-3	Remove
6772	094-CR-1114 -000	LEANING OAK RD	Fixed Object	Tree;	Series	1-3	--

PLEASANT GROVE RD (094-CR-1102 -000)

Road Location Map and Crash History



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

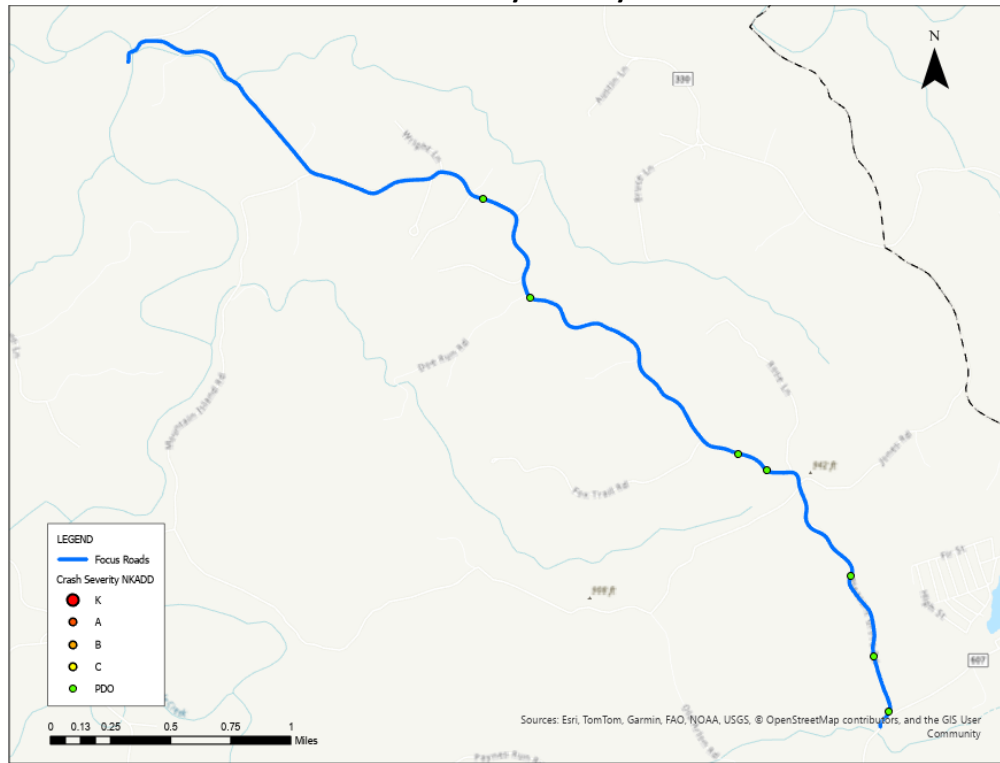
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rating
6690	094-CR-1102 -000	PLEASANT GROVE RD	11	3	4
6691	094-CR-1102 -000	PLEASANT GROVE RD	11	3	7
6702	094-CR-1102 -000	PLEASANT GROVE RD	10	3	7
6715	094-CR-1102 -000	PLEASANT GROVE RD	10	4	6
6740	094-CR-1102 -000	PLEASANT GROVE RD	13	4	3

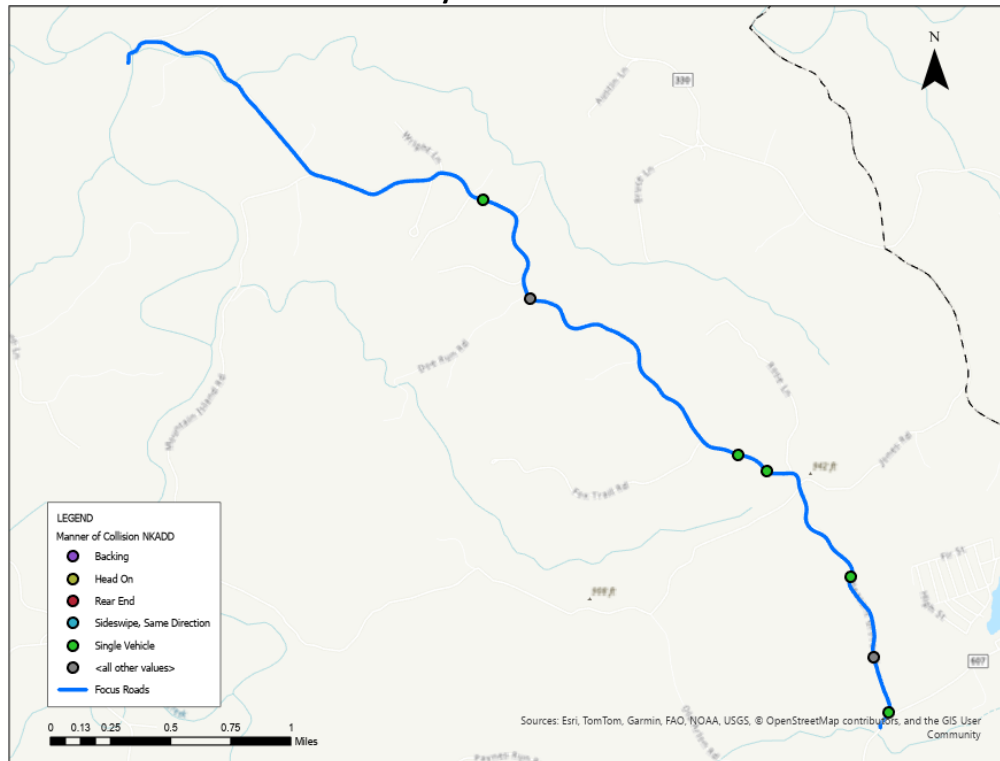
Roadway Typical Section



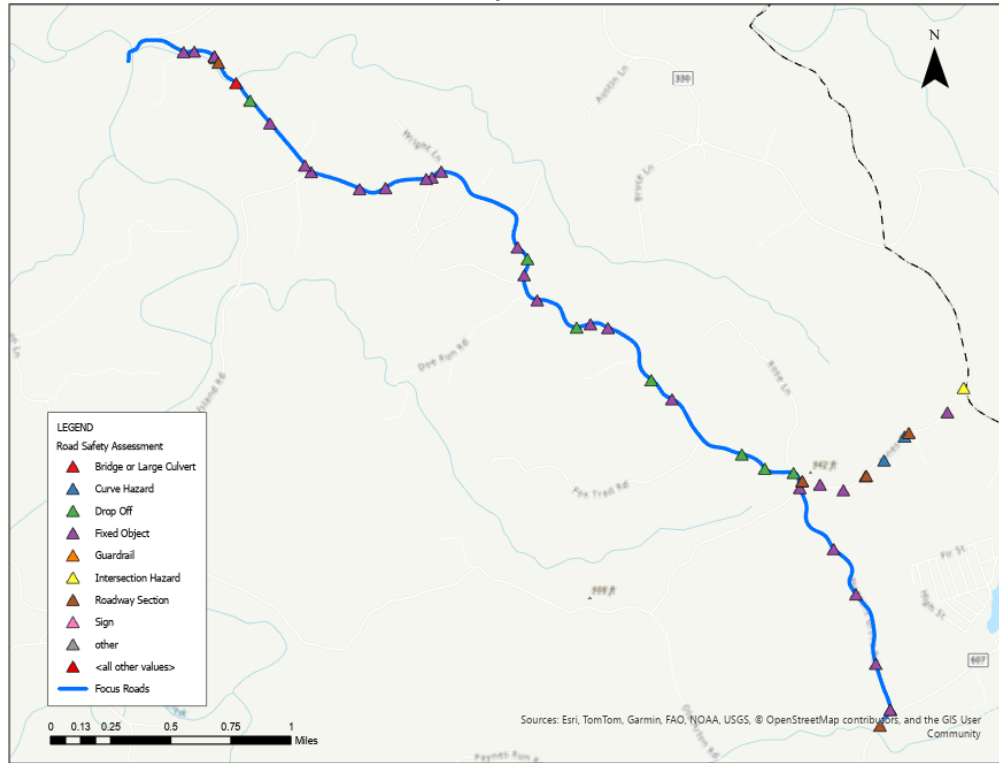
Crashes by Severity



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	Edgeline	Curve Signin	Other Recommendations
6690	094-CR-1102-000	PLEASANT GROVE RD	11	3	4	40-60	✓	✓	✓	
6691	094-CR-1102-000	PLEASANT GROVE RD	11	3	7	40-60	✓	✓	✓	
6702	094-CR-1102-000	PLEASANT GROVE RD	10	3	7	40-60	✓	✓	✓	
6715	094-CR-1102-000	PLEASANT GROVE RD	10	4	6	0-20		✓	✓	
6740	094-CR-1102-000	PLEASANT GROVE RD	13	4	3	0-20		✓	✓	

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
6706	094-CR-1102-000	PLEASANT GROVE RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
6710	094-CR-1102-000	PLEASANT GROVE RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
6714	094-CR-1102-000	PLEASANT GROVE RD	Drop Off	0-1	>10	--	Evaluate need for guardrail
6717	094-CR-1102-000	PLEASANT GROVE RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
6722	094-CR-1102-000	PLEASANT GROVE RD	Drop Off	0-1	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)
6730	094-CR-1102-000	PLEASANT GROVE RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
6733	094-CR-1102-000	PLEASANT GROVE RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
6735	094-CR-1102-000	PLEASANT GROVE RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
6736	094-CR-1102-000	PLEASANT GROVE RD	Drop Off	1-3	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)
6739	094-CR-1102-000	PLEASANT GROVE RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
6695	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Series	0-1	Remove trees within 3 ft of roadway
6698	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Series	0-1	Remove trees within 3 ft of roadway
6699	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Series	1-3	--
6700	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Single	1-3	Remove
6703	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Series	3-5	--
6704	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	other; Rock mailbox	Single	>5	--
6705	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	other; Fence	Single	>5	--
6707	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Utility Pole;	Series	>5	--
6708	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Series	>5	--
6709	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Utility Pole;	Series	3-5	--
6711	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	other; Fence	Single	>5	--
6712	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Series	3-5	--
6713	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Series	1-3	--
6716	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Series	1-3	--
6718	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Series	1-3	--
6719	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	other; Rocks	Series	>5	--
6724	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	other; Rocks	Series	3-5	Remove
6725	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Utility Pole;	Series	>5	--
6726	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	other; Fence	Single	>5	--
6727	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Utility Pole;	Single	>5	--
6728	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	other; Fence	Single	>5	--
6729	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Tree;	Series	>5	--
6731	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Utility Pole;	Single	>5	--
6734	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	other; Rock mailbox	Single	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
6737	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)
6738	094-CR-1102 -000	PLEASANT GROVE RD	Fixed Object	other; Fence	Single	>5	--
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation	
6688	094-CR-1102 -000	PLEASANT GROVE RD	Intersection	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)
6693	094-CR-1102 -000	PLEASANT GROVE RD	Intersection	No	--	Intersection Obscured on Approach; Steep hill	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
6723	094-CR-1102 -000	PLEASANT GROVE RD	Bridge or Large Culvert	12	4	0	Evaluate need for Type 3 Object Markers
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation
6696	094-CR-1102 -000	PLEASANT GROVE RD	Curve Hazard	Yes	--	Curve_Obscured,vegetation	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
6697	094-CR-1102 -000	PLEASANT GROVE RD	Curve Hazard	Yes	--	Curve_Obscured,vegetation	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation

EAGLE HILL RD (094-CR-1032 -000)

Road Location Map and Crash History

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

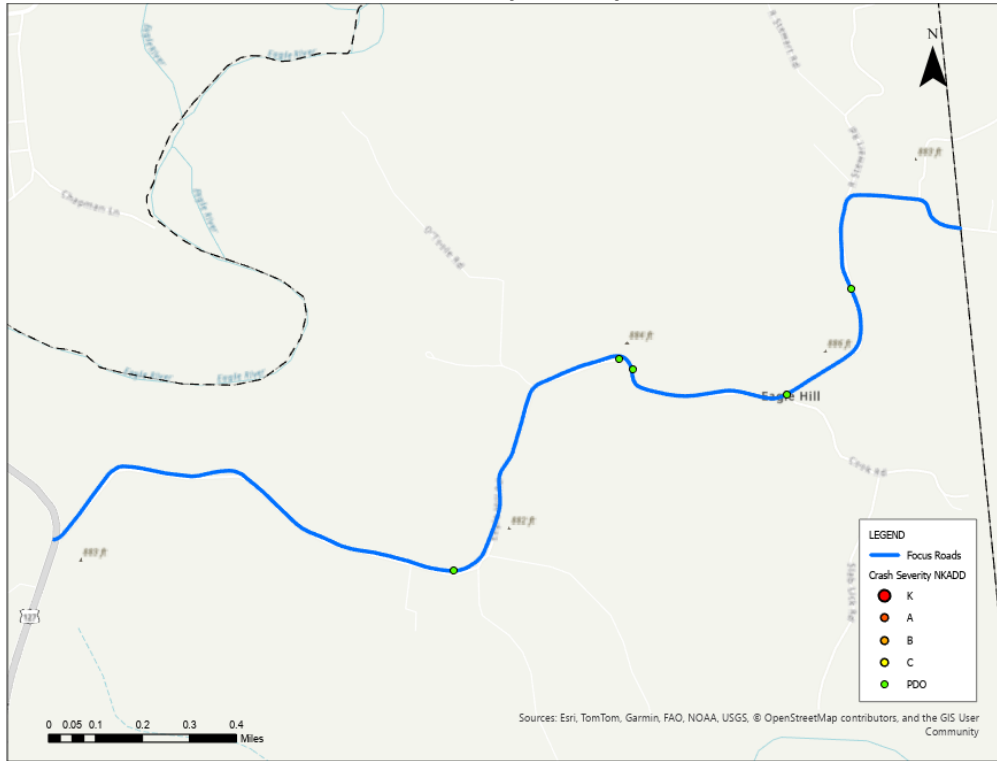
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate
6687	094-CR-1032 -000	EAGLE HILL RD	11	4	4

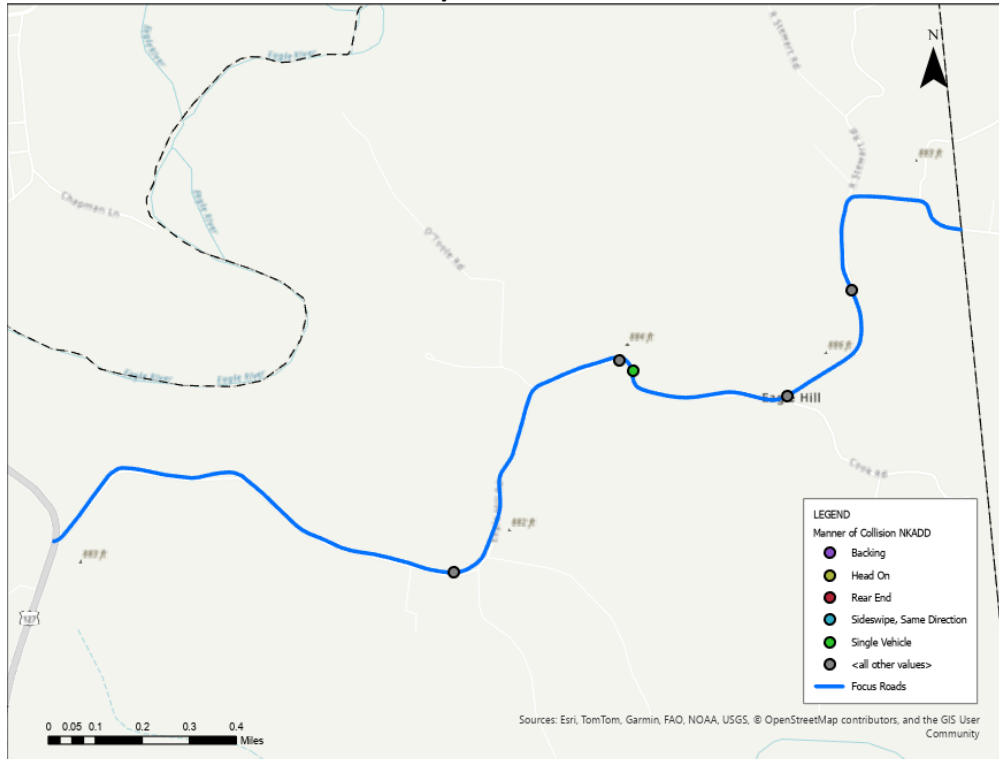
Roadway Typical Section



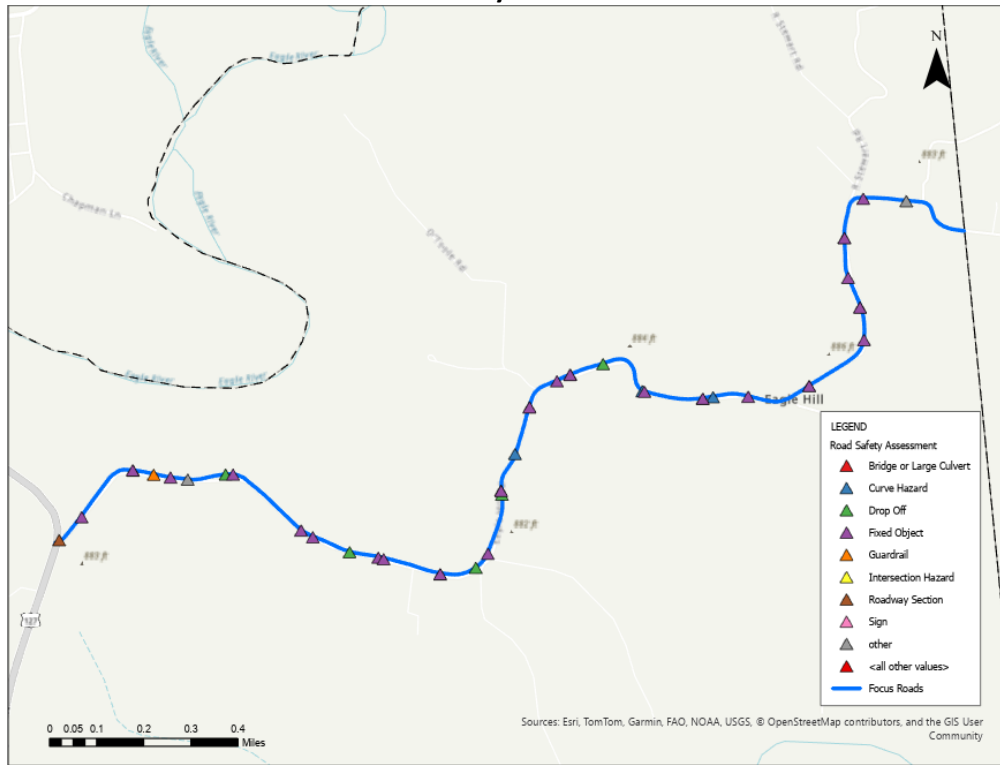
Crashes by Severity



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
6687	094-CR-1032 -000	EAGLE HILL RD	11	4	4	0-20		✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
6648	094-CR-1032 -000	EAGLE HILL RD	Drop Off	0-1	>10	--	Evaluate need for guardrail			
6650	094-CR-1032 -000	EAGLE HILL RD	Drop Off	0-1	>10	--	Evaluate need for guardrail			
6652	094-CR-1032 -000	EAGLE HILL RD	Drop Off	1-3	>10	--	Evaluate need for guardrail			
6658	094-CR-1032 -000	EAGLE HILL RD	Drop Off	0-1	>10	--	Evaluate need for guardrail			
6661	094-CR-1032 -000	EAGLE HILL RD	Drop Off	1-3	>10	--	Evaluate need for guardrail			
6667	094-CR-1032 -000	EAGLE HILL RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6672	094-CR-1032 -000	EAGLE HILL RD	Drop Off	0-1	>10	--	Evaluate need for guardrail			
6675	094-CR-1032 -000	EAGLE HILL RD	Drop Off	0-1	>10	--	Evaluate need for guardrail			
6676	094-CR-1032 -000	EAGLE HILL RD	Drop Off	0-1	5-10	--	Install Type 2 Object Marker(s) or Delineator(s)			
6679	094-CR-1032 -000	EAGLE HILL RD	Drop Off	0-1	>10	--	Evaluate need for guardrail			
6682	094-CR-1032 -000	EAGLE HILL RD	Drop Off	3-5	>10	--	Evaluate need for guardrail			
6683	094-CR-1032 -000	EAGLE HILL RD	Drop Off	1-3	>10	--	Evaluate need for guardrail			
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation			
6644	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	1-3	--			
6646	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	3-5	--			
6647	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	>5	--			
6649	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Single	>5	--			
6651	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Utility Pole;	Series	>5	--			
6654	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	other; Barn	Single	>5	--			
6655	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Single	>5	--			
6657	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Utility Pole;	Single	1-3	Install Type 2 Object Marker(s)			
6659	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	other; Barn	Single	>5	--			
6660	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Utility Pole;	Single	>5	--			
6662	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	3-5	--			
6663	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Utility Pole;	Single	3-5	Install Type 2 Object Marker(s)			
6665	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	>5	--			
6666	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	3-5	--			
6668	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Utility Pole;	Series	3-5	--			
6669	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	3-5	--			
6671	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	other; Barn	Single	>5	--			
6673	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	1-3	--			
6674	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Utility Pole;	Single	>5	--			
6677	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	other; Fence	Series	>5	--			
6678	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	other;	Single	>5	--			
6680	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	3-5	--			
6681	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	3-5	--			
6684	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	Tree;	Series	>5	--			
6685	094-CR-1032 -000	EAGLE HILL RD	Fixed Object	other; Barn	Single	>5	--			

Point ID	RT_UNIQUE	Road Name	Issue Type	Condition	Meet Warrants	End Treatments	Recommendation
6643	094-CR-1032 -000	EAGLE HILL RD	Guardrail	Poor	No	None	Remove
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation
6653	094-CR-1032 -000	EAGLE HILL RD	Curve Hazard	No	--	Curve_Obscured	Install Curve Warning Sign; Evaluate other obstructions
6656	094-CR-1032 -000	EAGLE HILL RD	Curve Hazard	No	--	Curve_Obscured	Install Curve Warning Sign; Evaluate other obstructions
6670	094-CR-1032 -000	EAGLE HILL RD	Curve Hazard	Yes	--	vegetation	Install Curve Warning Sign; Clear Vegetation
Point ID	RT_UNIQUE	RD_NAME	Issue Type	--	--	Description	Recommendation
6645	094-CR-1032 -000	EAGLE HILL RD	other	--	--	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
6664	094-CR-1032 -000	EAGLE HILL RD	other	--	--	Blind sight; Na	Install "Hill Blocks View" Sign (W7-6)

Other Roadways

General Roadway Conditions and Recommendations (Owen County)

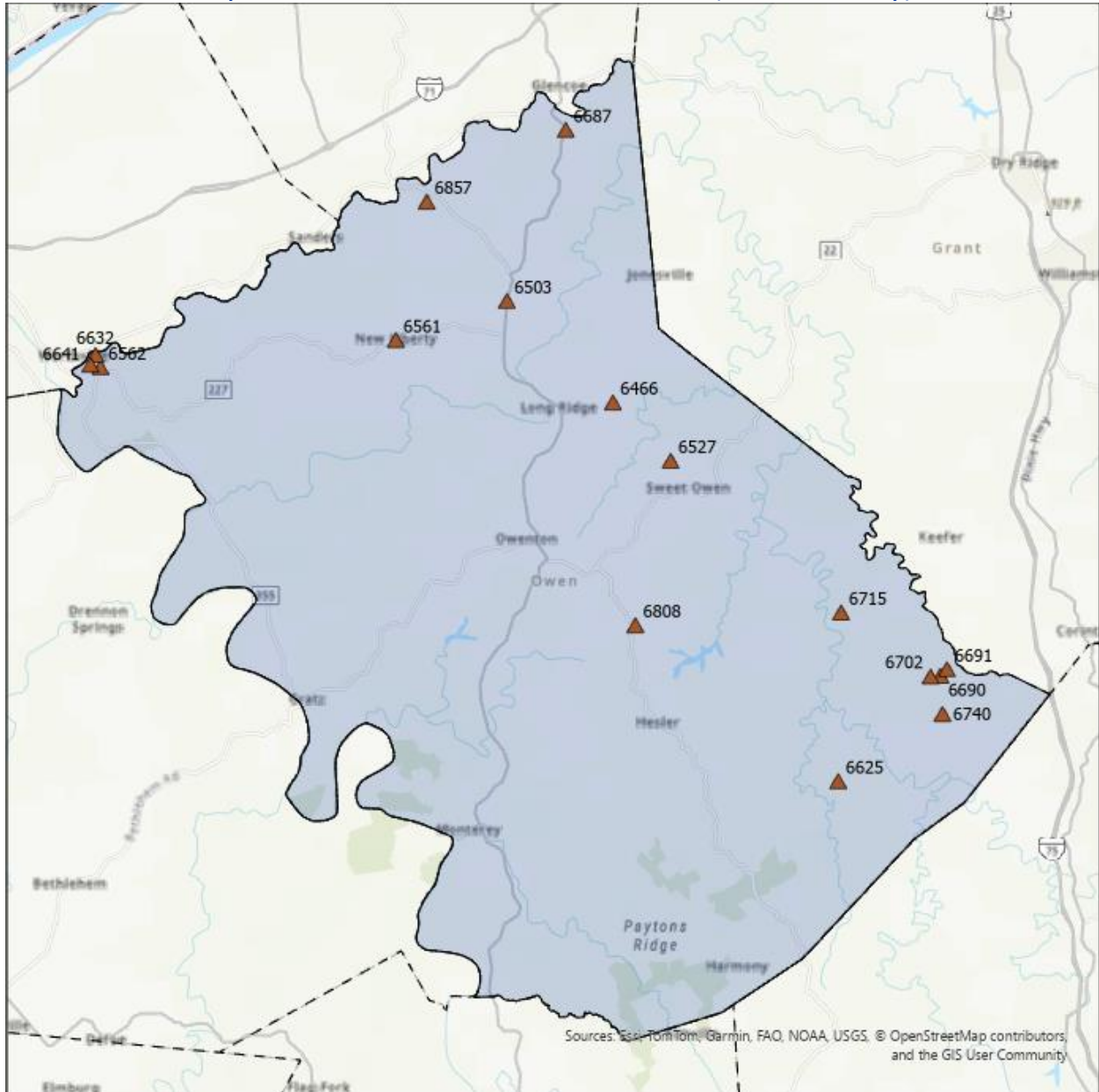


Exhibit Owen-F1: General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rate	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin	Other Recommendations
6466	094-CR-1023 -000	HANDY LN	10	4	3	20-40	✓	✓	✓	
6503	094-CR-1305 -000	STEWART LN	12	3	2	40-60	✓	✓	✓	
6527	094-CR-1020 -000	AGEE RD	13	4	4	20-40	✓	✓	✓	
6561	094-CR-1307 -000	NEW LIBERTY SPARTA RD	10	4	2	0-20		✓	✓	
6562	094-CR-1336 -000	OLD KY 227 RD	12	3	2	0-20		✓	✓	
6625	094-CR-1123 -000	ROCKDALE RD	11	4	6	0-20		✓	✓	
6632	094-CR-1337 -000	EAGLE CREEK CAMPGROUND RD	10	2	4	40-60	✓	✓	✓	Resurface
6641	094-CR-1337 -000	EAGLE CREEK CAMPGROUND RD	10	3	4	40-60	✓	✓	✓	
6687	094-CR-1032 -000	EAGLE HILL RD	11	4	4	0-20		✓	✓	
6690	094-CR-1102 -000	PLEASANT GROVE RD	11	3	4	40-60	✓	✓	✓	
6691	094-CR-1102 -000	PLEASANT GROVE RD	11	3	7	40-60	✓	✓	✓	
6702	094-CR-1102 -000	PLEASANT GROVE RD	10	3	7	40-60	✓	✓	✓	
6715	094-CR-1102 -000	PLEASANT GROVE RD	10	4	6	0-20		✓	✓	
6740	094-CR-1102 -000	PLEASANT GROVE RD	13	4	3	0-20		✓	✓	
6808	094-CR-1202 -000	SLIPPERY ROCK RD	12	4	4	40-60	✓	✓	✓	
6857	094-CR-1307 -000	NEW LIBERTY SPARTA RD	13	3	4	20-40	✓	✓	✓	

Exhibit Owen-F2: General Roadway Recommendations

Bridge / Culvert Recommendations (Owen County)

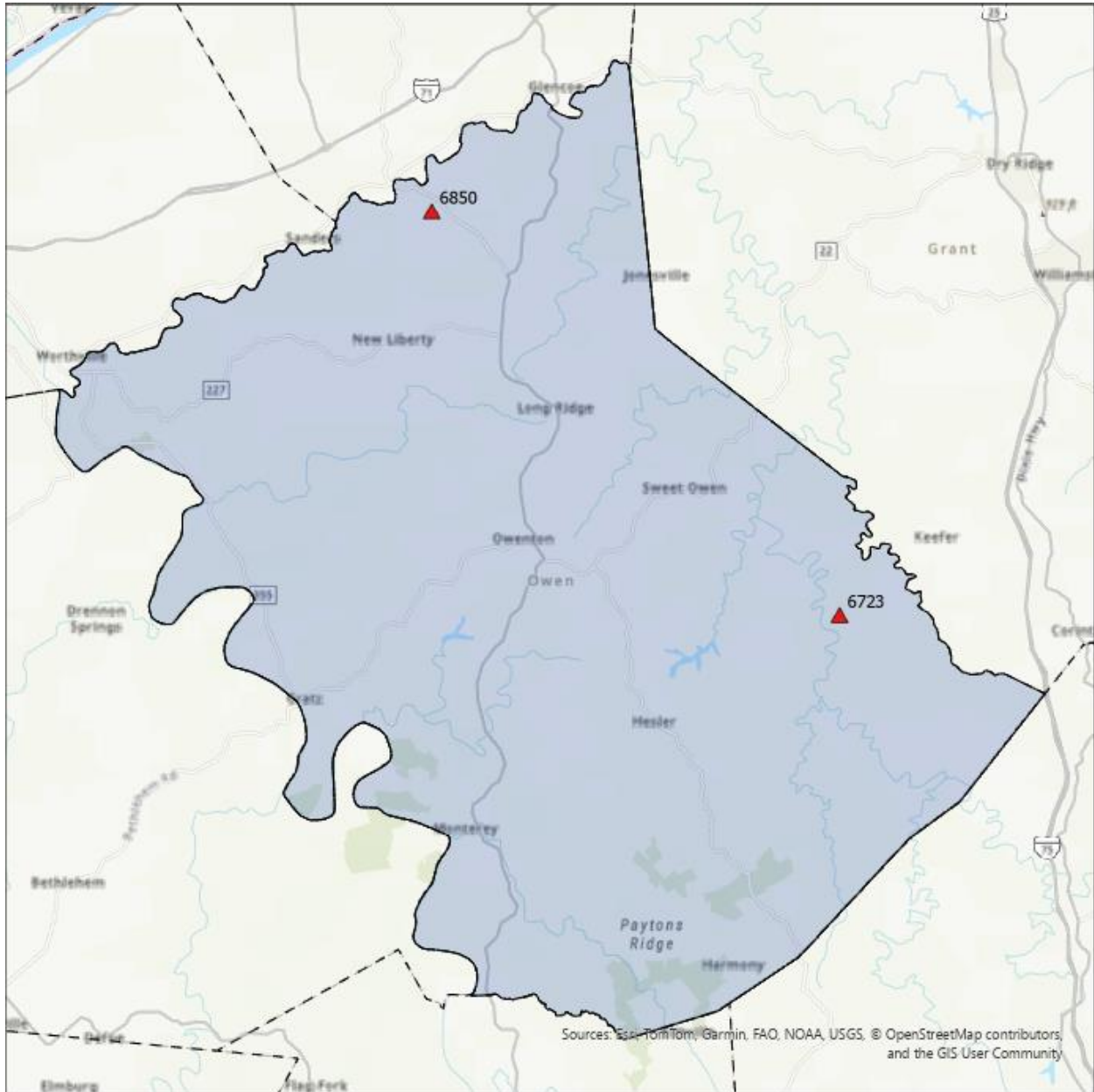


Exhibit Owen-F3: Bridge / Culvert Locations

Point ID	RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
6723	094-CR-1102 -000	PLEASANT GROVE RD	12	4	0	Evaluate need for Type 3 Object Markers
6850	094-CR-1307 -000	NEW LIBERTY SPARTA RD	13	4	0	Evaluate need for Type 3 Object Markers

Exhibit Lee-F4: Bridge / Culvert Recommendations

Curve Recommendations (Owen County)

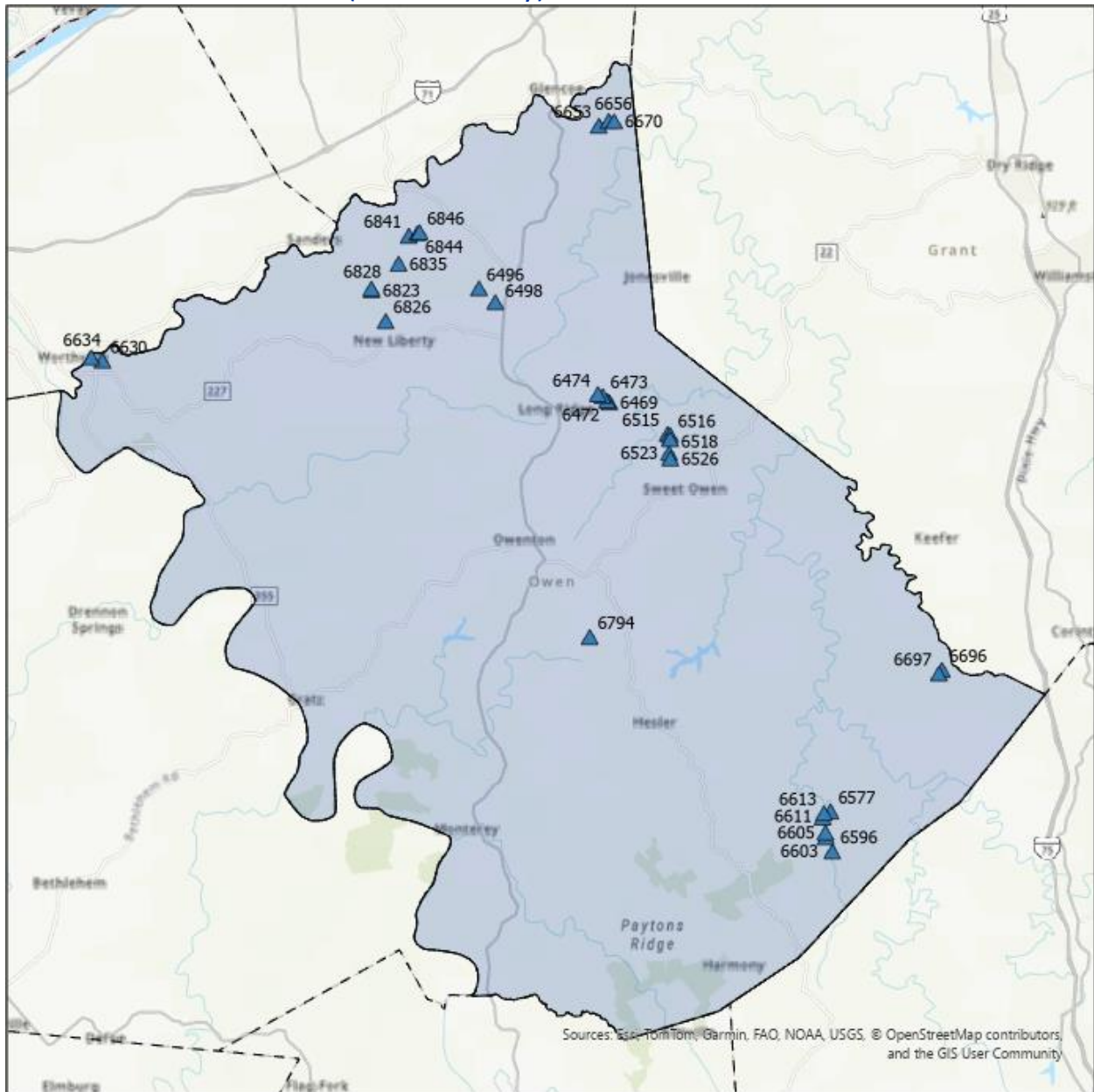


Exhibit Owen-F5: Focus Road Curves

Point ID	RT_UNIQUE	Road Name	Comments	Vegetation	Recommendation
6469	094-CR-1023 -000	HANDY LN	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
6472	094-CR-1023 -000	HANDY LN	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6473	094-CR-1023 -000	HANDY LN	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6474	094-CR-1023 -000	HANDY LN	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6496	094-CR-1305 -000	STEWART LN	other	No	Install Curve Warning Sign; Evaluate other obstructions
6498	094-CR-1305 -000	STEWART LN	other	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
6515	094-CR-1020 -000	AGEE RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
6516	094-CR-1020 -000	AGEE RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
6518	094-CR-1020 -000	AGEE RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
6523	094-CR-1020 -000	AGEE RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
6526	094-CR-1020 -000	AGEE RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
6577	094-CR-1123 -000	ROCKDALE RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
6596	094-CR-1123 -000	ROCKDALE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6603	094-CR-1123 -000	ROCKDALE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6605	094-CR-1123 -000	ROCKDALE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6611	094-CR-1123 -000	ROCKDALE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6613	094-CR-1123 -000	ROCKDALE RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6630	094-CR-1337 -000	EAGLE CREEK CAMPGROUND RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
6634	094-CR-1337 -000	EAGLE CREEK CAMPGROUND RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
6653	094-CR-1032 -000	EAGLE HILL RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6656	094-CR-1032 -000	EAGLE HILL RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6670	094-CR-1032 -000	EAGLE HILL RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
6696	094-CR-1102 -000	PLEASANT GROVE RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
6697	094-CR-1102 -000	PLEASANT GROVE RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
6794	094-CR-1202 -000	SLIPPERY ROCK RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6823	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6826	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve_Obscured	Yes	Install Curve Warning Sign; Clear Vegetation
6828	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6835	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation
6841	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve_Obscured	No	Install Curve Warning Sign; Evaluate other obstructions
6844	094-CR-1307 -000	NEW LIBERTY SPARTA RD	vegetation	Yes	Install Curve Warning Sign; Clear Vegetation
6846	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Curve_Obscured,vegetation	Yes	Install Curve Warning Sign; Evaluate obstructions; Clear Vegetation

Exhibit Owen-F5: Curve Recommendations

Roadside Drop Off Recommendations (Owen County)

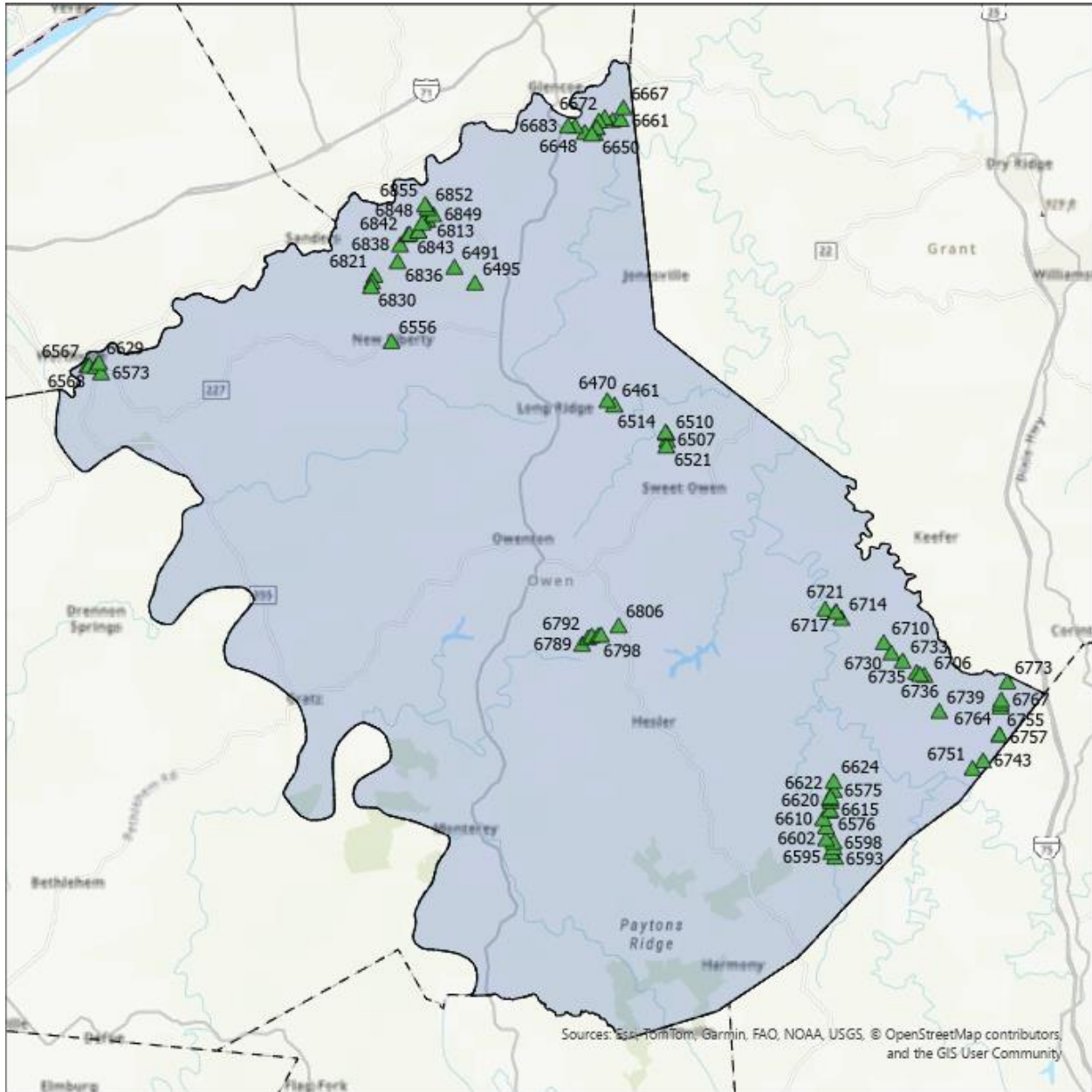


Exhibit Owen-F7: Roadside Drop Off Locations

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
6461	094-CR-1023 -000	HANDY LN	0-1	>10	Evaluate need for guardrail
6470	094-CR-1023 -000	HANDY LN	0-1	>10	Evaluate need for guardrail
6491	094-CR-1305 -000	STEWART LN	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6495	094-CR-1305 -000	STEWART LN	0-1	>10	Evaluate need for guardrail
6507	094-CR-1020 -000	AGEE RD	0-1	>10	Evaluate need for guardrail
6510	094-CR-1020 -000	AGEE RD	0-1	>10	Evaluate need for guardrail
6514	094-CR-1020 -000	AGEE RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6521	094-CR-1020 -000	AGEE RD	0-1	>10	Evaluate need for guardrail
6556	094-CR-1307 -000	NEW LIBERTY SPARTA RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6567	094-CR-1336 -000	OLD KY 227 RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6568	094-CR-1336 -000	OLD KY 227 RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6570	094-CR-1336 -000	OLD KY 227 RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6573	094-CR-1336 -000	OLD KY 227 RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6575	094-CR-1123 -000	ROCKDALE RD	1-3	>10	Evaluate need for guardrail
6576	094-CR-1123 -000	ROCKDALE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6593	094-CR-1123 -000	ROCKDALE RD	3-5	>10	Evaluate need for guardrail
6595	094-CR-1123 -000	ROCKDALE RD	0-1	>10	Evaluate need for guardrail
6598	094-CR-1123 -000	ROCKDALE RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6601	094-CR-1123 -000	ROCKDALE RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6602	094-CR-1123 -000	ROCKDALE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6608	094-CR-1123 -000	ROCKDALE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6610	094-CR-1123 -000	ROCKDALE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6615	094-CR-1123 -000	ROCKDALE RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6618	094-CR-1123 -000	ROCKDALE RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6620	094-CR-1123 -000	ROCKDALE RD	1-3	>10	Evaluate need for guardrail
6622	094-CR-1123 -000	ROCKDALE RD	0-1	>10	Evaluate need for guardrail
6624	094-CR-1123 -000	ROCKDALE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6629	094-CR-1337 -000	EAGLE CREEK CAMPGROUND RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6648	094-CR-1032 -000	EAGLE HILL RD	0-1	>10	Evaluate need for guardrail
6650	094-CR-1032 -000	EAGLE HILL RD	0-1	>10	Evaluate need for guardrail
6652	094-CR-1032 -000	EAGLE HILL RD	1-3	>10	Evaluate need for guardrail
6658	094-CR-1032 -000	EAGLE HILL RD	0-1	>10	Evaluate need for guardrail
6661	094-CR-1032 -000	EAGLE HILL RD	1-3	>10	Evaluate need for guardrail
6667	094-CR-1032 -000	EAGLE HILL RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6672	094-CR-1032 -000	EAGLE HILL RD	0-1	>10	Evaluate need for guardrail
6675	094-CR-1032 -000	EAGLE HILL RD	0-1	>10	Evaluate need for guardrail
6676	094-CR-1032 -000	EAGLE HILL RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6679	094-CR-1032 -000	EAGLE HILL RD	0-1	>10	Evaluate need for guardrail
6682	094-CR-1032 -000	EAGLE HILL RD	3-5	>10	Evaluate need for guardrail
6683	094-CR-1032 -000	EAGLE HILL RD	1-3	>10	Evaluate need for guardrail
6706	094-CR-1102 -000	PLEASANT GROVE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6710	094-CR-1102 -000	PLEASANT GROVE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6714	094-CR-1102 -000	PLEASANT GROVE RD	0-1	>10	Evaluate need for guardrail
6717	094-CR-1102 -000	PLEASANT GROVE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6721	094-CR-1103 -000	DOGWALK RD	0-1	>10	Evaluate need for guardrail
6722	094-CR-1102 -000	PLEASANT GROVE RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6730	094-CR-1102 -000	PLEASANT GROVE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6733	094-CR-1102 -000	PLEASANT GROVE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6735	094-CR-1102 -000	PLEASANT GROVE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6736	094-CR-1102 -000	PLEASANT GROVE RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6739	094-CR-1102 -000	PLEASANT GROVE RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6743	094-CR-1114 -000	LEANING OAK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6751	094-CR-1114 -000	LEANING OAK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6755	094-CR-1114 -000	LEANING OAK RD	1-3	>10	Evaluate need for guardrail

Exhibit Owen-F8: Roadside Drop Off Recommendations

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
6757	094-CR-1114 -000	LEANING OAK RD	0-1	>10	Evaluate need for guardrail
6764	094-CR-1114 -000	LEANING OAK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6765	094-CR-1114 -000	LEANING OAK RD	0-1	>10	Evaluate need for guardrail
6767	094-CR-1114 -000	LEANING OAK RD	0-1	>10	Evaluate need for guardrail
6773	094-CR-1114 -000	LEANING OAK RD	1-3	>10	Evaluate need for guardrail
6789	094-CR-1202 -000	SLIPPERY ROCK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6792	094-CR-1202 -000	SLIPPERY ROCK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6796	094-CR-1202 -000	SLIPPERY ROCK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6798	094-CR-1202 -000	SLIPPERY ROCK RD	0-1	>10	Evaluate need for guardrail
6800	094-CR-1202 -000	SLIPPERY ROCK RD	0-1	>10	Evaluate need for guardrail
6806	094-CR-1202 -000	SLIPPERY ROCK RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6813	094-CR-1307 -000	NEW LIBERTY SPARTA RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6815	094-CR-1307 -000	NEW LIBERTY SPARTA RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6821	094-CR-1307 -000	NEW LIBERTY SPARTA RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6822	094-CR-1307 -000	NEW LIBERTY SPARTA RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6830	094-CR-1307 -000	NEW LIBERTY SPARTA RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6836	094-CR-1307 -000	NEW LIBERTY SPARTA RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6838	094-CR-1307 -000	NEW LIBERTY SPARTA RD	3-5	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6842	094-CR-1307 -000	NEW LIBERTY SPARTA RD	0-1	>10	Evaluate need for guardrail
6843	094-CR-1307 -000	NEW LIBERTY SPARTA RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6845	094-CR-1307 -000	NEW LIBERTY SPARTA RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6847	094-CR-1307 -000	NEW LIBERTY SPARTA RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6848	094-CR-1307 -000	NEW LIBERTY SPARTA RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6849	094-CR-1307 -000	NEW LIBERTY SPARTA RD	0-1	5-10	Install Type 2 Object Marker(s) or Delineator(s)
6852	094-CR-1307 -000	NEW LIBERTY SPARTA RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
6855	094-CR-1307 -000	NEW LIBERTY SPARTA RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)

Exhibit Owen-F8: Roadside Drop Off Recommendations (continued)

Fixed Object Recommendations (Owen County)

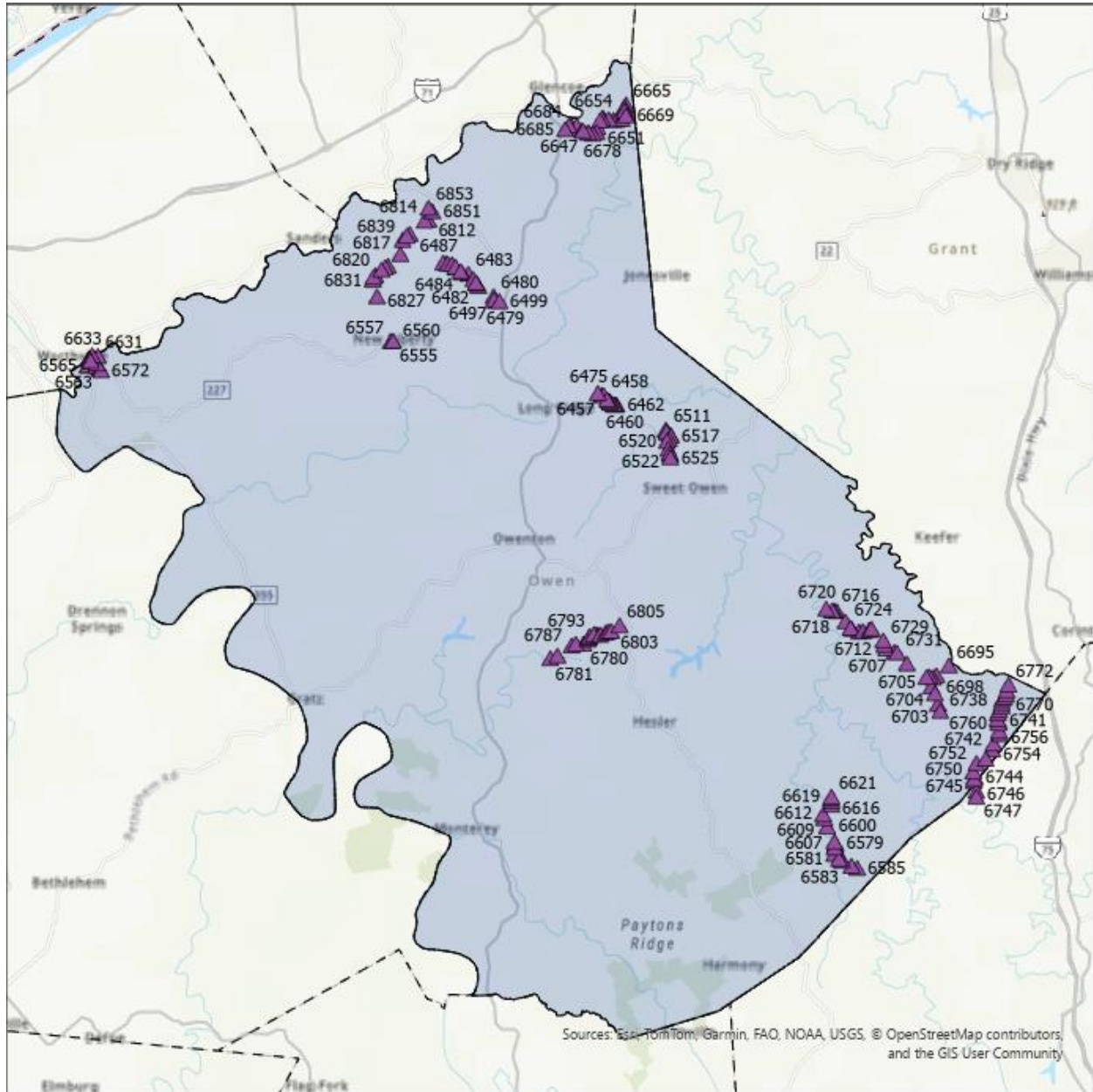


Exhibit Owen-F9: Fixed Object Locations

See Attachment for Owen County Fixed Object Recommendations

Guardrail Recommendations (Owen County)

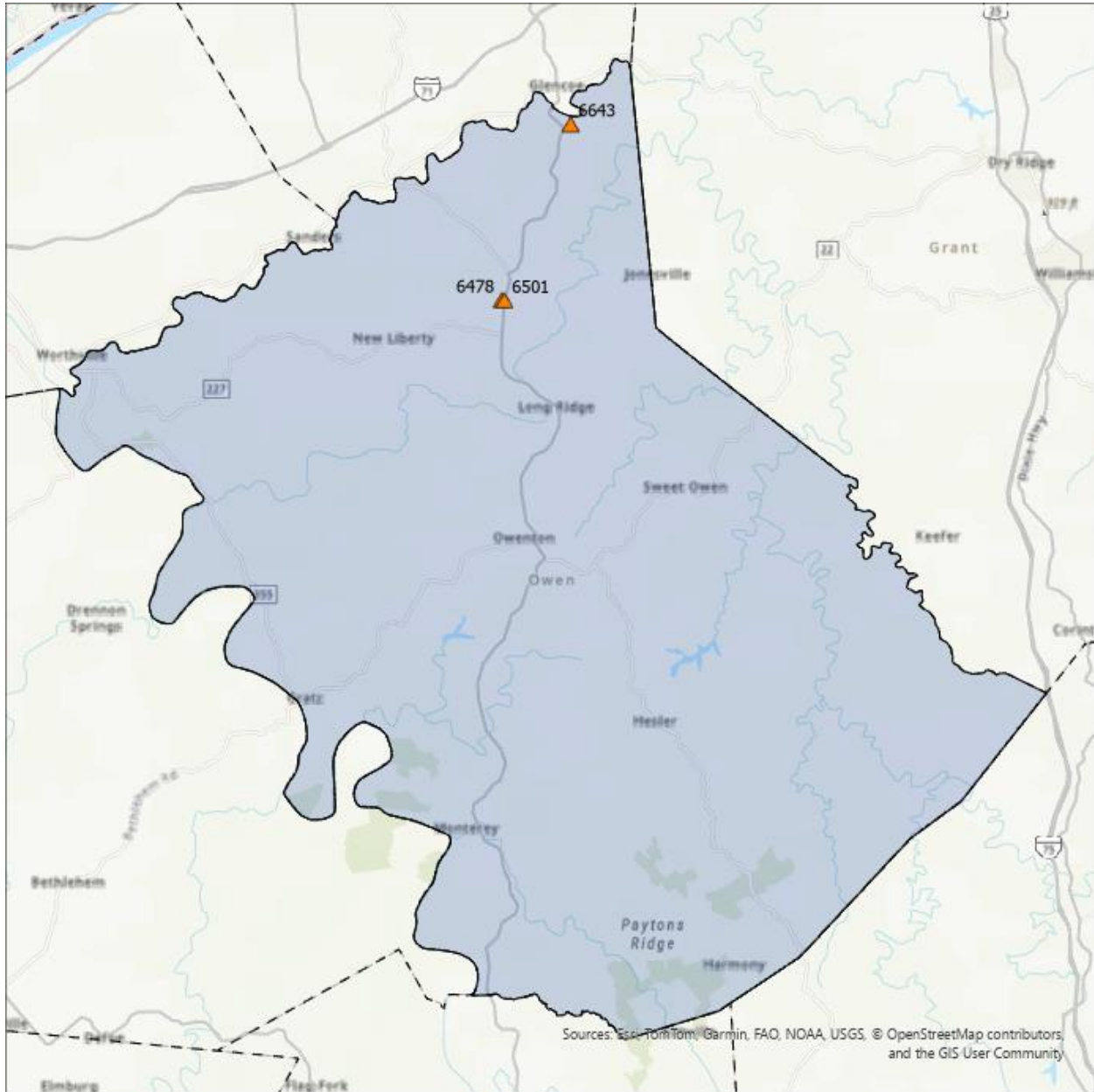


Exhibit Lee-F11: Guardrail Locations

Point ID	RT_UNIQUE	Road Name	Condition	Meet Warrant	End Treatment	Recommendation
6478	094-CR-1305 -000	STEWART LN	Good	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments
6501	094-CR-1305 -000	STEWART LN	Good	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments
6643	094-CR-1032 -000	EAGLE HILL RD	Poor	No	None	Remove

Exhibit Lee-F12: Guardrail Recommendations

Intersection Recommendations (Owen County)

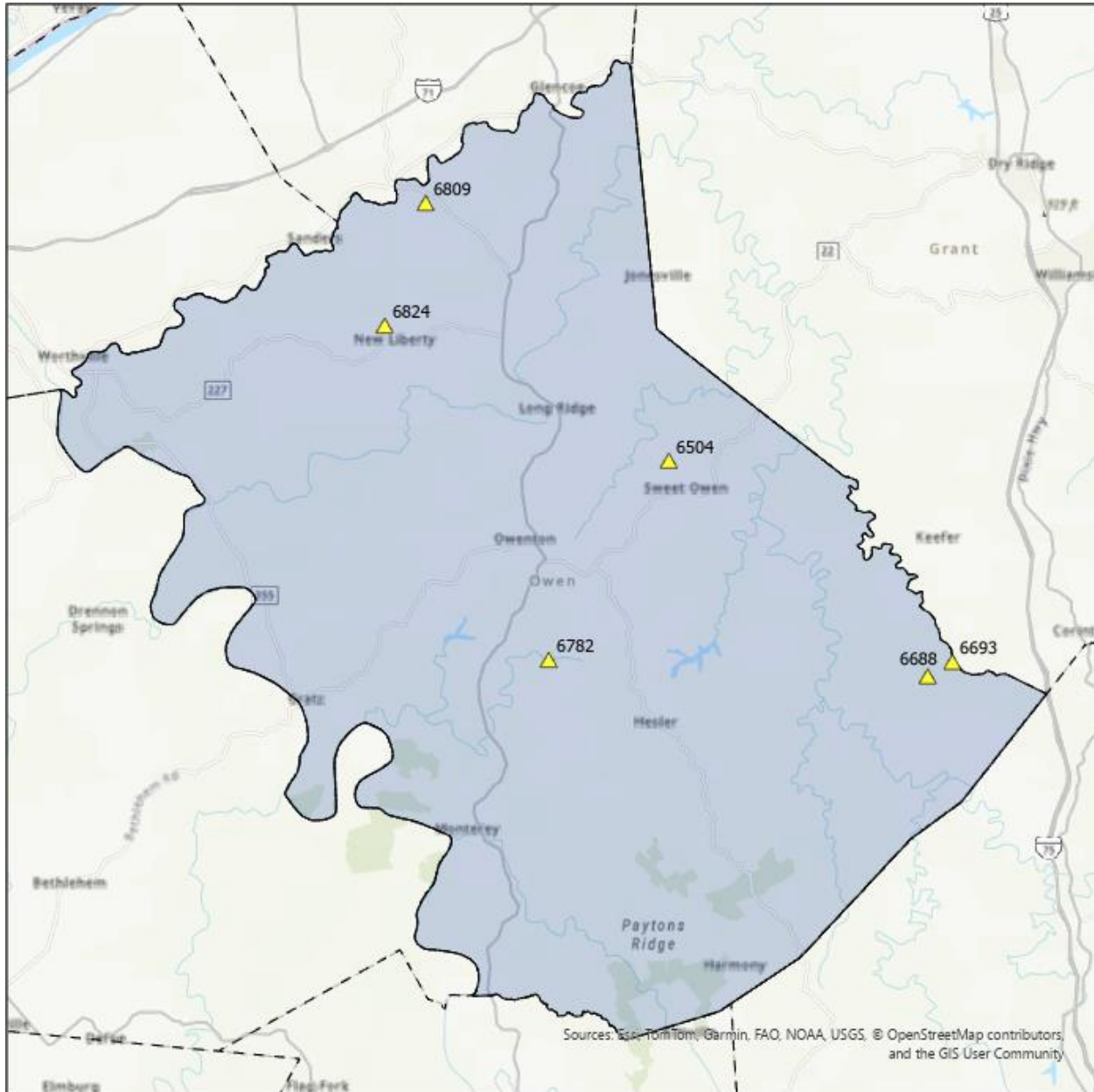


Exhibit Owen-F13: Intersection Locations

Point ID	RT_UNIQUE	Road Name	Vegetation	Comments	Recommendation
6504	094-CR-1020 -000	AGEE 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)
6688	094-CR-1102 -000	PLEASANT GROVE 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)
6693	094-CR-1102 -000	PLEASANT GROVE RD	No	Intersection Obscured on Approach; Steep hill	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
6782	094-CR-1202 -000	SLIPPERY ROCK RD	No	Other	Review Intersection; Issue noted as "Other"
6809	094-CR-1307 -000	NEW LIBERTY SPARTA RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
6824	094-CR-1307 -000	NEW LIBERTY SPARTA RD	No	Insufficient Sight Distance	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)

Exhibit Owen-F14: Intersection Recommendations

Other Recommendations (Owen County)

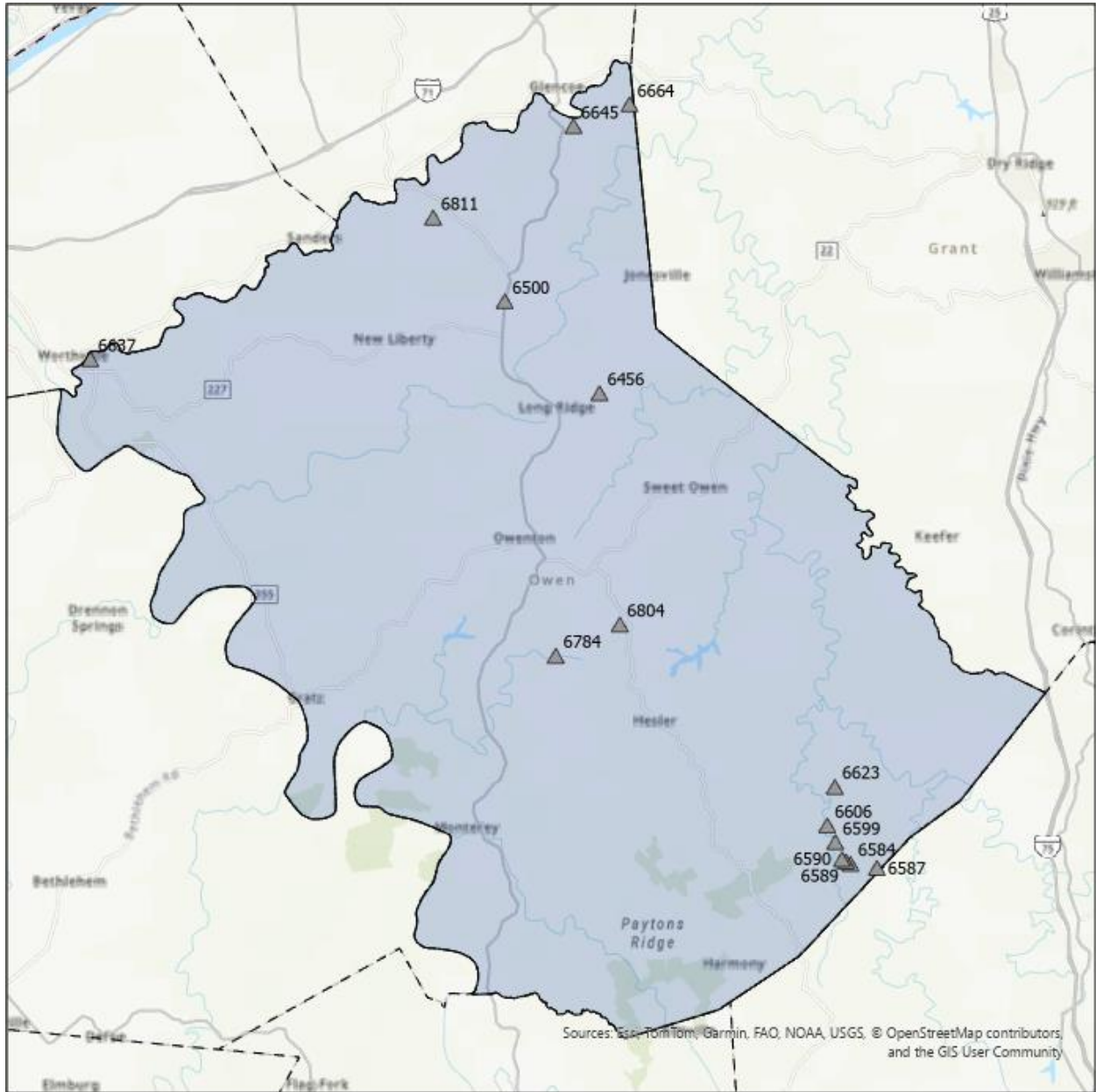
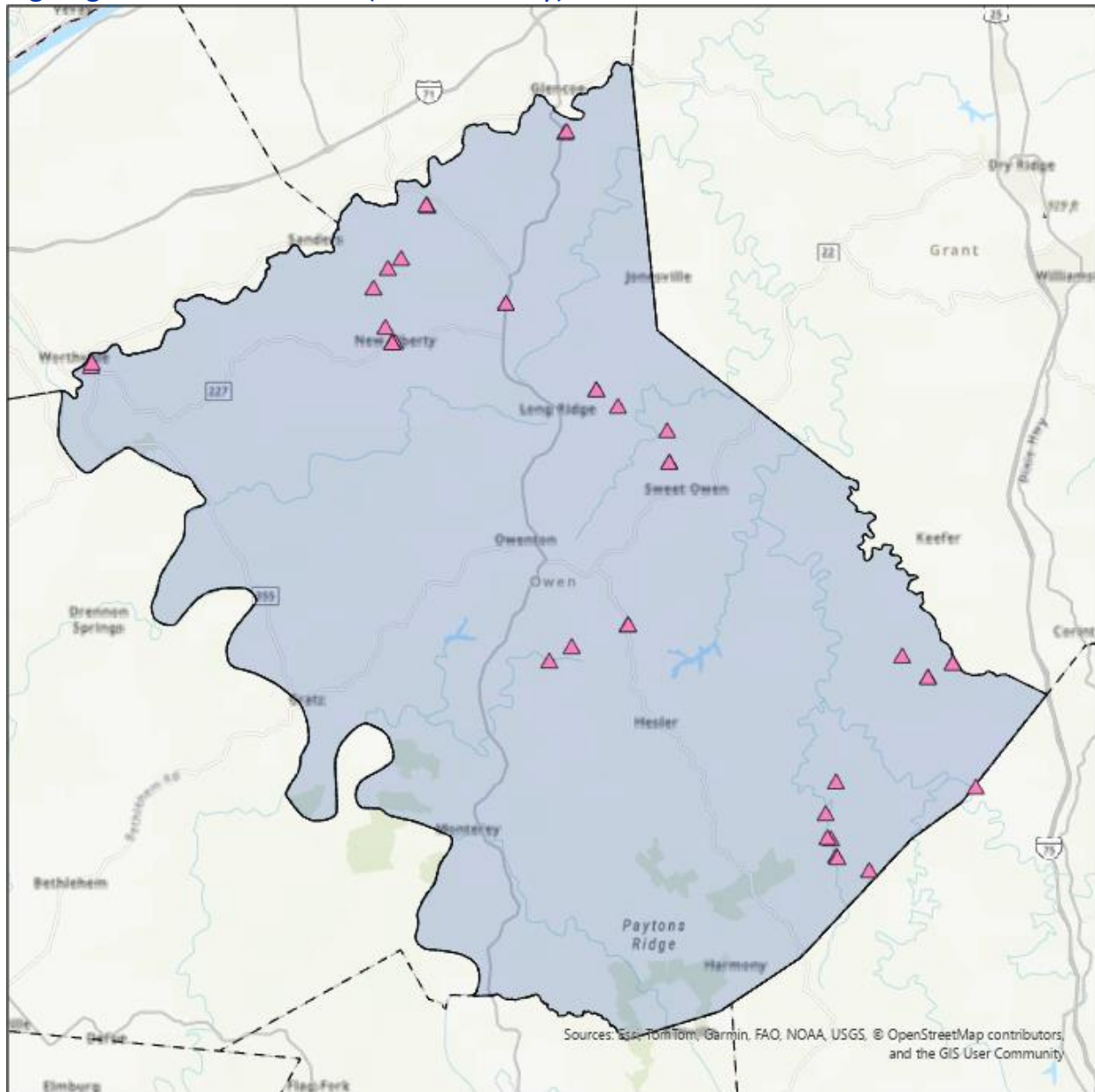


Exhibit Owen-F13: Intersection Locations

Point ID	RT_UNIQUE	RD_NAME	Description	Recommendation
6456	094-CR-1023 -000	HANDY LN	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
6500	094-CR-1305 -000	STEWART LN	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
6584	094-CR-1123 -000	ROCKDALE RD	Culvert;	Install Type 2 or 3 Object Marker(s)
6587	094-CR-1123 -000	ROCKDALE RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
6589	094-CR-1123 -000	ROCKDALE RD	Rock mailbox;	Install Type 2 or 3 Object Marker; See Policy Recommendations
6590	094-CR-1123 -000	ROCKDALE RD	Fence;	Consider removing/relocating fence
6599	094-CR-1123 -000	ROCKDALE RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
6606	094-CR-1123 -000	ROCKDALE RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
6623	094-CR-1123 -000	ROCKDALE RD	Culvert;	Install Type 2 or 3 Object Marker(s)
6637	094-CR-1337 -000	EAGLE CREEK CAMPGROUND RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
6645	094-CR-1032 -000	EAGLE HILL RD	Blind hill;	Install "Hill Blocks View" Sign (W7-6)
6664	094-CR-1032 -000	EAGLE HILL RD	Blind sight; Na	Install "Hill Blocks View" Sign (W7-6)
6784	094-CR-1202 -000	SLIPPERY ROCK RD	Fences;	Consider removing/relocating fence
6804	094-CR-1202 -000	SLIPPERY ROCK RD	Fence;	Consider removing/relocating fence
6811	094-CR-1307 -000	NEW LIBERTY SPARTA RD	Roadway flood;	Install "Road May Flood" (W8-18) sign(s)

Exhibit Owen-F14: Intersection Recommendations

Signing Recommendations (Owen County)



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/nkaddSAP>.

APPENDIX J: PENDLETON COUNTY SAFETY ACTION PLAN

Pendleton County Overview

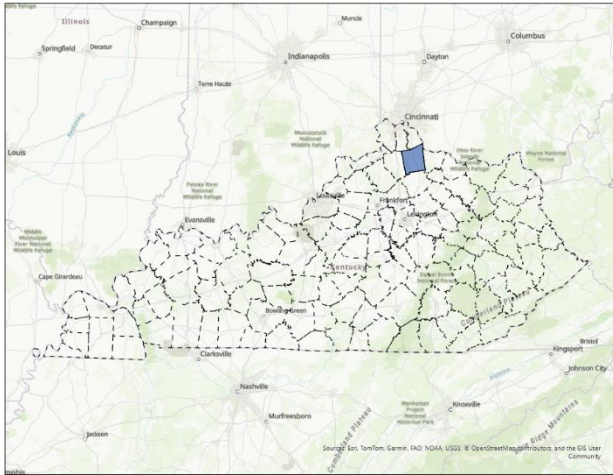


Exhibit Pendleton-1: Location Map

Key Information Table Pendleton County	
Population	14,810
Population in Persistent Poverty	18%
Underserved Community	No
Fatalities (All Roads)	8
Fatalities (County Roads)	0
Fatality rate per 100,000 persons	54.02
County Road Mileage	267.0
State Road Mileage	174.3
Total Mileage	441.3

Exhibit Pendleton-2: Key Information

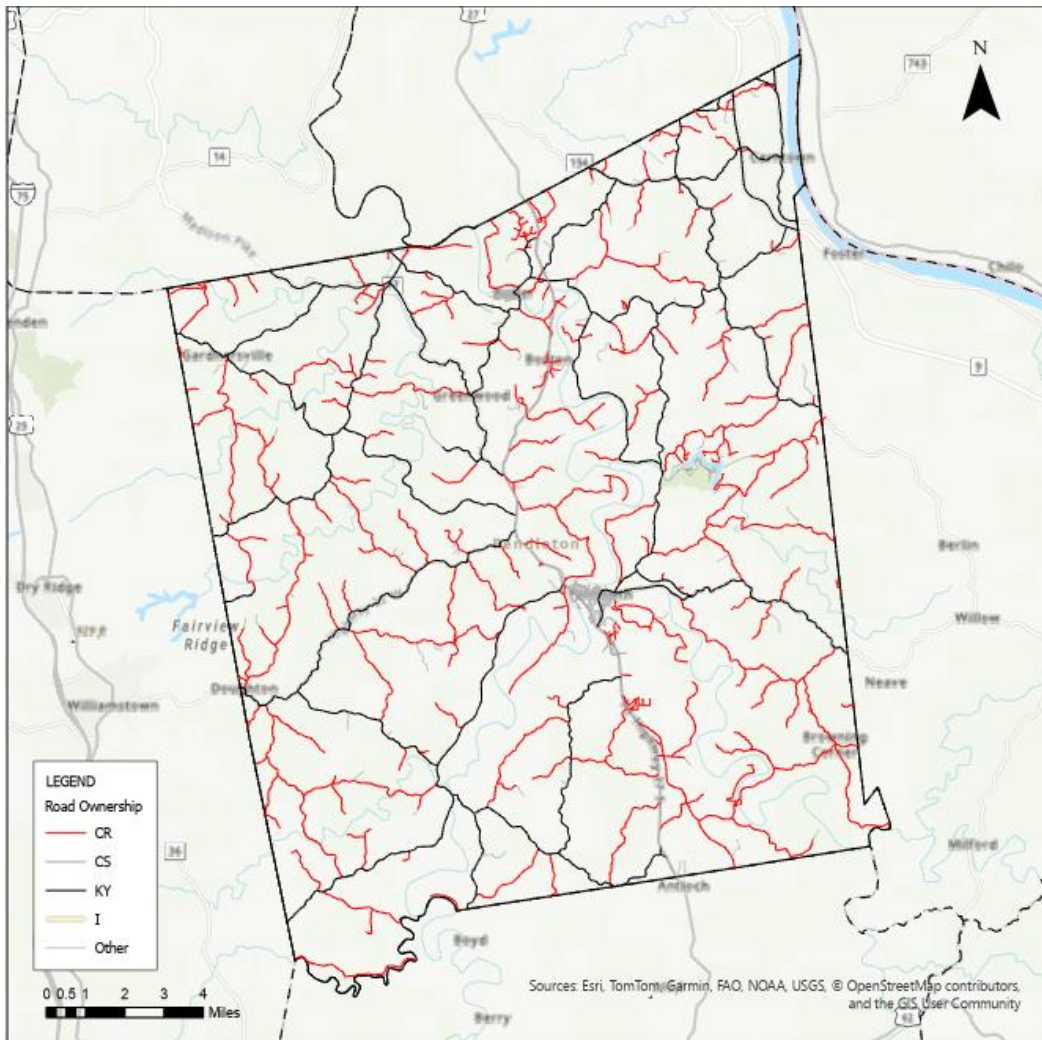


Figure Pendleton-3: Map of County Roadways

Crash Analysis

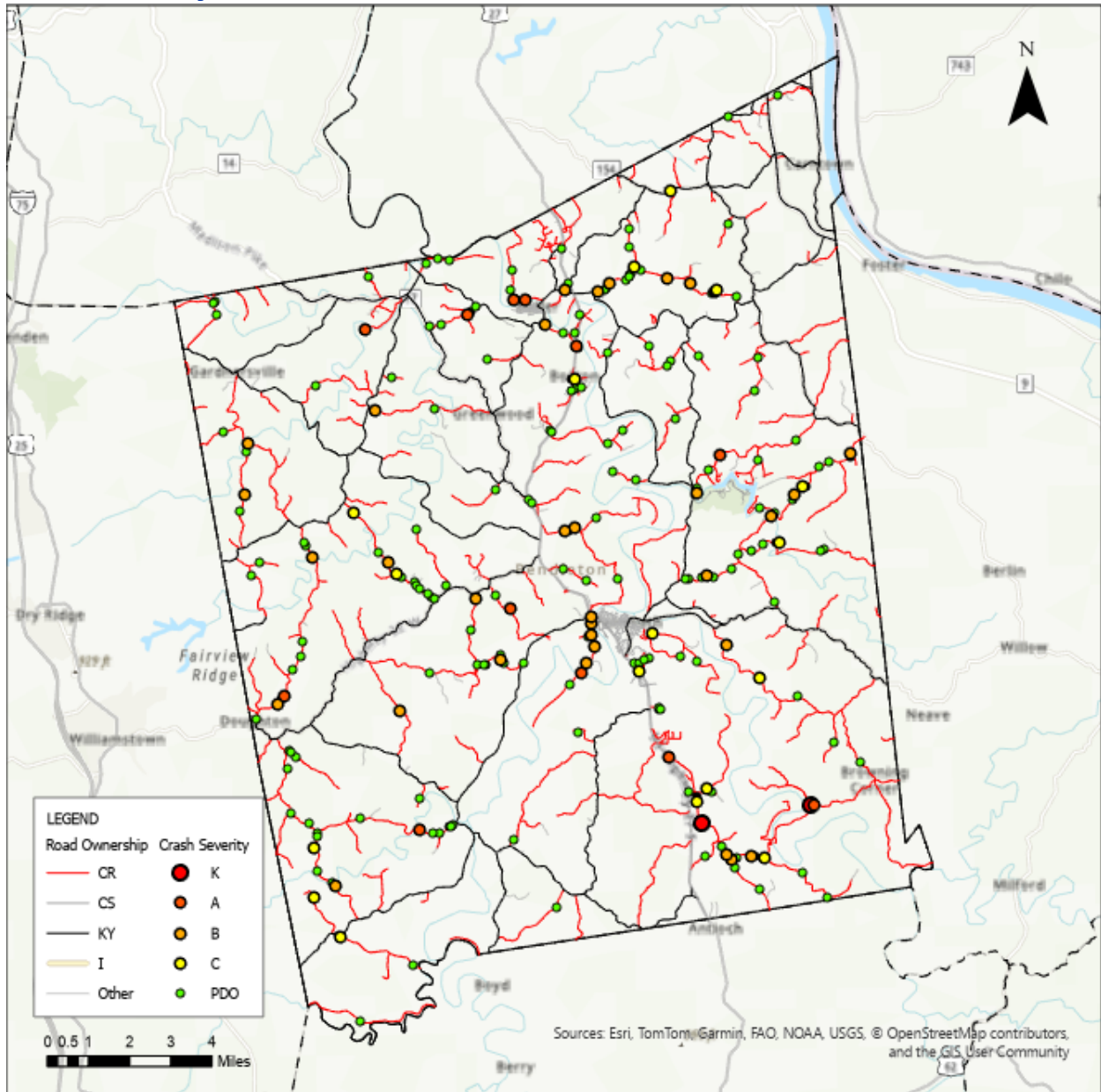


Figure Pendleton-4: Map of County Road Crashes

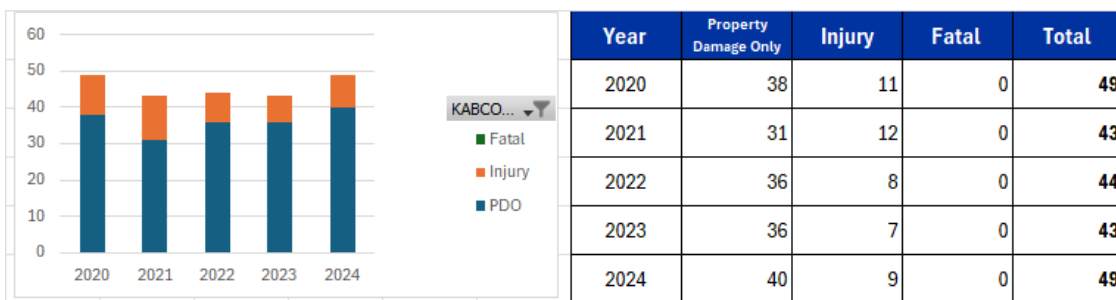


Table Pendleton-5: Crash Distribution by Year

Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	97	33	0	130
SS - Opp	40	4	0	44
Head On	10	6	0	16
Backing	11	0	0	11
Angle	9	1	0	10
SS - Same	9	0	0	9
Rear End	3	2	0	5
Left Turn	1	1	0	2
Rear to Rear	1	0	0	1

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

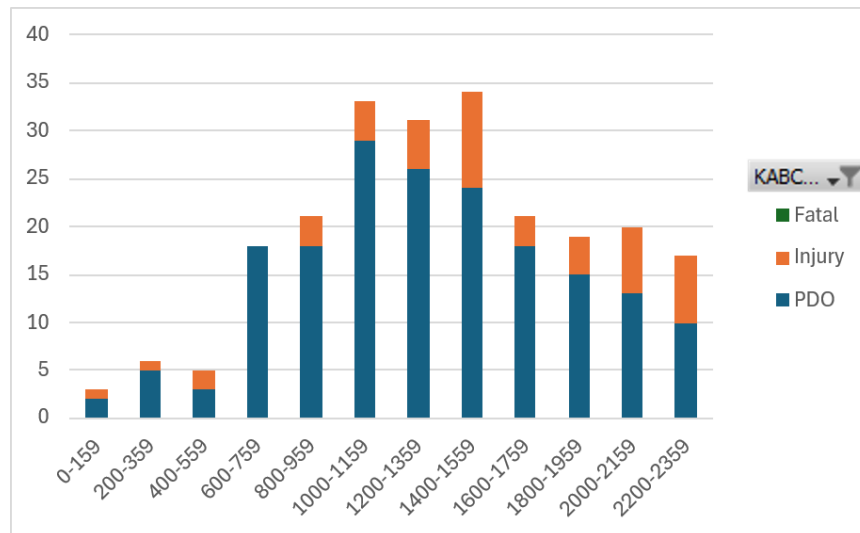


Exhibit Pendleton-7: Crashes and Severity by Time of Day

Focus Roadways

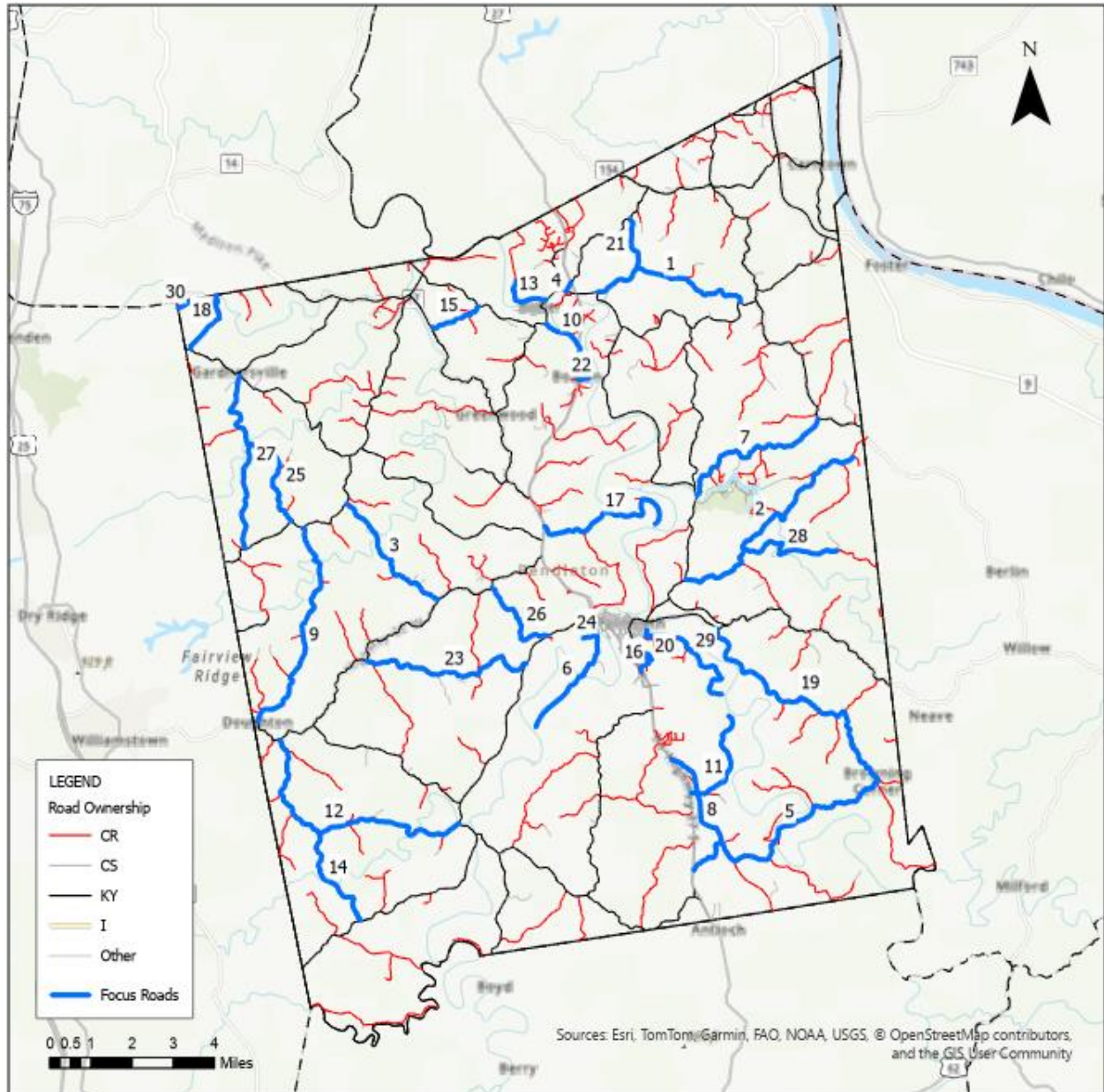


Exhibit Pendleton-8: Focus Roads

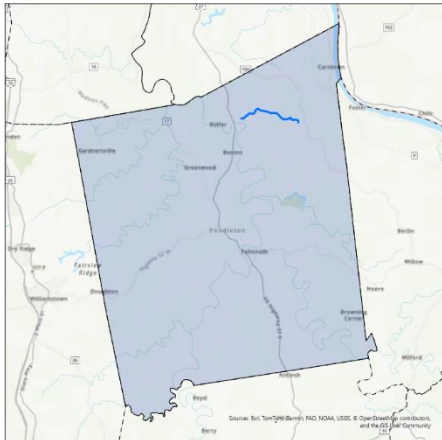
RT_UNIQUE	Length	County	AD	Road Name	Injury Crashes	Fatal Crashes	PDO	Crash Score	Use Score	Rank
Pendleton										
096-CR-1022 -000	4.233	Pendleton	NKADD	FLOUR CREEK RD	6	0	16	20.00	9.45	1
096-CR-1064 -000	6.683	Pendleton	NKADD	LENOXBURG RD	5	0	13	15.78	13.43	2
096-CR-1203 -000	3.59	Pendleton	NKADD	STRAIGHT SHOOT RD	3	0	9	9.71	11.04	3
096-CR-1072B -000	0.249	Pendleton	NKADD	LOCK RD	1	0	1	2.84	16.33	4
096-CR-1117 -000	5.371	Pendleton	NKADD	MCKINNEYSBURG RD	5	0	5	15.20	2.99	5
096-CR-1148 -000	3.474	Pendleton	NKADD	HAYES STATION RD	5	0	2	14.61	3.55	6
096-CR-1055 -000	4.376	Pendleton	NKADD	CONCORD-CADDO RD	2	0	7	7.65	10.47	7
096-CR-1127 -000	3.755	Pendleton	NKADD	OLD THREE L HWY	2	1	4	10.69	4.78	8
096-CR-1205 -000	5.928	Pendleton	NKADD	HOGG RIDGE RD	3	0	7	10.29	4.93	9
096-CR-1011 -000	1.211	Pendleton	NKADD	HOGBACK RIDGE RD	2	0	4	7.06	5.75	10
096-CR-1128 -000	2.834	Pendleton	NKADD	BISHOP RIDGE RD	2	0	1	5.49	5.92	11
096-CR-1216 -000	6.973	Pendleton	NKADD	GUMLUCK RD	1	0	10	5.59	5.28	12
096-CR-1331 -000	1.385	Pendleton	NKADD	RIVER RD	2	0	2	7.65	1.31	13
096-CR-1223 -000	2.754	Pendleton	NKADD	JOHN DENNY RD	2	0	4	6.08	2.53	14
096-CR-1327 -000	1.376	Pendleton	NKADD	KIDWELL RD	1	0	5	4.61	3.63	15
096-CR-1151A -000	0.362	Pendleton	NKADD	SOUTHSIDE CHURCH RD	1	0	0	2.65	5.41	16
096-CR-1001 -000	4.198	Pendleton	NKADD	CATAWBA RD	2	0	3	5.88	2.16	17
096-CR-1318 -000	1.662	Pendleton	NKADD	CARTERS CHAPEL RD	0	0	3	0.59	7.39	18
096-CR-1110 -000	6.931	Pendleton	NKADD	MILFORD RD	2	0	2	5.69	1.52	19
096-CR-1151D -000	0.445	Pendleton	NKADD	NORTH RONDA AVE	0	0	2	0.39	6.64	20
096-CR-1021 -000	1.355	Pendleton	NKADD	VATER RD	2	0	3	5.88	1.10	21
096-CR-1007C -000	0.3	Pendleton	NKADD	BRADFORD RD	1	0	2	3.04	3.52	22
096-CR-1237 -000	4.707	Pendleton	NKADD	FISHING CREEK RD	1	0	7	4.02	2.54	23
096-CR-1115 -000	0.352	Pendleton	NKADD	SOUTHFORK DR	1	0	1	2.84	3.55	24
096-CR-1309 -000	2.753	Pendleton	NKADD	JAGG RD	1	0	0	2.65	3.61	25
096-CR-1241 -000	2.35	Pendleton	NKADD	TURNER RIDGE RD	1	0	1	3.82	2.36	26
096-CR-1305 -000	4.923	Pendleton	NKADD	KNOXVILLE-GARDNERSVIL	1	0	2	3.04	2.82	27
096-CR-1067 -000	4.094	Pendleton	NKADD	NEW ZION RD	1	0	6	3.82	1.98	28
096-CR-1130 -000	3.53	Pendleton	NKADD	WAGNERS FERRY RD	1	0	1	2.84	2.69	29
096-CR-1319 -000	1.005	Pendleton	NKADD	EAST ROGERS RD	1	0	0	2.65	2.63	30
096-CR-1221 -000	2.302	Pendleton	NKADD	JACKS BRANCH RD	1	0	2	3.04	2.16	31
096-CR-1236 -000	2.838	Pendleton	NKADD	MCNAY RD	1	0	0	2.65	2.32	32
096-CR-1019 -000	0.852	Pendleton	NKADD	OLD US 27	0	0	1	0.20	4.70	33
096-CR-1239 -000	2.132	Pendleton	NKADD	MCGRAW RD	1	0	2	3.04	1.70	34
096-CR-1339 -000	3.512	Pendleton	NKADD	GREENWOOD PORTLAND P	1	0	1	2.84	1.75	35
096-CR-1048 -000	1.611	Pendleton	NKADD	DAVIS RD	0	0	1	0.20	4.29	36

Exhibit Pendleton-9: List of Focus Roadways

Recommended Improvements (Top 5 Roads)

FLOUR CREEK RD (096-CR-1022 -000)

Road Location Map and Crash History

	Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	6	3	0	9	
SS - Opp	3	0	0	3	
Head On	0	1	0	1	
Backing	1	0	0	1	
Angle	1	0	0	1	
Rear End	1	0	0	1	
Rear to Rear	0	0	0	0	
Left Turn	0	0	0	0	
SS - Same	0	0	0	0	

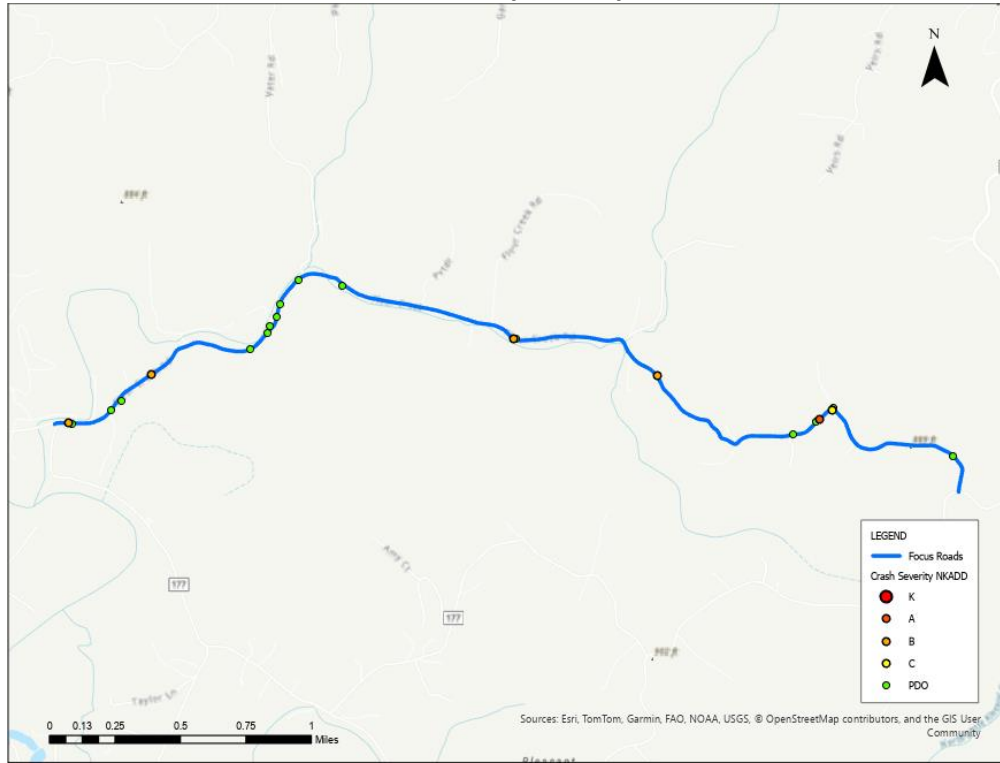
General Roadway Conditions

Roadway Section Data Not Collected

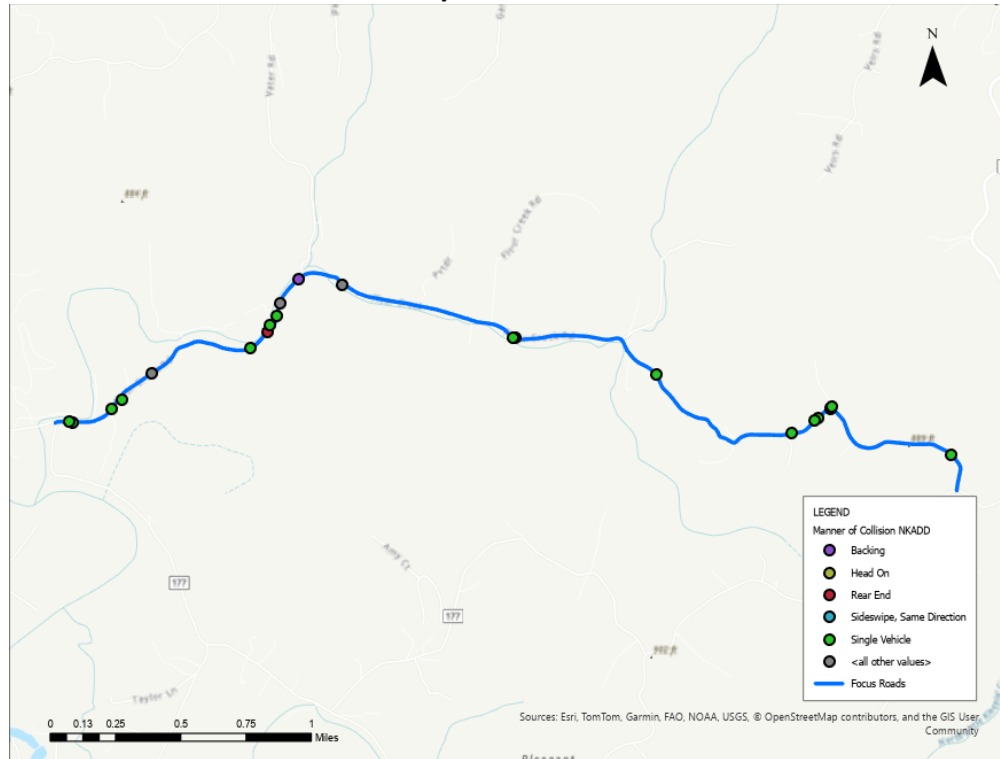
Roadway Typical Section



Crashes by Severity



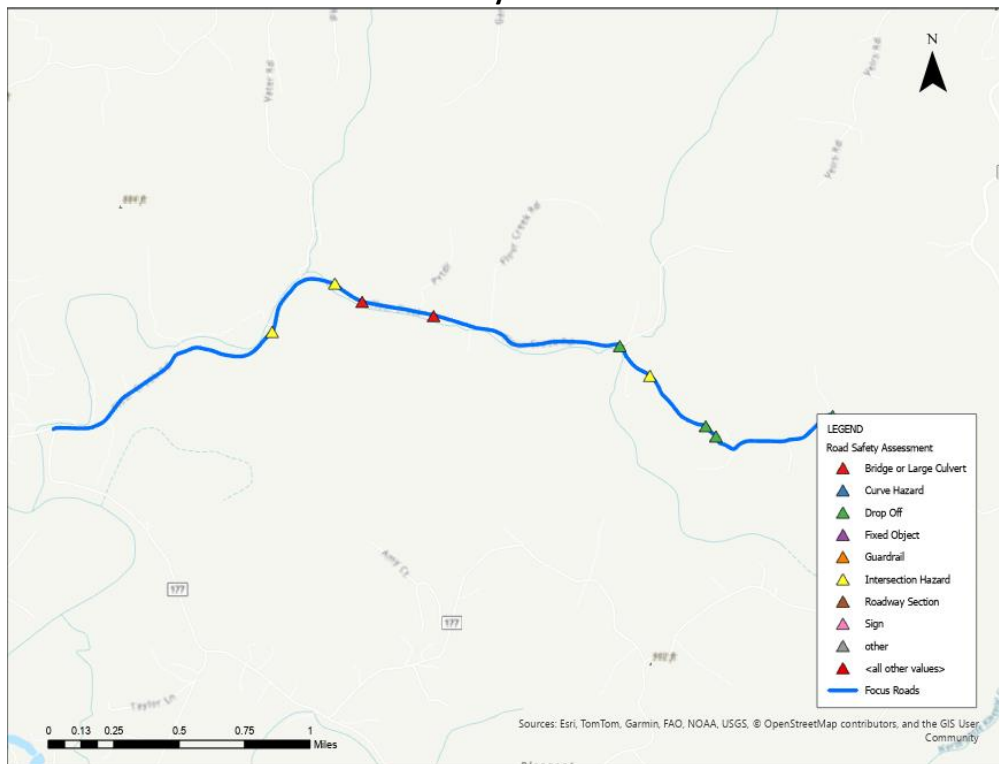
Crashes by Manner of Collision



Crashes by Road Condition



Road Safety Assessment

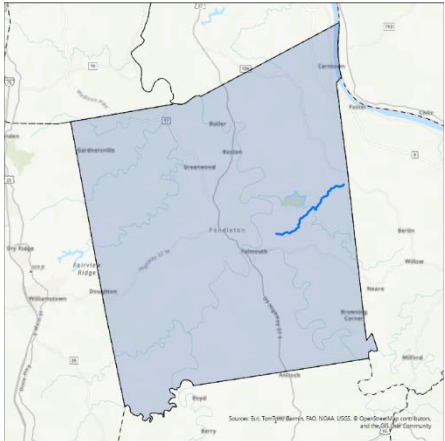


General Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0
2458	096-CR-1022 -000	FLOUR CREEK RD	Drop Off	3-5	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)
2462	096-CR-1022 -000	FLOUR CREEK RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)
2464	096-CR-1022 -000	FLOUR CREEK RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)
2465	096-CR-1022 -000	FLOUR CREEK RD	Drop Off	0-1	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)
2467	096-CR-1022 -000	FLOUR CREEK RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation	
2457	096-CR-1022 -000	FLOUR CREEK RD	Intersection	Yes	--	Intersection Skew, Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2459	096-CR-1022 -000	FLOUR CREEK RD	Intersection	Yes	--	Intersection Skew, Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
2466	096-CR-1022 -000	FLOUR CREEK RD	Intersection	No	--	Intersection Obscured on Approach, Insufficient Sight Distance at	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)
2470	096-CR-1022 -000	FLOUR CREEK RD	Intersection	Yes	--	Intersection Skew; Intersection comes out onto a three way stop	Clear vegetation and evaluate sight distance ; Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
2475	096-CR-1022 -000	FLOUR CREEK RD	Intersection	No	--	Intersection Skew; Intersection comes out on hwy177 west at the butler bridge sight distance is bad coming off river road	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
2468	096-CR-1022 -000	FLOUR CREEK 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)
2469	096-CR-1022 -000	FLOUR CREEK RD	Bridge or Large Culvert	14	4	2	Evaluate need for Type 3 Object Markers
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation
2460	096-CR-1022 -000	FLOUR CREEK RD	Curve Hazard	Yes	--	other; No signage	Install Curve Warning Sign; Clear Vegetation

LENOXBURG RD (096-CR-1064 -000)

Road Location Map and Crash History

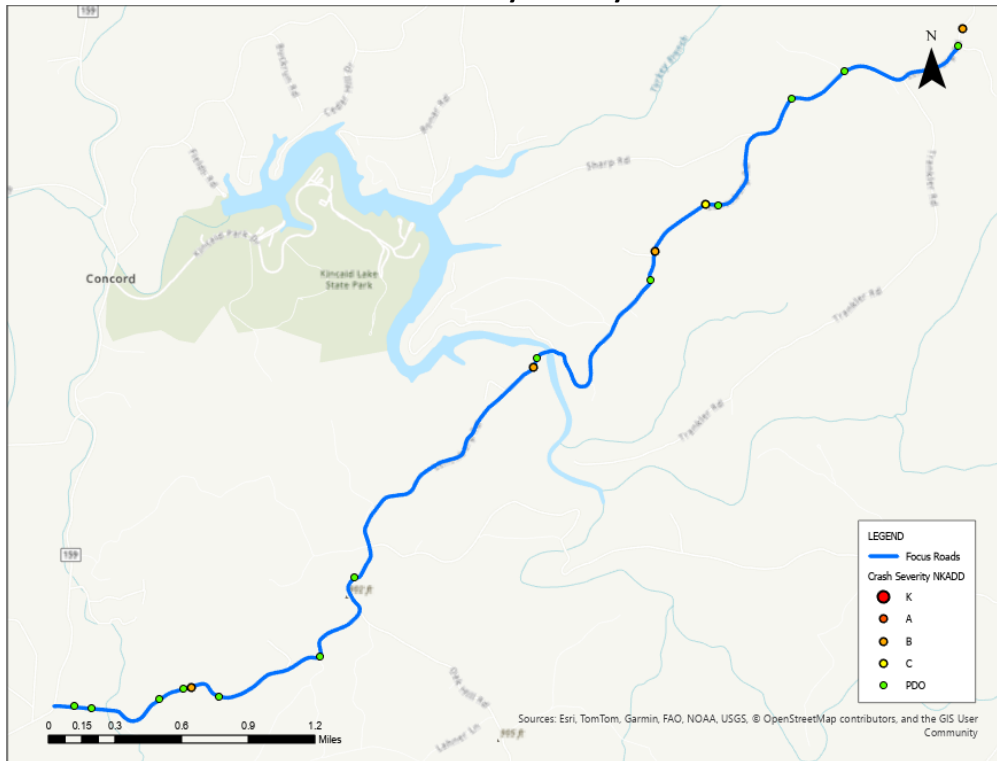
	Manner of Collision	Property Damage Only	Injury	Fatal	Total
Single Vehicle	7	1	0	8	
SS - Opp	3	0	0	3	
Head On	1	1	0	2	
Rear End	0	2	0	2	
SS - Same	1	0	0	1	
Backing	0	0	0	0	
Angle	0	0	0	0	
Left Turn	0	0	0	0	
Rear to Rear	0	0	0	0	

General Roadway Conditions
Roadway Section Data Not Collected

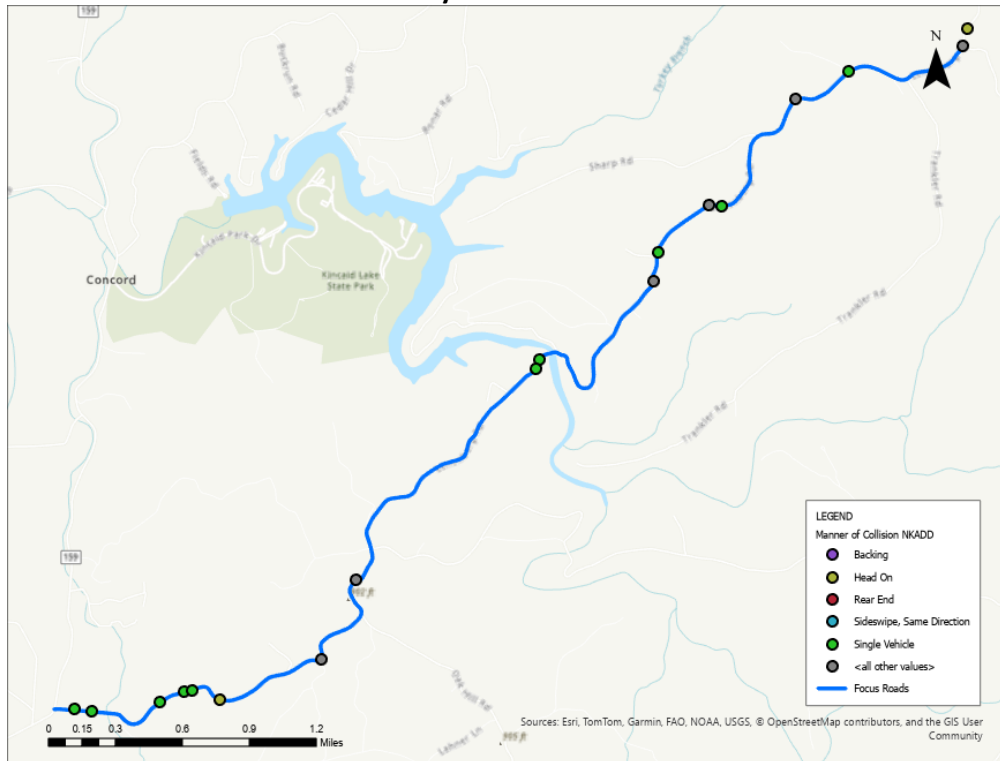
Roadway Typical Section



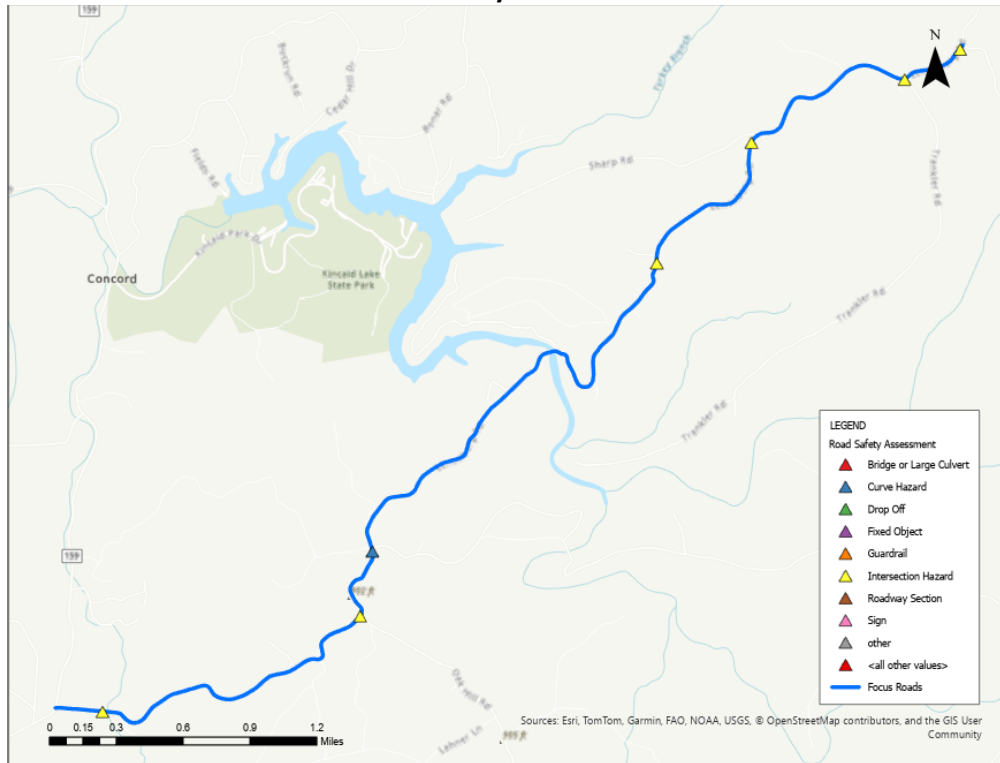
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment

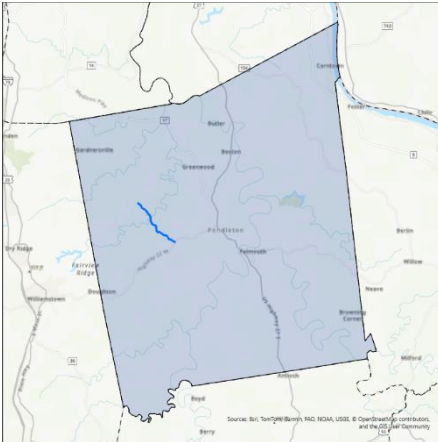


General Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation	
2485	096-CR-1064 -000	LENOXBURG RD	Intersection	No	--	Intersection Skew	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
2486	096-CR-1064 -000	LENOXBURG RD	Intersection	No	--	Intersection Skew	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
2488	096-CR-1064 -000	LENOXBURG RD	Intersection	No	--	Intersection Obscured on Approach, Intersection Skew	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
2489	096-CR-1064 -000	LENOXBURG RD	Intersection	No	--	Intersection Skew	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
2490	096-CR-1064 -000	LENOXBURG RD	Intersection	No	--	Intersection Skew	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
2491	096-CR-1064 -000	LENOXBURG RD	Intersection	No	--	Intersection Skew, Intersection Obscured on Approach	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	0	Comments	Recommendation
2487	096-CR-1064 -000	LENOXBURG RD	Curve Hazard	No	--	other; No signage	Install Curve Warning Sign; Evaluate other obstructions

STRAIGHT SHOOT RD (096-CR-1203 -000)

Road Location Map and Crash History

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

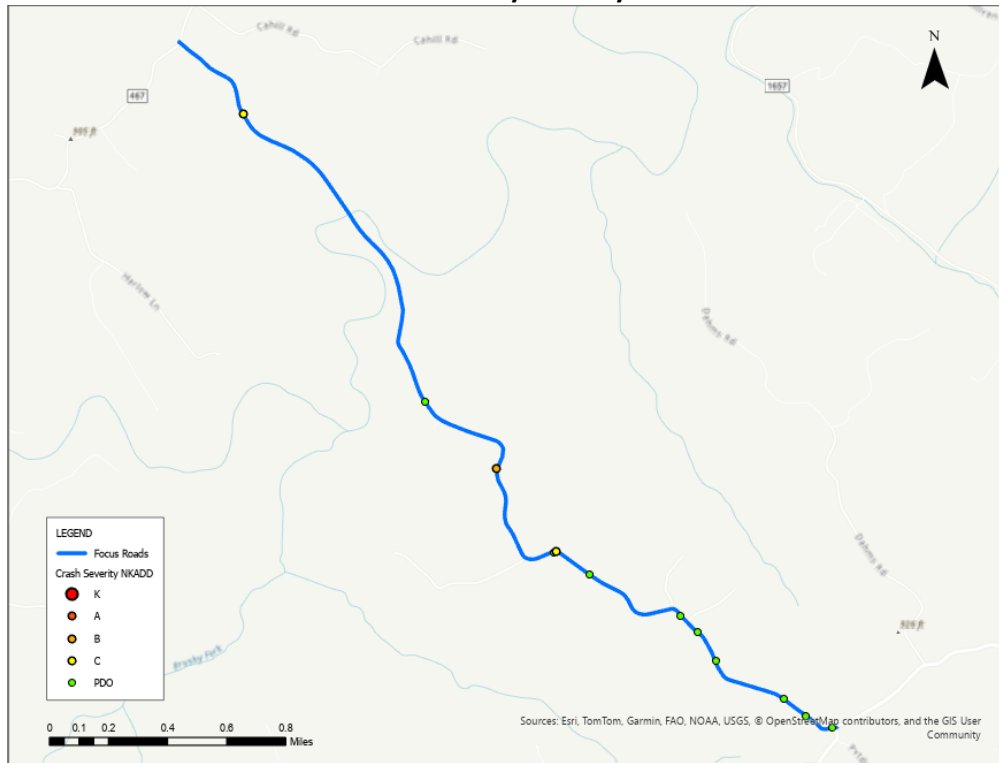
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rati
2372	096-CR-1203 -000	STRAIGHT SHOOT RD	12	3	2
2375	096-CR-1203 -000	STRAIGHT SHOOT RD	12	3	2

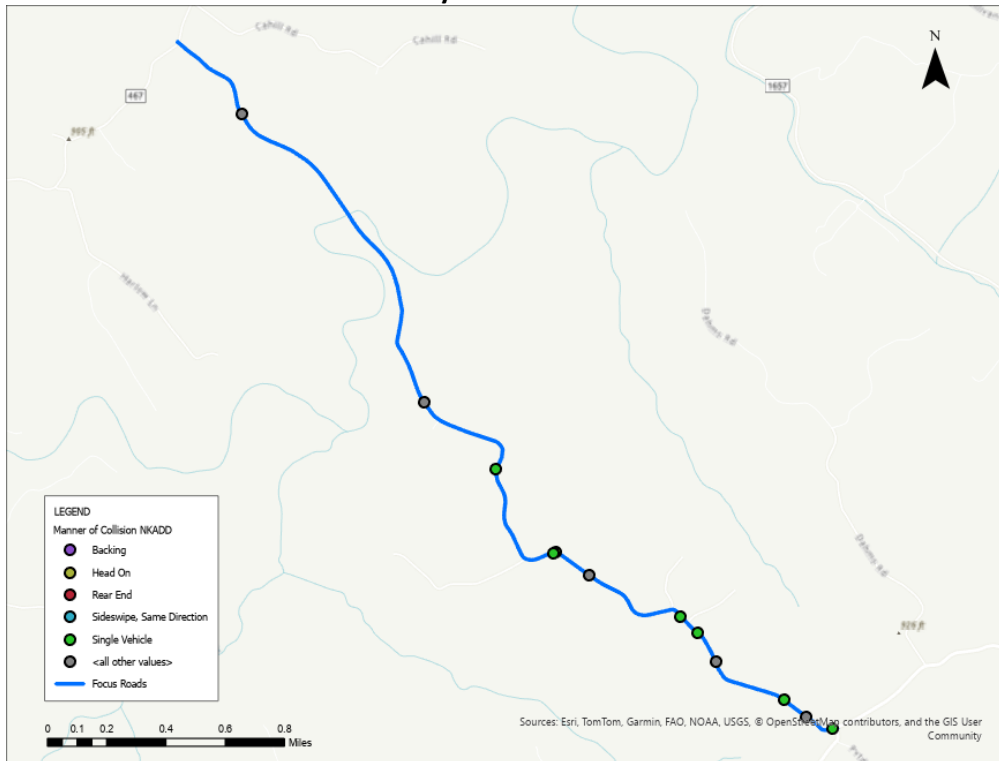
Roadway Typical Section



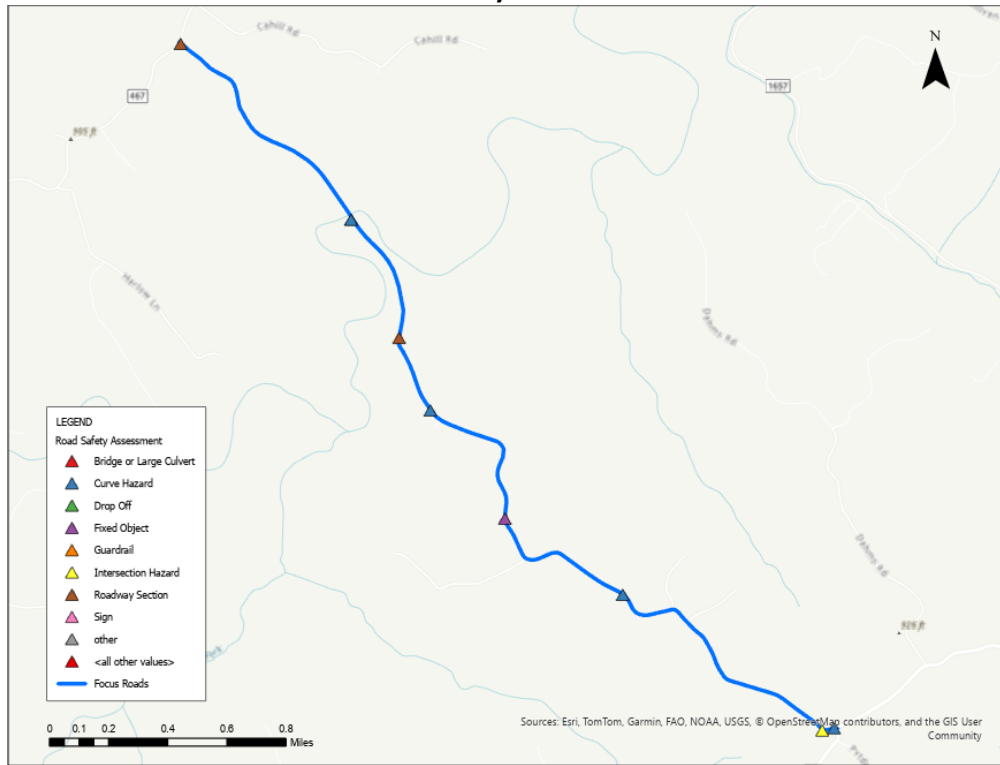
Crashes by Severity



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	Edgeline	Curve Signin	Other Recommendations
2372	096-CR-1203 -000	STRAIGHT SHOOT RD	12	3	2	20-40	✓	✓	✓	
2375	096-CR-1203 -000	STRAIGHT SHOOT RD	12	3	2	20-40	✓	✓	✓	

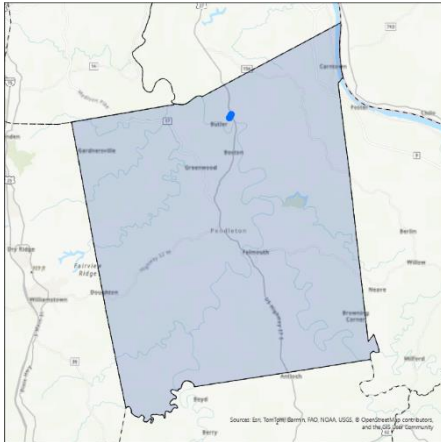
Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
2377	096-CR-1203 -000	STRAIGHT SHOOT RD	Fixed Object	Tree;	Single	1-3	Remove
2379	096-CR-1203 -000	STRAIGHT SHOOT RD	Intersection	No	--	Intersection Skew; Intersection comes out on highway 330 looking east has heavy vegetation	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew

Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
2373	096-CR-1203 -000	STRAIGHT SHOOT RD	Bridge or Large Culvert	16	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
2374	096-CR-1203 -000	STRAIGHT SHOOT RD	Curve Hazard	Yes	--	other; No signage warning for curve	Install Curve Warning Sign; Clear Vegetation
2376	096-CR-1203 -000	STRAIGHT SHOOT RD	Curve Hazard	Yes	--	other; No signage	Install Curve Warning Sign; Clear Vegetation
2378	096-CR-1203 -000	STRAIGHT SHOOT RD	Curve Hazard	Yes	--	other; Large drop off at curve	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker or Delineator at dropoff
2380	096-CR-1203 -000	STRAIGHT SHOOT RD	Curve Hazard	Yes	--	other;	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions

LOCK RD (096-CR-1072B -000)

Road Location Map and Crash History



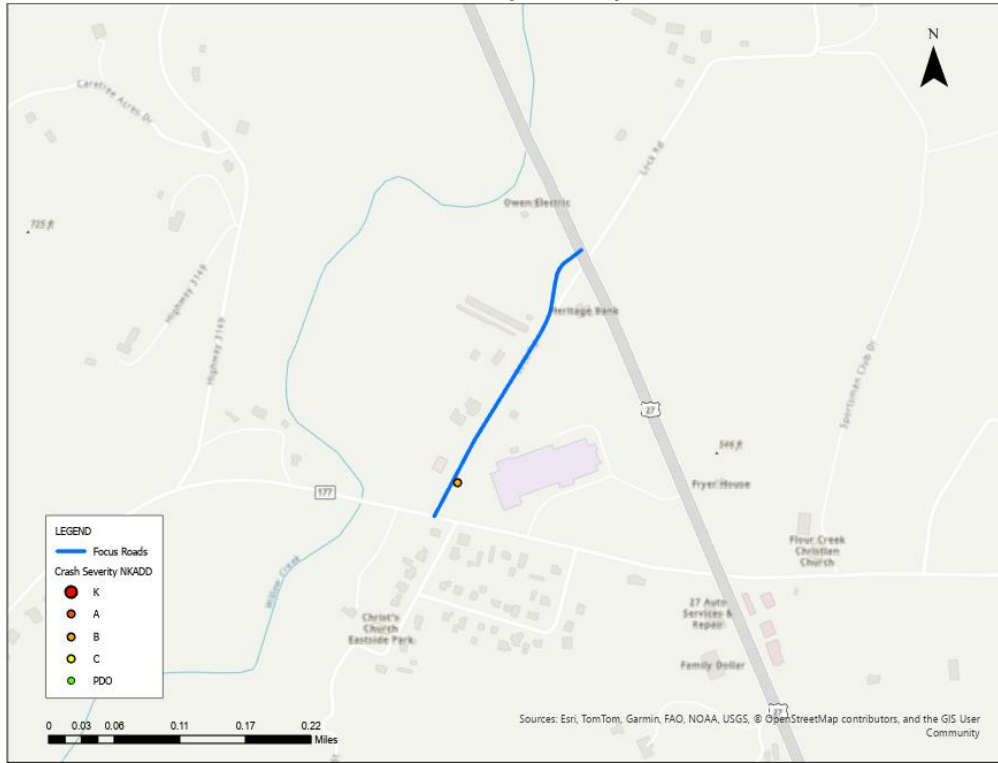
Manner of Collision	Property Damage Only	Injury	Fatal	Total
Backing	1	0	0	1
SS - Same	1	0	0	1
Left Turn	0	0	0	0
SS - Opp	0	0	0	0
Head On	0	0	0	0
Single Vehicle	0	0	0	0
Angle	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

General Roadway Conditions
Roadway Section Data Not Collected

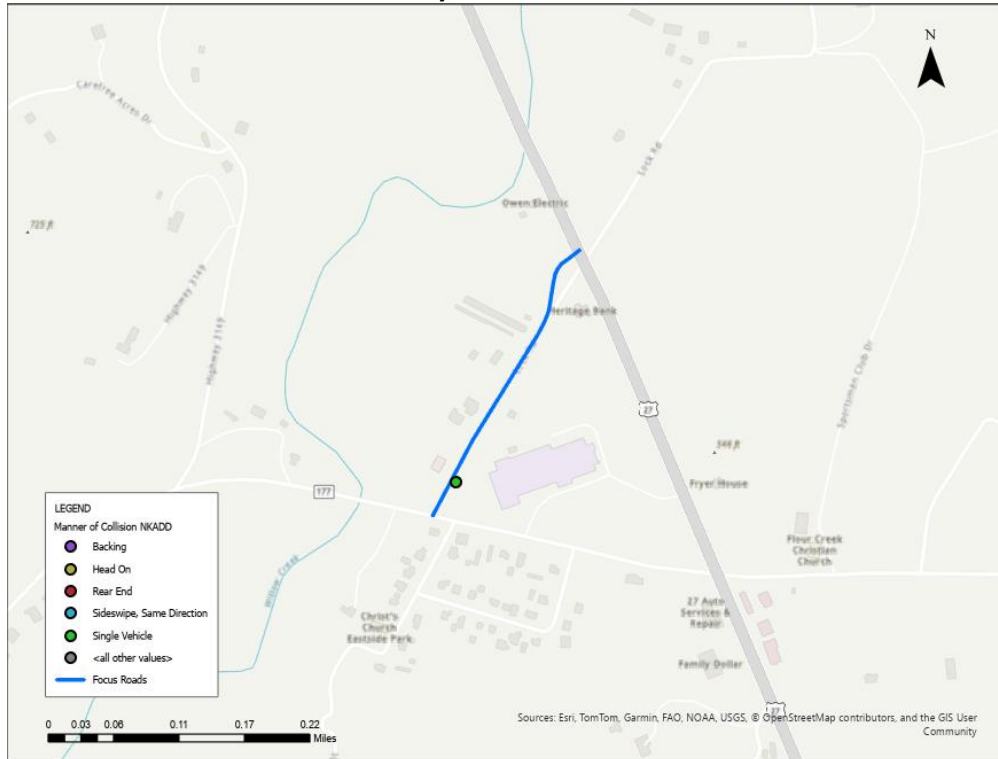
Roadway Typical Section



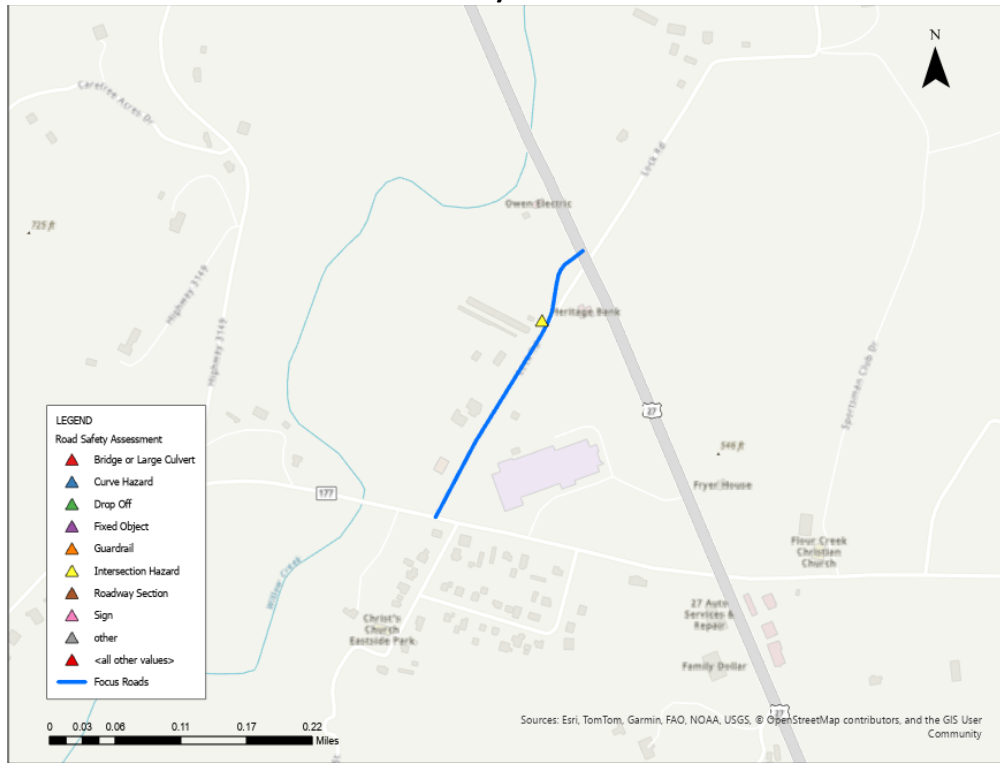
Crashes by Severity



Crashes by Manner of Collision



Road Safety Assessment



General Recommendations

Point ID	RT_UNIQUE	Road Name	Issue Type	Object	Single / Series	Offset	Recommendation
2377	096-CR-1203 -000	STRAIGHT SHOOT RD	Fixed Object	Tree;	Single	1-3	Remove
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation	
2379	096-CR-1203 -000	STRAIGHT SHOOT RD	Intersection	No	--	Intersection Skew; Intersection comes out on highway 330 looking east has heavy vegetation	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation
2373	096-CR-1203 -000	STRAIGHT SHOOT RD	Bridge or Large Culvert	16	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
2374	096-CR-1203 -000	STRAIGHT SHOOT RD	Curve Hazard	Yes	--	other; No signage warning for curve	Install Curve Warning Sign; Clear Vegetation
2376	096-CR-1203 -000	STRAIGHT SHOOT RD	Curve Hazard	Yes	--	other; No signage	Install Curve Warning Sign; Clear Vegetation
2378	096-CR-1203 -000	STRAIGHT SHOOT RD	Curve Hazard	Yes	--	other; Large drop off at curve	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker or Delineator at dropoff
2380	096-CR-1203 -000	STRAIGHT SHOOT RD	Curve Hazard	Yes	--	other;	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions

MCKINNEYSBURG RD (096-CR-1117 -000)

Road Location Map and Crash History

Manner of Collision	Crash History			
	Property Damage Only	Injury	Fatal	Total
Single Vehicle	3	4	0	7
SS - Same	0	0	0	0
SS - Opp	0	0	0	0
Left Turn	0	0	0	0
Head On	0	0	0	0
Backing	0	0	0	0
Angle	0	0	0	0
Rear to Rear	0	0	0	0
Rear End	0	0	0	0

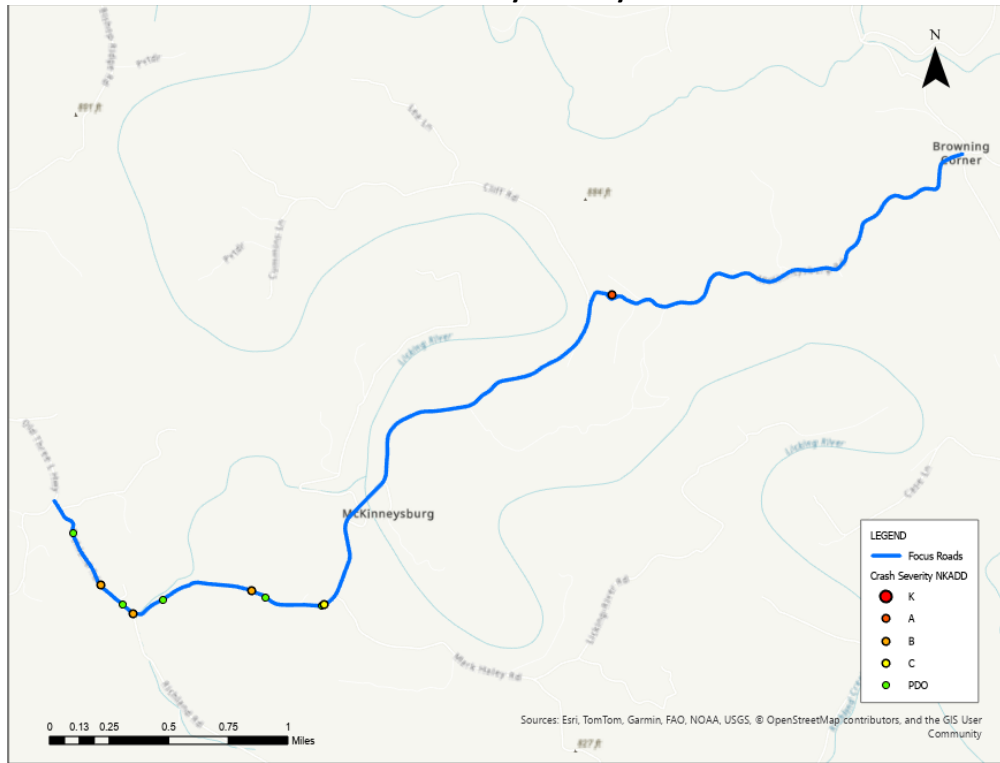
General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Condition	Roadside Hazard Rate
2541	096-CR-1117 -000	MCKINNEYSBURG RD	12	3	2

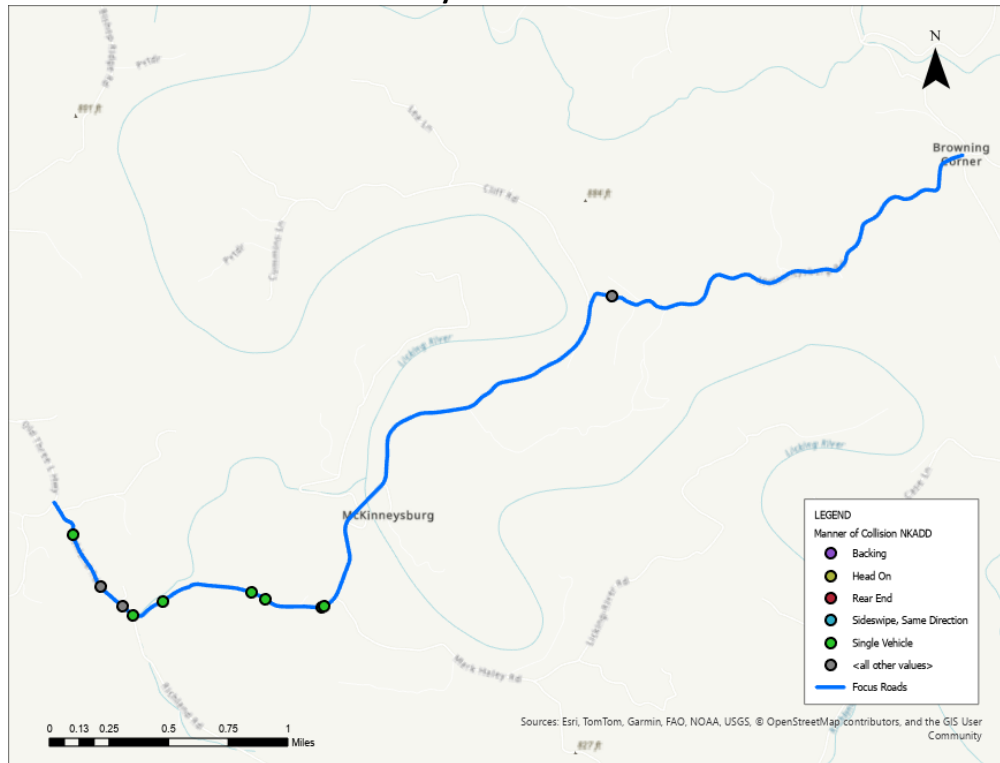
Roadway Typical Section



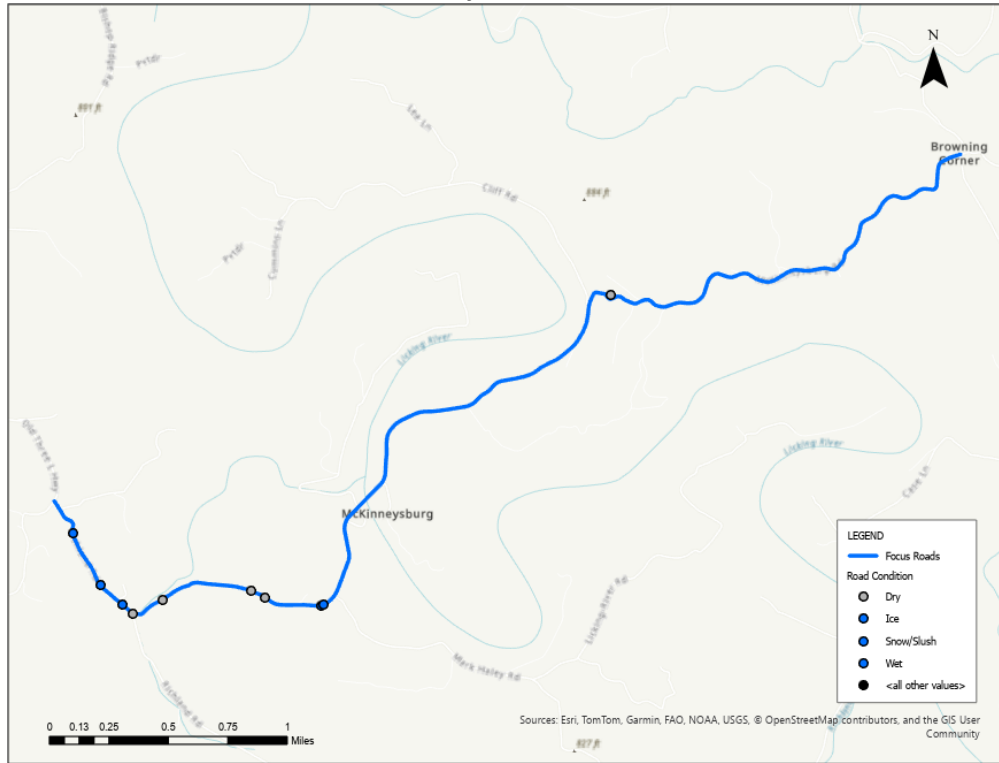
Crashes by Severity



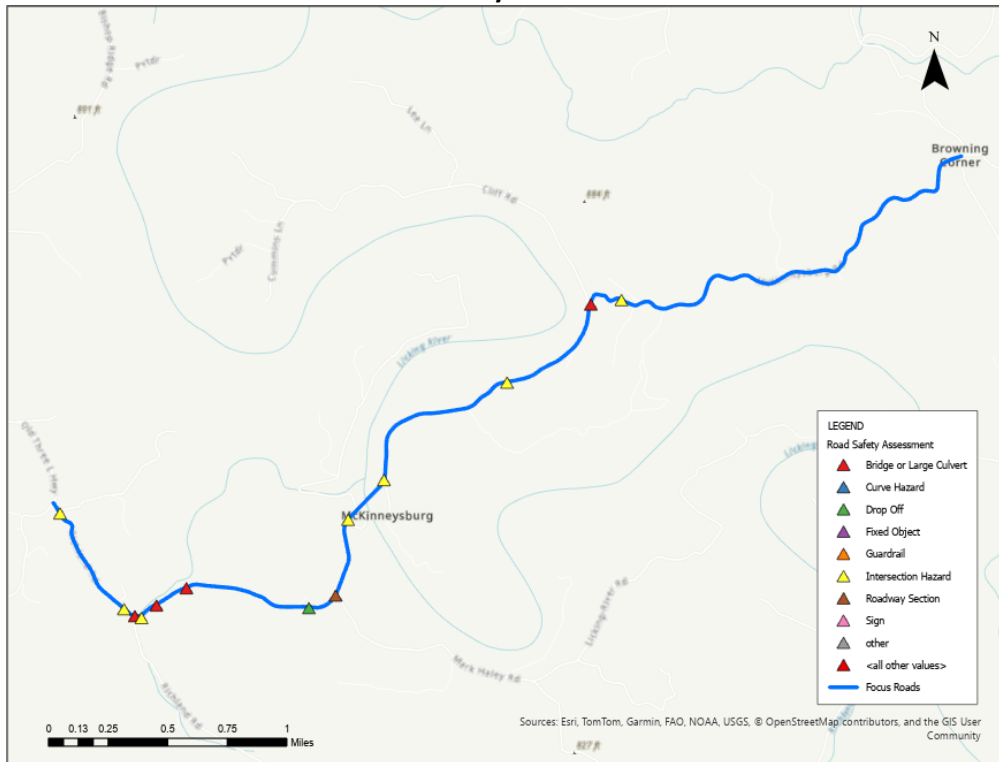
Crashes by Manner of Collision



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	Improve Should	Edgeline	Curve Signin	Other Recommendations
2541	096-CR-1117 -000	MCKINNEYSBURG RD	12	3	2	20-40	✓	✓	✓	
Point ID	RT_UNIQUE	Road Name	Issue Type	Drop Off Offset	Drop Off Height	Recommendation	0			
2542	096-CR-1117 -000	MCKINNEYSBURG RD	Drop Off	1-3	2-5	--	Install Type 2 Object Marker(s) or Delineator(s)			
Point ID	RT_UNIQUE	Road Name	Issue Type	Vegetation	--	Recommendation				
2536	096-CR-1117 -000	MCKINNEYSBURG RD	Intersection	No	--	Intersection Obscured on Approach, Intersection Skew	Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew			
2538	096-CR-1117 -000	MCKINNEYSBURG RD	Intersection	Yes	--	Intersection Skew, Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)			
2539	096-CR-1117 -000	MCKINNEYSBURG RD	Intersection	Yes	--	Intersection Obscured on Approach, Intersection Skew, Insufficient Sight Distance at				
2540	096-CR-1117 -000	MCKINNEYSBURG RD	Intersection	Yes	--	Intersection Skew, Insufficient Sight Distance	Clear vegetation and evaluate sight distance ; Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X)			
2545	096-CR-1117 -000	MCKINNEYSBURG RD	Intersection	No	--	Intersection Skew	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew			
2547	096-CR-1117 -000	MCKINNEYSBURG RD	Intersection	Yes	--	Insufficient Sight Distance, Intersection Skew	Clear vegetation and evaluate sight distance ; Install Advance Traffic Control Signs (W3-X) and Intersection Warning Signs (W2-X); Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew			
2548	096-CR-1117 -000	MCKINNEYSBURG RD	Intersection	No	--	Intersection Skew	Consider pavement markings including extended dotted edgeline and stop bar. Evaluate for reduction of intersection skew			
Point ID	RT_UNIQUE	Road Name	Issue Type	Bridge Width	Guardrail Present	OM Present	Recommendation			
2537	096-CR-1117 -000	MCKINNEYSBURG 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)			
2543	096-CR-1117 -000	MCKINNEYSBURG 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)			
2544	096-CR-1117 -000	MCKINNEYSBURG RD	Bridge or Large Culvert	10	0	1	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)			
2546	096-CR-1117 -000	MCKINNEYSBURG 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)			

Other Roadways

General Roadway Conditions and Recommendations (Pendleton County)

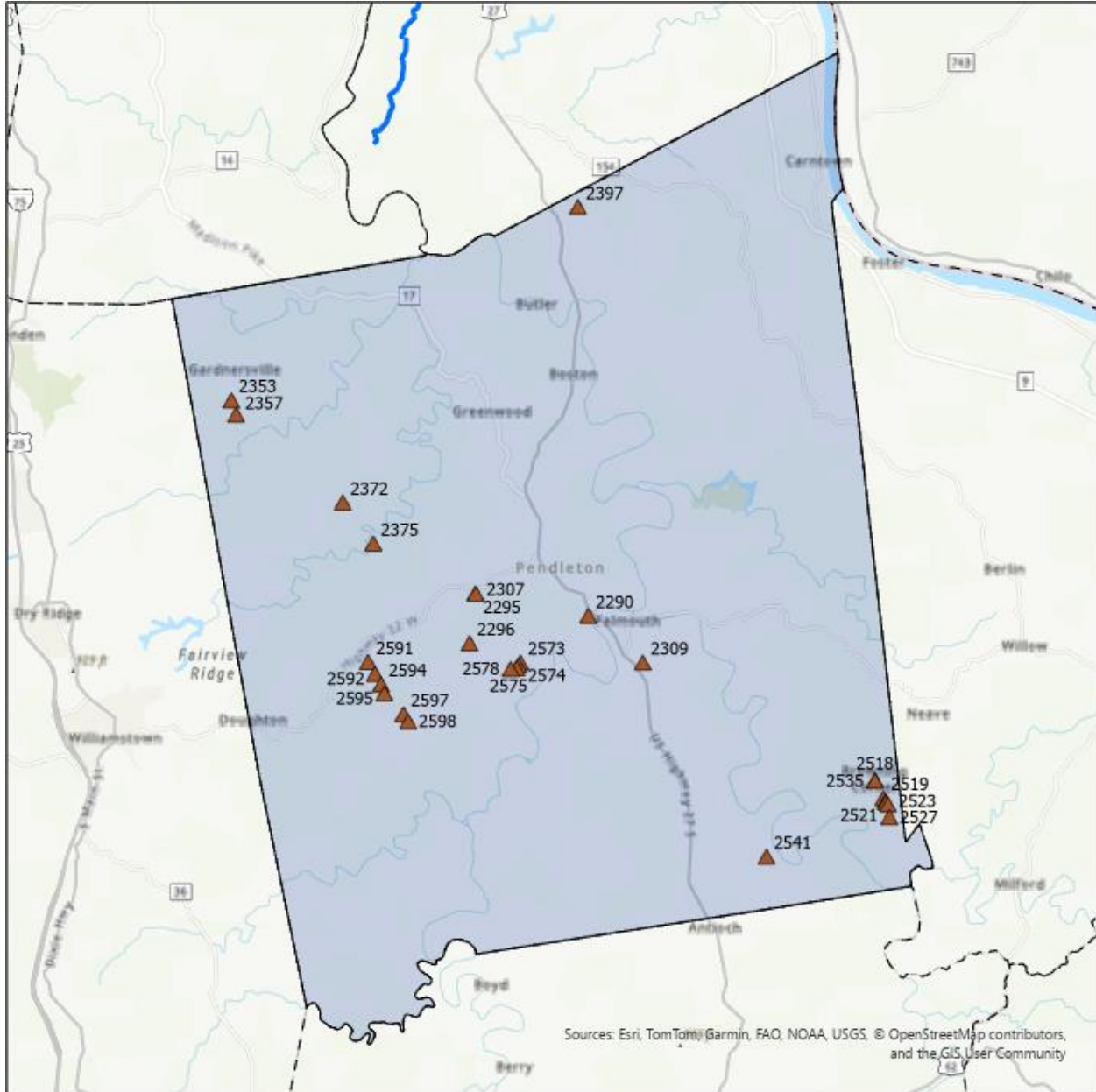


Exhibit Owsley-F1: General Roadway Conditions

Point ID	RT_UNIQUE	Road Name	Pvmt Width (ft)	Pavement Conditio	Roadside Hazard Rat	Shoulder Improve (ft)	Improve Should	Edgeline	Curve Signin	Other Recommendations
2397	096-CR-1019 -000	OLD US 27	12	3	2	20-40	✓	✓	✓	
2518	096-CR-1110 -000	MILFORD RD	12	3	3	40-60	✓	✓	✓	
2519	096-CR-1110 -000	MILFORD RD	12	2	3	40-60	✓	✓	✓	Resurface
2521	096-CR-1110 -000	MILFORD RD	12	3	3	40-60	✓	✓	✓	
2522	096-CR-1110 -000	MILFORD RD	12	3	3	40-60	✓	✓	✓	
2523	096-CR-1110 -000	MILFORD RD	12	3	3	40-60	✓	✓	✓	
2527	096-CR-1110 -000	MILFORD RD	12	3	3	40-60	✓	✓	✓	
2535	096-CR-1110 -000	MILFORD RD	16	3	2	20-40	✓	✓	✓	
2541	096-CR-1117 -000	MCKINNEYSBURG RD	12	3	2	20-40	✓	✓	✓	
2290	096-CR-1148 -000	HAYES STATION RD	12	4	4	0-20		✓	✓	
2309	096-CR-1151D -000	NORTH RONDA AVE	16	4	1	0-20		✓	✓	
2372	096-CR-1203 -000	STRAIGHT SHOOT RD	12	3	2	20-40	✓	✓	✓	
2375	096-CR-1203 -000	STRAIGHT SHOOT RD	12	3	2	20-40	✓	✓	✓	
2591	096-CR-1236 -000	MCNAY RD	12	4	2	20-40	✓	✓	✓	
2592	096-CR-1236 -000	MCNAY RD	12	3	2	20-40	✓	✓	✓	
2594	096-CR-1236 -000	MCNAY RD	12	3	2	20-40	✓	✓	✓	
2595	096-CR-1236 -000	MCNAY RD	12	3	2	20-40	✓	✓	✓	
2597	096-CR-1236 -000	MCNAY RD	12	3	2	20-40	✓	✓	✓	
2598	096-CR-1236 -000	MCNAY RD	12	3	2	20-40	✓	✓	✓	
2573	096-CR-1237 -000	FISHING CREEK RD	10	3	2	20-40	✓	✓	✓	
2574	096-CR-1237 -000	FISHING CREEK RD	12	3	2	20-40	✓	✓	✓	
2575	096-CR-1237 -000	FISHING CREEK RD	12	2	2	20-40	✓	✓	✓	Resurface
2578	096-CR-1237 -000	FISHING CREEK RD	12	3	2	20-40	✓	✓	✓	
2295	096-CR-1239 -000	MCGRAW RD	12	5	4	20-40	✓	✓	✓	
2296	096-CR-1239 -000	MCGRAW RD	12	5	4	20-40	✓	✓	✓	
2307	096-CR-1239 -000	MCGRAW RD	12	5	4	20-40	✓	✓	✓	
2353	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	12	3	3	20-40	✓	✓	✓	
2357	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	12	2	3	40-60	✓	✓	✓	Resurface

Exhibit Owsley-F2: General Roadway Recommendations

Bridge / Culvert Recommendations (Pendleton County)

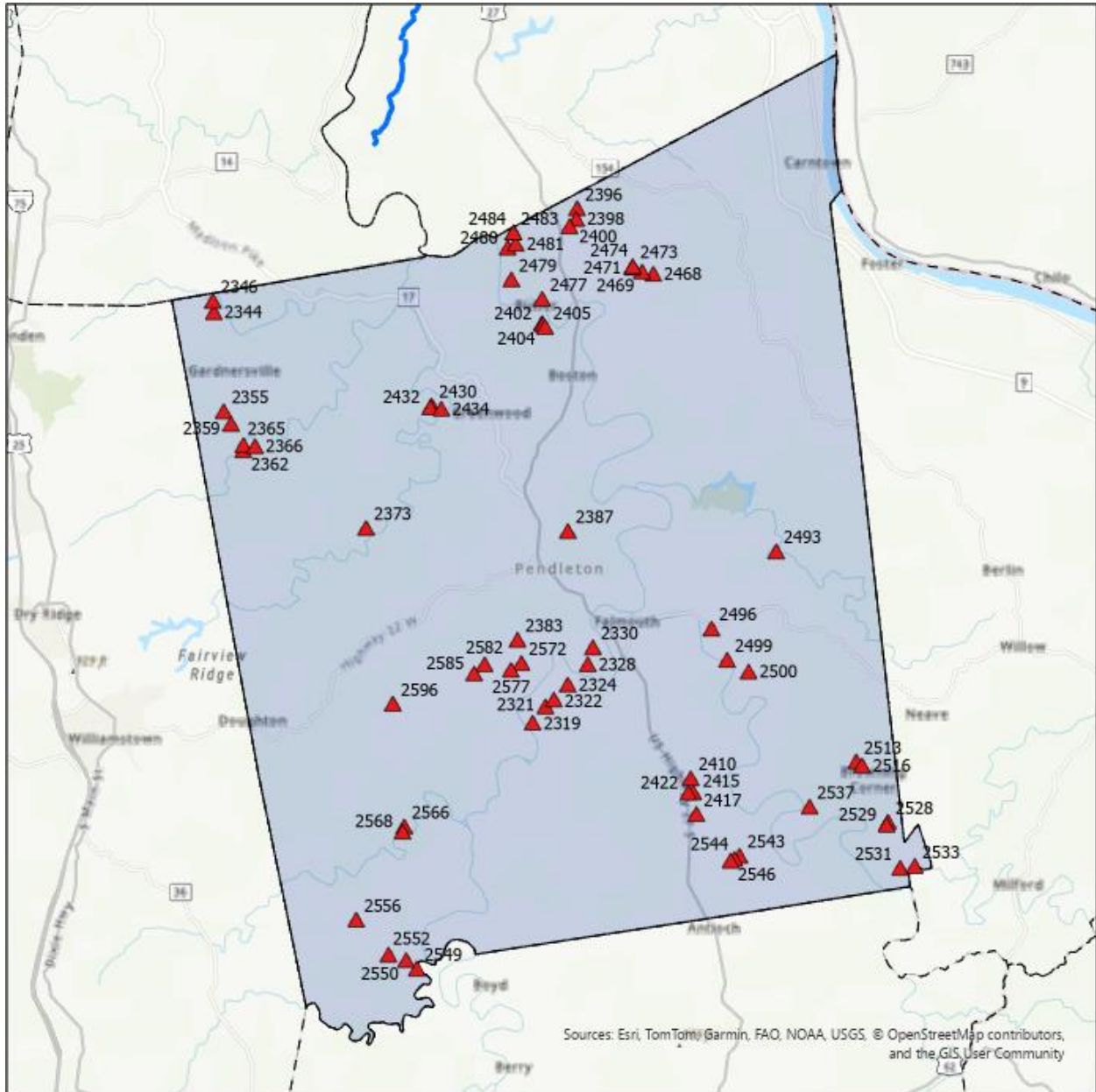


Exhibit Owsley-F3: Bridge / Culvert Locations

Point ID	RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
2387	096-CR-1001 -000	CATAWBA RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2402	096-CR-1011 -000	HOGBACK RIDGE RD	12	4	0	Evaluate need for Type 3 Object Markers
2404	096-CR-1011 -000	HOGBACK RIDGE RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2405	096-CR-1011 -000	HOGBACK RIDGE RD	12	0	1	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2396	096-CR-1019 -000	OLD US 27	14	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2398	096-CR-1019 -000	OLD US 27	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2400	096-CR-1019 -000	OLD US 27	14	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2471	096-CR-1021 -000	VATER RD	12	1	2	Evaluate condition of existing and need for guardrail on approach.
2473	096-CR-1021 -000	VATER RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2474	096-CR-1021 -000	VATER RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2468	096-CR-1022 -000	FLOUR CREEK RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2469	096-CR-1022 -000	FLOUR CREEK RD	14	4	2	Evaluate need for Type 3 Object Markers
2493	096-CR-1067 -000	NEW ZION RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2496	096-CR-1110 -000	MILFORD RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2499	096-CR-1110 -000	MILFORD RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2500	096-CR-1110 -000	MILFORD RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2513	096-CR-1110 -000	MILFORD RD	12	4	0	Evaluate need for Type 3 Object Markers
2516	096-CR-1110 -000	MILFORD RD	14	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2528	096-CR-1110 -000	MILFORD RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2529	096-CR-1110 -000	MILFORD RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2531	096-CR-1110 -000	MILFORD RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2533	096-CR-1110 -000	MILFORD RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2537	096-CR-1117 -000	MCKINNEYSBURG RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2543	096-CR-1117 -000	MCKINNEYSBURG RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2544	096-CR-1117 -000	MCKINNEYSBURG RD	10	0	1	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2546	096-CR-1117 -000	MCKINNEYSBURG RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2410	096-CR-1127 -000	OLD THREE L HWY	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2415	096-CR-1127 -000	OLD THREE L HWY	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2417	096-CR-1127 -000	OLD THREE L HWY	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2422	096-CR-1128 -000	BISHOP RIDGE RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2319	096-CR-1148 -000	HAYES STATION RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2321	096-CR-1148 -000	HAYES STATION RD	12	0	2	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2322	096-CR-1148 -000	HAYES STATION RD	12	0	1	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2324	096-CR-1148 -000	HAYES STATION RD	12	0	1	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2328	096-CR-1148 -000	HAYES STATION RD	14	2	0	Evaluate condition of existing and need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2330	096-CR-1148 -000	HAYES STATION RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2373	096-CR-1203 -000	STRAIGHT SHOOT RD	16	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)

Exhibit Lee-F4: Bridge / Culvert Recommendations

Point ID	RT_UNIQUE	Road Name	Bridge Width	Guardrail Present	OM Present	Recommendation
2566	096-CR-1216 -000	GUMLICK RD	10	2	2	Evaluate condition of existing and need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2568	096-CR-1216 -000	GUMLICK RD	12	4	0	Evaluate need for Type 3 Object Markers
2549	096-CR-1221 -000	JACKS BRANCH RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2550	096-CR-1221 -000	JACKS BRANCH RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2552	096-CR-1221 -000	JACKS BRANCH RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2556	096-CR-1223 -000	JOHN DENNY RD	12	4	0	Evaluate need for Type 3 Object Markers
2596	096-CR-1236 -000	MCNAY RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2572	096-CR-1237 -000	FISHING CREEK RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2577	096-CR-1237 -000	FISHING CREEK RD	12	4	0	Evaluate need for Type 3 Object Markers
2582	096-CR-1237 -000	FISHING CREEK RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2585	096-CR-1237 -000	FISHING CREEK RD	12	4	0	Evaluate need for Type 3 Object Markers
2383	096-CR-1241 -000	TURNER RIDGE RD	12	4	0	Evaluate need for Type 3 Object Markers
2355	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	12	0	1	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2359	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	14	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2362	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2365	096-CR-1309 -000	JAGG RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2366	096-CR-1309 -000	JAGG RD	14	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2344	096-CR-1318 -000	CARTERS CHAPEL RD	16	4	0	Evaluate need for Type 3 Object Markers
2346	096-CR-1318 -000	CARTERS CHAPEL RD	16	4	0	Evaluate need for Type 3 Object Markers
2477	096-CR-1331 -000	RIVER RD	1	0	1	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2479	096-CR-1331 -000	RIVER RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2480	096-CR-1331 -000	RIVER RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2481	096-CR-1331 -000	RIVER RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2483	096-CR-1331 -000	RIVER RD	10	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2484	096-CR-1331 -000	RIVER RD	16	4	2	Evaluate need for Type 3 Object Markers
2430	096-CR-1339 -000	GREENWOOD PORTLAND RD	14	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)
2432	096-CR-1339 -000	GREENWOOD PORTLAND RD	12	4	0	Evaluate need for Type 3 Object Markers
2434	096-CR-1339 -000	GREENWOOD PORTLAND RD	12	0	0	Evaluate need for guardrail on approach, install Type 3 Object Markers; Install One Lane Bridge Sign (W5-3)

Exhibit Lee-F4: Bridge / Culvert Recommendations (continued)

Curve Recommendations (Pendleton County)

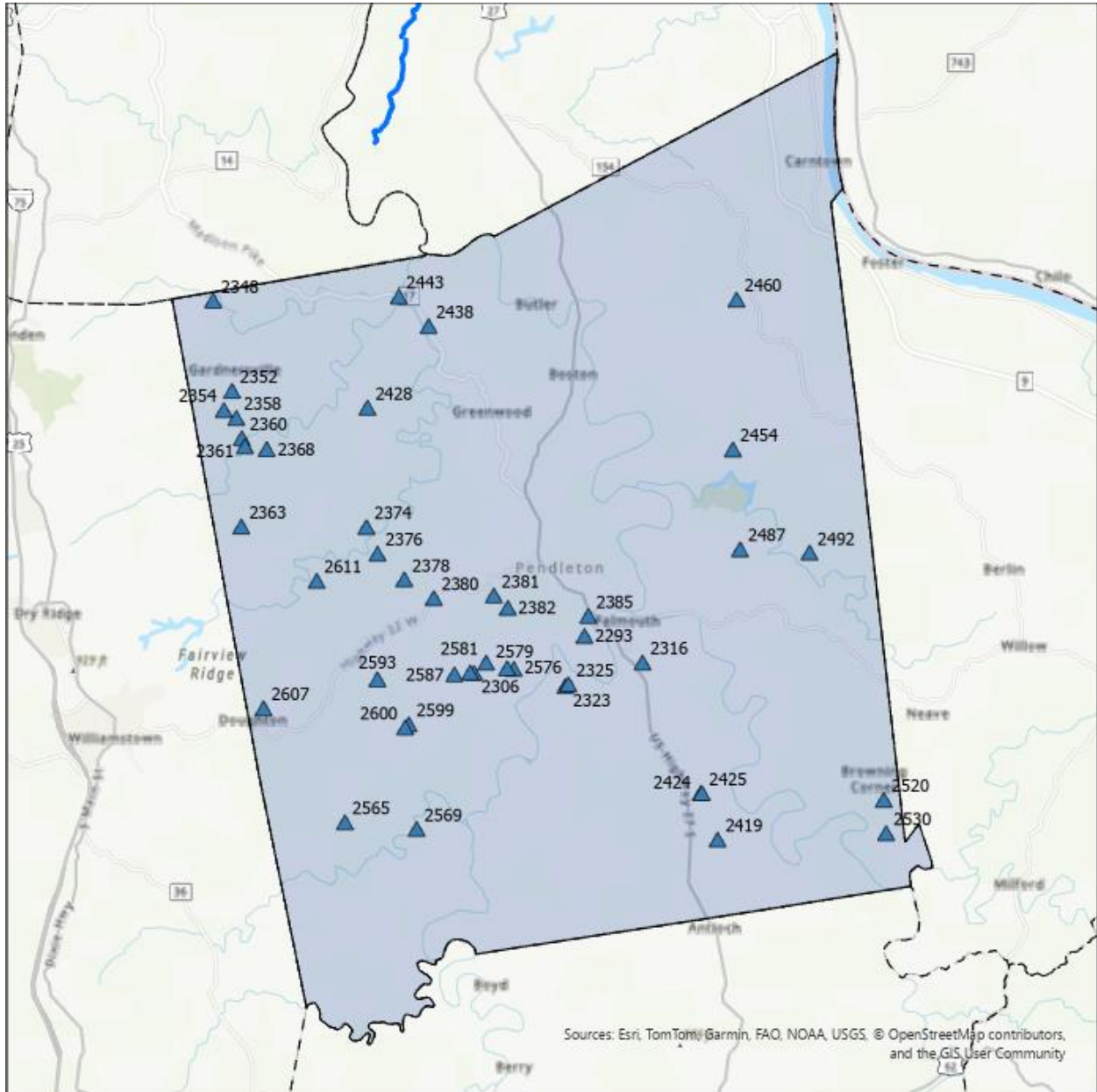


Exhibit Owsley-F5: Focus Road Curves

Point ID	RT_UNIQUE	Road Name	Comments	Vegetation	Recommendation
2460	096-CR-1022 -000	FLOUR CREEK RD	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation
2454	096-CR-1055 -000	CONCORD-CADDO RD	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation
2487	096-CR-1064 -000	LENOXBURG RD	other; No signage	No	Install Curve Warning Sign; Evaluate other obstructions
2492	096-CR-1067 -000	NEW ZION RD	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation
2520	096-CR-1110 -000	MILFORD RD	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation
2530	096-CR-1110 -000	MILFORD RD	other;	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2293	096-CR-1115 -000	SOUTHFORK DR	other; No signs	No	Install Curve Warning Sign; Evaluate other obstructions
2419	096-CR-1127 -000	OLD THREE L HWY	other;	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2424	096-CR-1128 -000	BISHOP RIDGE RD	other;	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2425	096-CR-1128 -000	BISHOP RIDGE RD	other; No signs	No	Install Curve Warning Sign; Evaluate other obstructions
2323	096-CR-1148 -000	HAYES STATION RD	other; No signs	Yes	Install Curve Warning Sign; Clear Vegetation
2325	096-CR-1148 -000	HAYES STATION RD	other; No signs.Series	Yes	Install Curve Warning Sign; Clear Vegetation
2385	096-CR-1148 -000	HAYES STATION RD	other,vegetation; No signage	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2316	096-CR-1151D -000	NORTH RONDA AVE	other; No signs	Yes	Install Curve Warning Sign; Clear Vegetation
2374	096-CR-1203 -000	STRAIGHT SHOOT RD	other; No signage warning for curve	Yes	Install Curve Warning Sign; Clear Vegetation
2376	096-CR-1203 -000	STRAIGHT SHOOT RD	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation
2378	096-CR-1203 -000	STRAIGHT SHOOT RD	other; Large drop off at curve	Yes	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker or Delineator at dropoff
2380	096-CR-1203 -000	STRAIGHT SHOOT RD	other;	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2607	096-CR-1205 -000	HOGG RIDGE RD	other;	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2611	096-CR-1205 -000	HOGG RIDGE RD	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation
2565	096-CR-1216 -000	GUMLICK RD	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation
2569	096-CR-1216 -000	GUMLICK RD	other; No curve signage	Yes	Install Curve Warning Sign; Clear Vegetation
2593	096-CR-1236 -000	MCNAY RD	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation
2599	096-CR-1236 -000	MCNAY RD	other;	No	Install Curve Warning Sign; Evaluate other obstructions
2600	096-CR-1236 -000	MCNAY RD	other;	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2576	096-CR-1237 -000	FISHING CREEK RD	other; No signage throughout road	Yes	Install Curve Warning Sign; Clear Vegetation
2579	096-CR-1237 -000	FISHING CREEK RD	other; Drop off on outer edge	Yes	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker or Delineator at dropoff
2581	096-CR-1237 -000	FISHING CREEK RD	other;	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2586	096-CR-1237 -000	FISHING CREEK RD	other;	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2587	096-CR-1237 -000	FISHING CREEK RD	other;	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2306	096-CR-1239 -000	MCGRAW RD	other; No signs	Yes	Install Curve Warning Sign; Clear Vegetation
2381	096-CR-1241 -000	TURNER RIDGE RD	other; No curve signs	Yes	Install Curve Warning Sign; Clear Vegetation
2382	096-CR-1241 -000	TURNER RIDGE RD	other; No signage	No	Install Curve Warning Sign; Evaluate other obstructions
2352	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	other; 90 degree turn with no warning	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2354	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	other; No signs and fixed objects and drop off. Very dangerous	Yes	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker or Delineator at dropoff
2358	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	other; No curve warning sign when entering	No	Install Curve Warning Sign; Evaluate other obstructions
2360	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	other; No signs. Needs guardrail	Yes	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker or Delineator at dropoff; Evaluate for guardrail
2361	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	other; Curve with drop off	Yes	Install Curve Warning Sign; Clear Vegetation; Install Type 3 Object Marker or Delineator at dropoff
2363	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	other,Curve_Obscured; No curve signs in curve	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate other obstructions
2368	096-CR-1309 -000	JAGG RD	other; Pole too close to inside curve	Yes	Install Curve Warning Sign; Clear Vegetation; Evaluate Pole-Consider removal or delineation with Type 2 Object Marker
2348	096-CR-1318 -000	CARTERS CHAPEL RD	other; No sign warning f curve	Yes	Install Curve Warning Sign; Clear Vegetation
2443	096-CR-1323 -000	MATHIS LN	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation
2438	096-CR-1327 -000	KIDWELL RD	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation
2428	096-CR-1339 -000	GREENWOOD PORTLAND RD	other; No signage	Yes	Install Curve Warning Sign; Clear Vegetation

Exhibit Owsley-F5: Curve Recommendations

Roadside Drop Off Recommendations (Pendleton County)

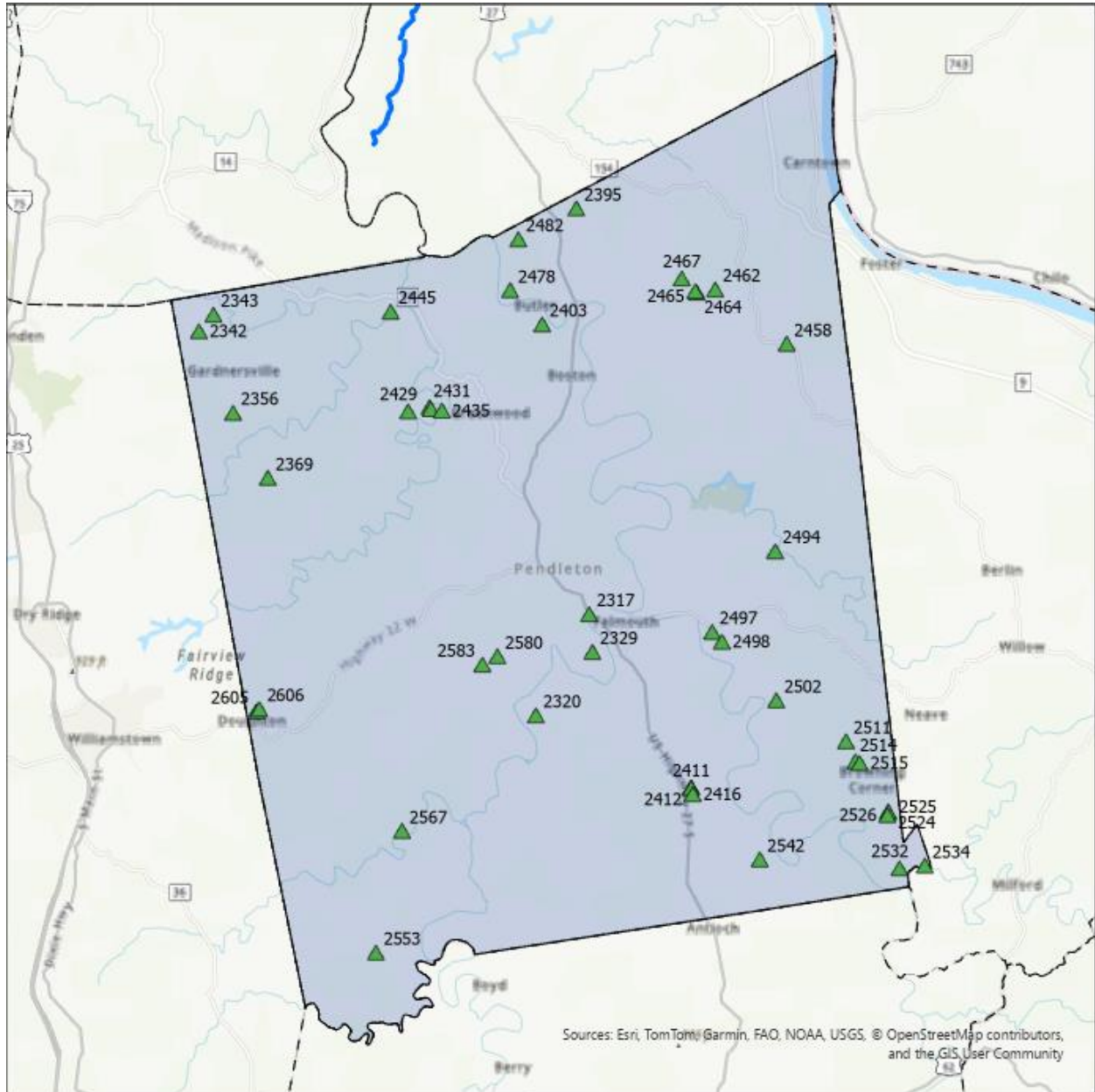


Exhibit Owsley-F7: Roadside Drop Off Locations

Point ID	RT_UNIQUE	Road Name	Drop Off Offset	Drop Off Height	Recommendation
2403	096-CR-1011 -000	HOGBACK RIDGE RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2395	096-CR-1019 -000	OLD US 27	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2458	096-CR-1022 -000	FLOUR CREEK RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2462	096-CR-1022 -000	FLOUR CREEK RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2464	096-CR-1022 -000	FLOUR CREEK RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2465	096-CR-1022 -000	FLOUR CREEK RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2467	096-CR-1022 -000	FLOUR CREEK RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2494	096-CR-1067 -000	NEW ZION RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2497	096-CR-1110 -000	MILFORD RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2498	096-CR-1110 -000	MILFORD RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2502	096-CR-1110 -000	MILFORD RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2511	096-CR-1110 -000	MILFORD RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2514	096-CR-1110 -000	MILFORD RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2515	096-CR-1110 -000	MILFORD RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2524	096-CR-1110 -000	MILFORD RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2525	096-CR-1110 -000	MILFORD RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2526	096-CR-1110 -000	MILFORD RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2532	096-CR-1110 -000	MILFORD RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2534	096-CR-1110 -000	MILFORD RD	0-1	5-10	Install Type 2 Object Marker(s)
2542	096-CR-1117 -000	MCKINNEYSBURG RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2411	096-CR-1127 -000	OLD THREE L HWY	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2412	096-CR-1127 -000	OLD THREE L HWY	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2413	096-CR-1127 -000	OLD THREE L HWY	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2416	096-CR-1127 -000	OLD THREE L HWY	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2317	096-CR-1148 -000	HAYES STATION RD	3-5	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2320	096-CR-1148 -000	HAYES STATION RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2329	096-CR-1148 -000	HAYES STATION RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2605	096-CR-1205 -000	HOGG RIDGE RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2606	096-CR-1205 -000	HOGG RIDGE RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2567	096-CR-1216 -000	GUMLICK RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2553	096-CR-1221 -000	JACKS BRANCH RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2580	096-CR-1237 -000	FISHING CREEK RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2583	096-CR-1237 -000	FISHING CREEK RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2356	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2369	096-CR-1309 -000	JAGG RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2342	096-CR-1318 -000	CARTERS CHAPEL RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2343	096-CR-1318 -000	CARTERS CHAPEL RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2445	096-CR-1323 -000	MATHIS LN	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2478	096-CR-1331 -000	RIVER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2482	096-CR-1331 -000	RIVER RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)
2429	096-CR-1339 -000	GREENWOOD PORTLAND RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2431	096-CR-1339 -000	GREENWOOD PORTLAND RD	1-3	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2433	096-CR-1339 -000	GREENWOOD PORTLAND RD	0-1	2-5	Install Type 2 Object Marker(s) or Delineator(s)
2435	096-CR-1339 -000	GREENWOOD PORTLAND RD	1-3	5-10	Install Type 2 Object Marker(s) or Delineator(s)

Exhibit Owsley-F8: Roadside Drop Off Recommendations

Fixed Object Recommendations (Pendleton County)

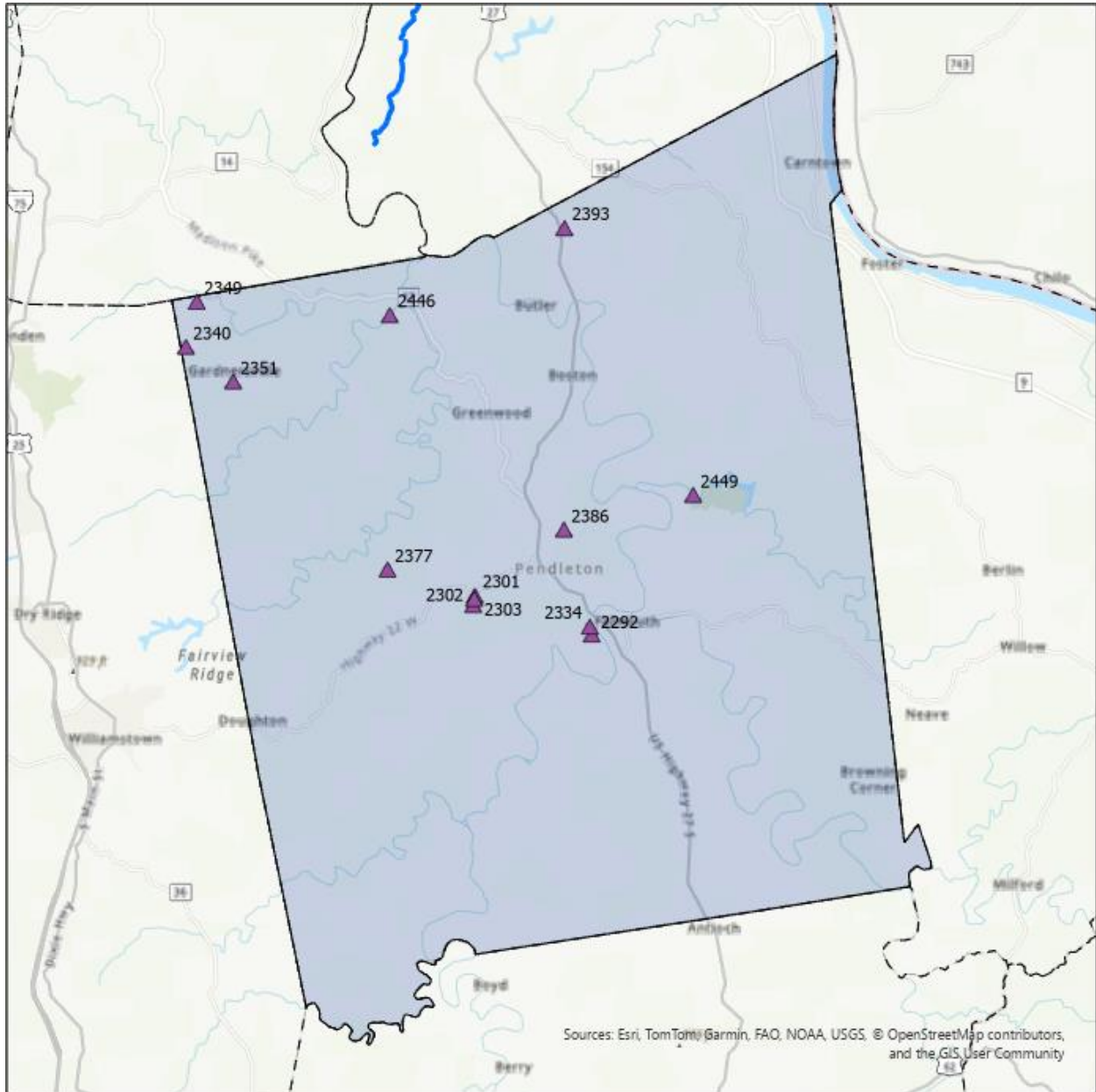


Exhibit Owsley-F9: Fixed Object Locations

Point ID	RT_UNIQUE	Road Name	Object	Single / Series	Offset	Recommendation
2292	096-CR-1115 -000	SOUTHFORK DR	Tree;	Series	3-5	--
2301	096-CR-1239 -000	MCGRAW RD	Tree;	Series	3-5	--
2302	096-CR-1239 -000	MCGRAW RD	Tree;	Series	3-5	--
2303	096-CR-1239 -000	MCGRAW RD	Tree;	Single	1-3	Remove
2334	096-CR-1148 -000	HAYES STATION RD	other; Concrete box	Single	1-3	Install Type 2 or 3 Object Marker(s)
2340	096-CR-1318 -000	CARTERS CHAPEL RD	Tree;	Single	3-5	--
2349	096-CR-1319 -000	EAST ROGERS RD	other; Brick mail box	Single	1-3	Install Type 2 or 3 Object Marker(s); See policy Recommendations
2351	096-CR-1305 -000	KNOXVILLE-GARDNERSVILLE RD	Tree;	Single	1-3	Remove
2377	096-CR-1203 -000	STRAIGHT SHOOT RD	Tree;	Single	1-3	Remove
2386	096-CR-1001 -000	CATAWBA RD	Tree;	Single	1-3	Remove
2393	096-CR-1019 -000	OLD US 27	Tree;	Single	0-1	Remove
2446	096-CR-1323 -000	MATHIS LN	Tree;	Single	0-1	Remove
2449	096-CR-1055 -000	CONCORD-CADDO RD	Tree;	Single	3-5	--

Exhibit Owsley-F10: Fixed Object Recommendations

Guardrail Recommendations (Pendleton County)

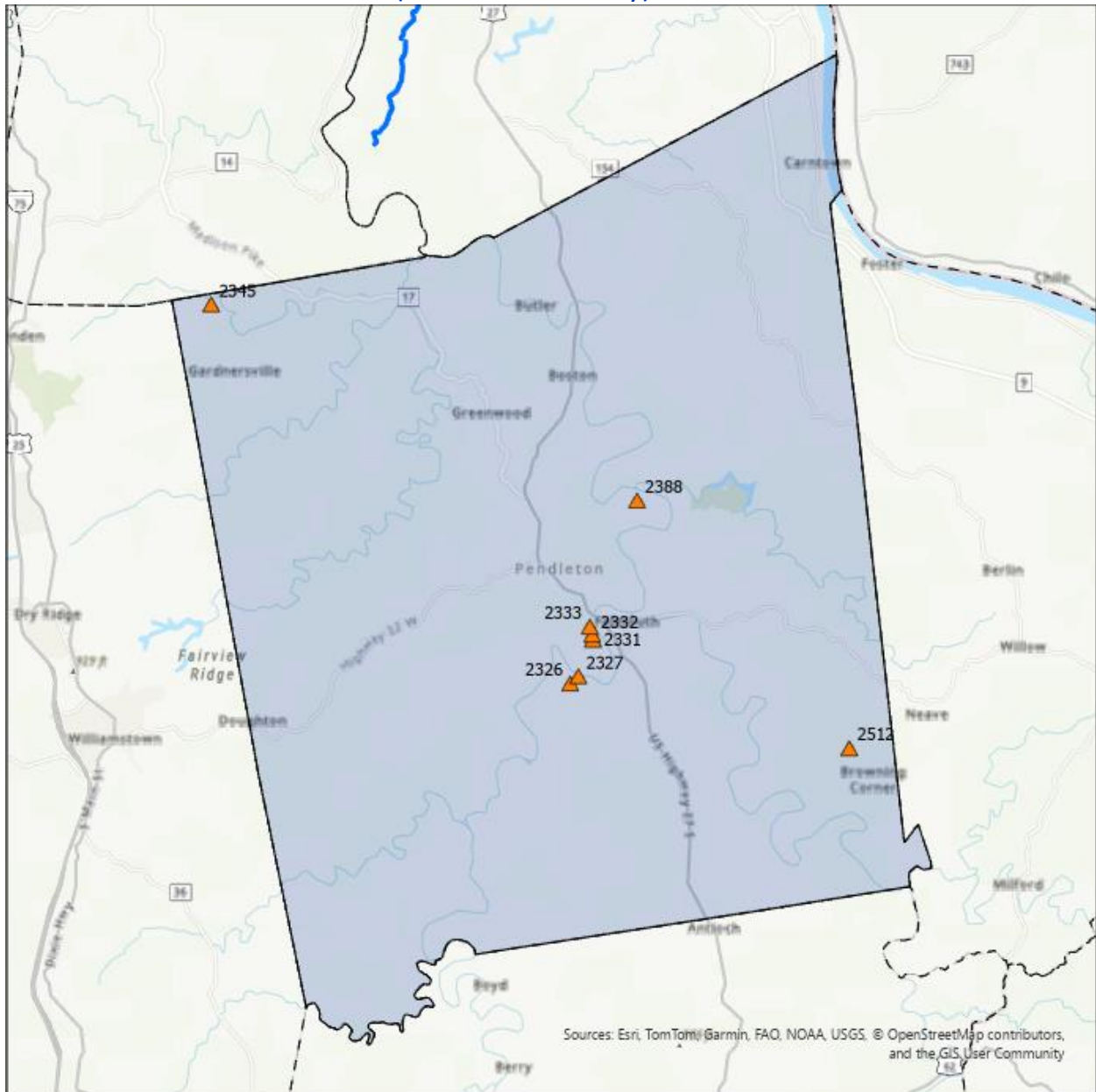


Exhibit Lee-F11: Guardrail Locations

Point ID	RT_UNIQUE	Road Name	Condition	Meet Warrant	End Treatment	Recommendation	Comments
2326	096-CR-1148 -000	HAYES STATION RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
2327	096-CR-1148 -000	HAYES STATION RD	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	Directional sign also needs repair
2331	096-CR-1148 -000	HAYES STATION RD	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
2332	096-CR-1115 -000	SOUTHFORK DR	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
2333	096-CR-1148 -000	HAYES STATION RD	Fair	Maybe	Some	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
2345	096-CR-1318 -000	CARTERS CHAPEL RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
2388	096-CR-1001 -000	CATAWBA RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	
2512	096-CR-1110 -000	MILFORD RD	Fair	Maybe	None	Evaluate warrants and cost to upgrade/install end treatments and/or Type 3 Object Markers	

Exhibit Lee-F12: Guardrail Recommendations

Intersection Recommendations (Pendleton County)

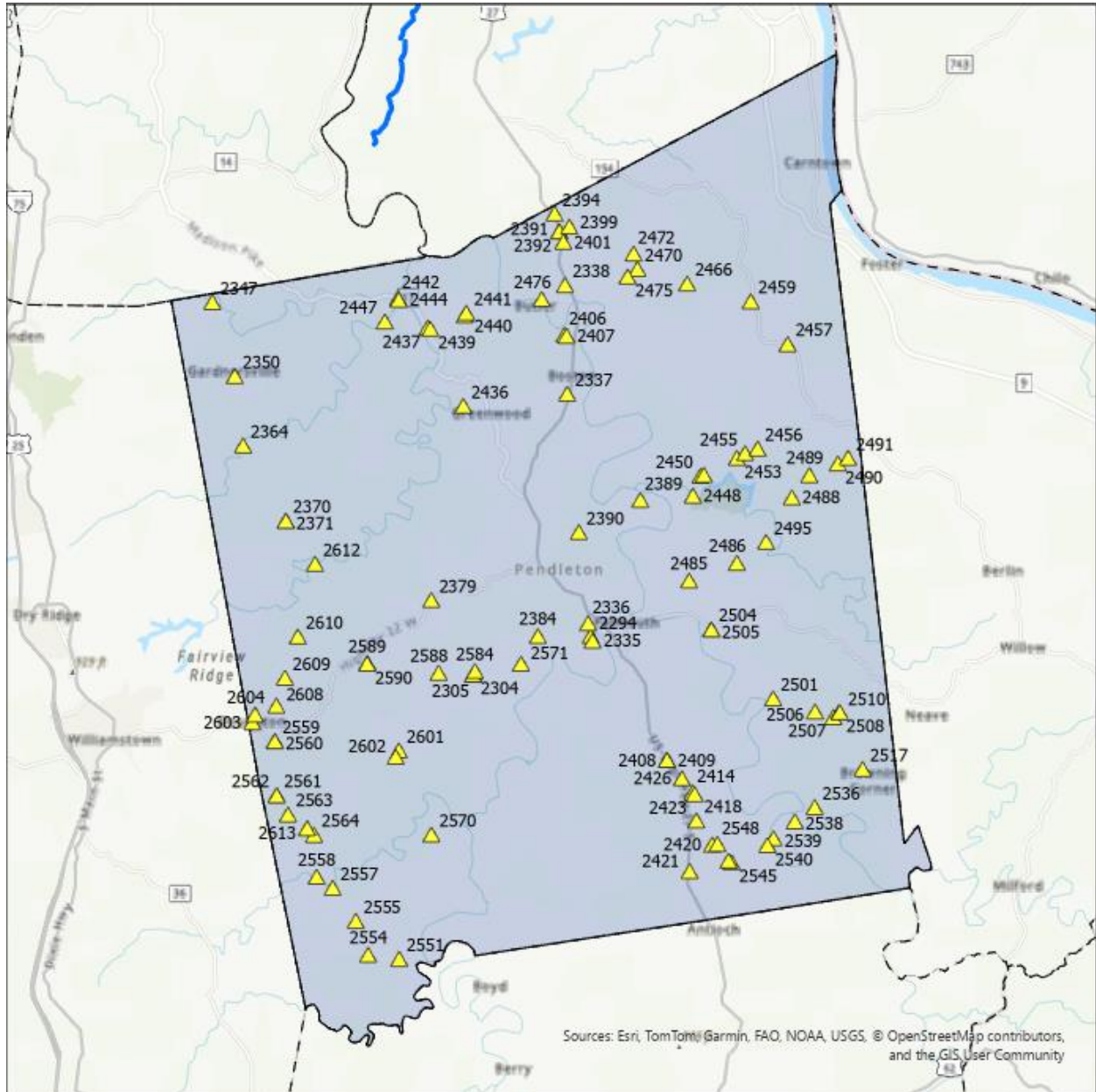
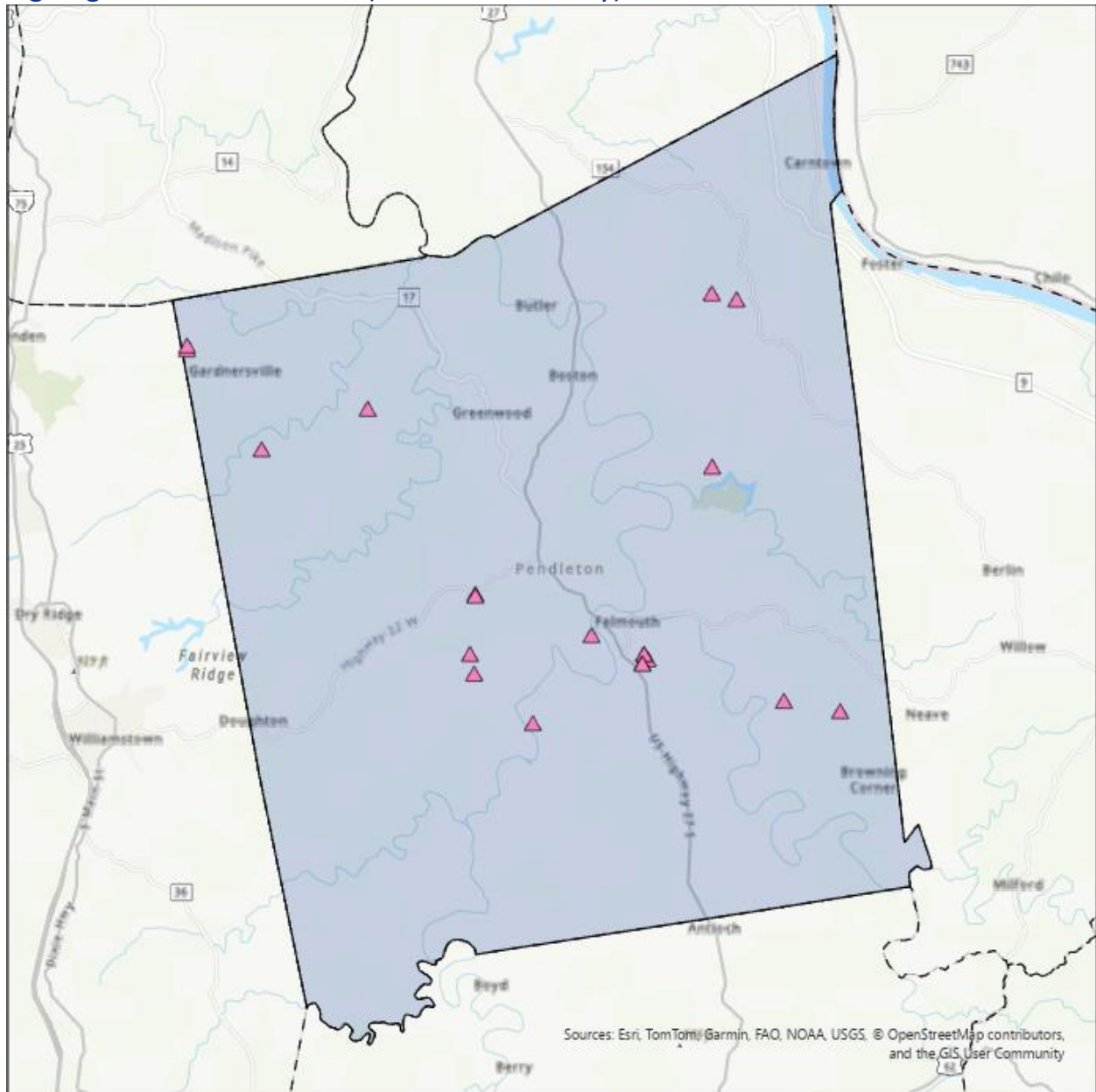


Exhibit Owsley-F13: Intersection Locations

See Attachment for Pendleton County Intersection Recommendations

Signing Recommendations (Pendleton County)



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/nkaddSAP>.