HEPMPO
CORRIDOR STUDY

Safety Corridor Assessment
Edwin Miller Boulevard

June 2025

Michael Baker INTERNATIONAL

FEHR PEERS

Hagerstown Eastern Panhandle MPO

Acknowledgements

The Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) would like to thank the Edwin Miller Boulevard Corridor Stakeholders for their valuable contributions throughout the planning process and development of the Safety Corridor Assessment for Edwin Miller Boulevard.

- Berkeley County Planning Department
- Eastern Panhandle Transit Authority
- Federal Highway Administration (FHWA)-WV
- City of Martinsburg
- Martinsburg Police Department
- WV Governor's Highway Safety Program
- WVDOT District 5
- WVDOT Planning Division
- WVDOT Traffic Safety

Disclaimer

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The analysis and recommendations in this report are conceptual in nature based upon limited information, and before implementing any changes, or using any of its information for design or construction, HEPMPO or local jurisdiction, should conduct a more detailed analysis and make sure that the design or construction documents reflect specific, detailed, local and field conditions.

The scope of this work, including study locations, time frame, and topics, was determined by the client. While it is possible that some locations or issues were not addressed in this report, nothing should be inferred by their omission.

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Introduction

Study Purpose

The HEPMPO Regional Safety Action Plan (SAP) identified a high-injury network (HIN) highlighting roadway segments with disproportionate severe or fatal crashes, particularly for pedestrians, cyclists, and motorcyclists. Three safety corridors were selected for further analysis, including the Edwin Miller Boulevard corridor in Berkeley County, WV. This report summarizes existing conditions, concept development and funding strategies.

About Edwin Miller Boulevard

Edwin Miller Boulevard, a key segment of WV Route 9 in Berkeley County, serves as a major commercial and regional connector (**Figure 1**). The 1.5-mile corridor between the I-81 ramps and Eagle School Road features shopping centers, restaurants, banks, and mixed-use developments. Despite its importance, the lack of pedestrian and bicycle infrastructure raises safety concerns for active transportation users.

Figure 1: Edwin Miller Boulevard Safety Corridor Study Area Map

HEPMPO Regional Safety Action Plan

The HEPMPO Regional SAP was developed to address roadway safety challenges and was officially adopted in May 2024. The plan prioritizes strategies to enhance safety for all users, including pedestrians, cyclists, transit riders, and commercial vehicle operators. A key component is the HIN, which identifies high-crash locations for targeted interventions. Using a data-driven approach and stakeholder input, HEPMPO selected one HIN segment per county for safety assessments: Washington Street (Jefferson County, WV), Edwin Miller Boulevard (Berkeley County, WV), and Virginia Avenue (Washington County, MD). These assessments aim to identify solutions and position jurisdictions for funding opportunities like the Highway Safety Improvement Program (HSIP) or the Safe Streets and Roads for All (SS4A) program.

Needs Assessment Process

The needs assessment process involved collecting and analyzing data, as well as reviewing previous plans.

Data Collection & Evaluation

The project team collected data on crash history (2018–2023), survey responses, future planning designations, and corridor profiles. They also analyzed traffic volumes, land use, roadway characteristics, transit stops, pedestrian and bicycle infrastructure, signal operations, and right-of-way details to assess the study area's safety and mobility needs.

Previous Plans or Work Reviewed

The project team reviewed seven documents that provide guidance on existing and future land use and transportation vision for the study corridor:

- HEPMPO Regional Safety Action Plan
- Martinsburg 2018 Comprehensive Plan
- Berkeley County Comprehensive Plan Update, 2016
- WV Vulnerable Road User Assessment
- Regional Long-Range Transportation Plan
- Transportation Improvement Program

Existing and Future Conditions

Existing Conditions

This section summarizes the existing conditions along the Edwin Miller Boulevard safety corridor study area including roadway, active transportation, and transit facilities, as well as reviewing corridor safety and community context.

Roadway Facilities

The Edwin Miller Boulevard priority corridor is a 1.5-mile section of WV Route 9 connecting US-11 to I-81. It features six signalized intersections, with other intersections stop-controlled on minor streets (**Figure 2**). The road transitions from four/five lanes near I-81 to two lanes with a center turn lane between Lutz Avenue and Williamsport Pike/Raleigh Street. Lane widths range from 11 to 13 feet, and there's no street parking, though access is provided to nearby commercial properties. Speed limits vary from 35 to 45 mph. Traffic volumes range from 16,658 vehicles near I-81 to 22,350 vehicles south of Raleigh Street, indicating the corridor's mix of local and regional use.

Figure 2: Edwin Miller Boulevard Safety Corridor Roadway Map

Source: WVDOH

Active Transportation and Transit

Bicycle and Pedestrian Infrastructure

The corridor currently lacks designated bicycle facilities, such as bike lanes or other infrastructure to accommodate cyclists. Additionally, there are few sidewalks parallel to the roadway, and pedestrian crossings are limited to signalized intersections, but most lack crosswalks (**Figure 3**). Crosswalk designs vary, with a continental-style crosswalk at the north leg of the intersection with Jennings Drive and a brick decorative crosswalk at the west leg of the intersection with Meridian Parkway. While curb ramps are present at some locations near sidewalks or crosswalks, most do not connect to further pedestrian infrastructure and instead lead to dead ends.

Figure 3: Edwin Miller Boulevard Safety Corridor Pedestrian and Bicycle Facilities Map

Transit System

The Eastern Panhandle Transit Authority (EPTA) operates public transportation services throughout Jefferson and Berkeley Counties in West Virginia. Within Martinsburg, EPTA operates several fixed-route bus lines serving the Edwin Miller Boulevard corridor, including routes 12, 19, 30 and 40 (**Figure 4**). The routes connect key destinations, including residential neighborhoods, commercial areas, and the Martinsburg train station. Transit service along Edwin Miller Boulevard is limited in frequency, with buses running primarily during peak hours on weekdays. Minimal shelter or seating amenities are available at most bus stop locations.

Figure 4: Edwin Miller Boulevard Safety Corridor Transit Facilities Map

Safety

Crash History

Segments of the Edwin Miller Boulevard corridor between the I-81 interchange and Lutz Avenue, and Raleigh Street and Eagle School Road are ranked 25th and 98th, respectively, in West Virginia's High Injury Network, according to the 2023 West Virginia Vulnerable Road Users (VRU) Assessment. A VRU includes individuals outside of vehicles, such as pedestrians, bicyclists, and motorcyclists, who are at greater risk of injury in a crash. **Figure 5** shows all crashes by severity that occurred from 2018 to 2023 along the corridor. During this period, motor vehicle crashes accounted for 98.2% of all reported incidents, while VRU crashes made up just 1.8% (**Table 1**). However, these VRU crashes represented 50% of serious injuries and 66.7% of fatalities. Same-direction rear-end, right-angle, and angle (front-to-side) opposite-direction crashes were most common along the corridor. The only fatal intersection crash occurred at McMillan Court, which also experienced the highest concentration of total and severe crashes.

Table 1: Edwin Miller Boulevard Safety Corridor – Total Crashes by Mode and Severity (2018 – 2023)

MODE	FATAL	SEVERE INJURY	MINOR INJURY	POSSIBLE INJURY	NO APPARENT INJURY	TOTAL
PEDESTRIAN	1 (33.3%)	2 (33.3%)	1 (7.1%)	1 (0.9%)	0 (0%)	5 (0.9%)
BICYCLE	0 (0%)	1 (16.7%)	0 (0%)	1 (0.9%)	0 (0%)	2 (0.4%)
MOTORCYCLE	1 (33.3%)	0 (0%)	1 (7.1%)	0 (0%)	1 (0.2%)	3 (0.5%)
VEHICLE	1 (33.3%)	3 (50%)	12 (85.7%)	105 (98.1%)	433 (99.8%)	554 (98.2%)
TOTAL	3	6	14	107	434	564

Figure 5: Edwin Miller Boulevard Safety Corridor Crash Map (2018 - 2023)

At-Risk Assessment & Alignment with the Safe System Approach

The project team used the FHWA's 2024 Safe System Project-Based Alignment Framework to proactively identify risk factors along the corridor. The completed Safe System Project-Based Alignment Framework for the Edwin Miller Boulevard Corridor is included in **Appendix A**. This tool supports agencies in aligning with the Safe System Approach (SSA), adopted by FHWA in 2022 to guide efforts toward zero traffic deaths by encouraging a comprehensive evaluation of safety strategies. A high-level summary of the SSA alignment along the corridor is listed below:

- There is higher alignment with the SSA along in the middle portion of the corridor and headed south along the corridor (between Jennings Drive and Eagle School Road) for segments.
- VRU exposure is highest along the northern portion of the corridor.
- The largest risk factors for VRUs across the entire corridor include no bicycle or pedestrian facilities (e.g. sidewalks, shared use paths, limited crosswalks), high operating speeds, very limited separation in time for pedestrians, right turn on reds, permissive left turns, insufficient lighting and channelized right turns at the Williamsport Pike/Raleigh Street and Eagle School Road intersections.
- **Table 2** highlights the top least SSA aligned intersections and segments along the corridor. The higher the score the less alignment.

Table 2: Least Safety Aligned Intersections and Segments

LOCATION TYPE	LOCATION NAME	LOCATION SCORE
INTERSECTION	McMillian Court/ Warm Springs Avenue & Edwin Miller Boulevard	10,440
	Jennings Drive & Edwin Miller Boulevard	8,640
	Triamigas Drive & Edwin Miller Boulevard	8,640
	Eagle School Road & Edwin Miller Boulevard	8,640
SEGMENT	I-81 Ramps to McMillian Court / Warm Springs Avenue	6,840
	McMillian Court / Warm Springs Avenue to Lutz Avenue	7,236
	Courthouse Drive to Raleigh Street/Williamsport Pike	4,944

Community Context

Area of Persistent Poverty

The southern portion of the Edwin Miller Boulevard corridor intersects with a federally designated Area of Persistent Poverty (APP), as shown by the red dashed boundary in **Figure 6**. These areas are defined by the U.S. Department of Transportation as

census tracts where at least 20 percent of the population has lived in poverty for the past 30 years, based on decennial census and American Community Survey data.

Public Input

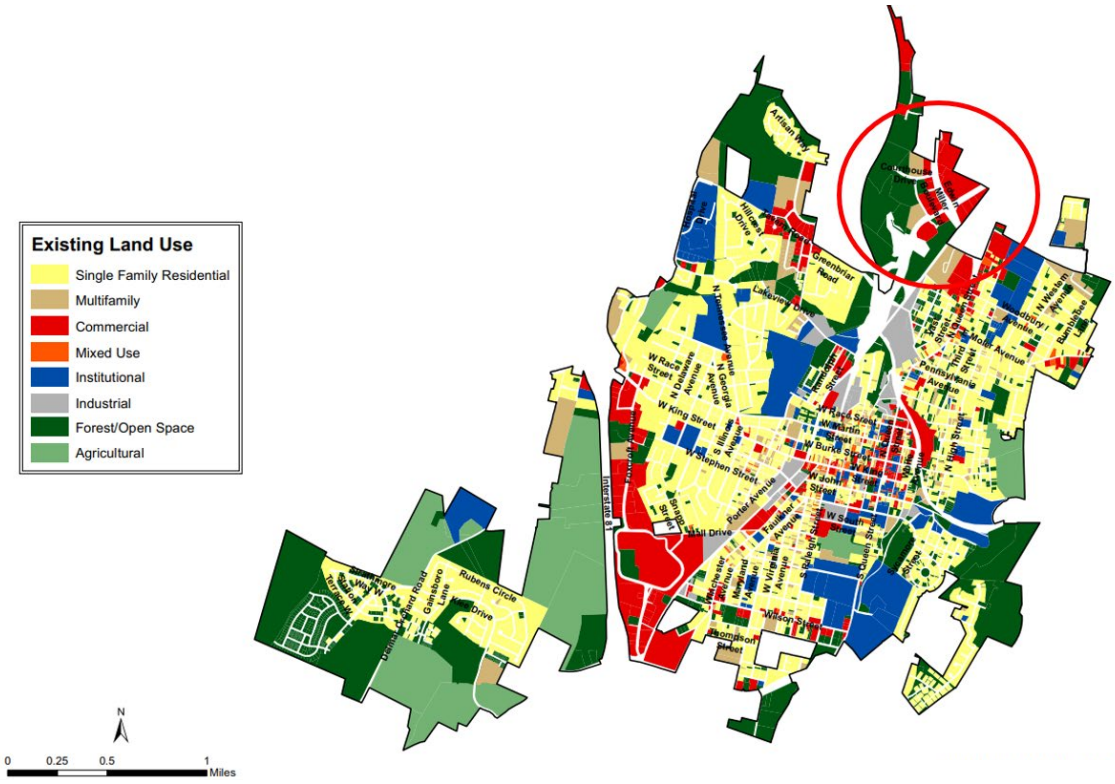
Public input was collected through the Regional Safety Action Plan survey to understand safety concerns related to transportation within the region. **Figure 6** displays the location and topic related to each comment and highlights community needs areas identified along Edwin Miller Boulevard. Respondents noted frequent traffic congestion caused by vehicles blocking intersections and improper timing when crossing. Unsafe driving behaviors, including aggressive driving and pulling out of driveways without caution, were also common concerns. Additionally, several respondents reported experiencing near misses at certain location.

Figure 6: Edwin Miller Boulevard Corridor Areas of Persistent Poverty and Public Input Map

Future Conditions

In addition to examining existing conditions, the project team also explored potential future conditions along the corridor. Future conditions could impact countermeasure selection and improvement recommendations. **Figure 7** highlights existing land use and zoning along the corridor. Less than half of the corridor is located within the City of Martinsburg limits, predominantly surrounded by commercial land uses, with some multifamily developments located further north.

Figure 7: Martinsburg Existing Land Use Map (2018)

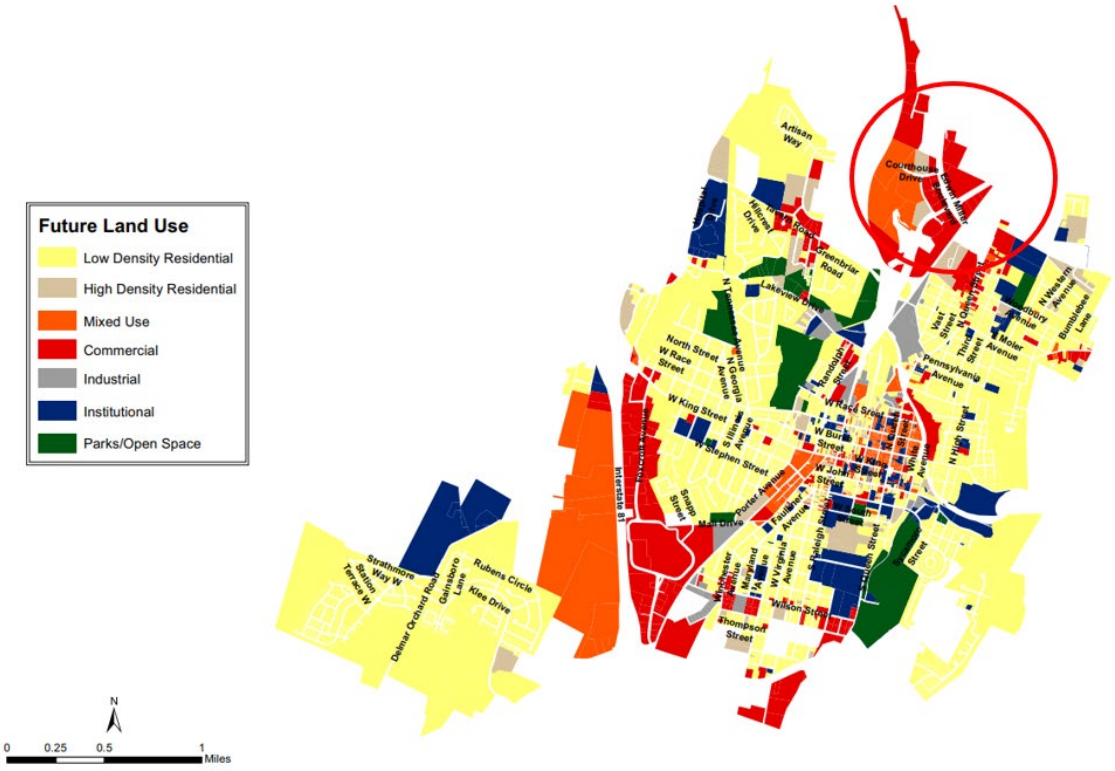


Source: City of Martinsburg GIS

While no specific future development sites were identified along the corridor, **Figure 8** highlights the future land use guide from the 2018 Martinsburg Comprehensive Plan. Existing commercial and multifamily areas remain consistent in the future, while portions of forest/open space are intended to be used for mixed-use development in the future. Future mixed-use land uses could generate more multimodal trips along the corridor. Additionally, the 2016 Berkeley County Comprehensive Plan includes a proposed $24.9M project for intersection improvements on US-11, which would impact the Edwin Miller Boulevard corridor. Furthermore, the team identified a

handful of planned, committed, or recommended projects along or near the corridor (**Table 3**).

Figure 8: Martinsburg Future Land Use Guide



Source: City of Martinsburg GIS

Table 3: Potential Existing Projects or Recommendations

PLANNING REFERENCE	DESCRIPTION
LONG-RANGE TRANSPORTATION PLAN	Intersection and safety improvements between W. Moler Avenue and Warm Springs Avenue.
WEST VIRGINIA VULNERABLE ROAD USER ASSESSMENT	Portion of corridor is designated as a VRU priority corridor for the state: I-81 to the West Virginia State Police office driveway.
WVDOH	Courthouse Drive Traffic Signal Project

Engagement Opportunities and Takeaways

Site Visit

On October 23, 2024, the project team conducted a stakeholder presentation and site visit along the Edwin Miller Boulevard corridor. The presentation, held at the Berkeley County Development Authority Conference Room, provided an overview of the corridor and included training on the FHWA Safe System Project-Based Alignment Framework. Following the training, stakeholders participated in a site visit, stopping at key intersections and walking segments of the corridor to observe existing conditions and discuss potential safety improvements.

Attendees included representatives from local, regional, and state agencies, including the City of Martinsburg, the Eastern Panhandle Transit Authority, the Hagerstown/Eastern Panhandle Metropolitan Planning Organization, the West Virginia Division of Highways, the FHWA West Virginia Division, and local law enforcement. The event supported cross-agency dialogue and advanced planning efforts in alignment with the Safe System Approach.

Figure 9: Stakeholder Observations along the Edwin Miller Boulevard Corridor

Stakeholders and project team members identified several safety challenges along Edwin Miller Boulevard, particularly at intersections such as Eagle School Road, Williamsport Pike/Raleigh Street, and McMillan Court. Common concerns included the absence of pedestrian infrastructure such as sidewalks and crosswalks, limited signage, challenging roadway geometry, and visibility constraints due to curvature or glare. Additional issues noted during the visit included channelized right turns, inconsistent signal coordination, and insufficient lighting. These conditions, along with observed driver behavior and reported near-miss incidents, informed the identification of potential countermeasures detailed in **Tables 4** and **5**.

Table 4: Edwin Miller Boulevard Intersection Safety Challenges Identified During Site Visit

LOCATION	SAFETY CHALLENGES AND RISK FACTORS
EAGLE SCHOOL ROAD	• The northbound channelized right turn lane begins before intersection is within sight due to road curvature, but without signage or positive lane guidance. • The westbound approach has a vertical crest. • Northbound and southbound approaches have offset left turn lanes due to horizontal curvature of roadway. • No sidewalk or other VRU facilities.
WILLIAMSPORT PIKE / RALEIGH STREET	• Channelized right turn lane at all approaches causing difficulties for pedestrian crossings and for merging vehicular traffic at receiving ends. • No sidewalks or connecting pedestrian facilities (e.g. crosswalks, pedestrian phase or signal heads). • Roadway glare during sunset and sunrise. • Vertical crest at east and westbound approaches. • Faded and not properly signed uncontrolled pedestrian crossing just west of intersection at Walgreens driveway and start/end of shared use path. • Shared use path along Raleigh Street does not extend to intersection. • Westbound approach lane designation could have improved signage indicating lane movements.
TRIAMIGAS DRIVE	• Stop controlled approach from minor street have designated left and right turn lanes, causing visibility issues.
JENNINGS DRIVE	• No curb ramp at crosswalk on west side of intersection.
MCMILLAN COURT / WARM SPRINGS RROAD	• Recent reconfiguration has changed queuing dynamic and possibly eliminated bult of left turn queuing concerns for southbound approach. • The northbound left turn lane was observed being used for southbound left turns into AC&T driveway.

Table 5: Edwin Miller Boulevard Segment Safety Challenges Identified During Site Visit

LOCATION	SAFETY CHALLENGES AND RISK FACTORS
ENTIRE CORRIDOR	• No sidewalk or other VRU facilities such as shared use path. • Travel speeds felt higher than the posted speed limit.

LOCATION	SAFETY CHALLENGES AND RISK FACTORS
	• Drainage swales adjacent to the roadway would need to be addressed as part of any roadside enhancements (i.e. installing bicycle or pedestrian facilities or roadway widening). • Enhanced and new lighting is needed along the corridor.
LUTZ AVENUE TO MCMILLIAN COURT	• Limited and unsafe/uncomfortable pedestrian crossing opportunities despite housing complexes and restaurants (including one grocery store) in area generating pedestrian demands. • Signals are not coordinated causing some southbound queuing through McMillian Court from Lutz Avenue red light.
MCMILLIAN COURT TO I-81 RAMPS	• Recently revised northbound merge lane pavement markings are insufficient. Observations of pavement markings being ignored and drivers travel through to right turn lane.

Risk Assessment Summary

In coordination with the FHWA Office of Safety, the Edwin Miller Boulevard was evaluated for potential safety risks using the Safe System Project-Based Alignment Framework. The Project-Based Framework tool was developed to assess roadway locations at the intersection and segment level, as highlighted in **Figure 10**, to identify potential hazards and improvements through the lens of the Safe System Approach (SSA).

This framework emphasizes a holistic view of road safety, aiming to minimize the risk of severe injuries and fatalities by considering all aspects of the transportation system. By integrating principles of the SSA, the Project-Based Framework ensures that safety is a fundamental priority in the planning, design, and operation of roadways, ultimately fostering a safer and more resilient transportation network for all users.

The assessment estimates the potential risk to vehicle drivers and vulnerable road users based on existing conditions, and is later reevaluated by considering potential safety countermeasures. The assessment is based on the following:

- *Exposure* – the volume and/or length (distance) various users are using a facility and could be involved in a potential crash.
- *Likelihood* – the elements and/or risks that impact the probability of a crash taking place by influencing the opportunity for conflict or user error rates.
- *Severity* – the elements and/or risks that impact the probability of a crash taking place by influencing the opportunity for conflict or user error rates.

Figure 10: Edwin Miller Boulevard Corridor Intersections and Segments

The results demonstrate improved safety along the corridor through the implementation of proven countermeasures. **Table 6** provides a summary of the assessment, and detailed results are included in **Appendix A**.

Table 6: Edwin Miller Boulevard Project Summary Assessment by Segment & Intersection

Name	Existing Risk Score	Implementation Risk Score	% Improvement	Any Countermeasures Implemented
Segments				
1: McMillan/Warm Springs	10,440	10,440	0%	Yes
2: Lutz Avenue	8,520	7,920	7%	Yes
3: Jennings Drive	8,640	7,920	8%	Yes
4: Meridian Parkway/District Way	5,904	5,304	10%	Yes
5: Triamigas Drive	8,640	8,640	0%	Yes
6: Courthouse Drive	7,920	7,920	0%	Yes
7: N Raleigh Street/Williamsport Pike	7,920	6,240	21%	Yes
8: Eagle School Road	8,640	8,640	0%	No
Total Segments	**66,624**	**63,024**	**5%**	**-**
Intersections				
A: Ramps - Warm Springs Avenue	6,840	4,440	35%	Yes
B: Warm Springs Avenue - Lutz Avenue	7,236	5,076	30%	Yes
C: Lutz Avenue - Jennings Drive	4,272	3,432	20%	Yes
D: Jennings Drive - Meridian Parkway	2,988	2,148	28%	Yes
E: Meridian Parkway - Triamigas Drive	2,196	1,116	49%	Yes
F: Triamigas Drive - Courthouse Drive	3,408	2,568	25%	Yes
G: Courthouse Drive - N Raleigh St/Williamsport Pike	4,944	3,624	27%	Yes
H: N Raleigh Street/Williamsport Pike - Eagle School Road	3,492	3,492	0%	No
Total intersections	**35,376**	**25,896**	**27%**	**-**
Total Corridor	**102,000**	**88,920**	**13%**	**-**

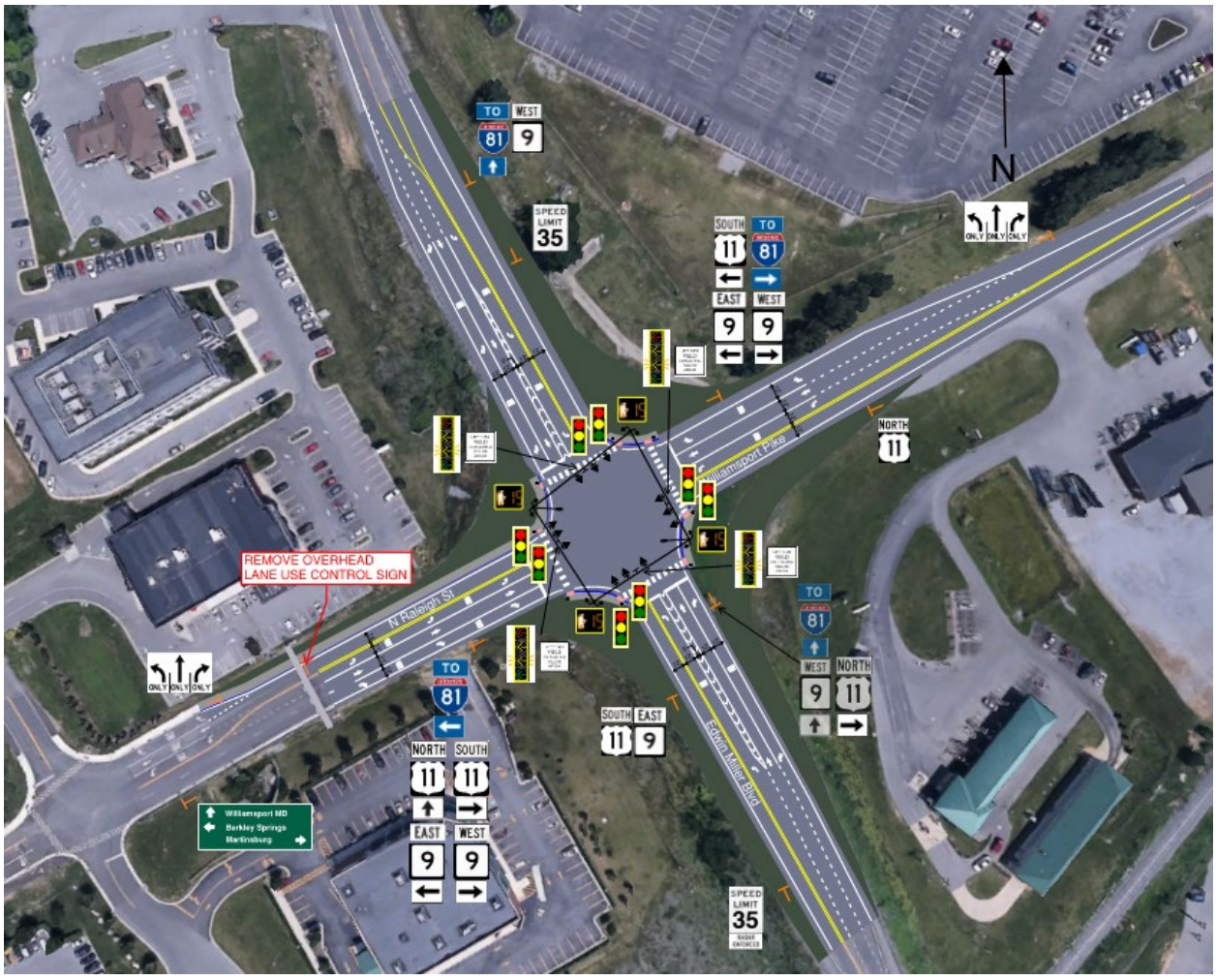
Concept Development

Two action item concepts were developed with proposed safety countermeasures and improvements along the Edwin Miller Boulevard corridor. These action items and locations were selected due to existing safety concerns and risk factors identified during the stakeholder meeting and field visit. The locations are:

- Edwin Miller Boulevard and Williamsport Pike / North Raleigh Street Intersection
- Edwin Miller Boulevard from Williamsport Pike / North Raleigh Street to Mid Atlantic Parkway / McMillan Court

Edwin Miller Boulevard and Williamsport Pike / N Raleigh Street Intersection Safety Focus Action Items

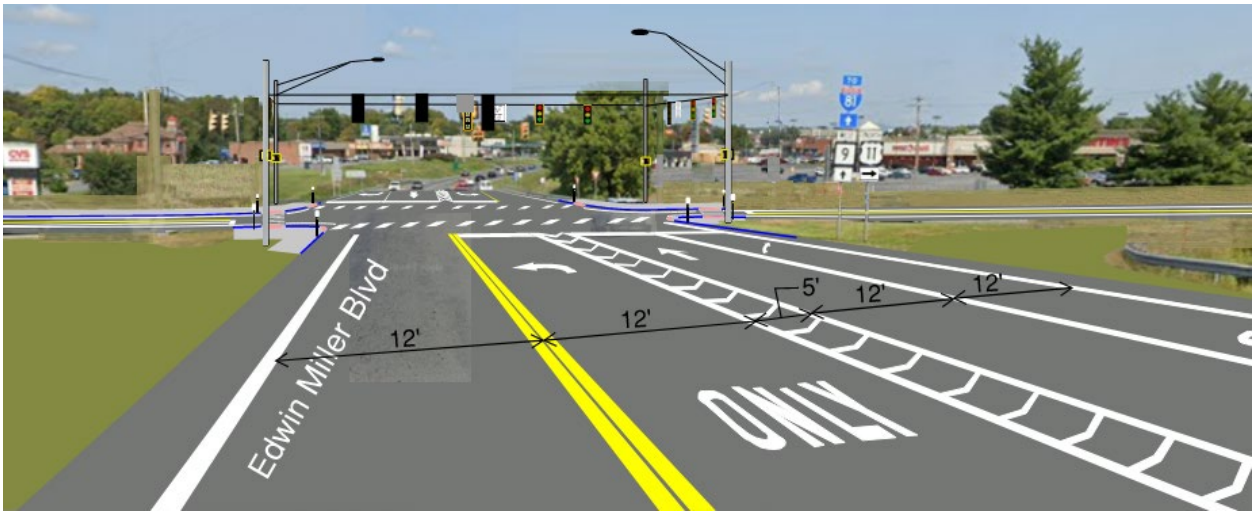
Figure 11: Edwin Miller Boulevard and Williamsport Pike/ N Raleigh Street Proposed Countermeasures



- Eliminate channelized yield right turn for all approaches. Operate lanes as standard exclusive right turn
    - Eliminate channelized right turn islands, relocate signing and signal equipment located within islands
    - Relocate signage adjacent the channelized right turn receiving merge lane
    - Eliminate second through/right turn lane on SB N Raleigh Street and develop as right turn bay at Forbes Drive. Remove overhead lane control sign and replace with a ground mounted lane control sign at beginning of newly developed right turn bay.
    - Revise Williamsport Pike WB approach lane designation signage
- Replace five section protected permissive left turn signal heads for all approaches with exclusive left turn lanes with Flashing Yellow Arrow protected permissive signal heads
- Obtain updated turning movement traffic counts and revise signal timing for variable mode protected permitted left turns based on time of day, and pedestrian actuation
- Install full suite of pedestrian features at the intersection
    - APS pedestrian push buttons
    - Countdown pedestrian signal heads
    - ADA ramps/access pads
    - High visibility crosswalks
    - Pedestrian actuated traffic signal phasing

- Extend sidewalk on north side of N Raleigh Street from existing terminus at end of channelized right turn lane to Edwin Miller Boulevard intersection for pedestrian access to intersection from shared use path at Forbes Avenue.

Figure 12: Edwin Miller Boulevard Improvements



Edwin Miller Boulevard Between Williamsport Pike / N Raleigh Street and Mid Atlantic Parkway / McMillan Court – Safety Focus Action Items

Corridor Length

- Construct continuous 10 ft wide multi-use bituminous/asphalt path along the western side of Edwin Miller Boulevard from N Raleigh Street to Mid Atlantic Parkway / McMillan Court. Divert shared use path along Forbes Drive behind businesses on Edwin Miller Boulevard from N Raleigh Street to Courthouse Drive. to avoid extreme drainage swale along Edwin Miller Boulevard in this area. Tie-in to Edwin Miller Boulevard at Courthouse Drive.
    - Install compliant concrete ADA ramps at all public streets, and high and medium volume driveways
    - Install high visibility crosswalks across all public streets, and high and medium volume driveways
    - Construct curbline along Forbes Drive and Courthouse Drive where multi-use path is at the edge of shoulder and construct as wide curbside sidewalk

- Install doubled up PEDESTRIAN CROSSING with DOWN ARROW Plaque warning signs for Raleigh Street shared use path crosswalk at Forbes Avenue
- Install the new proposed traffic signal at the Courthouse intersection.

Figure 13: Edwin Miller Boulevard Between Williamsport Pike / N Raleigh Street and Mid Atlantic Parkway / Mcmillan

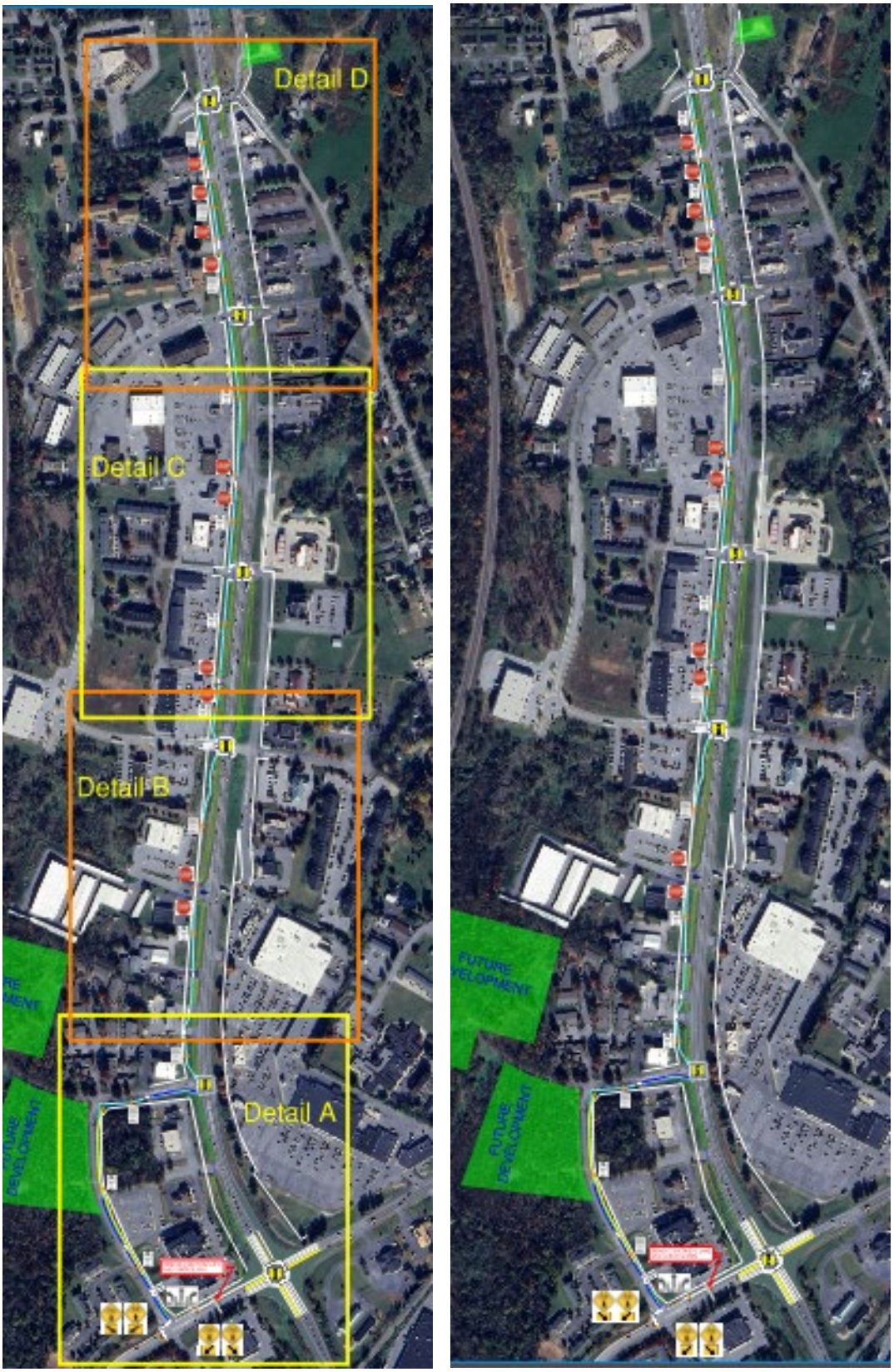


Figure 14: Edwin Miller Boulevard Detail A

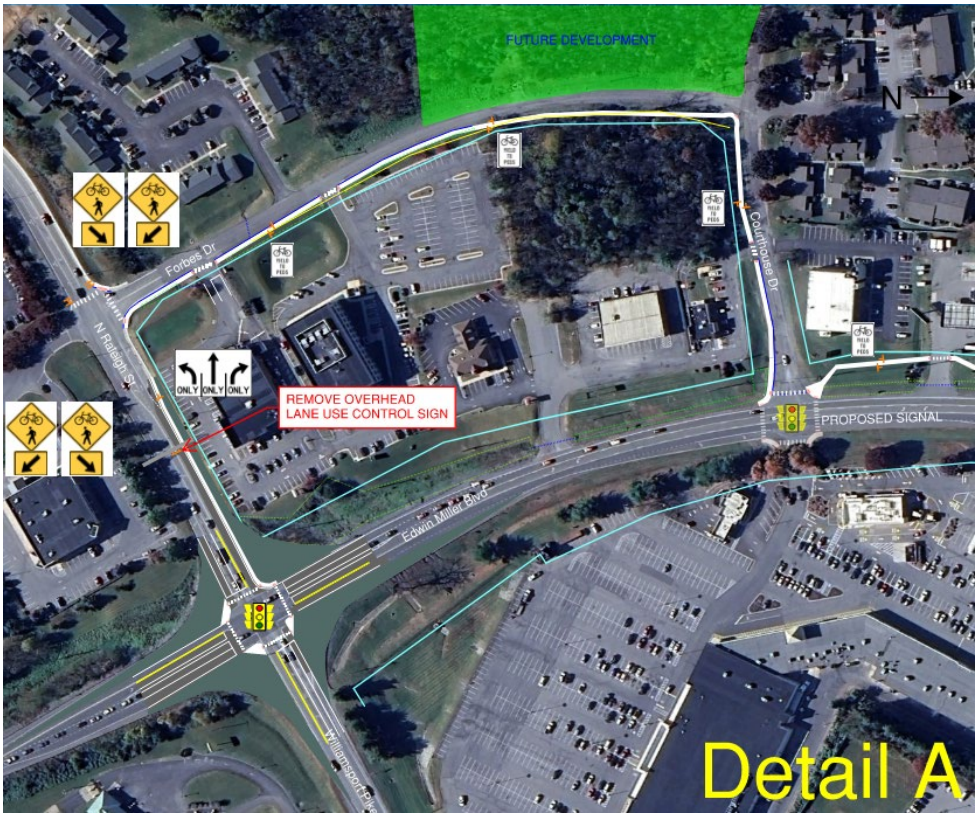


Figure 15: Edwin Miller Boulevard Detail B

Figure 15: Edwin Miller Boulevard Detail C

Figure 14: Edwin Miller Boulevard Detail D

All Signalized Intersections (N Raleigh Street / Williamsport Pike, Meridian Parkway/District Way, Jennings Drive, Lutz Avenue, Mid Atlantic Parkway / McMillan Court)

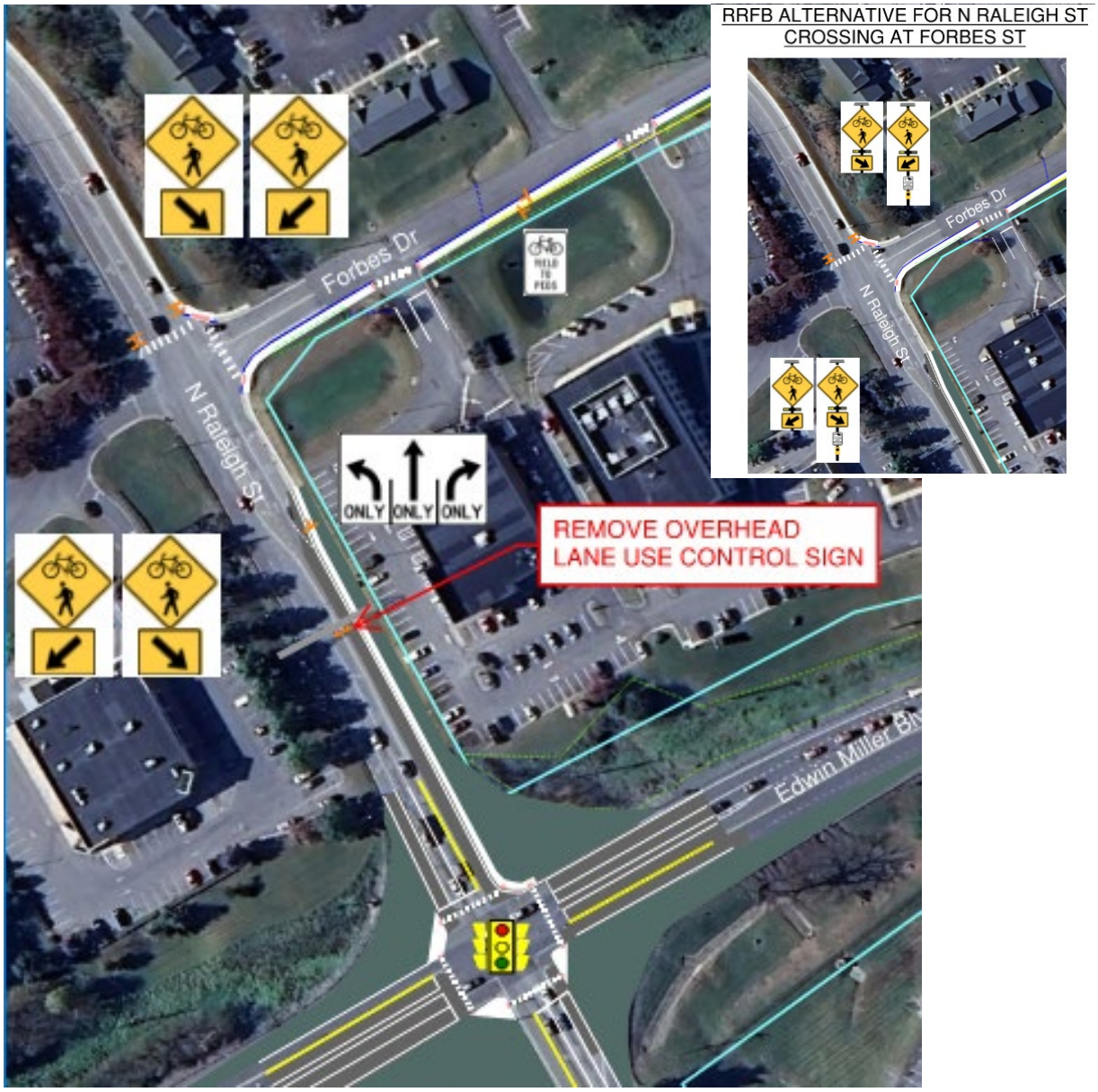
- Install full suite of pedestrian features at the intersection, construct sidewalks and crossings along the multi-use path with 10 ft widths
    - APS pedestrian push buttons
    - Countdown pedestrian signal heads
    - ADA ramps / access pads
    - High visibility crosswalks
    - Pedestrian actuated traffic signal phasing
- Replace five section protected permissive left turn signal heads for Edwin Miller Boulevard exclusive left turn lanes with Flashing Yellow Arrow protected permissive signal heads
    - Relocate primary and secondary three-section signal heads with proper spacing.
- Install backplates with reflectorized strips on all signal heads
- Obtain updated turning movement traffic counts and revise signal timing for variable mode protected permitted left turns based on time of day, and pedestrian actuation.
- Utilize updated traffic counts to update corridor signal coordination. Update phasing, cycle lengths, splits and offsets to reduce corridor congestion and mainline queue lengths.

Figure 16: Typical Pedestrian and Flashing Yellow Arrow Improvements at Signalized Intersections along Edwin Miller Boulevard

Location Specific Action Items

- Upgrade existing uncontrolled intersection at North Raleigh Street and Forbes western and northeast quadrants for multi-use path compliance.
    - Implement 10 ft high visibility crosswalks
    - Implement 10 ft wide sidewalks
    - Install doubled up bicycle/pedestrian warning signs for both directions of traffic on Raleigh Street
    - Install RRFB at uncontrolled crossing
    - Eliminate right turn lane drop for SB N Raleigh St at Forbes Ave and replace with a right turn bay
- Implement Edwin Miller Boulevard and Williamsport Pike / N Raleigh Street intersection action items recommendations concurrently with this action item plan.

Figure 17: N Raleigh Street Shared Use Path and Sidewalk Connections



Monitoring and Evaluation

To support the ongoing evaluation of the Edwin Miller Boulevard corridor, the project team defined a set of performance metrics to assess the change in crash rates over time. As part of this effort, the team developed a crash data monitoring tool for the Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO). The tool allows staff to update and maintain corridor-level data and analyze trends in crash rates, severity, and mode. The tool emphasizes crashes involving vulnerable road users and those that result in someone being killed or seriously injured, while also capturing vehicle-only and non-KSI crashes.

Key features of the tool include:

- An inputs tab labeled "Crashes", which organizes crash data. Users enter 5-year crash counts segregated by mode and severity into designated cells, and the tool calculates the mode percent shares. The tables are formatted to help visualize the distribution of crashes involving VRUs and the share that resulted in KSI.
- An outputs tab labeled "Summary Stats", which calculates Annual Average Crash Rates to help identify long-term trends. A rolling average is used to smoothen any seasonal or one-time variations. This tab also calculates the percent change between the data being evaluated and the baseline or previous iteration of this process.

This method provides a practical and feasible way for HEPMPO to monitor changes in crashes over time using existing data sources. **Table 7** shows the Annual Average Crash Rates for the 2019-2023 Baseline Crashes. As the agency starts to keep track of crashes in the corridor this table will expand to show the new crash rates and percent changes.

Table 7: Baseline Annual Average Crash Rates

Crash Type	Baseline
VRU-KSI	1
VRU-nonKSI	1
Vehicle-KSI	0.8
Vehicle-nonKSI	110
All Crashes	**112.8**

Appendix A: FHWA Safe System Project-Based Alignment Framework

Intersections

Intersections Data	1: Mcmillan/Warm Springs	Mcmillan/Warm Springs (CM)	2: Lutz Avenue	Lutz Avenue (CM)	3: Jennings Drive	Jennings Drive (CM)	4: Meridian Parkway/District Way	Meridian Parkway/District Way (CM)	5: Triamigas Drive	Triamigas Drive (CM)	6: Courthouse Drive	Courthouse Drive (CM)	7: N Raleigh Street/Williamsport Pike	N Raleigh Street/Williamsport Pike (CM)	8: Eagle School Road	Eagle School Road (CM)
Exposure Scoring Sheet																
Vulnerable Road Users																
Vulnerable Road Users Present (users per day)	25	25	25	25	25	25	10	10	10	10	10	10	25	25	10	10
Vulnerable Users Score	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Crossing Distance (Max Number of Lanes)	5	5	3	3	4	4	3	3	4	4	4	4	4	5	4	4
Crossing Distance (Max Number of Lanes) Score	10	10	6	6	8	8	6	6	8	8	8	8	8	10	8	8
Exposure Vulnerable Road Users Score	14	14	10	10	12	12	10	10	12	12	12	12	12	14	12	12
Motor Vehicles																
Motor Vehicle Volumes (AADT)	32487	32487	23507	23507	16658	16658	16658	16658	16658	16658	16658	16658	29982	29982	29503	29503
Motor Vehicle Volumes (AADT) Score	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Roadway Width (feet)	60	60	38	38	48	48	37	37	50	50	50	50	71	60	70	70
Roadway Width Score	10	10	6	6	10	10	6	6	10	10	10	10	10	10	10	10
Exposure Motor Vehicles Score	20	20	16	16	20	20	16	16	20	20	20	20	20	20	20	20
Likelihood Risk Factors (Motor Vehicle)																
Roadside																

Intersections Data	1: Mcmillan/Warm Springs	Mcmillan/Warm Springs (CM)	2: Lutz Avenue	Lutz Avenue (CM)	3: Jennings Drive	Jennings Drive (CM)	4: Meridian Parkway/District Way	Meridian Parkway/District Way (CM)	5: Triamigas Drive	Triamigas Drive (CM)	6: Courthouse Drive	Courthouse Drive (CM)	7: N Raleigh Street/Williamsport Pike	N Raleigh Street/Williamsport Pike (CM)	8: Eagle School Road	Eagle School Road (CM)
Risk Factor: Lighting Conditions																
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Northbound	3	3	3	3	1.5	1.5	1.5	1.5	3	3	3	3	1.5	1.5	1.5	1.5
(Edwin Miller) Southbound	3	3	3	3	1.5	1.5	1.5	1.5	3	3	3	3	1.5	1.5	1.5	1.5
Intersection Operations																
Risk Factor: Turn Right on Red Conditions																
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Northbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Southbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Risk Factor: Permissive Left Turns																
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	2	1	3	3
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	2	1	3	3
(Edwin Miller) Northbound	2	1	2	1	2	1	2	1	3	3	3	3	2	1	3	3
(Edwin Miller) Southbound	2	1	2	1	2	1	2	1	3	3	3	3	2	1	2	2
Risk Factor: Obstructed Sight Distance																

Intersections Data	1: Mcmillan/Warm Springs	Mcmillan/Warm Springs (CM)	2: Lutz Avenue	Lutz Avenue (CM)	3: Jennings Drive	Jennings Drive (CM)	4: Meridian Parkway/District Way	Meridian Parkway/District Way (CM)	5: Triamigas Drive	Triamigas Drive (CM)	6: Courthouse Drive	Courthouse Drive (CM)	7: N Raleigh Street/Williamsport Pike	N Raleigh Street/Williamsport Pike (CM)	8: Eagle School Road	Eagle School Road (CM)
Eastbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	1.5
Westbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(Edwin Miller) Northbound	1.5	1.5	1.5	1.5	0	0	0	0	0	0	0	0	0	0	0	0
(Edwin Miller) Southbound	1.5	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk Factor: Topographical Risks																
Eastbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	1.5
Westbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	1.5
(Edwin Miller) Northbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(Edwin Miller) Southbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk Factor: Roadside Characteristics																
Eastbound	3	3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0	0
Westbound	3	3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3	3
(Edwin Miller) Northbound	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3	3	3	3	3	3	1.5	1.5
(Edwin Miller) Southbound	3	3	1.5	1.5	1.5	1.5	0	0	3	3	3	3	3	3	3	3
Risk Factor: Channelized Right-Turn Lane																
Eastbound	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	0	0
Westbound	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	1.5	1.5
(Edwin Miller) Northbound	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	1.5	1.5
(Edwin Miller) Southbound	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	0	0
Risk Factor: Driveways																

Intersections Data	1: Mcmillan/Warm Springs	Mcmillan/Warm Springs (CM)	2: Lutz Avenue	Lutz Avenue (CM)	3: Jennings Drive	Jennings Drive (CM)	4: Meridian Parkway/District Way	Meridian Parkway/District Way (CM)	5: Triamigas Drive	Triamigas Drive (CM)	6: Courthouse Drive	Courthouse Drive (CM)	7: N Raleigh Street/Williamsport Pike	N Raleigh Street/Williamsport Pike (CM)	8: Eagle School Road	Eagle School Road (CM)
Eastbound	1.5	1.5	3	1.5	3	3	0	0	3	3	0	0	0	0	0	0
Westbound	0	0	3	0	3	3	0	0	0	0	0	0	1.5	1.5	1.5	1.5
(Edwin Miller) Northbound	3	3	1.5	3	0	0	0	0	0	0	0	0	0	0	1.5	1.5
(Edwin Miller) Southbound	0	0	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk Factor: Separation of Opposing Vehicular Direction of Travel																
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Northbound	3	3	1.5	3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3	3	1.5	1.5
(Edwin Miller) Southbound	3	3	1.5	3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3	3
Risk Factor Crossing Conflict Driveway																
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Northbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Southbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Risk Factor: Skewed Intersection																
Eastbound	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0
Westbound	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0
(Edwin Miller) Northbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
(Edwin Miller) Southbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roadway Information																

Intersections Data	1: Mcmillan/Warm Springs	Mcmillan/Warm Springs (CM)	2: Lutz Avenue	Lutz Avenue (CM)	3: Jennings Drive	Jennings Drive (CM)	4: Meridian Parkway/District Way	Meridian Parkway/District Way (CM)	5: Triamigas Drive	Triamigas Drive (CM)	6: Courthouse Drive	Courthouse Drive (CM)	7: N Raleigh Street/Williamsport Pike	N Raleigh Street/Williamsport Pike (CM)	8: Eagle School Road	Eagle School Road (CM)
Number of Legs	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Likelihood Risk Factor Score – Motor Vehicles	6	6	6	6	5	5	5	5	6	6	6	6	6	5	6	6
Likelihood Score: Motor Vehicle Subtotal	15	15	15	15	12	12	12	12	15	15	15	15	15	12	15	15
Likelihood Risk Factors (VRU)																
Pedestrian and Bicycle Accomodation																
Risk Factor: Pedestrian Space Separation																
Eastbound	3	1.5	3	1.5	3	1.5	3	1.5	3	1.5	3	1.5	3	1.5	3	3
Westbound	3	1.5	3	1.5	3	1.5	3	1.5	3	3	3	3	3	1.5	3	3
(Edwin Miller) Northbound	3	1.5	3	1.5	3	1.5	3	1.5	3	3	3	3	3	1.5	3	3
(Edwin Miller) Southbound	3	1.5	3	1.5	1.5	1.5	3	1.5	3	3	3	3	3	1.5	3	3
Risk Factor: Bike Space Separation																
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Northbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Southbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Risk Factor: Pedestrian/Bike Time Separation																
Eastbound	3	2.25	3	2.25	3	2.25	3	2.25	3	3	3	3	3	2.25	3	3
Westbound	3	2.25	3	2.25	3	2.25	3	2.25	3	3	3	3	3	2.25	3	3
(Edwin Miller) Northbound	3	2.25	3	2.25	3	2.25	3	2.25	3	3	3	3	3	2.25	3	3
(Edwin Miller) Southbound	3	2.25	3	2.25	3	2.25	3	2.25	3	3	3	3	3	2.25	3	3

Intersections Data	1: Mcmillan/Warm Springs	Mcmillan/Warm Springs (CM)	2: Lutz Avenue	Lutz Avenue (CM)	3: Jennings Drive	Jennings Drive (CM)	4: Meridian Parkway/District Way	Meridian Parkway/District Way (CM)	5: Triamigas Drive	Triamigas Drive (CM)	6: Courthouse Drive	Courthouse Drive (CM)	7: N Raleigh Street/Williamsport Pike	N Raleigh Street/Williamsport Pike (CM)	8: Eagle School Road	Eagle School Road (CM)
Risk Factor: Bicycle Time Separation																
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Northbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Southbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Risk Factor: Lighting Conditions																
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Northbound	3	3	3	3	1.5	1.5	1.5	1.5	3	3	3	3	1.5	1.5	1.5	1.5
(Edwin Miller) Southbound	3	3	3	3	1.5	1.5	1.5	1.5	3	3	3	3	1.5	1.5	1.5	1.5
Intersection Operations																
Risk Factor: Right Turn or Red Conditions																
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Northbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
(Edwin Miller) Southbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Risk Factor: Permissive Left Turns																
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	2	1	3	3
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	2	1	3	3

Intersections Data	1: Mcmillan/Warm Springs	Mcmillan/Warm Springs (CM)	2: Lutz Avenue	Lutz Avenue (CM)	3: Jennings Drive	Jennings Drive (CM)	4: Meridian Parkway/District Way	Meridian Parkway/District Way (CM)	5: Triamigas Drive	Triamigas Drive (CM)	6: Courthouse Drive	Courthouse Drive (CM)	7: N Raleigh Street/Williamsport Pike	N Raleigh Street/Williamsport Pike (CM)	8: Eagle School Road	Eagle School Road (CM)
(Edwin Miller) Northbound	2	1	2	1	2	1	2	1	3	3	3	3	2	1	3	3
(Edwin Miller) Southbound	2	1	2	1	2	1	2	1	3	3	3	3	2	1	2	2
Roadway and Intersection Geometry																
Risk Factor: Obstructed Sight Distance																
Eastbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(Edwin Miller) Northbound	1.5	1.5	1.5	1.5	0	0	0	0	0	0	0	0	0	0	0	0
(Edwin Miller) Southbound	1.5	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk Factor: Topographical Risks																
Eastbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	1.5
Westbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	1.5
(Edwin Miller) Northbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(Edwin Miller) Southbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk Factor: Channelized Right-Turn Lane																
Eastbound	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	0	0
Westbound	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	1.5	1.5
(Edwin Miller) Northbound	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	1.5	1.5
(Edwin Miller) Southbound	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	0	0
Risk Factor: Driveways																
Eastbound	1.5	1.5	3	1.5	3	3	0	0	3	3	0	0	0	0	0	0
Westbound	0	0	3	0	3	3	0	0	0	0	0	0	1.5	1.5	1.5	1.5

Intersections Data	1: Mcmillan/Warm Springs	Mcmillan/Warm Springs (CM)	2: Lutz Avenue	Lutz Avenue (CM)	3: Jennings Drive	Jennings Drive (CM)	4: Meridian Parkway/District Way	Meridian Parkway/District Way (CM)	5: Triamigas Drive	Triamigas Drive (CM)	6: Courthouse Drive	Courthouse Drive (CM)	7: N Raleigh Street/Williamsport Pike	N Raleigh Street/Williamsport Pike (CM)	8: Eagle School Road	Eagle School Road (CM)
(Edwin Miller) Northbound	3	3	1.5	3	0	0	0	0	0	0	0	0	0	0	1.5	1.5
(Edwin Miller) Southbound	0	0	1.5	0	0	0	0	0	0	0	1.5	1.5	0	0	0	0
Risk Factor: Skewed Intersection																
Eastbound	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0
Westbound	0	0	0	3	0	0	0	0	3	3	0	0	0	0	0	0
(Edwin Miller) Northbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
(Edwin Miller) Southbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roadway Information																
Number of Legs	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Likelihood Risk Factor Score – Vulnerable Road Users	7	7	8	7	7	6	7	6	8	8	7	7	7	5	8	8
Likelihood Score: VRU Subtotal	18	18	21	18	18	15	18	15	21	21	18	18	18	12	21	21
Severity Scoring Sheet																
Vulnerable Road Users																
Risk Factor: Operating Speed (mph) or Speed Limit +7 mph	52	52	52	52	52	52	42	42	42	42	42	42	42	42	42	42
Severity - Vulnerable Road Users Score	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Motor Vehicles																
Risk Factor: Operating Speed (mph) or Speed Limit +7 mph	52	52	52	52	52	52	42	42	42	42	42	42	42	42	42	42
Severity - Motor Vehicles Score	18	18	18	18	18	18	12	12	12	12	12	12	12	12	12	12
Summary Scoring Sheet																

Intersections Data	1: Mcmillan/Warm Springs	Mcmillan/Warm Springs (CM)	2: Lutz Avenue	Lutz Avenue (CM)	3: Jennings Drive	Jennings Drive (CM)	4: Meridian Parkway/District Way	Meridian Parkway/District Way (CM)	5: Triamigas Drive	Triamigas Drive (CM)	6: Courthouse Drive	Courthouse Drive (CM)	7: N Raleigh Street/Williamsport Pike	N Raleigh Street/Williamsport Pike (CM)	8: Eagle School Road	Eagle School Road (CM)
Exposure Score																
Exposure - Motor Vehicles Score	20	20	16	16	20	20	16	16	20	20	20	20	20	20	20	20
Likelihood - Motor Vehicles Score	15	15	15	15	12	12	12	12	15	15	15	15	15	12	15	15
Severity - Motor Vehicles Score	18	18	18	18	18	18	12	12	12	12	12	12	12	12	12	12
Mode Subtotal - Motor Vehicles Score	5,400	5,400	4,320	4,320	4,320	4,320	2,304	2,304	3,600	3,600	3,600	3,600	3,600	2,880	3,600	3,600
Exposure - Vulnerable Road Users Score	14	14	10	10	12	12	10	10	12	12	12	12	12	14	12	12
Likelihood - Vulnerable Road Users Score	18	18	21	18	18	15	18	15	21	21	18	18	18	12	21	21
Severity - Vulnerable Road Users Score	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Mode subtotal - Vulnerable Road Users Score	5040	5040	4200	3600	4320	3600	3600	3000	5040	5040	4320	4320	4320	3360	5040	5040
TOTAL	**10,440**	**10,440**	**8,520**	**7,920**	**8,640**	**7,920**	**5,904**	**5,304**	**8,640**	**8,640**	**7,920**	**7,920**	**7,920**	**6,240**	**8,640**	**8,640**

Segments

Segments Data	A: Ramps - Warm Springs Avenue	Ramps - Warm Springs Avenue (CM)	B: Warm Springs Avenue - Lutz Avenue	Warm Springs Avenue - Lutz Avenue (CM)	C: Lutz Avenue - Jennings Drive	Lutz Ave - Jennings Drive (CM)	D: Jennings Drive - Meridian Parkway	Jennings Drive - Meridian Parkway (CM)	E: Meridian Parkway - Triamigas Drive	Meridian Parkway - Triamigas Drive (CM)	F: Triamigas Drive - Courthouse Drive	Triamigas Drive - Courthouse Drive (CM)	G: Courthouse Drive - N Raleigh Street/Williamsport Pike	Courthouse Drive - N Raleigh Street/Williamsport Pike (CM)	H: N Raleigh Street/Williamsport Pike - Eagle School Road	N Raleigh Street/Williamsport Pike - Eagle School Road (CM)
Exposure Scoring Sheet																
Vulnerable Road Users																
Vulnerable Road Users Present (users per day)	101	101	101	101	1	1	1	1	1	1	1	1	1	1	1	1
Vulnerable Users Score	10	10	10	10	1	1	1	1	1	1	1	1	1	1	1	1
Crossing Distance (Max Number of Lanes)	5	5	4	4	3	3	3	3	4	4	3	3	5	5	5	5
Crossing Distance (Max Number of Lanes) Score	10	10	8	8	6	6	6	6	8	8	6	6	10	10	10	10
Exposure Vulnerable Road Users Score	20	20	18	18	7	7	7	7	9	9	7	7	11	11	11	11
Motor Vehicles																
Motor Vehicle Volumes (AADT)	26783	26783	20272	20272	16658	16658	16658	16658	16658	16658	16658	16658	16658	16658	22354	22354
Motor Vehicle Volumes (AADT) Score	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Roadway Width (feet)	68	68	45	45	36	36	36	36	37	37	38	38	38	38	30	30
Roadway Width Score	10	10	8	8	6	6	6	6	6	6	6	6	6	6	4	4
Exposure Motor Vehicles Score	20	20	18	18	16	16	16	16	16	16	16	16	16	16	14	14
Risk Factors (Motor Vehicle)																
Roadside																
Risk Factor: Lighting Conditions	1.5	1.5	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Risk Factor: Fixed Objects	3	3	0	0	0	0	0	0	0	0	0	0	3	3	3	3

Segments Data	A: Ramps - Warm Springs Avenue	Ramps - Warm Springs Avenue (CM)	B: Warm Springs Avenue - Lutz Avenue	Warm Springs Avenue - Lutz Avenue (CM)	C: Lutz Avenue - Jennings Drive	Lutz Ave - Jennings Drive (CM)	D: Jennings Drive - Meridian Parkway	Jennings Drive - Meridian Parkway (CM)	E: Meridian Parkway - Triamigas Drive	Meridian Parkway - Triamigas Drive (CM)	F: Triamigas Drive - Courthouse Drive	Triamigas Drive - Courthouse Drive (CM)	G: Courthouse Drive - N Raleigh Street/Williamsport Pike	Courthouse Drive - N Raleigh Street/Williamsport Pike (CM)	H: N Raleigh Street/Williamsport Pike - Eagle School Road	N Raleigh Street/Williamsport Pike - Eagle School Road (CM)
Roadway and Intersection Geometry																
Risk Factor: Obstructed Sight Distance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk Factor: Topographical Risks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk Factor: Roadside Characteristics	3	3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3	3	1.5	1.5
Risk Factor: Driveways	0	0	3	3	1.5	1.5	0	0	0	0	1.5	1.5	0	0	0	0
Risk Factor: Separation of Opposing Vehicular Direction of Travel	3	3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3	3
Risk Factor: Crossing Conflict Driveway	0	0	3	3	3	3	3	3	0	0	3	3	3	3	0	0
Risk Factor: Curvature	0	0	0	0	1.5	1.5	0	0	0	0	1.5	1.5	1.5	1.5	0	0
Likelihood - Risk Factor Score - Motor Vehicles	3.5	3.5	4	4	4	4	3	3	2	2	4	4	5	5	3.5	3.5
Likelihood Score - Motor Vehicles Subtotal	9	9	9	9	9	9	6	6	3	3	9	9	12	12	9	9
Risk Factors (VRU)																
Pedestrian and Bicycle Accomodation																
Risk Factor: Pedestrian Space Separation	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	3
Risk Factor: Bike Space Separation	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	3
Risk Factor: Pedestrian/Bike Time Separation	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Segments Data	A: Ramps - Warm Springs Avenue	Ramps - Warm Springs Avenue (CM)	B: Warm Springs Avenue - Lutz Avenue	Warm Springs Avenue - Lutz Avenue (CM)	C: Lutz Avenue - Jennings Drive	Lutz Ave - Jennings Drive (CM)	D: Jennings Drive - Meridian Parkway	Jennings Drive - Meridian Parkway (CM)	E: Meridian Parkway - Triamigas Drive	Meridian Parkway - Triamigas Drive (CM)	F: Triamigas Drive - Courthouse Drive	Triamigas Drive - Courthouse Drive (CM)	G: Courthouse Drive - N Raleigh Street/Williamsport Pike	Courthouse Drive - N Raleigh Street/Williamsport Pike (CM)	H: N Raleigh Street/Williamsport Pike - Eagle School Road	N Raleigh Street/Williamsport Pike - Eagle School Road (CM)
Roadside																
Risk Factor: Lighting Conditions	1.5	1.5	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Roadway and Intersection Geometry																
Risk Factor: Obstructed Sight Distance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk Factor: Topographical Risks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk Factor: Driveways	0	0	3	3	1.5	1.5	0	0	0	0	1.5	1.5	0	0	0	0
Risk Factor: Curvature	0	0	0	0	1.5	1.5	0	0	0	0	1.5	1.5	1.5	1.5	0	0
Likelihood Risk Factor Score - Vulnerable Road Users	4	2	5	3	5	3	4	2	4	2	5	3	5	3	4	4
Likelihood Score - Vulnerable Road Users Subtotal	9	3	12	6	12	6	9	3	9	3	12	6	12	6	9	9
Severity Scoring Sheet																
Vulnerable Road Users																
Risk Factor: Operating Speed (mph) or Speed Limit +7 mph	52	52	52	52	52	52	52	52	42	42	42	42	42	42	42	42
Severity - Vulnerable Road Users Score	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Motor Vehicles																
Risk Factor: Operating Speed (mph) or Speed Limit +7 mph	52	52	52	52	52	52	52	52	42	42	42	42	42	42	42	42
Severity - Motor Vehicles Score	18	18	18	18	18	18	18	18	12	12	12	12	12	12	12	12
Summary Scoring Sheet																
Exposure Score																

Segments Data	A: Ramps - Warm Springs Avenue	Ramps - Warm Springs Avenue (CM)	B: Warm Springs Avenue - Lutz Avenue	Warm Springs Avenue - Lutz Avenue (CM)	C: Lutz Avenue - Jennings Drive	Lutz Ave - Jennings Drive (CM)	D: Jennings Drive - Meridian Parkway	Jennings Drive - Meridian Parkway (CM)	E: Meridian Parkway - Triamigas Drive	Meridian Parkway - Triamigas Drive (CM)	F: Triamigas Drive - Courthouse Drive	Triamigas Drive - Courthouse Drive (CM)	G: Courthouse Drive - N Raleigh Street/Williamsport Pike	Courthouse Drive - N Raleigh Street/Williamsport Pike (CM)	H: N Raleigh Street/Williamsport Pike - Eagle School Road	N Raleigh Street/Williamsport Pike - Eagle School Road (CM)
Exposure - Motor Vehicles Score	20	20	18	18	16	16	16	16	16	16	16	16	16	16	14	14
Likelihood - Motor Vehicles Score	9	9	9	9	9	9	6	6	3	3	9	9	12	12	9	9
Severity - Motor Vehicles Score	18	18	18	18	18	18	18	18	12	12	12	12	12	12	12	12
Mode Subtotal - Motor Vehicles Score	3,240	3,240	2,916	2,916	2,592	2,592	1,728	1,728	576	576	1,728	1,728	2,304	2,304	1,512	1,512
Exposure - Vulnerable Road Users Score	20	20	18	18	7	7	7	7	9	9	7	7	11	11	11	11
Likelihood - Vulnerable Road Users Score	9	3	12	6	12	6	9	3	9	3	12	6	12	6	9	9
Severity - Vulnerable Road Users Score	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Mode subtotal - Vulnerable Road Users Score	3600	1200	4320	2160	1680	840	1260	420	1620	540	1680	840	2640	1320	1980	1980
TOTAL SCORE	**6,840**	**4,440**	**7,236**	**5,076**	**4,272**	**3,432**	**2,988**	**2,148**	**2,196**	**1,116**	**3,408**	**2,568**	**4,944**	**3,624**	**3,492**	**3,492**

Appendix B: Countermeasures Cost Estimates

`	Construction Costs	ADA Ramps	Mobilization (4%)	Maintenence and Protection of Traffic (10%)	Contingencies (25%)	Inspection (12%)	Engineering (25%)	TOTAL
Shared Use Path and Pedestrian Accommodations								
Shared Use Path	$4,608,000	$780,000	$215,520	$538,800	$1,152,000	$646,560	$1,152,000	$9,092,880
Signal Upgrades - Pedestrian Accommodation	$440,000	-	$17,600	$44,000	$110,000	$52,800	$110,000	$774,400
High Visibility Crosswalks	$114,400	-	$4,576	$11,440	$28,600	$13,728	$28,600	$201,344
Raleigh Street Intersection Improvements								
Signal and Pedestrian Improvements	$291,500	$104,000	$15,820	$39,550	$72,875	$47,460	$72,875	$644,080
Eliminate Channelized Right Turn lanes and Install Standard Right Turn Bays	$942,450	-	$37,698	$94,245	$235,613	$113,094	$235,613	$1,658,712
Total (Rounded) - $12,371,000								

Appendix C: Public Feedback

Public Comment Period

There was a 30-day public comment period from March 23 – June 23, 2025, to allow for the public to review of the draft plan and provide written comment. The draft plan was posted on HEPMPO's website and hard copies of the plan were made available at the Martinsburg Public Library. Copies could also be requested directly from HEPMPO.

Response Summary

There were no public comments received on the draft plan.

Public Meeting

A hybrid public meeting was held on June 12, 2025, at the Martinsburg Police Station in the George Karos Community Room. The presentation is posted on HEPMPO's website. A list of the attendees is below.

Edwin Miller Blvd Safety Corridor Study

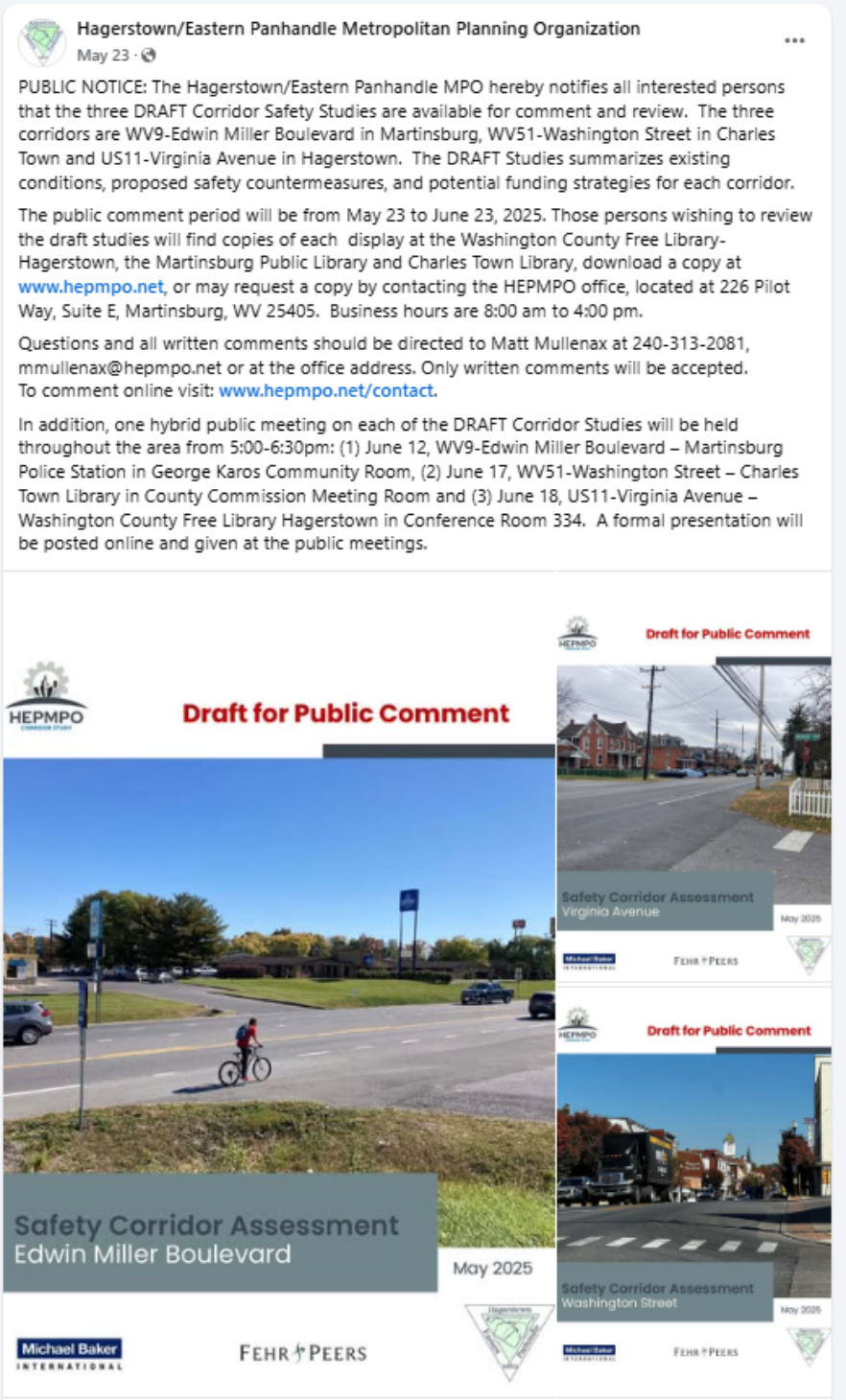
Public Meeting Sign-In Sheet

June 12, 2025

Name	Organization	Email
Elaine Bartoldson	Eastern Panhandle Transit	ebartoldson@eptawv.com
Bryant Shupp	Berkeley Co. Sheriff's Office	BShupp@Berkeleywv.org
Ken Clohan	WV Division of Highways	Kenneth.l.clohan@wv.gov

Social Media Posts & Website

HEPMPO utilized social media posts and its website to provide public notice on the plan's public comment period and the public meeting.



Hagerstown/Eastern Panhandle Metropolitan Planning Organization
May 23 ·

PUBLIC NOTICE: The Hagerstown/Eastern Panhandle MPO hereby notifies all interested persons that the three DRAFT Corridor Safety Studies are available for comment and review. The three corridors are WV9-Edwin Miller Boulevard in Martinsburg, WV51-Washington Street in Charles Town and US11-Virginia Avenue in Hagerstown. The DRAFT Studies summarizes existing conditions, proposed safety countermeasures, and potential funding strategies for each corridor.

The public comment period will be from May 23 to June 23, 2025. Those persons wishing to review the draft studies will find copies of each display at the Washington County Free Library-Hagerstown, the Martinsburg Public Library and Charles Town Library, download a copy at www.hepmpo.net, or may request a copy by contacting the HEPMPO office, located at 226 Pilot Way, Suite E, Martinsburg, WV 25405. Business hours are 8:00 am to 4:00 pm.

Questions and all written comments should be directed to Matt Mullenax at 240-313-2081, mmullenax@hepmpo.net or at the office address. Only written comments will be accepted. To comment online visit: www.hepmpo.net/contact.

In addition, one hybrid public meeting on each of the DRAFT Corridor Studies will be held throughout the area from 5:00-6:30pm: (1) June 12, WV9-Edwin Miller Boulevard – Martinsburg Police Station in George Karos Community Room, (2) June 17, WV51-Washington Street – Charles Town Library in County Commission Meeting Room and (3) June 18, US11-Virginia Avenue – Washington County Free Library Hagerstown in Conference Room 334. A formal presentation will be posted online and given at the public meetings.


Hagerstown/Eastern Panhandle Metropolitan Planning Organization
June 3 at 7:26 AM
Comment on the Draft Edwin Miller Boulevard Corridor Safety Study
Public meeting is scheduled at:
Martinsburg Police Department (June 12)
From 5:00-6:30 PM.
Prefer to join online? Want more info? Check it out: https://hepmpo.com/
Figure 11: Edwin Miller Boulevard and Williamsport Pike/ N Raleigh Street Proposed Countermeasures
N
2
2 comments 4 shares
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Comment
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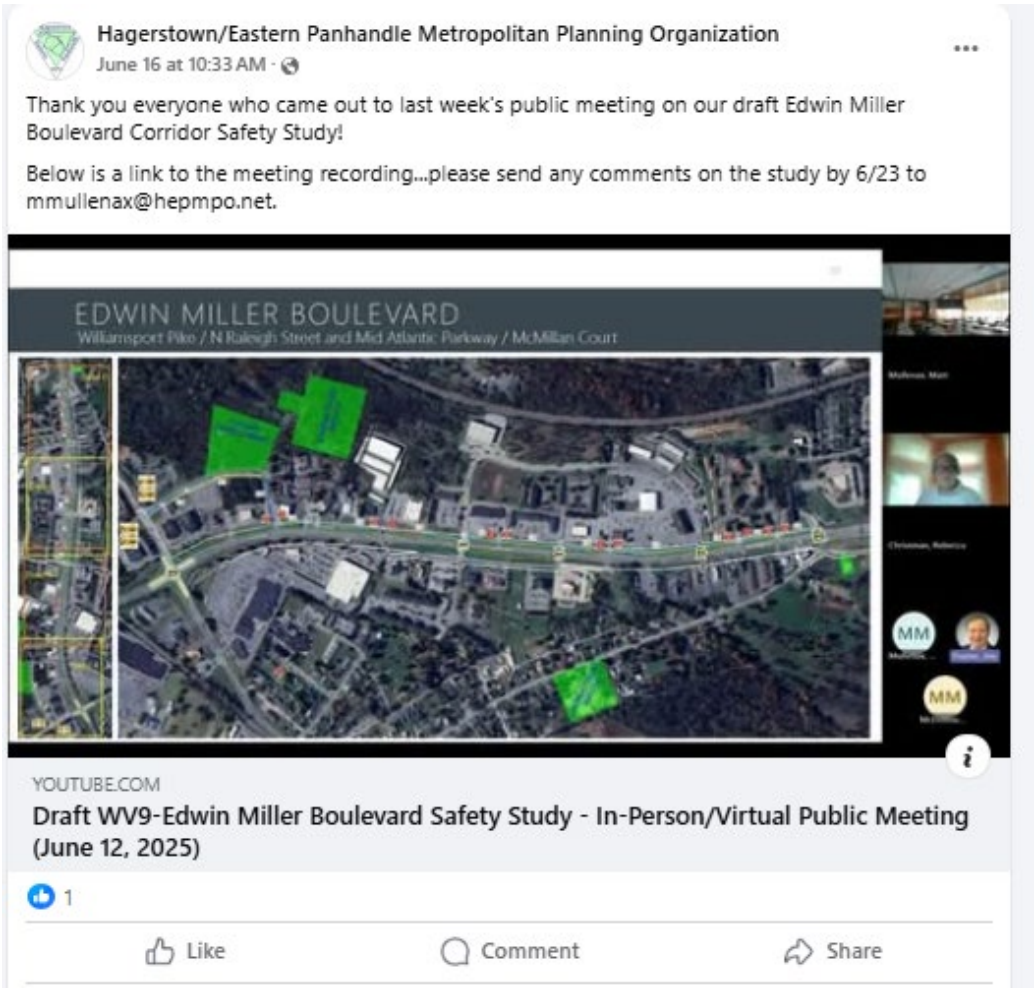
Hagerstown/Eastern Panhandle Metropolitan Planning Organization
June 16 at 10:33 AM ·
Thank you everyone who came out to last week's public meeting on our draft Edwin Miller Boulevard Corridor Safety Study!
Below is a link to the meeting recording...please send any comments on the study by 6/23 to mmullenax@hepmpo.net.
EDWIN MILLER BOULEVARD
Williamsport Pike / N Raleigh Street and Mid Atlantic Parkway / McMillan Court
YOUTUBE.COM
Draft WV9-Edwin Miller Boulevard Safety Study - In-Person/Virtual Public Meeting (June 12, 2025)
1
Like
Comment
Share


Hagerstown/Eastern Panhandle Metropolitan Planning Organization
June 12 at 7:30 AM
Public meeting tonight on Draft Edwin Miller Boulevard Corridor Study.
Martinsburg Police Department
From 5:00-6:30 PM.
Learn about proposed recommendations, including at all signalized intersections:
EDWIN MILLER BOULEVARD
All Signalized Intersections
Add a full suite of pedestrian features and constructing 10-ft sidewalks and crossings along the multi-use path
Modernize traffic signal infrastructure with Flashing Yellow Arrows, properly spaced signal heads, and reflectorized backplates
Optimize signal timing using updated traffic counts and pedestrian demand to support time-of-day operations and safer left turns
45
3
1 comment 1 share
Like
Comment
Share