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HARMONY GROVE INTERCHANGE

Interstate 79 (MP – 151) and County Route 45

MONONGALIA COUNTY, WEST VIRGINIA

ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to 42 U.S.C. 4332(2)(C)

U.S. Department of Transportation

Federal Highway Administration

and

West Virginia Department of Transportation – Division of Highways

12/11/2025

DATE OF APPROVAL

FOR WEST VIRGINIA DIVISION OF HIGHWAYS

JASON WORKMAN Digitally signed by JASON WORKMAN Date: 2025.12.15 11:58:43 -05'00'

DATE OF APPROVAL

FOR FEDERAL HIGHWAY ADMINISTRATION

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This proposed project consists of a new I-79 Interchange between Exit 148- I-68E and Exit 152- US19 Westover/Morgantown (Granville) interchanges in the Morgantown, West Virginia area. The new interchange will alleviate current congestion and provide capacity for future development within the Morgantown Industrial Park.

Comments on this Environmental Assessment are due by _____ and should be sent to:

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Harmony Grove Interchange

Interstate 79 (MP – 151) and County Route 45

Environmental Assessment

Monongalia County, West Virginia

THRASHER

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December 2, 2025

Thrasher Project No. 080-10024

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EXECUTIVE SUMMARY

ES.1. Project Description

Enrout Properties Inc., owner of the Morgantown Industrial Park (MIP), in cooperation with the West Virginia Department of Transportation (WVDOT), Division of Highways (WVDOH) and the Federal Highway Administration (FHWA) is evaluating alternatives to determine the most suitable and economical design and location for the construction of an interchange at the intersection of Interstate 79 (I-79) (mile post [MP]-151) and River Road (County Route 45) in Morgantown, West Virginia, approximately halfway between Exit 152 – Fairmont Road (US Route [US] 19) Westover/Morgantown (Granville) and Exit 148 –I-79/I-68 interchange (Morgantown/Cumberland, Maryland).

This Environmental Assessment (EA) has been prepared in accordance with FHWA's implementing regulations for the National Environmental Policy Act (NEPA) (Title 42 of the United States Code (U.S.C.), section 4332 and title 23 Code of Federal Regulations (CFR), part 771, respectively).

ES.2. Purpose and Need

The Purpose and Need for the proposed action are as follows:

- Reduce traffic at the Westover interchange (I-79 Exit 152) and along Dupont Road (CR 19/19), which will improve traffic operations and safety in this vicinity.
- Provide a direct connection to I-79, which will better serve traffic to/from the north for the Harmony Grove area, thus reducing travel times to/from I-79.

ES.3. Preliminary Alternatives Considered

A No-Build Alternative was evaluated to represent the future condition without the proposed Project. In addition to the No-Build alternative, three build alternatives were evaluated as part of this EA. The No-Build and build alternatives included the US 119 Connection project, which is under construction, and will provide a connection between the MIP and US Route 119 with a new bridge over the Monongahela River. The No-Build Alternative served as the baseline for comparing the build alternatives. The build alternatives include a new I-79 interchange at MP 151 and three interchange types were evaluated:

- Alternate 1 – Single Point Urban Interchange
- Alternate 2 (2A, 2B, and 2C) – Tight Diamond Interchange
- Alternate 3 – Modified Cloverleaf Interchange

New Interchange 151 build alternatives would include the installation of lighting around the interchange and along the ramps to provide continuous lighting along I-79 from Exit 148 (I-79/I-68) to Exit 152 (Westover) and the following safety countermeasures within the existing I-79 right of way:

- Extension of the existing truck climbing lanes from their current termination through the proposed Interchange 151 for approximately 1,000 feet in each direction;

- Extension of the concrete median barrier from the northern end of the bridge that carries I-79 over the Monongahela River through the proposed Interchange 151 and north to Exit 152 (Westover); and
- Installation of high-friction pavement surface treatment would be added to the I-79 travel lanes in both directions from the northern end of the bridge that carries I-79 over the Monongahela River north to Exit 152 (Westover).

Alternative 1 is a single-point urban interchange (SPUI) that connects River Road (CR 45) and the ramp entrances/exits, controlled by a single traffic signal located at the center of the proposed bridge. Left-turn movements from River Road onto north and south I-79 movements will be from exclusive turn lanes. The traffic signal installed will permit these movements. This alternative consists of four ramps, one in each of the four quadrants of the interchange.

Alternative 2 is a tight diamond interchange (TDI) and three options, 2A, 2B, and 2C, were developed to evaluate traffic operations for this interchange configuration. Alternatives 2A and 2B have stop-controlled ramp terminals at River Road (CR 45); however, Alternative 2B includes a design change that adds a retaining wall along Ramp D to reduce right-of-way impacts. Alternative 2C has roundabouts at the River Road (CR 45) ramp terminals. A single lane roundabout would be constructed at the I-79 southbound ramp terminal with River Road (CR 45) and a five-legged roundabout would be constructed at the I-79 northbound ramp terminal with River Road (CR 45) and includes the intersection with Master Graphics Road.

Alternative 3 is a modified cloverleaf interchange (MCI) connecting River Road (CR 45) and the combined ramp entrances/exits to I-79. There are two ramps associated with this alternative; the northbound entrance/exit ramp is located in the northeast quadrant of the interchange, while the southbound entrance/exit ramp is situated in the northwest quadrant.

ES.4. Preliminary Alternatives Analysis Results

Based on the traffic analysis for new Interchange 151, the three build alternatives meet the Project Purpose and Need because each alternative provides a direct connection to I-79 for the Harmony Grove area; therefore, this analysis was incorporated into a preliminary alternatives analysis to identify which build alternative would provide better traffic operations and improve roadway safety within the Project Study Area. The traffic analysis compared the existing condition year of 2020 and the projected design year of 2050. The Travel Demand Model (TDM) developed by the Morgantown Monongalia Metropolitan Planning Organization (MMMPO) was used to generate the traffic volume projections for the 2050 design year. In addition, the 2050 design year traffic volume projections assume completion of the US 119 Connection project that is currently under construction.

In addition to the traffic analysis, the preliminary alternatives analysis included a comparison of the reasonably foreseeable impacts of each build alternative.

Based on projected 2050 traffic volumes, construction of the proposed Interchange 151 would reduce traffic volumes along US 19 around Exit 152 (Westover) and on Dupont Road (CR 19/19).

Therefore, the operational and safety analyses were used to further evaluate the build alternatives. A Level of Service (LOS) analysis was used to evaluate traffic operations for two time periods (AM and PM peak). LOS is a standard measurement that reflects the relative ease of traffic flow on a scale of A to F. The optimal condition is LOS A, LOS D is acceptable, and LOS F is below the standard of service with highly congested traffic conditions. The safety analysis used existing WVDOH crash data collected within and adjacent to the Project Study Area.

For key intersections along US 19, including the Dupont Road intersection, all build alternatives resulted in LOS D or better, compared to the 2050 No-Build condition, with the exception of US 19/North Dents Road intersection located west of I-79. The operational differences among the build alternatives are most notable at the Interchange 151 ramp terminals with River Road (CR 45). For Alternatives 1, 2A, 2B, and 3, operations ranged from LOS A to F, but Alternative 2C consistently operated at LOS A.

All the build alternatives would reduce the total amount of crashes when compared to the No-Build Alternative; however, Alternative 2C would reduce the amount of fatality and/or injury crashes more than Alternative 1, Alternatives 2A and 2B and Alternative 3.

None of the build alternatives would impact archaeological and architectural resources protected by the National Historic Preservation Act (NHPA) or hazardous waste sites. Alternative 3 has the largest limit of disturbance (LOD) and the most earthwork of all the build alternatives. As a result, Alternative 3 had the greatest amount of reasonably foreseeable impacts on natural resources, including streams, wetlands, and terrestrial habitat, would result in nine residential displacements, and has the highest estimated construction cost. In addition, Alternative 3 would not operate as well at the River Road ramp terminals compared to the Alternative 2 options and would not reduce the number of crashes compared to the other build alternatives. Therefore, Alternative 3 was eliminated from further consideration.

Alternative 1 and the three options for Alternative 2 would require half the earthwork compared to Alternative 3. Compared to the three Alternative 2 options, Alternative 1 has the highest estimated construction cost with two residential displacements but would result in higher reasonably foreseeable impacts on natural resources, including streams and wetlands, than Alternatives 2A and 2B. However, Alternative 1 would not operate as well at the River Road (CR 45) ramp terminals and would not lower the number of fatality and/or injury crashes compared to Alternative 2C. Therefore, Alternative 1 was eliminated from consideration because it would not provide the operational and safety benefits associated with Alternative 2C.

Of the three Alternative 2 options, Alternatives 2A and 2B would require less earthwork than Alternative 2C; however, Alternative 2C has the lowest estimated construction cost of the three Alternative 2 options. Alternatives 2A and 2B would result in three residential displacements compared to five residential displacements that would occur with Alternative 2C. Alternative 2C would result in higher reasonably foreseeable impacts on natural resources, including streams and wetlands, compared to Alternatives 2A and 2B. However, Alternative 2C would operate better at the River Road (CR 45) ramp terminals and reduce the total number of crashes than Alternatives 2A or 2B. Therefore,

Alternatives 2A and 2B were eliminated from further consideration because neither alternative would provide the operational and safety benefits associated with Alternative 2C.

ES.5. Selection of the Preferred Alternative

Alternative 2C was identified as the Preferred Alternative because it meets the Project Purpose and Need, would operate at LOS A at the River Road (CR 45) ramp terminals, and would reduce the total number of crashes with the greatest reduction of fatality and/or injury crashes. Based on the analysis in this EA, Preferred Alternative 2C would not have a reasonably foreseeable significant effect on the quality of the human environment when compared to the No-Build Alternative.

1 INTRODUCTION AND PURPOSE AND NEED

1.1 Introduction

Enrout Properties Inc., owner of the Morgantown Industrial Park (MIP), in cooperation with the West Virginia Department of Transportation (WVDOT), Division of Highways (WVDOH) and the Federal Highway Administration (FHWA) is evaluating alternatives to determine the most suitable and economical design for the construction of an interchange at the intersection of Interstate (I-79) (mile post [MP]-151) and River Road (County Route [CR] 45) in Morgantown, West Virginia (WV), approximately halfway between I-79 Exit 152–Fairmont Road (US Route [US] 19) Westover/Morgantown (Granville) and Exit 148–I-79/I-68 interchange (Morgantown/Cumberland, Maryland) (**Figure 1-1**).

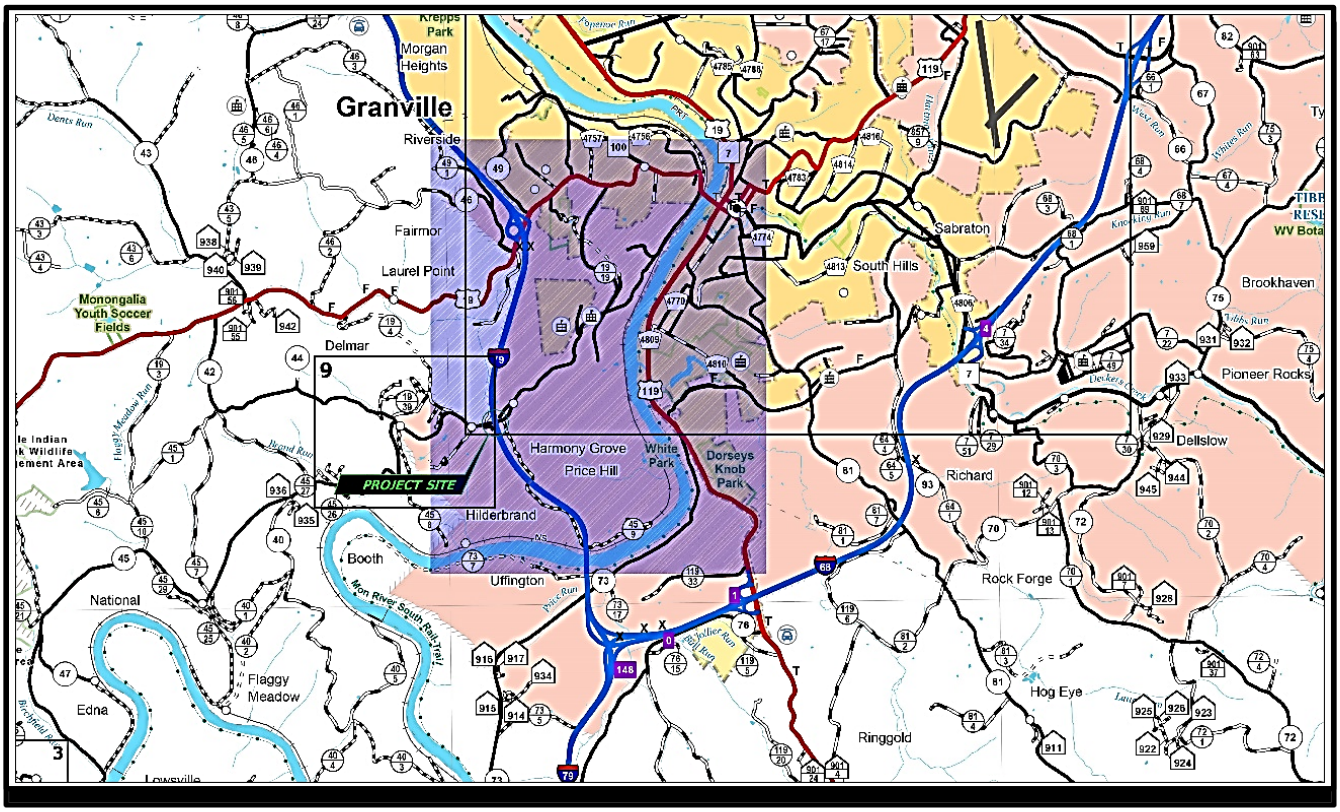


Figure 1-1: I-79 and CR 45 Study Area Location Map

This Environmental Assessment (EA) has been prepared in accordance with FHWA's implementing regulations for NEPA (Title 42 of the United States Code (U.S.C.), section 4332 and title 23 Code of Federal Regulations (CFR), part 771, respectively).

Figure 1-2 illustrates the project location, interchanges, and key roadways in the vicinity of the MIP. In addition, it identifies the location of the proposed connection from the MIP area to US 119 (US 119 Connection) with a secondary connection to CR 73 (Smithtown Road), which is currently under construction by WVDOH. The analysis of alternatives in this EA include the US 119 Connection as part of the no-build conditions. The Project Study Area is centered on I-79 MP 151 and is bounded by Exit 148 (I-79/I-68) to the south and Exit 152 (Westover) to the north. It

extends west of I-79 along River Road (CR 45) to its intersection with CR 45/8 and extends east of I-79 to the Monongahela River. In addition to I-79, the primary roadways within the Project Study Area include US 19 (Fairmont Road), Dupont Road (CR 19/19), and River Road (CR 45).

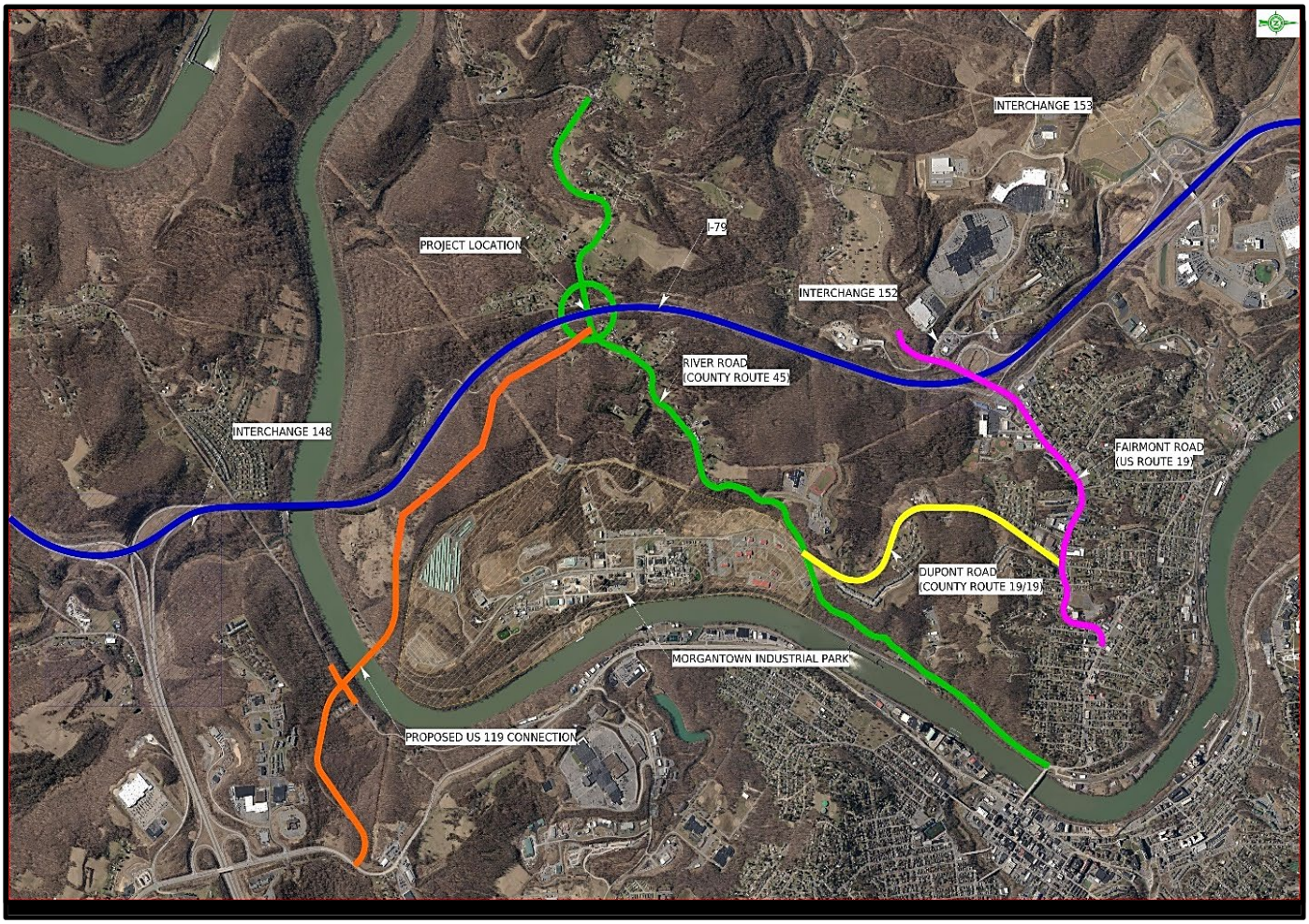


Figure 1-2: Project Area Map and Existing Highway Network

The Morgantown Monongalia Metropolitan Planning Organization (MMMPO) conducted the Morgantown Industrial Park Access Study in October of 2018, which evaluated options to access the MIP. The study identified the project's purpose, as also stated in this EA, and recommended amending the MMMPO's Metropolitan Transportation Plan (MTP) to include a Project to enhance accessibility to the MIP. The MMMPO's 2050 MTP, published May 2022, lists "Industrial Park Access Improvements- Harmony Grove Interchange" as a Tier 1 priority recommended project.

1.1.1 Existing Highway Network

I-79 is a regional connector for Morgantown, connecting Morgantown south to Charleston, WV, and north to Erie, Pennsylvania. The I-79 corridor is a four-lane freeway (or five-lane with a truck climbing lane) with a 40-foot depressed grass median. The posted speed limit is 70 miles per hour (mph). Based on data collected from WVDOH's Traffic Count Database and the MMMPO's Travel Demand Model (TDM) developed for their 2050 MTP update, mainline annual average daily traffic (AADT) volumes

for 2020 for I-79 are estimated at 50,000 vehicles per day, with 2050 AADT traffic estimated at 72,800 vehicles per day. **Figure 1-2** shows the existing highway network.

The existing I-79 section consists of two 12-foot lanes northbound and southbound from Interchange 148 to Interchange 152. Truck climbing lanes are located at:

- On I-79 northbound, the truck climbing lane begins at the merge on I-79 from I-68 and extends to within 1,100 feet of the center of the existing Harmony Grove Bridge which carries CR 45 (River Road) over I-79. This lane is on an upward grade at approximately 5%.
- On I-79 southbound, the truck climbing lane begins at the merge on I-79 from Interchange 152 and extends to within 361 feet of the existing Harmony Grove Bridge. This lane is on an upward grade at approximately 5%.

I-79 connects to Fairmont Road/US 19 (Exit 152), which is a four-lane divided arterial in the immediate vicinity of the I-79 interchange with access to the Westover area of Morgantown between mile markers 152 and 153. From I-79 Exit 152, US 19 transitions to a two-lane roadway to the west (toward Morgantown Mall) and to a three-lane roadway to the east (into Westover). Traffic signals are provided at key intersections with dedicated turn lanes. The Exit 152 interchange is a modified diamond with the southbound on-ramp folded to the north. Both ramp terminal intersections are signalized, and the southbound on-ramp (loop) includes a large radius channelized right turn to accommodate higher speeds.

River Road (CR 45) crosses over I-79 at the current location of the proposed interchange with a single-span arch bridge (Harmony Grove Bridge). River Road (CR 45) consists of two 12-foot lanes with eight-foot gravel shoulders.

Trucks going to and from the MIP travel on US 19 and Dupont Road (CR 19/19) through Westover to Interchange 152 on I-79 (especially those traveling south). Dupont Road (CR 19/19) consists of two 12-foot lanes with eight-foot gravel shoulders.

The interchange of I-79/I-68 (Exit 148) is located at MP 148 of I-79. The interchange is a three-legged directional interchange that permits traffic to access I-68 toward Morgantown, West Virginia and Cumberland, Maryland. The posted speed through the split is 70 mph, and 50 mph on the exit ramps.

Proposed Improvements to the Existing Highway Network

The Project Study Area falls inside the MMMPO boundary and within the annexed limits of the City of Westover, WV. Also included is the proposed installation of a second left-turn lane at the Exit 152 southbound exit ramp, as identified for improvement in the Exit 153 Interchange Modification Report (IMR). According to the MMMPO 2050 Metropolitan Transportation Plan, projects listed in the area by tier status are as follows:

Tier 1

- Project C1: Industrial Park Access Improvements – Harmony Grove Interchange and River Road. By Interim Year 2030.
- Project M50: Fairmont Road / Holland Avenue (US 19) Improvements, From I-79

Interchange to Westover Bridge. By Interim Year 2030.

- Project M106: Dupont Road Improvements, From River Rd to Fairmont Rd (US 19). By Interim Year 2030.

Tier 2

- Project M74: River Road Improvements, From Master Graphics Rd. to Dupont Road / Industrial Park Rd. By Interim Year 2040.

Tier 3

- Project M57: I-79 Granville Section Improvements, From Exit 152 to Exit 155 (Widen to six lanes). By Interim Year 2050. This improvement is included within the future no-build and build traffic models discussed in the IJR.
- Project M58: I-79 Westover Section Improvements, From Exit 148 to 152 (Widen to six lanes). By Interim Year 2050. This improvement is included within the future no-build and build traffic models discussed in the IJR.

Tier 4

- Project M 102: Fairmont Road US 19 Improvements, From Sugar Grove Rd. to I-79 Interchange Exit 152. No time frame was identified.

Other Projects

- Exit 153: Proposed DDI conversion. No time frame was identified.
- Exit 155 and Chaplin Hill Road improvements include DDI conversion and widening of Chaplin Hill Road. This project was recently awarded a National Infrastructure Project Assistance (Mega) Program grant from the U.S. Department of Transportation (USDOT) and is included as a Tier 2 (TIP 17) project in the MPO Plan.

1.1.2 Previous Studies

There is a long history of previous planning studies related to access to the MIP. **Table 1-1** provides a brief summary of the alternatives previously studied.

Table 1-1: Summary of Previous Studies

Report	Alternatives
Morgantown Industrial Park Preliminary Access Study, WVDOH, July 1, 2016	• 1 interchange option at River Road (CR 45) • 1 interchange option mid-point between I-68 and River Road (CR45) • 2 interchange options at the northern end of the I-79 Monongahela River Bridge • 1 Monongahela River bridge option connecting the MIP to US 119 Recommendation: Continue to study options with the exception of one of the options near the northern end of the I-79 Monongahela River Bridge.

Report	Alternatives
I-79 Access Study, MMMPO, March 2017	• No alternatives specific to the Harmony Grove area Recommendation: New connection to I-79 to the north of Star City in the vicinity of Pursglove.
Morgantown Industrial Park Access Study, MMMPO, October 2018	• 2 interchange options at River Road (CR 45) • 2 access options using local roads and/or new connector roads to connect to Westover interchange (I-79 Exit 152) • 2 Monongahela River bridge options connecting the southern side of the River to US 119 Recommendation: Identified need to provide reliable access for the Industrial Park to improve emergency access and diffuse truck traffic in the Westover area.
Morgantown Industrial Park Access Design Study Report, WVDOH, May 2023	• 3 Monongahela River bridge options connecting the southern side of the River to US 119 Recommendation: Connection from Master Graphics Road to US 119

1.1.3 Project Funding

During the 2002 Legislative session, a new economic development tool was created to assist new businesses and expand existing businesses. On November 5, 2002, the citizens of WV ratified Amendment One to the State's Constitution, allowing the use of Tax Increment Funding (TIF) secured by property taxes to fund economic development, infrastructure, and other community-improvement projects, and job creation in the state. The amendment empowers local leaders to promote the future growth of every county and city in WV. TIFs capture the projected increase in property tax revenue gained by developing a discrete geographical area and use that increase to assist in paying for the project. This funding makes it possible to go forward with projects that otherwise would not be built.

For the proposed new interchange at I-79 MP 151, the Monongalia County Commission held public meetings. The public forums were used to address the use of the TIF for the proposed Project and were approved on May 5, 2021, with bond financing not to exceed $100,000,000.

1.2 Purpose and Need

Initially, the Purpose and Need of this project centered on providing an additional access point for the MIP, reducing truck traffic on local roads in the Westover area, accommodating future growth of the MIP, and improving accessibility for residents in the area. Since the time this project was initiated, an additional bridge over the Monongahela River has been planned (i.e. US 119 Connection) and is currently under construction. This additional crossing connects the River Road (CR 45) area/MIP to US 119 to the north, which then provides access to I-68 at the University Avenue/Downtown exit (MP 1), thus satisfying a portion of this original purpose and need.

Currently, the primary route to access I-79 or greater Morgantown from the MIP or Harmony Grove area is Dupont Road (CR 19/19) and the Westover Interchange (I-79 Exit 152). Through

previous studies, including the I-79 Exit 153 Interchange Justification Report (IJR), and the Traffic Count Data Collection (2021) and Traffic Projection Methodology & Results (2021, 2023) completed by HDR Inc., the Westover interchange ramp terminals have been shown to operate at failing levels of service and queuing, particularly on the I-79 SB Exit ramp. As such, the Purpose and Need for this action have been refined as follows:

- Reduce traffic at the Westover interchange (I-79 Exit 152) and along Dupont Road (CR 19/19), which will improve traffic operations and safety in this vicinity.
- Provide a direct connection to I-79, which will better serve traffic to/from the north for the Harmony Grove area, thus reducing travel times to/from I-79.

2 ALTERNATIVES

A variety of alternatives were initially evaluated to determine if they meet the purpose and need outlined in Section 1.2 of this EA. Some of these alternatives were evaluated during the MMMPO 2018 Morgantown Industrial Park Access Study and Interchange Justification Report (IJR) for Harmony Grove Interchange Interstate79 (MP-151) and County Route 45, September 16, 2025 prepared by The Trasher Group (2025 Harmony Grove IJR). The 2025 Harmony Grove IJR conforms to the FHWA document, "Policy on Access to the Interstate Systems" Appendix B, dated May 22, 2017. On November 20, 2025, FHWA concurred on the Safety, Operations, and Engineering (SO&E) determination for proposed Interchange 151. Final FHWA approval of new Interchange 151 cannot occur until all appropriate transportation planning, air quality conformity, and environmental review requirements under the NEPA is complete. The 2025 Harmony Grove IJR is available upon request.

A practicable alternative meets the stated Project purpose, is available to the applicant, and is capable of being implemented after taking into consideration cost, existing technology, and logistics.

Build alternatives were developed and evaluated to determine if they were reasonable. Build alternatives that were not reasonable were eliminated from further analysis. All reasonable build alternatives were evaluated to determine if they meet the Project Purpose and Need. A preliminary analysis of build alternatives that satisfy the Project Purpose and Need was conducted based on the traffic operation and safety analysis in the 2025 Harmony Grove IJR and the reasonably foreseeable impacts to the human environment. The results of the preliminary analysis were used to identify the Preferred Alternative that was compared to the No-Build Alternative in Section 3 of this EA.

2.1 Existing Roadway Conditions

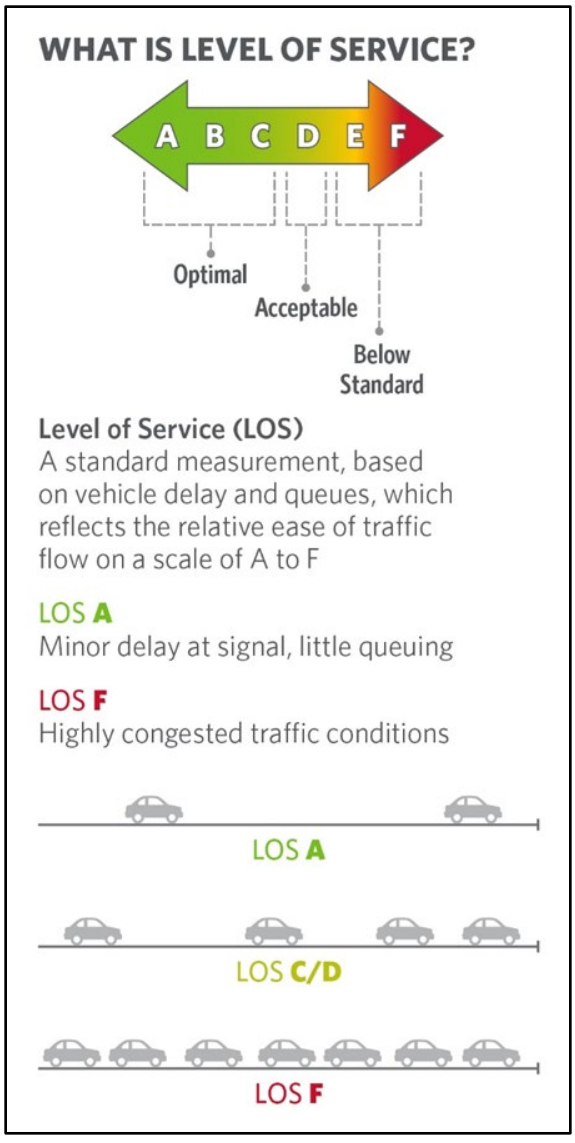
Within the project Study Area, mainline I-79 AADT volumes for 2020 are estimated at 50,000 vehicles per day, with 2050 AADT traffic estimated at 72,800 vehicles per day. The 2050 traffic projections assume completion of WVDOH's new US 119 Connection route which connects the River Road (CR 45) area/MIP to US 119 to the north and is currently under construction. **Table 2-1** summarizes existing AADT (2020) and projected 2050 No-Build volumes for roadway segments within the Project Study Area that were included in the 2025 Harmony Grove IJR analysis.

Table 2-1: Existing (2020) and Projected (2050) AADTs

Roadway Segments/Location	2020 Existing	2050 No-Build (with US 119 Connection)
Dupont Road (CR 19/19)	7,500	9,800
US 19 (Dupont Road to N. Dents Run (CR 49))	16,200	19,800
US-19 (N. Dents Run to Interchange 152)	19,200	24,500
I-79 (Northbound to Interchange 152)	50,000	72,800
I-79 Interchange 152 Northbound Offramp to US 19	4,800	6,300

Roadway Segments/Location	2020 Existing	2050 No-Build (with US 119 Connection)
I-79 Interchange 152 Southbound Onramp from US 19	4,800	5,900
US 19 (Interchange 152 to Mall Road (CR 46))	13,500	15,300
Proposed River Road (CR 45) Interchange to Master Graphics Road	2,900	5,400
I-68 Northbound Merge from I-68 W	10,000	13,300
I-79 Southbound Merge to I-68 E	10,000	13,300

In addition to existing and projected traffic volumes, the 2025 Harmony Grove IJR includes a Level of Service (LOS) analysis conducted to evaluate traffic operations within the Study Area. As shown in the graphic on the right, LOS is a standard measurement, based on vehicle delay and queues, which reflects the relative ease of traffic flow on a scale of A to F. The optimal condition is LOS A, LOS D is acceptable, and LOS F is below the standard of service with highly congested traffic conditions. The LOS analysis was completed for two time periods (AM and PM peak) within segments of I-79 between Exit 148 (I-79/I-68) and Exit 152 (Westover), including merge and diverge areas of the existing and proposed I-79 interchanges, and for key "off-interstate" roadway intersections located within the Project Study Area.



In summary, existing (2020) conditions on I-79 between Exit 148 (I-79/I-68) and Exit 152 (Westover) are LOS C or better for the AM and PM periods. However, the 2050 condition for the No-Build Alternative on I-79 northbound between Exits 148 and 152 is projected to be LOS F for both AM and PM periods. Likewise, on I-79 southbound between Exits 148 and 152, the 2050 condition for the No-Build Alternative is projected to be LOS F for the PM period. The drop in traffic flow is associated with the truck climbing lanes.

At key intersections along US 19 at the Exit 152 (Westover) Interchange, existing (2020) conditions are LOS C or better for the AM and PM periods, but the 2050 conditions are projected to drop to LOS F in the PM period at the US 19/Dupont Road (CR 19/19) intersection. The results of the traffic and safety analysis from the 2025 Harmony Grove IJR are discussed later in this EA.

2.2 Alternative Options Eliminated from Further Consideration

As discussed in Section 1.1.2 and summarized in Table 1-1, previous MIP access studies were used to identify reasonable build alternatives. The most recent studies include:

- Morgantown Industrial Park Access Study by MMMPO, dated October 2018; and
- Morgantown Industrial Park Access Design Study Report by WVDOH, dated May 2023.

The Morgantown Industrial Park Access Design Study Report by WVDOH dated May 2023 evaluated three alternatives for the US 119 Connection project that is currently under construction. Two of these alternatives were considered in the MMMPO's October 2018 Morgantown Industrial Park Access Study. Therefore, no alternative options that proposed a new bridge over the Monongahela River were further evaluated as potential build alternatives for the Harmony Grove Interchange project.

Four alternative options considered in the MMMPO's October 2018 Morgantown Industrial Park Access Study were evaluated for the Harmony Grove Interchange project and it was determined that none of the options were reasonable build alternatives. A map illustrating the location of these eliminated options is included in **Appendix A (Figure A-1)** and each eliminated alternative option is discussed in Sections 2.2.1 through 2.2.4 below.

2.2.1 Option 1 – Full Diamond Interchange Using Existing Bridge

Option 1 was identified in the MMMPO's 2018 Morgantown Industrial Park Access Study as Alternative A1. This option is designed as a full diamond interchange configuration utilizing the existing arch bridge that serves as an overpass connection crossing I-79, connecting with River Road and providing access to the MIP. Although the use of the existing arch bridge would reduce construction costs and construction-related traffic delays/closures, the existing arch bridge cannot be widened due to its design configuration being classified as fracture-critical according to the FHWA's Bridge Inspector's Reference Manual. To maintain safe traffic flow, the existing bridge would need to be widened to accommodate left turn lanes for the north and south-bound I-79 entrance ramps.

The interchange ramps would have a grade of 5-6%, which is feasible; however, a substantial amount of excavation would be necessary for slope stability. Therefore, ROW acquisition and relocation of an existing pipeline would add additional cost. Widening would also be required for River Road from the interchange to the MIP park access. This action may be feasible, but it would require additional costs for construction efforts to widen River Road to repair recurring slips and numerous residential relocations and acquisitions that would be required to achieve safe and stable access for the increased traffic.

In addition, this option would prove detrimental to the I-79 truck climbing lane. Currently, trucks and oversized loads utilize this lane to traverse over the steep grade but are forced to merge with faster-moving traffic before the location of the proposed Project. This merging action is a traffic hazard since the speed variation of vehicles utilizing the climbing lanes is merging at a speed of approximately 30 mph slower than the vehicles in the travel lanes. Therefore, the truck climbing lane needs to be extended to safely allow vehicles in the climbing lane to gain speed before merging onto the travel lanes. However, the extension of the climbing lane would not be feasible with the use of the current fracture-critical arch bridge. Due to the fracture-critical nature and narrow size of the existing bridge, this option was eliminated from further consideration.

2.2.2 Option 2 – Full Diamond Interchange Using Existing Bridge. New Access Road into Industrial Park

Option 2 was identified in the MMMPO's 2018 Morgantown Industrial Park Access Study as Alternative A2. This alternative is similar to Option 1 in utilizing the existing arch bridge; however, a full diamond interchange and a new access road into the park were evaluated. This option would disregard the need for upgrades to River Road but would require extensive excavation of a new access road over a steep slope. This option was eliminated from further consideration due to the same issues discussed in Section 2.2.1, resulting from the size and fracture-critical nature of the existing bridge.

2.2.3 Option 3 – South Dents Run Road Connector Road

Option 3 was identified in the MMMPO's 2018 Morgantown Industrial Park Access Study as Alternative B. This option proposes the construction of a new connector road between South Dents Run Road and River Road using an existing underpass under I-79. The new connector road would require extensive excavation to traverse through the forested rolling hills. The proposed connector would require the use of Exit 152, an already congested interchange, resulting in higher industrial traffic mixed with residential and commercial traffic to access the MIP. The use of an existing underpass crossing I-79 along South Dents Run Road is incorporated in this option; however, there is no underpass along South Dents Road. There is an underpass located approximately 1.5 miles south on Master Graphics Road; however, this existing underpass is only one lane and is not designed to accommodate large trucks. Therefore, the use of the existing underpass is not feasible, eliminating this option from further consideration.

2.2.4 Option 4 – Price Hill Road Intersection Connector Road

Option 4 was identified in the MMMPO's 2018 Morgantown Industrial Park Access Study as Alternative C. This option is similar to Option 3, except it proposes a connector road from the intersection of South Dents Run Road and US 19 to the intersection with Price Hill Road and River Road along the west side of I-79. The proposed connector would require the use of Exit 152, an already congested interchange, resulting in higher industrial traffic mixed with residential and commercial traffic to access the MIP. This option would require upgrades (widening, surfacing, and traffic control markings) of the existing South Dents Run Road, including the acquisition of both business and residential properties and relocation of existing utilities, since the existing road

is a one-lane gravel/dirt road for approximately one-half mile. Impacts on a relatively permanent water resource would be substantial and incur unnecessary costs for the implementation of mitigation measures and relocation excavation activities. The remaining one-mile length of the connector would be a new alignment through mountainous terrain requiring extensive excavation to achieve the DOH grade specification of 8% slope. Also, the connector roadway alignment would encroach upon a controlled access right-of-way (ROW) for I-79, which cannot be broken or accessed. Therefore, the significant impacts associated with this option eliminated it from further consideration.

2.3 No-Build Alternative

A No-Build Alternative was evaluated to represent the future condition without the proposed Project as a comparison against the build alternatives. This option does not include the improvements associated with implementation of the proposed build alternatives. The 2050 No-Build assumes no major improvements to the existing highway system within the Project Study Area with the exception of the following:

- Minor safety and maintenance alteration improvements, including the addition of a second left-turn lane at the Exit 152 southbound exit ramp per recommendations in the Exit 153 Interchange Modification Report.
- Completion of the US 119 Connection project, which is currently under construction.
- Signal optimization.

The No-Build Alternative assumes the full build of the potential trip generators (a trip generator being a location that creates a demand for vehicle travel to and from said location) of those potential projects anticipated by the MMMPO, the full build-out of the MIP, and potential development as identified by the MMMPO of the Project Study Area. The capacity analysis of I-79, River Road (CR 45), US 19 (through Westover), interchange ramp terminals, and intersections along US 19 and River Road was conducted with results included in the 2025 Harmony Grove IJR.

With the No-Build Alternative, there will be no construction, so no reasonably foreseeable environmental impacts associated with construction activities will occur. The No-Build Alternative does not address the existing and future congestion that would result in greater delays, increased accident potential, and possible loss of future development opportunities as included in the local land use planning documents created by the MMMPO 2050 MTP dated May 2022.

According to the 2025 Harmony Grove IJR, the capacity analysis for the 2050 No-Build Alternative determined that all existing northbound and southbound basic freeway segments and the I-79 ramp merger and diverge areas currently operate at LOS D or better. Exceptions to the capacity analysis include the following:

- The segments between Interchange 152 and I-68 at the truck climbing lane in the southbound direction operate at LOS F (PM) at the termination point and LOS E (PM) throughout the crest of the hill.

- The same segment between Interchange 152 and I-68 at the truck climbing lane in the northbound segment operates at a LOS E/E (AM/PM) at the termination point and LOS E/E (AM/PM) throughout the crest of the hill.

Similarly, the arterial intersections along US 19 in Westover and River Road (CR 45) at the proposed Interchange 151 were determined to operate at LOS D or better, with the following exceptions:

- US 19 and North Dents Road, LOS F (PM)
- US 19 and Savanah St./Dupont Road, LOS F (PM)

To complement the analysis of the existing highway network, a segment evaluation of Dupont Road (CR 19/19) and River Road (CR 45) was conducted. The results indicate that Dupont Road operates at LOS B and D during the AM and PM peak hours, respectively, while River Road operates at LOS A and B during the same time periods.

Ramp terminal queue lengths for traffic projections for design year 2050 (AM and PM) were determined by analyzing all turning movements and the locations available for storage (e.g. from stop bar to where tapers exceeded 8 feet). The capacity was then compared to developed queues in 2050. The analysis determined that average queues were below capacity lengths, except at the Interchange 152 northbound exit ramp for right and left turns and the northbound entrance ramp right turn lane from US 19.

For these reasons, the No-Build Alternative will not satisfy the Project's Purpose and Need.

2.4 Build Alternatives

Three build alternatives were developed and evaluated for the EA and the 2025 Harmony Grove IJR. As discussed in Section 2.1, improvements to the existing roadway network proposed with Options 3 and 4 were eliminated; therefore, the build alternatives for the Project were limited to a new interchange at I-79 MP 151 and interchange types that were not considered under eliminated Options 1 and 2. The three build alternatives developed for the project include:

- Alternative 1 – Single Point Urban Interchange
- Alternative 2 (2A, 2B, and 2C) – Tight Diamond Interchange
- Alternative 3 – Modified Cloverleaf Interchange

New Interchange 151 build alternatives would include the installation of lighting around the interchange and along the ramps to provide continuous lighting along I-79 from Exit 148 (I-79/I-68) to Exit 152 (Westover) and the following safety countermeasures within the existing I-79 right of way:

- Extension of the existing truck climbing lanes from their current termination through the proposed Interchange 151 for approximately 1,000 feet in each direction;
- Extension of the concrete median barrier from the northern end of the bridge that carries I-79 over the Monongahela River through the proposed Interchange 151 and north to Exit 152 (Westover); and
- Installation of high-friction pavement surface treatment would be added to the I-79 travel

lanes in both directions from the northern end of the bridge that carries I-79 over the Monongahela River north to Exit 152 (Westover).

2.4.1 Design Criteria for Build Alternatives

All of the build alternatives will follow the geometric design guidelines established in the American Association of State Highway and Transportation Officials' (AASHTO) A Policy on Geometric Design of Highways and Streets, 7th Edition, 2018, or when applicable, AASHTO's Geometric Design of Low-Volume Roads, Second Edition, AASHTO, Washington, D.C., 2019, AASHTO A Policy on Design Standards – Interstate System, May 2016, and applicable WVDOH Design Directives. The study of the bridge structure will be based on Load and Resistance Factor Design (LRFD) in accordance with the AASHTO "LRFD Bridge Design Specifications, 9th Edition 2020" and latest interim revisions and the WVDOH Bridge Design Manual, dated March 1, 2004, with any revisions. See **Table 2-2** for design criteria.

Table 2-2: Design Criteria

Roadway	Classification	Design Speed	Maximum Grade
I-79	Arterial	70 mph	6%
Interchange Ramps	Ramps	varies	8%
CR 45	Collector	40 mph	8%

2.4.2 Alternative 1 – Single Point Urban Interchange (SPUI)

The proposed Single Point Urban Interchange (SPUI) (**Appendix A, Figure A-2**) connects River Road (CR 45), and the ramp entrances/exits, controlled by a single traffic signal located at the center of the proposed bridge. Left-turn movements from River Road onto north and south I-79 movements will be from exclusive turn lanes. The traffic signal installed will permit these movements. The SPUI consists of four ramps, one in each of the four quadrants of the interchange. The ramps are positioned closer to the interstate horizontally, which would allow for limited ROW impacts with assistance from retaining walls. The ramp profiles at the tie-in locations are similar to the I-79 profile. Each profile is between 4%-5% until the ramp nears the River Road intersections, then there are short upgrades to a maximum of 7%-8% that will be transitioned with a crest vertical curve.

The proposed bridge over I-79 will be 155 feet in length and carry three lanes of traffic with shoulders. The bridge will carry two lanes on River Road, one eastbound and one westbound, and a left turn lane for both northbound and southbound entrance ramps of I-79. A pier will be required in the median of I-79 and will be constructed with appropriate crash barriers and elevations to accommodate the future widening of I-79. The entrance ramps will have two separate lanes that converge at the terminal of the ramp and taper down to one lane. The exit ramps from I-79 both expand to two lanes at the intersections with stop conditions at River Road.

2.4.3 Alternative 2 – Tight Diamond Interchange (TDI)

The proposed Tight Diamond Interchange (TDI) connects River Road (CR 45), and the ramp entrances/exits to I-79. This will allow for the interchange to be more compact than a standard diamond interchange and reduce the amount of ROW impacts. The TDI consists of four ramps, one in each of the four quadrants of the interchange. The ramps are held horizontally closer to the interstate, which would allow for limited ROW impacts. Three options for Alternative 2 were developed to evaluate traffic operations for this interchange configuration and are described below:

- **Alternative 2A (Appendix A, Figure A-3):** TDI with stop-controlled ramp terminals. Each entrance ramp from River Road will feature a right turn lane for each direction and a left turn lane from the bridge, converging at the ramp terminal and tapering down to one lane. The exit ramps from I-79 will both widen to two lanes at the intersections, which include a stop condition at River Road. Approximately 600 feet of approach roadway work would be necessary on both the west and east approaches to the bridge. The west approach includes a 450-foot center lane dedicated as a left turn lane, providing additional storage for the left turn lane of the I-79 northbound entrance ramp. The east approach has a 350-foot center lane that serves as a dedicated left turn lane, offering additional storage for the left turn lane of the I-79 southbound entrance ramp. Each roadway approach will taper the third lane to match the existing width of River Road. Master Graphics Road and Crestview Drive will be integrated into River Road, ensuring access is available at all times during construction.
- **Alternative 2B (Appendix A, Figure A-3):** This option is the same as 2A but includes a design change that adds a retaining wall along Ramp D to reduce right-of-way impacts. Note that since this alternative is functionally identical to Alternative 2A, no separate results are provided.
- **Alternative 2C (Appendix A, Figure A-4):** TDI includes a single-lane roundabout at the I-79 southbound ramp terminal and a five-legged roundabout at the I-79 northbound ramp terminal along with Master Graphics Road. The entrance ramps will feature a single lane at the ramp terminal. The southbound exit ramp from I-79 will maintain a single lane into the roundabout, while the northbound exit ramp will expand to two lanes within the roundabout, including a dedicated lane for direct access onto Master Graphics to facilitate the right-turning movement. Approximately 600 feet of approach roadway work will be required on both the west and east approaches to the bridge. Each roadway approach will taper from two lanes and shoulders back to the existing width of River Road. Master Graphics Road, Crestview Drive, and access to the gas facility will be integrated into River Road, ensuring access is available at all times during construction.

The ramp profile grades at the tie-in locations are similar to the I-79 profile. Each ramp profile is between 4%-5% until the ramp nears the River Road intersections, then there are short upgrades to a maximum of 7%-8%. Upgrades have a positive effect, assisting in the stopping of large trucks, and enough length has been provided to absorb any additional queueing. The grades will be transitioned with a crest vertical curve and adhere to design criteria.

The bridge over I-79 will be 203 feet in length and 66 feet in width and carry two lanes of River Road through traffic and two left turn lanes for the full length of the bridge. A pier is required in the median of I-79 and will be constructed with appropriate crash barriers and elevations to accommodate the future widening of I-79. The entrance ramps will have two separate lanes that converge at the terminal of the ramp and taper down to one lane. The exit ramps from I-79 both expand to two lanes at the intersections with a stop condition at River Road for Alternatives 2A and 2B and roundabouts with the River Road terminals with Alternative 2C.

2.4.4 Alternative 3 – Modified Cloverleaf Interchange (MCI)

The proposed Modified Cloverleaf Interchange (MCI) (**Appendix A, Figure A-5**) would connect River Road (CR 45) and the combined ramp entrances/exits to I-79. There are two ramps with this alternative; the northbound entrance/exit ramp is in the northeast quadrant of the interchange, while the southbound entrance/exit ramp is in the northwest quadrant. The northbound entrance ramp and southbound exit ramp extend under the proposed interchange bridge.

The ramp profile grades at the tie-in locations are similar to the I-79 profile. Each profile is between 4% and 5% while running parallel with I-79. Ramps A and B increase to 8% as the two ramps merge into a combined ramp at the River Road intersection. Ramps C and D maintain a 4% to 5% grade until they flatten to 2% at the River Road intersection. A design exception will be required to change the ramp speed from 35 mph to 25 mph.

The bridge over I-79 will be 198 feet in length and carry three lanes of traffic on River Road, one eastbound and one westbound, and one center turn lane extending from the ramp terminals. A pier will be required in the median of I-79 and will be constructed with appropriate crash barriers and elevations to accommodate the future widening of I-79. The entrance ramps will have two separate lanes that converge at the terminal of the ramp and taper down to one lane. The exit ramps from I-79 both expand to two lanes at the intersections with a stop condition at River Road.

2.5 Preliminary Alternatives Analysis

Based on the traffic analysis in the 2025 Harmony Grove IJR, the three build alternatives meet the Project Purpose and Need because each alternative provides a direct connection to I-79 for the Harmony Grove area and as shown in **Table 2-3**, the addition of a new interchange at I-79 MP reduces traffic volumes on along US 19 around Exit 152 (Westover) and on Dupont Road.

Table 2-3: Comparison of Traffic Volumes at Key Locations within the Study Area

Roadway Segments/Location	2020 Existing	2050 No-Build (with US 119 Connection)	2050 Build (with US 119 Connection)
Dupont Road (CR 19/19)	7,500	9,800	6,700
US 19 (Dupont Road to N. Dents Run (CR 49))	16,200	19,800	16,700
US-19 (N. Dents Run to Interchange 152)	19,200	24,500	22,300

Roadway Segments/Location	2020 Existing	2050 No-Build (with US 119 Connection)	2050 Build (with US 119 Connection)
I-79 (Northbound to Interchange 152)	50,000	72,800	76,800
I-79 Interchange 152 Northbound Offramp to US 19	4,800	6,300	6,800
I-79 Interchange 152 Southbound Onramp from US 19	4,800	5,900	6,000
US 19 (Interchange 152 to Mall Road (CR 46))	13,500	15,300	15,200
Proposed River Road (CR 45) Interchange to Master Graphics Road	2,900	5,400	14,400
I-68 Northbound Merge from I-68 W	10,000	13,300	17,900
I-79 Southbound Merge to I-68 E	10,000	13,300	17,900

The 2025 Harmony Grove IJR analyzed the operational and safety benefits associated with each build alternative. The results have been incorporated into a preliminary alternatives analysis to identify which build alternative would provide better traffic operations and improve roadway safety within the Project Study Area.

2.5.1 Traffic Analysis

The analysis in the 2025 Harmony Grove IJR evaluated each of the build alternatives for the traffic flows and LOS for the proposed interchange and the surrounding roadway network based upon existing (2020) and no-build 2050 conditions, as well as for the 2050 build scenario. The LOS analysis was completed for the AM and PM peak traffic periods. For I-79, the analysis was conducted for the existing I-79 typical, which includes two travel lanes in each direction, and for a three-lane I-79 typical, which includes a truck climbing lane.

For the existing I-79 typical, all three build alternatives result in LOS D or better for the 2050 build scenario, except for the following locations:

- I-79 northbound at proposed Interchange 151:
    - Alternative 1 drops to LOS F for the PM period.
    - Alternative 3 drops to LOS E for the PM period.
- I-79 southbound between Interchange 151 and Exit 148 (I-79/I-68):
    - Alternative 1 drops to LOS E for the PM period.
- I-79 southbound, at proposed Interchange 151:
    - Alternatives 2 and 3 drop to LOS E for the PM period.
- I-79 southbound, between Interchange 151 and Exit 148 (I-79/I-68):
    - Alternatives 2 and 3 drop to LOS E for the PM period.

For the I-79 three-lane typical, all three build alternatives result at LOS D or better for the 2050 build scenario; therefore, the drop in LOS at and south of MP 151 for existing I-79 typical is not associated with interchange type.

The results of the LOS analysis for key intersections on US 19 and River Road (CR 45) are summarized in **Table 2-4**. For all build alternatives, the analysis of the US 19 intersections result in an LOS D or better for the AM and PM periods except for the US 19/North Dents Road, which operates at LOS F in the PM period for all alternatives. For the US 19 and Savannah Street/Dupont Road intersection, all three build alternatives improve the LOS for the AM and PM peak period when compared to the 2050 No-Build condition.

Table 2-4: Summary of US 19 and CR 45 Intersections LOS (2020/2050 Alternatives – US 119 Connection)

Intersection	2020 Existing	2050 No-Build	Level of Service AM(PM) 2050 Build Alternatives (Existing I-79)			
			Alternative 1 (SPUI)	Alternatives 2A+2B (TDI)	Alternative 2C (TDI+Roundabouts)	Alternative 3 (MCI)
US 19						
US 19-Mall Rd	B(C)	B(C)	B(C)	B(C)	B(C)	B(C)
US 19 I-79 SB Ramp	B(B)	B(C)	B(C)	B(C)	B(C)	B(C)
US 19 I-79 NB Ramp	B(B)	B(D)	B(C)	B(C)	B(C)	B(C)
US 19 N Dents Rd	A(B)	C(F)	B(F)	B(F)	B(F)	B(F)
US 19 Commerce Dr	B(B)	B(D)	B(C)	B(C)	B(C)	B(D)
US 19 and Savannah St/Dupont Rd	B(C)	C(F)	B(D)	B(D)	B(D)	B(D)
CR 45						
CR 45 and Crestview Dr	A(A)	A(A)	A(A)	A(A)	A(A)	C(D)
CR 45 and Master Graphics Rd	A(A)	A(A)	B(C)	B(C)	B(C)	B(C)
CR 45 and Industrial Park Driveway	A(A)	A(A)	B(B)	A(B)	A(B)	A(B)
CR 45 and Dupont Rd/Industrial Park Dr	B(B)	B(C)	C(B)	B(B)	B(B)	B(B)
CR 45 and I-79 SPUI Ramp Terminal	N/A	N/A	C(C)	N/A	N/A	N/A
CR 45 and SB I-79 Terminal	N/A	N/A	N/A	C(D)	A(A)	A(A)
CR 45 and NB I-79 Terminal	N/A	N/A	N/A	A(B)	A(A)	E(E)

Controlling LOS	
A	
B	
C	
D	
E	
F	

The operational differences among the build alternatives are most notable at the Interchange 151 ramp terminals with River Road (CR 45). The I-79 ramp terminal for Alternative 1 provides LOS C for the AM and PM periods. Alternatives 2A and 2B have stop-controlled River Road (CR 45) ramp terminals that provide LOS B or better at the I-79 northbound ramp terminal but drops to LOS D or better at the I-79 southbound ramp terminal. Alternative 3 provides LOS A at the I-79 southbound ramp terminal with River Road (CR 45) but drops to LOS E at the I-79 northbound ramp terminal. Alternative 2C includes roundabouts at each River Road (CR 45) ramp terminal and consistently provides LOS A at each location. In addition, Alternative 2C roundabout at the I-79 northbound ramp terminal includes the Master Graphics Road intersection that is a separate intersection located a short distance from the I-79 ramp terminals for Alternative 1 and Alternatives 2A and 2B.

Based on the LOS analysis, it was determined that Alternative 2C, the TDI with roundabouts at the ramp terminals, would operate better, than Alternative 2A and 2B, the TDI with stop-controlled ramp terminals. Alternative 2C also operates better than Alternative 1, the SPUI interchange type.

2.5.2 Safety Analysis

Crash Data

WVDOH crash data between I-79 Mileposts 146 to 153 for the three (3) year period from January 1, 2021 to December 31, 2023 were used to prepare a crash intensity map with the crash clusters along the highway network (**Figure 2-1**).

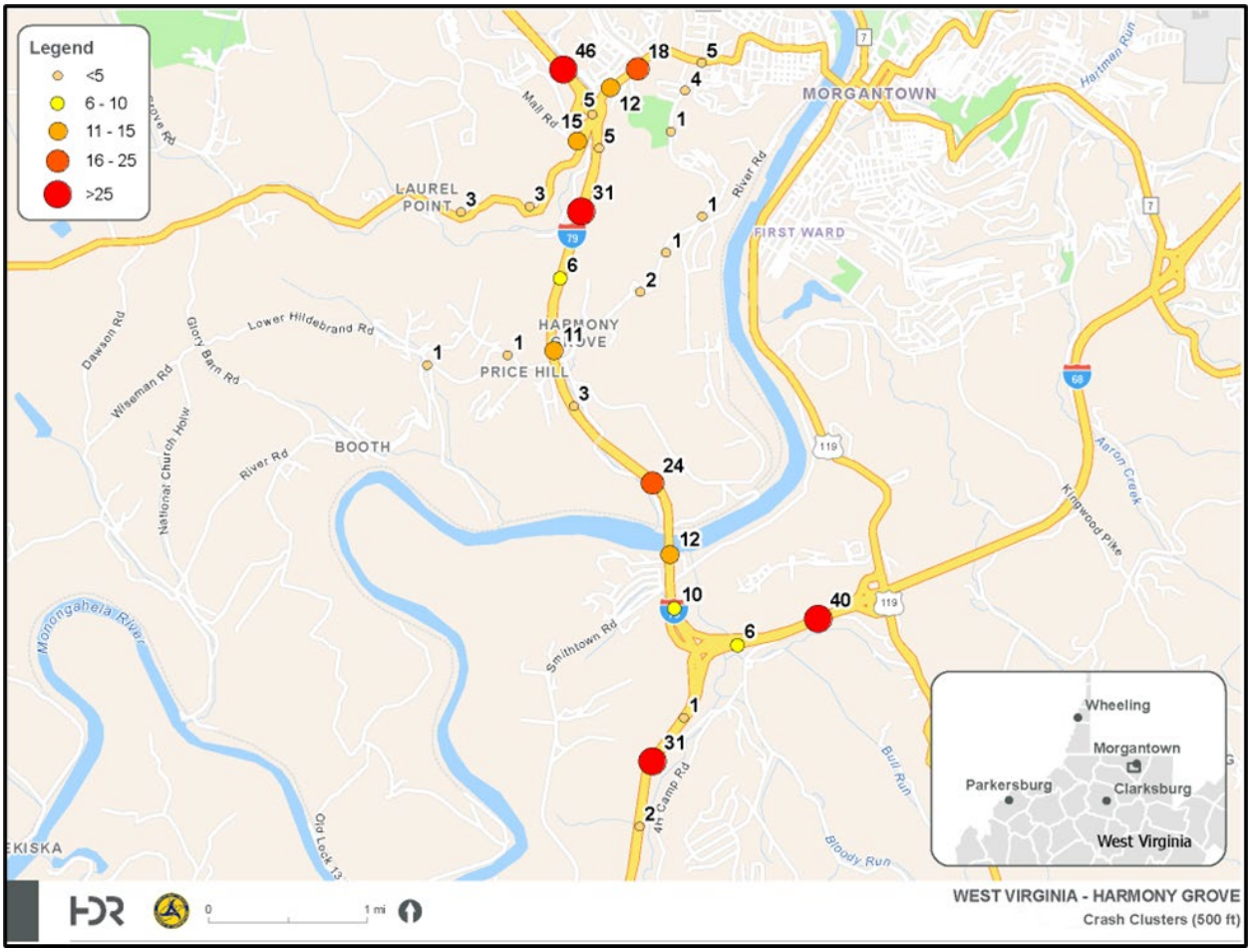


Figure 2-1: Crash Clusters within and adjacent to the Project Study Area

Analysis

Crash rates were prepared for each River Road (CR 45) and US 19 intersection within the Project Study Area and for I-79 northbound and southbound. These rates were compared to WVDOH's Statewide Averages.

To compare the intersection on River Road and US 19, the crash rate was calculated based on Intersection Crash Rates per Million Entering Vehicles (MEV) and evaluated against the following categories:

- Average: ≤ 1.5 Crashes
- Above Average: > 1.5 Crashes ≤ 2.0 Crashes

- Significantly Above Average: > 2.0 Crashes

For all intersections located within the Project Study Area, the MEV rates are all below the average of 1.5 Crashes and therefore acceptable (**Table 2-5**).

Table 2-5: Summary of Crash Rates by Intersection

Intersection	Daily Entering Vehicles	Total Crashes	Crash Rate (MEV)
River Road (CR 45)			
River Road and Dupont Road (CR 19/19)	6,300	1	0.14
River Road and Master Graphics Road	3,000	1	0.30
River Road and Crestview Drive	3,000	1	0.30
US 19			
US 19 and Dupont Road	20,250	5	0.23
US 19 and Commerce Drive	18,800	18	0.87
US 19 and North Dents Road	19,200	12	0.57
US 19 and Ramps A and B	22,150	2	0.08
US 19 and Ramps C and D	18,900	3	0.14
US 19 and Mall Road	13,800	15	0.99

For the segments of the I-79 NB and SB travel lanes located within the Project Study Area, Crash Rates per 100 Million Vehicle Miles Traveled (VMT) were calculated and compared to the 2023 statewide averages for Fatal, Injury, and Property Damage Only (PDO) crash types. As shown in **Table 2-6**, the crash rates were below the statewide averages for Fatal and PDO crash types, but slightly higher than the statewide average for the Injury crash type.

Table 2-6: Summary of I-79 Crash Rates by Crash Type

Roadway Condition/Crash Scenario	Crash Type	No. of Crashes	Crash Rate (per 100 Million VMT)	Statewide Average
All Roadway Conditions (wet, nighttime, and roadway departure)	Fatal	1	0.26	0.29
	Injury	55	14.36	14.32
	PDO	173	45.17	47.38
	Total	**229**	**59.79**	**61.99**

The draft Harmony Grove IJR dated December 26, 2024 (draft Harmony Grove IJR) included a safety evaluation of each alternative that was updated in an Addendum to the draft Harmony Grove

IJR, dated May 28, 2025. The analysis in the addendum included the addition of four safety countermeasures to mitigate historic crash trends on I-79 and the anticipated increase in the number of crashes typically associated with "breaks" in the interstate system created by interchange access points. The safety countermeasures included the following:

1. Continuous Highway Lighting
2. High-Friction Pavement Surface Treatment
3. Concrete Median Barrier
4. Roundabouts at the Proposed Ramp Terminals

Safety countermeasures 1, 2, and 3 have been incorporated into all the build alternatives; however, Alternative 2C is the only build alternative that includes all four safety countermeasures. The updated predictive crash analysis that includes the safety countermeasures is summarized in **Table 2-7**.

Table 2-7: 2050 Predicted Crashes Per Year Summary for Build and No-Build Alternatives

Crash Severity	No-Build Alternative	Alternative 1 (SPUI)	Alternatives 2A and 2B (TDI without Roundabouts)	Alternative 2C (TDI with Roundabouts)	Alternative 3 (MCI)
Fatality + Injury	23.79	21.05	21.53	20.52	22.79
Property Damage Only	50.64	42.05	42.71	43.04	42.82
Total[1]	**74.43**	**63.10**	**64.24**	**63.56**	**65.61**

[1] Crash Severity totals may not add up to overall totals due to rounding differences.

All the build alternatives would reduce the total amount of crashes when compared to the No-Build Alternative; however, Alternative 2C would reduce the amount of fatality and/or injury crashes more than Alternative 1, Alternatives 2A and 2B and Alternative 3.

2.5.3 Reasonably Foreseeable Impact Analysis

To support the analysis of reasonably foreseeable impacts of the proposed Project, an environmental clearance zone (ECZ) was established around I-79 MP where River Road (CR 45) intersects with the interstate. The ECZ includes the limits of disturbance (LOD) for each of the build alternatives developed for the Project (**Appendix A, Figure A-6**). The LOD for each build alternative was used to determine the direct impacts to environmental resources located within the ECZ. Maps with the LOD for each build alternative are in **Appendix A**.

A comparison of the reasonably foreseeable impacts of each build alternative is presented in **Table 2-8**. Section 3 of this EA provides more information about the results of desktop and field investigations, and Federal and State Agency coordination, but the build alternatives would not impact archaeological and architectural resources protected by the National Historic Preservation Act (NHPA), or hazardous waste sites.

Table 2-8: Comparison of Reasonably Foreseeable Impacts for the Build Alternatives

Resource/Element	Alternative 1	Alternative 2A	Alternative 2B	Alternative 2C	Alternative 3
Residential/Commercial Displacements	2/0	3/0	3/0	5/0	9/0
Earthwork (cubic yards)	149,380	149,133	133,495	160,719	323,735
Land Area (acres)	34.1	32.5	31.6	43.0	48.1
Streams (linear feet)[1]	344	342	342	887	1289
Wetlands (acres)[1]	0.02	0.01	0.01	0.02	0.25
Architectural Resources	0	0	0	0	0
Archaeological Resources	0	0	0	0	0
Noise Receptors	4	4	4	3	18
Terrestrial Habitats (acres)	20.87	20.45	19.93	29.58	31.74
Hazardous Waste Sites	0	0	0	0	0
Total Construction Cost[2]	$48.7 million	$42.8 million	$42.9 million	$40.5 million	$50.3 million

[1] Includes all identified streams and wetlands included in the Aquatic Resources Report and Addendum. In accordance with the current Pre-2015 consistent with Sackett conforming rule, these impacts could be less upon verification of an Approved Jurisdictional Determination by the USACE and WVDEP.
[2] Cost does not include Right-of-Way and Engineering/Geotech costs.

As shown in Table 2-8, Alternative 3 would require the greatest amount of earthwork and would result in the displacement of nine residences within the Harmony Grove area. In addition, Alternative 3 would have the greatest reasonably foreseeable impacts on natural resources, including streams, wetland, and terrestrial habitat. As a result, Alternative 3 has the highest estimated construction cost of all the build alternatives.

Based on the traffic operation analysis summarized in Section 2.5.1, Alternative 3 would not operate as well at the River Road (CR 45) ramp terminals compared to the Alternative 2 options, specifically Alternative 2C. The safety analysis in Section 2.5.2 shows that Alternative 3 would not reduce the total number of crashes compared to Alternative 1 and all three Alternative 2 options. Therefore, Alternative 3 was eliminated from further consideration as a Preferred Alternative because it would have the highest amount of reasonably foreseeable impacts and would not provide the operational and safety benefits associated with the other build alternatives.

Alternative 1 and the three options for Alternative 2 would require half the earthwork compared to Alternative 3. Compared to the three Alternative 2 options, Alternative 1 has the highest

estimated construction cost with two residential displacements, the lowest number of all the build alternatives. However, Alternative 1 would increase the noise levels at four residences along Old River Road that were identified as noise receptors. Compared to Alternatives 2A and 2B, Alternative 1 would result in higher reasonably foreseeable impacts on natural resources, including streams and wetlands, but the impacts are lower than Alternative 2C.

As discussed in Section 2.5.1, Alternative 1 would not operate as well at the River Road (CR 45) ramp terminals compared to Alternative 2C. The safety analysis in Section 2.5.2 shows that Alternative 1 would reduce the number of total crashes but would not lower the number of fatality and/or injury crashes as much as Alternative 2C. Alternative 1 was eliminated from consideration as a Preferred Alternative because it would not provide the operational and safety benefits when compared to Alternative 2C.

Of the three Alternative 2 options, Alternatives 2A and 2B would require less earthwork than Alternative 2C; however, Alternative 2C has the lowest estimated construction cost of the three Alternative 2 options. Alternatives 2A and 2B would result in three residential displacements compared to five residential displacements that would occur with Alternative 2C. Alternative 2C would increase noise levels at three residences identified as noise receptors and Alternatives 2A and 2B would increase noise levels at four residences identified as noise receptors. These residences are located on Old River Road and River Road. Alternative 2C would result in higher reasonably foreseeable impacts on natural resources, including streams and wetlands, compared to Alternatives 2A and 2B.

The traffic operation analysis in Section 2.5.1 demonstrates that Alternative 2C would operate better at the River Road (CR 45) ramp terminals than Alternatives 2A or 2B. Likewise, the results of the safety analysis in Section 2.5.2 show that Alternative 2C would reduce the total number of crashes compared to Alternatives 2A and 2B. Therefore, Alternatives 2A and 2B were eliminated from further consideration as a Preferred Alternative because neither alternative would provide the operational and safety benefits when compared to Alternative 2C.

2.6 Selection of the Preferred Alternative

Based on the results of the preliminary alternative analysis discussed in Section 2.5, Alternative 2C was identified as the Preferred Alternative because it meets the Project Purpose and Need, would operate at LOS A at the River Road (CR 45) ramp terminals, and would reduce the total number of crashes with the greatest reduction of fatality and/or injury crashes. Preferred Alternative 2C will be compared to the No-Build Alternative in Section 3 of this EA.

2.7 Public Involvement

As a result of E.O. 14148, E.O. 14154, E.O. 14173, and the removal of the Council on Environmental Quality's regulations, all federal environmental justice requirements are revoked and no longer applicable to the federal environmental review process. Accordingly, this EA does not consider public comments regarding environmental justice.

2.7.1 Public Engagement by MMMPO

The MMMPO established a Steering Committee after being approached by the Monongalia County Commission and the City of Westover to discuss the need for better access to the MIP. A total of four public meetings were conducted to discuss better access to the MIP. The first two meetings are listed below:

- Public Information Meeting at Westover City Hall on September 20, 2018.
- Joint meeting with the MMMPO's Citizen Advisory Committee at the MMMPO Office on October 11, 2018.

During the public meeting held on September 20, 2018, seven alternative routes to access the MIP were presented to the public for review and comment. Four of the alternative routes presented are discussed in Section 2.2. A total of 28 members of the general public signed into the meeting along with members of the public who did not sign the meeting attendance sheet. There was positive response from the public to the concept of additional access to the MIP and the alternatives presented. As part of the meeting, MMMPO staff prepared a matrix with the seven alternatives route and asked interested members of the general public to 'vote' for an alternative. Approximately two-thirds of respondents identified either Alternative A1 or A2 with a new interchange access to I-79 in the Harmony Grove area as their preferred alternative. The remaining respondents preferred either upgrading River Road (Alternative F) or a new bridge across the Monongahela connecting Dupont Road with US 119 in the vicinity of the commercial plaza (Alternative D).

The second meeting held on October 11, 2018 was a joint meeting with the MMMPO's Citizen Advisory Committee and presented the same information as the public meeting held in September 2018.

After the September and October 2018 public meetings, the MMMPO completed a study titled "Morgantown Industrial Park Access Study" (Study) in October 2018. The Study described each of the seven alternative MIP access options presented during the September and October 2018 public meetings, presented an analysis of the alternatives, and summarized the public meetings held to gain feedback about the proposed alternative access options. In addition, the Study recommended that the MTP be amended to include additional access to the MIP. The Study is available on the MMMPO's website: https://www.plantogether.org/plans (link name: "Morgantown Industrial Park Access Study Report").

In January 2019, the MMMPO held two additional meetings to review the MMMPO's Tier One Priority List with the public and request feedback on the proposed addition of an MIP access to the MMMPO MTP.

- Public Information Meeting at Mountain Line Transit on January 9, 2019.
- Joint meeting with the MMMPO's Citizen Advisory Committee at the MMMPO Office on January 10, 2019.

The MMMPO MTP is a fiscally constrained plan, so the addition of the MIP access project would require the removal of one or more projects from the Tier One Priority List. During these meetings, attendees from the general public were asked two questions:

1. Do you agree that the MMMPO MTP be amended to include the Morgantown Industrial Park Access Project as a Tier 1 project?
2. If you agree with the amendment, which project should be taken from the current Tier 1 project list to make the amendment Tier 1 project category fiscal constraint?

A total of 73 responses were received and 47 did not agree with amending the MTP to add the MIP access project. The reasons varied, but the majority of respondents expressed that no Tier One project should be removed (14) and that the MIP access project would bring few benefits to the majority of the community (15). Eighteen (18) respondents expressed that the MTP amendment to add the MIP access project would undermine the long-range planning process.

Conversely, there were nine responses that agreed with the proposed MTP amendment to add the MIP access project and a total of 17 responses that did not have a preference. Of the respondents that did not indicate a preference, 11 supported a project to reopen River Road and the MIP access project.

2.7.2 Public Engagement by WVDOH

A virtual scoping meeting was held on September 8, 2022 with Federal, State, and local agencies to discuss the Project, including the Purpose and Need and proposed build alternatives. The meeting also described the project development process initiated with the MMMPO, presented a projected timeline to complete the Project's review under the NEPA, and discussed additional steps moving forward. Since the MMMPO has previously engaged the general public about the Project, the WVDOH did not hold a public scoping meeting for this EA

After this EA is approved by FHWA and published for review and comment, WVDOH will host a public meeting during the EA comment period to provide the general public with an opportunity to learn more about the Project, including the Project Purpose and Need, alternatives considered, and the process to select Preferred Alternative 2C. WVDOH staff and their consultants will be available to answer questions about the Project and the information provided in this EA, and provide information about the next steps in the project development process. The public will have an opportunity to provide comments at the meeting and how to submit comments before the end of the EA comment period. All comments received about the Project and this EA will be summarized and addressed prior to the final NEPA decision is issued by FHWA.

3 AFFECTED ENVIRONMENT AND REASONABLY FORESEEABLE EFFECTS

This section discusses the individual components of the affected environment gathered during desktop and/or field investigations within the Project's ECZ and compares the reasonably foreseeable impacts associated with Preferred Alternative 2C and the No-Build Alternative. A map with the Project ECZ is provided in **Appendix A, Figure A-6**. To comply with the National Environmental Policy Act (NEPA) and FHWA regulations (42 U.S.C. 4332 and 23 CFR 771, respectively), a general overview is provided for resources that are considered unlikely to be affected in either a positive or negative manner by the proposed action. Resources that would be affected positively or negatively by the construction of the build alternatives are discussed in greater detail.

For purposes of this section, the No-Build Alternative is retained as a baseline for evaluating Preferred Alternative 2C. As discussed in Section 2.3, under the No-Build Alternative, existing highway and roadway infrastructure would remain as is. Only maintenance of the existing roadways would be carried out over the next 20 years, including any maintenance work required to keep River Road (CR 45) open to traffic. The existing interchange (I-79 Exit 152) at Westover would be expected to handle greater traffic volumes over time, resulting in drivers experiencing long delays to exit or enter I-79 due to increased congestion by the design year 2050.

3.1 Social and Economic Characteristics

On January 20, 2025, President Trump signed Executive Order (E.O.) 14148 – Initial Rescissions of Harmful Executive Orders and Actions and E.O. 14154 – Unleashing American Energy. The E.O.s revoked E.O. 14096 – Revitalizing Our Nation's Commitment to Environmental Justice for All (April 21, 2023). Subsequently on January 21, 2025, President Trump signed E.O. 14173 – Ending Illegal Discrimination and Restoring Merit-Based Opportunity. This E.O. revoked E.O. 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994). On February 25, 2025, the Council on Environmental Quality (CEQ) published an Interim Final Rule removing the CEQ's National Environmental Policy Act (NEPA) implementing regulations, effective April 11, 2025 (90 Fed. Reg. 10610). As a result of these actions, all federal environmental justice requirements are revoked and no longer apply to the federal environmental review process. FHWA, FTA and FRA's Joint NEPA regulations (23 CFR part 771) and the agencies Interim Final Guidance on "Section 139 Environmental Review Process: Efficient Environmental Reviews for Project Decisionmaking and One Federal Decision" (12/17/2024) do not require an environmental justice analysis. Accordingly, no analysis of environmental justice is included in this EA. Any purported environmental justice impacts were not considered in the federal decision. Social, economic, and community impacts will continue to be disclosed where applicable in accordance with 23 CFR 771.

3.1.1 Socioeconomics

The Project Study Area is predominantly developed, with the largest populated area being the city of Morgantown. In 2023, the City of Morgantown had an estimated total population of 30,429 (US Census, 2024). According to the U.S. Census Bureau, the total population of Monongalia County has

been increasing since 2010. This population increase is significantly different than the State of West Virginia, which has been experiencing a decrease in population over the same periods. Population trends for the State of West Virginia and Monongalia County are provided in **Table 3-1**.

Table 3-1. Population Trends for West Virginia and Monongalia County

Aeras Compared	Population[1]			Percentage Change[1]
	2010	2020	2024	2010-2024
West Virginia	1,852,994	1,793,716	1,769,979	-1.3%
Monongalia County	96,189	105,822	108,697	+2.7%

[1] Information is from the 2024 US Census Quickfacts data.

Based on statistics from the Workforce West Virginia website (http://lmi.workforcewv.org/), the top 10 employers in Monongalia County are:

1. West Virginia University (WVU) Hospitals
2. WVU
3. Monongalia County Board of Education
4. WVU Medical Corporation
5. Vandelia Health
6. WalMart Associates, Inc.
7. Mylan Pharmaceuticals, Inc.
8. WVU Research Corporation
9. Gabriel Brothers, Inc.
10. West Virginia Rehabilitation Hospital, Inc.

The mountainous terrain within the Project Study Area has limited the amount of developable land and constrained the location of the highway network. This combination has led to access limitations which create bottlenecks on roadways that increase traffic congestion and drive times. In July of 2021, Mylan Pharmaceuticals closed its Morgantown, WV, plant causing job losses for an estimated 1,400 workers. However, based on the "North Central West Virginia Economic Outlook 2023-2027" Report published by the WVU Research Corporation in 2022, construction of the Mountain Top Beverage's production facility at the MIP could foster additional infrastructure investment in the region.

Under the No-Build Alternative, no changes would be made to the existing road network. The lack of improvements on roadways within the Project Study Area may make it harder to retain existing businesses and attract new development to the area because increased congestion on the existing highway network delay the transport of freight and people. In addition, increased congestion on roadways with capacity limitations over time would increase the potential for collisions and reduce safety.

Preferred Alternative 2C would improve access to I-79 for northbound traffic to and from the MIP and make the site more attractive to new businesses and create new job opportunities. The new interchange and access to I-79 would also relieve traffic congestion on the existing highway network, especially heavy truck traffic coming from the north to the MIP via Exit 152 (Westover) and Dupont Road (CR 19/19). These improvements would be beneficial to the social and economic environment, which includes the residential neighborhoods within the Harmony Grove area, local businesses, the adjacent communities of Westover, Granville and Star City, the City of Morgantown, and visitors to Monongalia County and the greater Morgantown area. For these reasons, Preferred Alternative 2C would have a positive reasonably foreseeable effect on local economies compared to the No-Build Alternative.

3.1.2 Community Facilities and Services

Police service within and the Project Study Area is provided by the WV State Police, the Monongalia County Sheriff's Department, the WVU Police Department, and the cities/towns of Morgantown, Granville, Star City, and Westover. Fire protection and Emergency Medical Services (EMS) are provided by the Morgantown Fire Department, Monongalia EMS, and multiple volunteer fire departments (Clinton District, Cheat Lake, Blacksville, Cool Springs, Granville, River Road (CR 45), Star City, Westover, and Triune-Halleck). However, no police, fire protection, or EMS facilities are located with the Project ECZ.

No public schools are located within the Project ECZ, but Skyview Elementary School and Westwood Middle School are located northeast of the Project ECZ along River Road.

No changes in the operation of community facilities or emergency services would be associated with the No-Build Alternative; however, over time, increased traffic on the existing highway network may negatively affect emergency response times.

Construction of Preferred Alternative 2C would result in temporary changes to local traffic patterns, which may affect the operation of police and emergency services, as well as transportation to and from the public schools located along River Road (CR 45). River Road would be reduced to one lane during the construction of the new interchange bridges with signalized alternating traffic. All existing access points to and from River Road would remain accessible during construction. In addition to cars and trucks, Mountain Line Transit Authority's Bus Route 13-Crown includes River Road. Operation of the bus route would continue during construction of Preferred Alternative 2C, but riders may experience delays.

The long-term benefits of Preferred Alternative 2C include improved access, reduced traffic congestion, and improved safety on the existing highway network. When compared to the No-Build Alternative, these improvements would likely reduce emergency response times and have the potential to support future economic growth within the Project Study Area. Therefore, these long-term benefits offset the temporary changes to local traffic patterns associated with construction of Preferred Alternative 2C and would have a positive reasonably foreseeable effect on the local community facilities and services compared to the No-Build Alternative.

3.1.3 Relocations and Displacements

The Project ECZ contains pockets of rural residential developments located along River Road (CR 45) on either side of I-79. One residential neighborhood is located in the southwestern portion of the Project ECZ along Crestview Drive and Willis Drive. A smaller residential neighborhood is located along Old River Road in the northeastern portion of the Project ECZ.

The No-Build Alternative would not require any relocations or displacements of residences, businesses, or community facilities. Preferred Alternative 2C would displace five residences and require the acquisition of unimproved property within the LOD. All property acquisitions would comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and follow WVDOH Right-of-Way (ROW) assessment and acquisition procedures. All the property owners would be compensated based on fair market value and relocation costs would be included in the compensation package for the residences displaced by Preferred Alternative 2C.

3.2 Land Use and Land Cover

Land use is typically defined by categories of human activities occurring upon the land, whereas land cover refers to the types of vegetation and constructed improvements that occupy an area. Common types of land use include categories such as residential, developed, open space, agricultural, and forest. Land use in the Project ECZ was classified according to categories contained within geographic information system (GIS) layers from the WV GIS Technical Center (WVGISTC). This information was developed by the Natural Resource Analysis Center (NRAC) at WVU and utilized other information obtained from a variety of sources. Land use and land cover (LULC) information is based on growing season conditions from 2022 as obtained from the National Agricultural Imagery Program (NAIP) orthophotography. Identified LULC types within the Project ECZ are shown in **Appendix A, Figure A-7**, and **Table 3-2** provides a comparison of the reasonably foreseeable impacts for each LULC type

Table 3-2: Comparison of Reasonably Foreseeable Impacts to LULC

LULC Category	ECZ (acres)	No-Build Alternative (acres)	Preferred Alternative 2C (acres)
Deciduous Forest	33.16	0	5.50
Developed, Low Intensity	19.25	0	13.89
Developed, Medium Intensity	19.20	0	10.85
Developed, Open Space	35.27	0	12.70
Totals	**106.88**	**0**	**42.94**

Under the No-Build Alternative, any changes to existing LULC conditions within the Project ECZ would be limited to minor changes by one or more property owners. With no improvements to the existing highway network, it may be less economical to convert the existing LULC categories shown

in **Table 3-2** to commercial uses under the No-Build Alternative, but it would likely continue consistent with the MMMPO local land use plans because of the proximity of the MIP and the adjacent urbanized areas of Morgantown, Westover, Granville, Osage, and Star City.

Construction of Preferred Alternative 2C would convert existing LULC within the Project ECZ to transportation uses; however, as shown in **Table 3-2**, over half (24.74 acres) of the total LULC that would be converted is currently low and medium intensity developed land. Preferred Alternative 2C would improve access to I-79 and reduce congestion on the existing highway network. These improvements would make it more economical to convert existing LULC categories within and adjacent to the Project ECZ. but, like the No-Build Alternative, future development and associated LULC conversions would be consistent with the MMMPO local land use plans.

3.3 Farmland

The Federal Farmland Protection Policy Act (FPPA) of 1981 was enacted to discourage the "unnecessary and irreversible conversion of prime or important farmland to nonagricultural uses, and to assure that Federal programs are operated in a manner that, to the extent practicable, will be compatible with state, local government, and private programs that protect farmland".

A desktop review of soils survey mapping identified some soil types that are considered "Statewide Important Farmland" within the Project ECZ. Coordination with the Natural Resources and Conservation Service (NRCS) confirmed that the Project does not impact prime or other important farmland and the Project is not subject to the FPPA (**Appendix B**).

3.4 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, protects properties that are listed in or eligible for listing in the National Register of Historic Places (NRHP), also known as historic properties. Cultural resource investigations for the Project were conducted in accordance with the requirements of Section 106, regulations of the Advisory Council on Historic Preservation (ACHP), contained in 36 CFR 800, and procedures established by the West Virginia Division of Culture and History in their Guidelines for Phase I, II, and III Archaeological Investigations and Technical Report Preparation, including assessments of both historic structures (50 years of age or older) and archaeological sites. Copies of cultural resource reports prepared for the Project are available upon request.

3.4.1 Archaeological Resources

In March 2021, a Phase IA archaeological report titled *Phase IA Archaeological Survey – Harmony Grove Interchange, Monongalia County, West Virginia* prepared by TRC Engineers, Inc (TRC) was submitted to the WV State Historic Preservation Office (SHPO) for its review as required by Section 106 of the NHPA, as amended, and its implementing regulations, 36 CFR 800: *Protection of Historic Properties.* The Area of Potential Effect (APE) for the study was defined as an area encompassing 106.4 acres of terrain. The Phase IA study included background research, using a variety of resources to develop an archaeological sensitivity assessment for the Project ECZ. Multiple environmental variables were considered to define areas of low, moderate, and high

archaeological sensitivity. Based on the assessment, approximately 2.9 acres (2.7 percent) of the ECZ were considered to have high archaeological sensitivity; approximately 12.5 acres (11.7 percent) were considered to be moderately sensitive. The remaining 91.0 acres (85.6 percent) of the Project ECZ was considered to have low potential due to steep and previously disturbed terrain as well as other factors. The report recommended that a Phase 1B archaeological survey be conducted within those areas considered to be highly or moderately sensitive. In an April 1, 2021 review letter, the WV SHPO concurred with these recommendations and requested the execution of a Phase IB study (**Appendix C**).

In May 2021 a Phase IB archaeological field survey and report titled *Phase IB Archaeological Survey – Harmony Grove Interchange Project, Monongalia County, West Virginia* prepared by TRC was submitted to the WV SHPO for its review. The Phase IB archaeological survey of the APE focused on the 15.4 acres that were identified in the Phase IA report as being moderately to highly sensitive areas to archaeological resources. The survey included pedestrian reconnaissance and the excavation of 147 shovel test pits at 15-meter intervals across four survey areas. Shovel test pits were primarily terminated by fill deposits, but no artifacts were recovered, and no archaeological features were identified. In its August 25, 2021 review letter, the WV SHPO concurred with recommendations made in the report that the proposed Project would not affect archaeological historic properties. The WV SHPO stated that no further consultation regarding archaeological resources was necessary for this Project as currently defined (**Appendix C**).

In 2024, the Project ECZ boundary was expanded after the development of Preferred Alternative 2C. Specifically, the northbound ramp terminal roundabout incorporates the Master Graphics Road (CR 45/9) intersection with River Road (CR 45) and added approximately 0.5 acres to the original Project ECZ. Based on the Phase 1A study, the area added to the Project ECZ was not identified as an archaeologically sensitive area. WVDOH prepared a letter with information about the ECZ boundary expansion and the low potential for archaeological resources for WV SHPO review. In its November 14, 2025 response letter, WV SHPO concurred with the recommendation in the letter that the proposed Project would not affect archaeological historic properties (**Appendix C**).

3.4.2 Architectural Resources

The APE for the architectural survey was located at the intersection of I-79 (MP 151) and River Road (CR 45) and was delineated based on topography and existing vegetation to account for the extent of both physical impacts and potential visual effects stemming from the undertaking. The APE for the architectural survey, therefore, includes resources located within the Project ECZ and a direct line of sight to the Project. The APE includes residences along Galusky Lane, CR 45/20, and resources on both sides of River Road (CR 45); resources on both sides of Master Graphics Road (CR 45/9); residences along CR 45/22, CR 45/23, Crestview Drive, and James Drive; residences along Price Hill Road (CR 45/15); and resources along River Road to its intersection with CR 19/17.

A review of the online records maintained by WV SHPO indicated that one NRHP-listed property, the Harmony Grove Meeting House (MG-2384, NR# 83003245), has been documented within the

APE. A report titled *Architectural Resources Desktop Survey* was prepared by TRC and in March 2021 the report was transmitted to WV SHPO for review as required by Section 106 of the NHPA, as amended, and its implementing regulations, 36 CFR 800: *Protection of Historic Properties*. In their response letter dated April 7, 2021, WV SHPO concurred with the boundaries of the APE and requested more information about structures that are older than 45 years within the APE (**Appendix C**).

A report titled *Architectural Resources Survey Report* prepared by TRC documented fieldwork conducted on May 24, 2021 and submitted to WV SHPO in August 2021 for review. TRC identified an additional 21 structures that were older than 45 years within the APE. An assessment of each structure determined that none were eligible for listing in the NRHP. An assessment of the NRHP-listed, Harmony Grove Meeting House, determined that the Project would not adversely affect this historic property. Therefore, it was recommended that the Project would have *no adverse effect* on architectural historic properties in the APE. In a response letter dated November 22, 2021, WV SHPO requested additional information and analysis on cumulative, direct, and indirect potential effects on the NRHP-listed Harmony Grove Meeting House (**Appendix C**).

An *Addendum Architectural Resource Assessment of Effects* report was prepared by TRC in May 2022 and analyzed the direct, indirect, and cumulative effects of the project on the NRHP-listed Harmony Grove Meeting House. Based on the analysis of visual effects, traffic noise, and cumulative effects of increased traffic within the vicinity of the historic property, it was recommended that the Project would not adversely affect the Harmony Grove Meeting House. On June 24, 2022, the WV SHPO concurred that the proposed Project will have *no adverse effect* on the Harmony Grove Meeting House. Copies of the WV SHPO correspondence can be found in **Appendix C**.

Since the WV SHPO consultation during 2022, WVDOH advanced the US 119 Connection project to construction. As discussed in Section 1.1, completion of the US 119 Connection project is included in the No-Build Alternative and the traffic analysis for the proposed Project. Therefore, a new noise analysis was conducted and discussed in Section 3.8 of this EA. The results of the new noise analysis determined that the No-Build Alternative and all build alternatives would increase traffic volume on Master Graphics Road, resulting in a predicted increase noise levels at the Harmony Grove Meeting House location. The predicted sound level increases for Preferred Alternative 2C would not be discernible and would not exceed FHWA noise abatement criteria; therefore, Preferred Alternative 2C would not adversely affect the Harmony Grove Meeting House. WVDOH transmitted the new noise analysis to WV SHPO with a request for review and concurrence. In their letter dated July 7, 2025, WV SHPO concurred that Preferred Alternative 2C would have no adverse effect to the Harmony Grove Meeting House (**Appendix C**).

On February 23, 2022, WVDOH provided information about the proposed Project to the following organizations that have demonstrated interest in historic preservation or the undertaking in the Section 106 review process:

- Monongalia Historical Society

- Morgantown Historic Landmarks Commission
- Preservation Alliance of West Virginia

On March 8, 2022, WVDOH received an email message from the Morgantown Historic Landmarks Commission requesting additional information regarding the potential impact of the proposed Project on the Harmony Grove Meeting House. In their response dated March 14, 2022, WVDOH acknowledged the presence of the Harmony Grove Meeting House and they were working to identify cultural resources located within the Project ECZ. Copies of correspondence with the Morgantown Historic Landmarks Commission can be found in **Appendix C**. The Morgantown Historic Landmarks Commission has been included on the distribution list for this EA.

3.5 Section 4(f) Resources

Section 4(f) of the U.S. Department of Transportation Act of 1966, as amended, was enacted to preserve publicly owned land, including parks, recreation areas, wildlife and waterfowl refuges, and public or privately owned historic sites that are listed on or eligible for listing in the NRHP. The use of resources protected by Section 4(f) is prohibited unless there is a determination that there is no feasible and prudent alternative to the use of land from the property, and the action includes all possible planning to minimize harm to the property resulting from such use.

Except for the public roads, all of the land within the Project ECZ is privately held and no publicly owned parks, recreation areas, or wildlife/waterfowl refuges were identified. One historic property, the Harmony Grove Meeting House, a church that is listed in the NRHP, was identified within the APE that extends beyond the Project ECZ. Consultation with WV SHPO determined the project will have *no adverse effect* on the Harmony Grove Meeting House; therefore, Preferred Alternative 2C will not result in a use of Section 4(f) resources.

3.6 Section 6(f) Resources

The Land and Water Conservation Fund Act (LWCFA), commonly referred to as Section 6(f), requires that the conversion of lands or facilities acquired with Land and Water Conservation Act funds be coordinated with the Department of the Interior. A desktop review of LWCFA-funded projects located in Monongalia County was conducted on Land and Water Conservation Fund Coalition website (https://lwcf.tplgis.org/mappast/). Monongalia County, WV, has received a total of seven LWCFA grants; however. none of the funded projects and/or improvements were located with the Project ECZ. No reasonably foreseeable impacts to LWCFA-funded projects would occur under the No-Build Alternative or Preferred Alternative 2C.

3.7 Air Quality

The Clean Air Act (CAA) Amendments of 1990 and the Final Transportation Conformity Rule (40 Code of Federal Regulations [CFR] Parts 51 and 93) direct the U.S. Environmental Protection Agency (EPA) to implement environmental policies and regulations that will ensure acceptable levels of air quality.

3.7.1 Attainment Status

Monongalia County is within the North Central West Virginia Intrastate Air Quality Control Region. According to the WVDEP, Monongalia County is currently in attainment for all air pollutants.

3.7.2 Transportation Conformity

Transportation conformity applies to nonattainment and maintenance areas. The Project is located in an attainment area for all six criteria air pollutants, and thus, transportation conformity regulations do not apply.

3.7.3 Anticipated Air Quality Impacts

In addition to the criteria for air pollutants for which there are National Ambient Air Quality Standards (NAAQS), the EPA also regulates air toxics. The analysis of Mobile Source Air Toxics (MSATs) in this EA is consistent with FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents dated January 18, 2023.

For each alternative in this EA, the amount of MSAT emitted would be proportional to the vehicle miles traveled (VMT), assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the build alternatives is slightly higher than that for the No-Build Alternative, because the interchange facilitates new development that attracts trips that would not otherwise occur in the area. This increase in VMT means MSAT under the build alternatives would probably be higher than the No-Build Alternative in the Project Study Area. There could also be localized differences in MSAT from indirect effects of the project such as associated access traffic, emissions of evaporative MSAT (e.g., benzene) from parked cars, and emissions of diesel particulate matter from delivery trucks (modify depending on the type and extent of the associated development). Travel to other destinations would be reduced with subsequent decreases in emissions at those locations

Because the estimated VMT under each of the build alternatives is nearly the same, varying by less than two percent, it is expected that there would be no appreciable difference in overall MSAT emissions among the various build alternatives. For all build alternatives, emissions are virtually certain to be lower than present levels in the 2050 design year as a result of the Environmental Protection Agency's (EPA) national control programs that are projected to reduce annual MSAT emissions by over 76 percent from 2020 to 2060 (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, January 18, 2023). Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future than they are today.

3.7.4 Construction Activities

Compared to the No-Build Alternative, construction of Preferred Alternative 2C will result in temporary increases in emissions of some pollutants due to the use of equipment powered by diesel

fuel or gasoline engines. Construction activities may also result in the temporary generation of fugitive dust due to disturbance of the ground surface and other dust-generating actions. There may also be temporary indirect emissions attributable to construction workers commuting to and from work sites during construction.

Fugitive Dust Emissions

Construction activities for Preferred Alternative 2C would result in emissions of fugitive dust from vehicular traffic and soil disturbance, and combustion emissions from diesel and gasoline-fired construction equipment. It is assumed these temporary emissions would be localized and short-term compared to the No-Build Alternative. Such air quality effects, however, will generally be temporary and localized and are not expected to cause or significantly contribute to an exceedance of the NAAQS. Large earth-moving equipment and other mobile sources are sources of combustion-related emissions, including criteria pollutants (i.e., NO_X, CO, VOC, SO_2, and PM_{10}) and small amounts of hazardous air pollutants (HAPs). Air pollutants from the construction equipment will be limited to the immediate vicinity of the construction area and will be temporary.

Fugitive dust will result from excavation, concrete work, and vehicle traffic on paved and unpaved roads. The amount of dust generated will be a function of construction activity, soil type, soil moisture content, wind speed, precipitation, vehicle traffic, vehicle types, and roadway characteristics. Emissions will be greater during dry periods and in areas of fine-textured soils subject to surface activity. The Project will utilize proven construction-related practices to control fugitive dust, such as the application of water on unpaved areas subject to frequent vehicle traffic. In addition, construction equipment will be operated only on an as-needed basis.

3.8 Noise

Construction activities for this Project are expected to include earth removal, hauling, grading, and paving. Temporary increases to baseline noise levels are expected to increase during construction of Preferred Alternative 2C. Temporary speech interference for passersby and individuals living or working near the Project ECZ can be expected. The sound levels resulting from construction activities at nearby noise-sensitive receivers will be a function of the types of equipment utilized, the duration of the activities, and the distances between construction activities and nearby land uses. Sensitive receptors located near the construction area may temporarily experience increased noise levels. Construction noise will be governed by WVDOH's Standard Specifications for Road and Bridge Construction, and any additional abatement measures developed for action.

Low-cost and easily implemented construction noise control measures should be incorporated into the Project plans and specifications to the extent possible. These measures include but are not limited to, work-hour limits, equipment exhaust muffler requirements, haul-road locations, elimination of "tailgate banging," backup alarms with ambient noise sensitivity, construction noise complaint mechanisms, and consistent and transparent community communication.

A review of aerial imagery for the Project ECZ revealed several potential noise-sensitive receptors in the vicinity of the preferred alternative. Sensitive receptors are defined as those land uses that are especially susceptible to noise impacts. Examples of types of land uses that are sensitive

receptors include hospitals, schools, residences, motels, hotels, recreational areas, parks, nursing homes, and churches/places of worship. Noise-sensitive receptors are located at the northeast, southeast, northwest, and southwest of the Project ECZ. Sensitive land uses may be located in the vicinity of Preferred Alternative 2C.

The Harmony Grove Interchange Project is a Type 1 noise project that requires a noise analysis per the FHWA regulations in 23 Code of Federal Regulations (CFR) Part 772 Procedures for Abatement of Highway Traffic Noise and Construction Noise (USDOT, 2010). FHWA's regulations require State Department of Transportation agencies to develop a policy to comply with FHWA regulations and guidance; therefore, the noise analysis for the Project followed West Virginia Department of Transportation, Division of Highways, Design Directive (DD) 253-Noise Analysis and Abatement Guidelines dated August 19, 2011 (2011 WVDOH Noise Policy). The noise analysis was conducted by TRC Engineers and the results are summarized in this EA. A copy of the 2025 Noise Analysis Report for the Proposed I-79 Interchange at MP-152 and the County Route 45 Harmony Grove Interchange Report is available upon request.

To determine the degree of impact of highway traffic noise on human activity, the Noise Abatement Criteria (NAC) established by the FHWA regulation were used, as shown in **Table 3-3.** The NAC is given in terms of the hourly, A-weighted, equivalent sound level in dB(A). The A-weighted sound level is a single-number measure of sound intensity with weighted frequency characteristics that correspond to the human subjective response to noise. Most environmental noise (and the A-weighted sound level) fluctuates from moment to moment, and it is common practice to characterize the fluctuating level by a single number called the Leq. The Leq is the value or level of a steady, non-fluctuating sound that represents the same sound energy as the actual time-varying sound evaluated over the same period. For traffic noise assessment, Leq is typically evaluated over 1 hour and may be denoted as Leq(h).

Table 3-3: Noise Abatement Criteria (23 CFR 772)

Activity category	Activity Leq(h)	Criteria[2] L10(h)	Evaluation location	Activity description
A	57	56	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[3]	67	66	N/A	Residential.
C[3]	67	66	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.

Activity category	Activity Leq(h)	Criteria[2] L10(h)	Evaluation location	Activity description
D	52	51	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E[3]	72	71	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A–D or F.
F	N/A		N/A	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	N/A		N/A	Undeveloped lands that are not permitted.

[1] Either Leq(h) or L10(h) (but not both) may be used on a project.
[2] The Leq(h) and L10(h) Activity Criteria values are for impact determination only and are not design standards for noise abatement measures.
[3] Includes undeveloped lands permitted for this activity category.
[4] Source: FHWA, 23 CFR 772 and the Noise Analysis Report for the Proposed I-79 Interchange at MP-152 and County Route 45 Harmony Grove Interchange Report (available upon request).

A noise analysis was completed to identify and evaluate the potential noise impacts resulting from the No-Build Alternative and the build alternatives. The sensitive receptors identified within the study area were limited to 47 residential structures (Category B).

WVDOH's traffic noise policy recommends noise abatement consideration for Category B and Category C exterior areas of human activity where 67 dB(A) is approached (i.e. 66 dB(A)) or exceeded. FHWA regulation states that noise abatement must be considered when future noise levels cause significant increases over existing noise levels. The 2011 WVDOH Noise Policy defines a substantial noise increase as when predicted highway traffic noise levels exceed existing noise levels by 15 dB(A) or more. WVDOH defined the approach as 1 dB(A) less than the NAC (noise abatement criteria) and a substantial increase of 15 dB(A) over existing conditions.

To determine traffic noise levels in the future, WVDOH requires the use of the Traffic Noise Model (TNM 2.5) to predict peak-hour noise levels at sensitive receptors within the Project ECZ.

To verify the TNM, short-term ambient noise readings were conducted at eight receptor locations within the noise study area, which is presented in **Table 3-4** below.

Table 3-4: Measured Ambient Sound Levels

Noise Sensitive Area	Receptor Site	Address of Monitored Property	Measured Noise Level (dB(A))
NSA-A	A-1	1220 River Road Morgantown, WV 26501	54.8
NSA-B	B-1	60 Old River Road Morgantown, WV26501	66.5
NSA-B	B-2	996 River Road Morgantown, WV 26501	63.4
NSA-B	B-3	21 Old River Road Morgantown, WV 26501	65.1
NSA-C	C-1	1004 Willis Drive Morgantown, WV 26501	57.8
NSA-C	C-2	1104 Crest Drive Morgantown, WV 26501	61.5
NSA-C	C-3	1021 Willis Drive Morgantown, WV 26501	54.3
NSA-D	D-1	27 Master Graphics Road Morgantown, WV 26501	64.2

Source: Information taken from TRC's 2025 Noise Analysis Report for the Proposed I-79 Interchange at MP-152 and County Route 45 Harmony Grove Interchange Report (available upon request).

The TNM predicted noise levels at the eight ambient noise reading locations using traffic counts from the Interstate and adjacent local roads within 3 dB(A) of the ambient readings. This run was used to verify that the model was accurately predicting noise levels.

The No-Build Alternative was evaluated with peak hour traffic for the years 2020 and 2050. The 2050 No-Build traffic included the US 119 Connection that is currently under construction by WVDOH. The three options for Alternative 2 were evaluated using the build peak hour traffic again for the years 2020 and 2050.

- For the No-Build Alternative (2050 withUS 119 Connection), five receptors (42 Old River Road, 27 Master Graphics Road, 60 Old River Road, 40 Old River Road, and 27 Master Graphics Road – House 1) exceeded the NAC for the land use category assigned to the receptor, but the increase was not a 15 dB(A) increase (substantial) between existing and future values.
- For Alternative 2 (2050 with US 119 Connection), three separate options under this Alternative were evaluated, including Alternative 2A, Alternative 2B, and Alternative 2C. These alternatives will consist of a similar alignment; however, Alternative 2A incorporates a Rockfall Catchment Area Ditch with benched cuts along Ramp D, Alternative 2B will utilize a retaining wall along Ramp D, and Alternative 2C includes a single lane roundabout at the I-79 southbound ramp and five-legged roundabout at the I-79 northbound ramp terminal and Master Graphics Road.
    - Alternative 2A: four receptors (42 Old River Road, 21 Old River Road, 996 River

Road, and 40 Old River Road) exceeded the NAC for the land use category assigned to the receptor, but the increases were not a 15 dB(A) increase (substantial) between existing and future values.

- Alternative 2B: four receptors (42 Old River Road, 21 Old River Road, 996 River Road, and 40 Old River Road) exceeded the NAC for the land use category assigned to the receptor, but the increases were not a 15 dB(A) increase (substantial) between existing and future values.
- Alternative 2C (Preferred Alternative): three receptors (42 Old River Road, 996 River Road, and 53 Old River Road) exceeded the NAC for the land use category assigned to the receptor, but the increase was not a 15 dB(A) increase (substantial) between existing and future values.

Even though the increase in traffic noise did not meet or exceed 15 dBA, a noise barrier evaluation was conducted for Preferred Alternative 2C, to determine if the noise abatement is feasible and reasonable. Two (2) noise barriers were evaluated for areas predicted to be impacted by traffic noise under the future design year (2050 with US 119 Connection) in Preferred Alternative 2C. Each barrier is discussed below.

- **Preferred Alternative 2C, Barrier 1** was evaluated to provide noise abatement for two (2) impacted receptors in NSA B, in the northeast quadrant of the proposed interchange. The barrier was modeled at the top of the hill, outside of the existing WVDOH right-of-way along the proposed I-79 northbound on ramp. Barrier 1 consists of panel heights of 12 feet and a total length of 363 feet, resulting in a total surface area of 4357 square feet. The barrier would benefit two impacted receivers (42 Old River Road and 53 Old River Road), representing a total of two residences. The total cost of the barrier is $108,934, and based on the total of two benefited receptors, the cost per benefited receptor is $54,467. This barrier does meet the design goal reduction of at least 7 dB(A) to at least 10 percent of the benefited receptors; however, it exceeds the maximum cost per benefit criterion of $30,000. Therefore, this barrier was determined to be feasible but not reasonable.
- **Preferred Alternative 2C, Barrier 2** was evaluated to provide noise abatement for one (1) impacted receptor in NSA B, in the northeast quadrant of the proposed interchange. The barrier was modeled at the top of the hill, outside of the existing WVDOH right-of-way along the proposed I-79 northbound on ramp. Barrier 2 consists of panel heights ranging from 8 to 20 feet and a total length of 381 feet, resulting in a total surface area of 6,031 square feet. The barrier would benefit one impacted receiver (996 River Road), representing one residence. Based on the total of one benefited receptor, the cost per benefited receptor is $150,778. This barrier does meet the design goal reduction of at least 7 dB(A) to at least 10 percent of the benefited receptors; however, it exceeds the maximum cost per benefit criterion of $30,000. Therefore, this barrier was determined to be feasible but not reasonable.

The results of the noise analysis for the Project indicate that Design Year (2050 with bridge) noise levels for Alternative 2A, Alternative 2B, and Preferred Alternative 2C are anticipated to approach

or exceed the FHWA/WVDOH Noise Abatement Criteria; however, the increase would not meet or exceed 15 dB(A). A noise barrier analysis was conducted for Preferred Alternative 2C and determined that construction of a noise barrier was not feasible or reasonable because the total cost of benefited dwelling exceeding $30,000Therefore, no barrier is proposed to be carried into the final design for Preferred Alternative 2C.

3.9 Soils

Information on mapped soil types in the Project ECZ was obtained from the NRCS Web Soil Survey (WSS) at http://websoilsurvey.sc.egov.usda.gov. Key characteristics of mapped soil types in the Project ECZ are summarized in **Table 3-5.**

Table 3-5: Soil Types within the Project ECZ

Map Unit Symbol	Map Unit Name	Drainage Class	Hydric Soil	Prime/Important Farmland Soil	Limitations
CwC	Culleoka-Westmoreland silt loams, 8-15% slopes	Well drained	No	Important	Slope, erosion hazard, slip hazard, shallow depth to bedrock
CwD	Culleoka-Westmoreland silt loams, 15-25% slopes	Well drained	No	Important	Slope, erosion hazard, slip hazard, shallow depth to bedrock
CwE	Culleoka-Westmoreland silt loams, 25-35% slopes	Well drained	No	No	Slope, erosion hazard, slip hazard, shallow depth to bedrock
CwF	Culleoka-Westmoreland silt loams, 35-65% slopes	Well drained	No	No	Slope, erosion hazard, slip hazard, shallow depth to bedrock
DgC	Dormont & Guernsey silt loams, 8-15% slopes	Moderately well-drained	No	Important	Slope, erosion hazard, slip hazard, seasonal highwater table, slow permeability
DgD	Dormont & Guernsey silt loams, 15-25% slopes	Moderately well-drained	No	Important	Slope, erosion hazard, slip hazard, seasonal highwater table, slow permeability
GuF	Gilpin-Culleoka-Upshur silt loams, 35-65% slopes	Well drained	No	No	Slope, erosion hazard, slip hazard, shallow depth to bedrock, shrink- swell
LaD	Lily loam, 15 - 25% slopes	Well drained	No	Important	Erosion hazard, slow permeability, shallow water table
U1	Udorthents, cut & fill	Not specified	No	No	Site-specific

The No-Build Alternative would not have reasonably foreseeable impact on soils within the Project ECZ. Construction of Preferred Alternative 2C would have permanent reasonably foreseeable impacts on some soil units identified by the NRCS WSS as meeting “farmland of statewide

importance" (i.e. "Important") criteria; however, as discussed in Section 3.3. the Project does not impact prime or other important farmland. In addition, no areas that have "Important" soil types identified by the NRCS WSS are currently being used as farmland, including cropland within the Project ECZ.

During construction of Preferred Alternative 2C, potential erosion of soil would be mitigated with best management practices (BMPs), including implementation of erosion and sediment control measures required by Clean Water Act (CWA), Section 402, National Pollution Discharge Elimination System (NPDES) permits issued by the West Virginia Department of Environmental Protection (WVDEP).

3.10 Geology

The Project ECZ is located in the Appalachian Plateau Physiographic Province. This province is characterized by an extensive, mature, unglaciated plateau of great age. The ancient plateau surface has been dissected by streams to form a region of moderate to high relief. The Project ECZ is approximately 1,245 feet above mean sea level (MSL).

The underlying bedrock consists of sedimentary rocks of the Pennsylvanian age, belonging to the Monongahela and Conemaugh Groups. The Monongahela Group is the most recent and consists of non-marine cyclic sequences of sandstone, siltstone, red and gray shale, limestone, and coal. The Monongahela Group contains the Uniontown and Pittsburgh Coal Formations, which extend from the top of the Waynesburg Coal seam to the base of the economically important Pittsburgh Coal seam. The Conemaugh Group underlies the Monongahela Group and consists of cyclic sequences of red and gray shale, siltstone, and sandstone, with thin limestone and coal of mostly non-marine origin. This Group includes the Glenshaw and Casselman Formations and extends from the base of the Pittsburgh Coal seam to the top of the Freeport Coal seam.

The No-Build Alternative would not alter the underlying geological resources. Construction of Preferred Alternative 2C would manipulate the underlying geology with excavation and pile driving activities to construct the abutments and piers for the interchange bridges. These reasonably foreseeable impacts would be limited to the upper limits of the underlying bedrock and would have negligible effects to economically important geologic formations.

3.11 Groundwater

3.11.1 General Groundwater Characteristics

According to Groundwater Hydrology of the Monongahela River Basin, the principal source of groundwater in the basin is the underlying sedimentary bedrock. The sedimentary rocks form a layered series of aquifers, each composed of hydraulically connected beds. Intergranular spaces, joints, and rock fractures provide the openings through which groundwater circulates and is stored in the rock.

Groundwater yields in the basin vary considerably based on local conditions. In general, sandstones yield the most water because they contain both intergranular spaces and joint openings. Shales ordinarily yield little water, but local areas of dense fracturing or wide joints may transmit

significant water yields. Shallow groundwater movement also generally follows surface topography; therefore, well yields in valley zones are generally higher than on slopes or hillsides.

Well yields in the Monongahela Group aquifer are generally adequate for domestic, farm, and small commercial supplies, but not for industrial or community supplies. Well yields range from 1 to 75 gallons per minute (gpm), with a median yield of 13 gpm. Extensive coal mining in this Group has partly drained some areas, and groundwater supplies may continue to be affected where mine pumpage is maintained after mining ceases.

The Conemaugh Group aquifer is the most developed in the basin, providing adequate yields for most uses, except for large-scale industrial uses. The highest yields are reported from wells situated in valleys and in the sandstone bedrock at the base of this Group. Well yields range from 1 to 400 gpm, with a median yield of 16 gpm.

Groundwater quality in the Project ECZ is generally acceptable for domestic use but may exhibit excessive hardness and chlorides. Coal mining, oil and gas well activities, local dumping, and other activities may allow contaminants to infiltrate the bedrock through mines and fissures, which could degrade local groundwater quality. Groundwater flow within the Project ECZ is generally to the northwest.

3.11.2 Wells

A Radius Map Report prepared by Environmental Data Resources, Inc. (EDR) identified seven United States Geological Survey (USGS) well locations within one mile of the Project ECZ. These are historical ambient groundwater monitoring wells installed by the USGS in the 1930s to 1950s. A copy of the EDR Radius Map is provided in **Appendix D**. No wells were identified within the Project ECZ.

No reasonably foreseeable impacts to groundwater wells would occur under the No-Build Alternative or Preferred Alternative 2C.

3.12 Surface Water

During October 14-16, December 9, 2020, February 22, 2021, and April 28, 2025, an aquatic resources survey was conducted by Thrasher to identify any surface waters, which includes streams and wetlands, located within the Project ECZ. Streams were identified as having features defined in 33 CFR 328.3 that include, but are not limited to, having a bed, bank, ordinary high-water mark, and connection to a Traditionally Navigable Water (TNW) and its tributaries. Streams are typically subdivided into three categories based on the permanence or duration of flow: perennial, intermittent, or ephemeral. Stream categories were determined by visual observations of stream flow and historical data of stream flow. A map with all streams and wetlands identified within the Project ECZ is provided in **Appendix A, Figure A-8**. A copy of the Aquatic Resources Report and the Jurisdictional Determination Addendum to the Aquatic Resources Report prepared by Thrasher are included in **Appendix E**.

The presence or absence of wetlands was determined in the field using routine determination methods outlined in the United States Army Corps of Engineers (USACE) Wetland Delineation Manual

(Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (2012, Version 2.0). Using the three-parameter approach outlined in the USACE Wetland Delineation Manuals, wetland boundaries were determined where hydrophytic vegetation, hydric soils, and positive hydrology were confirmed at present. All three criteria are required for a valid formal wetland determination unless a problematic condition is present.

3.12.1 Streams

The study area is located within the watershed of Dents Run, a tributary to the Monongahela River. The Dents Run watershed covers approximately 14.6 square miles (sm) west of Morgantown, encompassing portions of the communities of Westover, Granville, Morgan Heights, and Laurel Point. The Dents Run watershed is dominated by forest and agricultural lands.

Within the Project ECZ, 10 streams with a total length of 5,506 linear feet were identified. All streams were unnamed tributaries of Dents Run or the Monongahela River and include one intermittent stream, eight ephemeral streams, and one stream with both intermittent and ephemeral flow regimes. Detailed information on each of these streams can be found in the Aquatic Resources Report and the Jurisdictional Determination Addendum to the Aquatic Resources Report in **Appendix E**. **Table 3-6** summarizes the characteristics of each stream channel identified during field investigations.

Table 3-6: Streams Identified within the Project ECZ

Stream ID	Stream Type	Latitude[2]	Longitude[2]	Linear Feet Within ECZ	Receiving Waterway	Preliminary Federal/State Jurisdictional Determination (Y/N)[1]
20201014-UNT 1	Ephemeral	39.602709	-79.991500	68.4	Monongahela River	N
20201014-UNT 2	Ephemeral	39.600979	-79.989503	1069.5	Monongahela River	N
20201014-UNT 2	Intermittent	39.604099	-79.991434	1,790.1	Monongahela River	Y
20201014-UNT 2	Ephemeral	39.604099	-79.991434	442	Monongahela River	N
20201014-UNT 3	Ephemeral	39.607556	-79.994243	212	Dents Run	N
20201014-UNT 4	Intermittent	39.606531	-79.994979	1,341	Dents Run	Y
20201014-UNT 5	Ephemeral	39.601690	-79.991995	82	Dents Run	N

Stream ID	Stream Type	Latitude[2]	Longitude[2]	Linear Feet Within ECZ	Receiving Waterway	Preliminary Federal/State Jurisdictional Determination (Y/N)[1]
20201016-UNT 1	Ephemeral	39.609025	-79.992519	114	Dents Run	N
20201016-UNT 2	Ephemeral	39.608254	-79.992772	220	Dents Run	N
20201209-UNT 1	Ephemeral	39.604873	-79.994538	108	Dents Run	N
20210222-UNT 1	Ephemeral	39.611567	-79.993819	160	Dents Run	N
20210222-UNT 2	Ephemeral	39.613192	-79.992932	342	Dents Run	N

[1] Features have assumed jurisdiction and have not been evaluated by the USACE.
[2] Latitude and Longitude points are presented as the middle of the stream within the ECZ.

Table 3-6 provides a preliminary determination of Federal and/or State jurisdiction, but all streams will be assumed jurisdictional until verification from the USACE and WVDEP determines otherwise.

The No-Build Alternative would not alter or fill streams identified within the Project ECZ. As shown in **Table 3-7** Preferred Alternative 2C would permanently impact 887 linear feet of stream with the placement of fill material into the channel during construction. Impacts to streams anticipated with Preferred Alternative 2C are regulated under CWA Sections 404 and 401.

Table 3-7: Comparison of Reasonably Foreseeable Impacts to Streams

Alternative	Total Linear Feet of Stream Within ECZ	Linear Feet of Stream Impacted Within the Alternative
No Build	45,947	0
Preferred Alternative 2C	5,947	887

Based on the information available, the amount of stream permanently impacted by Preferred Alternative 2C would likely be within the threshold of a Regional General Permit or a Nationwide Permit, if USACE takes jurisdiction. If the USACE does not take jurisdiction, then the WVDEP may take jurisdiction and a State Waters Permit, may be required. Further consultation with the USACE and WVDEP regarding jurisdiction of the streams identified in the Project ECZ will be performed by WVDOH after the project proceeds with final design engineering. If final stream

impacts are below the mitigation threshold requirements, then no compensatory mitigation is necessary to offset permanent impacts.

Temporary construction impacts will be minimized through the use of appropriate BMPs for erosion and sediment controls, including prompt restoration of disturbed stream bank areas. Prior to construction of Preferred Alternative 2C, an erosion and sediment control plan would be developed following guidelines in the WVDEP's Erosion and Sediment Control Best Management Practice Manual and included in the engineering design plans for the Project.

3.12.2 Wetlands

Four palustrine emergent (PEM) wetlands were identified within the Project ECZ. Detailed information on each of these wetlands is included in the Aquatic Resources Report in **Appendix E**. **Table 3-8** summarizes characteristics for each wetland identified during field investigations.

Table 3-8: Wetlands Identified within the Project ECZ

Wetland ID	Cowardin Wetland Classification[1]	Area (acre)	Latitude	Longitude	Preliminary Federal and/or State Jurisdictional Determination[2] (Y/N)
20201014-WL 1	PEM	0.02	39.601925	-79.991174	N
20201014-WL 2	PEM	0.01	39.599218	-79.988875	N
20201016-WL 1	PEM	0.04	39.608855	-79.99271	N
20201209-WL 1	PEM	0.20	39.606134	-79.99494	Y

[1] Wetland Classifications as described by Classification of Wetlands and Deepwater Habitats of the United States (Cowardin 1979).
[2] Features are assumed to be jurisdictional. Verification from the USACE will be needed since three of the wetland features are either isolated or adjacent to a non relatively permanent water, which could be deemed non federally jurisdictional in accordance with the Pre-2015 consistent with Sackett conforming rule.

Table 3-8 provides a preliminary determination of Federal and/or State jurisdiction, but all wetlands will be assumed jurisdictional until verification from the USACE and WVDEP determines otherwise.

The No-Build Alternative would not alter or fill wetlands identified within the Project ECZ. As shown in **Table 3-9**, Preferred Alternative 2C would permanently impact 0.02 acre of PEM wetland, with the placement of fill material during construction. Impacts to wetlands anticipated with Preferred Alternative 2C are regulated under CWA Sections 404 and 401.

Table 3-9: Comparison of Reasonably Foreseeable Wetland Impacts

Alternative	Total Acreage of Wetlands Within ECZ	Acreage of Wetlands Impacted Within the Alternative
No Build	0.27	0
Preferred Alternative 2C	0.27	0.02

Based on the information available, the amount of wetlands permanently impacted by Preferred Alternative 2C would likely be within the threshold of a Regional General Permit or a Nationwide Permit, if the USACE takes jurisdiction. If the USACE does not take jurisdiction, then the WVDEP may take jurisdiction and a State Waters Permit may be required. Further consultation with the USACE and WVDEP regarding jurisdiction of the wetlands identified in the Project ECZ will be performed by WVDOH after the project proceeds with final design engineering. If final wetland impacts are below the mitigation threshold requirements, then no compensatory mitigation is necessary to offset permanent impacts.

Temporary construction impacts will be minimized through the use of appropriate BMPs for erosion and sediment controls for the protection of avoided wetlands. Prior to construction of Preferred Alternative 2C, an erosion and sediment control plan would be developed following guidelines in the WVDEP's Erosion and Sediment Control Best Management Practice Manual and included in the engineering design plans for the Project.

3.13 Floodplains

There are no mapped regulated floodplain zones within the Project ECZ. However, the 100-year floodplain zone of the Monongahela River is located south and east of the Project ECZ.

No reasonably foreseeable impacts to floodplains would occur under the No-Build Alternative or Preferred Alternative 2C.

3.14 Terrestrial Vegetation and Wildlife

General observations on vegetation and vegetative communities were recorded during field investigations conducted between October 14-16, December 9, 2020, February 22, 2021, and April 28, 2025. Three types of general vegetative communities were identified and included deciduous forest, riparian forest, and maintained ROW. Areas characterized by deciduous forests are generally characterized by steep slopes with a mature overstory, an open understory, little herbaceous ground cover, and significant cover from downed trees and woody debris. Riparian forest habitats are associated with stream channels identified in the ECZ. The predominant vegetative community within the Project ECZ is maintained WVDOH ROW and consists of grassy/herbaceous areas. **Table 3-10** presents a general list of dominant species made during field investigations.

Table 3-10: Terrestrial Vegetation Within the Project ECZ

Common Name	Scientific Name
Barnyard Grass	*Echinochloa spp.*
Black Locust	*Robinia pseudo-acacia*
Bush Honeysuckle	*Lonicera tatarica*
Crown Vetch	*Coronilla varia*
Dark Green Bulrush	*Scirpus atrovirens*
Flat-topped Goldenrod	*Euthamia gramminiolia*
Fox Sedge	*Carex vulpinoidea*
Garlic Mustard	*Alliaria petiolata*
Green Ash	*Fraxinus pennsylvanica*
Multiflora Rose	*Rosa multiflora*
Multiflora Rose	*Rosa multiflora*
Narrowleaf Cattail	*Typha angustifolia*
Pennsylvania Smartweed	*Polygonum pensylvanicum*
Poison Ivy	*Toxicodendron radicans*
Red Maple	*Acer rubrum*
Sassafras	*Sassafras albidum*
Shallow Sedge	*Carex lurida*
Soft Rush	*Juncus effusus*
Spicebush	*Lindera benzoin*
Wild Carrot	*Daucus carota*
Wingstem	*Actinomeris alternaifolia*
Yellow Nutsedge	*Cyperus esculentus*

The No-Build Alternative would have no reasonably foreseeable effect to terrestrial habitat. As shown in **Table 3-11**, Preferred Alternative 2C would permanently alter a total of 42.94 acres, which includes 29.58 acres of terrestrial habitat. As shown in **Table 3-2**, approximately 5.5 acres of deciduous forest habitat would be permanently converted to transportation uses. The remaining amount of terrestrial habitat has been previously disturbed and/or is currently highway ROW maintained by WVDOH.

Table 3-11 Comparison of Reasonably Foreseeable Terrestrial Habitat Impacts

Resource/Element	No Build Alternative	Preferred Alternative 2C
Total Land Area Impact (acres)	0	42.94
Terrestrial Habitat Impact (acres)	0	29.58

During field investigations conducted on October 14-16, December 9, 2020, February 22, 2021, and April 28, 2025, wildlife species were observed directly or indirectly by vocalizations, tracks,

scat, and/or trails. Wildlife species documented within the Project ECZ were typical to the region and the terrestrial habitat types present and included the white-tailed deer, eastern gray squirrel, American robin, and eastern cottontail rabbit.

Wildlife loss within the Project ECZ associated with interdiction with vehicles traveling on the existing highway network would continue under the No-Build Alternative. Construction of Preferred Alternative 2C would result in the movement of wildlife species out of the Project ECZ to adjacent terrestrial habitats. After construction, loss of wildlife species from Preferred Alternative 2C would be expected to be the same as the No-Build Alternative.

3.15 Rare, Threatened, and Endangered Species

Rare, threatened, and endangered wildlife and plant species are protected under Section 7 of the federal Endangered Species Act of 1973 (ESA). In WV, there are no state-level threatened and/or endangered species protections; therefore, threatened and/or endangered species in WV are federally protected under the ESA administered by the U.S. Fish & Wildlife Service (USFWS). The WV Division of Natural Resources (WVDNR) maintains a database of rare, threatened and endangered species and WVDOH's submitted a request for species information for the proposed Project on March 11, 2025. WVDNR's response letter dated March 13, 2025 (**Appendix F**), states that no known bats, RTE species, or reproducing trout streams are located with the Project ECZ but the proposed Project is located within a predicted bald eagle abundance area located within one mile of the Monongahela River. WVDNR recommends that a Bald Eagle Nest survey be completed within the window of December 1 to March 15 and WVDOH plans to conduct this survey before the start of project construction.

In 2022, a USFWS Information for Planning and Consultation (IPaC) was conducted for the proposed Project, and the species list included the Indiana bat (*Myotis sodalis*) and the northern long-eared bat (NLEB) (*Myotis septentrionalis*). A bat habitat assessment was conducted to assess potential summer and winter habitat for state rare and federally endangered and threatened bats within the Project ECZ. A copy of this report is available in **Appendix F**. The assessment identified two primary potential roost trees (PRTs) and three secondary PRTs that may provide summer roasting habitat within the Project ECZ. The PRTs were located within the southeastern quadrant of the Project ECZ between I-79 and Master Graphics Road (CR 45/9). No potential winter bat habitat was identified with the Project ECZ.

Consultation with the USFWS West Virginia Field Office (WVFO) was initiated with an email message dated June 10, 2022. The ESA Section 7 consultation package included a description of the project, including the total amount of area within the Project ECZ, a summary of the IPaC results, and a copy of the bat habitat assessment report . On August 2, 2022, the USFWS WVFO responded that since tree clearing for the proposed Project will take place between November 15 and March 31, any associated effect on the Indiana bat will be insignificant and/or discountable and any take of the NLEB associated with the Project is exempted under the 4(d) Rule, and no conservation measures are required (**Appendix F**). However, the USFWS WVFO disclosed that the NLEB is slated to have its RTE status changed from threatened to endangered by November 2022 and that this change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the

federal action agency retains discretion once the new listing determination becomes effective (anticipated to occur by December 30, 2022). On March 31, 2023, the USFWS reclassified the NLEB to endangered with a notice in the Federal Register (FR) (88 FR 4908).

On January 22, 2024, ESA Section 7 consultation was reinitiated through the USFWS IPaC system for potential impacts listed species and/or protected habitats. The species list included two listed species, the Indiana bat (*Myotis sodalis*) and Northern long-eared bat (NLEB) (*Myotis septentrionalis*), and two species proposed for listing, the Tricolored bat (*Perimyotis subflavus*) proposed for listing as endangered, and Monarch butterfly (*Danaus plexippus*) proposed for listing as threatened. Based on the species list, two IPaC Determination Keys were completed. The NLEB Determination Key (January 23, 2024) stated that the Project is not reasonably certain to cause incidental take of the NLEB with a resulting determination of "not likely to adversely affect". The Northeast Determination Key triggered a may affect determination for the Indiana bat.

The USFWS incorporated a major update at the end of May 2025 to the IPaC system, which invalidated the January 2024 Determination Key resutls. Therefore, the ESA Section 7 coordination was reinitiated on June 4, 2025 through IPaC. The species list was the same as January 2024 and included the Indiana bat (*Myotis sodalis*), Northern long-eared bat (NLEB) (*Myotis septentrionalis*), Tricolored bat (*Perimyotis subflavus*), and Monarch butterfly (*Danaus plexippus*). The Monarch butterfly (*Danaus plexippus*) is proposed for listing as threatened but the proposed Project does not overlap critical habitat. WVDOH and FHWA have chosen to make a determination that the Project is not likely to jeopardize the continued existence of the species, but additional consultation may be necessary after a final listing rule becomes effected. The NLEB Determination Key resulted in a "May affect" for the Northern long-eared bat and Tricolored bat. The Northeast Determination Key resulted in a "not likely to adversely affect" determination for the Indiana bat. Based on the IPaC results, the WVDOH submitted an individual project review request to the USFWS WVFO on June 4, 2025 (**Appendix F**).

On September 26, 2025, the USFWS WVFO responded to WVDOH's coordination letter and confirmed that the Indiana bat (*Myotis sodalis*), NLEB (*Myotis septentrionalis*), Tricolored bat (*Perimyotis subflavus*), may occur within the project area and concurred with the IPaC determination that the Project is "not likely to adversely affect" the Indiana bat. The Tricolored bat is proposed for listing and WVDOH and FHWA have chosen to make a determination that the Project is not likely to jeopardize the continued existence of the species, but additional consultation may be necessary after a final listing rule becomes effected for the Tricolored bat (**Appendix F**).

The USFWS WVFO evaluated the Project's potential impact on the NLEB and confirmed that there are no caves or mines used by the species during hibernation with the ECZ; therefore, it is unlikely that NLEB use the habitat within the ECZ during spring staging, fall swarming, or overwintering. Suitable summer habitat is located within the ECZ and NLEB may be present throughout the summer occupancy season from April 1 through September 30; therefore, the proposed Project has the potential to adversely affect the species. The USFWS WVFO acknowledged that WVDOH and FHWA have committed to implementing the following conservation measures to reduce the potential adverse effects to the NLEB:

- Tree removal will only occur during winter when bats are not expected to be active on the landscape (November 15th – March 31st).
- Blasting will not occur during the summer occupancy season (April 1 through September 30).
- Erosion and sediment control best management practices will be used during earth disturbing activities.

Based on implementation of the conservation measures listed above, the USFWS WVFO concurred with WVDOH and FHWA's determination that the Project "may affect, not likely to adversely affect the NLEB (**Appendix F**).

The No-Build Alternative will not have an impact on any RTE species. Preferred Alternative 2C would result in the permanent removal of summer habitat, including potential roost trees (PRTs); however, the conservation measures listed above will be incorporated into the construction plans for Preferred Alternative 2C to minimize and mitigate any adverse effects to federally listed bat species.

3.16 Hazardous Materials Assessment

An Environmental Data Resources, Inc. (EDR) report was generated on May 29, 2025 to determine if any hazardous waste sites were located within or within a one-mile radius of the Project ECZ. This information supplemented field investigations conducted on October 14-16, December 9, 2020, February 22, 2021, and April 28, 2025. The Executive Summary of the EDR Radius Map Report can be found in **Appendix D**.

There are no hazardous waste sites within the Project ECZ but three sites were identified within one mile of the Project ECZ. All three sites are located at a lower elevation and are not considered to be of environmental concern. Therefore, the proposed Project would not disturb any known hazardous waste sites.

3.17 Reasonably Foreseeable Future Effects

The 2050 traffic volumes used in the 2025 Harmony Grove IJR and the preliminary alternative analysis in this EA were developed with the MMMPO's TDM developed for the 2050 MTP (May 2022). A companion project to the 2050 MTP was undertaken to update the Comprehensive Plan for Monongalia County and cities. This Plan evaluated the land use, trends, and planned growth areas for the region and provided a basis to update the land use projections used in the TDM. Therefore, the TDM includes all of the current and planned growth in and around the MIP, including newer businesses such as the Mountaintop Beverage (MTB), Owens and Minor, and planned residential development along River Road (CR 45). These assumptions were validated in the TDM and no additional trip generation or adjustments to the initial development patterns were necessary to account for this growth. The MMMPO's TDM also assumes new development will occur to the west of I-79 along River Road. Due to the topography and planned growth patterns in this portion of Monongalia County, it is assumed to be primarily residential in nature.

One of the largest potential trip generators for the proposed Interchange 151 is the existing MIP, which is a prominent economic and employee generator located in the Project Study Area (**Figure 3-1**).

Figure 3-1: MIP Existing Condition and Proposed Expansion

The MIP is a 500-acre multimodal facility that provides barge access to the Monongahela River, access to mainline railroad, and access to the Interstate System access via I-79 Exit 152 (Westover) and I-68 Exit 1 (US 119). Existing businesses located within the MIP generate nearly $100 million in economic value and provide approximately 375 jobs. The existing Tax Increment Financing (TIF) District associated with the MIP has created over $50 million in incremental tax value to Monongalia County. The MIP is in the process of a $30 million expansion of its infrastructure to support the construction of a $200 million aseptic/extended shelf-life liquid manufacturing facility and to provide access to over 100 acres of additional industrial sites ranging in size from 5 to 35 acres. These additional building pads and buildings are anticipated to generate approximately $300 million in one-time economic impacts to the region and state, supporting more than 2,300 jobs. Nine new businesses could generate an estimated annual economic impact of nearly $165 million and more than 700 jobs.

The proposed Project is consistent with the MMMPO land-use plans and based on the economic forecast for the MIP described above, the reasonably foreseeable future effects of Preferred Alternative 2C would be positive compared to the No-Build Alternative.

3.18 Summary of Reasonably Foreseeable Impacts and Mitigation

Table 3-12 summarizes the reasonably foreseeable impacts associated with the No-Build Alternative and Preferred Alternative 2C and provides a list of proposed mitigation measures discussed in this EA. Based on the analysis in this EA, Preferred Alternative 2C would not have a reasonably foreseeable significant effect on the quality of the human environment when compared to the No-Build Alternative.

Table 3-12: Summary of Reasonably Foreseeable Impacts and Proposed Mitigation Measures

Resource/Element	No-Build Alternative	Preferred Alternative 2C	Proposed Mitigation Measure(s)
Socioeconomics	No	Yes	No mitigation proposed because reasonably foreseeable impacts are consistent with MMMPO local land use plans.
Community Facilities and Services	No	Yes	All access points to and from River Road (CR 45) will remain accessible, but River Road will be reduced to one-lane with signalized alternating traffic during construction of the interchange bridges over I-79.
Residential/Commercial Displacements	0	5/0	WVDOH ROW property acquisition and compensation procedures will be followed for all real property acquisitions and residential displacements.
LULC (acres)	0	42.94	LULC conversions consistent with MMMPO local land use plans and no mitigation is proposed.
Farmland	No	No	No mitigation required.
Architectural Resources	No	No	No mitigation required.
Archaeological Resources	No	No	No mitigation required.
Section 4(f) Resources	No	No	No mitigation required.
Section 6(f) Resources	No	No	No mitigation required.
Air Quality	No	No	No mitigation required.

Resource/Element	No-Build Alternative	Preferred Alternative 2C	Proposed Mitigation Measure(s)
Construction Activities	No	Yes	**Fugitive dust control measures** include proven construction-related practices such as the application of water on unpaved areas subject to frequent vehicle traffic. **Noise control measures** include work-hour limits, equipment exhaust muffler requirements, haul-road locations, elimination of "tailgate banging," backup alarms with ambient noise sensitivity, construction noise complaint mechanisms, and consistent and transparent community communication.
Noise Receptors	1	3	No mitigation proposed because noise barrier construction is not feasible and reasonable.
Soils	No	Yes	Erosion and sediment control BMPs will be incorporated into the construction plans to minimize potential adverse impacts.
Geology (Economically Important Formations)	No	No	No mitigation required.
Groundwater Wells	No	No	No mitigation required.
Streams (linear feet)	0	887	If permanent impacts are below mitigation thresholds, then erosion and sediment BMPs will be incorporated into the construction plans to minimize temporary impacts. Compensatory mitigation will be performed, if required by CWA permit requirements.
Wetlands (acres)	0	0.02	If permanent impacts are below mitigation thresholds, then erosion and sediment BMPs will be incorporated into the construction plans to minimize temporary impacts. Compensatory mitigation will be performed, if required by CWA permit requirements.
Floodplains	No	No	No mitigation required.
Terrestrial Habitats (acres)	0	29.58	LULC conversions consistent with MMMPO local land use plans and no mitigation is proposed.

Resource/Element	No-Build Alternative	Preferred Alternative 2C	Proposed Mitigation Measure(s)
Rare, Threatened, and Endangered Species	No	Yes	**Bald eagle** – A nest survey will be conducted between December 1 and March 15 before construction begins. **Northern long-eared bat (NLEB)** – Implementation of the following conservation measures: • Tree removal will only occur during winter when bats are not expected to be active on the landscape (November 15th – March 31st). • Blasting will not occur during the summer occupancy season (April 1 through September 30). • Erosion and sediment control best management practices will be used during earth disturbing activities.
Hazardous Waste Sites	No	No	No mitigation required.

4 REFERENCES

2050 Long Range Transportation Plan, Morgantown Monongalia Metropolitan Planning Organization (MMMPO), Prepared by Stantec, May 2022.

Cowardin, L.M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31.

Environmental Data Resources, Inc. 2025. The EDR Radius Map Report with GeoCheck Harmony Grove Interchange River Road Morgantown, WV 26501. Inquiry Number 8001832.2s May 29, 2025.

HDR Inc. 2021. Traffic Count Data Collection for Harmony Grove Interchange. July 2025.

HDR Inc. 2023. 2050 Traffic Projection Methodology & Results for the Harmony Grove Interchange. July 2025.

Hobba, W.A. Jr. 1984. Ground Water Hydrology of the Monongahela River Basin. U.S. Geological Survey, in cooperation with the West Virginia Department of Natural Resources.

MMMPO Morgantown Industrial Park Access Study Final Report. October 2018.

The Thrasher Group, Inc. 2021. Aquatic Resources Report for the Harmony Grove Interchange Project. May 2025.

The Thrasher Group, Inc. 2025. Addendum to the Aquatic Resources Report for the Harmony Grove Interchange Project. May 2025.

The Thrasher Group, Inc. 2019. Proposed Interchange of Interstate 79 (MP-151) and County Route 45 Harmony Grove Interchange Preliminary Feasibility and Scope Study.

The Thrasher Group, Inc. 2025. Interchange Justification Report for the Harmony Grove Interchange Interstate 79 (MP – 151) and County Route 45 Project. September 2025.

TRC Engineers, 2021. Architectural Resources Desktop Survey, Harmony Grove Interchange I-79 (MP-151) and C.R. 45, Monongalia County, West Virginia. March 2021.

TRC Engineers, 2022. Addendum: Architectural Resource Assessment of Effects, Harmony Grove Interchange I-79 (MP-151) and C.R. 45, Monongalia County, West Virginia. May 2022.

TRC Engineers, 2025. Noise Analysis Report for the Proposed I-79 Interchange at MP-151 and County Route 45 Harmony Grove Interchange Project. July 2025.

TRC Engineers, 2021. Phase 1A Archaeological Survey Sensitivity Study, Harmony Grove Interchange Project, Monongalia County, West Virginia. March 2021.

TRC Engineers, 2021. Phase 1B Archaeological Survey, Harmony Grove Interchange Project, Monongalia County, West Virginia. July 2021.

West Virginia University Research Corporation, 2022. North Central West Virginia Economic Outlook 2023-2027.

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