



Frederick to New Market and Mt Airy Pedestrian and Bicycle Trail Feasibility Study

September 6, 2024



Submitted to: Frederick County Division of Planning and Permitting





Table of Contents

INTRODUCTION	1
EXISTING CONDITIONS	1
NATURAL AND CULTURAL RESOURCES	1
PREVIOUSLY COMPLETED STUDIES	3
TRANSPORTATION NETWORK	4
CONCEPT DEVELOPMENT	13
DESIGN CRITERIA	13
TYPICAL SECTIONS	15
PROPOSED TRAIL ALIGNMENT	16
<i>Proposed Alignment – City of Frederick to Old National Pike / MD 70 / Meadow Road Interchange</i>	17
<i>Proposed Alignment – Old National Pike / MD 70 / Meadow Road Interchange to Green Valley Road (MD 75)</i>	20
<i>Proposed Alignment – Green Valley Road (MD 75) to Bill Moxley Road</i>	24
<i>Proposed Alignment - Bill Moxley Road to the Town of Mount Airy</i>	26
PUBLIC OUTREACH	28
TRAIL ALIGNMENT OPTIONS CONSIDERED AND DROPPED	29
CORRIDOR ANALYSIS	32
PHASING RECOMMENDATIONS	32
<i>Phase 1 – Eaglehead Drive to New Market Middle School (shown in Green in Figure 21)</i>	32
<i>Phase 2 – Mussetter Road to Green Valley Road (MD 75) (shown in Violet in Figure 21)</i>	33
<i>Phase 3 – Bill Moxley Road to the Town of Mount Airy (shown in Orange in Figure 21)</i>	33
<i>Phase 4 – Monocacy Boulevard to Eaglehead Drive (shown in Dark Blue in Figure 21)</i>	33
<i>Phase 5 – Green Valley Road (MD 75) to Bill Moxley Road (shown in dark violet in figure 21)</i>	34
STORMWATER MANAGEMENT SCHEMATIC DESIGN	35
<i>Background</i>	35
<i>Stormwater Management Requirements</i>	37
<i>Proposed Stormwater Management Design</i>	39
COST ESTIMATES	41
IMPACT EVALUATION	41
ECONOMIC BENEFITS	42
FUNDING SOURCES	44
TRAIL ACCESS POINTS	46
ADA COMPLIANCE DISCUSSION	46
NEXT STEPS	47

Appendices

APPENDIX A: EXISTING CONDITIONS MAP

APPENDIX B: PROPOSED TRAIL ALIGNMENT

APPENDIX C: PUBLIC WORKSHOP MATERIALS

APPENDIX D: ONLINE SURVEY RESULTS AND COMMENTS

APPENDIX E: DETAILED COST ESTIMATES



Executive Summary

The Frederick County Division of Planning and Permitting contracted with JMT to complete a Feasibility Study to identify a potential pedestrian and bicycle trail connection between the City of Frederick and the Towns of New Market and Mount Airy, approximately 13 miles. The new trail will provide a connection between several major residential developments, schools, and retail and industrial businesses. The proposed trail will help build the network of pedestrian and bicycle facilities within the County and further the goals of the County's initiative, Towards Zero Deaths Action Plan.

JMT began the study by analyzing existing conditions within the study area. This included a desktop review of potential natural and cultural resources, a review of previously completed studies, and an analysis of the existing transportation network. The review of natural and cultural resources identified wetlands and wetland buffers, Waters of the US, streams, roadside trees, forested areas, and FEMA 100-Year Floodplains within the study area. The project team also met with stakeholders from the Town of Mount Airy, the Town of New Market, and the City of Frederick to determine their needs and desire for the project.

After completing the existing conditions analysis, the project team developed design criteria and typical sections for the potential pedestrian and bicycle facilities being considered as part of this project. Based on existing conditions analyses and the input of local stakeholders, multiple proposed alignment options were developed at a feasibility level and analyzed in a draft technical memorandum. The proposed alignment options were shown in a pop-up public workshop held on November 7, 2023, in the Town of New Market.

After stakeholders reviewed the draft memorandum, an additional stakeholder meeting was held with the Town of New Market and the Town of Mount Airy to identify the preferred alignment option for the proposed trail. During this meeting, the Town of New Market requested to include an additional alignment option in the study that would utilize the proposed New Market bypass that is currently advancing through design by a private developer. After discussion, the project team agreed that the proposed New Market bypass will be the preferred alignment for the trail in this area.

The project team completed corridor analysis studies for the proposed trail alignment. This included creating a more detailed pre-conceptual horizontal alignment, a project phasing strategy, and development of cost estimates (see **Table 1**). Additionally, the project team evaluated studies completed for other trail projects to determine the economic benefits of a new trail and identified potential funding sources for the project. Finally, the project team identified locations for trail access and connectivity, and explained the next steps that the project should follow as it continues moving forward into future design phases.

Table 1: Feasibility Cost Estimate

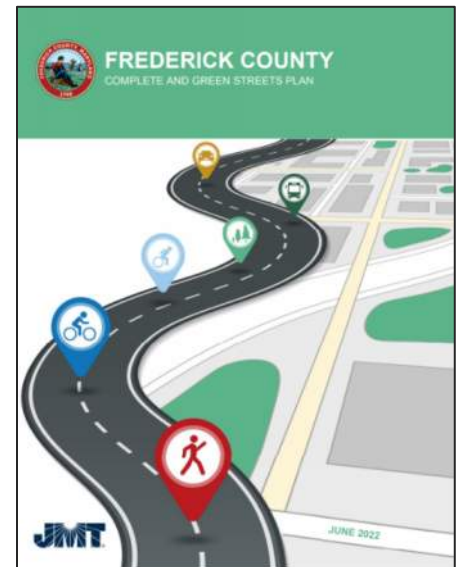
CONSTRUCTION PHASE	COST RANGE
Phase 1 – Eaglehead Drive to New Market Middle School	\$5 – 8 Million
Phase 2 – Mussetter Road to Green Valley Road (MD 75)	\$1 - 3 Million
Phase 3 – Bill Moxley Road to Town of Mount Airy	\$11 – 16 Million
Phase 4 – Monocacy Boulevard to Eaglehead Drive	\$17 – 22 Million
Phase 5 – Green Valley Road (MD 75) to Bill Moxley Road	\$16 – 21 Million
TOTAL COST	\$50 – 70 Million

Introduction

The Frederick County Division of Planning and Permitting contracted with JMT to complete a feasibility study for a proposed pedestrian and bicycle trail. The goal of this study is to identify a feasible trail alignment that is constructable and permissible and to help the County identify funding needs and opportunities. The new trail will provide connectivity between Frederick, New Market, and Mt. Airy primarily utilizing Old National Pike (MD 144) between the City of Frederick and the Town of Mt. Airy. In 2022, Frederick County published a Towards Zero Deaths Action Plan to eliminate traffic-related deaths and serious injuries on Frederick County roadways. One of the goals of the study is to build a network of pedestrian and bicycle facilities within the County, and this Frederick to New Market and Mount Airy Pedestrian and Bicycle Study will assist in achieving that goal.

A section of the design further analyzes recommendations developed as part of the New Market to Mount Airy pilot project within the Frederick County Complete and Green Streets Plan. This pilot project has outlined a blueprint that details the integration of on- and off-road pedestrian and bicycle facilities based on the specific roadway context of different roads throughout the county.

The proposed trail will be approximately 13 miles long and include several existing and proposed bridges. This feasibility study includes an analysis on the potential effects on surrounding land use, a cost estimate, a phasing analysis, a discussion on the Public Rights-of-Way Accessibility Guidelines (PROWAG), and connectivity to the existing and proposed pedestrian and bicycle network. Furthermore, this study includes an evaluation of the interaction the proposed trail will have with existing retail establishments, residential complexes, cultural and environmental assets, and other points of interest.



Existing Conditions

To better understand the existing conditions within the project area, JMT completed a desktop review of natural and cultural resources, researched previously completed studies, and analyzed the existing transportation network within the study area.

Natural and Cultural Resources

JMT performed a desktop analysis of potential natural resources located within the study area. As part of the desktop analysis, JMT reviewed existing GIS Mapping to identify any known wetlands, floodplains, or streams within the project area. The desktop analysis identified wetlands and wetland buffers, streams, Waters of the US (WUS), and FEMA 100-Year floodplains. There are several Maryland Department of the Environment (MDE) blue line waterways shown within the project area including the Monocacy River, Long Branch, Davis Branch, East Branch, School Run, Wood Run, and Bush Creek. The project area also contains many forested areas and roadside trees. Roadside trees located within the public right-of-way cannot be removed without a permit from the Maryland Department of Natural Resources (DNR).

Figure 1 shows a map of Existing Natural Resources within the Study Area. A larger scale map of Figure 1 can be found in Appendix A.

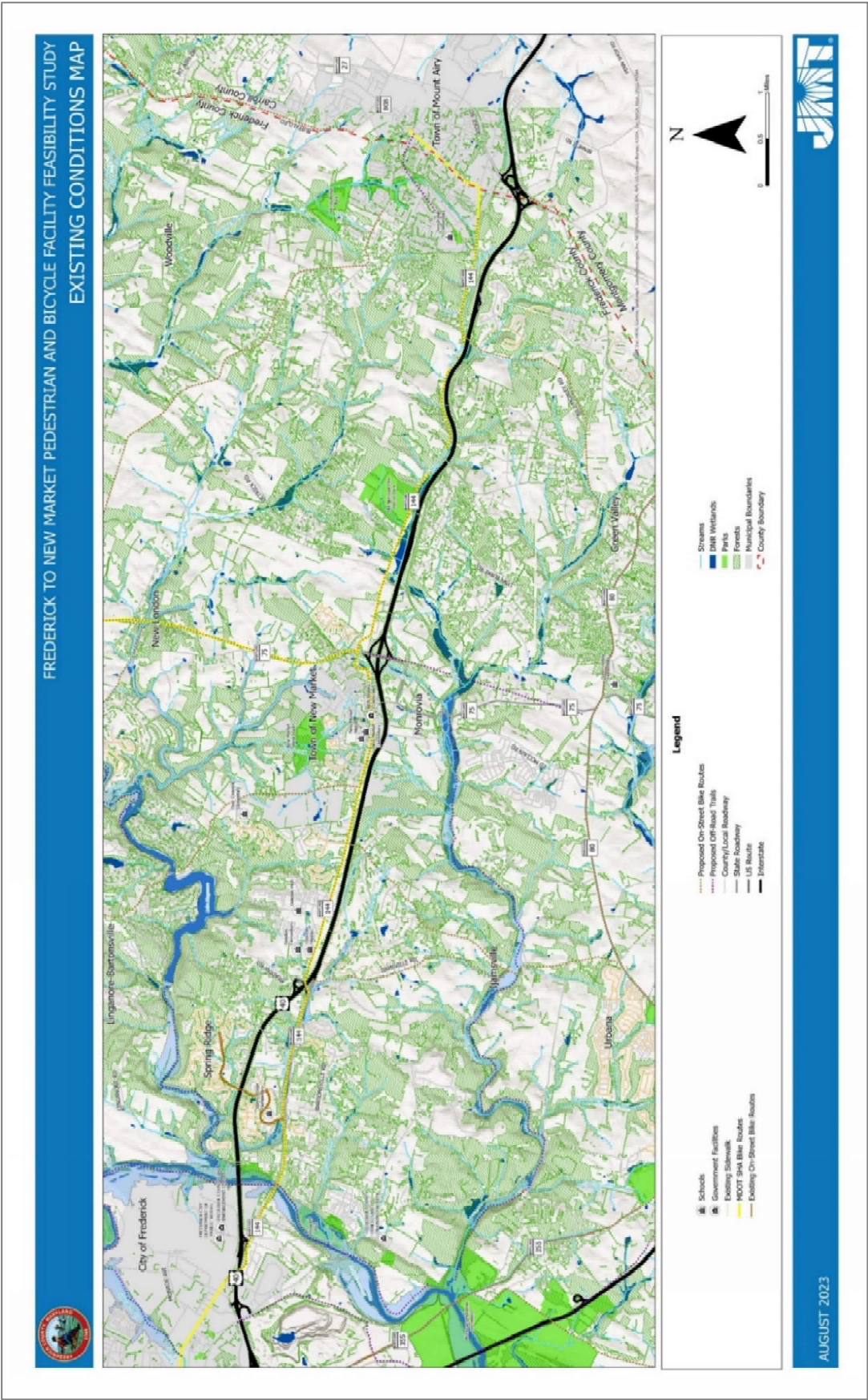


Figure 1: Existing Conditions Map



Previously Completed Studies

JMT reviewed previously completed studies within the project area to identify existing and proposed connections to the proposed trail.

FREDERICK COUNTY COMPLETE AND GREEN STREETS PLAN

The Frederick County Complete and Green Streets Plan (CGSP) was completed in 2022 through a collaborative effort by Frederick County and JMT. It provides guidance on how to properly develop complete and green streets based on the specific roadway location and components, otherwise known as the roadway context. The context zones in the CGSP have been identified as rural, suburban, suburban activity centers, traditional town centers, urban centers, and urban cores. Approximately 80% of Frederick County is in the rural context zone.

Pilot Project | Bicycle Facility

As part of the CGSP, the County identified a pilot project to provide a bicycle connection between the Towns of New Market and Mount Airy. The pilot project was focused along Old National Pike and identified the existing roadway as a mix of suburban activity center, traditional town center, and rural context zones. Based on this analysis, the CGSP recommended shared street “sharrows” within the traditional town center context zone, buffered on-road bike lanes the suburban activity center context zone, and wide bikeable shoulders within the rural context zone.

THE TOWN OF NEW MARKET MASTER PLAN

The Town of New Market Master Plan (Master Plan) was developed in 2016 and includes the Town’s vision, principles, future growth, impacts of future growth, and a five-year action plan. The Master Plan includes an analysis of existing and future transportation growth within the Town including the importance of addressing traffic issues along Old National Pike. As part of the Master Plan, the Town is proposing to build out its roadway grid network so less traffic will be directed onto Main Street (Old National Pike within the Town limits), as shown in **Figure 2**.

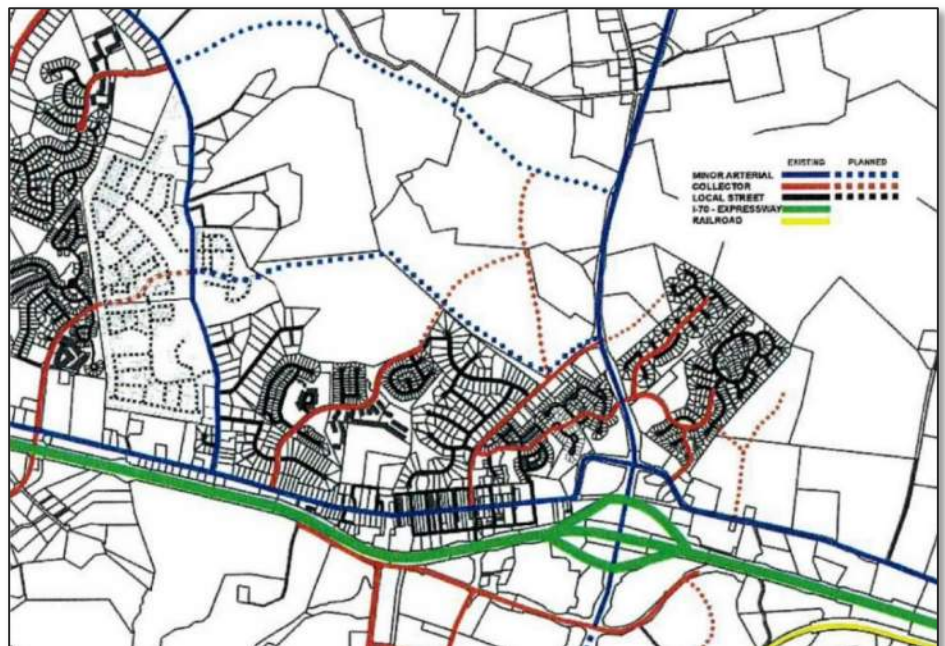


Figure 2: Town of New Market Master Plan Proposed Roadways

Further development of the grid network presents opportunities for the proposed Frederick to New Market and Mount Airy Trail to be built as part of the new roadways. This route would present challenges, however, as it would increase the length of the trail and bypass desirable destinations within the town center.

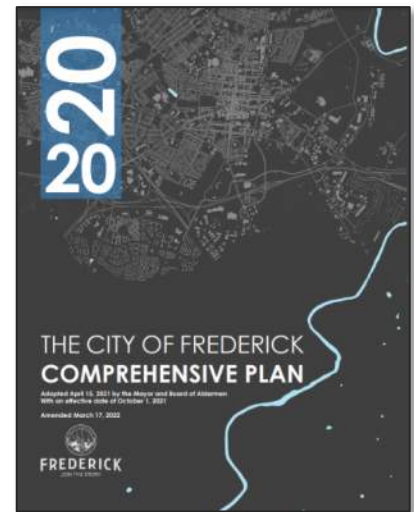
<https://www.townofnewmarket.org/planning-zoning/pages/new-market-master-plan-2016>

CITY OF FREDERICK COMPREHENSIVE PLAN

The City of Frederick Comprehensive Plan was developed in 2020 and includes discussion of the City's priorities such as land use, transportation, economic development, environmental sustainability, and others. The City has placed an emphasis on multi-modal connectivity and safety for both inter- and intra-city transportation.

The City is working on building out an integrated bicycle network, and the plan includes a map of existing, planned, and proposed bicycle routes within the City. One of the proposed bicycle routes includes an extension of an existing trail along Monocacy Boulevard that will eventually reach Old National Pike. This connection will provide the link between the Frederick to New Market and Mount Airy trail and the trail network within the City.

<https://www.cityoffrederickmd.gov/DocumentCenter/View/18902/2020-Comprehensive-Plan-Adopted>



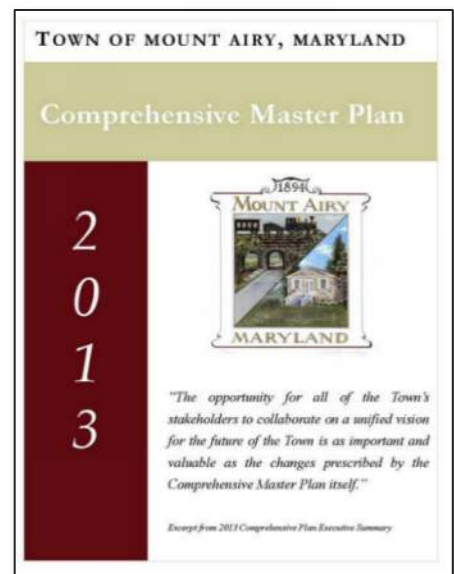
TOWN OF MOUNT AIRY MASTER PLAN

The Town of Mount Airy Master Plan was developed in 2013 and is currently being updated by the Town, with an originally anticipated release of late 2023.

The 2013 Town of Mount Airy Master Plan discussed the importance of sidewalk improvements within the Town and the development of the proposed Rails to Trails connection through Town to improve multi-modal transportation opportunities within the Town.

Additionally, the plan discussed the potential to fully develop Rising Ridge Road as a major collector instead of a local road. The upgraded roadway would function as a bypass of downtown between Ridge Road (MD 27) in the south and Buffalo Road in the north. If the updated Town of Mount Airy Master Plan still considers this a viable improvement for the future, the proposed alignment discussed in the Concept Development section later in this report will need to be updated to reflect the new roadway conditions.

https://planning.maryland.gov/Documents/OurWork/compplans/13_CMP_MountAiry.pdf



Transportation Network

The City of Frederick and the Towns of New Market and Mount Airy are primarily linked through the road network. There are no existing transit connections (bus, train, or light rail). There is no consistent bicycle or pedestrian network between the three municipalities. **Figure 1** contains a map showing existing and proposed pedestrian and bicycle networks, I-70, and Old National Pike. A larger scale map of Figure 1 can be found in Appendix A. **Figure 3** contains a schematic diagram of the existing railway and major roadway network in the study area.



PEDESTRIAN NETWORK

There are existing sidewalks throughout the project area, however they do not provide a consistent connection between locations for the length of the project. In locations where there is existing sidewalk, the project team will consider the possibility of widening the sidewalk to create a shared-use path.

BICYCLE NETWORK

There are several existing and proposed bicycle facilities within the project area, including the Mount Airy Rails to Trails project, and shared-use paths near the Spring Hill and Oakdale schools. The project team is recommending using existing paths as part of this study where possible to reduce the overall project costs and impacts. Additionally, Old National Pike is designated as an MDOT SHA signed bicycle route throughout the project area. Many locations along Old National Pike include vehicles traveling at high rates of speeds and inconsistent shoulders, requiring bicyclists to merge in and out of the travel lane.

TRANSIT NETWORK

There are no existing transit connections between the Town of Mount Airy, the Town of New Market, and the City of Frederick. There is an existing MTA MARC Station approximately one mile south of the western terminus of the proposed trail near the City of Frederick. Due to the location of the MARC Station, connections with the station were not deemed feasible to be completed as part of this study and should continue to be evaluated as part of a separate trail feasibility study.

There is an existing east-west CSX freight rail line that could potentially be used to connect the municipalities, however there are no public rail networks operating on the CSX rail line. A spur off the rail line once connected the CSX rail line with the Town of Mount Airy, however most of the rail spur has been removed and converted into a shared-use trail. A short, approximately 4,000-foot-long section of the spur line is still actively used by a fertilizer plant southwest of the Town.

ROADWAY NETWORK

The primary roadway links are through I-70, an interstate, and Old National



Figure 3: Schematic Diagram of Rail and Roadway Network

Pike, a minor arterial / major collector. I-70 through this region contains three lanes in each direction, with a 70-mph speed limit. There are four existing interchanges for highway access within the project area. One located just east of the City of Frederick, one located between the City of Frederick and the Town of New Market, and one each located south of the Towns of New Market and Mount Airy. Further analysis of roadways within the study area, including Old National Pike, that may be utilized by the proposed pedestrian and bicycle trail are shown in **Table 1**.



TABLE 1: EXISTING ROADS

Criteria	Existing Design	Reference
Old National Pike (MD 144) (see Figure 4)		
Context Zone	Mixed – City of Frederick to New Market Rural – New Market to Mount Airy	MDOT SHA Context Zones
Roadway Classification	Minor Arterial – From Monocacy Boulevard to Main Street / Ijamsville Road Major Collector – From Main Street / Ijamsville Road to South Main Street in Mount Airy	MDOT SHA Roadway Functional Classification
Posted Speed Limit	25 mph – Boyers Mill Road to Green Valley Road 30 mph – Oakdale Middle School to Yeagertown Road; Park Ridge Drive to South Main Street (Mount Airy) 35 mph – Green Valley Road to Rotary Avenue; Sidney Road to Park Ridge Drive 40 mph - Monocacy Boulevard to Quinn Orchard Road; Meadow Road to Oakdale Middle School; Yeagertown Road to Boyers Mill Road; Rotary Avenue to Sidney Road 55 mph - Quinn Orchard Road to Meadow Road	
Typical Section	In general: Two 12' lanes, 10' shoulders, OR Two 12' lanes, no shoulders Royal Oak Drive to Marley Street – Two 10' lanes, two 9' parking lanes, sidewalks on each Rising Ridge Road to S Main ST., 44' pavement width, Two 11' lanes in each direction, 5' sidewalk on north side Ridgefield Drive to Ijamsville Road - 120' roadway width, shoulders on both sides, grass median and turning lanes at intersections	
Ownership	MDOT SHA – Monocacy Boulevard to I-70 / Meadow Road Interchange; Just west of MD 75 to MD 75 (0.3 miles) Frederick County – I-70 / Meadow Road Interchange to Royal Oak Drive; MD 75 to Old Mill Bottom Road Town of New Market – Royal Oak Drive to just west of MD 75 Town of Mt. Airy – Old Mill Bottom Road to South Main Street	

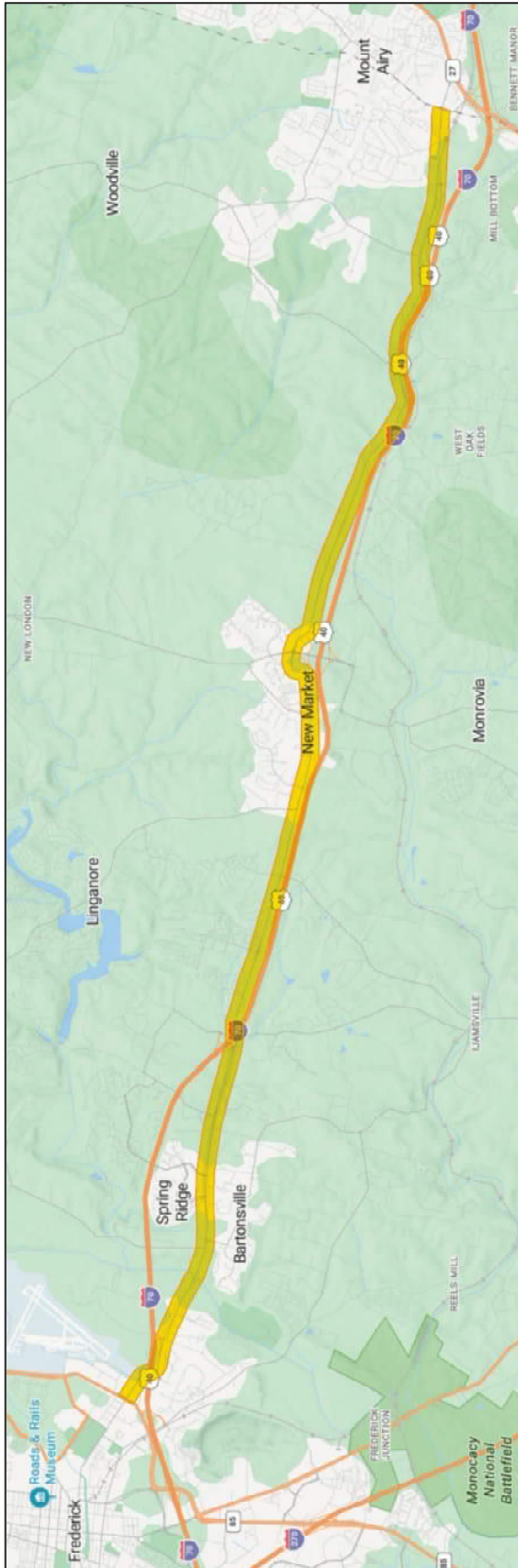


Figure 4: Old National Pike Study Area (highlighted in yellow)

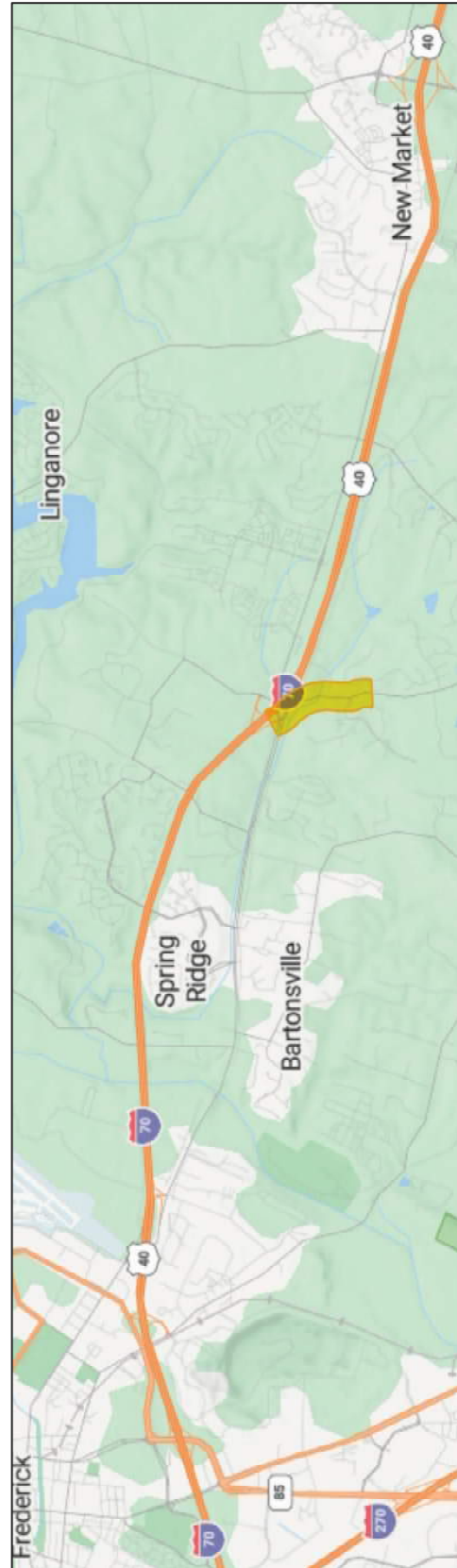


Figure 5: Ijamsville Road Study Area (highlighted in yellow)



Ijamsville Road (see Figure 5)		
Context Zone	Rural	MDOT SHA Context Zones
Roadway Classification	Major collector – MD 144 to Ritchie Way	MDOT SHA Roadway Functional Classification
Posted Speed Limit	35 mph – MD 144 to Ritchie Way	
Typical Section	22' pavement width, no shoulders	
Ownership	Frederick County	

Mussetter Road (see Figure 6)		
Context Zone	Rural	MDOT SHA Context Zones
Roadway Classification	Local Road	MDOT SHA Roadway Functional Classification
Posted Speed Limit	35 mph – MD 144 to Ijamsville Road	
Typical Section	22' pavement width, no shoulders	
Ownership	Frederick County	

Ritchie Drive (see Figure 7)		
Context Zone	Rural	MDOT SHA Context Zones
Roadway Classification	Local Road	MDOT SHA Roadway Functional Classification
Posted Speed Limit	25 mph -Ritchie Court to Mussetter Road	
Typical Section	22' pavement width, no shoulders	
Ownership	Frederick County	

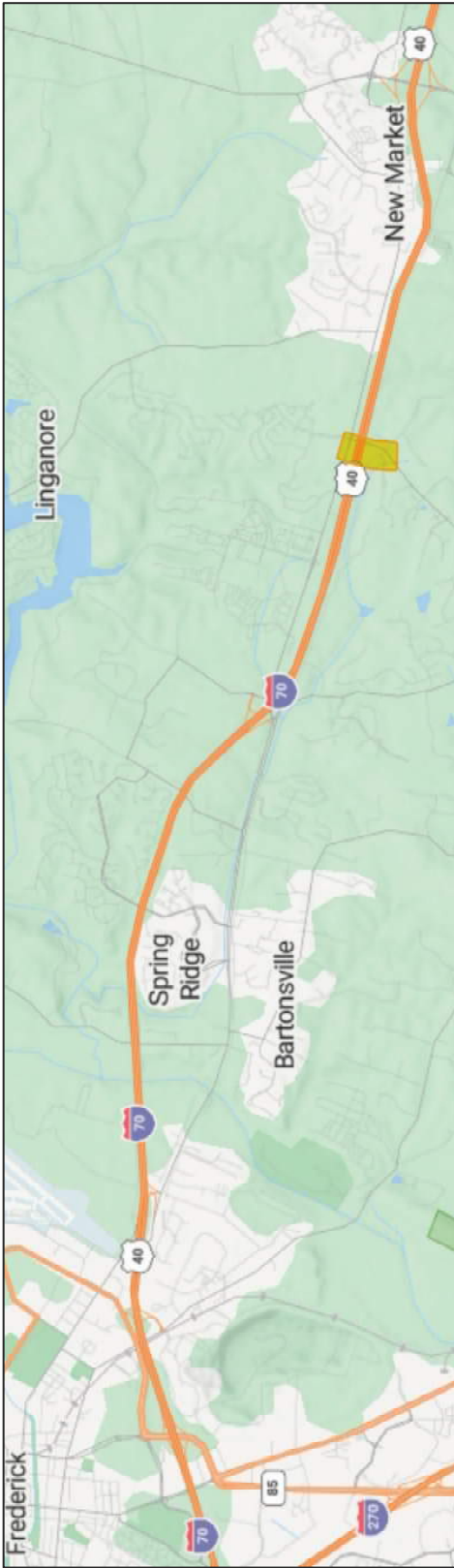


Figure 6: Mussetter Road Study Area (highlighted in yellow) (background image from Bing Maps)

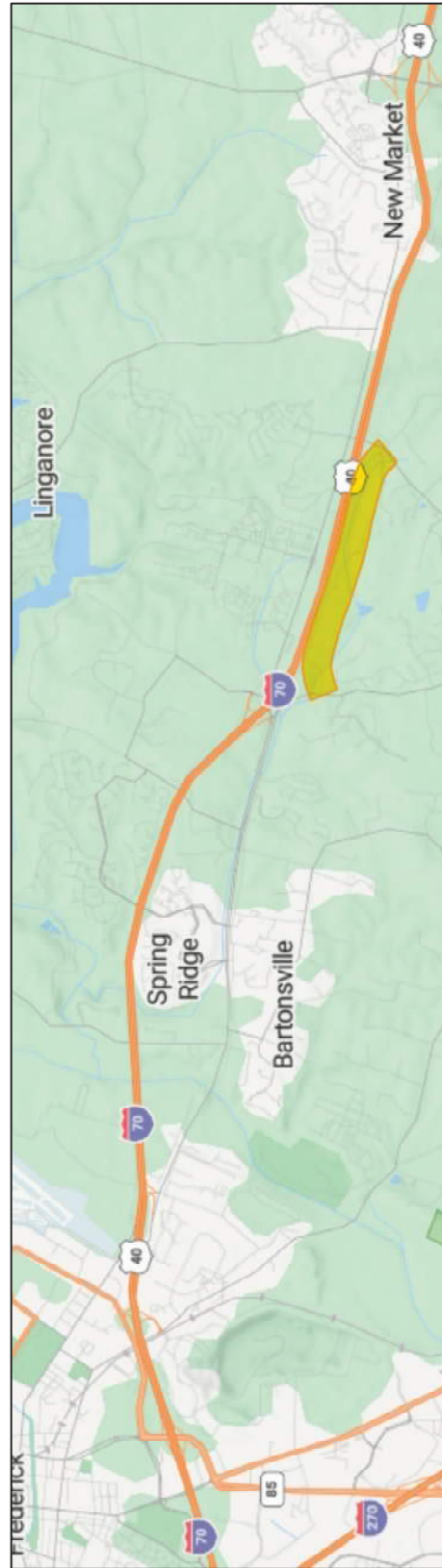


Figure 7: Ritchie Drive Study Area (highlighted in yellow) (background image from Bing Maps)



Lake Linganore Boulevard (see Figure 8)		
Context Zone	Suburban	MDOT SHA Context Zones
Roadway Classification	Local Road	MDOT SHA Roadway, Functional Classification
Posted Speed Limit	25 mph	
Typical Section	Two 10' lanes in each direction, grass median, 5' sidewalk on north side, 10' shared-use path on south side	
Ownership	Frederick County	

Meadow Road (Old National Pike to I-70 Westbound ramps) (see Figure 9)		
Context Zone	Suburban	MDOT SHA Context Zones
Roadway Classification	Local Road	MDOT SHA Roadway, Functional Classification
Posted Speed Limit	35 mph	
Typical Section	Two lanes in each direction, 10' shoulders	
Ownership	Frederick County	

Eaglehead Drive (Old National Pike to Lake Linganore Boulevard) (see Figure 10)		
Context Zone	Suburban	MDOT SHA Context Zones
Roadway Classification	Local Road	MDOT SHA Roadway, Functional Classification
Posted Speed Limit	25 mph	
Typical Section	Two 10' lanes in each direction, grass median, 5' sidewalk on east side, 10' shared-use path on west side	
Ownership	Frederick County	

Rising Ridge Road (Old National Pike to Leafy Hollow Circle) (see Figure 11)		
Context Zone	Suburban	MDOT SHA Context Zones
Roadway Classification	Local Road	MDOT SHA Roadway, Functional Classification
Posted Speed Limit	25 mph	
Typical Section	40' pavement width, 5' sidewalk on both sides	
Ownership	Town of Mount Airy	

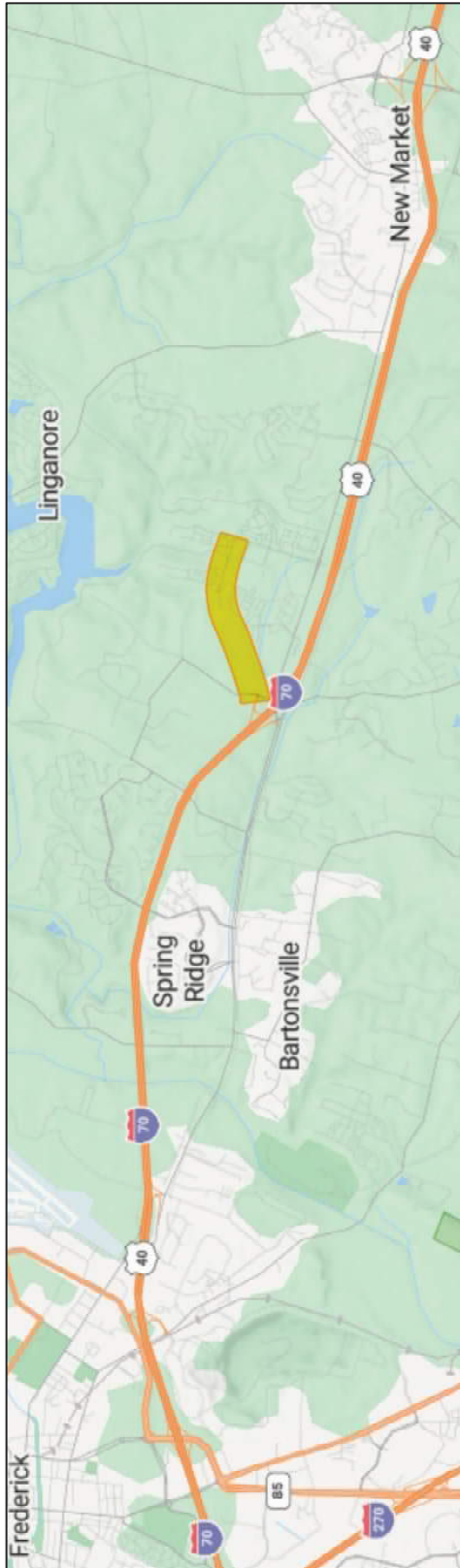


Figure 6: Lake Linganore Boulevard Study Area (highlighted in yellow) (background image from Bing Maps)

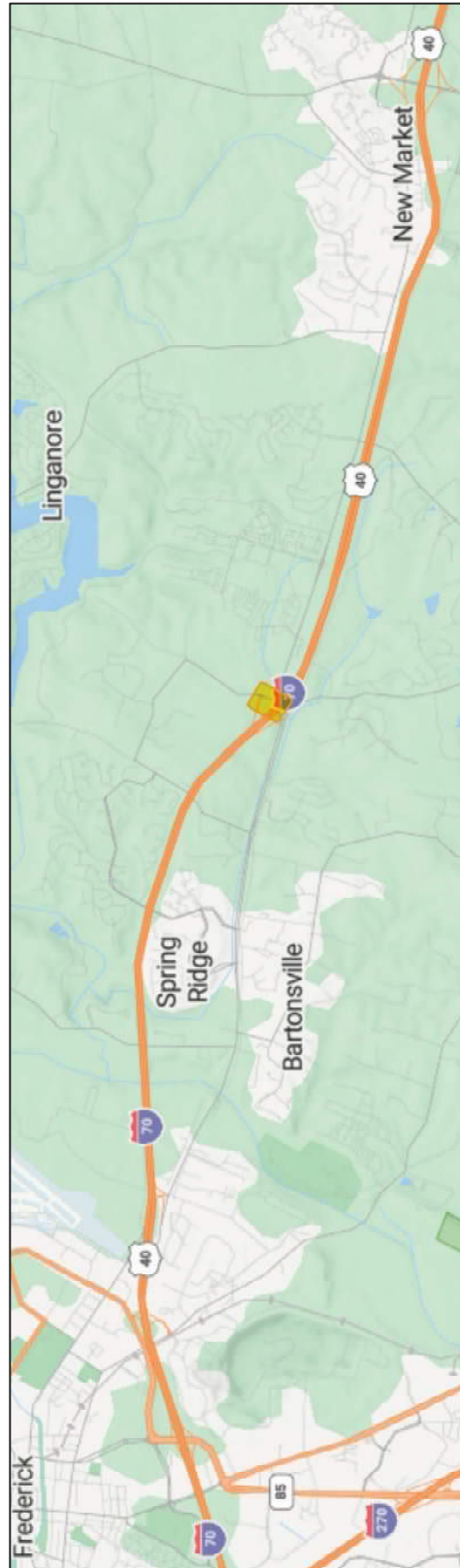


Figure 7: Meadow Road Study Area (highlighted in yellow) (background image from Bing Maps)

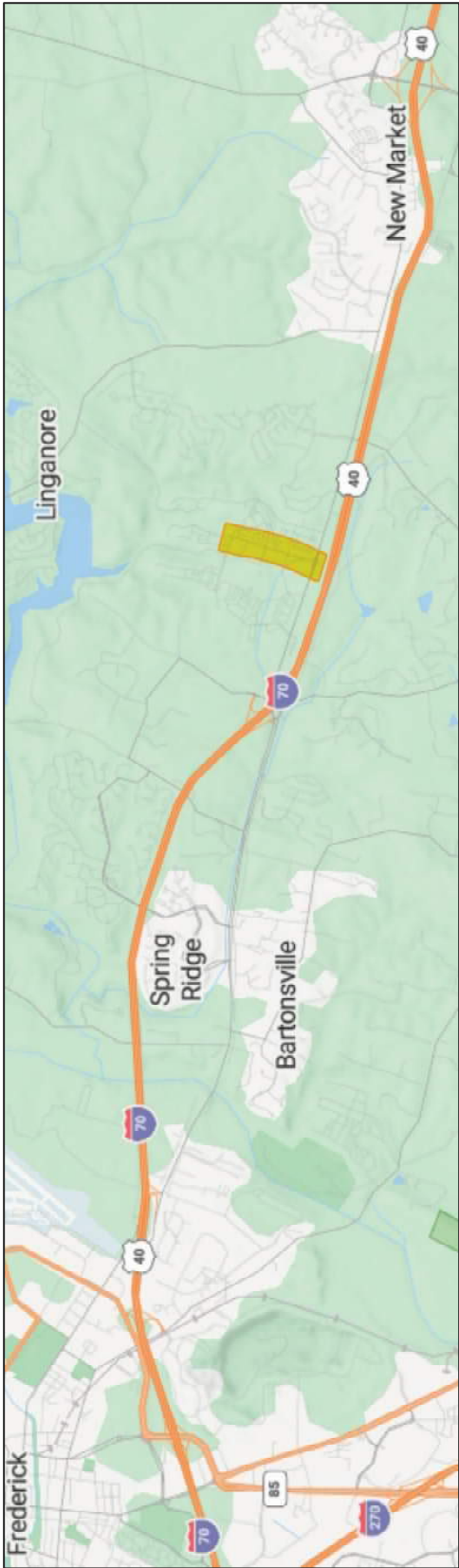


Figure 90: Eaglehead Drive Study Area (highlighted in yellow) (background image from Bing Maps)

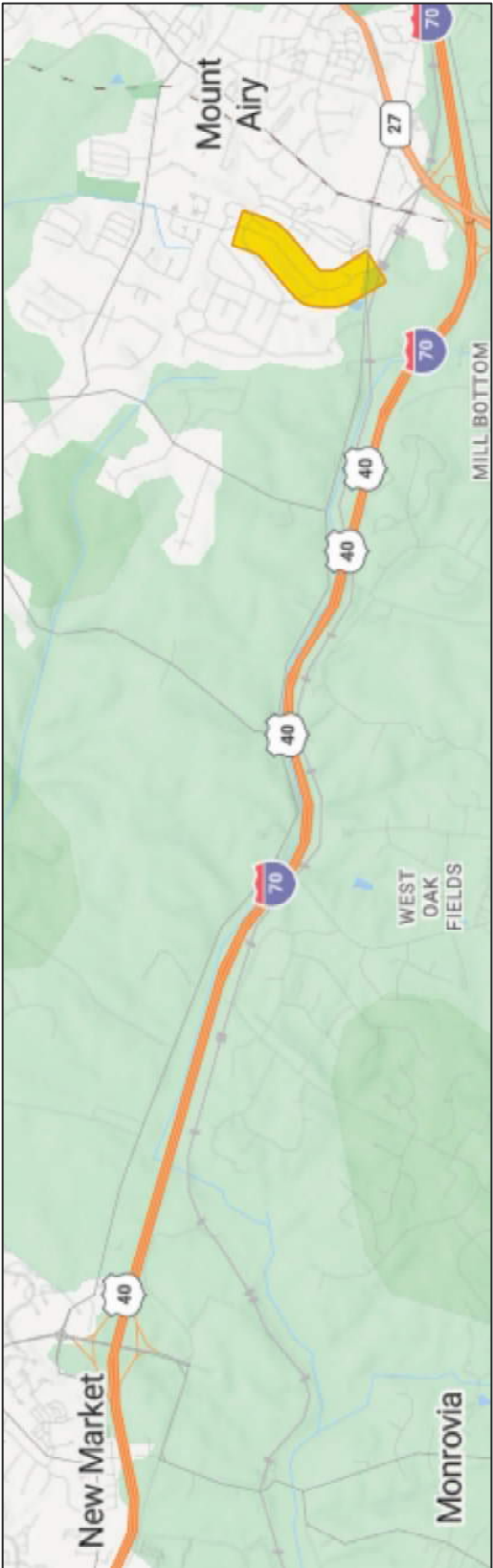


Figure 81: Rising Ridge Road Study Area (highlighted in yellow) (background image from Bing Maps)



Concept Development

Design Criteria

The project team developed Design Criteria for the study. The purpose of these criteria is to identify consistent design guidance for all project design elements. These criteria were developed based on international, national, state, and municipal codes, policies, and guidelines. When conflicting information was present in these guidance documents, the strictest criteria was used for design. The Design Criteria for the proposed trail facilities were created using the following sources:

- 2012 AASHTO Guide for the Development of Bicycle Facilities, 4th Edition (AASHTO Bike Book),
- 2018 AASHTO Policy on Geometric Design of Highways and Streets the Maryland State Highway Administrations (2018 Green Book),
- 2015 Bicycle Policy and Design Guidelines (MSHA Bike Policy),
- NACTO Urban Bikeway Design Guide (NACTO UBDG)
- Frederick County Complete and Green Streets Plan (CGSP)

While a fifth edition of the AASHTO Bike Book is currently under review it has not yet been released for use. As this project is anticipated to use federal funding, these criteria will follow the Public Rights-of-Way Accessibility Guidelines (PROWAG) to ensure accessibility for all users.

FACILITY TYPE: ON-ROAD SHARED LANE (SEE TYPICAL SECTION FIGURE 12)

Criteria	Guidance	Proposed	Reference
Lane Width	13' < X < 15'	N/A	AASHTO Bike Book (pg. 4-3)
Road Speed Limit	35 mph	N/A	AASHTO Bike Book (pg. 4-5)
Roadway Surface Requirements	Must meet requirements for motor vehicle use	N/A	AASHTO Bike Book (pg. 4-28)
Shoulder Width	Not needed Can be absorbed in retrofit	N/A	AASHTO Bike Book (pg. 4-29)

FACILITY TYPE: ON-ROAD BIKE LANE (SEE TYPICAL SECTION FIGURE 13)

Criteria	Guidance	Proposed	Reference
Bicycle Lane Width	5 ft min	5 ft min	AASHTO Bike Book (pg. 4-14, 4-28)
Road Speed Limit	50 mph Recommended that higher speeds have wider bike lanes	35 mph	MSHA Bicycle Policy (pg. 3.1) AASHTO Bike Book (pg.4-7)
Roadway Surface Requirements	Must meet requirements for motor vehicle use	Asphalt	AASHTO Bike Book (pg. 4-28)
Shoulder Width	Not needed Can be absorbed in retrofit	Shoulder to be absorbed in retrofit	AASHTO Bike Book (pg. 4-7, 4-29)

FACILITY TYPE: SIDEWALK (SEE TYPICAL SECTION FIGURE 14)

Criteria	Guidance	Proposed	Reference
Sidewalk Width	5 ft min, 6' desired	6' min	CGSP
Buffer Width	5 ft min where possible	5 ft min	CGSP



FACILITY TYPE: OFF-ROAD SHARED-USE PATH (SEE TYPICAL SECTION FIGURE 15)

Criteria	Guidance	Proposed	Reference
Bicycle Design Speed	20 MPH max Recommended 12 MPH max for urban areas 8 MPH max speed at intersections	15 MPH	MSHA Bike Policy (pg. 7.3, 7.5)
Min. Curve Radius	74 ft		AASHTO Bike Book (pg. 5-14)
Stopping Sight Distance	200 ft		AASHTO Bike Book (pg. 5-17)
Maximum Grade (within Street or Highway ROW)	Not to exceed roadway grade		PROWAG Supplemental Notice R302.5.1
Maximum Grade (outside Street or Highway ROW)	5% max, with allowances for: 5% < X < 8.33% for 200' max 8.33% < X < 10% for 30' max 10% < X < 12% for 10' max		Forest Service Trail Accessibility Guidelines (FSTAG) (pg. 10)
Cross Slope	2% max.		PROWAG Supplemental Notice R302.6
Vertical Clearance above Path	8 ft min 10 ft preferred		MSHA Bicycle Policy (pg. 7.1) AASHTO Bike Book (pg. 5-26)
Vertical Clearance above Roadway	15 ft		2018 AASHTO Policy on Geometric Design of Highways and Streets (2018 Green Book) (pg. 6-20)
Horizontal Sightline Offset (HSO)	58 ft		AASHTO Bike Book (pg. 5-23)
Shared-Use Path (SUP) Width	12 ft to 14 ft preferred If under 10 ft, need design waiver from state; 8 ft min for short segments if constrained areas		MSHA Bicycle Policy (pg. 7.1)
Pedestrian Access Route (PAR)	Full Width of SUP		PROWAG Supplemental Notice R302.3.1
Shoulder Clearance Width (Clear area on either side of SUP)	2 ft min. (6:1 slope) Grass shoulders		AASHTO Bike Book (pg. 5-5) NPS Preferred Practice
Safety Grading	Barrier / Fence required if buffer <5' or: 3:1 for 6' vertical drop 2:1 for 4' vertical drop 1:1 for 1' vertical drop		AASHTO Bike Book (pg. 5-6)
Buffer Width (With and without Curbs)	5' min, greater than 5' preferred for high-speed roadways from outside edge of shoulder If the buffer < 5', a vertical barrier should be installed for separation from vehicle lanes		AASHTO Bike Book (pg. 5-11)
Pavement Design	Pervious or impervious depending on soil characteristics. 3" Hot Mix Asphalt (HMA) for Surface, 4" Graded Aggregate Base (GABC)		



Typical Sections

Typical Sections showing potential bicycle facilities were developed and are shown in Figure 12 to Figure 15.

FACILITY TYPE: SIDEWALK AND ON-ROAD SHARED LANE



Figure 10: Shared-Lanes Typical Section (created using Streetmix.net)

FACILITY TYPE: SIDEWALK AND ON-ROAD BIKE LANE



Figure 11: Bike Lanes Typical Section (created using Streetmix.net)

FACILITY TYPE: SIDEWALK AND BUFFERED BIKE LANES



Figure 12: Buffered Bike Lanes (created using Streetmix.net)

FACILITY TYPE: OFF-ROAD SHARED USE PATH



Figure 13: Shared-Use Path (created using Streetmix.net)



Proposed Trail Alignment

The project team identified multiple potential alignments as part of this study. The proposed alignments generally follow the roadway footprint of Old National Pike. There is one primary option, discussed below, with multiple sub-options in certain locations of the project area. Most of the project is proposed to include a 12-foot wide shared-use path with a five-foot buffer from vehicular traffic. There are some locations where the project team is proposing short stretches of on-road bicycle facilities.

The preferred 12-foot-wide typical section may not be feasible in some areas of the proposed alignments due to site constraints, and a reduced buffer or path width may be considered in future design phases to minimize impacts. All distances mentioned in the description on the following pages are in linear feet.

Maps of the proposed trail alignment and alternatives are shown in Figure 16 to Figure 19 and larger versions of the maps included in **Appendix B**.

PROPOSED ALIGNMENT – CITY OF FREDERICK TO OLD NATIONAL PIKE / MD 70 / MEADOW ROAD INTERCHANGE

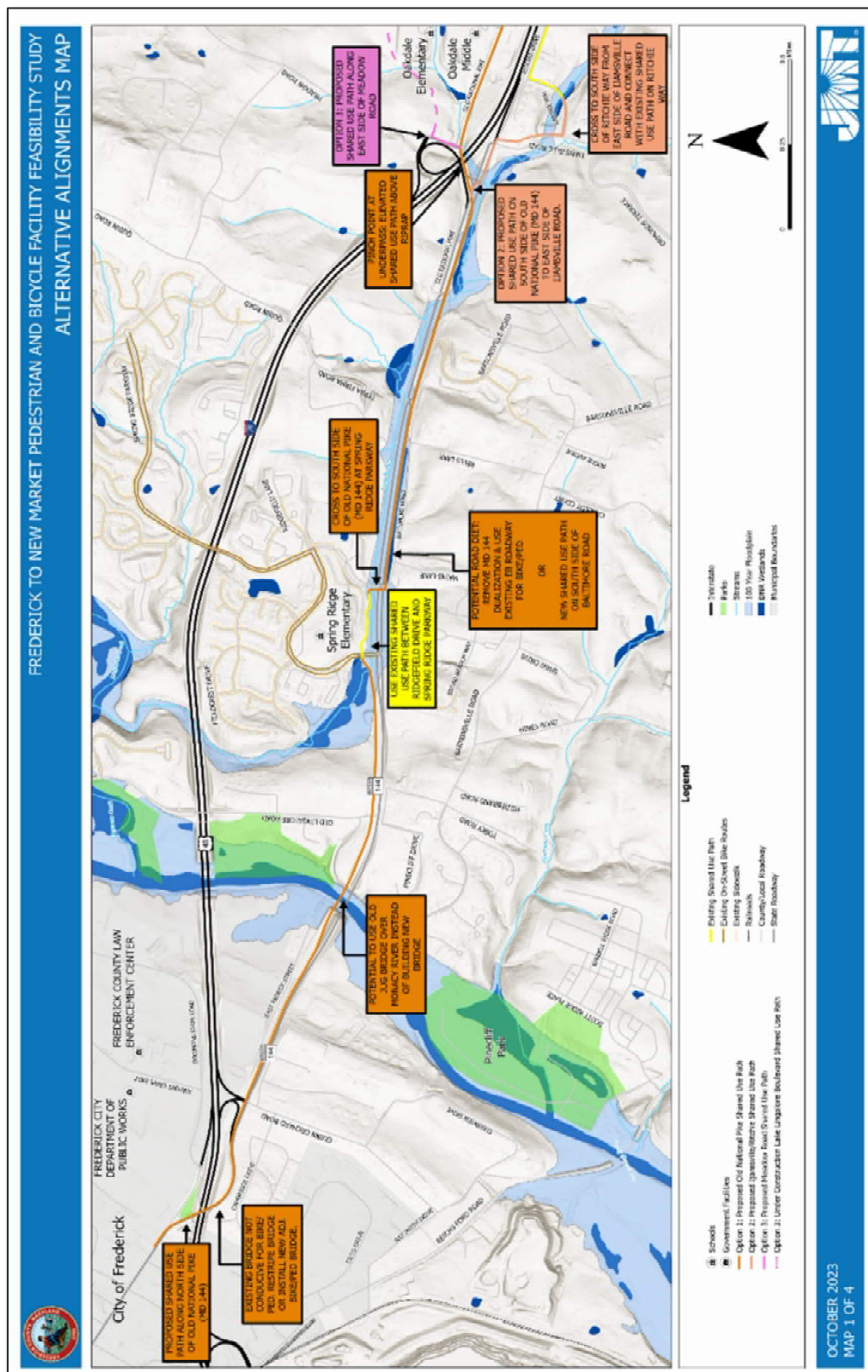


Figure 14: Proposed Trail Alignment – City of Frederick to Old National Pike / MD 70 / Meadow Road Interchange



Monocacy Boulevard to Ridgefield Drive

The proposed trail alignment begins at the intersection of Monocacy Boulevard and Old National Pike as a shared-use path along the northeast side of the roadway. The proposed trail will cross East Patrick Street near the Jug Monument, and then cross I-70 via a new pedestrian and bicycle bridge adjacent to the existing overpass. The proposed alignment will continue along the north side of Old National Pike after crossing I-70. The proposed trail will then cross the existing ramps to and from I-70 eastbound (EB). The project team recommends coordination with MDOT SHA in future design phases to analyze the possibility of removing the existing slip ramp from I-70 EB to Old National Pike westbound (WB) to provide a safer and shorter roadway crossing for trail users.

After crossing the I-70 EB ramps, the proposed trail will continue east, adjacent to the existing Old National Pike park and ride. Reconstruction and / or restriping of the park and ride may be required to accommodate the trail. The trail will continue east beyond the limits of the park and ride on the old alignment of Old National Pike leading towards the Old Jug Bridge (see **Image 1**). The proposed trail will utilize Old Jug Bridge to cross the Monocacy River, which will prevent the need for a large new pedestrian bridge over the river. The current inspection status of the Old Jug Bridge is unknown, however if recent inspections have not been completed, the bridge should be inspected as part of the next design phase. For cost estimating purposes, the project team assumed that the bridge decking will need to be replaced, but no other significant structural improvements will be required.



Image 1: Old Jug Bridge over the Monocacy River

After crossing the bridge, the trail will follow the previous Old National Pike roadway alignment running parallel to the north side of the current Old National Pike alignment until reaching Old Linganore Boulevard. The trail will cross Old Linganore Boulevard at-grade and continue as a shared-use path along the north side of the roadway until reaching Ridgefield Drive.



Ridgefield Drive to Spring Ridge Parkway

The trail will cross Ridgefield Drive and then turn north along the east side of the roadway for approximately 200 feet until reaching an existing shared-use path within the Spring Hill neighborhood. The trail will use this existing trail to turn east and connect with Spring Ridge Parkway. A new section of trail will be constructed that connects the southeast limits of the existing trail with the intersection of Spring Ridge Parkway and Old National Pike.

Spring Ridge Parkway to the Old National Pike / I-70 / Meadow Road Interchange

The project team discussed two potential options for the proposed alignment between Spring Ridge Parkway and the I-70 / Old National Pike / Meadow Road / Ijamsville Road interchange.

Option 1 – Remove Dualization of Old National Pike

Option 1 is to remove the dualization of Old National Pike along this segment of the roadway, converting the westbound section into a shared-use path. The dualization is a remnant from when Old National Pike was the primary east-west route through the area, and this is the only remaining section of Old National Pike with dualization. A traffic study will be required to determine potential impacts of removing the dualization, but if feasible, it will help reduce overall project costs and significantly reduce stormwater management requirements.

Option 2 – Shared-Use Path along Baltimore Road

Option 2 will be preferred if *Option 1* is deemed infeasible due to traffic concerns. This option will utilize the existing traffic signal at the intersection of Spring Ridge Parkway and Old National Pike to cross to the south side of Old National Pike and then install a new shared-use path along the north side of Baltimore Road, between Baltimore Road and Old National Pike EB. At the eastern terminus of Baltimore Road, the trail will cross Baltimore Road and run along the south side of Old National Pike until reaching the interchange. This option will have larger stormwater management impacts and higher overall costs than *Option 1*.

For cost estimating purposes, the team assumed that *Option 1* is the preferred option at this time.



PROPOSED ALIGNMENT – OLD NATIONAL PIKE / MD 70 / MEADOW ROAD INTERCHANGE TO GREEN VALLEY ROAD (MD 75)

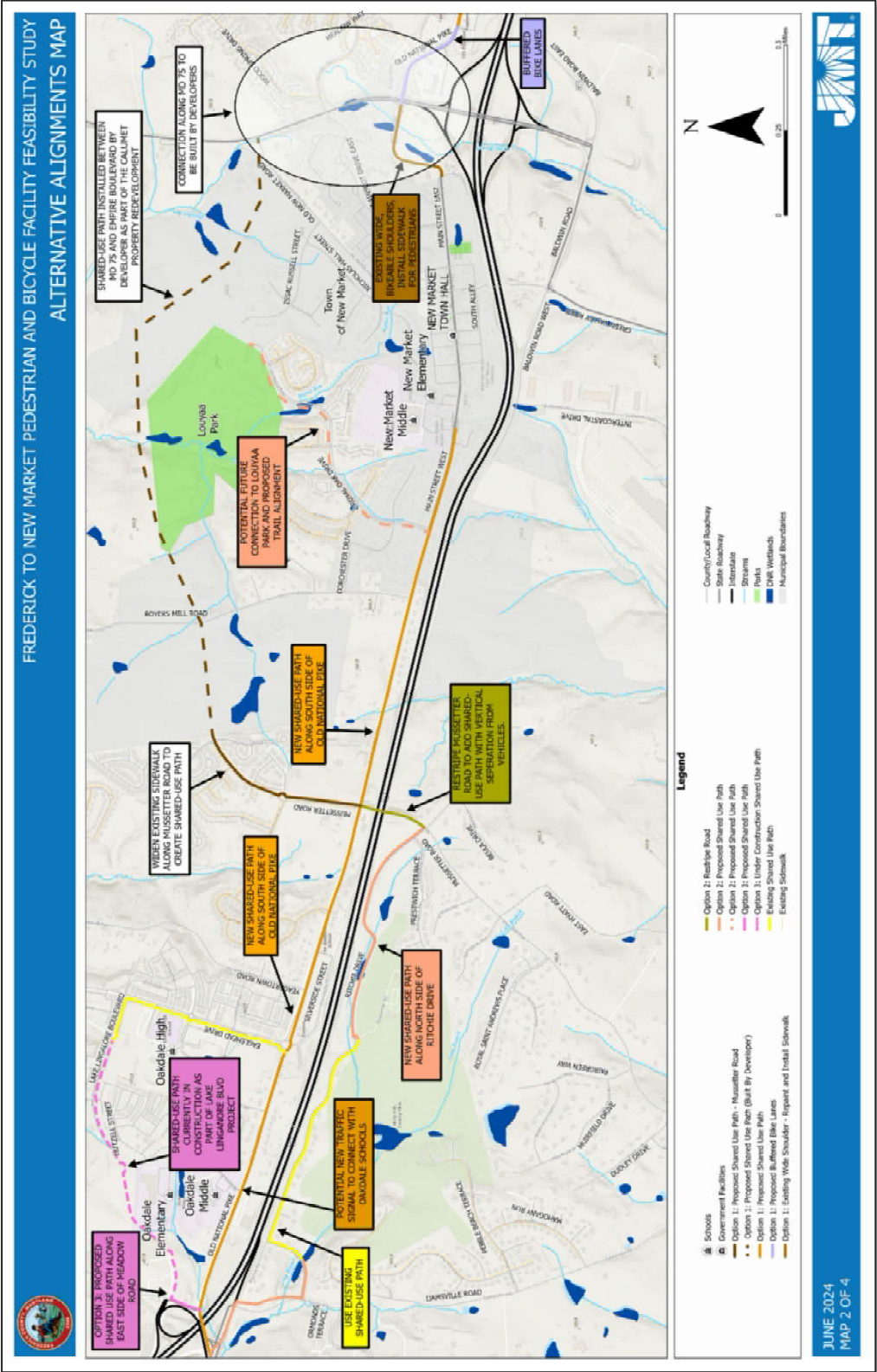


Figure 15: Proposed Trail Alignment - Old National Pike / MD 70 / Meadow Road Interchange to Green Valley Road (MD 75)



Old National Pike / I-70 / Meadow Road Interchange to Mussetter Road

Three potential trail alignment options between the I-70 / Old National Pike / Ijamsville Road / Meadow Road interchange and the intersection of Mussetter Road and Old National Pike were studied during the initial phase of the project. One of these options was dropped from future considerations after discussions with the County and local stakeholders. It is discussed in further detail in the *Trail Alignment Options Considered and Dropped* section of this report.

Option 1 – Old National Pike (shown in orange in Figure 17)

Option 1 proposes a shared-use path that continues along Old National Pike between the interchange and Mussetter Road. As the proposed shared-use path approaches the I-70 overpass of Old National Pike, there is a pinch point caused by the overpass abutments. An elevated boardwalk structure above the riprap is proposed to be used by both pedestrians and bicycles. Future design phases may convert the existing shoulder along the north / west side of the roadway into a pedestrian and bicycle facility. However, the existing shoulder is only approximately ten-feet-wide, which will necessitate a narrow, eight-foot-wide shared-use path directly adjacent to heavy vehicular traffic. To be conservative for proposed costs and impacts, the more expensive scenario of the elevated boardwalk structure was assumed.

North of I-70, Old National Pike has eight-foot-wide shoulders that could be used as part of a road diet to install a shared-use path along the roadway without expanding the pavement footprint. Approximately 900 feet east of Meadow Road, the existing wide shoulders narrow from 10 feet to two feet wide. In this area, the proposed trail will continue as a shared-use path along the north side of Old National Pike with a five-foot-buffer from the existing roadway. There is potential for impacts to existing utility poles and an existing drainage ditch adjacent to the roadway along this section. The trail will continue along the north side of the roadway until tying in with an existing shared-use path located approximately 400 feet west of Eaglehead Drive. This existing shared-use path crosses Eaglehead Drive and continues approximately 350 feet east, terminating by the existing Sunoco Gas Station (10210 Silverside St, Ijamsville, MD 21754).

The proposed trail will cross to the south side of Old National Pike at the intersection with Eaglehead Drive and then extend the existing shared-use path east along Old National Pike for approximately 3,500 feet until reaching Mussetter Road. This section of the trail will cross several commercial and residential driveways and an existing culvert. Additionally, there are utility poles along the road that may be impacted, and the trail will likely require multiple small retaining walls due to widening of the roadway typical section.

Option 2 – Lake Linganore Boulevard (shown in pink in Figure 17)

Option 2 will use the same alignment as Option 1 to get to the north side of the Old National Pike / I-70 / Meadow Road interchange until reaching the intersection of Old National Pike and Meadow Road. This option will cross Meadow Road at the Meadow Road / Old National Pike intersection and continue north via a new shared-use path along the east side of Meadow Road. The shared use path continues along Meadow Road for approximately 470 feet until reaching the existing intersection of Meadow Road and the ramps for westbound I-70 where the Lake Linganore Boulevard Extension project is currently under development.

The Lake Linganore Boulevard Extension project will connect Meadow Road and Eaglehead Drive by extending the existing section of Lake Linganore Boulevard to Meadow Road at the intersection of Meadow Road and the westbound I-70 ramps. Phase I of the Lake Linganore Boulevard extension is currently under construction (see **Image 2**) and will extend approximately 1,100 feet east of Meadow Road. This will include new bike lanes, sidewalks, and a shared-use

[illegible]

The proposed trail will then turn south onto Eaglehead Drive by utilizing an existing shared-use path along the west side of Eaglehead Drive for about 2,500 feet until reaching the intersection with Old National Pike. There is an existing roundabout at the intersection, and the trail will cross Old National Pike on the west leg of the roundabout. It will then cross Silverside Street on the south leg of the roundabout, where the trail will tie back in with the Option 1 alignment and continue east towards Mussetter Road.

The trail will cross Old National Pike at the signalized intersection with Mussetter Road and continue north onto Mussetter Road as a new shared-use path. The new shared-use path will be located along the west side of the roadway and will be



designed to widen the existing sidewalk from five feet to ten feet. The trail will continue along Mussetter Road for approximately a ½ mile until reaching the existing terminus of the roadway at the intersection with Empire Boulevard and Elizabeth Circle.

The Town currently has plans to extend Mussetter Road, continuing west past Boyers Mill Road, around LOUYAA Park, and eventually reaching MD 75. This roadway will be constructed by developers and will include new residential housing and function as a “New Market Bypass” to relieve downtown traffic. The new roadway typical section will include a sidewalk on one side of the roadway and a shared-use path on the other side. The proposed trail will use the new shared-use path built by developers to continue to MD 75. As part of the project, the developers will also be required to make improvements along MD 75, including a shared-use path connection between the existing Old New Market Road / MD 75 intersection and the existing Old National Pike / MD 75 intersection, as well as a new pedestrian and bicycle crossing of MD 75.

Additionally, the County will provide connections from the proposed trail to the Town of New Market. From Mussetter Road, the proposed trail will continue east along the south side of Old National Pike as a new shared-use path. Immediately east of Mussetter Road, there is a roughly 500-foot-long section of curb and gutter before the roadway transitions to an open section. Within the curb and gutter section are existing access points for the ATCO Tire and Auto Service Shop (10601 Old National Pike, New Market, MD 21774) and the New Market Animal Hospital (10609 Old National Pike, New Market, MD 21774). These are recommended to be consolidated and / or relocated to increase trail user safety and visibility. Additionally, there are utility poles alongside the roadway. Due to the side slopes and limited right-of-way, some of these utility poles may need to be relocated. A small retaining wall may be necessary to install the proposed shared-use path with a grass buffer while minimizing impacts to the utility poles, right-of-way, and commercial properties.

As the trail continues east, the roadway becomes an open section, with a two-foot-wide shoulder. Utility poles continue along both sides of the roadway. There are also several short sections of forested area that will likely be impacted by the new trail. The vertical grade of the proposed trail will exceed 5% in several locations within this section as the roadway continues through hilly terrain. Additionally, there is also an existing culvert approximately 1,500’ east of Mussetter Road. The culvert outfall could not be located due to dense foliage. Future design phases will need to identify the culvert outfall and determine if it needs to be lengthened or reconstructed.

Continuing east, the trail will cross a series of residential driveways as it approaches Boyers Mill Road. Side slopes along the roadway in front of several residences may need to be regraded to provide adequate space for the shared-use path. Small retaining walls may be installed to reduce impacts to several of these properties. Additionally, there is an existing signal pole at the intersection of Old National Pike and Boyers Mill Road that may need to be relocated as the project continues into future design phases. As the trail approaches Royal Oak Drive, there is an existing sidewalk that will be widened to 10 feet (8 foot minimum). The trail will continue as a sidewalk widening project until reaching the drop-off entrance to New Market Elementary School (125 W Main St, New Market, MD 21774), where there is an existing pedestrian crossing. The project team recommends that future design phases should assess the feasibility of installing additional traffic calming and pedestrian safety measures such as curb bump-outs or a raised pedestrian crossing at the existing crosswalk.

PROPOSED ALIGNMENT – GREEN VALLEY ROAD (MD 75) TO BILL MOXLEY ROAD

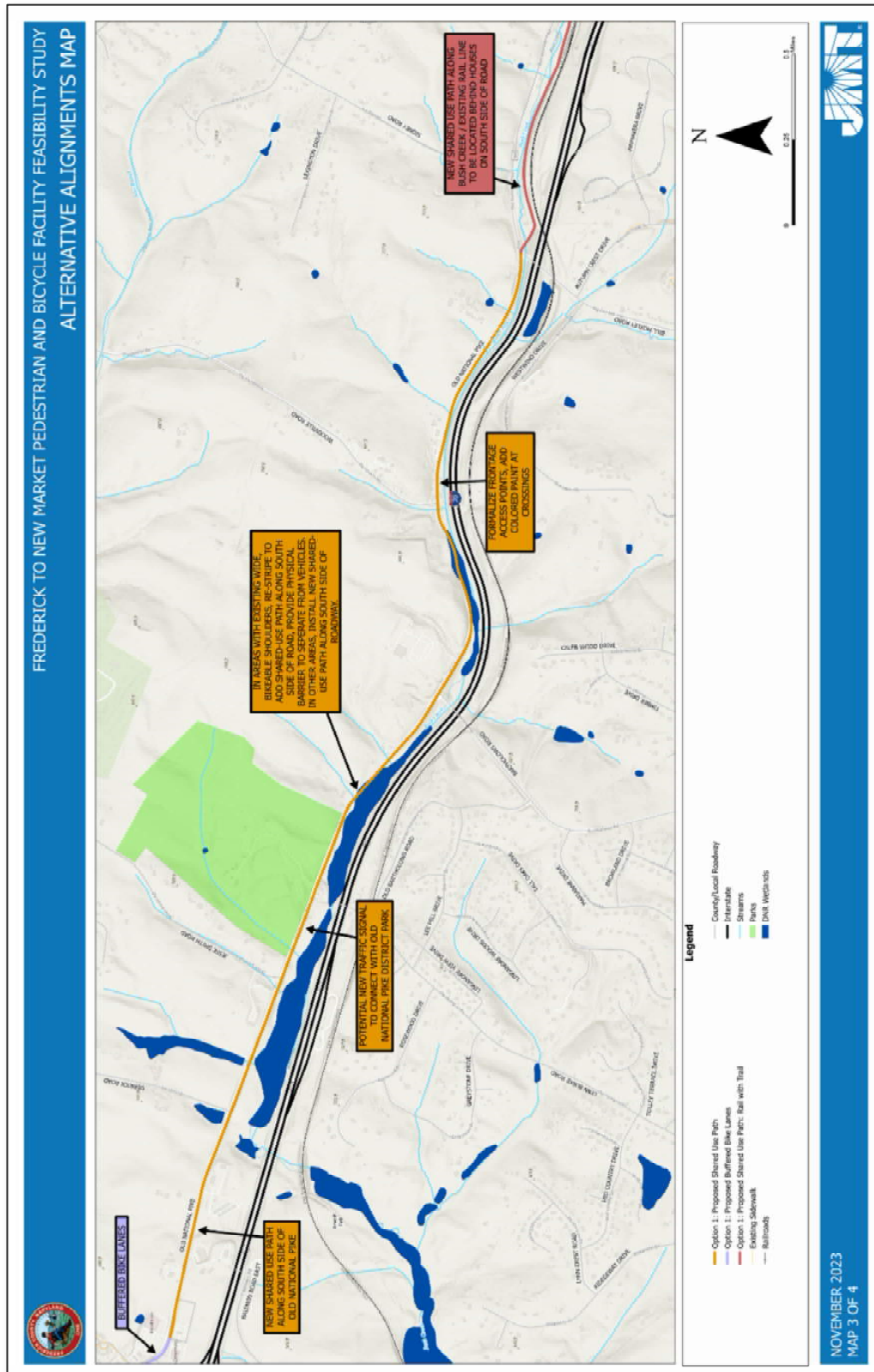


Figure 17: Green Valley Road (MD 75) to Bill Moxley Road



Green Valley Road (MD 75) to Food Lion Traffic Signal

After crossing MD 75, the trail will continue east along Old National Pike. The project team is proposing a new shared-use path along the south side of the roadway to be constructed with a five-foot buffer. Alternatively, buffered bike lanes could be installed between MD 75 and the existing signalized intersection for Food Lion (11800 Old National Pike, New Market, MD 21774), Popeyes (5411 Rotary Ave, New Market, MD 21774), and CVS (5414 Rotary Ave, New Market, MD 21774) along with sections of new sidewalk to fill in gaps in the pedestrian network. To be conservative, the project cost estimate was prepared assuming that a shared-use path will be installed.

Food Lion Traffic Signal to Bartholows Road

The proposed trail will continue east of the existing signalized intersection for Food Lion (11800 Old National Pike, New Market, MD 21774) as a shared-use path along the south side of the roadway. There is a short, approximately 350-foot-long section of existing shared-use path east of the intersection that will be widened to 10 feet. As the trail continues east beyond the existing section, it will continue as a shared-use path along the south side of the roadway. The trail will cross several driveways / access roads and multiple culverts. Additionally, there are utility poles along the roadway that will need to be removed or relocated. The trail will continue as a shared-use path for approximately 2 miles until approaching Bartholows Road. As the trail continues adjacent to the south side of Old National Pike, the project may require lengthening two existing culverts and impacts to forested areas. Additionally, there is an existing residence that is located approximately 20 feet from the edge of the roadway that may be impacted by the proposed shared-use path. Due to the proximity of the residence to the existing roadway, this property may become a displacement.

As the trail approaches Old National Pike District Park, there are several residences located along the south side of the roadway. To minimize impacts to these residences, the trail width and buffer width may be reduced. Additionally, the existing access / parking for these residences will be formalized to have clear and visible entrances / exits to improve safety for trail users. The project team also recommends a signal warrant analysis study to be conducted at the intersection of Old National Pike and the entrance to Old National Pike District Park to improve safety for vehicles and provide access to the park for trail users.

The trail will continue east for approximately 2,000 feet until the roadway widens out to create existing wide shoulders near Bartholows Road. The team proposes for the trail to be on the existing roadway footprint with vertical separation from vehicles by restriping the roadway. Once the existing shoulders widths are reduced as the trail approaches Bartholows Road, the trail will transition back to a shared-use path with a five-foot buffer from the roadway. At the intersection with Bartholows Road, the project team recommends removing the existing channelized right turn lane and pulling all vehicular movements into a more standard intersection. This will help to regulate traffic speeds and increase pedestrian and bicycle visibility to create a safer at-grade crossing. Removing these channelized turn lanes is being done throughout MDOT as an important piece of the Vision Zero program.

Bartholows Road to Bill Moxley Road

Continuing east, the existing shoulders on Old National Pike widen out, which allows space to create a shared-use path within the existing roadway footprint with a vertical barrier to provide separation from vehicles. As the trail approaches Woodville Road, it will cross a series of informal driveways, access routes, and parking lots. The team recommends that these access points are formalized to create more visible and predictable access to increase safety for trail users.

East of the intersection with Woodville Road, the trail will transition back to a shared-use path with a five-foot grass buffer. The trail will continue east as a shared-use path with a grass buffer for approximately 2,000 feet until approaching Bill Moxley Road. Here the existing roadway footprint widens, and the trail will return onto the existing footprint with vertical separation from vehicles. The intersection at Bill Moxley Road will be improved by removing extraneous pavement and realigning the roadway at the intersection to reduce the crossing width and to create a perpendicular intersection to increase user safety.

PROPOSED ALIGNMENT - BILL MOXLEY ROAD TO THE TOWN OF MOUNT AIRY

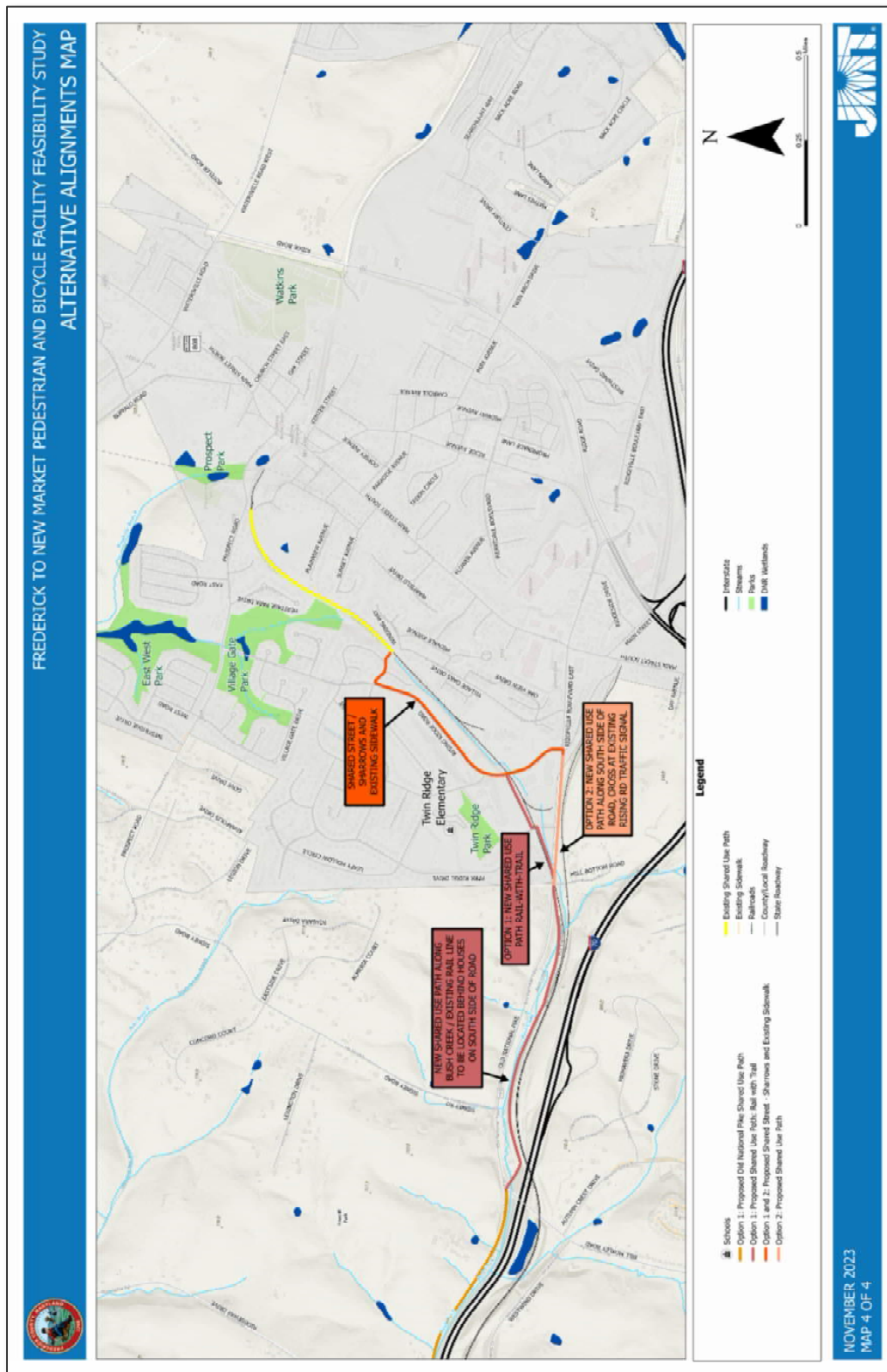


Figure 18: Proposed Trail Alignment - Bill Moxley Road to the Town of Mount Airy



Bill Moxley Road to Mill Bottom Road

Old National Pike has a reduced footprint after crossing Bill Moxley Road, with significant slopes on both sides of the roadway. To reduce overall impacts and avoid large retaining walls and/or regrading, the trail will turn southeast behind the existing residences and on the south side of Bush Creek instead of continuing parallel to Old National Pike. A new pedestrian and bicycle bridge will be required to cross Bush Creek. Approximately 400 feet southeast of the Bill Moxley Road / Old National Pike intersection, the proposed trail will enter into CSX right-of-way in an active railroad corridor. The trail will be located a minimum of 50 feet from the rail lines, and forested area and landscape buffers will separate the trail from the rail lines. The proposed trail will remain as far from the tracks as feasible while still limiting impacts to natural resources and private property. Coordination with CSX will be required and should be an initial task in future design phases. The coordination will be necessary to confirm CSX requirements for setbacks and vertical barriers to separate the trail from the railroad. Early coordination will also help to prevent unwelcome surprises during later design phases.

The trail will continue east between the active railroad and Bush Creek for approximately 3,500 feet, until a railroad spur splits from the main CSX alignment and turns northeast towards the Town of Mount Airy. At this point, the trail will continue along the railroad spur alignment until reaching the at-grade railroad crossing of Old National Pike. From here, there are two options for the trail to continue northeast towards the Town. *Option 1* will cross Old National Pike adjacent to the existing railroad crossing. *Option 2* will continue along Old National Pike until crossing at the existing traffic signal at Rising Ridge Road.

Mill Bottom Road to Mount Airy

Option 1 – Cross adjacent to Existing At-Grade Rail Crossing (shown in burgundy in Figure 20)

Option 1 will cross the railroad spur to be on the east side of the rail, and then cross Old National Pike perpendicular to traffic instead of parallel to the railroad. This will reduce the user crossing length. There is an existing beacon for the railroad crossing, however it does not run often enough to be utilized by trail users. A new traffic signal or pedestrian beacon will be needed to provide a safe crossing. After crossing Old National Pike at the new signal, the trail will continue northeast within the railroad right-of-way along the south side of the rail until reaching Park Ridge Road. The trail will then cross to the north side of the railroad and continue with the railroad right-of-way until reaching Rising Ridge Road, where the trail will turn north off the railroad right-of-way and continue onto Rising Ridge Road.

The Town of Mount Airy stated that Option 1 is their preferred option during a stakeholder meeting held on April 30, 2024, and Option 1 was used for the development of cost estimates. However, the Town agreed that both Option 1 and Option 2 (discussed in the next section) are viable options and will remain as options for future consideration. The final selected option will depend on the results of a future traffic study to determine if a traffic signal or pedestrian beacon can be installed to provide a safe pedestrian and bicycle crossing at the intersection of Old National Pike / Mill Bottom Road and the railroad.

Option 2 – Cross at Rising Ridge Road / Old National Pike Intersection (shown in peach in Figure 20)

Option 2 will cross the railroad and continue east along the south side of Old National Pike as a new shared-use path for approximately 2,000 feet until reaching the intersection with Rising Ridge Road. The existing traffic signal at this intersection will be modified to create a safe pedestrian and bicycle crossing of Old National Pike.

For both options, once the trail reaches Rising Ridge Road, it will continue north as a sidepath by widening the existing sidewalk along the west side of the road. The trail will continue along Rising Ridge Road until reaching Rambling Sunset Circle, which connects with an existing shared-use path trail (see **Image 3**) that continues into the Town of Mount Airy.

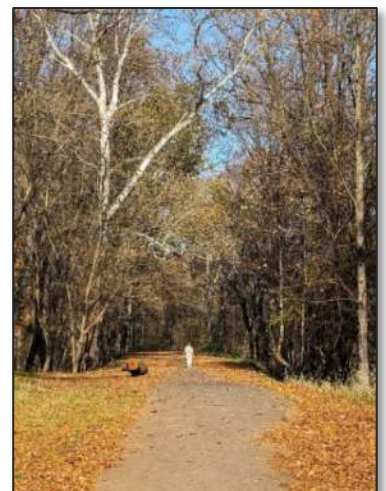


Image 3: Existing Rails with Trails within Mount Airy



Public Outreach

PUBLIC ENGAGEMENT PLAN

A public engagement plan was developed to ensure that the public is informed and to build a consensus built to move forward to construct a successful project. As part of the public engagement plan, the project team will have up to three (3) meetings with stakeholders from the government of the City of Frederick, the Town of New Market, and the Town of Mount Airy. These coordination meetings will help to identify short and long-term goals for each municipality and help reach a larger percentage of the public. Additionally, the project team held a public workshop in November of 2023 to inform the public about the project and to solicit their feedback. Finally, a project website and online survey was created to help reach community members who were unable to attend the public workshop.

Future design phases of the project will include additional public outreach and additional chances for input from members of the public.

PUBLIC WORKSHOP

A public workshop was held at New Market Middle School (125 W Main St, New Market, MD 21774) on Tuesday, November 7, 2023 from 5:00 pm to 7:00 pm to discuss the *Frederick to New Market & Mount Airy Pedestrian and Bicycle Facility Feasibility Study* with the community. The event included display boards showing existing conditions and proposed alignments to share information with residents and gather their input.



Image 4: Public Workshop

Approximately 40 individuals attended the event, and the project team received 15 written comment response cards. Materials from the event can be found in **Appendix C**. During the event, a few recurring themes were raised by participants, including:

- Concern about the overall safety of bicycle facilities,
- A desire for the proposed facility to be able to be comfortably used by people of all ages, and
- A desire to use a facility that is separated from roadway traffic, as they feel this is the safest type of bicycle facility.

The online survey had 240 participants. Of the participants who completed the questionnaire, 89% were County residents, the majority of whom lived within Frederick County,

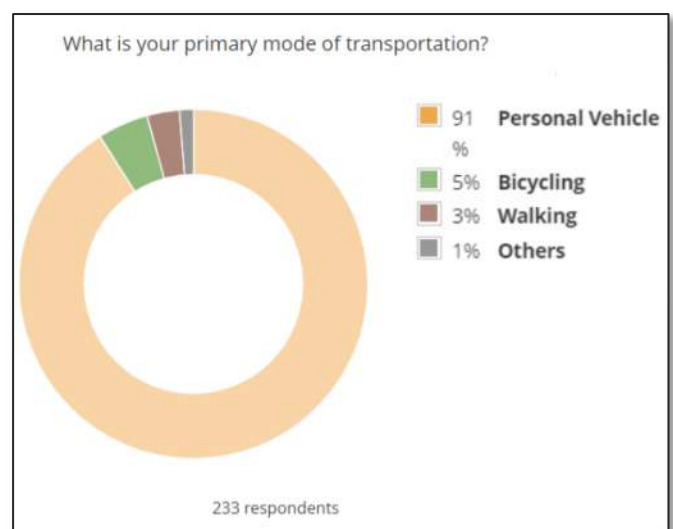


Figure 19: Online Survey Results

and were residents of the City of Frederick, the Town of New Market, the Town of Mount Airy, or other smaller nearby municipalities. 91% of respondents stated that their primary form of transportation is their personal vehicle, and that they primarily walk or ride their bicycle for recreation and / or exercise.

71% of respondents stated that they would significantly more likely to walk or ride their bicycle if the proposed trail was constructed, while only 12% of respondents stated that the proposed trail would have no impact on them.

The primary reason that was given by the respondents that stated the trail would have no impact on them was concerns about trail user safety. Several of these respondents stated that they felt that no pedestrian and bicycle trail would be safe for their use. The survey also received 58 additional thoughts, comments, and suggestions which provided more detailed public responses, which are available in **Appendix D**. A review of these comments revealed responses that were broadly positive and excited about the project .

The survey comments were generally very supportive of the project. One of the primary reasons given for comments that were not supportive of the project discussed trail user safety. Respondents mentioned the need to provide protection for trail users from vehicles and from potential criminal activities. Other comments noted the need for bathrooms and emergency phones as trail amenities. A few responses expressed that the funds that are planned to be used for this facility could be better utilized elsewhere, and that bicycle infrastructure is unnecessary and underutilized.

Trail Alignment Options Considered and Dropped

The project team developed several additional potential trail alignment options. After conducting a feasibility level analysis of these options, and discussions with the County and local agencies, these options were dropped from future consideration. These options that were dropped from consideration are discussed in more detail below.

OLD NATIONAL PIKE / MD 70 / MEADOW ROAD INTERCHANGE TO GREEN VALLEY ROAD (MD 75)

Shared-Use Path along Ritchie Drive (shown in peach and yellow in Figure 17)

This option began at the intersection of Old National Pike and the I-70 EB exit ramp, just south of the Old National Pike / Meadow Road / I-70 interchange. The proposed trail would continue east along the south side of Old Maryland 144, which is a short section of roadway that connects Old National Pike to Ijamsville Road, via a 10-foot shared use path for approximately 550 feet, until reaching Ijamsville Road. There are steep slopes and forested areas alongside the roadway in this section, and retaining walls may be required to reduce overall project impacts. If this option is pursued in the future, the project should also consider the potential to realign Old Maryland Route 144, which has a large grass median separating directional traffic that could be removed to add a shared-use path without impacting the steep slopes and forested areas alongside the roadway.

Once turning onto Ijamsville Road, the trail would continue along the east side of the roadway for approximately 1,000 feet until reaching the intersection with Ritchie Way. This section includes areas with steep slopes and existing stormwater management facilities along the roadway, so retaining walls and / or a new pedestrian and bicycle bridge may be

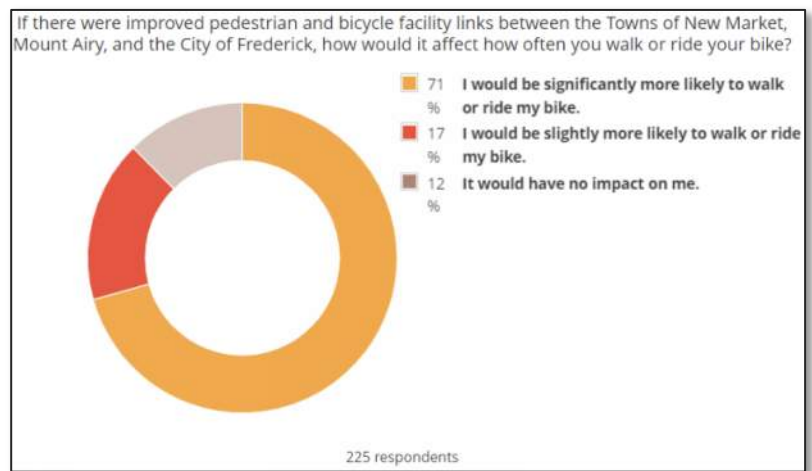


Figure 20: Online Survey Results



required. The path would then cross Ritchie Way and turn east onto Ritchie Way along the south side of the roadway. The proposed trail will continue for approximately 550 feet until connecting with an existing paved trail along Ritchie Way.

After approximately 600 feet, Ritchie Way will intersect with Ritchie Drive, and the existing trail turns east along Ritchie Drive. The trail continues along Ritchie Drive for approximately 4,500 feet until the end of the existing trail at the entrance to the Holly Hills Country Club (5502 Mussetter Road, Ijamsville, MD 21754). The trail will then cross to the north side of Ritchie Drive and continue as shared-use path for approximately 3,700 feet until reaching Mussetter Road. The trail will turn north onto Mussetter Road along the west side of the roadway via a new shared-use path with a vertical barrier to provide separation from vehicles, cross over I-70 via the existing Mussetter Road overpass, and then tie back in with the preferred options discussed in the previous section of the report at the intersection of Mussetter Road and Old National Pike.

This option was dropped from future consideration because it bypasses major origins and destinations along Old National Pike such as the Oakdale High School campus and the Lake Linganore residential developments. However, separate future design projects could consider constructing this trail alignment to fill in missing links between residential developments along Ijamsville Road and Mussetter Road with the primary Frederick to New Market and Mount Airy trail alignment along Old National Pike.

Main Street New Market Road Diet (shown in a combination of orange, red, blue, and brown in Figure 17)

This option would provide a “direct route” through the Town of New Market by continuing along Old National Pike through downtown New Market and eventually to MD 75. The direct route would include a road diet along Main Street within the Town to create adequate pedestrian and bicycle facilities. The road diet will reduce lane widths and remove on-street parking where feasible. This will provide space for the creation of bike lanes where on-street parking is removed, and sharrows where on-street parking is considered necessary. As part of the road diet, traffic calming measures are being proposed through the Town to enhance pedestrian and bicycle safety. The combination of a roadway diet and traffic calming will continue east until reaching Marley Street, where there is an existing crosswalk. Pedestrians and bicyclists will utilize the existing crosswalk to return to the south side of Old National Pike, where the existing sidewalk will be widened to function as a new shared-use path. The new shared-use path will continue for approximately 750 feet until reaching Bye Alley.

East of Bye Alley, there are existing wide, bikeable shoulders, and the project team recommended to install new sidewalk along Old National Pike to connect from Bye Alley to MD 75.

This option was dropped from future consideration due to concerns about bicycle traffic navigating downtown New Market, and the potential for lost on-street parking within the Town.

Royal Oak Drive Alignment Option from Boyers Mill Road to MD 75

This option would cross Old National Pike at the existing signalized intersection with Boyers Mill Road and continue east as a new shared-use path along the north side of Old National Pike for approximately 1,000 feet until reaching Royal Oak Drive. The trail will turn north onto Royal Oak Drive as new protected bike lanes along each side of the roadway. The protected bike lanes will be utilized by pedestrians and bicyclists and should be installed to ensure that there is enough width for bicyclists to pass pedestrians within the bike lane. The protected bike lanes will continue along the east side of Royal Oak Drive for approximately 4,500 feet until reaching the Linganore Oakdale Urbana Youth Athletic Association (LOUYAA) Park (1600, Royal Oak Dr, New Market, MD 21774), where there is an existing sidewalk connection running east-west between LOUYAA Park and Isaac Russell Street, which is a local residential road. A new mid-block at-grade pedestrian and bicycle crossing of Royal Oak Drive will be installed at the location of the existing sidewalk.



This existing sidewalk connection will be widened to 10 feet, and the trail will continue east towards Isaac Russell Street for approximately 370 feet. Once the trail reaches Isaac Russell Street, the project team proposes widening the existing sidewalk to 10 feet to create a new shared-use path that will connect with Old New Market Road. The shared-use path will cross fifteen driveways and two residential roadways along Isaac Russell Street, and future design should take care to ensure that there will be high visibility for trail users at these conflict points. Additionally, some driveway aprons may require reconstruction to meet PROWAG guidelines for a trail facility.

Once the trail reaches Old New Market Road, it will turn northeast as a new shared-use path along the north side of Old New Market Road and continue for approximately 1,600 feet until reaching MD 75.



Corridor Analysis

After public outreach and stakeholder meetings were completed, the team developed pre-conceptual design plans for a preferred alignment option and completed corridor analysis studies that are discussed in the following pages. The studies included a feasibility cost estimate, phasing recommendations, trail access analyses, an identification of funding sources, an analysis of economic benefits, and a discussion of next steps for the project after the completion of this study.

Phasing Recommendations

Due to the length and complexity of this project, it is recommended to be built in phases. The construction phases are split into areas with logical termini, and are ordered by a combination of constructability, anticipated costs, and anticipated usage. A map showing the five different phases of the project is shown in Figure 21.

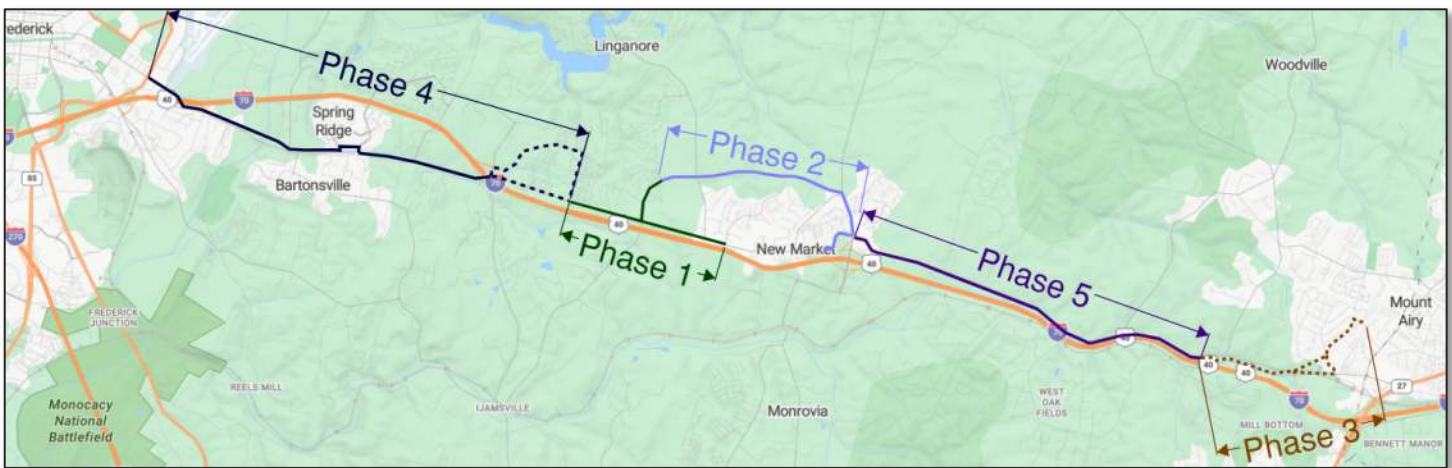


Figure 21: Phasing Map (background imagery from Bing Maps)

PHASE 1 – EAGLEHEAD DRIVE TO NEW MARKET MIDDLE SCHOOL (SHOWN IN GREEN IN FIGURE 21)

Phase 1 will construct a new shared-use path between Eaglehead Drive and New Market Middle School, approximately 1.5 miles, and a new shared-use path along Mussetter Road north of Old National Pike, approximately 0.5 miles. This will provide pedestrian and bicycle access between the large residential developments in Lake Linganore and on Mussetter Road, the Oakdale school campus, and the Town of New Market.

Design challenges for this phase of the project include:

- Utility poles along the roadway – will require coordination with utility companies to identify impacted poles and potential pole relocations.
- Small sections of forested areas – may require mitigation and coordination with regulatory agencies.
- Potential retaining wall – short section of road east of Boyers Mill Road with steep grades along the roadway, that may require a retaining to avoid residential property impacts. Retaining walls will add cost and could produce pushback from residences due to impacts in front of their properties.

Additionally, coordination with MDOT SHA concerning the potential removal of the dualization of Old National Pike should begin immediately as part of Phase 1. Depending on the results of the coordination and traffic analysis, Phase 1 could



potentially be extended an additional two miles west to include the connection from Eaglehead Drive to Spring Ridge Parkway.

PHASE 2 – MUSSETTER ROAD TO GREEN VALLEY ROAD (MD 75) (SHOWN IN VIOLET IN FIGURE 21)

The majority of Phase 2 will be constructed by developers as part of the New Market Bypass and will be approximately 2 miles. This will include new shared-use path between the existing terminus of Mussetter Road and MD 75, new shared-use path along MD 75, and a new pedestrian and bicycle crossing of MD 75. Additionally, the County will install a new pedestrian and bicycle connection along Old National Pike between Marley Street and MD 75.

The primary design challenge for this phase will be coordination with developers to establish the project timeline and creating a safe and accessible crossing of MD 75.

PHASE 3 – BILL MOXLEY ROAD TO THE TOWN OF MOUNT AIRY (SHOWN IN ORANGE IN FIGURE 21)

Phase 3 will construct a combination of on-road and off-road pedestrian and bicycle facilities between the Bill Moxley Road / Old National Pike intersection and the Mount Airy Rail Trail access point at Rambling Sunset Circle, which is approximately two miles. This will provide access between Mount Airy and the residential neighborhoods on the south side of I-70 along Bill Moxley Road. At the public workshop (discussed in the next section), there were several citizens who expressed how they would bike or walk into the Town more often if they could bypass the section of Old National Pike between Bill Moxley Road and Rising Ridge Road, which will be completed as part of this phase.

Design challenges for Phase 3 include:

- Coordination with CSX for use within the rail right-of-way – private rail companies have detailed and exacting standards that must be complied with for public use of their right-of-way. Coordination frequently has long lag times due to shifting needs and priorities of the company.
- Crossing Bush Creek – will require at least one and potentially multiple new pedestrian and bicycle bridges, which will increase overall project costs.
- Crossing Old National Pike near the Town of Mount Airy – will require traffic studies to identify the feasibility of a new signalized crossing or how to provide improvements for a crossing at the existing signal.

PHASE 4 – MONOCACY BOULEVARD TO EAGLEHEAD DRIVE (SHOWN IN DARK BLUE IN FIGURE 21)

Phase 4 will construct a new shared-use path between Monocacy Boulevard and Eaglehead Drive, approximately 4.5 miles. This phase was determined because there are several studies required for this section of the trail that will need to be addressed during design. Once this phase is constructed, however, there will be a completed pedestrian and bicycle trail between New Market and the City of Frederick that will greatly increase mobility for both areas.

Design challenges for this phase include:

- A new pedestrian and bicycle bridge over I-70 – will require coordination with state agencies and will be costly due to the bridge length and the MOT requirements to build across a major interstate.
- Safety inspections and improvements for the Old Jug Bridge over the Monocacy River – could be completed quickly if the bridge is in acceptable condition, but placing this in a later design phase allows for more time to analyze and reconstruct if major repairs or a brand-new bridge are required.



- Potential road diet of Old National Pike to remove the section of dualization near Spring Ridge – will require a traffic study and coordination with SHA. This sub-option could also receive public pushback.
- Design on the trail through the Old National Pike / I-70 / Meadow Road interchange – will require coordination with MDSHA to confirm potential trail connections through the interchange.

PHASE 5 –GREEN VALLEY ROAD (MD 75) TO BILL MOXLEY ROAD (SHOWN IN DARK VIOLET IN FIGURE 21)

Phase 5 will construct a new shared-use path from Green Valley Road to Bill Moxley Road, approximately 4 miles. This will complete the proposed trail and provide full pedestrian and bicycle connections between the City of Frederick, the Town of New Market, and the Town of Mount Airy. This is the final phase as there are no logical termini within this segment without the completion of prior phases. In addition, this phase requires a new pedestrian and bicycle crossing of MD 75 to be installed.

Design challenges in this phase include:

- Utility poles along the roadway – will require coordination with utility companies to identify impacted poles and potential pole relocations.
- Limited right-of-way – some residences are located within 20 to 30 feet of the existing roadway; it will be difficult to build a new shared-use path with a buffer without major impacts and / or potential displacements. Including this as the final phase of the project will allow for more time to coordinate and / or negotiate with these residents and property owners.
- Potential for multiple small new culverts or bridge structures – new culverts and bridge structures will increase the project cost and require additional time for design.
- Higher observed vehicle speeds – the specific roadway context in this section of the project, which includes long areas of rural roadway, relatively straight roads, limited stop signs or traffic signals, and occasional wide shoulders, encourage higher vehicles speeds. Higher speeds can be addressed through potential traffic calming or enforcement measures but should be carefully considered to maximize safety for all users of the transportation network.



Stormwater Management Schematic Design

JMT completed a schematic level stormwater management (SWM) design analysis to identify rough sizing and locations for future SWM facility locations.

BACKGROUND

The project limits are along MD 144 from Monocacy Boulevard to Bill Moxley Road, along Mussetter Road from MD 144 to Empire Boulevard, along the CSX railway from Bill Moxley Road to Rising Ridge Road, and along Rising Ridge Road to Leafy Hollow Circle. MD 144 is mostly an open section two-lane road (one travel lane in each direction), except for a roughly 1.5-mile section near the I-70 / Old National Pike interchange where it is a four-lane road with a grass median. Mussetter Road is a closed section road. The southern half of the road is a two-lane road with a median separating them and the northern half of the road is a one lane two-way street. Rising Ridge Road is a closed section two-lane road (one travel lane in each direction).

The project is in the Lower Monocacy River watershed (02-14-03-02). Most of the receiving streams (tributaries to Bush Creek) within the project limits are Use Class I and therefore in-stream work is prohibited between March 1 and June 15, inclusive. None of the receiving waters (Monocacy River, Long Branch, and tributaries to Bush Creek) are located within a designated Tier II watershed. The project is not located within a critical area and all improvements are outside the 100-year floodplain.

The proposed improvements include a 10-foot-wide shared-use path that alternates between the north and south sides of the roadway. The path leaves the roadway from Bill Moxley Road and travels through forested area parallel to a railway until the railway intersects with Rising Ridge Road. The improvements result in primarily new impervious pavement except for where there are currently driveways and where the existing sidewalk is being widened. There are also sections where current impervious surfaces are being removed to provide a pervious buffer for the proposed trail.

The proposed alternative assumes no significant changes to existing drainage patterns. Minor revisions are anticipated within the drainage areas to convey runoff to and from proposed stormwater management practices. It is assumed that the minor increases in impervious area within the project limits will not result in a change in runoff curve number for the POI drainage areas or an increase in 10-year peak discharges at each POI. Therefore, no SWM facilities are anticipated for the project to manage Qp10. 100-year peak management control (Qf100) is not required for this project.

Points of investigation (POI) were located where water from the project limits leaves the county right of way. Twenty-eight (28) POIs were identified for this feasibility study. The locations of each POI are identified in tables on the following pages. All existing impervious area within the limit of disturbance (LOD) that is not being removed is being reconstructed (assuming full-depth reconstruction). See **Table 3**, **Table 4**, and **Table 5** for the drainage area boundary range and outfall location of each POI within the project limits along MD 144, Mussetter Road, and along the railway / Rising Ridge Road, respectively.



Table 2: POI Descriptions within Limit of Disturbance along Old National Pike

POI	Drainage Area Boundary Range	Outfall Location
1	Monocracy Boulevard to I-70	Monocracy Boulevard
2	I-70 to Quinn Orchard Road	Bridge over I-70
3	Bridge over Monocracy River to Bartonsville Road	Monocracy River
4	Bartonsville Road to Oakdale Village Road	Ridgefield Drive
5	Oakdale Village Road to Yeagertown Road	Traffic circle at Eaglehead Drive
6	Yeagertown Road to Jordan Boulevard	300 ft east of Yeagertown Road
7	Jordan Boulevard to Mussetter Road	Halfway between Jordan Boulevard and Mussetter Road
10	Mussetter Road to Boyers Road	Halfway between Mussetter and Boyers Road
11	Boyers Road to Royal Oak Drive	Halfway between Boyers Road and Royal Oak Drive
12	Royal Oak Dr to 1,200 feet west of Royal Oak Drive	500 ft east from Royal Oak Drive
13	1,200 ft east of Royal Oak Drive to 700 feet west of Emory Alley	700 feet west of Emory Alley
14	Bye Alley to 11834 Old National Pike	900 feet east of Marley Street
15	11834 Old National Pike to 12011 Old National Pike	2000 feet west of Detrick Road
16	1300 feet west of Detrick to 200 feet east of Detrick Road	200 feet west of Detrick Road
17	200 feet east of Detrick Road to 800 feet west of Jesse Smith Road	800 feet east of Detrick Road
18	800 feet west of Jesse Smith Road to 1,000 feet east of Jesse Smith Road	450 feet east of Jesse Smith Road
19	1,000 feet east of Jesse Smith Road to 2,200 feet east of Jesse Smith Road	1,900 feet east of Jesse Smith Road
20	2,200 feet east of Jesse Smith Road to Bartholows Road	2,500 feet east of Jesse Smith Road
21	Bartholows Road to Woodville Road	1,100 feet east of Bartholows Road
22	Woodville Road to 1,200 feet west of Bill Moxley Road	1,400 feet east of Woodville Road
23	1,200 feet west of Bill Moxley Road to Bill Moxley Road	450 feet west of Bill Moxley Road

Table 3: POI Descriptions within Limit of Disturbance along Mussetter Road

POI	Drainage Area Boundary Range	Outfall Location
8	To Hazelcroft Avenue	Mussetter Road and Whiterose Drive roundabout
9	Hazelcroft Avenue to end of Mussetter Road	End of Mussetter Road



Table 4: POI Descriptions within Limit of Disturbance along CSX Railroad and along Rising Ridge Road

POI	Drainage Area Boundary Range	Outfall Location
24	Bill Moxley Road to Mill Bottom Road	Intersection of Bill Moxley Road and Old National Pike
25	Mill Bottom Road to Park Ridge Drive	300 feet west of Park Ridge Drive
26	Park Ridge Drive to 500 feet east of Park Ridge Drive	Park Ridge Drive
27*	500 feet east of Park Ridge Drive to 300 feet south of Leafy Hollow Circle	Intersection of railroad and Rising Ridge Road
28**	300 feet south of Leafy Hollow Circle to Leafy Hollow Circle	Intersection of Rising Ridge Road and Leafy Hollow Circle

POI's 24 through 26 are entirely along the existing railroad.

*POI 27 is partially along Rising Ridge Road and the railroad.

**POI 28 is completely along Rising Ridge Road.

STORMWATER MANAGEMENT REQUIREMENTS

SWM requirements were determined for each of the project's 28 POIs using the criteria defined within MDE's Stormwater Design Manual and the Frederick County Maryland Stormwater Management Code Chapter 1-15.2. To determine the Environmental Site Design volume requirements (ESDv) and impervious area requiring treatment (IART), the existing impervious area, proposed impervious area, and delta (change in) impervious area were computed for each POI using the tabulated measured values for new, reconstructed, and removed impervious areas within each POI's drainage area boundary. See **Table 6** which summarizes these impervious area values for each POI.

Preliminary Impervious Area Requiring Treatment (IART) and Environmental Site Design Volume (ESDv) requirements were computed for each POI within the project limits as shown in **Table 7** based on the associated development classification and the results from **Table 6**. Note that development classifications were determined for each POI based on the existing impervious area within County and/or MDOT SHA right of way (assuming the right of way defines the POI's stormwater study area). POIs are classified as new development when the existing impervious area within the public right-of-way is less than or equal to 40% and are classified as redevelopment when the existing impervious area is greater than 40%. **Table 7** also documents the portion of the ESDv requirement associated with new impervious area (new development) and the ESDv requirement associated with reconstruction impervious area (redevelopment) for each POI.



Table 5: POI Impervious Area Summary

POI	Impervious Area Changes in LOD			Impervious Area Summary within LOD		
	New	Reconstructed	Removed	Existing*	Proposed**	Delta***
1	0.52	0.00	0	0.00	0.52	0.52
2	0.09	0.29	0.54	0.83	0.38	-0.45
3	0.26	0.29	0	0.29	0.55	0.26
4	1.18	0.29	2.54	2.83	1.47	-1.36
5	0.07	0.05	0.01	0.06	0.12	0.06
6	0.31	0.01	0	0.01	0.32	0.31
7	0.39	0.04	0	0.04	0.43	0.39
8	0.15	0.10	0	0.10	0.25	0.15
9	0.14	0.10	0	0.10	0.24	0.14
10	0.81	0.01	0	0.01	0.82	0.81
11	0.22	0.03	0	0.03	0.25	0.22
12	0.12	0.14	0	0.14	0.26	0.12
13	0.04	0.07	0	0.07	0.11	0.04
14	0.71	0.10	0	0.10	0.81	0.71
15	0.32	0.02	0	0.02	0.34	0.32
16	0.39	0.00	0	0.00	0.39	0.39
17	0.27	0.00	0	0.00	0.27	0.27
18	0.43	0.01	0	0.01	0.44	0.43
19	0.21	0.02	0	0.02	0.23	0.21
20	0.44	0.00	0	0.00	0.44	0.44
21	0.28	0.00	0	0.00	0.28	0.28
22	0.61	0.02	0	0.02	0.63	0.61
23	0.07	0.00	0	0.00	0.07	0.07
24	1.24	0.03	0.05	0.08	1.27	1.19
25	0.26	0.00	0	0.00	0.26	0.26
26	0.13	0.00	0	0.00	0.13	0.13
27	0.38	0.21	0	0.21	0.59	0.38
28	0.03	0.03	0	0.03	0.06	0.03
TOTAL	10.07	1.86	3.14	5.00	11.93	6.93

*Existing Impervious within LOD= reconstructed impervious area+ existing impervious area removal.

**Proposed Impervious within LOD= reconstruction impervious area+ new impervious area

***Delta (change in) Impervious within LOD= Proposed Impervious- Existing Impervious area



Table 6: Preliminary Stormwater Management Requirements

POI	Development Classification	IART (ac)	Environmental Site Design Volume Required	
			New Development (cf)	Redevelopment (cf)
1	Redevelopment	0.52	4,627	0
2	Redevelopment	-0.03	0	1,448
3	Redevelopment	0.41	2,331	517
4	Redevelopment	0.06	0	4,690
5	Redevelopment	0.09	511	103
6	Redevelopment	0.32	2,320	34
7	Redevelopment	0.41	2,918	69
8	Redevelopment	0.20	1,055	172
9	Redevelopment	0.19	1,062	172
10	Redevelopment	0.82	6,369	34
11	Redevelopment	0.24	1,684	69
12	Redevelopment	0.19	1,022	241
13	Redevelopment	0.08	359	138
14	Redevelopment	0.76	5,754	172
15	New Development	0.34	2,708	0
16	New Development	0.39	3,228	0
17	Redevelopment	0.27	2,114	0
18	New Development	0.44	3,460	0
19	Redevelopment	0.22	1,593	34
20	New Development	0.44	3,171	0
21	New Development	0.28	2,037	0
22	Redevelopment	0.62	4,544	34
23	Redevelopment	0.07	531	0
24	New Development	1.27	9,153	0
25	New Development	0.26	1,793	0
26	New Development	0.13	986	0
27	Redevelopment	0.49	2,975	379
28	Redevelopment	0.05	269	69
TOTAL		9.53	68,574	8,375

PROPOSED STORMWATER MANAGEMENT DESIGN

The general approach to meeting the SWM requirements for the project was to explore all available opportunities within Frederick County right-of-way to provide SWM facilities to meet the quality and quantity management requirements at each POI. Environmental site design (ESD) will be provided to the maximum extent practicable (MEP) to meet the IART and ESDv requirements of the project. If all requirements cannot be met using ESD practices, then Chapter 3 structural practices will be considered. As a last resort, variances or waivers will be requested for POI locations where the quantity Qp10 requirements are not met. Any water quality treatment that cannot be achieved within the project limit will be satisfied offsite as compensatory treatment or, with Frederick County concurrence, debited to the water quality bank [the Lower Monocacy River watershed (02-14-03-02)].

For this feasibility study, 27 potential locations have been identified for ESD practices. It is understood that there are several proposed stormwater management facilities defined within MDOT SHA right-of-way along with the proposed trail alignment. However, to maximize ESD to the MEP, it is recommended that these facilities are proposed to manage the stormwater management water quality requirements associated with the new impervious from the shared-use path, and to



minimize the number of waivers and variances requested. It is assumed that these facilities located within MDSHA right-of-way will ultimately be owned and maintained by MDSHA. See **Table 8** below for the full list of potential locations for these proposed stormwater management facilities throughout the project limits, which are listed in order by POI number.

The exact type of SWM facility for these potential locations will be determined at a later phase and be contingent on the existing topography, finished shared-use path alignment, right-of-way, and geotechnical analysis of the area. Further analysis will be required to determine whether these potential SWM locations within Frederick County and MDOT SHA right-of-way will be able to meet the full IART and ESDv requirements for the project.

Table 7: Locations of Potential SWM Facilities

Facility number (See *note below)	Location of Proposed Facility Footprint (Corresponding to the Bottom Surface Area of either a linear swale or a non-linear bioretention facility)
1-1	Corner of Monocacy Boulevard. and Old National Pike
1-2	In the triangle between Bowmans Farm Road and Old National Pike
2-1	In the section of removed impervious area near the ramp for Exit 56 for I-70
4-1	Just east of the intersection of Medow Road and Old National Pike
4-2	Intersection of Ridgefield Drive and Old National Pike
5-1	Along Old National Pike between Eaglehead Drive and Yeagertown Road
5-2	Along Old National Pike between Eaglehead Drive and Yeagertown Road
5-3	Along Old National Pike between Eaglehead Drive and Yeagertown Road
6-1	Next to the intersection of Jordan Boulevard and Old National Pike
7-1	Next to the intersection of Jordan Boulevard and Old National Pike
7-2	Just east of the intersection of Jordan Boulevard and Old National Pike
10-1	Corner of Mussetter Road and Old National Pike
10-2	Just east of the corner of Mussetter Road and Old National Pike
10-3	East of the corner of Mussetter Road and Old National Pike
14-1	1,000 feet east of Marley Street
14-2	500 feet south of Morning Gate Lane
14-3	Just east of the Food Lion on Old National Pike
15-1	Across the street from Lighthouse Seafood on Old National Pike
17-1	Southwest of New Beginning Nazarene Church along Old National Pike
18-1	Next to the baseball field, along Old National Pike
18-2	At the intersection between Jesse Smith Road and Old National Pike
20-1	300 ft west of the intersection of Old National Pike and Bartholows Road
21-1	Where Old National Pike curves east of Bartholows Road
21-2	Where Old National Pike curves east of Bartholows Road
22-1	In the open field next to Amish Customs
26-1	Next to the proposed path directly east of Park Ridge Drive
26-2	Next to the proposed path directly west of Rising Ridge Road

*Proposed Facility ID numbers are based on POI number.



Cost Estimates

Cost estimates were developed using the MDOT SHA Cost Estimating Guidelines. The estimates were primarily developed on a Cost Per Mile (CPM) basis, with items such as structures, sidewalks, and physical barriers added to the initial CPM estimate. The estimates also include estimates for preliminary construction work, drainage, landscaping, and utilities as contingency costs on the initial CPM estimate. Finally, to account for uncertainty at this early stage of design, a 40% design contingency was added to the project cost. These estimates **do not** include the cost of additional right-of-way, and while most of the project will be constructed on publicly owned land, there are some areas where private right-of-way may need to be acquired. The cost estimates were split into construction phases to better understand County budgeting needs. A summary of the cost estimates for the three options is found in **Table 2**. Detailed estimates for each of the three options can be found in **Appendix E**.

Table 8: Feasibility Cost Estimate

CONSTRUCTION PHASE	COST RANGE
Phase 1 – Eaglehead Drive to New Market Middle School	\$5 – 8 Million
Phase 2 – Mussetter Road to Green Valley Road (MD 75)	\$1 - 3 Million
Phase 3 – Bill Moxley Road to Town of Mount Airy	\$11 – 16 Million
Phase 4 – Monocacy Boulevard to Eaglehead Drive	\$17 – 22 Million
Phase 5 – Green Valley Road (MD 75) to Bill Moxley Road	\$16 – 21 Million
TOTAL COST	\$50 – 70 Million

Impact Evaluation

JMT developed an offset limit-of-disturbance (LOD) to determine potential impacts. The offset LOD is a conservative estimate, and future design phases are likely to reduce the total impacts of the project. The impacts were calculated using publicly available GIS Mapping and have not been field verified at this time. The evaluation was broken down into phases to identify the impacts caused by each phase of the project.

Table 9: Impact Evaluation

IMPACT	PHASE 1	PHASE 2*	PHASE 3	PHASE 4	PHASE 5	TOTAL
Right-of-Way	6.0 – 7.5 acres	0.1 - 0.2 acres	8.5 – 10.0 acres	1.0 – 2.0 acres	9.0 – 10.5 acres	24 – 31 acres
Floodplains	5.0 – 7.0 acres	N/A	N/A	N/A	N/A	5.0 – 7.0 acres
Wetlands	500 – 1,000 SF	2,000 - 4,000 SF	N/A	1.5 – 2.0 acres	0.1 – 0.3 acres	1.5 – 2.5 acres
Forested Area	0.7 – 1.0 acres	0.1 – 0.2 acres	4.0 – 6.0 acres	0.6 – 0.8 acres	2.0 – 3.0 acres	7.0 – 11.0 acres
Streams	40 - 60 LF	30 - 50 LF	400 - 600 LF	40 - 60 LF	500 - 700 LF	1,010 - 1,470 LF

*The majority of Phase 2 will be constructed by developers and impacts from developers are not included in this evaluation.



Economic Benefits

The project team identified three (3) existing trail facilities on the east coast that provide a qualitative evaluation of economic benefits at each respective trail facility.

THE GREAT ALLEGHENY PASSAGE ECONOMIC IMPACT REPORT (2021)

The Great Allegheny Passage (GAP) is a 150-mile trail that connects Maryland and Pennsylvania through:

- Allegany County, MD,
- Somerset County, PA,
- Fayette County, PA,
- Westmoreland County, PA
- Allegheny County, PA.

Economic impact analyses were conducted on the GAP trail in 1999, 2009, 2019. The most recent analysis quantified specific tourism values through an economic impact model. The model measured the total economic effects of tourism spending from GAP users who leave their home county to use the trail in the Trail Impact Zone (see **Figure 24**). In addition, the model outlined impacts to property values.

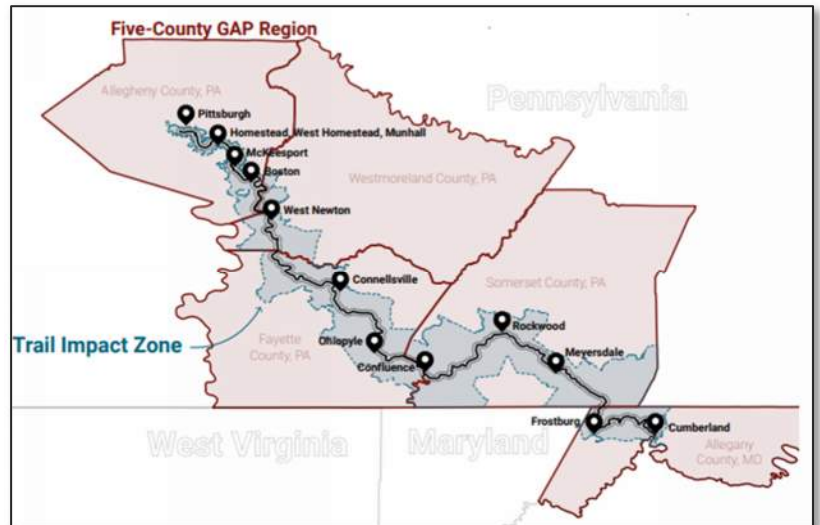


Figure 22: Great Allegheny Passage (GAP) Trail Impact Zone (Source: *The Great Allegheny Passage Economic Impact Report - Executive Summary*)

The report estimates a \$121 million impact from GAP tourism, comprised of direct spending (\$74 million), indirect spending (\$22 million), and induced impact spending (\$25 million) through the region in 2019. Residential areas within the Trail Impact Zone saw a higher median change in home value (13%) than Pennsylvania and Maryland (7%) at large.

The report identifies challenges among GAP communities, including identification of marketing support for the trail's assets. Despite having several regional organizations, a conservancy network dedicated to GAP, and other tourism groups, there is limited staff capacity since communities along the GAP network are small municipal entities. Additionally, the report outlines the need for local trail networks and connections to GAP. Providing local trail networks and connections to GAP and local businesses would increase demand and use of the trail from residents in the Trail Impact Zone. Additional findings can be found at the following link: [The Great Allegheny Passage Economic Impact Report](#).


THE ECONOMIC IMPACT OF THE ERIE CANALWAY TRAIL (2014)

The Erie Canalway Trail (ECT) is a 360-mile trail (shown in **Figure 25**) that connects communities between Buffalo, NY, and Albany, NY and parallels historic and active sections of the Erie Canal. ECT is one of the longest multi-use trails in the nation. The ECT trail generates approximately \$253 million in sales, \$78 million in labor income, and \$28.5 million in tax revenue in the 14 counties where the ECT is located. Visitor spending supports an estimated 3,440 jobs.



TRAIL BENEFITS: EVALUATING THE ECONOMIC, PHYSICAL HEALTH, AND ENVIRONMENTAL IMPACTS OF COMPLETING SIX KEY SEGMENTS OF THE CAROLINA THREAD TRAIL (2022)



- Piedmont Medical Center Trail (Rock Hill, SC)
- Hector H. Henry II Greenway (Concord NC)
- South Fork Trail (McAdenville, NC)
- Mount Holly River Hawk Greenway (Mount Holly, NC)
- The Goat Island Park and River Link Greenway (Cramerton, NC)



Trail Benefits

Evaluating the Economic, Physical Health, and Environmental Impacts of Completing Six Key Segment of the Carolina Thread Trail




DECEMBER 2022

Figure 24: Trail Benefits: Evaluating the Economic, Physical Health, and Environmental Impacts of Completing Six Key Segments of the Carolina Thread Trail



ECONOMIC BENEFIT RECOMMENDATIONS

Based on a review of economic benefit studies of existing trail facilities throughout the US, and a review of the project location for points of interest along the proposed alignments, the project team recommends the following to increase trail tourism throughout Frederick County:

1. Develop a Regional Trail Tourism Advisory Group with a dedicated staff member to implement marketing and communication strategies. The advisory group should consist of local businesses, economic development organizations, Chambers of Commerce, and municipalities throughout Frederick County. The advisory group should consider opportunities to develop trail-specific branding and develop a marketing and communication plan that will outline how to communicate with target markets for trail facilities. The advisory group should consider branded wayfinding signs and brochures for the network of trails in the community, social media pages, and advertisements to increase trail usage.
2. Consider regional destinations when evaluating proposed alignments. Access to downtown retail centers in New Market and Mount Airy, as well as parks and historical markers such as Old National Pike District Park should be prioritized when looking at potential trail alignments. Additionally, the County should continue to coordinate with Frederick City to ensure that the trail connects to logical destinations within the City limits.

Funding Sources

The project team has identified potential grant funding opportunities that could be pursued by Frederick County for this project. Information about these grants, including descriptions of eligibility requirements and application schedules, is included below.

TRANSPORTATION LAND-USE CONNECTIONS PROGRAM (TLC)

The Metropolitan Washington Council of Governments (MWCOC) operates as an autonomous and non-profit organization, facilitating a platform for leaders from the District of Columbia, Maryland, and Virginia. MWCOC serves a dual role as both a think tank, fostering thoughtful deliberation and strategic planning, and as a conduit for channeling federal funding opportunities to municipalities facing pressing needs. Financial resources for transportation projects are managed through the TLC program.

This program, which awards grants annually, enables consultants to utilize funds to complete abridged planning or design projects that promote mixed-use, walkable communities or other transportation alternatives. The application period for FY 2025 will be from January to March of 2024. Confirmed grant recipients will be notified in April or May of 2024 and will need to complete the project within a designated period, typically six to eight months. Additional information concerning this program can be found at the following link: [MWCOC | Transportation Grant Applications](#).

TRANSPORTATION ALTERNATIVES PROGRAM (TAP)

Maryland Department of Transportation (MDOT) State Highway Administration (SHA) is responsible for the State's non-tolled roads and provides solutions to improving Maryland's roads and bridges. MDOT SHA administers TAP Grants, awarded on an annual basis, with submission windows occurring from April to May of each year. TAP Grants award grant funding to projects that enhance mobility and emphasize sustainability and ADA compliance.

To be considered as an eligible recipient of this grant, the project's sponsor must be mission driven to improve the area's surface transportation and meet one of the TAP categories. This project will most likely fall into the Design category. A



20% cash match is required from the project sponsor. This project is located within the National Capital Region of the Transportation Planning Board (TPB), which increases the likelihood of funds being awarded for this project. The application cycle for the FY 2025 TAP grants begins in mid-April to mid-May 2024, with grants awarded in the fall of 2024. Additional information concerning the program requirements can be found at the following link: [TAP Grant Manual](#).

MDOT BIKEWAYS GRANT (KIM LAMPHIER BIKEWAYS NETWORK PROGRAM)

MDOT created the Kim Lamphier Bikeways Network program to provide funding for projects that prioritize enhancements to bicycle networks and facilities. The projects are to maximize access and connectivity, while simultaneously promoting health, wellness, and an alternative mode of transportation. Grants are awarded on an annual basis, with online applications accepted from April to June of each year, and awards announced in October.

This project would likely be submitted as a Design project, rather than Construction or Minor Retrofit. This project is a strong candidate as it meets multiple eligibility criteria including:

- Filling a missing link in the network between Frederick and Mount Airy,
- Enhanced circulation within and access to the designated Maryland Sustainable Communities of Frederick, New Market, and Mount Airy,
- Enhanced circulation within and access to designated Maryland Main Streets in both New Market and Mount Airy,
- Enhanced bicycle circulation within and access to a designated Census tract Low Income area.



The application period is May 1 – June 1, 2024. If chosen as a grant recipient, Frederick County is required to provide a 20% cash match for the project and to provide maintenance for the duration of the asset's lifecycle. Additional information concerning the program's requirements can be found at the following link: [Kim Lamphier Bikeways Network Program](#).

FHWA SAFE STREETS AND ROADS FOR ALL

The Federal Highway Administration (FHWA) "Safe Streets and Roads for All" program was funded and established by the recently implemented Bipartisan Infrastructure Law (BIL) and strives to eliminate roadway fatalities. The grants eligibility requirements state that the applicant must be a county, city, town, or transit agency. This project would likely fall into the Implementation category. The applicant must have an existing Action Plan or similar plan to reduce roadway fatalities and significant injuries by a specific date. The FY24 Notice of Funding Opportunity (NOFO) for this grant is expected to open in the spring of 2024. If awarded, NEPA documentation will be required, as it would utilize federal funds. Additional information concerning this program's requirements can be found at: [Safe Streets and Roads for All \(SS4A\)](#).



Trail Access Points

There are multiple existing schools, churches, and businesses along the corridor that could function as trail access during off hours. While these types of locations are not always amenable to alternative transportation users, stakeholder outreach could help identify the opportunity to market specifically to trail users and reach additional members of the public. The online survey results also showed that the public has a strong desire for directional signage, benches, and water fountains to be installed at key locations along the trail. Potential locations will be added to the plan set for the conceptual design phase of the project. Additionally, potential trailheads have been identified at several locations.

FREDERICK OLD NATIONAL PIKE PARK AND RIDE

The proposed trail will travel through an existing park and ride located adjacent to Old National Pike, just east of the City limits. The existing park and ride will be reconfigured to provide a safe pedestrian and bicycle trail that is separated from vehicular traffic and function as both a park and ride and a trailhead for trail access. The proposed improvements will require coordination with MDOT SHA about the potential parking reconfiguration.

OLD NATIONAL PIKE NEAR SPRING RIDGE

If the existing dualization of Old National Pike near Spring Ridge is removed, a portion of the existing dualized roadway can be reconfigured into a trailhead. The existing westbound roadway segment between Ridgefield Drive and Spring Ridge Parkway could be reconfigured into a trailhead, with connections to the proposed trail along Old National Pike and the existing trail network within the Spring Ridge neighborhood.

OLD NATIONAL PIKE DISTRICT PARK

This existing park is located approximately halfway between the Town of New Market and the Town of Mount Airy. The Park has multiple parking lots, a playground, athletic fields, and an existing trail network within the Park. The Park can function as a trailhead for trail access. Future design phases should include a study to install a traffic signal at the park entrance on Old National Pike to create a safer crossing for pedestrian and bicyclists using the trail.

ADA Compliance Discussion

The proposed trail will be designed to be accessible for both pedestrians and bicyclists of all ages and is intended to be used for both recreation and as a form of alternative transportation. As such, the trail and all facilities associated with the trail must comply with the 2010 ADA Standards for Accessible Design. Specific design items including signage, and site elements are discussed in the following sections. This is not intended to be a comprehensive discussion of the Standards, and future designers should check the Standards to ensure all design elements meet current design standards.

ACCESSIBLE TRAIL

Pedestrian accessible portions of the proposed trail, whether a shared-use path or sidewalk, must comply with chapters R3 and R4 of the Public Right-of-Way Accessibility Guidelines (PROWAG). These guidelines set standards for items such as the trail surface, trail width, maximum slope, cross slope, and clearance. The guidelines also define how where and how to install items such as curb ramps, pedestrian push-buttons, vehicular parking at trailheads, and other items that will affect the trail design.



ACCESSIBLE SIGNAGE

All trail wayfinding signage must be accessible for all trail users. To create accessible signage in the public right-of-way, the sign must comply with section R410 of PROWAG. This section sets standards for the sign coloring, sizing, and character height and spacing. Additionally, trailheads shall include informational signage that has the following:

- The trail name,
- Tactile characters that visually contrast with the sign background,
- A braille translation of the sign,
- The International Symbol of Accessibility,
- The length of the trail and/or the trail segment
- Type of Trail surface, and
- The typical and maximum trail grade

ACCESSIBLE TRAIL FEATURES

Accessible trail features refer to items such as benches, trash receptacles, water fountains, and public restrooms. All trail features must be installed to meet the relevant requirements within the 2010 ADA Standards and/or PROWAG. All features must have accessible routes that lead to the feature and must be installed on a surface that is firm, stable and slip resistant. This will require additional pavement width beyond the footprint of the shared-use path to be installed along with any proposed trail features.

Next Steps

This study will be completed at the pre-conceptual phase of design. These Next Steps are items that should be addressed during the next phase of the project.

STAKEHOLDER MEETINGS

The project team should continue to coordinate with both private and public stakeholders, including the City of Salisbury, the Town of New Market and the Town of Mount Airy so that they are kept informed. Additionally, the project team should initiate coordination with MDSHA to make sure they are aware of the project and to determine if the proposed road diet on a state roadway is feasible. The coordination will include listening to and considering stakeholder suggestions, with the intent of creating the best possible trail for all users.

IDENTIFY STATUS OF OLD JUG BRIDGE

The Old Jug Bridge was built in 1942 to replace the collapsed original Old Jug Bridge that was built in the early 1800's. The bridge was abandoned after a bus crash in 1985, and all vehicular traffic was rerouted to either I-70 or MD 144. The bridge remains standing, and the project team is proposing to convert it into a structure that can be used by pedestrians and bicyclists as part of the proposed Frederick to New Market and Mount Airy Trail. At the time of the completion of the study, the structural status of the bridge is unknown. A structural analysis of the bridge should be conducted to confirm that the bridge will be safe for pedestrian and bicycle use and identify any improvements that should be conducted to expand the bridge lifespan.



AGENCY COORDINATION

As the project continues to move forward, coordination letters should be submitted to the Maryland Department of Natural Resources Environmental Review Program (MDNR ERP) and Wildlife and Heritage Service (MDNR WHS), the Maryland Historical Trust (MHT) and the United States Fish and Wildlife Service (USFWS). This will make sure that the regulatory agencies are aware of the project and help to identify potential natural and cultural resources within the project limits early in the project process.

ADDITIONAL PUBLIC OUTREACH / CONSENSUS BUILDING

Continuing public outreach for this project will be essential. The proposed project is located over a large area with numerous stakeholders. There is a heavy contrast between trail supporters and skeptics, and it will be essential to continue to build a consensus that works for all potential users. The project goal is to create a safe and accessible trail that will benefit the entire community, and it is important that the public knows and understands the positive aspects that this trail extension will bring to their communities.

FULL SURVEYS AND DESIGN REFINEMENT

The proposed alignment should be field surveyed prior to additional design work. This should include natural and cultural resource surveys to confirm the results of the desktop analysis and to identify significant trees, wetlands, and other resources within the project area. The surveys will provide a higher level of accuracy than the GIS-based mapping data that has been used for the feasibility stage of the project. Additionally, this phase of design should include subsurface utilities designation to identify subsurface utilities within the project area.

Once these surveys are completed, the proposed design should be reevaluated based on more accurate data, and a three-dimensional design should be initiated to further refine the proposed Limit of Disturbance for the project.

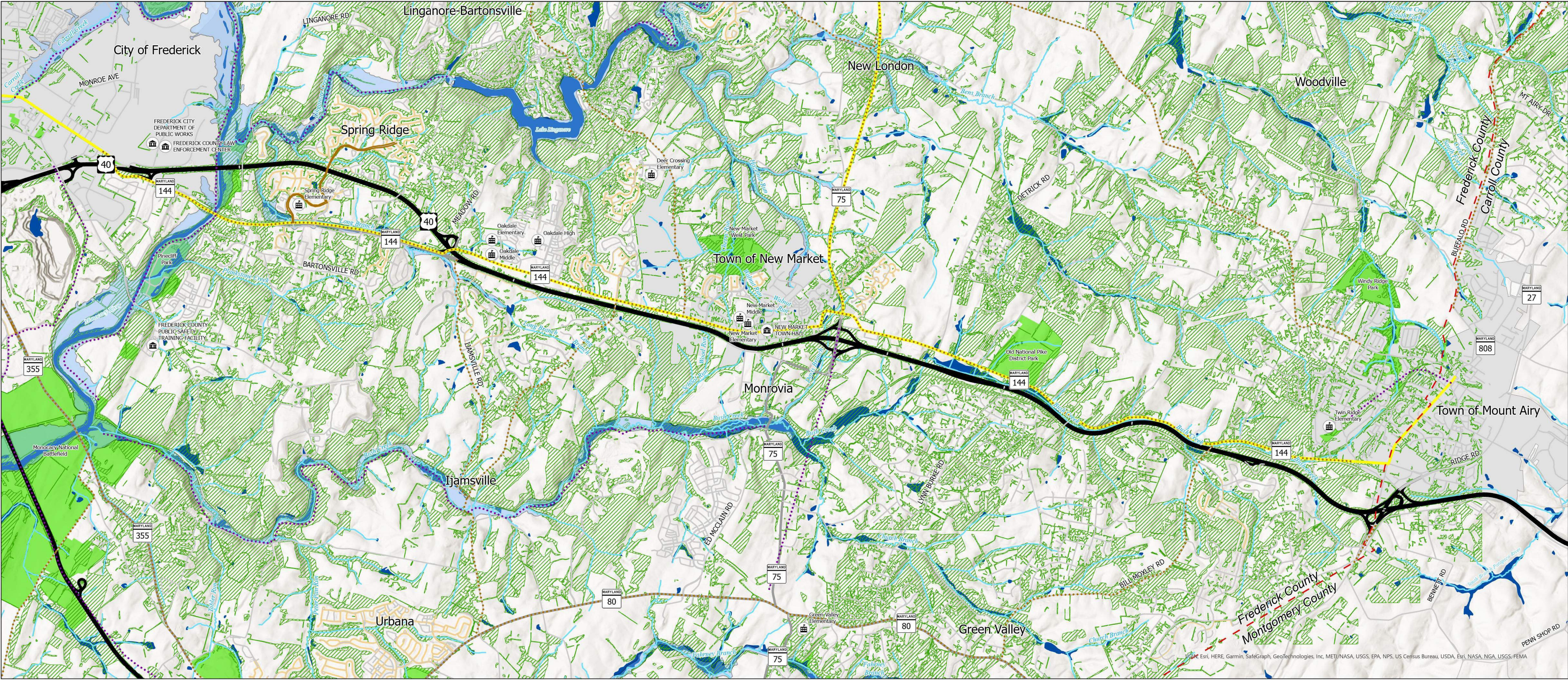


Appendix A:

Existing Conditions Map



FREDERICK TO NEW MARKET PEDESTRIAN AND BICYCLE FACILITY FEASIBILITY STUDY
EXISTING CONDITIONS MAP

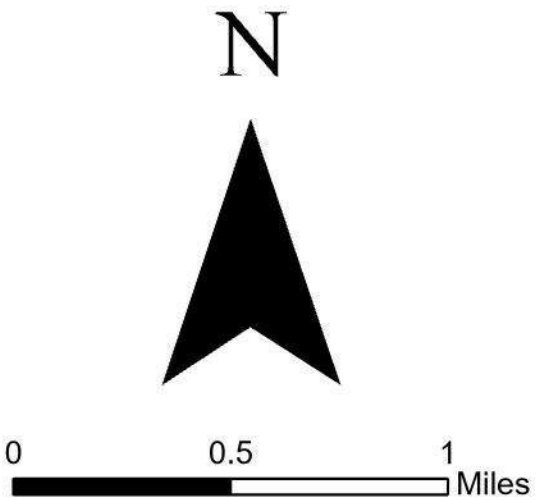


Legend

- Schools
- Government Facilities
- Existing Sidewalk
- MDOT SHA Bike Routes
- Existing On-Street Bike Routes

- Proposed On-Street Bike Routes
- Proposed Off-Road Trails
- County/Local Roadway
- State Roadway
- US Route
- Interstate

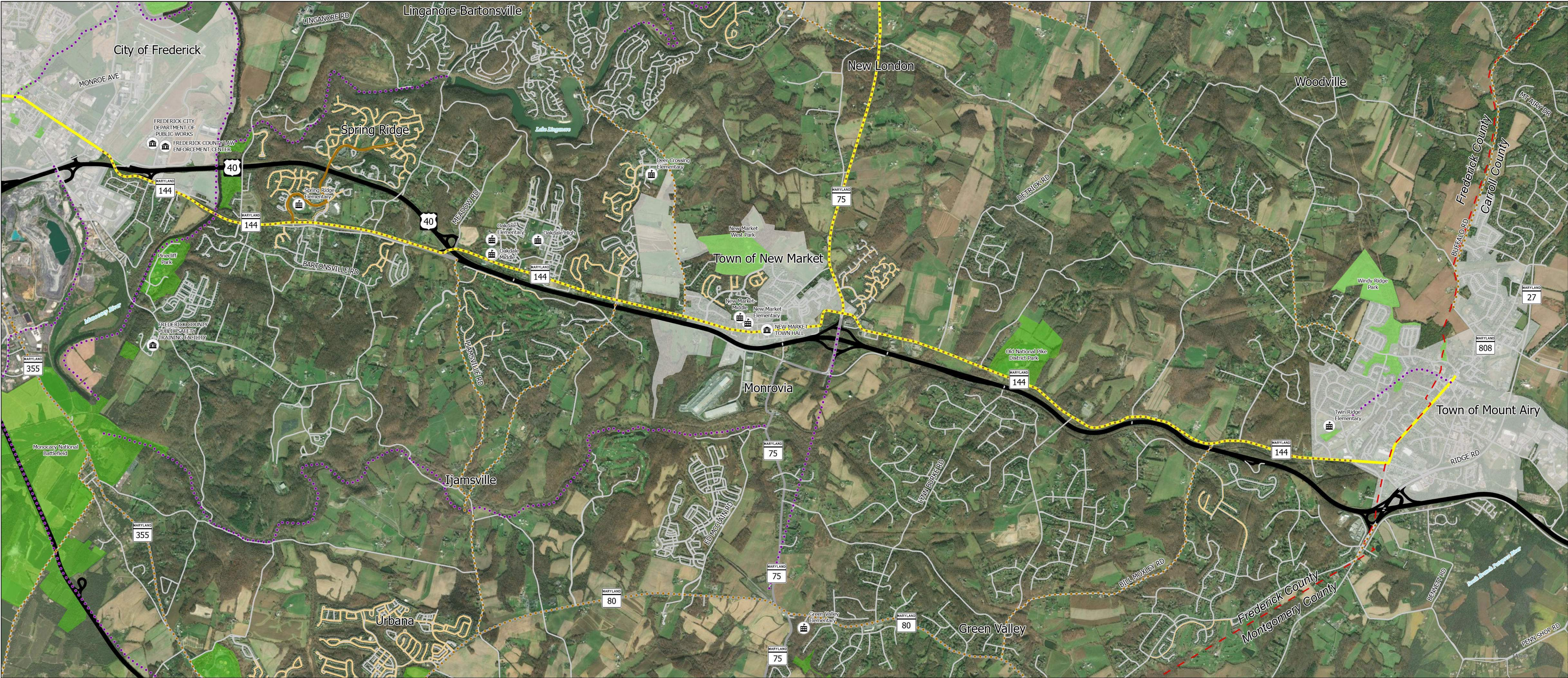
- Streams
- DNR Wetlands
- Parks
- Forests
- Municipal Boundaries
- County Boundary





FREDERICK TO NEW MARKET PEDESTRIAN AND BICYCLE FACILITY FEASIBILITY STUDY

EXISTING CONDITIONS MAP

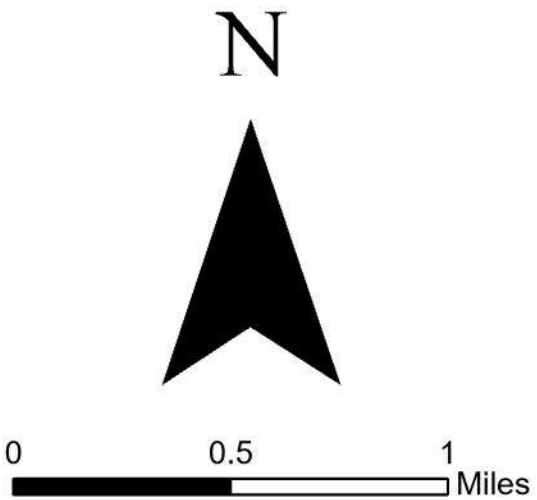


Legend

- Schools
- Government Facilities
- Existing Sidewalk
- MDOT SHA Bike Routes

- Existing On-Street Bike Routes
- Proposed On-Street Bike Routes
- Proposed Off-Road Trails
- County/Local Roadway
- State Roadway

- US Route
- Interstate
- Parks
- Municipal Boundaries
- County Boundary





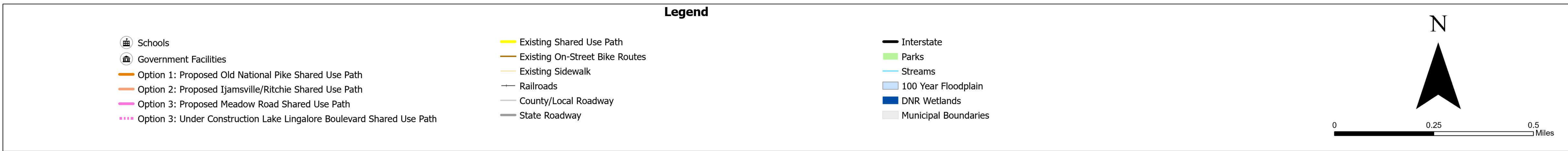
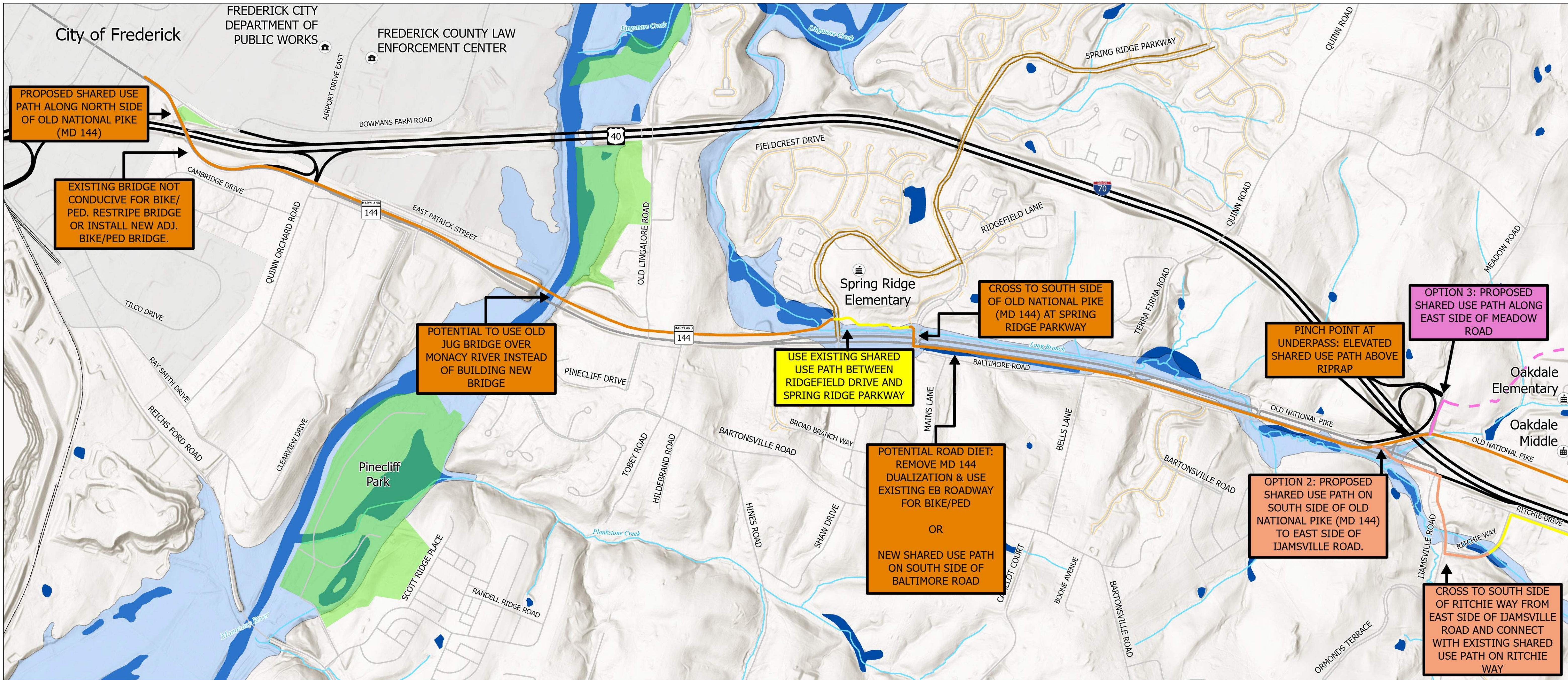
Appendix B:

Proposed Trail Alignment



FREDERICK TO NEW MARKET PEDESTRIAN AND BICYCLE FACILITY FEASIBILITY STUDY

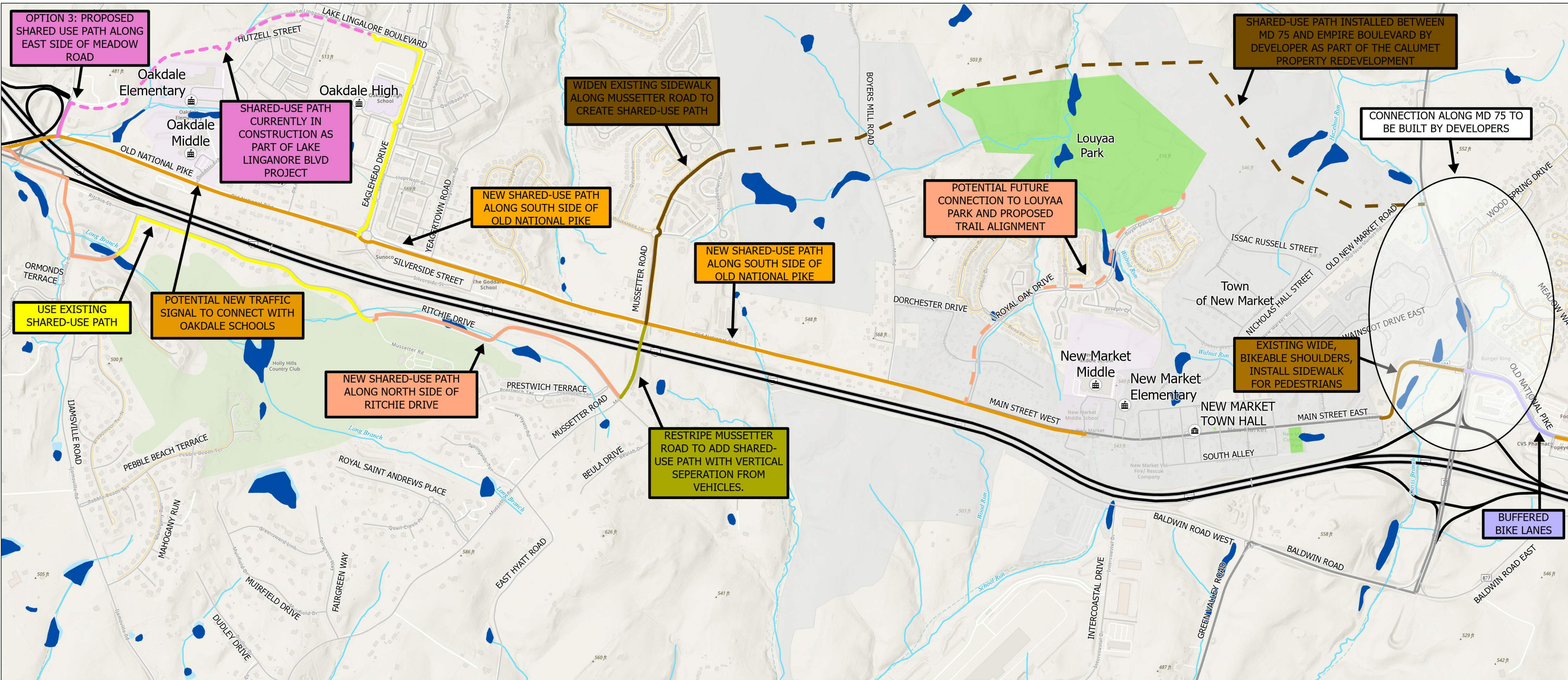
ALTERNATIVE ALIGNMENTS MAP





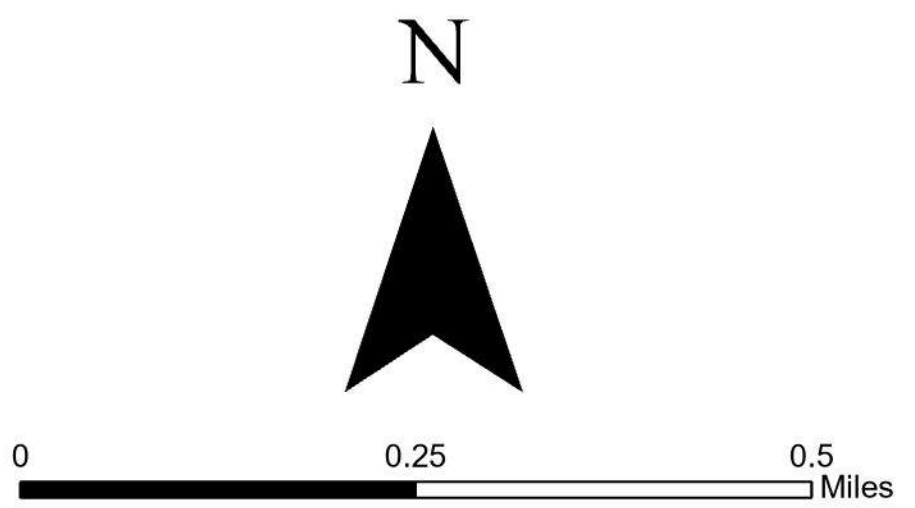
FREDERICK TO NEW MARKET PEDESTRIAN AND BICYCLE FACILITY FEASIBILITY STUDY

ALTERNATIVE ALIGNMENTS MAP



Legend

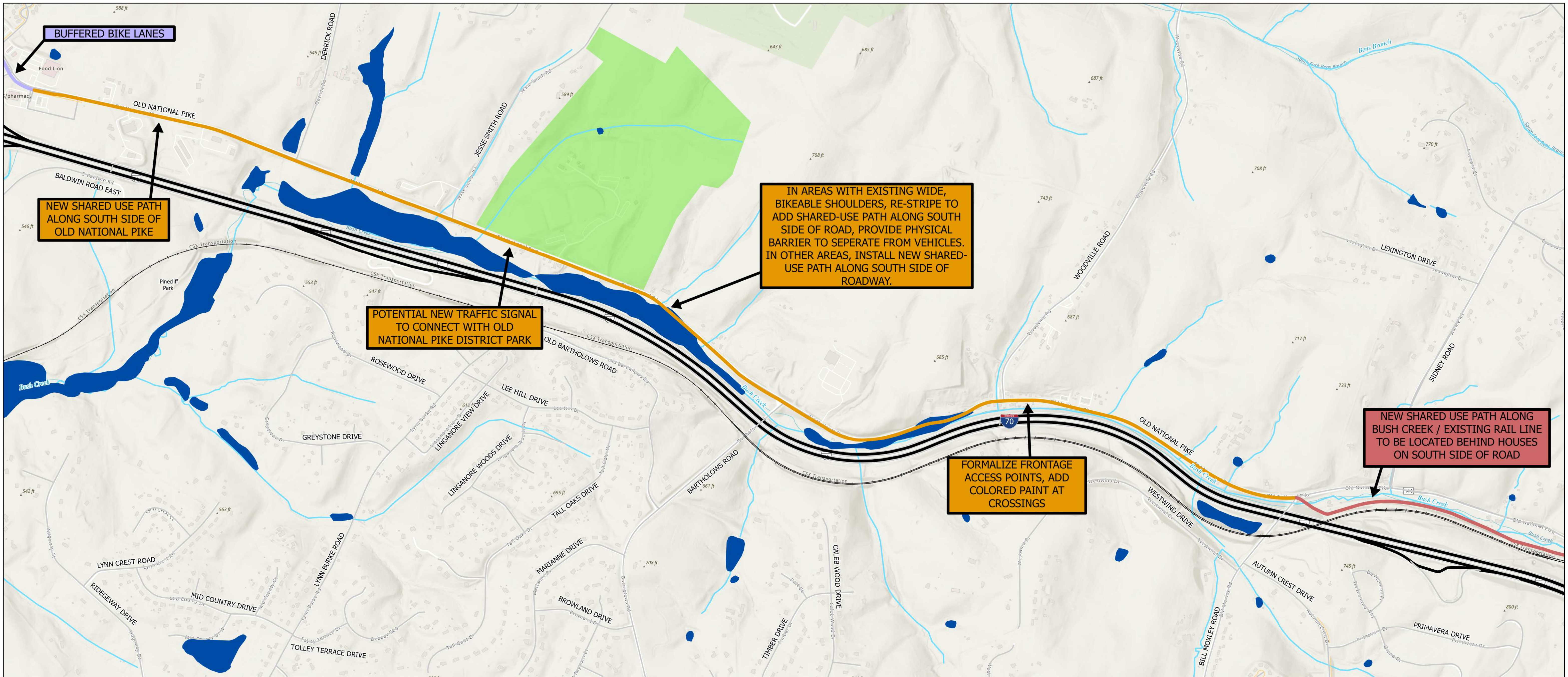
- | | | |
|---|--|----------------------|
| Schools | Option 2: Restripe Road | County/Local Roadway |
| Government Facilities | Option 2: Proposed Shared Use Path | State Roadway |
| Option 1: Proposed Shared Use Path - Mussetter Road | Option 2: Proposed Shared Use Path | Interstate |
| Option 1: Proposed Shared Use Path (Built By Developer) | Option 3: Proposed Shared Use Path | Streams |
| Option 1: Proposed Shared Use Path | Option 3: Under Construction Shared Use Path | Parks |
| Option 1: Proposed Buffered Bike Lanes | Existing Shared Use Path | DNR Wetlands |
| Option 1: Existing Wide Shoulder - Repaint and Install Sidewalk | Existing Sidewalk | Municipal Boundaries |





FREDERICK TO NEW MARKET PEDESTRIAN AND BICYCLE FACILITY FEASIBILITY STUDY

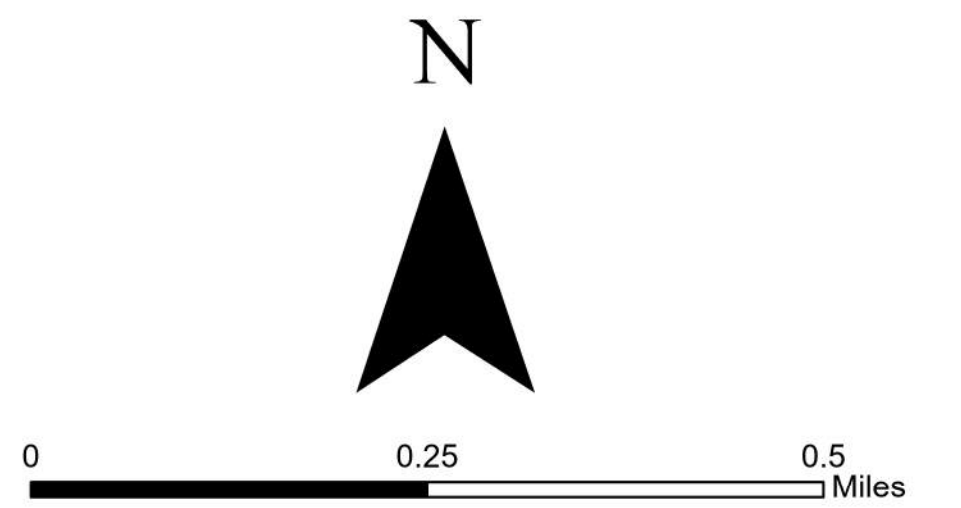
ALTERNATIVE ALIGNMENTS MAP



Legend

- Option 1: Proposed Shared Use Path
- Option 1: Proposed Buffered Bike Lanes
- Option 1: Proposed Shared Use Path: Rail with Trail
- Existing Sidewalk
- Railroads

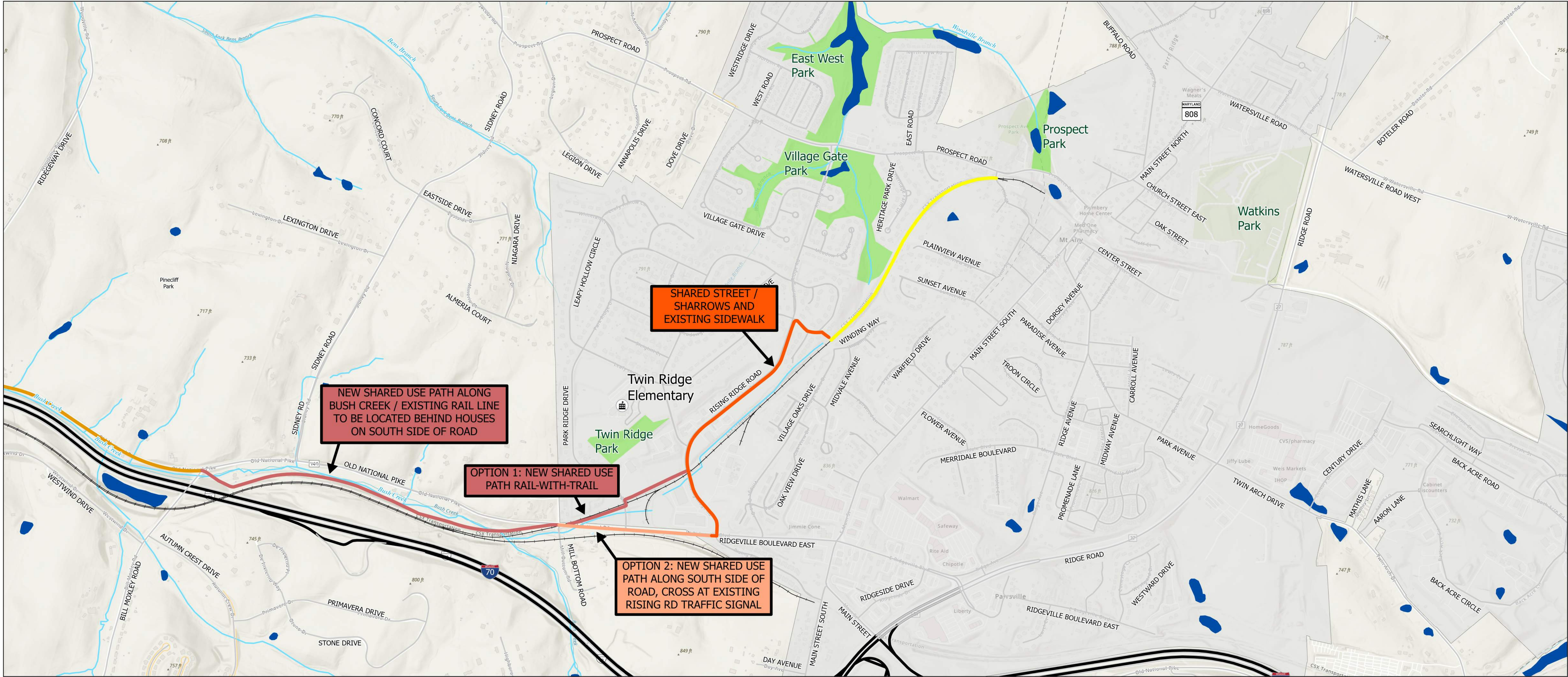
- County/Local Roadway
- Interstate
- Streams
- Parks
- DNR Wetlands





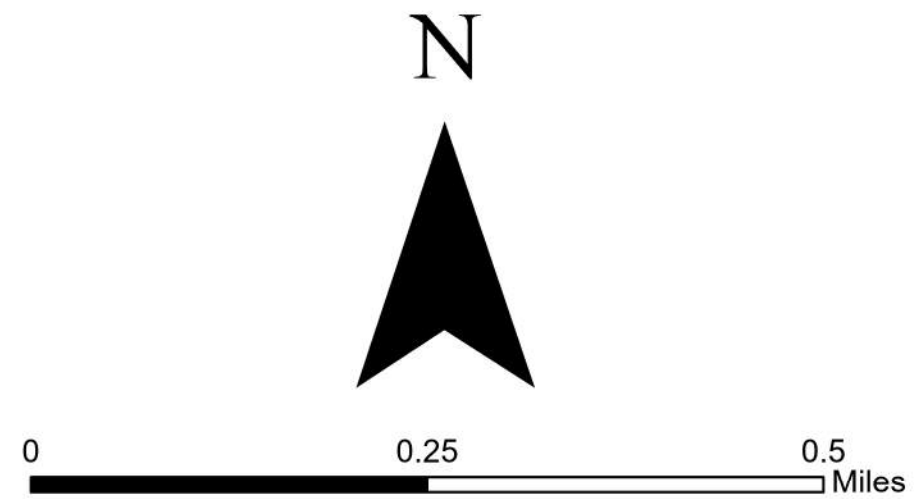
FREDERICK TO NEW MARKET PEDESTRIAN AND BICYCLE FACILITY FEASIBILITY STUDY

ALTERNATIVE ALIGNMENTS MAP



Legend

- Schools
- Option 1: Proposed Old National Pike Shared Use Path
- Option 1: Proposed Shared Use Path: Rail with Trail
- Option 1 and 2: Proposed Shared Street - Sharrows and Existing Sidewalk
- Option 2: Proposed Shared Use Path
- Existing Shared Use Path
- Existing Sidewalk
- Railroads
- County/Local Roadway
- State Roadway
- Interstate
- Streams
- Parks
- DNR Wetlands





Appendix C:

Public Workshop Materials



Frederick to New Market and Mount Airy Pedestrian and Bicycle Facility

The Frederick County Division of Planning & Permitting is investigating potential routes for improved pedestrian and bicycle facilities between the City of Frederick and the Towns of New Market and Mt. Airy. This facility will provide more opportunities to access healthy recreation and alternative transportation options, and move closer to the community's vision of a Livable Frederick County.



ABOUT THIS PROJECT

This feasibility study will develop multiple alternative routes that follow roads, stream corridors, rails to trails, and utility rights-of-way to create a long and continuous path without significant land use impacts. The study will also consider ADA accessibility, potential impacts to environmental features, and the cost and feasibility of construction to identify a preferred alternative that maximizes connections to existing pedestrian and bicycle facilities, parks, schools, existing and planned development, and other points of interest.

Fall 2023

Project Kickoff
Alternative Analysis

Winter 2023

Public Engagement
End Feasibility Study

Spring 2023

Preferred Alternative
Conceptual Design

Summer 2023

Project End

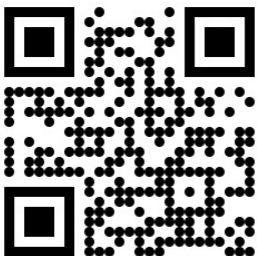


WE WANT YOUR INPUT



In order to better serve the needs of the community, Frederick County seeks public input as part of the feasibility study process. Please share your thoughts by taking the survey and/or attending the public engagement meeting listed below so that the project team can make informed decisions with your input in mind.

ONLINE SURVEY



You can complete the project survey online by using the link or QR Code:

<https://publicinput.com/h6344>

COME TALK TO US

Project team members from Frederick County and JMT, the design consultant, will be at **New Market Middle School** to provide information about the project and gather feedback from the

Tuesday
November 7, 2023
5:00 pm - 7:00 pm



Project Team Contacts: MMishler@FrederickCountyMD.gov | RStratmeyer@JMT.com
Website Link: <https://www.frederickcountymd.gov/8010/Transportation-Planning>





Appendix D:

Online Survey Results and Comments

Frederick to New Market and Mount Airy Pedestrian and Bicycle Facility

Project Engagement

VIEWS	PARTICIPANTS	RESPONSES	COMMENTS	SUBSCRIBERS
561	240	3,577	190	79

Please select the option that most accurately represents you (you may select multiple answers):

94%	Resident	152 ✓
15%	Commuter	24 ✓
7%	Local / State Government Employee	11 ✓
6%	Business Owner	10 ✓
5%	Other	8 ✓
0%	Elected Official	0 ✓
0%	News / Media	0 ✓

162 Respondents

Poll Questions 'Other' Responses:

Resident of Mt. Airy in Carroll Cty.
3 months ago

Daughter lives in Frederick
3 months ago

Cyclist
4 months ago

cyclist
4 months ago

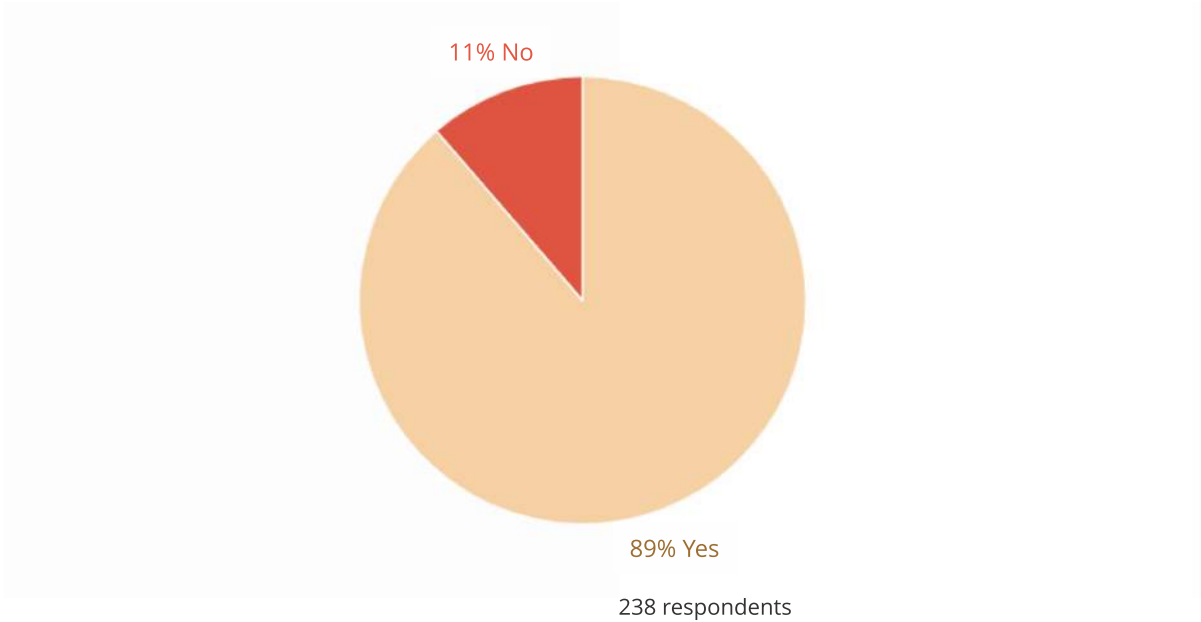
Frequent visitor / shopper

4 months ago

Test

4 months ago

Do you live in Frederick County?



If you answered yes to the previous question, what city or town do you live in?

New Market

3 months ago

New market west

3 months ago

Just outside of the town of New Market

3 months ago

Frederick

3 months ago

Frederick City

3 months ago

New Market

3 months ago

Lake Linganore, New Market

3 months ago

New Market

3 months ago

New market

3 months ago

New Market

3 months ago

New market

3 months ago

The Town of New Market

3 months ago

Mount Airy

3 months ago

Jefferson

3 months ago

Monrovia, MD

3 months ago

Town of New Market

4 months ago

Frederick City

4 months ago

Ijamsville

4 months ago

Frederick

4 months ago

Near bartonsville

4 months ago

Mt. Airy

4 months ago

DTF

4 months ago

Frederick City

4 months ago

New Market

4 months ago

Frederick city

4 months ago

Frederick

4 months ago

Frederick

4 months ago

City of Frederick

4 months ago

New Market

4 months ago

Middletown

4 months ago

Keymar

4 months ago

Frederick

4 months ago

New Market, MD

4 months ago

New market

4 months ago

Carroll county

4 months ago

New Market

4 months ago

Thurmont

4 months ago

Monrovia (New Market).

4 months ago

New Market

4 months ago

New Market

4 months ago

Monrovia

4 months ago

New Market

4 months ago

New Market

4 months ago

New Market

4 months ago

Frederick

4 months ago

Frederick

4 months ago

frederick

4 months ago

New market

4 months ago

New Market, Maryland

4 months ago

Frederick, but grew up in Myersville my whole childhood.

4 months ago

Mt. Airy

4 months ago

New Market, Md

4 months ago

Frederick

4 months ago

Frederick

4 months ago

mt airy

4 months ago

New Market

4 months ago

Middletown MD

4 months ago

Frederick

4 months ago

Point of Rocks, MD

4 months ago

New Market

4 months ago

Mt Airy MD

4 months ago

New Market

4 months ago

New market

4 months ago

New Market

4 months ago

new market

4 months ago

Mount Airy

4 months ago

City of Frederick

4 months ago

Mount airy

4 months ago

Downtown Frederick

4 months ago

New Market

4 months ago

New Market

4 months ago

Ballenger4 months ago

Frederick4 months ago

Mount Airy4 months ago

Mount Airy4 months ago

Mount Airy4 months ago

Frederick4 months ago

Brunswick4 months ago

Mt. Airy4 months ago

I'm outside Frederick city limits bear Spring Rudge4 months ago

Frederick4 months ago

Myersville4 months ago

Burkittsville4 months ago

Frederick City4 months ago

New Market4 months ago

Brunswick4 months ago

Adamstown4 months ago

Mt. Airy

4 months ago

Frederick

4 months ago

Point of Rocks

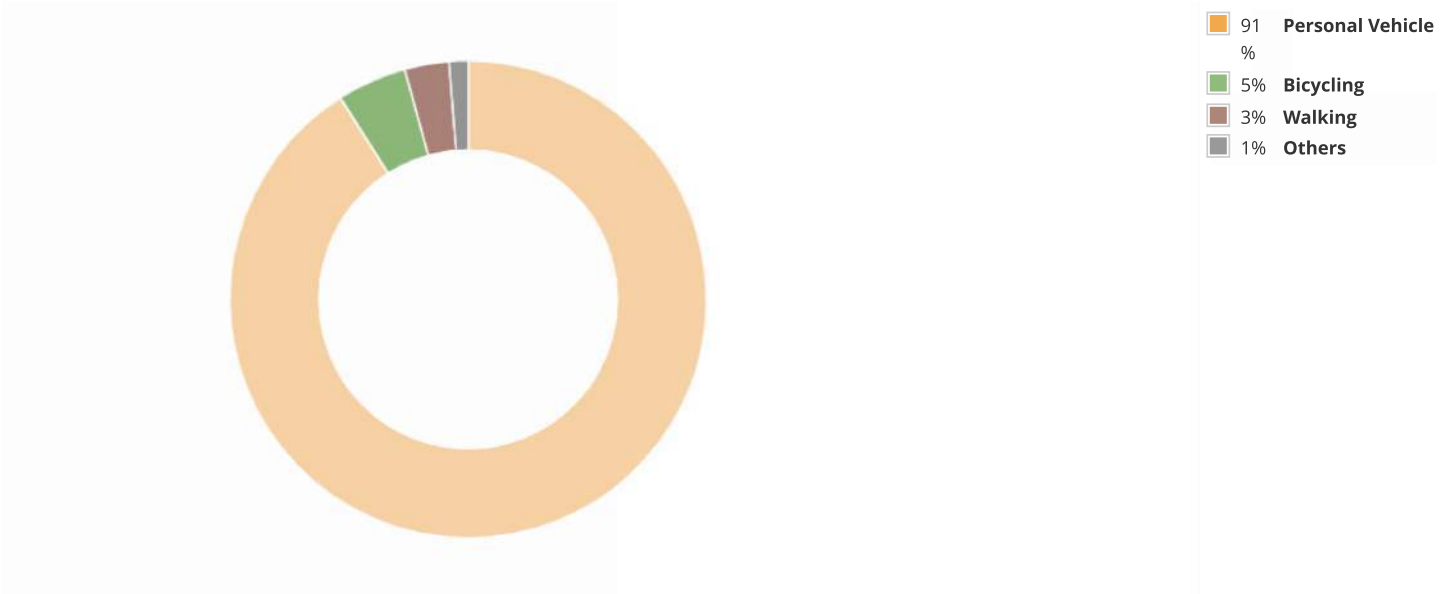
4 months ago

How did you hear about the Frederick to New Market and Mount Airy Pedestrian and Bicycle Facility Feasibility Study project?

52%	Online	89 ✓
25%	Newspaper	43 ✓
19%	Other	32 ✓
8%	Public Notification System	14 ✓
5%	County Website	9 ✓
2%	In-Person Event	3 ✓
1%	Library or Local Business	2 ✓

170 Respondents

What is your primary mode of transportation?



233 respondents

Why do you walk or ride your bicycle?

92%	Recreation	155 ✓
22%	Errands	37 ✓
12%	Commute to work or school	21 ✓
6%	I do not walk or ride a bike	10 ✓

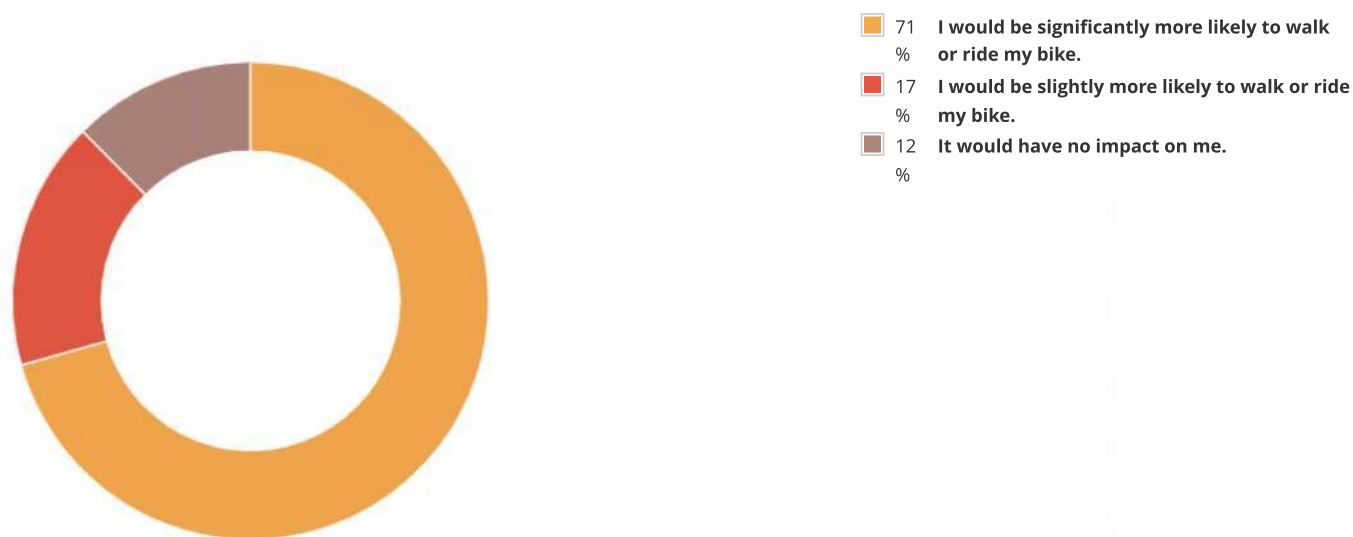
169 Respondents

On average, how often do you walk or ride a bike to a destination?



232 respondents

If there were improved pedestrian and bicycle facility links between the Towns of New Market, Mount Airy, and the City of Frederick, how would it affect how often you walk or ride your bike?



225 respondents

If you selected "It would have no impact on me" in the previous question, what concerns or factors would prevent you from using the new facility?

I fully support this project even though it won't directly affect me day-to-day. I live in west Fred Co (almost to Brunswick) in Jefferson on Chevy Chase Cir. I support this and all projects that improve our non-car options.

Expanding this initiative to include dedicated bike trails along the 15 and 340 into Frederick from the west would be huge. As e-bikes gain in popularity, Frederick County can encourage their adoption (along with normal bicycling) by wisely building out this network now, thereby allowing citizens to make the ultimate environmental choice as soon as possible: not driving or - ideally - needing to own a car at all.

If there was a safe, dedicated way for me to travel all the way into downtown Frederick - a trip my wife/I make multiple times a week for appts/YMCA/errands - I would make many of them on an e-bike. I would even consider doing the trip on a regular bicycle, weather permitting.

Additionally, creating 340/15-parallel trails would connect Brunswick, POR, the C&O, and - potentially Harpers Ferry.

This would increase economic activity in Fred Co by allowing cyclists on the C&O to easily cut in and stay/visit/eat in Frederick.

And it would make for a much more feasible local "last-mile" commute for people in my community to the MARC station at Brunswick--a trip my wife makes now by car once a week before catching the train into Silver Spring.

We moved here from San Diego (near UCSD). In 2019 when we left, the city of sd had just completed an expensive expansion of its dedicated bike path network along Interstate 5 that was having an immediate impact encouraging people to commute on two wheels instead of four.

Now, we have an opportunity to build a robust, productive, efficient trail network in the years before our population and infrastructure becomes even more congested and dense - like San Diego's - which will drive up the future cost of this project if we don't do it now.

As we build the bike trail network out in future years, additional dedicated "ring trails" can circle the city at various distances to link the other routes together.

This is an exciting project, thanks for considering my input!

3 months ago

I didn't select no impact

4 months ago

These areas are isolated from where I live and may be too physically challenging for me to bike although I appreciate having the option

4 months ago

Safety—Fearful of vagrants, homeless and predators on an unpatrolled area that will be loaded with unsuspecting families and children

4 months ago

I usually don't travel between these points.

4 months ago

Too many people on roads also people getting killed on bikes by people not paying attention

4 months ago

Waste of taxpayer money. Give the money back to the taxpayers.

4 months ago

I would love to see more trails! Look at Ballenger Creek. That trail is very heavily used.

4 months ago

I am a runner and would be interested to see if there are parts of the trail that are safe for running.

4 months ago

I already bike. I would simply be joined by more people which builds critical mass dor more safe paths and for public transport

4 months ago

My concern is the encroachment on privately owned land. If this comes 100% out of county/state land and will not impact residents - people who pay exorbitant taxes to "own" land in this state - AT ALL, I have no concerns. If you will be taking or using land, currently deeded to an individual, under bogus eminent domain laws, I will vote NO EVERY TIME. No one has a greater "right" to walk/bike than the land owner has to retain the land they pay money to own.

4 months ago

why don't you improve RTE 15 thru the city??????

4 months ago

Crossing Maryland Route 75, particularly North of I-70

4 months ago

The transition from mount airy to new market is way too dangerous on the road and not flat/level. There's nothing in new market worth going for.

4 months ago

I don't want to be on a bicycle anywhere near cars for my safety and the automobile drivers safety

4 months ago

N/A

4 months ago

It's impractical to be able to ride or walk to different towns in Frederick in a timely manner. The county is not urban enough to justify a bike route.

4 months ago

What type(s) of bicycle facilities would you be most likely to utilize? (Check all that apply)

80%	Shared-use path	136 ✓
61%	Separated bike lanes	105 ✓
32%	Wide, bikeable shoulders	54 ✓
28%	On-road bike lanes	48 ✓
10%	Shared lanes	17 ✓
6%	None	10 ✓

171 Respondents

What amenities would you like to be included along the trail? (Select all that apply)

71%	Directional Signs	111 ✓
70%	Benches	109 ✓
69%	Parking lots / Trailheads	108 ✓
49%	Water fountains	76 ✓
38%	Picnic areas	59 ✓
37%	Educational signs	58 ✓
33%	Bike maintenance stand	51 ✓
21%	Playgrounds	33 ✓

156 Respondents

Please provide any additional thoughts, comments, suggestions, or ideas about the Frederick to New Market and Mount Airy Pedestrian and Bicycle Feasibility Study.

I live on the Carroll County side of Mt. Airy, and if a bikeable/walkable corridor between Mt. Airy, New Market, and Frederick is created, I (and my family of 5) would use it all the time. I've ridden my road bike from Mt. Airy to Frederick multiple times, but parts of that journey are very dangerous and I would never do that with my kids. So a trail/path that we could walk or ride would be amazing, and we'd use it to go to New Market and Frederick. Thank you!

3 months ago

With a recent murder on a biking/hiking trail near Baltimore, what are the security considerations for such a long "facility"? Security cameras? Emergency call boxes?

3 months ago

I am particularly interested in the possibility of a mixed use path on the west side of Royal Oak Drive. This has been presented to Fred. Co. (FC) in the past for safety of bike and pedestrian traffic, after the K-8 school bus route was eliminated, and FC gave a firm negative. There is a significant population of school aged kids who do not bike/walk to school due to having only a shoulder to walk/bike on.

3 months ago

I could commute to work via electric bike (New Market to Mount Airy Route) if there was a safe way to do so.

3 months ago

Yes please! And extend the network; continue on down to Urbana and/or connect to the local parks around here via asphalt or gravel (Monocacy Battlefields, Sugarloaf, Bennett, C&O)

3 months ago

County bicycle roadway options from New Market to Frederick would significantly enhance my bicycle experience. Presently, I am mostly confined to riding in my neighborhood and driving to bicycle friendly areas such as the C&O Canal Tow Path. We need safe bicycle passage ways in Frederick County. The proposed route from Mount Airy to Frederick would be a good start.

3 months ago

This is a great idea. Friends and I often meet to run around the county, & we will have breakfast afterwards. Paths have a positive economic impact.

3 months ago

I've been waiting & watching for better & safer biking in Frederick County since 1981 when I moved here. Hope this project brings something.

3 months ago

Our family would be super grateful for More walkable trails between the three towns. We are from Atlanta and the Beltline there was an incredible improvement to the area

3 months ago

It needs to be safe. No shared path with vehicles, or it won't be used. The shared path pedestrians/bikes will be popular, especially if it's connected to trail or walkable areas (like parks)

3 months ago

I fully support expanding this initiative rapidly to include dedicated bike trails throughout Frederick County, but especially along the 15 and 340 into Frederick from the west. As e-bikes gain in popularity in coming years, this is a great opportunity to remake our transportation network to encourage zero/low emission commuting--at a very low relative infrastructure cost. See my extended comment above.

Thank you.

3 months ago

Provide bathrooms

4 months ago

Please make it environmentally friendly and a great space to share with wildlife

4 months ago

I would love for this plan to be completed. I would use it several times a week and less dangerous than biking the country roads like I do now

4 months ago

Waste of resource funds to serve a minority of the county. No single mother with 3 kids is gonna bike this trail for recreation. She can't even afford food, much less bikes

4 months ago

So glad you're considering this fantastic idea!

4 months ago

Please add a crosswalk or pedestrian bridge to cross 75 from the Meadow/Woodspring community to the Orchard/Downtown New Market.

4 months ago

It's an excellent step towards a fully connected community for walkers and bikers

4 months ago

GREAT concept! 100% support from me. Less cars on road and more persons exercising outside is a WIN-WIN for the environment and health of individuals.

4 months ago

Installing historical markers, rest stops and public artwork would make the trail more inviting and increase ridership. it will be vital to allow people with strollers, walkers and motorized wheelchair users to have access to the trail. Designing the trails to be next to senior center and assisted living facilities would improve the quality of life and mental wellbeing for the residents. A thoughtful business development strategy can provide amenities that will be appreciated by trail users like ice cream bar, a coffee spot, a bike rental/repair shop, a dining/brewery establishment, etc. A good reference example is the Washington & Old Dominion Trail.

4 months ago

Often people complain about cyclists or pedestrians on public roads even if the law allows their presence. Having a dedicated pedestrian/bike path would solve the issue of annoyed drivers and make both pedestrians and cyclists safer. Having ridden thousands of miles on public roads all over Maryland I can say that automobile drivers do not appreciate cyclists and very frequently harbor resentment and anger towards us. This manifests itself in either driving too close or rolling coal on us.

I live in Urbana and hope that some day in the future there will be a safe route to bike from Urbana to downtown Frederick, but if there was a bike path from Frederick to New Market and Mount Airy that would be amazing. I can see utilizing it frequently and giving me more reasons to spend money at local businesses near the trail. When I bike I get hungry like most cyclists, I love to stop and eat at a local business for lunch, dinner or a treat.

Another thought about this trail should be about bringing in money from out of town. My cycling buddy lives in Montgomery Village. We would regularly ride from downtown Frederick up to Hanover, PA and back using the shoulders on 26 and 194. The point of that is that it is a 60+ mile round trip and we always stop to eat along the route and even buy things to bring home.

4 months ago

Yes! Do it. The sooner the better. I also like the idea of scenic gravel or hard pack earth trails like the C&O canal.

4 months ago

Hangout for drugs and gangs and homeless people.

4 months ago

I would absolutely love this. I run, walk, and bike all the trails in Frederick County, and many in Montgomery County.

4 months ago

We currently travel to Frederick and use the Ballenger shared use path for bike riding with our children. Having this on the east side out the county would be a great addition.

4 months ago

Shared lanes with chevrons mean zero to motorists. Separate lanes are key
The path needs to be as direct as possible, people will bike more if it takes less time

4 months ago

More trails makes it safer for cyclists so more will come out. Out in the county, roads with shoulder space will make it easier for cars to pass

4 months ago

put the money to benefit the entire state and county rather than a few bikers
IMPROVE RTE 15 THRU THE CITY

4 months ago

I could bike from new market to Mt airy for my commute instead of drive

4 months ago

Overall I think it's a great idea. I think connecting the communities in ways besides highways would be a great method to bring the area closer and more connected. Would bring people outdoors and provide a place to get exercise

I would prefer minimal environmental impact. If the path follows stream corridors, pollution and trash would be a concern. I'd also prefer minimal tree canopy impact, particularly specimen tree impacts. I think this project could have significant opportunities for reforestation. I hope that Environmental Site Design is implemented to the Maximum Extent Practicable by the consultant!

Also, environmental education opportunities would be great (educational sign boards, etc.)

4 months ago

Would like to see hard surface, multi use trails thru New Market Md connecting to Frederick and Mt Airy

4 months ago

This would be a wonderful addition to eastern Frederick County. Typically I feel like our part of the county is underserved, lacking a large park or a library. The county has many residents that are cyclists and runners.

4 months ago

I have ridden all around Frederick and have spent countless hours trying to find safe trails that are longer than a couple of miles and that avoid the constant stoplights found downtown. New bike lanes or paths would be invaluable.

4 months ago

Even just connecting New Market and Mt Airy would be great

4 months ago

I am very excited at the prospect of a bike/recreational trail that encourages people to get outside and exercise in a safe, pro-bike environment. Plus, it would be a great way to promote local business through bicycle tourism.

4 months ago

Would be a great opportunity for some invasive species removal programs or pollinator habitat demonstrations.

4 months ago

I'm very excited to hear about this proposal. When can you start construction?!?

4 months ago

This is a fantastic idea. I live in Frederick and have family in New Market. Being that a large part of New Market residents are in Lake Linganore, is there any consideration to having the trail go to Lake Linganore? A trail that does not go to Lake Linganore would be disappointing because Boyers Mill and Gas House Pike are very unsafe for cyclists. Despite the speed limits, drivers speed like crazy on those roads. They are also very curvy and present many dangers for cyclists who would need to ride on the road itself rather than a shoulder because there is no shoulder. Second, if there were a shared use path, people could utilize it for running, too. I had lived in Northern Virginia for a few years and the W&OD trail was fantastic and highly utilized. If any bike lanes are created on the roads, PLEASE have them be separated/protected bike lanes. People drive like maniacs and vehicles are only getting larger (especially the massive lifted trucks we so often see around here).

4 months ago

A pedestrian bridge or crosswalk on 75 connecting Meadow away and East Wainscott Drive would have a huge positive impact on the community. It would allow for much easier access to main street New Market for the large amount of communities (and more coming). Would also allow for considerably more walkers to NMES and NMMS which I know has been a big focal point.

4 months ago

Emergency blue light phones

4 months ago

This is a terrific idea for this region! One suggestion to consider - safety call boxes.

4 months ago

A bicycle and pedestrian path connector from Frederick to Mt. Airy would be terrific. The east part of Frederick county is growing rapidly. Such a path would give access to Old National Pike park which is undergoing a major expansion. I see several cyclists ride along Rt. 144 and Detrick Rd. but these roads have little or no berm to walk or cycle on safely. While Rt. 75 from New Market to Libertytown does have a nice wide berm its rather perilous with trucks and cars constantly speeding by. Now is the time to build this while the land is somewhat accessible.

4 months ago

I'm thrilled that the county is looking into constructing this trail. Given all of the growth in this part of the county, it can't come soon enough. I currently drive to BWI, Western Maryland or Leesburg to be able to safely ride my bike.

4 months ago

thank you for considering this amazing idea! it would be a positive impact.

4 months ago

If there is an increase of cyclists on preexisting roadways primarily traveled by motor vehicles, I will be sure to avoid the roads and businesses along the roads shared with increasing numbers of non motor vehicles. No issue with cyclists or their paths if they're not sharing pavement with motor vehicles.

4 months ago

Planting trees along the path to provide shade would make the path more usable in hotter months

4 months ago

Create further inter-connectivity with the creation of this bike/pedestrian path along Boyers Mill Rd between Old National Pike and Gas House Pike, then a further connection along Gas House Pike up to Monocacy Blvd. This would allow for greater commuter access between County residents and The City of Frederick. A Boyers Mill Rd path would also aid in connecting the various neighborhoods both existing and future especially if the Frederick/New Market/Mt Airy path runs along Old National Pike. These projects should should also be constructed concurrently with extensions/upgrades to utilities in those areas. Incentives should be given to residents to connect to public utilities (ex. waiving tap fees if agreements are executed during an "early sign up period"). Additionally, roadway screening should be incorporated into the project both for safety of users of bike/pedestrian paths but also for the benefit of residents along those roadways. Rules and regs must be included with the plan for public knowledge. Define who is to use these pathways. Can e-bike, e-scooter, golf cart users use these pathways along with pedestrians? Who is going to enforce safety, maintenance, laws? Who will ultimately pay for the construction of of these paths? Developer escrow accounts? State/Federal grants? Allocation of tax income within the County annual budget? etc. What will be the on-going financial impact on residents once these paths are constructed?

4 months ago

Will absolutely NOT use any trail that is shared with cars.

4 months ago

This would be incredible. PLEASE make it happen!!!!!!!!!!!!!!

4 months ago

I would like to see less trail along motor traffic roads for the safety of the riders, especially those with children

4 months ago

I want my kids to be able to bike safely to school and grocery stores from home.

4 months ago

Excited to learn of this potential project! A shared use path through local nature would instantly become my go route for local cycling, with a strong appeal to making day trips between connected towns. I've come to adore pedaling through nature on rails to trails projects taking place all over, and having an extended path like this close to home would be a godsend. Let's get people exercising outside again!

4 months ago

My imagination is not able to envision a route from Mt. Airy to Frederick unless along the rail line.

4 months ago

I would love to bike but do not feel safe. Cars go too fast on 144 and there's no protected bike lane. The streets to my home have no shoulders

4 months ago

Any proposed facility should be designed for 90% of users. Shoe horning a 5 ft. space adjacent to traffic only serves elite bikers. A separated, 12 ft. wide, two-way, multi-use path would be ideal. Under no circumstances should low speed users be mixed with high speed (30+mph) traffic. A collision between a ped and car traveling over 30 mph will be fatal.

4 months ago

As a well experienced cyclist, I am comfortable riding on roads or bike lines of all types. I feel for this to be of most benefit to everyone, it has to be a separate protected bike lane or shared use path.

4 months ago

4 months ago

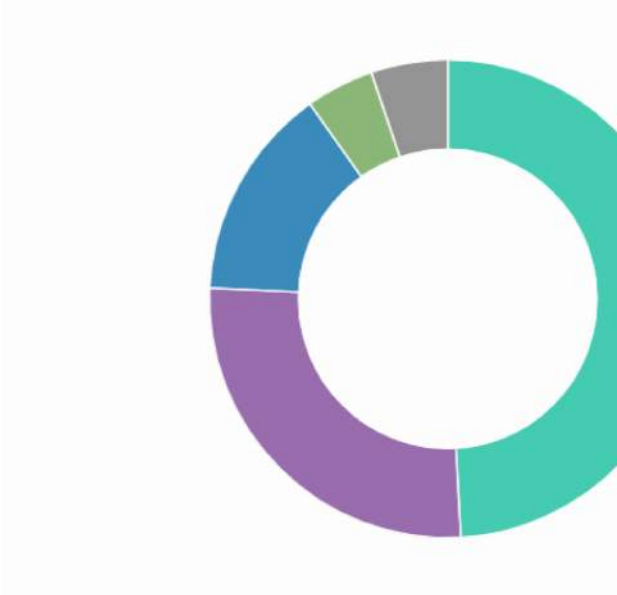
Great project! I hope it comes to fruition :)

4 months ago

If desired, please provide your contact information to be added to the project email list for future project updates:

No data to display...

What is your total household estimated income?



49	%	\$150,000 and up
27	%	\$100,000 to \$150,000
14	%	\$70,000 to 99,999
5	%	\$45,000 to \$69,999
5	%	Others

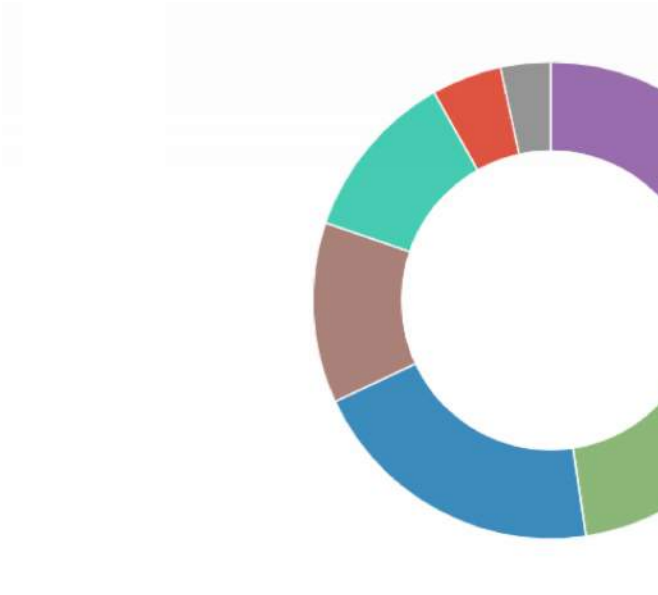
173 respondents

Do you use a mobility device and/or have a disability?

94%	No, I do not use a mobility device or have a disability	146 ✓
4%	Yes, I have a disability	6 ✓
3%	Yes, I use a mobility device.	4 ✓

156 Respondents

What is your age?



24	%	56-65
23	%	36-45
20	%	46-55
12	%	26-35
12	%	66-75
5	%	18-25
3	%	Others

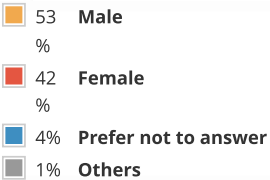
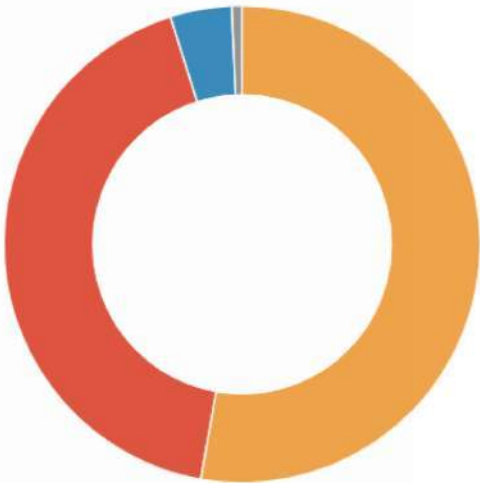
147 respondents

What is your race/ethnicity?

87%	White	125 ✓
9%	I prefer not to answer	13 ✓
3%	Other	4 ✓
2%	Hispanic, Latino, or Spanish	3 ✓
1%	Asian	2 ✓
0%	Black or African-American	0 ✓
0%	American Indian or Alaska Native	0 ✓
0%	Native Hawaiian or Other Pacific Islander	0 ✓

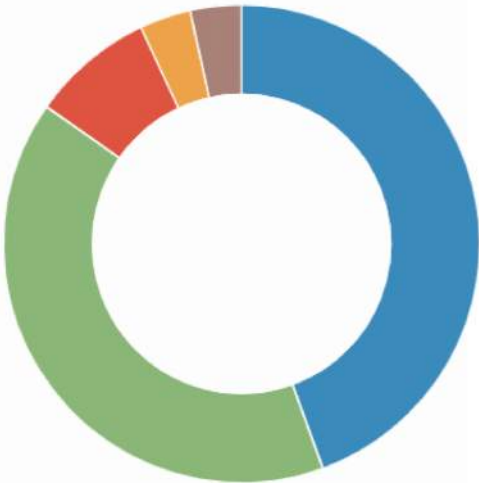
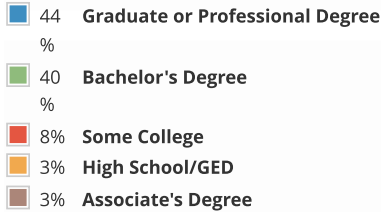
144 Respondents

What is your gender?



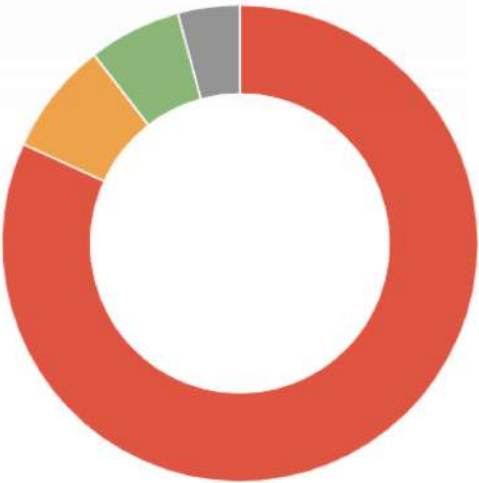
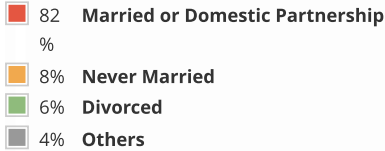
144 respondents

What is your highest formal education level?



144 respondents

What is your marital status?



143 respondents



Appendix E:

Detailed Cost Estimates

**Frederick to New Market and Mount Airy Pedestrian
and Bicycle Trail Cost Summary**

July 12, 2024

Construction Phase	Construction Cost	Cost Range
Phase 1	\$ 6,600,000.00	\$5 - 8 Million
Phase 2	\$ 1,700,000.00	\$1 - 3 Million
Phase 3	\$ 13,000,000.00	\$11 - 16 Million
Phase 4	\$ 19,000,000.00	\$17 - 22 Million
Phase 5	\$ 18,000,000.00	\$16 - 21 Million
Total	\$ 58,300,000.00	\$50 - 70 Million

Frederick to New Market and Mount Airy Trail Feasibility Study

Phase 1 - Eaglehead Drive to New Market Middle School

Item No.	Description	Unit	Quantity	Unit Cost	Total Cost	Notes
	Shared-Use Path	LANE-MI	1.93	\$ 1,000,000.00	\$ 1,933,396.46	SHA Cost Estimating Guide
	Utility Pole Impact	EA	30	\$ 13,000.00	\$ 390,000.00	SHA Cost Estimating Guide
	Pavement Markings	LF	450	\$ 2.00	\$ 900.00	
	Signal Modification	EA	3	\$ 65,000.00	\$ 195,000.00	Unit price is based on signal modification per leg of each traffic signal.
	Culvert Extension	SF	125	\$ 325.00	\$ 40,625.00	
	Stream Mitigation	LS	1	\$ 35,000.00	\$ 35,000.00	SHA Cost Estimating Guide
Subtotal 1					\$ 2,594,921.46	
Contingent Categories						
	Category 1: Preliminary, MOT	35%		\$ 2,594,921.46	\$ 908,222.51	40% of Subtotal 1
	Category 3: Drainage	20%		\$ 2,594,921.46	\$ 518,984.29	45% of Subtotal 1
	Category 7: Landscaping	13%		\$ 2,594,921.46	\$ 337,339.79	10% of Subtotal 1
	Category 8: Utilities	12%		\$ 2,204,921.46	\$ 311,390.58	15% of Subtotal 1
Subtotal 2					\$ 4,670,858.64	
	Contingency	40%			\$ 1,868,343.45	40% of Subtotal 2
Feasibility Level Cost*					\$ 6,539,202.09	
Rounded Value*					\$ 6,600,000.00	

Frederick to New Market and Mount Airy Trail Feasibility Study

Phase 2 - Mussetter Road to Green Valley Road*

Item No.	Description	Unit	Quantity	Unit Cost	Total Cost	Notes
	Shared-Use Path	LANE-MI	0.16	\$ 1,000,000.00	\$ 160,195.71	SHA Cost Estimating Guide
	F-Shape Concrete Barrier	LF	855	\$ 270.00	\$ 230,850.00	For separation from vehicles in on-road segments
	Pavement Markings	LF	2,900	\$ 2.00	\$ 5,800.00	
	Signal Modification	EA	4	\$ 65,000.00	\$ 260,000.00	Unit price is based on signal modification per leg of each traffic signal.
Subtotal 1					\$ 656,845.71	
Contingent Categories						
	Category 1: Preliminary, MOT		35%	\$ 656,845.71	\$ 229,896.00	40% of Subtotal 1
	Category 3: Drainage		20%	\$ 656,845.71	\$ 131,369.14	45% of Subtotal 1
	Category 7: Landscaping		13%	\$ 656,845.71	\$ 85,389.94	10% of Subtotal 1
	Category 8: Utilities		12%	\$ 656,845.71	\$ 78,821.48	15% of Subtotal 1
Subtotal 2					\$ 1,182,322.27	
	Contingency		40%		\$ 472,928.91	40% of Subtotal 2
Feasibility Level Cost*					\$ 1,655,251.18	
Rounded Value*					\$ 1,700,000.00	

Frederick to New Market and Mount Airy Trail Feasibility Study

Phase 3 - Bill Moxley Road to the Town of Mount Airy

Item No.	Description	Unit	Quantity	Unit Cost	Total Cost	Notes
	Shared-Use Path	LANE-MI	1.57	\$ 1,000,000.00	\$ 1,571,180.56	SHA Cost Estimating Guide
	Removal of Existing Roadway	CY	300	\$ 34.00	\$ 10,200.00	Assumed 3' pavement depth
	Utility Pole Impact	EA	2	\$ 13,000.00	\$ 26,000.00	SHA Cost Estimating Guide
	New Bridge over Bush Creek	SF	1,020	\$ 405.00	\$ 413,100.00	SHA Cost Estimating Guide
	Boardwalk Bridge adjacent to Railroad	SF	7,700	\$ 275.00	\$ 2,117,500.00	
	Pavement Markings	LF	200	\$ 2.00	\$ 400.00	
	Install Traffic Signal	EA	1	\$ 200,000.00	\$ 200,000.00	SHA Cost Estimating Guide
	Stream Mitigation	LS	1	\$ 700,000.00	\$ 700,000.00	SHA Cost Estimating Guide
Subtotal 1					\$ 5,038,380.56	
Contingent Categories						
	Category 1: Preliminary, MOT		35%	\$ 5,038,380.56	\$ 1,763,433.19	40% of Subtotal 1
	Category 3: Drainage		20%	\$ 5,038,380.56	\$ 1,007,676.11	45% of Subtotal 1
	Category 7: Landscaping		13%	\$ 5,038,380.56	\$ 654,989.47	10% of Subtotal 1
	Category 8: Utilities		12%	\$ 5,012,380.56	\$ 604,605.67	15% of Subtotal 1
Subtotal 2					\$ 9,069,085.00	
	Contingency		40%		\$ 3,627,634.00	40% of Subtotal 2
Feasibility Level Cost*					\$ 12,696,719.00	
Rounded Value*					\$ 13,000,000.00	

Frederick to New Market and Mount Airy Trail Feasibility Study

Phase 4 - Monocacy Boulevard to Eaglehead Drive

Item No.	Description	Unit	Quantity	Unit Cost	Total Cost	Notes
	Shared-Use Path	LANE-MI	1.17	\$ 1,000,000.00	\$ 1,167,929.29	SHA Cost Estimating Guide
	Removal of Existing Roadway	CY	24,689	\$ 34.00	\$ 839,422.22	Assumed 3' pavement depth
	F-Shape Concrete Barrier	LF	1,670	\$ 270.00	\$ 450,900.00	For separation from vehicles in on-road segments
	Utility Pole Impact	EA	22	\$ 13,000.00	\$ 286,000.00	SHA Cost Estimating Guide
	New Bridge over I-70	SF	4,000	\$ 325.00	\$ 1,300,000.00	SHA Cost Estimating Guide
	New Bridge over Long Branch	SF	1,100	\$ 405.00	\$ 445,500.00	SHA Cost Estimating Guide
	Boardwalk Bridge under I-70	SF	2,550	\$ 275.00	\$ 701,250.00	
	Bridge Deck Replacement for Old Jug Bridge	SF	12,700	\$ 135.00	\$ 1,714,500.00	SHA Cost Estimating Guide
	Pavement Markings	LF	6,500	\$ 2.00	\$ 13,000.00	
	Signal Modification	EA	8	\$ 65,000.00	\$ 520,000.00	Unit price is based on signal modification per leg of each traffic signal.
	Stream Mitigation	LS	1	\$ 35,000.00	\$ 35,000.00	SHA Cost Estimating Guide
Subtotal 1					\$ 7,473,501.52	
Contingent Categories						
	Category 1: Preliminary, MOT		35%	\$ 7,473,501.52	\$ 2,615,725.53	40% of Subtotal 1
	Category 3: Drainage		20%	\$ 7,473,501.52	\$ 1,494,700.30	45% of Subtotal 1
	Category 7: Landscaping		13%	\$ 7,473,501.52	\$ 971,555.20	10% of Subtotal 1
	Category 8: Utilities		12%	\$ 7,187,501.52	\$ 896,820.18	15% of Subtotal 1
Subtotal 2					\$ 13,452,302.73	
	Contingency		40%		\$ 5,380,921.09	40% of Subtotal 2
Feasibility Level Cost*					\$ 18,833,223.82	
Rounded Value*					\$ 19,000,000.00	

Frederick to New Market and Mount Airy Trail Feasibility Study

Phase 5 - Green Valley Road to Bill Moxley Road

Item No.	Description	Unit	Quantity	Unit Cost	Total Cost	Notes
	Shared-Use Path	LANE-MI	2.51	\$ 1,000,000.00	\$ 2,514,204.55	SHA Cost Estimating Guide
	F-Shape Concrete Barrier	LF	3,910	\$ 270.00	\$ 1,055,700.00	For separation from vehicles in on-road segments
	Utility Pole Impact	EA	19	\$ 13,000.00	\$ 247,000.00	SHA Cost Estimating Guide
	Proposed Pedestrian Bridges	SF	4,300	\$ 325.00	\$ 1,397,500.00	SHA Cost Estimating Guide
	New Boardwalk Bridge	SF	4,675	\$ 275.00	\$ 1,285,625.00	SHA Cost Estimating Guide
	Culvert Extension	SF	500	\$ 325.00	\$ 162,500.00	
	Pavement Markings	LF	13,000	\$ 2.00	\$ 26,000.00	
	Signal Modification	EA	3	\$ 65,000.00	\$ 195,000.00	Unit price is based on signal modification per leg of each traffic signal.
	Stream Mitigation	LS	1	\$ 35,000.00	\$ 35,000.00	SHA Cost Estimating Guide
Subtotal 1					\$ 6,918,529.55	
Contingent Categories						
	Category 1: Preliminary, MOT	35%		\$ 6,918,529.55	\$ 2,421,485.34	40% of Subtotal 1
	Category 3: Drainage	20%		\$ 6,918,529.55	\$ 1,383,705.91	45% of Subtotal 1
	Category 7: Landscaping	13%		\$ 6,918,529.55	\$ 899,408.84	10% of Subtotal 1
	Category 8: Utilities	12%		\$ 6,671,529.55	\$ 830,223.55	15% of Subtotal 1
Subtotal 2					\$ 12,453,353.18	
	Contingency	40%			\$ 4,981,341.27	40% of Subtotal 2
Feasibility Level Cost*					\$ 17,434,694.45	
Rounded Value*					\$ 18,000,000.00	



40 Wight Avenue
Hunt Valley, MD 21030
P. 410-329-3100
www.jmt.com

Submitted to:

