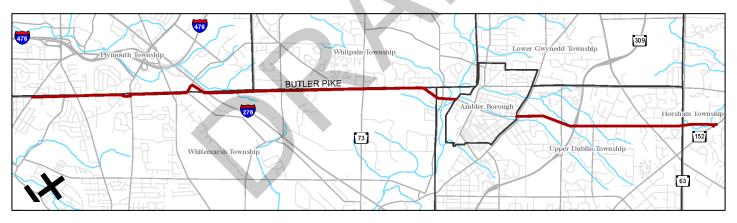




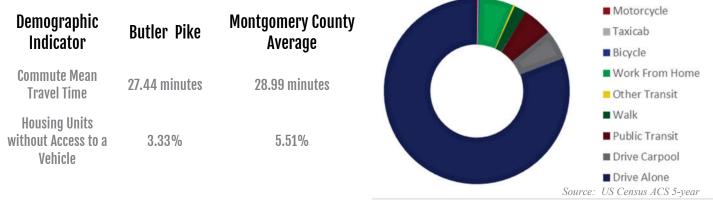
BUTLER PIKE TODAY

STUDY AREA

This study focuses on a nine mile long segment of Butler Pike from the intersection with North Lane in Plymouth Township to the intersection with Limekiln Pike (PA 152) in Horsham Township. It does not include the segment within Ambler Borough, which is locally known as Butler Avenue. Butler Pike functions as a principal arterial, and it supports regional mobility between Plymouth Township, Whitemarsh Township, Whitpain Township, Ambler Borough, Upper Dublin Township, and Horsham Township. Butler Pike provides these communities with access to the PA Turnpike in Plymouth Meeting and the Fort Washington Expressway (PA 309) in Upper Dublin Township.



Butler Pike passes through communities with varying transportation needs. The demographics within one mile of this segment of Butler Pike are as follows:



2 - 1

BUTL<u>er pike</u>

This area of Montgomery County has higher than average access to vehicles and most people commute by car. There is also a fairly high number of people commuting by public transit considering the percentage of people driving alone.

PREVIOUS PLANS AND ONGOING PROJECTS

Butler Pike is referenced in various municipal planning studies throughout the corridor. Safety, capacity, and multimodal deficiencies have been identified in municipal comprehensive plans, Act 209 (Transportation Impact Fee) Capital Improvement Plans, and special studies.

Municipality	Comprehensive Plan Year	Act 209 Plan Year	
Plymouth Township	2019	2012	
Whitemarsh Township	2020	2005	
Whitpain Township	2016	1999	
Upper Dublin Township	2010		
Horsham Township	2011	2012	

Municipal comprehensive plans identified several intersection deficiencies including the intersections of Butler Pike with: Skippack Pike, Germantown Pike, and Plymouth Road/ Flourtown Road. Safety deficiencies were identified at the intersections of Hendricks Street/ Park Avenue/Race Street, Germantown Pike, and Narcissa Road. The municipal planning documents reference the need for enhanced pedestrian, bicycle, and transit connections along Butler Pike.

Butler Pike is contained within various overlapping DVRPC Congestion Management Process (CMP) Corridors. Very appropriate strategies for these subcorridors include Intelligent Transportation Systems (ITS), incident management, safety improvements and programs, park and ride lots, freight capacity investments, transit infrastructure improvements, improved circulation, and modifications to existing transit routes or services.

At the time of this report, projects listed on the DVRPC Transportation Improvement Program (TIP) along the Butler Pike corridor included Ridge Pike, PA Turnpike to Butler Pike (MPMS# 48175), Butler Pike over Prophecy Creek Bridge (MPMS# 98225), and Ridge Pike, Harmon Road to Crescent Avenue Reconstruction and Signal Upgrade (MPMS# 16577). The Ridge Pike corridor projects include improvements at its intersection with Butler Pike. Additionally, sinkhole remediation project between Flourtown/Plymouth Roads and Germantown Pike was completed in December 2020.



Sinkhole Remediation Project on Butler Pike

LAND USE CONTEXT

The land use surrounding Butler Pike can be characterized as mostly residential with clusters of commercial uses around major intersecting roadways. Butler Pike lies in a fairly densely populated region of Montgomery County which is mostly built-out. However, Butler Pike's importance as a connection between major highways and population centers has driven residential and commercial development interest along the corridor. Recent land development activity along Butler Pike has been focused in Plymouth Township and Whitpain Township with major land development proposals near the intersections with Ridge Pike, the PA Turnpike, and Norristown Road/Skippack Pike.

The route for Butler Pike was laid out in 1712 to connect Conshohocken to Horsham Township. Due to a long history as a communication route between Quaker meeting houses, there are a number of historically significant places located along Butler Pike. Features listed on the National Register of Historic Places are listed below.

- Plymouth Meeting Historic District—Ridge Pike to roughly Flourtown Road
- Cold Point Historic District—Roughly Flourtown Road to Township Line Road

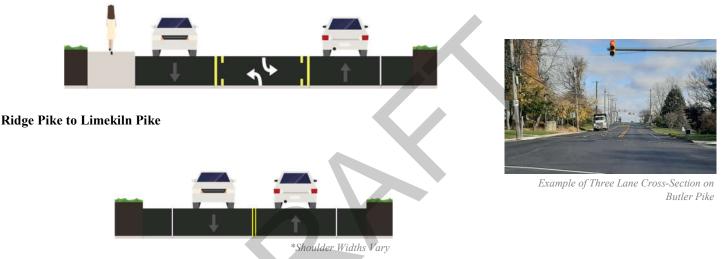
Existing and Future Land Use maps can be found in Appendix B of this report.

TRANSPORTATION CONTEXT

Typical Sections

Butler Pike consists of one travel lane in each direction for the entire length of the study area. Between North Lane and Ridge Pike, Butler Pike has a three-lane cross section with a center turn lane. Shoulder widths vary along Butler Pike. The graphics below depict the typical cross-sections that may be found along the corridor.

North Lane to Ridge Pike



Transportation Features

There are fourteen traffic signals along Butler Pike from North Lane to Limekiln Pike. Montgomery County owns and maintains three bridge structures along this segment of Butler Pike. These bridges carry Butler Pike over Plymouth Creek in Plymouth Township and Wissahickon Creek and Prophecy Creek in Upper Dublin Township. The bridge carrying Butler Pike over Prophecy Creek has a 15 ton posted weight restriction.

These transportation features are depicted on the Corridor Overview Map.

Multimodal Connections

Sidewalk connections are limited to the village centers along Butler Pike. From North Lane to Flourtown Road/Plymouth Road, sidewalk exists on only one side of the road. However, this sidewalk is not contiguous, as some gaps do exist. North of Flourtown Road/Plymouth Road, there are only sidewalks and crosswalks associated with particular parcels or at some major intersections, such as Skippack Pike, Norristown Road, and Welsh Road. There are sidewalks within Ambler Borough. The sidewalk on Butler Pike in Ambler ends at the southern borough boundary at the Wissahickon Creek bridge and extends into Upper Dublin Township for a short distance at the northern end of the borough. Butler Pike is crossed by the Wissahickon Green Ribbon Trail just south of Ambler Borough. Bus service along Butler Pike includes SEPTA Routes 95 and 97. However, Route 95 is limited to a small segment near Broad Axe Village, and Route 97 is limited to Plymouth Township. Butler Pike does provide direct access to the Ambler Regional Rail Station.

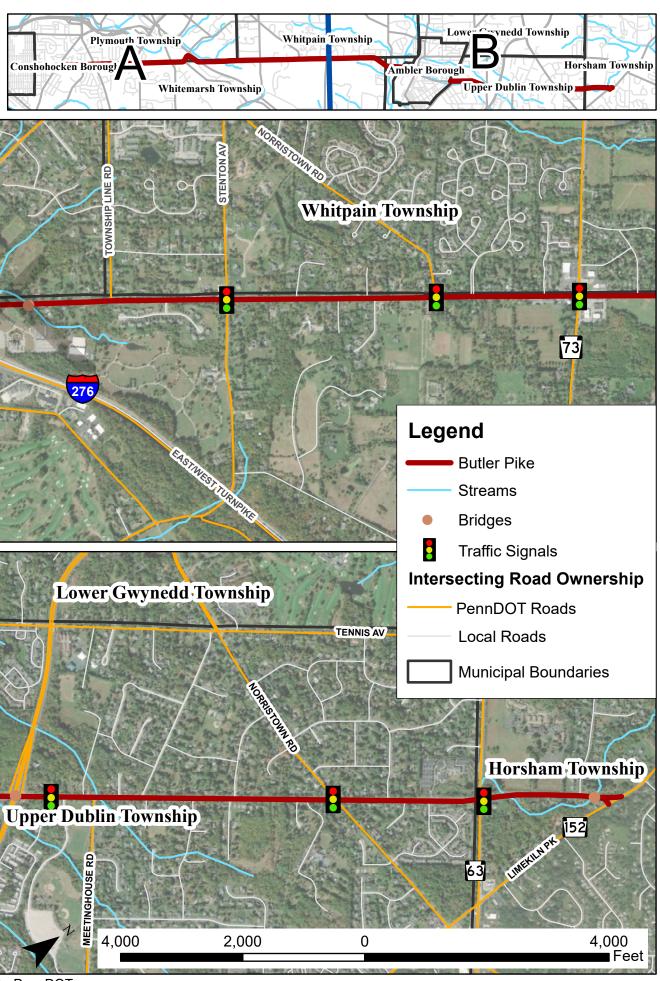


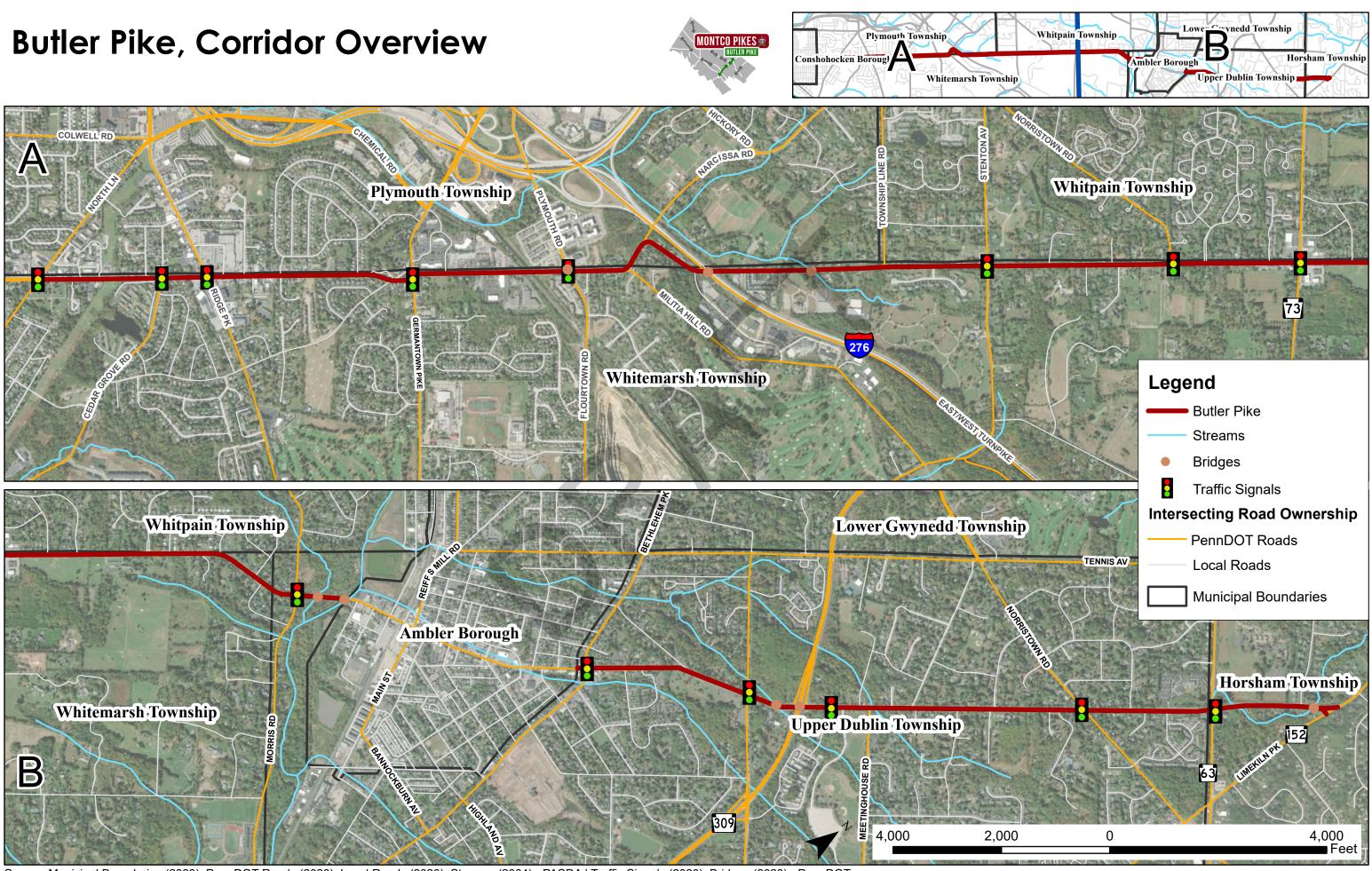
Wissahickon Green Ribbon Trail Crossing of Butler Pike



2-3







Source: Municipal Boundaries (2020), PennDOT Roads (2020), Local Roads (2020), Streams (2004) - PASDA | Traffic Signals (2020), Bridges (2020) - PennDOT

Butler Pike is identified as one of the most difficult roads to bike on in the *Bike Montco Plan*. Portions of Butler Pike near Ambler Borough and in Plymouth Township are identified on the Planned Bicycle Network map in Bike Montco. Some improvements to Butler Avenue in Ambler Borough are mentioned in Bike Montco, but no specific recommendations are made outside of the borough. Most of Butler Pike, aside from a small section in Whitemarsh Township, is identified as being within areas recommended for sidewalks in the *Walk Montco Plan*.

Additional multimodal connections are depicted on the Multimodal Transportation Features Map in Appendix B of this report.

Traffic Volumes and Congestion

The heaviest traffic congestion along Butler Pike can be observed in the Plymouth Meeting area, where three intersections have been identified in past plans and studies that operate with a high delay: Ridge Pike, Germantown Pike, and Flourtown Road/Plymouth Road. Additionally, the intersection of Skippack Pike in Whitpain Township and Whitemarsh Township operates with a high delay. High delay is characterized as intersections operating at an overall level of service E or F. Moderate delay is characterized as intersections operating at an overall level of service D. Intersections operating at a level of services A, B, or C are considered to have low delay.

A Traffic and Intersections Operations Map containing additional information about traffic volumes and intersection operations can be found in Appendix B.



A high concentration of vehicle crashes are documented along Butler Pike at the intersection of Butler Pike with Germantown Pike, which saw a total of seventeen crashes between 2015-2019. This intersection has unusual intersection geometry, which likely contributed to crashes. Many of these crashes can be attributed to poor weather (wet and/or icy conditions) and driver error (too fast for conditions, improper turn, proceeding without clearance). Concentrations of crashes have also been reported at the intersection of Butler Pike with Plymouth Road/Flourtown Road, Narcissa Road, Susquehanna Road, and Norristown Road, however crashes at these intersections occur at a lesser frequency than at Germantown Pike.

A Safety Map depicting Crash Densities along Butler Pike can be found in Appendix B.

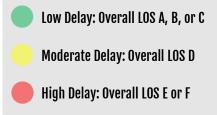
KEY ISSUES

Identified safety and operational issues at key intersections

There are several intersections along Butler Pike that pose safety and operational issues due to poor intersection geometry, poor sight distance, high volume of turning movements, and lack of pedestrian crossings. The following intersections were identified to have poor intersection geometry or capacity deficiencies:

- North Lane
- Ridge Pike
- Germantown Pike
- Narcissa Road
- Township Line Road
- Skippack Pike
- Morris Road
- Welsh Road

The intersection of Germantown Pike and Butler Pike is one of the most critical and challenging. Butler Pike is offset by approximately 100 feet. This, along with high traffic





Intersection of Butler Pike and Germantown Pike

volumes on both roads, has resulted in the highest concentration of crashes along Butler Pike. Additionally, this intersection is the crossroads of the Plymouth Meeting Village and is within a National Historic Register District. Community members expressed an interest in improved pedestrian connections at this intersection.

Overall lack of connectivity for pedestrians, bicyclists and transit riders

Butler Pike is located in a fairly densely populated area of Montgomery County and connects the communities of Ambler, Plymouth Meeting, and Conshohocken. However, much of the corridor lacks basic facilities to support biking and walking. Community members shared their support for sidewalks, trails, and/or on-road bicycle facilities along the corridor. Additionally, connections to and amenities at bus stops along the corridor were highlighted by stakeholders. Pedestrian crossings were noted as a need particularly at the intersections of Ridge Pike and Welsh Road. Improving multimodal connectivity is a high priority for community leaders along Butler Pike.

Poor access management for commercial centers

There are several shopping centers along Butler Pike with multiple commercial driveways or wide open driveways without proper access and traffic controls. In some areas, it is difficult to distinguish the edge of the roadway with the start of a parking lot. This impacts safety and operations for vehicular travel, as well as safety for bicyclists and pedestrians crossing the access ways.

Close intersection spacing and lack of traffic signal coordination

Since Butler Pike is located in a developed area, there are many signalized and stop controlled intersections along the corridor. High traffic volumes and turning movements have led to the installation of traffic signals at many of these intersections. The density of intersections along with lack of traffic signal coordination and interconnectivity negatively impact operations along the corridor. Additionally, some traffic signal equipment is out of date and there is a need for upgraded signal technologies.

Constraints to providing dedicated infrastructure along the corridor

The urban/suburban nature of Butler Pike means that, in many areas, there is limited space to accommodate additional transportation facilities. Along many segments of the corridor, constraints outside of the county's publicly owned right-of-way, such as structures, utility poles, residential fences/decorative walls and heavily wooded and vegetated areas close to the roadway, impact the feasibility of implementing some improvements such as wider shoulders, additional travel lanes, vehicle turning lanes, on-road bicycle facilities, pedestrian facilities, or stormwater management facilities.



Closely Spaced Commercial Driveways Near the Intersection of Butler Pike and Skippack Pike



Narrow Shoulder Along Butler Pike

Butler Pike | Key Issues

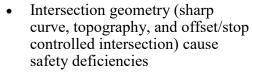




Corridor-Wide Issues

- Limited pedestrian and bicycle facilities and lack of connectivity
- Need for better bus stops, including amenities and pedestrian connections
- Poor access management for existing shopping centers

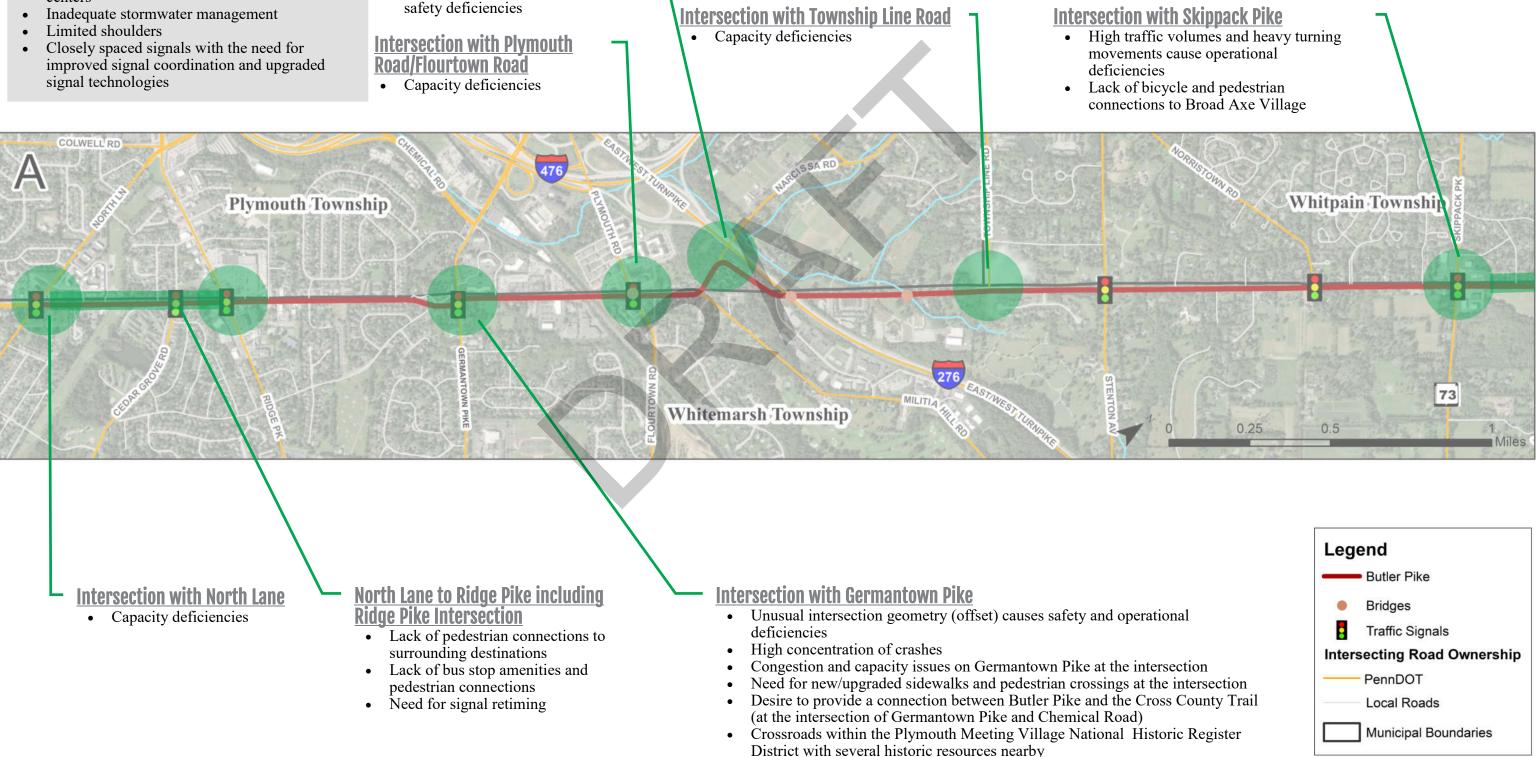
- improved signal coordination and upgraded signal technologies



Intersection with Narcissa Road

• Capacity deficiencies

• Capacity deficiencies



Whitpain	Township	Lower Convnedd Township
		Ambler Borough Upper Dublin Township

Butler Pike | Key Issues



TENNIS AV

309



Corridor-Wide Issues

- Limited pedestrian and bicycle facilities and lack of connectivity
- Need for better bus stops, including amenities and pedestrian connections
- Poor access management for existing shopping centers
- Inadequate stormwater management

Whitemarsh Township

• Limited shoulders

B

Closely spaced traffic signals with the need for • improved coordination and upgraded signal technologies

Intersection with Morris Road

• Heavy turning movements cause operational deficiencies

Ambler Borough

Intersection with Welsh Road

- Heavy left turn movements
- Poor site distance
- Lack of pedestrian crossings

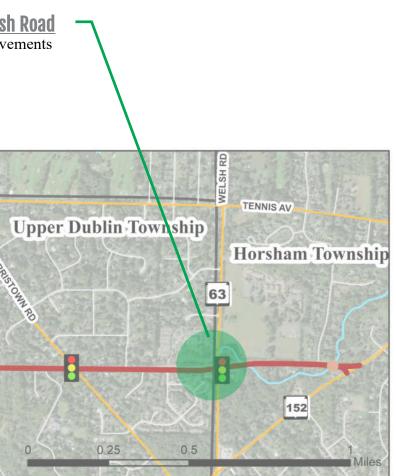
Skippack Pike to Ambler Borough

- Need for improved pedestrian or multi -use trail connection
- Need to connect and provide a safe • crossing for the Wissahickon Green Ribbon Trail

Intersection with Susquehanna Road

- Lack of bicycle and pedestrian facilities
- Need for improved traffic signal timing

Route 309 Interchange • Trash and debris build-up









BUTLER PIKE TOMORROW

CORRIDOR EVALUATION

Butler Pike provides access to boroughs and suburban communities and connects to several regional transportation corridors such as Ridge Pike, Skippack Pike, Bethlehem Pike, PA 309, and the PA Turnpike. The corridor evaluation focused on smaller scale traffic improvements that can be provided within the existing roadway cross section to improve operations and the addition of bicycle and pedestrian facilities to improve mobility for the corridor. A more detailed evaluation of Butler Pike can be found in Appendix C.

Traffic Operations

Traffic volumes and a lack of closely spaced or heavily congested intersections preclude the need for consideration of additional through travel lanes for the corridor.

Segments between Ridge Pike and Plymouth Road/Flourtown Road intersections should evaluated to provide a two-way center left turn lane.

Turn lanes exist at some signalized intersections. Additional turning lanes at key intersections, especially Stenton Avenue, Susquehanna Road, and Norristown Road should be considered based on turning movements and safety considerations.

Multimodal Connections

Sidewalks should be added to fill in the gaps on the western side of the roadway between Ridge Pike and Flourtown Road where facilities exist today. Due to the constraints that exist along this segment of the corridor, it is likely not practical to add dedicated bike lanes to Butler Pike without eliminating the two-way center left turn lane or existing sidewalks.

From Village Way to Ambler Borough, sidewalk and/or a trail should be considered for smaller segments based on clusters of pedestrian trip generators and proximity to trail systems.

A pedestrian facility should be considered to connect the Broad Axe area with the Wissahickon trail to the south of Ambler Borough.

North of Ambler Borough, It would be appropriate to provide a consistent trail/sidewalk facility utilizing the existing facilities on the western side of the corridor.

A consistent shoulder width should be provided along the corridor that can accommodate bicycles .



Plymouth Road/Flourtown Road Intersection, Plymouth Township



Pedestrian crossings at Skippack Pike, Whitpain Township



Constraints

Utilities are predominantly above-ground throughout the corridor alternating between the west and east sides of the roadway. A regional overhead electric transmission line crosses the corridor to the south of Ridge Pike.

It is very common along many areas of Butler Pike for several types of obstructions to be located close to the paved cartway including areas of trees/heavy vegetation, fences, decorative walls, utility poles, and building structures.

The table below highlights some of key geometric, environmental and potential historical features along the study limits of Butler Pike.

Туре	Corridor Constraint	
Geometry	 Horizontal and Vertical curves between Militia Hill Road and Campus Drive PA Turnpike overpass north of Village Way Railroad overpass south of Plymouth Road 	
Environmental	 Karamoor Farm Willow Lake Farm Preserve Robbins Park Tannerie Run Park Rose Valley Preserve Rose Hill Cemetery 	-
Potential Historical	 Plymouth Meeting Historic District Friends Meeting School Cold Point Historic District St. Matthews Cemetery near North Lane 	



Roadside obstructions near Township Line Road, Whitpain Township

FUTURE VISION

Cross Sections

Butler Pike has been identified as a Community Arterial with a Suburban Corridor land use context. The standard design criteria should generally be followed except at locations when constraints limit the ability to meet the standard criteria.

North Lane to Campus Drive

The existing cross section of Butler Pike from Conshohocken Borough to the north of Flourtown Road/Plymouth Road near Campus Drive will generally remain the same as existing with improvements to provide a consistent cross section. Pedestrian and bicycle accessibility will be improved by filling in gaps and providing a consistent width for the extensive sidewalk network that exists, providing buffer areas, improving bus stops, and providing consistent shoulder widths.

Gaps in the existing two-way center left turn lane may be filled where feasible to improve traffic operations and safety along the corridor. A two-way center left-turn lane exists from North Lane to Karrs Lane approximately 700 feet north of Ridge Pike. The lane should be extended further north to a location south of Germantown Pike such as Shasta Lane/Cardinal Drive or Blue Ridge Road.

In addition, consideration should be given to providing a two-way center left-turn lane from Germantown Pike to Railroad overpass (south of Plymouth Road) for access to industrial properties along this segment of corridor. If the additional lane can't be provided within the existing paved cartway and right-of-way at the immediate approach to Germantown Pike, the lane will need to begin to the north of the historic resources and the functional area of the intersection.



Historic resources at Germantown Pike, Plymouth and Whitemarsh Townships

The focus in the immediate area of the Germantown Pike intersection should be on small scale improvements such as traffic signal upgrades, pedestrian access/connectivity, and bus stop upgrades. Any modifications to the existing roadway approaches and turning lanes should only be considered generally within the existing cartway and right-of-way to avoid impacts to adjacent properties.



Existing Cross Sections: North Lane to Ridge Pike



Campus Drive to Locust Street

4' to 8'

The cross section which generally traverses the segment of Butler Pike beginning just south of the PA Turnpike overpass to the boundary of Ambler Borough will largely remain the same with improvements to the roadway to provide consistent preferred shoulder widths on both sides of Butler Pike. Sidewalks should be provided in key areas to connect closely spaced pedestrian generators. Pedestrian connections should be developed between the village of Broad Axe and the Wissahickon trail crossing.

11' to 12'

Drive lane

Ridge Pike to Limekiln Pike



Bethlehem Pike to Limekiln Pike—PA 152

11' to 12'

Drive lane

The cross section which generally traverses the segment of Butler Pike beginning at the northern boundary of Ambler Borough at Bethlehem Pike to the northern end of the corridor in Horsham Township will largely remain the same. The existing trail and sidewalk segments located on the west side of Butler Pike should be utilized to provide a shared pedestrian and bicycle facility for the entire segment. The location of the trail shown in the cross section of Bethlehem Pike to Limekiln Pike—PA 152 may need to alternate between the west and east sides of the road, with well established crossings at signalized intersections or mid-block locations, to reduce impacts to constraints and available right-of-way and easements. Since the shoulders will not be needed for bicycle use and due to the amount of roadside obstructions and constraints along this segment, a narrow shoulder can be provided at a consistent width.

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4' to 8'	11' to 12' Drive lane	11' to 12' Drive lane	4' to 8'

4' to 8'

Corridor Improvements

The Corridor Improvement Map for Butler Pike identifies multimodal improvements at a total of 12 intersections and corridor segments to address a variety of issues for traffic operations, safety considerations, bicycle and pedestrian facilities, and bus routes. The Corridor Improvement Map identifies the improvement categories to address future needs, estimated ranges of construction costs and general priority levels.

The following general corridor-wide improvement strategies apply to Butler Pike:

Add bicycle and pedestrian facilities and fill in the gaps between existing facilities

Between North Lane and Germantown Pike, the gaps in the sidewalk network may be filled through small projects or potentially through land development projects. A pedestrian facility master plan should be completed to provide a conceptual scope for the trail identified for the corridor north of Ambler Borough by identifying the alignment, crossings and right-of-way needs.

Access management in commercial areas

Many of the commercial areas along Butler Pike have shopping centers and other retail properties with multiple driveways or wide open driveways without proper access and traffic controls. Best access management practices should be implemented in these areas along the corridor.

Add shoulders and widen existing shoulders to preferred width

Each of the future cross sections along the corridor recommend preferred shoulder widths. Some segments of Butler Pike may be constrained from the preferred shoulder width due to obstructions located close to the roadway In these areas, the retrofit criteria of 2—4 foot shoulders may be more practical and appropriate.

Upgrade traffic signals and provide improved coordination systems between closely spaced intersections

Butler Pike lies on the municipal boundary between Plymouth and Whitemarsh Townships between North Lane and Jefferson Drive (to the south of Morris Road). The two townships share maintenance responsibilities for the signalized intersections along the common boundary. The townships and county should work cooperatively to implement upgrades.

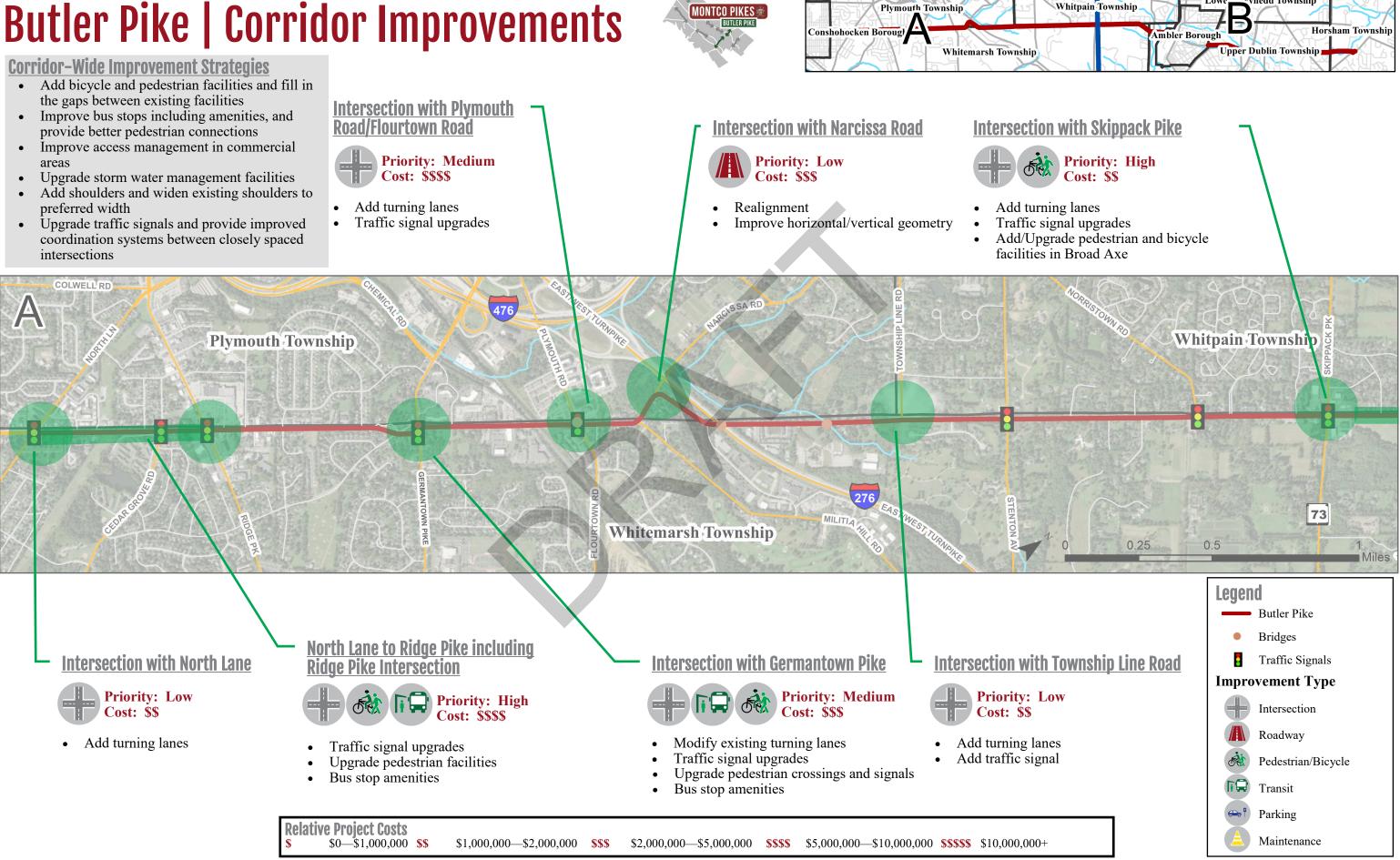
Upgrade Stormwater Management Facilities

Specific locations with stormwater management issues were not identified by the key stakeholders or the public, but was common general issue identified by the municipalities that should be addressed throughout the corridor when improvements are implemented by the county or developers.



Location	Improvement Categories	Potential Improvements	Relative Priority	Relative Cost
North Lane—Ridge Pike		 Fill in gaps in sidewalk network Provide preferred sidewalk widths and buffer areas Bus stop amenities Traffic signal upgrades 	High	\$\$\$\$
PA 73 Skippack Pike (Broad Axe Area)	- Original Contraction	 Add turning lanes Traffic Signal Upgrades Upgrade pedestrian crossings and signals Bus stop amenities 	High	\$\$
PA 73—Ambler Borough	र सं	 Provide pedestrian or multi-use trail connections Upgrade Wissahickon trail crossing 	High	\$\$\$\$
PA 63 Welsh Road		 Add turning lanes Realignment Upgrade pedestrian crossings and signals 	High	\$\$
Plymouth Road and Flourtown Road	\oplus	Add turning lanesTraffic signal upgrades	Medium	\$\$\$\$
Germantown Pike		 Modify existing turn lanes Traffic signal upgrades Upgrade pedestrian crossings and signals Bus stop amenities 	Medium	\$\$\$
Morris Road	Ð	 Add turning lanes Traffic signal upgrades 	Medium	\$\$
Susquehanna Road	- 68	 Upgrade pedestrian crossings and signals Traffic signal upgrades 	Medium	\$
North Lane	+	Add turning lanes	Low	\$\$
Township Line Road	Ŧ	 Add turning lanes Add traffic signal 	Low	\$\$
Narcissa Road		 Realignment Improve horizontal/vertical geometry	Low	\$\$\$
PA 309 Interchange	+4	 Improve lane markings and traffic control signs Improve trash and debris collection 	Low	\$

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Butler Pike | Corridor Improvements

Whitpain	Township	Lowe Convnedd Township
		Ambler Borough Horsham Township

Plymouth Townshi

Butler Pike | Corridor Improvements





Corridor–Wide Improvement Strategies

- Add bicycle and pedestrian facilities and fill in the gaps between existing facilities
- Improve bus stops including amenities, and provide better pedestrian connections
- areas
- preferred width
- coordination systems between closely spaced intersections







- Realignment

