# Phoenixville Region
## Multimodal Transportation Study

JUNE 2018


CHESTER COUNTY Planning COMMISSION

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**JUNE 2018**

Prepared by the
Chester County Planning Commission

**Chester County Board of Commissioners**
Michelle Kichline
Kathi Cozzone
Terence Farrell

This project was funded by a Transportation and Community Development Initiative grant with matching funds from the County of Chester.

*"The Transportation and Community Development Initiative (TCDI) is an opportunity for the Delaware Valley Regional Planning Commission (DVRPC) to support smart growth in the individual municipalities of the Delaware Valley through initiatives that implement the region's long-range Plan, Connections 2045 Plan for Greater Philadelphia."*
*~TCDI Program Goal*

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**Mary Bird,** *Schuylkill Township*
**Pam Brown,** *West Vincent Township*
**Paul Carafides,** *DVRPC*
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**Jonathan Ewald,** *Phoenixville Borough*
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**E. Jean Krack,** *Phoenixville Borough*
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**Martha Majewski,** *Schuylkill Township*
**Kim Moretti,** *East Pikeland Township*
**Charles Philips,** *Charlestown Township*
**Matt Popek,** *Montgomery County Planning Commission*
**Mila Robinson,** *GVFTMA*
**Michael Roscoe,** *Schuylkill Township*
**Henry Stroud,** *Montgomery County Planning Commission*
**Randy Waltermyer,** *Traffic Planning and Design consultant to East Pikeland Township*

# Table of Contents

Source: Pictometry.

# 1: Planning Context

# Purpose and Goal

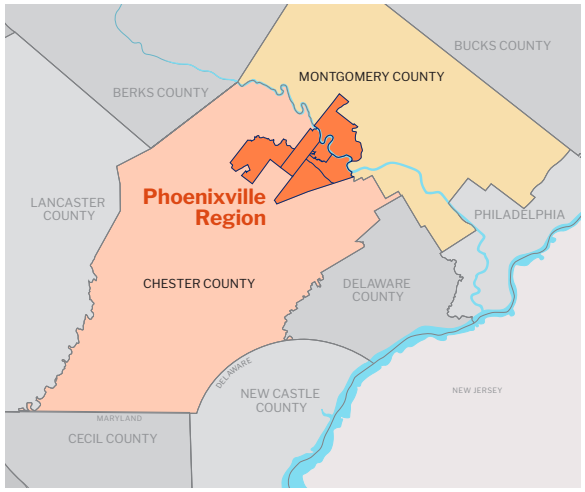
The Phoenixville Region is an area in Chester and Montgomery Counties currently experiencing a tremendous amount of growth. With an increasing population, the transportation infrastructure has been struggling to meet the travel demand. Mainly dominated by vehicle travel, the region could benefit from an enhanced system that features several modes of transportation to accommodate the residents of this booming region.

The purpose of this study is to identify areas of need surrounding multimodal transportation within the Phoenixville Region. Areas addressed within this plan include:

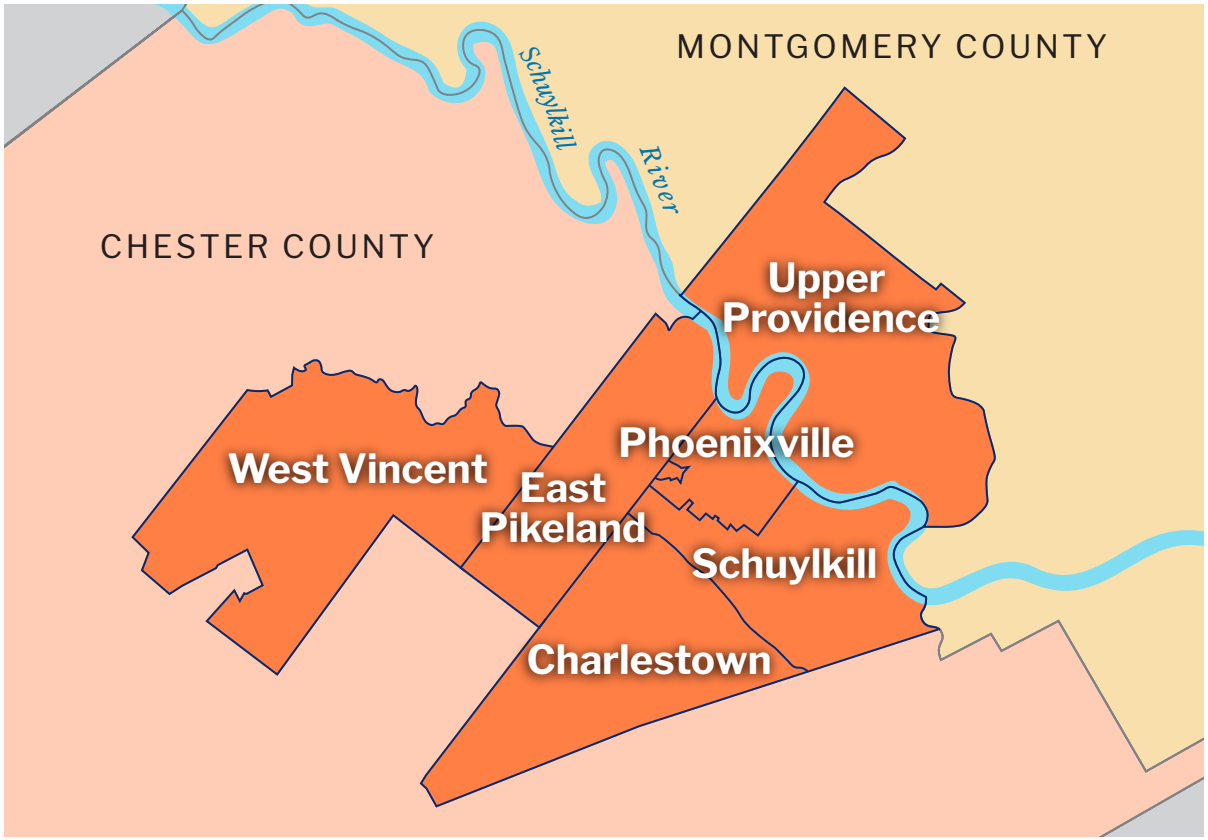
- Safety;
- Access for all users;
- Regional connections;
- Mobility within the growth center of Phoenixville Borough;
- Planning policies and programs;
- Promotion of walking and biking; and,
- Awareness.

The Phoenixville Region spans five municipalities in Chester County and one municipality in Montgomery County:

- Charlestown Township
- East Pikeland Township
- Phoenixville Borough
- Schuylkill Township
- West Vincent Township
- Upper Providence Township (Montgomery County)




## Study Area Map



This study identifies specific projects and initiatives for improving a diversified transportation network in the Phoenixville Region. The plan addresses safety, accessibility, and mobility issues for all users in the Phoenixville area through a comprehensive and collaborative planning approach. Roadways, trails, and public transit do not operate within the confines of single municipalities; rather they create vast networks and traverse large areas. By taking a regional approach to multimodal transportation, many of the projects identified in this study represent multi-municipal efforts to achieve a well-functioning multimodal system. Without understanding the system as a whole and identifying priority projects for the entire region, transportation options and accessibility will continue to underperform. By creating opportunities for multiple modes of transportation for the Phoenixville Region on a municipal and regional level, this study aims to help the entire system function at a higher capacity as growth continues.

The goal of the study is to identify priority projects through an open and public planning process. Implementing the projects identified will address the immediate multimodal needs of the Phoenixville Region. This study addresses existing conditions related to multimodal transportation movement throughout the region in order to identify gaps and needs for the region's connectivity.

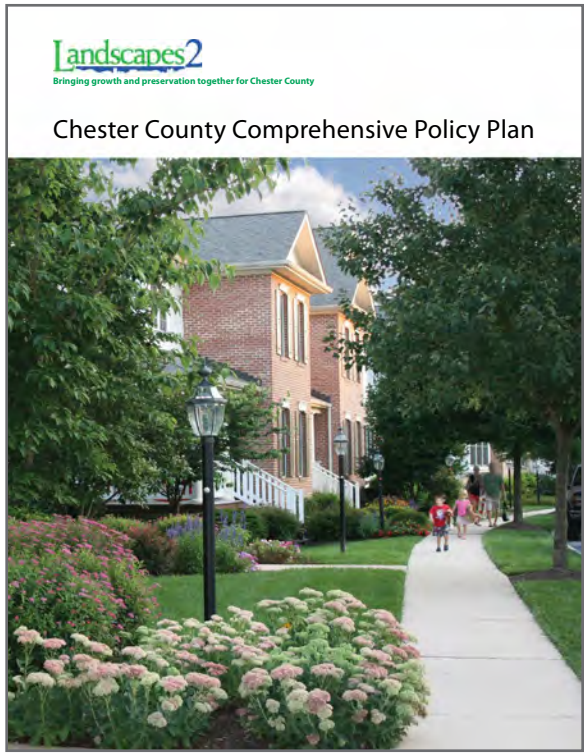
This study is intended to assist each of the region's municipalities in seeking funding to progress each project through further studies, engineering, or implementation; based upon the recommendations within. The Chester County Planning Commission was retained to serve as the project planner (throughout this report known as the "Planning Commission.")

*Aerial view of Phoenixville Borough, looking north. Source: Pictometry.*

# Chester County Planning Commission and Landscapes2

*"The mission of the Chester County Planning Commission is to provide future growth and preservation plans to citizens, so that they can enjoy a Chester County that is historic, green, mobile and prosperous."*

*Chester County Planning Commission Mission Statement*




The Chester County Planning Commission served as the project planner for this study.

The Planning Commission works in partnership with local municipalities, public transit providers, state agencies, and other planning partners to achieve this mission by implementing policies from *Landscapes2*, the Chester County Comprehensive Policy Plan.

The *Phoenixville Region Multimodal Study* focuses on four main objectives related to transportation in *Landscapes2*, and addresses them in the Phoenixville area.

**T1: System-wide**

Promote coordinated decisions that maximize system-wide benefits, link transportation and land use policies, and fulfill economic, environmental, and social objectives.

**T2: Non-motorized**

Provide a safe and functional non-motorized network that increases mobility and accessibility, reduces automotive dependency, and improves air quality.

**T3: Public Transportation**

Provide an affordable, reliable, and accessible public transportation network to offer mobility, encourage favorable land use patterns, sustain the environment, and alleviate congestion within designated growth areas

**T4: Roadways**

Provide a safe roadway network that ensures mobility and accessibility, protects its users, enhances the economy, minimizes the environmental impact, and encourages sustainable land use patterns.

*Source: Landscapes2—Chester County Comprehensive Policy Plan: Chapter 9: Planning for Transportation.*

# The Phoenixville Region

The region is home to about 64,000 residents and is a rapidly growing area, with population forecasts estimating just over 90,000 residents to live within the region by 2045.

Employment of residents in the region, according to the 2012-2016 American Community Survey (ACS), comprised 37,525 people in the labor force and according to the 2012 ACS, nearly 84% commuted to work via single occupancy vehicle. Having that many people commute alone each day results in major roadway congestion at peak hours, among other significant infrastructure and environmental implications. With projected population totals set to increase near 50% by the year 2045, solutions to multimodal transportation efficiency must be planned for now.

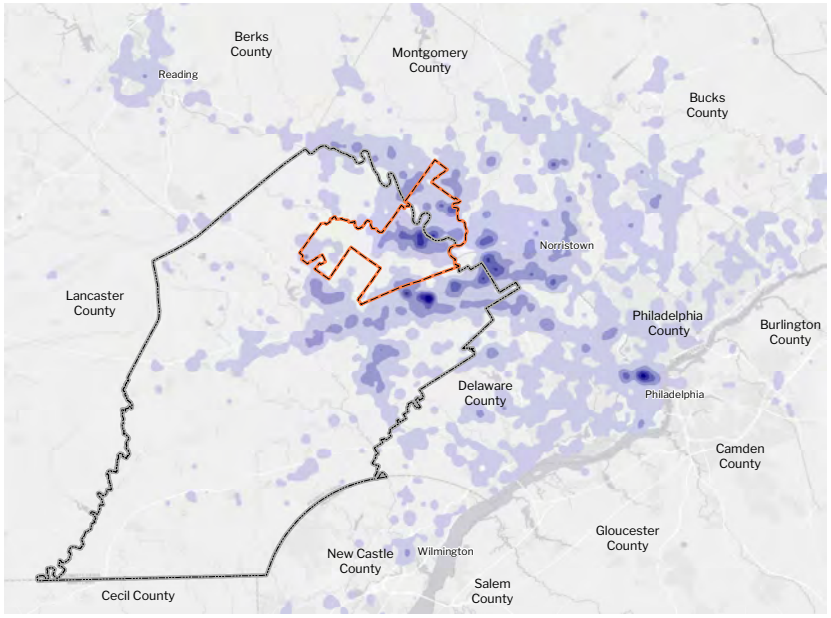
This study identifies both opportunities to enhance all forms of transportation such as bicycling, walking, and public transit while also exploring opportunities to provide roadway improvements to make the everyday experience easier for all of the region's residents.

**Home**

Jobs per square mile

5

1,200+



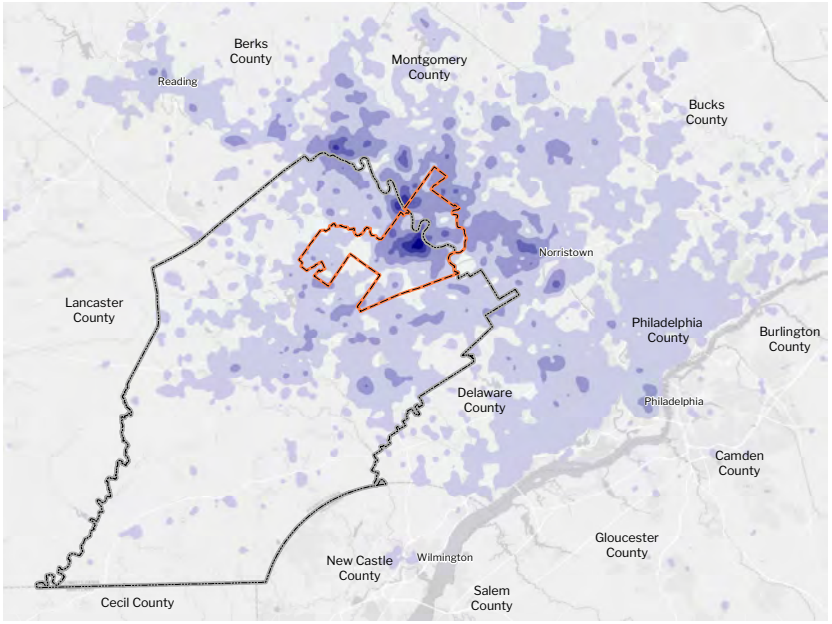

***Home:*** *The shaded blue areas in this map indicate where people who live within the study area travel to for employment. Source: U.S. Census Bureau (https://onthemap.ces.census.gov).*

**Work**

Jobs per square mile

5

500+




***Work:*** *The shaded blue areas in this map indicate where people reside who work within the study area. Source: U.S. Census Bureau (https://onthemap.ces.census.gov).*

## Labor Force

| Municipality | Population in Labor Force | Residents Working in Home Municipality |
|---|---|---|
| Charlestown Township | 3,124 | 250 |
| East Pikeland Township | 4,364 | 400 |
| Phoenixville Borough | 10,308 | 1,580 |
| Schuylkill Township | 4,653 | 415 |
| West Vincent Township | 2,690 | 375 |
| Upper Providence Township | 12,404 | 1,710 |
| Region Total | 37,543 | 4,730 |

*Source: 2012–2016 American Community Survey, U.S. Census Bureau (2010 CTPP P3).*

## Projected Population

| Municipality | 2010 Population | 2045 Population Projection | Absolute Change (2015-2045) | Percent Change (2015-2045) |
|---|---|---|---|---|
| Charlestown | 5,671 | 8,336 | 2,646 | 46.50% |
| East Pikeland | 7,079 | 10,344 | 2,985 | 40.56% |
| Phoenixville | 16,440 | 25,710 | 9,052 | 54.34% |
| Schuylkill | 8,516 | 10,376 | 1,800 | 20.99% |
| West Vincent | 4,567 | 6,040 | 1,002 | 19.89% |
| Upper Providence | 21,219 | 29,510 | 6,050 | 25.79% |
| Region Total | 63,492 | 90,316 | 23,535 | **42.25%** |

*Source: 2010 Population—US Census Data; 2045 Population Projection—DVRPC.*

# Mission and Vision for the Phoenixville Region Multimodal Study

A steering committee consisting of various municipal and planning partner representatives identified a mission and a vision statement that guided the development of recommendations made by the Study.

*Aerial view of the French Creek in East Pikeland Township. Source: Pictometry.*

*Mission:*
*Create a safer, more efficient, equitable transportation network in the Phoenixville region.*

*Vision:*
*A transportation network in the Phoenixville region that supports a dynamic, active, and prosperous community by providing access to any mode choice or destination for all users regardless of age or ability*

# Public Involvement Summary

The goal of the Phoenixville Region Multimodal Transportation Study was to make sure that the region's local government and citizens were as involved in the process as possible.

In order to accomplish this goal, the study included four elements of public outreach:

- Public Meetings (2);
- Project Steering Committee Meetings (4);
- Stakeholder Interviews; and,
- Project Website and Social Media www.chescoplanning.org/transportation/phoenixvilleregion.cfm


*Outreach and interactive meeting materials.*

## Public Meetings

Two public meetings were held during the planning process. The first was held in May of 2017 at the Colonial Theater in downtown Phoenixville Borough. About 60 community members participated in a workshop designed to highlight transportation issues within the region in order to help the project team identify major transportation priorities. From this meeting, 26 recommended projects were identified. The recommendations identified were taken back to the Steering Committee and ranked to form 13 priority projects for the region.

The second public meeting was held in February of 2018 at the Technical College High School: Pickering Campus in Schuylkill Township. The purpose of the open house style meeting, which hosted about 40 attendees, was to introduce the 13 priority projects identified by the Steering Committee. Additionally, an update on the final project schedule and plan availability was shared. A formal presentation took place during the evening with a public comment opportunity which garnered final feedback on project recommendations found within this plan. Overall, the 13 priority projects were viewed favorably by the public, again confirming the study's goal of making improvement recommendations for the region's highest priority multimodal projects.

*May 2017 public meeting.*

*February 2018 public meeting.*

## Project Steering Committee

The Project Steering Committee was made up of representatives from all six of the study area municipalities, Montgomery County Planning Commission, and several key community organizations, including:

- Delaware Valley Regional Planning Commission (DVRPC);
- Pennsylvania Department of Transportation—District 6-0 (PennDOT);
- Southeastern Pennsylvania Transportation Authority (SEPTA);
- Transportation Management Association of Chester County (TMACC); and,
- Greater Valley Forge Transportation Management Association (GVFTMA).

Steering Committee members participated in four meetings highlighting the four stages of the project: initiation and vision, priority project selection, draft priority project and plan review, and final plan review. Feedback from the Steering Committee influenced the plan direction, as the recommendations coming out of the plan directly impact each member's various constituencies.

The major task for Steering Committee members for this study was to identify the region's priority multimodal projects from a compilation of 26 projects identified by the general public. Members ranked all 26 projects and from that ranking, the thirteen priority projects addressed in this study were identified. The priority projects make up the core of this study and, with at least one in each municipality, should be the initial focus of improvements to multimodal transportation within the region.

## Stakeholder Interviews

In addition to the Steering Committee, the Planning Commission identified key stakeholders within the region to conduct additional follow-up. Each municipality met individually with the Planning Commission to review specific municipal multimodal transportation goals and priorities. The meetings included a discussion on land use regulations and development that may have an impact on current and future transportation needs for the municipality. The information received from each meeting helped formulate both overall recommendations and priority project recommendations found within this plan.

In a later chapter, multimodal transportation recommendations for schools and institutions are discussed. To better understand the movements of school children throughout the region, all four public school districts within the region were surveyed:

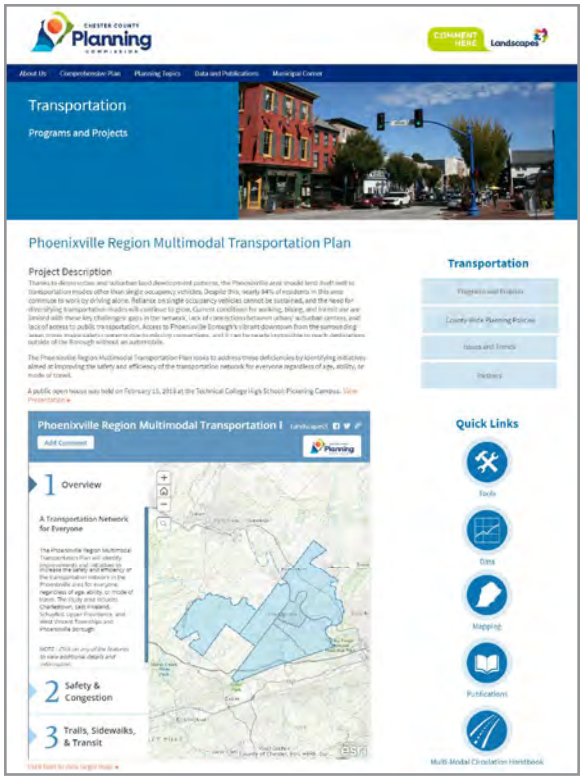
- Owen J. Roberts School District
- Phoenixville Area School District
- Spring-Ford Area School District
- Great Valley School District

The survey questions included how students are arriving at school; district plans for capital improvements that may have an impact on transportation; and the school district promotion of walking and biking, including amenities and level of emphasis on living active, healthy lifestyles. Responses were tabulated and featured later on in this plan, along with recommendations compiled from the results.

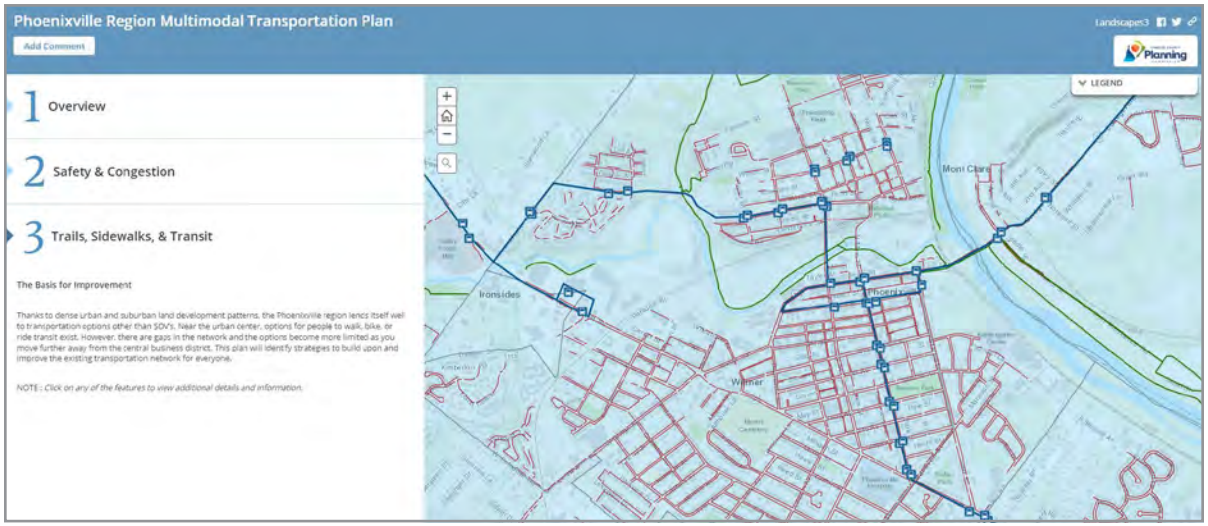

*Spring-Ford Area Senior High School.*

## Project Website and Social Media

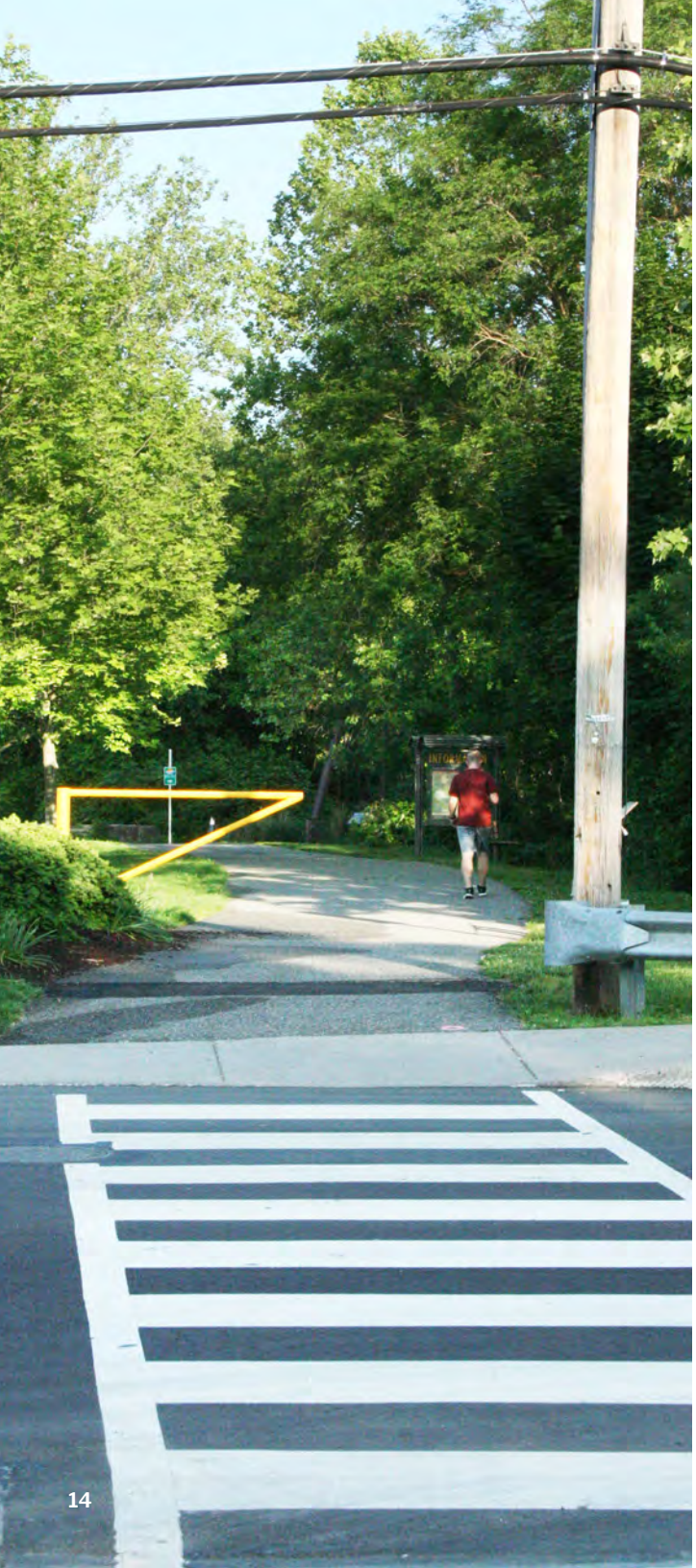
In an effort to keep the public up-to-date with plan information, an online project website was created. A description of the plan and important events, including each of the public meetings, were hosted on the page. A project story map was created and featured on the site. This map oriented users visually to the region and highlights some of the major themes focused on in this plan including safety and congestion and trails, sidewalks, and transit. In order to reach a broader audience, various social media tools were used throughout the project to announce public meeting dates, share the project website, and keep the public updated as the project progressed. The website received over 1,500 visits during the duration of the project.




*A story map is a visual representation of places, ideas, and images. User-friendly, a story map allows a concept to be displayed through interactive elements, all based upon location.*




*Interactive story map featuring trails, sidewalks, and transit. Note the opportunity for the public to add comments (top left).*
*www.chescoplanning.org/transportation/PhoenixvilleRegion.cfm*



# 2: Existing Conditions

This chapter reviews existing multimodal connectivity throughout the Phoenixville Region. It includes a review of previous multimodal plans and studies and an analysis of how the current system is functioning helped to formulate the recommendations found in this report.

# Existing Conditions and Identified Issues

The following maps and narrative descriptions review current multimodal movements within the region, using five overarching categories:

- Sidewalks
- Trails
- On-road bicycling
- Public transit
- Roadways

Through the use of GIS mapping, gaps and potential areas for improvement are visually identified.

*Traffic on PA 401 moving through the intersection with Valley Hill Road.*

*Bicyclist on Charlestown Road.*


*SEPTA bus route 139.*


*Pickering Trail entrance.*


*Where the sidewalk ends.*

The study area can be described by three defining features:

- **Urban** landscape in and surrounding Phoenixville Borough.
- **Suburban** areas surrounding the urban core.
- **Rural/natural** areas on the periphery.

Understanding the diversity of the study area was crucial in developing strategies to link the various multimodal networks within the region and this section strives to identify recommendations that preserve the character of each municipality while also enhancing all modes of transportation for all users.

# Previous Plans and Studies

Several plans and studies that focus on multimodal movement have been written throughout the region. Reviewing and understanding recommendations from existing publications is critical to ensure that the priority projects identified in this study are in line with regional multimodal planning.

| Study | Summary | Important for this Report |
|---|---|---|
| **Freedom Trail Study** | The Freedom Trail Study identified alternatives for a trail that would traverse Schuylkill Township, connecting the Borough of Phoenixville to Valley Forge National Historic Park on the south side of the Schuylkill River. | The Freedom Trail alignment, while not a priority project within this study, supports the overall objective of creating meaningful multimodal connection through the region. |
| **Devault Trail Study** | The Devault Trail Study assessed the feasibility of creating a trail on the Norfolk Southern-owned line running between Phoenixville and Devault. The study identified three potential alignments, eventually naming “Alignment B”, as the preferred alignment. | The Devault Trail could be a major regional connection for multimodal travel to and from Phoenixville and the Great Valley. |
| **Schuylkill Sidewalk Study** | The Schuylkill Sidewalk Study focused on identifying the addition of sidewalks to existing developments with the goal of allowing residents to access Phoenixville Borough. The system of sidewalks begins at the borough / township line at Nutt Road and spans out into existing developments within that transportation corridor. | Pedestrian connections are always critical to multimodal choice. A priority project found later in this report runs along Nutt Road and incorporates some of the Schuylkill Sidewalk Study recommendations for sidewalks in and around Valley Road, which would continue into the township via both Valley and Kleyona Roads. |
| **West Vincent Township Multimodal Study** | The West Vincent Township Multimodal Study sought to create recommendations for multimodal movements throughout the township. The study included capital costs and ordinance updates for the township to begin implementing multimodal facilities such as bike lanes, crosswalks, transit strategies, traffic calming strategies, and trail connections. | Principles discussed in the West Vincent Township Multimodal Study are supported in this plan. Pedestrian movement through Ludwig’s Corner is a priority for the township and is later identified in this study as a priority project. Several trail network links were identified that should be implemented, as these trails will serve to complete some of the Phoenixville Region’s western most trail connectivity gaps. |

| Study | Summary | Important for this Report |
|---|---|---|
| **East Pikeland Township Proposed Trail Map** | East Pikeland Township currently has a vast trail system network planned that will provide key linkages throughout the township. | East Pikeland Township can serve as a gateway to and through the region through its trail network. The township's ambitious series of planned trails will help make key connections happen within the region, including connecting the French Creek Trail into neighboring Phoenixville Borough and East Vincent Township. Priority trails within this township should continue to be considered for further study and implementation. |
| **Phoenixville Region Trail Map** | The Regional Trail Map is currently in development by the Phoenixville Regional Planning Committee (PRPC). Many of the trails highlighted in this report are featured on this map as current and proposed trails. | A single map that displays all trails available within the region is a critical educational tool. The addition of proposed trails on the map serves to highlight the region's potential to have a major trail network and support the construction of trials as an alternative means of transportation. |
| **Upper Providence Township Proposed Trail and Sidewalk Network** | Upper Providence has created a Trail and Sidewalk Plan for the township. The trail links within the township are prioritized as low, medium, and high priorities. Priority sidewalk locations are identified, calling out locations via land development that would require a sidewalk. Additionally, many of these trails are displayed on the township's Official Map. | Several of the proposed trails and sidewalk network directly link to other trails and areas within the region, creating a region-wide enhancement to the pedestrian environment. A trail is proposed along Route 29 that would link into several of the proposed trails in the Upper Providence Township Park, Open Space and Trail Master Plan. |

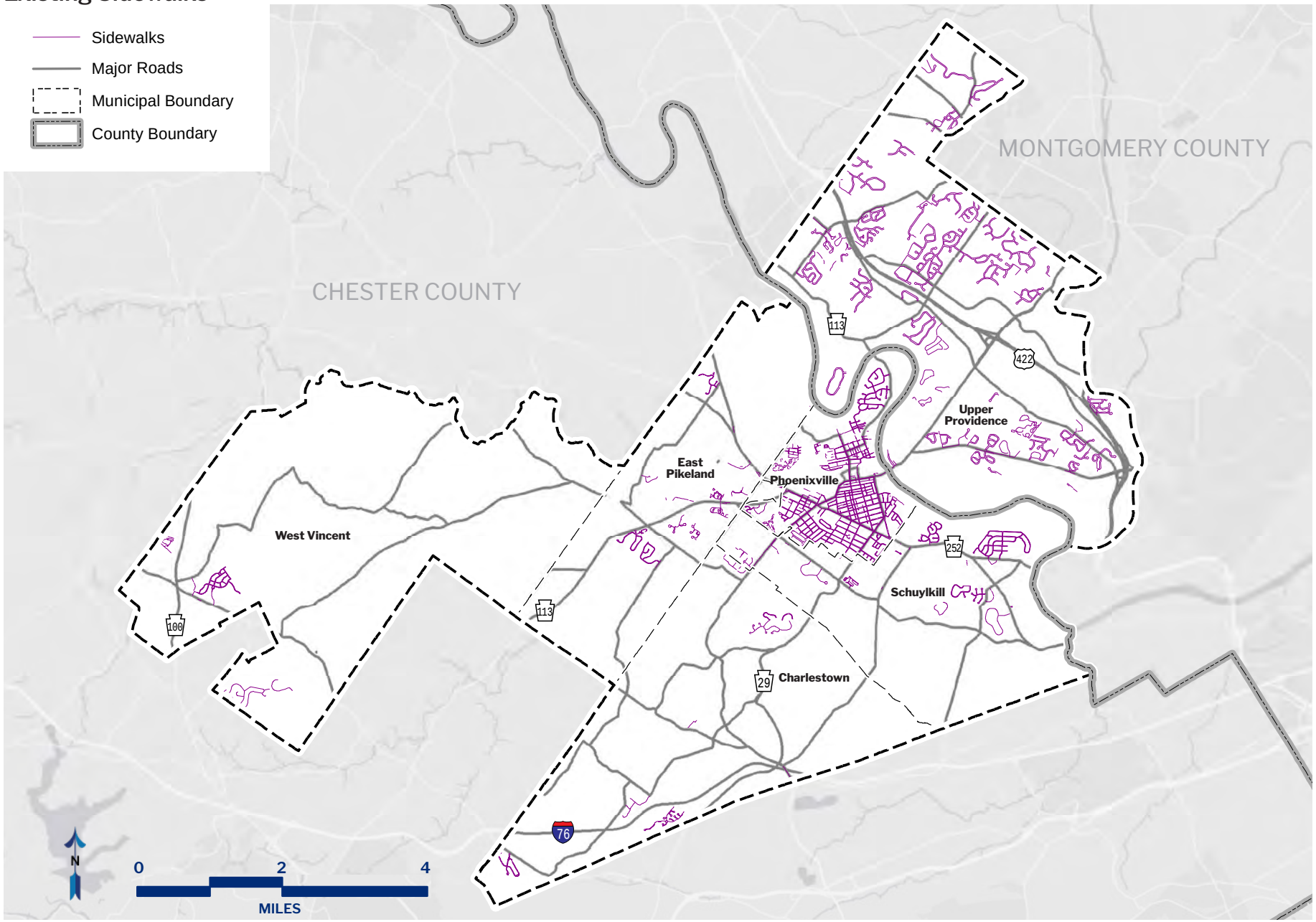
# Pedestrian Network

## Sidewalks

The sidewalk network within the region is as diversified as the region itself. Phoenixville Borough and the village of Mont Clare across the Schuylkill River are historic towns with land use patterns and infrastructure that were designed to serve a walking population. Short walking distances and generally good sidewalk connectivity are hallmarks of this part of the study area. Many of the older suburban areas immediately adjacent to the urban core also have sidewalks, but the walking distances tend to be longer in these areas. The suburban neighborhoods that were built in the second half of the twentieth century tended to forgo sidewalk connectivity. However, that trend has gradually subsided with newer residential development in the study area. These development patterns have led to a "sidewalk island" effect; newer neighborhoods with sidewalks surrounded by older neighborhoods without sidewalks. The rural areas of the region tend to have very limited pedestrian connectivity, which is appropriate for this land use type.

*Sidewalk on Charlestown Road in Schuylkill Township.*

## Existing Sidewalks




*Source: Chester County, Montgomery County, Upper Providence Township.*

## Trail Connectivity

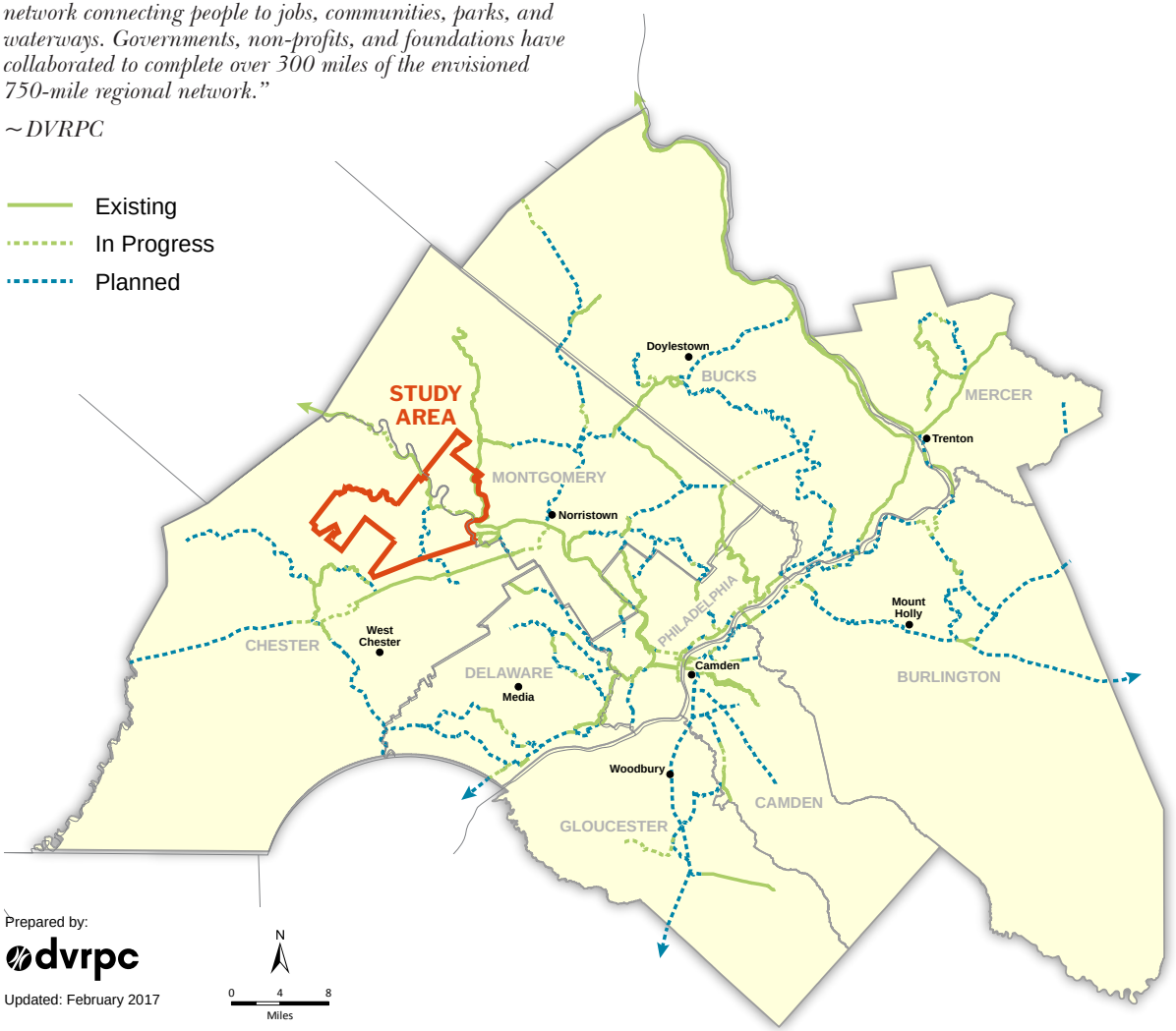
The region benefits from having two existing Circuit Trails right in its backyard. The existing Schuylkill River Trail (SRT) stretches 30 miles from Parkerford, just north of the study area, all the way to Center City Philadelphia. Eventually, the SRT will link from Reading all the way into Philadelphia once a few key gaps are connected north of the region. It passes through downtown Phoenixville, and there are four trailheads in the study area (Cromby, Phoenixville, Port Providence, and Pawlings Road). The Perkiomen Trail meets the Schuylkill River Trail in Oaks and travels 19 miles north to Green Lane Park.

Several municipalities have vast trail network planning initiatives to continue to increase connectivity and address regional gaps in trails. The Devault and French Creek Trails will complete connectivity for the region to major employment and commercial centers. The Freedom Trail will provide a major connection for the eastern portion of the region, and the trails planned within West Vincent Township are proposed to address gaps in the western portion of the region.

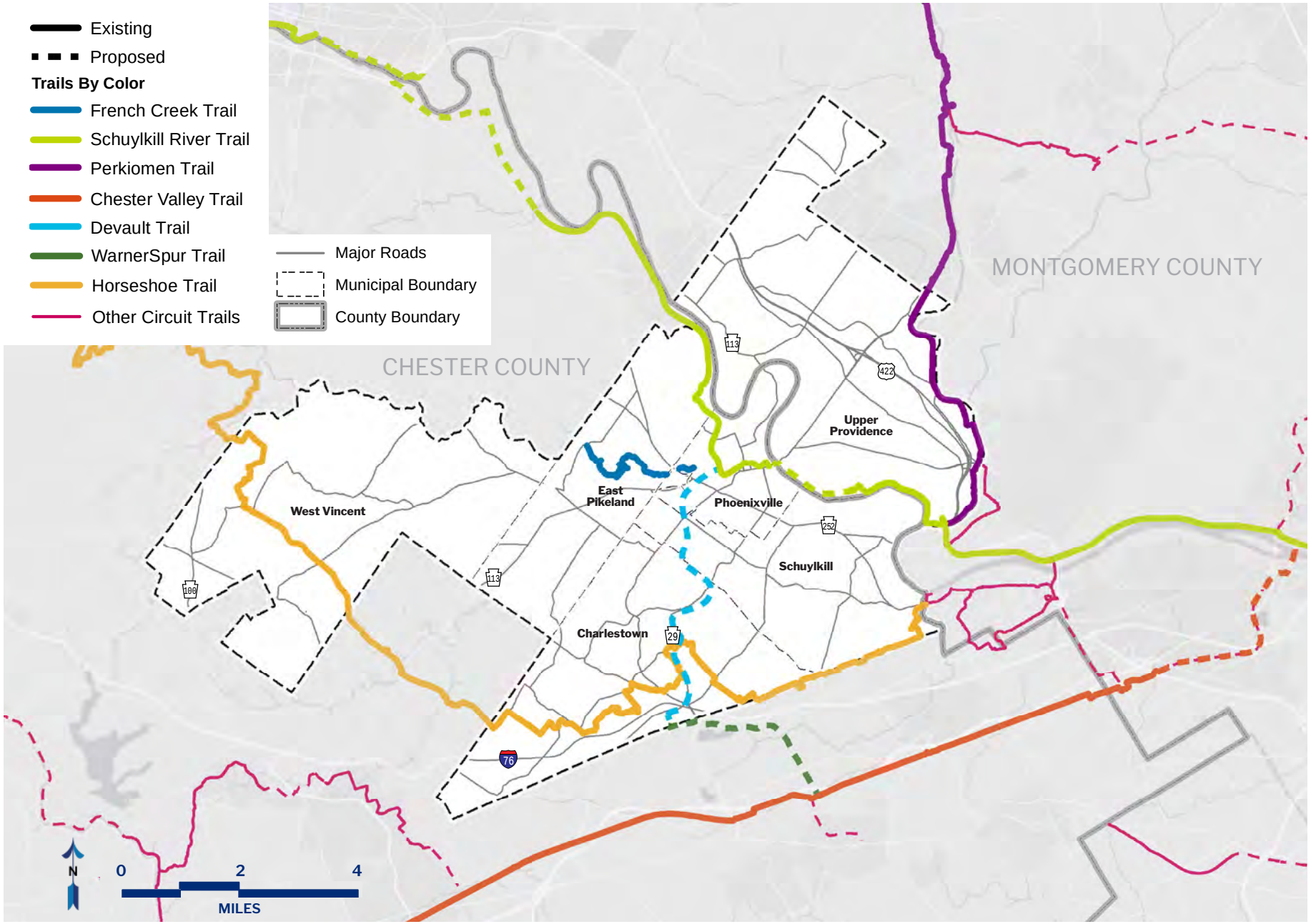
### Circuit Trails

*"The Circuit is Greater Philadelphia's multi–use trail network connecting people to jobs, communities, parks, and waterways. Governments, non-profits, and foundations have collaborated to complete over 300 miles of the envisioned 750-mile regional network."*

*~DVRPC*



## Major Regional Trails




*Source: DVRPC.*

# Roadway Network

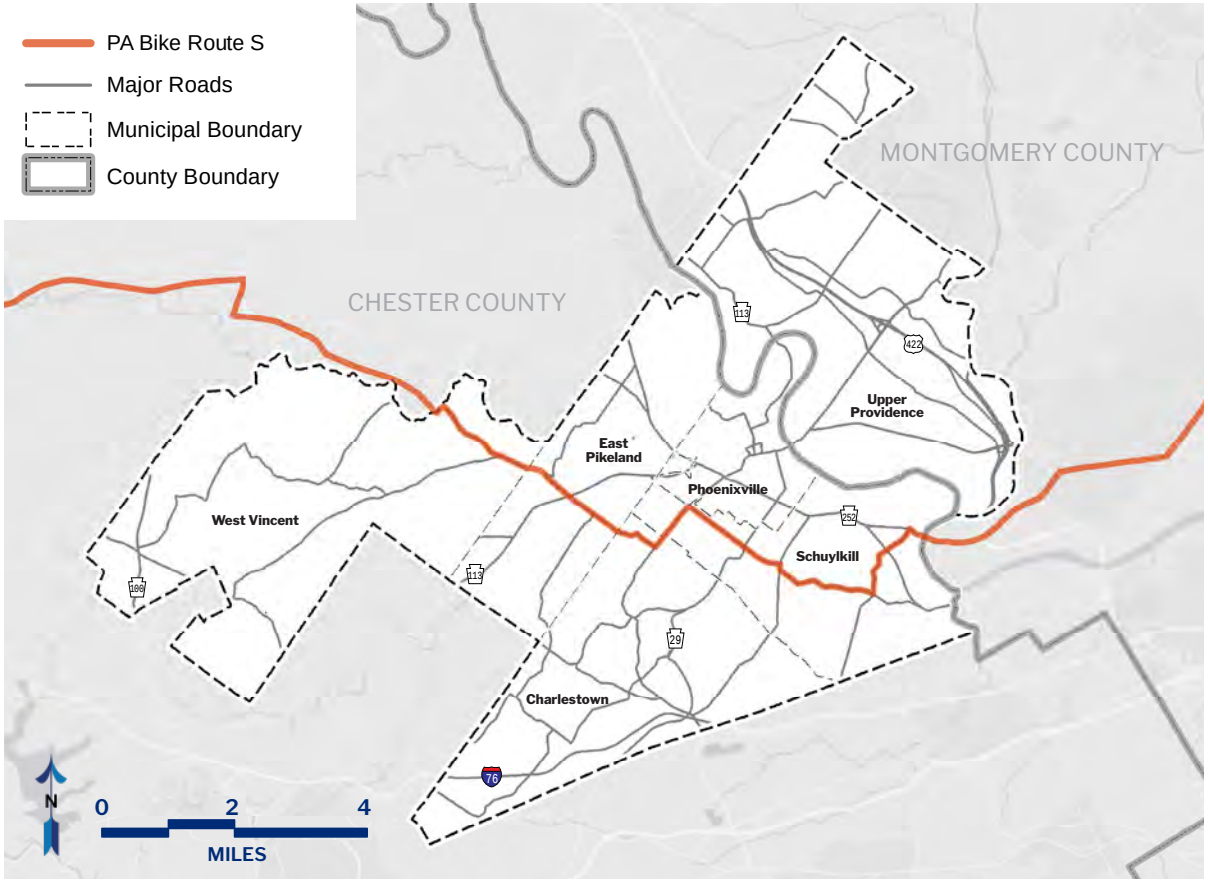
Many roadways within the Phoenixville Region are used by the casual bicycle rider. DVRPC has created a tool that allows for a quantitative look at “Low Stress” roadways in the study area. In analyzing the level of comfort, as seen in the map on page 23, roads that are colored green have fairly low stress volumes and comprise most of the region. As expected, many of the region’s main thoroughfares are not considered low stress at this time. However, with the inclusion of on-road bicycle facilities, perhaps these roads can become more accessible to multiple modes of transportation including on-road cycling, as there is plenty of opportunity to build upon the existing infrastructure.

## On-Road Cycling

One of the main on-road cycling elements found within the region is the Pennsylvania Bike Route ’S‘. This bike route is one of only two designated state bike routes within the entirety of Chester County. Bike Route ‘S’ travels from west to east across the entire state of Pennsylvania, beginning in Washington County and ending in Bucks County. Bike Route S enters the region in West Vincent Township and travels across East Pikeland, Charlestown, and Schuylkill Townships where it leaves Chester County, as seen in the map to the right. There have been some safety concerns expressed about Route S and it is intended for use by advanced cyclists only.

Aside from the designated bike route, the region is used for on-road cycling by avid cyclists and those that rely on a bicycle as their primary mode of transportation. For most novice and moderate cyclists, the main roadway system throughout the region may be daunting, as riders face on-road barriers such as traffic congestion, speeding vehicles, and generally limited facilities.

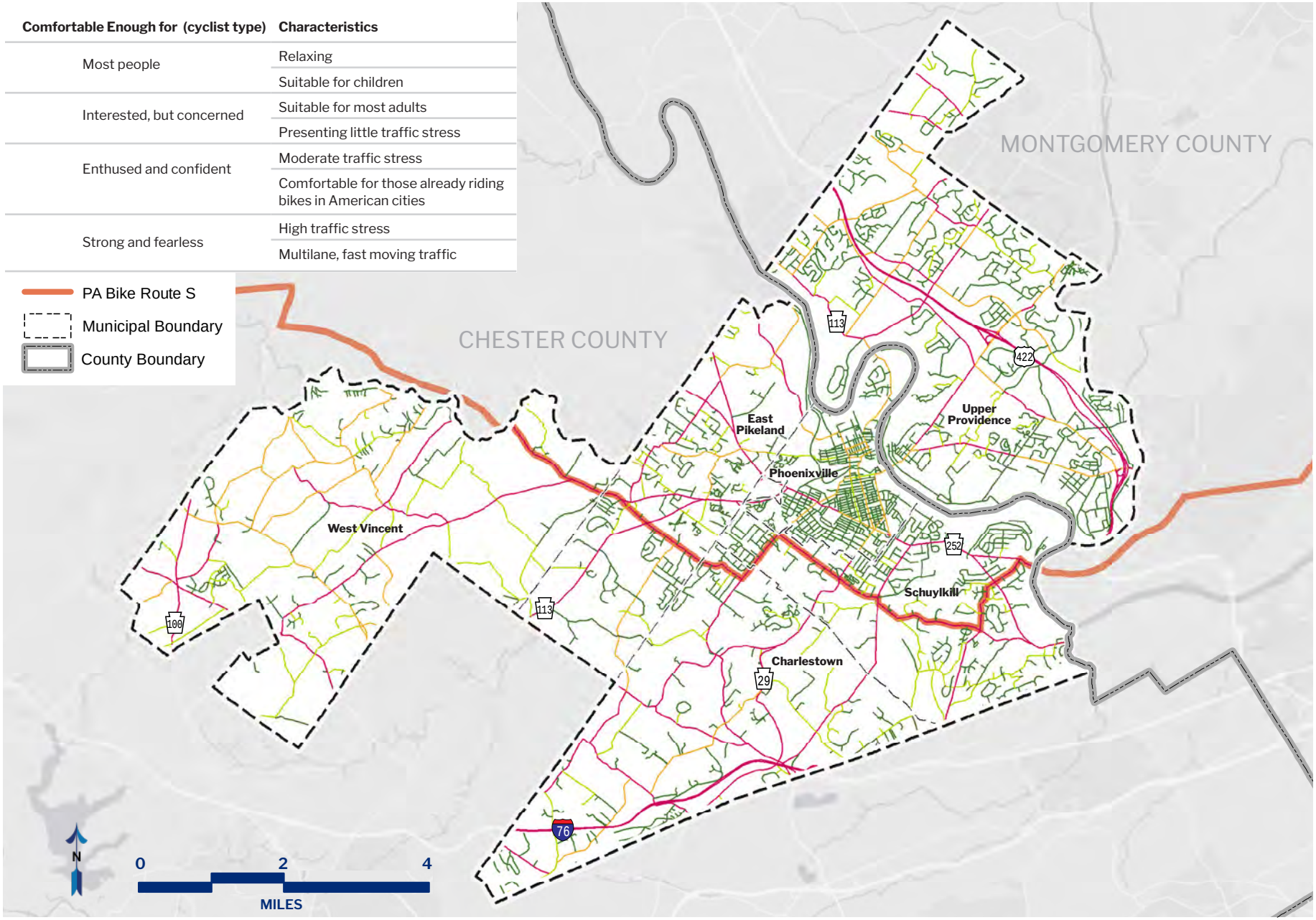
### PA Bicycle Route S




*Source: PennDOT*

## Bike Stress Mapping

| Comfortable Enough for (cyclist type) | Characteristics |
|---|---|
| Most people | Relaxing |
| | Suitable for children |
| Interested, but concerned | Suitable for most adults |
| | Presenting little traffic stress |
| Enthused and confident | Moderate traffic stress |
| | Comfortable for those already riding bikes in American cities |
| Strong and fearless | High traffic stress |
| | Multilane, fast moving traffic |




*Source: DVRPC Bike Stress Mapping (https://dvrpc.org/webmaps/BikeStress/).*

# Public Transportation

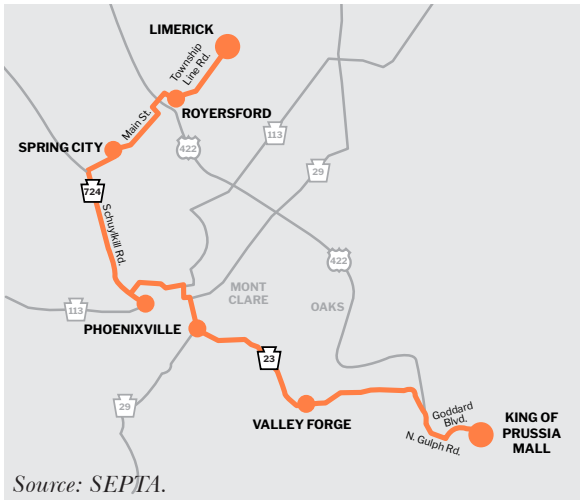
## Bus

The Phoenixville Region is served by four SEPTA bus routes

*Source: SEPTA.*

### Route 93: Pottstown to Norristown Transportation Center

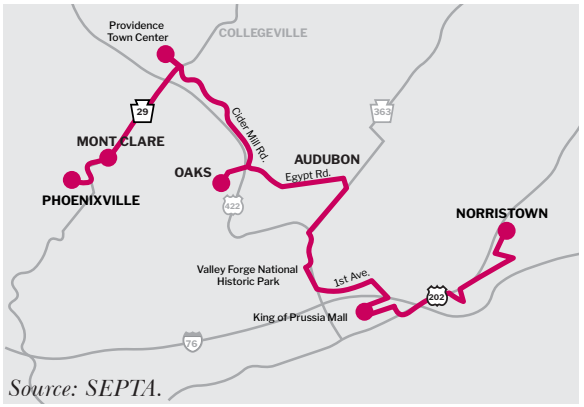
The route makes 27 trips a day between Pottstown and the Norristown Transportation Center and 25 trips from the Norristown Transportation Center to Pottstown. Only one municipality in the region, Upper Providence Township, is served by this route with a bus stop on the township line at Ridge Pike and Township Line Road. The line runs from 4:30 AM to 11:45 PM and runs approximately once every 35–40 minutes.



*Source: SEPTA.*

### Route 139: King of Prussia Mall to Ridge Pike and Township Line Road

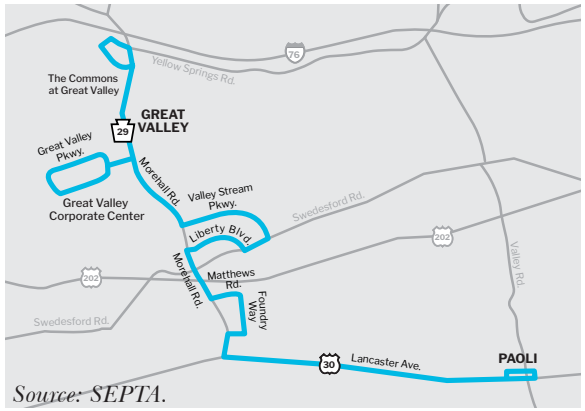
The route makes 15 trips a day between the King of Prussia Mall transit center to Ridge Pike and Township Line Road and 17 trips from Ridge Pike and Township Line Road to the King of Prussia area, a major hub of employment and entertainment for the surrounding region featuring a variety of office, retail, and restaurant uses. The line runs from approximately 5:30 AM to 11:15 PM each day and arrives at each destination roughly every hour between those times.



*Source: SEPTA.*

### Route 99: Norristown Transportation Center to Church and Main Street, Phoenixville

Originating in downtown Phoenixville, this route travels to the Norristown Transportation Center (NTC) where riders can connect with several other bus services, the Manayunk / Norristown Regional Rail Line that travels into Philadelphia or the Norristown High Speed Line that takes passengers to the major transportation hub at 69th Street Transportation Center in Upper Darby, Delaware County. Route 99 operates from approximately 6:00 AM to 11:30 PM. There are 21 trips from NTC to Phoenixville and 20 trips from Phoenixville to NTC on weekdays. There are 16 trips from NTC to Phoenixville and 17 trips from Phoenixville to NTC on Saturdays. There are 17 trips from NTC to Phoenixville and 16 trips from Phoenixville to NTC on Sundays.




*Source: SEPTA.*

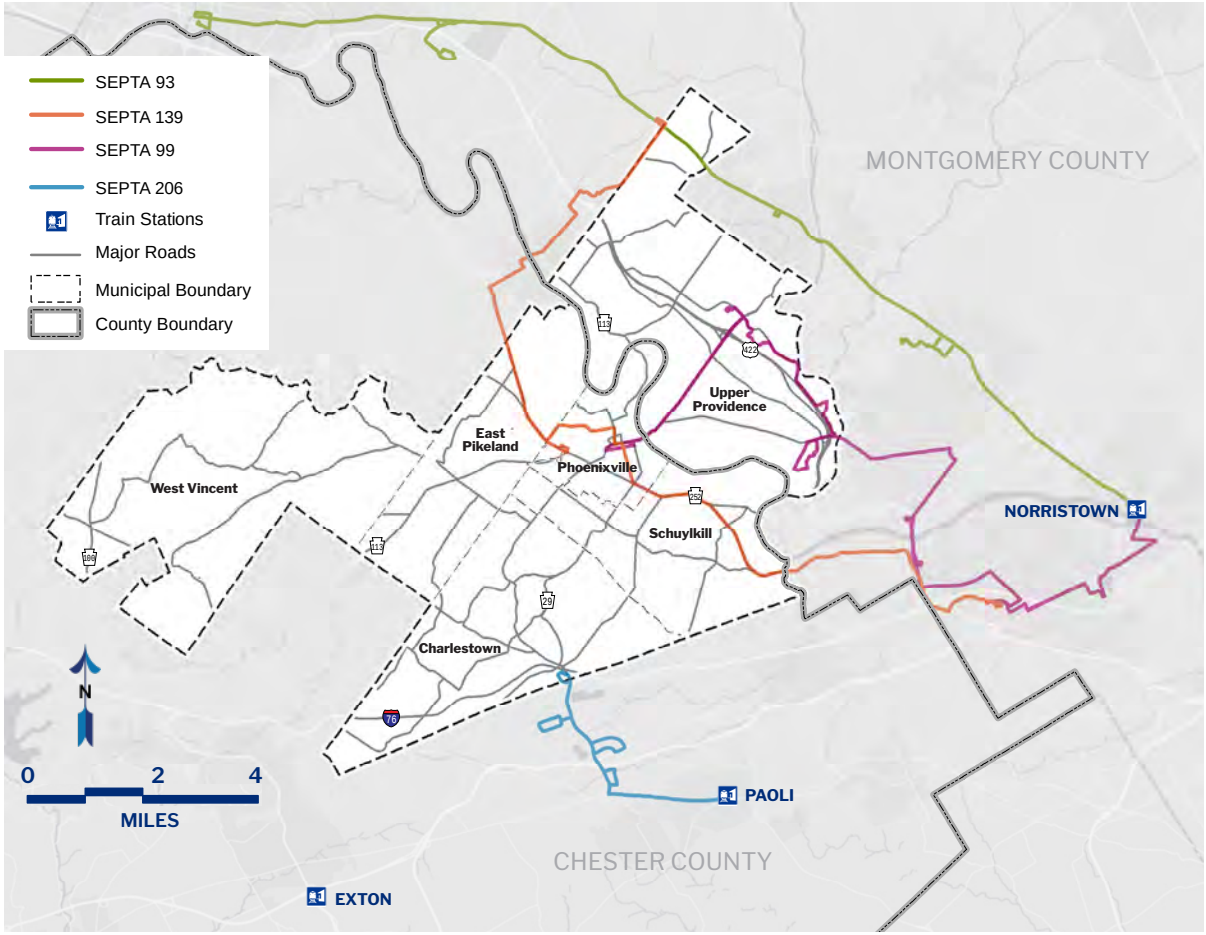
### Route 206: Great Valley Corporate Center to Paoli Station

This route begins at the Commons at Great Valley in Charlestown Township and ends at the Paoli Train Station. While only going into Charlestown Township within the region, this is a route that can connect residents to the Paoli Train Station, which serves the connections to the SEPTA Regional Rail Paoli Thorndale Line and Amtrak's Keystone Corridor. The route only runs from the Paoli Station to the Commons at Great Valley during the morning from 6:29 AM and 11:00 AM and runs from the Commons at Great Valley to Paoli Station only for the evening commute between 3:00 PM and 6:00 PM.

## Rail

The closest train stations are Exton, Paoli, and Norristown, depending on the location within the study area. However, travel times to those stations can be 30 minutes or more by vehicle. SEPTA is undergoing a large feasibility study to extend its Norristown High Speed Rail into King of Prussia. This connection would be the closest rail line to much of the region and would carry passengers from King of Prussia to SEPTA's 69th Street Station, with connections into Philadelphia.

### Bus Routes and Train Stations




*Source: SEPTA.*

## Motor Vehicle Movements

Much of the study area depends heavily on a few major roadways for everything from daily commutes to running errands, as seen by the significant Average Daily Traffic numbers displayed on the map on page 27. US 422 is a limited access expressway that parallels the Schuylkill River and bisects Upper Providence Township. Starting in the north, PA 29 traverses four of the six municipalities in the study area, Upper Providence Township, Phoenixville Borough, Schuylkill Township, and Charlestown Township. PA 29 serves employment centers in Upper Providence, Phoenixville Borough's downtown, and the Great Valley Corporate Park. It also provides a vital connection between US 422 in the north and I-76 / US 202 just south of the study area. PA 23 provides an alternative to US 422, connecting the study area to King of Prussia and Valley Forge on the southern side of the Schuylkill River. PA 113 passes through all but Charlestown and West Vincent Townships as it connects Trappe Borough in Montgomery County (just north) to Downingtown. In the far western and southern parts of the study area, PA 100 and PA 401 connect Ludwig's Corner with Pottstown to the north, Exton to the south, and PA 401 passes through Charlestown Township on its way to Malvern.

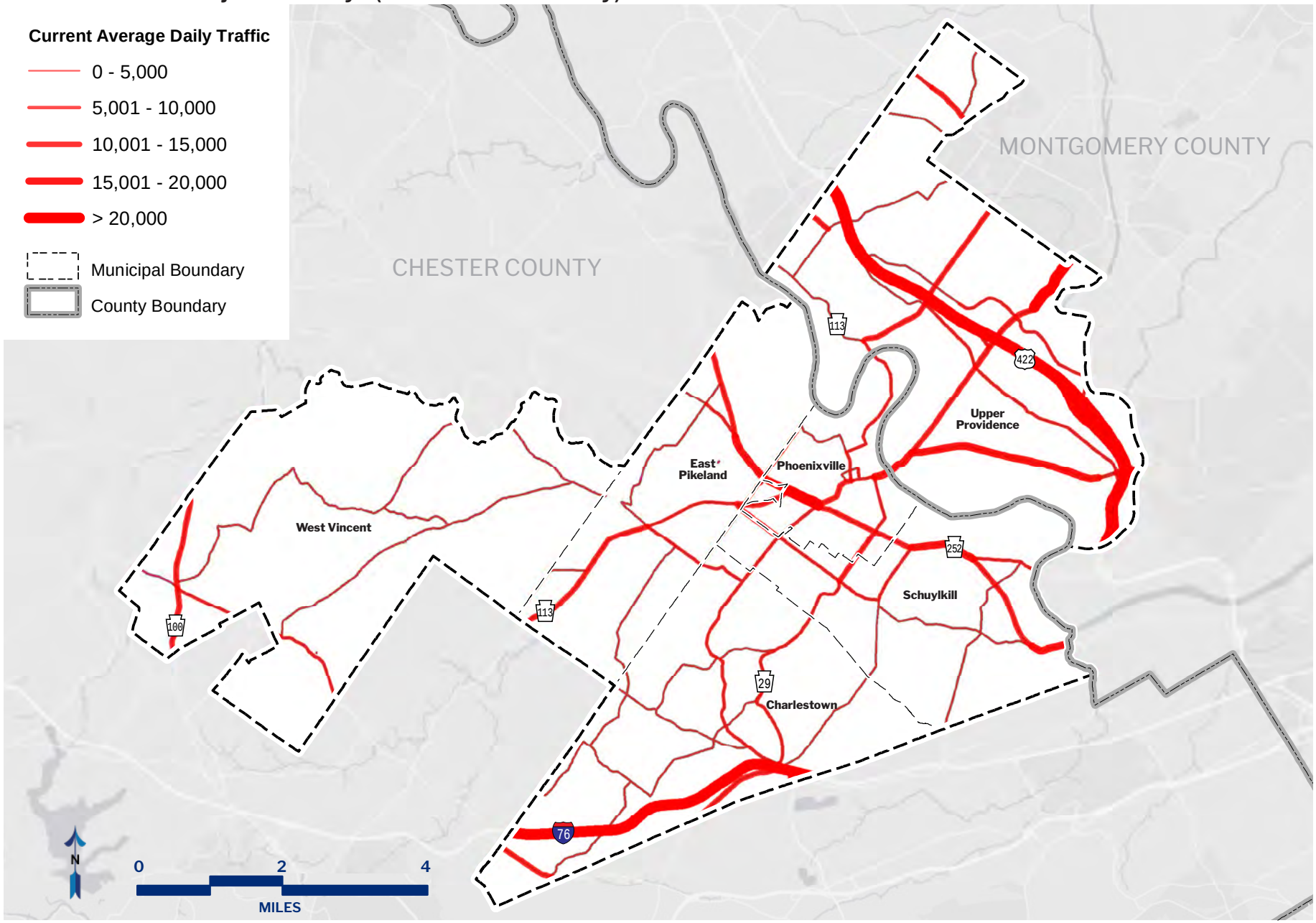
US 422 carries a significant amount of traffic, with a majority of vehicles originating further north traveling to destinations such as King of Prussia and Philadelphia. It is not uncommon for congestion to begin at or near the Egypt Road interchange and continue much of the length of the roadway south towards Philadelphia. US 422 is a major commuter connection for the region to key employment locations.

Many of the region's crash locations, occur within priority project locations identified later in this study. Of note, PA 23 through Phoenixville Borough, East Pikeland Township, and Schuylkill Township near the borough and township line contain a high concentration of the region's crash locations. This study focuses on crash locations with the intent of increasing functionality of existing infrastructure while also encouraging more multimodal uses. By reducing individual vehicles on the road through the promotion of public transportation, pedestrian movement, and bicycling the region would hope to reduce the number of crashes.

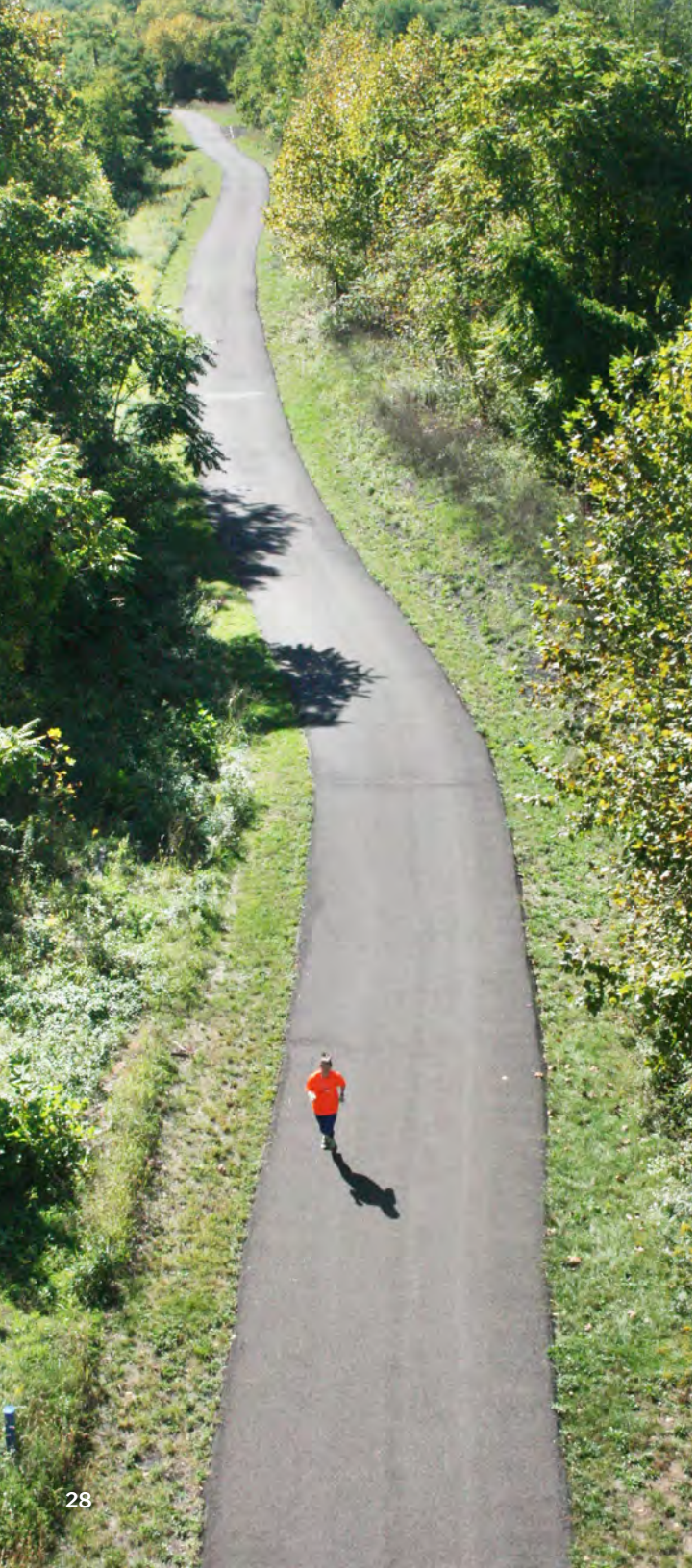
# Summary of Existing Conditions

There are many opportunities to build upon existing conditions to enhance mulitmodal opportunities. Major roadway congestion and missing critical public transportation, bicycle, and pedestrian links are current constraints that can be improved upon. Understanding the gaps in the region's multimodal network through a comprehensive review of existing conditions made the improvements for the priority projects within this study better reflect the needs of the entire multimodal system.

## Traffic Volume — Major Roadways (PennDOT Roads Only)




*Source: PennDOT.*



# 3: Network Recommendations

# Facility Types

The following network recommendations are based in part on information gathered from previous plans in the region, the public, and key stakeholders. Improvement recommendations each fall into one of five multimodal categories:

- Pedestrian
- Trails
- On-road bicycling
- Transit
- Roadway

The color next to each facility type is associated with the facility type throughout this chapter, in renderings and text, to correlate the multimodal improvement to the type of facility that is being enhanced. This chapter first looks at each of the facility types and offers general recommendations for each. Then, the 26 regional priorities are identified followed by the 13 specific priority project recommendations.


*Schuylkill River Trail Cromby Trailhead in East Pikeland.*

*The following network recommendations are based in part on information gathered from previous plans in the region, the public, and key stakeholders.*

## Pedestrian Facilities

Priority projects involve a variety of pedestrian facilities recommendations. The key function of pedestrian facilities is to provide a safe walking experience for users by separating users from vehicular traffic. The following facilities are recommended throughout this chapter:

1. Crosswalks and pedestrian signals with countdown timers
2. Americans with Disabilities Act (ADA) curb ramps
3. Sidewalks

In order to achieve a safe walking experience that will encourage walking, municipalities should evaluate each intersection to include all three of these pedestrian facilities. When going through the land development process or any roadway improvements, municipalities should incorporate crosswalks, ADA curb ramps, and sidewalks as appropriate. Gaps in multimodal connectivity currently within the region can be attributed to pedestrian amenities not considered during these processes.

The following guidance should be adhered to when a municipality is installing any of these amenities.

This study recommends that as development continues within the region, each municipality require sidewalk connectivity, not just to locations within the municipality but to be considered within a regional context. Studies like the Schuylkill Township Sidewalk Plan and the Upper Providence Trail and Sidewalk Plan should be considered by each of the municipalities within the region. The addition of sidewalks should not be limited to new development, though; municipalities should continue to strive to add sidewalks and linkages where sidewalks were not included in the past, especially to provide access to public transit stops. Filling in sidewalk gaps is critical particularly on main thoroughfares, to ensure pedestrian passage and connectivity throughout the region.

### Sidewalks

Sidewalks must have a minimum width of five feet, according to PennDOT's *Design Manual 2 — Chapter 6: Pedestrian Facilities and the Americans with Disabilities Act*. Sidewalks should be implemented in all urban and suburban settings within the region, where they may be 8' wide or greater, as appropriate.


*A sidewalk in downtown Phoenixville.*

### Crosswalks

Crosswalks provide high visibility to alert drivers of impending pedestrian interactions at intersections. Crosswalks are usually marked at intersections where there is a substantial amount of vehicular and pedestrian traffic, such as along school routes and at signalized and four-way stop intersections. In conjunction with crosswalks, pedestrian walk signs help pedestrians know when it is safe to crossover a roadway and countdown timers allow pedestrians the ability to anticipate when a traffic signal is turning to in order to help pedestrians avoid unsafe conditions.


*A crosswalk, pedestrian walk signal, and ADA curbing at the intersection of Starr and Nutt Road, Phoenixville.*

### ADA Curb Ramps

All sidewalks must have ADA curb ramps, as required by federal law. For specific ADA curb ramp design guidelines, municipalities should refer to PennDOT District 6-0's *ADA Reference Guide* for the most current information regarding proper installation of ADA curb ramps.

*Example of ADA curb ramp and crosswalk.*

*Municipalities are encouraged to review and amend their ordinances to require bicycle and pedestrian amenities where appropriate.*

## Trail Facilities

Trail facilities can be categorized into two types of user experiences: multi-use trails and sidepaths. The trail projects identified in this study should consider both types of trails, where feasible.

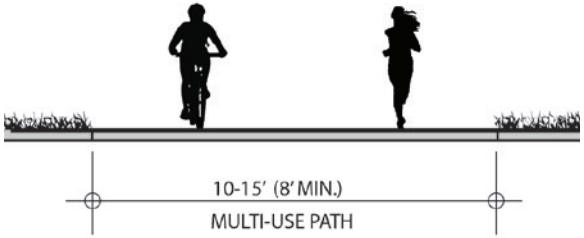
This study recommends that trails be multi-use whenever possible to allow for the greater population of trail users.

The following guidance should be adhered to when a municipality is looking at developing new or extending existing trail facilities:

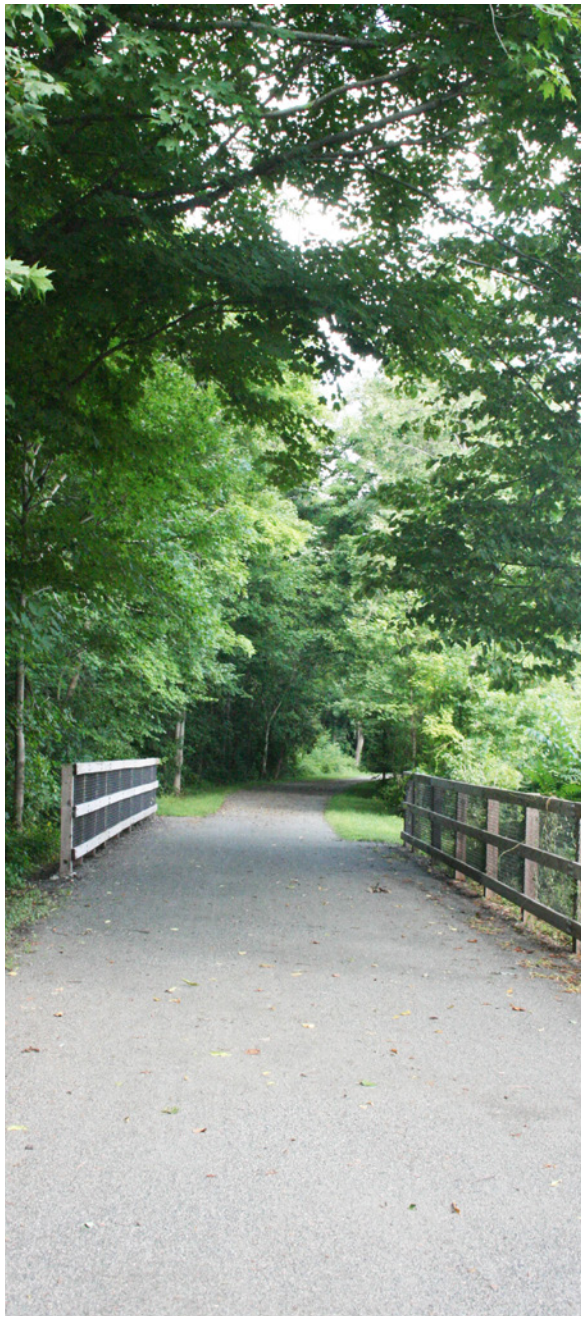
*Municipalities should continue to access trail systems and look at trails as a means of alternative transportation to move people throughout the region.*

### Multi-use Trails

Multi-use Trails typically have a hard surface (e.g., asphalt, concrete, compacted gravel, etc.) and have a recommended width per AASHTO of 10,' although a minimum width of 8' may be used where space is constrained or in environmentally sensitive areas. Wider paths are also recommended if there is a high volume of existing or anticipated bicycle and pedestrian traffic.



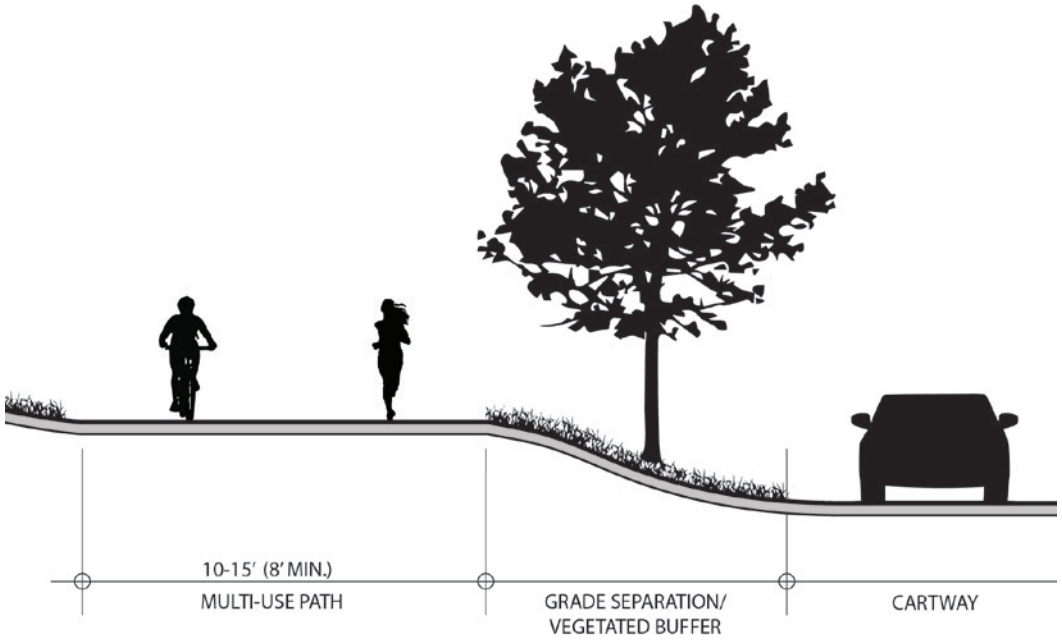

*Schuylkill River trail bridge in Phoenixville.*



*Schuylkill River Trail in East Pikeland Township.*

### Sidepaths

Sidepaths are a subset of shared use paths that denote paths that parallel a roadway and can provide bicycle connections between on- and off-road facilities. Due to being located either within or directly adjacent to the roadway right-of-way with the potential for multiple vehicular crossings, these facilities often require a more in-depth operational and safety analysis.




*Chester Valley Trail sidepath along PA 29 in East Whiteland Township.*

*Sidepath along Business 30 in Exton.*

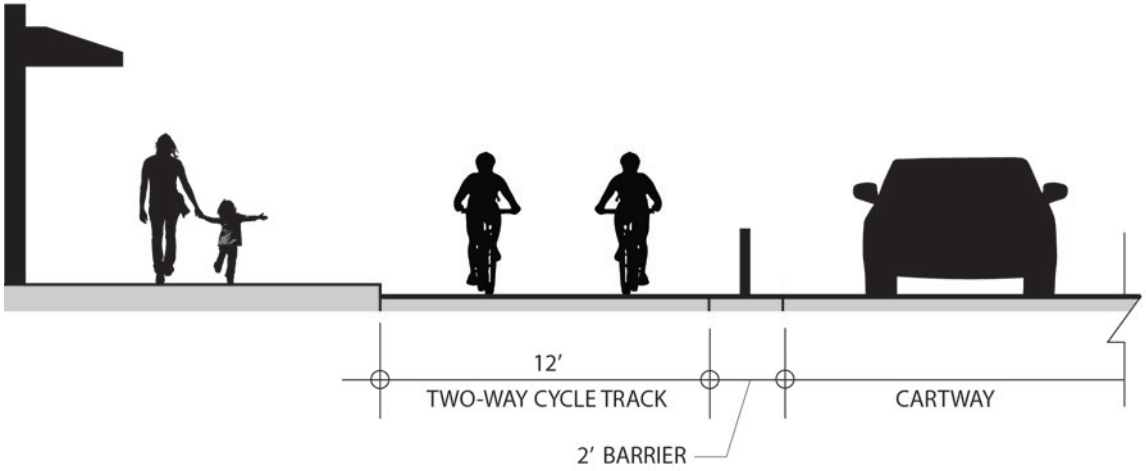
## On-road Bicycling Facilities

In 2017, PennDOT removed the requirement for municipalities to obtain a Bicycle Occupancy Permit (BOP) in order to install bicycle lanes, thereby removing a major hurdle for municipalities to add bicycle facilities to roadways. The hurdle with the BOP was that municipalities were required to accept the maintenance responsibilities—such as clearing snow—for bike lanes within the roadway which is impractical and generally unacceptable for many municipalities. Municipalities now need to submit a Bike Lane Request/Approval Letter as outlined in PennDOT's *Design Manual Part 2—Chapter 16.6*. This revised policy still requires some maintenance by the local municipality for signage and pavement markings only, however this is much more practical than the former policy and will make the installation of bike lanes even more achievable in the Phoenixville Region.

There are several different bicycle facilities that municipalities can employ to allow bicyclists to share the road with motor vehicles including cycle tracks, bike lanes, and "Share the Road" and sharrow signage. Municipalities should use DVRPC's stress mapping as shown in Chapter 2, in order to assess each roadway's comfort level for users and to apply the best type of bicycle facility.

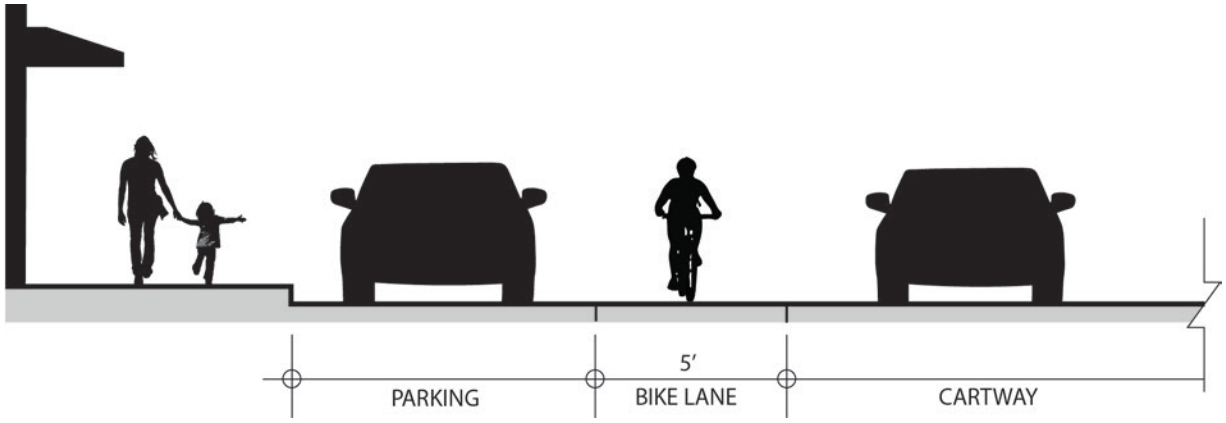
### Cycle Track

A cycle track separates bicyclists from all vehicle interaction using a barrier, as seen in the figure below. Because there is a protective barrier in the roadway, a cycle track is considered generally more comfortable for a wider range of users.




### Bike Lanes

Bike lanes are typically located on roadways in urban and suburban settings with moderate to high vehicular traffic volumes and moderate to high posted speeds. PennDOT's Design Manual requires a formal bike lane to be a minimum 5'width with application of pavement striping, markings, and regulatory signage. Bicycle lane facilities should be oriented for one-way operation and carry bicycle traffic in the same direction as motor vehicles.



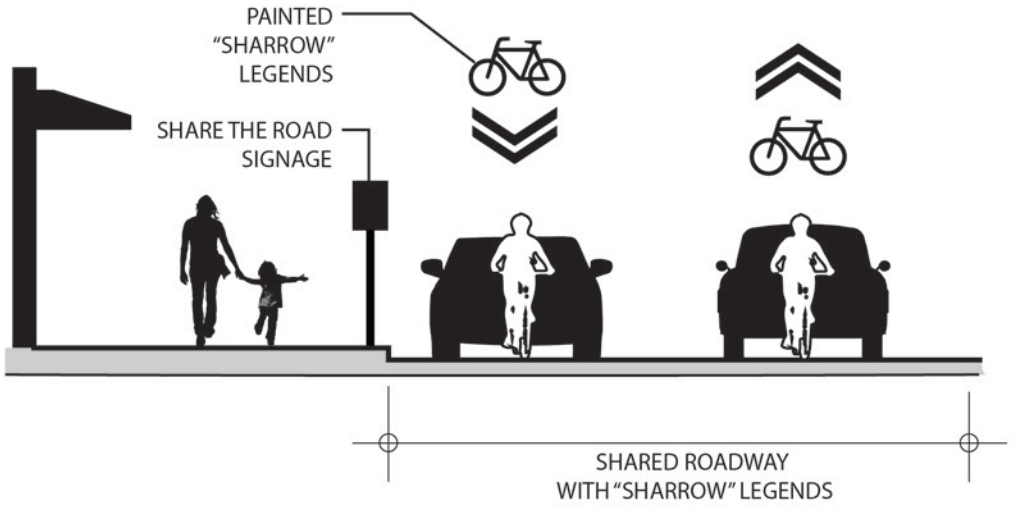
### Shared Roadway

Since 2005, PennDOT's Chester County Maintenance Office has coordinated with the Chester County Planning Commission and Chester County Cycling Coalition on the most appropriate locations for Share the Road signage within Chester County along on-road bike routes.

### Sharrows

The 2009 edition of the Manual on Uniform Traffic Control Devices (MUTCD) included a new pavement marking called a "sharrow". Sharrows increase driver awareness of shared roadway arrangements, similar to the advisory treatment of Share the Road signage. PennDOT requires that municipalities are responsible for maintenance of 'sharrow' pavement markings.

Under this design, vehicular and bicyclist share the same roadway space, as seen in the graphic below.




### Resurfacing Program

PennDOT's resurfacing program will provide an opportunity for municipalities to add these facilities when roads are resurfaced and restriped.

*Whenever roadway improvements are implemented throughout the region, on-road bicycle facilities should be considered as part of the improvement design.*

## Public Transit Facilities

Public transit is a key for the region to become less automobile dependent.

There are several publications that discuss design guidelines for public transit. SEPTA's *Bus Stop Design Guidelines, 2012* was created in conjunction with DVRPC to outline appropriate design for a variety of bus stop facility types and their placement within the roadway context. Similarly, the Chester County Planning Commission's *Multimodal Handbook*, Revised 2016 offers facility recommendations to indicate what amenities should be provided at bus stop locations based upon ridership, as noted below. Municipalities should review both documents to create the appropriate facility type for each stop, including the addition of proper ADA accommodations for users.

The responsibility for public transit facilities on local streets falls on local government and development to support. SEPTA does not install street furniture, including shelters, on non-SEPTA property. SEPTA does support third-party efforts to make such improvements as long as they are done with SEPTA involvement for siting and use of SEPTA's *Bus Stop Design Guidelines.*


**Basic Stop: daily boards of 5 or less**

- Bus Stop sign printed on both sides to be visible from the roadway;
- ADA accessible loading pad; and,
- Paved pedestrian sidewalk/walkway connections (ADA accessible) leading to the nearest building entrance or connecting to an existing walkway system.

**Collector Stop: daily boards from 6-20**

Includes all basic stop amenities plus:

- Bus shelter;
- System map indicating all transit routes serving the location;
- Bench and trash receptacle; and,
- Lighting.


*Source: DVRPC*

**Hub Stop: daily boards from 21-50**

Includes all Collector Stop amenities plus:

- Bus Shelters (minimum of 1, or a larger sized shelter);
- Benches and Trash Receptacles (minimum of 2 each);
- Bicycle Racks; and,
- Real time status info/kiosk.


**Daily boards greater than 50**

- Transportation Center.

*Public transit facilities should be promoted across the entire region to ensure there are proper facilities to make public transit facilities accessible for everyone.*

## Roadway Facilities

Roadway connections are an important part of the multimodal experience. Creating safe and efficient roadways that offer a variety of modes is critical for the region.

There are multiple roadway facility improvements recommended for the priority projects identified in this study. They include a wide range of improvements, from the addition of advanced warning signage for intersections, intersection realignments or reconfigurations, to some traffic calming elements. Traffic flow recommendations for roadway facilities comprise the remaining recommendations.

*Roadway improvement projects within the region should consider all movements, not just motor vehicle, when enhancements are planned.*

*Phoenixville Pike in Charlestown Township, looking south.*

# Network Connectivity

The municipalities of the Phoenixville Region should continue to improve overall network connectivity by linking pedestrian, trail, bicycle, and roadway networks and encouraging use of public transit. By analyzing the many multimodal assets the region already contains, the region can continue to enhance multimodal travel and reduce congestion. In addition, the region should focus on connecting into other multimodal systems surrounding the region; for example, linking the region to the employment centers found within Great Valley. Projects within the network should be approached from a comprehensive mindset that encourages multimodal improvements.


*Pedestrian and vehicle traffic at the intersection of Bridge and Main Streets in Phoenixville.*

# All Identified Projects

Twenty-six multimodal project improvements have been identified for the Phoenixville Region. With the input of the Steering Committee, 13 priority projects were identified from the 26 projects. The following sections outline and map all 26 projects and then describe the 13 priority projects in detail, including existing conditions and recommendations for improvements. Municipalities should utilize this section as a beginning point to seek funding and implement the projects identified as the region's most important multimodal improvements.

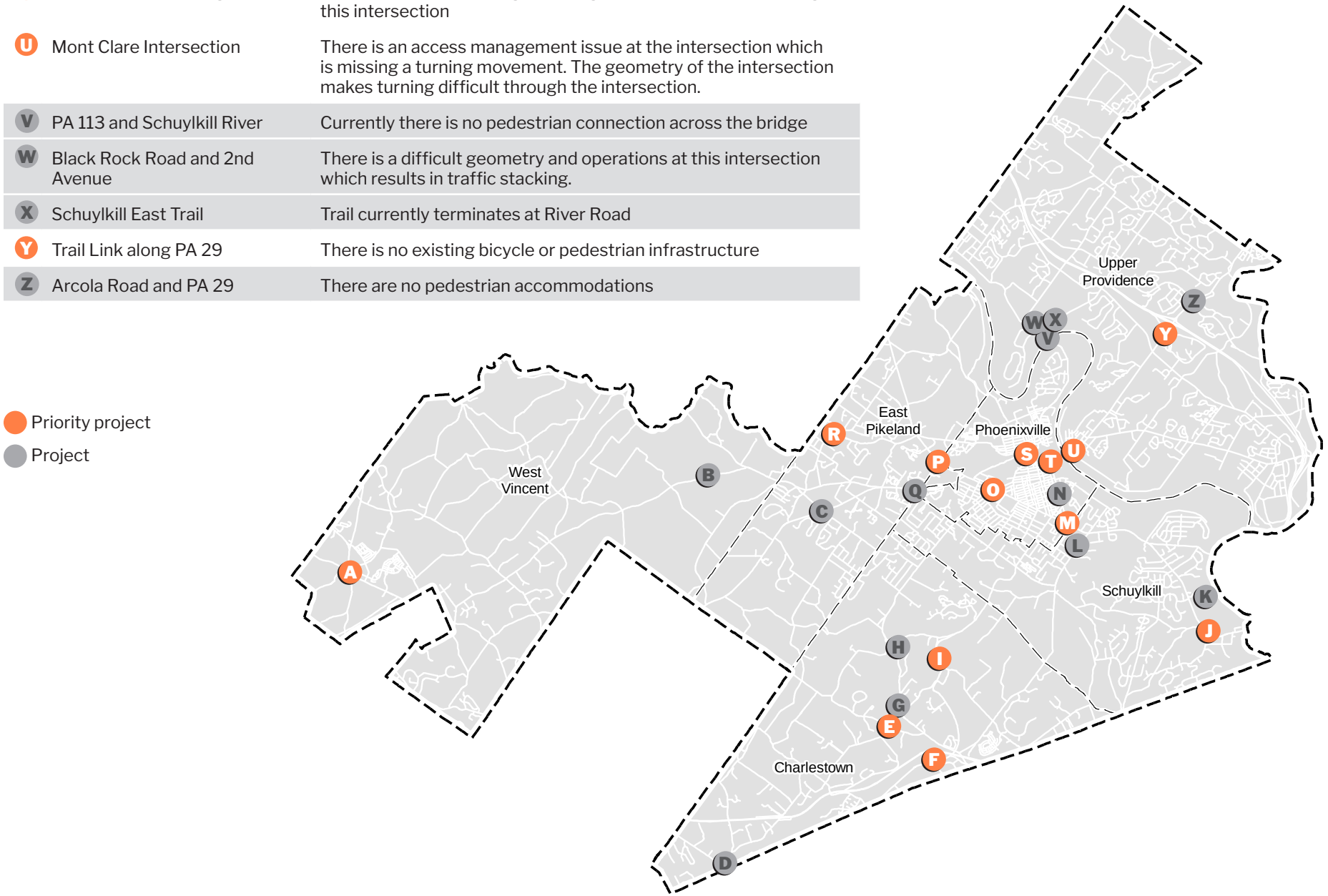
- Priority project
- Project

## All Identified Projects

| | Project | Description/Issue |
|---|---|---|
| A | Ludwig's Corner | Pedestrian access at the PA 100 and PA 401 intersection |
| B | West Vincent Trail | No multimodal links throughout the township |
| C | Pickering Trail (East Pikeland) | Trail gap between the Pickering Trail and Bridge to Bridge Trail |
| D | PA 401 and Valley Hill Road | Peak hour congestion |
| E | Charlestown and Hollow Road | Difficult for cross and turning traffic on Hollow Road |
| F | Devault Trail | Trail between Phoenixville and Great Valley |
| G | Pickering Trail (Charlestown) | Users have to park on Charlestown Road to access trailhead |
| H | Charlestown Road | Missing multimodal connection between Phoenixville and the University of Valley Forge and the Technical College High School: Pickering Campus |
| I | PA 29 Narrow Bridge | One-lane bridge on a curve |
| J | PA 23 and Valley Park Road | Difficult for through traffic with no pedestrian accommodations |
| K | Freedom Trail | Currently there is no connection from downtown Phoenixville to Valley Forge Historic National Park on the south side of the Schuylkill River |
| L | Schuylkill Township Sidewalks | There is no connection between the township and the east side of Phoenixville Borough |
| M | Starr Street and Nutt Road | The intersection is missing a turning movement, more pedestrian amenities are needed, and there is need for realignment of the intersection |
| N | Starr Street | The street is very wide which results in speeding |
| O | Bridge Street and Nutt Road | Intersection has confusing geometry, making it difficult to facilitate pedestrian and bicycle movements |
| P | Township Line Road and PA 23 | The intersection of Township Line Road does not align and makes through traffic difficult to maneuver through the intersection. There are no pedestrian facilities to accommodate crossing through the intersection currently. |
| Q | Pothouse Road | There is a missing pedestrian link on Pothouse Road |
| R | French Creek Trail | The trail currently does not connect into Phoenixville Borough |
| S | Transit Access to Phoenixville | Current access is slow and there are several gaps in service to surrounding employment centers |

## All Identified Projects *(continued)*

| | Project | Description/Issue |
|---|---|---|
| T | Starr Street and Bridge Street | The intersection has a tight turning radius and there is stacking at this intersection |
| U | Mont Clare Intersection | There is an access management issue at the intersection which is missing a turning movement. The geometry of the intersection makes turning difficult through the intersection. |
| V | PA 113 and Schuylkill River | Currently there is no pedestrian connection across the bridge |
| W | Black Rock Road and 2nd Avenue | There is a difficult geometry and operations at this intersection which results in traffic stacking. |
| X | Schuylkill East Trail | Trail currently terminates at River Road |
| Y | Trail Link along PA 29 | There is no existing bicycle or pedestrian infrastructure |
| Z | Arcola Road and PA 29 | There are no pedestrian accommodations |



# Priority Projects

This section of the study provides additional information for the thirteen priority projects identified, including descriptions and analysis of the existing conditions and recommendations for next steps toward implementation.

## A Ludwig's Corner

### Analysis

The intersection of PA Route 100 and PA Route 401 in West Vincent Township, known as Ludwig's Corner, offers no pedestrian amenities. Pedestrian accommodations at this intersection will be essential to connect the Weatherstone Development on the northeast quadrant of the intersection with shopping facilities to the west. Currently, the development proposes a mix of uses: commercial, office, and residential. The intersection provides a critical link between the development and other amenities found on the west side of PA Route 100. Better pedestrian movement was identified as a key recommendation in the West Vincent Township Multimodal Study.


*Aerial view of the existing PA 100 and PA 401 intersection at Ludwig's Corner, looking north. Source: Pictometry.*

## Recommendation

The recommended improvements to Ludwig's Corner include the addition of crosswalks and signalized timing for pedestrians. Sidewalks on all pedestrian approaches to the intersection and ADA-accessible curb ramping should be added to complete safe pedestrian connections to all adjacent destinations.

*Southwest corner of the intersection, looking north on PA Route 100. The field in the picture is the location of the future Weatherstone Development.*



*Source: Pictometry.*

E

# Charlestown Road and Hollow Road Intersection

## Analysis

The Charlestown and Hollow Road intersection is located within Charlestown Township. The intersection is a two-way stop: traffic heading in a north–south direction on Charlestown Road does not stop at the intersection while traffic heading east–west on Hollow Road has a stop sign in both directions. The main issue at this intersection is sight distance for travelers on Hollow Road looking to cross Charlestown Road. Drivers heading north on Charlestown Road emerge over a hill almost immediately before the intersection. The hill creates a blind spot for traffic attempting to move through the intersection from Hollow Road and simultaneously creates a very short reaction time for drivers on Charlestown Road. There are no advanced warning signs of the approaching intersection along Charlestown Road, making the intersection difficult to detect, particularly for traffic heading north. These conditions lead to an increase in crashes at the intersection. In 2014, DVRPC analyzed this intersection through its Congestion & Crash Site Analysis Program. Several of the recommendations from this analysis have been implemented including installation of a high friction road surface to allow for more traction, should a vehicle need to stop suddenly within the intersection.


*Source: Pictometry.*

*Existing view south toward Charlestown Road and Hollow Road intersection. Note the existing high friction pavement surface in the foreground.*

## Recommendations

The following improvements are recommended for this intersection:

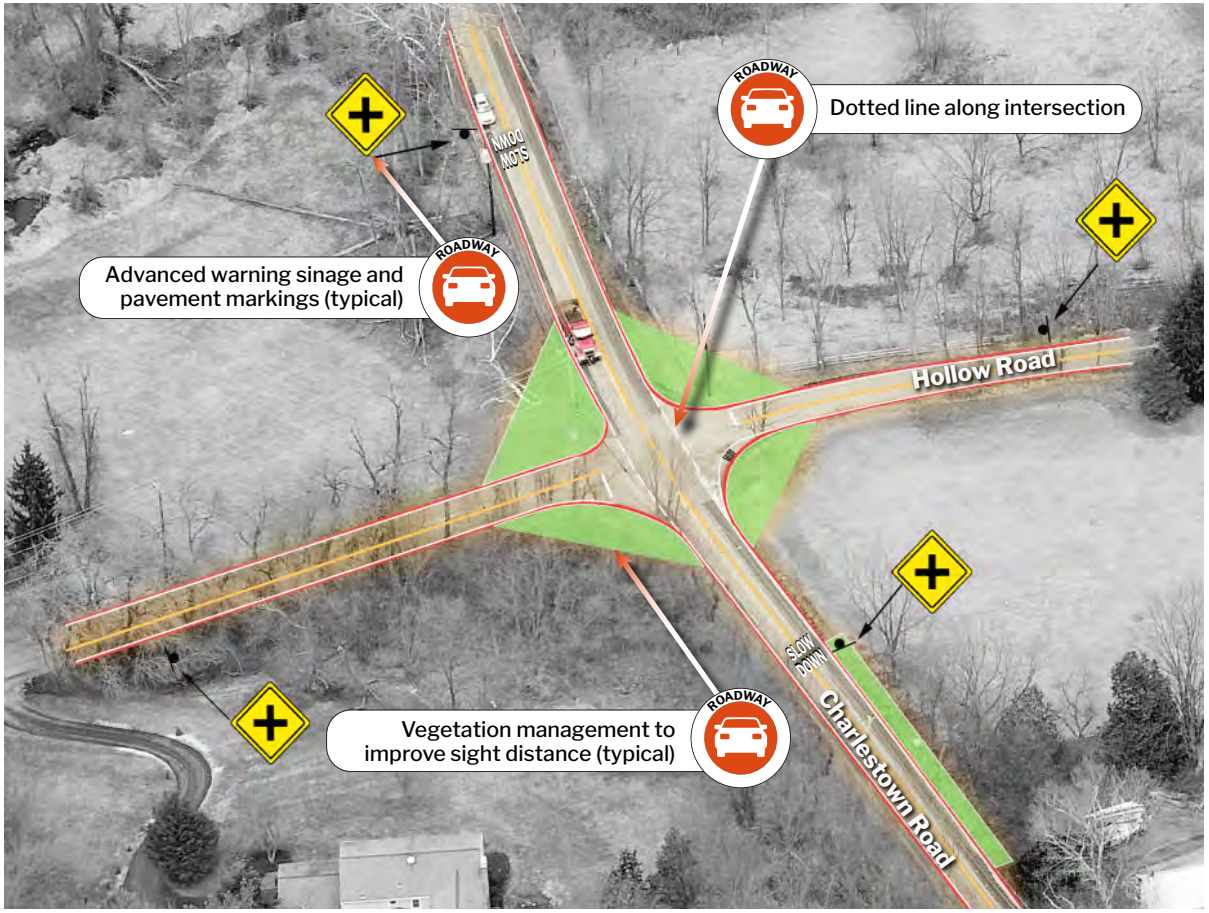
### Improved Signage

Currently, there are advanced warning signs for traffic traveling south on Charlestown Road but signage is absent on the northbound approach to the intersection. Advanced warning signs could help alert drivers to the impending intersection and encourage drivers to slow down and proceed cautiously. Additional pavement markings would also help alert drivers to the intersection. Adding a "SLOW DOWN" message on the intersection approaches along Charlestown Road and continuing a dotted shoulder line across the intersection would provide visual enhancements for driver navigation. Dotted shoulder lines would also help drivers stopped at Hollow Road to not proceed too far into Charlestown Road prior to being able to safely move through the intersection.

*Pavement markings would help alert drivers to the intersection.*

### Vegetation Management

Clearing the vegetation currently interfering with sight distance for traffic on Hollow Road is needed. By working with the property owners to clear and maintain the hedges on the approaches and at the intersection, vehicles would have an increased sight line and would be able to make better movement decisions.


*Aerial view north toward the Charlestown Road and Hollow Road intersection. Source: Pictometry.*

F

# Devault Trail

## Analysis

In 2015, Charlestown Township through a grant from the Chester County Planning Commission completed The Devault Trail Feasibility Study. The study analyzed the feasibility of using the Norfolk Southern-owned Devault Rail Line as a trail corridor that would run between Great Valley and Phoenixville. The rail line was discontinued in 2007 at the request of Norfolk Southern, making the potential to turn the line into a trail. The feasibility study determined that a multi-use trail on the Devault Branch would be feasible to construct.

The proposed trail deviates only slightly from the rail alignment, as it is shifted to connect with the 130-mile Schuylkill River Trail (SRT) in the flats area of Phoenixville. The SRT is a major regional trail on the Circuit that, once completed, will connect Pottsville, PA to the City of Philadelphia. The trail returns to the Devault Line after crossing the now abandoned Paradise Road Bridge and passes a potential trailhead location at Paradise and Wheatland Road. The trail enters Schuylkill Township at Pothouse Road and Bridge Street and continues through the township until it crosses at-grade into Charlestown Township via Buckwalter Road. In Charlestown Township, the trail crosses over some of its most impressive features, including a 600 foot long, 50 foot high curved trestle bridge over Pickering Creek and State Route 29 (The Devault Trail Feasibility Study, 15). Currently, the trail reaches its terminus when the line ends at Warner Lane, with two spur opportunities to connect Great Valley High School and the Atwater Corporate Center.

The Devault Trail is the highest ranking priority project and has continuously remained at the forefront of conversations, both with the Steering Committee and the public. The reason the demand for this particular alignment is so great is that, currently, the only way for people in the Phoenixville Region to get to Great Valley is on-road, either in a vehicle or bicycle. Those attempting to bicycle to Great Valley find most of the roads to be a challenge, unless they are very seasoned bike riders. The Devault Trail would offer commuters and recreational users the opportunity to ride or walk to work and other desirable destinations found in Great Valley.

*The impressive 600 foot long, 50 foot high trestle over Pickering Creek and State Road in Charlestown Township. Image credit: Campbell Thomas and Company.*

*Image of the rail line that would serve as the Devault Trail. Image credit: Campbell Thomas and Company.*

*Bridge that carries the Devault Line in Charlestown Township. Image credit: Campbell Thomas and Company.*

## Recommendations

There are several steps to converting the preferred alignment of the Devault Rail Line into a multi-use trail.

### Ownership and Responsibility

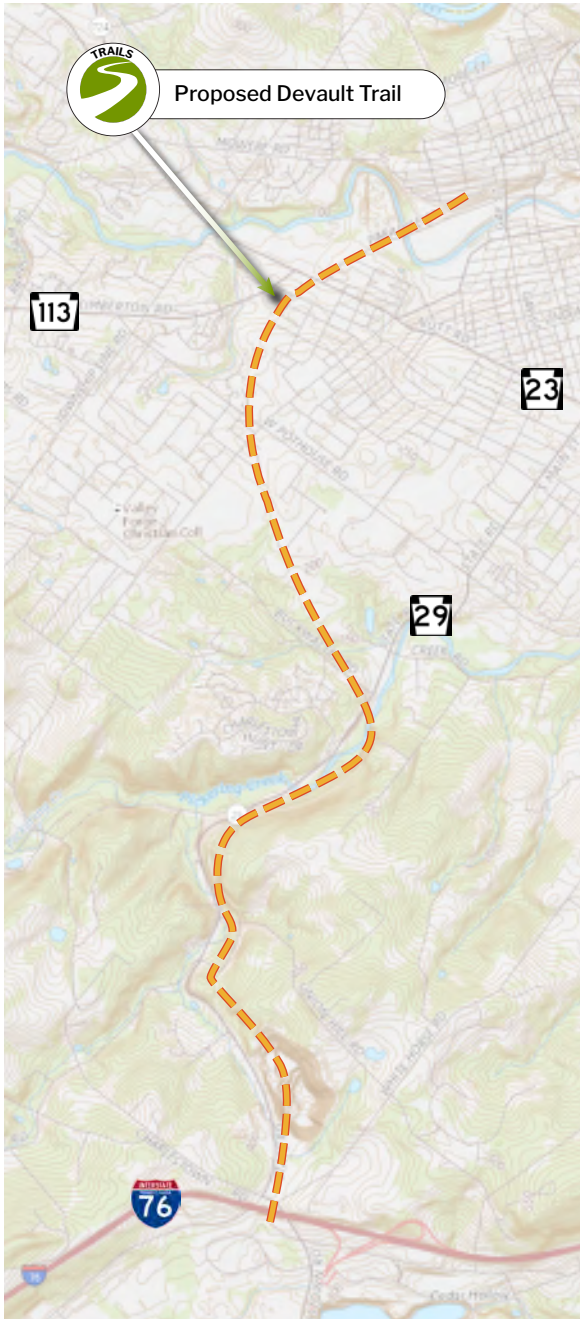
The first step involves determining who will own and ultimately be responsible for the development, operation and long term maintenance of the trail. The two lead ownership options are either Chester County or a multi-municipal arrangement between Charlestown Township, Schuylkill Township, and Phoenixville Borough. Since completion of the feasibility study, serious discussions amongst these entities have yet to begin.

### Corridor Acquisition

Once the ownership issue is addressed, the next step would be to pursue acquisition of the corridor. Prior to acquiring the corridor, a title search should be undertaken to confirm the underlying base ownership. While the corridor status is currently 'Inactive', if and when the corridor is determined to be 'Abandoned' by the federal Surface Transportation Board (STB), the lands originally acquired by the railroad company as 'rights-of-way' would automatically revert back to the current landowners to either side of the track centerline. A title search is critical because it will determine how the corridor was originally assembled and reveal exactly what portions, if any, of the corridor would be subject to reversion at abandonment. One method of purchase that would allow purchase and avoid any property reversion would be to 'railbank' the corridor prior to a determination of abandonment by the STB. Railbanking allows a land steward to use an existing rail corridor for an alternate use, such as a trail, while keeping the corridor intact for the possibility that at some time in the future it may be needed to re-establish rail service. If railbanking is not part of any purchase deal, then the title search will determine exactly how many other landowners from which the land must be acquired to establish clear title.

### Construction Phasing

Beyond purchase, The Devault Trail Feasibility Study outlined a detailed phasing approach to building the trail that this study also supports. Construction phasing will likely be required due to the sheer length of the trail and funding availability. Other aspects of trail development such as structural inspection of the bridges and any potential environmental work will impact both the costs and timing of when the trail construction may be complete.


*Alignment of proposed Devault Trail.*

# 1 PA Route 29 Narrow Bridge

## Analysis

The PA Route 29 (State Road) bridge over Pickering Creek in Charlestown Township was constructed in 1921, and is considered functionally obsolete. PA 29 is a major commuter artery with an average daily traffic count of over 10,000 vehicles, as per a traffic count performed in September 2015 by DVRPC. The bridge, located just north of Union Hill Road, currently functions as a one-lane bridge with both directions of traffic yielding in order to cross one at a time. With a heavy traffic volume, especially at peak hours, the narrow bridge causes congestion and stacking.


*Source: Pictometry.*


*View north along PA 29 towards existing one-lane bridge, approximately 300 feet north of the Union Hill Road intersection.*

## Recommendation

Widening this bridge to two lanes of traffic would significantly improve the traffic flow of PA 29. The bridge would undergo additional engineering and design to determine the feasibility of a two-lane structure and to determine the best type of bridge structure to place over Pickering Creek. As the owner of the bridge, PennDOT would need to locate funds and initiate the widening process.

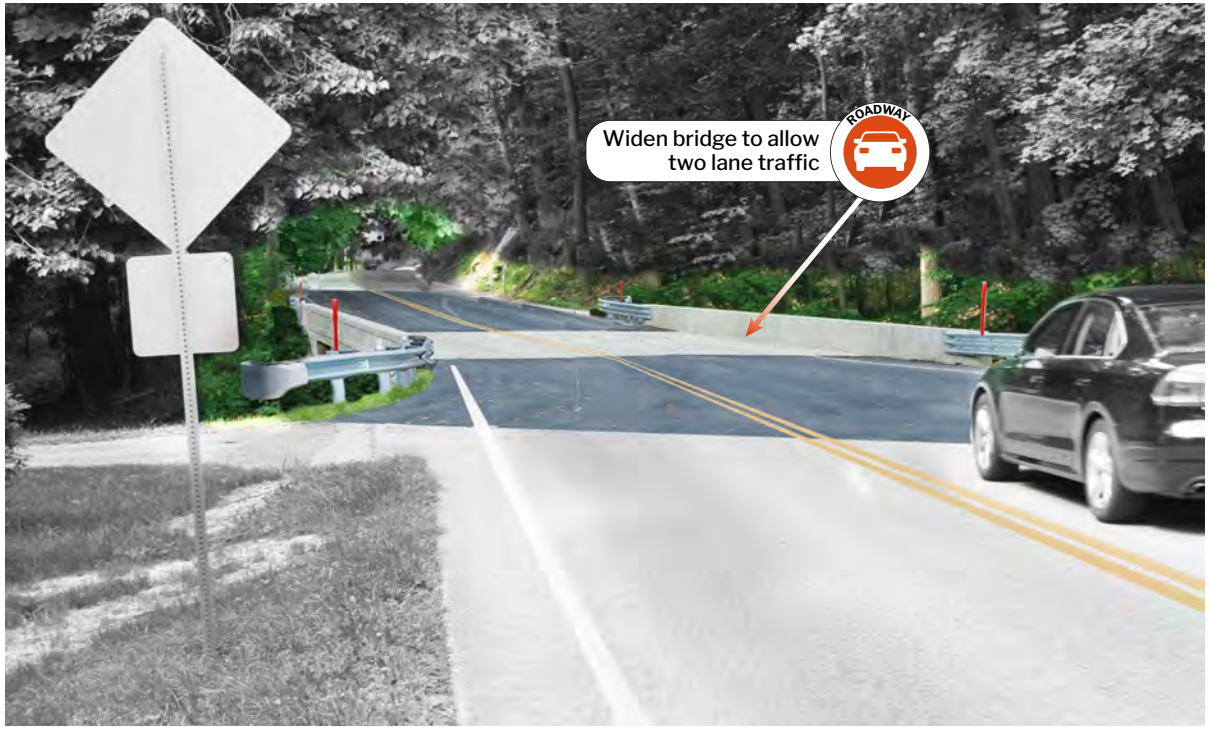



*Photo-simulation of a two-lane bridge.*


*Aerial view of the PA 29 over Pickering Creek. Source: Pictometry.*

J

# PA 23 and Valley Park Road Intersection

## Analysis

This intersection is Schuylkill Township's priority. The T-intersection is a one-way stop; traffic on PA 23 does not have a stop sign while travelers on Valley Park Road have a stop sign at the intersection where Valley Park Road terminates. During peak hours of traffic, PA 23 sees a considerable backup of traffic. This stacking causes difficult turning movements for traffic attempting to turn from Valley Park Road, particularly the left turn movement. While traffic informally allows cars to turn through the intersection, this does not allow traffic to flow appropriately. In non-peak hours, the left turn movement remains difficult due to sightline and road geometry. Valley Park Road is skewed significantly immediately prior to the intersection and the alignment poses sightline distance challenges, including blocking signage and shrubbery on properties adjacent to the intersection. While the speed is posted at 45 miles per hour on PA 23, at off-peak traffic hours vehicles often travel at a much greater rate of speed in both directions, making the decision for traffic turning left on to PA 23 heading west more difficult. There are no advanced intersection warning signs for either direction on PA 23 which could encourage drivers to slow down.

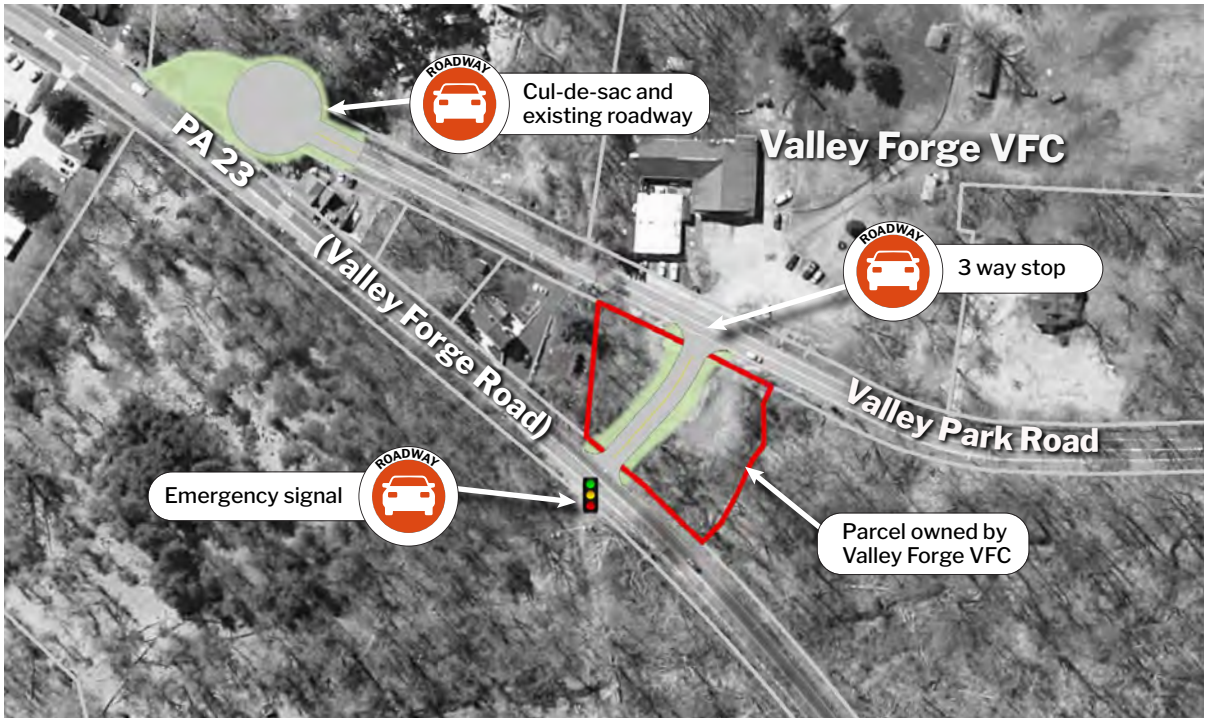

*Existing conditions at the PA 23/Valley Park Road intersection. Source: Pictometry.*

## Recommendations

There are several solutions for this intersection that would need to be further studied by the township in order to find the most fitting for traffic flow at this intersection. Such analysis should include how it is functioning at both peak and non-peak hours, how the geometry of Valley Park Road can be improved, and how traffic traveling on PA 23 can be mitigated. Installing advanced intersection warnings along PA 23 would be a first step in improving the intersection in the interim.

A concept that could be explored is to move the intersection to the west and through a parcel currently owned by the Valley Forge Volunteer Fire Company (VFC). Realigning the intersection at this location could allow more direct access to PA 23 for emergency access and improve the intersection sight distance, approach, and geometry. The remainder of Valley Park Road could be turned into a cul-de-sac. Incorporating either a traffic light or flashing yellow signal to notify drivers of the intersection along PA 23 could also be explored.

*Existing PA 23/Valley Park Road intersection.*


*Concept sketch of potential Valley Park Road and PA 23 intersection reconfiguration. Source: Pictometry.*

# Starr Street and Nutt Road Intersection


## Analysis

The intersection of Starr Street and Nutt Road, located in Phoenixville Borough, currently experiences peak hour congestion due to stacking. There is no left turn movement for traffic heading east attempting to turn onto Starr Road, though illegal turn movements occur frequently. Adding to the complexity, the geometry of the intersection is misaligned, making movements more difficult. Pedestrians attempting to cross the intersection do not have proper facilities in place to make the intersection achievable for all users, including those requiring ADA accessibility. Finally, a bus stop on SEPTA Route 139 is located directly in the intersection. While the location is not problematic, the stop lacks ADA accessibility as transit riders must cross over a grassy patch in order to board the bus, making wheelchair accessibility nearly impossible.


*Northeast corner of the intersection looking west on Nutt Road.*


*Aerial view of the existing Starr Street and Nutt Road intersection, looking north. Source: Pictometry.*

## Recommendations

Recommendations include three improvements that are currently planned by the borough.

### Turning Lanes

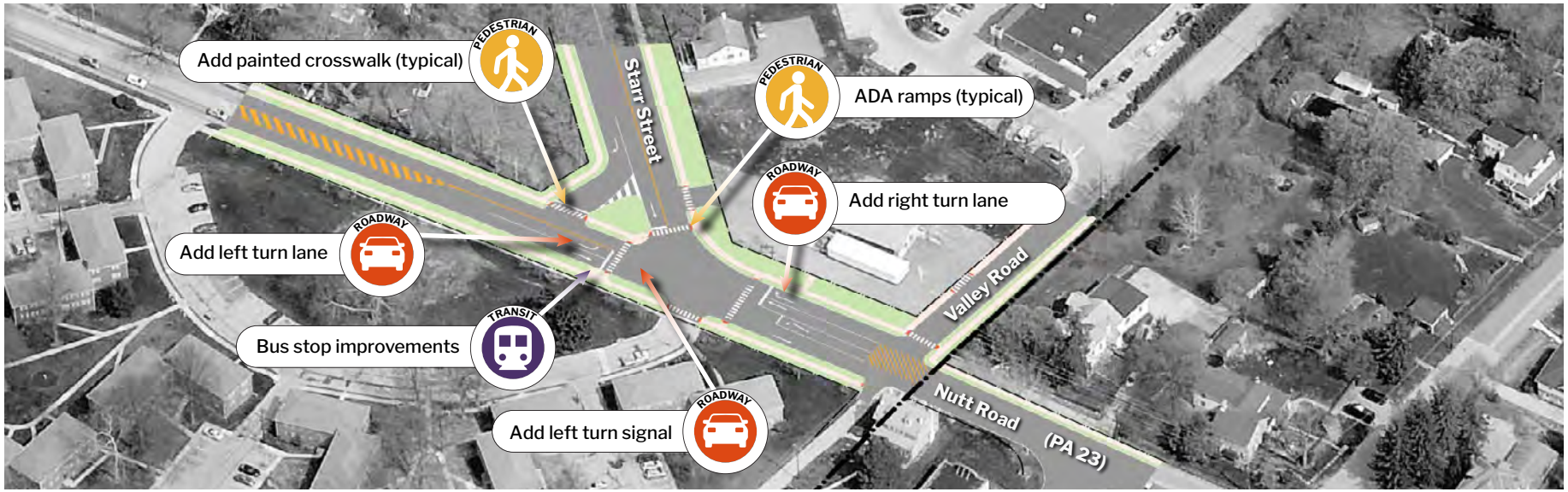
Adding a left turning lane for eastbound traffic to turn from Nutt Road onto Starr Street would significantly ease traffic. With the turning lane, a dedicated left turn signal should be incorporated into the sequencing of the traffic lights. For westbound traffic, aligning the intersection geometry and adding a left turn movement would allow traffic to flow better, especially at peak hours. The left turn lane would allow residents access to the apartment complex at the intersection. The addition of this lane should include a left turn arrow that would function on the same sequencing as the left turning arrow in the eastbound direction.

### ADA Accessible Sidewalks and Curbs

In order to make pedestrian access available for all ages and users, ADA curb ramping should be added to all crossings within the intersection. Schuylkill Township has plans to add sidewalk to the eastern portion of the intersection, beyond the borough / township line in order to achieve pedestrian access from the township into the Phoenixville downtown area, completing a crucial pedestrian gap in the region.

### Improved Bus Stop

SEPTA Route 139 currently stops within the intersection and the bus stop should be improved to make boarding the bus ADA accessible. The location had an average of 4 passengers a day in 2016 and the recommended bus shelter type for this level of ridership, according to the Chester County Multimodal Handbook, is a Basic Stop. Currently, appropriate signage and sidewalk connections exist at the intersection and the addition of an ADA accessible loading pad would complete the Basic Stop design for this stop.




*Recommended improvements to the Starr Street and Nutt Road intersection. Source: Pictometry.*

# 9 Bridge Street and Nutt Road Intersection

## Analysis

This intersection is one of the most complex intersections within the Phoenixville Region and is located within the Borough of Phoenixville. It consists of Nutt Road (PA 23 / PA 113), Bridge Street (PA 113), and West Bridge Street, with PA 113 following Nutt Road and continuing onto Bridge Street. The intersection itself contains a very complex geometry alignment, with many critical decision points for drivers in a very short span of time. Traffic traveling east out of Phoenixville has very little sight distance to determine which lane of traffic to be in, as Bridge Street splits for traffic remaining on Bridge Street to cross over to West Bridge Street through the intersection and traffic continuing on PA 113 and Nutt Road by yielding to oncoming traffic. The lane split occurs immediately before a blind turn. Additionally, traffic leaving the borough gets stacked, especially at peak hours, through this movement as the two turning lanes are relatively short. In a similar quick decision point, traffic heading southeast on Nutt Road (PA 23 / 113) must decide which lane of traffic to follow: either PA 113 on to Bridge Street or continue on to Nutt Road (PA 23) through another confusing and short lane split. To the west side of the intersection, traffic heading east on West Bridge Street and continuing onto Bridge Street (PA 113) face an awkward geometry that does not align the two streets. Finally, traffic continuing northwest on Nutt Road (PA 23) has to cross through the intersection where there are three critical turning movements happening as traffic crosses the intersection, including traffic yielding from Bridge Street to continue on PA 113. All of these movements make navigating this intersection difficult both during peak and non-peak hours.

Large vehicles such as trucks and buses frequent this route, and because of the geometry, have a difficult time navigating and fitting through the intersection at each segment, adding to the congestion and confusion. Finally, while the intersection does have several crosswalks, the various vehicular movements through the intersection make it extremely difficult for pedestrians or bicyclists to navigate the intersection.

*Looking north.*

*Looking south.*

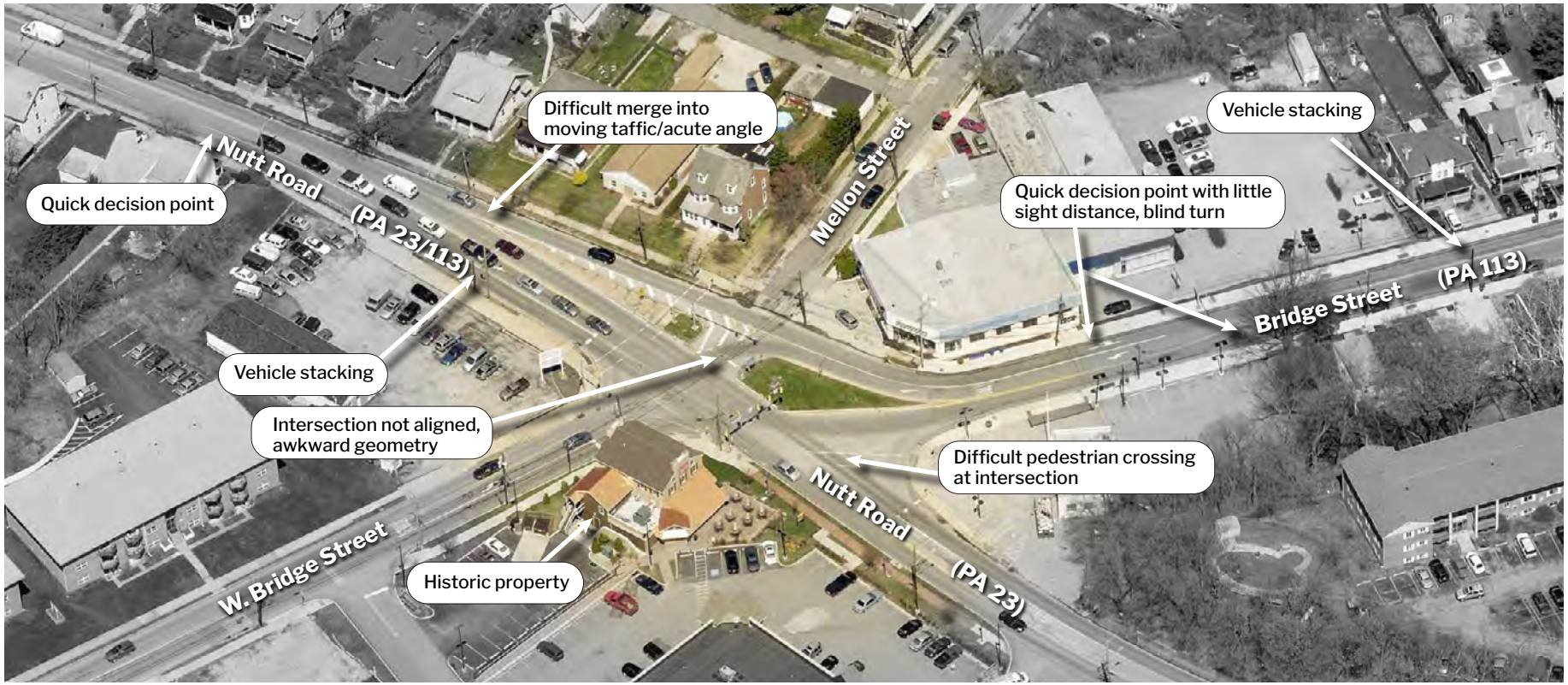
*Looking east.*

*Looking west.*

## Recommendation

Because of the many complexities of this intersection, this study recommends that the priority project undergo further analysis and engineering towards determining a safer and more efficient configuration. There are several solutions that could improve the intersection, though each is not without complications. To the southwest of the intersection, there is a potentially historic building while the eastern two quadrants contain private properties that jut into the intersection, making realignments difficult without further land acquisition.

Once a preferred solution is determined through planning and engineering, this study additionally recommends that bicycle and pedestrian accommodations be incorporated into the final design. Consideration for future transit needs, such as bus movements should also be taken into account to ensure that this key intersection functions well for all modes of transportation.


*Aerial view of the existing Bridge Street and Nutt Road intersection (looking north) identifying traffic issues to be addressed. Source: Pictometry.*

# Township Line Road and PA Route 23 Intersection

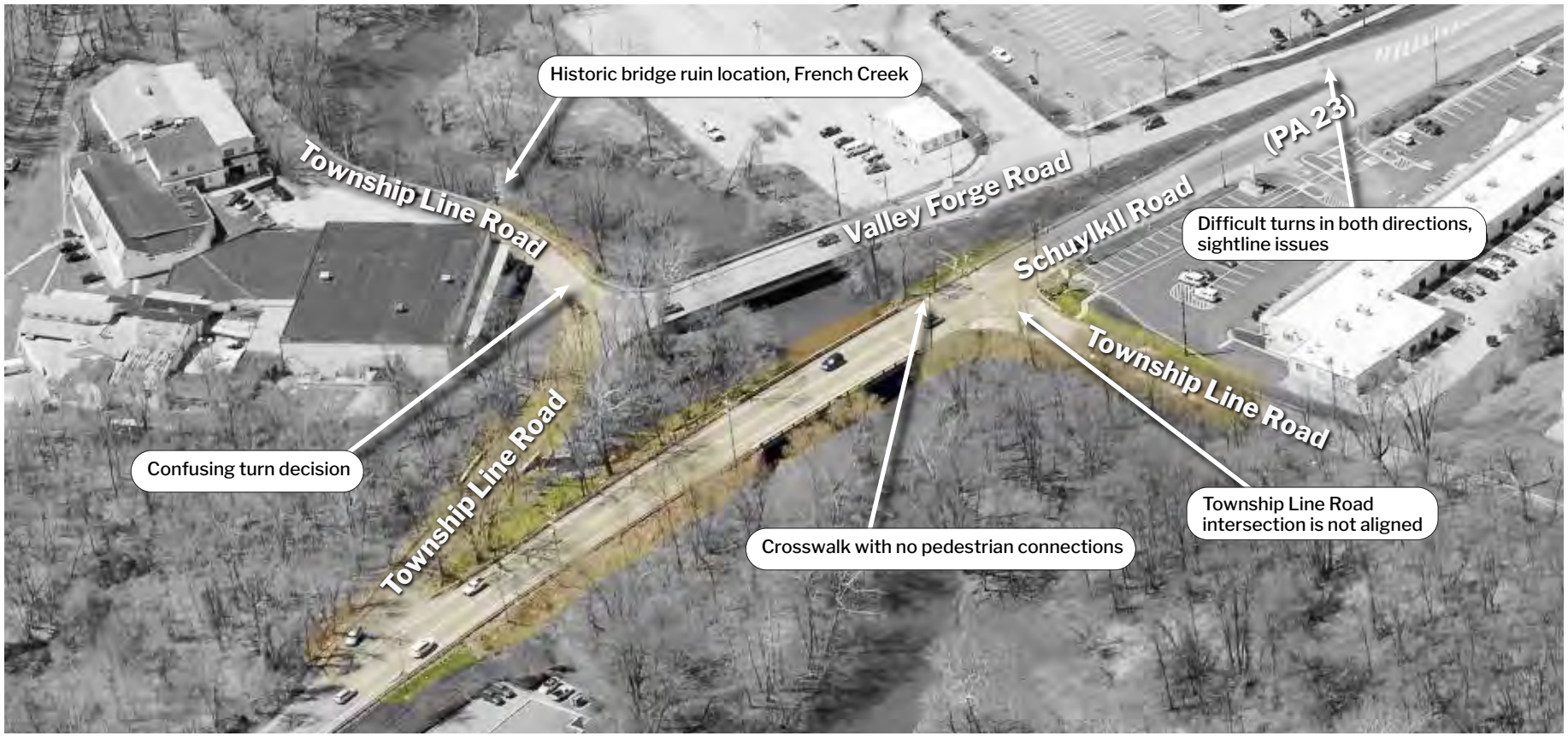

## Analysis

The Township Line Road and PA 23 intersection is not a straight, aligned four-way cross intersection. Rather, Township Line Road traffic must turn left onto PA 23 and then right on Township Line Road in both directions to continue heading north and south. The reason for the misaligned configuration is due to the French Creek, which flows immediately through the intersection and creates the need for a series of bridges to move traffic over the creek. The intersection heading northeast on Township Line Road has two stop signs almost immediately adjacent to each other. At the first stop sign, traffic must choose whether to continue on Township Line Road to the right or make a left onto Valley Forge Road. Both turns are legal and both lead to an intersection with PA 23. Both roads also allow for left and right turn movements, so the choice is a matter of preference. Turning onto PA 23 from either intersection is difficult with the alignment of the intersections. Valley Forge Road and PA 23 has a skewed intersection that causes sight line difficulties for traffic at the stop sign for Valley Forge Road, while traffic on PA 23 does not stop. In order to access the second half of the Township Line Road intersection, traffic must turn a very sharp right on to PA 23 and then in less than 300 feet turn left onto Township Line Road. For traffic remaining on Township Line Road, vehicles must turn left onto PA 23. Vehicles on Township Line Road have a stop sign while PA 23 traffic does not stop. Turning left onto PA 23 can cause stacking and sightline issues for drivers on Township Line Road, as vehicles moving at speed on PA 23 create an obstacle for traffic to make the hard left. Approximately 450 feet after making the left on to PA 23, traffic must turn right in order to continue on Township Line Road.

The intersection of Township Line Road and PA 23 heading south outside of Phoenixville contains a traffic light which allows traffic movements to flow more appropriately. There is a crosswalk at this intersection, though the crosswalk on the southwest side of the intersection terminates at the guardrail, with no continuation over French Creek. Pedestrian access throughout the intersection on both sides of the road is not feasible as currently configured. The French Creek Trail currently terminates not far from the southwest side of the intersection, with no safe way for the trail to continue over, or under, PA 23 and no opportunity for bicycle movements through the intersection. Therefore, the intersection is not functioning well for any mode of transportation.

## Recommendation

A further, more detailed analysis of this intersection is required. An engineering plan should be created based upon the most desirable outcome of that study, which should include a design for safe bicycle and pedestrian movements. The additional plan should be sought by East Pikeland Township and Phoenixville Borough, both of which have some ownership of Township Line Road. A complete review of the potential historic value of this creek crossing and its relation to the Revolutionary War, along with a complete environmental screening of the creek must be performed as well in order to understand the complexities of not only the multimodal movements through this area but also the cultural and natural resources.




*Aerial view of the Township Line Road and PA 23 (Schuylkill Road) intersection, looking west, identifying multiple issues to be addressed. Source: Pictometry.*

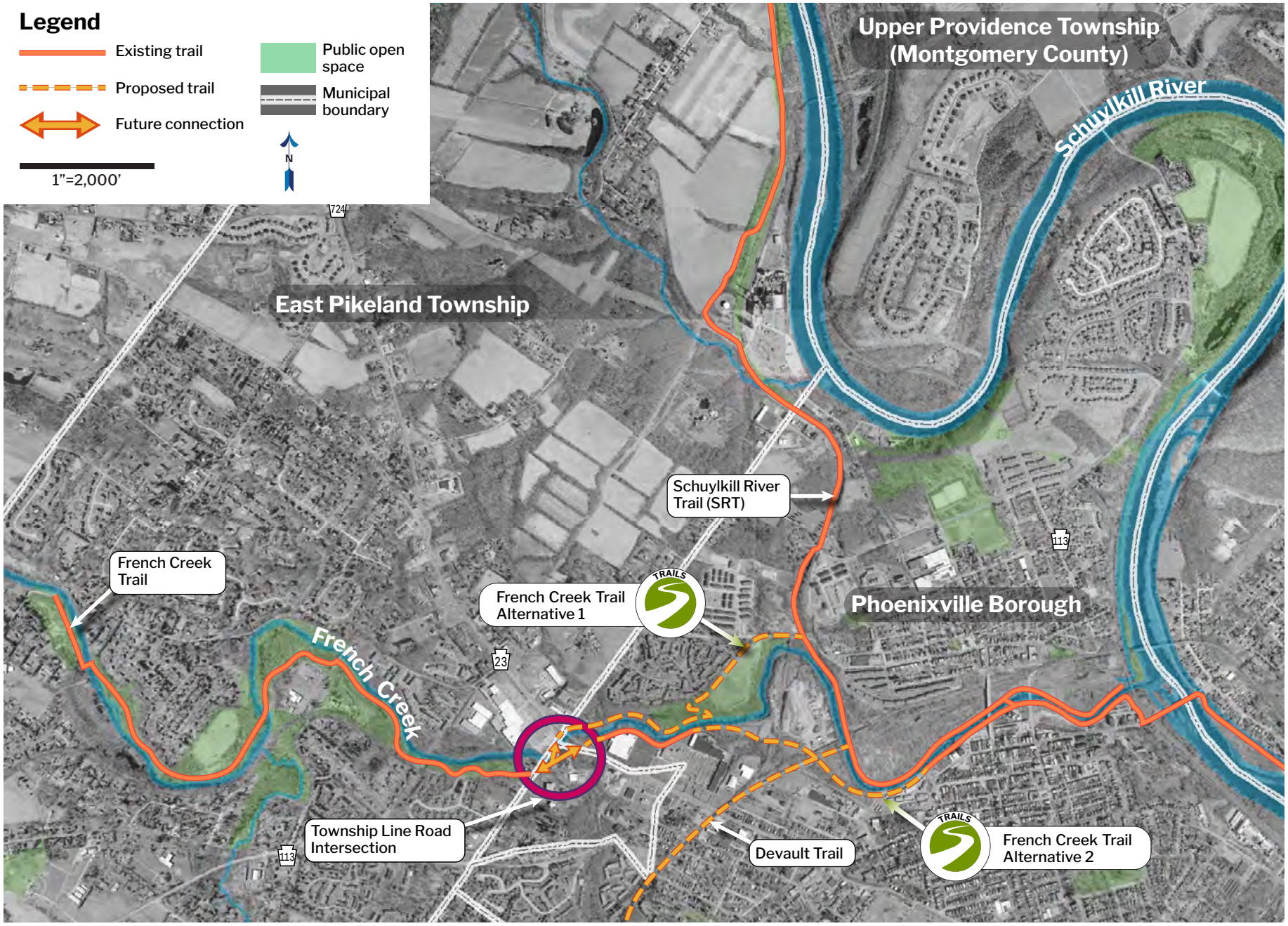
# French Creek Trail

## Analysis

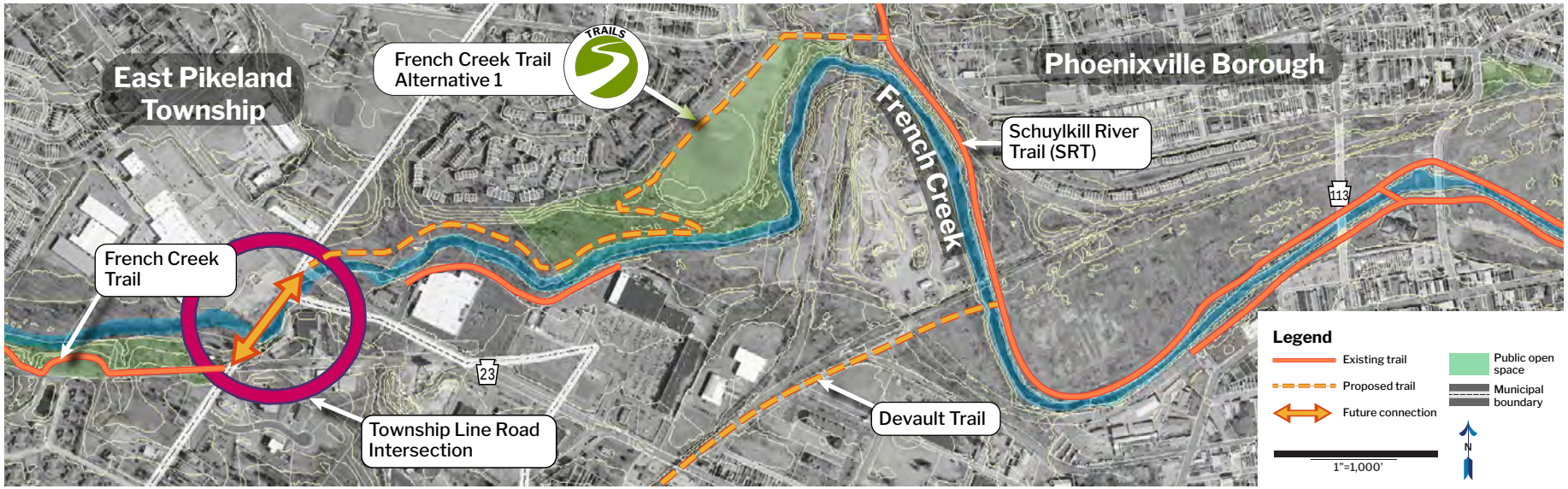
The French Creek Trail begins at a trailhead off of Hares Hill Road in East Pikeland Township. The pedestrian-use trail is an out-and-back, linear trail approximately two miles long. The trail is mostly at-grade and has a mainly natural surface, with a short asphalt-paved segment of the trail near the National Guard property. The asphalt portion of the trail contains most of the significant historic resources along the trail and is located within the boundary of a 1777 Continental Power Works land tract, with ruins still detectable including historic interpretation signage. Currently, the terminus of the trail is just short of Township Line Road, near the Schuylkill Township border. Both East Pikeland Township and Phoenixville Borough have expressed interest in bringing the trail into downtown Phoenixville and connecting it to the Circuit Trail system via the Schuylkill River Trail (SRT). The major barrier for getting the trail to Phoenixville is the Township Line Road and PA Route 23 intersection, a priority project also discussed in this chapter.


*The French Creek in East Pikeland Township.*
*Image credit: East Pikeland Township.*

*Trail bridge over the French Creek.*
*Image credit: East Pikeland Township.*




*Existing conditions and proposed alternatives for extending the French Creek Trail into Phoenixville Borough. Source: Pictometry.*




*Alignment #1. Source: Pictometry.*

## Recommendation

### Reconfiguration of Township Line Road and PA 23

Inclusion of the French Creek Trail in the reconfiguration of the Township Line / PA 23 intersection will be necessary to allow the trail to continue into Phoenixville Borough.

Coordination regarding which of the following two alternatives that is selected will be required during the design phase of the Township Line Road / PA 23 reconfiguration as Alternative #1 is on the north bank and Alternative #2 is on the south bank.

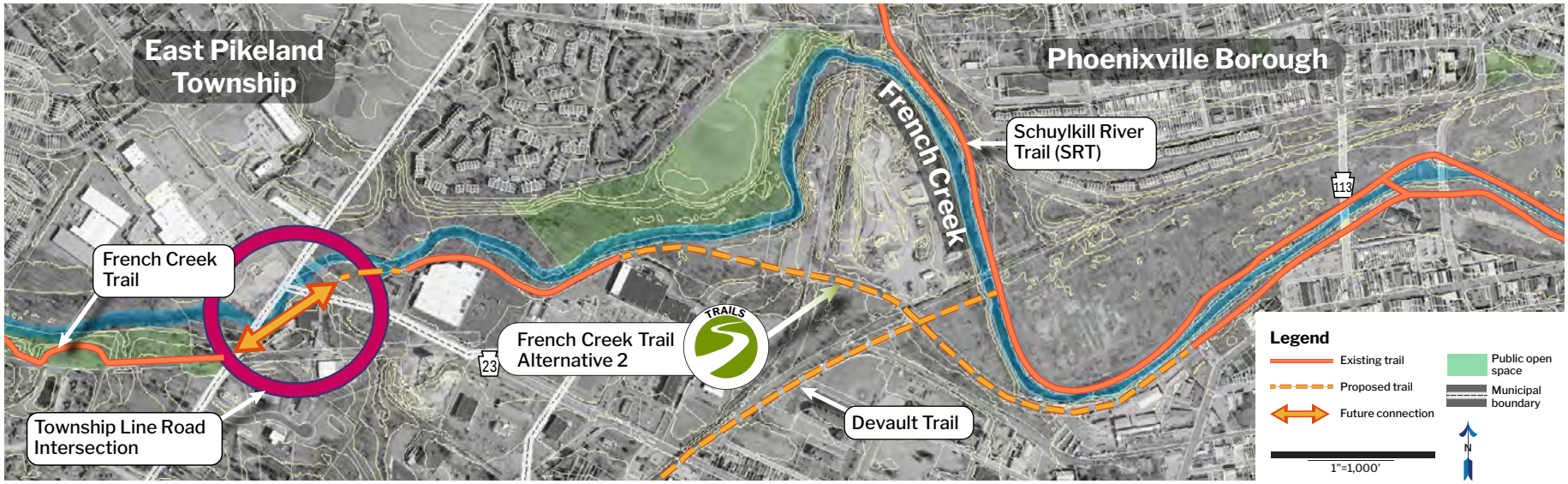
There are two potential alternative alignments to accomplish this, both approximately one mile in length.

### Alignment #1

The first alignment would cross over Township Line Road north of French Creek and enter into the property of Westridge Estates Homeowners Association, where the borough would have to obtain a trail easement.

The trail would then continue to follow the northern side of the French Creek, through Phoenixville Borough owned property and passed Veteran's Park. In order to avoid additional easements, the trail would leave borough property and follow High Street for approximately 400 feet and terminate at the Mowere Road Trailhead where it would meet the existing SRT.

Trail users would be able to use existing crosswalks present at this SRT trailhead. The SRT allows both cyclists and pedestrians and it is recommended that the segment beginning at Township Line Road be a multi-use trail as well. Once connected to the SRT, users can travel north into the Reading area and south all the way into Center City Philadelphia.
The largest challenges with this alignment are the significant grade changes that occur throughout, particularly on the borough owned property bringing trail users to High Street and the necessary on-road components of the alignment. However, both having much of the property already within borough possession and terminating the trail at a trailhead for the SRT makes this alignment attractive.




*Alignment #2. Source: Pictometry.*

### Alignment #2

The second alignment would remain south of French Creek and follow an existing informal footpath behind Phoenixville Plaza and continue on the old Philadelphia and Reading Railroad Pickering Valley Branch corridor. The rail line crosses over the Devault Rail Line, which is also a priority project in this study and recommended to be turned into a multiuse Circuit Trail. Continuing along the Pickering Valley Branch, the trail would then connect to an existing multiuse trail that goes behind Phoenixville Borough Hall and leads directly into the downtown business district. From the path, trail users interested in continuing on to the SRT would use the existing pedestrian bridge to cross over French Creek and link with the SRT. As with the first alignment, this study recommends that this section be a paved multiuse trail for bicycle and pedestrian use. The challenge is that this alignment is almost entirely on privately owned property. The borough would have to work with five, potentially six property owners to obtain trail right-of-way. However, the alignment does offer immediate access into Phoenixville, has a relatively even grade, would operate off of informal paths that are already in existence, and independently connects to both the Devault Trail and the SRT.

French Creek alignment considerations should be included when the Township Line Road and PA 23 intersection is studied and realignment for the intersection is recommended. With two feasible options to continue the French Creek Trail out of East Pikeland Township at its current terminus and into Phoenixville Borough a major trail gap would be closed. This trail would service not only residents of both municipalities but also the entire region. Making connections to SRT and the Devault Trail with either alignment would further encourage regional connectivity.

# Transit access to Phoenixville

## Analysis

The Phoenixville Region is currently served by four bus routes. The routes provide connections to major hubs surrounding the region, such as Great Valley, King of Prussia, and Norristown with connections to rail lines and Center City Philadelphia. With the amount of development planned for the region, gaps in service may become apparent. For those seeking to utilize public transit, there are no designated parking areas in the borough and the current bus stops within the borough do not contain any amenities for transit users. Additionally, there is no access to rail within the entire region. Enhancements to transit within the region will allow more multimodal choices to all users.

## Recommendations

Recommendations for transit access to Phoenixville can be broken down into three categories: short, medium, and long-term priorities. The region is encouraged to work together and with SEPTA in order to plan for improvements.

### Short-Term: Partner with SEPTA on Route Service Planning

SEPTA continually evaluates routes for efficiency and to ensure they serve the most riders as possible with the most efficient routing. With that in mind, SEPTA is going to be reevaluating service to the region as part of its long-range plan update.

This study supports and recommends changes to service and having routes frequently evaluated to make sure changes are meeting service goals.



*SEPTA Route 139 in Phoenixville Borough.*

### Medium-Term: Establish a Transportation Center in Phoenixville

Phoenixville serves as the hub for public transportation in the region, yet there is currently no designated parking for those coming into the borough to access transit nor are there bus stop accommodations for transit riders. By adding a transportation center, similar to the West Chester Transportation Center, ridership could increase and additional parking would allow more users access to public transit for trips to destinations like King of Prussia, Oaks, and Norristown. This study recommends the borough continue to work with SEPTA to create a public transit center as a medium-term priority for the region.

*Transit users at the West Chester Transportation Center, an example of a local transportation center.*

### Long-Term: Restore Train Service to Phoenixville

The Phoenixville Region is not currently served by commuter rail. SEPTA is currently studying an extension of the Norristown High Speed Line into King of Prussia, bringing rail closer to the region than previously available. While the Norristown High Speed Line would not be feasible to extend all the way to Phoenixville, the success of the extension project and ridership generation could be used to support a rail extension into Phoenixville in the future.

This study recommends that a long-term goal should be to restore rail service to the region and Phoenixville Borough. While this is a goal that could be many years from reality, Phoenixville and the Phoenixville Regional Planning Commission should continue to consider rail as a viable transit option when long-range planning for the borough and the region, respectively.


*Source: Schuylkill Valley Metro MIS/DEIS (SEPTA/BARTA).*

# Starr Street and Bridge Street Intersection

## Analysis

The intersection at Starr Street and Bridge Street within the Borough of Phoenixville was identified as a priority project because of the difficult turning movements for traffic, particularly larger vehicles. A tight turning radius occurs for traffic turning right from Starr Street onto Bridge Street. Often, vehicles hit the curb and signage placed outside the intersection. Traffic turning right on to Starr Street does not experience as much of a difficult turn because the curb setback from the turn is more forgiving. Additionally, the sidewalk at the intersection ends on the southeast side of Bridge Street and does not continue after pedestrians cross over Starr Street.


*Southwest corner of the intersection looking east on Bridge Street. The corner is problematic for traffic turning on to Bridge Street.*

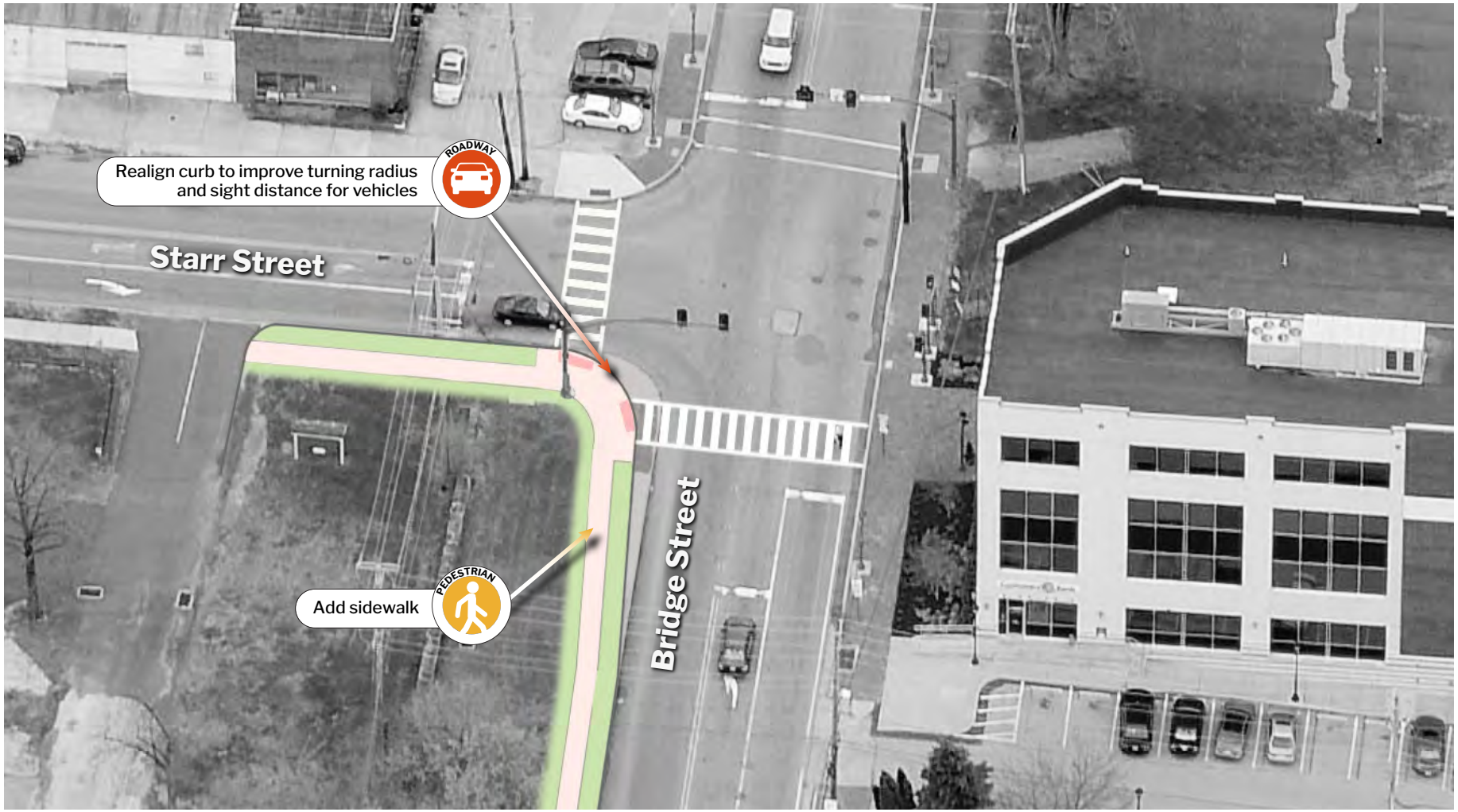


*Intersection looking north on Nutt Road to the intersection of Bridge Street. Source: Pictometry.*

## Recommendations

In order to improve traffic flow through the Starr Street and Bridge Street intersection, acquiring the small parcel of land to the west of Starr Street would allow for the realignment of the curb on that same side of the street.

Creating a better turning radius would allow traffic to move at a better pace, as vehicles would not have such a difficult time making the right on to Bridge Street. The new configuration would also improve sight distance for traffic.




*Intersection looking north on Nutt Road to the intersection of Bridge Street. Source: Pictometry.*

# Mont Clare Intersection

## Analysis

The Mont Clare intersection, located in Upper Providence Township, is comprised of three streets: PA 29 (Bridge Street), Jacobs Street, and Walnut Street. The intersection alignment is skewed, resulting in difficult turning movements for traffic in all directions. The unaligned intersection leads to considerable stacking, particularly at peak hours. Additionally, there are no dedicated left turn lanes or left turn arrows throughout the intersection, making left turns difficult for vehicles and compounding the issue of stacking by disrupting traffic flow.

*Looking north on Bridge Street Towards the Jacob and Walnut Intersection to be realigned.*



*Aerial view of the existing Jacob Street, Walnut Street and PA 29 intersection. Source: Pictometry.*

## Recommendations

Upper Providence Township is moving forward with a newly designed intersection to eliminate many of the current challenges. A building has been demolished on the northeast corner of Jacobs Street and Bridge Street in order to accommodate a realignment of Jacobs Street. Creating a straight connection of Walnut and Jacobs Streets would eliminate the need for an extended intersection and allow traffic to flow in all directions more directly.

With the new alignment, the traffic signal timing should be evaluated to ensure that vehicles needing to make a left turn onto either Walnut or Jacobs Streets do not significantly interrupt the flow of traffic and be a net benefit to traffic flow. The concern is with large vehicles headed southbound that need more horizontal space to clear the railroad underpass and curve next to the Black Rock Fire Company. Some of these vehicles currently cross the center line to negotiate the sharp curves and avoid the bridge abutments.

Bicycle and pedestrian amenities should be considered at the intersection to allow for more modes to have access to the improved traffic patterns.


*Proposed improvements to the Jacob Street, Walnut Street and PA 29 intersection. Source: Pictometry.*

Y

# Trail link along PA 29

## Analysis

PA Route 29 in Upper Providence Township has a daily traffic volume of about 10,500 vehicles, according to DVRPC traffic counts performed in 2017. In the area of this priority project, PA 29 is four lanes: two northbound and two southbound lanes split by a concrete median. There are three signalized intersections along PA 29 where this priority project has been suggested. US 422, a major regional connection, has an exit and entrance ramp within the project area. The two major uses for this area of PA 29 are business campuses, including a large private employer and a large commercial center that houses restaurants and shops called the Providence Town Center. There is congestion within the area, particularly during the lunch hour, as there are no multimodal transportation options to move workers between the campuses and the Providence Town Center. Upper Providence Township has several planned trails already traversing in proximity to this priority project. One of note is the existing trail through the Madison Providence Apartment Complex, just off of PA 29, that has a low priority trail extension planned to continue the trail across PA 29 at Arcola Road at the northern extent of this priority project. Additionally, there is an existing trail at the rear of the corporate campus on Black Rock Road and Troutman Road, with plans to extend the trail over PA 29 on Black Rock Road to the far southern extent of the project. Finally, there is a high priority trail planned as a connector on Troutman Road to link the corporate campus trail to the Madison Providence Apartment Complex system, creating a small network just off of PA 29.



*Shuttle bus waiting to pick up passengers in Chester County.*

## Recommendations

Adding a trail link along PA 29 to get employees to and from the Providence Town Center is one solution to improve multimodal access. However, the approximately one mile trail link would take a considerable amount of time to walk, leaving potentially very little time for errands during an hour lunch break. Another solution to the peak hour demand could be the addition of a shuttle to and from the Providence Town Center during lunch hours; this Transportation Demand Management (TDM) solution would be undertaken by the corporate business campuses. Finally, a bike-share program could be introduced to the corporate business campuses and at the Providence Town Center. A bike-share program would expedite the trip to and from the town center while also alleviating traffic along the road. This program would be managed by the corporate campus businesses and potentially Providence Town Center and could be offered as free or with a nominal fee to users.

In order to implement the best solution for this priority project, the corporations along the route are encouraged to survey employees and in order to understand what the current demand for access to the Providence Town Center is and how best to manage it. Individually or in combination, any of these solutions would mitigate traffic through this corridor and provide multimodal options to users.


*Aerial view toward the west of the PA 29 and US 422 interchange and surrounding area. Source: Pictometry.*


# 4: Municipal and School District Recommendations

Municipal regulations play a key role in implementing all multimodal recommendations made throughout this plan. This chapter reviews existing ordinances in all six municipalities within the region to identify how each municipality addresses multimodal accommodations in both its zoning ordinance and subdivision and land development ordinance (SALDO), specifically reviewing bicycle and pedestrian regulations.

A second key element to multimodal movement throughout the region is informing the public about mode choice and availability. During the public and steering committee engagement components of this study, it was discussed that bicycle and pedestrian movements are not very common means of transportation in the study area. In order to make an impact on the community and spread awareness of the many multimodal choices and the opportunity to expand upon those amenities throughout the region, this study recommends working with schools to promote biking and walking. In this chapter, several strategies are discussed to engage school-aged children to use multimodal transportation options like walking and biking.

# Municipal Recommendations

## Ordinance Review

A review of municipal ordinances revealed that many of the municipalities in the region are regulating bicycle and pedestrian facilities on some level. In the matrix below, a green designation means that the municipality has effective standards in place, a yellow designation means there are standards in place but their effectiveness is limited, and a red designation means that there are no standards in place within the municipal zoning or Subdivision and Land Development Ordinance (SALDO). As one can see from the matrix, sidewalks are the most defined and regulated standard for the region. Some of the region has regulations in place for trails but almost none of the region includes any type of standard for bicycles. Finally, only Upper Providence Township has an Official Map.

LEGEND

YES

LIMITED

NO

### Ordinance Review

| Standard | Phoenixville | East Pikeland | West Vincent | Charlestown | Schuylkill | Upper Providence |
|---|---|---|---|---|---|---|
| **Pedestrian Facilities—Sidewalks** | | | | | | |
| Are pedestrian facilities defined? | YES | LIMITED | LIMITED | YES | LIMITED | LIMITED |
| When required? (i.e., for what type of uses) | YES | YES | YES | YES | YES | YES |
| Where required? (location, etc.) | YES | YES | YES | YES | YES | YES |
| Are sidewalks required? | YES | NO | YES | YES | NO | YES |
| Is a minimum sidewalk width specified? | YES | YES | YES | YES | YES | YES |
| Reference ADA standards? | YES | YES | NO | NO | NO | YES |
| Are bus shelters required? | NO | YES | NO | NO | NO | NO |
| Are crosswalks required? | YES | YES | NO | NO | NO | YES |
| **Multi-use Trails** | | | | | | |
| Are trail facilities defined? | YES | YES | YES | NO | LIMITED | NO |
| When required? (i.e., what type of uses) | LIMITED | YES | LIMITED | NO | NO | LIMITED |
| Where required? (i.e., location, linkages) | LIMITED | YES | NO | LIMITED | NO | YES |
| Are trails mandatory or optional? | LIMITED | YES | LIMITED | YES | LIMITED | NO |
| Ownership/ maintenance responsibilities? | YES | NO | NO | LIMITED | NO | NO |
| Is a minimum trail width included? | YES | YES | YES | YES | YES | YES |
| Is a surface treatment specified? | NO | YES | LIMITED | NO | NO | YES |

## Ordinance Review *(continued)*

| Standard | Phoenixville | East Pikeland | West Vincent | Charlestown | Schuylkill | Upper Providence |
|---|---|---|---|---|---|---|
| **Bicycle Facilities** | | | | | | |
| Bike facilities defined? | NO | NO | NO | NO | NO | NO |
| When required? (i.e., what type of uses) | LIMITED | NO | LIMITED | LIMITED | NO | LIMITED |
| Where required? (i.e., location, linkages) | LIMITED | NO | NO | LIMITED | NO | NO |
| Ownership/ maintenance responsibilities? | NO | NO | NO | NO | NO | NO |
| Is a minimum trail width included? | NO | NO | NO | NO | NO | NO |
| Is a surface treatment specified? | NO | NO | NO | NO | NO | NO |
| Are bicycle parking facilities required? | NO | NO | NO | NO | NO | NO |
| **Official Map** | | | | | | |
| | NO | NO | NO | YES | NO | YES |

Municipalities are encouraged to modify their zoning and/or SALDO to address any of these identified gaps as deemed appropriate to better accommodate active transportation in their communities.

## Sample Definitions

It is recommended that each municipality review its zoning and SALDO in order to ensure that standards are in place for multimodal travel throughout the region. The following definitions are taken from the Planning Commission's Multimodal Handbook and contain elements of bicycle and pedestrian amenities that should be included when a municipality defines these terms within its zoning and SALDO language.

### Sample Definitions

| Pedestrian Facilities — Sidewalks | |
|---|---|
| **ADA Accessibility** | All or any portion of buildings, structures, site improvements, complexes, equipment, roads, walks, passageways, parking lots, or transportation facilities that are readily accessible to and usable by individuals with disabilities to be expressed in terms of architecture and design, transportation and communication. |
| **Crosswalk** | A public right-of-way used for pedestrian travel across a roadway at an intersection or any portion on of a block (midblock crossing) to provide safe pedestrian access to adjacent roads, lots, or public use areas. |
| **Midblock Crossing** | A designated space within a roadway that allows bicyclists and pedestrians to cross a road safely at a location other than an intersection. |
| **Sidewalk** | A pedestrian route, typically constructed of concrete and parallel to a street that provides a means for pedestrians to travel within the public right-of-way while physically-separated from vehicular traffic. Sidewalks are designed for pedestrian use only. |
| **Walkway** | A designated single use facility with an improved surface, primarily for use by pedestrians, typically located outside of the road right-of-way and/or not directly adjacent to a street. |
| **Multi-use Trails** | |
| **Multi-use Trails** (Off-road facilities, intended for multiple user modes) | A facility that is physically separated from the roadway and typically accommodates bi-directional travel by both bicyclists and pedestrians. The trail can be located within a publicly owned right-of-way, an exclusive right-of-way, or an easement. Shared use trails typically have an improved surface (e.g., asphalt, concrete, compacted gravel, etc.) and have a recommended width (per AASHTO) of 10 feet, although a minimum width of 8 feet may be used where space is constrained or when located in environmentally sensitive areas. |
| **Sidepath** | A multi-use trail that parallels a roadway. |
| **Use-restricted Trails** (Off-road facilities, only certain modes are accepted) | Trails that are primarily used for one form of travel or by one type of user such as bicyclists or pedestrians. These trails are typically paved or have an improved surface, and are less than 8 feet in width |

## Sample Definitions *(continued)*

| Bicycle Facilities | |
|---|---|
| **Cycle Track** | Travel lane for non-motorized vehicles with a physical barrier to other traffic. These may be designed for one-way or two-way travel. |
| **Bicycle Lanes**<br>(A striped travel lane for bicycles) | Designated travel lanes within the cartway or along the road shoulder for exclusive use by bicyclists. Bike lanes typically involve a combination of supplemental indicators including but not limited to Share the Road Signs and other pavement markings. |
| **Bicycle Boulevard** | A street corridor treatment that prioritizes and enhances bicycle travel through the installation on of traffic calming measures, signs, pavement markings, and crossing improvements. These facilities are typically located on roadways with low traffic volumes which are suitable for bicycle travel. |
| **Shared Roadway**<br>(Paved shoulder) | A street with a paved shoulder or wide curb lane that accommodates bicyclists adjacent to the vehicle travel lanes. A minimum four (4) foot shoulder is preferable, in conjunction with applicable municipal and PennDOT guidelines. Shared Roadways with paved shoulders may be a Signed Bike Route or include other indicators such as Share the Road Signs, sharrows, or other pavement markers. |
| **Shared Roadway**<br>(Limited or no shoulder) | A street which accommodates bicyclists and motorists in the same travel lane. Typically the travel lanes are wider than what would be designed for automobile traffic only for the associated functional classification on of the road and its context. Shared roadways may be a Signed Bike Route or include other indicators such as Share the Road Signs, sharrows, or other pavement markers. |
| **Signed Bike Route** | Wayfinding treatment that indicates the facility has been designated for bicycle use. |
| **Share the Road Signage** | Supplemental signage added to a shared roadway to warn motorists of the increased likelihood of bicyclists. |
| **Sharrow** | A pavement marking that increases driver awareness of shared roadway arrangements. Typically, the use of sharrows has been approved by PennDOT; however, the approval of sharrows is presently evaluated on a case-by-case basis. |
| **Bicycle Parking** | A secure location on-site or within a facility for the temporary storage of bicycles. |
| **Bicycle Corrals** | On-street bicycle parking facilities that make efficient use of on-street automobile parking spaces for bicycle parking in areas with a high demand. |
| **Bicycle Stations** | Typically enclosed parking structures that securely house bicycles from theft and from the elements. |
| **Public Transportation** | |
| **Bus Shelter** | A transit user amenity located at a bus stop to provide convenience, comfort, and shelter from the elements in the form of a structure such as a canopy. |
| **Bus Stop** | A designated location - typically along a fixed bus route - where people gather to board and/or exit a bus. |
| **Park and Ride** | Parking lots designed to allow vehicle owners to park at a common site and maximize the use of public transit, van pools and carpools. |
| **Rail Station** | A stop along a commuter rail line where trains load or unload passengers. |
| **Transportation Center** | A hub served by multiple transit routes that provides multimodal options and transfer opportunities for transit users. |

# School District Recommendations

*Children walking to school. Source: GVFTMA.*

In order to understand how students are arriving to school and if schools are promoting walking and biking, a survey was sent to each school district within the region:

- Owen J. Roberts
- Phoenixville Area School District
- Spring-Ford Area School District
- Great Valley School District

The survey found that:

- The majority of students ride the bus to school each day (>75%).
- The second highest number of students drive to or are dropped off at school.
- Walking and biking to school had the lowest proportion of students across all means of travel.
- Only the Phoenixville Area School District actively has programs that support walking paths to allow students to walk to school.
- The remaining school districts noted that none of the facilities at any of their campuses were suitable for students to walk or bicycle.
- Both Phoenixville and Spring-Ford Area School Districts provide bicycle and pedestrian amenities for students and staff such as bike racks and benches.
- Every single school in the region does participate in wellness programs to educate students and parents to live a healthy lifestyle, which is very encouraging.

This study recommends that municipalities and schools not only continue to encourage multimodal transportation but look at ways to enhance regulations and policies already in place. School districts may want to assess safe bicycle and pedestrian routes to school to evaluate existing conditions and identify needed improvements.

There are several other events that schools may consider implementing in order to continue to encourage multimodal transportation:

| School Events | |
|---|---|
| **Bicycle Rodeos** | Bicycle Rodeos are events designed to promote safe bicycling practices in a fun and interactive environment. Organizers set up comprehensive stations with educational topics ranging from helmet safety to following bicycle road rules to proper riding and balance techniques. School districts can host a Bicycle Rodeo with little to no cost and promote safe bicycling to all students. Even if it is not feasible for students to ride to school, promoting safe biking to other destinations is still very critical for students to learn. Safe Kids Worldwide has a great Bicycle Rodeo Station Guide that is easily implementable. |
| **Bicycle and Pedestrian Safety Education** (for students and adults) | Continuous educational programs about bicycle and pedestrian safety will encourage more students to walk and bike and remove the fear around these modes of transportation for children and parents alike. This study recommends that the school districts work with partners throughout the county, including the Chester County Health Department, to continue to educate and promote healthy lifestyles through walking and bicycling. |
| **Bicycle to School Day** | If there are properties that are safe to bike to within school districts, organized Bicycle to School Days are a great way to have students and parents interact while promoting bicycling as a means to commute. Some schools may not be able to have a Bicycle to School Day due to their location, but perhaps the school can plan an event on a local trail where students and parents still partake in a bicycling activity together in a safe and fun environment. |
| **Walk to School Day** | In the same way that a Bicycle to School Day promotes multimodal transportation and healthy living, a Walk to School Day event is a great way to engage both students and parents. Again, should the school district believe that it is unsafe to have students, parents, and staff walk to facilities within the district, organizing a walk on a trail or around the school property may be a great solution to encourage walking. Any means of getting students to enjoy walking is supported and recommended. |

A final means of educating students to make multimodal choices are parent-led walking and bicycling events. Individual parents from a neighborhood, for example, could arrange for a bike train or walking school bus wherein parents lead students together in a group to school in lieu of driving or taking the bus. This could be a weekly or monthly occurrence to demonstrate to students that there are other, fun modes of transportation to get to and from destinations.

Enhanced multimodal transportation is an achievable goal within the region. By municipalities supporting and encouraging multiple modes of transportation and institutions such as schools promoting alternative travel options, the region would become an even greater force within Chester County for multimodal transportation.

# Additional Recommendations

Several of the priority projects identified require feasibility studies. In addition to these recommendations, there are several other key planning tools that the region's municipalities can use in order to ensure multimodal transportation is a priority.

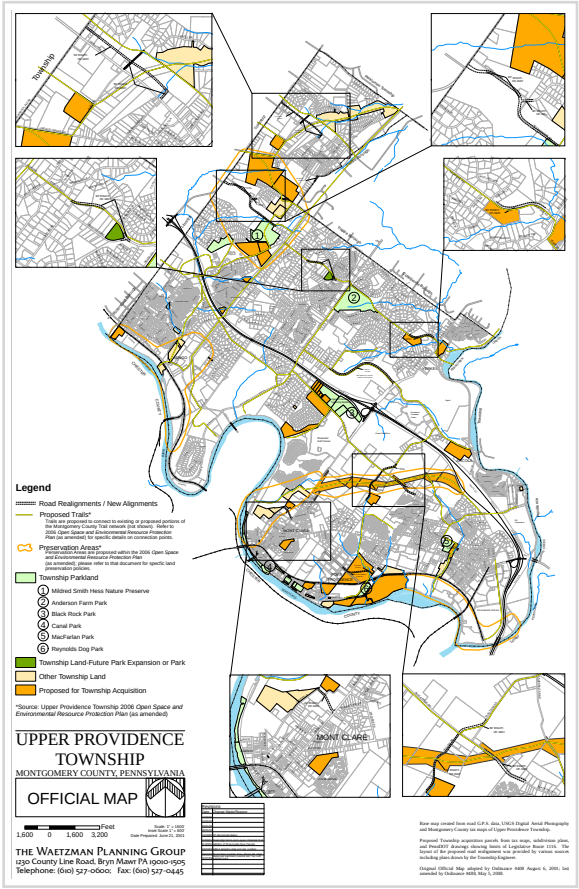
## Official Map and Ordinance

### Definition

A map and ordinance enabled by Article IV of the Pennsylvania Municipalities Planning Code (Act 247) that identifies public facilities both existing or planned, including but not limited to parks, trails, areas of open space, recreation, utilities, and other similar facilities. The Official Map gives the municipality the right of first refusal to purchase land necessary to facilitate the identified public improvement(s) and may delay a development for up to one year.

### Recommendation

It is recommended that each municipality within the region consider adopting an Official Map and ordinance, as it can be used to identify the municipality's desired location for future multimodal improvements such as trails, bicycle facilities, and sidewalks. This document can be used by municipalities in order to negotiate for desired improvements shown on the map when development occurs. Upper Providence is currently the only municipality within the region to have an Official Map and ordinance.




*Upper Providence Township Official Map.*

## Traffic Impact Study (TIS)

### Definition

TIS provide an analysis of the effect of traffic generated by a development on the capacity, operations, and safety of the public street and highway system. The TIS is used to determine the improvements that are necessary to ensure that the transportation network can accommodate the new development.[1]

### Recommendation

Municipalities should consider adopting a Traffic Impact Study (TIS) requirement for all new development within its zoning ordinance or SALDO. The TIS should contain specific language for when this study is needed, which can include varying levels as dictated by size and type of development. Municipalities should make sure that TIS ordinance language requires a review of all multimodal movements throughout the proposed development, including bicycle and pedestrian facilities.

## Transportation Impact Fee (TIF)

### Definition

TIF are enabled through the Municipalities Planning Code (MPC), article V-A. An impact fee is defined as follows: "a charge or fee imposed by a municipality against new development in order to generate revenue for funding the costs of transportation capital improvements necessitated by and attributable to new development". The TIF process is precisely prescribed within the MPC for specifically identified "capacity adding" projects only and fees can cover 100% of project costs on municipal roads, 50% on state roads. Fee generation is calculated on development trip generation for a specific development. In order to enact TIF a municipality must conduct the following:

- Land Use Assumptions Report;
- Roadway Sufficiency Analysis;
- Capital Improvement Plan; and
- Transportation Impact Fee Ordinance.

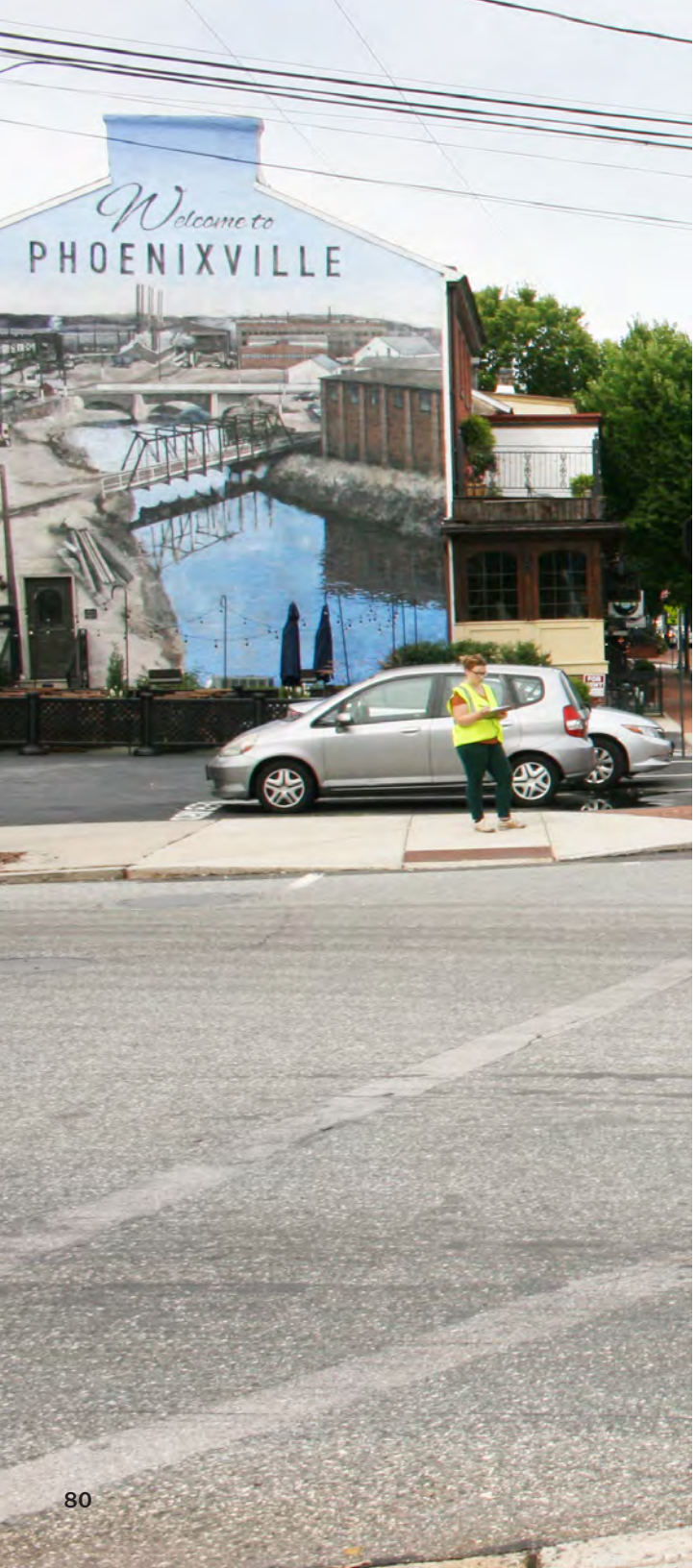
### Recommendation

TIF can be a useful tool for municipalities experiencing a significant amount of development. Currently, Charlestown and East Pikeland Township have TIF ordinances. It is recommended that each municipality within the region evaluate whether adding TIF ordinance language is appropriate based upon future land use development and roadway conditions.

## Summary

By updating zoning and SALDO provisions, municipalities have the authority to ensure that current and future multimodal infrastructure is cared for and encouraged. As many of the recommendations within this study will be implemented through the development process, municipalities should use the SALDO and zoning process in conjunction with this plan will help to make priority projects become a reality. Tools like an Official Map and ordinance and TIS will assist in achieving the municipality's overall connectivity goals. It is recommended that ongoing assessment of regulations in order for the region to continue to advocate, plan, and regulate smart multimodal transportation implementation as the region grows.

[1] Chester County Planning Commission, *Central Chester County Bicycle and Pedestrian Circulation Plan*




# 5: Implementation

This chapter provides a summary for how all 26 of the projects identified—including the 13 priority projects—may move toward implementation. The implementation matrix offers a brief description of each project, the municipality in which it is located, an opinion on the relative cost and time frame, and a summary of the recommendation or next steps required to advance the project toward implementation.

## Implementation Matrix

The following matrix displays order of magnitude cost estimates and relative timeline for each of the 26 identified projects, including the 13 priority projects highlighted in green.

**Order of magnitude costs** are ranked from
$: relatively low cost to
$$$$: requiring substantial investment.

The relative timeline is categorized as follows:

### Short-term

The project is either significantly underway or will take relatively minimal effort to obtain funding and implement.

### Medium-term

The project requires further study and/or engineering, or requires more time project to implement.

### Long-term

The project is either currently conceptual in the development process or may require significant additional rights-of-way, engineering, and/or funding commitments to be implemented.

*Construction of the Gay Street bridge in Phoenixville.*

## Implementation Matrix

- Priority project
- Project

| | Project | Description/Issue | Municipality | Cost | Timeline | Next Steps |
|---|---|---|---|---|---|---|
| A | Ludwig's Corner | Pedestrian access at the PA 100 and PA 401 intersection | West Vincent | $ | Short-Term | Develop engineering plans and work with developer |
| B | West Vincent Trail | Add multimodal community connector trails throughout the township | West Vincent | $$ | Medium-Term | Prioritize trail connections within the township |
| C | Pickering Trail | Trail gap between the Pickering Trail and Bridge to Bridge Trail | East Pikeland | $$ | Long-Term | Assess feasibility of connecting the two trails including an alternatives alignment study and right-of-way acquisition |
| D | PA 401 and Valley Hill Road Intersection | Peak hour congestion | Charlestown Township | $ | Short-Term | Investigate the potential for adding a left turn lane westbound |
| E | Charlestown and Hollow Roads intersection | Difficult for cross and turning traffic on Hollow Road | Charlestown Township | $ | Short-Term | 1. Install "SLOW DOWN" pavement markings and advanced warning signage on Charlestown Road<br>2. Coordinate with property owners to maintain vegetation at intersection |
| F | Devault Trail | Proposed multi-use Circuit Trail between Phoenixville and Great Valley | Charlestown Township, Schuylkill Township, Phoenixville Borough | $$$$ | Long-Term | 1. Complete title search to determine current ownership<br>2. Determine who will advance the project |
| G | Pickering Trailhead | Create trailhead/access along Charlestown Road | Charlestown Township | $ | Short-Term | Acquire funding to construct a trailhead |
| H | Charlestown Road Sidewalks and Bike Route | Provide sidewalks and bike route between Phoenixville and the University of Valley Forge and the Technical College High School: Pickering Campus | Charlestown Township | $$ | Medium-Term | Work with schools to determine need and acquire funding to construct sidewalks and a bike route based upon demand |
| I | PA 29 Narrow Bridge | One-lane bridge that produces peak hour congestion point | Charlestown Township | $$ | Medium-Term | Coordinate with PennDOT to construct a two-lane bridge |
| J | PA 23 and Valley Park Road | Intersection realignment and traffic calming measures along PA 23 | Schuylkill Township | $$ | Long-Term | Conduct an engineering study to find the best solution for the intersection |

## Implementation Matrix *(continued)*

| | Project | Description/Issue | Municipality | Cost | Timeline | Next Steps |
|---|---|---|---|---|---|---|
| K | Freedom Trail | Proposed trail connection from Phoenixville to Valley Forge Historic National Park on the south side of the Schuylkill River | Schuylkill Township, Phoenixville Borough | $$$ | Long-Term | Determine priority segments to construct |
| L | Schuylkill Township Sidewalks | Proposed walkway connections between Schuylkill Township and Phoenixville Borough | Schuylkill Township | $$$ | Medium-Term | Prioritize sidewalk gaps and acquire funding to construct, especially through the land development process |
| M | Starr Street and Nutt Road Intersection | Traffic stacking caused by missing turning movement, illegal left turns | Phoenixville Borough | $$$ | Short-Term | Construct:<br>1. Proposed turn lane<br>2. Additional pedestrian amenities<br>3. Bus stop improvements<br>4. Intersection realignment |
| N | Starr Street | Traffic calming | Phoenixville Borough | $$ | Medium-Term | Conduct a study on traffic movement on the street in order to assess solutions |
| O | Bridge Street and Nutt Road | Complex intersection that creates significant peak hour congestion. | Phoenixville Borough | $$$$ | Medium-Term | Seek funding for additional study of the intersection |
| P | Township Line Road and PA 23 | Realignment/reconfiguration of multiple turning movements and bridge crossing(s). | East Pikeland Township, Phoenixville Borough | $$$$ | Medium-Term | Seek funding for additional study of the intersection |
| Q | Pothouse Road | Connect trail on Pothouse Road to Bridge Street | Schuylkill Township | $$ | Long-Term | Acquire funding to build missing trail links |
| R | French Creek Trail | Connect trail into Phoenixville Borough | East Pikeland Township, Phoenixville Borough | $$ | Medium-Term | Conduct feasibility study to select preferred alternative and seek funding to construct |
| S | Transit Access to Phoenixville | Update bus service within the region to provide efficient and effective public transportation | Region | $ | Short-Term | Coordinate with SEPTA |
| | | Develop a Phoenixville Transportation Center | Phoenixville Borough | $$$ | Medium-Term | 1. Determine a location<br>2. Coordinate with SEPTA<br>3. Seek design and construction funds |
| | | Restore regional rail service to Phoenixville | Region | $$$$ | Long-Term | Coordinate with SEPTA |

## Implementation Matrix *(continued)*

| | Project | Description/Issue | Municipality | Cost | Timeline | Next Steps |
|---|---|---|---|---|---|---|
| T | Starr Street and Bridge Street Intersection | Improve turning radii, vehicle stacking, and sight distance | Phoenixville Borough | $$ | Medium-Term | Acquire right-of-way, engineer, and reconfigure intersection |
| U | Mont Clare Intersection | Realign the PA 29, Jacobs Street, and Walnut Street intersection | Upper Providence Township | $$$ | Short-Term | Seek funds to continue intersection realignment |
| V | PA 113 and Schuylkill River | Add pedestrian connection across the bridge | Phoenixville Borough, Upper Providence Township | $$ | Long-Term | Coordinate with PennDOT when bridge is slated for improvement for the addition of pedestrian amenities |
| W | Black Rock Road and 2nd Avenue Intersection | Difficult geometry and signal operations creates traffic stacking | Upper Providence Township | $$$ | Medium-Term | Reconfigure intersection to improve geometry and operations and reduce traffic stacking |
| X | Schuylkill East Trail | Montgomery County owned trail with current terminus at River Road | Phoenixville Borough, Upper Providence Township | $ | Long-Term | Assess the feasibility of extending the trail beyond River Road |
| Y | Trail Link along PA 29 | Potential bicycle pedestrian connection | Upper Providence Township | $$ | Long-Term | Coordinate with companies and businesses along PA 29 to implement TDM solutions |
| Z | Arcola Road and PA 29 Intersection | Add pedestrian accommodations | Upper Providence Township | $$ | Medium-Term | Acquire funds to conduct a design for pedestrian improvements at the intersection |

## Potential Funding Sources

The following is a list of potential funding opportunities available for which the variety of multimodal projects identified through this study may be eligible. Specific guidance documents for each may be downloaded from the program websites at the links found below:

### Multimodal Transportation Fund — PennDOT and PA Department of Community and Economic Development (DCED)

Established through Act 89, Multimodal Transportation Funds are available for transportation projects that feature one or more of the following components: coordinate local land use with transportation assets; streetscaping projects including lighting, sidewalk enhancements, and pedestrian safety; improvements to connectivity or utilization of existing transportation elements; and transit-oriented development projects.

**Match Requirements/Awards**
Minimum of 30%. Project awards range from $100,000 to $3M.

**Availability**
PennDOT — applications typically are due annually in December;
PA DCED — applications due annually on July 31st.

**Websites**
PennDOT — www.penndot.gov/ProjectAndPrograms/MultimodalProgram/Pages/default.aspx

PA DCED — www.dced.pa.gov/programs/multimodal-transportation-fund/

### Automated Red Light Enforcement (ARLE) Program — PennDOT

The Automated Red Light Enforcement (ARLE) program was established by Pennsylvania state legislation enacted in 2002, with the grant program being enacted in 2010. It uses net revenue from ARLE-levied fines to fund highway safety projects statewide.

**Match Requirements/Awards**
No match is required. Average award per project since 2010 = $150,000+/-

**Availability**
Applications due annually on June 30th.

**Website**
www.dot.state.pa.us/Portal%20Information/Traffic%20Signal%20Portal/FUNDARLE.html

### Green Light-Go - PennDOT

Created by Act 89, Green light Go is Pennsylvania's Municipal Signal Partnership Program that provides state funds for the operation and maintenance of traffic signals along critical and designated corridors on state highways.

**Match Requirements/Awards**
20% match required. No ceiling on award amount.

**Availability**
Applications typically due in November.

**Website**
www.dot.state.pa.us/Portal%20Information/Traffic%20Signal%20Portal/FUNDGLG.html

### Transportation Alternatives Set Aside Program — PennDOT

The Transportation Alternatives Set-Aside (TA Set-Aside) provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, environmental mitigation, recreational trail program projects, and safe routes to school projects. (Source: PennDOT)

**Match Requirements/Awards**
Awards are for 100% construction and are reimbursed (not a grant program). No specific match is required, however project sponsors are responsible for all other pre-construction costs (engineering, permit approvals, etc.) which are approximately 20% of total project costs, but could be more depending on project complexity. Minimum award for construction is $50,000, max award $1M. Projects are eligible for both regional and statewide funds.

**Availability**
Varies. Last round applications were due September 22nd, 2017. Next round expected in 2019 (every 2 years).

**Websites**
PennDOT—
https://spportal.dot.pa.gov/Planning/AppReg/TAP/Pages/default.aspx

DVRPC — www.dvrpc.org/TAP/PA/

### Community Conservation Partnerships Program (C2P2) — PA Department of Conservation and Natural Resources (DCNR)

DCNR's Bureau of Recreation and Conservation (BRC) assists local governments and recreation and conservation organizations with funding for projects related to parks, recreation and conservation, including non-motorized trails.

**Match Requirements/Awards**
50% match required for planning, acquisition, and development projects.

**Availability**
Applications typically due annually in mid-April.

**Website**
www.dcnr.pa.gov/Communities/Grants/Pages/default.aspx

### Greenways, Trails, and Recreation Program — PA DCED

Act 13 of 2012 establishes the Marcellus Legacy Fund and allocates funds to the Commonwealth Financing Authority for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects

**Match Requirements/Awards**
Minimum 15% match, max award $250,000

**Availability**
Applications due annually on May 31st.

**Website**
www.dced.pa.gov/programs/greenways-trails-and-recreation-program-gtrp/

### Chester County Department of Community Development's Community Revitalization Program (Borough of Phoenixville only)

Eligible urban center municipalities can apply for funding to support infrastructure improvements, streetscape improvements, economic development opportunities, and other projects that support the revitalization of Chester County neighborhoods and communities.

**Match Requirements/Awards**
Required match is 25% of total project cost. Maximum award is not to exceed $1,000,000 per year.

**Availability**
Annually in mid-March

**Website**
www.chesco.org/1916/Community-Development

# Summary

The Phoenixville Region has and will continue to experience growth for the foreseeable future. Multimodal transportation is going to play a key role in mitigating traffic issues associated with this anticipated growth. Currently, single occupancy vehicles are the predominant mode of transportation throughout the region, pose congestion during peak hours. By strategically planning for and implementing the recommendations of this study, the region should begin to address congestion and establish an integrated multimodal transportation network that will be functional for many years to come. By providing choices for all transportation modes (bicycle, pedestrian, public transit, and roadway), the Phoenixville Region will continue to remain an attractive place for people to live, work, and visit.

This study provides short, medium, and long term solutions and should serve as a starting point for the Phoenixville Region's municipalities to implement the recommendations outlined herein. Working together as a region is necessary as the multimodal transportation network does not end at municipal boundaries. Through proper planning and implementation on a region-wide level, a high-functioning multimodal transportation network is achievable for the Phoenixville Region and will continue to guide the impending growth in a positive and well planned direction.

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**Danielle Lynch,** *Communications Specialist*

**Patti Strauber,** *Administrative Support*

**former staff*


**Chester County Planning Commission**
601 Westtown Road, Suite 270
PO Box 2747
West Chester, PA 19380-0990

610.344.6285

ccplanning@chesco.org

www.ChescoPlanning.org