







# Pickertown Road Trail

Feasibility Study

Warrington Township, Bucks County

APRIL 2020



# Warrington Township

**Bucks County, PA** 

## **Pickertown Road Trail**

**Feasibility Study** 

April 2020

Prepared by

## **Natural Lands**

with assistance from

**CKS Engineers, Inc.** 

&

**Indian Valley Appraisal Company** 

## acknowledgements

## **Warrington Township Board of Supervisors**

Fred Gaines, Chair
Ruth Schemm, Vice Chair
Carol T. Baker
Shirley Yannich
Eileen Albillar
Mark E. Lomax

Barry Luber, Township Manager
Barbara Livrone, Township Secretary
Roy Rieder, P.E., Zoning Officer
Andy Oles, Parks and Recreation Director
Ivy Ross, Open Space and Land Preservation Committee, EAC

#### with assistance from

CKS Engineers, Inc. 4259 W. Swamp Rd Suite 140 Doylestown, PA 18902

Indian Valley Appraisal Company 120 E. Broad Street Souderton, PA 18964

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Pickertown Road currently lacks sidewalks or other amenities to permit safe walking.

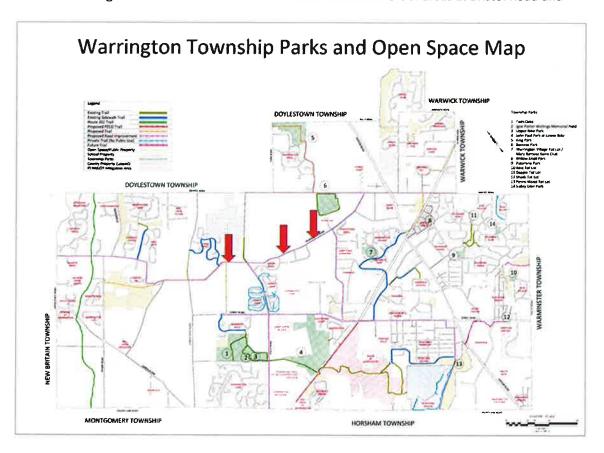
## Introduction

Warrington Township continues to improve by undertaking parks, recreation, open space and trail planning and implementation. The Township has acquired land in fee to be preserved as open space, has worked with developers to conserve open space alongside new housing and has recently begun construction of the new Lions Pride Park. This feasibility study, funded by the Pennsylvania Department of Conservation and Natural Resources (DCNR), continues Warrington's important work towards providing excellent recreational facilities for their residents. This feasibility study explores the possibility of establishing a trail in the vicinity of Pickertown Road, to connect residents to each other, to commercial areas, open spaces, other trails and to Barness Park.

## Context

In 2018, the Warrington Township Board of Supervisors adopted Parks, Recreation and Open Space Plan: Pathways to our Future, 2018-2027, prepared by Toole Recreation Planning and Natural Lands. The plan was created with the guidance of an Advisory Committee, consisting of residents and staff members. The consultant team and Advisory Committee conducted public meetings, prepared questionnaires and gathered public comments during the process. The plan included a township wide trails plan (Map 3), which recommended creation of a trail along Pickertown Road from Lower State Road to Bristol Road.

The Township wide plan considered Pickertown Road as an important place to establish a safe place for walking and bicycling, as many high-density neighborhoods connect to it. Pickertown Road also connects these neighborhoods to the Mill Creek Preserve and commercial areas at Bristol Road and



The Township adopted the Parks, Recreation and Open Space Plan, which calls for a trail along Pickertown Road.

Route 611. Central Bucks South High School and the Mill Creek Elementary School are also near the intersection of Pickertown and Folly Roads. Schools are important destinations for students, as well as for parents and other community members who may wish to walk to events such as plays, concerts and sporting events.

Barness Park is separated from Pickertown Road by only a few properties, thereby presenting opportunities to connect to the park as well. Barness Park could eventually serve as a hub in the

Township wide trail system and a local multimunicipal trail system. Together, Doylestown and Warrington Townships' trail plans propose a large loop of trails. The Route 202 Bypass trail runs through both townships. In Warrington, a trail along Pickertown Road could connect the 202 Trail to Barness Park. Warrington's plan also proposes trails to the north of the park, through other lands owned by Warrington, and then through the Warrington Ridge neighborhood, following its streets and traversing its open space. Those trails would connect to the Doylestown Township boundary, where existing and proposed trails through Central Park and neighborhoods would eventually connect back to the Route 202 Trail. This loop would contain approximately nine miles of trail if it were to be completed.

The Township Parks, Recreation and Open Space Plan recommended trails only at a conceptual level-considering populations, destinations and connections. Therefore, more research and analysis were necessary to determine whether installation of a trail is feasible. This original goal of this report was to further analyze three potential trail routes along Pickertown Road, with the intent of connecting the intersection of Buttercup



Barness Park is adjacent to properties on Lyric Way and Pickertown Road.

Boulevard and Pickertown Road to Barness Park with a trail. However, as described below in the Public Meetings section, the scope was adjusted to extend the trail all the way to Bristol Road, in addition to connecting to Barness Park.

## **Existing Conditions along Pickertown Road**

Pickertown Road is an important primary road in Warrington Township. It does not accommodate quite as much traffic as the nearby arterial and collector roads, including Route 202, Route 611, Lower State Road and Bristol Road, but it provides an important connection in the transportation system. The road is two lanes wide with deceleration turning lanes at some intersections.

Natural features will affect the implementation of improvements as well. The topography is relatively flat along the road, rarely exceeding a five percent slope. Only one large area of woodlands exists at the intersection of Pickertown and Folly Roads. This roughly 29-acre woodland exists on hydric soils, which underlay much of the area. These soils are associated with the headwaters of the tributaries to Mill Creek and the Neshaminy Creek, which spread across the area. Hydric soils have the possibility of sustaining wetlands, which add cost to design projects through additional studies, permitting and design engineering.

Pickertown Road currently features a few stretches of existing sidewalk, but also stretches with no pedestrian amenities. Traffic appears to regularly exceed the posted 35 mile per hour speed limit. Residents looking for a place to walk or trying to travel to nearby neighborhoods are forced to walk in Pickertown Road, which can be extremely dangerous. The road features no shoulder for much of its length and is paralleled by deep drainage swales in some areas, leaving no places for pedestrians to step out of the road as traffic approaches.

In addition to swales, a number of other obstacles make it difficult to walk along Pickertown Road now. These same obstacles will make it more difficult and costly to establish trails or sidewalks. As a response to the heavy traffic, many residents have established substantial landscaping near the road. Evergreen trees, shrubs and shade trees all act as buffers from the noise and view of the road. Stormwater management features also exist near the road. These include swales, berms and inlets. Mailboxes, light posts, fences, decorative walls and other structures also exist close to the road.



Minor obstacles such as swales, mailboxes and landscaping exist along the entire length of Pickertown Road.

Perhaps the most difficult obstacle is the limited right-of-way. Along most of the road, the Township has control over only a few feet of land beyond the edge of the road. In order to install improvements, the Township will need to negotiate with each landowner to acquire rights of way over additional land. The amount of land necessary for acquisition or easement will likely vary depending on the existing features and obstacles.

## The Public Meetings

Natural Lands staff began by visiting the project site, walking and driving the potential routes and observing potential opportunities and obstacles. However, it was very important to engage the public early in the process, to determine whether the scope of the project aligned with the needs and wants of the residents. Therefore, Warrington Township and Natural Lands convened a public forum at the June 2019 meeting of the Township Bike and Hike Commission. Natural Lands staff gave a brief presentation which explained the two primary goals of the project:

- 1. Connect Neighborhoods to Barness Park
- 2. Improve Bike and Pedestrian Safety on Pickertown Road

After the presentation, staff distributed a map of the area and an 8-question survey, which included the following questions and directions:

- 1. Where do you live?
- 2. Do you currently use or visit Barness Park? If so, what do you do there? If not, why?
- 3. When you visit Barness Park, how do you get there?
- 4. If you travel to Barness Park or throughout the Pickertown Road area by means other than car (walk, run, bike, scooter, etc.), please draw your route on the map on the other side of this sheet.
- 5. If there were a continuous and safe route along Pickertown Road for bicyclists and pedestrians, would you use it?
- 6. What is your level of support for the Township moving ahead in planning and developing pedestrian and bicycle-oriented improvements along Pickertown Road?
- 7. Do you own property adjacent to Barness Park, or which could otherwise improve connectivity, and would you consider providing a path for your neighbors?
- 8. What else should we know?

The responses to the survey were informative, interesting and useful. (The full summary of responses can be found in the appendix of this document.) We found that the 27 meeting attendees live throughout the Township, with eight attendees living on Pickertown Road or very close to it. The most important takeaways from the results of the questionnaire were:

- The meeting attendees generally support the project. Of the 27 respondents, seventeen highly support it and 5 support it. Written comments also offered a great deal of support for specific activities which improvements would support, such as running and walking.
- Improvements along Pickertown Road would also benefit drivers. One person commented that she would not use the trail but would like to see a safe place for people to walk, so that they don't need to walk or bicycle in Pickertown Road, as they do currently.

Barness Park is not a priority destination for the people who want pedestrian improvements.
 Barness Park is primarily dedicated to baseball, so most of the residents in attendance don't use the park unless they are attending a child's game. They would continue to drive to games anyway.

The public meeting was successful in rallying support for the project and providing a forum for those opposed to it. The responses to the questionnaire provided much supporting information, but no major breakthroughs or surprises pertaining specifically to potential trail routes. However, based on the comments about Barness Park and other destinations, we recommended that the project be revised to consider connecting Lower State Road to Bristol Road, along Pickertown and deprioritizing the connection to Barness Park. The public feedback suggested that Barness Park was not a priority destination, and obstacles such as existing sensitive natural features and agricultural easements support the recommendation further.



Comments recorded at the public meetings alluded to the fact that people, including children, walk in Pickertown, Bristol, Folly and other busy roads, demonstrating the need for more trails and sidewalks.

In November 2019, Natural Lands staff presented the recommended route and revised project corridor at the regularly scheduled Planning Commission meeting. The members of the Township Bike and Hike Trails Committee were invited to attend the meeting as audience members and provide comments. At the conclusion of the presentation, the Planning Commission members asked a few questions and offered their support of the project in general. Aaron Mulder, the Chairperson of the Bike and Hike Trails Committee offered comments regarding the importance of connecting to Barness Park. He stressed how valuable Barness Park is in terms of providing access to the loop trail system which could be established in concert with Doylestown Township's trail system.

As a result of the feedback received at the two public meetings, we recommend that the Township prioritize implementation from Lower State Road to Bristol Road, but also continue to attempt to connect to Barness Park as a secondary priority.

## **Preliminary Analysis of Routes**

Based on initial conversations with Township staff and preliminary analysis of the area, three potential trail routes emerged: the south side of Pickertown Road, the north side of Pickertown Road and Folly and Bristol Roads. Further analysis has lead us to believe that a combination of the north and south sides of Pickertown Road is the most feasible option.

## The Recommended Route - Combination of North and South Sides of Pickertown Road

The preferred route utilizes a combination of both sides of the road, taking advantage of existing sidewalks, crosswalks, and improvements required as part of the new developments, while avoiding most of the natural resources and legal encumbrances. Use of this route lends itself more to connecting sidewalks and providing connections, rather than a more typical trail installation project. This route proposes establishing new sidewalk on the north side of Pickertown Road from Buttercup Boulevard to Folly Road. The intersection at Folly and Pickertown Roads would be improved for safety and pedestrians could cross there to the south side of Pickertown Road. There, they would follow existing sidewalk to Arbor Ridge Road. New sidewalk would need to be installed between Arbor Ridge Road and Elbow Lane, crossing Bluebell Lane and Argyle Road. It would then utilize existing sidewalk from Elbow Lane to Fawn Lane. New sidewalk would be required from Fawn Lane to Bristol Road. A crosswalk would also be established in the vicinity of the intersections of Lyric Way, Elbow Lane and Pickertown Road. Additionally, a narrow strip of township owned land connecting English Ivy Drive and Highland Avenue, would be used to connect two adjacent neighborhoods and to provide an interim pedestrian route. While it will not be easy to establish a sidewalk system on this route along Pickertown Road, the following analysis revealed this route as the best option.



The recommended route would connect to existing sidewalks and paths, like this one which leads to the nearby high school.

No legal encumbrances – There are no easements, deed restrictions or other limitations on land along this route. This means the Township should be able to negotiate with landowners without more complicated legal maneuvering.

Hydric Soils – These soils with wet components are prevalent throughout the area. However, the land is already developed in a few places where this route would need to cross these soils. The developed land benefits the project as some sidewalks already exist, which would carry users across the hydric soils. Though more study by a wetland scientist may be required, it appears that hydric soils would have less impact on this route than on the other routes analyzed.

Woodlands – No significant woodlands exist on this route. Some landscaping or street trees would need to be removed, but it is far less significant than the tree removal required for other routes.

Stream or wetland crossing – A stream crosses under Pickertown Road near its intersection with Argyle Road. On the south side of Pickertown Road, the stream appears to flatten out into a wet area. It is likely that this area would be classified as wetlands, and require extensive design, permitting and structures.

Existing sidewalk – Three separate sections of sidewalk already exist along this route, totaling nearly 7/10<sup>th</sup> of a mile. This is infrastructure that is already in the ground, provided by developers in conjunction with new housing. The Township residents can already use these sidewalks at no cost. It makes sense to use them as the backbone of the improvement project. 1.2 miles of new sidewalks

would connect all the way from Buttercup Boulevard to Bristol Road. Of the three routes, this is the least required new sidewalk to connect Buttercup Boulevard to Bristol Road.



Warrington Township can save money by using existing sidewalks wherever possible.

Existing Township Property – The Township owns a narrow strip of land which connects the English Ivy Drive cul-de-sac to the dead end of Highland Avenue. This strip of land could be used to connect the two adjacent neighborhoods and act as an interim connection in the overall plan.

Very limited right-of-way - All of the potential routes offer very little right of way to work with. The Township has control only over a few feet beyond the edge of the roads.

Pedestrian access for residents – This route connects many residential properties to existing and proposed sidewalks. Many residents would be able to walk out their front door, down their driveway and onto an interconnected sidewalk and path system, without crossing dangerous roads or getting into their cars. This alignment also provides the added benefit of safely connecting many residents to the nearby schools.

## Second Choice - North Side of Pickertown Road

The north side of Pickertown Road appears to be a sensible location for a trail, as a trail there would traverse fewer properties. Most of the route is also currently farmland, meaning there are few physical or natural obstacles in the way. Considering that Buttercup Boulevard is the starting point, it also seems

logical to simply begin a trail there and continue it along the north side of the road for the entire length. However, the following analysis revealed many obstacles which make most of the north side of the road a very difficult route.



Agricultural easements, an effective tool for preserving farm land, do not easily permit the colocation of trails with agriculture.

Agricultural Easement – The open land of Winding Brook Farm, which has approximately 6/10<sup>th</sup> of a mile of frontage along Pickertown Road, is protected with an Agricultural Easement, held by Bucks County. Agricultural easements do not permit colocation of trails by right. A municipality may condemn the easement, take control of the land to establish a trail and reimburse the property owner fair market value. However, condemnation is typically an expensive legal process and politically unpopular. We, and other township consultants do not recommend attempting to establish a trail on the lands under agricultural easements.

Hydric Soils - These typically wet soils encumber much of the northern side of Pickertown Road. One swath is over one quarter mile long. While hydric soils do not necessarily mean that wetlands are present, they are often an indication. A trail on the north side of the road would need to cross at least four areas of hydric soils. All of these areas would require further study by a Wetlands Scientist to determine whether wetlands are present. If they are present, expensive permitting, engineering and structures such as boardwalks and bridges would be necessary.

One Stream Crossing – A stream that flows through the farm crosses under Pickertown Road close to its intersection with Argyle Road. In order to cross the stream on the north side of the road, a bridge would

need to be installed. Bridges are typically expensive and require extensive permitting and engineered design.

Woodlands – The northeast corner of Folly Road and Pickertown Road features a large, healthy woodland. Mature trees shade the road and provide beauty, habitat and stormwater management. Much of this woodland is underlain by hydric soils, which may be why these woodlands were spared from becoming farmland, as they may be too wet for agriculture. It would be expensive and insensitive to remove many of the large trees near the road to clear a path for a trail.



The woodlands on the north side of Pickertown Road should be preserved.

Lack of Sidewalks – Very few sidewalks exist along the north side of Pickertown Road. A very short stretch exists which connects Buttercup Boulevard to the path into the High School. Another short stretch exists adjacent to Lyric Way. If a trail or sidewalk were to be established solely along the north side of Pickertown Road, approximately 1.2 miles of new trail or sidewalk would be needed to connect Buttercup Boulevard to Lyric Way, and another ½ mile to extend to Bristol Road. Therefore, a total of 1.7 miles of new trail or sidewalk would be necessary.

Very limited right-of-way – All of the potential routes offer very little right of way to work with. The Township has control only over a few feet beyond the edge of the roads.

Limited access to the north side — A trail or sidewalk along the north side of Pickertown Road would require most of the residents in the area to cross Pickertown Road to get to it. Even if safe crossing points are established, its likely that many residents would try to cross the road at the place its most convenient, rather than where it is safest. Even with a trail just across the road, it still may not be easy to access.

## The Least Preferred Route - Bristol Road and Folly Road



Bristol Road was assessed, but features more obstacles, and faster and more traffic than other routes.

Upon discovering the obstacles to the other routes, we decided to examine the possibility of following Folly and Bristol Roads from Pickertown Road to the main entrance of Barness Park. However, a closer look revealed many of the same obstacles which constrain the other routes, combined with more traffic, faster moving traffic, rolling topography and more physical obstacles along the roadway. We quickly realized that Bristol and Folly Roads would be the least desirable route.

Agricultural Easements – The same issue which affects most of the north side of Pickertown Road, also affects Bristol and Folly Roads. However, here there are two different farms under agricultural easements, making the situation even more difficult. Winding Brook Farm has eased frontage along Bristol Road, while Yankee Farm has eased frontage on Folly Road. We, and other township consultants do not recommend attempting to establish a trail on the lands under agricultural easements.

Two areas of hydric soils - These typically wet soils stretch across Folly Road in two places. While hydric soils do not necessarily mean that wetlands are present, they are often an indication. These areas would require further study by a Wetlands Scientist to determine whether wetlands are present. If they are present, expensive permitting, engineering and structures such as boardwalks and bridges would be necessary.

One stream crossing – One small stream follows the northern boundary of Central Bucks South High School. A trail along Folly Road would likely stay on that side of the road to provide greater access to the high school. A stream crossing would require engineering, permitting and structures.

Few existing sidewalks – One short stretch of path exists along Folly Road from Pickertown Road to the school. Otherwise, there is no existing sidewalk along this route. Approximately 1.36 miles of trail or sidewalk would be required to connect to Barness Park's existing trail system. Another .5 miles of trail or sidewalk would be necessary to connect to Bristol Road. Therefore, a total of 1.86 miles of new trail or sidewalk would need to be constructed to complete this route.

Very limited right-of-way - All of the potential routes offer very little right of way to work with. The Township has control only over a few feet beyond the edge of the roads.

Stormwater Management Facility – A stormwater management facility is built close to the edge of the right of way in the new development off of Bristol Road. While not impossible, it would likely be very difficult to relocate or work around this facility.

Few residents could access — Far fewer Warrington Township residents would have easy access to this route when compared to the others. No major developments connect directly to it. Additionally, this route follows the long way around to Barness Park. It is likely that few residents who live on the south side of Pickertown Road would actually walk along this route to enter Barness Park from Bristol Road.

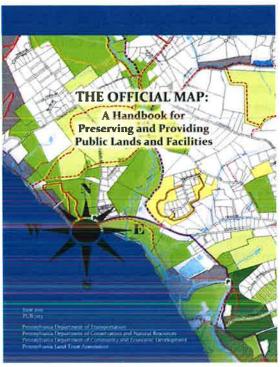
Higher volume and higher speed traffic – It appears that Bristol Road accommodates greater volume of traffic which travels at higher speeds. Pickertown and Folly Roads are not ideal, but Bristol Road would be quite unpleasant to walk along.

Challenging Topography – Bristol Road features more rolling topography than does Pickertown Road. Most of the slopes along Pickertown Road do not exceed approximately 5%, while slopes on portions of Bristol Road approach 10%. The undulations on Bristol Road would add to an already unpleasant walking experience.

## The Role of an Official Map

In Pennsylvania, municipalities can use a planning tool called an Official Map. A municipality may express an interest in acquiring specific land (or easements thereon) for trails, streets, parks, open space networks and other public purposes by establishing an "official map" that "reserves" this land. If a landowner seeks to develop reserved land, the municipality has a year to pursue acquisition of the land from the owner before the owner may freely build or subdivide. Warrington Township has not adopted an Official Map but may wish to consider using this tool to enhance open space preservation and trail planning efforts.

Two large areas of underdeveloped land exist along Pickertown Road. East of the intersection of Pickertown and Folly Roads, eleven parcels contain a total of approximately 50 acres. These parcels contain approximately seven single family homes and one nursery operation. These parcels are zoned RA Residential Agricultural, which permits far greater density than what currently exists. If a developer were to acquire all of these parcels, they could potentially build over 50 units, employing density bonuses.



An official map could help Warrington achieve its conservation and trail planning goals.

South of Barness Park, five parcels, containing five single family homes, contain approximately 15 acres. These parcels are zoned R-2 Medium Density Residential with a permitted base density off approximately one unit per acre. Therefore, if a developer could acquire all of these parcels, they could potentially build 15 single family dwelling units or a greater quantity of multi-family or semi-detached units.

The Township may wish to consider including these areas on an official map in order to gain further leverage in the event that these parcels are to be developed. Near Barness Park, the Official Map could help the Township acquire land or easements to establish the desired trail connection from Pickertown Road into the park, or even to expand the park. As the Township is building an open space corridor near the intersection of Folly and Pickertown Roads, the Official Map could be used there to acquire more open space or to direct where open space, trails or other improvements should be implemented to further improve the open space and trail network.

## **Detailed Segment Descriptions of the Preferred Route**

#### Segment 1: Buttercup Boulevard to Folly Road

This area is currently undergoing a big change, as new development brings 120 new residential dwelling units to the neighborhood. The existing residents, the new development and the existing schools make this area an important hub for pedestrian and bicycle connections. On the north side of Pickertown Road, relatively small, denser lots of approximately 1-acre front along the road. On the south side, larger lots, typically approximately 2.5 acres, but including one over 20 acres, provide a more pastoral character.



Fifty acres of underdeveloped land could be developed in the future. Therefore, the trail is proposed on the opposite side of the road.

#### Recommendations

- The new development will provide a crosswalk at the intersection of the proposed entrance drive, Buttercup Boulevard and Pickertown Road. This crosswalk will connect the new residents to the path and sidewalk which lead to the schools. It will also give other residents access to the new development and the open space it will provide. This crosswalk will provide an important safe crossing point on Pickertown Road.
- Prioritize installation of sidewalks on the north side of Pickertown Road from Buttercup
  Boulevard to Folly Road. Sidewalks on both sides or the road would be ideal, but the north side
  is preferred. The existing lots on the north side are small and unlikely to be redeveloped in the
  near future. Whereas the properties on the southern side of the road are larger and

underdeveloped. There is potential for either conglomeration into one large development project, or for piecemeal subdivisions. With higher density development taking root in the area, a savvy developer could acquire and aggregate up to approximately 50 acres in this area and develop it. If that scenario plays out, the Township would have the opportunity to use the development process, or the official map, to negotiate installation of sidewalks or trails on the south side of the road as part of the development process.

#### Obstacles

The Township owns very little right-of-way along Pickertown Road. Therefore, in order to install trails or sidewalks here, the Township would need to acquire easements over the portlons of the private properties adjacent to the road. Some landowners may offer to donate easements, but in most cases, the Township would likely need to purchase easements. Indian Valley Appraisal Company has provided an estimates of the value of a square foot of land, described in detail in the cost estimate section of this report.



Most of the same obstacles exist along the entire lengthlack of right of way, mailboxes, trees, utility poles and stormwater management.

- Approximately 30 trees along the north side of Pickertown Road would likely need to be removed. Most of these trees have calipers less than 10". The Township should consider providing plantings to replace landscaping to be removed, or to provide buffering where no landscaping exists currently. Many of the existing trees are growing into the power lines. Replacements plantings species should meet PECO's requirements for planting in close proximity to power lines.
- Utility poles exist only a few feet from the edge of the road in this segment. Seven utility poles
  exist between the end of the sidewalk at the school path and the intersection with Folly Road.
  These poles may need to be relocated further from the edge of the road.
- The driveway into Central Bucks South High School presents an obstacle to pedestrians. The width of the driveway varies with its turning radii, between 35 to 65' depending on where its measured. This could require a relatively long crosswalk at a busy driveway. An extended turning lane also exists on the eastern side of the driveway, which would push a sidewalk further into the neighboring private property.
- The Township engineer would need to examine stormwater management as part of any sidewalk or trail design. Seven inlets exist along the edge of Pickertown Road in this segment

accompanied by very shallow swales. It may be possible to design sidewalks which pitch towards the existing inlets and require little modification of the existing system.

## Intersection 1: Folly and Pickertown Roads

This intersection is currently being improved with new striping and pedestrian islands and other improvements. This intersection will be vital for crossing pedestrians from the north side to the south side of Pickertown Road. It currently connects residents on the south side to the path along Folly Road, which leads to the High School. It will also act as an important hub for the expanded Pickertown Road pedestrian network. This intersection should be routinely evaluated and improved to make it as pedestrian friendly and safe as possible for residents wishing to cross in all directions.



The intersection is currently being improved for better pedestrian safety.

## Segment 2: Folly Road to Argyle Road

#### Recommendations:

- Utilize the existing sidewalk on the south side of Pickertown Road from Folly Road to Arbor Ridge. This sidewalk extends nearly four tenths of a mile. Using the existing sidewalk will save the Township money, rather than spending on a redundant portion of trail. It also allows the Township to avoid disturbing natural features in this area, most notably mature woodlands and hydric soils which exist on the north side of the road. This area is also unencumbered by agricultural easements or other legal agreements.
- Create a connection from English Ivy Drive to Highland Avenue, but not as the primary route. The Township owns a strip of land which connects the two streets. Based on observed bike tracks through the area, it appears that neighborhood kids may be using this cut-through already. The Township should formalize this connection. The connection should join the two



People already cut through from English Ivy Drive to Highland Avenue.

neighborhoods, allowing these residents to walk between them. This connection should be viewed only as an interim link in the Pickertown Road improvement project. Many walkers may bypass this link anyway, but at least the Township would provide a safer route.



A narrow passage exists from Highland Drive through to English Ivy Avenue

Pursue installation of sidewalks on the south side of Pickertown Road, from the end of the
existing sidewalk past Arbor Ridge Drive, crossing Bluebell Lane, continuing to Argyle Road. This
would establish consistency and demonstrate that the Township is truly committed to providing
safe places to walk for all residents. Sidewalks here would connect the residents who live
directly on Pickertown Road to a system of safe pedestrian amenities. The south side of the
road also continues to avoid agricultural easements.

## Obstacles:

• The Township owns very little right-of-way along Pickertown Road. Therefore, in order to install trails or sidewalks here, the Township would need to acquire easements over the portions of the private properties adjacent to the road. Some landowners may offer to donate easements, but in most cases, the Township would likely need to purchase easements. Indian Valley Appraisal Company has provided an estimated value of \$XX.XX per square foot of land for easement acquisition. Depending on the quantity and location of obstacles on each property, it may be necessary for the Township to acquire rights over a strip of land between 10 to 15' deep along Pickertown Road.



The south side of Pickertown Road features swales and berms which would be redesigned.

- Many of the homes along this stretch of Pickertown Road feature significant landscaping close to the road. Some structures such as decorative walls also exist here. These will all need to be removed and/or relocated. The Township should consider providing replacement landscaping and funding relocation of other elements.
- Many large trees and shrubs exist along this stretch. Aside from formal landscaping and manicured beds, approximately 40 trees and ten large shrubs must be removed. These trees and shrubs should likely be replaced.
- Eleven utility poles exist on the south side of the road in this stretch. However, as most of them
  are located close to the edge of the road, it may be possible to design around them and provide
  sidewalks south of the existing utility poles.
- The south side of the road features swales, grade changes, berms, inlets and other stormwater management measures. Installation of sidewalks and a crosswalk across Argyle Road will require some redesign of the stormwater management system and installation of additional pipes and inlets.

## Segment 3: Argyle Road to Bristol Road

## Recommendations:

• Install sidewalks on the south side of Pickertown Road, from Argyle Road to Bristol Road, using existing sidewalks where possible. This would establish consistency and demonstrate that the Township is truly committed to providing safe places to walk for all residents. Sidewalks here would connect the residents who live directly on Pickertown Road to a system of safe pedestrian amenities. The south side of the road also continues to avoid agricultural easements and connects to existing sidewalks.

- Connect to the existing sidewalk along south side of Pickertown, behind the Fawn Lane neighborhood. This stretch of sidewalk is approximately two tenths of a mile in length and connects to Fawn Lane. Using the existing sidewalk will save the township money and use existing resources.
- Install sidewalks on the south side of Pickertown Road from the end of the existing sidewalk to Bristol Road. This stretch of approximately 0.34 miles, would connect the easternmost residents on Pickertown Road to this sidewalk system. It would also extend the sidewalk to Bristol Road, which could lead to better access for the high-density neighborhoods in that area, and to bring people closer to the commercial areas on Route 611.



A crosswalk near Lyric Way and Elbow Lane would safely connect the pedestrian systems on the north and south sides of Pickertown Road.

- Provide a crosswalk across Pickertown Road within the vicinity of its intersections with Elbow Road and Lyric Way. This crossing would eventually connect people from the south side of Pickertown to a potential future connection into Barness Park. Additionally, it would allow residents on the north side of Pickertown Road to cross and access the extensive sidewalk network connected to Elbow Lane.
- Connect a trail or walkway into Barness Park from the south at the time of a future subdivision of land development. Four parcels exist directly south of Barness Park and one east of the park, which front on Pickertown Road. These five parcels contain five dwelling units and approximately 15 acres. It is likely that some, if not all of these parcels will be redeveloped in

the future. When redevelopment is proposed, the Township should negotiate a trail or sidewalk connection to Barness Park as part of the development.

## **Obstacles:**

- The Township owns very little right-of-way along Pickertown Road. Therefore, in order to install trails or sidewalks here, the Township would need to acquire easements over the portions of the private properties adjacent to the road. Some landowners may offer to donate easements, but in most cases, the Township would likely need to purchase easements. Indian Valley Appraisal Company has provided an estimated value of \$XX.XX per square foot of land for easement acquisition. Depending on the quantity and location of obstacles on each property, it may be necessary for the Township to acquire rights over a strip of land between 10 to 15' deep along Pickertown Road.
- The area east of the intersection of Argyle and Pickertown Roads appears to be wet. Hydric soils
  cross the area. Additionally, a stream exists on the north side of Pickertown Road which appears
  to flow under the road through a pipe. The wet area south of the road could be a headwater
  spring or wetland. This could require use of a boardwalk or other structured trail.
- Approximately 23 large trees would need to be removed from this stretch. These tees should be replaced as part of a new streetscape along with the new sidewalk.
- Approximately thirteen utility poles exist along this stretch. However, it appears that they may
  be close enough to the road that they would not interfere with installation of new sidewalk.



Some wetlands may exist near Argyle Road, requiring additional study.

- The south side of the road features swales, grade changes, berms, inlets and other stormwater management measures. Installation of sidewalks will require some redesign of the stormwater management system and installation of additional pipes and inlets.
- This portion of the route crosses three roads -Elbow Road, Fawn Lane and Park Road. It appears
  that these crossings would require minimal improvements, such as striping and potentially
  signage.

## **Prioritized Phases**

This feasibility study analyzed a series of intersections and segments. We recommend the Township implement improvements in all of these locations. However, we recognize that this project will most likely be implemented in phases over time. Therefore, we recommend the Township prioritize these improvements as follows, in six phases, in order to address low hanging fruit early on and to quickly establish a walkable route which can be improved over time.

- 1. Connect English Ivy Drive to Highland Avenue This minor connection should be implemented first, as the Township owns the land and appears to have acquired it for the express purpose of providing this connection. This connection would benefit the two adjoining neighborhoods whether the other recommended improvements were implemented or not as it would provide a safe, walkable connection between them. Additionally, this connection would provide a safer alternative route for people walking along Pickertown Road. This connection would allow pedestrians to bypass approximately 0.30 miles of Pickertown Road. This connection should not be considered the long-term solution to walkability along Pickertown Road but would quickly provide a safer alternative while the rest of the improvements are being built.
- 2. Continue to Improve the Intersection of Pickertown and Folly Roads The Township has already begun improving this intersection for safer pedestrian use. This intersection currently serves pedestrians walking from the south to the nearby schools. Further improvements guided by the Township engineer and township traffic engineer, could further improve the intersection by providing more crosswalks, signage, islands and ramps.
- 3. Install Sidewalk from Buttercup Boulevard to intersection When the new developments south of Pickertown Road are completed, new residents will flood the area. This connection will be important to these residents, as it will allow them to connect the intersection and beyond. This section appears to require less design and engineering.
- 4. Install Sidewalk from Argyle to Elbow Road and Create Safe Crossing Point This section is currently disconnected from the sidewalk system. This area will likely require fairly extensive engineering design, as many obstacles, including hydric soils, must be addressed. The crossing point would connect Lyric Way to the sidewalk system south of Pickertown Road.
- 5. Install Sidewalk from Fawn Lane to Bristol Road Installation of this segment would complete the interim walkable route from Buttercup Boulevard to Bristol Road. It would connect the existing Fawn Lane sidewalk to Bristol Road. It would extend the route, bringing people closer to the commercial areas on 611. It would also connect the easternmost residents of Pickertown Road with the sidewalk systems off Elbow Road.
- 6. Install Sidewalk from Arbor Ridge Drive to Argyle Road The connection from English Ivy Drive to Highland Avenue provides an interim, safer alternative route. Therefore, this section can be the last to be implemented.

## **Cost Estimates**

The primary goal of this study is to determine whether it is feasible to establish trails, sidewalks and other improvements along Pickertown Road. However, it is also important to provide some preliminary information regarding the potential costs of installing these improvements. Therefore, Natural Lands has consulted with CKS, the Township engineers and Indian Valley Appraisal Company to prepare **preliminary** cost estimates for engineering design, construction and land acquisition. These estimates should be considered **preliminary** and that further study and analysis could reveal further information which would affect the costs. Similarly, economic factors and the attitudes of landowners could impact land value and affect the costs of the project.

Engineering Design (CKS)......\$150,000
This phase would include detailed design, permit acquisition, construction management, inspections and legal services. (See appendix for details)

The value of a square foot of land to be eased is greatly dependent on the overall size of the property, as demonstrated by the four categories of "Parcel Size" and their corresponding "Average Value/SF" included in the chart below. The chart also shows the length of sidewalk proposed across parcels within each size and average value category. As the Township would most likely acquire easements, rather than acquiring land in fee, we would expect the Township to pay approximately 90% of the total value of the land, as the landowner would retain some rights and responsibilities. Through the calculations contained in the chart below, we estimate the cost of acquisition of easements necessary to accommodate the proposed sidewalks.

| Parcel Size    | Average Value/ | Length of<br>Proposed<br>Sidewalk<br>(Feet) | Width of<br>Proposed<br>Easement<br>(Feet) | Value of<br>Easement (%) | Estimated Cost |
|----------------|----------------|---|--|--------------------------|----------------|
| 0.33 - 1.00 Ac | \$7.16         | 2030  | 10   | 0.9                      | \$130,813.20   |
| 1.01-2.00 Ac   | \$3.00         | 3102  | 10   | 0.9                      | \$83,754.00    |
| 2.01 - 5.00 Ac | \$1.60         | 794   | 10   | 0.9                      | \$11,433.60    |
| 5.01 + Ac      | \$1.08         | 223   | 10   | 0.9                      | \$2,167.56     |
|                | \$228,168.36   |   |  |                          |                |

This estimate is based on a "desk-top" evaluation of the existing conditions along the conceptual sidewalk route. Further engineering analysis of existing storm drainage features, utility conflicts, existing vegetation, easement acquisitions, and grading requirements would be needed to refine this estimate.

#### **Total Estimated Costs**

By adding the estimated cost of engineering and design, easement acquisition and construction, we reach a total estimated cost of \$952,076. This estimate is based on current conditions. Actual costs could of course be affected by fluctuations in real estate value, cost of materials and other market conditions. Additionally, this estimate does not include the cost of additional township staff or consultants, such as the Township solicitor, additional appraisers or others. Within the trail design and construction community, \$1 million dollars per mile of new trail is a commonly referenced benchmark. Considering that this project calls for approximately 1.6 miles of new sidewalk, the estimate appears to be reasonably within that threshold.

## **Implementation Strategy**

This feasibility study is only the first step in implementing pedestrian facilities along Pickertown Road. The Township staff, consultants and elected officials still have much work to do in order to make these improvements a reality. The township must acquire land from many residents along Pickertown Road. The Township Engineer needs to prepare detailed engineered designs and apply for permits. And of course, Township staff need to determine how to pay for it all. We recommend the Township follow this strategy, or a similar approach in implementing pedestrian improvements along Pickertown Road or similar projects.

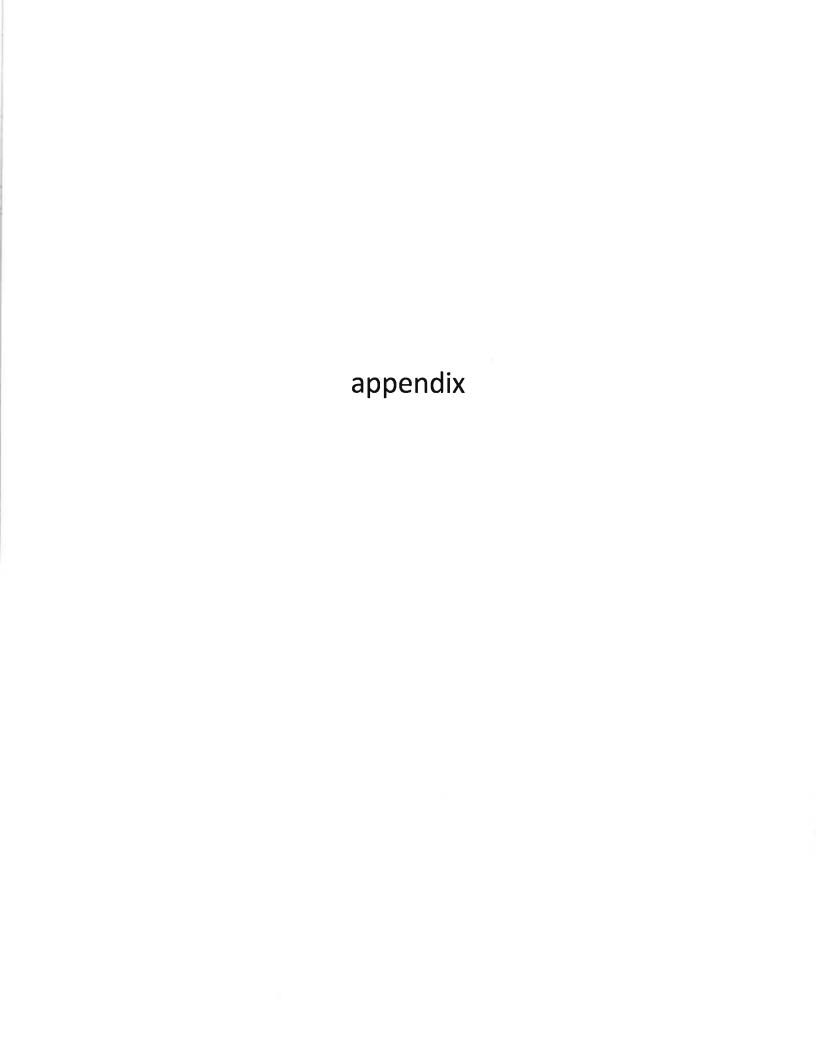
- 1. **Collect input from residents:** Warrington Township has already collected input from residents throughout the process of preparing this plan through three public meetings, a mapping exercise and a questionnaire. The Township should continue to collect input during future public or private meetings related to the project.
- 2. Present the Feasibility Study results: Warrington Township has already presented the results of the study at a public meeting of the Planning Commission and Bike, Hike and Open Space Committee, and at a Board of Supervisors meeting. Public comments at these meetings have lead to revisions to the plan. The Township may wish post the final study to the website and permit to public to continue to provide feedback to Township staff by email. Ongoing comments would not lead to revisions of this plan but could influence future phases of the project.
- 3. Identify Funding for Detailed Design: The Township Engineer identified a cost of approximately \$150,000 for detailed design. The Township determine whether this cost can be provided from existing funds, or if the Township needs to apply for grant funding to cover this cost. A Community Development Block Grant or Warrington's Municipal Liquid Fuels Program allotment could contribute to covering this cost. (A list of potential funding sources is included in the appendix.)
- 4. Prepare Detailed, Engineered Plans and Cost Estimates for Entire Length: While phasing is appropriate for construction or land acquisition, the entire length of sidewalk and associated improvements should be designed together. This will help to ensure that the improvements are designed to consistent standards. It may also provide for cost savings by applying for permits all at once and mobilizing consultants such as surveyors and engineers all at once.
- 5. Install Phases 1 & 2 Connector Sidewalk and Intersection Improvements: The Township should be able to install the sidewalk connecting English Ivy Drive and Highland Avenue and continue improvements at the intersection of Folly and Pickertown Roads, with little additional outreach or planning. The Township should coordinate and inform the adjacent residents, as they would with any public improvement project.
- 6. Identify funding for land acquisition, in full or by phases: Based on the appraisal reports included in this report, the Township will need approximately \$230,000 to acquire easements over all the land necessary to implement this project. The Township must identify funding sources to cover these costs, either through grants or Township funds.

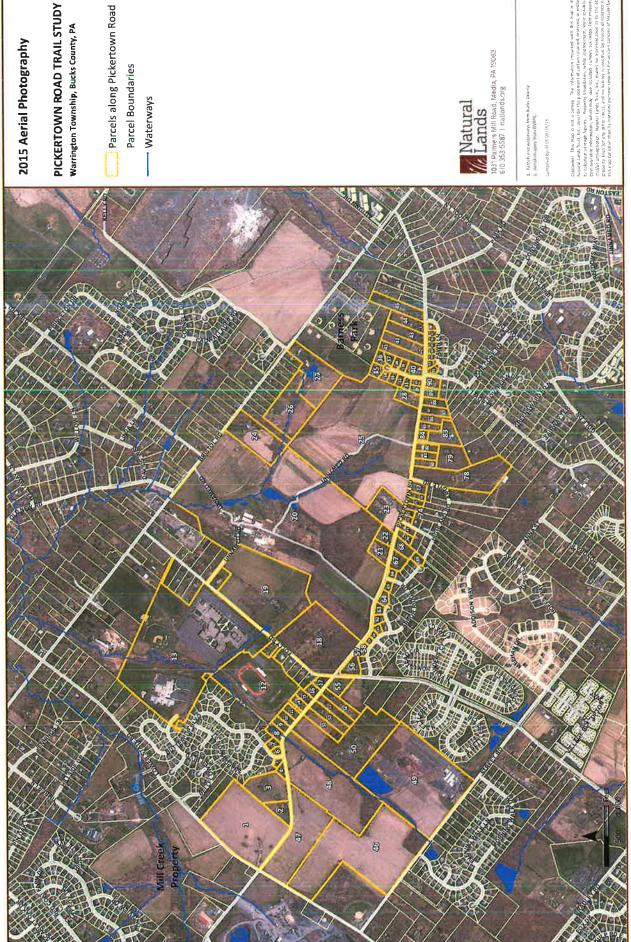
- 7. Letters to Residents, Subsequent Phases: With a detailed design in hand, the Township should begin outreach to residents, one phase area at a time. The letters should be addressed to individual landowners and explain the project, what has been accomplished and what is planned for the future. The letters should explicitly invite the residents to donate land necessary to enable sidewalk implementation. They should also be clear about the potential scope of tree removal, mailbox and utility relocations and other impacts of the project.
- 8. Meetings by Phase Area: After the initial letters explaining the project, the Township should invite the residents of each phase to a meeting, at which they could share a presentation about the project, explain the details of the design and explain the need for acquiring land. Members of the Bike, Hike and Open Space committee, or other champions for trails could be invited to participate, as residents may be more comfortable speaking with a fellow citizen. The Township can appeal to landowners to donate easements and also discuss purchase of land at appraised value.
- 9. Negotiations and Agreements with Landowners: After the initial meeting, the Township should engage in discussions with individual landowners regarding donations or purchase of easements. The Township solicitor should lead this process.
- 10. Identify funding for construction, by phases: The Township Engineer has provided a rough construction estimate of nearly \$575,000. A detailed design could lead to a higher estimate. Additionally, as later phases could be implemented years in the future, costs for materials could be higher by then. The Township must determine whether a total cost of approximately \$600,000 or greater can be funded with existing resources or if the Township staff should pursue grant funding.
- **11. Construct the Current Phase:** With funding in place and easements under Township control, the Township can bid out construction of the current project phase.
- **12. Repeat Steps 6 -12:** As the Township completes each phase, steps 6 through 12 should be repeated until the entire project is constructed.

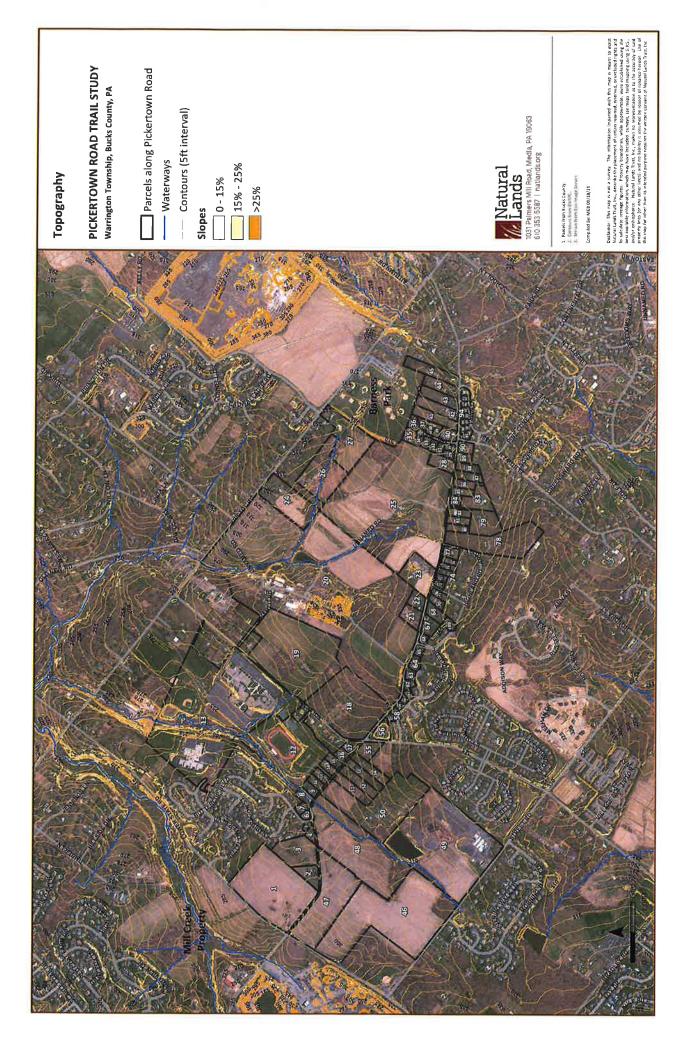
## **Conclusion**

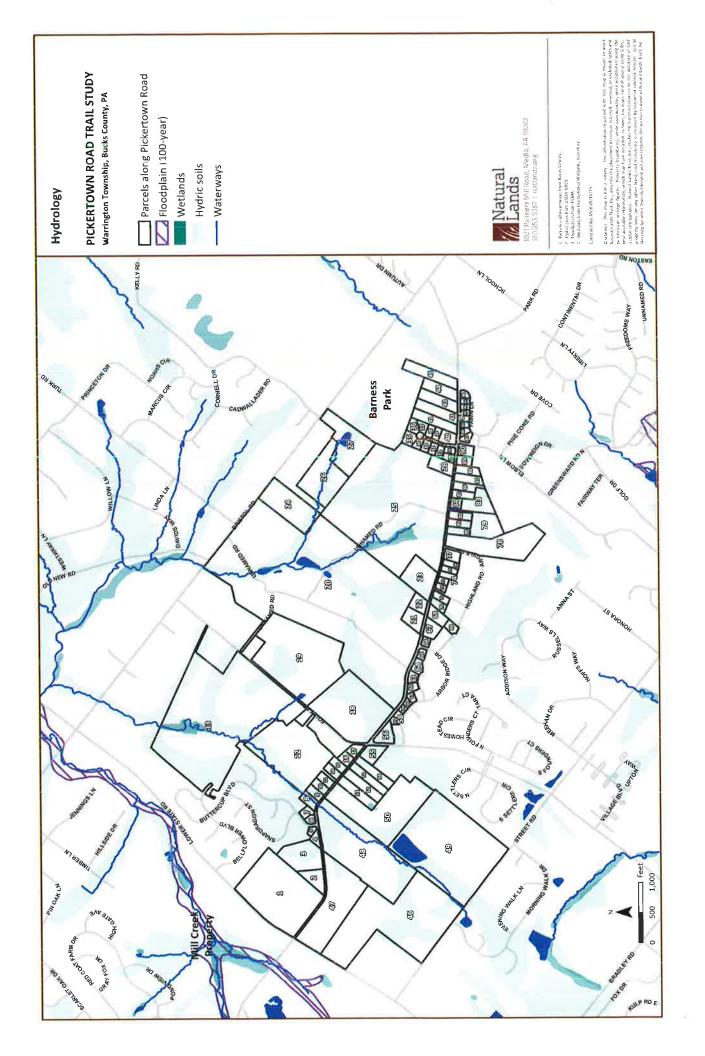


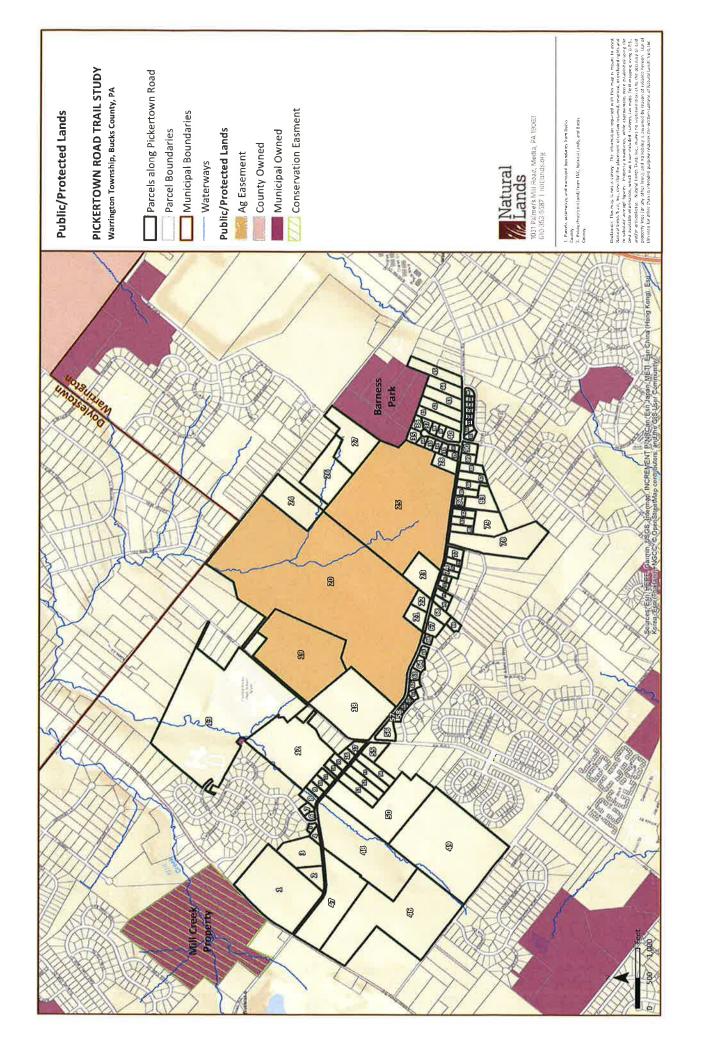
Warrington Township's Parks, Recreation and Open Space Plan: Pathways to our Future, 2018-2027, correctly identified Pickertown Road as an area in need of a trail. People currently walk and ride on this dangerous road, which has the potential to connect people to dense neighborhoods, schools, open space, a park and other more extensive sidewalk systems. This feasibility study has determined that Pickertown Road could be greatly improved with pedestrian amenities, but that a typical multi-use trail is likely not the most feasible option. Barness Park can still play a role in building the trail system, but is perhaps not as important as previously thought. By improving a few intersections, providing a neighborhood connection and extending the existing sidewalks, Warrington can capitalize on its existing infrastructure and make Pickertown Road a much safer place for its residents.

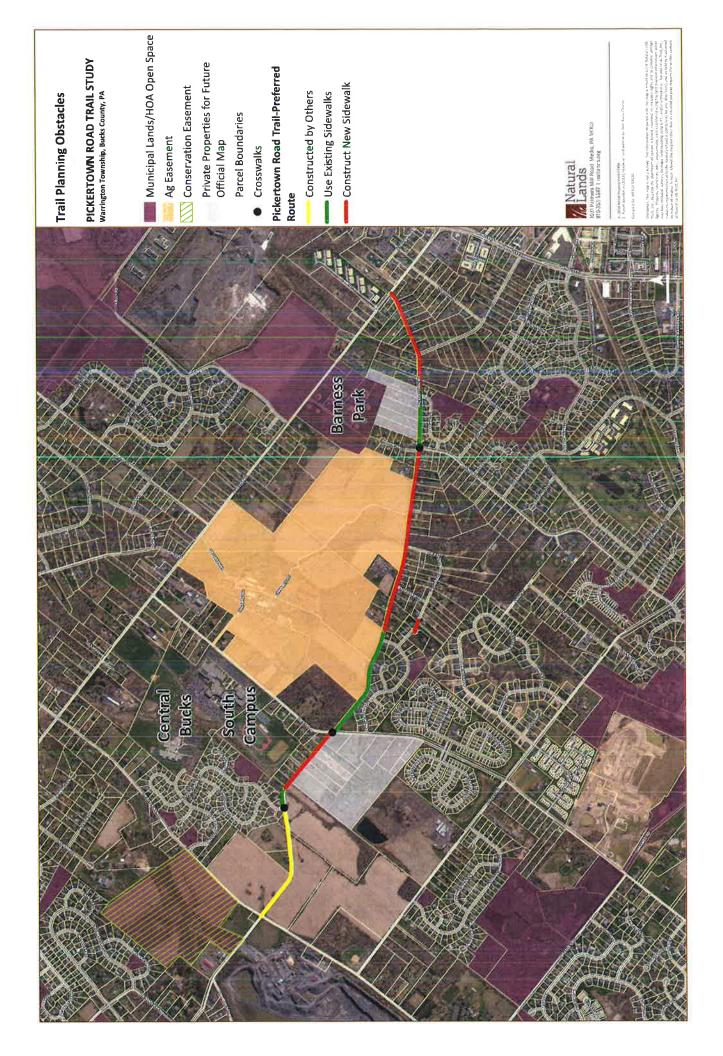


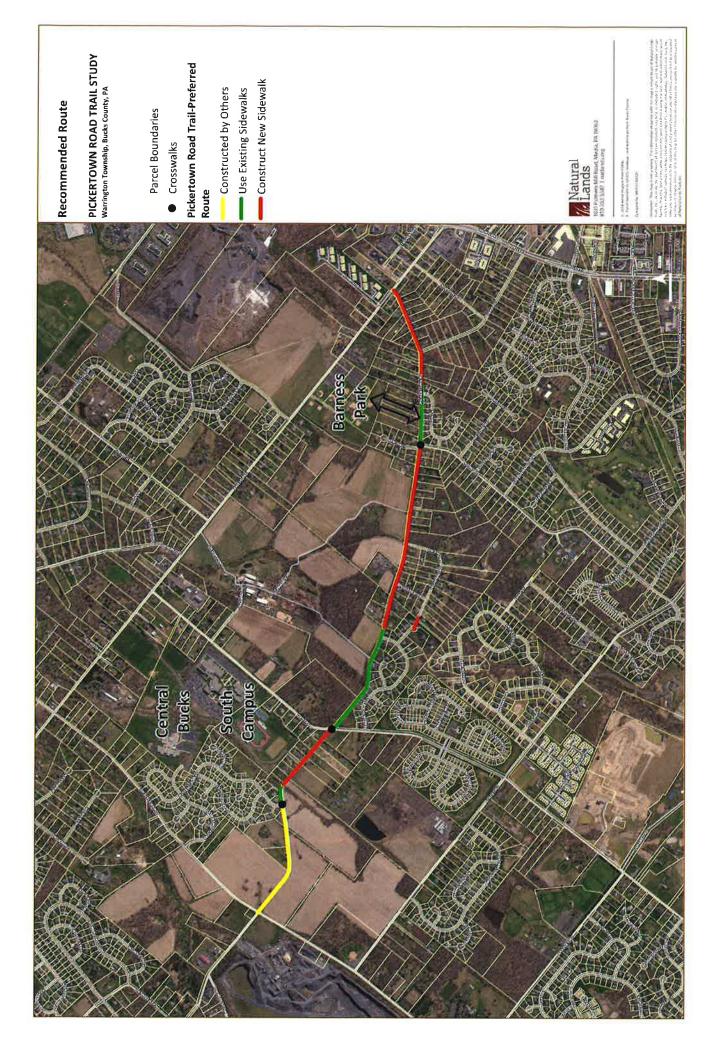












# WARRINGTON TOWNSHIP PICKERTOWN ROAD SIDEWALK CONNECTION PROJECT PRELIMINARY FIELD INSPECTION NOTES

#### **GENERAL NOTES:**

- 1. Multiple elevation changes throughout.
- 2. Drainage issues throughout.
- 3. Heavy Landscape/ Tree removal.
- 4. Elevation issues at sidewalk/ driveway connections (0" to 36")
- 5. EOP swale almost entire length of Pickertown Road. (EOP sidewalk not feasible)

### AREA # 1 (1200 LF of Sidewalk on North Side of Pickertown Road from Buttercup Road to Folly Road)

3191, 3179, 3165: Multiple utility poles, minimal Landscape and elevation changes. Sidewalk good to meander through this area.

CB South entrance drive, 3145: Sidewalk good to meander through this area.

3131, 3007: Multiple utility poles. 7 large trees TBR, 20 medium trees TBR, 30-inch elevation difference with EOP, and one well head looks to be in the way.

#### AREA # 2 (Folly Road and Pickertown Road intersection)

HCR Elevation issues due to existing concrete headwall 2' off of EOP and 36" below edge of pave, a 12 LF deep swale to an existing M-Top.

#### AREA # 3 (3450 LF of Sidewalk on South Side of Pickertown Road)

2924: 11 Large pine trees TBR. Belgian Block Radius entrance at Homeowner driveway from Pickertown road ROW into property with large landscape areas both sides of driveway at ROW and into property.

2896: Large Japanese cut leaf tree TBR.

2774: 15 Large Pine trees TBR.

2766: 4 10' wide shrubs TBR.

Common Driveway for 4 homes: 24" to 36" elevation changes with EOP and existing Swale EOP.

Argyle and Pickertown Road: Culvert will be needed. Low existing elevations.

2726: Decorative lamppost TBR.

2718: Entire frontage of property heavily landscaped 18' X 60' bed with 14 6" trees TBR. (Mulch, Benches, shrubs, Flowers TBR)

2226: driveway cross pipe and large land clearing along frontage.

#### AREA # 4 (Arbor Ridge Drive and Elbow Lane)

HCR install will be difficult due to EOP swale and elevation differences with EOP

#### AREA # 5 (1900 LF South side of Pickertown Road to Bristol Road)

Park and Pickertown: Culvert needed.

2582: Driveway Cross pipe, EOP swale and elevation changes up and down.

2552: Electrical Junction box conflicting with utility poles, EOP swale.

2321: 20 Pine trees TBR.

2220: Landscaping beds, 2 Large pines, 1 large Maple TBR.

36" to 42" elevation above EOP and roadway swale at Pickertown and Bristol Roads.

#### AREA # 6 (Highland Ave and English Ivy Cul De Sac)

Existing Drainage pipe Discharges at end of Highland Ave at proposed sidewalk install. Culvert or cross pipe required with drainage issues. Clearing will be required for construction access.

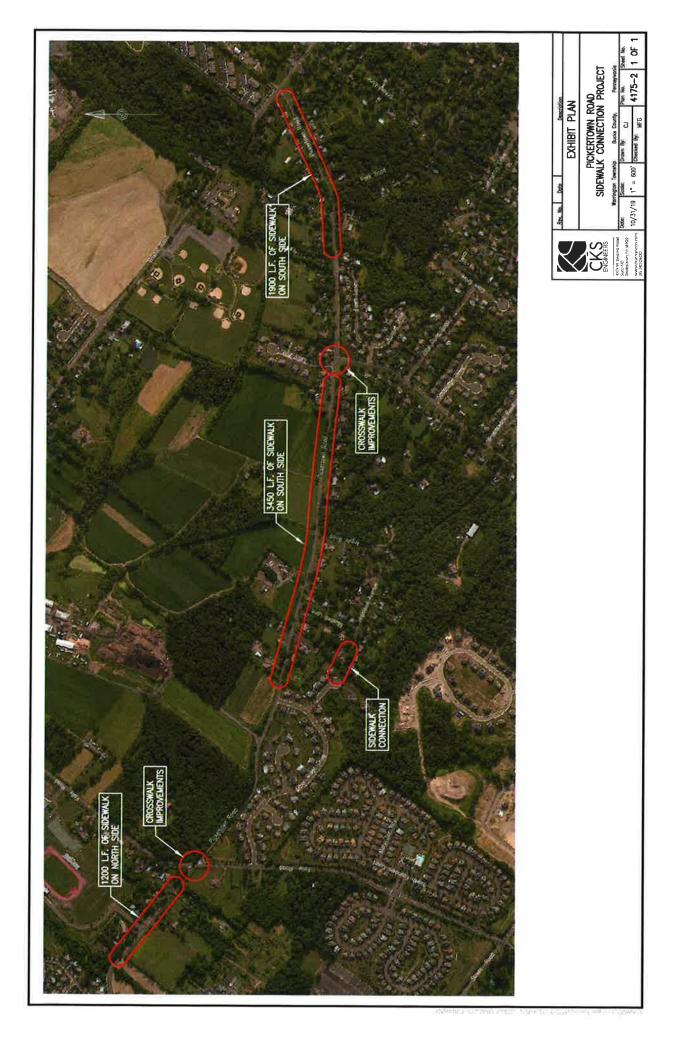
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## WARRINGTON TOWNSHIP PICKERTOWN ROAD – SIDEWALK CONNECTION PRELIMINARY CONSTRUCTION COST ESTIMATE

| Item<br><u>No.</u> | Desc                               | ription  | Estimated<br>Quantity          | Unit Price | Total Item Prices |
|--------------------|------------------------------------|--|--------------------------------|------------|-------------------|
| 1.                 | Concr                              | rete Sldewalk (5 ftwide)   |                                |            |                   |
|                    | a.<br>b.<br>c.<br>d.<br>e.         | Buttercup Boulevard – Folly Ro<br>Folly Road Intersection<br>Arbor Ridge Drive – Elbow Lar<br>Fawn Lane – Bristol Road<br>English Ivy Drive – Highland A | 17 SY<br>ne 1,750 SY<br>490 SY | \$125/SY   | \$371,125         |
| 2.                 | Curb                               | Ramp Complete-in-Place   |                                |            |                   |
|                    | a.<br>b.<br>c.<br>d.<br>e.         | Buttercup Boulevard – Folly Ro<br>Folly Road Intersection<br>Arbor Ridge Drive – Elbow Lar<br>Fawn Lane – Bristol Road<br>English Ivy Drive – Highland A | 1 EA<br>ne 5 EA<br>3 EA        | \$4,000 EA | \$56,000          |
| 3.                 | Miscellaneous Striping             |  | LS                             | LS         | \$2,000           |
| 4.                 | Unimproved Area Restoration        |  | LS                             | LS         | \$10,000          |
| 5.                 | Maintenance and Control of Traffic |  | LS                             | LS         | \$10,000          |
| 6.                 | Erosic                             | on and Sedimentation Controls  | LS                             | LS         | \$10,000          |
|                    |                                    | CONSTRUCTION SUBTOTAL<br>CONTINGENCIES (25%)<br>TOTAL  |                                |            |                   |

#### Notes:

- 1. Preliminary construction cost estimate based upon "Desk-Top" evaluation of existing conditions along conceptual sidewalk route. Further engineering analysis of existing storm drainage features, utility conflicts, existing vegetation/trees, easement acquisitions, and grading requirements would be needed to refine construction costs.
- 2. Preliminary construction cost estimate does not include engineering/design, permit acquisition, bidding, construction management/inspection or legal services costs.



# Potential Funding Sources

| Agency       | Grant Program                                   | Match                | Notes   | Web   |
|--------------|---|----------------------|---|---|
| Bucks County | Community Development<br>Block Grant (CDBG)     | %0                   | Funding from HUD, can be used for acquisition, planning or construction.  | https://dced.pa.gov/programs/community-development-block-grant-cdbg/  |
| DCED         | Multimodal Transportation<br>Fund (DMTF)        | 30%                  | Funding range: \$100K to \$3M;<br>30% match                               | https://dced.pa.gov/programs/multimodal-transportation-fund/  |
| PennDOT      | Municipal Liquid Fuels<br>Program (MLFP)        | N/A                  | Alotment can be spent on variety of construction and engineering services | Alotment can be spent on variety https://www.penndot.gov/Doing- of construction and engineering Business/LocalGovernment/LiquidFuels/MunicipalLiquidFuelsProgr services |
| DVRPC        | Congestion Mitigation and Air Quality (CMAQ)    |                      | Funds various pedestrian and traffic management measures                  | https://www.dvrpc.org/CMAQ/   |
| PennDOT      | Highway Safety Funds (HSF)                      |                      | Can fund bicycle and pedestrian safety                                    | https://safety.fhwa.dot.gov/legislationandpolicy/policy/section4U<br>2/   |
| PennDOT      | Transportation Alternatives<br>Program (TAP)    | Pre-<br>Construction | Federal funding passed through<br>PennDOT; \$50K minimum                  | https://www.penndot.gov/ProjectAndPrograms/Planning/Pages/I   |
| PennDOT      | Multimodal Transportation Funding (PMTF)        | 30%                  | Funding range: \$100K to \$3M;  | https://www.penndot.gov/ProjectAndPrograms/MultimodalProgr<br>am/Pages/default.aspx#.VyiprlQrKUk  |
| PennDOT      | Transportation Alternatives<br>Set Aside (TASA) | Pre-<br>Construction | Federal funding passed through<br>PennDOT; \$50K to \$1M                  | https://spportal.dot.pa.gov/Planning/AppReg/TAP/Pages/default.a<br>spx  |

#### Implementation Strategy Matrix

Every successful phase, no matter how small, will advance the community's vision for a safer Pickertown Road. The intent of this implementation strategy matrix is to help chart a course of action that is pragmatic and achievable.

#### Key to Lead Parties, Assistance and Potential Partners/Funders:

ZO – Zoning Officer

Twp. Sol. – Township Solicitor
Twp. Eng. – Township Engineer

PennDOT – Pennsylvania Department of

Transportation

DVRPC - Delaware Valley Regional Planning

Commission

CBDG – Community Development Block Grant

MLFP - Municipal Liquid Fuels Program

DCED – Pennsylvania Department of

Community and Economic Development

 ${\bf DMTF-DCED\ Multimodal\ Transportation\ Fund}$ 

PMTF – PennDOT Multimodal Transportation

Fund

CMAQ - Congestion Mitigation and Air Quality

HSF - Highway Safety Funds

TAP - Transportation Alternatives Program

TASA – Transportation Alternatives Set Aside

| Phase        | Description  | Lead<br>Party     | Assistance | Estimated<br>Cost | Potential partners/funding         |
|--------------|--|-------------------|------------|-------------------|------------------------------------|
| 1,-6,        | Detailed Design and<br>Engineering                                 | ZO                | Twp. Eng.  | \$150,000         | CDBG, MLFP                         |
| LAND /       | ACQUISITION PHASING PLAN   | DOES N            | OT INCLUDE | COST FOR SOI      | LICITOR'S TIME)                    |
| 1.           | English Ivy – Highland Ave.  | ZO                | Twp. Sol.  | \$0               |                                    |
| 2.           | Intersection – Folly and<br>Pickertown Roads                       | ZO                | Twp. Sol.  | \$0               |                                    |
| 3.           | Sidewalks - Buttercup Blvd.<br>to Folly Road                       | ZO                | Twp. Sol.  | \$65,748.60       | CDBG, MTF                          |
| 4.           | Sidewalks and Crosswalk –<br>Argyle to Elbow                       | ZO                | Twp. Sol.  | \$47,017.80       | CDBG, MTF                          |
| 5.           | Sidewalks – Fawn Lane to<br>Bristol Road                           | ZO                | Twp. Sol.  | \$68,889.96       | CDBG, MTF                          |
| 6.           | Sidewalks – Arbor Ridge<br>Drive to Argyle Road                    | ZO                | Twp. Sol.  | \$46,512.00       | CDBG, MTF                          |
| CONST        | RUCTION PHASING PLAN   |                   |            |                   |                                    |
| Phase        | Description  | Lead<br>Party     | Assistance | Estimated<br>Cost | Potential partners/funding         |
| 1.           | Connect English Ivy Drive to Highland Avenue                       | ZO                | Twp. Eng.  | \$17,000          | CDBG, TWP                          |
| 2.           | Continue to Improve the Intersection of Pickertown and Folly Roads | ZO                | Twp. Eng.  | \$6,125           | TWP, MFLP                          |
|              |  |                   |            | 1 4               | DATE CNAAC LIST                    |
| 3.           | Install Sidewalk from<br>Buttercup Boulevard to<br>intersection    | ZO<br>Twp<br>Sol. | Twp. Eng.  | \$92,000          | DMTF, CMAQ, HSI<br>TAP, PMTF, TASA |
| <b>3. 4.</b> | Buttercup Boulevard to   | Twp               | Twp. Eng.  | \$110,575         |                                    |

| 6.   | Install Sidewalk from<br>Arbor Ridge Dr to Argyle<br>Road | ZO<br>Twp.<br>Sol. | Twp. Eng.                       | \$106,575 | DMTF, CMAQ, HSF,<br>TAP, PMTF, TASA |
|------|---|--------------------|---------------------------------|-----------|-------------------------------------|
| 1-6. | Lump Sum spread across all phases: Striping               | Twp.<br>Eng.       | ZO, Pub<br>Works,<br>PennDOT    | \$2,000   | DMTF, CMAQ, HSF,<br>TAP, PMTF, TASA |
| 1-6. | Lump Sum spread across all phases: Restoration            | Twp.<br>Eng.       | Contractor                      | \$10,000  | DMTF, CMAQ, HSF,<br>TAP, PMTF, TASA |
| 1-6. | Lump Sum spread across all phases: Traffic Control        | Twp.<br>Eng.       | PennDOT                         | \$10,000  | DMTF, CMAQ, HSF,<br>TAP, PMTF, TASA |
| 1-6. | Lump Sum spread across<br>all phases: E & S Control       | Twp.<br>Eng.       | ZO, Pub<br>Works,<br>Contractor | \$10,000  | DMTF, CMAQ, HSF,<br>TAP, PMTF, TASA |
| 1-6. | Lump Sum spread across all phases: Contingencies          | Twp.<br>Eng.       |                                 | \$114,781 | DMTF, CMAQ, HSF,<br>TAP, PMTF, TASA |





Hildacy Preserve 1031 Palmers Mill Road Media, PA 19063 610-353-5587 natlands.org