



Township of
ABINGTON
Master Bicycle Plan

DRAFT





Draft - September 2015

Prepared for:



Project Committee:

- Michael LeFevre, Township Manager
- Michael Powers, Township Engineer
- Scott Marlin, Engineering Assistant
- Tara Wehmeyer, Assistant Township Manager & Economic Development Coordinator
- Ed Micciolo, Director of Public Works
- Angelo Pontelandolfo, Superintendent of Highways
- Alan Freed, Traffic Safety Officer - Abington Police Department
- Steven Kline, Commissioner of Ward 1 and Vice President of the Board of Commissioners
- Dr. Jeffrey Fecher, Assistant Superintendent, Abington School District
- Cassidy Boulan, DVRPC
- Brian O’Leary, MCPC
- Mike Stokes, MCPC

Funded by:



Prepared by:

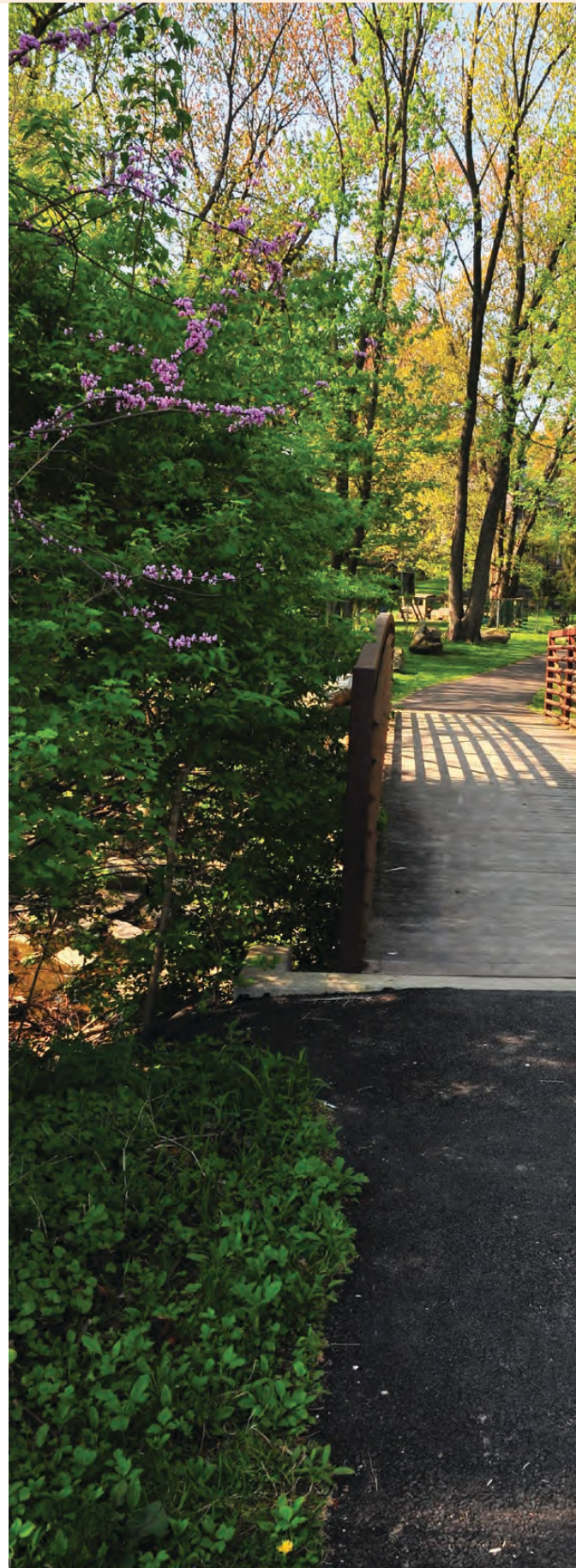
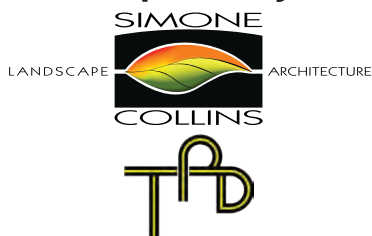


Table of Contents



1

Introduction	1
Study Purpose, Goals, and Objectives	1
Township Master Bicycle Plan Goals	1
Township Background	2
Demographics	3
Regional Context	3
Benefits of Trail and Bicycle Facilities	4

2

Inventory & Analysis	7
Data Collection & Methodology	7
Public Participation Summary	8
Committee Meetings	9
Public Meetings	10
Summary of Existing Planning Documents	12
Existing Conditions	18
Township Destinations	27

3

Master Bicycle Plan Recommendations	39
GIS Mapping	39
Trail Types – Descriptions	39
Bicyclist Types	43
Proposed Trail Connections	44

4

Implementation	83
Project Partners	83
Official Map	84
Implementation Priorities	85

5

Appendix	105
----------	-----



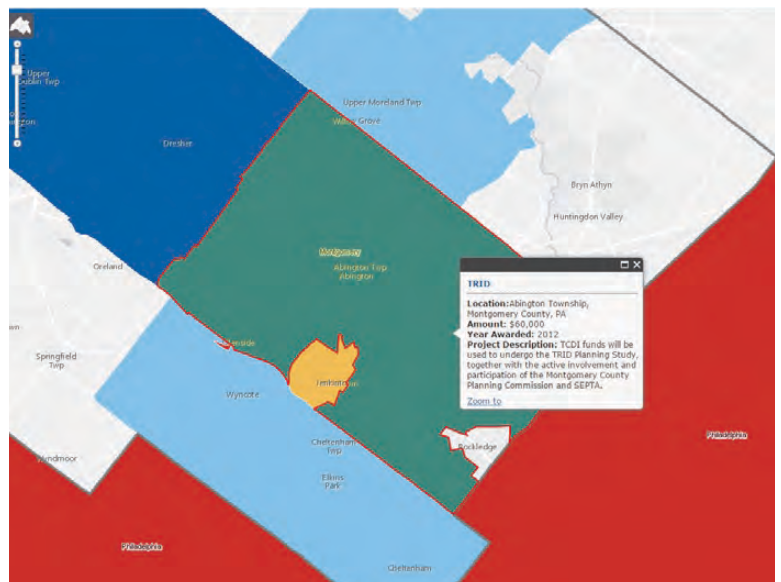


1

Introduction

Study Purpose, Goals, and Objectives

As an effort to enhance its bicycle network and plan for future transportation needs, Abington Township commissioned this study to develop a comprehensive, township-wide network of bicycle routes and trails that link individual neighborhoods and various destinations in and around the Township. The Township applied for, and received a Transportation and Community Development (TCDI) grant from the Delaware Valley Regional Planning Commission (DVRPC) to complete this Township Master Bicycle Plan. This plan is intended to serve as a guide for the development of future bicycle facilities in the Township.





Township Master Bicycle Plan Goals

The goals of the Abington Township Master Bicycle Plan are to:

- Develop a Township-wide Bicycle Network
- Plan for future transportation needs
- Link neighborhoods and important destinations within the Township
- Provide linkages to trails and destinations in adjacent municipalities
- Link Abington Township to the regional trail network
- Accommodate bicycling in the Township as an alternative mode of transportation
- Provide additional recreational opportunities
- Qualify for and quantify the need for future grant funding for design and construction of proposed bicycle facilities from various funding sources

Township Master Bicycle Plan Objectives

Objectives of the Abington Township Master Bicycle Plan are to:

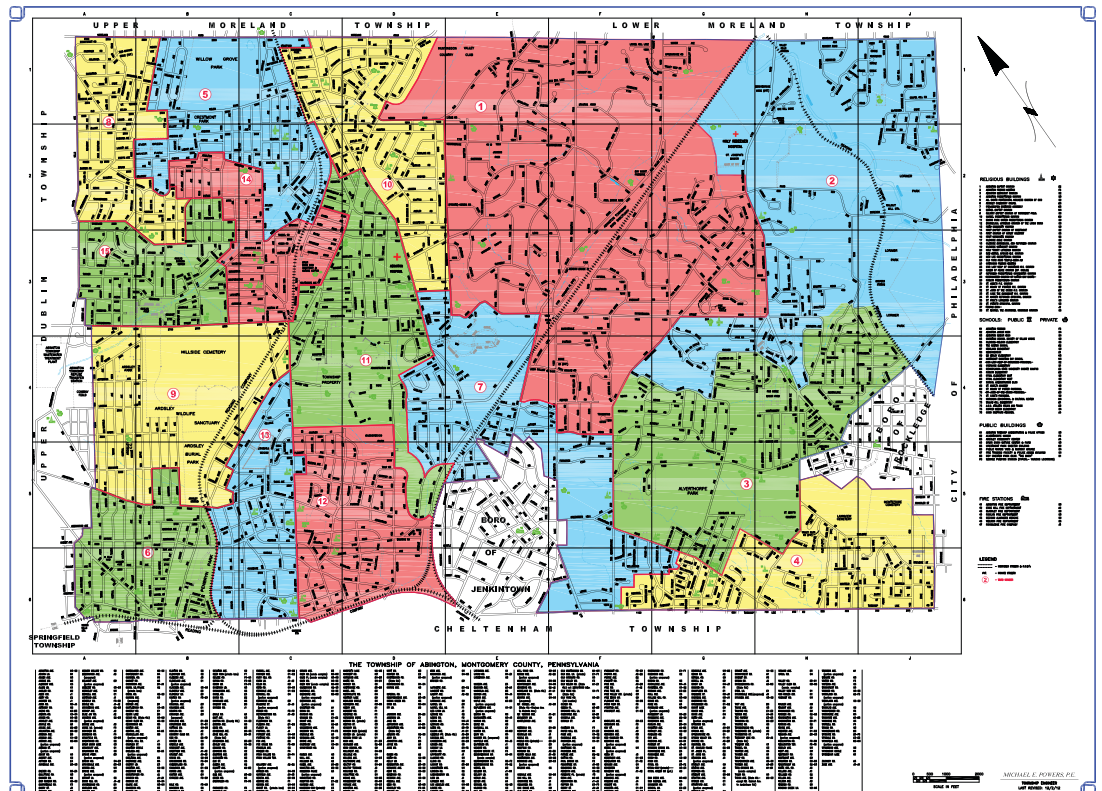
- Inventory and analyze the existing bicycle facilities, trails, parks, important destinations, and other relevant features in the Township
 - Provide recommendations for new bicycle routes and other related facilities
 - Perform a level of comfort analysis for proposed bicycle routes
 - Develop an estimate of probable cost for construction of proposed improvements
 - Develop a recommended phasing plan for construction of improvements
 - Develop a strategy for acquiring future funding for design and construction of proposed bicycle facilities

Township Background

Abington Township is located in Montgomery County, Pennsylvania within the Philadelphia metropolitan area. The Township is approximately 13 miles north of downtown Philadelphia and has an approximate land area of 15.5 square miles. The Township is one of Montgomery County's oldest communities as it was incorporated in 1704. The Township is governed by a fifteen member Board of Commissioners with each member representing one of the fifteen wards in the Township.

Demographics

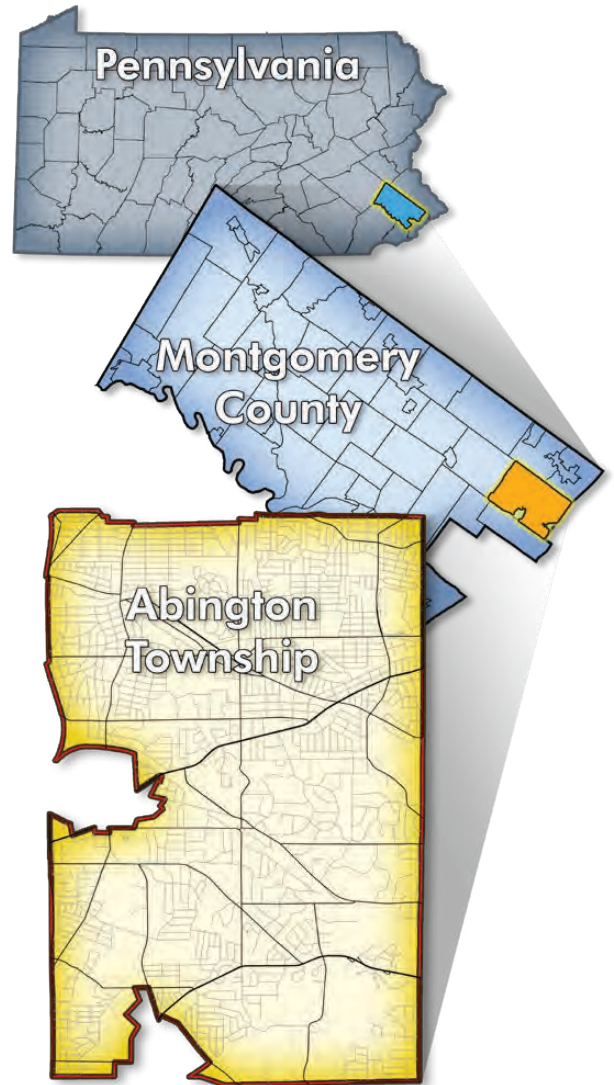
According to the 2010 census, Abington Township has a population of 55,310 which is the second most populated municipality in Montgomery County behind only Cheltenham Township. The Township is primarily a densely populated residential suburb with a population density of 3,603.3 inhabitants per square mile. In 2010, there were 21,252 households with an average household size of 2.56. The median age in the township was 42 years and the median income per household was \$77,363.



Regional Context

The regional context map shows the relationship between Abington Township, Montgomery County and the State of Pennsylvania. Abington Township is bordered by 8 other municipalities: Upper Dublin Township, Upper Moreland Township, Lower Moreland Township, City of Philadelphia, Rockledge Borough, Cheltenham Township, Jenkintown Borough, and Springfield Township. The Township is traversed by several major arteries including Old York Road (SR 611), Huntingdon Pike (SR 232) and Easton Road. Old York Road is the most heavily traveled roadway and it connects Abington to the Pennsylvania Turnpike (Interstate 276) about 1.5 miles to the north of the Township.

Abington has several neighborhoods. These include Willow Grove, Roslyn, Glenside, Rydal, North Hills, and Meadowbrook. Recently, Glenside has become one of Abington's major business districts that's provides a variety of shops, cafes restaurants, banks, community services, and other commercial establishments with a walkable setting. Largely because of the increasing popularity of Abington's neighborhoods combined with the Township's proximity to Philadelphia and easy access to interstate 276, Abington Township is a fully developed community.





Benefits of Trail and Bicycle Facilities

Trails and bicycle routes can provide multiple economic, social, and health benefits to a community. According to a study by The Rails to Trails Conservancy titled *Economic Benefits of Trails and Greenways*, the economic benefits of trails can include increased property values for nearby properties. One of the social benefits is that they provide additional opportunities for community interaction among neighbors and can contribute to an improved quality of life.

Trail facilities can improve the community's general health and well-being through additional opportunities for regular physical activity. Depression, obesity and diabetes are chronic diseases directly related to the physical inactivity and unhealthy eating habits associated with a sedentary lifestyle. The US Department of Health and Human Services, Centers for Disease Control and Prevention (CDC) reports that more than one-third (35.7%) of U.S. adults are obese, and the estimated cost of obesity in the United States in 2008 was about \$147 billion. Annual medical costs were estimated to be \$1,429 higher for the obese than those of normal weight, in 2006. The 2012 obesity rate for the State of Pennsylvania is 29.1%.

The CDC Guide for Strategies to Increase Physical Activity in the Community indicates that "improved pedestrian infrastructure may promote physical activity by making walking and cycling more appealing, easier, and safer." For more information on these facts as well as other programs promoting healthy lifestyles by the CDC, please refer to their website: <http://www.cdc.gov/HealthyLiving/>

The opportunity for physical activity that trails can provide not only fights obesity and related diseases, but has also been shown to result in reduced health care costs, increased work productivity, and increased life expectancy.

Additionally, using bicycling as a means for commuting can have added benefits such as traffic reduction and environmental benefits such as the reduction of hazardous wastes, transportation emissions and the need for petroleum fuel.







2

Inventory & Analysis

Data Collection & Methodology

Data found within this report was compiled from many different sources, including Abington Township, Montgomery County, Delaware Valley Regional Planning Commission, previous planning efforts to date, and new field reconnaissance data obtained by the consultant.

Geographic Information System (GIS) base map information was used to prepare field maps and preliminary planning documents consisting of the base aerial photography, municipal boundaries, roadways, parcels and other identifying features.

The consultants performed initial field reconnaissance on 3/17/15 and 5/4/15 to inventory, analyze and document existing conditions. Field data was recorded by the consultant onto the field maps, and photographs were taken of existing site conditions for use in evaluating trail alignment alternatives. Follow-up field verification of proposed alignments was conducted on 6/29/15 to verify the feasibility of the conceptual trail alignments.

The project was guided by a Township Master Bicycle Plan committee. The committee provided valuable insight and advice to the consultant for development of the plan. A series of public meetings, study committee meetings, and meetings with various stakeholders were held throughout the planning process. These meetings provided additional information and important community feedback that contributed to the development of the Abington Township Master Bicycle Plan.



	March	April	May	June	July	August	September	October	November	December	January	February
Review existing base information	■											
Review information on trails from abutting municipalities & county	■											
Initial site reconnaissance - entire team	■											
Detailed site reconnaissance - Project managers & staff	■											
Set up base plan mapping		■										
Planning of initial routes/ connections/ mapping		■										
Meeting with PennDOT District 6-0				■	■							
Second Round of route alternatives, revisions / mapping				■	■							
Preliminary Cost Estimates & Feasibility Review					■	■						
Write plan report narrative					■	■						
Preparation of Draft Report & Graphics					■	■						
Present Draft Plan						■						
30 Day Draft Plan Review Period							■	■				
Review Draft Plan comments								■				
Revisions to Draft Report									■			
Present Final Plan										■		
MEETINGS												
Public Meeting #1 - programming / education session		■										
Public Meeting #2 - present prelim. ideas / route options / alts.					■							
Public Meeting #3 - present Draft Master Plan								■				
Public Meeting #4 - present Final Plan											■	
Board of Commissioners Meeting #1 - Draft Plan Review									■			
Board of Commissioners Meeting #2 - Adopt Plan												■
Committee Meeting #1		■										
Committee Meeting #2			■									
Committee Meeting #3				■								
Committee Meeting #4					■							
Committee Meeting #5						■						
Committee Meeting #6									■			
Staff Meeting update #1			■									
Staff Meeting update #2				■								
Staff Meeting update #3								■				
Staff Meeting update #4										■		

Public Participation Summary

Public participation was an important piece in the development of the Township Master Bicycle Plan. Public meetings were held to involve residents and other interested community members by soliciting input about existing conditions and desired improvements. The meetings also help to keep the community aware of the project status and to address any comments, questions, or concerns about the project. Below is a list of the meetings held by the consultants during the development of the Township Master Bicycle Plan:

- March 23 – Committee Meeting #1
- April 20 – Public Meeting #1
- April 28 – Staff Update meeting #1



The consultants while out during field reconnaissance were able to speak with trail users and gain extra insight



- May 11 – Committee Meeting #3
- June 8 – Public Meeting #2
- June 15 – Committee Meeting #3 / Staff Update Meeting #2
- July 20 – Committee Meeting #4
- August 17 – Committee Meeting #5
- September 21 – Public Meeting #3
- September 28 – Public Works Meeting
- October 8 – Board of Commissioners Meeting #1
- November 16 – Committee Meeting #6
- December 14 – Staff Update Meeting #4
- January 11 – Public Meeting #4
- February 11 – Board of Commissioners Meeting #2

Attendance lists and meeting notes from all of the public and committee meetings can be found in the appendix of this report.

Committee Meetings

The planning process was driven by a 12 member project committee that included representatives from across the Township. Project committee members included:

Cassidy Boulan, Transportation Planner, DVRPC, Office of Transit, Bicycle, & Pedestrian Planning

Alan Freed, Traffic Safety Officer, Abington Police Department

Dr. Jeffrey Fecher, Assistant Superintendent, Abington School District

Steven Kline, Commissioner of Ward 1 and Vice President of the Board of Commissioners

Michael LeFevre, Township Manager

Scott Marlin, Assistant Township Engineer

Ed Micciolo, Director of Public Works

Angelo Pontelandolfo, Superintendent of Highways

Michael Powers, Township Engineer

Tara Wehmeyer, Assistant Township Manager and Economic Development Coordinator

Benjamin Sanchez, Commissioner of Ward 7

Michael Stokes, Assistant Director, Montgomery County Planning Commission

The committee held 10 meetings throughout the process. All committee meetings were also open to the public. The project schedule is shown below. Notes and other information from all the meetings and the public participation process can also be found in the appendix of this report.

Public Meetings

Four public meetings were held during the course of the project. Summaries of these meetings are as follows:

April 20, 2015—Public Meeting #1

Steven Kline, Commissioner of Ward 1 and Vice President of the Abington Township Board of Commissioners, began the meeting by welcoming those in attendance, introducing the project committee and planning consultants, and giving a brief introduction of the project. The planning consultants then discussed the project schedule and scope, gave a general introduction to trail planning, and discussed some of the Township's existing features and important destinations. Following the presentation by the planning consultants, the meeting was opened up for public discussion. Suggestions from meeting attendees were categorized as "goals", "facts" and "concepts". Refer to the meeting minutes in the appendix of the report for a summary of the responses solicited from public meeting attendees.



June 8, 2015 – Public Meeting #2

Following a brief introduction by Steven Kline, Commissioner of Ward 1 and Vice President of the Abington Township Board of Commissioners, the planning consultants discussed the project schedule and scope, gave a general introduction to trail planning, and discussed some of the Township’s existing features and important destinations. The consultants then detailed the preliminary map of proposed bicycle routes throughout the Township. Following the presentation by the planning consultants, the meeting was opened up for public discussion. Suggestions from meeting attendees were categorized as “goals”, “facts” and “concepts”. Refer to the meeting minutes in the appendix of the report for a summary of the responses solicited from public meeting attendees.



September 21, 2015 – Public Meeting #3

At the third public meeting, the planning consultants presented the draft Township Master Bicycle Plan to the public. The consultants discussed the proposed bicycle routes within the Township, probable development costs, implementation priorities, and potential funding sources. Refer to the meeting minutes in the appendix of the report for a summary of the responses solicited from public meeting attendees.

January 11, 2016 – Public Meeting #4

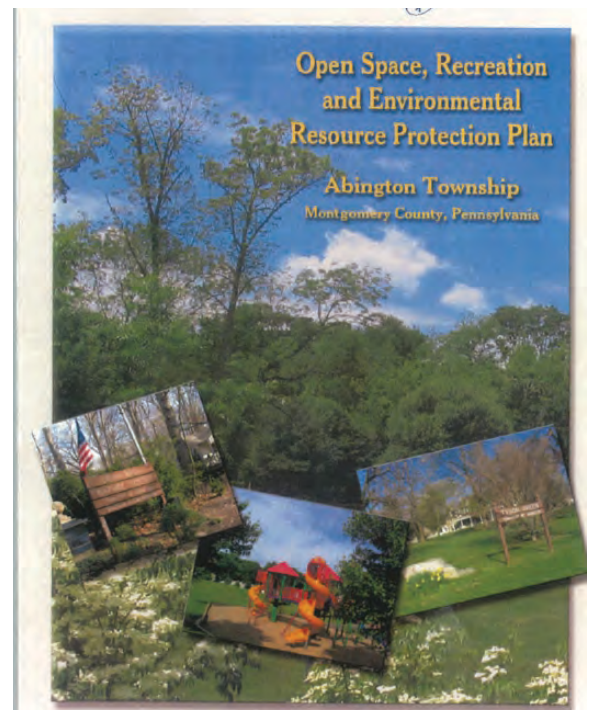
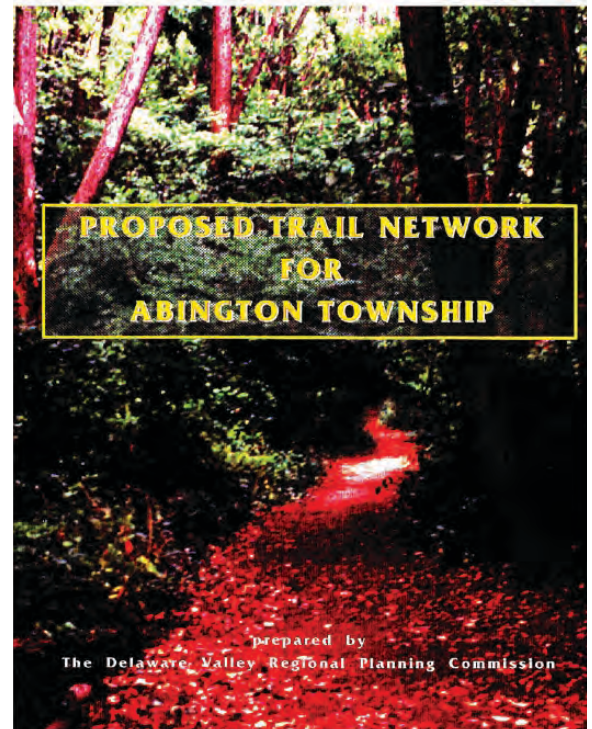
At the final public meeting, the planning consultants presented the final Township Master Bicycle Plan to the public. The consultants discussed changes that were made to the plan since the draft. The presentation included a summary of the proposed bicycle routes within the Township, probable development costs, implementation priorities, and potential funding sources. Refer the meeting minutes in the appendix of the report for a summary of the responses solicited from public meeting attendees.

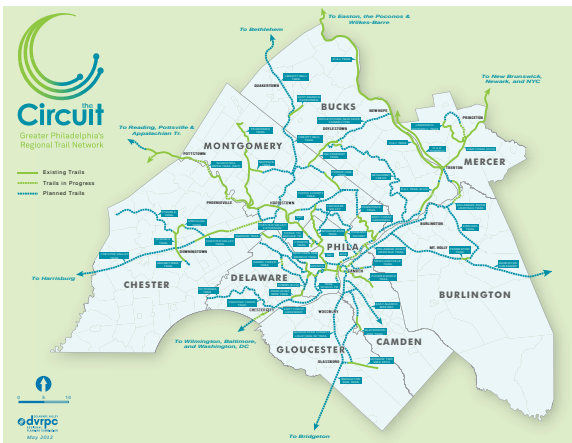
Summary of Existing Planning Documents

Proposed Trail Network for Abington Township, DVRPC, 1998 – The 1998 plan provides recommendations for a proposed trail network of both on-road and off-road trails that connect many important destinations in Abington. The recommendations and routes suggested in this plan were reviewed and analyzed to determine whether they remain feasible. The network presented in this Bicycle Master Plan update expands and enhances the trail routes proposed in the 1998 plan.

Comprehensive Plan Update for Abington Township, 2005 - Adopted in 2005, the current Township Comprehensive Plan updates the Comprehensive Plan previously completed in 1992. The plan serves as a planning guide for Township officials and sets forth recommendations for future arrangement of land uses, zoning changes, design improvements, and preservation of important Township features. The Township Master Bicycle Plan remains consistent with recommendations of the Comprehensive Plan. Chapter 9 of the plan discusses bikeways and indicates that consideration should be given to their future development as part of the Township infrastructure.

Open Space, Recreation, and Environmental Resource Protection Plan, 2006 – This update to the Township Open Space, Recreation,





and Environmental resource protection plan was completed in 2006 and updates the previous plan of 1995. The plan consists of 5 major parts including a Community Profile, Existing Parks and Open Space System, Needs Assessment, Goals and Objectives, and a Recommendations and Action Program. The information in this plan is essential to the Township Master Bicycle Plan. Open space, parks and recreational areas are key community destinations that the bicycle routes recommended in this Master Plan strives to connect. The plan also indicates existing and proposed trails within the Township. These open spaces, recreational locations, and trails were analyzed and mapped as part of the inventory process for the Master Bicycle Plan.

“The Circuit” Philadelphia Regional Trail Network Map—Produced by the Delaware Valley Regional Planning Commission in 2012, this map displays existing and planned trails that make up a 750 mile network in the Philadelphia region. New planned and constructed trails are continuously being added to the map. The interactive, up to date version of the map can be found at <http://connectthecircuit.org>.



Philadelphia Trail Master Plan, 2013 – The City of Philadelphia borders Abington Township to the east. This plan presents existing on-road and off-road bicycle facilities within the City of Philadelphia. These existing routes were analyzed and discussed with City planning personnel along with the proposed routes in Abington Township in order to determine the best points of connection between the two municipalities.

Cheltenham Township Open Space Plan, 2006 – This plan, which updates the previous Comprehensive Plan completed in 1995, was partially funded by the Green Fields/Green Towns Program. The Green Fields/Green Towns Program was a 2003 referendum passed in Montgomery County to fund open space and green infrastructure projects. The funding was distributed to municipalities, non-profit organizations and the County to preserve more open space and enhance the livability of Montgomery County communities. One condition of the grants was that municipalities must complete and adopt an updated Open Space Plan.

The Open Space Linkages plan within this report presents existing and

proposed trails through the Township. These existing and proposed trails were inventoried and analyzed to seek opportunities to link Abington Township to Cheltenham Township which it borders to the south. Currently, none of Cheltenham Township's trails make direct connections to Abington Township.

Jenkintown Borough Community Revitalization Plan, 2010 – This plan, completed in 2010 outlines an initiative to boost Jenkintown's retail core through an enhanced pedestrian network. The Abington Township Master Bicycle Plan seeks to complement this initiative by proposing bicycle facilities that connect to this retail core and other important Borough destinations outlined in the Revitalization plan.

Lower Moreland Township Open Space Plan, 2006 – This plan updates the Lower Moreland Township Open Space Plan of 1996 and contains key planning elements in accordance with the Montgomery County Green Fields/Green Towns Program. The plan also outlines existing and proposed trails and open space linkages within the Township. The open space linkages plan was analyzed to determine the most appropriate connections between the two municipalities. Lower Moreland Township borders Abington Township to the north. One prominent trail connection already exists along the Pennypack Trail which traverses both Townships.

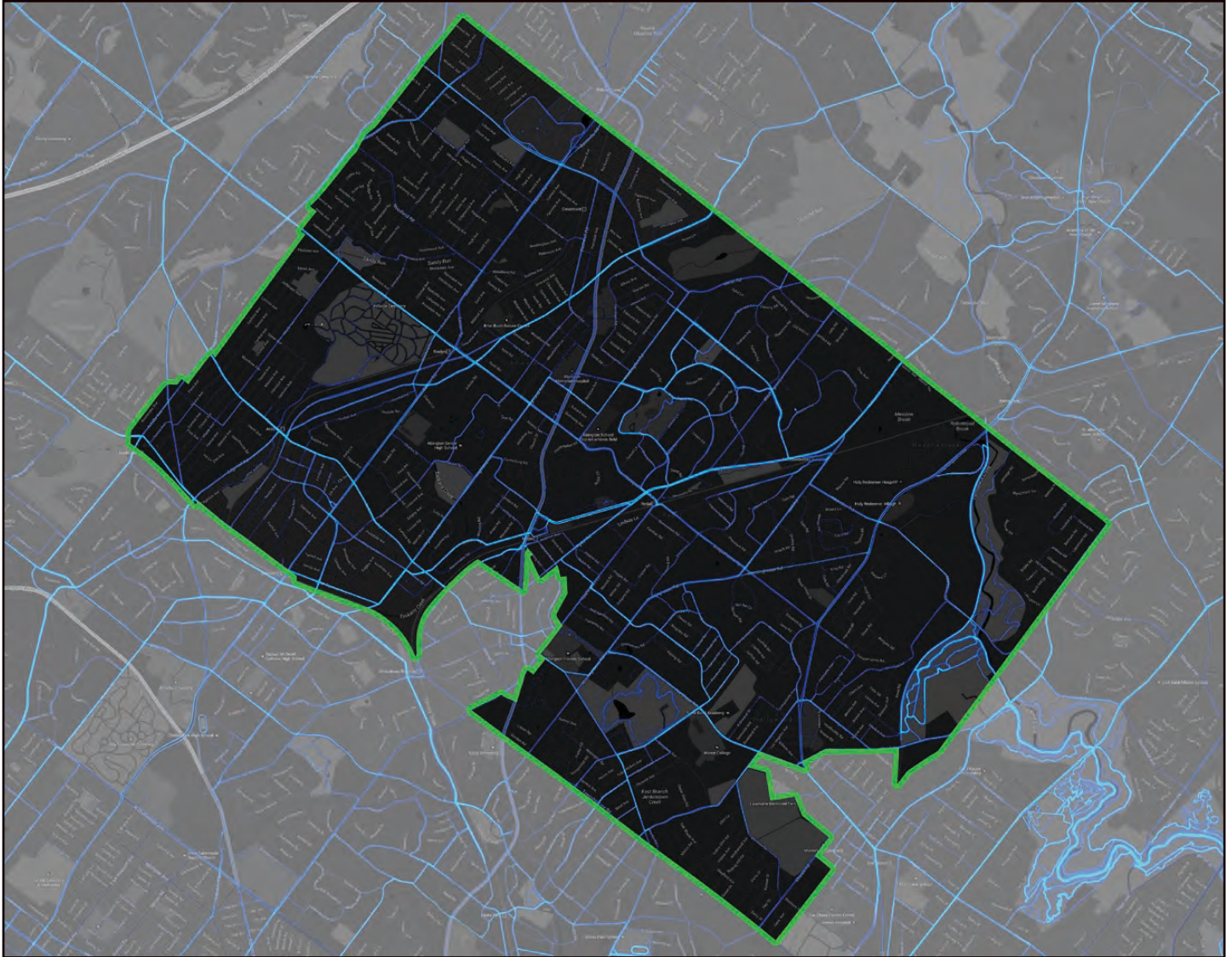
Springfield Township Open Space Plan, 2005 – Completed in April of 2012, the Springfield Township Open Space Plan was partially funded by the Montgomery County Green Fields / Green Towns Program. The plan contains over eighty recommendations for open space projects in the Township. The plan also includes a map of existing and future trails within the Township. Existing trails in Springfield are minimal. While there are currently no direct bicycle or trail connections to Abington from Springfield Township, the Cresheim Valley Trail is a regional trail that is proposed in Springfield Township. The Cresheim Valley Trail, when constructed, will connect the Wissahickon Green Ribbon Trail to Cheltenham Township and beyond to the Wissahickon Trail in Philadelphia. It is also proposed that the Cresheim Valley trail will link to the Tookany Creek Trail which is



expected to run along the western border of Abington Township. Both the Cresheim Valley Trail and the Tookany Creek Trail are part of the "Circuit".

Upper Dublin Sidewalk, Bicycle Path, & Trail Master Plan, 2008 – Upper Dublin borders Abington Township to the northwest. This map outlines the existing and proposed trails within the Township. The plan distinguishes between Township trails, trails by private developers, and County trails. These trails were inventoried and analyzed to determine the most appropriate connections between the two municipalities. There are two direct connections to Abington Township outline on the map. These connections are along School Road and Susquehanna Road.

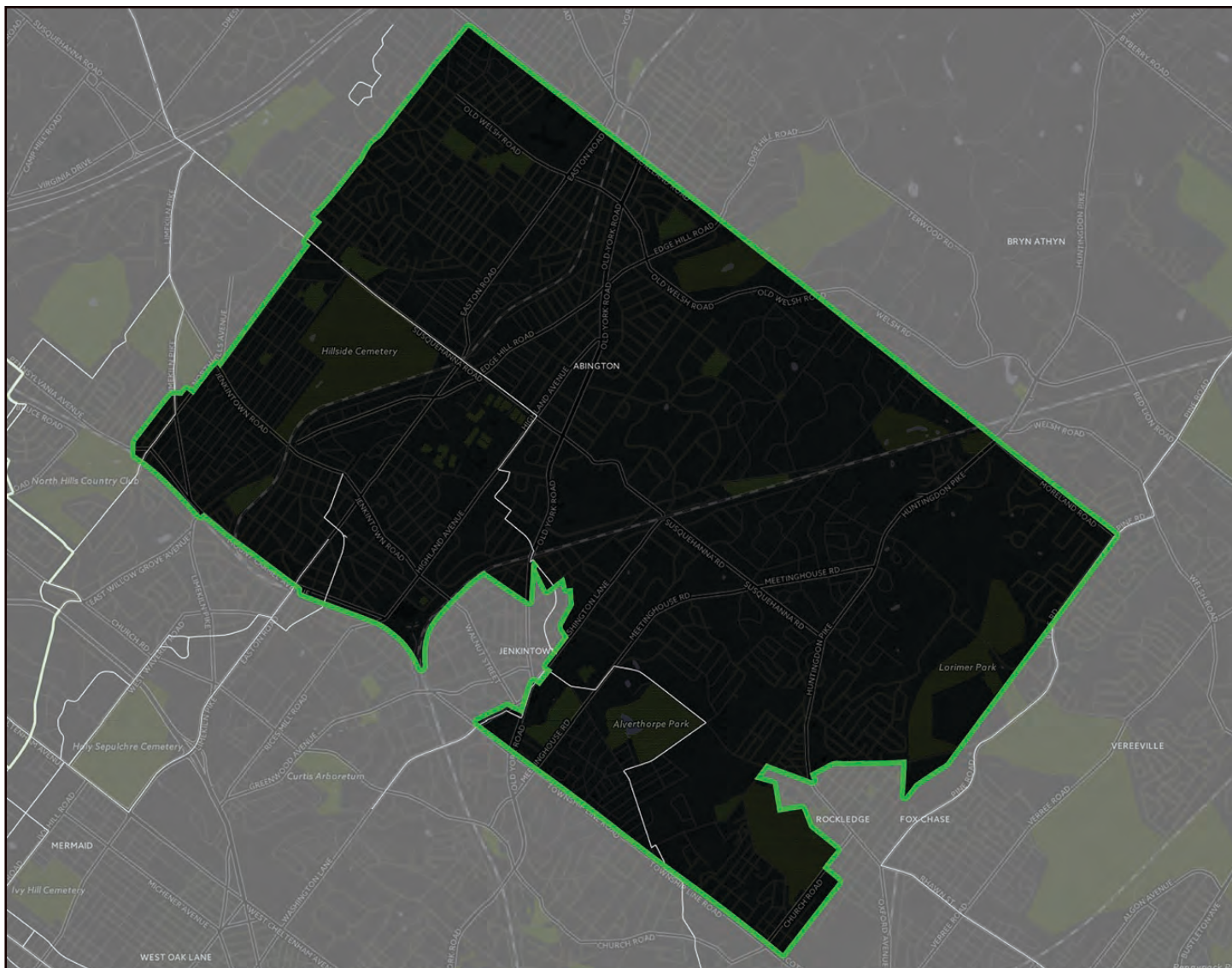
Upper Moreland Township Open Space Plan, 2006 – This plan, completed under the Green Fields / Green Towns Program includes many recommendations for open space projects, programs and policies. Recommendations are also listed with a priority level, responsible party, and potential funding source. In addition to discussing open space acquisition and resource protection, the plan discusses trail development and pedestrian connection improvements. The plan includes a Township Linkages Map that displays existing sidewalks and proposed trail connections. Upper Moreland Township borders Abington to the north and this plan was analyzed to determine appropriate connections to Upper Moreland Township from Abington Township. Currently there are no existing bicycle routes or trails that directly connect to Abington from Upper Moreland however there are multiple sidewalk connections that exist.



Strava Global Heatmap

Strava Global Heatmap

The Strava Global Heatmap is a website and mobile application that tracks the patterns of runners and bicyclists. Once a user completes a ride or run, the data is automatically uploaded to Strava. The online Strava Heat Map graphically displays the most popular routes. The website was reviewed for Abington Township and it was determined that some of the most heavily traveled routes by bicyclists (displayed as light blue and dark blue on the map) are Valley Road, Tyson Avenue and Edge Hill Road.



Cycle Philly Map

Cycle Philly Map

The study also looked at Cycle Philly’s map and the current routes used by commuters into the Philadelphia area from Abington. The current recorded data is still in its early stages, but should help provide more useful data further down the road. Taken from <http://www.cyclephilly.org>: “CyclePhilly is a smartphone app for recording your bicycle trips. Data from the app can be used by regional transportation planners in the Philadelphia area to make Philly a better place to ride.”

Existing Conditions

Topography

Abington Township has a significant amount of sloping topography which can present challenges for average bicyclists. In general, the highest areas of the Township are around elevation 420 which is found in the area of Rosyln Avenue and Edge Hill Woods. The lowest points of the Township are around elevation 90 which is found on the eastern side of the Township at the lowest point of Pennypack Creek before it crosses into the City of Philadelphia. The steepest slopes are primarily located around streams and creeks in the Township as well as around the two railways that traverse the Township. Topographic changes were considered in the analysis and development of proposed bicycle routes throughout the Township.

Land Use

As an adjacent suburb of Philadelphia, the dominant land use within Abington Township is single family detached residential. Old York Road (SR611) bisects the Township from north to south and tends to serve as an informal separation between the higher and lower density neighborhoods in the Township. The residential neighborhoods to the west of Old York Road are generally more dense in nature while the neighborhoods to the east of Old York Road are generally less dense. Commercial facilities are primarily clustered along Old York Road, Huntingdon Pike (SR 232), Easton Road, and Township Line Road (SR73). Other land uses scattered throughout the township include multi-family residential, schools, community services, and recreational lands such as parks and golf courses.

Transportation

Roadways

The heaviest traffic volumes in Abington Township exist on Old York Road (SR 611). This road serves as the primary thoroughfare through the Township as it connects Cheltenham Township and the City Philadelphia to the south and Upper Moreland Township and the Pennsylvania





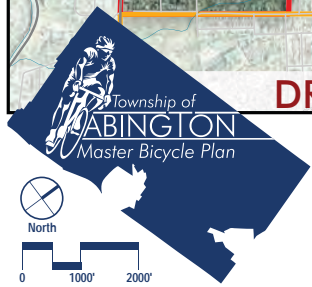
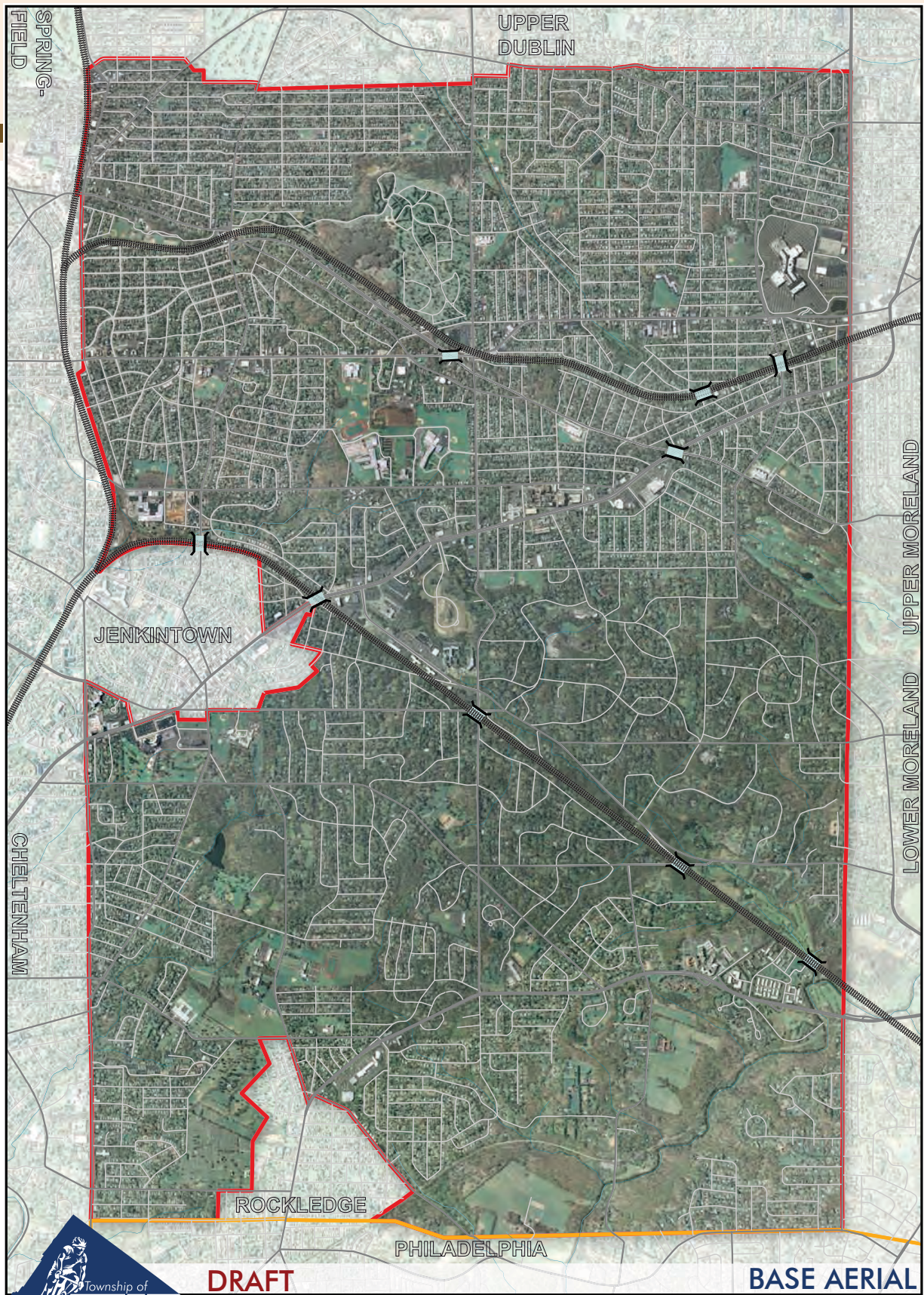
Turnpike (I-276) to the north. Old York Road is comprised of 4 travel lanes and a center median and turn lane through much of the Township. The speed limit varies between 35 and 40 mph and there are many commercial driveways that enter and exit on to the roadway that creates very congested traffic situations at times. Other roadways with significant volume include Huntingdon Pike (SR 232), Old Welsh Road (SR 63), Susquehanna Road, Easton Road, Township Line Road (SR 73), and Valley Road.




Public Transportation

There are several public transportation routes in the vicinity of Abington Township including five regional rail lines and several bus routes served by the Southeastern Pennsylvania Transportation Authority (SEPTA). SEPTA bus routes in Abington Township are routes 22, 24, 28, 55, 77, 98, and 310. The five regional rail lines near the Township include the Lansdale-Doylestown line, Glenside Combined line, Warminster line, West Trenton line, and the Fox Chase line.

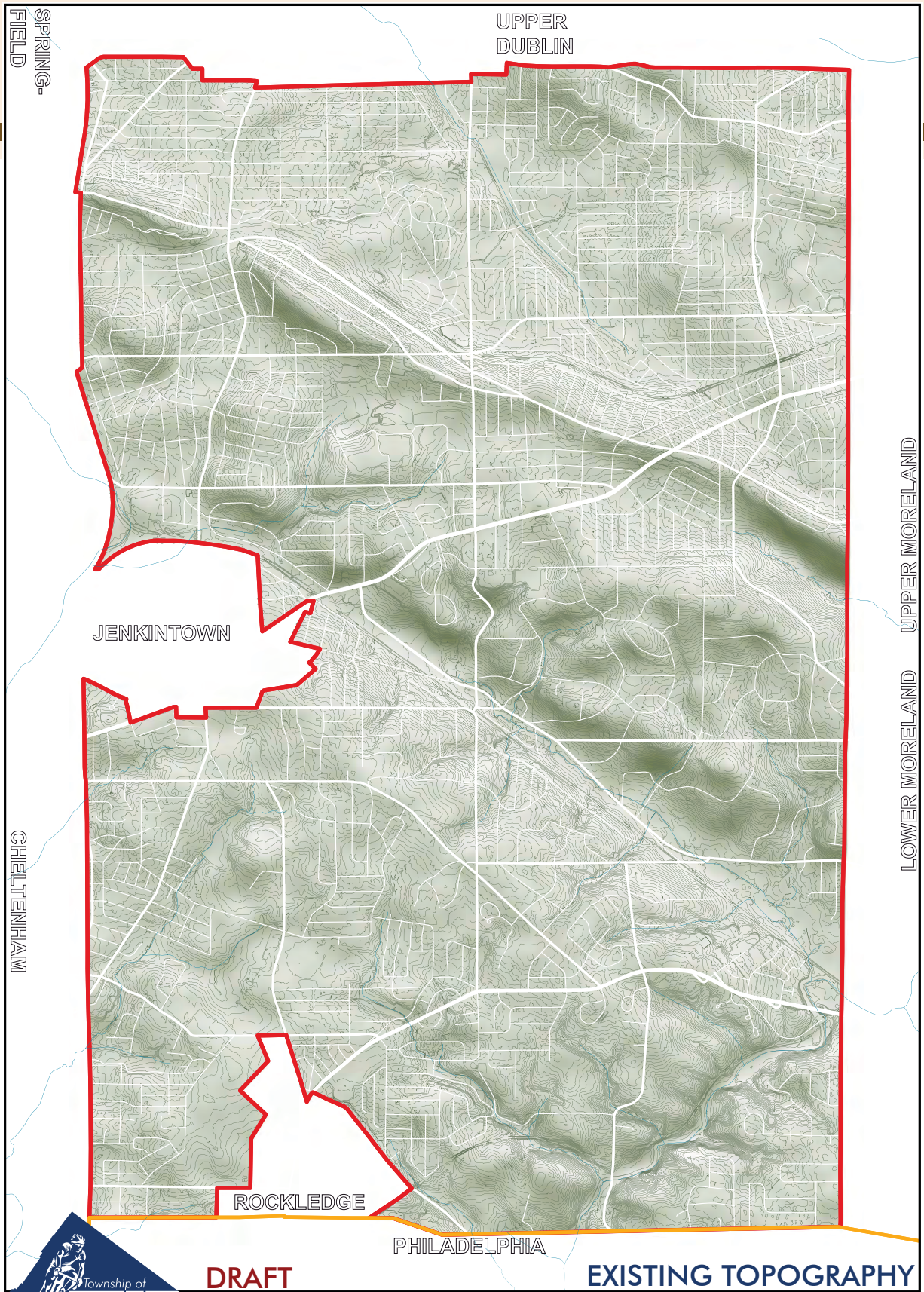
The Lansdale Doylestown line runs from Center City Philadelphia to Doylestown, PA and has one station in Abington Township (North Hills Station) and two stations immediately outside the Township (Glenside and Jenkintown Stations). The Glenside Combined Line runs along this same route from Center City Philadelphia to Glenside. The Warminster line, which runs from Center City Philadelphia to Warminster, PA has three stations in the Township (Ardley, Roslyn, and Crestmont Stations) and one station immediately outside the Township (Willow Grove Station). The West Trenton line runs from Center City Philadelphia to Trenton, NJ and has three stations in the Township (Noble, Rydal, and Meadowbrook Stations) and one station immediately to the north (Bethayres Station). Lastly, the Fox Chase line runs just to the southeast of Abington in Philadelphia. The Fox Chase Station is located just to the southeast of Abington off of Rhawn Street.

The Abington Township Bicycle Master Plan proposes to make connections to 10 of the above-mentioned 12 stations. A meeting with SEPTA representatives was held during the planning process on 8/25/15 to coordinate efforts with the SEPTA Cycle-Transit Plan published in April 2015. This Cycle-Transit Plan is geared toward fostering multi-modality system wide and promotes three categories representing the various



-  Existing Bridge
-  Township boundary
-  County boundary
-  Railroad





Township of
ABINGTON
Master Bicycle Plan

North

0 1000' 2000'

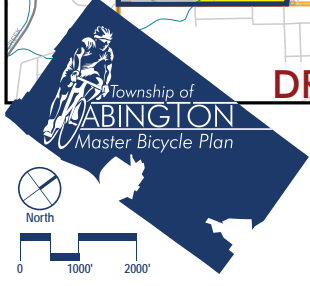
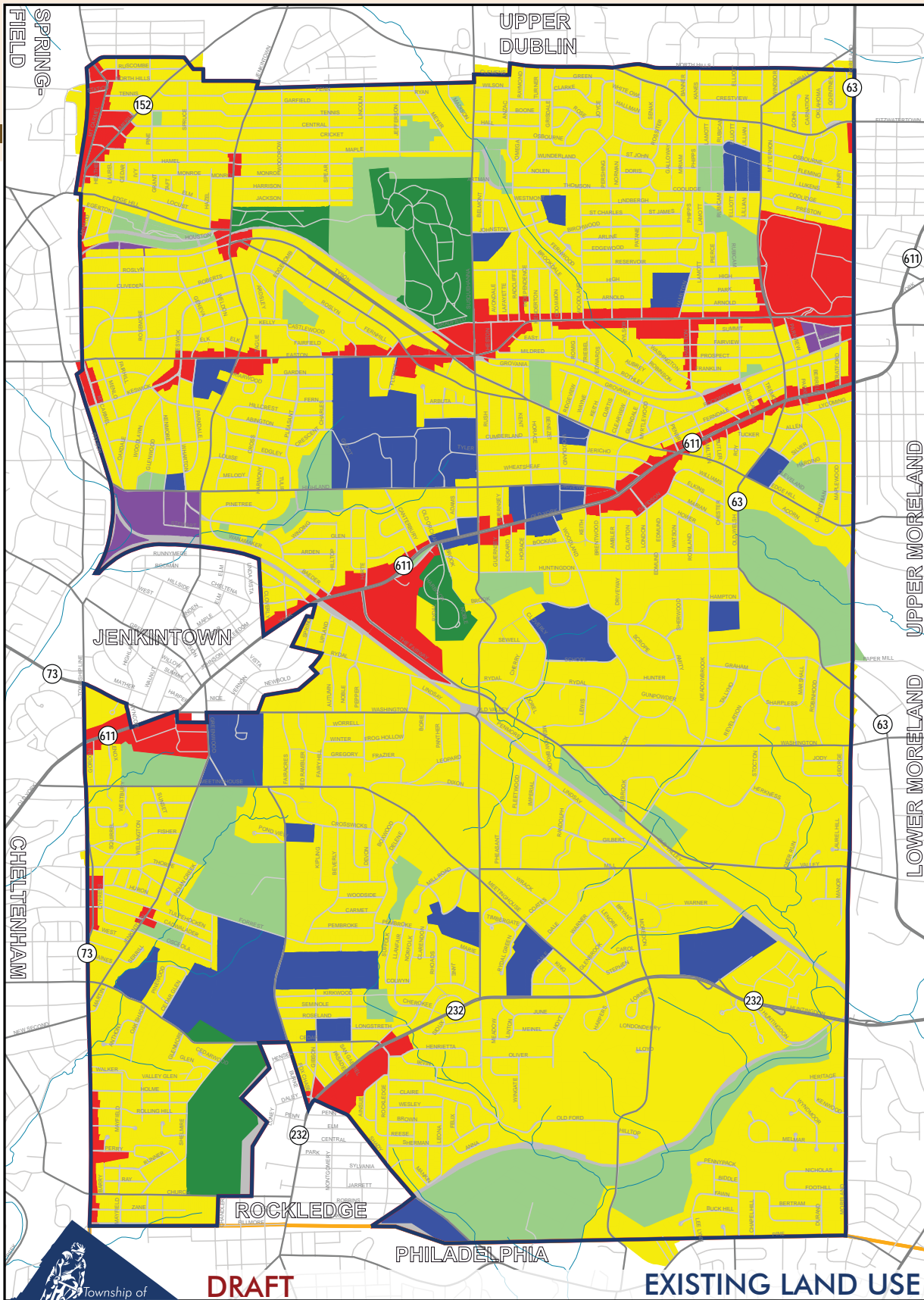
P2 6.5

DRAFT

— 5' Contour

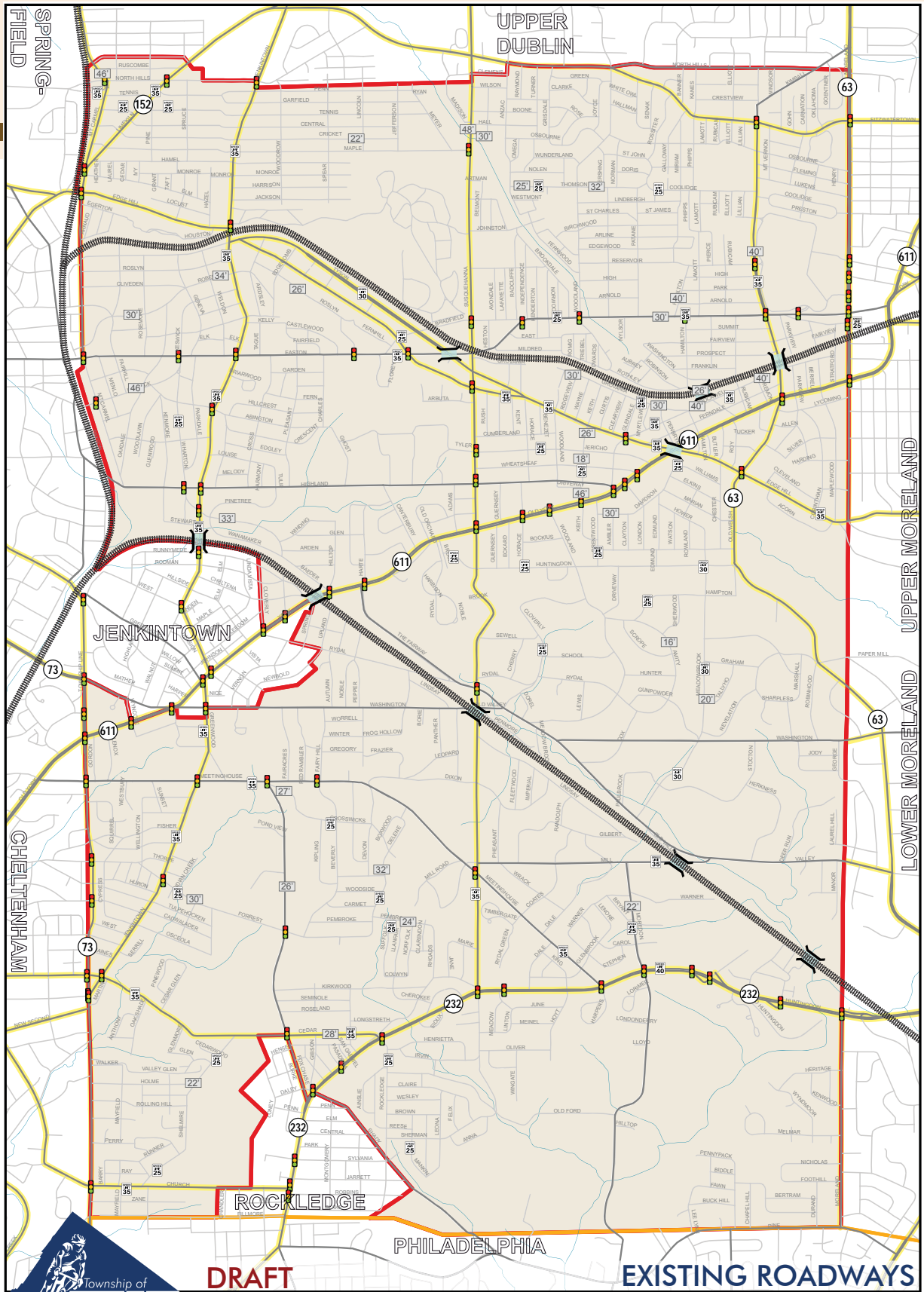
EXISTING TOPOGRAPHY

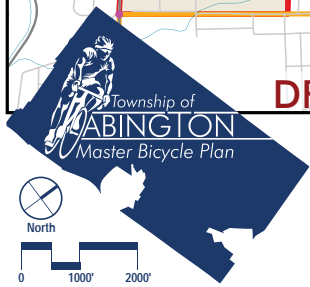
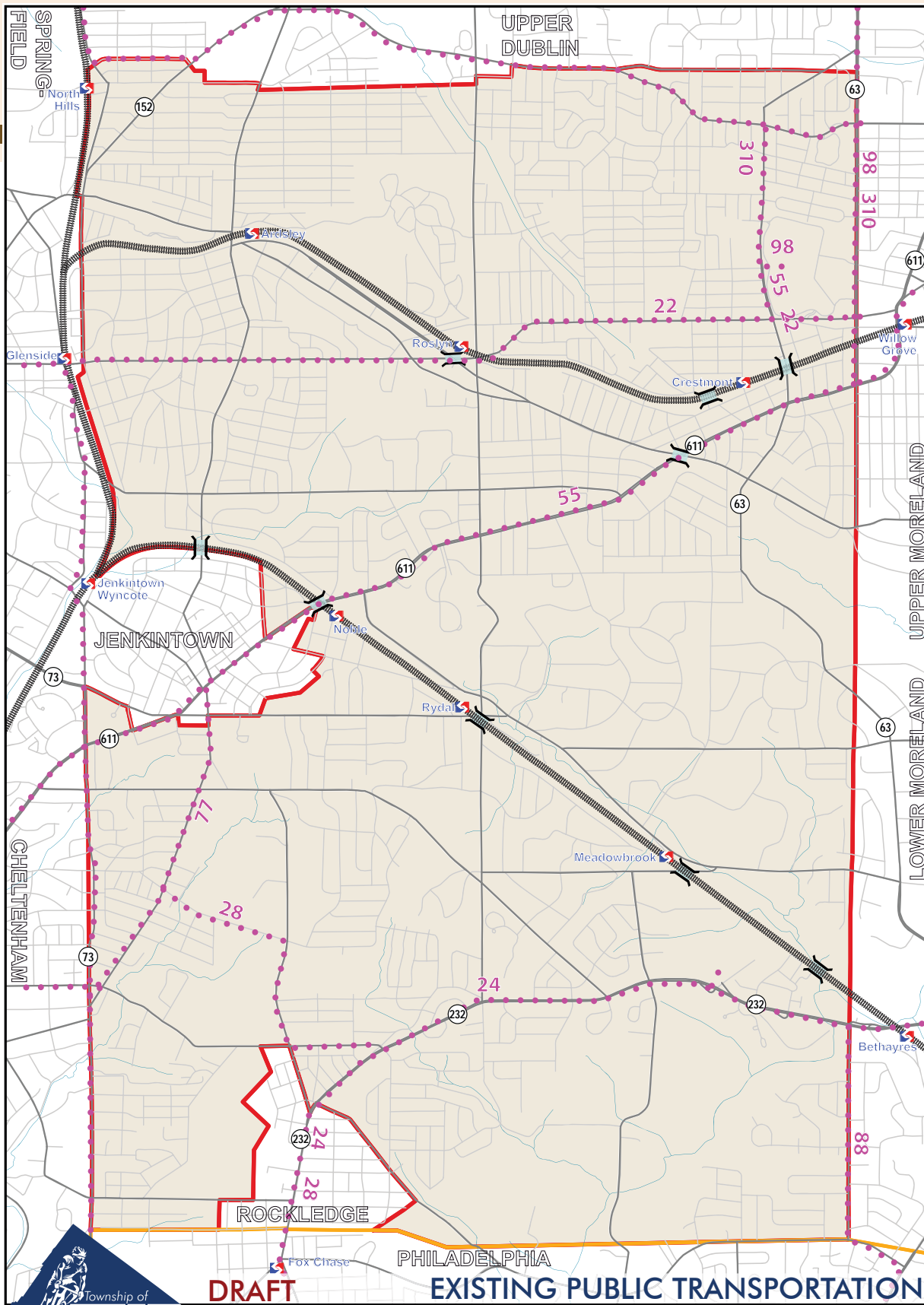




- Residential
- Shopping, Business, Retail
- Industrial and Manufacturing
- Social and Institutional
- Township boundary
- County boundary
- Travel or Utilities
- Parks and Leisure Activities
- Natural Resources and Related Activities

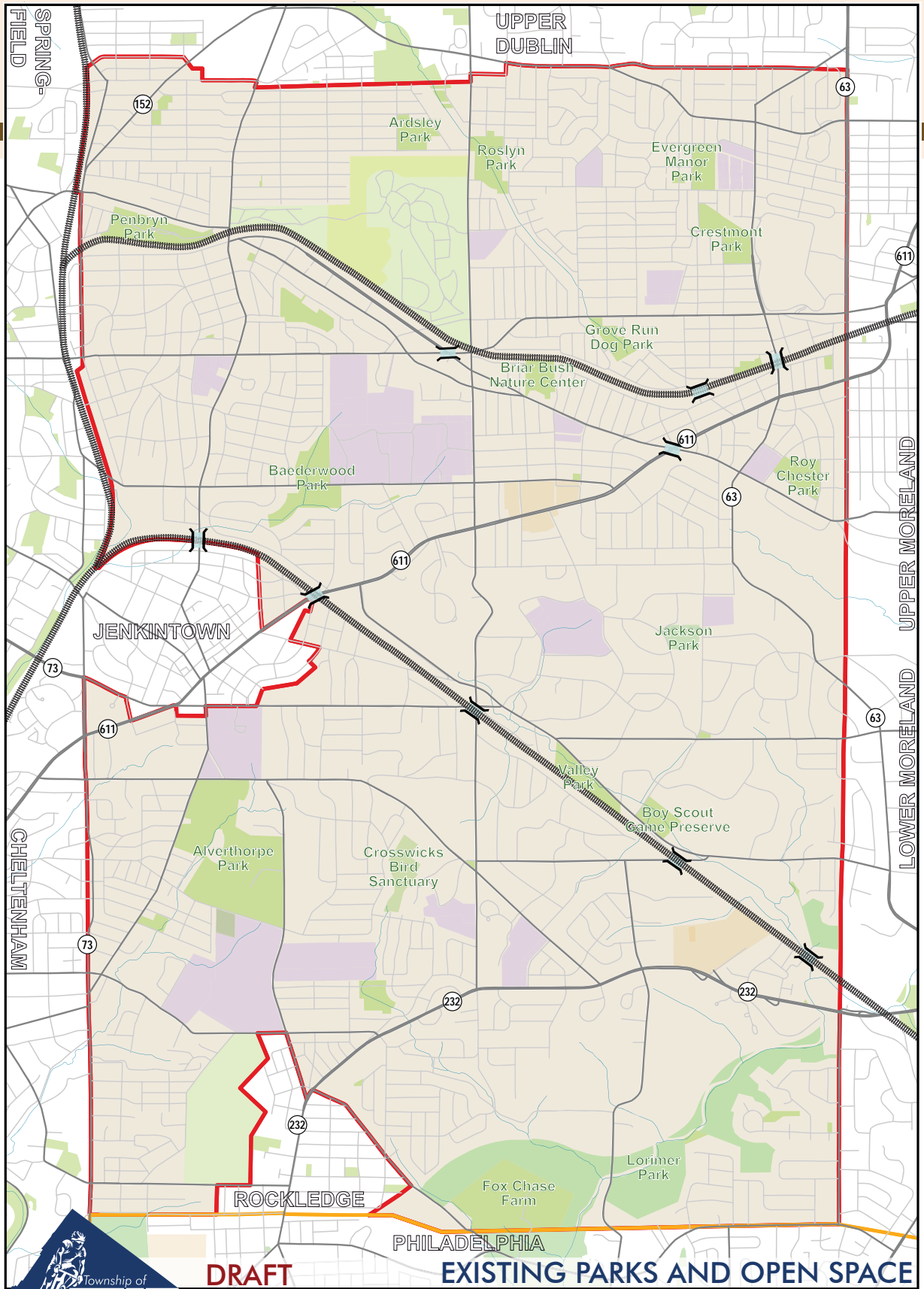






- Existing Bridge
- Township boundary
- County boundary
- Railroad
- Bus Routes
- Transit Station





DRAFT

EXISTING PARKS AND OPEN SPACE

- Park
- Cemetery
- School
- Hospital
- Existing Bridge
- Township boundary
- County boundary
- Railroad



relationships between bicycles and SEPTA facilities: “Bikes to Transit”, “Bikes at Transit” and Bikes on “Transit”. SEPTA has also completed a thorough evaluation and analysis of all regional rail stations in regards to existing bicycle usage, needed bicycle parking, bicycle access to stations and potential locations for covered bicycle parking at the stations. To complete this evaluation SEPTA used physical observation of existing bicycle and automobile usage and also referenced “RideScore”, an analysis of regional rail stations completed by DVRPC. For more information on the SEPTA Cycle-Transit Plan please visit <http://www.septa.org/sustain/pdf/cycletransitplan15.pdf>

Trails

The most prominent existing trail or bike route in Abington Township is the Pennypack Trail located in far eastern side of the Township. The Pennypack Trail is part of the “Circuit” and it connects Abington to Lower Moreland Township to the northeast and the City of Philadelphia to the southeast. Portions of this trail are still under construction north of Abington Township. When completed, the Pennypack Trail will provide a connection from the Montgomery County / Bucks County line all the way to the Delaware River in Philadelphia.

Other proposed “Circuit” trails in the vicinity of Abington Township include the Tookany Creek Trail proposed just to the west of Abington in Cheltenham Township, and the Cross County Trail proposed just to the north of Abington in Upper Dublin Township. The Tookany Creek Trail is proposed to link the proposed Cresheim Valley Trail in Montgomery County to the Tacony Creek Trail in Philadelphia while the Cross County Trail is intended to link the Wissahickon Green Ribbon Trail to the Penn Tammany Greenway in Upper Moreland Township. This Master Bicycle Plan proposes to make connections to all three of these nearby “Circuit” trails.

Other existing trails in Abington Township are primarily limited small local trails within existing parks and open spaces. The Township does have existing designated bike lanes along portions of Susquehanna Road and Valley Road. The bike lanes along Susquehanna Road provide an important connection from Upper Dublin Township to the center portion of Abington Township. It is recommended however that the Township consider prohibiting parking along Susquehanna Road as parked cars currently disrupt the existing bike lanes and force riders out into the



Briar Bush Nature Center



vehicular travel lane. It is also recommended that the Township increase the frequency of share the road pavement markings and share the road signage. These warning devices are currently lacking along the route. Please refer to the existing conditions and opportunities map for existing trail locations.

Please refer to the map on page ## for existing trails in Abington Township.

Township Destinations

Pennypack Trail

While the entire length of the Pennypack Trail extends to the Delaware River in Philadelphia, the portion of the trail in Abington Township is a 2.4 mile segment that runs along the former Fox Chase-Newton Branch rail line. This segment extends from Huntingdon Pike (SR 232) to Rockledge Borough Park in Rockledge Borough. The primary trailhead with parking in Abington Township is located at Lorimer Park on Moredon Road. At this location trail users can also access the Lorimer Park hiking trails and the southern section of the Pennypack Trail to Philadelphia. Other access points to the trail exist on Old Huntingdon Pike and Robbins Avenue. The Pennypack Trail is one of the most popular destinations in the Township for recreational biking, walking, and jogging.

Parks and Open Space

Abington Township has a relatively extensive park and open space system with many public facilities throughout the Township. Several notable parks and open space include:

- Lorimer Park – is a 230 acre park owned and maintained by Montgomery County. The park contains mature woodlands that are home to many bird and wildlife species. The park supports activities such as hiking, biking, picnicking, birdwatching, horseback riding, sledding and cross country skiing. The Pennypack Creek which runs through the park is stocked with trout by the PA Fish & Boat Commission. The park has a 40 car parking lot that serves as a main trailhead to the Pennypack Trail.



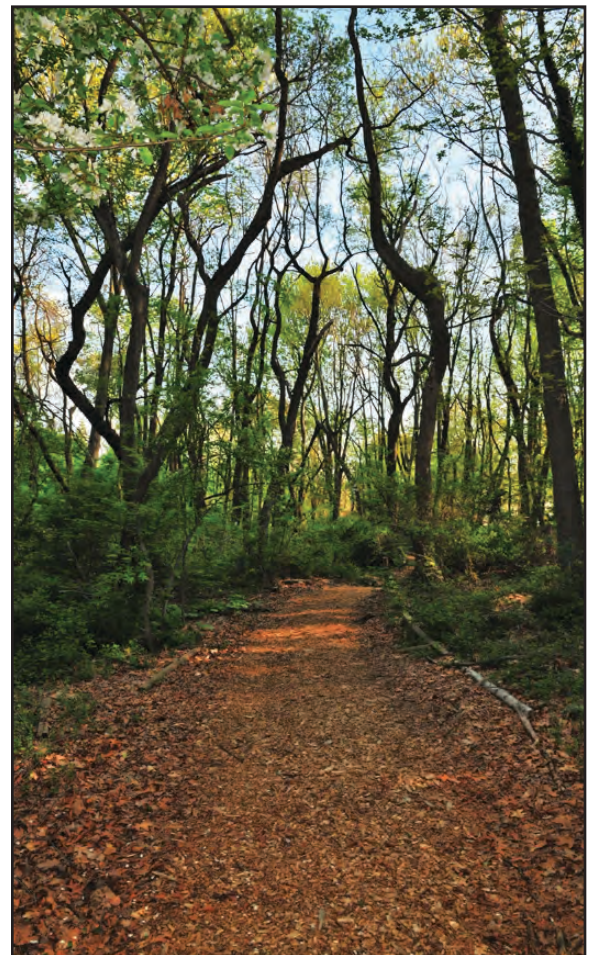


- Alverthorpe Park – is approximately 121 acres in size and contains a variety of recreational options for residents. The park has a perimeter trail for biking, jogging, walking, and rollerblading. The park also contains a small Par-3 golf course, basketball courts, tennis courts, a playground, lake fishing, a miniature golf course, a child wading pool, camping area, picnic pavilions, and restrooms. The park is completely fenced around its perimeter and entry gates are locked at night. Several public perimeter trails exist outside the park fencing.



- Baederwood Park – is a 16.1 acre park located on Highland Avenue and is utilized primarily for passive recreation. The park contains a picnic area, playground and nature trails.

- Briar Bush Nature Center – This 12.5 acre park features over a mile of trails amidst a mature forest and also contains an educational nature museum, butterfly house, bird observatory, a pond, and a natural playground. The park’s trails are open dawn to dusk.





Evergreen Manor Park where it meets up Willow Hill School

• Evergreen Manor Park – is a 12 acre park located on Phipps Avenue. The park is adjacent to Willow Hill Elementary School and contains a tot lot playground.



Roslyn Park

• Crestmont Park – is 19.4 acres in size located on Old Welsh Road and Reservoir Avenue. The park is primarily used for active recreation as it contains basketball courts, tennis courts, a softball field, a natural ice skating area, a swimming pool complex, and a playground.

• Roslyn Park – is 17.6 acres and is used for both passive and active recreation. The park’s facilities include a lighted baseball field, lighted softball fields, tennis courts, lighted basketball fields, a skate park, playground and walking paths.



Ardsley Park

• Penbryn Park – is an 18.6 acre park located on Edgerton and Houston Avenues. The park is primarily used for active recreation and contains a baseball field, softball fields, basketball court, lighted soccer fields, lighted tennis courts, a swimming pool complex, playgrounds, and a lighted ice rink.

• Ardsley Park – This park is a 10.84 acres in size and is located on Maple Avenue between Jefferson and Meyer Avenues. The park contains active recreation facilities including a baseball field, a softball field, a soccer field, tennis courts, lighted basketball courts, and a playground.



Ardsley Wildlife Sanctuary

• Ardsley Wildlife Sanctuary – is an 81 acre Township owned undeveloped open space located adjacent to the Hillside Cemetery on Susquehanna Road. The area is used for passive recreation as it contains several walking and hiking trails.

Other township parks and open space include the Boy Scout Game Preserve, Conway Park, Crosswicks Bird Sanctuary, Edge Hill Woods, Elk Street Tot Lot, Ethel Jordan Memorial Park, Fox Chase Manor Park, Meadowbrook Bird Sanctuary, North Hills Park, Rockwell Park, Roy-Chester Park, Rubicam Park, Scott Park, Grove Run Dog Park, Tyson Green, Jackson Park, and Valley Park.

Schools

Safe connections to Township schools and institutions are an important part of the Master Bicycle Plan. The Township has an abundance of schools and institutions within its borders. The Abington Township School District property includes Abington Senior High School and Junior High School located on Susquehanna Road and Highland Avenue, as well as 7 elementary schools: Copper Beech Elementary, Highland Elementary, McKinley Elementary, Overlook Elementary, Roslyn Elementary, Rydal Elementary, and Willow Hill Elementary. The School District also maintains ownership a property on Easton Road that previously held the Glenside-Weldon Elementary School which was recently was demolished.

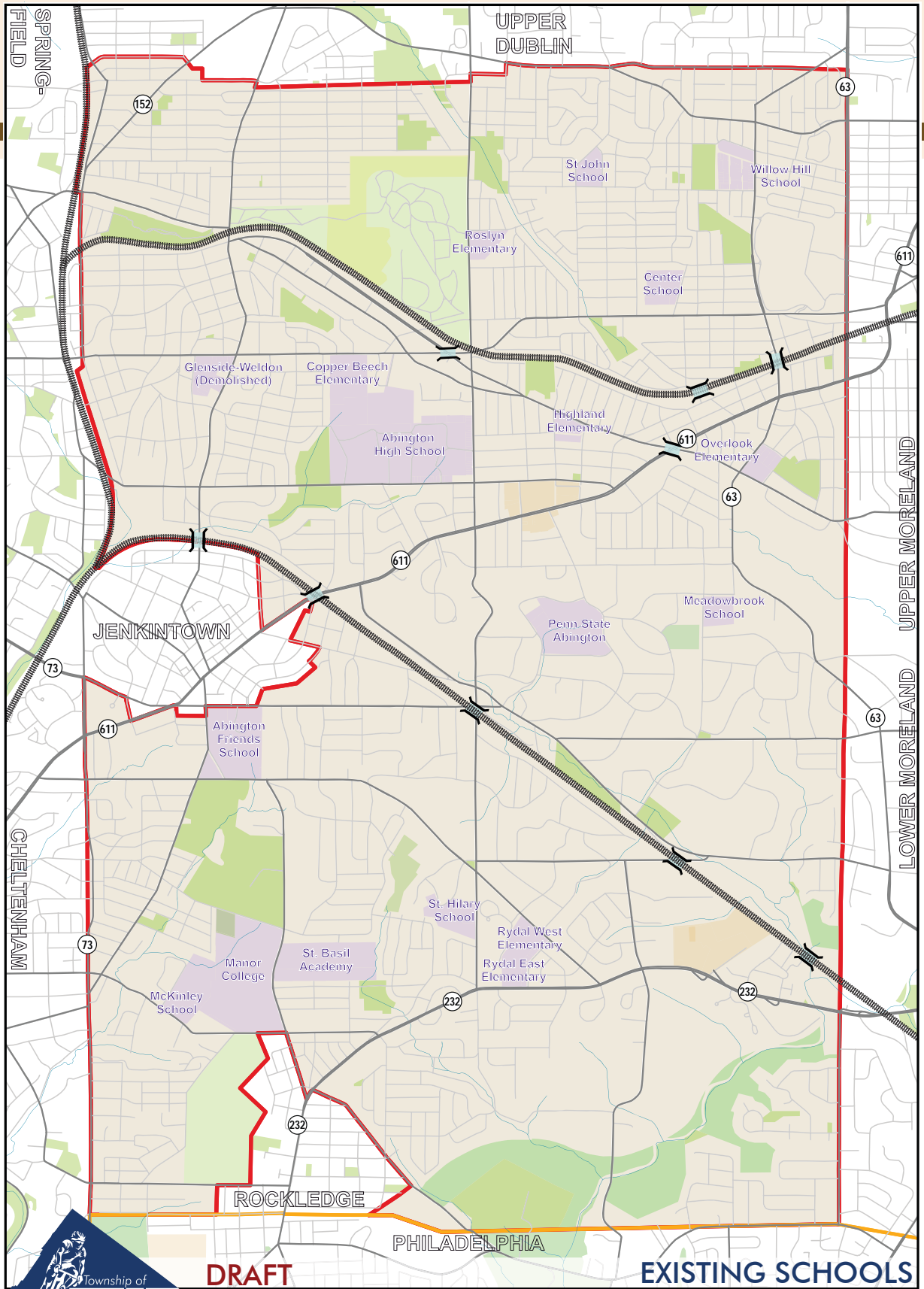
The township is also home to several other institutions not part of the Abington School District. These schools include Abington Friends School, Center School, Saint Basil Academy, Saint Hilary School, and Saint John School. Institutions of higher education include Penn State – Abington and Manor College. Salus University is located on Old York Road in Cheltenham Township just west of Abington Township.



Commercial, Retail, and Employment Centers

Major commercial, retail, and employment areas are primarily located around major arterial roadways such as Old York Road, Huntingdon Pike, Easton Road, the Fairway, Mount Carmel Avenue, and Township Line Road. Notable destinations include Keswick Village, Abington Memorial Hospital, Abington Township Municipal Building, Abington YMCA, Abington Free Library, Willow Grove Park Mall, The Pavilion Shopping Center, Noble Town Center, and the Huntingdon Valley Shopping Center. Jenkintown Borough is in the process of revitalizing its central business district and thus, this area is an also important destination for area residents. Connecting the community to all these commercial hubs and employment centers with alternative means of transportation is important as it can help reduce traffic congestion and also create an easier means to access daily necessities for those who do not own an automobile or cannot drive.



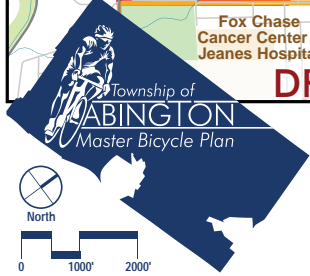
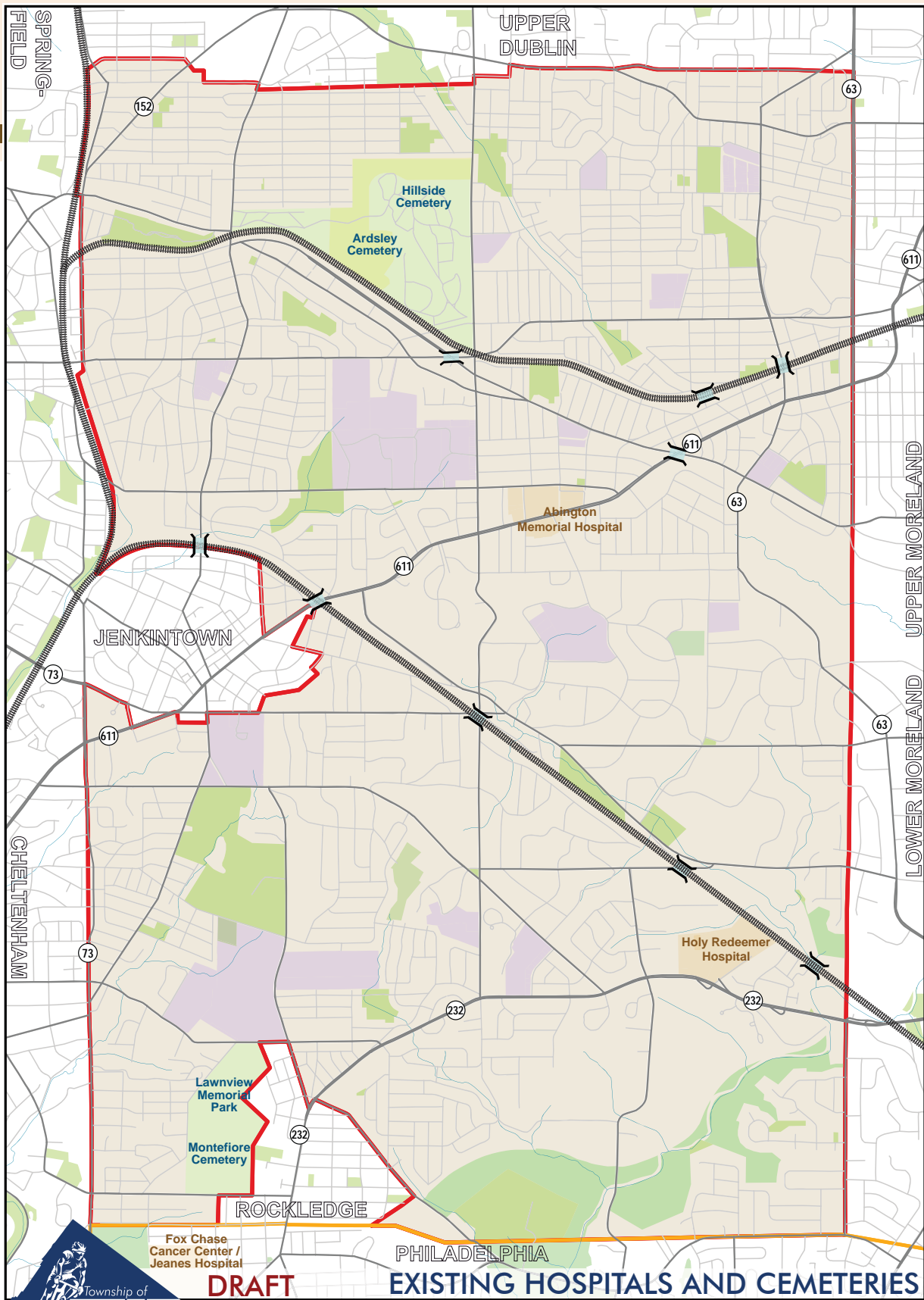




- Park
- Cemetery
- School
- Hospital
- Existing Bridge
- Township boundary
- County boundary

Railroad

EXISTING SCHOOLS





- Park
- Cemetery
- School
- Hospital
-  Existing Bridge
- Township boundary
- County boundary
-  Railroad





Cemeteries

The Township has two large cemeteries within its boundaries. These include the Hillside Cemetery on Susquehanna Road and the Montefiore Cemetery / Lawnview Memorial Park on Church Road and Shelmire Street. In total, these properties make up approximately 340 acres of land accessible to the public. Cemeteries can also provide opportunities for pedestrian and bicycle connections as they often contain paved pathways through their property.

Historic Properties

The National Register of Historic Places (NHRP) is an official list of the Nation's historic places worthy of preservation. The NHRP is part of a national program to coordinate and support the public and private efforts to identify evaluate, and protect America's historic and archeological resources. The Abington Township Open Space Plan defines 27 resources of historic importance in the Township. These resources are those that are either listed on the NHRP, eligible for the NHRP, or other sites significant to the Township's history. The locations of these are resources have been inventoried on the Existing Conditions and Opportunities Map as they are important destinations for the Bicycle Master Plan. The bicycle routes proposed in this plan provide connections to all 27 of these historic sites.

Listed on National Register

- 1 Fox Chase Farm
- 2 Keswick Theatre
- 3 Old Abington Township High School

Eligible for National Register

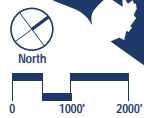
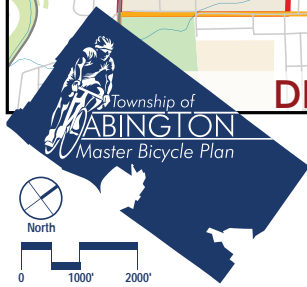
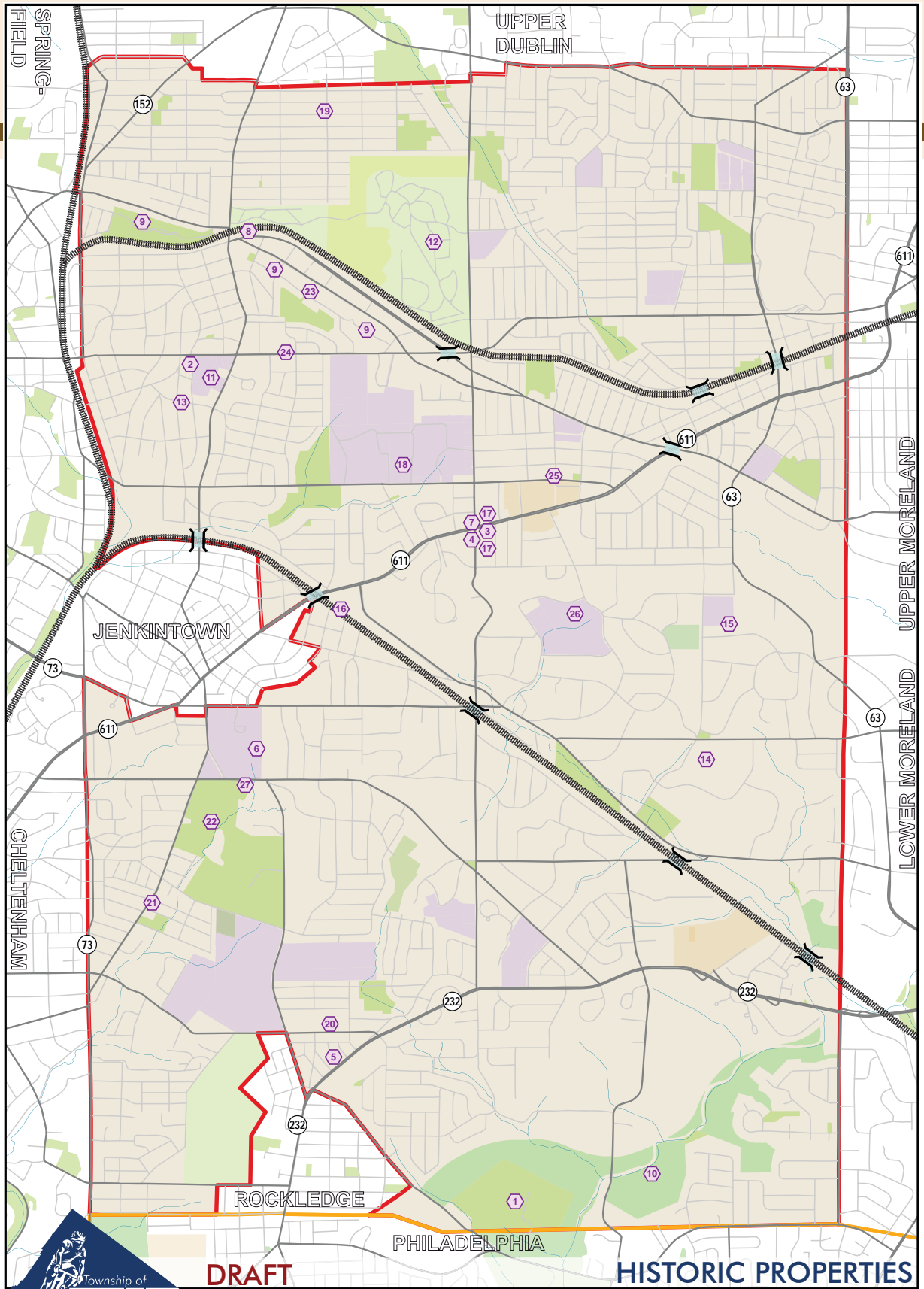
- 4 Abington Y.M.C.A.
- 5 Hollywood Historic District

Other Sites

- 6 Abington Friends Meetinghouse, School & Graveyard
- 7 Abington Presbyterian Church & Graveyard
- 8 Ardsley Station
- 9 Battle of Edge Hill Site
- 10 Council Rock in Lorimer Park
- 11 Glenside-Weldon Elementary School
- 12 Hillside Cemetery
- 13 Keswick Theatre Business Area
- 14 Meadowbrook Farm
- 15 Meadowbrook School
- 16 Noble Station
- 17 Old Abington Area
- 18 Old Abington Junior High School
- 19 Old Ardsley Elementary School
- 20 Old Cedar Road Elementary School
- 21 Old McKinley School
- 22 Old Orthodox Meetinghouse
- 23 The Castle
- 24 The Grove Property
- 25 Tyson Green & Tyson House
- 26 Penn State Abington Campus
- 27 Rosenwald Estate



The historic Keswick Theatre



DRAFT

HISTORIC PROPERTIES

- Park
- Cemetery
- School
- Hospital
- Existing Bridge
- Township boundary
- County boundary
- Railroad
- Historic Site







3

Master Bicycle Plan Recommendations

GIS Mapping

Trail base mapping for the project was created using a Geographic Information System (GIS) program. This GIS program is used as a data management and graphic tool to create the trail mapping exhibits; to calculate accurate lengths for trail segments; and, to identify impacted land parcels. Base data used in the formulation of this report was provided by Abington Township, Montgomery County, the Delaware County Regional Planning Commission (DVRPC), and by the Pennsylvania Spatial Data Access (PASDA) website.

Trail Types – Descriptions

Bikeway Classifications

The following are nationally recognized bikeway classifications as per the American Association of State Highway Transportation Officials (AASHTO). These classifications are specific to bicycle transportation routes and do not include other pedestrian facilities such as sidewalks and off-road hiking trails which are described later in this chapter.

Class 1 Bikeways are completely separated from the roadway. They are also known as 'off-road trails', 'greenways', 'shared use paths', 'multi-use paths', and/or 'side paths'.

Class 2 Bikeways are designated bicycle lanes within a roadway for exclusive use of the cyclist and contains special pavement markings, line striping, and signage. Bike lanes are one-way in the direction of motor vehicle traffic. The standard width for a bike lane is five (5) feet.

Class 3 Bikeways are also known as 'shared lanes' 'bike routes', 'sharrows', or 'marked shared lanes'. In these situations the cyclist shares the roadway with vehicular traffic and there are no special accommodations for the cyclist within the road right-of-way. Marked shared lanes, or sharrows, use pavement markings and signs such as "Share the Road" or "Bicycles May Use Full Lane" to define the route. Shared lanes or bike routes use only signage to define the route.

Shared Use Path (Off-Road)

The trail type that provides for the largest population of users is a Shared Use Path, or Multi-use trail, also known as Class 1 Bikeways (described above). The American Association of State Highway and Transportation Officials (AASHTO) defines a Shared Use Path as: a bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way.

This trail type provides for a variety of trail users, depending on the trail surface paving and available right-of-way width. Shared use path users are generally non-motorized and may include but are not limited to typical upright adult bicyclists, recumbent bicyclists, tandem bicyclists, child bicyclists, inline skaters, roller bladers, skateboarders, kick scooter users, and pedestrians (including walkers, runners, people using both non-motorized and motorized wheelchairs, people with baby strollers, people walking dogs, and others).

Another general trait of shared use paths is universal accessibility for those with disabilities due to gentle slopes, adequate widths, and smooth surfaces. Parking areas for shared use path segments should provide facility access in accordance with the Federal Americans with Disabilities Act (ADA) guidelines to provide for trail users with disabilities.



Susquehanna Avenue is an existing example of Class 2 Bikeway



AASHTO recommend shared use paths be a minimum of ten (10) feet wide for a two-way trail. Depending on the user volume, widths of twelve feet (12') or fourteen feet (14') are recommended to avoid potential conflicts. An additional two-foot (2') shoulder is recommended on either side of the trail surface to provide clearance from trees, poles, walls, fences or any other lateral obstruction. Site conditions may warrant additional safety measures such as fencing and increased shoulder widths. In very rare circumstances, where certain conditions exist, 8' width for a two-way path is acceptable.

Hiking Trails

A hiking trail may be defined as a recreational trail that does not meet the design requirements of a multi-use trail such as width, slopes & surfacing. An advantage of hiking trails is that they can allow for access and recreational use of the land quickly at a relatively low cost. A disadvantage of hiking trails is that they generally limit the number and type of trail users due to their minimal width, steeper slopes, and softer surfaces, and generally do not meet ADA requirements.

Trail Surface Types

Asphalt surfaces provide for the widest variety of trail users including bicyclist, walkers, joggers, wheelchair users, and in-line skaters. Initial installation costs are relatively high compared to other trail surface types. However, long term maintenance costs will remain lower than others if properly installed and maintained. Asphalt trails are preferred in flood prone areas. Porous asphalt can also be used in situations where stormwater infiltration or a pervious surface is required. Porous asphalt should not be used in flood prone areas where silt will clog the voids in the pavement.

Concrete is the most durable material for trail surfaces but is the most costly. Concrete trails are commonly used in urban environments. Advantages of concrete include longer service life, reduced susceptibility to cracking and deformation from roots and weeds, and a more consistent riding surface after years of use and exposure to the elements. The joints in concrete trail treads can degrade the experience of using the path

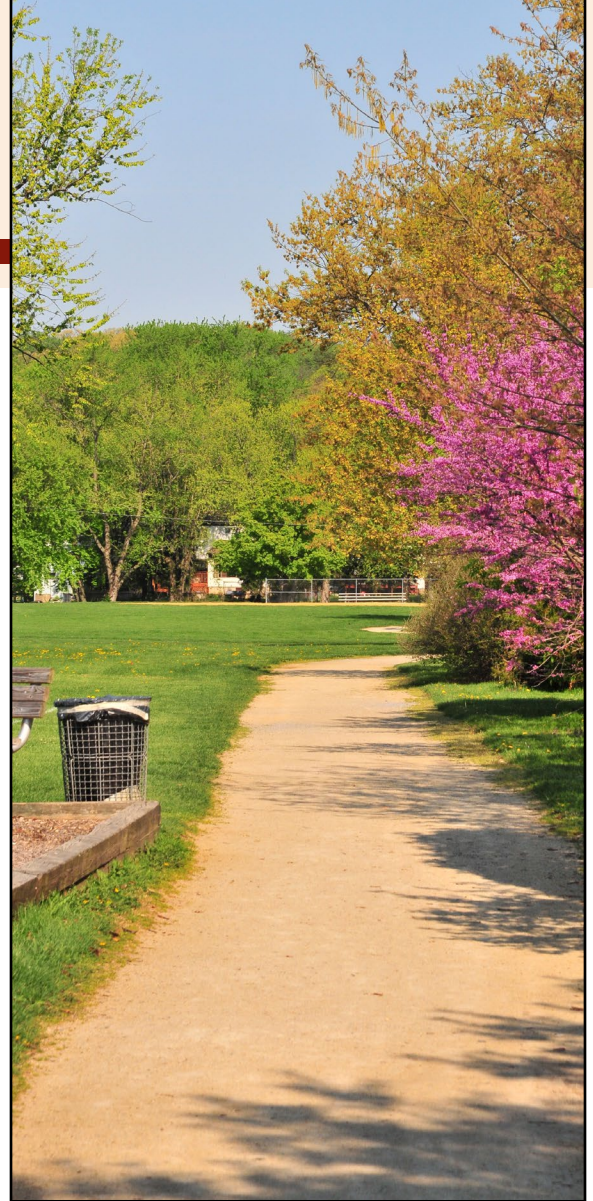
for some wheeled users. In addition, users can see pavement markings more easily on asphalt than on concrete, particularly at night. Concrete's light color on a trail reflects the sunlight.

Compacted aggregate surfaces can accommodate all trail user types with the exception of in-line skaters. Initial installation costs for this trail surface are relatively low, however long term maintenance costs increase due to this surface's higher susceptibility to erosion, especially if not properly installed with swales and cross drains. Crushed limestone or sandstone or "Trail Surface Aggregate (TSA) Mix" are typical aggregates used in this situation. A compacted aggregate surface can also serve as base material for an asphalt surface if trail use increases or funds become available for a surfacing upgrade. Compacted aggregate surfaces should be avoided in flood prone areas or slopes over 5%.

Compact earth surfaces are the least expensive to install, however they limit the types and number of trail users. Compact earthen surfaces are primarily used for hiking only or horse trails adjacent to multi-use trails that receive significantly less trail user volume. Hiking trails may be considered as an alternate means to reach the more environmentally sensitive areas found within the floodplain area to provide routes to the river for environmental education, bird watching, or fishing access.

Trails and many other recreational facilities are commonly developed within floodplains to take advantage of the relatively flat land. These trails may require additional maintenance to remove debris deposited by a flood event. If a trail is placed where flood waters will have a significant erosion effect, asphalt surfaces are recommended. Trails should not be located within a floodway, which is where the most significant flood damage occurs.

Wood plank / Boardwalk surfaces are often used in floodplains and wetland areas where wet and inundated ground surface is common. Boardwalks can provide an elevated, accessible surface for trail users but are often not as slip resistant and are more costly than other surfaces mentioned above.



An example of compacted aggregate that can be found in Roslyn Park



Existing compacted earth trails



Confident rider along Pine Road



Casual rider using the Pennypack Trail

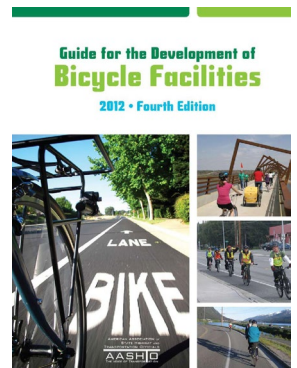
Sources:

Guide For Development of Bicycle Facilities, American Association of State Highway and Transportation Officials (AASHTO), 2012;

Pennsylvania Trail Design & Development Principles, Guidelines for Sustainable, Non-motorized Trails, Pennsylvania Department of Conservation and Natural Resources (DCNR), 2013

Bicyclist Types

The American Association of State Highway and Transportation Officials (AASHTO), and the Pennsylvania Department of Transportation (PennDOT) both classify bicyclists into one of the following three groups:



Experienced / Confident - These riders generally use their bicycles as they would a motor vehicle. They are riding for transportation, convenience, and speed and want direct access to destinations with a minimum of detour or delay. They are typically comfortable riding with vehicular traffic. They prefer a sufficient operating space on the travel way or shoulder to eliminate the need for either themselves or a passing motor vehicle to shift position.

Casual / Less Confident – Less confident adult riders may also be using their bicycles for transportation purposes, e.g., to get to the store or to visit friends, but prefer to avoid roads with fast and busy motor vehicle traffic unless there is ample roadway width to allow easy overtaking by faster motor vehicles. Thus, basic riders are comfortable riding on neighborhood streets and shared use paths and prefer designated facilities such as bike lanes or wide shoulder lanes on busier streets.

Child Cyclists – Riding on their own or with their parents, child cyclists may not travel as fast as their adult counterparts but still require access to key destinations in their community, such as schools, convenience stores and recreational facilities. Residential streets with low motor

vehicle speeds, linked with shared use paths and busier streets with well-defined pavement markings between bicycles and motor vehicles, can accommodate children without encouraging them to ride in the travel lane of major arterials.

Proposed Trail Connections

This plan proposes to enhance Abington's bicycle network by providing routes that link residential neighborhoods and important Township destinations. The plan also connects Abington residents to destinations, bicycle routes, and trails in adjacent municipalities and provides links to ten public transit stations that provide access to other systems at the regional level. In total, the proposed routes will add approximately 47 miles of trails within the Township.

On-Road Routes (Bikeways)

These routes are intended to provide safe local connections to township destinations and easily accessible recreational opportunities. These on-road routes include a combination of class 2 bikeways (designated bicycle lanes) and class 3 bikeways ("shared lane" bicycle routes).

Class 2 bicycle lanes are proposed along routes of high anticipated use and also where determined to be feasible based upon a review of existing right of way widths and site conditions. Class 3 "shared lane" routes propose an improved shoulder with appropriate signage and striping to clearly indicate a shared road situation. Shared lane routes are proposed in areas where existing right of way widths or existing site conditions do not allow for five foot bicycle lanes. These routes provide important Township connections and connections to adjacent municipalities.

Costs for each of these proposed trail segments was estimated. Construction requirements for the on-road improvements include asphalt shoulder improvements. Also included in the estimations are bikeway striping, wayfinding and safety signage.



Off-Road Routes (Shared Use Paths)

These routes are completely separated from Township roadways and are intended to provide safe multiuse recreational and transportation opportunities within the Township for and bicyclists of all skill levels. These multiuse trails proposed are not extensive in length and are primarily for the purpose of providing short linkages between multiple on-road bicycle routes. These routes are proposed on Township park lands as well as private parcels owned by the area schools, cemeteries, and churches. Trails on private parcels will require further discussions and agreements or easements between the Township and property owners prior to any trail design or implementation.

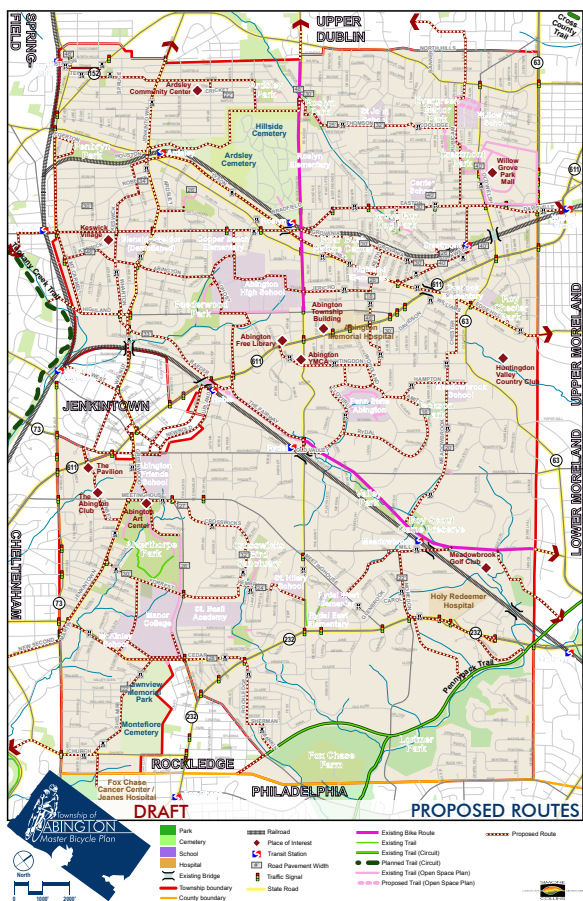
This plan proposes a 10' trail width and asphalt and compacted aggregate surfacing for these shared use paths. Further design and engineering of these trails will be needed prior to any installation in order to determine the most appropriate surface treatment for each specific situation.

Proposed Routes

Proposed trail improvements are shown on the Trails Map at the end of this section. Trails are identified on the map by route numbers with even numbers indicating a north-south trail alignment and odd numbers indicating an east-west trail alignment. The routes are also divided into segments for more precise identification and cost estimation purposes. Descriptions of the proposed trail network are discussed below. Detailed mapping of these proposed routes are shown at the end of this chapter.

Route #1 – Tennis Avenue Connector (North Hills Station to Ardsley Park)

Connecting to the Township’s SEPTA rail stations is an important part of this plan. This segment links the nearby Ardsley neighborhood to North Hills Station in the far western corner of the Township. The route also connects to the Ardsley Community Center and two small neighborhood parks on Tennis Avenue. The eastern end of this route terminates at Ardsley Park and the access to the Ardsley Wildlife Sanctuary on Maple Avenue. The route is proposed as a share the road route with shared lane pavement markings and signage.



Route #2 – Jenkintown Road Bike Route (Upper Dublin Township to Cheltenham Township)

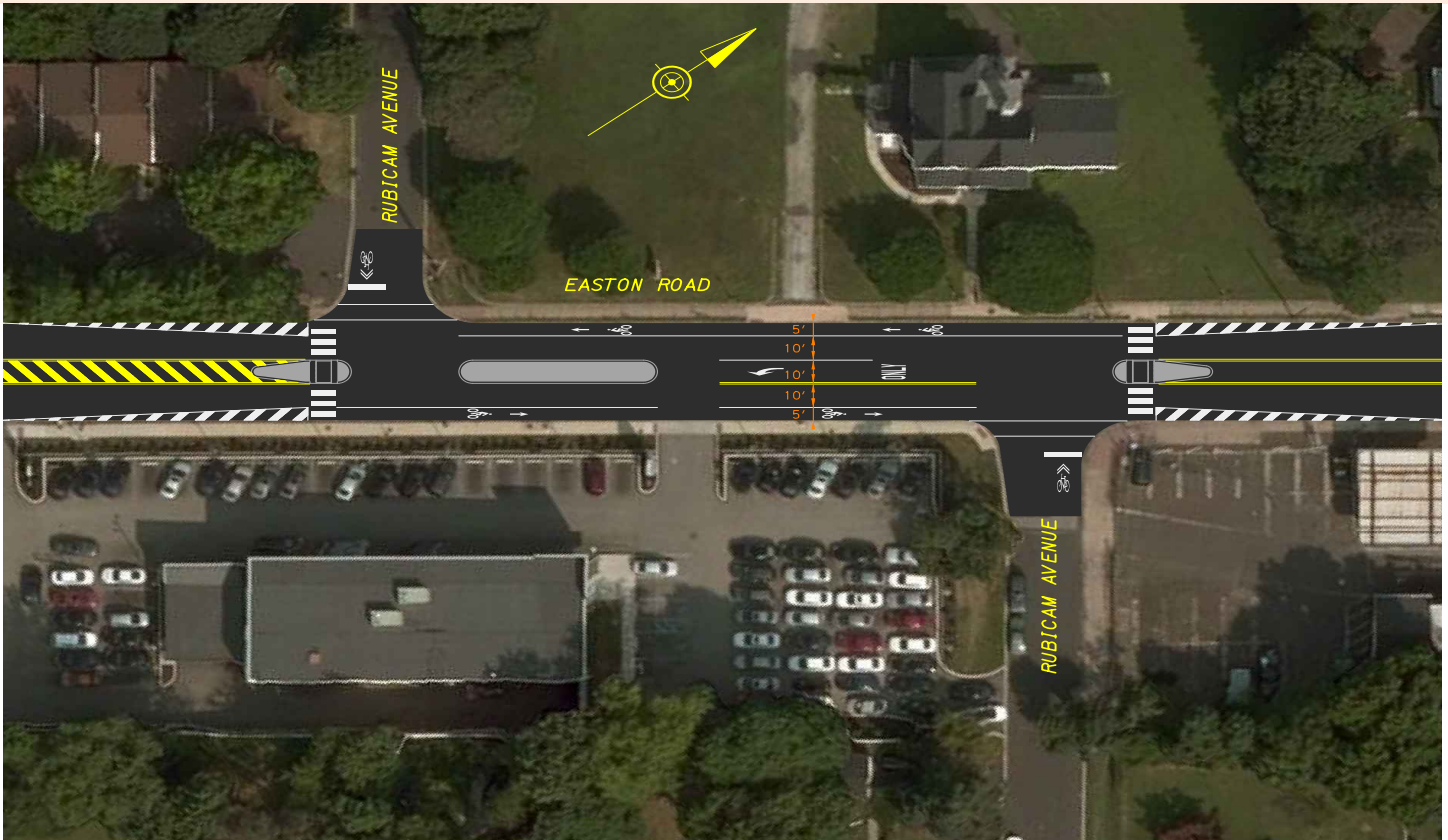
Jenkintown Road is an already popular bicycle route through the Abington. The roadway links Abington residents to Jenkintown Borough, Upper Dublin Township and Cheltenham Township. Other important destinations along this route include the Ardsley Station, Hillside Cemetery, Abington Friends School, and Alverthorpe Park. This route is proposed as a shared the road route with signage only. Because the roadway is owned and maintained by PennDOT, agreements would need to be obtained from the department to install any “share the road” or “use full lane” signage.

Route #3 – Penbryn Park to Crestmont Park Connector (Mount Carmel Avenue to Rubicam Avenue)

This route is proposed to connect several important destinations in the Township such as Penbryn Park, Ardsley Station, Hillside Cemetery, Roslyn Park, and Evergreen Manor Park. The route proposes to utilize a combination of low volume residential roads, existing park trails, and new shared use paths. Segments of the route on roadways are proposed to be shared with shared lane pavement markings. Off road trails are proposed through the Ardsley Cemetery. Bicycle routes are also proposed within the Hillside cemetery property. Further coordination and agreements between the Township and cemetery owners are needed to complete this segment.

Route #4 – Crestmont Bike Route (Upper Dublin Township to Crestmont Station)

The Cross County Trail is a proposed trail on the “Circuit” network. This trail is proposed just to the north of Abington Township in Upper Dublin Township. The Upper Dublin Bicycle Path and Trail masterplan displays a proposed route for this trail as well as a connection to School Lane just north of the border with Abington. It is proposed that route #4 connect to School Lane in Upper Dublin in order to link Abington residents to the Cross County Trail. This route extends from School Lane to Edge Hill Road. This route also connects to Evergreen Manor Park, Willow Hill School, Crestmont Park, the Willow Grove Park Mall, and the Crestmont SEPTA station. This route is proposed as a combination of shared the



Conceptual design for the intersection of Easton Road and Rubican Avenue.

road routes with a shared use path on the Willow Hill School property. Construction of the connector through Willow Hill School will need to be further coordinated with Abington School District. It also is suggested that a shared use path be constructed through Crestmont Park from Rubican Avenue to Old Welsh Road at the intersection with the Willow Grove Park Mall access driveway in order to create a safe linkage to the mall. Old Welsh Road is a state owned road and any intersection improvements would need to be approved by and coordinated with PennDOT. This route ends at the Crestmont Station and Rockwell Road.

Route #5 – Tyson Avenue / Edge Hill Road Bike Route (Weldon Road to Upper Moreland Township)

PennDOT has plans to reconstruct Tyson Avenue between Jenkintown Road and Bradfield Road and at the time of this study, these plans are in final design and cannot be altered to include bicycle facilities. Following the road reconstruction, Abington Township will take ownership of the roadway. Once the Township takes ownership of the roadway it is recommended that shared lane pavement markings and “share the road” signage be implemented throughout the length of the corridor. This

route provides an important cross connection through the Township and links to the Ardsley Station, Roslyn Station, Briar Bush Nature Center, Overlook Elementary, and Roy-Chester Park. This route provides the only opportunity in the Township to cross Old York Road via a bridge and not at grade.

Route #6 - Mount Carmel Avenue Bike Route (Penbryn Park to Jenkintown Road)

This segment provides a connection from Penbryn Park to Highland Avenue and Jenkintown Road. Mount Carmel Road is proposed as a share the road route with signage only. The route also provides a connection to the Glenside SEPTA rail station just outside the Township in Cheltenham Township. The route passes by SPS Technologies, which is a large employer in the Township, as well as a fitness center, and several other commercial properties. Highland Avenue extends south to Cheltenham Township and could be a good connection point to the future Tookany Creek Trail. Due to the existing width of Highland Avenue, bike lanes and associated signage are proposed for this route.



Simple bike signage can increase awareness with automobile drivers, while providing a wayfinding system for the trail network. The photos simulations display how the signs can be placed onto existing signs or independently.

Route #7 – Easton Road Cross Township Bike Route (Cheltenham Township to Upper Moreland Township)

Easton Road is one of the main thoroughfares through the Township. The roadway creates links to many commercial and retail establishments as well as Copper Beech Elementary School and Grove Run Dog Park. The route serves as another cross connection through the Township as it connects Cheltenham Township to the Willow Grove Park Mall and the Willow Grove rail station just across the Township border in Upper Moreland. Because of the heavy traffic in the area, this route is proposed as a “share the road” or “use full lane” route with signage only and is intended to be used by experienced cyclists only.

Route #8 – Edge Hill to Valley Bike Route (Edge Hill Road to Valley Road)

This route along Chester Avenue and Meadowbrook Road is a popular biking route for area cyclists. The roadway contains some steep topography but is generally straight with good sight lines. The route





provides a connection from Edge Hill Road to Valley Road and also connects to Meadowbrook School, Jackson Park, and the Boy Scout Game Preserve. This route is proposed as a share the road route with signage only.

Route #9 – Grovania Avenue and Keith Road Connector (Roslyn Station to Old York Road)

This connection links the Roslyn Station to the Abington Library and Old York Road. The route also provides connections to Briar Bush Nature Center and the adjacent residences as well as Highland Elementary, Abington Memorial Hospital, and the Abington YMCA. This route can also provide an alternative to Edge Hill Road and steep topography on Rockwell Road. Because Grovania Avenue is a low volume residential Road, this route is proposed as a share the road route with shared lane pavement markings and signage. The short segment through Briar Bush Nature Center is currently made of compact earth surface. It is suggested that this segment be improved to an accessible and bicycle friendly surface such as crushed aggregate or boardwalk. This improvement will need to be coordinated with Briar Bush staff as bicycles are currently not permitted in the park. Additionally, Keith Road currently does not intersect with Highland Avenue on the southern approach. An agreement with Abington Memorial Hospital would be needed to modify the existing sidewalk in order to allow cyclists and pedestrians through access to Highland Avenue.



Route #10 – Penn State Loop (Huntingdon Road to Meadowbrook Road)

This route, while steeply sloping in some areas, is another popular route for runners and bicyclists in Abington. The route provides linkages to the Penn State Abington campus as well as Valley Road, Jackson Park, and Meadowbrook School. The route is proposed as a share the road route with shared lane pavement markings and associated signage. Segment 10A is an off road trail segment through Penn State property and connecting to the Abington School District athletic facilities. It is anticipated that this trail will eventually be extended to provide bicycle and pedestrian access from the new Penn State residence halls that are planned on Old York Road across from Canterbury Road.

Route #11 – Edge Hill Woods Connector (Jenkintown Road to Edge Hill Woods)

Despite its steeply sloping topography, Edge Hill Woods serves as an interesting passive recreational destination within the Township. The property contains an old residential estate driveway that extends throughout the property and could be used as a short bicycling or walking route. Route #11 is proposed as a share the road route with signage only along Kelly Lane that connects Jenkintown Road to Edge Hill Woods.



Route #12 – Fairway Bike Route (Jenkintown Road to Valley Road)

This route provides a good connection from the existing bike lanes on Valley Road to Keswick Village and beyond to Jenkintown Road. The Fairway has a width of approximately 55 feet which includes the center median. This width can accommodate the addition of 5' wide bike lanes. Baeder Road is also relatively wide with an approximate width of 33' with some street parking. This plan recommends shared lane markings and signage for this route. Baeder Road could also accommodate bike lanes if street parking were prohibited. Keswick Avenue, west of Keswick Village is also very side and could accommodate bike lanes. This route also provides a connection to the Noble SEPTA station.



Keswick Village

Route #13 – Keswick Village to Abington High School Connector (Mount Carmel Avenue to Highland Avenue)

Keswick Village is one of the many important destinations in the Township. The village has many attractions including retail shops, banks, restaurants, community services, and a theatre. This bicycle route links the Abington High School campus to Keswick Village and Mount Carmel Avenue. The route along Keswick Avenue and Abington Avenue are proposed as share the road routes with shared lane pavement markings and signage. It is proposed that the Township coordinate with Abington School District to construct a shared use path on the south side of Ghost Road and along the northern side of Highland Avenue with a crossing at Canterbury Avenue.

Route #14 – Noble to Pennypack Connector (Noble Station to Rockledge Borough)

This important connection links the Noble Station near the center of the Township to the Cedar Road and Rockledge Borough. The route also makes connections to the Abington Friends School, Abington Art Center, Alverthorpe Park, Manor College, and Saint Basil Academy. This route combines both shared use paths and share the road routes with pavement markings and signage and provides one of the best opportunities for an extensive low stress route within the Township.

Vernon Road and Spring Avenue are low volume one-way roadways in a northern direction while Upland Avenue and Newbold Road are one-way roadways in a southerly direction. The bicycle routes on these roads are also proposed as one-way. A shared use path is proposed from the end of Newbold Road along the Abington Friends School property adjacent to Greenwood Road, through the Abington Art Center to the existing asphalt path along Fox Chase Road on the northeast side of Alverthorpe Park and Manor College. An extension of the existing trail is also proposed at the other end of this existing path to the east along the Manor College property to create a connection to Cedar Road and Rockledge Borough. Further coordination with the Art Center and Manor College will be needed for implementation of these shared use paths extensions.

Route #15 – Abington Schools Trail (Easton Road to Ghost Road & Keith Road)

Safely connecting students to area schools is one of the primary goals of this plan. The Abington High school campus contains three schools (Abington High School, Abington Junior High School, Copper Beech Elementary) making it the most active school site in the Township. This route enhances the connections to these schools from Highland Elementary School, Easton Road, Highland Avenue, Abington Avenue, and Keith Road. Due to the heavy bus, student, and faculty traffic, it is proposed that this route be constructed entirely as a shared use path within the Abington High School campus. It is proposed that the shared use path run along the north side of the main vehicular driveway, along the existing field hockey fields and to the north of the stadium connecting to Copper Beech Elementary School to Easton Road. Further coordination



Ghost Road

with Abington School District will be needed prior to implementation of this route. The route also provides a connection to Baederwood Park across Ghost Road.

Route #16 – Old Huntingdon Trail (Valley Road to Pennypack Trail)

This important connection connects bicyclists from the existing Valley Road bike lanes to the Pennypack Trail. Because Moredon Road, east of Huntingdon Pike, contains steep slopes and sharp curves that do not allow for safe bicycle travel to the Pennypack Trail, it is suggested that this route be prioritized to connect users from Moredon Road to the existing trailhead at the end of Old Huntingdon Pike. Several other alternatives have also been proposed by this plan to access the Pennypack Creek in this quadrant of the Township.

Along this route, it is recommended that bike lanes be installed along segment 16C (Huntingdon Pike) to the signalized intersection at the Holy Redeemer Hospital. Segment 16D is proposed as either a two-way cycle track or side path along the south side of Huntingdon Pike to link users from the intersection at the Hospital to Old Huntingdon Pike. This segment will need to be further analyzed and engineered prior to implementation. An alternative to a cycle track or side path at segment 16D is to provide bike lanes along the entire length of Huntingdon Pike from Moredon Road to the signalized intersection at Meadowbrook Drive.

The segment on Old Huntingdon Pike is proposed as shared lane pavement markings and “share the road” signage. With just three properties that front Old Huntingdon Pike, any potential conflicts or disturbance from an on-road bicycle route would be minimal or non-existent.

Other lower priority alternatives to connect to the Pennypack Trail in this area of the Township are segments 18 and 20 as described later in this report.

Route #17 – West Avenue (Newbold Road to Jenkintown Station)

The Jenkintown SEPTA station is listed as the 6th most active regional rail station behind only Suburban Station, Market East, 30th Street, University City, and Temple. SEPTA identifies the Jenkintown Station as having 1,998 total weekday boardings and 1,660 total weekday alightings per week. Because of the amount of activity, this station was identified



Huntingdon Pike



as an important point of connection for this Bicycle Master Plan. West Avenue serves as the most direct route from Walnut Street and the downtown business district of Jenkintown to the station. Jenkintown High School, Middle School and Elementary School also lie on West Avenue. The route is proposed to have shared lane pavement markings and share the road signage.

Route #18 – Moredon Trail (Moredon Road to Pennypack Trail)

This route, through a property owned by Sisters of the Holy Redeemer is recommended as a second alternative to access the Pennypack Trail in the eastern quadrant of the Township. This very large property contains an existing gravel road and a significant amount of open space that could accommodate a public trail without much disturbance to the property’s existing activity. Further discussion with the Sisters of the Holy Redeemer as well as an easement or agreement is needed to implement this segment.



Old access road in the Sisters of the Holy Redeemer Property

Route #19 – Crosswicks Connector (Jenkintown Road to Crosswicks Bird Sanctuary)

This connection links bicyclists to several important destinations in the southeastern quadrant of the Township. Forrest Avenue links to Jenkintown Road and also runs by the main access gate to Alverthorpe Park. The route also provides access to the multiuse trail along Alverthorpe Park and Manor College and the Crosswicks Bird Sanctuary. The Township should take advantage of the existing pedestrian only access from Meetinghouse Road to Crosswicks Road. In order to formalize this access as a bicycle route, improvements to this intersection to include bicycle and pedestrian crossings will be needed. These segments are proposed to be shared lane pavement markings and share the road signage.

Route #20 – Meadowbrook Trail (Valley Road to Lower Moreland Township)

It is proposed that this shared use path will utilize the Meadowbrook Golf Club property, Montgomery County owned property, as well two undeveloped parcels that are privately owned in order to access the Pennypack Trail. It is anticipated that the privately owned parcels will

soon become developed and that portions of this trail connection could be implemented as part of the plan. The Township should continue to coordinate with Montgomery County as to the status of this possible connection. Should the golf course ever become redeveloped it would be beneficial to include an off road trail from the Meadowbrook Station along the rail line to the Pennypack Trail as part of the redevelopment plans.

Route #21 – Rydal Trail (Crosswicks Avenue to Mill Road)

Route 21 provides a connection across the Township from the Crosswicks Bird Sanctuary to Moredon Road. The route also links cyclists to Rydal East Elementary and St. Hillary of Poitiers School. This route is proposed as a combination of shared roadway with signage only, shared roadway with shared lane markings and signage, as well as a short off road path. Pembroke Road is proposed as a shared lane with pavement markings and share the road signage. The off road path is proposed to connect Pembroke Road (at Clarendon Road) through the Saint Hilary of Poitiers School property to Susquehanna Road. It is proposed that the route utilize the existing trail on home owners association land to connect to Rydal East and Rydal West schools. Dale Road is proposed as a share the road route with shared lane pavement markings.

Route #22 – Sunset Connector (Jenkintown Borough to Alverthorpe Park)

This short, but important connection links area residents to The Pavilion Shopping Center, Abington Club, Alverthorpe Park, and Jenkintown Borough. Shared lane pavement markings and share the road signage are proposed along this route as Evergreen Road and Sunset Avenue are low volume residential roadways. Intersection improvements are also needed at the intersection of Jenkintown Road and Evergreen Road in order to ensure safe crossing to and from Alverthorpe Park and the Abington Art Center.

Route #23 – Pennypack Connector (Jenkintown Road to Pennypack Trail)

Cedar Road was identified as a popular biking route from Jenkintown Road to Manor College and Fox Chase Road. This route also makes a



connection to the Huntingdon Valley Shopping Center. This segment is proposed as a share the road route with shared lane markings and links Jenkintown Road and the off road trail along Manor College property to the Pennypack Trail. Cedar Road and Rockledge Road are proposed as routes with share the road signage only. Sherman Avenue and Mankin Avenue are proposed as routes with shared lane pavement markings and share the road signage.

Route #24 – Southern Connector (Forrest Road to City of Philadelphia and Cheltenham Township)

Route 24 is proposed to connect Manor College and McKinley School to Burlholme Park in the City of Philadelphia and also to Church Road in Cheltenham Township. The route also provides a link to Montefiore Cemetery and Lawnview Memorial Park. The route proposes a series of shared roadways with shared lane markings and signage along Shelmire Street and Church Road.

Trailheads and Amenities

Eight (8) trailheads have been proposed and are shown on the Trails Map at the end of this chapter. Locations for these trailheads include Crestmont Park, Roslyn Park, Penbryn Park, Roy-Chester Park, the Abington High School campus, the Abington School District athletic facility at the intersection of Susquehanna Road and Huntingdon Road, Abington Art Center, and the Huntingdon Valley Shopping Center. It is proposed that all of these trailheads will utilize existing parking areas. Signage should also be installed to identify these areas as official trailheads. Amenities such as trash and recycling receptacles, covered bicycle parking, and public restrooms should be considered as appropriate. Two existing trailheads exist at Lorimer Park and at the end of Old Huntingdon Pike. Covered bicycle storage should also be considered at prominent destinations such as Keswick Village, Willow Grove Park Mall, downtown Jenkintown, Alverthorpe Park, and schools.



SEPTA Rail Stations

Because Abington Township is in a unique geographic location that contains five regional rail lines and 12 rail stations, continuous

coordination and partnership with SEPTA is vital to the success of this plan. It is recommended that Abington officials maintain contact with SEPTA as portions of the plan near rail stations are implemented. As bicycle infrastructure around the stations is improved, SEPTA will need to reevaluate the stations in terms of existing and anticipated bicycle usage to update station upgrade and bicycle infrastructure priorities.

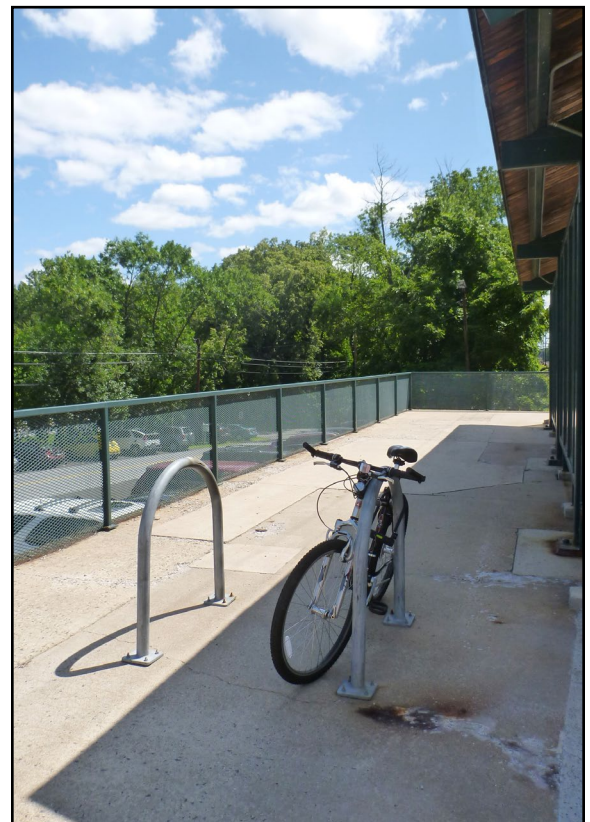
Potential improvements to that may be required as bicycle usage at stations increases includes covered bicycle parking, stair bicycle runners, and appropriate signage. It is recommended that the Township coordinate with SEPTA to place the Abington Bicycle Master Plan map at all stations in and around the Township as well as a map that identifies which segments have been constructed. These maps are meant to inform the public of the bicycle routes available to them and should be periodically updated by the Township as the master plan continues to get implemented.

The space available on SEPTA property for covered bicycle parking is limited some station locations. At the Ardsley Station, the Township should pursue an agreement with the adjacent Hillside Cemetery to allow a covered bicycle parking module on Hillside Cemetery property next to the SEPTA parking lot. At the Crestmont Station, the Township could consider allowing covered bicycle parking on the adjacent Township property (Rubicam Avenue Park).

Regional Connections

The Abington plan proposes to make connections to existing and proposed trails and bicycle routes in most of its neighboring municipalities. As mentioned previously, the Cross County Trail and Tookany Creek Trails are proposed in adjacent Upper Dublin and Cheltenham Townships. This plan proposes two connections to the proposed Tookany Creek Trail and one to the existing Tookany Creek Parkway trail in Cheltenham. The plan also proposes two connections to Upper Dublin Township via Jenkintown Road and Elliot Road. Both of these roads could provide future connections to the Cross County Trail once completed.

A connection to the City of Philadelphia has been on Shelmire Street to Burlholme Park. It is recommended that the Township coordinate with the City to extend the trail through Burlholme Park and down Cottman Avenue to existing bike lanes on Oxford Road and Red Lion Road. Additionally,



Existing bike parking at Meadowbrook Station

the City of Philadelphia has planned to extend the Pennypack Trail to Fox Chase Station. It is recommended that Montgomery County extend the Pennypack trail to the Township line to meet the proposed Philadelphia segment.

Level of Comfort Analysis and Mapping

The proposed network includes a variety of bicycle routes, including some routes that will appeal to a wide range of residents and their families and others that will only appeal to experienced cyclists. The project team has rated each of the proposed routes based on the “level of comfort”, which is an indication of the traffic stress experienced by cyclists. The classification is based upon the Level of Traffic Stress measurement established by researchers at the Mineta Transportation Institute in San Jose, California. Low stress bike routes with minimal traffic conflicts are considered Level of Comfort 1, and routes with the heaviest exposure to traffic are considered Level of Comfort 4.

Level 1: Comfortable for people of all ages and abilities.

- Off-street trails



Narrow Roads with tight shoulders can make for a less comfortable bicycle ride



Grovania Street is a good example of a potential Level 1 bike route.

- Residential streets with traffic speeds of 25 mph or less
- Bike lanes that are at least six feet wide or are physically separated from traffic
- No unsignalized crossings of streets with four or more lanes

Level 2: Comfortable for most adults.

- Residential streets with traffic speeds of up to 30 mph
- Bike lanes that are less than six feet wide
- No unsignalized crossings of streets with speeds above 35 mph

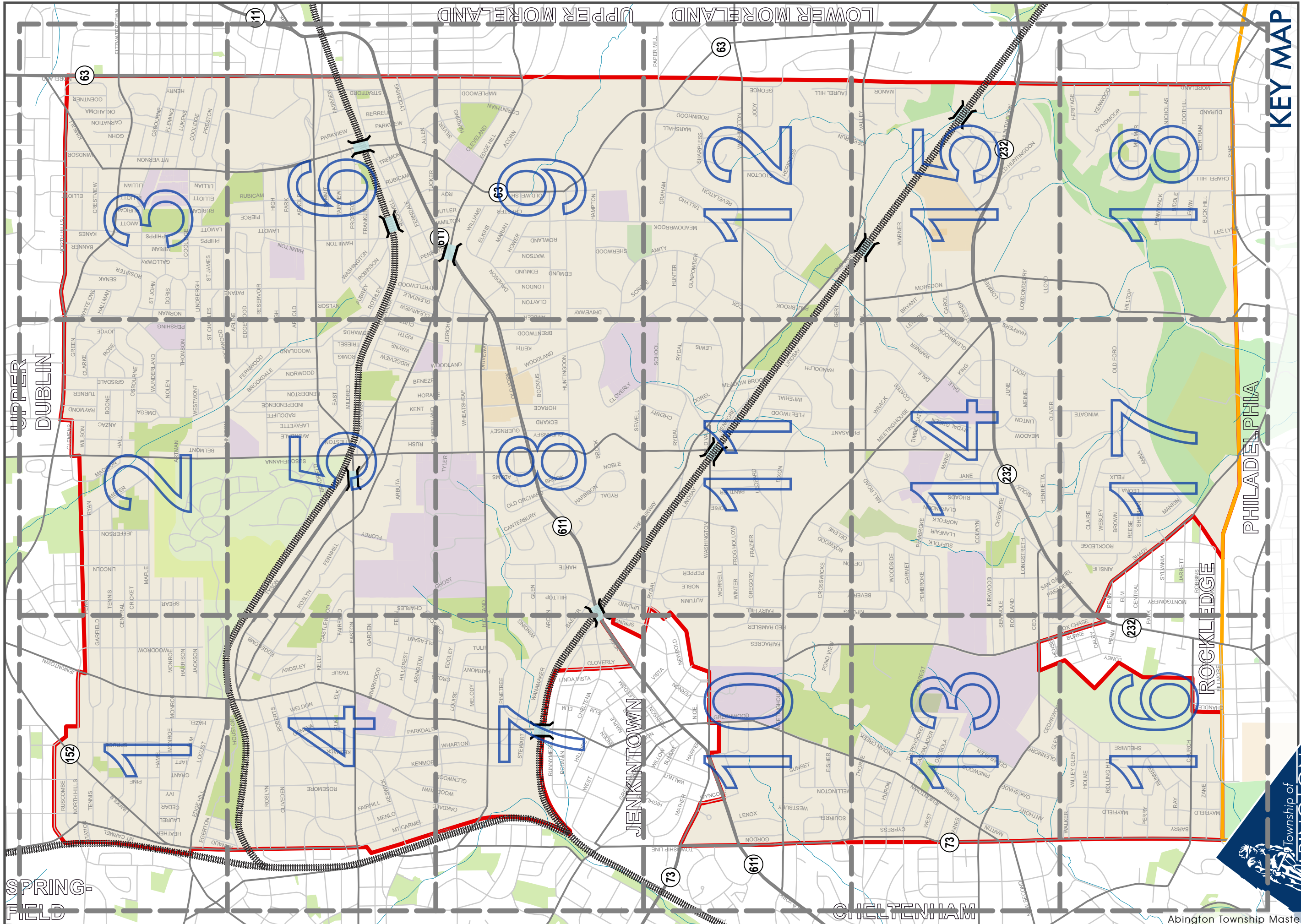
Level 3: Comfortable for many experienced cyclists.

- Streets with no dedicated bicycle facilities and speeds of up to 30 mph
- Bike lanes adjacent to 35 mph traffic
- May include unsignalized crossings of streets with traffic speeds above 40 mph

Level 4: Comfortable for experienced and confident cyclists.

- Two lane streets with no bike lanes and traffic speeds of 35 mph+
- Bike lanes adjacent to 40 mph traffic

The level of comfort for each route is shown on page 80.



KEY MAP

- Park
- Cemetery
- School
- Hospital
- Existing Bridge
- Township boundary
- County boundary
- Railroad



©TELTEHAM



UPPER DUBLIN
SPRINGFIELD

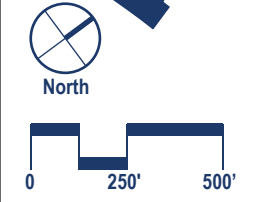
PHILADELPHIA

JENKINTOWN

ROCKLEDGE

UPPER MORELAND

Township of
ABINGTON
Master Bicycle Plan

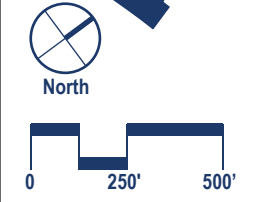
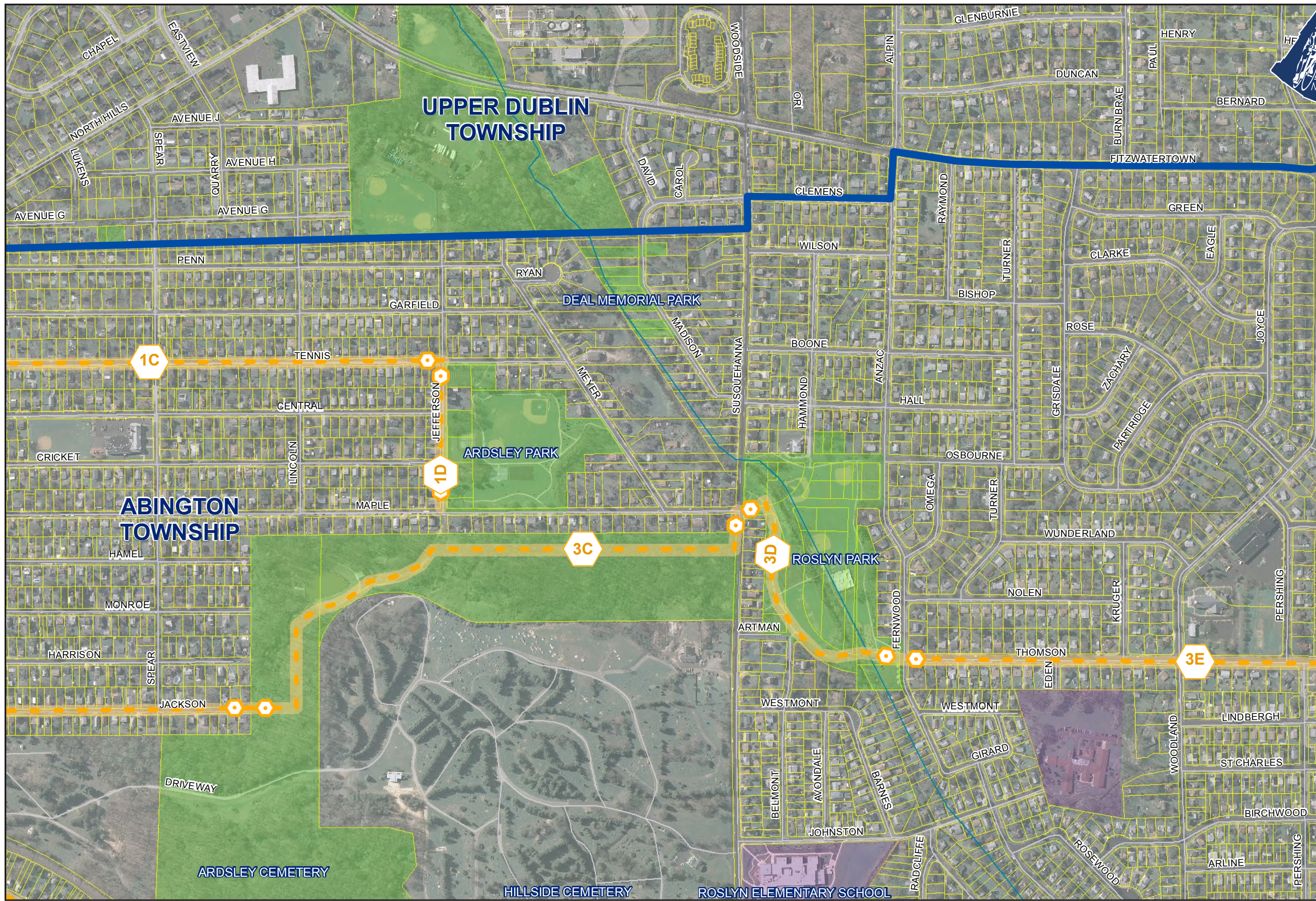


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 1

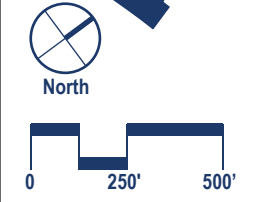
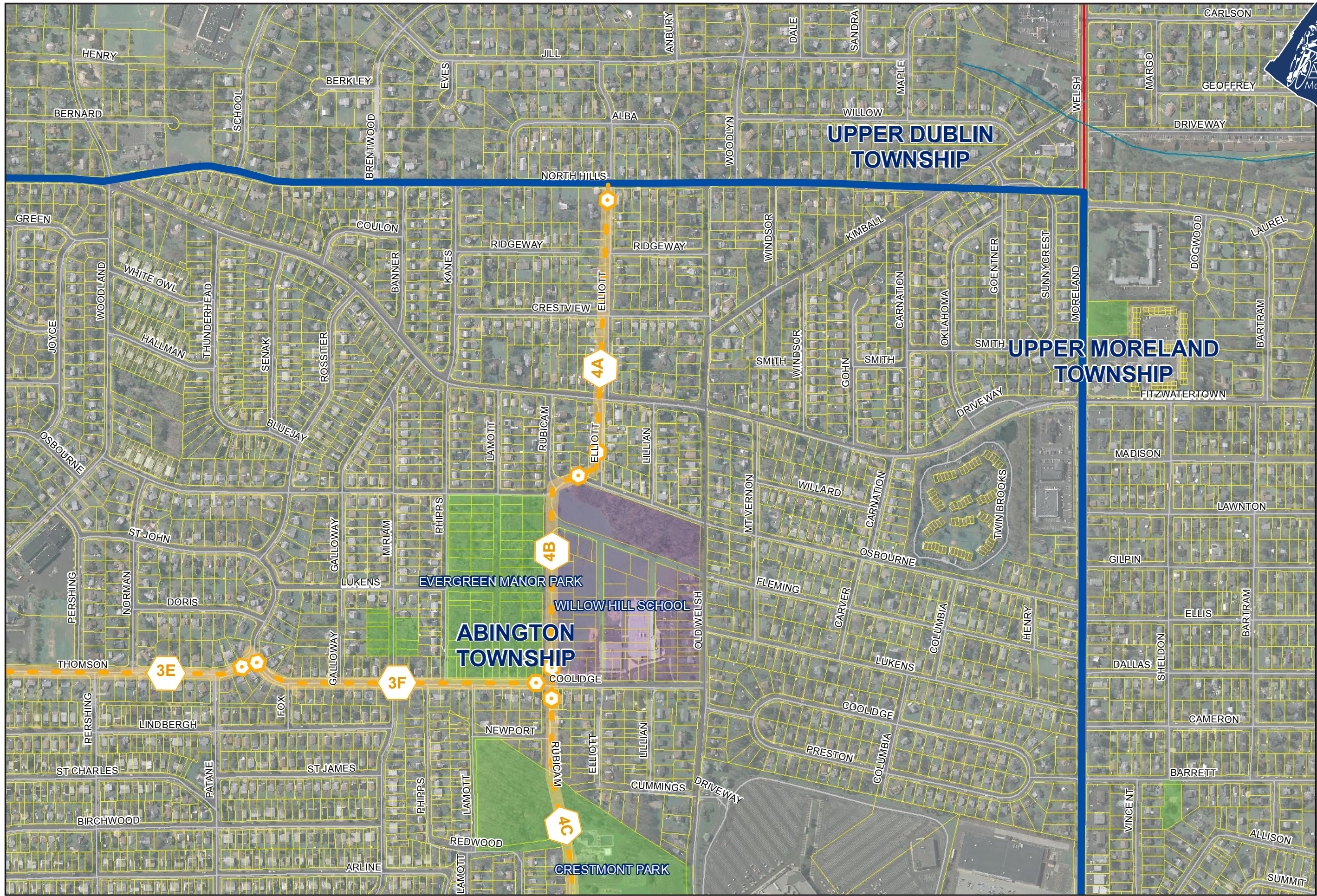


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - 16E Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

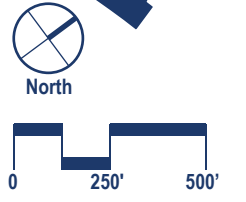
MAP 2



- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional
- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

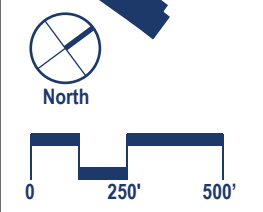
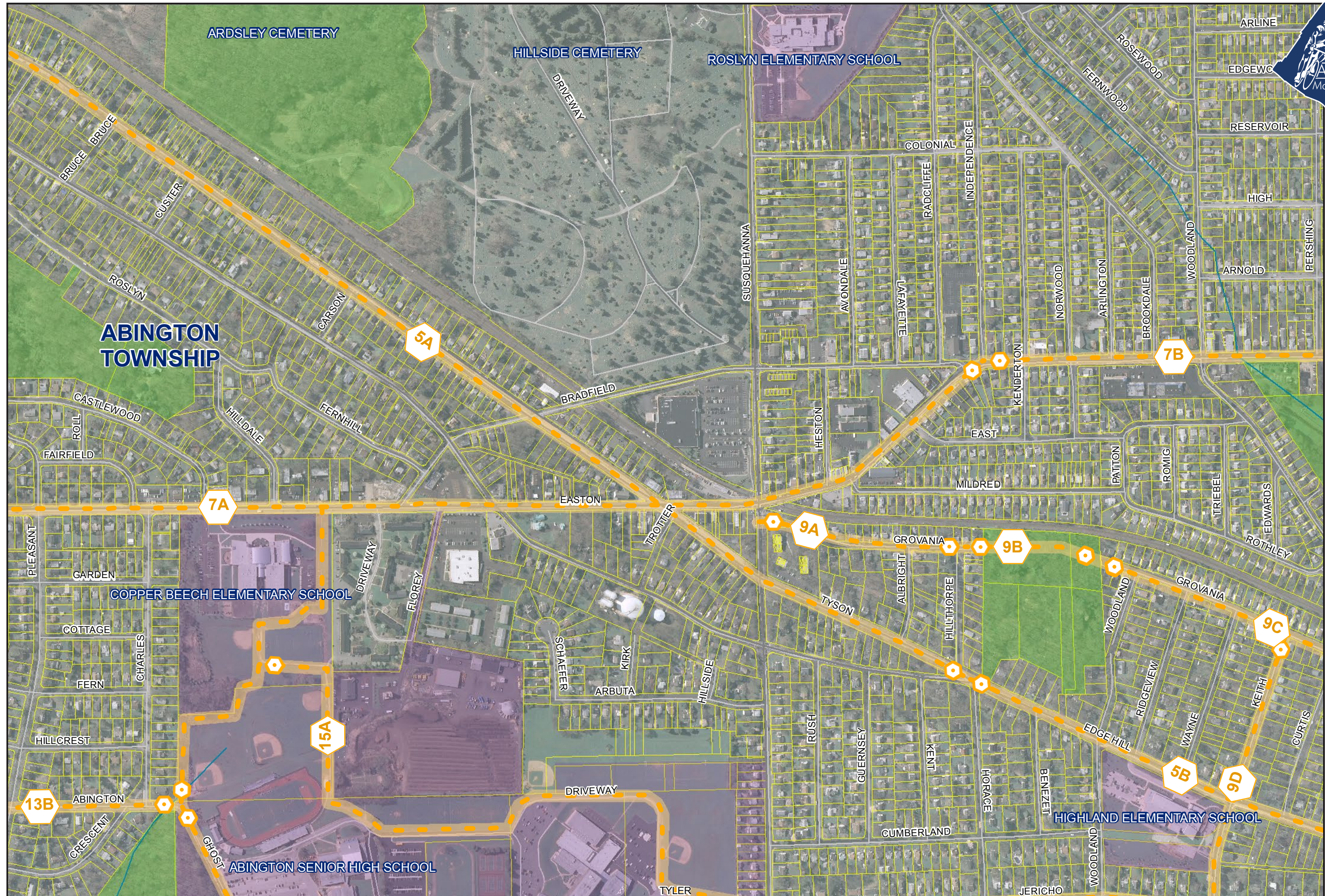
MAP 3



- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional
- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 4

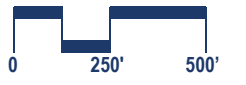


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 5



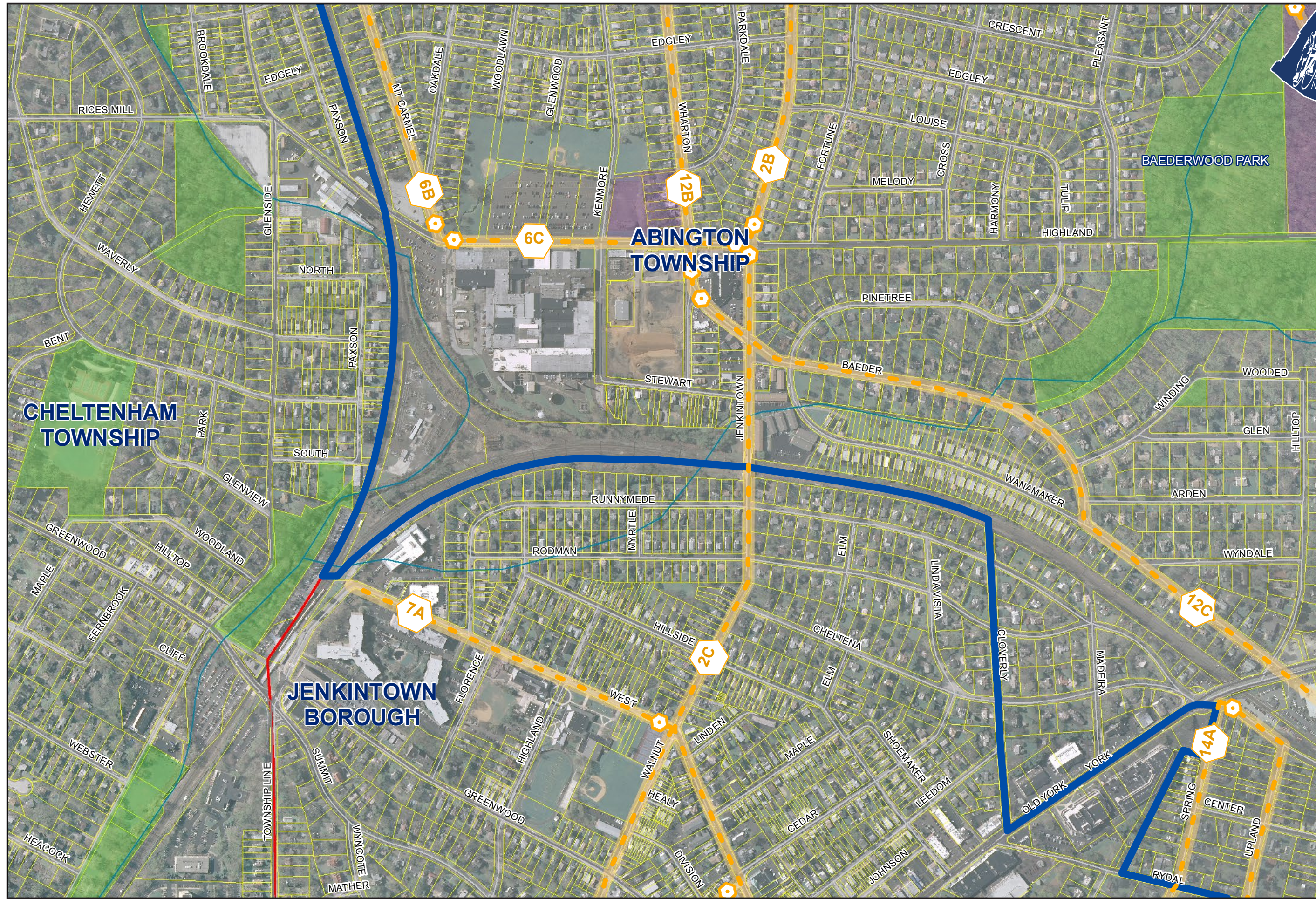
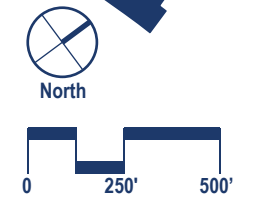
- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18



MAP 6

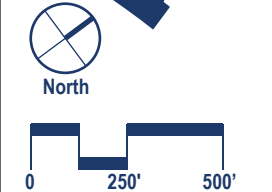
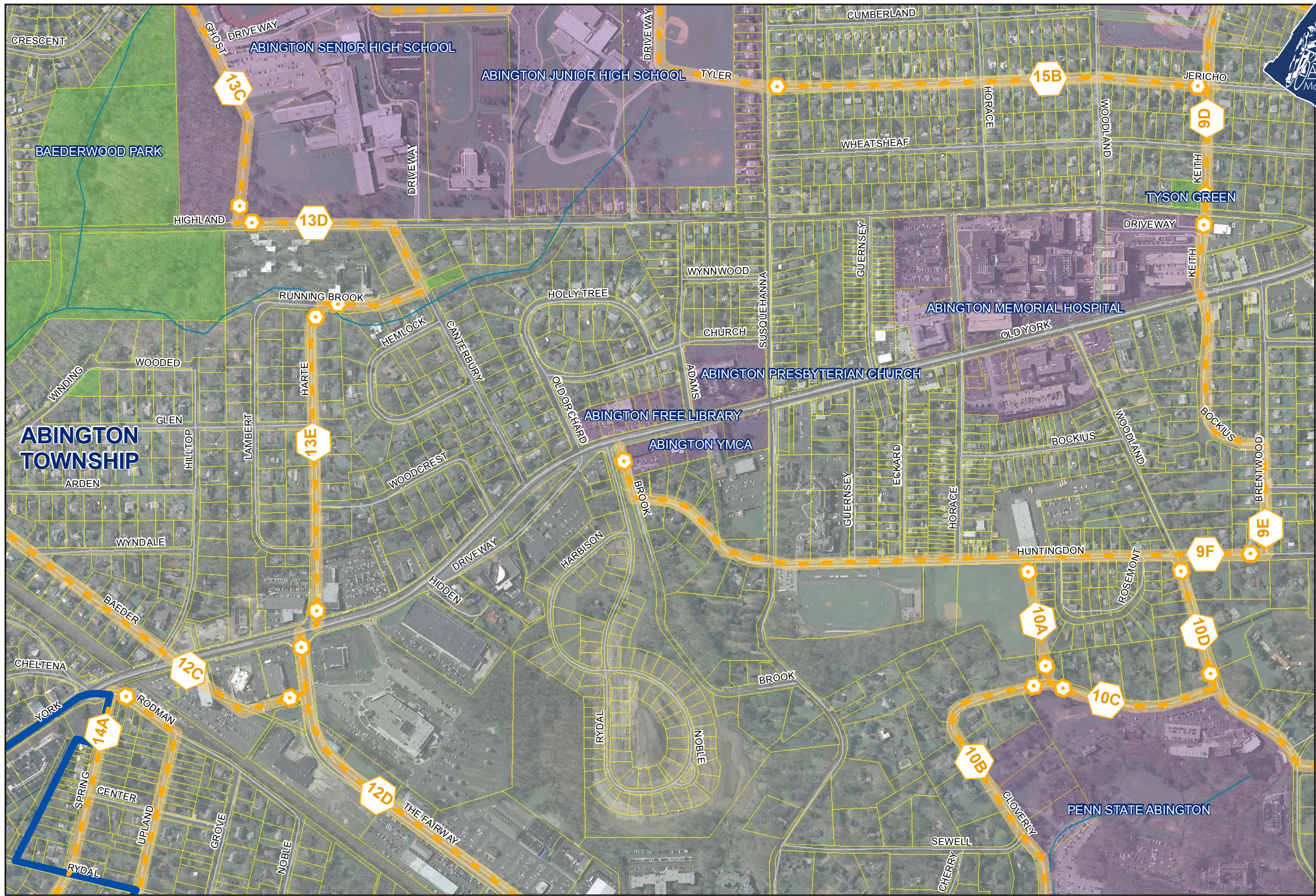


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 7

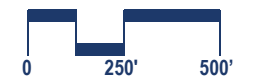


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - 16E Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 8



Legend

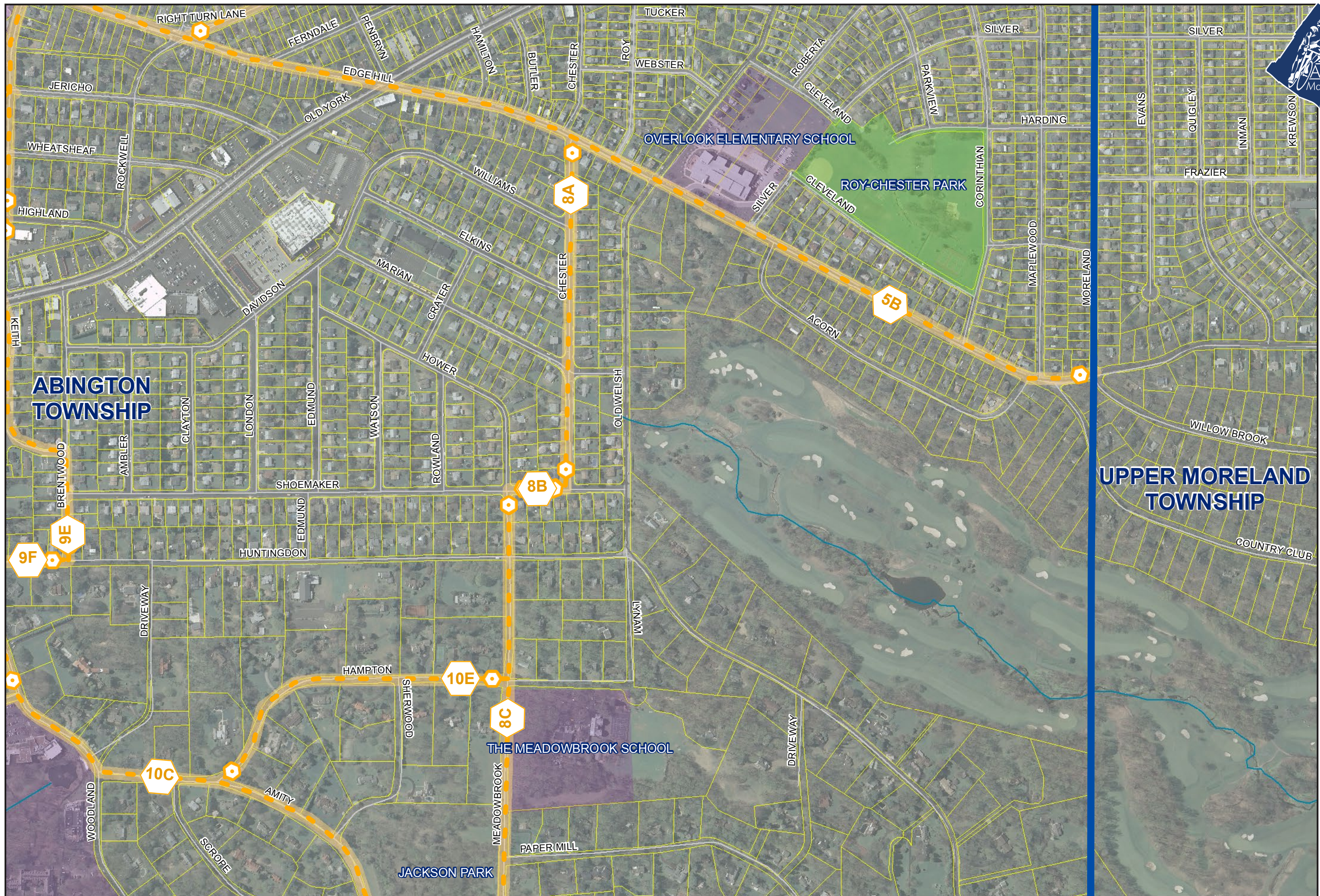
- Parcel
- Municipal Boundary
- Abington Township
- County Boundary
- Stream
- Bike Route
- 16E Segment Label
- End of Segment
- Existing Trail
- Institutional

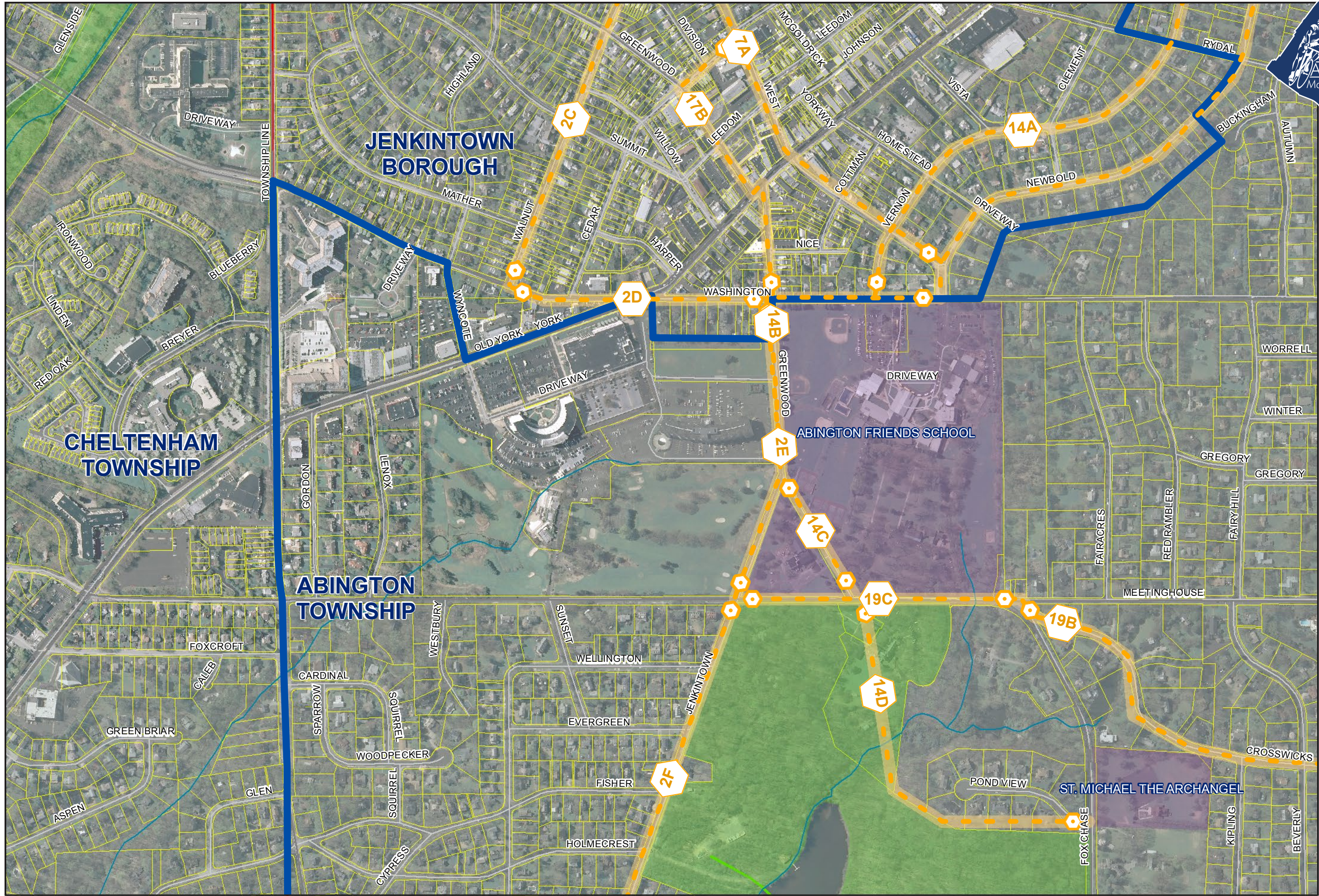
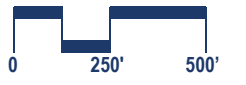
Designated Open Space

- County
- Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 9



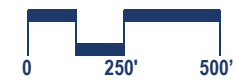


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 10



Legend

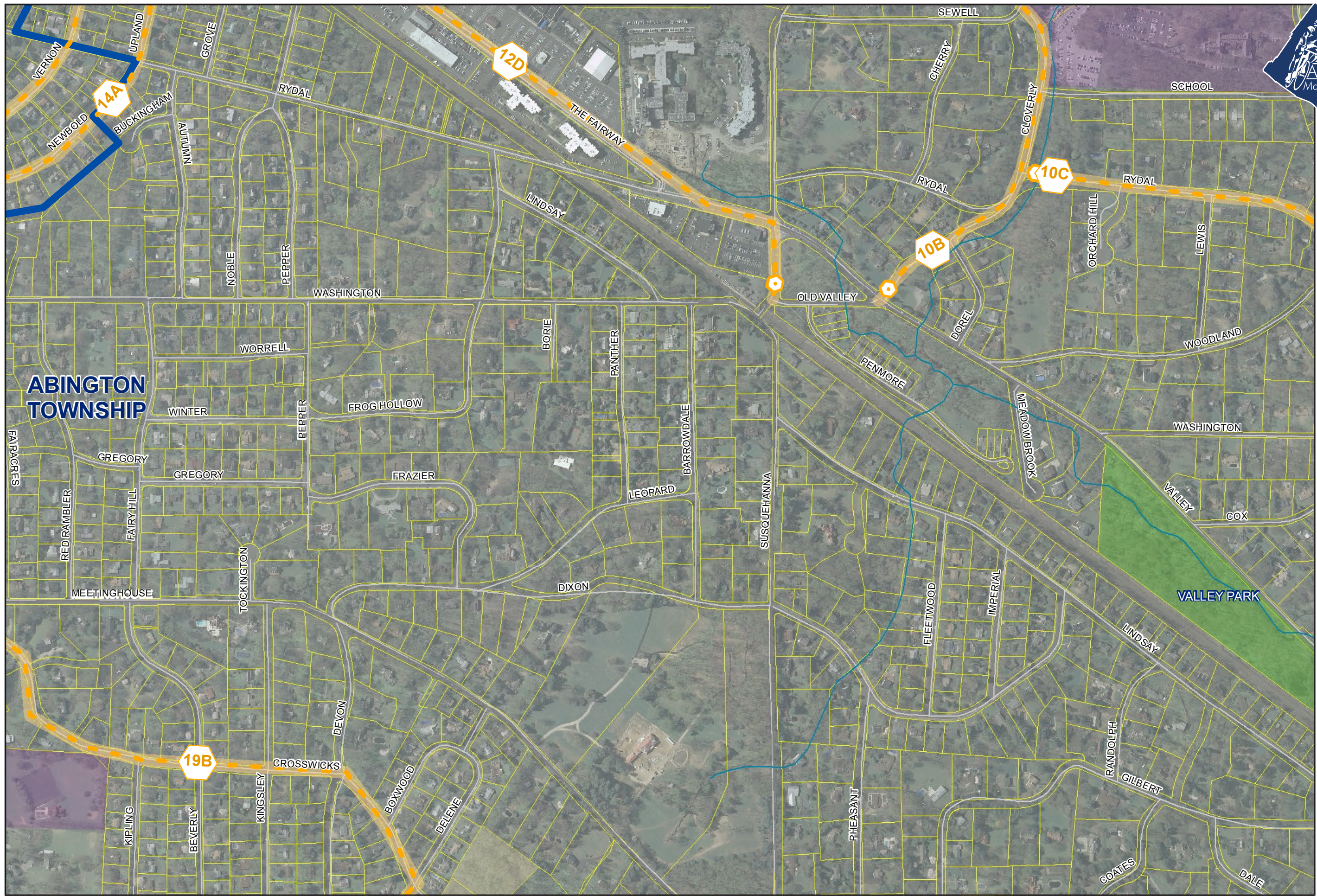
- Parcel
- Municipal Boundary
- Abington Township
- County Boundary
- Stream
- Bike Route
- Segment Label
- End of Segment
- Existing Trail
- Institutional

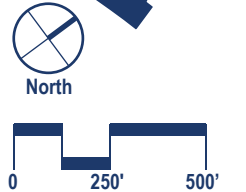
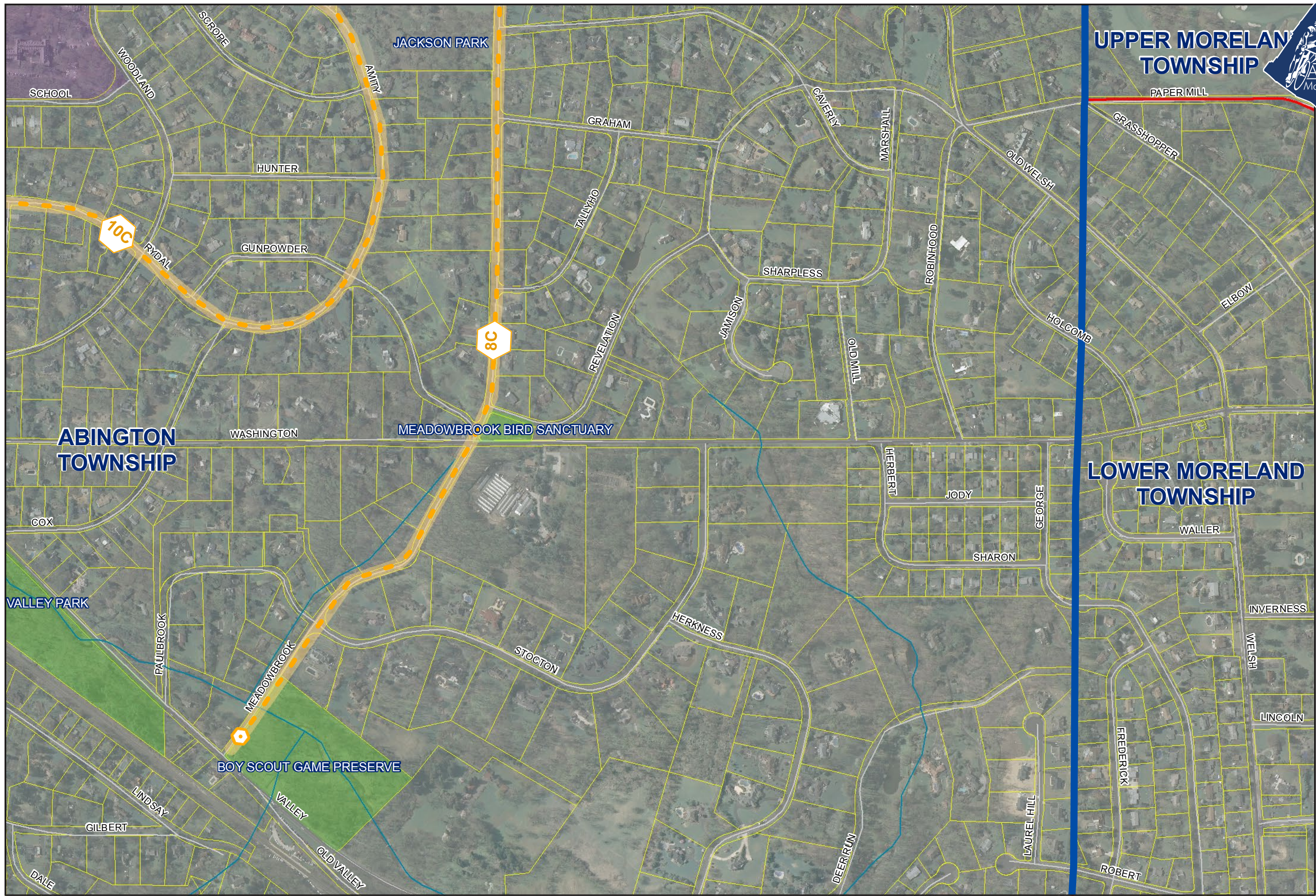
Designated Open Space

- County
- Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 11



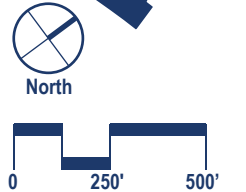
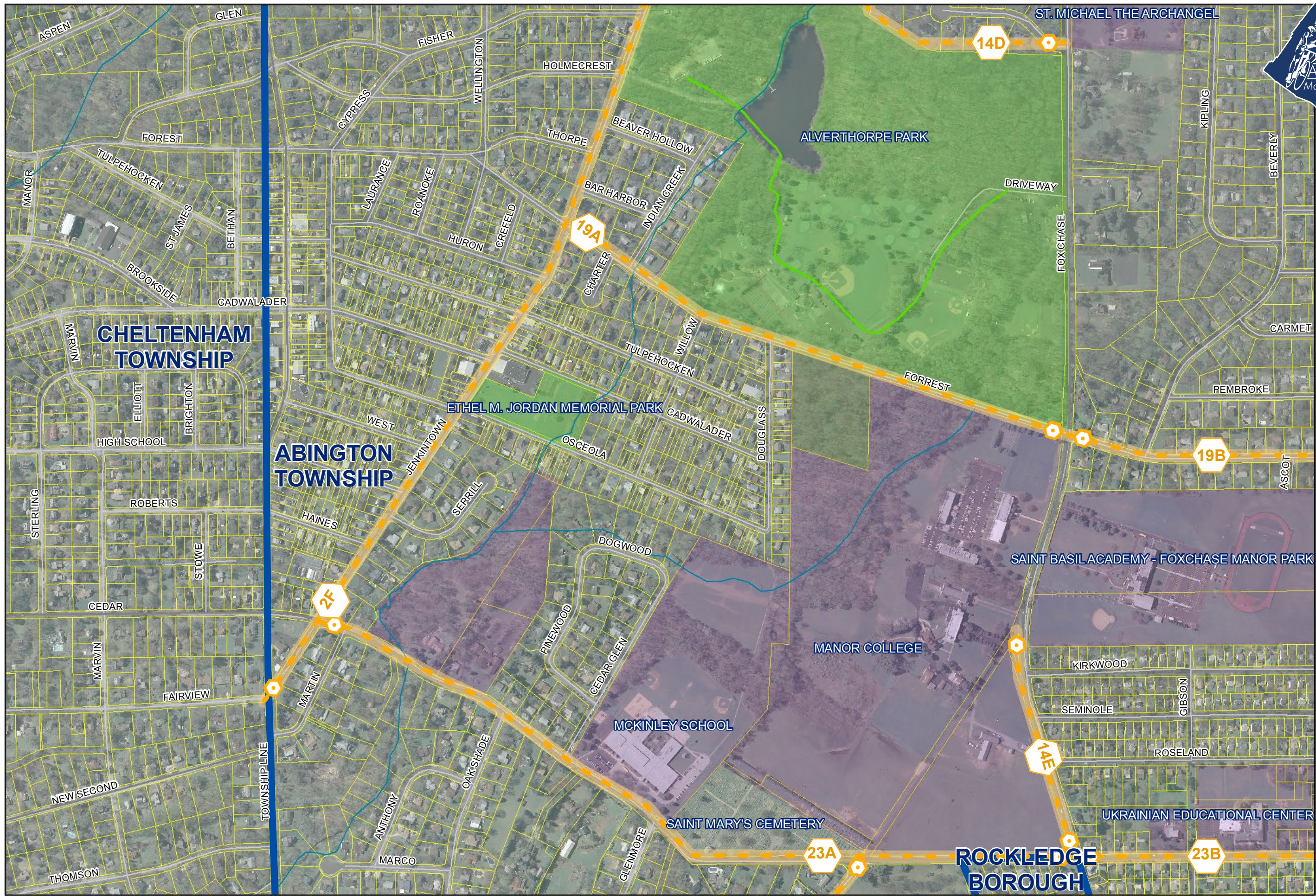


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 12

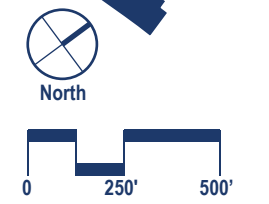
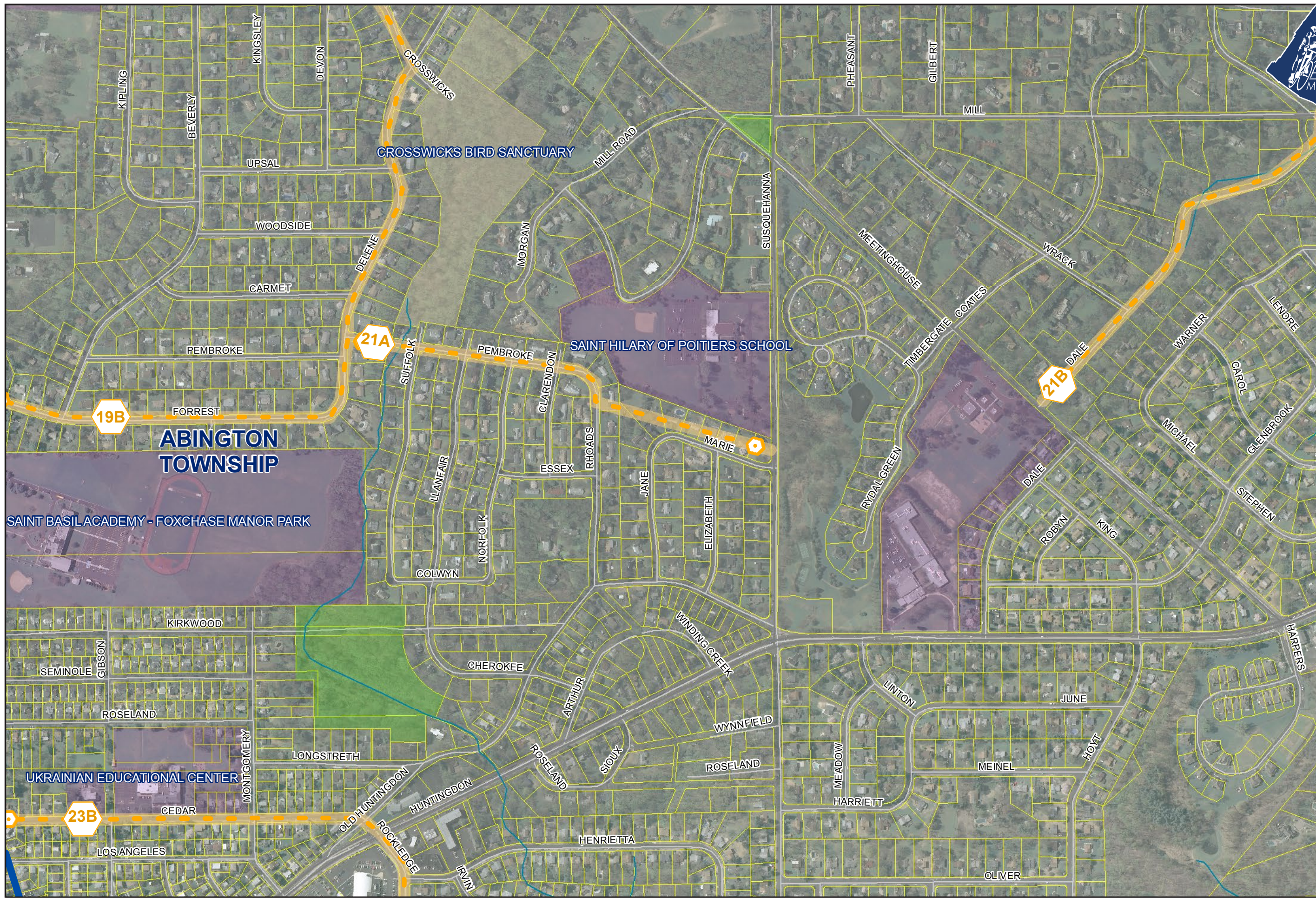


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 13

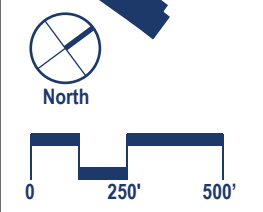


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 14

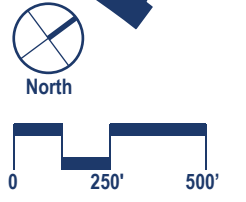
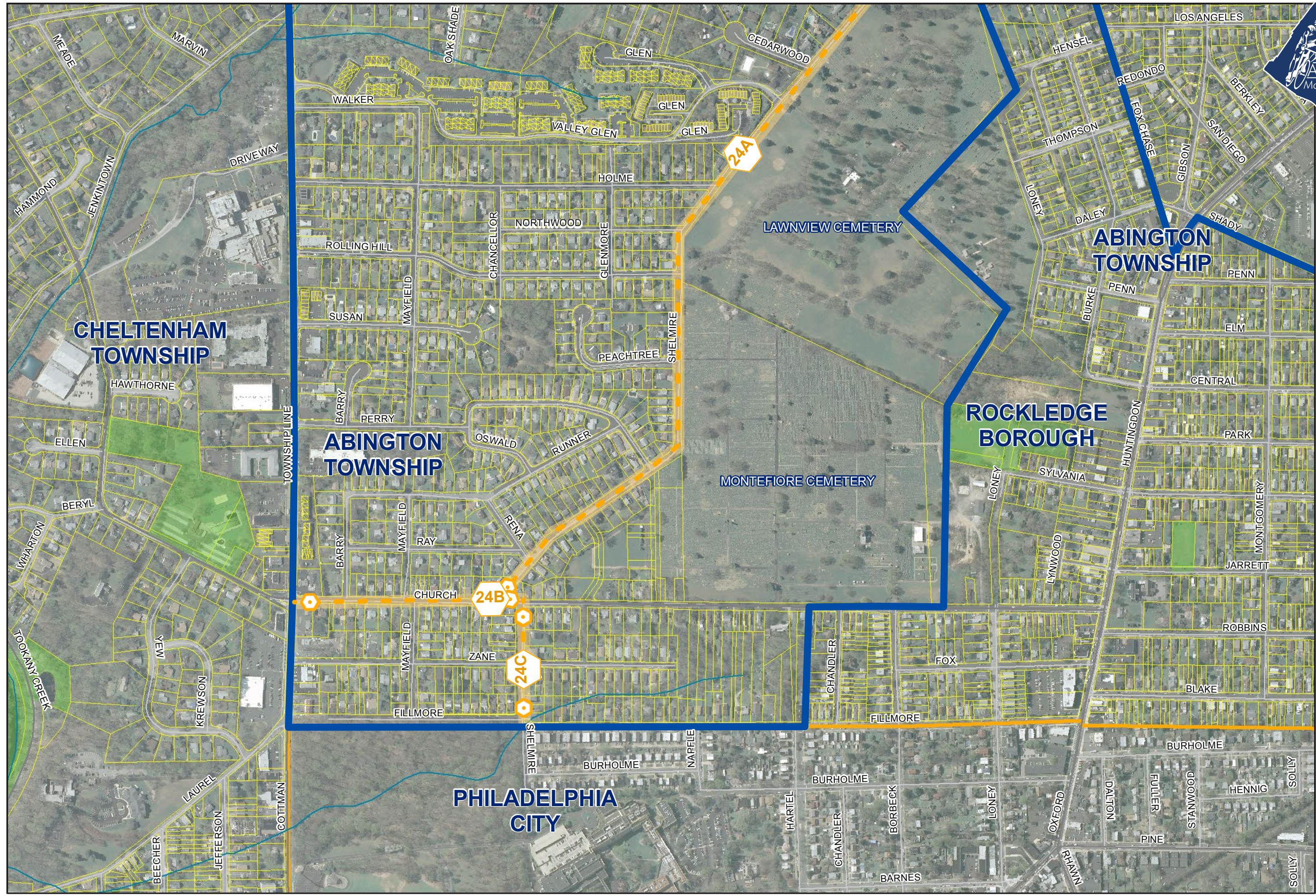


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 15

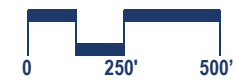


- Legend**
- Parcel
 - Municipal Boundary
 - Abington Township
 - County Boundary
 - Stream
 - Bike Route
 - Segment Label
 - End of Segment
 - Existing Trail
 - Institutional

- Designated Open Space**
- County
 - Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 16



Legend

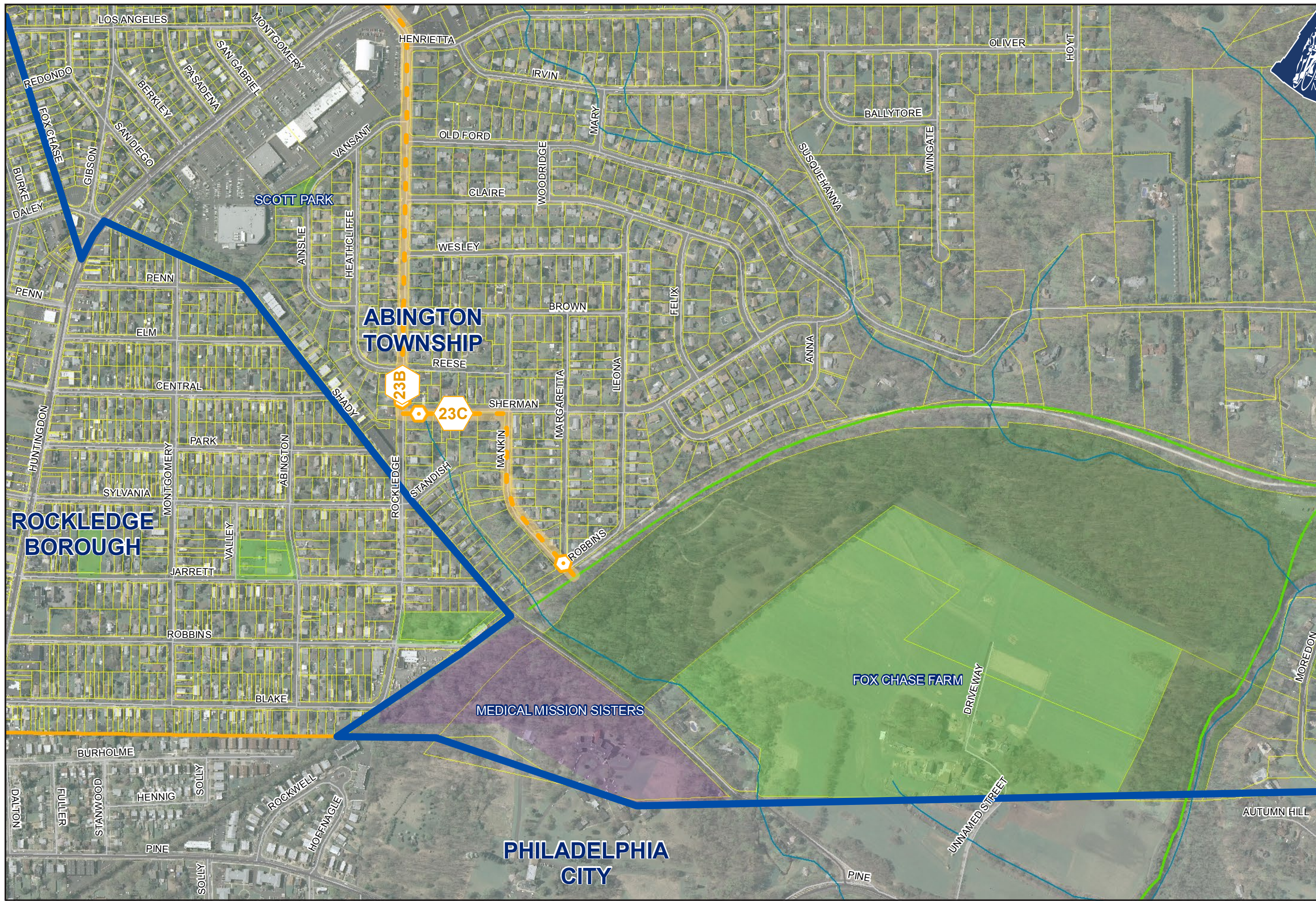
- Parcel
- Municipal Boundary
- Abington Township
- County Boundary
- Stream
- Bike Route
- Segment Label
- End of Segment
- Existing Trail
- Institutional

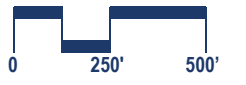
Designated Open Space

- County
- Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 17





Legend

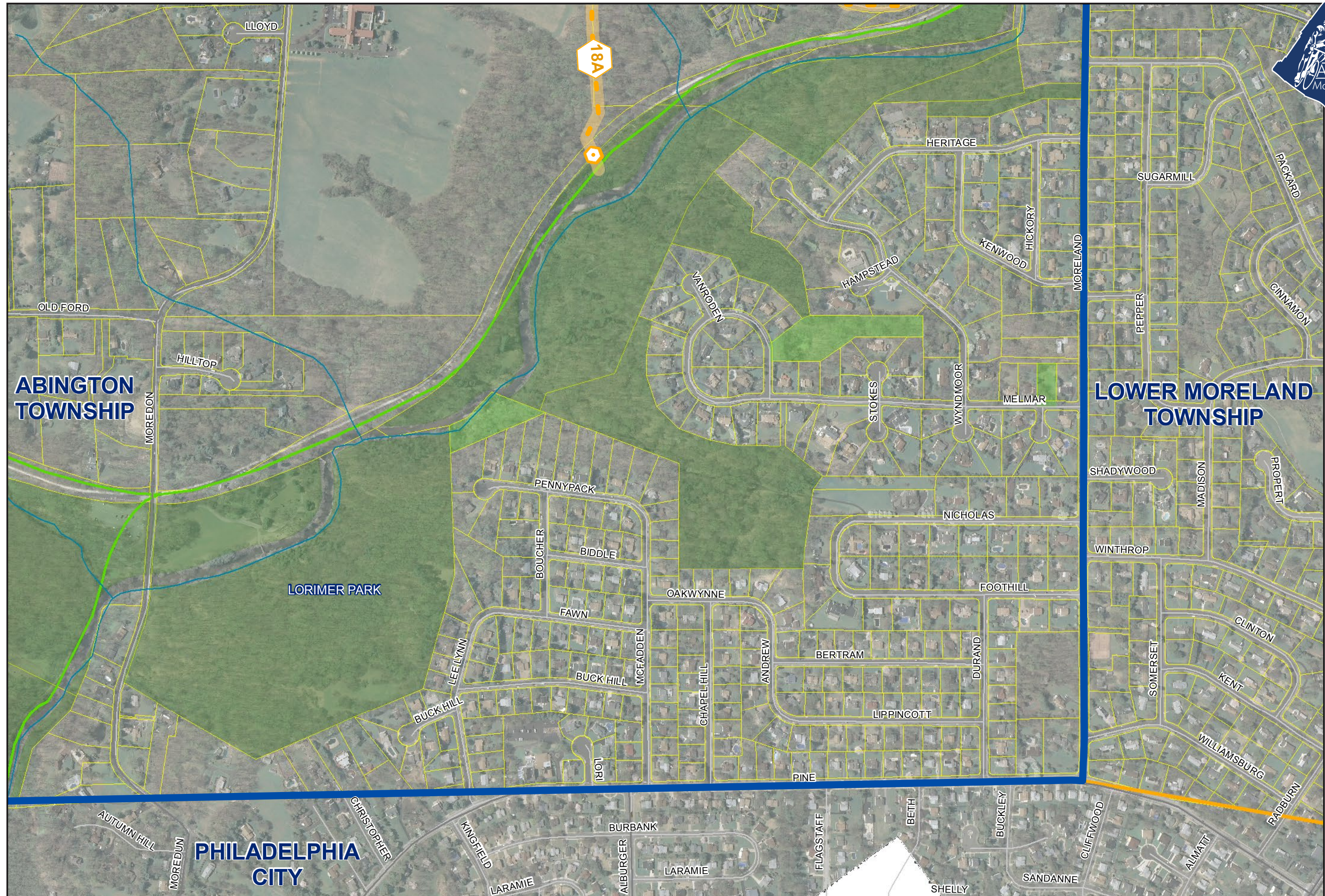
- Parcel
- Municipal Boundary
- Abington Township
- County Boundary
- Stream
- Bike Route
- Segment Label
- End of Segment
- Existing Trail
- Institutional

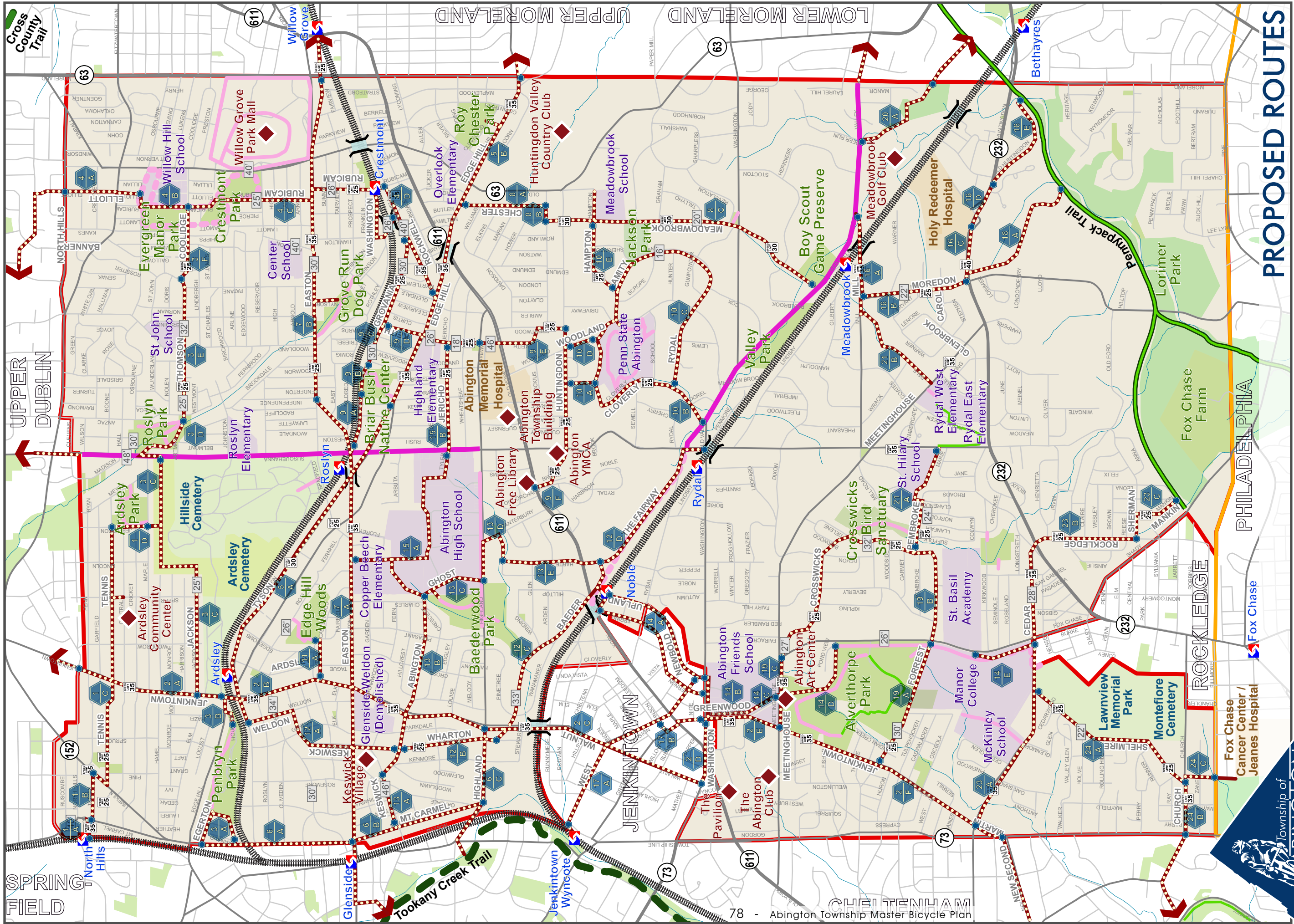
Designated Open Space

- County
- Municipality

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

MAP 18





PROPOSED ROUTES

- █ Park
- █ Cemetery
- █ School
- █ Hospital
- █ Existing Bridge
- Township boundary
- County boundary

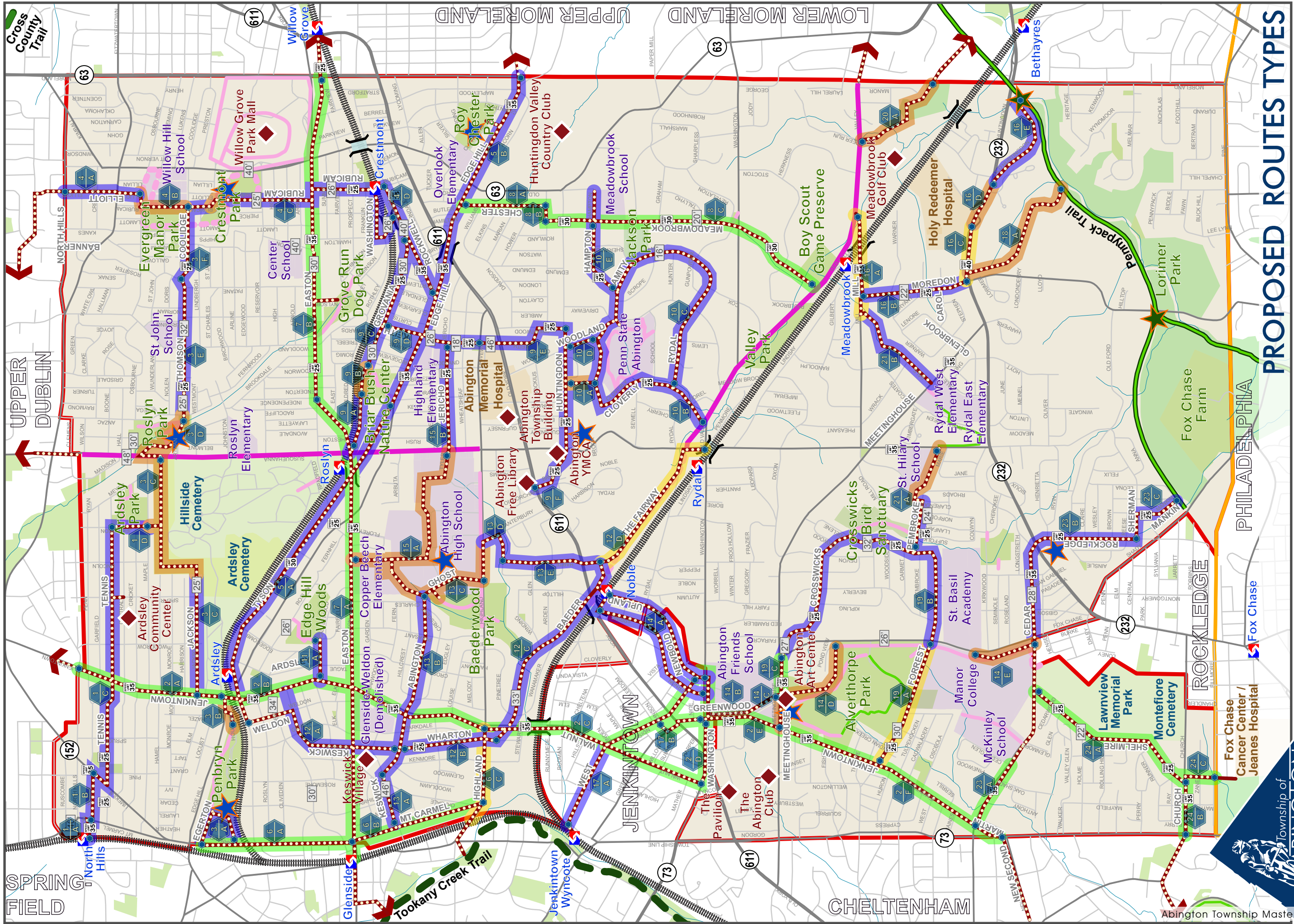
- Railroad
- ◆ Place of Interest
- S Transit Station
- # Road Pavement Width
- █ Traffic Signal
- █ State Road

- █ Existing Bike Route
- █ Existing Trail
- █ Existing Trail (Circuit)
- █ Planned Trail (Circuit)
- █ Existing Trail (Open Space Plan)
- █ Proposed Trail (Open Space Plan)

- Proposed Route
- 1 Route Segment Identification Number

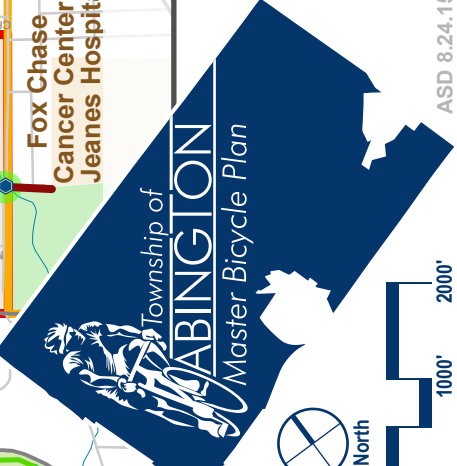
Abington Township Master Bicycle Plan





PROPOSED ROUTES TYPES

Existing Bike Route	Existing Trail	Planned Trail (Circuit)	Proposed Trail (Open Space Plan)
Existing Trail (Circuit)	Existing Trail (Open Space Plan)	Proposed Trail (Open Space Plan)	Proposed Route
Route Segment Identification Number	Bike Lanes	Sharrow	Signage Only
Place of Interest	Cemetery	School	Existing Bridge
Transit Station	Hospital	Existing boundary	Township boundary
Road Pavement Width	Traffic Signal	State Road	Existing Trailhead
Traffic Signal	State Road	Existing Trailhead	Proposed Trailhead
State Road	Existing Trailhead	Proposed Trailhead	Railroad
Existing Trailhead	Proposed Trailhead	Railroad	



ASD 8.24.15

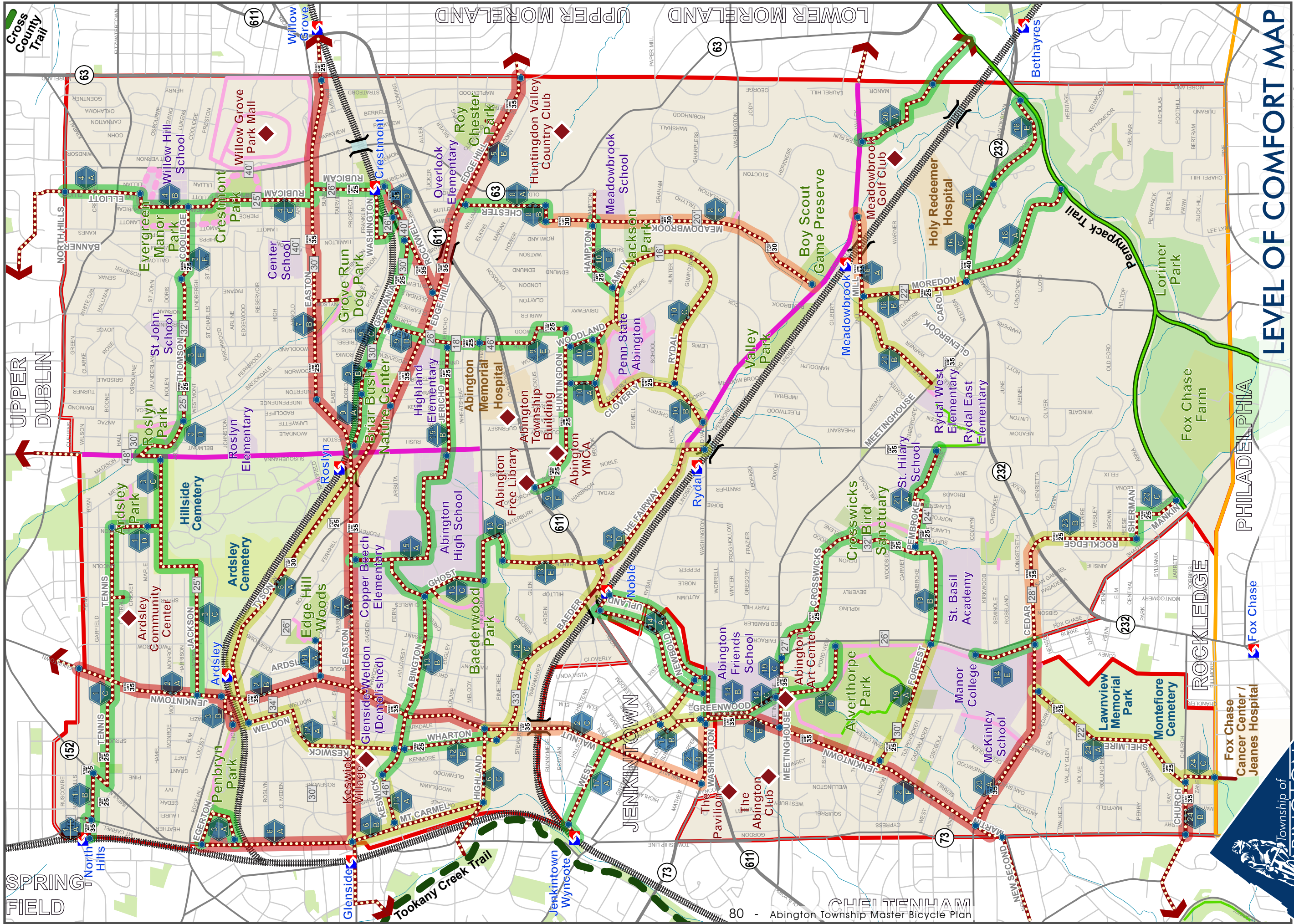
SPRINGFIELD

UPPER DUBLIN

LOWER MORELAND

PHILADELPHIA

PROPOSED ROUTES TYPES



LEVEL OF COMFORT MAP

Level 1: Comfortable for people of all ages + abilities

Level 2: Comfortable for most adults

Level 3: Comfortable for many experienced cyclists

Level 4: Comfortable for experienced and confident cyclists

Existing Trail (Circuit)

Planned Trail (Circuit)

Existing Trail (Open Space Plan)

Proposed Trail (Open Space Plan)

Proposed Route

Route Segment Identification Number

Park

Cemetery

School

Hospital

Existing Bridge

Township boundary

Railroad

Place of Interest

Transit Station

Road Pavement Width

Traffic Signal

State Road

Existing Bike Route

Existing Trail

611

63

73

152

232

ASD 8.24.15

UPPER DUBLIN

UPPER MORELAND

LOWER MORELAND

SPRINGFIELD

JENKINTOWN

ROCKLEDGE

PHILADELPHIA

North

0 1000' 2000'

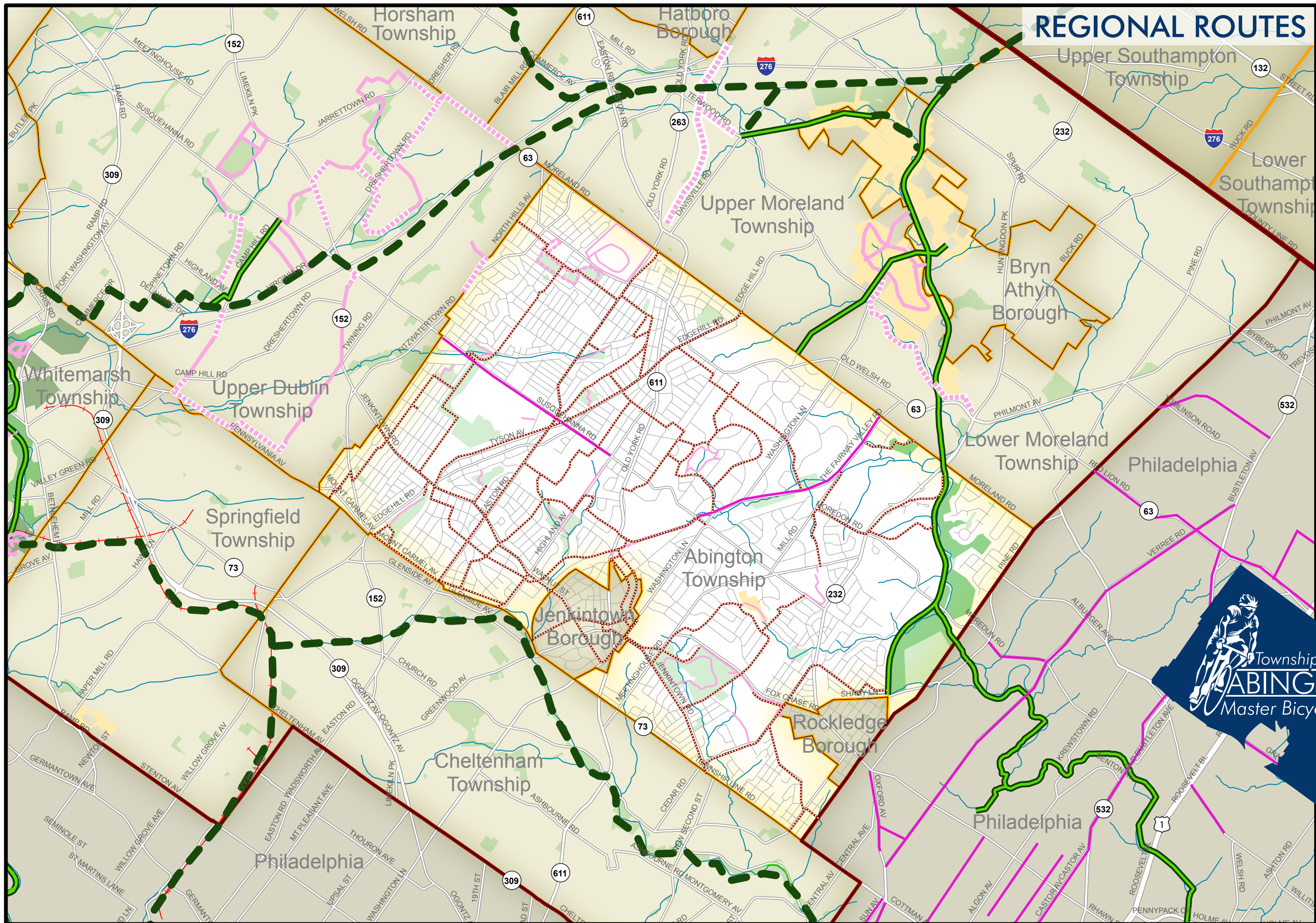
Cross County Trail

Tookany Creek Trail

Penypack Trail

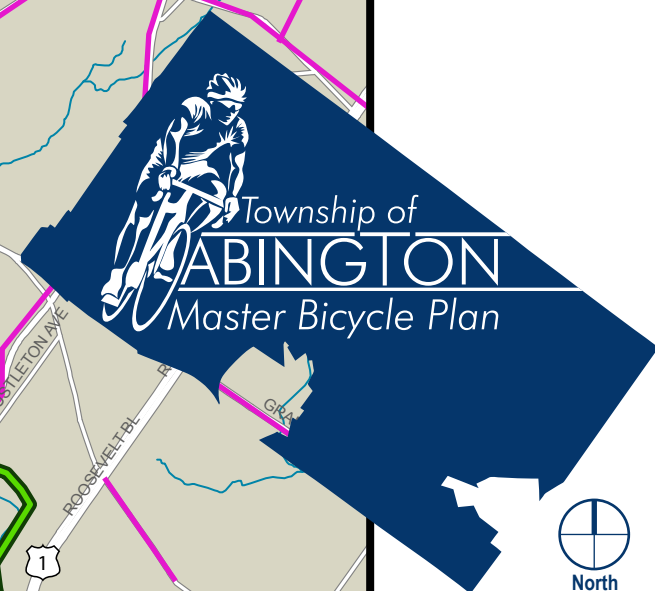
Abington Township Master Bicycle Plan



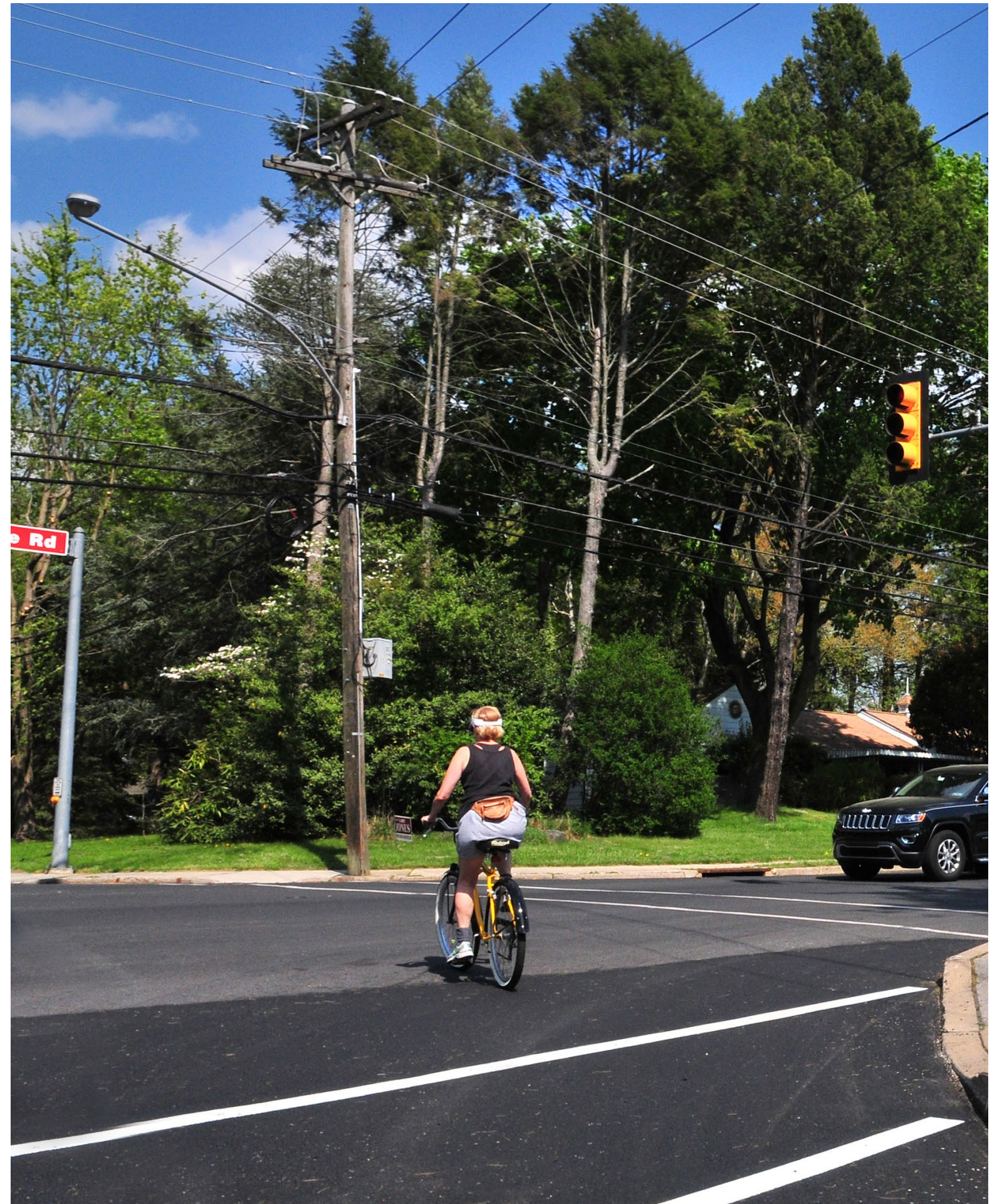


REGIONAL ROUTES

- State Owned Land
- County Owned Land
- Municipal Owned Land
- Privately Owned Land
- County boundary
- Municipal boundary
- State Road
- Local Road
- Waterbody
- Existing Trail (Circuit)
- Planel Trail (Circuit)
- Existing Trail
- Planned Trail
- Existing Bike Route
- Planned Bike Route
- Abandoned Rail Line
- Proposed Route



Trail alignments (proposed and existing) were gathered from planning documents from adjacent municipalities, and data from DRVPC.





4 Implementation

Project Partners

Various partnerships will need to be fostered to assist in the promotion, funding, and/or implementation of the Master Bicycle Plan. The Township will need begin the implementation process by applying for and securing grant funds for initial projects. The following is a list of potential project partners that could be very instrumental to the implementation of the proposals in this Master Plan.

- Montgomery County
- Adjacent municipalities
- SEPTA
- DVRPC
- State Agencies (DCNR, PennDOT, DCED)
- Schools and Institutions
- Real Estate Developers
- Local businesses

State agencies such as DCNR (PA Department of Conservation and Natural Resources) and DCED (PA Department of Community and Economic Development) will be important sources for design/

engineering and construction funding. PennDOT will need to be involved with the proposed routes on state roadways. The Township will need to continuously coordinate with SEPTA for improvements on and around rail stations and other SEPTA infrastructure. Local schools and institutions such as Abington School District and Penn State Abington are also important partners for implementation of some of the proposed routes and trailheads.

Additionally, private developers will be an important part of the implementation process where alignments proposed in this plan are to be located within or adjacent to land tracts under future or current land development review. The Township should make every effort to have these improvements included in the land development application and constructed as part of the proposed developments. To help achieve this, it is recommended that the township adopt an Official Map as described later in this chapter. Additionally several trailheads are proposed on private property where agreements will be needed from the property owners.

Official Map

As permitted by the Pennsylvania Municipalities Planning Code, an official map allows a municipality to “reserve” lands for trails, streets, parks, open space, and other public purposes. Should a landowner move forward to develop reserved lands, the municipality has one year to pursue development or acquisition of the public improvement proposed for the reserved land. Additionally, the municipality has the ability to negotiate with the land owner to incorporate improvements identified on the Official Map as part of the land development process.

Because Abington Township currently does not have an Official Map, it is recommended that it consider adopting one that includes the trails and bicycle routes proposed in this report. This will allow the Township to use the land development process as another means for implementation of the proposed trail network described herein. Inclusion on the Township's Official Map also may help with grant applications, as it shows that the municipality is committed to the proposed trail system.



Implementation Priorities

The Priority Route Map located at the end of this chapter separates the proposed routes into three categories: Short Term Priority, Mid Term Priority, and Long Term Priority. These priorities were determined based upon factors such as enhanced connectivity, improved safety, added recreational opportunities, required funding, and/or value to the community. The Township will need to continuously evaluate these routes as priorities may shift over time due to various factors. Because many of the proposed routes in this plan only involve pavement markings and signage, the Township should incorporate these proposed routes into their repaving program as funding allows.

Short Term Routes

The Implementation Priorities Map identifies short term priority routes as routes 3, 4, 12, 14, and 23. These routes make connections to the Pennypack Trail and provide important cross Township connections. Together, these routes also provide links to some of the most popular destinations in the area such as Keswick Village, Alverthorpe Park, Penbryn Park, Roslyn Park, Crestmont Park, Hillside Cemetery, Upper Dublin Township, and the Borough of Jenkintown. These connections have the highest potential to serve a large majority of the Township population and highest likelihood of attracting new riders of all ability levels.

Mid Term Priority Routes

Mid Term priority routes are identified as routes 1, 5, 9, 10, 13, 15, 16, 17. These routes provide secondary connections within the Township and are considered to have a lower level of comfort than those of the high priority grouping. Destinations include Abington High School, Penn State Abington, and Briar Bush Nature Center, Roy Chester Park, Lawnview Memorial Park, and Montefiore Cemetery. These routes also begin to branch out to many of the adjacent municipalities such as Upper Moreland, Lower Moreland Township, Cheltenham Township, and the City of Philadelphia.

Long Term Routes

Routes considered to be the lowest priority include routes 2, 6, 7, 8, 11, 19, 20, 21, 22 and 24. These routes either provide relatively minor connections within the overall system or are routes considered to be of the lowest level of comfort that will typically be used by the most experienced riders. It is anticipated that experienced riders will use these low comfort routes even without special signage or other provisions as outlined in this plan, and thus Township resources could be focused towards implementing other routes identified in this plan, in order to attract less confident cyclists to utilize the system.

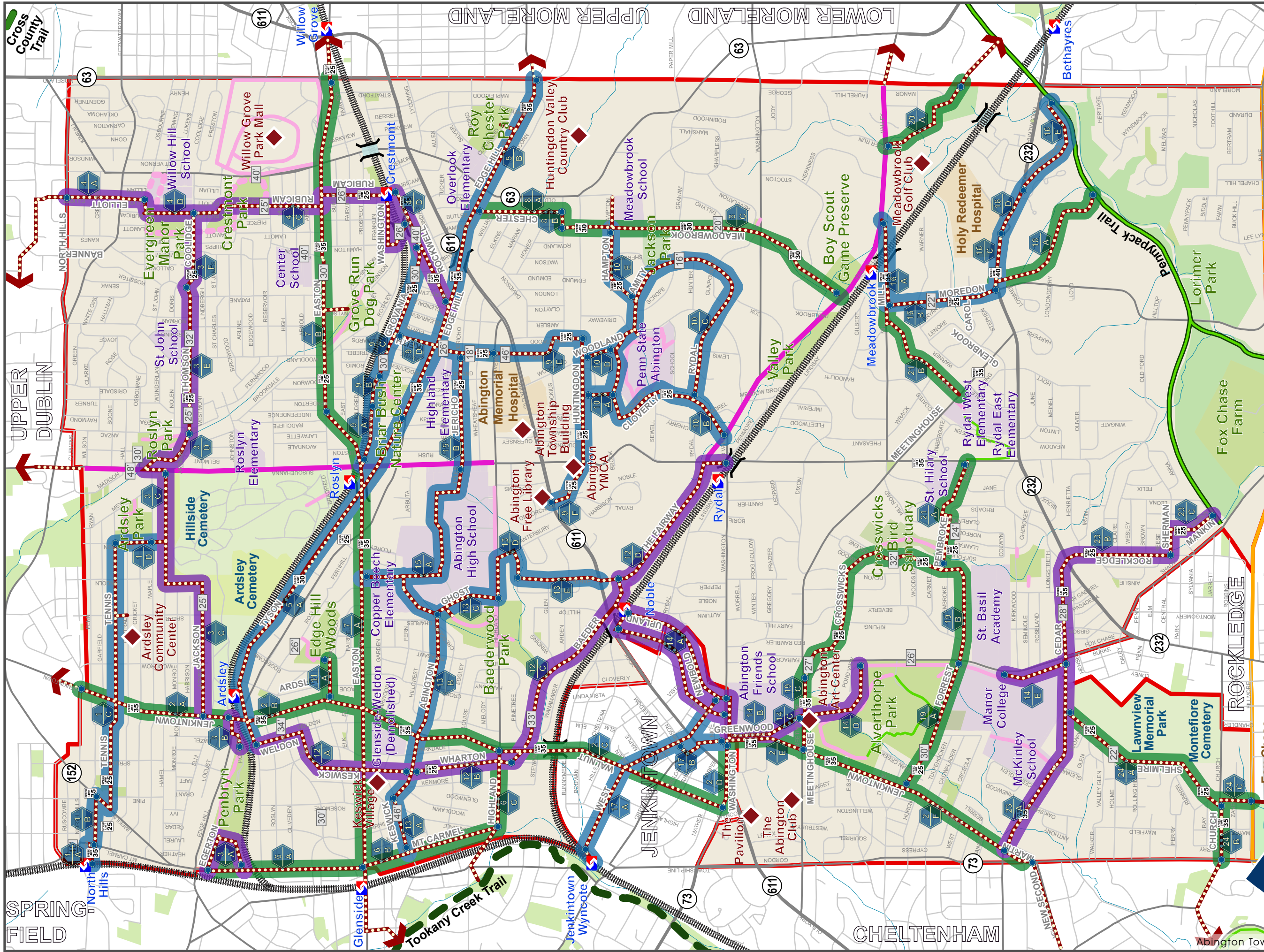
Estimate of Probable Development Cost

Probable construction costs were developed by taking measurements from the GIS mapping/database and applying unit costs determined by current material pricing and construction costs for similar projects. General construction items included in the estimate are:

- off road trail construction;
- road and shoulder modifications;
- pavement markings;
- signage; and,
- trailhead construction.

A summary of the probable development costs are as follows:

Off Road Routes (Shared Use Paths)	\$2,600,175.00
Bike Lanes	\$402,700.20
Bikes may use full lane striping	\$602,740.00
Bike Routes (signage only)	\$25,000.00
Shared Use Paths and Pavement Markings	\$791,730.00
Subtotal	\$4,422,345.20
Contingency (20%)	\$884,469.04
<u>Design & Engineering (20%)</u>	<u>\$884,469.04</u>
TOTAL	\$6,191,283.28



BIKE ROUTE IMPLEMENTATION PRIORITIES MAP

Legend:

- █ Park
- █ Cemetery
- █ School
- █ Hospital
- Existing Bridge
- Township boundary
- Railroad

- ◆ Place of Interest
- ⚡ Transit Station
- # Road Pavement Width
- █ Traffic Signal
- █ State Road
- █ Existing Bike Route
- █ Existing Trail

Trail Status Legend:

- Existing Trail (Circuit)
- Planned Trail (Circuit)
- Existing Trail (Open Space Plan)
- Proposed Trail (Open Space Plan)
- Proposed Route
- Route Segment Identification Number

Priority Legend:

- Priority (short-term)
- Priority (mid-term)
- Priority (long-term)

Scale: 0 1000' 2000'

North

ASD 8.24.15

Inset Map: Abington Township Master Bicycle Plan

Logos: Fox Chase, Rockledge, Jenkintown, Cheltenham, Springfield, Upper Dublin, Upper Moreland, Lower Moreland, Bethayres

ESTIMATE OF PROBABLE DEVELOPMENT COSTS

Segment ID	Priority	Road Name	Description	Roadway Ownership	Length (LF)	Proposed Improvements	QTY	UNIT	UNIT COST	TOTAL	
1A		Station Ave Use Full Lane Markings	North Hills Station to Mt Carmel Ave	Township	392	Pavement Markings (Use Full Lane)	4	EA	\$300	\$1,200	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways
						SUBTOTAL					
1B		Tennis Ave Use Full Lane Markings	Mt Carmel Ave to Limekiln Pike	Township	1,290	Pavement Markings (Use Full Lane)	10	EA	\$300	\$3,000	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	4	EA	\$200	\$800	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways
						SUBTOTAL					
1C		Tennis Ave Use Full Lane Markings	Limekiln Pike to Jefferson Avenue	Township	5,891	Pavement Markings (Use Full Lane)	46	EA	\$300	\$13,800	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	6	EA	\$200	\$1,200	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
						SUBTOTAL					
1D		Jefferson Avenue Use Full Lane Markings	Spruce Ave to Jefferson Ave	Township	817	Pavement Markings (Use Full Lane)	8	EA	\$300	\$2,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways
						SUBTOTAL					
2A		Jenkintown Road Wayfinding Signage Only	Township Boundary to Ardsley Station	PennDOT	3,234	Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	6	EA	\$200	\$1,200	Post mounted, marks junction of two bikeways
						SUBTOTAL					
2B		Jenkintown Road Wayfinding Signage Only	Ardsley Station to Highland Ave	PennDOT	6,251	Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
						SUBTOTAL					
2C		Walnut Street Wayfinding Signage Only	Highland Ave to Washington Lane	PennDOT	5,251	Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
						SUBTOTAL					
2D		Washington Lane Wayfinding Signage Only	Walnut Street to Greenwood Avenue	Township	1,476	Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted, at major intersections, both directions
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways
						SUBTOTAL					
2E		Greenwood Lane/Jenkintown Road Wayfinding Signage Only	Washington Lane to Meetinghouse Road	PennDOT	1,749	Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
						SUBTOTAL					
2F		Jenkintown Road Wayfinding Signage Only	Meetinghouse Road to Township Line Road	PennDOT	5,595	Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
						SUBTOTAL					
3A		Edgerton Ave/Durmout Ave/Houston Ave Use Full Lane Markings	Mt Carmel Ave to Penbryn Park	Township	1,817	Pavement Markings (Use Full Lane)	16	EA	\$300	\$4,800	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways
						SUBTOTAL					

ESTIMATE OF PROBABLE DEVELOPMENT COSTS

Segment ID	Priority	Road Name	Description	Roadway Ownership	Length (LF)	Proposed Improvements	QTY	UNIT	UNIT COST	TOTAL		
3B		Edge Hill Road Use Full Lane Markings	Penbryn Park to Jenkintown Road	PennDOT	1,153	Pavement Markings (Use Full Lane)	16	EA	\$300	\$4,800	Bikes may use full lane striping (250-foot spacing)	
						Signage: W16-1 Use Full Lane	2	EA	\$80	\$160	Post mounted, supplement to sharrow as needed	
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions	
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments	
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways	
						SUBTOTAL					\$5,490	
						3C		Jackson Road/Ardley Cemetery Shared Use Path and Use Full Lane Markings	Jenkintown Road to Susquehanna Road	Township / Private	6,334	10' Asphalt Trail
Pavement Markings (Use Full Lane)	22	EA	\$300	\$6,600	Bikes may use full lane striping (250-foot spacing)							
Signage: W16-1 Use Full Lane	4	EA	\$200	\$800	Post mounted, supplement to sharrow as needed							
Signage: Wayfinding (Confirmation Signs)	6	EA	\$200	\$1,200	Post mounted, every 1300-2600 feet along staight segments							
Signage: Wayfinding (Turn Signs)	6	EA	\$200	\$1,200	Post mounted where route turns from one street onto another.							
Signage: Wayfinding (Decision Signs)	6	EA	\$200	\$1,200	Post mounted, marks junction of two bikeways							
Signage: Wayfinding (Trail Ends Sign)	2	EA	\$200	\$400	Post mounted where trail ends							
Signage: W11-1 Bicycle Crossing	0	EA	\$200	\$0	Post mounted at major intersections, both directions							
Bridge	1	EA	\$60,000	\$60,000	Approximately 30' bridge							
Bollards	4	EA	\$1,000	\$4,000								
Barrier	100	LF	\$50	\$5,000								
SUBTOTAL					\$440,400							
3D		Roslyn Park Shared Use Path	Susquehanna Road to Thomson Road	Township	1,613	Trail widening and paving (existing trail)	1,613	LF	\$75	\$120,975	Earthwork, construction, materials, drainage	
						Signage: Wayfinding (Turn Signs)	6	EA	\$200	\$1,200	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments	
						Signage: W11-1 Bicycle Crossing	2	EA	\$200	\$400	Post mounted at major intersections, both directions	
						SUBTOTAL				\$122,975		
3E		Thomson Road Use Full Lane Markings	Roslyn Park to Coolidge Ave	Township	3,166	Pavement Markings (Use Full Lane)	26	EA	\$300	\$7,800	Bikes may use full lane striping (250-foot spacing)	
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed	
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions	
						Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted every 1300-2600 feet along staight segments	
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways	
						SUBTOTAL				\$9,800		
3F		Coolidge Ave Use Full Lane Markings	Thomson Road to Rubicam Ave	Township	1,710	Pavement Markings (Use Full Lane)	16	EA	\$300	\$4,800	Bikes may use full lane striping (250-foot spacing)	
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways	
						SUBTOTAL				\$5,400		
4A		Elliott Avenue Use Full Lane Markings	North Hills Avenue to Osbourne Avenue	Township	1,584	Pavement Markings (Use Full Lane)	12	EA	\$300	\$3,600	Bikes may use full lane striping (250-foot spacing)	
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed	
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions	
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments	
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways	
						SUBTOTAL				\$4,330		
4B		Willow Hill School Shared Use Path	Osbourne Avenue to Coolidge Avenue	School District	1,345	10' Asphalt Trail	1,305	LF	\$100	\$130,500	Earthwork, construction, materials, drainage	
						Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted, every 1300-2600 feet along staight segments	
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted	
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways	
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions	
						Bollards	4	EA	\$500	\$2,000		
						SUBTOTAL				\$133,300		
4C		Rubicam Avenue/Crestmont Park Shared Use Path and Use Full Lane Markings	Coolidge Avenue to Washington Avenue	Township	4,477	Pavement Markings (Use Full Lane)	32	EA	\$300	\$9,600	Bikes may use full lane striping (250-foot spacing)	
						10' Asphalt Trail	300	LF	\$100	\$30,000	Earthwork, construction, materials, drainage	
						New Culvert	1	EA	\$150,000	\$150,000		
						Bollards	4	EA	\$1,000	\$4,000		
						Intersection Improvements to Easton Road	1	EA	\$25,000	\$25,000	Pavement Markings and refuge islands	
						Signage: W16-1 Use Full Lane	10	EA	\$200	\$2,000	Post mounted, supplement to sharrow as needed	
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments	
						Signage: Wayfinding (Turn Signs)	3	EA	\$200	\$600	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Trail Ends Sign)	2	EA	\$200	\$400	Post mounted where trail ends	
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways	
						SUBTOTAL				\$222,400		

ESTIMATE OF PROBABLE DEVELOPMENT COSTS

Segment ID	Priority	Road Name	Description	Roadway Ownership	Length (LF)	Proposed Improvements	QTY	UNIT	UNIT COST	TOTAL	
8C		Meadowbrook Road Wayfinding Signage Only	Shoemaker Road to Valley Road	Township	6,657	Signage: Wayfinding (Confirmation Signs)	6	EA	\$200	\$1,200	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	3	EA	\$200	\$600	Post mounted, marks junction of two bikeways
						Subtotal				\$1,800	
9A		Grovania Ave Use Full Lane Markings	Susquehanna Road to Briar Bush Nature Center	Township	1,171	Pavement Markings (Use Full Lane)	8	EA	\$300	\$2,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways
Subtotal				\$3,000							
9B		Briar Bush Nature Center Shared Use Path	Grovania Ave to Grovania Ave	Briar Bush Nature Center	768	10' Asphalt Trail	768	LF	\$100	\$76,800	Earthwork, construction, materials, drainage
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Bollards	4	EA	\$500	\$2,000	
Subtotal				\$79,600							
9C		Grovania Ave Use Full Lane Markings	BB Nature Center to Rockwell Road	Township	3,115	Pavement Markings (Use Full Lane)	24	EA	\$300	\$7,200	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	3	EA	\$200	\$600	Post mounted, marks junction of two bikeways
Subtotal				\$8,200							
9D		Keith Road Use Full Lane Markings	Grovania Ave to Highland Ave	Township	2,274	Pavement Markings (Use Full Lane)	18	EA	\$300	\$5,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	4	EA	\$165	\$660	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
Subtotal				\$7,260							
9E		Keith Road/Brentwood Road Use Full Lane Markings	Highland Ave to Huntingdon Road	Township	2,176	Pavement Markings (Use Full Lane)	18	EA	\$300	\$5,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	4	EA	\$200	\$800	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
Subtotal				\$7,730							
9F		Huntingdon Road Use Full Lane Markings	Brentwood Road to Old York Road	Township	3,982	Pavement Markings (Use Full Lane)	32	EA	\$300	\$9,600	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	4	EA	\$80	\$320	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
Subtotal				\$11,120							
10A		Abington Athletic Fields Shared Use Path	Huntingdon Road to Cloverly Lane	Township?	714	10' Asphalt Trail	715	LF	\$100	\$71,500	Earthwork, construction, materials, drainage
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Bollards	4	EA	\$500	\$2,000	
Subtotal				\$74,300							
10B		Cloverly Lane Use Full Lane Markings	Athletic Fields to Valley Road	Township	3,484	Pavement Markings (Use Full Lane)	28	EA	\$300	\$8,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	4	EA	\$80	\$320	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
Subtotal				\$9,520							

ESTIMATE OF PROBABLE DEVELOPMENT COSTS

Segment ID	Priority	Road Name	Description	Roadway Ownership	Length (LF)	Proposed Improvements	QTY	UNIT	UNIT COST	TOTAL	
8C		Meadowbrook Road Wayfinding Signage Only	Shoemaker Road to Valley Road	Township	6,657	Signage: Wayfinding (Confirmation Signs)	6	EA	\$200	\$1,200	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	3	EA	\$200	\$600	Post mounted, marks junction of two bikeways
						SUBTOTAL				\$1,800	
9A		Grovania Ave Use Full Lane Markings	Susquehanna Road to Briar Bush Nature Center	Township	1,171	Pavement Markings (Use Full Lane)	8	EA	\$300	\$2,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways
SUBTOTAL				\$3,000							
9B		Briar Bush Nature Center Shared Use Path	Grovania Ave to Grovania Ave	Briar Bush Nature Center	768	10' Asphalt Trail	768	LF	\$100	\$76,800	Earthwork, construction, materials, drainage
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Bollards	4	EA	\$500	\$2,000	
SUBTOTAL				\$79,600							
9C		Grovania Ave Use Full Lane Markings	BB Nature Center to Rockwell Road	Township	3,115	Pavement Markings (Use Full Lane)	24	EA	\$300	\$7,200	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	3	EA	\$200	\$600	Post mounted, marks junction of two bikeways
SUBTOTAL				\$8,200							
9D		Keith Road Use Full Lane Markings	Grovania Ave to Highland Ave	Township	2,274	Pavement Markings (Use Full Lane)	18	EA	\$300	\$5,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	4	EA	\$165	\$660	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
SUBTOTAL				\$7,260							
9E		Keith Road/Brentwood Road Use Full Lane Markings	Highland Ave to Huntingdon Road	Township	2,176	Pavement Markings (Use Full Lane)	18	EA	\$300	\$5,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	4	EA	\$200	\$800	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
SUBTOTAL				\$7,730							
9F		Huntingdon Road Use Full Lane Markings	Brentwood Road to Old York Road	Township	3,982	Pavement Markings (Use Full Lane)	32	EA	\$300	\$9,600	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	4	EA	\$80	\$320	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
SUBTOTAL				\$11,120							
10A		Abington Athletic Fields Shared Use Path	Huntingdon Road to Cloverly Lane	Township?	714	10' Asphalt Trail	715	LF	\$100	\$71,500	Earthwork, construction, materials, drainage
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Bollards	4	EA	\$500	\$2,000	
SUBTOTAL				\$74,300							
10B		Cloverly Lane Use Full Lane Markings	Athletic Fields to Valley Road	Township	3,484	Pavement Markings (Use Full Lane)	28	EA	\$300	\$8,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	4	EA	\$80	\$320	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
SUBTOTAL				\$9,520							

ESTIMATE OF PROBABLE DEVELOPMENT COSTS

Segment ID	Priority	Road Name	Description	Roadway Ownership	Length (LF)	Proposed Improvements	QTY	UNIT	UNIT COST	TOTAL	
10C		Rydal Road/Amity Road/Woodland Road Use Full Lane Markings	Cloverly Lane to Athletic Fields	Township	7,939	Pavement Markings (Use Full Lane)	64	EA	\$300	\$19,200	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	8	EA	\$80	\$640	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	6	EA	\$200	\$1,200	Post mounted every 1300-2600 feet along straight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
						SUBTOTAL					
10D		Woodland Road Use Full Lane Markings	Cloverly Lane to Huntingdon Road	Township	771	Pavement Markings (Use Full Lane)	6	EA	\$300	\$1,800	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	2	EA	\$80	\$160	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along straight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
						SUBTOTAL					
10E		Hampton Road Use Full Lane Markings	Amity Road to Meadowbrook Road	Township	2,596	Pavement Markings (Use Full Lane)	20	EA	\$300	\$6,000	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	2	EA	\$80	\$160	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along straight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
						SUBTOTAL					
11A		Kelly Lane Use Full Lane Markings	Ardsley Ave to Edgcomb Ave	Township	777	Pavement Markings (Use Full Lane)	6	EA	\$300	\$1,800	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along straight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways
						SUBTOTAL					
12A		Keswick Avenue/Weldon Avenue Use Full Lane Markings	Tyson Avenue to Abington Avenue	Township	3,992	Pavement Markings (Use Full Lane)	28	EA	\$300	\$8,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	4	EA	\$80	\$320	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along straight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
						SUBTOTAL					
12B		Wharton Road Use Full Lane Markings	Abington Avenue to Baeder Road	Township	2,224	Pavement Markings (Use Full Lane)	18	EA	\$300	\$5,400	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along straight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
						SUBTOTAL					
12C		Baeder Road Use Full Lane Markings	Wharton Ave to The Fairway	Township	5,008	Pavement Markings (Use Full Lane)	40	EA	\$300	\$12,000	Bikes may use full lane striping (250-foot spacing)
						Signage: W16-1 Use Full Lane	4	EA	\$80	\$320	Post mounted, supplement to sharrow as needed
						Signage: W11-1 Bicycle Crossing	4	EA	\$165	\$660	Post mounted at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted every 1300-2600 feet along straight segments
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
						SUBTOTAL					
12D		The Fairway	Old York Road 611 to Susquehanna Road	Township	4,182	4" White Epoxy Pavement Markings	8,364	LF	\$1.20	\$10,037	
						Hot Thermoplastic Paint Legend, Bicycle w/ Arrow	44	EA	\$275	\$12,100	
						Signage: R3-17 Bike Lane	8	EA	\$80	\$640	Post mounted, supplement to pavement markings as needed
						Signage: W11-1 Bicycle Crossing	4	EA	\$165	\$660	Post mounted, at major intersections, both directions
						Signage: Wayfinding (Confirmation Signs)	6	EA	\$200	\$1,200	Post mounted, every 1300-2600 feet along straight segments
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways
SUBTOTAL								\$25,037			

ESTIMATE OF PROBABLE DEVELOPMENT COSTS

Segment ID	Priority	Road Name	Description	Roadway Ownership	Length (LF)	Proposed Improvements	QTY	UNIT	UNIT COST	TOTAL		
13A		Keswick Ave Use Full Lane Markings	Mt Carmel Avenue to Abington Avenue	Township	1,327	Pavement Markings (Use Full Lane)	10	EA	\$300	\$3,000	Bikes may use full lane striping (250-foot spacing)	
						Signage: W16-1 Use Full Lane	2	EA	\$80	\$160	Post mounted, supplement to sharrow as needed	
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions	
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments	
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways	
						SUBTOTAL					\$3,890	
						13B		Abington Ave Use Full Lane Markings	Keswick Avenue to Ghost Road	Township	4,320	Pavement Markings (Use Full Lane)
Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed							
Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions							
Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted every 1300-2600 feet along staight segments							
Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.							
Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways							
SUBTOTAL					\$12,530							
13C		Ghost Road Use Full Lane Markings	Abington Avenue to Highland Avenue	Township	1,423	Pavement Markings (Use Full Lane)	12	EA	\$300	\$3,600	Bikes may use full lane striping (250-foot spacing)	
						Signage: W16-1 Use Full Lane	2	EA	\$80	\$160	Post mounted, supplement to sharrow as needed	
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions	
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments	
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways	
						SUBTOTAL					\$4,560	
13D		Highland Ave / Canterbury Rd / Runningbrook Rd Shared Use Path and Use Full Lane Markings	Ghost Road to Harte Road	Township	1,867	10' Asphalt Trail	850	LF	\$100	\$85,000	Earthwork, construction, materials, drainage	
						Bollards	0	EA	\$500	\$0		
						Pavement Markings (Use Full Lane)	6	EA	\$300	\$1,800	Bikes may use full lane striping (250-foot spacing)	
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed	
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions	
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments	
						Signage: Wayfinding (Turn Signs)	4	EA	\$200	\$800	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways	
						SUBTOTAL					\$2,930	
						13E		Harte Road Use Full Lane Markings	Runningbrook Road to Old York Road	Township	1,830	Pavement Markings (Use Full Lane)
Signage: W16-1 Use Full Lane	2	EA	\$80	\$160	Post mounted, supplement to sharrow as needed							
Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions							
Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments							
Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.							
Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways							
SUBTOTAL					\$5,290							
14A		Newbold Road / Vernon Road Use Full Lane Markings	Washington Lane to Rodman Avenue	Borough	7,154	Pavement Markings (Use Full Lane)	56	EA	\$300	\$16,800	Bikes may use full lane striping (250-foot spacing)	
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed	
						Signage: W11-1 Bicycle Crossing	8	EA	\$165	\$1,320	Post mounted at major intersections, both directions	
						Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted every 1300-2600 feet along staight segments	
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways	
						SUBTOTAL					\$19,720	
						14B		Greenwood Avenue/Washington Lane Shared Use Path (Extension of Existing Path)	Newbold Road to Jenkintown Road	PennDOT/Township	1,920	10' Asphalt Trail
Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments							
Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.							
Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways							
Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions							
Bollards	4	EA	\$500	\$2,000								
SUBTOTAL					\$118,200							
14C		Greenwood Avenue Separated Bike Lanes Convert Greenwood Avenue to One-Way NB	Jenkintown Road to Meetinghouse Road	Township	777	4" White Epoxy Pavement Markings	4,000	LF	\$1.20	\$4,800	Gore markings	
						Hot Thermoplastic Paint Legend, Bicycle w/ Arrow	6	EA	\$275	\$1,650		
						Tubular Delineator	39	EA	\$25	\$975	20-foot spacing	
						Signage R5-1 Do Not Enter	3	EA	\$100	\$300		
						Signage: R6-1 One-Way	4	EA	\$100	\$400		
						Signage: Special - "Except Bicycles"	3	EA	\$100	\$300		
						Signage: R3-17 Bike Lane	2	EA	\$100	\$200	Post mounted, supplement to pavement markings as needed	
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted, at major intersections, both directions	
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments	
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.	
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways	
						SUBTOTAL					\$9,355	

ESTIMATE OF PROBABLE DEVELOPMENT COSTS

Segment ID	Priority	Road Name	Description	Roadway Ownership	Length (LF)	Proposed Improvements	QTY	UNIT	UNIT COST	TOTAL							
14D		Alverthorpe Park Perimeter Trail Shared Use Path	Meetinghouse Road to Fox Chase Road	Township	2,233	10' Asphalt Trail	2,233	LF	\$100	\$223,300	Earthwork, construction, materials, drainage						
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments						
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.						
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways						
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions						
						Bollards	4	EA	\$500	\$2,000							
						Subtotal								\$226,100			
14E		Manor College Trail Extension Shared Use Path	Seminole Road to McKinley School	Private	1,315	10' Asphalt Trail	1,315	LF	\$100	\$131,500	Earthwork, construction, materials, drainage						
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments						
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.						
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways						
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions						
						Bollards	4	EA	\$500	\$2,000							
						Subtotal								\$133,900			
15A		Abington High School Trail Shared Use Path	Ghost Road to Jericho Road and extension to Easton Road	School District	6,487	10' Asphalt Trail	6,487	LF	\$100	\$648,700	Earthwork, construction, materials, drainage						
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments						
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.						
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways						
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions						
						Bollards	6	EA	\$500	\$3,000							
						Subtotal								\$652,500			
15B		Jericho Road Use Full Lane Markings	Susquehanna Road to Keith Road	Township	2,535	Pavement Markings (Use Full Lane)	20	EA	\$300	\$6,000	Bikes may use full lane striping (250-foot spacing)						
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed						
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions						
						Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted every 1300-2600 feet along staight segments						
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.						
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways						
						Subtotal								\$7,330			
16A		Mill Road Bike Lanes	Valley Road to Moredon Road	Township	1,935	Asphalt shoulder modifications	19,300	SY	\$17	\$328,100							
						4" White Epoxy Pavement Markings	3,860	LF	\$1.20	\$4,632							
						Hot Thermoplastic Paint Legend, Bicycle w/ Arrow	18	EA	\$275	\$4,950							
						Signage: R3-17 Bike Lane	4	EA	\$80	\$320	Post mounted, supplement to pavement markings as needed						
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted, at major intersections, both directions						
						Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted, every 1300-2600 feet along staight segments						
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.						
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways						
						Subtotal								\$339,202			
						16B		Moredon Road Use Full Lane Markings	Mill Road to Huntingdon Pike	Township	2,589	Pavement Markings (Use Full Lane)	20	EA	\$300	\$6,000	Bikes may use full lane striping (250-foot spacing)
												Signage: W16-1 Use Full Lane	4	EA	\$80	\$320	Post mounted, supplement to sharrow as needed
Signage: W11-1 Bicycle Crossing	4	EA	\$165	\$660	Post mounted at major intersections, both directions												
Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments												
Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.												
Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways												
Subtotal														\$7,780			
16C		Huntingdon Pike Shared Use Path	Moredon Road to Holy Redeemer Hospital	PennDOT	1,135	10' Asphalt Trail	1,135	LF	\$100	\$113,500	Earthwork, construction, materials, drainage						
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments						
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.						
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways						
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions						
						Bollards	4	EA	\$500	\$2,000							
						Subtotal								\$116,300			
16D		Huntingdon Pike Shared Use Path	Holy Redeemer Hospital to Old Huntingdon Pike	PennDOT	1,262	10' Asphalt Trail	1,262	LF	\$100	\$126,200	Earthwork, construction, materials, drainage						
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments						
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.						
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways						
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions						
						Bollards	4	EA	\$500	\$2,000							
						Subtotal								\$129,000			

ESTIMATE OF PROBABLE DEVELOPMENT COSTS

Segment ID	Priority	Road Name	Description	Roadway Ownership	Length (LF)	Proposed Improvements	QTY	UNIT	UNIT COST	TOTAL						
16E		Old Huntingdon Pike Use Full Lane Markings	Huntingdon Pike to Pennypack Trail	Township	2,488	Pavement Markings (Use Full Lane)	20	EA	\$300	\$6,000	Bikes may use full lane striping (250-foot spacing)					
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrow as needed					
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions					
						Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted every 1300-2600 feet along straight segments					
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways					
						Subtotal									\$7,530	
17A		West Avenue Use Full Lane Markings	Jenkintown/Wyncote Station to Newbold Road	Borough	4,698	Pavement Markings (Use Full Lane)	38	EA	\$300	\$11,400	Bikes may use full lane striping (250-foot spacing)					
						Signage: W16-1 Use Full Lane	4	EA	\$80	\$320	Post mounted, supplement to sharrow as needed					
						Signage: W11-1 Bicycle Crossing	4	EA	\$165	\$660	Post mounted at major intersections, both directions					
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along straight segments					
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways					
						Subtotal									\$12,780	
17B		Cedar Street/Greenwood Avenue Use Full Lane Markings	West Avenue to Washington Lane	Borough	1,871	Pavement Markings (Use Full Lane)	16	EA	\$300	\$4,800	Bikes may use full lane striping (250-foot spacing)					
						Signage: W16-1 Use Full Lane	2	EA	\$80	\$160	Post mounted, supplement to sharrow as needed					
						Signage: W11-1 Bicycle Crossing	2	EA	\$165	\$330	Post mounted at major intersections, both directions					
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along straight segments					
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways					
						Subtotal									\$5,890	
18A		Sisters of Holy Redeemer Shared Use Path	Moredon Road to Pennypack Trail	Private	3,547	10' Asphalt Trail	3,547	LF	\$100	\$354,700	Earthwork, construction, materials, drainage					
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along straight segments					
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways					
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions					
						Bollards	4	EA	\$500	\$2,000						
						Subtotal									\$357,500	
19A		Forrest Ave Bike Lanes	Jenkintown Road to Fox Chase Road	Township	3,066	Asphalt shoulder modifications	0	SY	\$17	\$0						
						4" White Epoxy Pavement Markings	6,132	LF	\$1.20	\$7,358						
						Hot Thermoplastic Paint Legend, Bicycle w/ Arrow	30	EA	\$275	\$8,250						
						Signage: R3-17 Bike Lane	4	EA	\$80	\$320	Post mounted, supplement to pavement markings as needed					
						Signage: W11-1 Bicycle Crossing	4	EA	\$165	\$660	Post mounted, at major intersections, both directions					
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted, every 1300-2600 feet along straight segments					
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways					
						Subtotal									\$17,788	
						19B		Forrest Ave/Crosswicks Road Use Full Lane Markings	Fox Chase Road to Meetinghouse Road	Township	7,674	Pavement Markings (Use Full Lane)	62	EA	\$300	\$18,600
Signage: W16-1 Use Full Lane	8	EA	\$80	\$640	Post mounted, supplement to sharrow as needed											
Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions											
Signage: Wayfinding (Confirmation Signs)	6	EA	\$200	\$1,200	Post mounted every 1300-2600 feet along straight segments											
Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.											
Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways											
Subtotal															\$20,840	
19C		Meetinghouse Road Wayfinding Signage Only	Fox Chase Road to Jenkintown Road	Township	1,585	Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted, every 1300-2600 feet along straight segments					
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways					
						Subtotal								\$800		
20A		Meadowbrook Golf Course Shared Use Path	Deer Run to Township Boundary	Private	3,495	10' Asphalt Trail	6,990	LF	\$100	\$699,000	Earthwork, construction, materials, drainage					
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along straight segments					
						Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	4	EA	\$200	\$800	Post mounted, marks junction of two bikeways					
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions					
						Bollards	4	EA	\$500	\$2,000						
						Subtotal									\$701,800	

ESTIMATE OF PROBABLE DEVELOPMENT COSTS

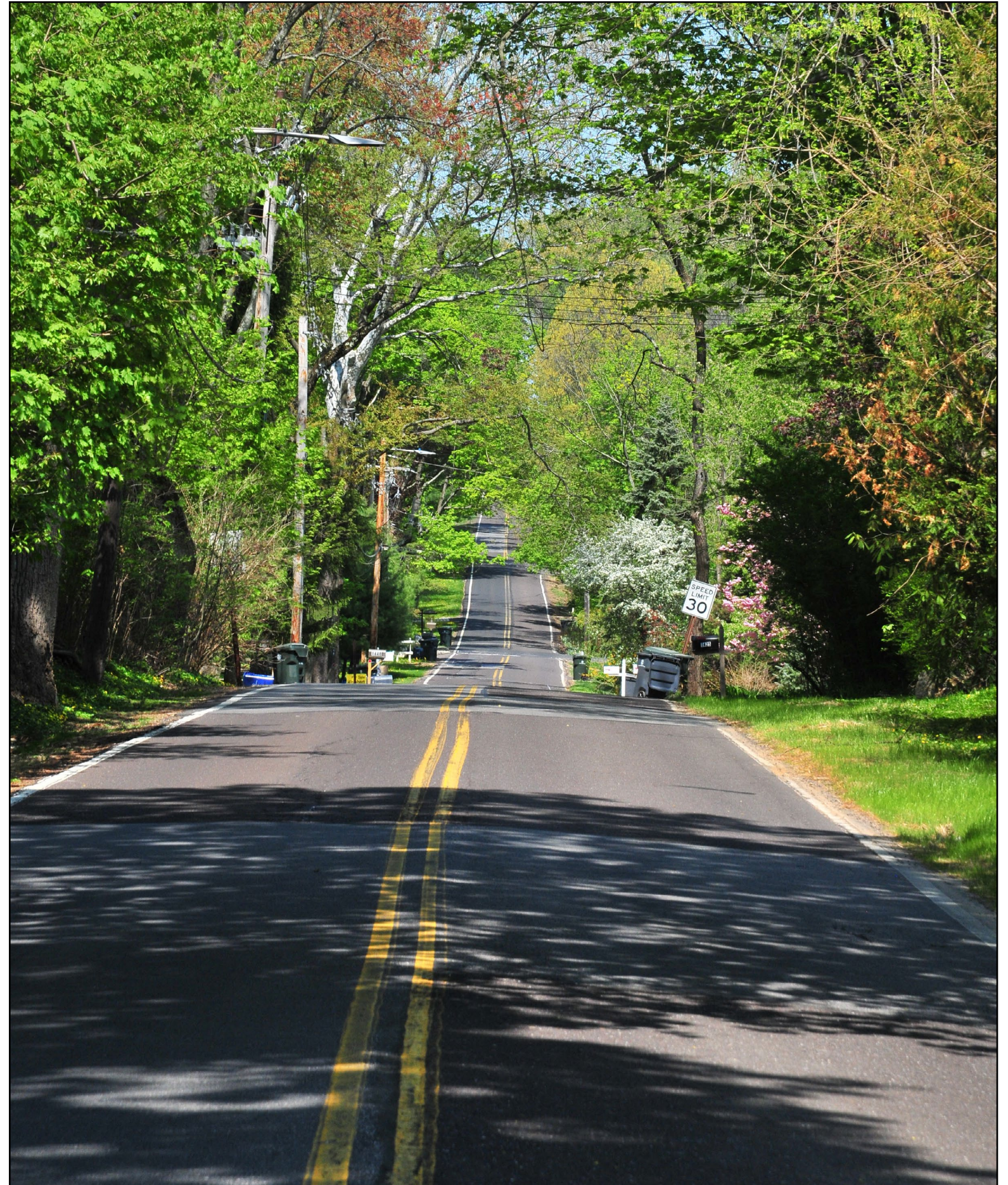
Segment ID	Priority	Road Name	Description	Roadway Ownership	Length (LF)	Proposed Improvements	QTY	UNIT	UNIT COST	TOTAL						
21A	Long-term Priority	Pembroke Road/Poitiers School Shared Use Path and Use Full Lane Markings	Forrest Ave to Susquehanna Road	Township	2,544	Pavement Markings (Use Full Lane)	10	EA	\$300	\$3,000	Bikes may use full lane striping (250-foot spacing)					
						Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrows as needed					
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions					
						Signage: Wayfinding (Confirmation Signs)	2	EA	\$200	\$400	Post mounted every 1300-2600 feet along staight segments					
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways					
						10' Asphalt Trail	1,200	LF	\$100	\$120,000	Earthwork, construction, materials, drainage					
						Bollards	4	EA	\$500	\$2,000						
SUBTOTAL									\$126,000							
21B	Long-term Priority	Dale Road/Mill Road Use Full Lane Markings	Meetinghouse Road to Moredon Road	Township	2,730	Pavement Markings (Use Full Lane)	22	EA	\$300	\$6,600	Bikes may use full lane striping (250-foot spacing)					
						Signage: W16-1 Use Full Lane	2	EA	\$80	\$160	Post mounted, supplement to sharrows as needed					
						Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions					
						Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments					
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways					
						SUBTOTAL									\$7,160	
						23A	Short-term Priority	Cedar Road Wayfinding Signage Only	Jenkintown Road to Fox Chase Road	PennDOT	4,652	Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800
Signage: Wayfinding (Turn Signs)	0	EA	\$200	\$0	Post mounted where route turns from one street onto another.											
Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways											
SUBTOTAL												\$800				
23B	Short-term Priority	Cedar Road/Rockledge Ave Use Full Lane Markings	Fox Chase Road to Sherman Ave	PennDOT/Township	4,565	Pavement Markings (Use Full Lane)	36	EA	\$300	\$10,800	Bikes may use full lane striping (250-foot spacing)					
						Signage: W16-1 Use Full Lane	4	EA	\$80	\$320	Post mounted, supplement to sharrows as needed					
						Signage: W11-1 Bicycle Crossing	4	EA	\$165	\$660	Post mounted at major intersections, both directions					
						Signage: Wayfinding (Confirmation Signs)	4	EA	\$200	\$800	Post mounted every 1300-2600 feet along staight segments					
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways					
						SUBTOTAL									\$12,980	
						23C	Short-term Priority	Sherman Avenue/Mankin Avenue Use Full Lane Markings	Rockledge Ave to Pennypack Trail	Township	1,610	Pavement Markings (Use Full Lane)	14	EA	\$300	\$4,200
Signage: W16-1 Use Full Lane	0	EA	\$80	\$0	Post mounted, supplement to sharrows as needed											
Signage: W11-1 Bicycle Crossing	0	EA	\$165	\$0	Post mounted at major intersections, both directions											
Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted every 1300-2600 feet along staight segments											
Signage: Wayfinding (Turn Signs)	4	EA	\$200	\$800	Post mounted where route turns from one street onto another.											
Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways											
SUBTOTAL												\$5,000				
24A	Long-term Priority	Shelmire Street Wayfinding Signage Only	Cedar Road to Church Road	Township	4,344							Signage: Wayfinding (Confirmation Signs)	6	EA	\$200	\$1,200
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	2	EA	\$200	\$400	Post mounted, marks junction of two bikeways					
						SUBTOTAL									\$2,000	
24B	Long-term Priority	Church Road Wayfinding Signage Only	Shelmire Street to Township Line Road	Township	1,299	Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments					
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	1	EA	\$200	\$200	Post mounted, marks junction of two bikeways					
						SUBTOTAL									\$600	
24C	Long-term Priority	Shelmire Street Wayfinding Signage Only	Shelmire Street to Township Line	Township	686	Signage: Wayfinding (Confirmation Signs)	0	EA	\$200	\$0	Post mounted, every 1300-2600 feet along staight segments					
						Signage: Wayfinding (Turn Signs)	2	EA	\$200	\$400	Post mounted where route turns from one street onto another.					
						Signage: Wayfinding (Decision Signs)	0	EA	\$200	\$0	Post mounted, marks junction of two bikeways					
						SUBTOTAL									\$400	

Key

	Short-term Priority
	Mid-term Priority
	Long-term Priority

Subtotal	\$4,422,345.20
Contingency (20%)	\$884,469.04
Design & Engineering (20%)	\$884,469.04
TOTAL	\$6,191,283.28

This page intentionally left blank.





Potential Funding Sources

While many of the bicycle routes proposed in this plan can be implemented as part of the Abington Township Public Works repaving program, it is not expected that funding all of these improvements will be the sole responsibility of the Township. There are multiple funding sources that provide grants for development projects like those identified in this plan. Examples of such sources are as follows.

Pennsylvania Department of Conservation and Natural Resources (PA DCNR) - Community Conservation Partnership Program (C2P2)

The Community Recreation and Conservation Program through the PA DCNR Community Conservation Partnership Program (C2P2) provides funding to municipalities and authorized nonprofit organizations for recreation, park, trail and conservation projects. These include planning for feasibility studies, trail studies, conservation plans, master site development plans, and comprehensive recreation park and open space and greenway plans; land acquisition for active or passive parks, trails and conservation purposes; and new development and rehabilitation of parks, trails, and recreation facilities. Most of these projects require a 50% match, which can include a combination of cash and/or non-cash values.

The Pennsylvania Recreational Trails Program, also through the C2P2 Program, awards grants to federal and state agencies, local governments, non-profit and for-profit organizations to assist with the construction, renovation and maintenance of trails and related facilities for both motorized and non-motorized recreational trail use, the purchase or lease of equipment for trail maintenance and construction and the development of educational materials and programs. These grants require a minimum 20% match, which can include a combination of cash and/or non-cash values.

Grant applications for the C2P2 program are accepted annually—usually in April. More information on this program can be found at the DCNR website: <http://www.dcnr.state.pa.us/brc/grants/indexgrantsinstruct.aspx>

Transportation Alternatives Program (TAP)

The Transportation Alternatives Program (TAP) is a Federal highway and transit funds set-aside under the Surface Transportation Program (STP) for community-based “non-traditional” projects designed to strengthen the cultural, aesthetic, and environmental aspects of the nation’s intermodal transportation system. The Transportation Enhancements (TE) funding category, which has historically funded many pedestrian and bicycle supportive projects such as streetscape improvements, was originally established by Congress in 1991 under the IS-TEA transportation authorization legislation, and was most recently affirmed as TAP under the Moving Ahead for Progress in the 21st Century Act (MAP-21).

The program seeks to provide funding for projects such as construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation. Non-motorized forms of transportation include sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990. For more information on the PA Transportation Alternative Program, visit the DVRPC website at <http://www.dvrpc.org/TA/>

Delaware Valley Regional Planning Commission (DVRPC)

The DVRPC Regional Trails program with funding from the William Penn Foundation aims to capitalize upon opportunities for trail development by providing funding for targeted, priority trail design, construction, and planning projects that will promote a truly connected, regional network of multi-use trails with Philadelphia and Camden as its hub. Previous grants administered through this program required a 20% match. For information contact the DVRPC grant administrator or visit the program’s website at: <http://www.dvrpc.org/RegionalTrailsProgram/>

Commonwealth Financing Agency (CFA) - Greenways, Trails and Recreation Program (GTRP)

Administered through the PA Department of Community and Economic Development (DCED), the Greenways, Trails and Recreation Program (GTRP) provides funding for planning, acquisition, development,



rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects. The program awards up to \$250,000 per project to eligible applicants and required a local match of 15% of the total project cost. Additional information on the Greenways, Trails, and Recreation Program can be found at <http://www.newpa.com/find-and-apply-for-funding/funding-and-program-finder/greenways-trails-and-recreation-program-gtrp>

Commonwealth Financing Agency (CFA) – Multimodal Transportation Fund

The Multimodal Transportation Fund provides grants to encourage economic development and ensure that a safe and reliable system of transportation is available to the residents of the Commonwealth. Funds may be used for the development, rehabilitation and enhancement of transportation assets to existing communities, streetscape, lighting, sidewalk enhancement, pedestrian safety, connectivity of transportation assets and transit-oriented development. Grants are available for projects with a total cost of \$100,000 or more and grants shall not exceed \$3,000,000 for any project. For more information please visit <http://www.newpa.com/find-and-apply-for-funding/funding-and-program-finder/multimodal-transportation-fund>

PennDOT Multimodal Fund

PennDOT's multimodal program seeks to improve freight and passenger mobility options, maximize benefits of capital investment in all modes of transportation, promote safety on all modes of transportation, use transportation improvements to spur economic development, and improve the effectiveness and efficiency of the transportation network. Projects eligible for funding include:

- projects related to streetscape, sidewalk enhancement, pedestrian safety
- transit oriented development projects
- projects related to connectivity improvements

- projects that coordinate local land use with transportation assets to enhance existing communities

The PennDOT Multimodal fund is separate from the Multimodal Transportation Fund administered by the Pennsylvania DCED. A local match of at least 30% of the non-federal project costs is required. While the deadline for 2014 applications has passed, upcoming deadlines and more information on the program can be found at <http://www.dot.state.pa.us/internet/web.nsf/Multimodal?OpenFrameSet>

The PennDOT Multimodal fund is separate from the Multimodal Transportation Fund administered by the Pennsylvania DCED.

Safe Routes To School (SRTS)

Administered through PennDOT, Pennsylvania's Safe Routes to School (SRTS) program makes federal-aid highway funds available to school districts, schools, municipalities, county government, and planning partners to address infrastructure projects that provide safer walking and bicycling routes. These funds are intended to benefit elementary and middle school children in kindergarten through the eighth grade.

SRTS funding is only available to municipalities, school districts, individual schools county government, and planning partners. Funding may only be used for infrastructure projects that physically exist within the public right-of-way.

Eligible projects include the planning, design, and construction of infrastructure-related projects that will substantially improve the ability of students to walk and bicycle to school, including:

- sidewalk improvements
- traffic calming and speed reduction improvements
- pedestrian and bicycle crossing improvements
- on-street bicycle facilities
- off-street bicycle and pedestrian facilities
- secure bicycle parking facilities
- traffic diversion improvements in the vicinity of schools



While the next round of SRTS funding in Pennsylvania has not yet been determined, Abington should develop strong partnerships with Abington School District and other private schools in the Township to seek future SRTS funding when available. For more information on the PA SRTS program, please visit <http://www.saferoutespa.org/Funding/Infrastructure-Funding/>

PennVEST (Pennsylvania Infrastructure Investment Authority)

PennVEST offers both grants and low interest loans for projects that help to manage stormwater and improve water quality. Several of the proposed bike routes may be of interest to PennVEST since they may include stormwater infiltration areas / BMPs (Best Management Practices) for stormwater and water quality enhancements .

Local Schools and Institutions

Local schools and institutions could also be potential funding sources. Trails or bicycle routes on or near school property, trails that improve transportation alternatives for students, or trails that provide a recreational amenity to the institution could be targets for this kind of funding. It is also possible that trails could be incorporated in various educational programs. Partnerships with local schools and institutions such as the Abington School District, Penn State Abington, Manor College, and other private institutions in the Township could also result in funding opportunities for trail maintenance or cleanup as part of an educational program or volunteer groups. While the amounts of funds raised from these sources may be relatively small, these partnerships are valuable and their support that is important to the long-term success of the trails.





Township of
ABINGTON
Master Bicycle Plan

APPENDIX CONTENTS

- Committee Meetings
- Focus Groups
- Memos
- Planning Documents
- Public Meetings

5

Appendix





Prepared by:

