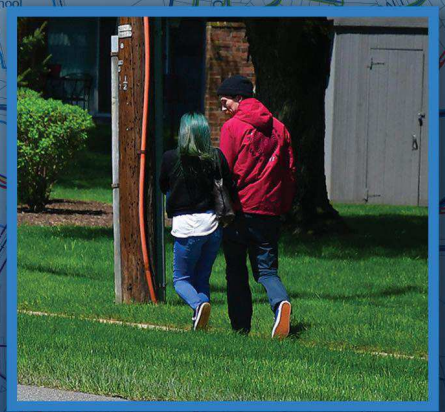
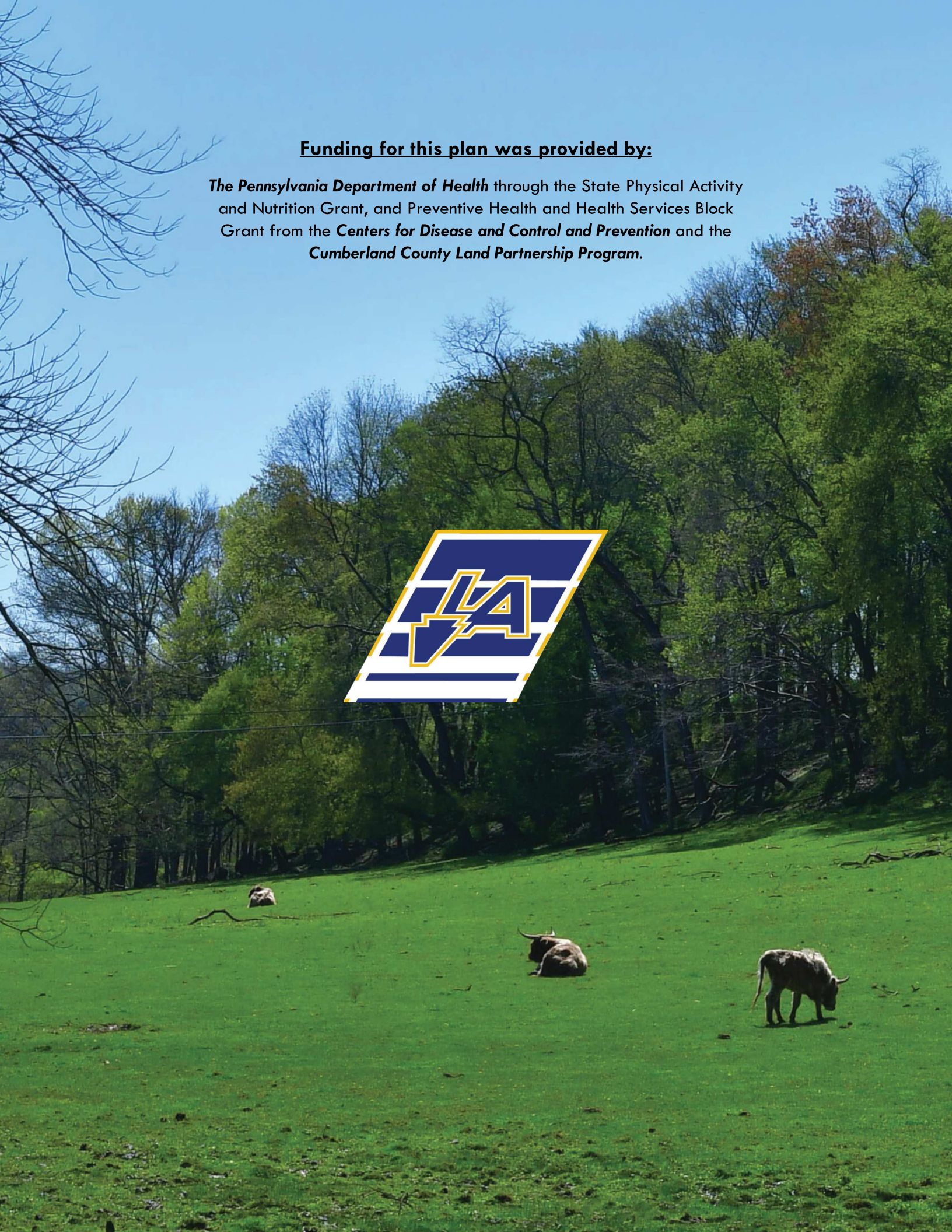
Pedestrian / Bicycle Study

Lower Allen Township



August 2019



Funding for this plan was provided by:

The Pennsylvania Department of Health through the State Physical Activity and Nutrition Grant, and Preventive Health and Health Services Block Grant from the ***Centers for Disease and Control and Prevention*** and the ***Cumberland County Land Partnership Program.***

Chapter 1: Introduction

Chapter 2: Inventory & Analysis

Chapter 3: Recommendations

Chapter 4: Implementation

Chapter 5: Appendix

SIMONE LANDSCAPE ARCHITECTURE COLLINS

SC# 19004.

1

INTRODUCTION

Plan Goal and Objectives

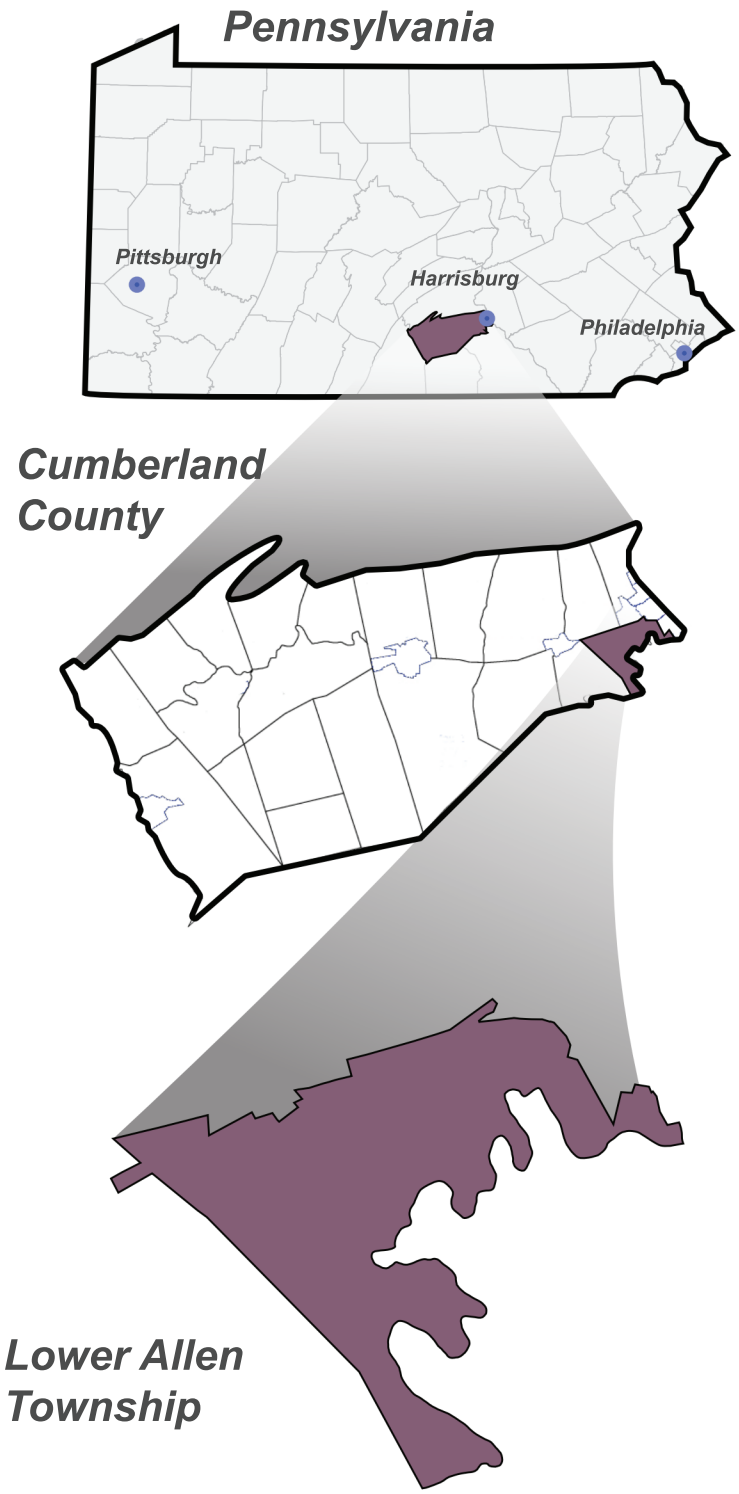
Goal

Maintain and enhance a healthy, connected, and prosperous community in Lower Allen Township through sensible improvements to pedestrian and bicycle infrastructure.

Objectives

- Provide information on the value of connected, walkable, and bikeable communities that create health and economic benefits as well as enhanced quality of life.
- Identify high priority sidewalk, trail and walkability improvements.
- Educate the public and key stakeholder organizations on the opportunities for, and priorities regarding improved walkability and connectivity in Lower Allen.
- Support decision-making by Township officials and staff on moving high-priority projects forward.
- Develop a planning document that can support efforts to attract and secure funding for the future implementation of proposed projects.

Project Schedule

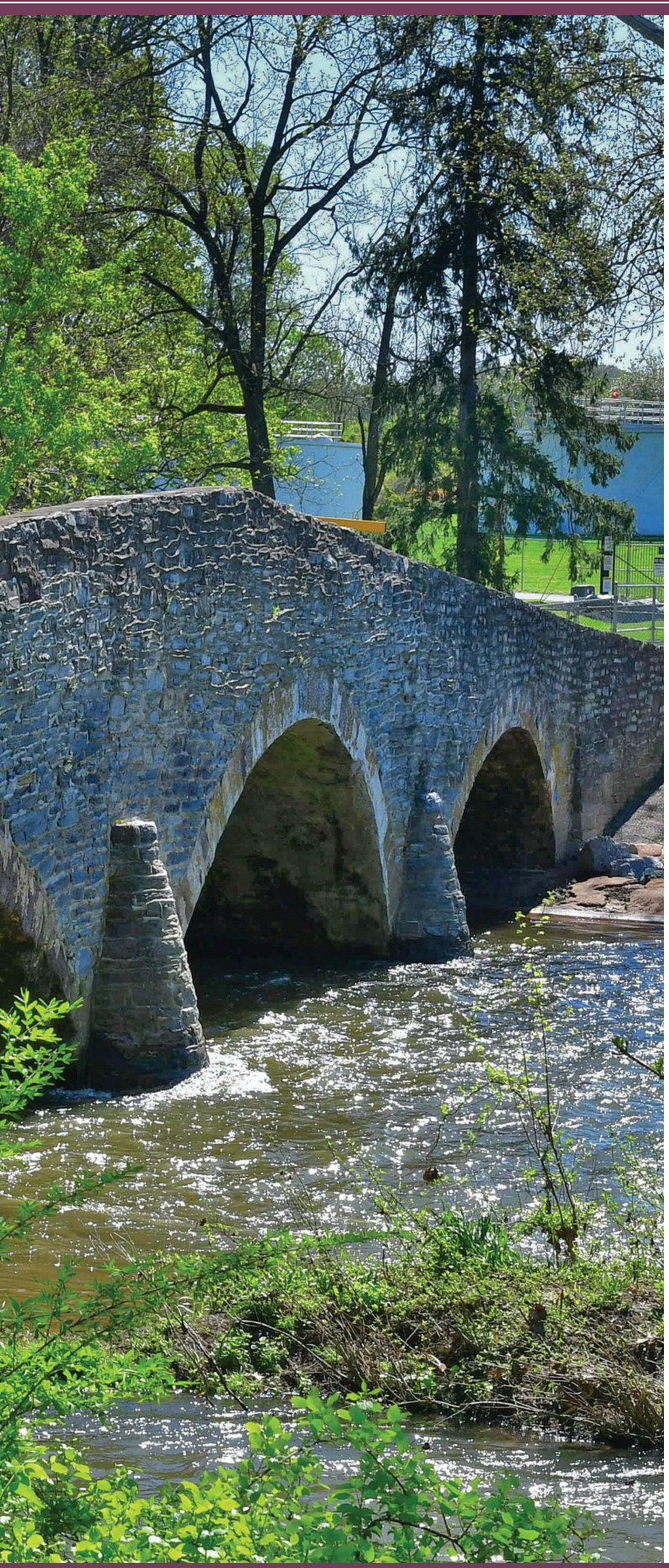


Township Context

Located in eastern Cumberland County, Lower Allen Township is bordered by Camp Hill and Shiremanstown to the north, Lemoyne and New Cumberland to the east, Upper Allen and Mechanicsburg to the west, and Fairview Township of York County to the South.

Lower Allen's southern boundary with York County is defined by the Yellow Breeches Creek, a tributary of the Susquehanna River.

The township has a total area of 10 square miles. Interstate 83 runs along the east of the township. Along the northern border of the township is the Harrisburg Capital Beltway. U.S. Route 15 crosses the northwest part of the township and Interstate 76, the Pennsylvania Turnpike, crosses the center of the township.



Township History

Formed in 1850, Lower Allen Township was formed when the old Allen Township was split in half. The Township's early years were defined by its proximity to the Yellow Breeches Creek, fertile farmland, and large limestone deposits.

Originally home to the Susquehannock Indians, Scotch-Irish European settlers moved to the area starting in 1750. Farming remained a foundation of life in Lower Allen until modern times. The majority of modern development occurred after the Second World War, when the United States experienced a surge of suburban development and post-war economic boom.

Lower Allen's population increased by 887 percent Between 1940 and 1980, as the character of the township shifted from rural to developed. In the 2000 census the population was 17,437.

Under Pennsylvania law Lower Allen is a First Class township and is overseen by a five-person Board of Commissioners.

2

INVENTORY & ANALYSIS

2 INVENTORY & ANALYSIS

Data Collection & Methodology

The data of this report was compiled from various sources, including Lower Allen Township, Cumberland County, Strava (Heat Maps), previous planning studies, and field reconnaissance data obtained by the consultant.

Field maps and planning documents were created using Geographic Information System (GIS) base mapping. This information was combined with base aerial photography, Municipal boundaries, roadways, sidewalks, parcels, and other identifying land use features.

Simone Collins Landscape Architecture coordinated a thorough public involvement process between Township staff and the Lower Allen Township Pedestrian and Bike Committee.

Public Participation

Meetings with Township staff and the Lower Allen Pedestrian and Bike Committee were held throughout the planning process. Both groups helped identify connectivity needs and concerns, and provided feedback on proposed solutions. Meetings informed the public on project progress and provided an opportunity for feedback and discussion.

A list of committee meetings is on the next page. Attendance lists and meeting minutes can be found in the appendix of this study.

Committee Meetings

Four committee meetings were held during the planning process. Meeting minutes can be found in the Appendix.

Meeting #1 - January 16th, 2019

The first committee meeting introduced the project and gathered initial thoughts and ideas from the Pedestrian and Bike Committee. The committee purpose, staff facilitation, desired outcomes, and general introductions were discussed. The committee listed several important destinations to consider within Lower Allen.

Meeting #2 - March 20th, 2019

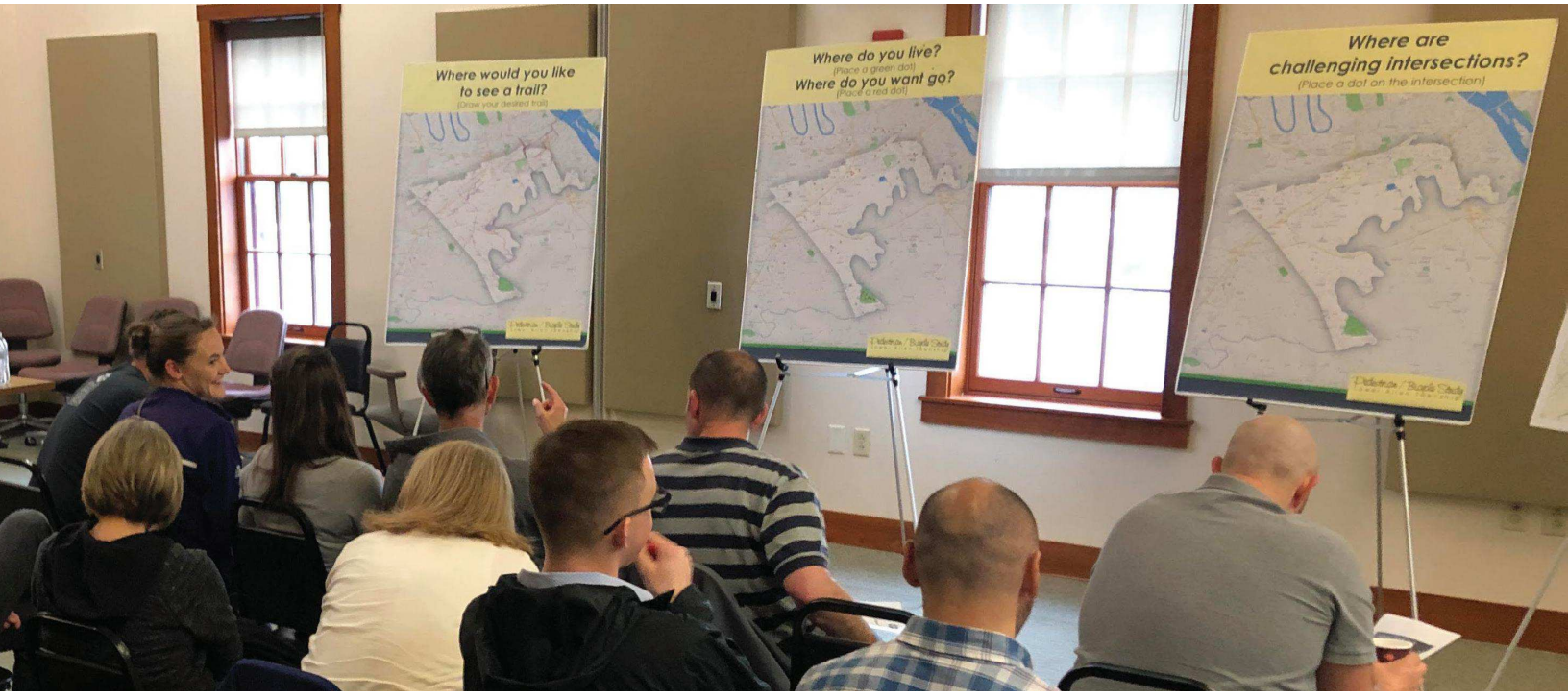
The second committee meeting focused on gathering data and input. Committee members indicated frequent destinations and desired walking & biking routes within the Township. The committee offered the consultants initial ideas and observations as well as general discussion.

Meeting #3 - April 17th, 2019

At the third meeting Simone Collins presented all information gathered, and reviewed findings from recent site reconnaissance. The consultants presented a map which delineated core focus areas within the Township. Focus areas were based on information gathered at the first two committee meetings. The consultants explained the importance of, and possible locations for potential improvements. Extensive discussion followed and committee members suggested further areas of improvement.

Meeting #4 - May 29th, 2019

At the fourth and final committee meeting, the consultant team presented the draft plan which included a map of proposed improvements and their locations. The draft report layout, report graphics, and draft cost estimates were presented for comment. The consultants provided insight on potential funding opportunities that could be pursued after the plan's completion.



Relevant Planning Documents

Lower Allen Township Comprehensive Plan, 2018

Lower Allen Township completed this Comprehensive Plan as a guide for short and long-term decision making and resource allocation, "related to future land use, growth and development, and resource preservation for the next 10-year horizon".

Goal #3 from the plan: "Expand pedestrian and bicycle connections throughout the Township"

http://www.latwp.org/wp-content/uploads/Lower-Allen-Township-2018-Comprehensive-Plan1.pdf

Cumberland County Comprehensive Plan, 2017

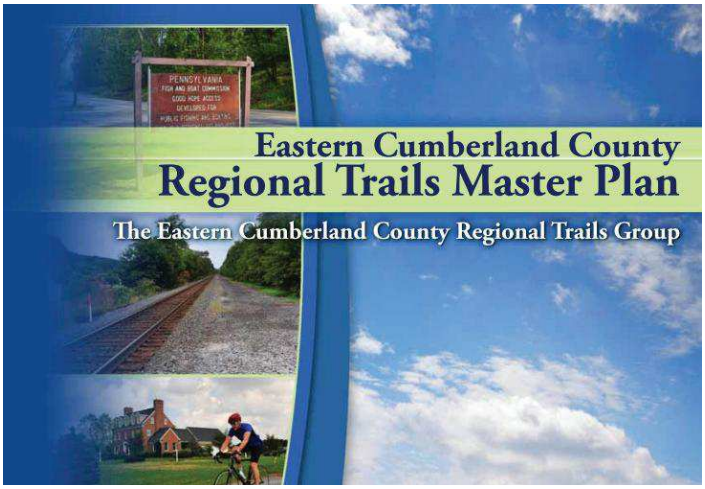
Cumberland County completed the Comprehensive Plan as a user-friendly document to be "easily understood by a broad cross-section of county residents and stakeholders". The plan identifies Natural Resources, Economic Development, & Transportation as the primary areas of focus for county-level growth.

https://www.ccpa.net/DocumentCenter/View/30121/2017-Cumberland-County-Comprehensive-Plan-FINAL-ADOPTED?bidId=

Eastern Cumberland County Regional Trails Master Plan, 2013

In 2011 eight municipalities, including Lower Allen Township, in the eastern portion of Cumberland County elected to collaborate in the formation of a group tasked with promoting regional trail planning and development. The Cumberland County Planning Department was a partner in this group and played a key role in its organization. This study is the first result of this effort and involves the creation of a Regional Trails Master Plan for Eastern Cumberland County.

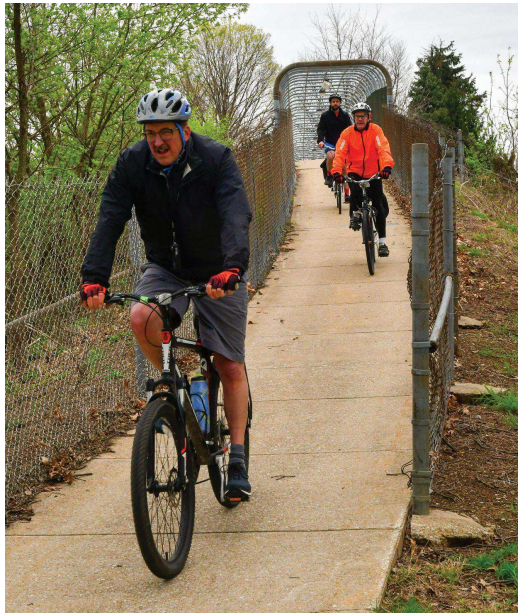
https://www.ccpa.net/949/Open-Space-Greenways-Parks

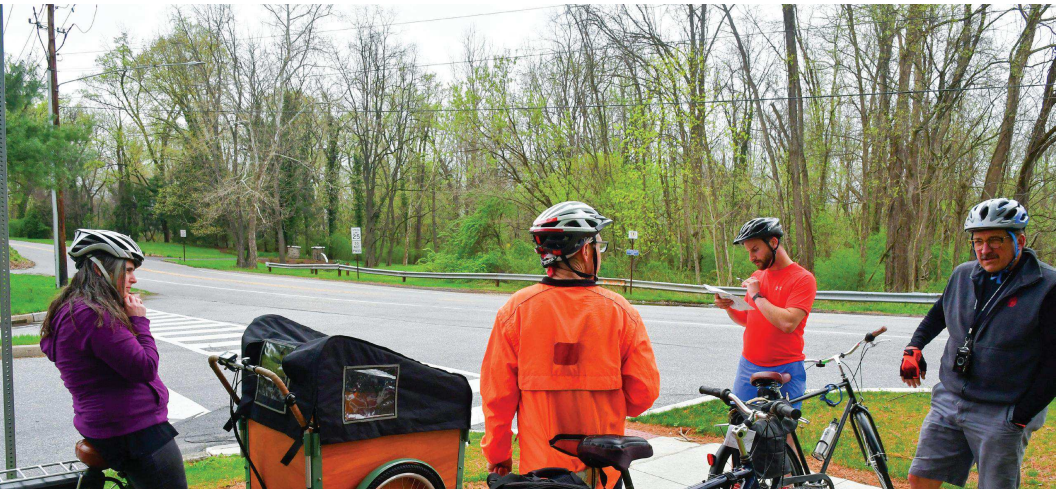


Site Reconnaissance

The consultants conducted initial bicycle site reconnaissance in Lower Allen on April 17, 2019. Members of the Lower Allen community joined the consultants and provided valuable insight into challenges and opportunities in Lower Allen. The consultants completed additional site reconnaissance by car and on foot.

Important data was recorded on field maps and later used to determine placement of proposed improvements. Site photographs taken proved a valuable reference during refinement of the draft improvement plan.



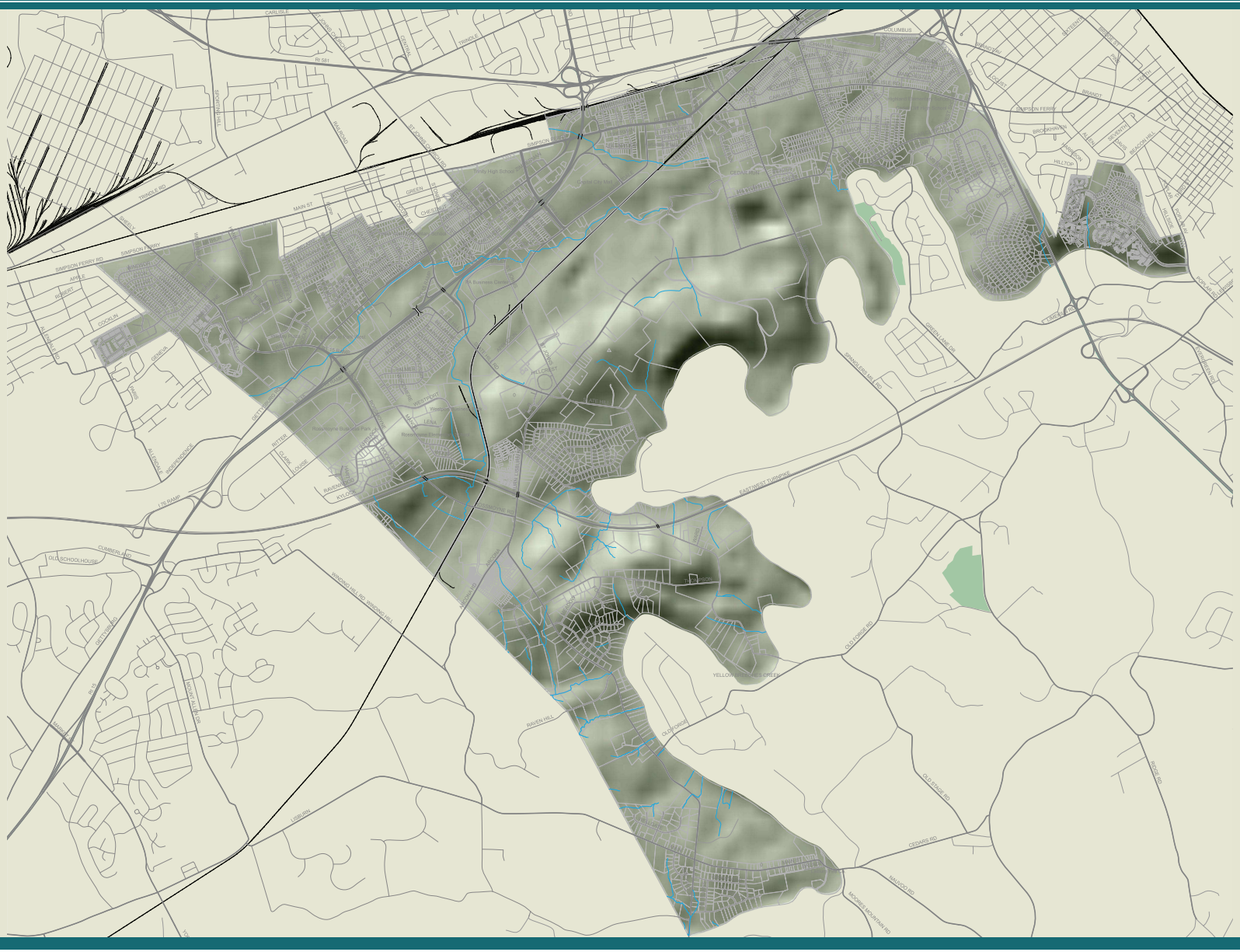


Existing Conditions- Aerial

Aerial imagery was used extensively to learn and study the existing natural and man-made features of Lower Allen Township.

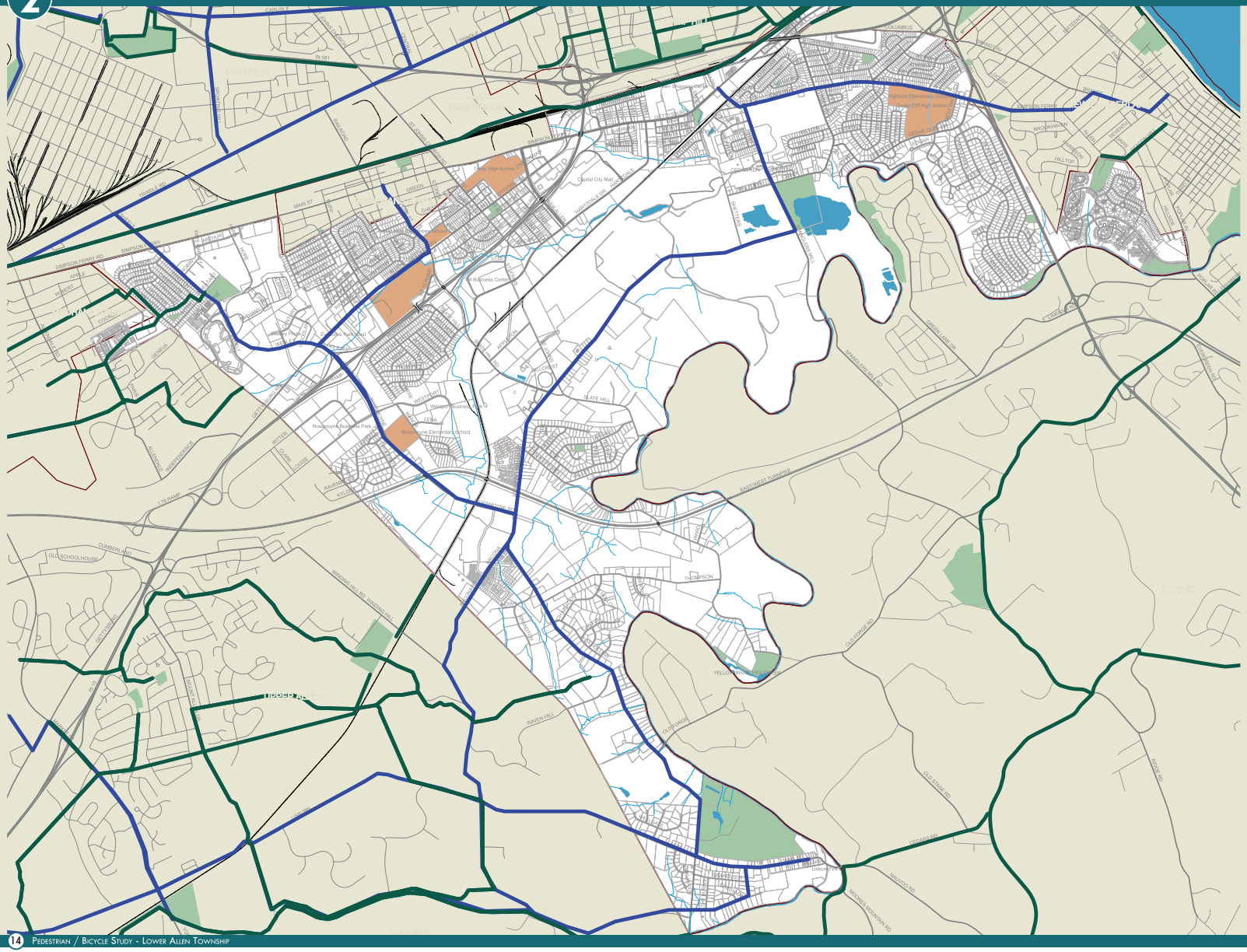
Pedestrian / Bicycle Study
Lower Allen Township

North 0 1/4 mile 1/2 mile



Existing Conditions- Topography

The topography of Lower Allen, with its rolling hills and valleys, is important to consider when proposing pedestrian and bicycle infrastructure. The consultants examined existing topography to understand the movement of water through the Township, and how this movement informs the location of pedestrian and bicycle infrastructure.



Trail Inventory - Adjacent Municipalities & Cumberland County

Trail maps were gathered from adjacent municipalities and Eastern Cumberland County. These maps were used by the consultant team to determined regional trail connections.

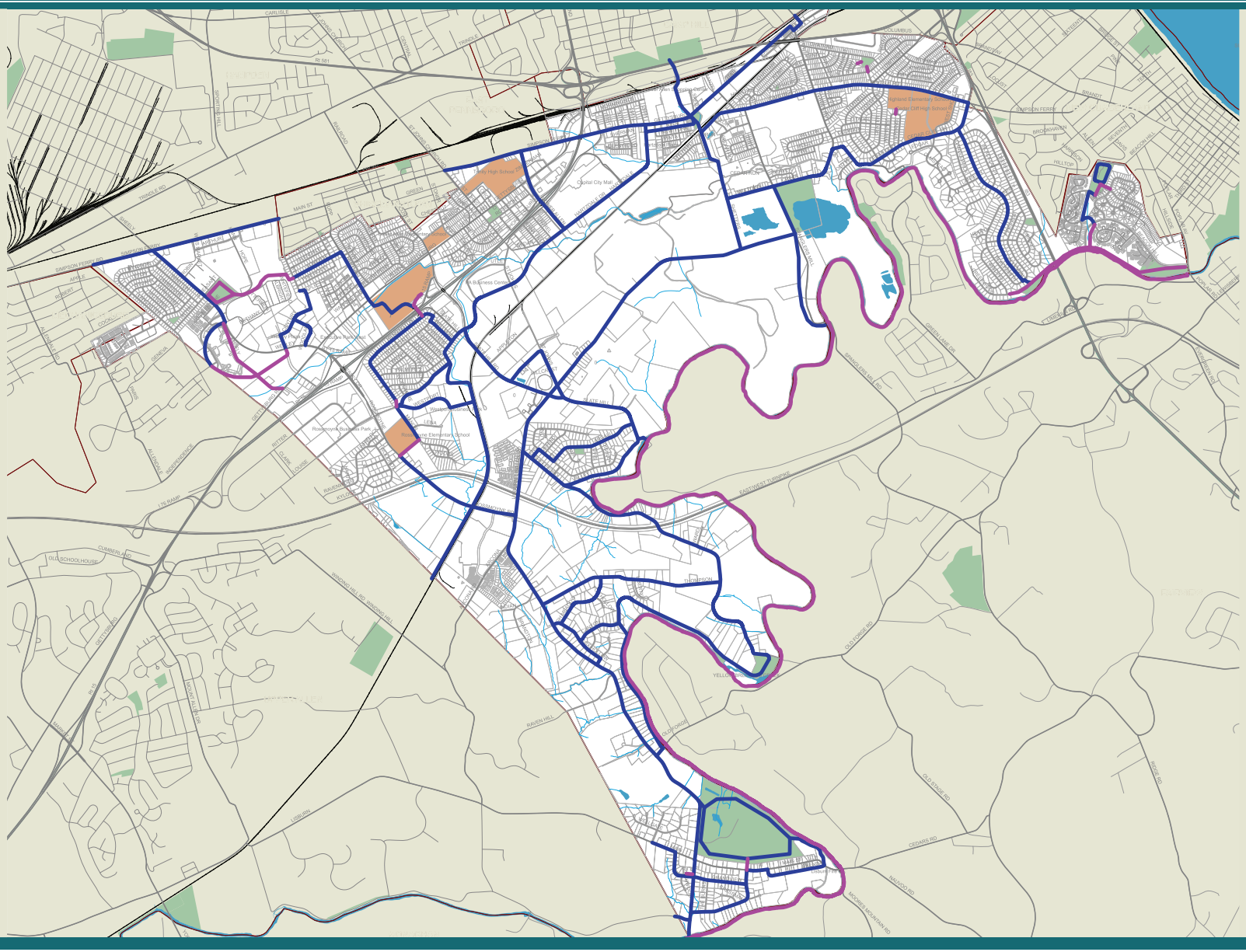
Legend

Inventory of Proposed Trails per the Eastern Cumberland County Regional Trails Master Plan

Adjacent Municipality Trails

Pedestrian / Bicycle Study
Lower Allen Township

North 0 1/4 mile 1/2 mile



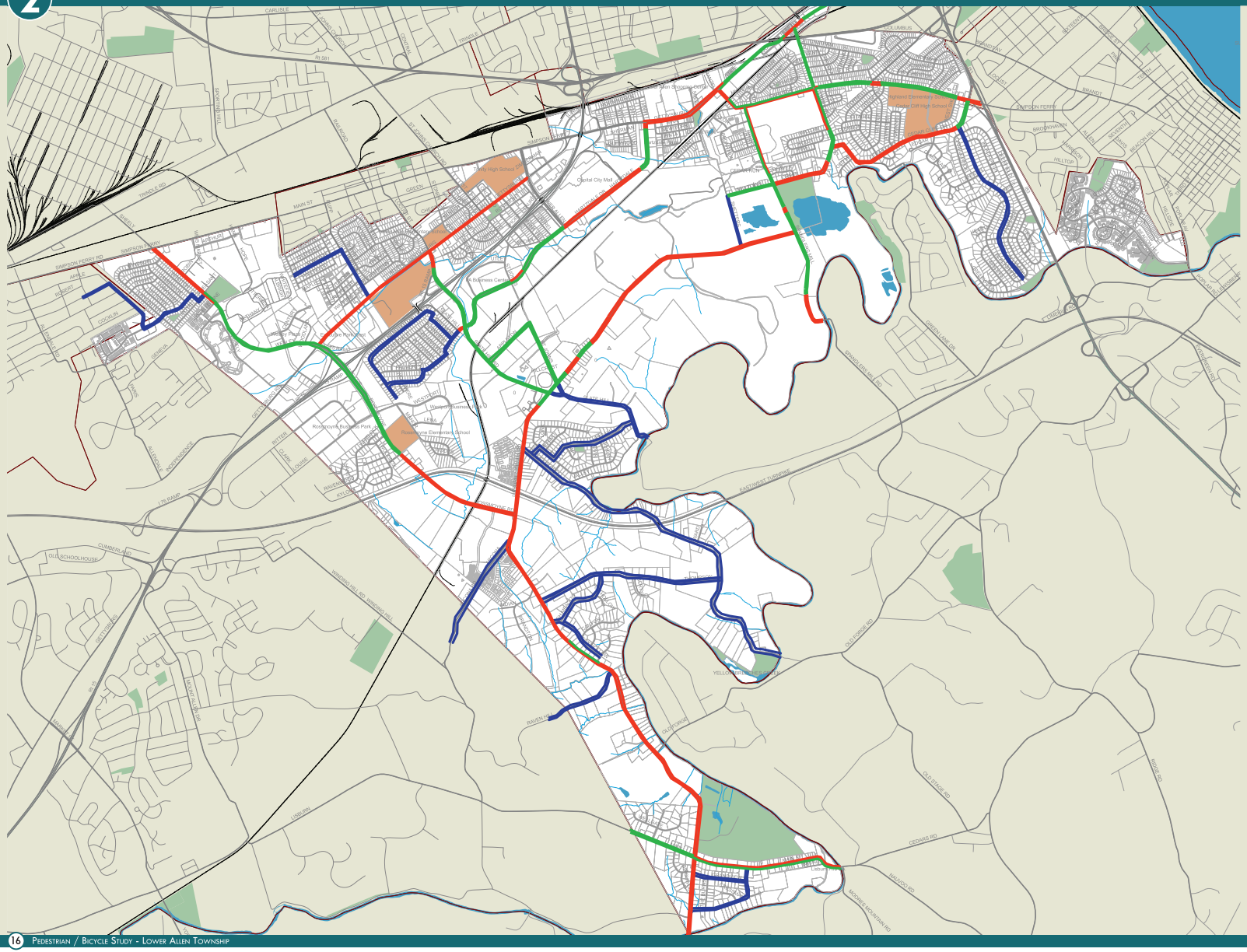
Trail Inventory - Lower Allen Township

Lower Allen provided the consultants with maps of existing and proposed trails. Note that the existing trail located along the Yellow Breeches Creek is the Yellow Breeches Creek Water Trail. The consultants used this information to determine gaps in the trail network and plan for improved Township-wide connectivity.

Legend

Existing Trails

Proposed Trails



Shoulder Width & Traffic Volume

This data indicates where there may be room for additional on-road infrastructure. An important component of this plan is to move pedestrian and bicycle facilities from high traffic volume to low traffic volume roads. This shift can increase the level of comfort for all bicycle and pedestrian user groups.

Legend

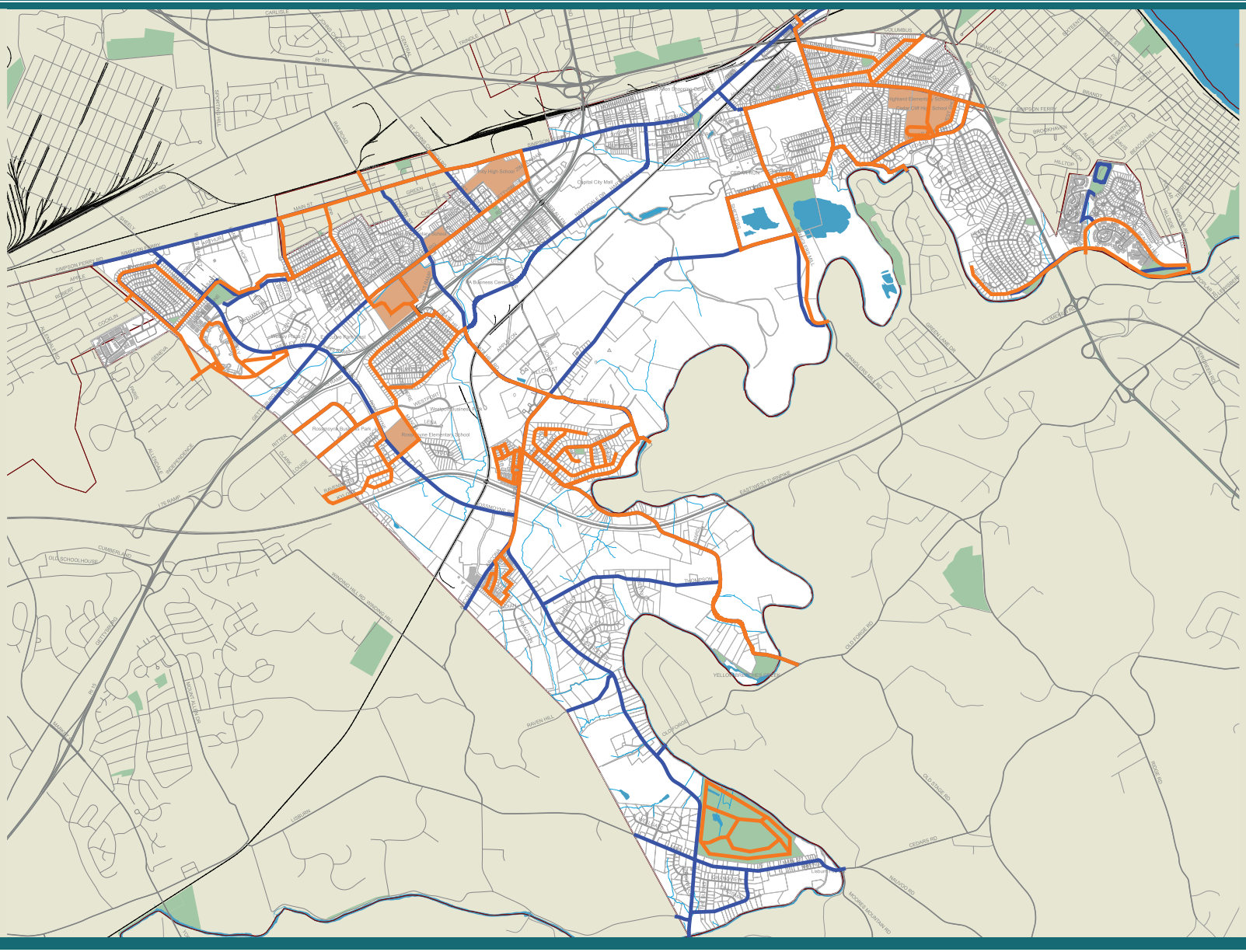
Shoulders less than 3 feet

Shoulders greater than 3 feet

Low volume road

Pedestrian / Bicycle Study
Lower Allen Township

North 0 1/4 mile 1/2 mile



STRAVA Pedestrian & Cyclist Data

STRAVA is a popular application which utilizes GPS tracking to record routes by walkers, runners, and cyclists. STRAVA heat-mapping was used to locate popular routes within and around the Township. This data shows the usage intensity of recorded routes.

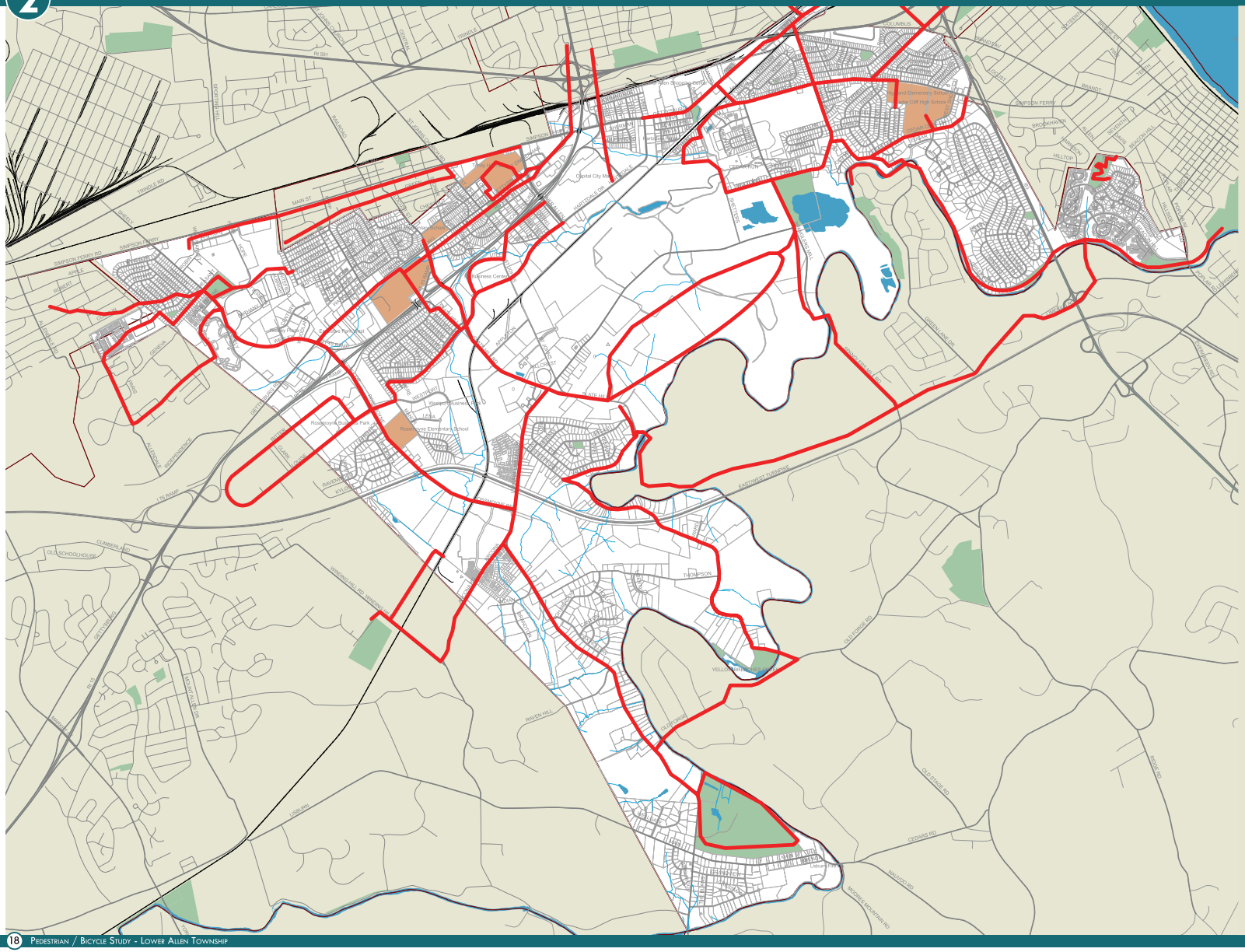
Legend

Pedestrian data

Cyclist data

Pedestrian / Bicycle Study
Lower Allen Township

North 0 1/4 mile 1/2 mile

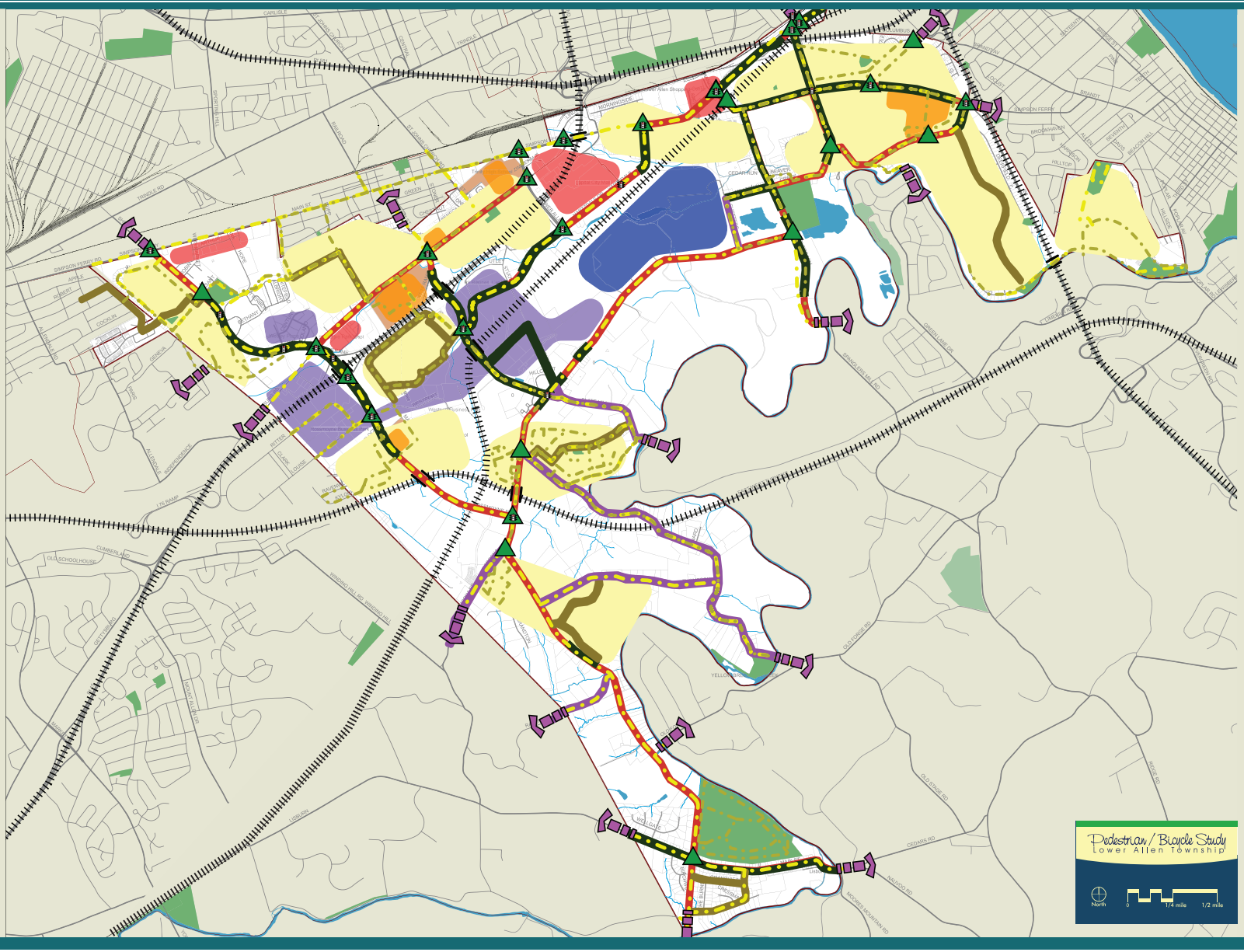


Desired Routes Identified by Lower Allen Township Pedestrian and Bicycle Committee

At the third committee meeting on April 17th 2019, members of the Lower Allen Township Pedestrian and Bicycle Committee delineated desired routes through the township. The consultants used this information, in part, to determine needed improvements.

Legend

Routes delineated by committee



Composite Analysis Map

This analysis graphic identifies land use zones, potential connections to adjacent municipalities, as well as open space and recreation areas. Shoulder width data, traffic volume, highway and railroad locations, existing and proposed pedestrian and bicycle routes, as well as STRAVA data were analyzed to determined areas of focus for proposed improvements.

Opportunities

- Promote connectivity across barriers of Lower Allen - primarily railroads and high-volume roadways.
- Establish low-stress / high comfort cross-Township routes for pedestrians and bicyclists.
- Establish connectivity between Lower Allen and adjacent municipal destinations and services.
- Connect residential neighborhoods via multi-modal transportation networks.

Legend

- Barriers
- Park and Open Space
- School zone
- Commercial zone
- Residential zone
- Industrial Zone
- Correctional facility
- Low Volume Route
- Shoulders < 3 feet
- Shoulders > 3 feet
- STRAVA Run
- STRAVA Bike
- Challenging Intersection
- Connection to Adjacent Municipality

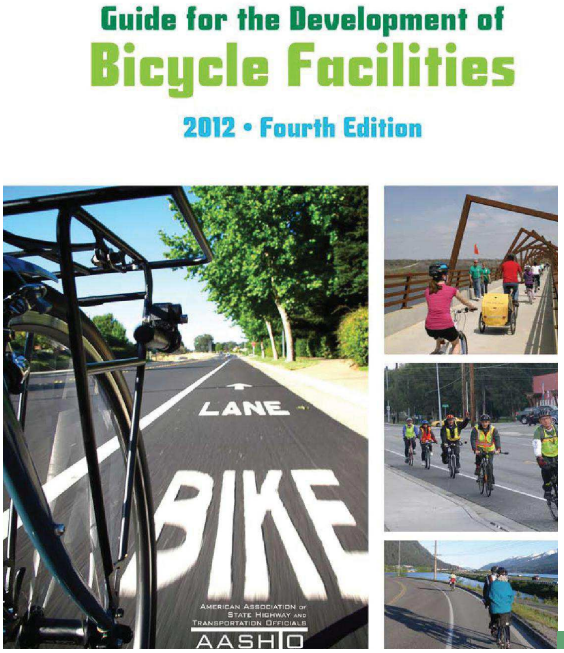

VERNON C. WASS PARK
Lower Allen Township
Recreational Facility

3

RECOMMENDATIONS

Design Guidelines

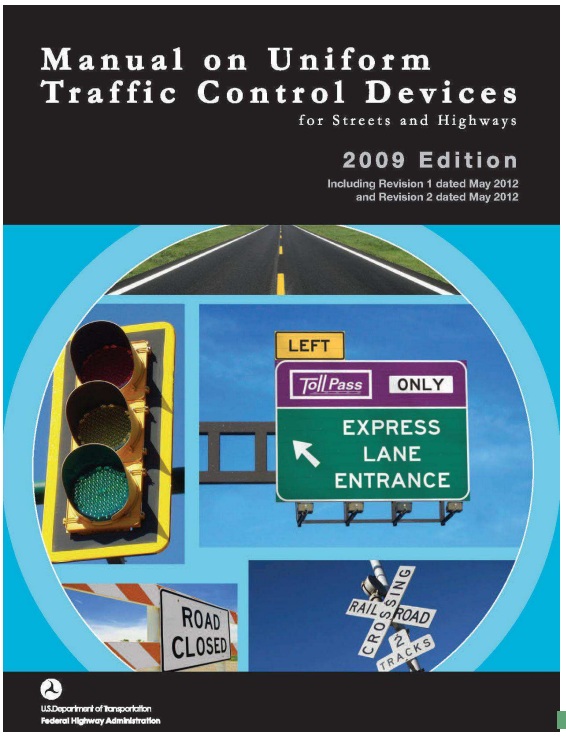
Various nationally and locally recognized organizations have developed bicycle and pedestrian design standards. The following guides were referenced extensively throughout the design process.



AASHTO - Guide for the Development of Bicycle Facilities

AASHTO provides federally accepted standards for the development of bicycle facilities including information on: Bicycle Planning, Bicycle Operation and Safety, Design of On-Road Facilities, Design of Shared Use Paths, Bicycle Parking Facilities, and Maintenance and Operations. All improvements should adhere to these standards.

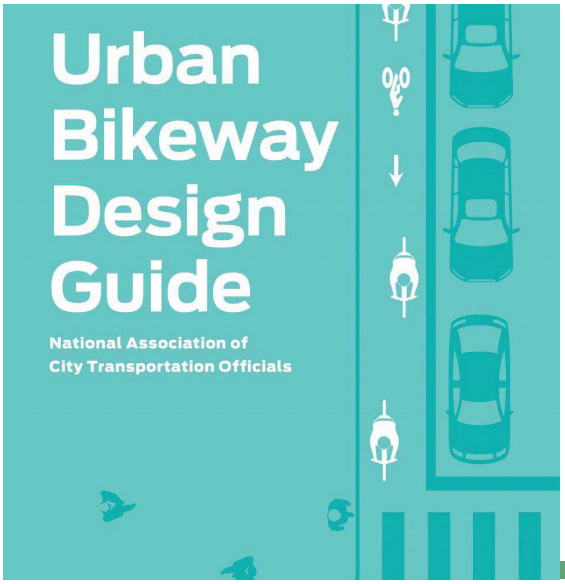
1



MUTCD - Manual on Uniform Traffic Control Devices

The Manual on Uniform Traffic Control Devices provides standards for the design and implementation of traffic control devices that provide for safe and efficient transportation. Part 9 of the manual includes traffic control for bicycle facilities. The section includes signs, pavement markings and highway traffic signals for both on-road and off-road trail facilities. All guidance in this document should be adhered to when implementing the alignment alternatives.

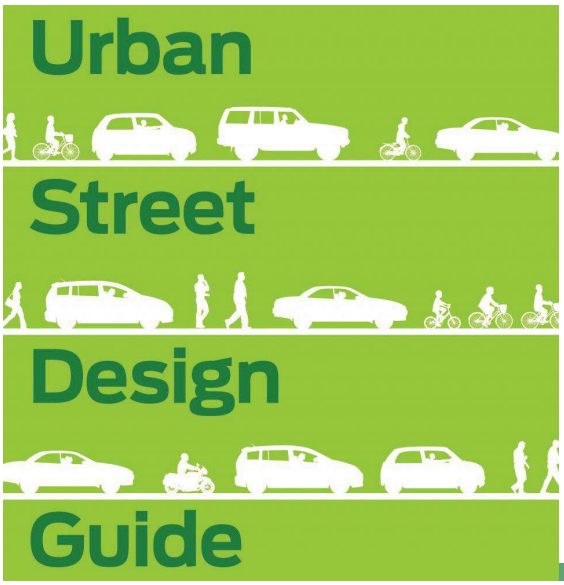
2



3

NACTO - Urban Bikeway Design Guide

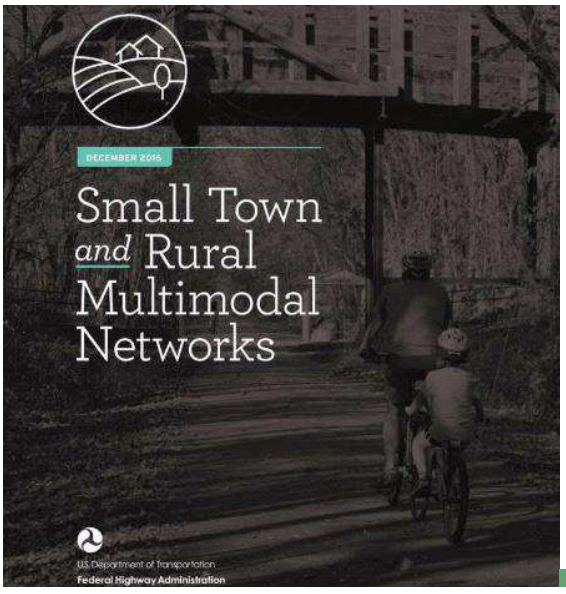
The NACTO Urban Bikeway Design Guide provides cities with state-of-the-practice solutions that can help create complete streets that are safe and enjoyable for bicyclists. Bike Lanes, intersection treatments, bicycle signals, bikeway signage & marking, and the practice of designing for all ages & abilities are all covered within this guide.



4

NACTO - Urban Street Design Guide

The NACTO Urban Street Design Guide provides innovative solutions to design for and around the special characteristics of the urban environment. Street Design Elements, Interim Design Strategies, Intersections Improvements & Design Elements and Design Controls are all discussed in detail.



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FHWA - Small Town and Rural Multimodal Networks

The FHWA - Small town and Rural Multimodal Networks provides design guidance for pedestrian and bicycle safety in areas of smaller scale. This document focuses on establishing safe multi-modal connections within and automobile-dominated landscape. Illustrations, technical diagrams, and photographs detail proposed improvements to roadways, sidewalks, intersections, and more.

Image from: bicyclecoalition.org

Connectivity Improvements

Bicycle Lanes - Bicyclists operate within a designated portion of the roadway that is separate from motor vehicle traffic:

Bike lanes should be provided on both sides of two-way streets

Bike Lane Widths without Parking: 4' minimum (not adjacent to curb) and 5' minimum (adjacent to curb or other obstacle)

Bike Lane Widths with Parallel Parking: 5' minimum to 7' (wider bike lanes are recommended adjacent to parking areas to reduce conflict with opening vehicle doors)

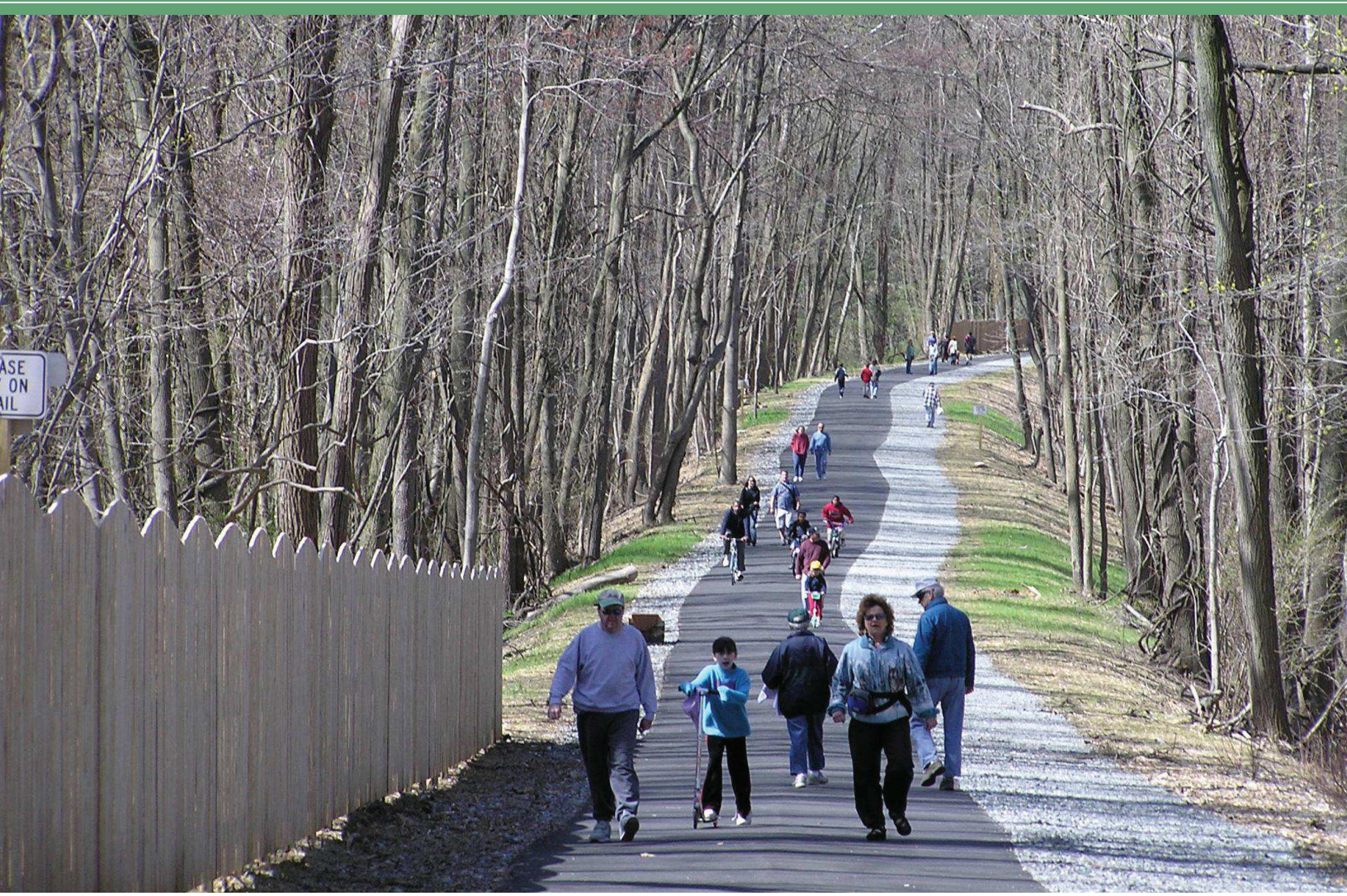
Bike lanes should be placed between the parking lane and travel lane (this applies to diagonal and parallel parking)

Storm Drains and Utility Covers: Bike lanes should be wide enough to accommodate bicyclists swerving to avoid obstructions.

Bike Lane Striping: 4" to 6" solid white line (dotted lines are optional at major driveways and intersections, solid lines should be continued at all minor driveways)

Pavement Marking: Bike Lane Symbols (MUTCD 9C - 3)

Bike Lane Signage: Bike Lane (R3-17) placed at periodic intervals with either Ahead (R3-17aP) or Ends (R3-17bP) where appropriate.



Shared Use Paths

Shared Use Paths - Shared use paths are bikeways that are physically separated from the vehicular cartway by a physical barrier or open space. Design of these facilities should comply with current ADA requirements. Path users include, but are not limited to:

- Bicyclists of all types
- Inline & roller skaters, and skateboarders
- Kick scooter users
- Pedestrians

Design Requirements

Trail width: 10' minimum to 14' (8' is permitted under rare circumstances) Trail Shoulder width: 2' minimum shoulder free of vertical obstructions (fence, sign, wall, etc.), 3' to 5' is preferred

Trail Shoulder slope: 1 vertical to 6 horizontal (1:6) maximum

Adjacent to a body of water or slope: 1 vertical to 3 horizontal (1:3) or greater vertical distance between the trail and nuisance should be minimum 5' (physical barrier or rail is recommended and may be placed at a minimum 1' from the edge of trail)

Vertical Clearance: 8' minimum, 10' preferred

Separation between Trail and roadway: 5' minimum from edge of pavement (if less than 5' a physical barrier is needed)

Trail cross slope: Not to exceed 2%, 1% is recommended

Trail grade slope: Maximum grade should be 5% or match that of the adjacent roadway. For an off-road trail grade may go up to 8% for not more than 200 lineal feet.

Signage - Signage can be provided along the road with no cartway (pavement) improvements:

Signage informs motorists to watch out for bicyclists on the roadway

MUTCD standards: Share the Road (W11- and W16-1P) signs and Bicyclist May Use Full Lane (R4-11)signs;

Place signs at the beginning of the bike route, roadway intersections, and throughout the segment where deemed required, and at the end of the bike route.

Marked Shared Lanes - Bicyclists operate on the roadways with motor vehicles:

Not to be used on roads with posted speed limits in excess of 25 mph

Shared-Lane Striping: (MUTCD 9C - 9) placed at intersections and at intervals not greater than 250'

Striping position on cartway with Parallel Parking: Place center of sharrow 11' from face of curb or edge of travel way

Striping position on cartway with no Parking: 4' from face of curb or edge of travel way

Signage (noted previously) is still required

Image from: Flickr

Paved Shoulders - Bicyclists operate on the shoulders of roadways, typically on rural roadways:

Paved Shoulders should be located on both sides of the road

Shoulder width with no vertical obstruction: 4' shoulder width minimum

Shoulder width with vertical obstruction (curb, guide rail, etc.): 5' shoulder width minimum

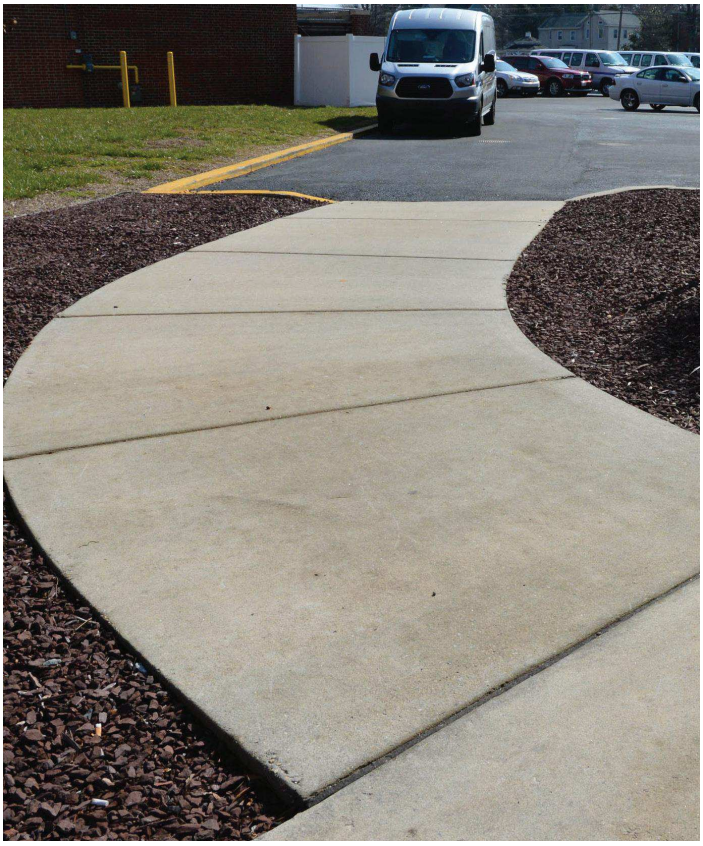
Image from: PedBikeImages


Image from: Pexels

Trail Surface Types

Asphalt Surfaces

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 (lower than Portland cement concrete however) 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 Surfaces

Portland cement concrete pavement 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.


Image from: WikimediaCommons

Compacted Aggregate Surfaces

Compacted aggregate surfaces, or stone dust trails, 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 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 on slopes over 3%.

Pavers

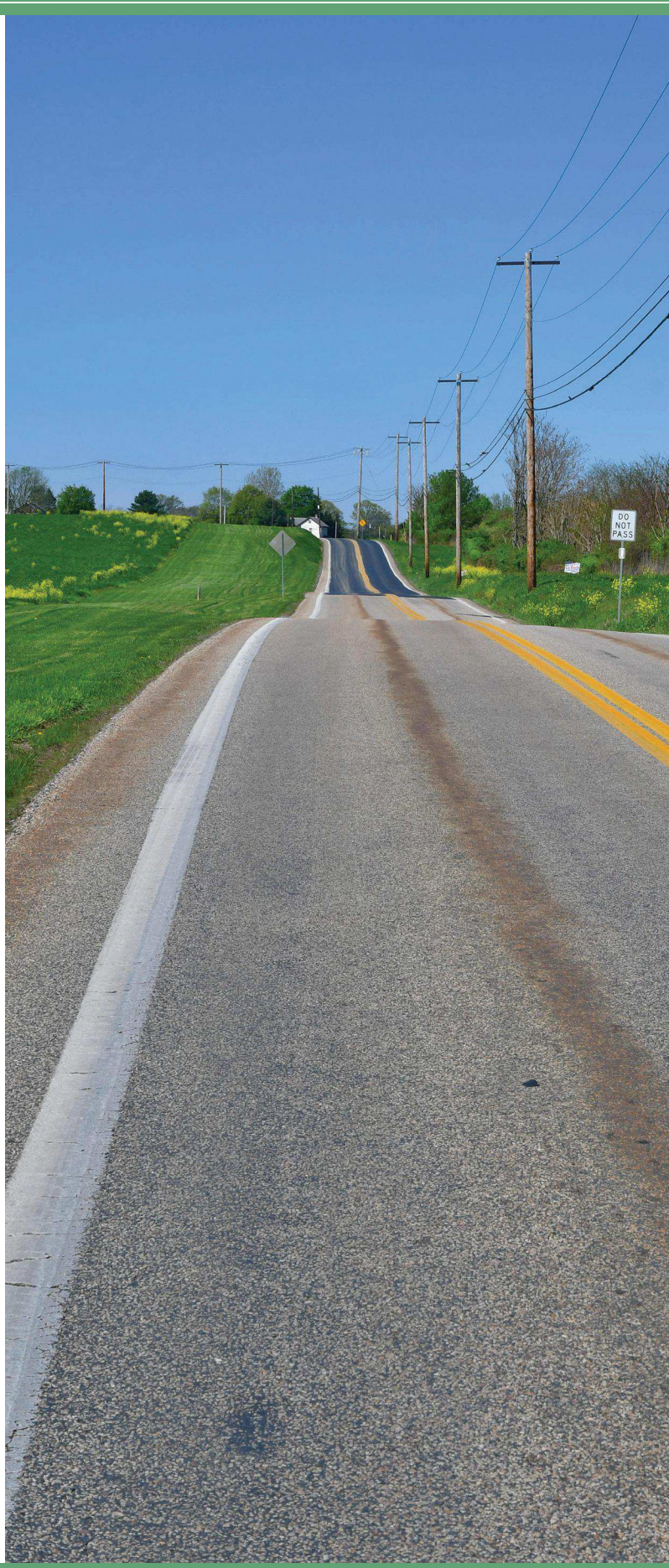
Pavers, composed of clay or concrete, may be a suitable pavement material where the context, such as in Lower Allen, is of a historic nature. As evidenced by the many brick sidewalks in the town. This material is highly aesthetically pleasing and durable. However, this material is the most expensive type of trail or sidewalk surface and is typically used only in areas of high visibility or in areas of historic significance.

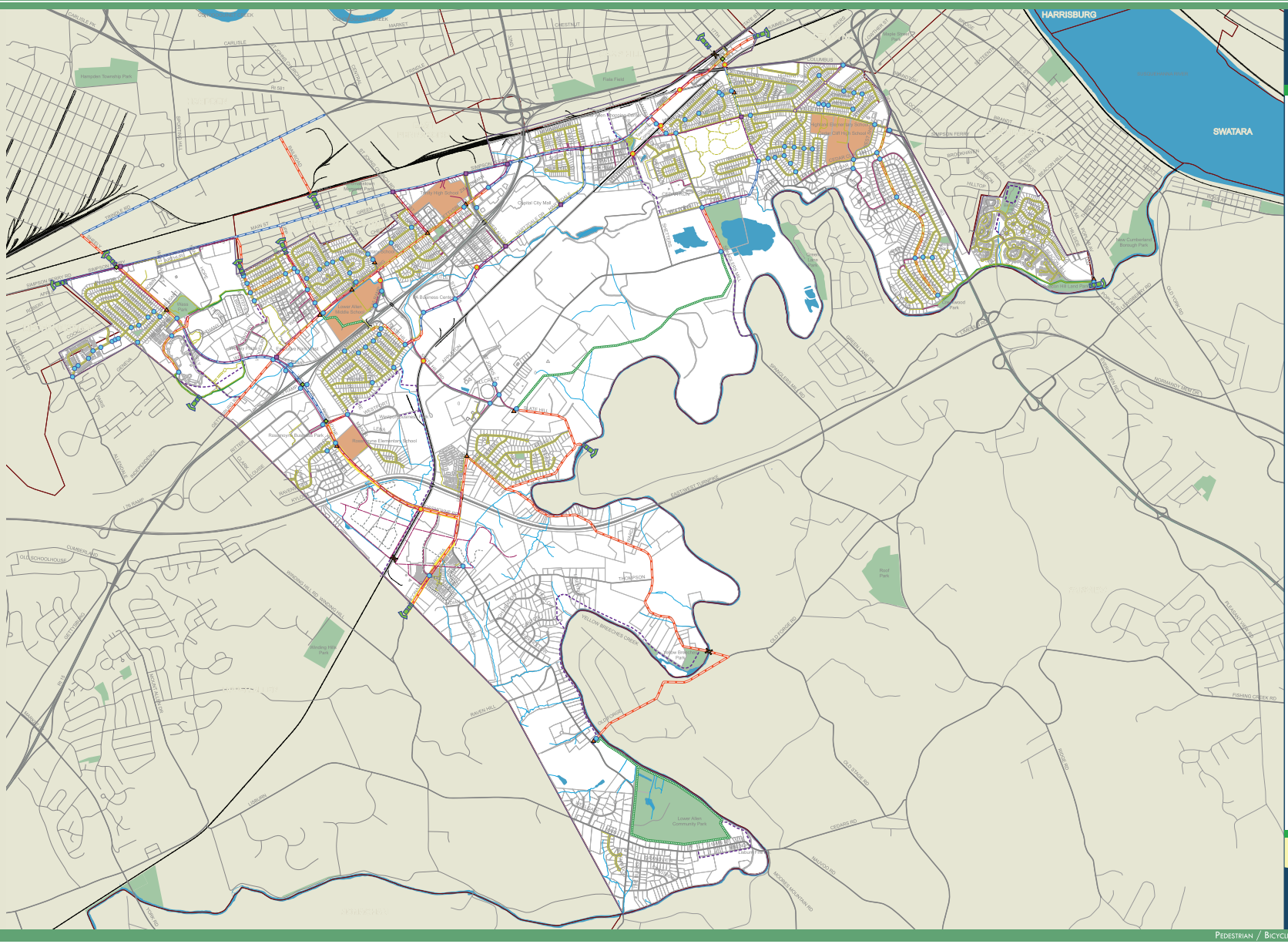
Proposed Improvements Plan

The following plan locates approximate locations of pedestrian and bicycle improvements in Lower Allen Township.

Based upon site analysis, field reconnaissance, and information gathered at committee meetings, several guiding principles were established to help guide the plan.

- Establish safe connections to the schools of Lower Allen Township.
- Connect to parks and open space of the Township.
- Establish safe connections across Township barriers such as railroad lines and high-volume roadways.
- Connect to the amenities and services of Lower Allen as well as adjacent municipalities.
- Establish cross-township connections (north/south & east/west) on low-stress or low traffic volume routes.





Proposed Improvements

Existing Conditions

- Municipal Boundary
- Township Road
- State Road
- Sidewalk
- Trail
- School
- Water Body
- Open Space
- Pedestrian Bridge

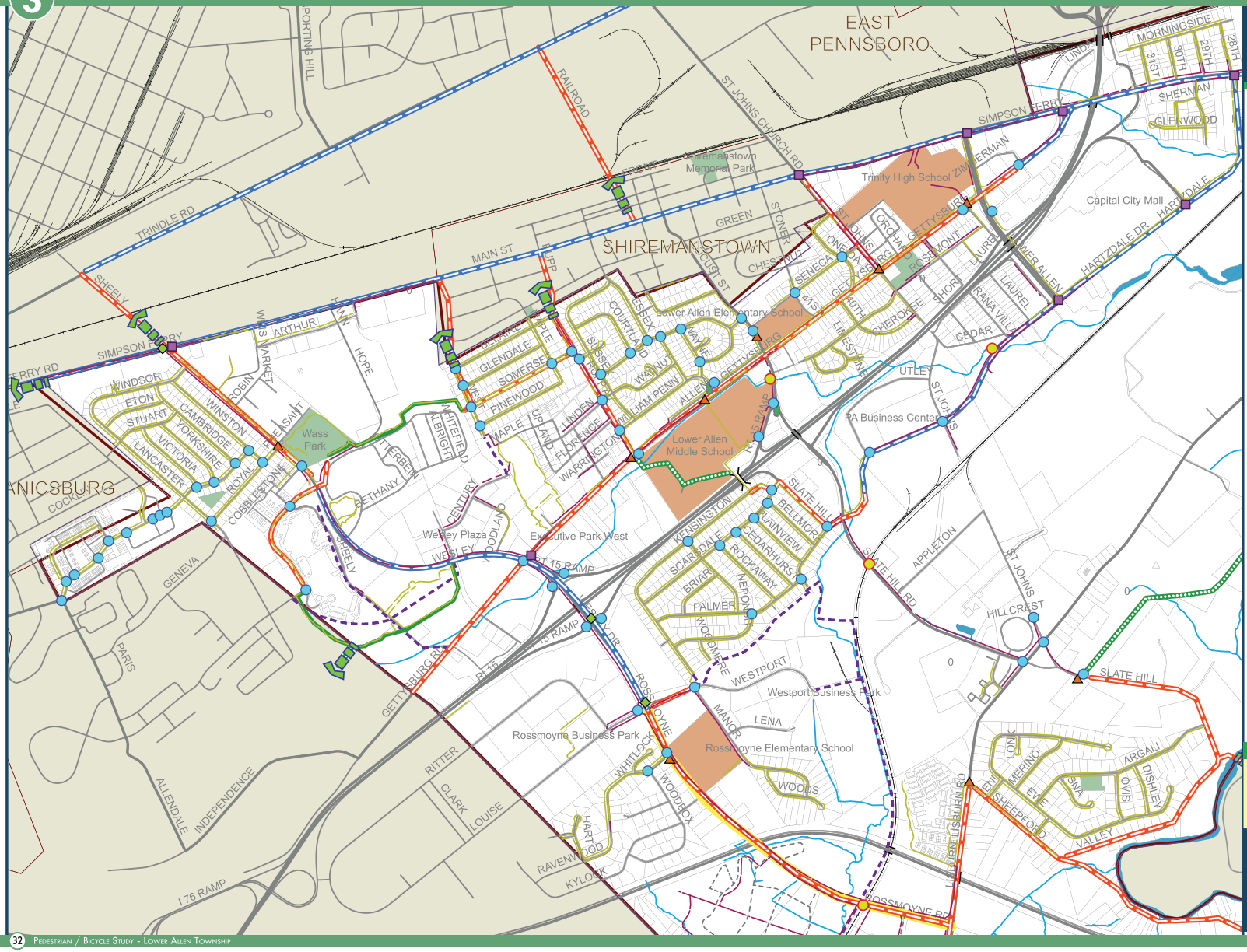
Proposed Improvements

- Sidewalk
- Crosswalk
- Special Crossing
- Hand Man
- Rapid Flashing Beacon
- Pedestrian Refuge Island
- Bike Box
- Bump Out
- Painted Shoulder
- Multi-Use Trail
- Sharrow Route
- Bicycle Lane
- Speed Reduction
- Connection to Adjacent Municipality
- Pedestrian Bridge
- Trails Proposed on Previous Plan / Official Map

Pedestrian / Bicycle Study
Lower Allen Township

North

0 1/4 mile 1/2 mile



Proposed Improvements

Existing Conditions

- Sidewalk
- Trail

Proposed Improvements

- Sidewalk
- Crosswalk
- Special Crossing
- Hand Man
- Rapid Flashing Beacon
- Pedestrian Refuge Island
- Bike Box
- Bump Out
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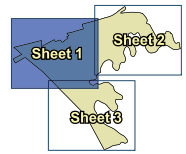
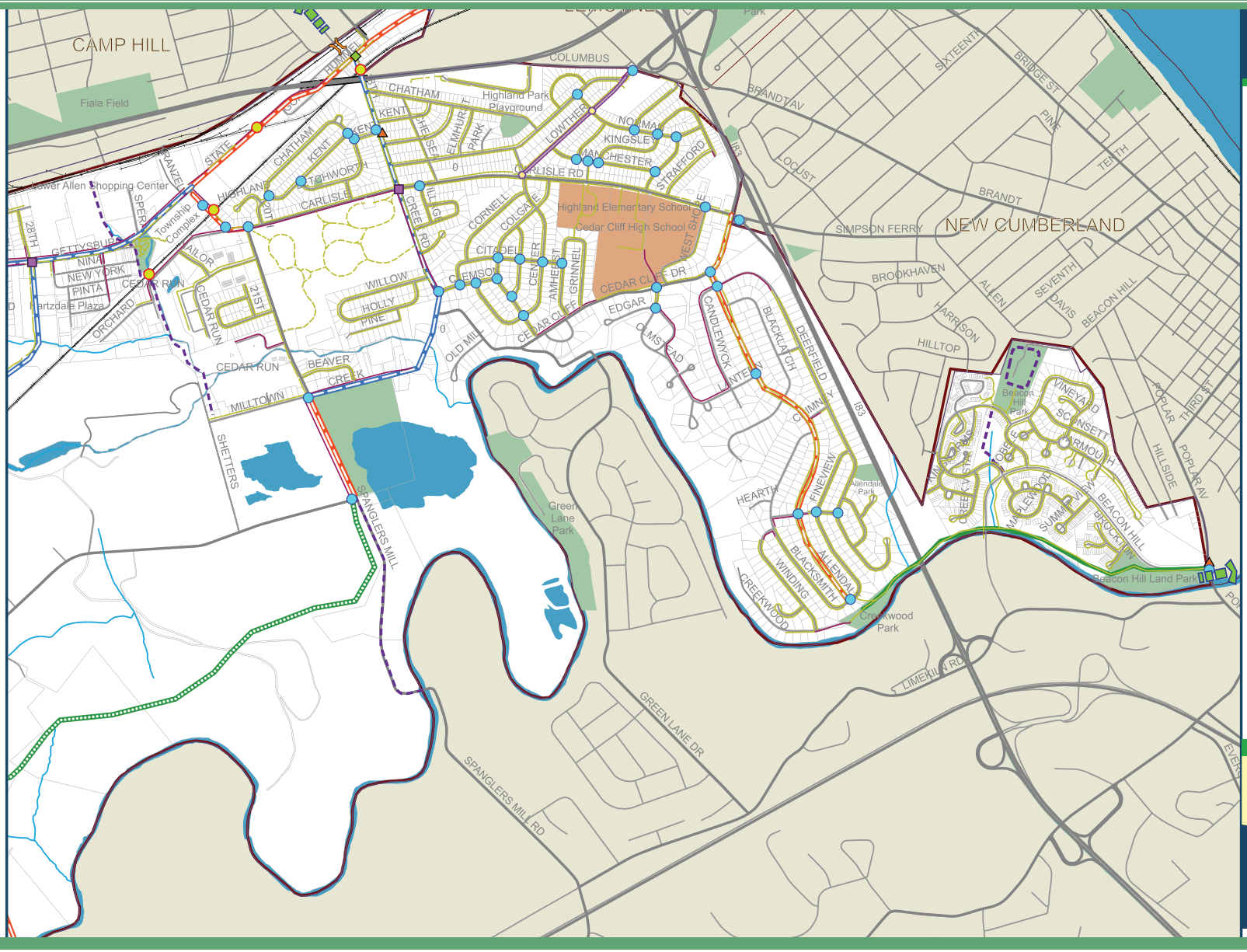
- Connection to Adjacent Municipality
- Pedestrian Bridge
- Trails Proposed on Previous Plan / Official Map



Pedestrian / Bicycle Study
Lower Allen Township

North 0 1/4 mile 1/2 mile



Proposed Improvements

Existing Conditions

- Sidewalk
- Trail

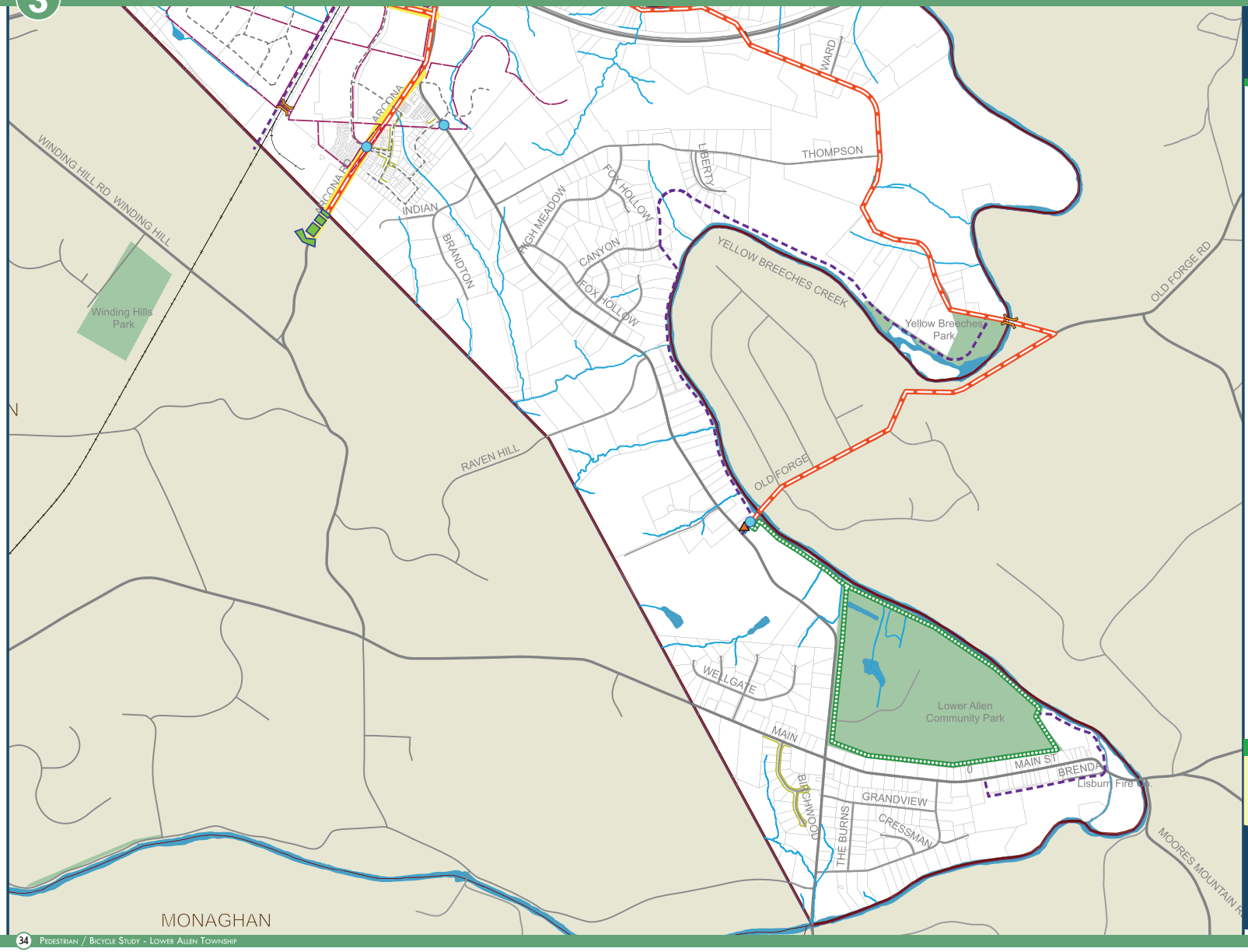
Proposed Improvements

- Sidewalk
- Crosswalk
- Special Crossing
- Hand Man
- Rapid Flashing Beacon
- Pedestrian Refuge Island
- Bike Box
- Bump Out
- Painted Shoulder
- Multi-Use Trail
- Sharrow Route
- Bicycle Lane
- Speed Reduction
- Connection to Adjacent Municipality
- Pedestrian Bridge
- Trails Proposed on Previous Plan / Official Map

Pedestrian / Bicycle Study
Lower Allen Township

North

0 1/4 mile 1/2 mile



Proposed Improvements

Existing Conditions

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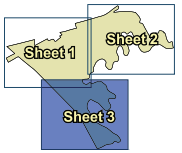


Pedestrian / Bicycle Study
Lower Allen Township

North

0 1/4 mile 1/2 mile

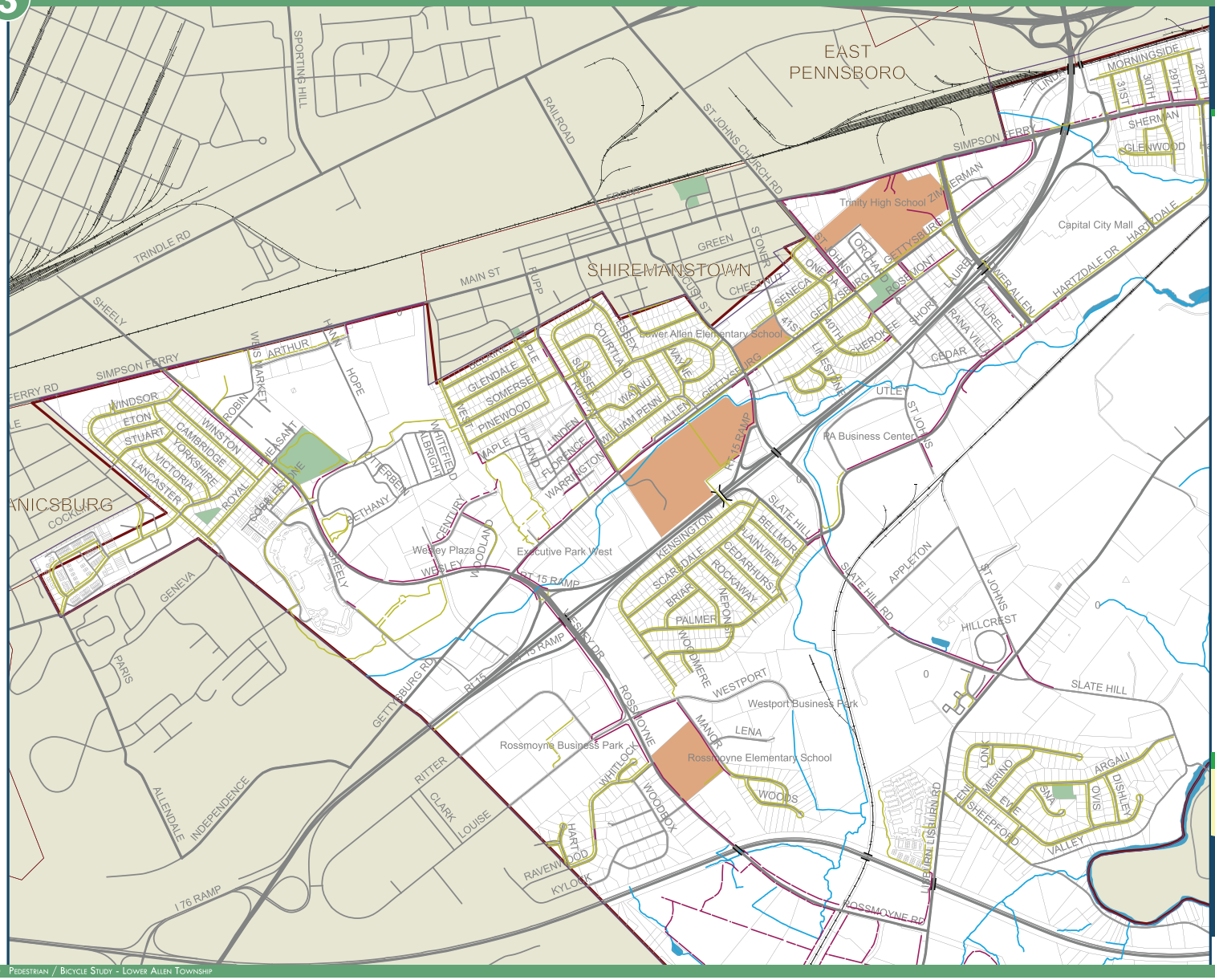
Existing Sidewalk in Lower Allen

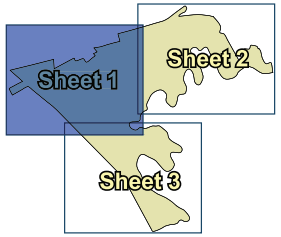
Sidewalk

Sidewalks are basic transportation infrastructure in any village or town. Sidewalks allow pedestrians to safely move between destinations, from home to work, to places of worship and to parks and civic spaces. While many neighborhood developments in the northern part of the Township have sidewalks, there are sidewalk gaps which limit connectivity to the amenities and services of Lower Allen.

Sidewalk Gap

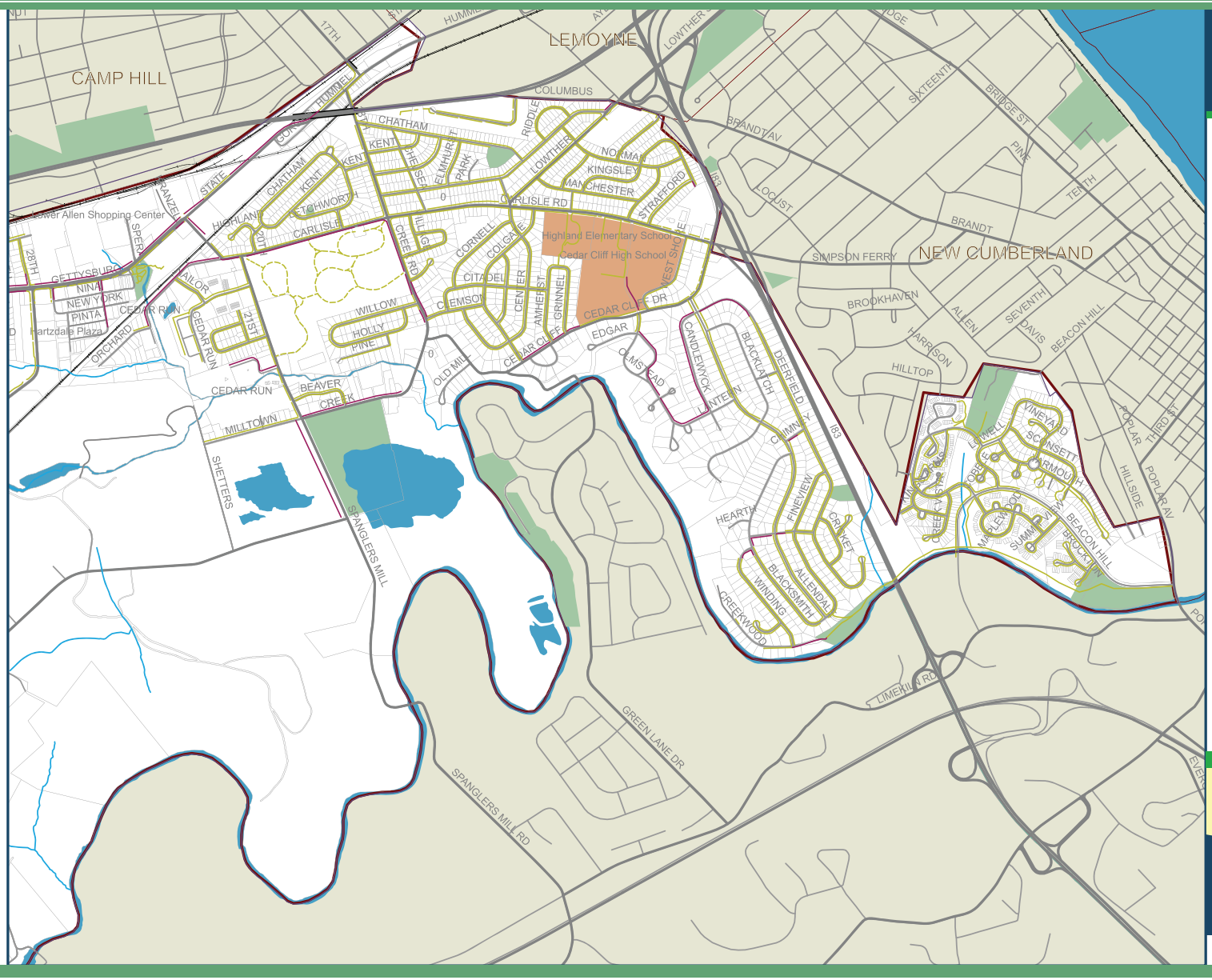
Existing and Proposed Sidewalks





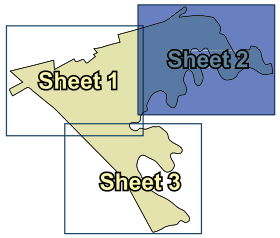
Pedestrian / Bicycle Study
Lower Allen Township

Existing and Proposed Sidewalks



Existing Sidewalk

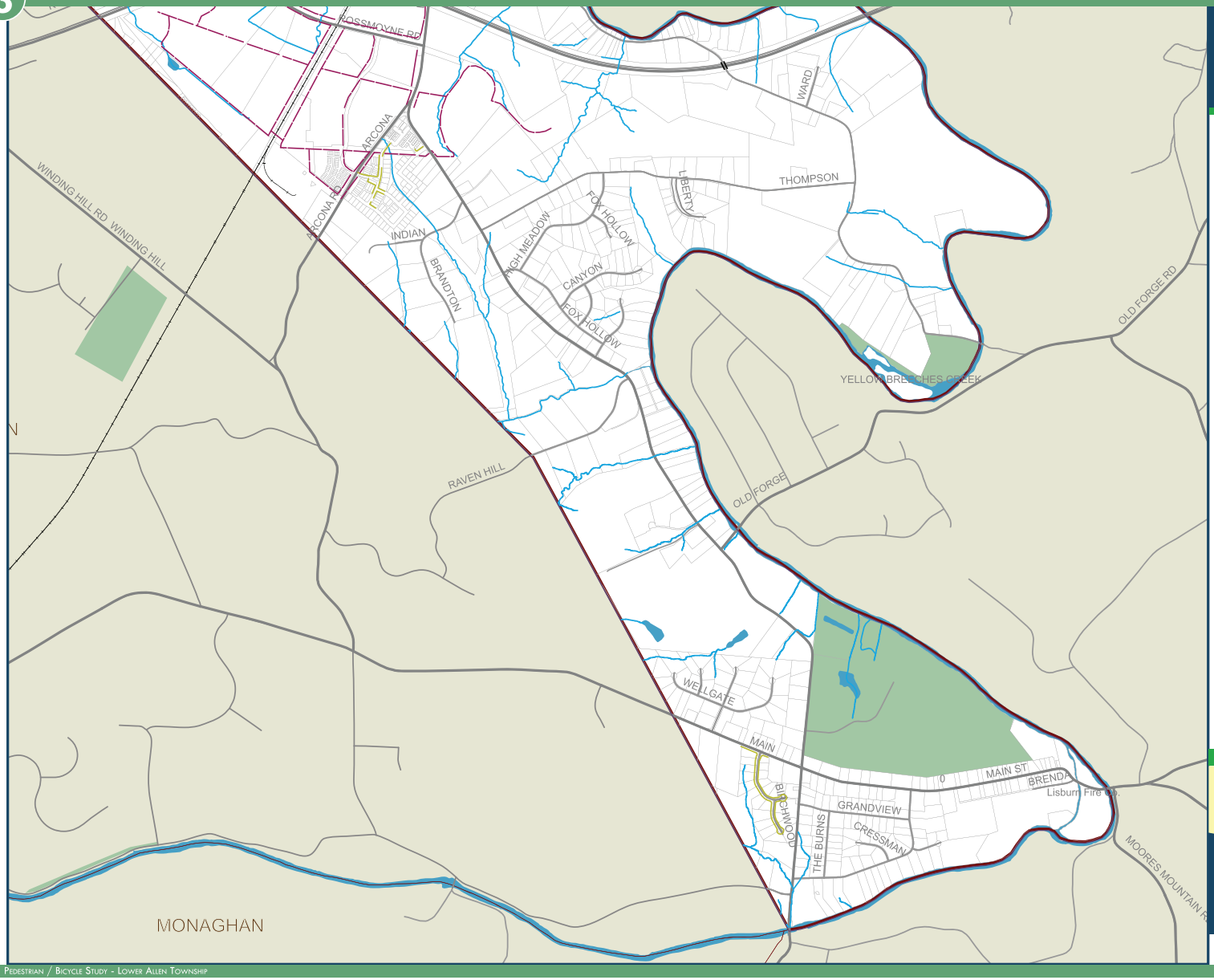
Proposed Sidewalk



Pedestrian / Bicycle Study
Lower Allen Township

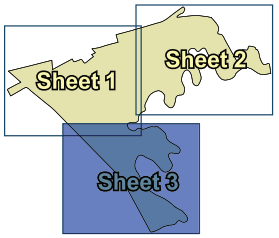
North

0 1/4 mile 1/2 mile



Existing and Proposed Sidewalks

Existing Sidewalk
Proposed Sidewalk



Pedestrian / Bicycle Study
Lower Allen Township

North
0
1/4 mile
1/2 mile

Sidewalk (continued)

Sidewalks are proposed along routes that will serve the largest number of Township residents, and improve accessibility to Township destinations such as schools, parks, and businesses.

Approximate locations of new sidewalks are based on site reconnaissance, a Township-wide sidewalk inventory completed by the consultants, and input from Township staff and committee meetings.

Image Source: NACTO

Image Source: GatlynByrd

Crosswalk

Crosswalks can be delineated in several ways. The continental crosswalks ("piano keys / "zebra stripes") are the most common type and highly visible crosswalks and are generally preferred by PennDOT and most regulatory agencies. The "keys" or "stripes" can be contained (or not) by another thick white stripe parallel to the direction of pedestrian traffic. Continental crosswalks are generally constructed of thermoplastic materials that is embedded into the asphalt paving and is highly durable, generally with an effective life span of up to ten years (dependent on traffic). In recent years, thermoplastic materials have been preferred to pavers placed in the crosswalks since pavers become loose are subject to damage from snow plows.

When used on state roads, PennDOT engineers must be consulted to approve of decorative crosswalks since some engineers feel that decorative crosswalks may distract drivers. However, the decision to allow or not allow a decorative crosswalk on a state road include levels of traffic or level or service at an intersection, accident history, posted speed limit and other contextual considerations.

Similar to sidewalks, crosswalks are proposed to benefit the largest number of residents and establish safe travel corridors to and from the destinations of Lower Allen.

Image Source: Asphalt Impressions

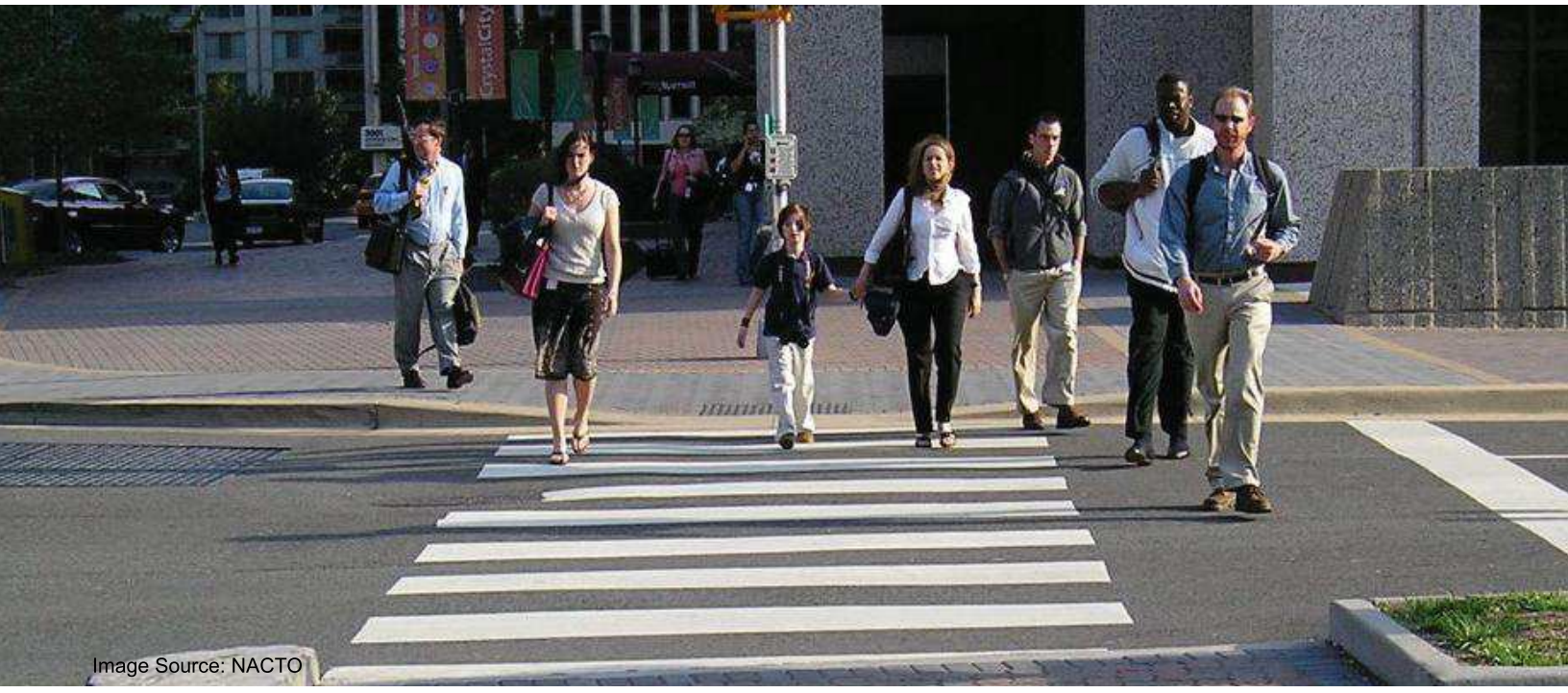


Image Source: NACTO

Special Crossing

There are eight special crossings proposed within this plan, and they can be grouped into the following categories:

(1) Railroad Crossing

Under current conditions, there are several pedestrian and bicycle crossings at railroad lines in Lower Allen. The crossings at these intersections are poorly delineated and offer little guidance to pedestrians and bicyclists.

This study proposes basic crosswalk improvements at these railroad intersections. Painted lines or constructed platforms may be utilized to delineate pedestrian and bicycle movement at these junctions.

Existing Conditions: Rossmoyne Road Railroad Crossing

Image Source: City of Bloomington

Image Source: OmegaInd

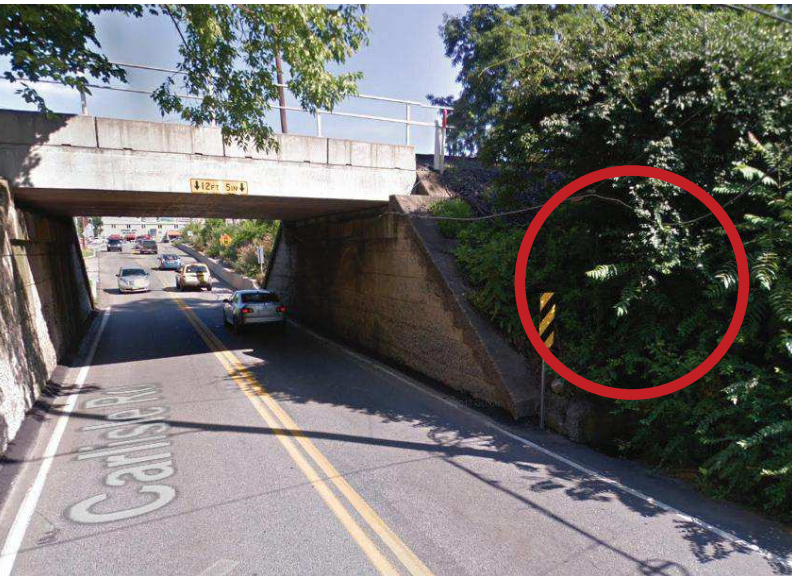
(2) Pedestrian Tunnel

The railroad crossing at Carlisle Road is a major barrier to connectivity in the north-east of Lower Allen Township. A pedestrian tunnel at this location would increase the safety of pedestrian and bicycle movements to Cedar Spring Run Park as well as the retail establishments along Gettysburg Road. Under current conditions, the narrow underpass beneath the Norfolk Southern railroad does not safely accommodate pedestrians or bicyclists. While efforts previously have been made to coordinate with Norfolk Southern, Lower Allen should continue to pursue a pedestrian connection at one of two locations:

1. Adjacent to the existing automobile tunnel on Carlisle Road (a new tunnel will need to be bored).

2. At the existing culvert beneath the Norfolk Southern railroad.

Existing Conditions:



1. Location for potential pedestrian tunnel at Carlisle Road

2. Location for potential pedestrian tunnel at existing culvert

Potential Solutions:

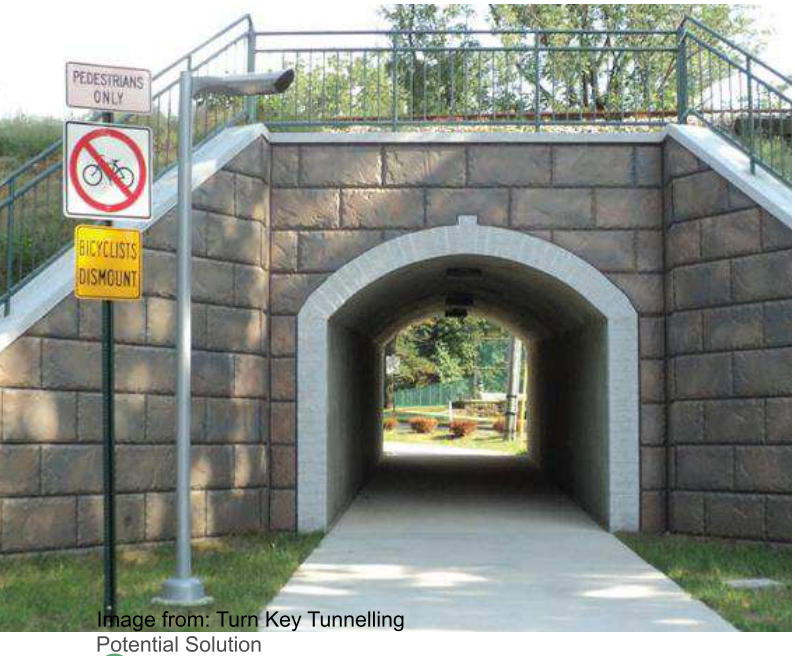


Image from: Turn Key Tunnelling
Potential Solution

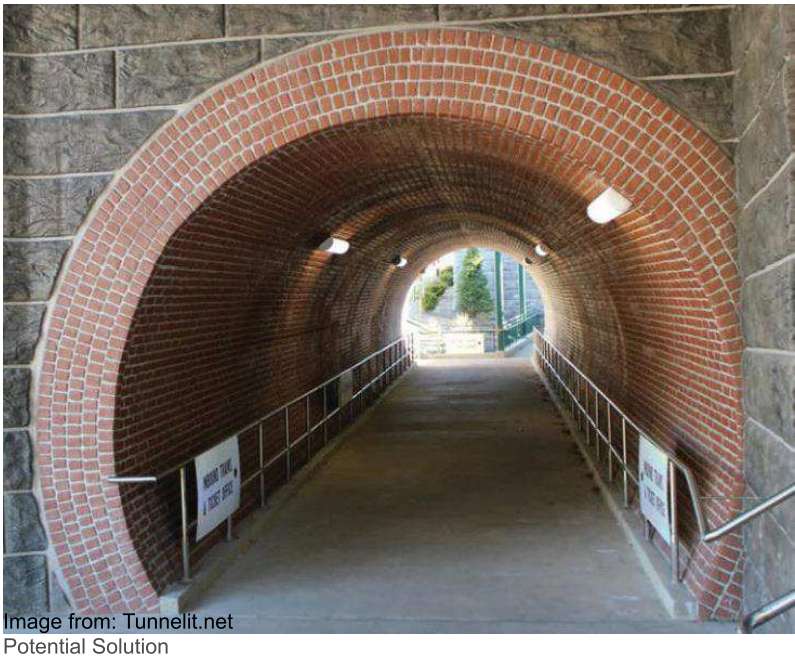


Image from: Tunnelit.net
Potential Solution

(3) Pedestrian Bridge

The existing 17th Street Bridge that connects Lower Allen to Camp Hill does not contain adequate pedestrian or bicycle infrastructure. The intersections leading to this bridge are high-volume and stress for non-motorized traffic.

A pedestrian bridge should be considered at the terminus of 18th Street in Lower Allen and connect north to 18th Street in Camp Hill. This is important for pedestrian and bicycle movement north of Lower Allen.

The existing metal bridge that spans the Yellow Breeches Creek on Sheepford Road will be removed and closed to automobile traffic in the near future. The remaining bridge abutments should be analyzed for a potential pedestrian bridge at this location. Sheepford Road is an important bicycle route connecting residents in the northern part of the Township to the Lower Allen Community Park in the south.

Existing Conditions: Potential Bridge Location between Camp Hill and Lower Allen

Existing Conditions: Bridge at Sheepford Road

Image from: Excelbridges.com
Potential Solution

Image from: Excelbridges.com
Potential Solution

ADA Curb Cut

The Americans with Disabilities Act provides for equal access for all people, regardless of physical abilities. A visible manifestation of this law in our everyday lives is the rapidly expanding number of handicapped accessible ramps on street corners. While Lower Allen has many handicapped accessible ramps at street intersections, there are additional intersections that need new ramps.

While ADA curb cuts are not specifically located on the proposed improvements plan, it is assumed they are to be installed concurrently with crosswalk improvements in Lower Allen.

Image Source: NACTO


Image Source: Media D

Rapid Flashing Beacon

Rapid flashing beacons, as the name implies, are traffic devices used at non-signalized intersections or at mid-block pedestrian crossings. These beacons alert motorists to the presence of pedestrians crossing the street.

Rapid flashing beacons can be activated in a number of ways.

- Pedestrian may press a button to activate the light
- Beacons may include cameras that detect the presence of a pedestrian about to go through an intersection
- Beacons may include infra-red heat sensing devices that sense body heat and activate the beacon.

Image Source: Texas AM

Hand Man

Hand Man pedestrian crossing indicators are well-suited for signalized intersections. These indicators alert pedestrians when and for how long it is safe to cross.

The MUTCD (Manual on Uniform Traffic Control Devices) states that an “upraised hand” or “don’t walk” signal informs pedestrians they cannot enter the street at that moment. A numbered countdown will appear as the signal prepares to change. A steady “walking man” indicates when it is safe for pedestrians to cross the street.

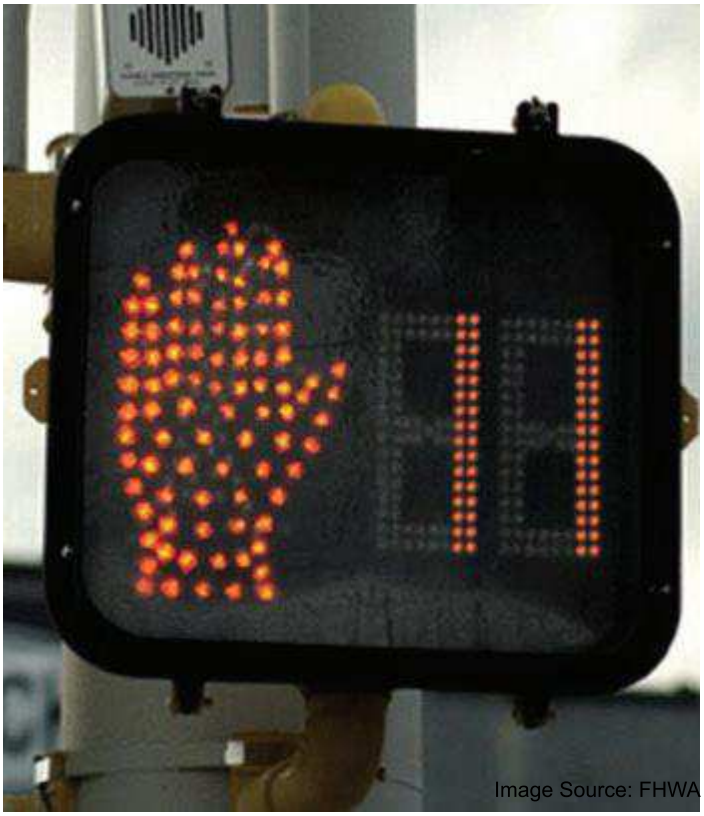


Image Source: FHWA

Image Source: Shuttershock

Pedestrian Refuge Island

A pedestrian refuge island is a pedestrian safety device that is used between lanes of opposing traffic. This provides pedestrians a place of “refuge” to pause or rest when crossing busy or wide streets. Pedestrian refuge islands can take many forms - from basic islands (6 foot minimum width) to large expanses of pavement seen in larger urban settings. Pedestrian refuge islands may be combined with stormwater management solutions.

Image Source: TCAT

Image Source: NACTO

Bike Box

A Bike box is connected to a bicycle lane, and is a designated area ahead of traffic at a signalized intersection. Bike boxes are designed to provide bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase.

As with all new pedestrian and bicycle infrastructure, motorist education is needed.


Image Source: NACTO


Image Source: WBUR

Bump Out

Bump outs and curb extensions are used extensively in urban and village areas as pedestrian safety enhancements and as traffic calming devices for motor vehicles. A bump out extends the sidewalk area into the cartway. Bump outs reduce the distance a pedestrian must navigate to cross the street.

Bump outs can be completely paved like a sidewalk, or can be partially paved and partially planted. When they are partially planted they can add to the street's ability to absorb and infiltrate stormwater. This allows the soil to cleanse groundwater of oil and gasoline residue.

Bump outs must be considered when plowing for snow and they must accommodate existing drainage patterns.

Image Source: Strath Cona

Image Source: NACTO

Speed Limit Reduction

It is recommended that Rossmoyne and Arcona Roads be evaluated for speed limit reductions. When these road were built, the land around them was largely rural with low population density. As new pedestrian developments such as Arcona are built along these roadways, the volume of motorized and non-motorized traffic will increase.

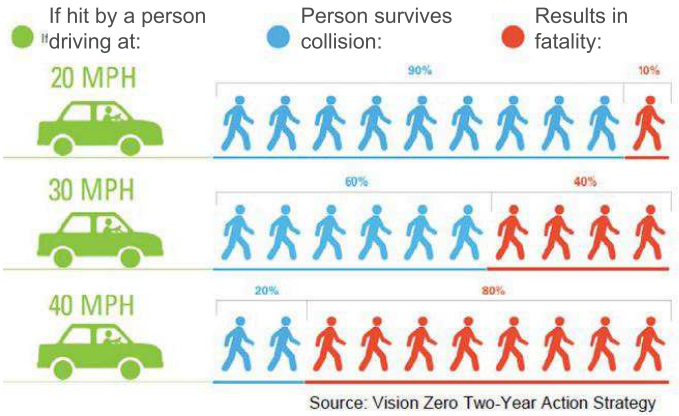
For the safety of pedestrians and bicyclists traveling these roads, both roads should be evaluated for reduced speed limits.

When a pedestrian is hit by a vehicle traveling at:

9 out of 10 Survive

5 out of 10 Survive

1 out of 10 Survive
[Current speed limit]



Source: Vision Zero Two-Year Action Strategy

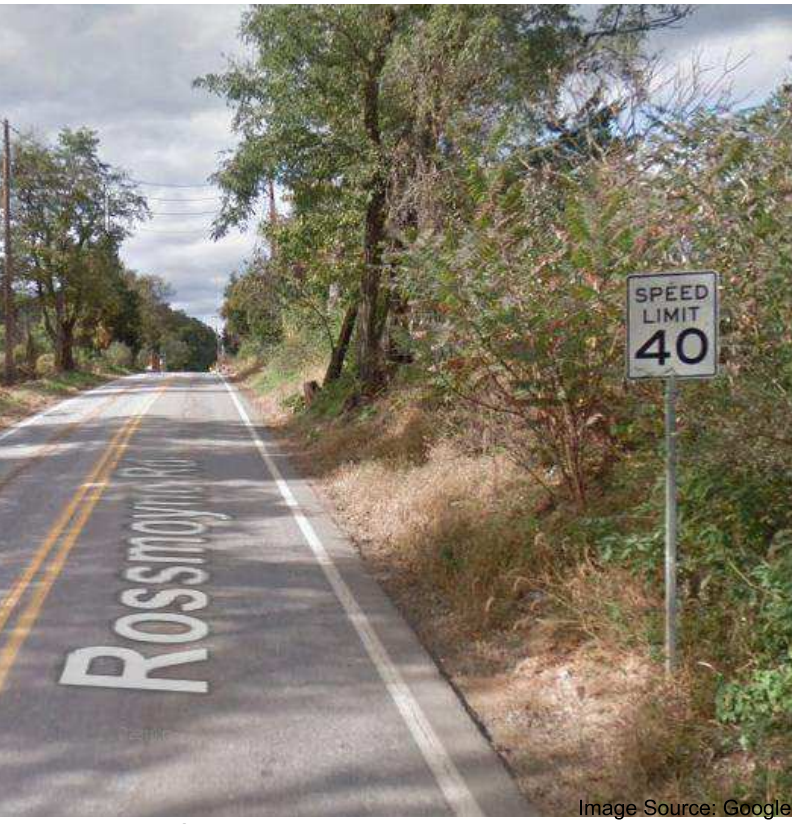


Image Source: Google

Existing Conditions: Rossmoyne Road

Image Source: Google

Existing Conditions: Arcona Road

Painted Shoulder

Painted shoulders clearly designate travel lanes within the roadway for both motorists, bicyclists and pedestrians.

This visual constriction of the travel lane tends to slow motor vehicle traffic. For bicyclists, this line delineates where it is safe to ride. Painted shoulders are a cost-effective improvement in areas not wide enough for a bike lane (which are five-foot wide at minimum). Lowther Road is a suitable candidate for a painted shoulder.

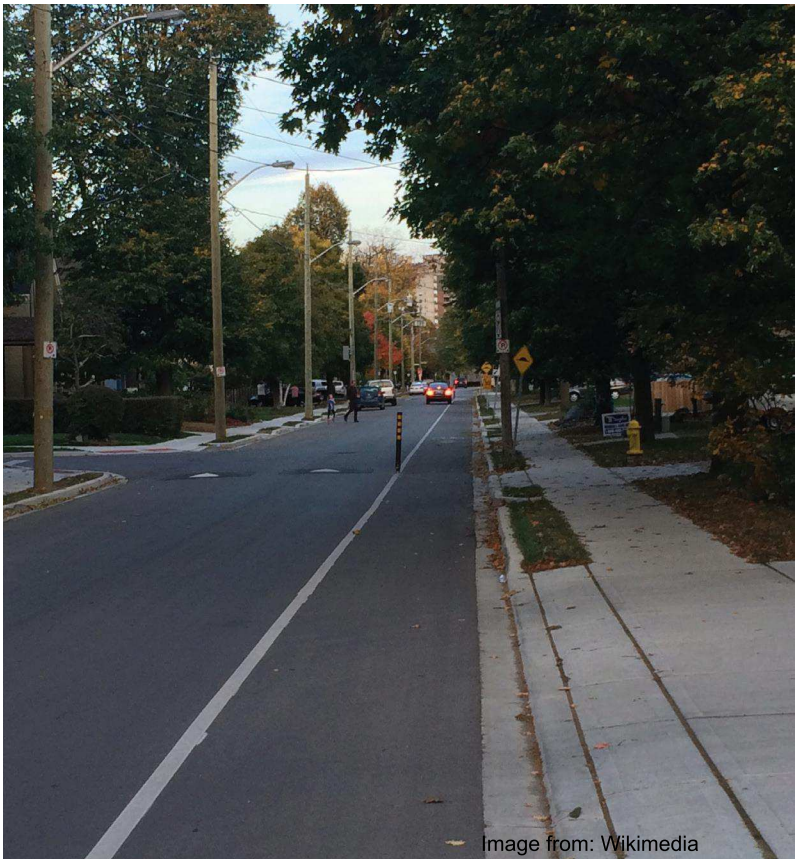


Image from: Wikimedia

Image Source: Google

Existing Conditions: Lowther Road

Multi-Use Trail

Multi-Use Trails are generally a minimum of 10 feet in width and may be designed at widths of up to 14 feet for high-volume trails. In rare instances where space is limited, trails may be installed at an 8 foot width. Such trails can be paved with asphalt or stone dust / stone screenings. Users include cyclists, roller-bladers, skateboarders, runners, joggers, and pedestrians. Motorized wheelchairs for handicapped users are also permitted.

There are two locations where multi-use trails are recommended:

1. State Land Trail

This roughly 1.5 mile trail would run from Spanglers Mill to Slate Hill Road. This could provide a low-stress travel route east/west across the Township along the beautiful rolling hills of this property. This trail could provide bicyclists and pedestrians an alternative to Lisburn road, which under current conditions is a high-volume and narrow roadway. This trail would travel through two primary property owners: (1) Pennsylvania Correctional Industries (PCI) and (2) Christian Life Assembly. Cooperation with these entities is critical.

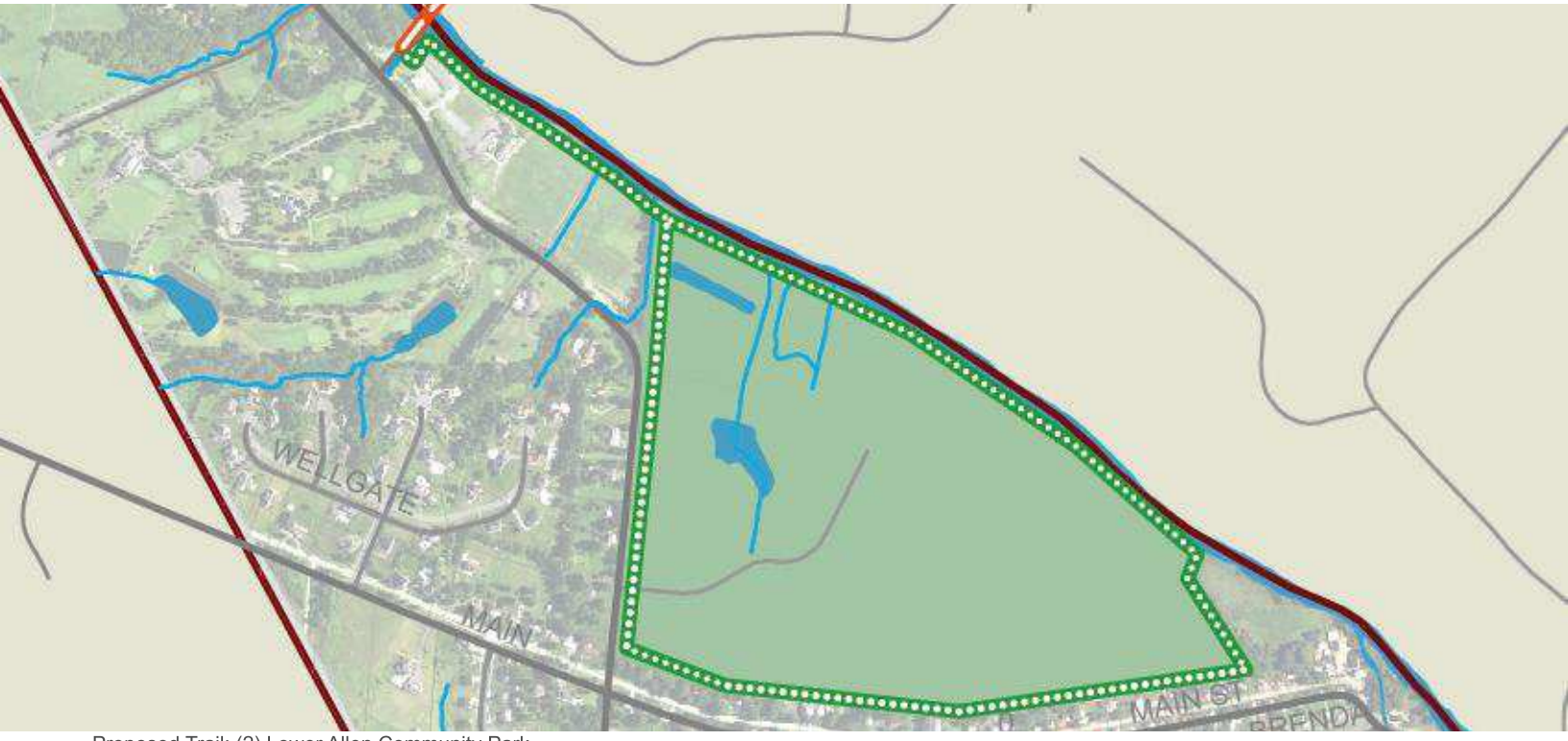
Trails as Advertisement at Arcona Development

2. Lower Allen Community Park Trail

This roughly 1.5 mile trail would run the perimeter of the Lower Allen Community Park and connect (via the Liberty Forge mini-golf and driving range property) to a proposed sharrow route on Old Forge Road.


Trails Under Construction at Arcona Development

Proposed Trail: (1) State Land Trail



Proposed Trail: (2) Lower Allen Community Park

Sharrow Route

Sharrows are pavement markings designed to alert motorists to the presence of cyclists in the roadway. A sharrow is a combination of an arrow and a cyclist. This includes the concept of "share the road", thus the "sharrow".

Sharrows are typically appropriate for roadways with posted speeds no higher than 25 MPH. Several of Lower Allen's roadways fall into this category.

Through conversations at public meetings and site visits, the consultant team determined which roadways would best serve as sharrow routes. Bike routes with sharrows may have accompanying signage; however they are not required to include signage.

Image Source: Flickr

Image Source: NACTO

Image Source: NACTO

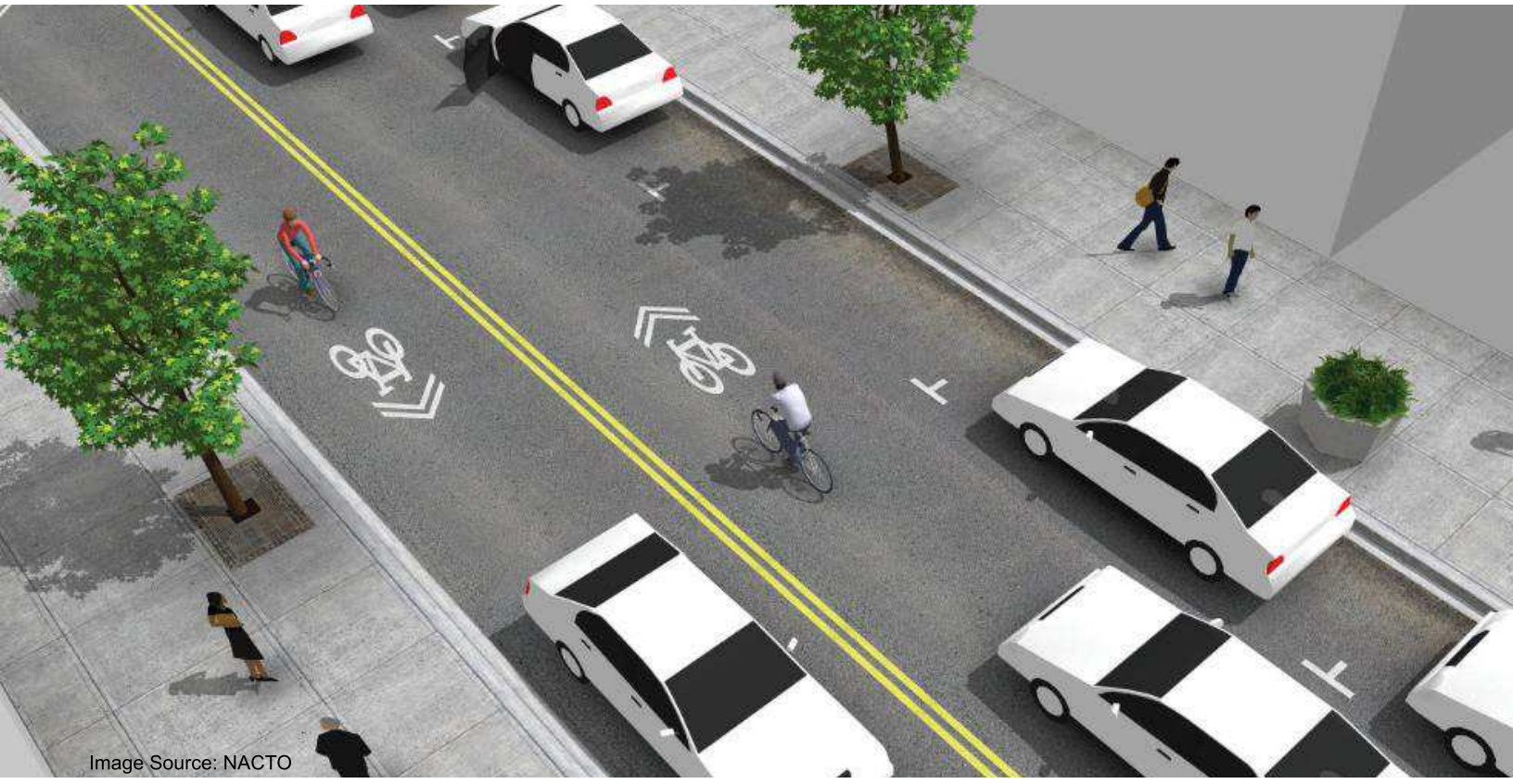


Image Source: NACTO

Bicycle Lane

Bicycle lanes are designed to create corridors of increased safety, separated from motorists through the use of pavement markings, striping, and signage. Bike lanes enable cyclists to ride at a comfortable speed 'without interference from prevailing traffic conditions and facilitate predictable behavior and movements between bicyclists and motorists.' - NACTO

Lower Allen Township contains several roadways that are wide enough for bicycle lanes.

Bicycle lanes are proposed on Gettysburg Road, 18th Street, Hartzdale Drive, Wesley Drive, and Simpson Ferry Road. Depending on road widths in these locations, bike lanes may or may not be buffered.

Image Source: Delta Daily News

Image Source: NACTO

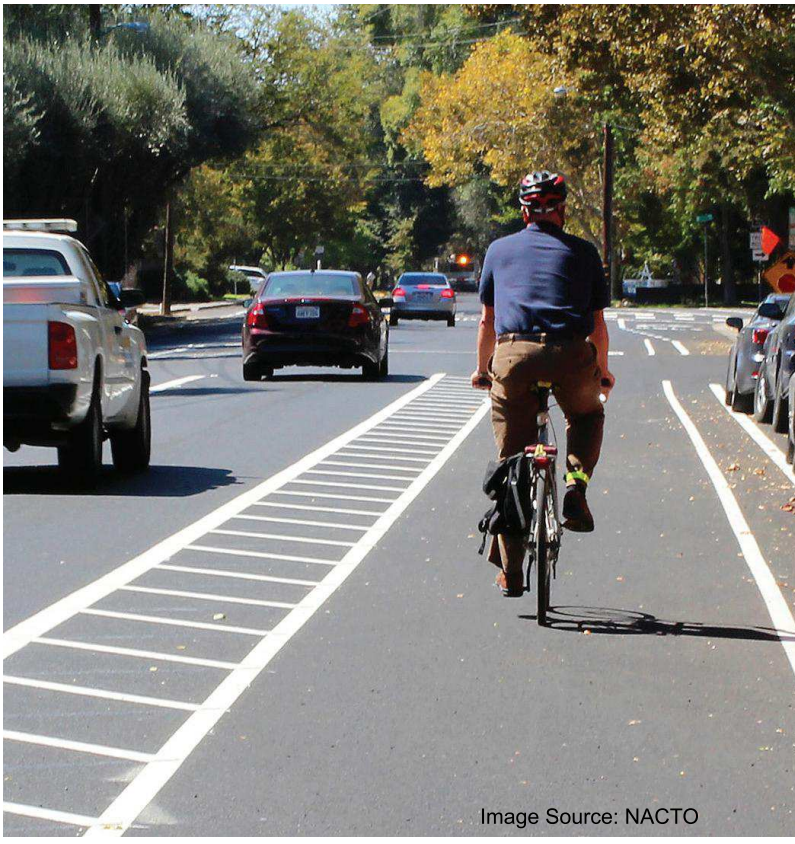


Image Source: NACTO

Gettysburg Road: a potential candidate for bicycle lanes on both sides of the roadway

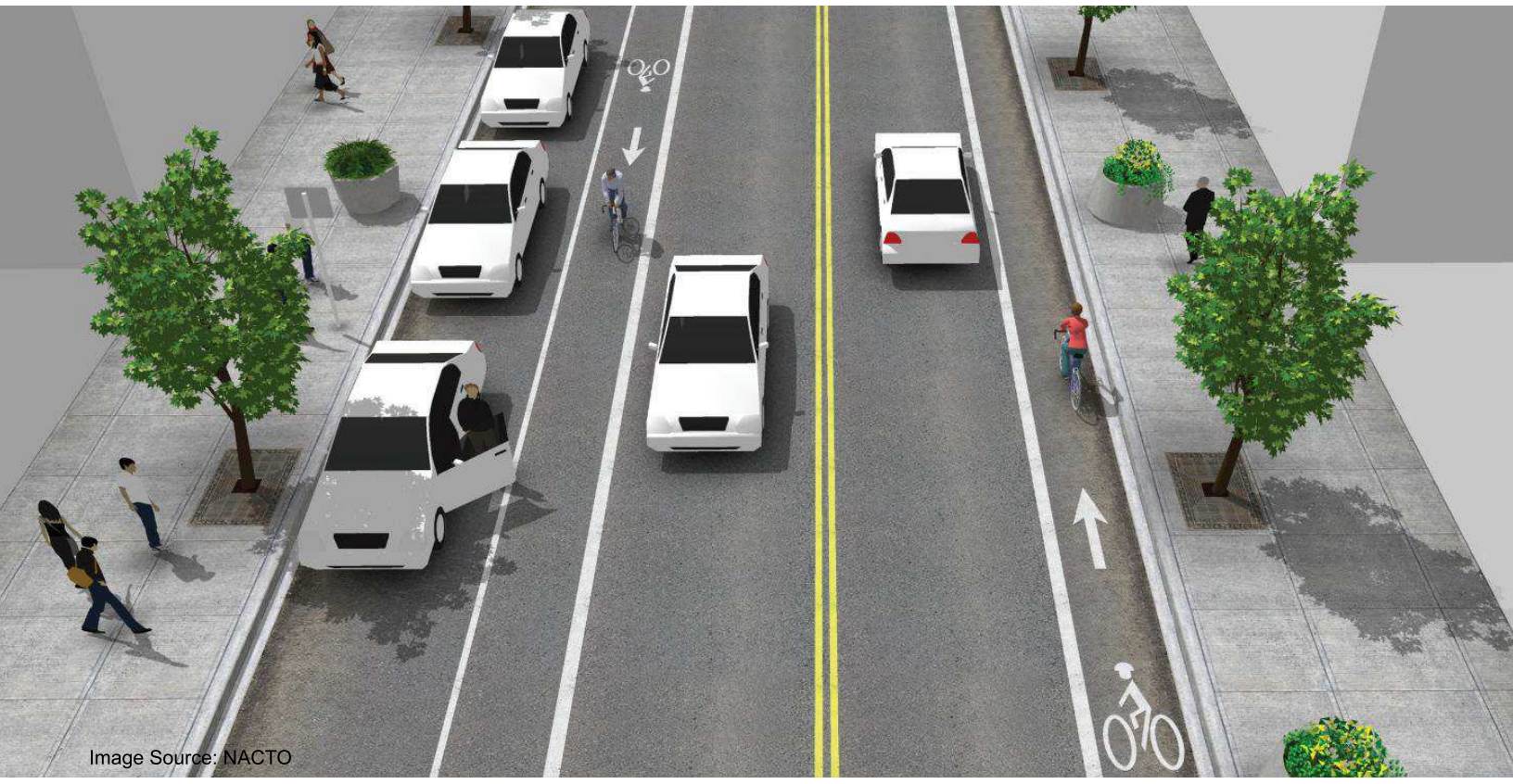
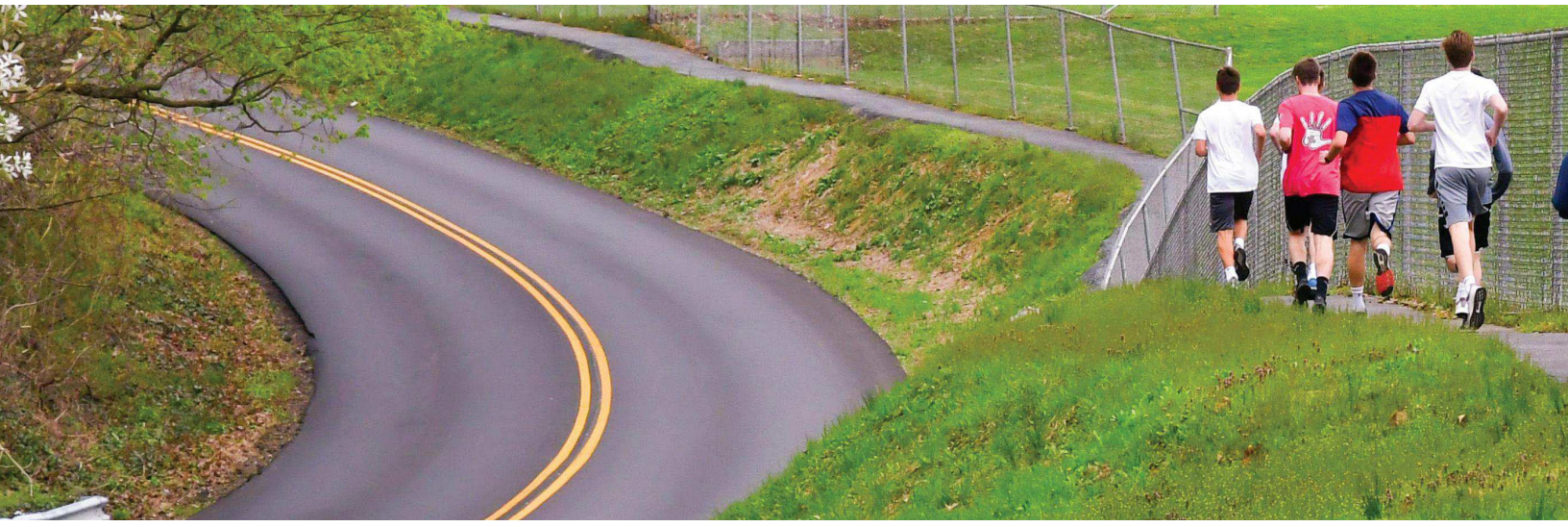


Image Source: NACTO

4

IMPLEMENTATION

				Total Cost	*$ 14,695,150*
				Mobilization (3%)	$ 440,855
				Construction Surveying (3%)	$ 440,855
				Erosion and Sedimentation Control (2%)	$ 293,903
				Maintenance of Traffic (2%)	$ 293,903
				Construction Contingency (10%)	$ 1,469,515
				Total Construction Costs	*$ 17,634,180*
				Design and Engineering (15%)	$ 2,645,127
				Total Estimated Project Costs	**$ 20,279,307**
Work Item	Quantity		Unit Cost	Total Item Cost	Total Cost
- Sidewalk			*Sub Total*		*$ 1,875,000*
New - Concrete (4' Wide)	*300,000*	*SF*	*$ 6.25*	$ 1,875,000.00	
- Crosswalk			*Sub Total*		*$ 124,300*
Continental	*113*	*EA*	*$ 1,100.00*	$ 124,300.00	
**ADA Ramps at Each Intersection*					
- Special Crossing			*Sub Total*		*$ 8,535,000*
Railroad and Pedestrian Crossing	*7*	*EA*	*$ 5,000.00*	*$ 35,000*	
Pedestrian Bridge at Hartzdale Road & Cedar Run	*1*	*EA*	*$ 500,000.00*	*$ 500,000*	
18th Street Pedestrian Bridge	*1*	*EA*	*$ 2,500,000.00*	$ 2,500,000.00	
Sheepford Road Pedestrian Bridge	*1*	*EA*	*$ 1,000,000.00*	$ 1,000,000.00	
Arcona Pedestrian Bridge	*1*	*EA*	*$ 2,000,000.00*	$ 2,000,000.00	
Carlisle Road Pedestrian Tunnel	*1*	*EA*	*$ 1,500,000.00*	$ 1,500,000.00	
Cedar Run Culvert Pedestrian Tunnel	*1*	*EA*	*$ 1,000,000.00*	$ 1,000,000.00	
- Rapid Flashing Beacon			*Sub Total*		*$ 180,000*
Rectangular Rapid Flashing Beacon	*12*	*EA*	*$ 15,000.00*	$ 180,000.00	
- Hand Man			*Sub Total*		*$ 6,000*
Hand Man Pedestrian Signal	*4*	*EA*	*$ 1,500.00*	$ 6,000.00	
- Pedestrian Refuge Island			*Sub Total*		*$ 30,000*
	2	*EA*	*$ 15,000.00*	$ 30,000.00	
- Multi Use Trail			*Sub Total*		*$ 3,400,000*
Asphalt Multi-Use Trail, 10' Width	*3.4*	*MI*	*$ 1,000,000.00*	$ 3,400,000.00	
- Sharrow			*Sub Total*		*$ 150,000*
Sharrow On-Road Bike Route	*75,000*	*LF*	*$ 2.00*	$ 150,000.00	
- Painted Shoulder			*Sub Total*		*$ 5,250*
Painted Shoulder On-Road Bike Route	*2,100*	*LF*	*$ 2.50*	$ 5,250.00	
- Bicycle Lane			*Sub Total*		*$ 360,000*
Painted On-Road Bike Lane	*36,000*	*LF*	*$ 10.00*	$ 360,000.00	
- Bike Box			*Sub Total*		*$ 3,600*
	9	*EA*	*$ 400.00*	$ 3,600.00	
- Bump Out			*Sub Total*		*$ 26,000*
	2	*EA*	*$ 13,000.00*	$ 26,000.00	
** Number to be determined - $8,000 each in addition to above estimates*					



Estimated Costs of Development

These figures provide a rough estimate to implement all proposed improvements within this plan. Final and more detailed costs will require specification per project.

All projects would not be completed at the same time, and would be approached individually and strategically depending on available grant and funding sources.

Potential Funding Sources

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

The Greenways, Trails, and Recreation Program (GTRP) provides funding for: public park and recreation area projects, greenway and trail projects, and river conservation projects. The program requires a 15% local cash match of the total project cost and projects must not exceed $250,000.

The Township could go after funding in any of the three categories listed above.

More information can be found at: http://www.newpa.com/programs/greenways-trails-and-recreation-program-gtrp/.

Pennsylvania Department of Transportation (PennDOT)

Transportation Alternatives (TA) Set-Aside

The Transportation Alternatives Set-Aside (TA Set-Aside) provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, environmental mitigation, recreational trail program projects, and safe routes to school projects. Projects must have a construction cost of at least $50,000, but no more than $1,000,000. This funding is offered every two years.

Additional information is available online at: http://www.penndot.gov/ProjectAndPrograms/Planning/Pages/Transportation-Alternatives-Program.aspx.

Multimodal Transportation Fund (MTF)

The Multimodal Transportation Fund (MTF) was created in 2013 when the Pennsylvania State Legislature passed and the Governor signed Act 89. This dedicated fund can be used for "projects that coordinate local land use with transportation assets to enhance existing communities" as well as "Projects related to streetscape, lighting, sidewalks and pedestrian safety". Grants are available for projects with a total cost of $100,000 or more. Grants will not normally exceed $3,000,000. Consideration will be given to projects with costs over $3,000,000 should they significantly impact PennDOT's goal of creating jobs and leveraging private investment.

Additional information is available online at: https://www.penndot.gov/ProjectAndPrograms/MultimodalProgram/Pages/default.aspx

Safe Routes to School (SRTS)

Pennsylvania's Safe Routes to School (SRTS) program is now funded through the Transportation Alternatives Program (TAP). This program is intended to provide safer routes for children to walk or bike to school. See PennDOT Transportation Alternative Program for more information.

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. In addition to planning efforts, the program provides funding for land acquisition for active or passive parks, trails and conservation purposes, and construction 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.

Recreational Trails Program

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.

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 recommendations will be of interest to PennVEST as they reduce impervious surfaces

Department of Community & Economic Development (DCED)

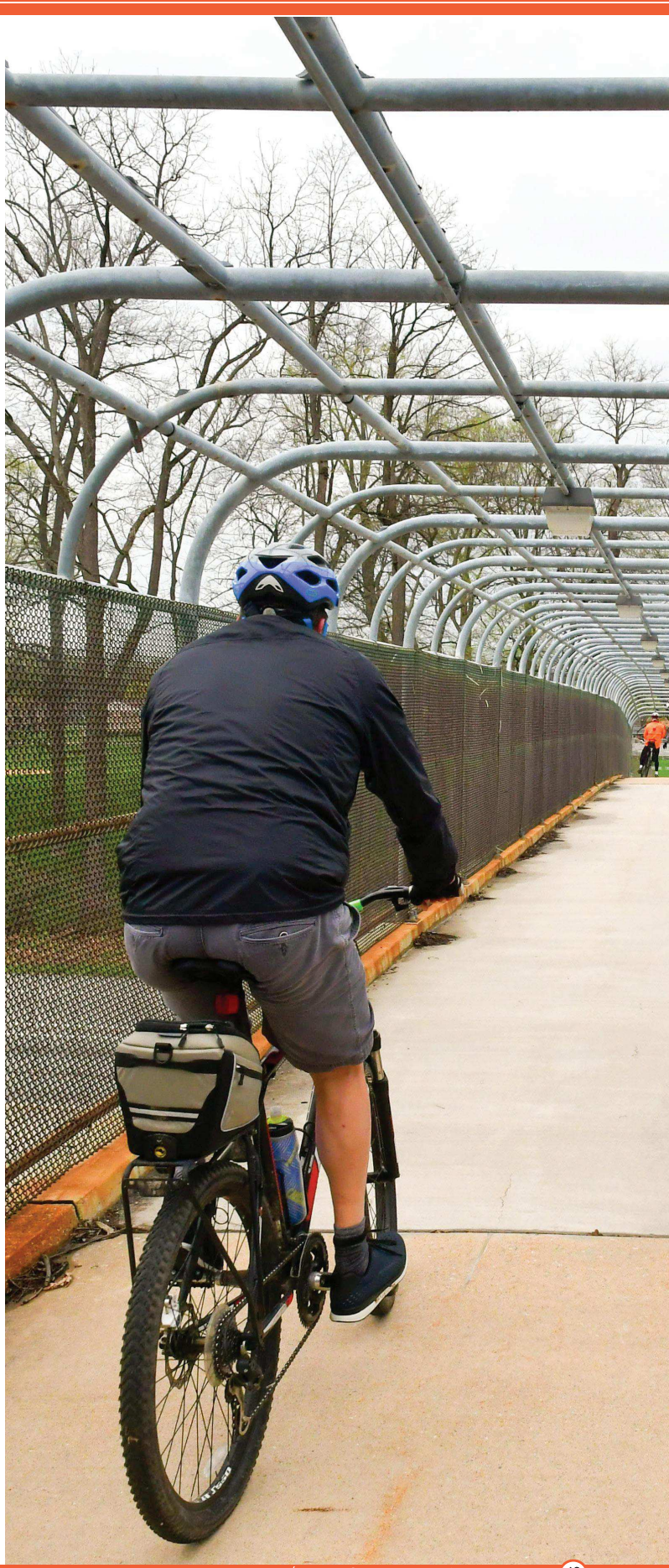
Multimodal Transportation Fund (MTF)

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. Grants shall not exceed $3,000,000 for any project.

More information can be found at the DCED website: https://dced.pa.gov/programs/multimodal-transportation-fund/



Implementation Priorities

The following list identifies important infrastructure improvements in Lower Allen and groups them according to time required for completion. This list is not finite and the Township may pursue improvements in any order depending on municipal preference and funding availability. While individual projects may have short, medium, or long-term timelines, it is important to note that implementation of all priorities is a long-term, multi-decade process.

Short - Term Priorities (1-3 Years for completion)

Priority	Improvement
A	18th Street Bike Lane & Bike Boxes
B	Rapid Flashing Beacons: Wass Park, Lower Allen Middle School (x2), Sheepford / Lisburn Rd Intersection, St. Johns / Gettysburg Rd Intersection, Kent / 18th Street Intersection
C	Crosswalks at high-volume intersections (Rt. 15, Rossmoyne Rd, Carlisle Rd, Gettysburg Road, 18th Street,

Mid - Term Priorities (4-10 Years for completion)

Priority	Improvement
A	Sharrow Routes: Gettysburg, Slate Hill, Sheepford, & Old Forge, & Arcona Rds
B	Gettysburg Road Bike Lanes & Bike Boxes
C	Hartzdale Road Bike Lanes & Bike Boxes
D	Loop Trail Around & Connection to Lower Allen Community Park
E	Trail Connection to New Cumberland Borough Park
F	Lower Allen Middle School Trail
G	Crosswalks within Residential Neighborhoods - Routes Connecting to Schools & Parks
H	Speed Limit Reductions on Rossmoyne & Arcona Roads

Long - Term Priorities (10+ Years for completion)

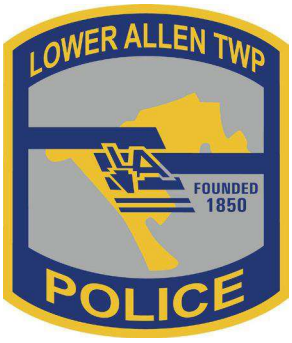
Priority	Improvement
A	Loop Trail Through Prison Property
B	Pedestrian Bridge at 18th Street
C	Pedestrian Tunnel at Carlisle Road Beneath Railroad
D	Pedestrian Bridge at Sheepford Road

Education

Motorist, cyclist, and pedestrian education is an important component to the infrastructure improvement process. With new projects and proposed improvements there is a learning curve for all users. Education is important for the success of new bike lanes, bike boxes, rapid flashing beacons, as well as any other improvements that may require modification to motorist behavior.

Classroom sessions, on-the-road workshops, and web-based training are a few ways Lower Allen can engage and educate Township residents.

Potential Education Partners




NO
CONSTRUCTION
PARKING

5

APPENDIX

Table of Contents

LOWER ALLEN TOWNSHIP PEDESTRIAN AND BIKE COMMITTEE
MINUTES

JANUARY 16, 2019 at 6PM
2233 Gettysburg Road
Camp Hill, PA 17011

The following were in ATTENDANCE:

Charles	Angelo	Brett	Sanders
David	Blahna	Richard	Schin
Dan	Christ	Ken	Stark
Sarah	Cordek	Greg	Thomas
Adam	Fisler	Rick	Thompson
Dan	Flint	Erin	Trone
Tim	Johnson	Michael	Washburn
Justin	Lehman	Ross	Willard
David	Powell	Stephanie	Williams

- The meeting started at 6:03PM.
- Erin Trone and Dan Flint welcomed the committee
- Erin showed a PowerPoint that highlighted the following:
    - Purpose of the committee
    - Developing the committee was an Action Item to the Township 2018 Comprehensive Plan
    - The committee will meet at 6PM on the third Wednesday of each month for the next year
    - Staff will facilitate meetings and provide information
    - Consultants will help with mapping
    - The Committee will be the decision-makers
    - Outcomes from the process could include
        - New trail connections
        - Improvement to existing routes
        - Education programs
        - New project list
- Introductions- each member of the committee introduced himself/herself by providing:
    - Name
    - Profession
    - Time spent living in the Township
    - Interest in the committee
- Dan Flint continued the PowerPoint presentation by showing locations and pictures of the existing trail network in Lower Allen which included
    - Rossmoyne Manor/Westport Trail
    - Allendale-Beacon Hill Trail
    - Bethany Village Trail
    - Lisburn/Lower Allen Community Park Trail
    - Wass Park-Shireman Manor Trail
    - 10th/Lowther-Shoreham Road
    - Rossmoyne Business Park Striping
    - Carlisle Road Striping
- The following questions were asked, and these answers were provided:

    Q: What major developments are occurring in the area that might affect the trail network or what kind of private trails have been developed?

A: Arcona is a major development being built near Lisburn, Arcona, and Rossmoyne Roads. At build-out it is expected to add a total of 1100 housing units and have a commercial core area. The development will be near several housing developments in Upper Allen. A pedestrian bridge has been proposed to cross over the rail line from Arcona to Upper Allen to provide access to the Winding Hills Park. Arcona will include several trails throughout and around the development.

Q: How do we get representation from special needs groups?
A: Suggestions were made to reach out to County Services or United Cerebral Palsy. A discussion ensued about trying to get involvement from members of the community that use the trail system for commuting or do not own a vehicle. Ross Willard from the Recycle Bicycle Harrisburg pointed out that involvement is difficult because they often work multiple jobs and have changing contact information. He stated that they were his clients, and it was our job to speak to their needs as best as possible.

Q: How do you feel safe riding on roads with cars?
A: Discussion ensued with key points being:
-The Harrisburg Bike Club will provide assisted rides
-Sometimes the most obvious route is not the best bike route
-Erin stated she would send a follow-up email with links to bicycle maps that had already been created in the area.

- The committee participated in Destination and Origin activity wherein dots where placed on locations that walkers and bikers were starting from and heading to:
    - Origins included mostly neighborhoods:
        - Lisburn/114 (Main Street)
        - Arcona
        - Winding Hills
        - Rossmoyne Manor Neighborhood
        - Rolling Green Cemetery
        - Fair Oaks
        - Highland Park
        - Cedar Cliff Manor
        - The Cliffs
        - Beacon Hill
    - Destinations
        - Camp Hill establishments
        - New Cumberland Borough Park and Library
        - Cedar Cliff High School
        - Boiling Springs
        - Winsdor Park Shopping Center
        - Rossmoyne Business Park
        - Allen Middle School
        - Capital City Mall
        - Lower Allen Community Park
        - Harrisburg
        - Green Belt
        - River Trails
        - West Shore Farmers Market
        - Frederickson Library
        - Carlisle
        - Upper Allen Parks
    - Meeting ended at 7:45PM

SIMONE LANDSCAPE ARCHITECTURE COLLINS

Pedestrian / Bicycle Study

Lower Allen Township

Committee Meeting 1

Lower Allen Township - Wednesday, March 20, 2019 – 6:00pm

Meeting Agenda

- Introductions
- Project scope
- Review modified schedule
- Data Gathering and Resources
- Trails 101
- Next Steps

Inventory boards:

- Where do you live and want to go destinations map
- Design a trail map
- Challenging Intersections map

Future Meetings

(see schedule on opposite side)

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Pedestrian / Bicycle Study
Lower Allen Township

Sign In Sheet
Committee Meeting 1
March 20, 2019

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MEETING NOTES

Project:	Pedestrian/Bicycle Study Lower Allen Township	Project No.:	19004
Location:	Lower Allen Township Municipal Building 2233 Gettysburg Rd, Camp Hill, Pa 17011	Meeting Date/ Time:	03/20/2019 6:00pm
Re:	Committee Meeting #1	Issue Date:	03/25/2019

ATTENDEES:

See Sign-in Sheet

GENERAL NOTES:

1. Peter Simone (PS) started with introductions. PS explained the meeting process & interactive board exercise, scope, and project schedule. PS explained that Simone Collins (SC) has worked with Lower Allen Township (LAT) and adjacent municipalities previously.
2. PS invited all committee members in attendance to introduce themselves to the group.
3. PS informed the committee that SC will conduct site reconnaissance in the Township via bicycle. SC will depart on bike from the Township building Wednesday April 17th at 2pm, and members of the committee were invited to attend.
4. Geoff Creary (GC) introduced the data gathering process as well as existing resources available to SC. GC explained that the 2018 LAT Comprehensive Plan will be an important document in the SC process, and emphasized that goal #3 of the Comprehensive Plan is “expand pedestrian and bicycle connections throughout the township”.
5. GC explained the process SC followed to create the Eastern Cumberland County Comprehensive Plan and briefly discussed the trail connections proposed within.
6. GC explained that SC uses STRAVA heatmaps to determine areas of high and low pedestrian and bicycle use.
7. GC delivered a brief ‘Trails 101’ education session:
    a. GC explained the different types of trail users: adults, children, cyclists, runners.
    b. GC explained the important design guidelines SC will follow in LAT: AASHTO: when designed to this standard, it is much easier to pursue grants. NACTO: pushes the envelope with bike & trail infrastructure. MUTCD: Essential signage document. GC

explained that signage such as 'may use full lane' is important for on-road bike infrastructure.

c. SC will design for less experienced riders and children – designing for this group ensures that all user groups can use pedestrian and bicycle facilities.
d. GC explained that bicycle facilities are not simply for recreation – trails must be designed commuters as well.
e. GC explained trail surface types: asphalt, stone dust, compact earth, rubberized, boardwalks.
f. GC encouraged all committee members to read NACTO facilities for solutions (GC talked about the gaining popularity of 'side paths')

8. PS explained the interactive data-gathering board activity, and committee members subsequently spent the next 20 minutes at each of the 3 boards supplied by SC: 'Where do you live and want to go destinations map' , 'Design a trail map' , 'Challenging Intersections map'
9. When the group reconvened each member of SC briefly discussed highlights and interesting knowledge gained at each interactive board.
10. PS informed that SC will send this evening's presentation and graphics to the committee via email in the next 1-2 days. Committee members should mark up plans and maps and return to SC with connectivity suggestions. Dan Flint told the committee that they will need to gather sidewalk inventory data (gaps) and get that information to SC.
11. PS reiterated that SC needs committee help for sidewalk gap information, and stressed that each person think about destinations when suggesting potential pedestrian / bicycle routes.
12. PS suggested that if SC cannot make physical improvements to existing underpasses and similar areas – SC can propose improved signage.
13. GC urged the committee to email SC photographs of sidewalk gaps as they encounter them around LAT.
14. PS reiterated that SC will depart on bike from the Township building on Wednesday April 17th at 2pm, and members of the committee were invited to attend. SC will host the second committee meeting that evening at 6pm in the municipal building.

This report represents the Professional's summation of the proceedings and is not a transcript. Unless written notice of any correction or clarification is received by the Professional within ten days of issue, the report shall be considered factually correct and shall become part of the official project record.

Sincerely,
SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE

Joseph P. Wallace

SIMONE LANDSCAPE ARCHITECTURE COLLINS

Pedestrian / Bicycle Study

Lower Allen Township

Committee Meeting 2

Lower Allen Township - Wednesday, April 17, 2019 – 6:00pm

Meeting Agenda

- Introductions
- Project Schedule
- Site Reconnaissance
- Data Inventory
- Core Focus Areas / Preliminary Routes
- Improvement Toolbox
- Next Steps

Future Meetings

(see schedule on opposite side)

Consultant Team Contacts:

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Pedestrian / Bicycle Study
Lower Allen Township

Sign In Sheet
Committee Meeting 2
April 17, 2019

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MEETING NOTES

Project:	Pedestrian/Bicycle Study Lower Allen Township	Project No.:	19004
Location:	Lower Allen Township Municipal Building 2233 Gettysburg Rd, Camp Hill, Pa 17011	Meeting Date/ Time:	04/17/2019 6:00pm
Re:	Committee Meeting #2	Issue Date:	04/19/2019

ATTENDEES:

See Sign-in Sheet

GENERAL NOTES:

1. Peter Simone (PS) started with introductions and invited all committee members in attendance to introduce themselves to the group.
2. Geoff Creary (GC) addressed the project scope, and the project schedule. GC stressed the importance of data input (sidewalk gaps, desired routes, etc.) from committee members.
3. GC described the data gathering and data layering process that defined the 'core focus areas' as defined by SC. GC illustrated that the 2007 & 2010 walk/bike plans, the 2018 Comprehensive Plan, and Strava walk/bike data were used to identify these focus area. GC stressed that these areas are not definitive, and SC will look beyond these routes to establish connections beyond the Township.
4. GC described SC site reconnaissance that took place earlier that day, and preliminary insights gained from field work.
5. GC explained the 'improvement toolbox' that will be used within the SC walk/bike plan.
    a. Sidewalks – these are the backbone of any walk and connectivity plan.
    b. Crosswalks – are simple and effective. They are highly visible for motorists and alert them to pedestrian crossings.
    c. Special crossing – GC explained that several areas have no clear marking for movement of pedestrians and bikes (in particular railroad crossings).
    d. Speed tables – Are great for pedestrian crossings and traffic calming.

e. Speed cushion – These great for bikers and emergency vehicles – they allow cyclists to ride unimpeded while slowing automobile traffic. However snow removal around them can be challenging for public works.
f. ADA curb cut – important elements for ADA pedestrian access.
g. Rapid Flashing Beacon & Hand Man – RFB's are great for increased pedestrian safety at non-signalized crossings. A 'Hand Man' at a signalized intersection alerts pedestrians when it is safe to cross.
h. Ped refuge island – great for traffic calming and provide a safe space mid-intersection for crossing pedestrians and bikes.
i. BMP (Best Management Practice) – These capture Stormwater and promote rainwater infiltration. These can be integrated into several other improvements such as Bump Outs.
j. Multi use trail – these are ideal for children and less experienced riders as they separate walk/bike traffic from motorists.
k. Sharrow – These on-road pavement markings communicate to motorists that the route is for cyclists.
l. Bike lanes – These must be 5' wide and there are several places in the Township where bike lanes and buffered bike lanes may work.
m. Bike box – These tell motorist where bikes will be at an intersection. They give bikes the opportunity to get in front of traffic when at traffic signal. Bike boxes are generally green and white because the Federal government studied color combinations and determined green and white most visible from a distance. PS stressed that there is a learning curve with all new projects and education is part of the process. Motorists need to be educated on these new infrastructure improvements and there is an opportunity for the County to create and fund these educational opportunities.
n. Bump out/ curb extension - These are not great for bikers as they interrupt the bicycle travel lane. For pedestrians bump outs shorten the crossing distance in an intersection and allow people to see around parked cars.

6. Next steps: SC will create a draft plan and report from all gathered information and site reconnaissance. GC stressed that SC will look beyond borders of the Township for connections - in particular the bridge to Camp Hill and crossing Yellow Breeches.)
7. GC confirmed that next committee meeting is May 29th **not May 15th**. All are encouraged to attend and participate.
8. Post-Presentation Question and Answer:
    a. *York County has many trails - can SC create connections to these? Also, can SC use the old railroad bridge across the Susquehanna for pedestrians and bikes to reach Harrisburg?* GC informed that the plan will look at connections to Harrisburg through Camp Hill and across the Harvey Taylor Bridge. SC will also look closely at connections to York County trails. In response to the railroad bridge across the Susquehanna - Dan Flint said there $6-7 million allocated to work on the old Capital Area Transit Bridge. It is owned by Amtrak and Norfolk Southern - Dan informed that this is a long process and it is not easy to work with railroads.
    b. *Are there educational components to this process? We need to educate drivers to respect this new infrastructure.* GC explained that driver's education in PA includes

education on these new infrastructure improvements. Local educational campaigns are projects unto themselves.

c. *Can we get a better intersection at the 18th street as well as the 17th Street Bridge?* GC explained that this is a very expensive improvement location. SC looked at this connection from the Camp Hill side on a previous project. GC said this is not on the PENNDOT improvement schedule. SC will called for improvements to the bridge in the Camp Hill walk/bike report, and will do the same in the Lower Allen walk/bike report. This will increase level of importance for PENNDOT. No room for improvements to existing bridge - PENNDOT to redeck this bridge and subsequently incorporate walk/bike infrastructure. SC will propose improvements to the current intersections leading to the 17th street Bridge, however there is limited space. SC saw several riders at this location during site reconnaissance.
d. *Can SC use stone yard parking lot to cross from the 17th street Bridge for access?* SC will look into this option.
e. PS urged the committee to keep trail and connectivity issues visible to the Board of Commissioners so that they continue to pursue grants and funding opportunities. PS and GC both reinforced that this plan is a long term process.

This report represents the Professional's summation of the proceedings and is not a transcript. Unless written notice of any correction or clarification is received by the Professional within ten days of issue, the report shall be considered factually correct and shall become part of the official project record.

Sincerely,
SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE

Joseph P. Wallace

Pedestrian / Bicycle Study

Lower Allen Township

Committee Meeting 3

Lower Allen Township - Wednesday, May 29, 2019 – 6:00pm

Meeting Agenda

1. Introductions
2. Project Schedule
3. Site Reconnaissance
4. Draft Report
5. Draft Improvement Plan
6. Implementation
7. Next Steps
8. Discussion

Consultant Team Contacts:

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Pedestrian / Bicycle Study
Lower Allen Township

Sign In Sheet
Committee Meeting 3
May 29, 2019

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MEETING NOTES

Project:	Pedestrian/Bicycle Study Lower Allen Township	Project No.:	19004
Location:	Lower Allen Township Municipal Building 2233 Gettysburg Rd, Camp Hill, Pa 17011	Meeting Date/ Time:	05/29/2019 6:00pm
Re:	Committee Meeting #3	Issue Date:	05/30/2019

ATTENDEES:

See Sign-in Sheet

GENERAL NOTES:

Introduction

1. Peter Simone (PS) started with introductions at 6:05pm and provided a brief project overview, detailed project scope, and the Simone Collins (SC) approach to this project.
2. Geoff Creary (GC) gave a detailed summary of SC process and stressed the importance for committee members to contact SC during the draft plan review phase with any feedback.
3. GC reviewed the project schedule and reiterated to the group that this would be the final committee meeting. GC reviewed the most recent SC site reconnaissance in Lower Allen Township (LAT).
4. GC explained that the draft report is well underway, and showed several pages from the report to give the committee a sense of the final product. GC explained that creating connections to the LAT schools were important to the planning process. GC stressed that planning for the safe movement of children will require upgraded crosswalks, sidewalks, rapid flashing beacons, and more.

Proposed Improvements and Draft Plan

5. GC explained the importance of the proposed pedestrian bridge at 18th Street. This pedestrian bridge would be an important connection north to Camp Hill and beyond. GC discussed the high cost of this project, and compared that to the high cost of a re-decked PennDOT bridge at 17th Street. GC explained that waiting for PennDOT to re-

deck 17th Street may take longer than building a new bridge. Pre-fabricated pedestrian bridges are functional and cost-effective.

6. GC explained the importance of formalized crossings at railroads. GC showed pictures of current crossings, and reinforced that there is no delineated directions non-motorized traffic at these crossings. Simple painted lines would be an improvement at these locations.
7. GC explained the SC process of moving bike infrastructure off of Lisburn Road (with high-volume motorized traffic) towards a low-stress route that will connect to the LAT Community Park in the south of the Township. GC showed the proposed sharrow route leading south and connecting to a proposed multi-use perimeter trail around the LAT Community Park.
8. GC explained the importance of a robust sidewalk network in LAT. Also, crosswalks and ADA curb cuts are planned and built simultaneously.
9. GC explained the railroad line that goes east-west across LAT is a major barrier to non-motorized connectivity. GC showed a picture of the current conditions at the railroad underpass along Carlisle Road. While GC explained that such bridges are not replaced easily or quickly, it may be possible to bore a hole into the area adjacent to the bridge and build a tunnel. This will be less expensive than a new underpass / bridge. GC showed local examples of this being accomplished.
10. GC explained that rapid flashing beacons provide important advance warning for motorists as pedestrians and cyclists cross a street.
11. GC explained that pedestrian refuge islands decrease intersection crossing distance and provide added safety.
12. PS explained that painted shoulders, while not the best infrastructure, work well where there is no room for a bike lane. This improvement is cost-effective.
13. GC explained that there are several roads throughout LAT that are wide enough for bike lanes. 18th Street is a great example of such a condition. A bike lane on 18th street could potentially be an important connection to the proposed 18th street pedestrian bridge.
14. GC explained the concept of an off-road multi-use trail across Lisburn Road from the Pennsylvania Correctional Industries (PCI) facility. The State land here is beautiful and scenic, and has not changed much in last 10-15 years. Although this land is owned by the prison, the implementation of a multi-use trail on prison property has been completed in various areas around Pennsylvania. This trail would also involve the cooperation of the Christian Life Assembly further south, as the proposed trail would pass through their property.

Costs

15. GC explained each line item of the proposed cost estimate. GC detailed the importance of an incremental approach to planning, construction, and funding. GC reiterated that not all improvements will happen at once, and will instead happen over a longer period of time.

16. GC explained that proposed Hand Man pedestrian signals can be implemented/funded by PennDOT on state routes.
17. GC explained that the multi-use trail cost includes the trail previously described on State land, as well as the perimeter trail around the LAT Community Park. Each trail will be its own project.
18. GC reiterated that while the total estimated cost may seem large, these improvements will happen over a longer period of time and will be approached piece by piece. GC and PS reinforced that there are many grants available for these types of proposed improvements.

Next Steps

19. SC will submit the draft report mid-June for review by committee. SC will meet one final time with LAT staff in June. GC stressed the importance of the committee reading the report thoroughly and returning comments to SC.

Discussion

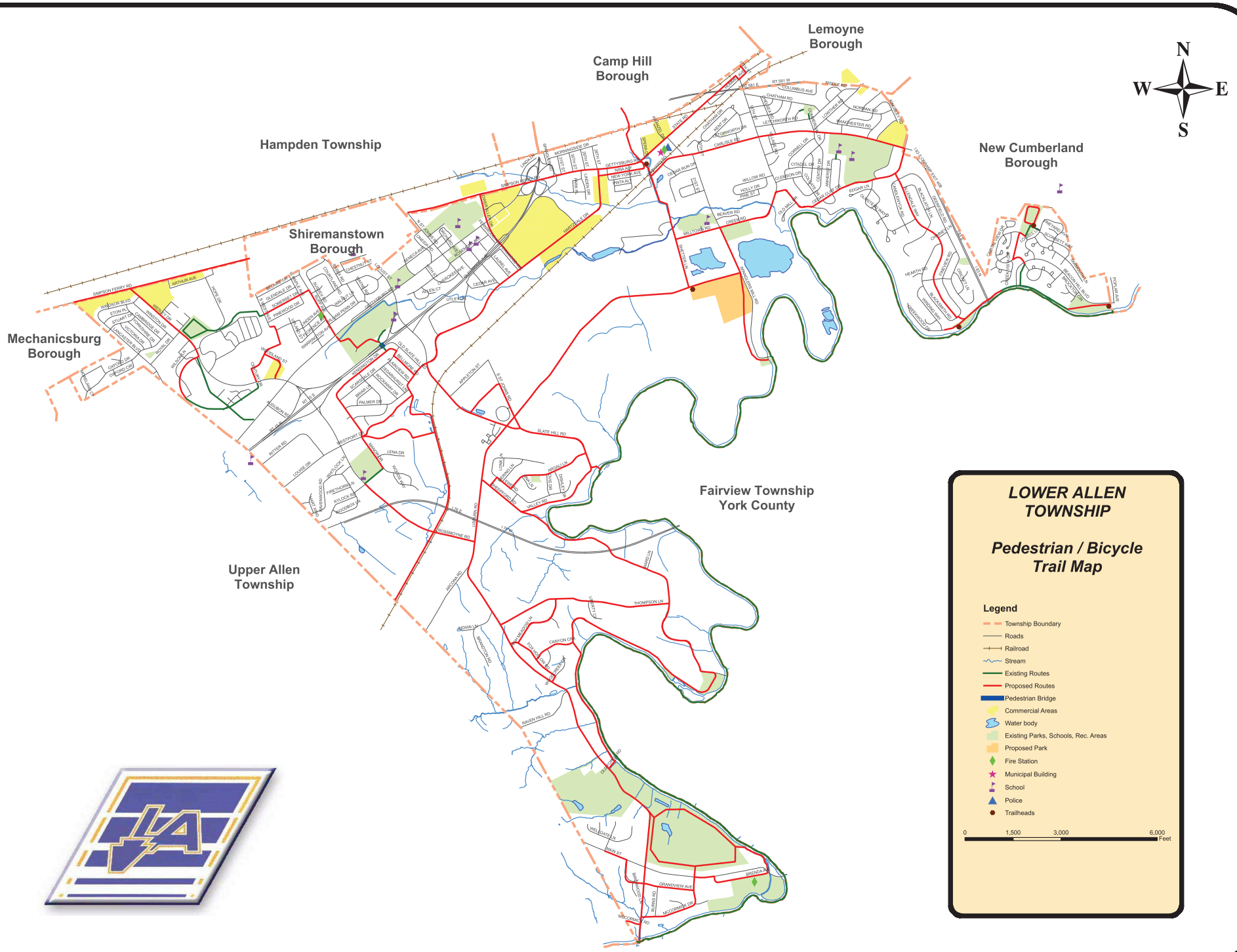
20. *Question: Will the report have a list of available grants that LAT can pursue?* GC confirmed that there will be such a section in the report. PS listed the main categories of grants and explained the implementation priority process. PS explained that a plan must come before any funding.
21. *Question: Why did SC choose asphalt for multi-use trail on State property?* GC explained that asphalt will take much less maintenance that stone dust trails. Stone dust is better for flat areas.
22. Dan Flint (DF) explained that this SC project was funded entirely by grant money.
23. PS suggested putting some or all improvements on the official map. LAT should then use this official map as leverage when pursuing grants and working with developers.
24. DF and GC explained that Gettysburg Road is wide and ideal for a road diet.
25. Erin Trone (ET) asked if SC can propose a pedestrian crosswalk along Gettysburg road? GC explained that it would be best to put a traffic signal along Gettysburg road and turn the current flashing signal into a traffic signal. We later learned that the traffic light at the Township building does not meet warrants.
26. *Question: Where is the 18th Street Pedestrian Bridge going to be located?* GC explained that the bridge would be located at the northern terminus of 18th Street in LAT. This bridge would be accessible to both pedestrians and cyclists.
27. *Question: How will the 18th Street pedestrian Bridge be prioritized within the context of other LAT proposed improvements?* PS explained that this depends partly on the priority this bridge receives from elected officials as well as available grant money.
28. PS explained that <u>persistence</u> is an important factor, and that Township Commissioners have many projects going at one time. The LAT community must keep these improvements in front of them so they remain a priority.
29. PS informed the committee that SC will help LAT delineate the first few projects/ funding opportunities that LAT should pursue.

30. *Question: What are next steps for this committee after SC finishes its time as consultant on this project?* PS suggested that LAT pursue Transportation Alternatives (TA) funding. LAT could pursue funding for the proposed pedestrian bridge, multi-use trails, bundle an area of sidewalks, crosswalks, and other improvements. This TA funding opportunity comes every two years and is approaching this fall/winter.
31. DF articulated that priorities may change depending on available funding.
32. ET suggested the creation of LAT 'trails committee' to pursue proposed improvements into the future. This could potentially lead to a regional trails council in partnership with Camp Hill and other communities.
33. PS explained that SC helped Camp Hill write a grant for funding of their streetscape project. Camp Hill received $700k in grant funding. This will make it easier for Camp Hill to get additional funding, as organizations like to fund projects that other organizations fund.
34. DF explained that a pedestrian bridge that crosses the railroad tracks at the Arcona development has been preliminarily designed and is not yet funded. This bridge will connect residents of new Acrona neighborhoods to the parks of Upper Allen Township.
35. One member of the committee suggested that someone within the group begin talking with the Christian Life Assembly and begin developing a positive relationship.
36. *Question: Can members of this committee be present at the County Commissioners meeting?* PS confirmed that this is allowed and SC would encourage this sort of engagement and participation on the County level.
37. SC will get the PowerPoint of this evening's presentation to LAT and this committee so that they may go forward and present it to additional groups (including the County Commissioners)
38. PS ended the meeting and reiterated that SC will get the draft report to LAT mid-June for the review period. PS asked the committee to set aside time to review and pass along comments to SC. LAT will let the committee know when the next Township Commissioners meeting is approaching. PS thanked everyone involved for their participation and attendance.

This report represents the Professional's summation of the proceedings and is not a transcript. Unless written notice of any correction or clarification is received by the Professional within ten days of issue, the report shall be considered factually correct and shall become part of the official project record.

Sincerely,
SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE

Joseph P. Wallace



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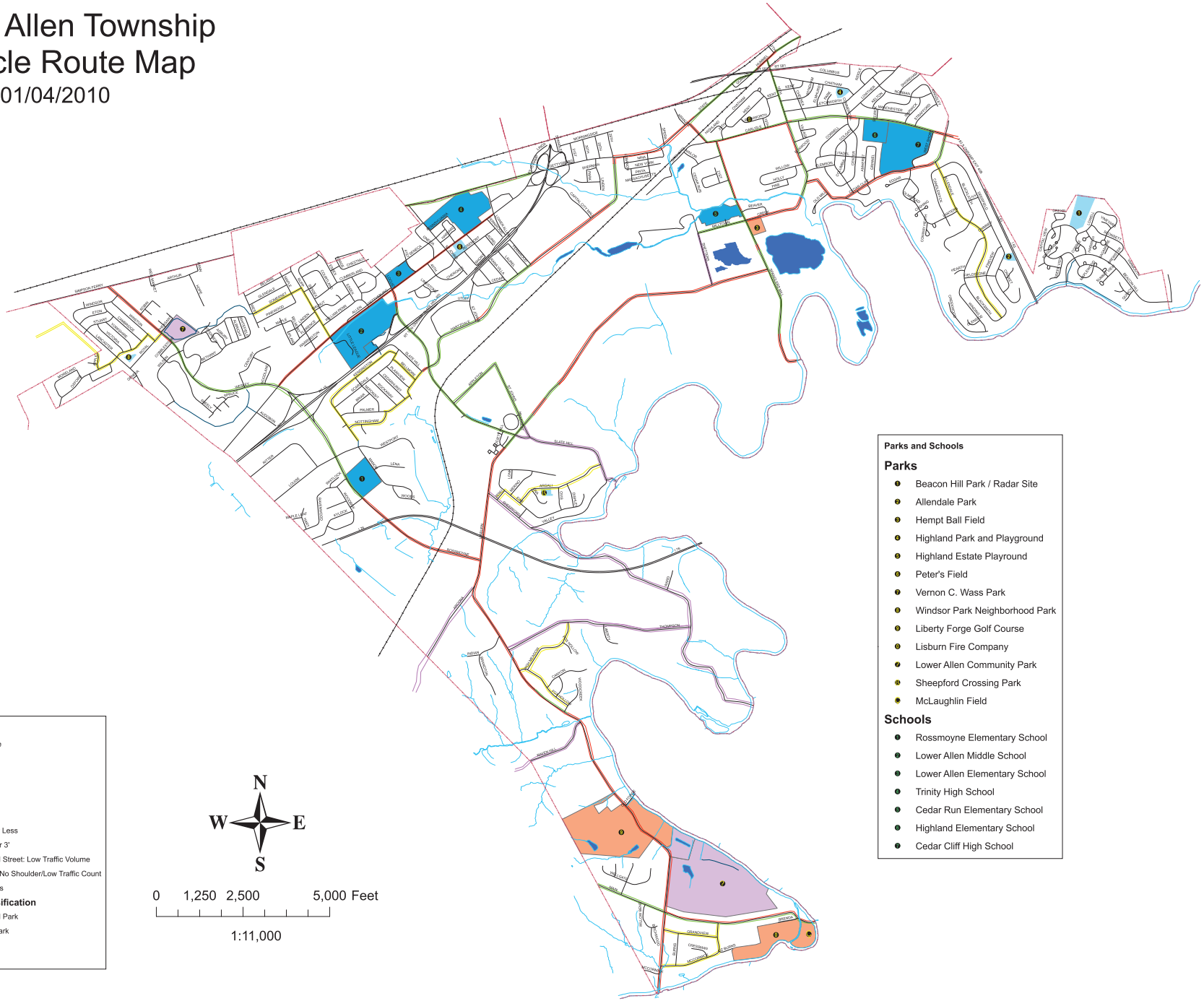
PRINT DATE: 1/21/2010

Lower Allen Township
Bicycle Route Map
01/04/2010



Legend
- Municipal Line
- Roads
- Railroad
- Sreams
- Water Body

Bike Routes
- Shoulder 3' or Less
- Shoulder Over 3'
- Neighborhood Street: Low Traffic Volume
- Rural Roads: No Shoulder/Low Traffic Count
- Off Road Trails

Park Land Classification
- Neighborhood Park
- Community Park
- Private Park
- Schools

N
W E
S

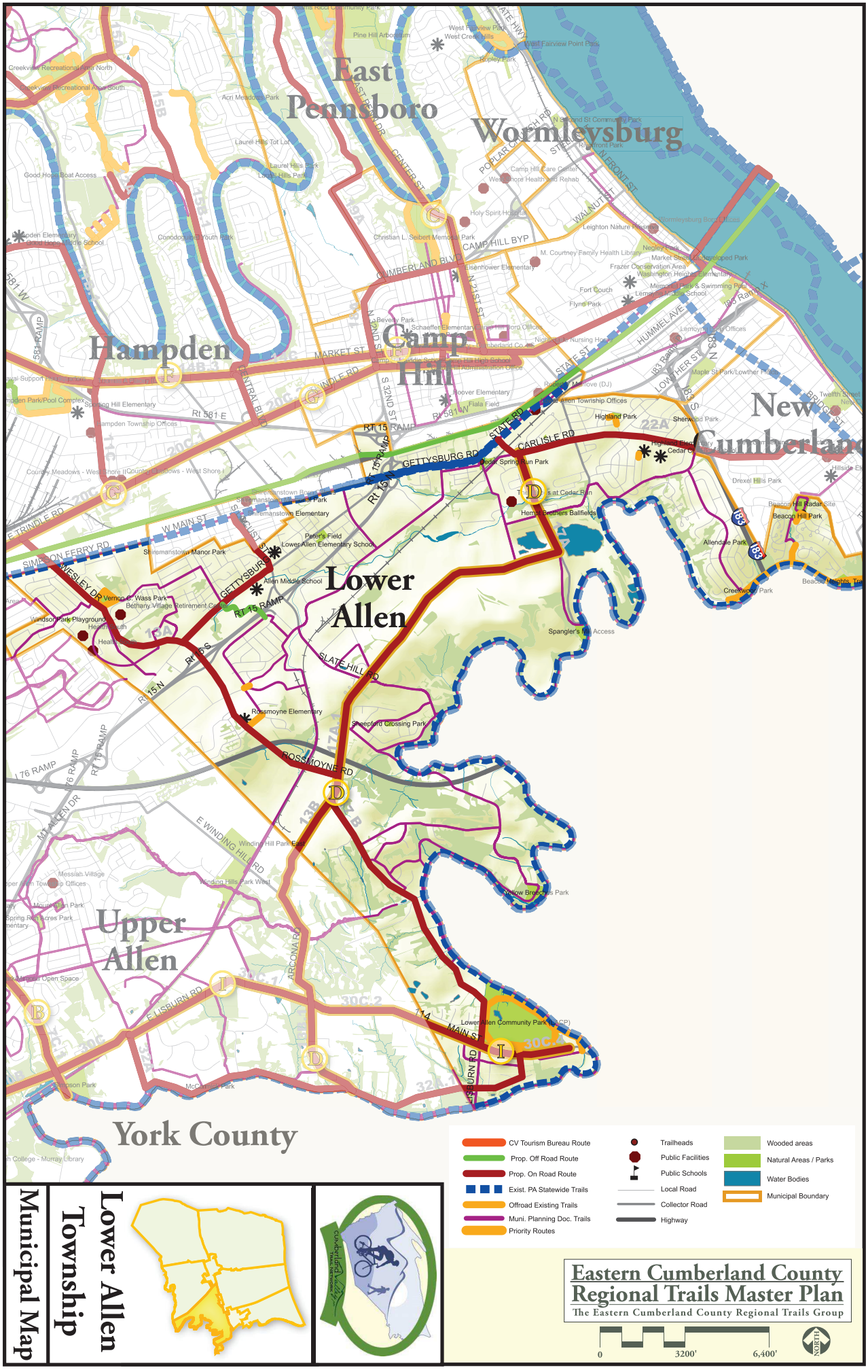
0 1,250 2,500 5,000 Feet

1:11,000

Parks and Schools

Parks
1. Beacon Hill Park / Radar Site
2. Allendale Park
3. Hempt Ball Field
4. Highland Park and Playground
5. Highland Estate Playround
6. Peter's Field
7. Vernon C. Wass Park
8. Windsor Park Neighborhood Park
9. Liberty Forge Golf Course
10. Lisburn Fire Company
11. Lower Allen Community Park
12. Sheepford Crossing Park
13. McLaughlin Field

Schools
- Rossmoyne Elementary School
- Lower Allen Middle School
- Lower Allen Elementary School
- Trinity High School
- Cedar Run Elementary School
- Highland Elementary School
- Cedar Cliff High School


East Pennsboro
Wormleysburg
Hampden
Camp Hill
New Cumberland
Lower Allen
Upper Allen
York County
CV Tourism Bureau Route
Prop. Off Road Route
Prop. On Road Route
Exist. PA Statewide Trails
Offroad Existing Trails
Muni. Planning Doc. Trails
Priority Routes
Trailheads
Public Facilities
Public Schools
Local Road
Collector Road
Highway
Wooded areas
Natural Areas / Parks
Water Bodies
Municipal Boundary
Lower Allen Township
Municipal Map
Eastern Cumberland County
Regional Trails Master Plan
The Eastern Cumberland County Regional Trails Group
0
3200'
6,400'
NORTH