Lower Saucon
Active Transportation Plan

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Prepared by

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Acknowledgements

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1 | Project Overview

Introduction

This Active Transportation addresses Lower Saucon Township's desire to create a plan for enhancing and increasing access to recreational, economic, and cultural destinations through safe bicycle and pedestrian routes. The plan explores opportunities to expand and connect existing pedestrian and bicycle infrastructure, multi-use trails and greenways, and public transit. The plan is focused on key areas of the township, particularly connections to the Saucon Rail Trail, Route 412 corridor, Route 378 corridor, and existing park and recreational facilities. It also considers potential regional connections beyond the township's borders. The Active Transportation Plan is unique to Lower Saucon Township and identifies short and long term goals with an eye towards implementation.

What is Active Transportation?

Active transportation refers to traveling by means other than a car. Walking, biking, and riding public transit are all forms of active transportation. People walk and bike for a variety of trip purposes, including trips to work, school, shopping, and for recreation. An active transportation plan identifies strategies to better accommodate walking, biking, and public transit in a community. Planning for active transportation can provide numerous community benefits, such as:

- Increasing safety
- Improving public health
- Reducing congestion
- Improving air pollution
- Providing access and mobility for those unable to drive
- Supporting the local economy

Vision

Vision statements should be broad and flexible, but provide some direction toward achieving a multimodal future in the community. A vision for active transportation in Lower Saucon is presented below:

To improve the walkability of Lower Saucon Township in a way that supports healthy lifestyles, access to recreational opportunities, and positive economic growth in the community.

Goals

Goals are implementable and measurable accomplishments that are supported by detailed action items in the Active Transportation Plan. They recognize a resolution to a specific issue identified by the community. The goals addressed by the Lower Saucon Active Transportation Plan are:

- **Create a consistent, cohesive, and inviting streetscape along Route 378 with connected active transportation infrastructure to:**
  - Improve safety for bicyclists and pedestrians
  - Enhance access to local businesses
  - Provide regional connections
  - Support economic development

- **Expand access connections to the Saucon Rail Trail, particularly multimodal connections to:**
  - Route 412 Corridor and commercial destinations south of Hellertown Borough
  - Park and recreational areas, as well as the Saucon Valley school campus, along the Polk Valley Road Corridor

- **Connect residential neighborhoods to the Saucon Rail Trail and commercial corridors so residents can access community assets without using an automobiles**

- **Establish policies that support expansion of Lower Saucon Township's active transportation network**

Study Area Planning Context

Lower Saucon Township is situated in the Saucon Valley of Northampton County, Pennsylvania. The township has a total area of just over 24 square miles. Surrounding Lower Saucon Township are eleven municipalities: City of Bethlehem, Hellertown Borough, Freemansburg Borough, Bethelehm Township, City of Easton, Williams Township, Durham Township, Springfield Township, Upper Saucon Township, Salisbury Township, and Fountain Hill Borough.

Lower Saucon Township participates in the Saucon Valley Partnership Council of Governments. Other members include the Hellertown Borough, Saucon Valley School District, and Northampton County. The Saucon Valley Partnership is a forum for officials to discuss common interests with the goal of improving the quality of life for residents of the Saucon Valley area in the face of increasing economic pressures and population growth.

Lower Saucon Township is defined by its landscapes and the people that live, work, and visit. Approximately 10,792 people live in Lower Saucon Township according to the most recent population estimates from the US Census Bureau. This summary identifies some of the key demographics that impact how people move about the township or are impacted by access to active transportation and recreational opportunities.

Transportation Demographics

Many factors influence peoples' transportation decisions. These factors include the physical constraints of their surroundings, how far they need to travel, and their access to reliable transportation.

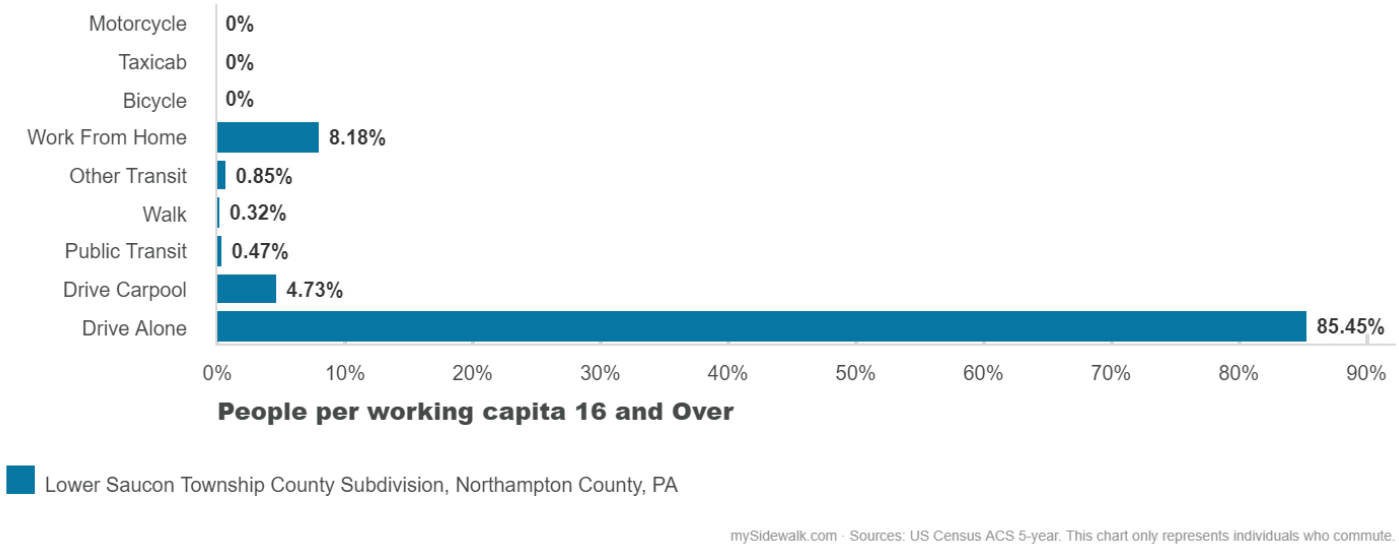
Commute Mode

People who walk, bicycle, or take public transit are the most vulnerable users of any transportation network. In the Lower Saucon Township, there are approximately 40 people who walk or take public transit (no individuals reported that they bike to work). Which represents less than 1% of all commuters. These statistics do not account for the many people who utilize the region's trails for recreation on a daily basis. Additionally, it is likely that there are many more people who would prefer to not drive, but do not have another option.

The commute mode for Lower Saucon Township residents is consistent with data for all residents of Northampton County, where drive alone is the predominate mode to work.

Due to COVID-19, more people are working from home than ever. The demographic data presented in this report is reflective of the most recently available data, which does not account for changes in behaviors due to COVID-19.

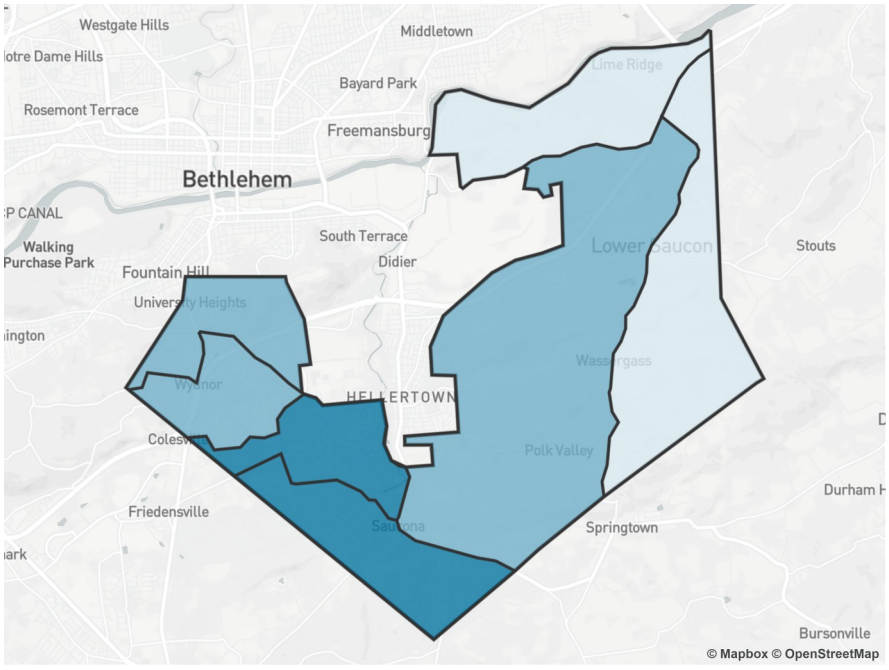
Commute Type by Percent of Residents Who Commute



Walkability Index

The US EPA characterizes the ease of pedestrian travel in an area with a Walkability Index. It considers factors such as a mix of employment types and occupied housing, street intersection density, and population density to assign a walkability score. The Walkability Index is a score out of 20; scores closer to 20 indicate that an area is more walkable, while scores closer to 1 indicate that an area is less walkable. The data shows that Lower Saucon Township's overall walkability score is 8.4. Which is not very walkable. However, areas of the township closer to Hellertown Borough and along the PA 412 and Bingen Road Corridors are more walkable, as shown on the map below.

Walkability Index in Lower Saucon Township by Census Block



Income and Access to Transportation Options

Individuals income and access to vehicles is another major factor influencing their transportation decisions. Lower Saucon Township is a wealthy community compared to the rest of Northampton County and Pennsylvania as a whole. According to data from the US Census, the median household income in Lower Saucon Township is $91,526. For comparison, the Northampton County average is $70,471 and the Pennsylvania average is $61,744. It is not surprising then, that the percentage of households without access to a vehicle is very low.

Median Household Income

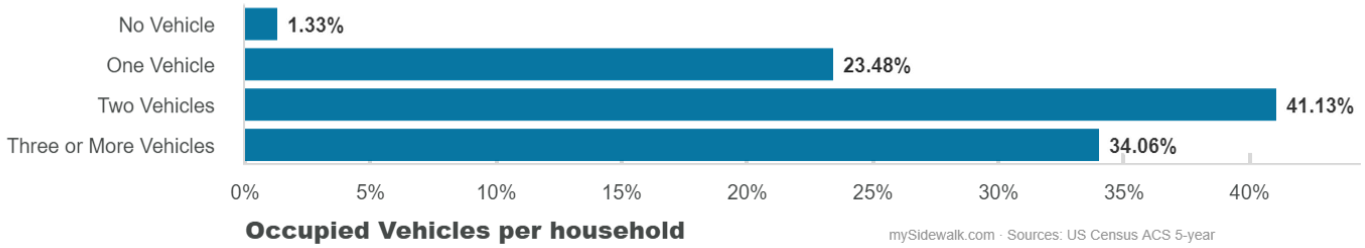
$91,526
USD
Lower Saucon Township County Subdivision, Northampton County, PA

$70,471
USD
Northampton County, PA

$61,744
USD
Pennsylvania

Sources: US Census ACS 5-year

Number of Vehicles Available by % of Total Housing



Community Health Data

Like the Transportation Demographics, it is important to understand the baseline health factors of the community. Maintaining active and healthy lifestyles remains increasingly important in communities across the country. Lower Saucon Township is no different. Therefore providing opportunities for people to get outdoors for recreation or commuting purposes is a priority for the township, and this active transportation plan outlines strategies to support this goal.

Nearly 1/3 of Lower Saucon Township residents are over the age of 60. This is a high percentage as compared to the Northampton County average of less than 26%. As residents age in place, it is important for individuals to have access to quality recreational opportunities.

The obesity rate and physical health among adults in Lower Saucon Township is comparable to that of the Northampton County average.

Obesity and Physical Activity Rates

Obesity Among Adults

30.9%
People
Lower Saucon Township County Subdivision, Northampton County, PA

31.7%
People
Northampton County, PA

Poor Physical Health Among Adults

11.8%
People
Lower Saucon Township County Subdivision, Northampton County, PA

12.6%
People
Northampton County, PA

Sources: CDC BRFSS PLACES 2018

Previous Plans and Studies

Various plans and studies have addressed the need and desire for improved active transportation in Lower Saucon Township and the larger Saucon Valley and Lehigh Valley regions. Listed below is a summary of major themes from these efforts, which highlight the importance of walking and biking in the community.

- **Our Resources, Our Valley—Multi-Municipal Comprehensive Plan for Pennsylvania's (2009)** identifies the long term need for a regional Bicycle/Pedestrian Plan to identify locations of sidewalks, bicycle infrastructure, and trails. Such a plan would prioritize capital improvements and set a path forward for the municipalities to create a complete active transportation network. Lower Saucon Township's Active Transportation Plan can be used as a model for the other municipalities in the Saucon Valley Partnership to develop their own bicycle/pedestrian plan.
- **Lower Saucon Township Capital Improvement Plan 2021-2025** identifies infrastructure projects that Lower Saucon Township intends to advance in the next 5 years. The projects listed in the plan include enhancements to parks, trails, and trailheads throughout the township.
- **Set Into Motion** promotes economic development growth in Lower Saucon Township. The plan highlights the need for streetscape improvements, increased accessibility for people to walk and bike, access to the Saucon Rail Trail, and general transportation improvements which would enhance the quality of life in Lower Saucon Township. The plan focused on several development corridors, including Route 378 and Route 412 and included recommendations to improve the overall streetscape and increase accessibility with sidewalks, bike lanes, and trails.
- **Walk/Roll LV Plan** coordinates public transit, trail, sidewalk, bikeway and roadway systems in the Lehigh Valley to create a robust an seamless regional transportation network that is safe and convenient for all user groups.

Ongoing Project and Initiatives

- **Saucon Valley 2020 Multi-Municipal Comprehensive Plan Update:** The Saucon Valley Partnership, which includes Lower Saucon Township, Hellertown Borough, and the Saucon Valley School District, is in the process of updating the multi-municipal comprehensive plan. The draft plan highlights the need for increased trail connections, countermeasures to facilitate pedestrian safety and walkability, and safe routes to schools.
- **Economic Development Task Force:** In 2013, Lower Saucon Township established an Economic Development Task Force to work on identifying economic development issues and identify strategies to

encourage new business investment in the township. Implementing infrastructure improvements that support walking and biking is a key component of many of the goals identified in their plan; Set Into Motion (2014).

- **Meadows Road Bridge over Saucon Creek:** This county-owned bridge is in poor condition and is currently closed to all traffic. Due to the deterioration and risk of collapse, plans are underway to demolition and remove the structure. PennDOT has initiated planning and design to replace the bridge, which could provide an opportunity for improved multimodal connections between the Saucon Rail Trail and the PA 412 corridor.
- **Saucon Creek Trail Bridge at Tumminello Park:** Design of a pedestrian bridge to connect Tumminello Park to the Saucon Rail Trail and Gristmill Park is currently underway. Hellertown Borough is leading this effort.

Tumminello Park

Stakeholder and Public Involvement

The public involvement strategy for the Active Transportation Plan was shaped by the Covid-19 Pandemic. Limits on public gatherings required an approach that focused on virtual community engagement efforts. As such, no in-person public meetings were held during the development of the Active Transportation Plan.

Steering Committee

Lower Saucon Township identified an enthused, knowledgeable, and energetic group of individuals to serve on the steering committee. The steering committee met monthly to ensure to provide feedback on the progress of the project.

Partner Interviews

Partner interviews were conducted to gather opinions and perceptions on the opportunities, issues, and challenges related to walking, biking, and using transit in Lower Saucon Township. In all, representatives from nine organizations were interviewed for the Active Transportation Plan. A summary of the key takeaways is provided below.

- There is general consensus that the existing transportation network is focused on automobile circulation, and therefore it does not serve the demand for walking and biking in Lower Saucon Township.
- Hellertown Borough is a major destination.
- Better access to the Saucon Rail Trail is needed.
- Separated facilities (such as trails) are preferred over on-road routes.
- Lower Saucon Township needs to coordinate planning efforts with

surrounding communities, especially Hellertown Borough.

- Increased speeding enforcement is needed on main corridors.
- Community members will see value and support improvements if they are supported by elected officials.

Council Presentations

During the planning process, council presentations were used as an opportunity to educate the elected officials and public about the ongoing Active Transportation Plan. Additionally, the online public input platform was promoted at these meetings. A brief summary of the topics covered at each meeting is provided below.

- **Council Presentation on April 7, 2021:** Presentation of a project overview and request for public input on community needs, key issues, and key gaps in the active transportation network
- **Council Presentation on June 16, 2021:** Presentation of the draft active transportation network and potential infrastructure improvements

Online Interactive Map

An online interactive map was created to solicit input from the community about locations for potential sidewalks, trails, crosswalks, and other improvements to make it safer, comfortable, and more convenient for people to walk or bike in Lower Saucon Township. The comments submitted to interactive map helped to confirm the key issues and focus areas that were identified by the steering committee. Additionally, participants were interested in a future connection between the Saucon Rail Trail and the Bethlehem Greenway and bicycle/pedestrian improvements along Mountain Drive. In total, 80 comments were submitted to the online mapping platform.

Draft Active Transportation Plan

A draft of the Active Transportation Plan was posted on Lower Saucon Township's website on July 29, 2021 for a three-week public review and comment period. Community members were encouraged to submit their comments via email to the township. No written public comments were received during this time, but the draft plan was revised and finalized to incorporate final input from the steering committee and township staff.

2 | Existing Conditions

Introduction

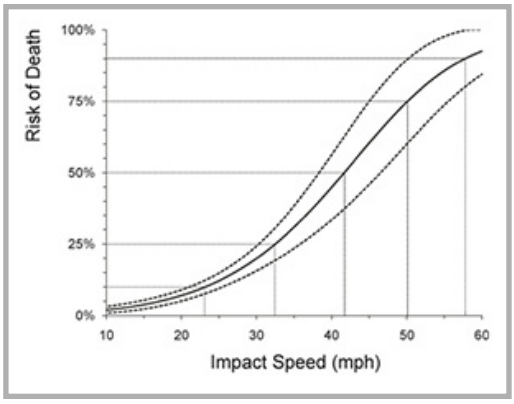
Lower Saucon Township's existing active transportation network is centered on the Saucon Rail Trail, which is within the central part of the township. Other existing trails are primarily within parks and connecting to the school campus along Polk Valley Road. There are short segments of sidewalks along some commercial corridors and within residential developments, but they are very limited and disconnected. The township's roadway network is important for active transportation because many people walk and bike along roadways. This chapter further describes the existing conditions that impact walking, biking, and accessing public transportation.

Roadway Network

There are approximately 117 miles of public roadways in Lower Saucon Township. Of those, the township owns and is responsible for maintenance of just under 87 miles. Interstate 78 bisects the township with one interchange in the northeastern corner of the township with PA Route 33. However, another interchange in neighboring Hellertown Borough provides access for residents. While I-78 is an important asset for regional mobility and economic development, it is a barrier for bicycle and pedestrian connections, particularly along the Route 378 corridor.

Many of the roadways in the township have limited available right of way, which limits the possibility of widening for additional capacity for bicycles, pedestrians, or motor vehicles.

Identifying facilities that improve the safety of all users is a key component of this plan. People walking or riding bicycles are the most vulnerable roadway users. According to research by the AAA Foundation for Traffic Safety, pedestrians' risk of being fatally injured in a crash increase drastically as vehicles speeds increase. This relationship between vehicle speed and pedestrian risk of fatal injury is illustrated by the graphic on this page.



Reportable crashes were reviewed as part of this project, utilizing PennDOT's Pennsylvania Crash Information Tool for the five year period between 2015-2019. A reportable crash is one in which there is injury to anyone involved and/or a vehicle must be towed from the scene and cannot be driven. Additional crashes involving pedestrians or bicycles may have occurred in the study area, but were not reported to PennDOT. PennDOT's data shows that there were four crashes involving bicycles and four crashes involving pedestrians in Lower Saucon Township during the analysis period.

The crash data review showed that there are two significant clusters of vehicular crashes along the Route 378 corridor; between Mountain Drive and Seidersville Road, and between Black river Road and Colesville Road. This data highlights existing safety issues that should be considered when developing improvements for bicyclists and pedestrians, especially the need for safe roadway crossings. Additionally, there is a cluster of crashes (specifically involving bicyclists and pedestrians) just south of Hellertown Borough in the vicinity of Route 412, Meadows Road, and Polk Valley Road. This is likely due, in part, to the desirable access to the Saucon Rail Trail at Meadows Road and the lack of dedicated active transportation infrastructure. This data supports the township's focus on improving access to the Saucon Rail Trail in this area.

Active Transportation Features

Lower Saucon Township is home to some existing active transportation features which are an asset to the community. The township hopes to build off of the existing facilities to increase mobility for residents.

Sidewalks

There is not a robust sidewalk network in Lower Saucon Township. However, a few of the newer residential neighborhoods have been built with sidewalks along their frontages and in interior streets. Additionally, there are short segments of sidewalk along Route 412, just south of Hellertown. The ability for residents to walk on a sidewalks continues to grow in popularity and be a selling point in newer residential developments.

Existing sidewalk in a residential neighborhood

Trails

Saucon Rail Trail

The Saucon Rail Trail is a 7.5 mile multi-use trail which utilizes an abandoned passenger rail corridor which once linked the Lehigh Valley to Philadelphia. The Saucon Rail Trail is a major transportation and recreational asset for the Saucon Valley. Improving access to the Saucon Rail Trail is a primary goal of this Active Transportation Plan.

Development and care of the Saucon Rail Trail is managed by the Saucon Rail Trail Oversight Commission. Maintenance responsibilities are shared between the Borough of Hellertown, Lower Saucon Township, Upper Saucon Township, and the Borough of Coopersburg.

Saucon Rail Trail Crossing at Meadows Road

Local Trails

A network of local trails connects Polk Valley Park (a township park) to the Saucon Valley Middle and High School complex. These trails along Polk Valley Road, provide access between the two sites, and are a major recreational asset for the community.

On-Road Biking

There is currently no dedicated infrastructure to support on-road bicycling on any of the roadways in Lower Saucon Township. However, road cycling and mountain biking are popular activities in the area.

Public Transportation

LANTA provides public transportation service in the Lehigh Valley, with limited service in Lower Saucon Township. LANTA's Bus Routes 105 and 215 operate along Route 412 with one stop in the township at the Creekside Shopping Center, just south of Meadows Road. Additionally, LANTA operates the Route 323 along Center Valley Parkway offers a Route 505 Flex Zone for services in Coopersburg. While this is outside of Lower Saucon Township, it is near the Route 378 corridor and the township's border.

Existing trail in Polk Valley Park

Land Use/Destinations

Lower Saucon Township is a mostly residential community just south of Hellertown Borough and the City of Bethlehem. Due to its strategic location and access to major highways, residents have the opportunity to commute within the Lehigh Valley or to the Philadelphia region. The major commercial corridors in the township are Route 378 and Route 412.

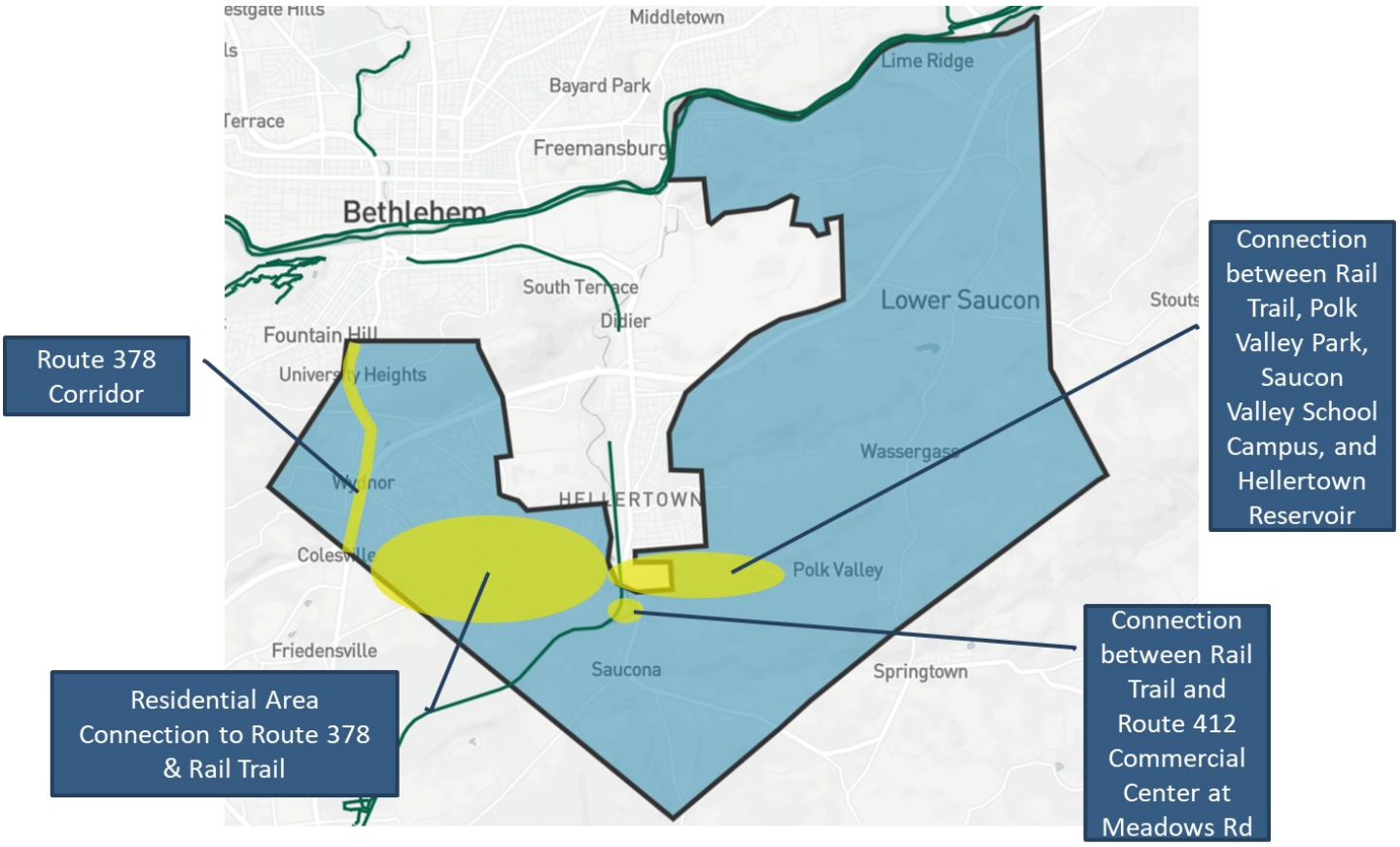
The key destinations in Lower Saucon Township are highlighted in the list below. This plan aims to identify ways to increase access for these key locations in the community.

- The Saucon Rail Trail
- Polk Valley Park
- Hellertown Borough
- Saucon Valley School Properties
- Lehigh University
- Route 412 Corridor, including the Creekside Marketplace Shopping Center (south of Meadows Road)
- Route 378 Corridor

Focus Areas

Four focus areas for improving active transportation in Lower Saucon Township were identified by the township and community stakeholders at the outset of the project. These focus areas are depicted on the map below and are priority locations for improving active transportation connections. Additional details about the existing conditions, key issues, and opportunities for improvements in each of these areas are covered in detail in Chapter 3 of the Active Transportation Plan.

Active Transportation Plan Focus Areas



3 | Active Transportation Network

This chapter presents capital improvements that will build a connected active transportation network in Lower Saucon Township. Building upon the foundation of existing facilities, such as the Saucon Rail Trail, will enable the township to capitalize on the existing infrastructure and continually improve connectivity. The maps, descriptions, and other graphics included in this chapter highlight capital improvements that will create a complete active transportation network in Lower Saucon Township.

Active Transportation Toolbox

Various transportation infrastructure features, also known as facility types, may be considered to improve active transportation connections in the community. Each of these facility types serve a different purpose to enhance the multimodal network and serve the transportation needs of all individuals, regardless of transportation mode.

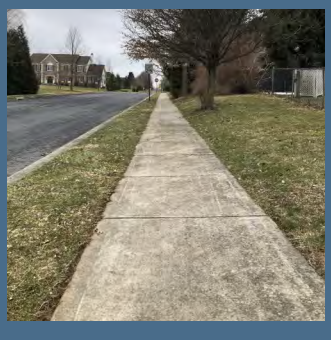
The Active Transportation Toolbox presented on the following pages is presented in several different categories. Each category is based on the type of improvement appropriate given the local context.

- Off-Road Facilities
- On-Road Facilities
- Bicycle and Pedestrian Crossings
- Public Transportation
- Access Management
- Bicycle Amenities
- Traffic Calming
- Streetscapes
- Wayfinding

The toolbox includes a brief description and illustrative photo for each facility type. For some facilities, additional information is provided regarding design guidelines and local examples. These facility types are used to describe the potential connections identified in the Active Transportation Network. However, they can be useful beyond the purposes of this report as a guide to determine the appropriate facility type given unique local circumstances.

Off-Road Facilities

Sidewalk



Description: Walkway parallel to the road that is intended for use by pedestrians, often with numerous access points to adjacent land uses. The walkway is typically physically separated from the roadway with a curb and/or verge. The verge may

Surface Materials: Concrete, Brick, Pavers

Dimensions: 5 feet wide (minimum)

The verge, when provided, may range in width and 4 feet as a typical width.

Local Examples: Various Locations

Multi-Use Trail

Description: A combined bikeway and walkway that is designed for shared use by bicyclists and pedestrians of all abilities, as well as other non-motorized modes of transportation. Trails along or adjacent to a roadway are physically separated from

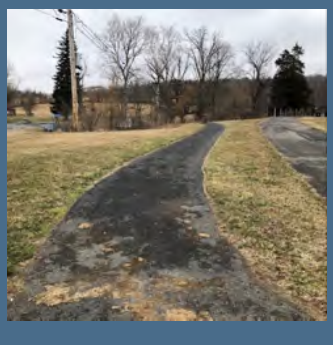
Surface Materials: Asphalt, Crushed Stone

Dimensions: 10-12 feet wide (8 feet is permissible in certain situations)

When a trail is adjacent to a roadway, a 5 foot wide verge is recommended between the edge of the shoulder and the trail. If this width is not feasible, a suitable physical

Local Examples: Saucon Rail Trail

Improved Path



Description: Walkway for use by pedestrians of all abilities. Improved paths may be through or adjacent to developed or undeveloped land.

Surface Materials: Asphalt, Crushed Stone

Dimensions: < 8 feet wide (6 feet typical)

Local Examples: Path along Polk Valley Road between the Park

Natural Path

Description: Walkway for use by pedestrians, typically for recreation purposes. Natural paths are often through or adjacent to undeveloped land.

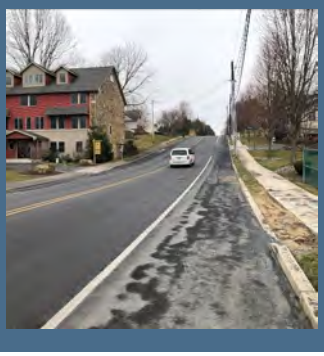
Surface Materials: Mowed grass, Woodchips, Dirt

Dimensions: < 8 feet wide

Local Examples: Mulch and mowed paths within Polk Valley Park

On-Road Facilities

Paved Shoulder



Description: A portion of the roadway adjacent to the travel lane that can be enhanced with signage, striping, or coloring to serve as functional space for bicyclists and pedestrians to travel, particularly when other dedicated facilities are not feasible.

Options: Provide a striped buffer area to separate the vehicular travel lane and the

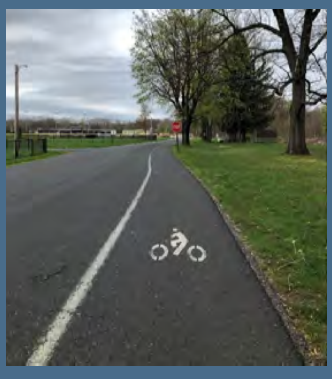
Dimensions: 4 feet wide (minimum); Provide greater width based on feasibility,

Shared Travel Lane (Sharrow)

Description: A roadway with signage and pavement markings to indicate the use of a travel lane by both bicycles and motor vehicles. Pavement markings may include a "sharrow," which is a bicycle symbol with two chevron arrows denoting the direction of travel.

Local Example: Fahey Bridge and W. Broad Street (Bethlehem)

Bicycle Lane



Description: A portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive public use by bicyclists. Bicycle lanes are located directly adjacent to motor vehicle travel lanes and operate in the same direction as motor vehicle traffic.

Dimensions: 5—6 feet wide (5 feet minimum)

Local Example:

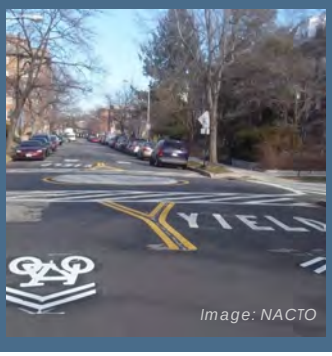
Buffered Bicycle Lane

Description: A bicycle lane with a striped buffer area that separates the vehicular travel lane and the shoulder used for the bicycle lane.

Dimensions: 2—3 feet wide buffer (2 feet minimum) plus bicycle lane

On-Road Facilities (continued)

Bicycle Boulevard



Description: Design treatments to offer priority for bicyclists operating within a roadway shared with motor vehicle traffic. Pavement markings, such as sharrows, and signage make users aware of the priority for bicycle travel and provide wayfinding. Can include traffic calming, access management, and other strategies to create a safe and low-stress environment for biking.

Places to Use: Local residential roadways, typically in a small town context

Yield Roadway

Description: A narrow roadway without pavement markings that is intended to support walking, biking, and driving in the low-speed travel way. These roads serve bi-directional traffic with no pavement markings, but their narrow design encourages lower speeds.

Dimensions: 12—20 feet wide roadway

Places to Use: Roadways with low volumes and low speeds

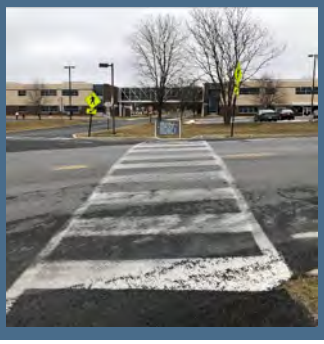
Bicycle Route

Description: Roadways designated with wayfinding signs for bicycle travel shared with motor vehicles. They may include one of the above facility types, but are not a facility type in themselves. Some bicycle routes are designated for long distance travel.

Local Examples: Bicycle PA Route L

Bicycle and Pedestrian Crossings

Marked Crosswalk



Description: Pavement markings designating a location for pedestrians to cross a road, often connecting sidewalks, paths, or multi-use trails. Crosswalks must be a minimum of 6 feet wide. High visibility crosswalks, also known as continental design, are most visible to motorists.

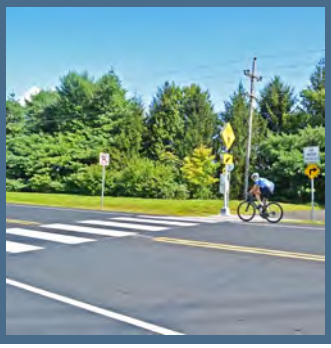
Decorative Crosswalks

Description: Special paving treatments for crosswalks, which can include brick/pavers, colored or stamped asphalt, or thermoplastic pavement markings. Decorative crosswalks can be designed to reflect the unique character or identity of an area or neighborhood.

Raised Crosswalk

Description: Marked and elevated areas that are an extension of the sidewalk at mid-block locations or intersections. They can be used to increase pedestrian safety, calm traffic, and add to the community character. When used for traffic calming, they are most effective when placed in series. They may be constructed of asphalt, brick, or stone pavers.

Mid-Block Crosswalk



Description: A crosswalk that is a not located at an intersection. Additional warning devices for drivers are required to increase pedestrian safety compared to typical crosswalks at intersections. A mid-block crosswalk can include advance signage and pavement markings. Other design treatments could include a pedestrian refuge island or raised crosswalk.

Traffic Signal—Equipment

Description: Traffic signal equipment for pedestrians can include pedestrian pushbuttons, accessible pedestrian signals, passive detection for bicyclists or pedestrians, pedestrian signal heads, pedestrian countdown signal heads. Accessible pedestrian signals (APS) communicate information about the WALK and DON'T WALK intervals for pedestrians who are blind or have low vision. Countdown pedestrian signal heads show how much time remains before the traffic signal changes.

Traffic Signal—Timing

Description: Signal timings for pedestrians can include a leading pedestrian interval, which gives pedestrians a head start when entering an intersection. This enables pedestrians to establish their presence and enhances pedestrian visibility.

Flashing Warning Device

Description: A flashing warning device can be used in combination with pedestrian crossing signs and a marked crosswalk at uncontrolled crossing locations. Signs and flashing warning devices can be side-mounted or overhead. Additionally, flashing warning devices can be user activated. Rectangular Rapid Flashing Beacons (RRFBs) are one example of a flashing warning device.

Pedestrian or Trail Bridge

Description: Bridge specifically for use by pedestrians and bicyclists to cross a stream, water body, steep grade, or other existing feature. The design of the bridge should be based on anticipated users, including maintenance or emergency vehicles. Steel, fiberglass, and wood are materials typically used for pedestrian or trail bridges.

Local Example: Saucon Rail Trail Bridge over Saucon Creek

Public Transportation

Bus Stop ADA Loading Pad

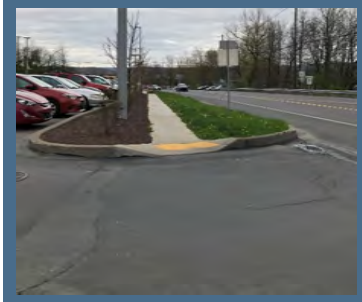
Description: A level loading area where the front, side, or rear door of a bus open to receive and discharge passengers. The clear area allows deployment of a front door ramp on the bus. The loading pad should be a firm and slip-resistant surface, such as concrete. Additionally, it should be free of conflicts, such as landscaping or street furniture. The loading pad should be a minimum of 5 feet wide along the curb and 8 feet deep.

Bus Shelter

Description: Structure located at a bus stop to provide transit riders with protection from the elements while waiting for a bus. Shelters are often placed at stops with higher ridership. Shelters can include signage, traveler information, and benches.

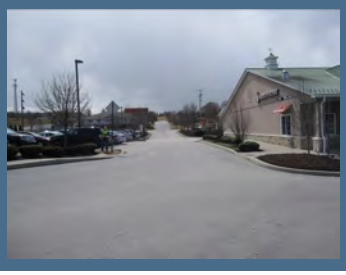
Access Management

Driveway Spacing



Description: Adequate spacing and aligning of driveways to reduce conflict points and create a safer environment for walking and biking.

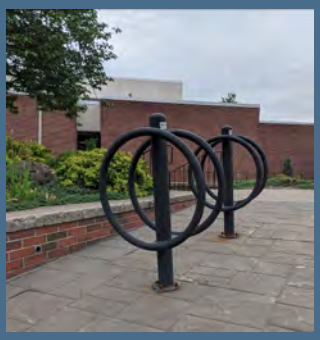
Joint and Cross Access



Description: Providing joint or cross access between adjacent properties allows circulation between the properties and reduces the number of driveways and conflict areas along a roadway. Joint and cross access can be used in combination with shared parking.

Bicycle Amenities

Bicycle Racks



Description: A frame that is permanently anchored to the ground and is used to secure bikes when not in use. Bike racks should be located in visible areas and near major destinations such as employment centers, business and retail districts, parks, and transit stops.

Placement: Placement of bicycle racks should consider dimensions when occupied and must maintain clear walkway, particularly when placed along a sidewalk. Bicycle racks should be setback 2' to 3' from the curb when installed along a street. Bicycle racks can be located under shelters or building overhangs.

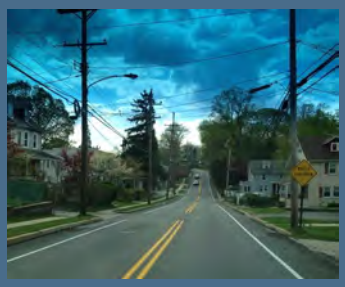
Style: The Inverted U and Post-and-Ring are preferred types of bicycle racks due to the support provided to bicycles and ease of use. However, custom designs that provide similar function can enhance a streetscape and reflect the character of the community.

Bicycle Repair Station

Description: A piece of equipment consisting of a simple bicycle stand and tools necessary to perform minor repairs and adjustments. The tools are typically securely attached to the stand, which can be use to hang the bike and allow the pedals and wheels to spin while making adjustments. Fix-It Stations should be located in visible areas, particularly along bicycle routes or near recreational resources.

Traffic Calming

Pavement Markings / Reduced Lane Widths



Description: Reduced excessive lane widths can help to slow traffic by providing a defined area for travel. Also, a reduction in lane widths can provide additional space for bicyclists and pedestrians. Lane widths can be defined by edge line striping, curbing, or other physical roadside treatments.

On-street Parking

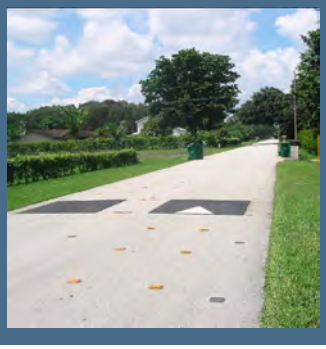
Description: Provision of on-street parking on one or both sides that reduces roadway width. Parked vehicles also provide a buffer between traffic and pedestrians on the sidewalk.

Speed Hump or Speed Table

Description: Raised humps in the roadway, typically 3—4 inches high, intended for low volume and low speed roadways. Speed humps are most effective when placed in a series. Speed humps are the most popular traffic calming measure due to their effectiveness at reducing speeds, ease of implementation, and relatively low cost. Speed tables are speed humps with a longer flat top.

Option: Speed humps or tables placed at a crosswalk create raised pedestrian crossings, which provide better visibility for pedestrians.

Speed Cushion



Description: Speed humps or speed tables that include wheel cutouts to allow larger vehicles to travel without slowing down to travel over the hump. They are intended to allow emergency vehicles or transit vehicles to travel unimpeded.

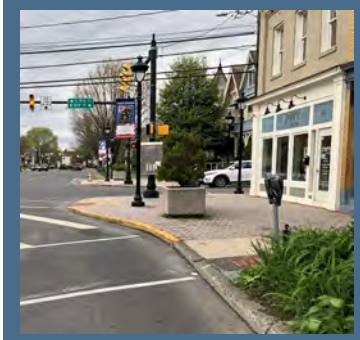
Median / Pedestrian Refuge Island

Description: Medians or raised islands between travel lanes can be designed with landscaping, hardscaping, welcome signs, or provide a mid-point refuge for pedestrian crossings. Medians help to slow traffic by defining travel lanes and can be used to reduce conflicts by physically preventing left turns and restricting turning movements to specific locations.

Gateway Treatment

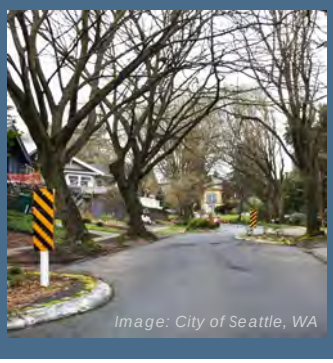
Description: A combination of special treatments used at the entrance to an area or neighborhood that alert drivers to slow down due to a change in environment. Gateway treatments can include signage to identify the area or neighborhood. Other potential gateway treatments include landscaped medians or landscaped areas on the roadside.

Curb Extension or Bulb Out



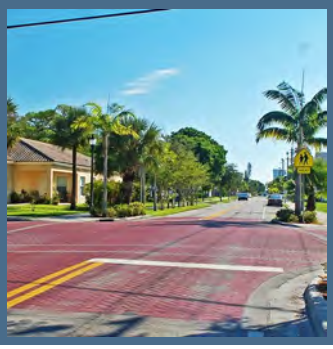
Description: Areas of expanded curbing that extend across a parking lane and may narrow a travel lane. Curb extensions create shorter crossing distances for pedestrians while increasing available space for street furniture and plantings.

Chicane



Description: Series of three bulb-outs, staggered at mid-block locations on alternating sides of the street. Chicanes force drivers to slow down to negotiate through the series of extensions. Chicanes can include landscaping to improve the street appearance, but will reduce on-street parking.

Raised / Textured Intersection

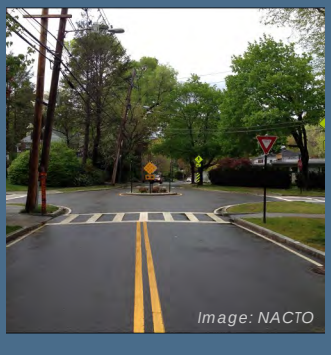


Description: An entire intersection, including crosswalks, that is built level with the sidewalk and/or has textured pavement. Similar to a speed hump or table, a raised intersection provides a vertical deflection to slow traffic. The elevated crosswalks also make it easier for pedestrians to cross the street. Raised intersections can be built with a variety of materials, including asphalt, concrete, or pavers.

Roundabout

Description: An intersection design treatment that reduces conflict points and slows traffic. Traffic approaching the intersection yields to traffic circulating around the roundabout. Splitter islands at the entries help to slow and direct traffic and serve as pedestrian refuge areas. In some situations, roundabouts can provide increased capacity and reduced delay when compared with traffic signals.

Mini-Roundabout



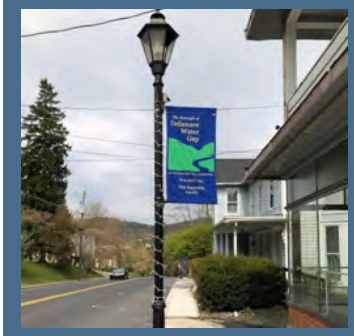
Description: A roundabout with a small diameter and traversable central island. Mini-roundabouts offer benefits similar to roundabouts, but with a smaller footprint and less cost. Mini-roundabouts are typically used in urban or small town settings on roadways with low speeds.

Streetscapes

Pedestrian Scale Lighting

Description: Pedestrian-scaled street lights, 10 to 12 feet in height, help provide security along sidewalks, as well as help to create aesthetic appeal to the streetscape.

Vertical Banners

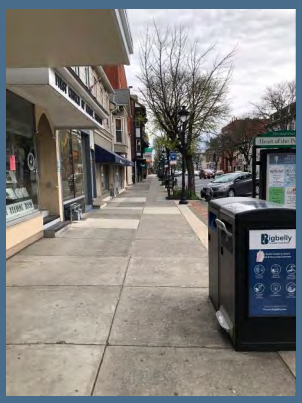


Description: Banners help to announce and publicize special events, as well as help to create an identity and sense of place. Vertical banners may be attached to street light poles, or may be freestanding.

Public Art

Description: Public art may be incorporated into streetscapes through elements such as: planters and / or benches embellished by local artists, unique bike racks, or other art installations. Public art helps to provide character to streetscapes.

Streetscape Amenities



Description: Benches, trash receptacles, and bicycle racks create a more comfortable and convenient environment for walking, biking, and enjoying the street. The design of the streetscape furniture or amenities should be consistent to convey the unique character of the community. Amenities should be placed so they do not obstruct pedestrian walkways, building entrances, fire hydrants.

Street Trees

Description: Street trees provide shade for pedestrians, help with stormwater management, and help to create a sense of place. The tree canopy has a calming effect on traffic with the increased sense of enclosure. The type and location of street trees should be chosen based on site conditions. Street trees can be placed between the sidewalk and curb or between the sidewalk and front yard.

Wayfinding

Kiosk / Interpretive Signs

Description: Provides detailed information about the facility, such as a map, trail rules, and emergency information. Kiosks can also provide interpretive information about the history of an area. Kiosks are often located at a trailhead or a rest stop along a trail.

Guidance / Navigation Signs

Description: Signs that can be stand alone or mounted on an existing pole that identify a facility and provide directional information, particularly at key decision points. These signs are often used for on-road bicycle routes because they can be viewed by trail users and motorists.

Post Signs

Description: Small, simple stand alone signs that are used to identify a facility and provide basic information, such as directional arrows or mileage.

Pavement Markings / Medallions

Description: Wayfinding markings that are placed on the pavement to identify a facility and provide basic information, such as directional arrows or mileage.

Trail Marker/Blaze

Description: Markings that are typically found on trees and are easy to see while on a natural path, hiking trail, or mountain biking trail. The markings indicate the beginning or end of a trail or a change in direction. For mountain biking trails, markings can indicate level of difficulty. Paint is most commonly used to mark hiking trails. Other medallions or markers made of metal, plastic, or wood can be nailed into trees.

Network Improvements

The foundation for an active transportation network already exists in Lower Saucon Township. The Saucon Rail Trail provides opportunity for people to walk and bike within the township and make regional connections to neighboring communities. Additionally, the township has been proactive in requiring sidewalks and other active transportation infrastructure for more recent land development projects. Closing the gaps in the existing active transportation network will require commitment and dedication by various project partners.

Infrastructure projects, like those highlighted in this plan, take time. Incremental changes over time will help to achieve a truly multimodal transportation network. This plan provides a path forward to continually improve the active transportation network in Lower Saucon Township.

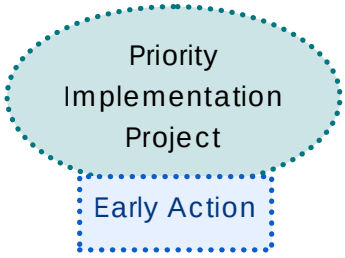
Projects identified on the following pages have been identified as having the largest impact towards improving mobility in Lower Saucon Township. Additional projects that "fill in the gaps" between the existing infrastructure.

The projects are grouped by the focus areas identified in Chapter 2. However, there is some overlap between the focus areas. The focus areas include:

- **Saucon Rail Trail Connections:** Route 412, Meadows Road, and Polk Valley
- **Route 378 Corridor**
- **Bingen Road to Route 378:** Connecting residential neighborhoods in this area to Route 378 and the Saucon Rail Trail
- **Meadows Road Corridor**
- **Regional Connections**

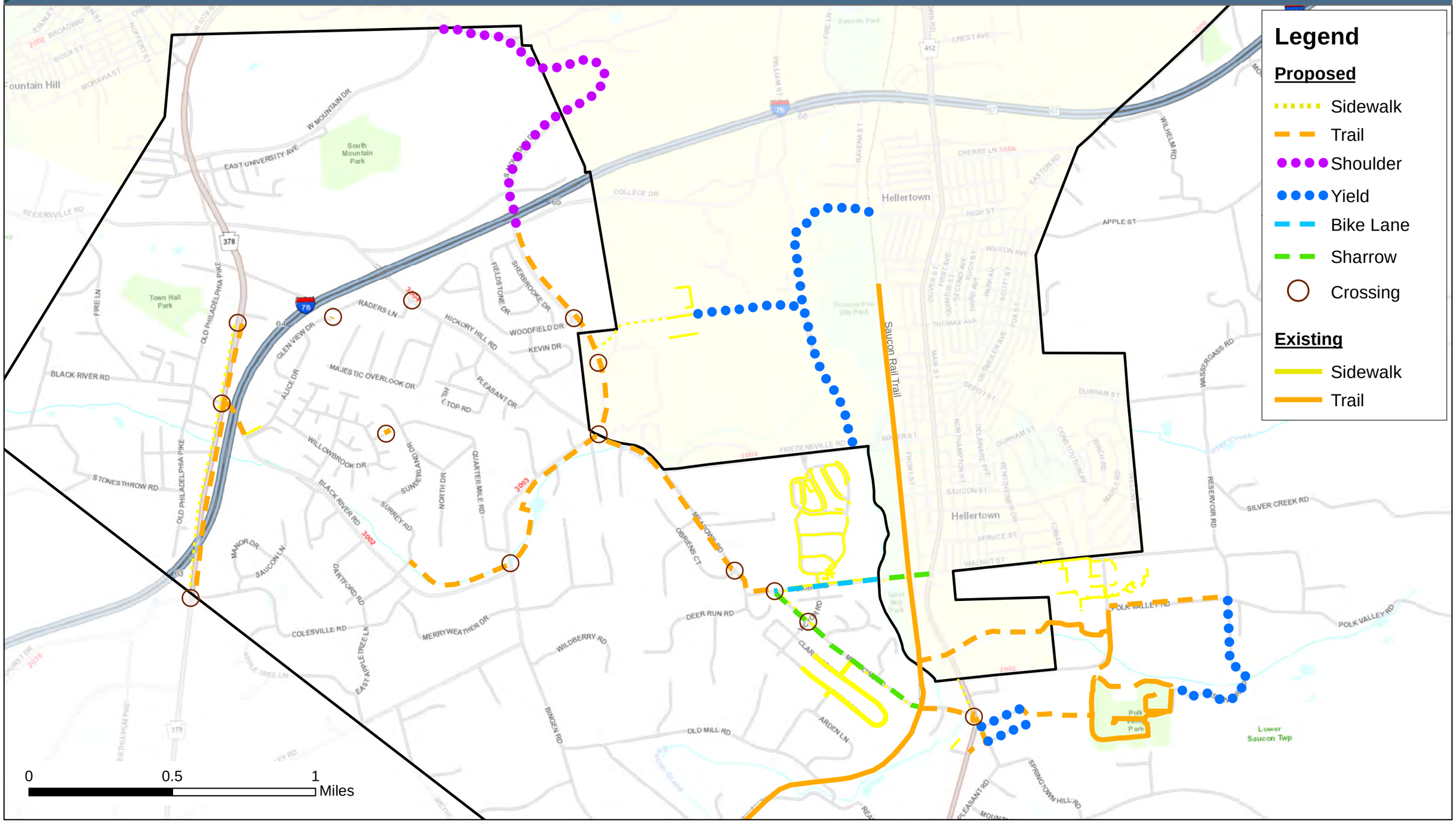
An overall network map of the township is presented on the following page.

Priority implementation projects have been identified that would have a significant impact on improving bicycle and pedestrian connectivity in Lower Saucon Township. Priority implementation projects are identified with the oval symbol shown here. Additional explanation of the proposed improvements is provided for each.

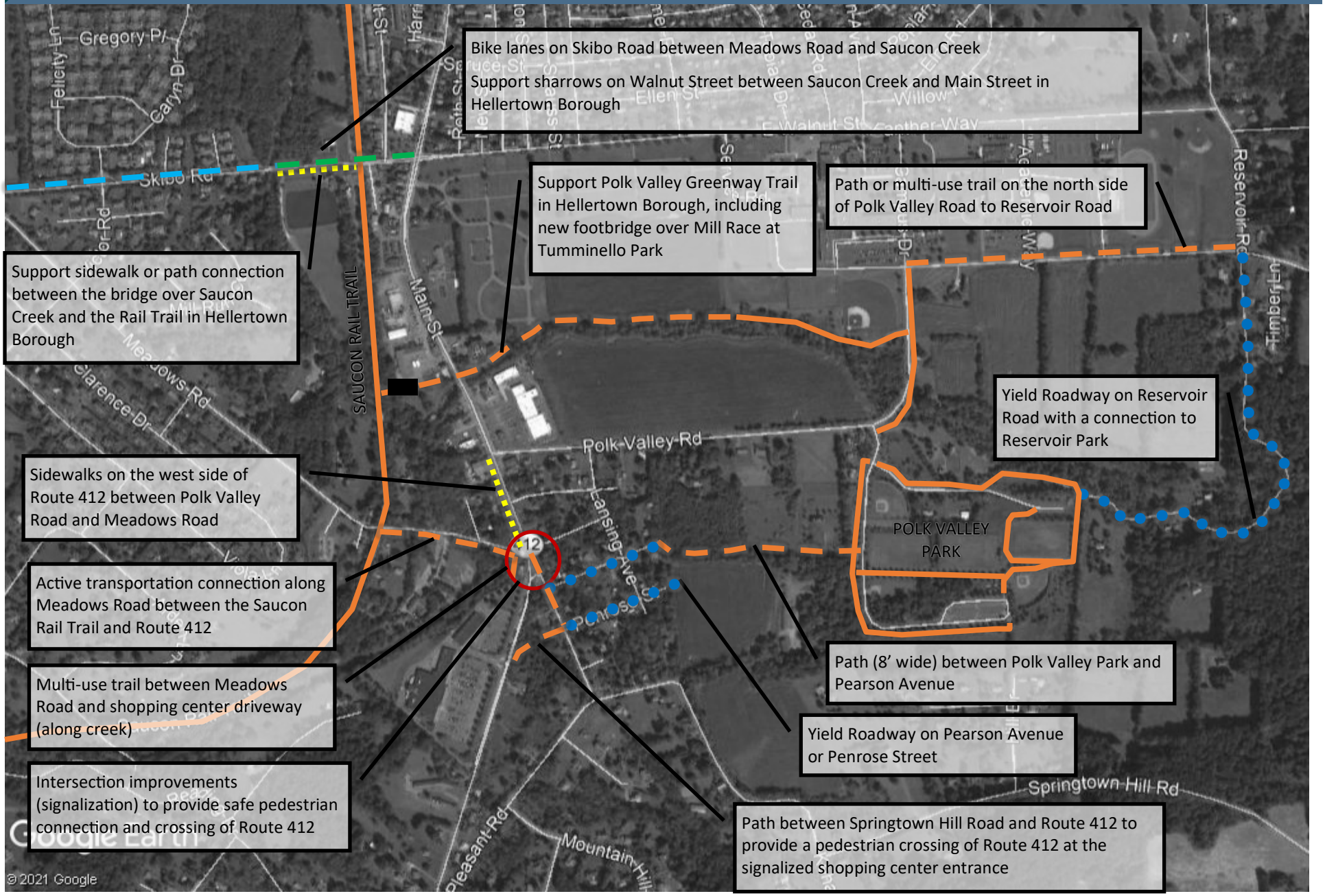


Some of these projects will take a long term dedication of time and/or resources from the township to implement. Other projects may be more implementable in the short term. These projects are identified as early actions with a rectangle symbol. Additional details for next steps have been identified for three of the early action priority projects.

Lower Saucon Township - Active Transportation Network



Saucon Rail Trail Connections



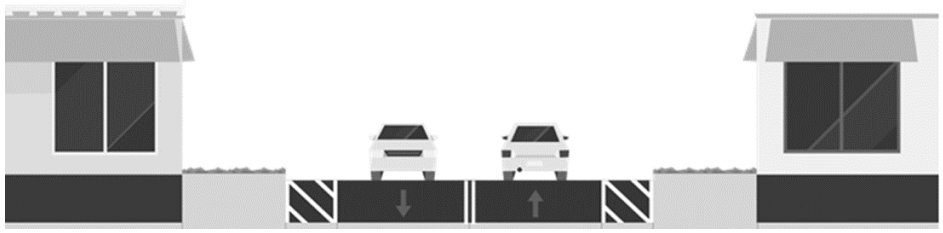
Priority Implementation Project

Early Action

Route 412: Sidewalks on Route 412 into Hellertown

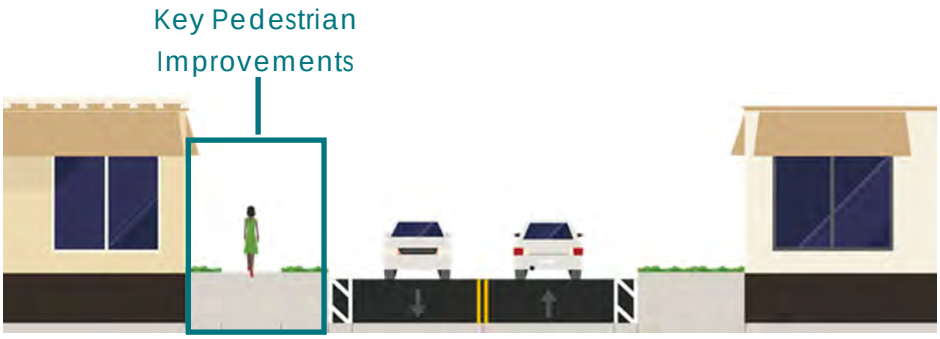
Existing Conditions

- Minor arterial
- Average of 11,000 vehicles per day
- Speed limit transition between 35 MPH and 40 MPH
- 11.5’ travel lanes and variable width shoulders
- Limited and disconnected sidewalk segments south of Polk Valley Road
- Commercial destinations for walking and biking trips



Improvement Considerations

Sidewalks (5’ wide with 4’ verge/ buffer) and streetscape improvements on the west side of Route 412 between where the sidewalk ends just south of Polk Valley Road and Meadows Road to improve pedestrian connectivity between commercial destinations on Route 412, Saucon Rail Trail, Hellertown Borough.



Connected Destinations

Saucon Rail Trail; Hellertown Borough; Route 412 retail and commercial destinations (including Creekside Marketplace Shopping Center)

Next Steps

- Conduct topographic survey and develop a conceptual plan of the improvements
- Coordinate with PennDOT and property owners to review potential improvements
- Identify funding for design and construction, including the following potential grant programs:
- Initiate preliminary design
- Acquire right-of-way, if needed

Route 412: Intersection Improvements at Meadows Road

Description: Intersection improvements, which may include signalization, for the intersection of Route 412 and Meadows Road to provide safe pedestrian connection and crossing of Route 412.

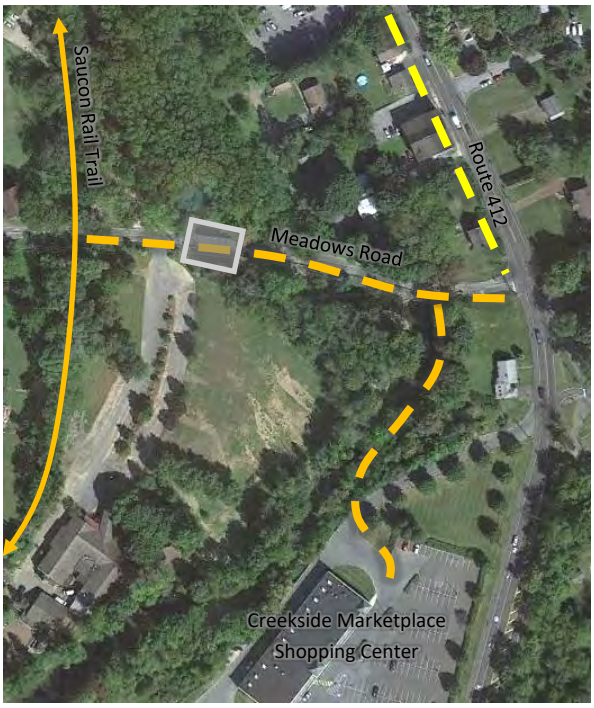
Connections: Saucon Rail Trail; Route 412 Corridor; Polk Valley Park Trail Connection to Route 412 (Future)

Priority Implementation Project

Meadows Road: Bicycle/Pedestrian connection between Saucon Rail Trail and Route 412/Creekside Marketplace Shopping Center

Existing Conditions

- Meadows Road Bridge over Saucon Creek is currently closed and scheduled to be demolished due to the failing structural condition.
- Relatively narrow with two 10' travel lanes and no shoulders
- Saucon Creek is adjacent to a segment of the roadway, which impacts the feasibility of providing bicycle and pedestrian accommodations



Improvement Considerations

Trail along Meadows Road between the Saucon Rail Trail and Route 412 and the Creekside Marketplace Shopping Center (Giant) to improve access and safety for bicycles and pedestrians. This improvement would also potentially connect to the proposed sidewalk along PA 412, as well as proposed connections to Polk Valley Park. This improvement is dependent upon design and funding of the Meadows Road bridge replacement.

Option 1A: 10' Buffered Trail

May need wider buffer or vertical element between trail and travel lane to support both walking and biking

Trail could be provided on either north or south side of Meadows Road

Option 1B: 5' Buffered Shoulder (Walkway)

Bicyclists Share Travel Lanes

Shoulder (Walkway) on either north or south side of Meadows Road

Connected Destinations

Saucon Rail Trail; Route 412 Corridor and Creekside Marketplace Shopping Center (Giant)

Next Steps

- Coordinate with PennDOT regarding planning and design of the connection in conjunction with the Meadows Road Bridge design
- Conduct topographic survey and develop a conceptual plan Initiate coordination with property owners
- Identify funding or partnership opportunities for preliminary design, right-of-way, and construction

Priority Implementation Project

Early Action

Skibo Road: Bike Lanes between Saucon Creek and Meadows Road

Improvement Considerations

Bike lanes, including pavement markings and signage, on Skibo Road between Meadows Road and the Saucon Creek to improve multimodal access to the Saucon Rail Trail.

Connections

Saucon Rail Trail; Gristmill Park; Hellertown Borough; Hellertown Historical Society; Meadows Road Trail (Future)

Next Steps

- Evaluate the need for shoulder widening and improvements, particularly near the intersection with Meadows Road
- Coordinate with Hellertown regarding potential shared lane markings (sharrows) on West Walnut St to Route 412
- Identify an opportunity to implement improvements in conjunction with a roadway resurfacing program or another transportation improvement project
- Identify funding for design and construction

Polk Valley Park Trail Connection to Route 412

Description:

- Path (8' wide) between Polk Valley Park and Pearson Avenue, generally following the property line
- Yield roadway on Pearson Avenue or Penrose Street
- Pedestrian crossing of Springtown Hill Road
- Path between Springtown Hill Road and Route 412 to provide a pedestrian crossing of Route 412 at the signalized entrance for the Creekside Marketplace Shopping Center (Giant)

Connections: Saucon Rail Trail; Polk Valley Park; Creekside Marketplace Shopping Center (Giant)

Reservoir Road: Yield Roadway

Description: Yield roadway on Reservoir Road with a connection to Reservoir Park. Yield roadway improvements include signage to indicate shared use of the roadway by motorists, bicyclists, and pedestrians.

Connections: Polk Valley Park; Reservoir Park

Polk Valley Road: Path between School Campus and Reservoir Road

Description: Path or multi-use trail on the north side of Polk Valley Road; Support Polk Valley Greenway Trail in Hellertown Borough, including new footbridge over Mill Race at Tumminello Park.

Connections: Saucon Rail Trail; Polk Valley Park; Saucon Valley School Campus; Hellertown Borough

Route 378 Corridor Focus Area

Key Issues and Opportunities

Route 378 is a key north-south principal arterial that connects Lower Saucon Township to the City of Bethlehem (to the north) and Upper Saucon Township (to the south). It is a state owned roadway that carries 20,000 to 30,000 vehicles per day, including traffic traveling through Lower Saucon. Within the township, it is a mixed-use corridor and is a focus for economic development. It provides access to multiple shopping centers and local businesses, as well as the nearby Township Office and Park. Through previous planning efforts, the township has identified Route 378 as a "Main Street" or key commercial corridor and the need for streetscape improvements to support that vision. Outlined below are some of the key issues that impact access, mobility, and safety along the corridor.

Inconsistent travel lane configuration: South of Black River Road, Route 378 has a consistent three-lane configuration with one lane in each direction and a center left-turn lane. North of Black River Road, the cross section changes multiple times. There are some segments with two-lanes in each direction or two-lanes in one direction and only one-lane in the opposite. Some of the lane configuration changes may be related to the hilly topography in the northern part of the corridor or turning lanes needed for intersections. It can be confusing for drivers and a safety concern based on crash history along the corridor.

High traffic speeds: The posted speed limit is 40 MPH, but Lower Saucon Township police reported speeding issues along the corridor. This is especially a concern north of Black River Road where there are segments with two lanes in a direction.

Access management: There are numerous commercial driveways along the corridor that are open and uncontrolled. This can be a safety issue and is also a concern for bicyclists or pedestrians. Crossing wide commercial driveways can feel unsafe and uncomfortable.

Lack of bicycle or pedestrian infrastructure: There are no bicycle or pedestrian facilities along the corridor, except for some marked crosswalks at the Black River Road intersection and the entrance for Saucon Valley Square shopping center. However, the crosswalks do not connect to any sidewalks. Pedestrians are observed walking along the shoulders for Route 378 and sometimes crossing mid-block because of the long distance between traffic signals.

I-78: I-78 crosses and runs parallel to a section of Route 378 within the township, however there is no direct access to the interstate from Route 378. I-78 can be considered a barrier for access to Route 378 for walking, biking, and driving. Black River Road and Hickory Hill Road are the only two corridors that connect residential areas on the east side of I-78 to Route 378 and destinations on the west side of I-78. Additionally, I-78 limits land use and development, particularly between the township's southern border and Black River Road. In this area, land on the east side of Roue 378 is part of the right-of-way for I-78 and is not available for land development. It has been identified by the township as a potential area for a trail and linear park.

Route 378 Corridor Focus Area

Overview of Improvement Options

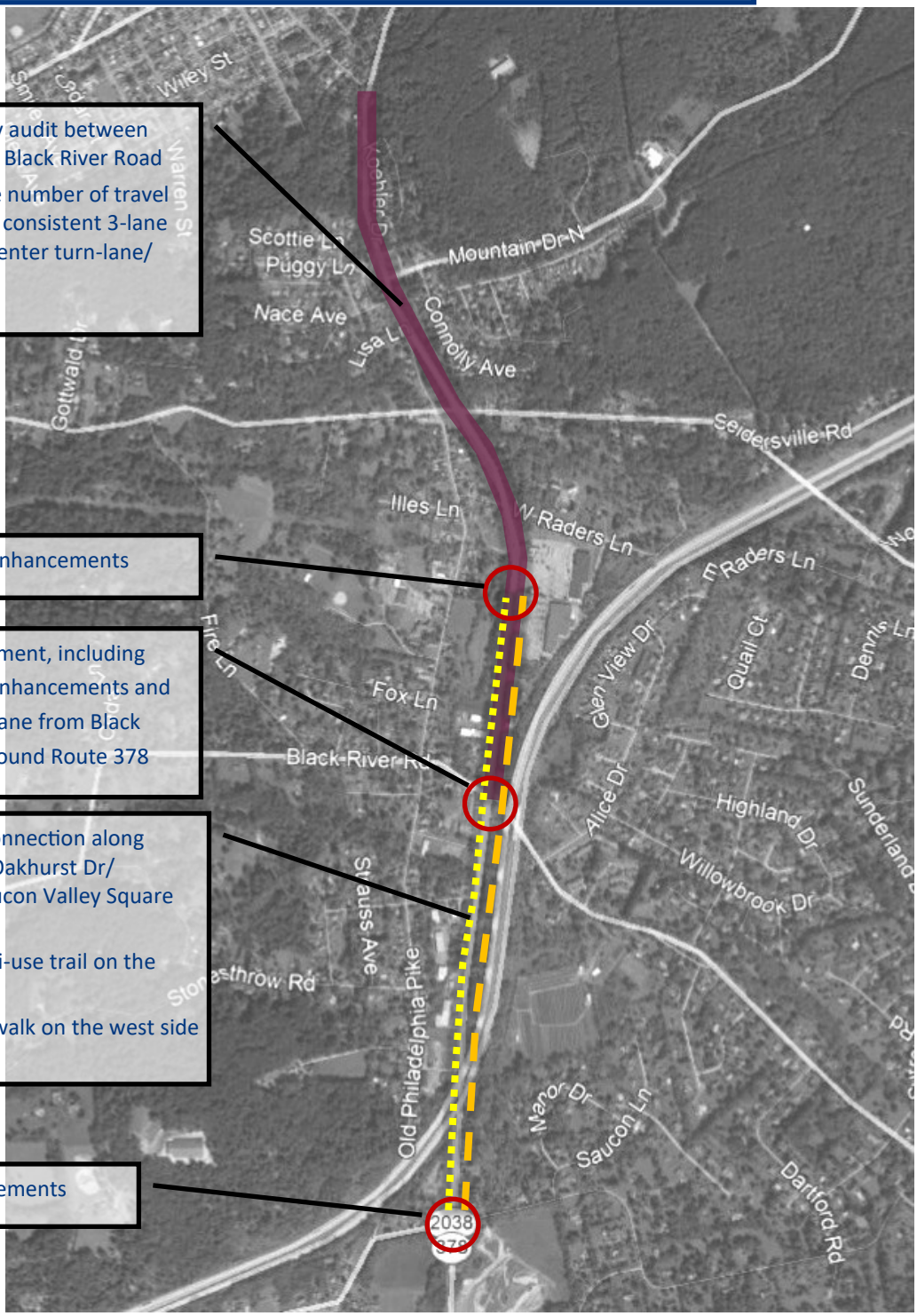
Corridor-wide

Access management strategies:

- Reduce the number of commercial driveways
- Reduce the width of commercial driveways

Traffic calming / greening strategies:

- Evaluate opportunities for a center median with landscaping or special paving for improved aesthetics



Priority Implementation Project

Route 378: Trail or Sidewalk between Oakhurst Drive/Colesville Road and Saucon Valley Square

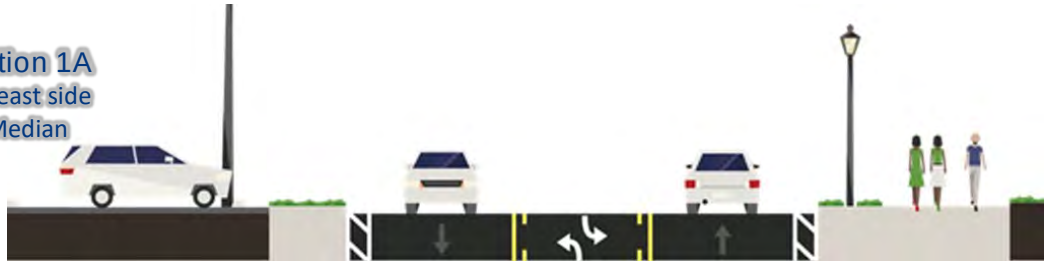
Existing Conditions

- No pedestrian or bicycle accommodations
- Commercial destinations for walking and biking trips
- Potential for regional connections to the north and south
- Focus for economic development along Route 378 in the township

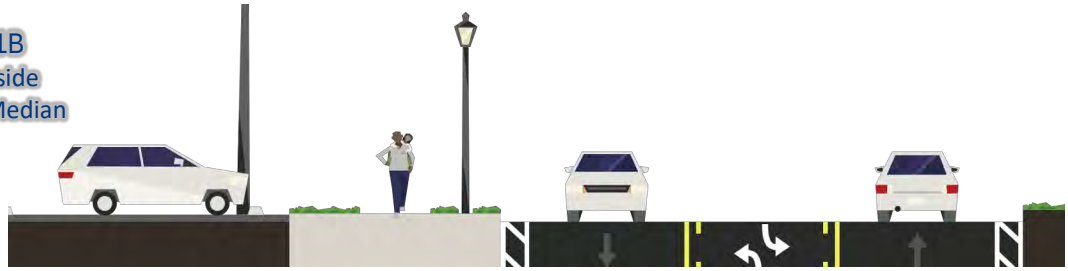
Improvement Considerations

A multi-use trail or sidewalk along Route 378 would improve pedestrian and bicycle access along Route 378. On the east side of Route 378, there is right-of-way for I-78 where it may be feasible to construct a multi-use trail to support biking and walking along the corridor. Another option is to provide a sidewalk on the west side of Route 378. Sufficient crossings at key locations, such as Saucon Valley Square, Black River Road, and Colesville Road, would be needed to provide access for local residents.

Multi-use Trail Option 1A
Multi-use trail on the east side
Center Turn-Lane or Median



Sidewalk Option 1B
Sidewalk on the west side
Center Turn-Lane or Median



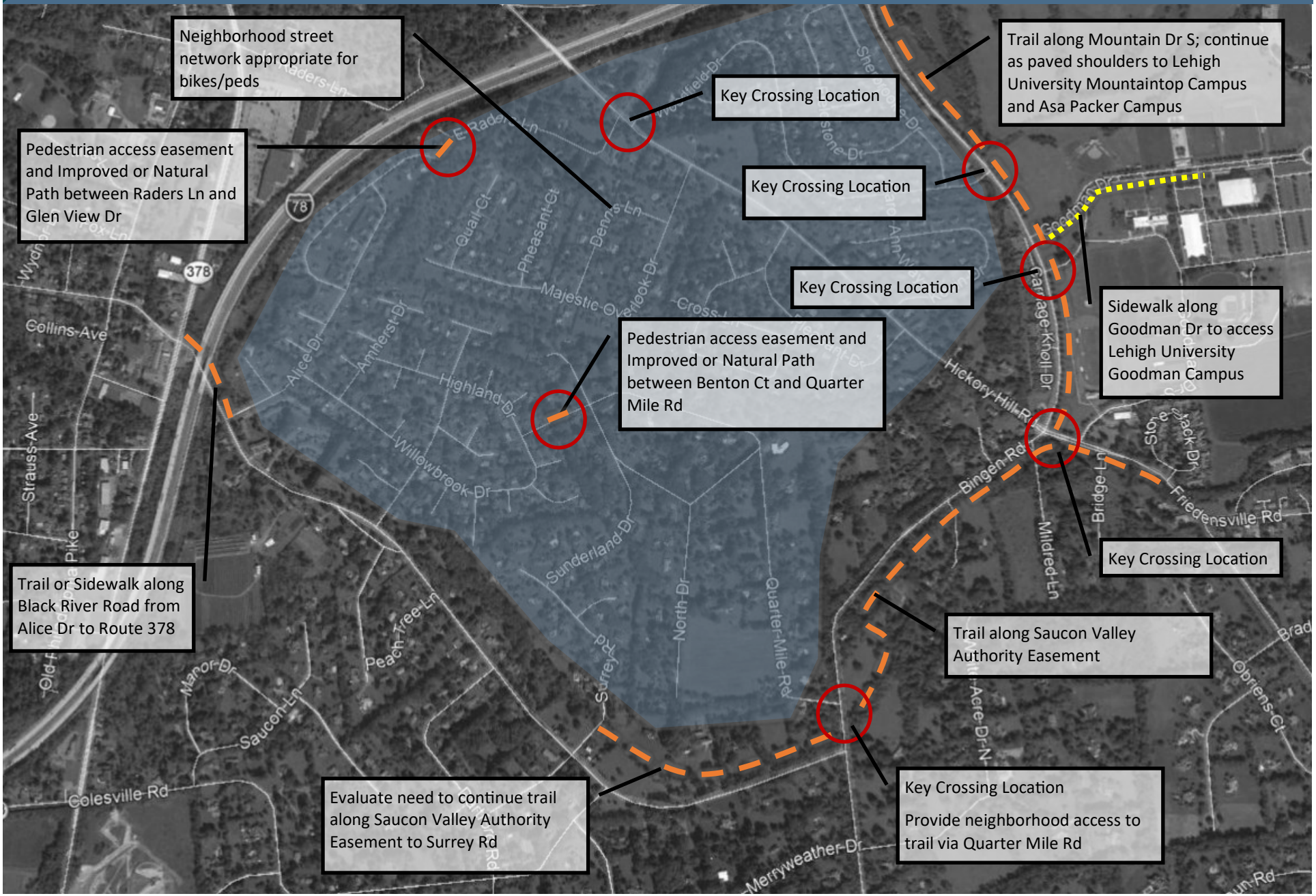
Connected Destinations

Route 378 Corridor (including Saucon Valley Square Shopping Center and numerous other commercial/retail destinations); Existing and planned mixed use development south of Lower Saucon Township near Center Valley Parkway

Next Steps

- Route 378 Task Force to lead further evaluation of bicycle and pedestrian improvement options
- Coordinate with PennDOT, business owners, and property owners to identified preferred improvements
- Conduct topographic survey and develop a conceptual plan of the improvements
- Consider potential phasing of improvements, if needed
- Identify funding for preliminary design
- Initiate preliminary design
- Secure funding for construction

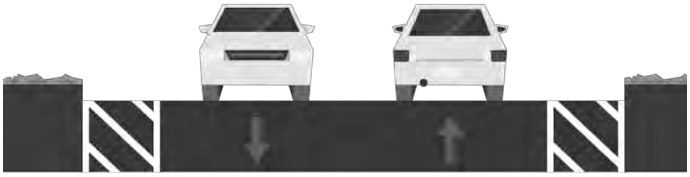
Bingen Road to Route 378



Priority Implementation Project

Bingen Road: Trail along Sewer Authority Easement

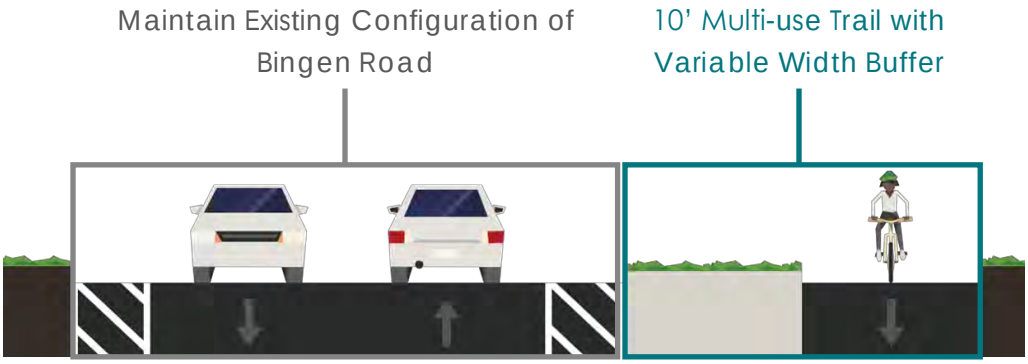
Existing Conditions



- Bingen Road—28' edge to edge, with approximately 4' wide shoulders
- No pedestrian or bicycle accommodations
- Sewer easement between Bingen Road and Black River Road

Improvement Considerations

The Saucon Valley Sewer Authority maintains a sewer easement along Bingen Road and Black River Road. There is potential for a portion of this right-of-way to serve a dual purpose and support a multi-use trail. The trail would provide connections between residential neighborhoods and beyond, if other identified improvements are implemented. Key roadway crossings of Bingen Road (near Black River Road) and Hickory Hill Road/Friedensville Road would improve safety of people walking and biking in the area.



Connected Destinations

Lehigh University—Goodman Campus; Route 378; Saucon Rail Trail via Meadows Road Trail and Skibo Road Bike Lanes (future)

Next Steps

- Identify use restrictions associated with the sewer easement right-of-way
- Evaluate feasibility and develop a conceptual plan of the improvements
- Initiate coordination with property owners
- Identify funding for preliminary design
- Initiate preliminary design
- Secure funding for construction

Priority Implementation Project

Early Action

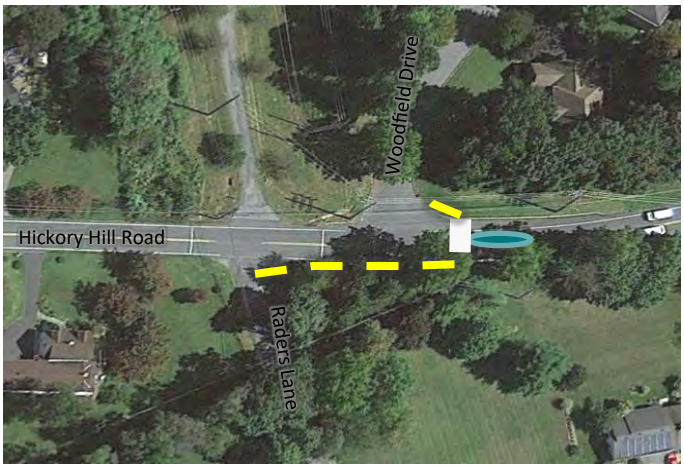
Hickory Hill Road Pedestrian Crossing at Raders Lane / Woodfield Drive

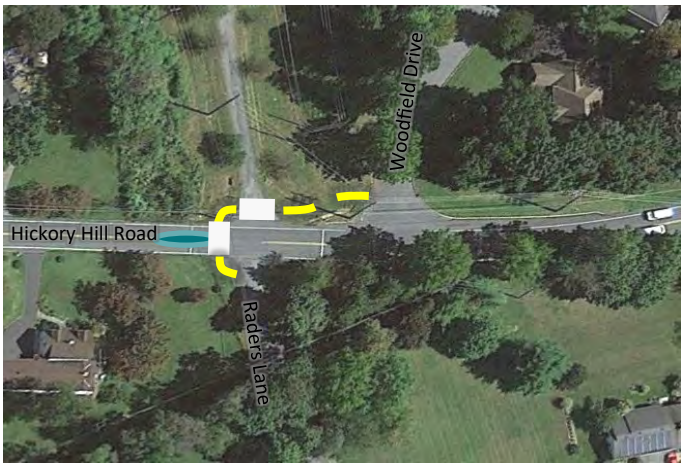
Existing Conditions

- No existing pedestrian crossing
- 40 MPH speed limit on Hickory Hill Road
- Raders Lane and Woodfield Drive are an offset intersection

Improvement Considerations

An enhanced pedestrian crossing of Hickory Hill Road at the offset intersection of Raders Lane and Woodfield Drive will connect residential developments on the east and west side of Hickory Hill Road. Both Raders Lane and Woodfield Drive are low volume/low speed roadways that are used by pedestrians. The pedestrian crossing improvements could include marked high-visibility crosswalk, flashing warning (such as a Rectangular Rapid Flashing Beacon) and advanced warning signs, sidewalk or path connections on either side, and potentially a gateway median. Two potential options showing the crossing location and connecting sidewalks are depicted below. These improvements could help to increase visibility, calm traffic, and improve the safety for this crossing. Coordination with PennDOT and PP&L is critical given state ownership of Hickory Hill Road and the PP&L: owned parcel on the northeast corner.





Connected Destinations

Route 378 Corridor; Residential neighborhoods

Next Steps

- Conduct topographic survey and develop a conceptual plan of the improvements
- Since Hickory Hill Road is a state-owned roadway, coordinate with PennDOT regarding the potential improvements
- Coordinate PP&L and other property owners to review potential improvements
- Identify funding for preliminary design
- Initiate preliminary design
- Secure funding for construction
- Acquire right-of-way or easements, if needed
- Construct improvements

Potential Active Transportation Network Connections

Black River Road: Sidewalk or Trail between Alice Drive and Route 378

Priority Implementation Project

Improvement Considerations

Sidewalk (5' wide) or trail (10' wide plus barrier) along the north side of Black River Road between Alice Drive and Route 378 to provide a connection between residential neighborhoods and the Route 378 corridor.

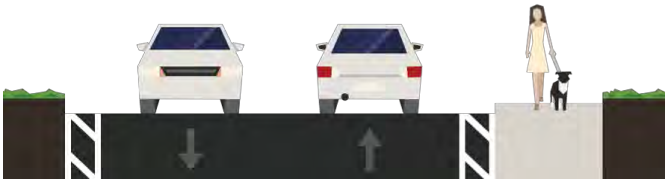
Connections

Route 378 Corridor

Next Steps

- Since Black River Road is a state owned roadway, coordinate with PennDOT regarding the planned improvements and available right-of-way (particularly under I-78)
- Identify funding for preliminary design
- Conduct topographic survey and develop a conceptual plan of the improvements
- Initiate preliminary design
- Secure funding for construction

Sidewalk Option



Multi-use Trail Option

Pedestrian Access and Connections between Existing Neighborhood Roadways

Description: Pedestrian access easement and improved or natural path between Benton Ct / Quarter Mile Rd and Rader Ln / Glen View Dr

Connections: Residential neighborhood roadways to Bingen Road Trail (Future) and Route 378 Corridor

Mountain Drive: Trail between Bingen Road and College Drive

Description: Trail along the east side of Mountain Drive between Bingen Road and Fieldstone Drive

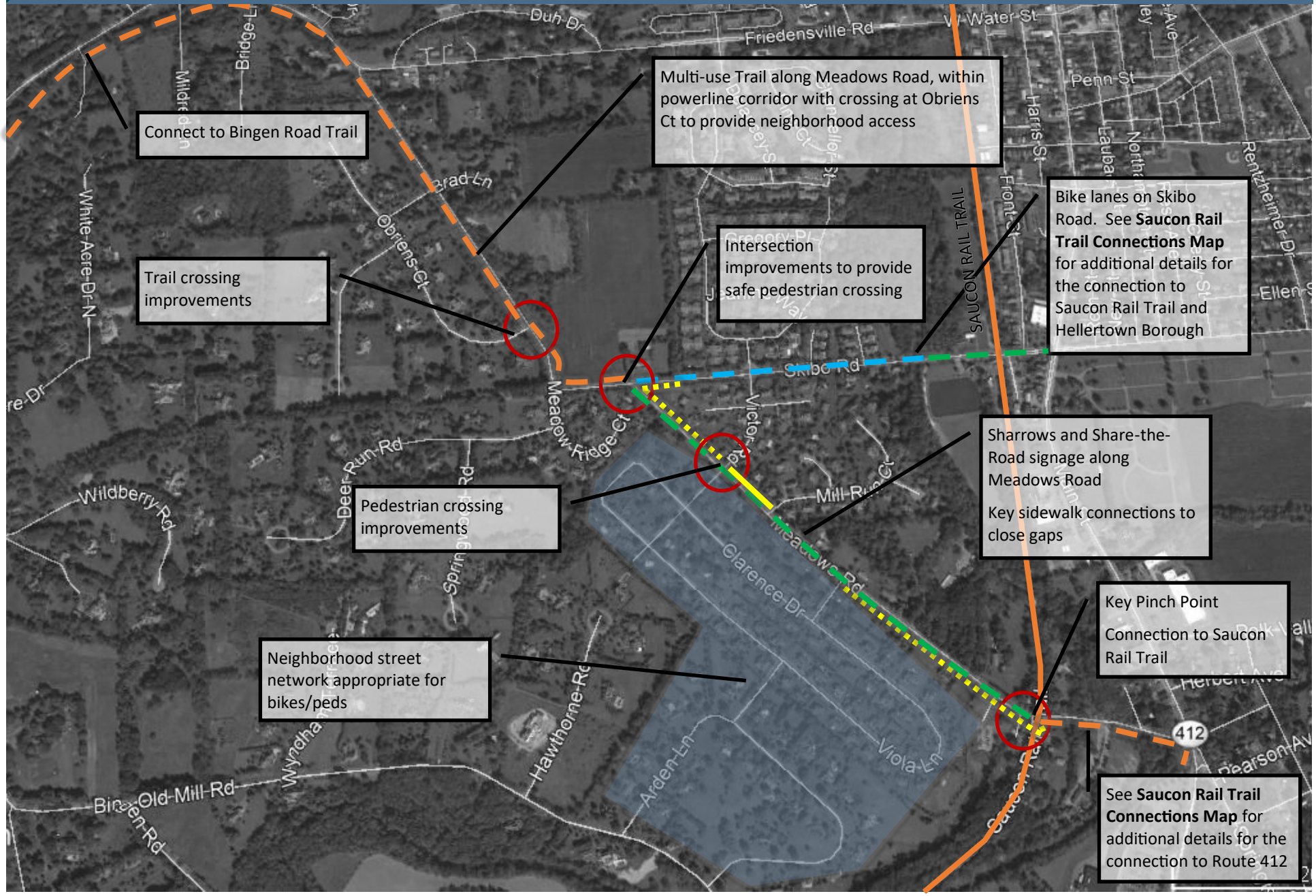
Connections: Lehigh University—Goodman Campus; Bingen Road Trail (Future)

Mountain Drive: Widen Shoulders between College Drive and Sayre Field

Description: Widen shoulders (up to 5') along Mountain Drive between College Drive and Lehigh University Mountaintop Campus and Sayre Field

Connections: Lehigh University– Goodman Campus and Mountaintop Campus; Sayre Field

Meadows Road Area



Priority Implementation Project

Early Action

Meadows Road: Shared Lane Markings/Share-the-Road Signage between Skibo Road and Saucon Rail Trail

Improvement Considerations

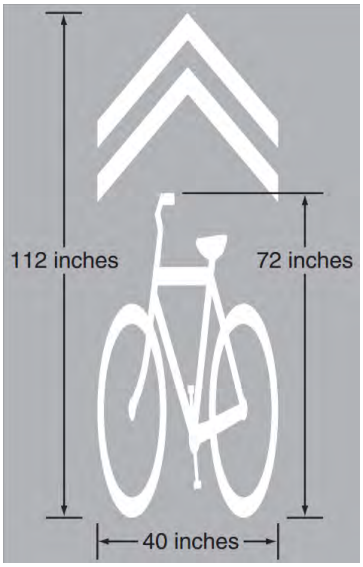
Shared lane markings (or sharrows) and share-the-road signage along Meadows Road between Skibo Road and Saucon Rail Trail. These low-cost improvements would increase drivers awareness that bicycles may be utilizing Meadows Road to access the Saucon Rail Trail and the Route 412 Corridor.

Connections: Saucon Rail Trail; Route 412 Corridor; Skibo Road Bike Lanes (Future)

Next Steps

- Identify funding for construction
- Construct improvements as part of a roadway resurfacing program or other transportation improvement project in the township

Shared Lane Pavement Marking (Sharrow)



Meadows Road: Sidewalks between Skibo Road and Saucon Rail Trail

Description: Key sidewalk connections along Meadows Road to close existing gaps between Skibo Road and the Saucon Rail Trail

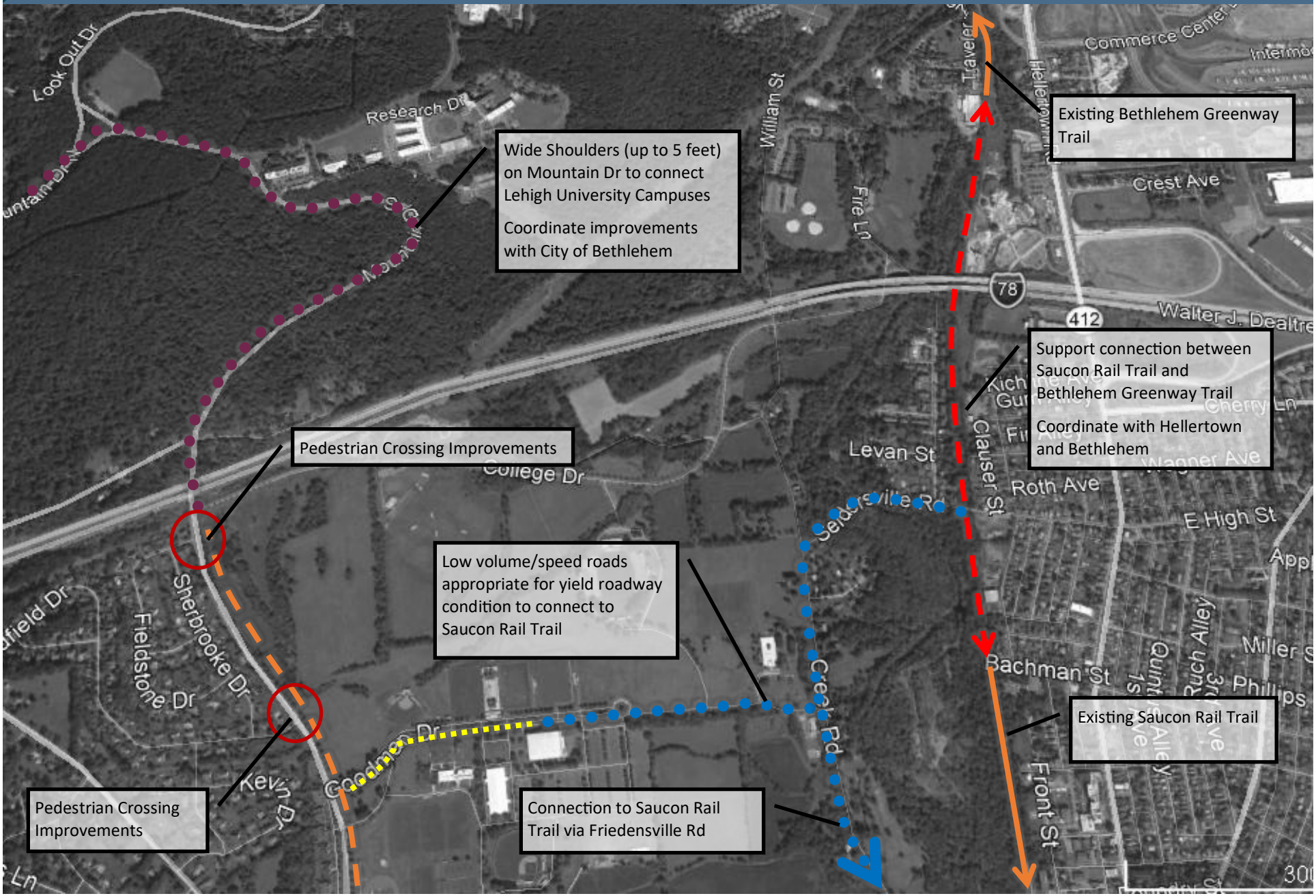
Connections: Saucon Rail Trail

Meadows Road: Trail between Skibo Road and Bingen Road

Description: Trail along Meadows Road between Skibo Road and potential future Bingen Road Trail with key crossings at Obriens Court and Skibo Road. The trail alignment would primarily follow the existing utility / power line easement.

Connections: Bingen Road Trail (future); Skibo Road Bike Lanes (future)

Regional Connections



Regional Connections

Potential Active Transportation Network Connections

Hellertown: Bridge over Saucon Creek at Tumminello Park

Description: Support Hellertown Borough's plans to provide a trail bridge over the Saucon Creek to connect Tumminello Park, Gristmill Park, and the Saucon Rail Trail. This will also support a future connection to the Polk Valley Greenway.

Connections: Saucon Rail Trail; Tumminello Park; Gristmill Park; Route 412 Corridor; Hellertown Borough

Hellertown: Support Polk Valley Greenway Trail

Description: Support Hellertown Borough's plans to provide a trail connection along Polk Valley Run between Route 412 at Tumminello Park and existing trails at the Saucon Valley School District Campus and Polk Valley Park

Connections: Saucon Rail Trail; Tumminello Park; Route 412 Corridor; Hellertown Borough; Saucon Valley School District Campus; Polk Valley Park

Hellertown: West Walnut Street Bicycle and Pedestrian Connection

Description: Support plans to improve bicycle and pedestrian infrastructure on Walnut Street between the Saucon Creek and Route 412 (Main Street) to improve connections to the Saucon Rail Trail, Gristmill Park, Hellertown Historical Society. This would also connect to planned bike lanes on Skibo Road in Lower Saucon Township.

Connections: Saucon Rail Trail; Gristmill Park; Hellertown Historical Society; Hellertown Borough; Route 412 Corridor

Bethlehem: Mountain Drive Shoulder Widening

Description: Widen shoulders (up to 5 feet) on Mountain Dr to connect Lehigh University Campuses through coordination with City of Bethlehem.

Connections: Lehigh University; City of Bethlehem

Saucon Rail Trail Oversight Commission: Support Connecting the Saucon Rail Trail and Bethlehem Greenway

Description: Support a connection between the Saucon Rail Trail and Bethlehem Greenway Trail

Connections: Saucon Rail Trail; Bethlehem Greenway Trail

4 | Policies and Programs

Ordinance Review

The Subdivision and Land Development Ordinance (SALDO) and Zoning Ordinance for Lower Saucon Township were reviewed to identify how active transportation themes are currently addressed. The table below provides a general indication of how well these themes are addressed in the current ordinances. Each theme is categorized as, "updates encouraged or adoption of standards encouraged."

This review can serve as the basis for determining how these ordinances can be updated to better address active transportation from a policy perspective. The following recommendations address general regulatory deficiencies. These recommendations give an introduction to how these themes can be regulated by Lower Saucon Township. Further, customized research and drafting of ordinance language will be needed to incorporate these recommendations into municipal codes.

Updates Encouraged	Ordinances include some policies or standards that could be updated or expanded.
Adoption of Standards Encouraged	Ordinances do not include policies or standards.

Theme	Recommendation
Off-Road Infrastructure	
Sidewalks	**Updates Encouraged**
Paths/Trails	**Updates Encouraged**
On-Road Infrastructure	**Adoption of Standards Encouraged**
Pedestrian and Trail Crossings	**Updates Encouraged**
Public Transit Stop Requirements	**Adoption of Standards Encouraged**

Terminology

It may be useful to define active transportation related terms in municipal ordinances. Defining terms in the municipal code ensures that all parties are in agreement as to what a specific facility is and is not. The Active Transportation Toolbox in this document can serve as a starting point for developing definitions for municipal ordinances.

Design Standards

Active transportation elements can be incorporated into the design standards. At a minimum, the design standards should include the following:

- Where a feature is required.
- When a feature is required.
- The dimensions of the feature and its elements, including minimum and/or maximum dimensions.
- Any additional design or construction requirements.

The design standards may include references to accepted design standards or build specifications that have also been adopted by the municipality. Listed below are the common issues within municipal ordinances related to active transportation and recommendations to address these deficiencies.

Off-Road Infrastructure

Sidewalks

The Lower Saucon Township SALDO does require sidewalks to be installed in many instances. However, it does leave room for the sidewalk requirement to be waived. Additionally, the ordinance lacks a definition for and general design standards for sidewalks. Lower Saucon Township should consider:

1. Adopting a definition for sidewalks;
2. Requiring sidewalks along all public and private street frontages for all new land developments; and
3. Referencing current ADA standards for the design of sidewalks, including requiring a 5’ minimum width.

Paths and Trails

Trails are included under the definition of Public Grounds in the SALDO. However, this does not provide an adequate definition for trails, and minimum widths and design standards are not identified. Lower Saucon Township should consider:

1. Adopting a definition for trails and paths;
2. Referencing specific plans (including this Active Transportation Plan) for where trails and paths should be constructed; and

3. Including standards for the width, construction, and design of trails and paths based on the anticipated use of the proposed facility. Reference the Active Transportation Toolbox in this plan for guidance.

On-road and Bicycle Infrastructure

Lower Saucon Township ordinances do not mention on-road infrastructure such as bike lanes, sharrows, etc. However, these facility types can be essential to completing gaps in the active transportation network. The township should consider:

1. Adopting definitions for on-road active transportation infrastructure;
2. Reference specific plans (including this Active Transportation Plan) for where on-road facilities should be constructed;
3. Including standards that are consistent with nationally accepted and statewide guidelines for on-road active transportation features; and
4. Include bicycle parking requirements, particularly for commercial uses.

Pedestrian and Trail Crossings

A crosswalk is any portion of a roadway at an intersection or elsewhere designated for pedestrian crossing, typically by lines or other pavement markings. Crosswalks can be located at an intersection or a midblock location. Additionally, crosswalks can be marked or unmarked. Trail crossings can considered to be intersections, so the definition and design treatments differ from crosswalks. Crosswalks are defined in Lower Saucon Township SALDO. However, the ordinance does not include any design standards for crosswalks. Lower Saucon Township may consider:

1. Adopting a definition for trail crossings;
2. Incorporating appropriate design standards and guidelines, including ADA and the Manual on Uniform Traffic Control Devices (MUTCD);
3. Requiring the evaluation of crosswalks and trail crossings as part of the land development process; and
4. Adopting uniform standards for the type of crosswalks to be painted (parallel lines, diagonal hatching, or perpendicular) based on the functional classification of the roadway and other criteria.

Crosswalk Definition

A sidewalk or pathway located in a right-of-way or pedestrian easement, municipally or privately owned, at least 20 feet in width, which cuts across a block or furnishes access for pedestrians to adjacent streets and properties.

-Lower Saucon Township SALDO

Public Transit Requirements

LANTA provides a valued service to the residents of Lower Saucon Township and the surrounding communities. However, the only mention of public transit are in the Zoning Ordinance; where “Bus or taxi terminal” is identified as a permitted use in certain districts. Lower Saucon Township should consider:

1. Adopting standard definitions related to bus stop elements, including an ADA loading pad and bus shelters;
2. Requiring coordination with LANTA during the land development

LANTA Bus Stop at Shopping Center on Route 412

review and approval process, particularly for developments along existing bus routes or developments that may warrant future transit service; and

3. Requiring installation of appropriate bus stop elements as part of land developments.

Transportation Impact Study Requirements

Lower Saucon Township, like many municipalities, requires the preparation and submission of a traffic impact study as part of the land development approval process. The requirements for traffic studies focus solely on evaluating and mitigating traffic capacity. Mitigating traffic impacts by providing more travel lanes can induce more traffic, reduce the ability of people to use non-auto modes because of wider and busier roadways, and make it more expensive to develop in desirable locations. The requirements for transportation impact studies can be expanded to consider a broader range of transportation options and more balanced strategies to address transportation impacts.

Existing Conditions Analysis

Require descriptions and documentation of all existing and proposed elements of the transportation system, including pedestrian infrastructure; bicycle infrastructure; and public transit routes, stop locations, and service.

Future Conditions Analysis

Require that proposed improvements shall consider all roadway users, including motorized vehicles, bicyclists, pedestrians, and transit users. For significant new developments, add a requirement to address future public transit service through coordination with LANTA.

Alternative Transportation Plan

Lower Saucon Township may adopt a practice whereby major developments are required to submit an Alternative Transportation Plan. This plan should be completed in concert with a transportation impact study. There are a variety of criteria that could be considered for when an Alternative Transportation Plan is required, such as zoning district, size of the development, and functional classification of the roadway. The Alternative Transportation Plan can be used to identify multimodal (bicycle, pedestrian, public transit) infrastructure improvements and Transportation Demand Management (TDM) measures to offset the traffic impacts associated with the proposed development. The developer may choose to implement any or all of the improvements to receive trip reduction credits. The trip reduction credit percentages require approval by the municipality's governing body with guidance from a professional traffic engineer and agreed upon by PennDOT (for state owned roadways). Trip reduction credits could be applied to the transportation impact study to determine the required roadway improvements. However, for state owned roadways

under PennDOT's jurisdiction, ATP's cannot be used as justification for any roadway or intersection to go unimproved through the land development process or for any roadway or intersection to operate below an acceptable LOS during the peak condition. Additionally, all requirements under the current PennDOT HOP process must be met.

Official Map

Lower Saucon Township has adopted an Official Map to express the municipality's interest in acquiring identified land for future public purposes. The recommended improvements of this Active Transportation Plan, including proposed sidewalks and trails, can be incorporated into the Official Map.

Capital Improvement Plan

Lower Saucon Township has an adopted Capital Improvement Plan to budget for maintenance and replacement of existing infrastructure and construction of new facilities. It identifies short and long term priorities to help schedule capital improvements, and it identifies potential funding or financing options for the identified improvements. When the current Capital Improvement Plan is updated, recommendations from this Active Transportation Plan should be incorporated.

Programs that Encourage Active Lifestyles

There are a number of programs that can support active transportation in Lower Saucon Township. Beyond building new infrastructure, these initiatives can create an atmosphere and attitude that encourages walking and biking, and they can give people the tools and confidence to remain active in the community.

PennDOT Connects

The PennDOT Connects program provides an opportunity for municipalities to coordinate with PennDOT, Northampton county, LVPC, and other planning partners during the implementation of maintenance and capital improvement projects. This coordination is vitally important to advancing community visions.

Meadows Road Bridge

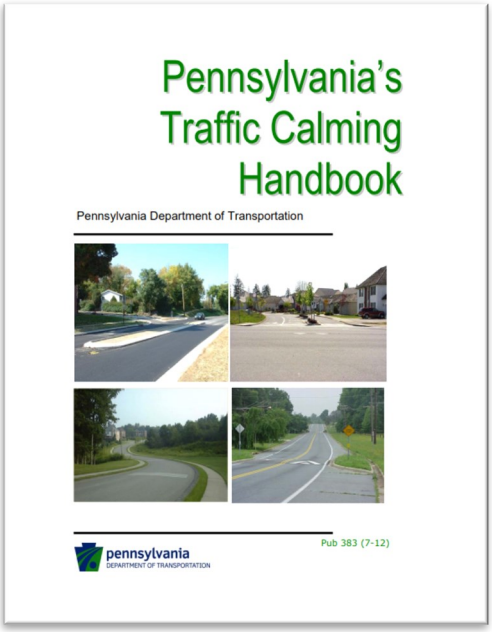
Increased communication and coordination, during the pre-planning phase is critical for active transportation plan implementation moving forward. It is the local and county governments opportunity to raise awareness of their local pedestrian and transportation priorities/plans. It is critical that local representatives, LVPC, representatives from LANTA, as well as other community stakeholders, have the opportunity for input prior to expending resources on engineering/permitting costs.

An example of good coordination in the early stages of a project is the Meadows Road Bridge over Saucon Creek that is being lead by PennDOT

and Northampton County. PennDOT has coordinated with Lower Saucon Township to identify the community needs and communicate potential solutions to reopen the bridge. As a result, it is anticipated that the closed bridge will be replaced with a new structure that can support the needs of drivers and access over Saucon Creek to the Saucon Rail Trail for bicyclists and pedestrians.

Traffic Calming

Traffic calming measures are physical changes to a roadway designed to reduce speeding and cut-through traffic, particularly on residential streets. Traffic calming measures are often implemented in conjunction with bicycle and pedestrian infrastructure to create a safer and more comfortable environment for walking and biking. Lower Saucon Township may consider developing and adopting a traffic calming policy to outline a process for evaluating and implementing traffic calming measures. These policies often address how municipalities respond when residents' express concerns related to speeding or cut-through traffic. The policy can include processes for residents to request a traffic calming study, key steps in the evaluation process, and criteria for determining if traffic calming measures should be installed. PennDOT's Traffic Calming Handbook includes a sample traffic calming process and policy outline.



Vision Zero

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increase safe, healthy, and equitable mobility for all users. Vision Zero involves a multidisciplinary and systems approach to improve policies and roadway environments to prevent fatal and severe crashes. This involves a shift from considering traffic deaths inevitable rather than preventable and focus on managing speeds. Municipalities can make a Vision Zero Commitment and develop a Vision Zero Action Plan to outline steps, metrics, and a timeline to achieve zero traffic deaths in the community. In Pennsylvania, Bethlehem, Harrisburg, and Philadelphia have made a commitment to Vision Zero.

Enforcement Programs

There are a number of state and local laws and regulations that address bicycle and pedestrian safety issues. Ensuring compliance with these laws can help to provide a safe environment for walking, biking, driving, and riding public transit. Listed below are several ideas of ways to enhance the enforcement of laws that impact bicycle and pedestrian safety.

- Use of non-motorized patrols
- Use of driver feedback speed signs
- Targeted speed enforcement, particularly for shared use facilities

The township can also take a proactive approach by installing electronic radar speed signs in locations where speeding is a known issue and there is

Sign on Route 412 near Lower Saucon and Hellertown border

bicycle and pedestrian activity. Electronic radar speed signs can be temporary or permanent and display road users current speed as they approach. While this is not direct speed enforcement, it can make drivers aware when they are traveling above the posted speed limit and help to reduce overall speeding.

Education and Encouragement Programs

Educating people about the health and safety benefits of walking and biking and encouraging people to walk and bike may help to increase walking and biking activity. The following list includes potential activities and events that could be held to promote and raise awareness for active transportation. The activities can incorporate education, exercise, art, history, nature, recreation, and fun for all ages.

- Beautification / Clean-up events
- Bike lessons for kids and adults
- Bike rodeos for kids
- Block parties / Free street events
- Public art installations (temporary or permanent)
- Charity walks / Running races / Bike races / Triathlons
- Trail Opening Events
- Walk / Bike tracking and challenge activities
- Walk / Bike to Work Events
- Walk / Bike to School Events

Lower Saucon Township already sponsors and supports several educational programs. For example, Lower Saucon Township partners with Hellertown Borough for a Bike Ride with the Police event each year. It is an opportunity for residents to ride bikes with the police officers in the community and bicycle safety is promoted at the event. Additionally, the Township's Parks and Recreation Department leads a summer recreation program for children, which can be an excellent opportunity to offer bicycle safety lessons.

Also, the township coordinates an Adopt-A-Road program with supplies and support provided Bethlehem Landfill. Organizations and families have committed to picking up litter along township roadways twice a year. This is an excellent example of a successful program developed as a partnership between various organizations.

The township website, newsletter, and social media channels are existing outlets and opportunities to share information and educate residents about active transportation. For example, motor vehicles must allow four feet of distance when overtaking a bicycle and travel at a careful and prudent speed. It is the motorist's responsibility to provide the distance. PennDOT

Flyer for Bike Ride with Police Event

PennDOT Twitter Image (2020)

and other organizations have materials that might be available for educational purposes.

Routine and regular roadway maintenance

Active transportation infrastructure requires routine and ongoing maintenance. Some maintenance may be related to seasonal conditions, such as clearing snow and ice or overgrown vegetation. Sidewalks, paths, and trails may require minor repairs and occasionally full replacement. As the active transportation network is expanded, the township should consider financial planning and budgeting for annual maintenance and future repairs or replacement of infrastructure.

Performing routine roadway maintenance, including street sweeping and clearing of roadside vegetation, can help to provide an unobstructed travel way and smooth riding surface for cyclists. Corridors that provide connections to the Saucon Rail Trail (such as Meadows Road and Skibo Road), as well as key on-road cycling corridors (such as Mountain Drive and Bingen Road) could be priorities for providing routine maintenance to support on road cycling.

Economic Benefits of Active Transportation

In addition to enhancing a communities appeal and the health of its residents, active transportation has a positive impact on a communities economy. According to the Lehigh Valley Return on Environment (2014) study completed by the Lehigh Valley Planning Commission, outdoor recreation accounts for approximately $795.7 million in spending each year in the Lehigh Valley, which supports approximately 9,678 jobs. Additionally, the value of real-estate located within 1/4 mile of open space in the Lehigh Valley is afforded a premium of $14,600 compared to homes further away from recreational opportunities.

In addition, investments and active transportation can benefit local businesses and economic development. Lower Saucon Township's Set in Motion Economic Development Plan includes recommendations to invest in active transportation infrastructure and streetscape improvements, particularly along the key development corridors of Route 378 and Route 412. Sidewalks, bike lanes, trails, and streetscape enhancements can make it easier for people to access local businesses. Additionally, those improvements can make a corridor more attractive for local businesses and lead to private investments. To implement some of the recommendations of the economic development plan, Lower Saucon Township has created the Route 378 Task Force. This task force can play a key role in helping to implement some of the active transportation improvements identified for the Route 378 corridor.

5 | Implementation

This chapter provides a blueprint for achieving Lower Saucon Township's vision for a connected active transportation network through incremental steps over time. This chapter presents a summary of priority action items, including capital improvements, policy updates, and programs. Chapters 3 and 4 provide more details about specific action items for priority projects and initiatives. Early action items are priority projects that the Township can focus on in the next two years. Other priority projects may take additional time to further develop plans, coordinate with PennDOT, coordinate with property owners, secure funding, and develop partnerships for implementation. This chapter outlines some of the key next steps to work towards successful implementation.

Implementation, Coordination, and Partnerships

Lower Saucon Township's Parks and Recreation Board will help to oversee and monitor implementation of the plan. The Board, which meets monthly, will provide input on priority action items and make recommendations to the Township Council regarding next steps. Additionally, the Parks and Recreation Board can monitor and report progress towards implementation on a semi-annual basis. In addition to oversight and guidance provided by the Parks and Recreation Board, the Saucon Rail Trail Oversight Commission and the Route 378 Economic Development Task Force will take lead roles in advancing and overseeing specific priority projects under their purview.

Coordination with other project partners is also a key element for successful implementation of this plan. Listed below are several potential partners that may be able to help identify opportunities to work together with Lower Saucon Township to implement the plan. Additionally, some organizations may be able to provide technical assistance, grant funding, or other resources to advance priority projects.

- PennDOT District 5
- Lehigh Valley Regional Planning Commission (LVPC)

- Northampton County
- Lower Saucon Authority
- Saucon Valley Partnership, including Hellertown Borough and Saucon Valley School District

Current/Ongoing Projects

There are some projects and initiatives that are already underway and will continue to be a focus and priority for Lower Saucon Township.

Meadows Road Bridge over Saucon Creek

Northampton County and PennDOT have initiated a project to replace the Meadows Road Bridge over Saucon Creek. Due to the structural issues, the existing bridge will be demolished in 2021. Lower Saucon Township should continue to be an active partner for design of the new bridge. The township should continue to advocate for including bicycle/pedestrian infrastructure on the new bridge, as this represents a key opportunity to improving connections to the Saucon Rail Trail in this part of the township. The township should coordinate with PennDOT regarding connections on Meadows Road from the bridge to west to the Saucon Rail Trail and to the east to the Route 412 corridor and shopping center just south of Meadows Road on Route 412.

Meadows Road Bridge

Route 378 Corridor Economic Development Task Force

Lower Saucon Township is working with neighboring municipalities and other partners to establish an Economic Development Task Force for the Route 378 Corridor. One area the task force could focus on is safety improvements, bicycle and pedestrian connections, and overall attractiveness along Route 378. In the near term, the Task Force can initiate coordination with PennDOT to conduct a road safety audit, particularly for the northern section of Route 378 near the border with the City of Bethlehem. In this area, changes in the lane configuration presents safety and operational concerns. In addition, the Task Force an assist with further evaluating options and advancing bicycle, pedestrian, and streetscape improvements for the southern section of the corridor.

Early Action Items

Policies and Programs

Lower Saucon Township can focus on updating and developing policies and programs as early action items of the Active Transportation Plan. These initiatives require less capital investment than infrastructure projects, but have the potential to make just as big of an impact.

Update Subdivision and Land Development Ordinance

Chapter 4 identifies key enhancements to Lower Saucon Township's Subdivision and Land Development Ordinance. In particular, it identifies a need to update definitions and to incorporate design standards for active transportation supportive infrastructure. In doing so, it will clear up confusion when describing identified improvements to residents, property owners, and developers, and responsibilities and expectations will be clearly known.

Update Official Map

The township's official map can be updated to incorporate the capital improvements, particularly sidewalk and trail connections, identified in the Active Transportation Plan. The official map can be used as a negotiation topic during the land development process to clearly communicate the envisioned active transportation network in Lower Saucon Township.

Continue Programs that Support Active Transportation

Lower Saucon Township can continue supporting programs that encourage and educate residents about active transportation. Partnering with Hellertown Borough on the Bike Ride with the Police event and bicycle safety lessons from the Parks and Recreation Department are great ways to encourage and educate residents about bicycle safety. The township should continue to look for ways to develop partnerships with local organizations to promote active transportation in the community.

Continue Support of the Saucon Rail Trail Oversight Commission

Saucon Rail Trail Oversight Commission oversees maintenance and capital improvements to the Saucon Rail Trail. Lower Saucon Township is a charter member, and should continue to provide their support to the Oversight Commission. In particular, the township can provide support to connecting the Saucon Rail Trail to the Bethlehem Greenway.

Capital Improvement Projects

The table below lists early action capital improvement projects, which were identified in Chapter 3. These priority projects can be implemented in the near– to mid– term, provide key connections in the active transportation network, posed fewer feasibility concerns, and have low to moderate costs The table includes specific action items and a general time frame for the action items. Actual implementation is dependent on a number of factors, such as technical feasibility, design, coordination with partners and property owners, and availability of funding and resources.

Priority Connection	Short-Term Actions (6 months—1 year)	Medium-Term Actions (1-2 years)	Long-Term Actions (2-5+ years)
Early Actions			
Route 412: Sidewalks on Route 412 into Hellertown	– Conduct topographic survey and develop a conceptual plan of the improvements – Coordinate with PennDOT and property owners to review potential improvements – Identify funding for preliminary design	– Initiate preliminary design – Secure funding for construction	– Acquire right-of-way, if needed – Construct improvements
Skibo Road: Bike Lanes between Saucon Creek and Meadows Road	– Evaluate the need for shoulder widening and improvements – Identify an opportunity to implement improvements in conjunction with another project – Identify funding for design and construction	– Initiate preliminary design, if necessary – Secure funding for construction	– Construct improvements
Meadows Road: Sharrows/Share-the-Road Signage between Skibo Road and Saucon Rail Trail	– Identify an opportunity to implement improvements in conjunction with another project – Identify funding for construction	– Construct improvements as part of a roadway resurfacing program or other transportation improvement project in the township	
Hickory Hill Road Pedestrian Crossing at Raders Lane / Woodfield Drive	– Conduct topographic survey and develop a conceptual plan of the improvements – Coordinate with PennDOT, PP&L, and property owners to review potential improvements – Identify funding for preliminary design	– Initiate preliminary design – Secure funding for construction	– Acquire right-of-way, if needed – Construct improvements

Planning level cost estimates were prepared for these four early action projects. The cost estimates are rough approximations based on the preliminary scope of improvements and the cost of similar projects. While they are appropriate for planning and budgeting purposes, the cost estimates cannot be used for construction. Additionally, the cost estimates do not include the costs for right-of-way acquisition or utility relocations. As such, many of the improvements will require engineering studies to prepare a more detailed conceptual plan and refined cost estimates.

Route 412 Sidewalks

Description: Sidewalks on the west side of Route 412 between the existing sidewalks that terminate at the Family Thrift Shoppe (south of Polk Valley Road) and Meadows Road.

Design: $75,000— $200,000

Construction: $275,000—$350,000

Notes:

- Cost estimate does not include right-of-way acquisition and utility relocations.
- Coordination with PennDOT is required for the design and construction of the improvements. The scope and cost of improvements may changed based on guidance from PennDOT.
- The cost of design is dependent upon requirements associated grant funding programs.

Skibo Road Bike Lanes

Description: Pavement markings and signage for bicycle lanes on Skibo Road between Meadows Road and the bridge over Saucon Creek, including minor shoulder widening near the intersection with Meadows Road.

Design: $25,000—$35,000

Construction: $200,000—$250,000

Notes:

- Cost estimate includes mill and overlay of the roadway.
- Cost estimate does not include right-of-way acquisition and utility relocations.
- Cost estimate assumes coordination with PennDOT is not necessary.
- The cost of design could be reduced if the improvements are done as part of a roadway resurfacing program.

Meadows Road Sharrows/Share-the-Road Signage

Description: Sharrow pavement markings and signage on Meadows Road between the Saucon Rail Trail and Skibo Road. Sharrows and signs immediately after intersections and at regular intervals.

Construction: $10,000—$15,000

Notes:

- Cost estimate assumes the improvements are implemented as part of a resurfacing program or in conjunction with another roadway improvement project.

Hickory Hill Road Pedestrian Crossing at Raders Lane / Woodfield Drive

Description: Pedestrian crossing improvements of Hickory Hill Road at Raders Lane / Woodfield Drive, including pedestrian path connections to the side streets, high visibility marked crosswalk, flashing warning devices (such as a Rectangular Rapid Flashing Beacon) and other advanced warning signs, and potentially a pedestrian refuge island.

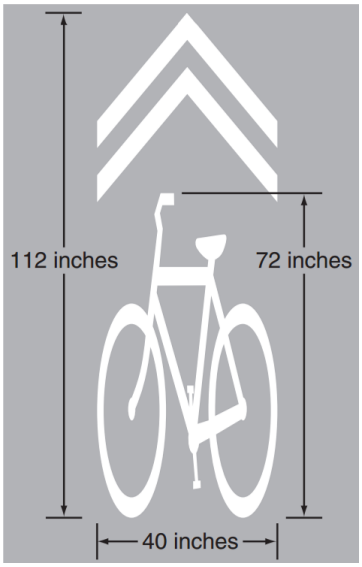
Design: $75,000—$200,000

Construction: $150,000—$200,000

Notes:

- Cost estimate does not include right-of-way acquisition, utility relocations, or significant stormwater management improvements.
- Coordination with PennDOT is required for the design and construction of the improvements. The scope and cost of improvements may changed based on guidance from PennDOT.
- The cost of design is dependent upon requirements associated grant funding programs.

Shared Lane Pavement Marking (Sharrow)



R4-11 Sign

Other Priority Projects

There are several other capital improvement projects that are also priorities, but may take more time to implement due to feasibility issues, necessary coordination with PennDOT or property owners, complexity of design, necessary acquisition of right-of-way, and the need to identify and secure funding for design and construction. Although these projects may take more time to implement, there are near term action items that township can undertake. In order for these projects to successfully lead to implementation, the township should keep all of these priority projects in mind when developing capital budgets, policies, or other long-range plans.

Priority Connection	Short-Term Actions (6 months—1 year)	Medium-Term Actions (1-2 years)	Long-Term Actions (2-5 years)
Other Priority Improvements			
Meadows Road: Bicycle/Pedestrian connection between Saucon Rail Trail and Route 412/Shopping Center	– Coordinate with PennDOT regarding planning and design of the connection in conjunction with the Meadows Road Bridge design	– Conduct topographic survey and develop a conceptual plan of the improvements – Initiate coordination with property owners – Identify funding or partnership opportunities for preliminary design	– Identify funding or partnership opportunities for right-of-way acquisition and construction
Route 378: Trail or Sidewalk between Oakhurst Drive/Colesville Road and Saucon Valley Square	– Route 378 Task Force to lead further evaluation of bicycle and pedestrian improvement options – Coordinate with PennDOT, business owners, and property owners to identified preferred improvements	– Conduct topographic survey and develop a conceptual plan of the improvements – Consider potential phasing of improvements, if needed – Identify funding for preliminary design	– Initiate preliminary design – Secure funding for construction
Bingen Road: Trail along Sewer Authority Easement	– Identify use restrictions associated with the sewer easement right-of-way	– Evaluate feasibility and develop a conceptual plan of the improvements – Initiate coordination with property owners – Identify funding for preliminary design	– Initiate preliminary design – Secure funding for construction
Black River Road: Trail or Sidewalk between Alice Drive and Route 378	– Identify PennDOT right of way under I-78 and coordinate feasibility with PennDOT	– Identify funding for preliminary design – Conduct topographic survey and develop a conceptual plan of the improvements – Initiate preliminary design	– Secure funding for construction

Potential Funding Opportunities

Identifying funding for the capital improvements, programs, and policies identified in this plan is a critical next step towards implementation. Some projects may be relatively low cost, implementable by staff or volunteers, or tied to another project. While other may require phasing and funding from multiple sources.

While the full responsibility of funding the projects identified in this plan will not fall solely on the township, all improvements will require some investment from the township; whether time, materials, or capital. It is important for the township to consider the improvement projects, policies, and programs in this plan when preparing future budgets. Investment from the township can be used to leverage other funding sources, and it can be used for matching funds for competitive grant programs.

Given the variety of improvements identified, additional funding beyond the township's general budget will likely be needed for implementing many of the improvements. Various competitive grant programs are available to fund the design and construction of capital improvements. A summary of the current competitive grant programs available to municipalities for active transportation improvements is highlighted here. Each grant program has different eligibility for the type of project, use of funds, matching requirements, and timelines for implementation. Grant programs typically require the project sponsor to provide matching funds and omit to administering and fulfilling other grant requirements.

The table at the end of this chapter highlights some grant programs that are available to Lower Saucon Township to implement active transportation enhancements in the community.

Summary of Current Competitive Grant Programs Table

Program – Administering Agency	Program Details	Capital Improvement Projects					Policies, Plans, and Programs
		Bicycle & Pedestrian Facilities	Streetscape	Traffic Calming	Public Transit	Wayfinding	
Transportation Alternatives Set Aside – Pennsylvania Department of Transportation (PennDOT)	– Federal transportation funds – Match requires funding all pre-construction activities – $50,000 minimum and $1 million maximum – 2 year timeframe to complete design, right-of-way, and utility clearance	✓		✓			
CFA/DCED – Multimodal Transportation Fund (MTF) – Commonwealth Financing Authority (CFA) with Department of Community and Economic Development (DCED)	– Annual competitive grant program for state funds (Act 89) – 30% match; $100,000 minimum; $3 million maximum – 2 – 3 year timeframe to complete the grant funded activities	✓	✓	✓	✓		
PennDOT – Multimodal Transportation Fund (MTF) – PennDOT	– Annual competitive grant program for state funds (Act 89) – 30% match (based on grant award); $100,000 minimum; $3 million maximum – 3 year timeframe to complete the grant funded activities	✓	✓	✓	✓		
Automated Red-Light Enforcement (ARLE) Program – PennDOT	– Annual competitive grant program – Funded by revenue from automated red light enforcement – No matching funds required	✓					
Greenways, Trails and Recreation Program (GTRP) – CFA with DCED & Department of Conservation of Natural Resources (DCNR)	– Annual competitive grant program for state funds (Act 13) – 15% match; $250,000 maximum – 2 - 3 year timeframe to complete the grant funded activities	✓ Trails					
Community Conservation Partnerships Program (C2P2) – Department of Conservation and Natural Resources (DCNR)	– Annual competitive grant program – Various federal and state funds available for trails and improving access to recreational opportunities – Match requirement depends on program	✓ Trails				✓	✓
Community Development Block Grant (CDBG) – Northampton County – Department of Community and Economic Development (DCED)	– Annual federal Housing and Urban Development (HUD) funds – Amount allocated to county based on variety of factors – Funds allocated to support communities with low-to moderate- income persons		✓				✓
Municipal Assistance Program (MAP) – Department of Community and Economic Development (DCED)	– Grant program with rolling applications (always accepting applications) – 50% match required						✓

Summary of Current Competitive Grant Programs Table (continued)

Program – Administering Agency	Program Details	Capital Improvement Projects					Policies, Plans, and Programs
		Bicycle & Pedestrian Facilities	Streetscape	Traffic Calming	Public Transit	Wayfinding	
WalkWorks Program – PA Downtown Center	– Annual competitive grant program – No matching funds required – Typically less than 1 year to complete the grant funded activities						✓
PeopleForBikes Community Grant Program – PeopleForBikes	– Annual or biannual competitive grant program for private funds – Grant requests cannot exceed 50% of the project cost and $10,000 maximum	✓					
PPL Foundation Sustaining Grant – PPL Foundation	– Sustainability education programs – Up to $25,000						✓
PPL Foundation Major Grant – PPL Foundation	– Projects that improve the lives and well beings of residents – $25,000 - $100,000	✓ Trails					
Community Challenge Grant – AARP	– Project that increase mobility options and connectivity in communities – No minimum or maximum award amount	✓	✓	✓	✓	✓	
Smart Growth Grant – National Association of Realtors	– Educational programs and policies that support active transportation – Level One: up to $1,500 – Level Two: up to $5,000						✓
Placemaking Grant – National Association of Realtors	– New, outdoor public spaces and destinations in a community – Level One: up to $1,500 – Level Two: up to $5,000	✓	✓	✓	✓	✓	

Measuring Success

Long-term success of the Active Transportation Plan will be measured by the completion of linear miles of new multimodal transportation facilities, the number of newly connected destinations, enhancements of transit facilities (e.g. number of new bus pads and number of additional of transit stops), and enhancements to destinations. These capital improvements will not happen overnight; it will take diligent work on the part of planning partners and support of the local residents. Community leaders should update the list below periodically to check progress in implementation.

The following tables are consistent with the templates provided by the PA WalkWorks program and fulfill the reporting requirements for metrics.

Sidewalks Metrics

Page	Priority	Project Location	Potential Linear Miles	Connected Destinations
3 - 17	High	Route 412: Sidewalks on Route 412 into Hellertown	0.12	Route 412 Corridor; Saucon Rail Trail; Hellertown Borough
3 - 27	Medium	Black River Road: Sidewalk (or Trail) between Alice Drive and Route 378	0.13	Route 378 Corridor
3 - 29	Low	Meadows Road: Sidewalks between Skibo Road and Saucon Rail Trail, closing key gaps in the sidewalk network	0.64	Saucon Rail Trail

Bicycle Infrastructure Improvements Metrics

Page	Priority	Project Description	Potential Linear Miles	Connected Destinations
3 - 19	High	Skibo Road: Bike Lanes between Saucon Creek and Meadows Road	0.36	Saucon Rail Trail; Hellertown Borough
3 - 19	Medium	Reservoir Road: Yield Roadway	0.61	Polk Valley Park; Reservoir Park
3 - 29	High	Meadows Road: Shared Lane Markings/Share-the-Road Signage between Skibo Road and Saucon Rail Trail	0.65	Saucon Rail Trail
3-31	Low	Mountain Drive: Shoulder widening	0.75	Lehigh University

Crosswalks and Intersections Metrics

Page	Priority	Project Description	Connected Destinations
3 - 17	High	Route 412: Intersection Improvements at Meadows Road	Saucon Rail Trail
3 - 26	High	Hickory Hill Road Pedestrian Crossing at Raders Lane / Woodfield Drive	Route 378 Corridor
3 - 27	Medium	Pedestrian Access and Connections between Existing Neighborhood Roadways	
	— —	Other Crossing and Intersection Improvements associated with sidewalk and trail connections	

Multi-Use Paths Metrics				
Pg. No.	**Priority**	**Project Location**	**Potential Linear Miles**	**Connected Destinations**
3 - 18	High	Meadows Road: Bicycle/Pedestrian connection between Saucon Rail Trail and Route 412/Shopping Center	0.24	Saucon Rail Trail; Route 412 Corridor (Shopping Center)
3 - 23	High	Route 378: Trail (or sidewalk) between Oakhurst Drive/Colesville Road and Saucon Valley Square	0.95	Route 378 Corridor; Saucon Valley Square
3 - 19	Medium	Polk Valley Park Trail Connection to Route 412	0.43	Polk Valley Park; Route 412 (Shopping
3 - 19	Low	Polk Valley Road: Path between School Campus and Reservoir Road	0.41	Saucon Rail Trail; Polk Valley Park; Saucon Valley School Campus; Hellertown Borough
3 - 25	High	Bingen Road: Trail along Sewer Authority Easement	1.00	Via other identified improvements: Lehigh University Athletic Fields; Route 378; Saucon Rail Trail
3 - 27	Low	Mountain Drive: Trail	0.39	Lehigh University
3 - 29	Medium	Meadows Road: Trail between Skibo Road and Bingen Road	0.87	

Programmatic and Policy Improvements	
Policy/Project	**Description**
SALDO / Zoning Updates	Update definitions; Include design standards for active transportation infrastructure
Transportation Impact Study Requirements	Update requirements to include considerations of all modes; require Alternative Transportation Plan for large scale developments
Official Map	Update to incorporate capital improvements, particularly sidewalk and trail connections, identified in ATP
Capital Improvements Plan	Update Capital Improvements Plan to budget funds for Priority Implementation Projects
Enforcement Programs	Focus enforcement activities in areas where there is increased pedestrian and bicycle activity, such as trail crossings
Education and Encouragement Programs	Educate residents on the health and safety benefits of walking and biking
Routine and Regular Maintenance	Update policies to address minor maintenance responsibilities; consider financial planning and budgeting for maintenance and future repairs; focus maintenance efforts on corridors identified for on-road cycling, including Skibo Road, Meadows Road, Mountain Drive
Route 378: Road Safety Audit	Coordinate with PennDOT and other planning partners to conduct a road safety audit for the Route 378 corridor
Support Regional Initiatives	Hellertown: Saucon Creek Bridge at Tumminello Park; Polk Valley Greenway Trail; West Walnut Bike/Ped Connections Bethlehem: Shoulder Widening on Mountain Drive Saucon Rail Trail Oversight Commission: Connecting the Saucon Rail Trail and Bethlehem Greenway