TOWNSHIP OF

# MIDDLETOWN

BUCKS COUNTY

## Mulitimodal Improvement Plan




*January 2024*

***Funded in part by:***

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

***Prepared by:***

SIMONE LANDSCAPE ARCHITECTURE COLLINS

TCDI
Transportation & Community Development Initiative

DAWOOD

TMA BUCKS
A TRANSPORTATION MANAGEMENT ASSOCIATION

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*sc#22059.1*

***Prepared for:***

TOWNSHIP OF

# MIDDLETOWN

BUCKS COUNTY

## Project Committee:

### Township Staff

Stephanie Teoli Kuhls, Township Manager

Nick Valla, Assistant Township Manager

Jim Ennis, Director of Building & Zoning

Paul Kopera, Director of Parks & Recreation

Patrick Graham, Parks & Rec. Program Coordinator

Peter Feeney, Police Captain

Mark McLeod, Police Sergeant

### Board/Commission Members & Residents

Dana Kane, Township Supervisor

Dawn Quirple, Township Supervisor

David Devore, Human Relations Commission

Chris Haughey, Citizens Traffic Commission

Missy Kitzmiller, Parks & Recreation Board

Andy McAloon, Environmental Advisory Council

Joseph Leming, Resident

Amy Strouse, Resident

Guy Triano, Planning Commission

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# Executive Summary

Middletown Township is the third largest municipality in Bucks County, with a population of 46,000 residents, and a vital civic mix of residential neighborhoods, commercial areas, and natural and cultural destinations.

The location of Middletown as a historic transportation crossroads has left the community with a legacy of incremental roadway and rail transportation "improvements" that traverse the Township and now pose serious safety, access, and cost impacts to resident and traveler mobility.

This Multi-modal Improvement Plan (MIP) is a major accomplishment by Middletown Township to document a comprehensive improvement strategy for connecting travel modes that are alternatives to private automobiles.

The Middletown MIP is a blueprint for continued municipal planning and partnerships in capital improvement projects across the Township, based on several key project elements:

- Comprehensive township mapping – using current GIS data with planned development data.
- Public participation – guided by a project Committee – with venues including:
    - three (3) public meetings;
    - a public opinion survey,
    - user Wiki-mapping; and
    - nine (9) key person interviews.
- Site reconnaissance, analyses – and multiple meetings between Township staff and consultants.
- Engineering assessments – for priority areas selected by the Township
- Cost estimates – calculated by improvement type within multiple sub-areas of the Township.

## *A. Improvement Priorities*

- Pedestrian and bike routes – closing critical gaps in sidewalk network and extending multi-use trails.
- Connections to preferred destinations (N-S, E-W) to reach cultural, recreation, open spaces, and schools.
- Safe pedestrian access to commercial areas – especially the Business Route 1 corridor.
- Remedies to past transportation infrastructure obstacles – specifically in the Woodbourne Station area.
- Linkages to and through the neighboring Boroughs – as partnership improvement opportunities.
- Collaboration with SEPTA – in multiple initiatives, including station areas; future micro-transit bus service.

## *B. Improvement "Tools"*

The MIP describes a palette of fourteen (14) 'tool' options appropriate to improve safety, connectivity and universal accessibility for residents, visitors, employees and students who travel within Middletown Township.

## *C. Improvement Costs*

Costs for engineering and construction were calculated for twelve (12) sub-areas within Middletown Township. Quantities for each tool were tallied for each area, and (2023) unit costs were applied. General percentages were applied to each area for non-construction costs, including survey, design, engineering, environmental clerances, mobilization, construction contingency, stormwater management, and erosion and sediment control.

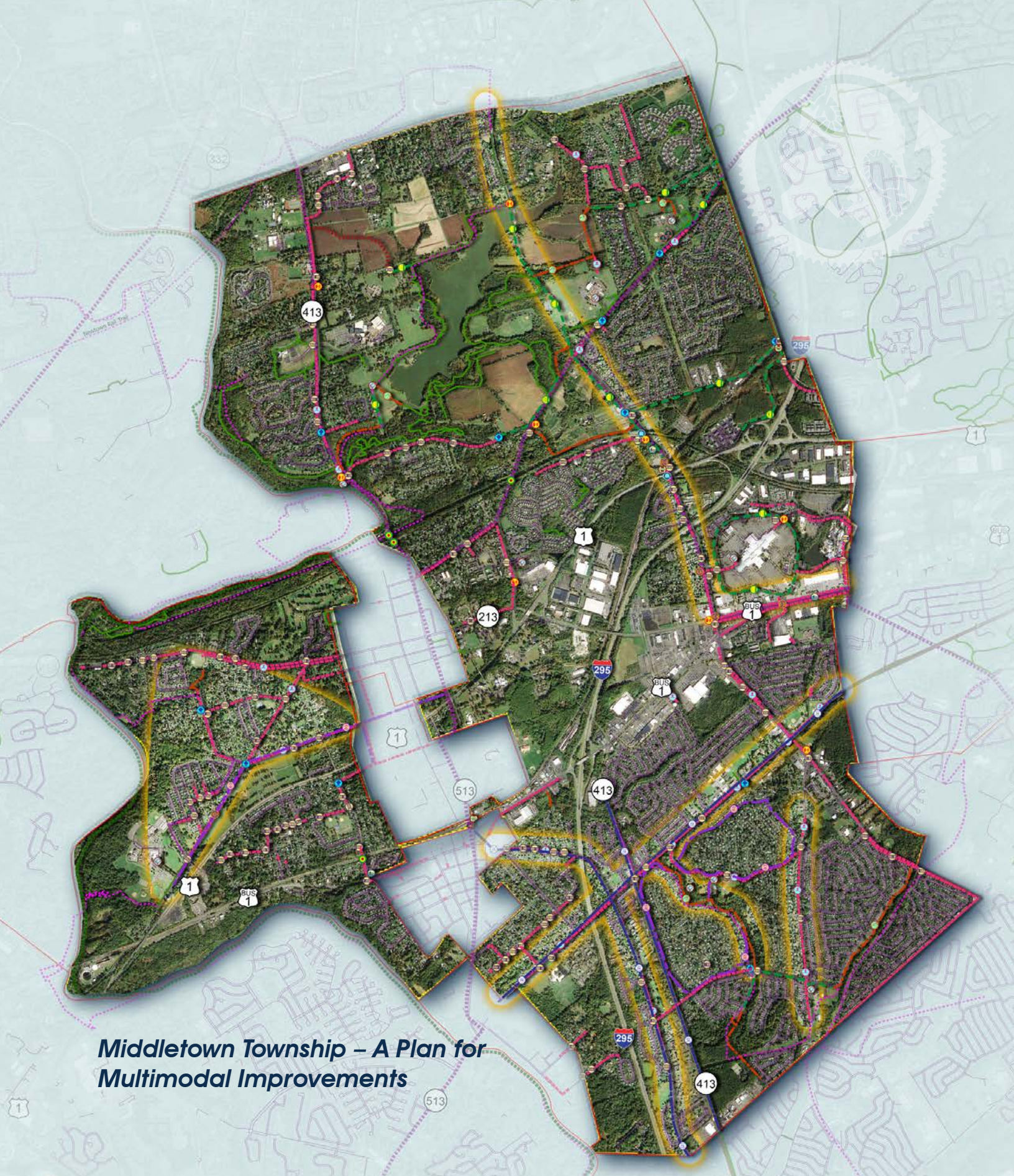
The total estimated 2023 cost for the MIP improvements is $43M.

## *D. Township Actions - suggested*

- Adopt the Middletown Multimodal Improvement Plan (MIP)
- Incorporate Multimodal Improvements within the PennDOT RC3 Design
- Adopt a Complete Streets policy
- Adopt a Vision Zero policy
- Assume Planning Commission Responsibility to Monitor & Update the MIP
    - Develop a MIP 'Matrix'
    - Review the MIP Matrix-Updating Priorities Annually
- Create a Woodbourne Corridor and/or Business Route 1 Task Force(s)
    - CSX/ Norfolk Southern/ SEPTA Train Movement
    - Redevelopment Master Planning Efforts/ Partner Recruitment
    - Business Improvement District Formation
- Advance Education Efforts
- Review Township Act 209 Traffic Impact Fees and review Service Area Map
- Review Ordinances for Inclusion of Transportation Demand Management (TDM) strategies

## *E. Middletown Priority locations- suggested*

- Woodbourne Road Corridor
- Business Route 1 Corridor
- Connect large population residential areas with preferred destinations
- Neshaminy High School Area




***Middletown Township – A Plan for Multimodal Improvements***


AHEAD
SCHOO

# 1 Introduction



# 1 Introduction

## 1.1 Goals and Objectives

The 2020 Middletown Township Comprehensive Plan identified four (4) focus areas to advance qualities of life for its residents – Redevelopment & Housing, Transportation, Recreation, and Sustainability. Under the 'Transportation' pillar, the goal of this Multimodal Improvements Plan (MIP) 2023 is a comprehensive municipal strategy to improve multimodal movements (pedestrian, bicycles, transit users, mobility aid users) that connect residents with desired destinations within Middletown Township and its surrounding communities. A robust public participation component has informed the final plan and is documented in the final report.

## 1.2 Project Team & Roles

### *1.2.1 Simone Collins Landscape Architecture (prime)*

Simone Collins Landscape Architecture (SC) is a planning and design firm based in Norristown, Pennsylvania with expertise in parks, trails, greenways, transportation master planning and recreational facilities.

SC served as prime consultant and was responsible for the final plan, cost estimates, public participation, and coordination of the Project Team with the Committee and Middletown Township officials.

### *1.2.2 Dawood Engineering (support)*

Dawood Engineering is an engineering firm specializing in highway/traffic, structural, civil, geotechnical, mechanical engineering, survey; and GIS mapping – including services to all PennDOT engineering districts. Dawood is a current contactor to PennDOT 6-0 for Highway Occupancy Permit review and ADA curb ramp design review. The firm authored the current 'ADA Curb Ramp Design Guidance Manual' for PennDOT 6-0, and currently reviews all ADA curb ramp designs for the City of Philadelphia Streets Department.

Dawood provided preliminary engineering analysis for locations deemed as priorities to improve safe ped/bike connections for future implementation in Middletown Township.

### *1.2.3 TMA Bucks (support)*

TMA Bucks is a transportation management and planning organization that promotes safety-related transportation programs and initiatives in Bucks County, Pennsylvania. TMA efforts include oversight and management of federally-funded Transportation Demand Management programs in partnership with PennDOT, DVRPC, Bucks County Planning Commission, SEPTA, and others.

TMA Bucks assisted in outreach efforts with PennDOT and SEPTA to identify how multimodal improvements can best align with transit uses in Middletown. TMA Bucks researched national best practices in transportation demand management (TDM) and evaluated those models for potential effectiveness in Middletown Township.



*A view of Core Creek Park*

## 1.3 Steering Committee

Middletown Township created a Steering Committee to guide the work of the consultant team and provide valuable insight into critical areas of concern. Committee members include:

### *1.3.1 Township Staff*

- Stephanie Teoli Kuhls, Township Manager
- Nick Valla, Assistant Township Manager
- Jim Ennis, Director of Building & Zoning
- Paul Kopera, Director of Parks & Recreation
- Patrick Graham, Parks & Rec. Program Coordinator
- Peter Feeney, Police Captain
- Mark McLeod, Police Sergeant

### *1.3.2 Board / Commission members / Residents*

- Dana Kane, Township Supervisor
- Dawn Quirple, Township Supervisor
- David Devore, Human Relations Commission
- Chris Haughey, Citizens Traffic Commission
- Missy Kitzmiller, Parks & Recreation Board
- Andy McAloon, Environmental Advisory Council
- Joseph Leming, Resident
- Amy Strouse, Resident
- Guy Triano, Planning Commission

## 1.4 Project Schedule

The process to create the Middletown MIP was completed in ten months. Special attention was given to public participation opportunities and meetings to solicit stakeholder ideas.

| | | | | JAN | FEB | MAR | APR | MAY | JUNE | JULY | AUG | SEPT | OCT | NOV | DEC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TASK 1 - DATA COLLECTION & ANALYSIS | | | | | | | | | | | | | | | |
| TASK 2 - SITE VISITS/ RECONNAISSANCE | | | | | | | | | | | | | | | |
| TASK 3 - MULTIMODAL IMPROVEMENTS ANALYSIS | | | | | | | | | | | | | | | |
| TASK 4 - MEETINGS/ PUBLIC PARTICIPATION | | | | | | | | | | | | | | | |
| TASK 5 - PREFERRED IMPROVEMENTS PLAN (DRAFT & FINAL) | | | | | | | | | | | | | | | |
| TASK 6 - COST ESTIMATES/ PARTNER FUNDING STRATEGY | | | | | | | | | | | | | | | |
| MEETINGS / PUBLIC PARTICIPATION | | | | | | | | | | | | | | | |
| Client Meeting | Project kick-off | Fri, Jan 20, 2023 | 9:00 AM | X | | | | | | | | | | | |
| Site Reconnaissance | Township Tour | Wed, Feb 22, 2023 | 9:00 AM | | X | | | | | | | | | | |
| Steering Committee Meeting #1 | Kick-off, Protocols, Goals, Brainstorming | Wed, Feb 22, 2023 | 4:00 PM | | X | | | | | | | | | | |
| Public Meeting #1 | Programming & Brainstorming | Tue, Apr 04, 2023 | 6:00 PM | | | X | | | | | | | | | |
| Online Public Survey / Wiki Mapping | | | | | | | | | | | | | | | |
| Key Person Interviews | | | | | | | | | | | | | | | |
| Steering Committee Meeting #2 | Comment/Discussion on Initial Concepts | Thu, May 25, 2023 | 4:00 PM | | | | | | | | | | | | |
| Public Meeting #2 | Draft Plan Concepts | Tue, May 30, 2023 | 6:00 PM | | | | | | | | | | | | |
| Steering Committee Meeting #3 | Draft Improvements Plan Discussion | Tue, Aug 29, 2023 | 4:00 PM | | | | | | | | | | | | |
| Public Meeting #3 | Final Preferred Improvements Plan | Thu, Sep 28, 2023 | 6:00 PM | | | | | | | | | | | | |
| Public/ Stakeholder Review Period | 30 Days | | | | | | | | | | | | | | |
| MT Planning Commission Mtg | Final Plan Presentation | Wed, Nov 01, 2023 | 7:00 PM | | | | | | | | | | | | |
| MT Board of Supervisors Presentation | Final Plan Presentation | Mon, Dec. 11, 2023 | 7:00 PM | | | | | | | | | | | | |
| FINAL Report/ Publish | | Wed, Dec 20, 2023 | | | | | | | | | | | | | |







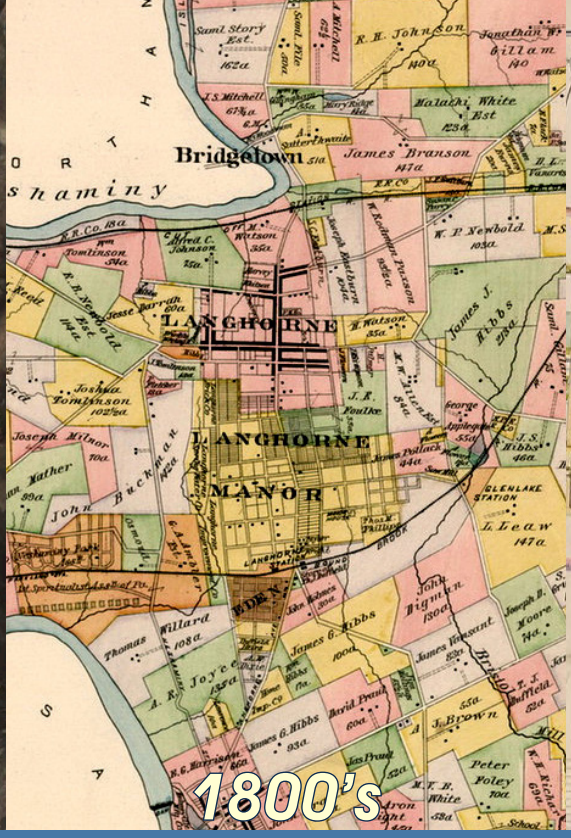
# 2 Inventory





1692

Middletown Township was formally established.




1800's

Langhorne, Langhorne Manor, Hulmeville, and Penndel Boroughs withdraw from Middletown Township, creating a unique boundary.



1876

Attleboro, Middletown's largest development in the early 1700's, was renamed Langhorne.

# 2 Inventory

## 2.1 Township Description

### *2.1.1 Township History*

Middletown Township was formally established in 1692 by William Penn and his surveyor General Thomas Holme. It shares similarities with many townships that were part of the original three counties that surrounded Philadelphia and formed the identity of colonists seeking Pennsylvania as their 'new home' ---close to the major seaport and commercial and political hub of the new county while taking advantage of the lush and abundant farmland close by. Rail and commerce quickly followed the establishment of Middletown ---a fact that provides both opportunities and challenges for multimodal transportation. Pennsylvanians still seek out Middletown Township for its central location to many of the region's landmark attractions, educational opportunities and commercial centers.

Adapting to and re-thinking some of the historic infrastructure hurdles to multimodal connectivity is an important component of this planning document. A timeline of relevant occurrences follows:

**1800's** – The existing boroughs of Langhorne, Langhorne Manor, Hulmeville, and Penndel withdraw from Middletown Township creating a unique boundary.

**1876** – Attleboro, Middletown's largest development in the early 1700's, was renamed Langhorne

**1881** – Langhorne Station is built by Reading Railroad

**1931** – The West Trenton rail line is electrified and begins service including stops at Woodbourne Station and Langhorne Station

**1958** – Levittown, one of the largest Philadelphia suburbs, is completed

**1973** – Oxford Valley Mall is completed

**1980** – The Sesame Place Amusement Park is completed

**2010** – Langhorne Station reconstruction is completed



**1881**

Langhorne Station is built by Reading Railroad.



**1931**

The West Trenton rail line is electrified and begins service to Woodbourne and Langhorne Stations.



**1958**

Levittown, one of the largest Philadelphia suburbs, is completed.



**1973**

Oxford Valley Mall is completed.




**1980**

Sesame Place Amusement Park is completed.

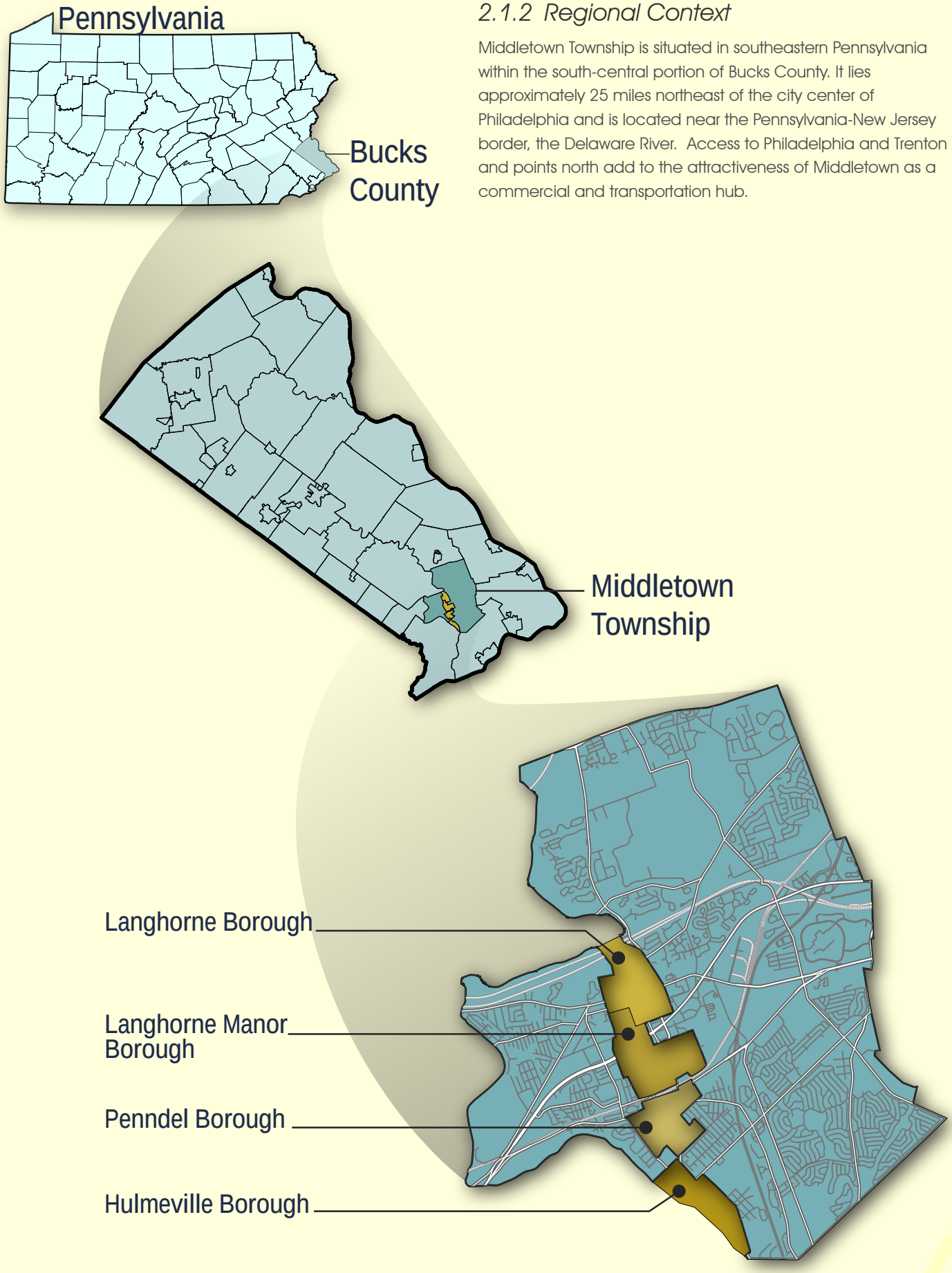



**2010**

Langhorne Station reconstruction is completed.

## 2.1.2 Regional Context

Middletown Township is situated in southeastern Pennsylvania within the south-central portion of Bucks County. It lies approximately 25 miles northeast of the city center of Philadelphia and is located near the Pennsylvania-New Jersey border, the Delaware River. Access to Philadelphia and Trenton and points north add to the attractiveness of Middletown as a commercial and transportation hub.



# 2.2 Demographics & Economy

## 2.2.1 Population/Age/Race

### *Population Trends and Forecasts: 2015 – 2045*

Middletown Township has a population of 46,040 as of the 2020 census, a 1.37% increase from the 2015 population. This represents roughly 7% of Bucks County. DVRPC municipal population forecasts indicate that Middletown Township population is expected to increase approximately 6% by 2045. This estimate is lower than the 7.57% population increase by 2045 expected in Bucks County.

### *Age*

The largest increases in population in Middletown Township between 2011 and 2021 are:

- 65 to 69 years (+1.9%)
- 55 to 59 years (+1.7%)
- Under 5 years / 85+ years (both +1.4%)

The largest population decreases between 2011 and 2021 are:

- 50 to 54 years (-3.4%)
- 45 to 49 years (-2.2%)
- 15 to 19 years (-1.6%)

The growing segment of aging population is a demographic that seeks pedestrian connections to amenities such as recreational opportunities, transit, and retail establishments as they navigate changes to mobility due to age. Similarly, the increase in children in the Township represents a vulnerable population requiring safe connections within the roadway system.

### *Racial Diversity*

82.2% of Middletown Township's residents identify as White/ Caucasian. (This is also proportionate to Bucks County, which is 80.7% White/Caucasian). The past ten years has seen a shift in the racial composition of Middletown Township. The most notable of these changes is a 6.0% decrease in White residents, while the share of Black/African American residents rose 1%, Asian residents rose 1%, and Hispanic/Latino residents rose 1.7%. Also notable is a 2% rise in residents identifying as two or more races.

## 2.2.2 Income/Industry/Education

### *Median Household Income & Poverty*

Middletown Township experienced a significant 22.8% growth in median household income from $78,292 (2011) to $101,356 (2021). This growth was replicated in neighboring municipalities such as Upper Makefield (+23.4%) and Bristol Township (+24.1%) and is also similar to the 23.4% growth experienced in Bucks County as a whole.

Middletown Township (4.7% to 4.5%) and Newtown Township (3.7% to 1.8%) were the only municipalities to see a reduction in the percentage of the population below the poverty level




*Looking north along Belleview Avenue from the Langhorne Train Station*

between 2012 and 2021. The neighboring municipalities of Bristol (8% to 9.9%) and Bensalem (6% to 9.9%) saw significant increases, while at the County level, Bucks saw an increase from 5.4% to 5.5%.

***Educational Attainment***

95.3% of Middletown residents have at least a high school diploma, while 38.9% have achieved at least a Bachelor's Degree. This level of attainment is similar to Bucks County, where 94.5% have a high school diploma and 42.9% have a Bachelor's Degree. Other notable statistics for Middletown include: 4.7% have no high school diploma and 17.3% have some college experience but did not finish their degree.

### *2.2.3 Commuting/ Vehicle Ownership*

***Method of Commute (2021)***

- 79.4% driving alone
- 6.9% carpooling
- 2.2% use public transportation, and
- 10% work from home

The 2020 Census indicates an increase in the 'work from home' category , which began to increase as a result of the impact of the COVID epidemic, but industry analysts agree that working from home is an established growing option for workers.

Vehicles Available by Household

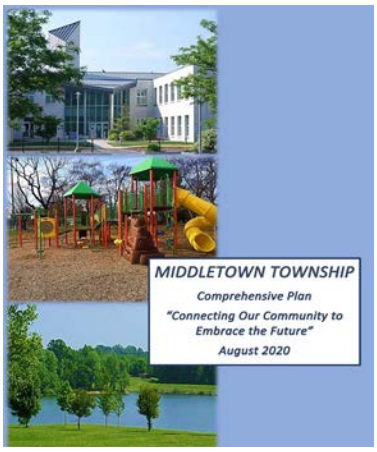
Middletown statistics for vehicle ownership within the workforce population over the age of 16 years in the Township (23,902):

- No access to vehicle: 1.3%
- Access to 1 vehicle: 11.1%
- Access to 2 vehicles: 40.4%
- Access to 3 vehicles: 47.2%

These numbers of vehicles within the Township emphasize the importance of planning for and implementing safe multimodal connections.

## 2.3 Relevant Planning Documents & Current Township Projects

Notable previous studies were examined and provided a framework for improvement planning in Middletown. The highlights of these studies that affect multimodal improvements in the Township are summarized below. Additionally, several current projects for Township traffic/transportation improvements are underway and have been listed below. A full list of documents can be found in the appendix.




### *2.3.1 Middletown Township Comprehensive Plan (2020)*

As previously noted in the introduction, the updated Comprehensive Plan effort for the Township in 2020 yielded four (4) areas of focus. The MIP will serve as a guiding document for Township planning in the area of multimodal access and connectivity---which falls under the 'Transportation' heading. Under that heading the following issues were established with remediation as the goal:

1. Major transportation corridors restrict walkability across the Township
2. Lack of pedestrian infrastructure
3. Woodbourne Road presents chronic vehicular and pedestrian movement challenges
4. Key township destinations and focal points lack multimodal infrastructure
5. All transit (SEPTA Woodbourne Station, Langhorne Station and SEPTA bus stops) lack ped/bicycle infrastructure to access them

The Middletown MIP implementation strategies to remedy the issues include:

**Strategy #1:** Upgrade the pedestrian, bicycle, and multi-use trail network across the Township

**Strategy #2:** Increase walkability and bikeability in and around train stations

**Strategy #3:** Connect destinations and amenities to each other

**Strategy #4:** Manage safety and speed utilizing traffic calming measures

**Strategy #5:** Improve key transportation corridors and intersections throughout the Township



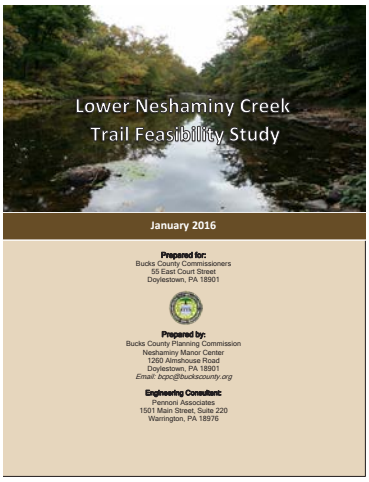

## 2.3.2 DVRPC – Safe Routes to Transit: Woodbourne Station (2019)

This DVRPC (Delaware Valley Regional Planning Commission) study provides specific recommendations on improving access to the train station platform from the existing parking areas. Elements of this study were incorporated into the MIP and expanded to include how residents can access the station from the northern and southern portions of the Township.

## 2.3.3 PA Circuit Trails (2019)

The PA Circuit Trails network represents DVRPC goals for regional trail planning. Public input to the MIP confirmed the interest of residents in accessing this regional network.




## 2.3.4 Lower Neshaminy Creek Trail Feasibility Study (2016)-Bucks County Planning Commission

Bucks County has developed plans to create a recreational trail system within the Neshaminy Creek corridor. The initial feasibility study for the Lower Neshaminy Creek Trail has established the following initial segment delineations that represent the western portions of Middletown Township.

**Segment 1:** Bridgetown Pike / Newtown-Langhorne Road Intersection to Playwicki Park

**Segment 2:** Playwicki Park to Intersection of Arbutus Avenue and Rosewood Avenue

**Segment 3:** Intersection of Arbutus Avenue and Rosewood Avenue to Bristol Road

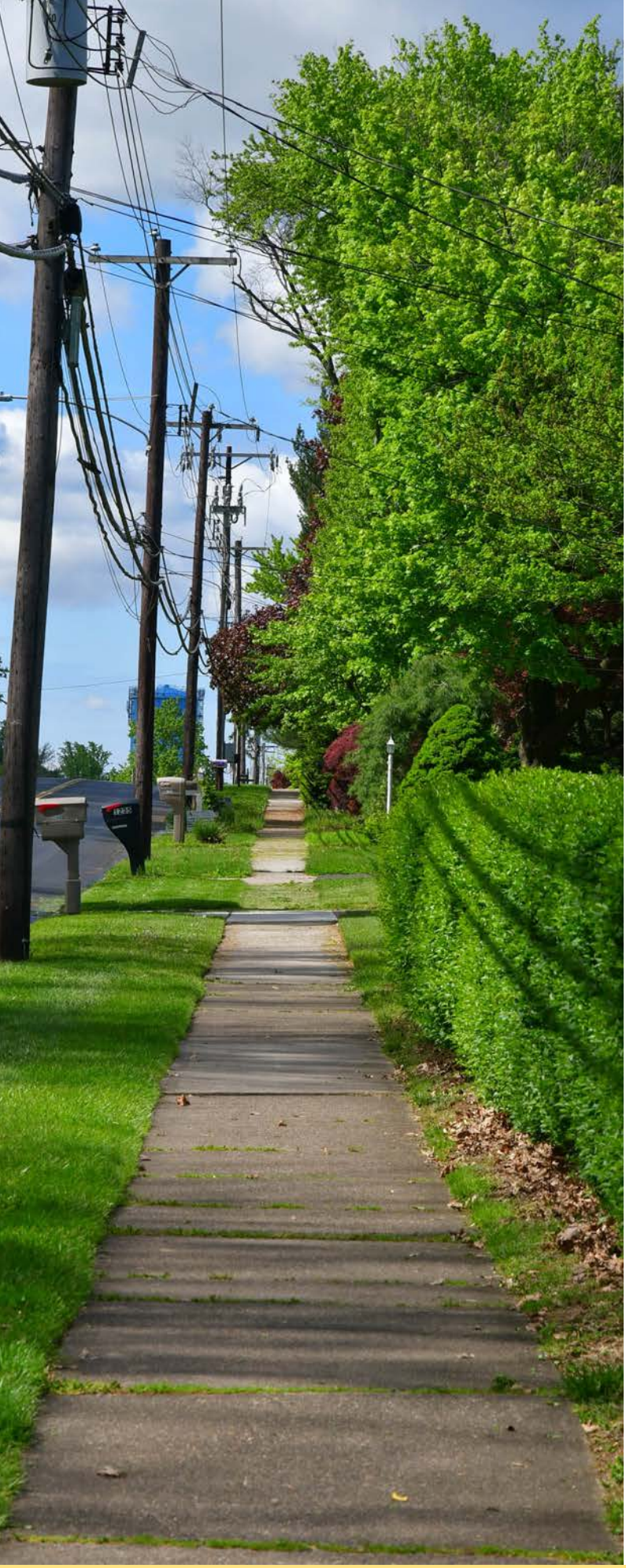
## 2.3.5 DVRPC Route 413/513 Corridor Study (2004)

Though dated, this corridor study of SR 0413 and 0513 (located mainly in neighboring boroughs of Middletown) reminds the public that access to those boroughs (where walkability options to desired destinations is greater) is important to Middletown Township for multiple reasons. Public opinion survey results for the MIP confirm this point. Recommendations are made in this MIP report concerning corridor congestion on SR 0413.


enterprise
rent-a-car
SHEDS
ELITE
Bathroom
ONLY

# 3 Analysis


Denny's
LEFT LANE MUST TURN LEFT
ADOPT A HIGHWAY LITTER CONTROL NEXT 2 MILES
CAIRN UNIVERSITY
Keep Pennsylvania Beautiful
ROAD WORK ½ MILE
ONLY



# 3 Analysis

## 3.1 Existing Conditions

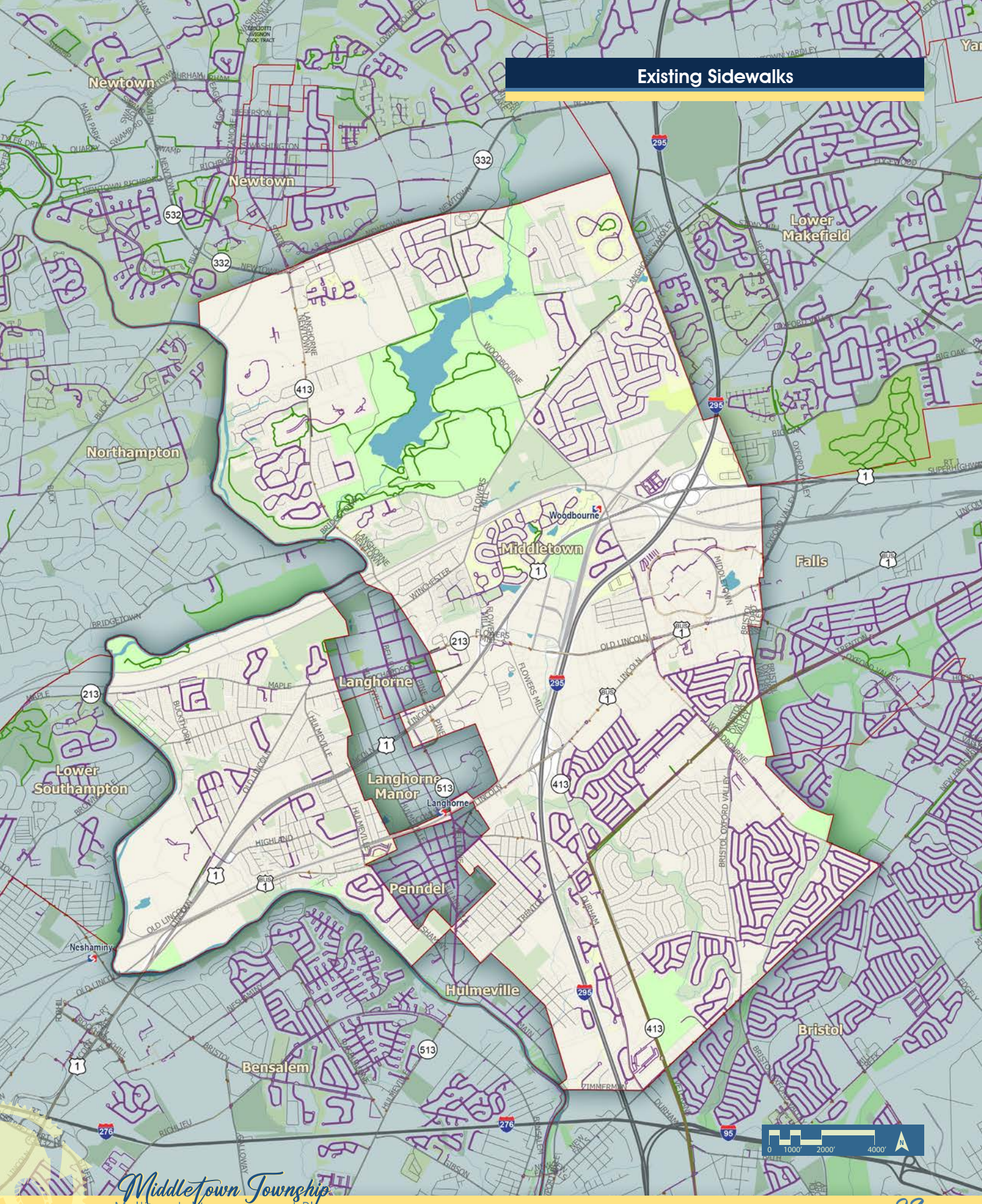
### *3.1.1 Sidewalks*

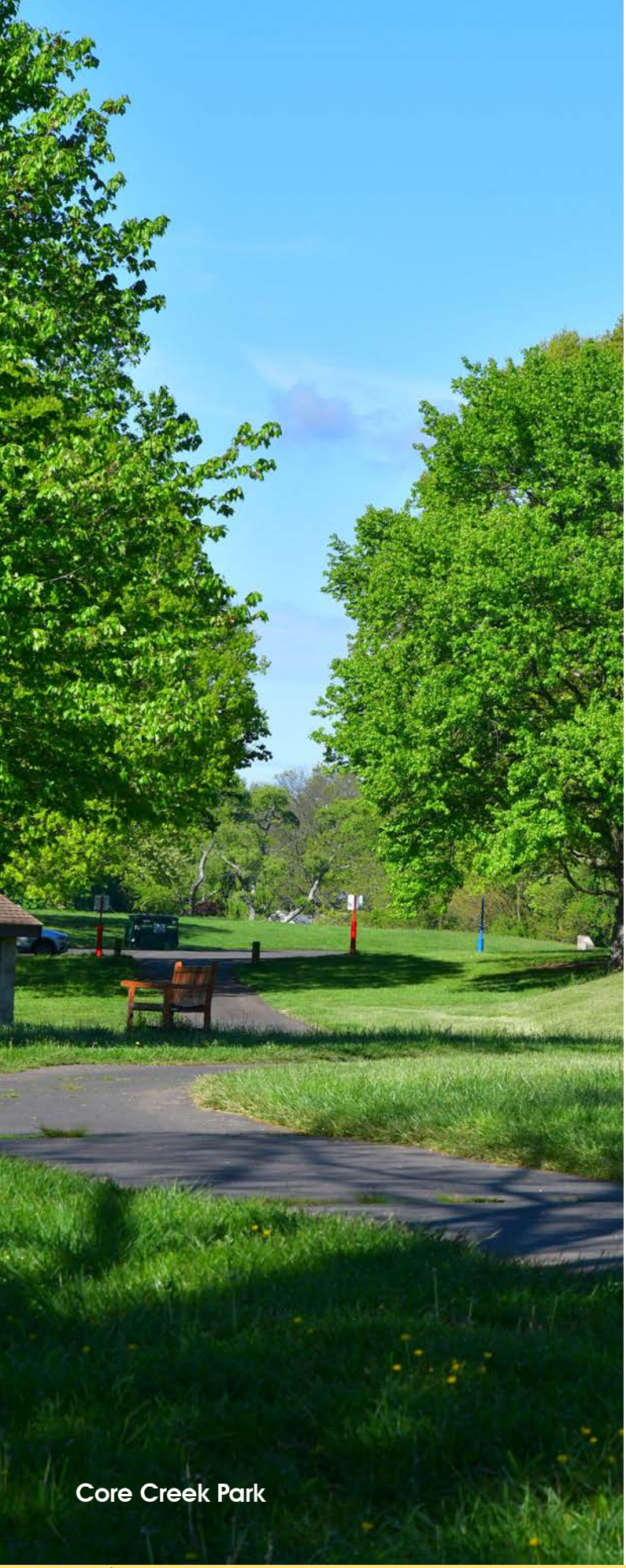
Existing pedestrian sidewalks are located in some residential areas within the Township. Levittown in the SE quadrant and some subdivisions in the NE and NW have sidewalks in varying conditions of repair. Public input on current sidewalk network identifies:

- Enforcement problems with parked cars blocking sidewalks
- Gaps in sidewalks that prevent access to desired locations
- Poorly maintained sidewalks

The consultant team reviewed multiple streets for opportunities to use wide shoulders to provide bike lanes, including Durham Road, Langhorne-Newtown Road, Trenton Road and Snowball Drive.

# Existing Sidewalks





Core Creek Park

## *3.1.2 Existing On and Off-Road Trails*

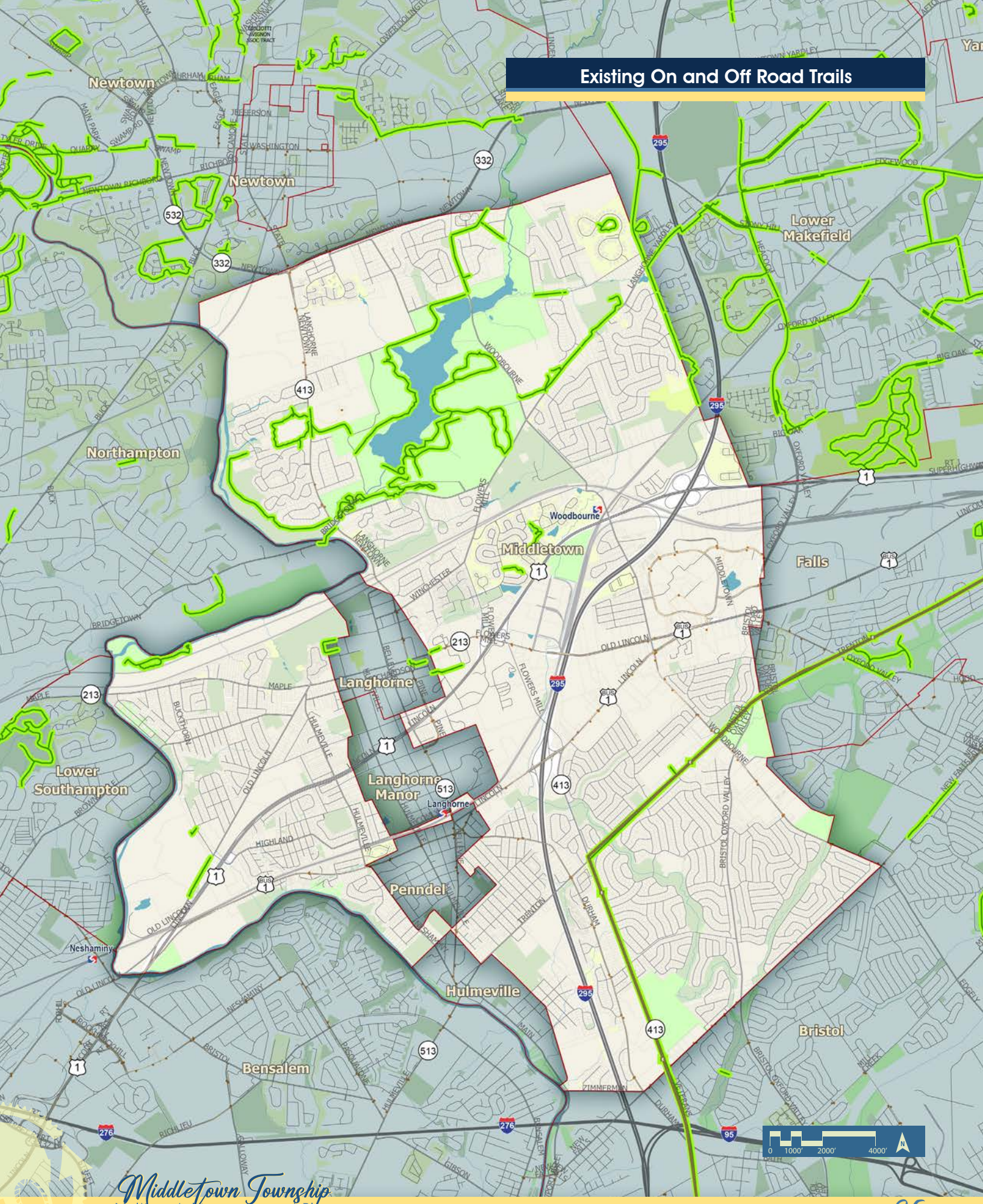
The difference between a 'trail' and a 'sidewalk' as previously discussed in this report can be a confusing and sometimes a legal jargon battle that is difficult to understand and dependent on geographic locale or jurisdiction.

For the purposes of this discussion in Middletown Township, an existing trail is a pathway of sufficient width to accommodate both pedestrians, bicycles or motorized mobility devices (generally 8'-10' wide) and can occupy a dedicated section as part of a roadway or be located off road to connect areas of particular interest.

The existence of 'trails' by this definition in Middletown is restricted to County or Middletown parks with some very limited trails serving individual neighborhood green spaces.

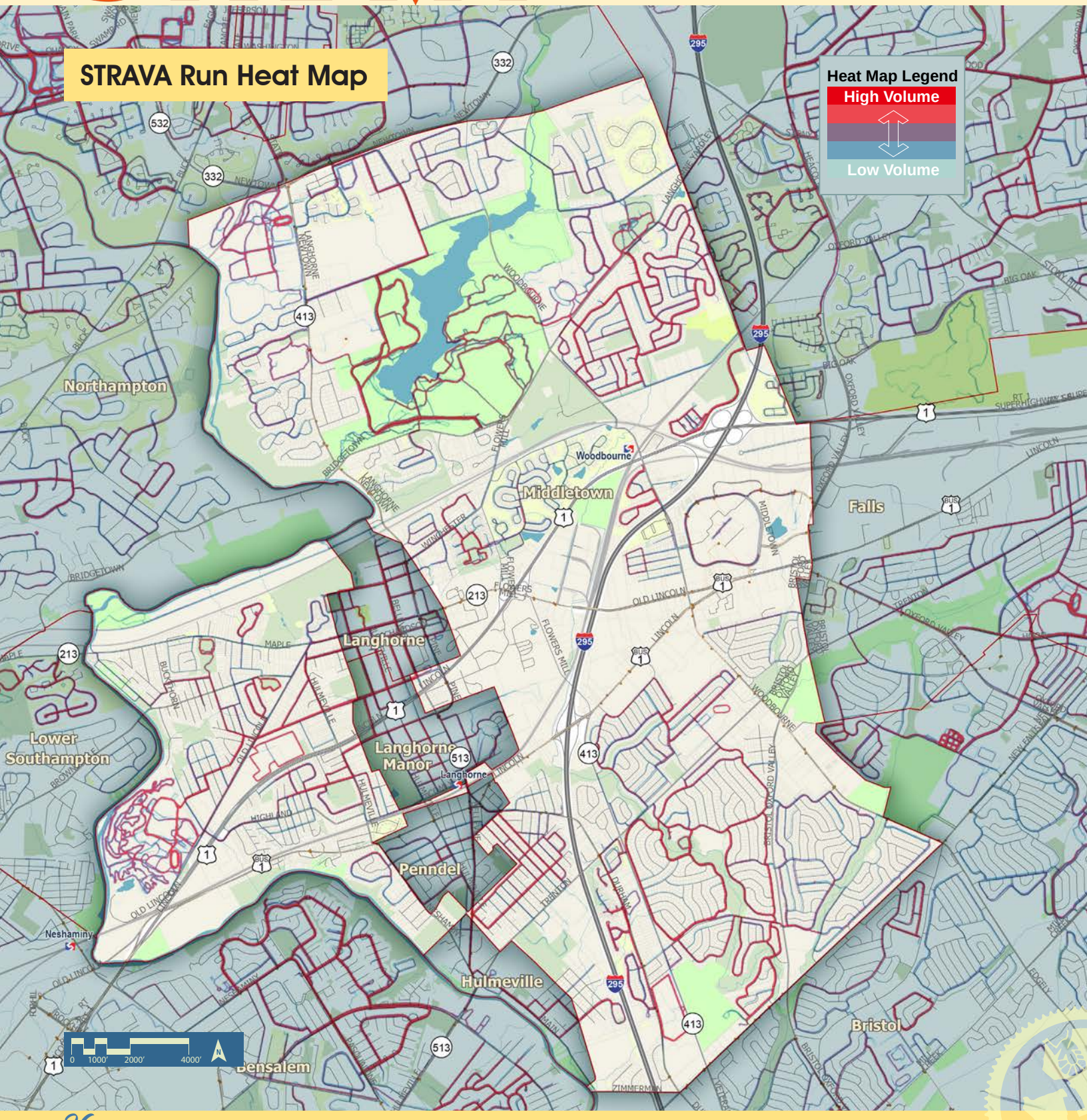
Connecting existing neighborhood and park trails to a larger network of active transportation routes is a goal of this multimodal improvement plan. Public opinion comments from dedicated walkers and bikers indicates the interest in longer lengths of routes for recreational enjoyment. New multi-use trails are proposed where the greatest population of residents can make use of this type of recreational network. Property acquisition, stormwater management and flood plain issues are required to be investigated in the next phases of design in order to pursue the locations of trails proposed in this study.

# Existing On and Off Road Trails

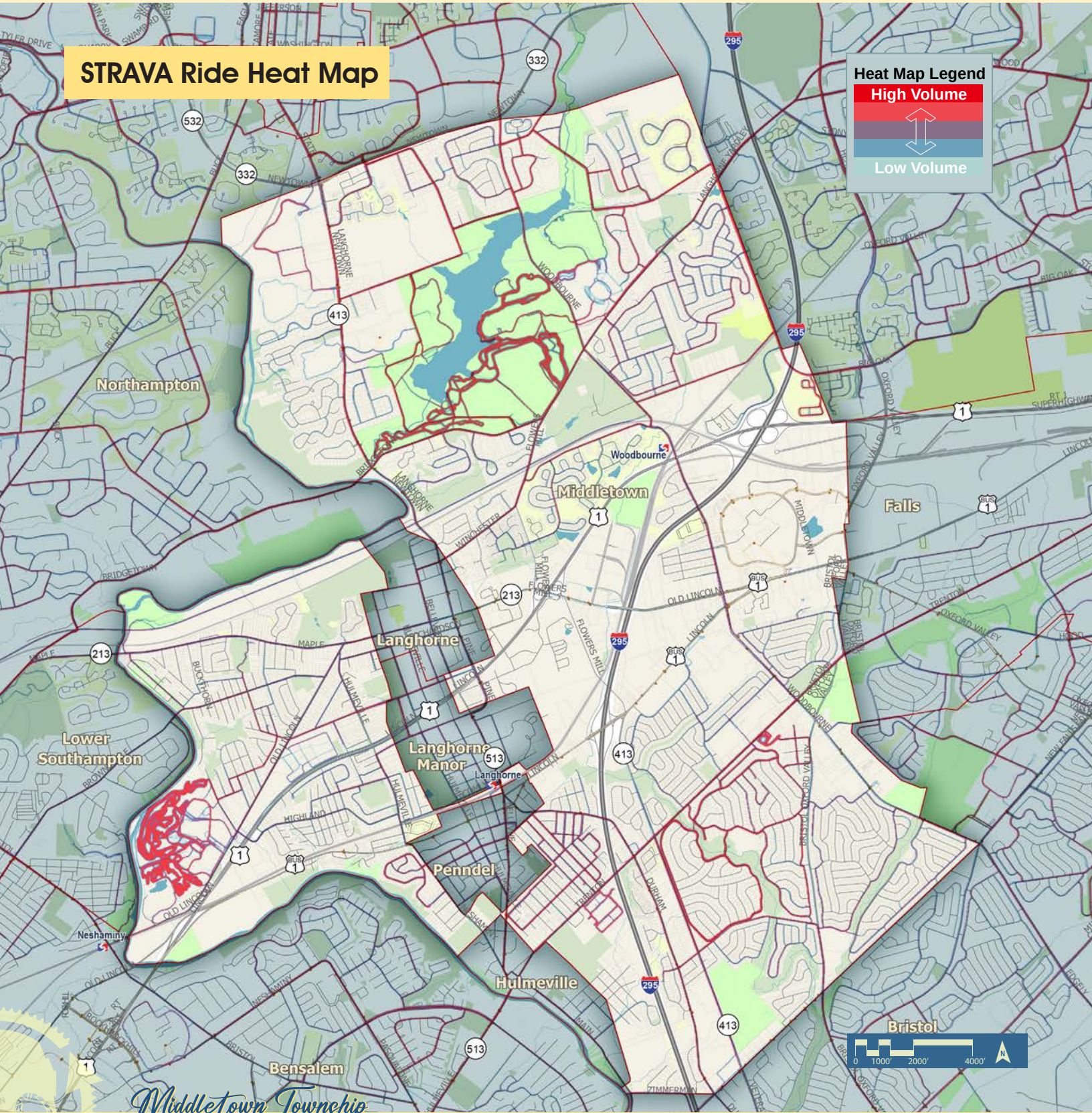


### 3.1.3 STRAVA Data

STRAVA is a popular application which utilizes GPS tracking to record routes by walkers, runners, and cyclists. STRAVA heat-mapping was used to locate popular cycling routes Middletown



Township. STRAVA data provides insight into the most well-traveled and potentially safest routes for future pedestrian and bicycle improvements.





*A view along Snowball Drive*

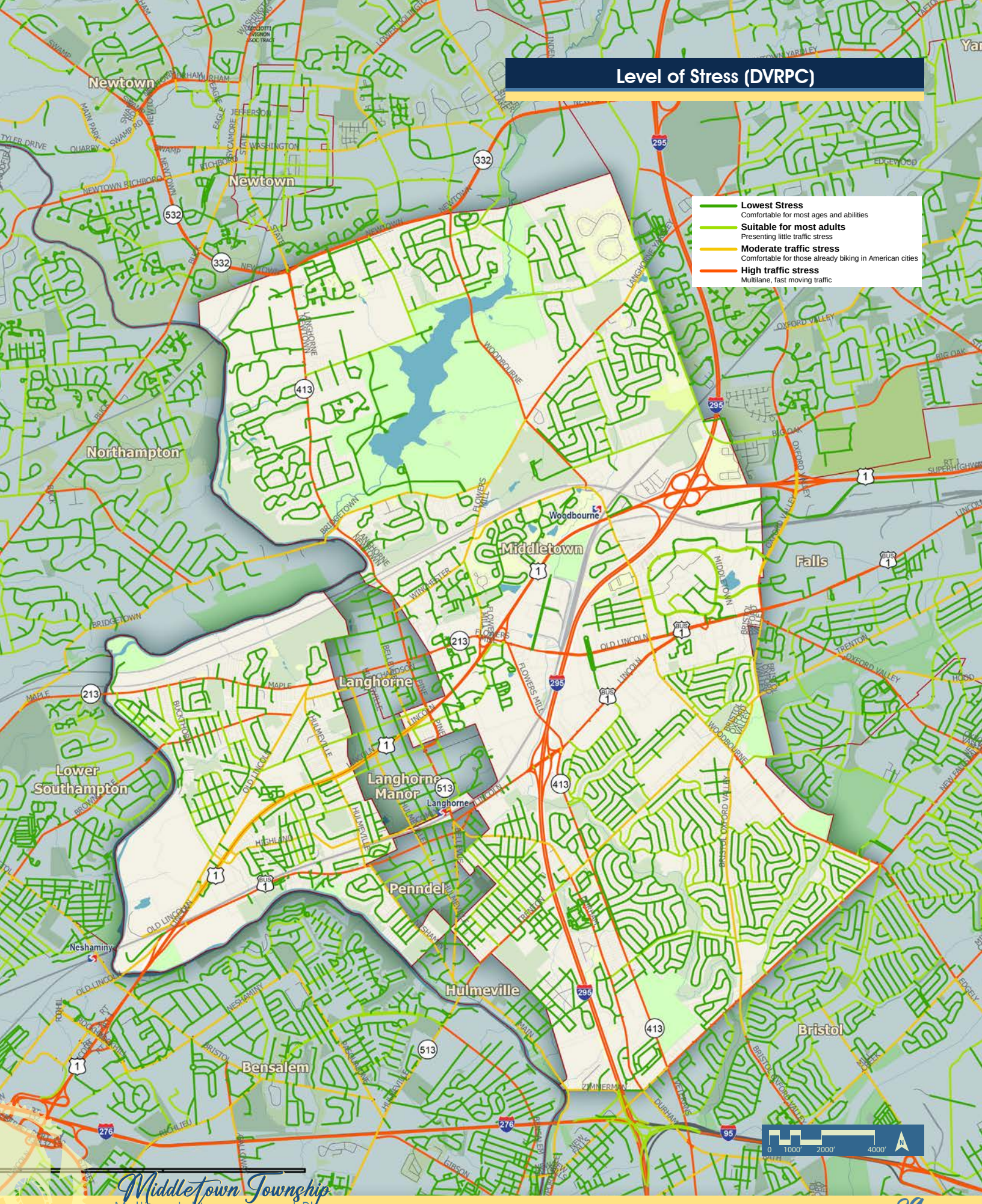
### *3.1.4 Level of Traffic Stress*

The Delaware Valley Regional Planning Commission (DVRPC) developed a tool which measures the level of traffic stress based on number of lanes, vehicle speed, and bicycle facilities. This is used to determine what the estimated experience level of riders should be for specific roads.

The roadways in green are the lowest stress routes (most comfortable) for pedestrians and cyclists, roadways in yellow are mildly stressful, and roadways in red are the most stressful for multi-modal transportation (least comfortable).

This data was combined with STRAVA data, survey results, available right-of-way, and other data to determine routes best suited for pedestrians and cyclists.

# Level of Stress (DVRPC)






### 3.1.5 State Roads

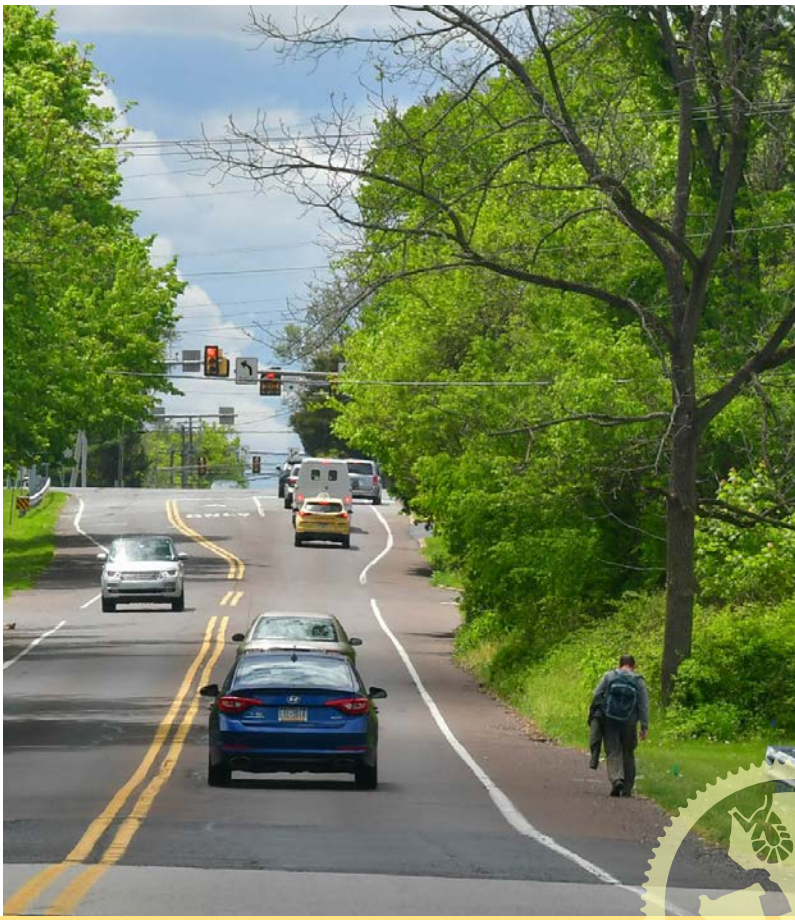
TThe extensive network of State roads owned and maintained by PennDOT District 6-0 provides both challenges and opportunities to Middletown Township to implement proposed multimodal improvements.

While PennDOT has the ultimate control over the approval and design of multimodal elements with the state road right-of-way, opportunities exist within PennDOT funding mechanisms for the Township to partner with PennDOT and other partners such as SEPTA, developers, etc. to improve multimodal transportation within the Township.

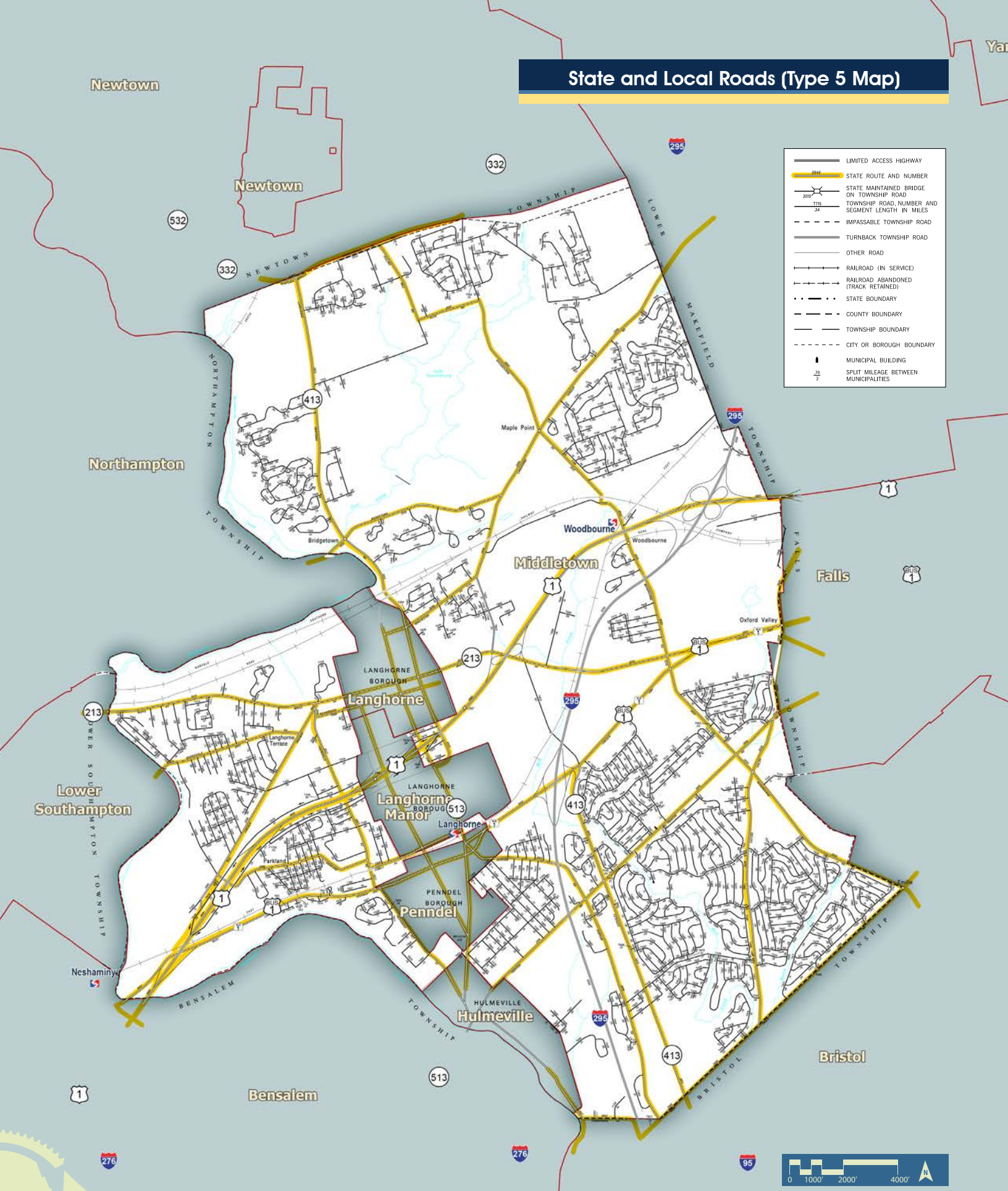
The Middletown MIP provides a mechanism for communicating with PennDOT District 6-0 through the PennDOT Connects program (PennDOT's initiative to look holistically at transportation improvements that benefit all modes of transportation.) and the District's Bicycle/ Pedestrian Coordinator.

### 3.1.6 Roadway Shoulders

Without a consistent network of sidewalks to access neighborhoods and park locations, residents identified various roads with shoulders wide enough to provide adequate room for pedestrians and/or cyclists to access desired destinations. Maintenance of shoulders (removal of trash buildup, debris) was noted in the public forums as important for the Township.



# State and Local Roads (Type 5 Map)



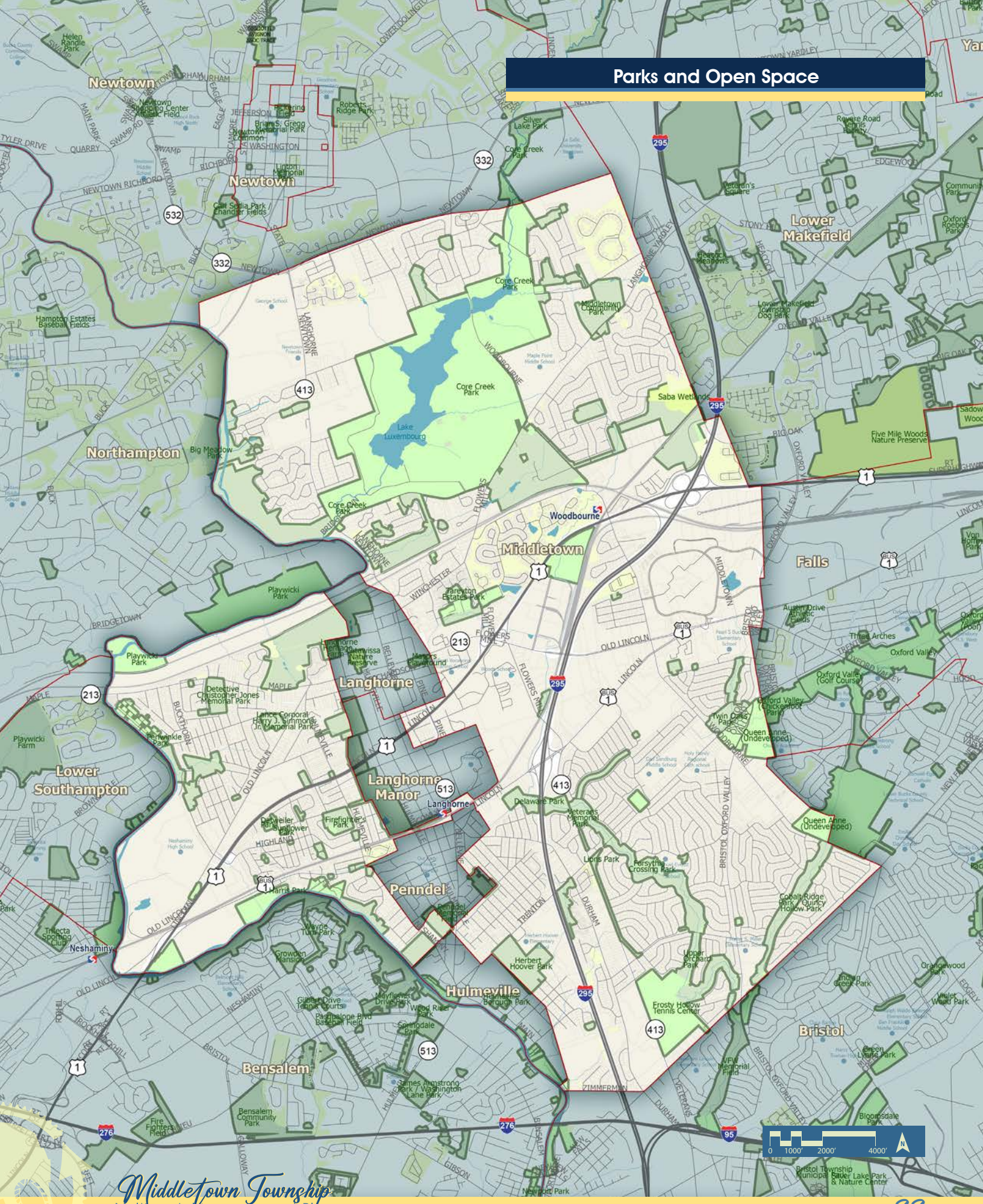



### *3.1.7 Parks*

Existing sidewalks and trails through many parks within the Township have the greatest ped-bike usage. Access to these parks without a vehicle is one of the highest concerns for creating multi-modal connectivity within the Township



Playwicki Park


Newtown
Northampton
Lower Makefield
Middletown
Falls
Langhorne
Langhorne Manor
Penndel
Lower Southampton
Bensalem
Hulmeville
Bristol
Neshaminy
Woodbourne
Core Creek Park
Lake Luxembourg
Saba Wetlands
Five Mile Woods Nature Preserve
Big Meadow Park
Playwicki Park
Tyler State Park
Roberts Ridge Park
Silver Lake Park
Middletown Community Park
Veterans Memorial Park
Delaware Park
Twin Oaks Park
Queen Anne (Undeveloped)
Lions Park
Forsythia Crossing Park
Herbert Hoover Park
Upper Orchard Park
Frosty Hollow Tennis Center
Cobalt Ridge Park / Quincy Hollow Park
Oxford Valley Golf Course
Oxford Valley Mickenbrook Park
Three Arches
Austin Drive Athletic Fields
Pinetown Estates Park
Detective Christopher Jones Memorial Park
Lance Corporal Harry J. Simmons Jr. Memorial Park
Firefighters Park
Derweiler Sunflower Park
Harris Park
Wayne Turf Park
Crowden Mansion
Maylinns Drive Park
Weed Road Park
Springdale Park
James Armstrong Park / Washington Lane Park
Bensalem Community Park
Fire Fighters Field
Gilbert Drive Tennis Courts
Passthelope Blvd Baseball Field
Penndel Borough Park
Hulmeville Borough Park
VFW Memorial Field
Indian Creek Park
Orangewood Park
Violet Wood Park
Bloomsdale Park
Silver Lake Park & Nature Center
Bristol Township Municipal Park
Newport Park
Hampton Estates Baseball Fields
Cari Sedia Park / Chandler Fields
Richboro Field
Brian S. Gregg Memorial Park
Newtown Common
Linton Memorial
Newtown Recreation Center Athletic Field
Helen Randle Park
Veteran's Square
Reverie Road Tennis Facility
Lower Makefield Township Dog Park
Glenside Meadows
Oxford Roebers Park
Community Park
Sadow Wood
Playwicki Farm
Periwinkle Park
Core Creek Park
Lincoln Memorial Park
Mercers Playground
Thomas Jefferson Nature Preserve
Queen Anne (Undeveloped)
Delaware Park
Veterans Memorial Park
Lions Park
Forsythia Crossing Park
Herbert Hoover Park
Upper Orchard Park
Frosty Hollow Tennis Center
Cobalt Ridge Park / Quincy Hollow Park
Oxford Valley Golf Course
Oxford Valley Mickenbrook Park
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Austin Drive Athletic Fields
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Linton Memorial
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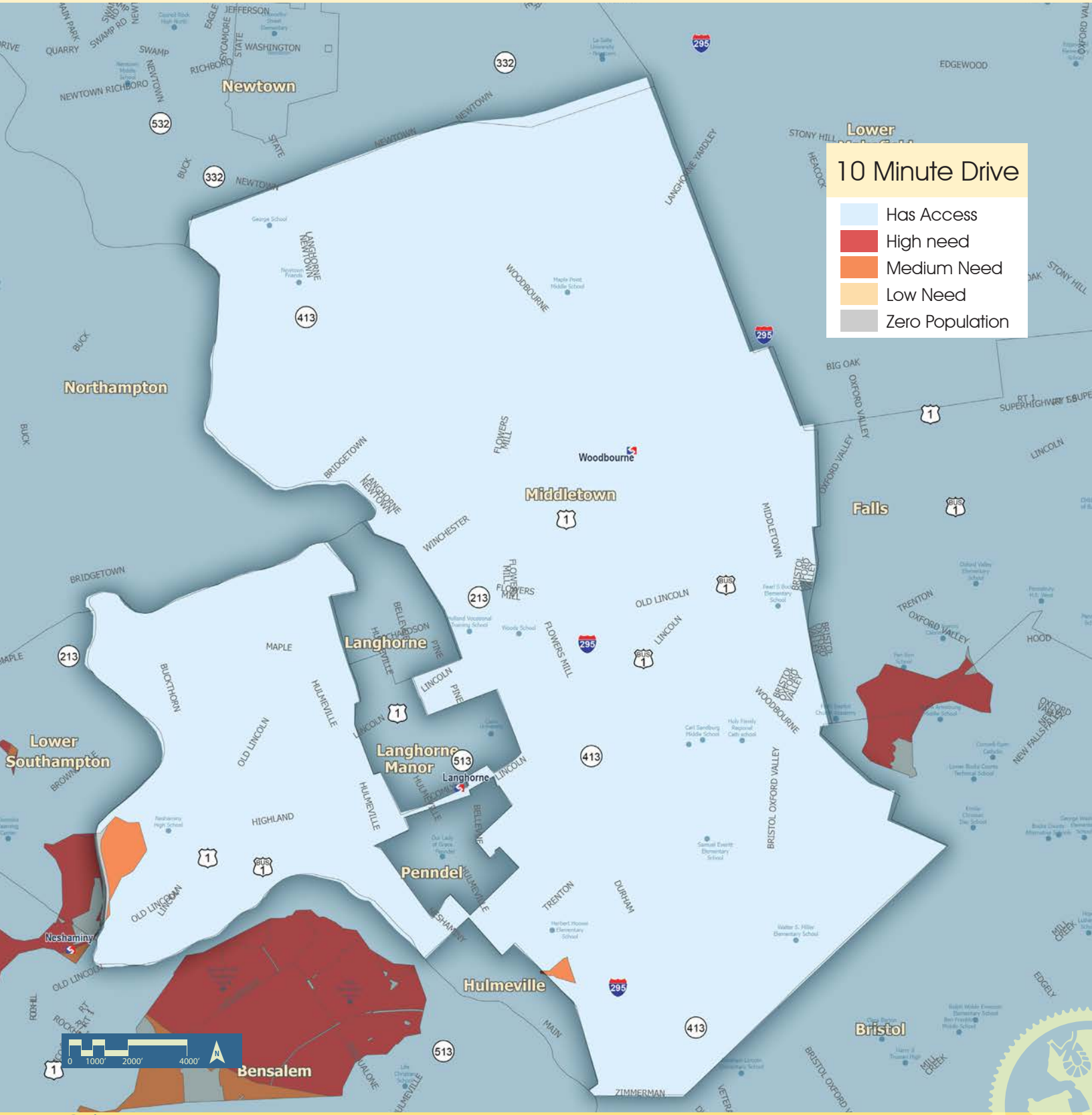
Glenside Meadows
Oxford Roebers Park
Community Park
Sadow Wood
Playwicki Farm
Periwinkle Park
Core Creek Park
Lincoln Memorial Park
Mercers Playground
Thomas Jefferson Nature Preserve
0 1000' 2000' 4000'
N

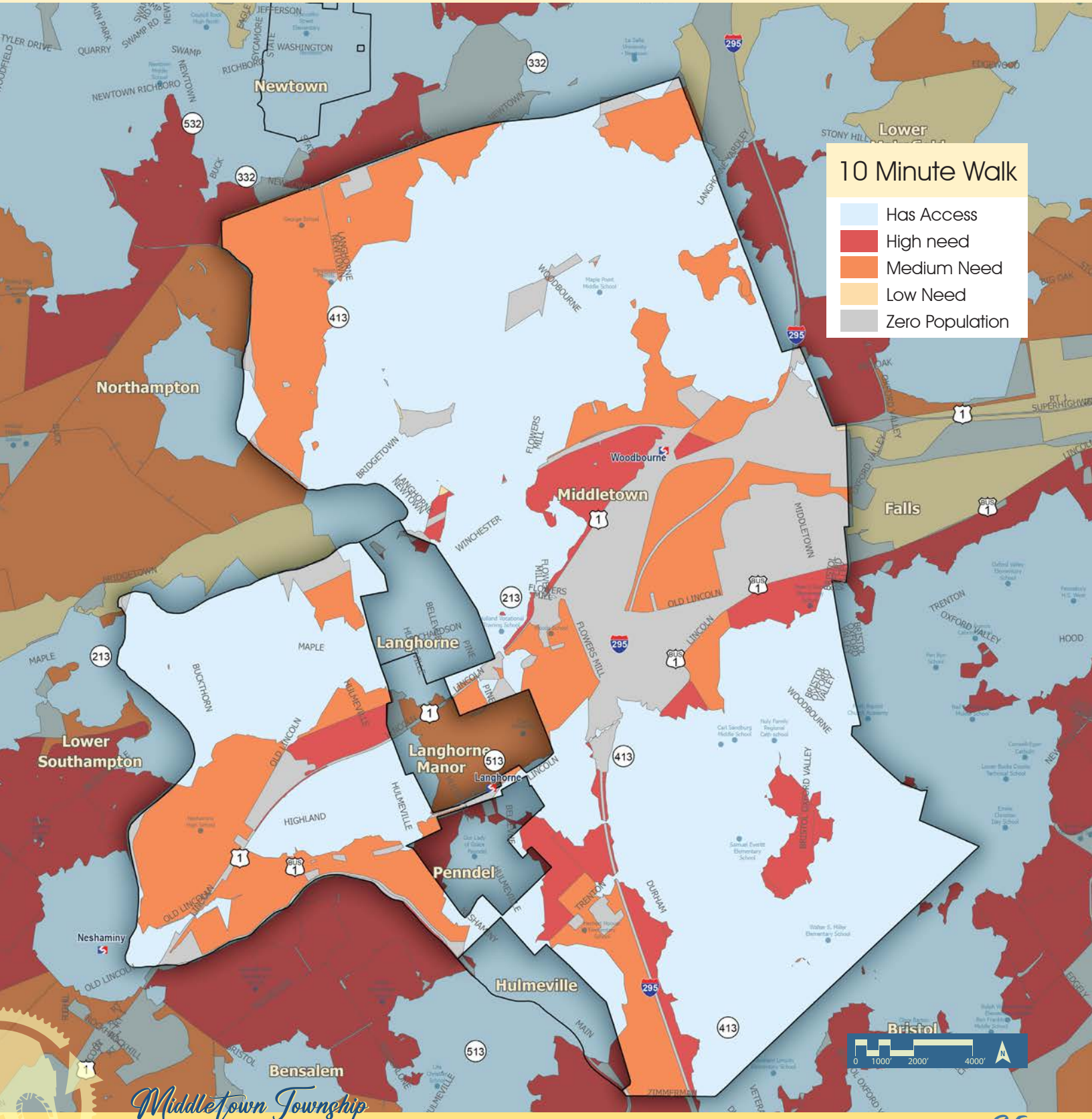
pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

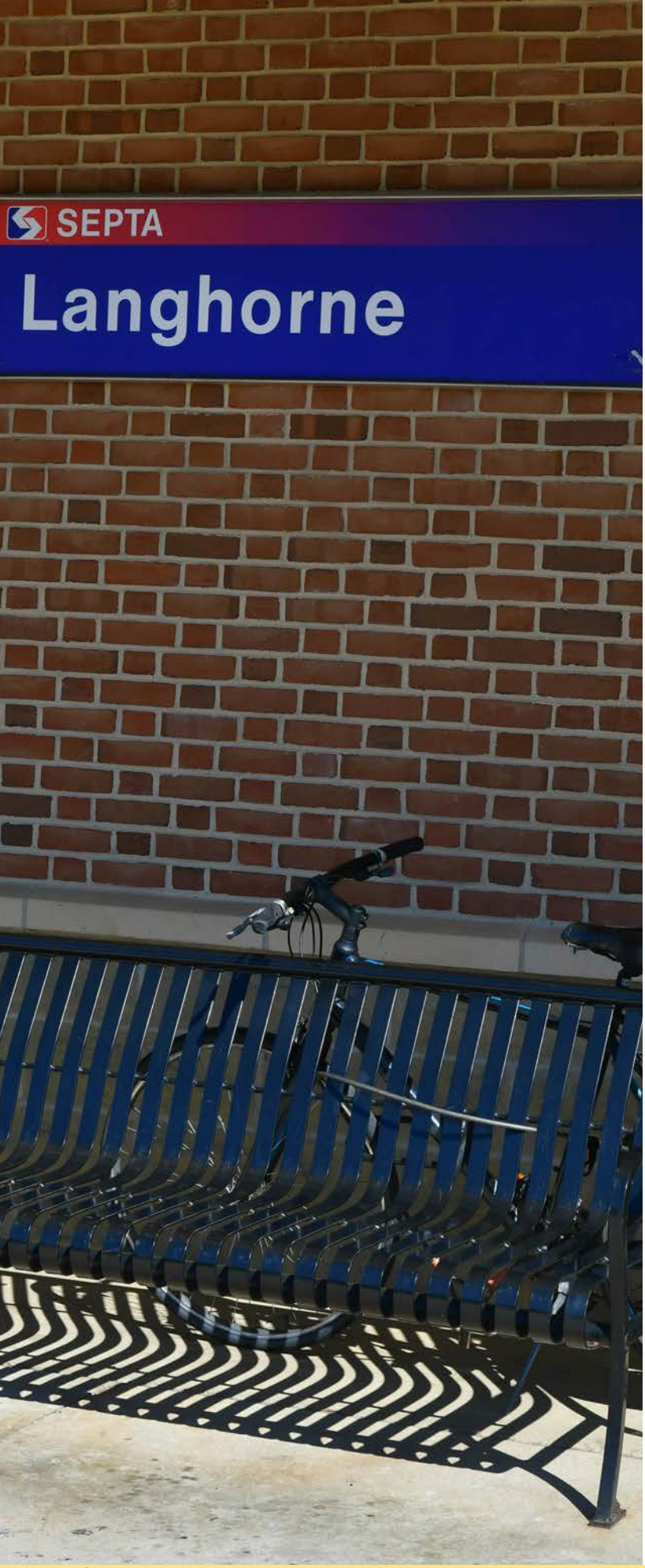
## 3.1.8 DCNR Recreation for all

Pennsylvania's 2020-2024 Statewide Comprehensive Outdoor Recreation Plan tool was developed by DCNR overlays 10-minute service areas for Pennsylvania's parks, trails, public



lands, and water access points with US Census data to discern who has access to recreation, and more importantly, who does not.





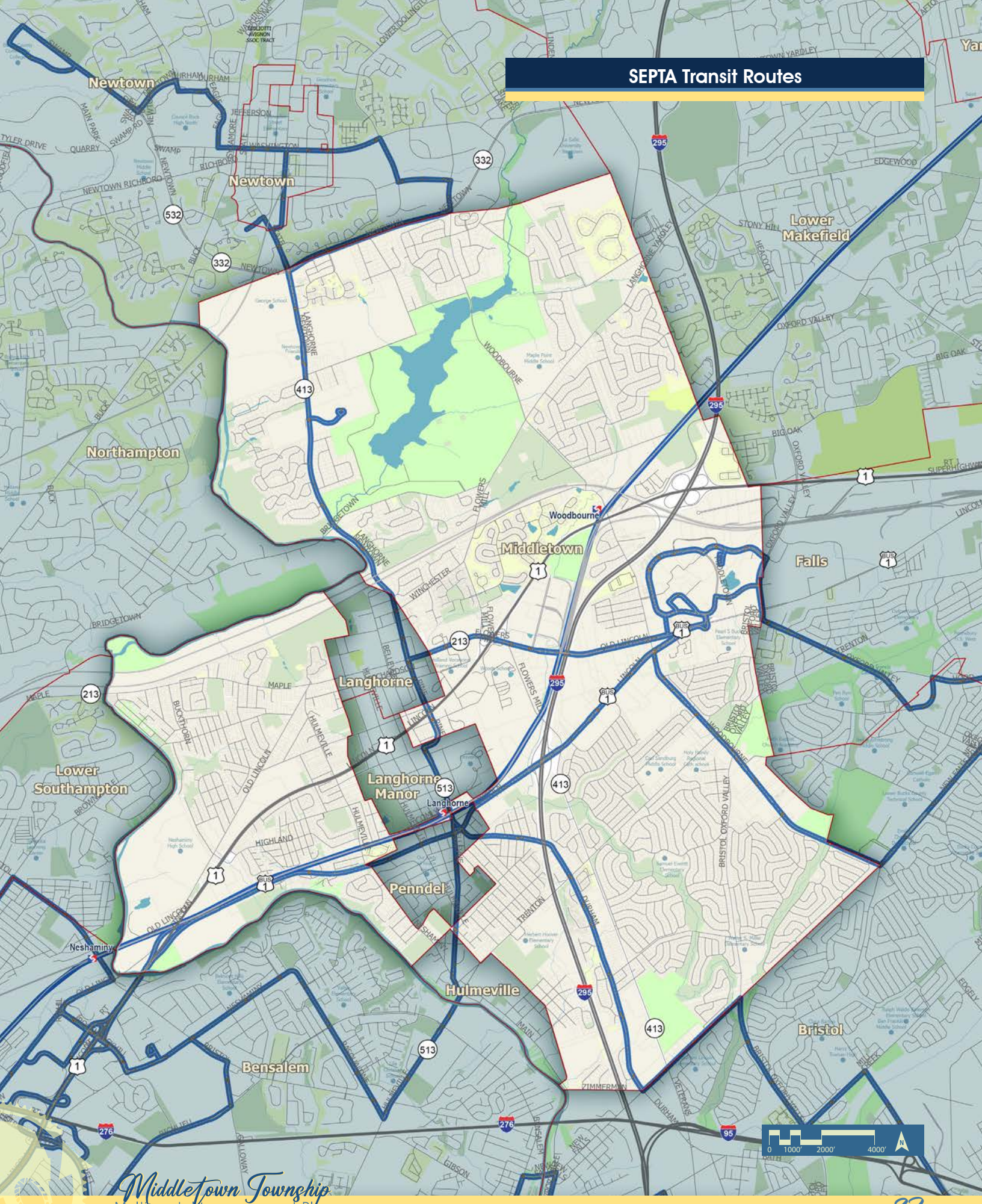

### *3.1.9 Transit*

Middletown Township is served by SEPTA bus routes: 14, 127, 128, 129, 130 and by SEPTA Regional Rail (West Trenton Line) at the Woodbourne and Langhorne Stations. A summary of current service issues and future planning initiatives is described in Chapter 3 'Challenges & Opportunities' and Appendix Section 6 of this MIP report, including notes on meetings with SEPTA Rail and Bus Service Planning representatives.

A summary of current site conditions and pedestrian facilities at SEPTA rail facilities, includes:

**Langhorne Station:** Parking capacity is 437 cars with a current post-pandemic utilization of 51%. The at-grade crossing of SR 0413 (Bellevue Ave) and the transportation corridors surrounding Langhorne Station (SR 0413-Bellevue/ Durham Road and SR 0513-Belleview Ave) experience increased congestion when trains cross and create difficulties for vehicles getting in and out of the station parking lots. Sidewalk facilities extend to the station from the surrounding boroughs, however no safe pedestrian crossing of the rail is provided.

**Woodbourne Station:** Parking capacity is 493 spaces with a current post-pandemic utilization of 85%. Current ridership is 55-60% of pre-pandemic volumes. The locations of both SEPTA rail and CSX rail facilities create tunnel size restrictions and at-grade crossings of both passenger and freight rail within ¼ mile of each other – which collectively perpetuate frequent and unpredictable vehicular and pedestrian obstructions and congestion around the station. (Refer to the DVRPC-Safe Routes to Transit-Woodbourne Station, 2017 report) for details. Current pedestrian facilities at Woodbourne Station consist only of a crosswalk across Woodbourne Road connecting the eastern parking lot to the station. No access exists for pedestrians trying to access the station from the north or the south.

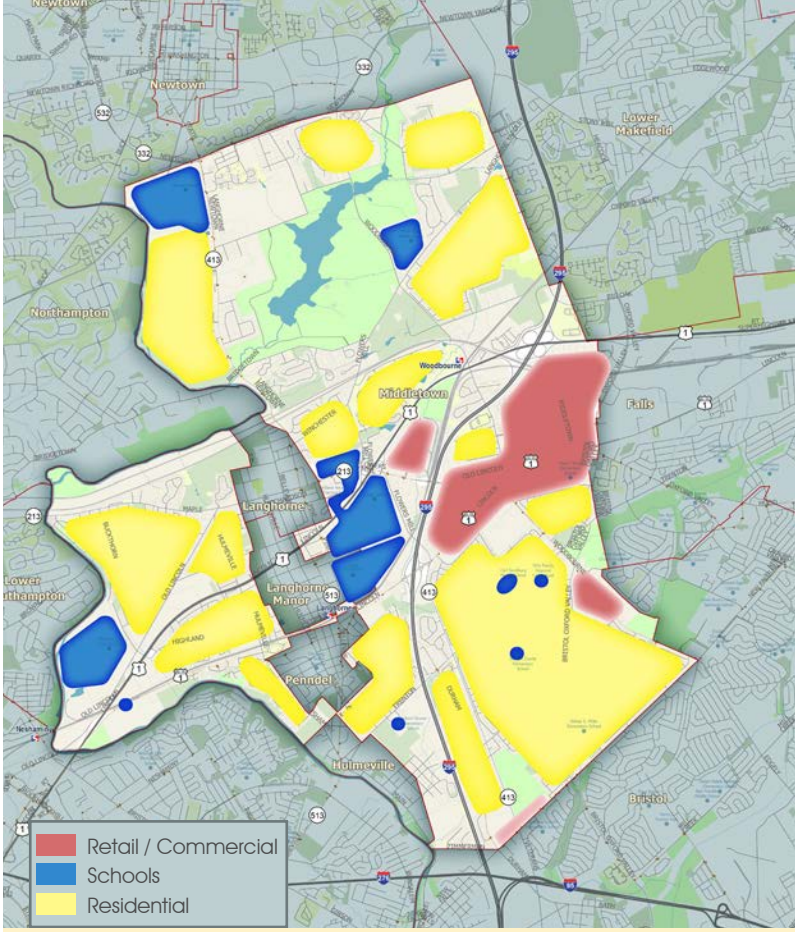

SEPTA Transit Routes
Newtown
Newtown
Northampton
Lower Makefield
Middletown
Woodbourne
Falls
Langhorne
Langhorne Manor
Penndel
Lower Southampton
Hulmeville
Bensalem
Bristol
Neshaminy
0 1000' 2000' 4000'
N

### 3.1.10 *Retail / Commercial / Mall*

Commercial and retail areas dominate the east central area of the Township. As Bucks County population grew, retail centers grew up organically along the Business Route 1 corridor with little comprehensive planning for vehicular access control. This evolution created multiple highway access points to individual centers and a daunting environment for any person to travel without a motor vehicle.

A disjointed network of pedestrian facilities exists within the high-volume vehicular corridors of Business Route 1, Old Lincoln Highway (SR 0213) and both North and South Buckstown Roads. Workers needing to access points of employment from SEPTA bus stops are challenged by missing sidewalk segments that require walking within the to reach work. Pedestrian comfort levels through this area are extremely low. Pedestrian crossings into this area from the northern and southern areas of the Township are non-existent.

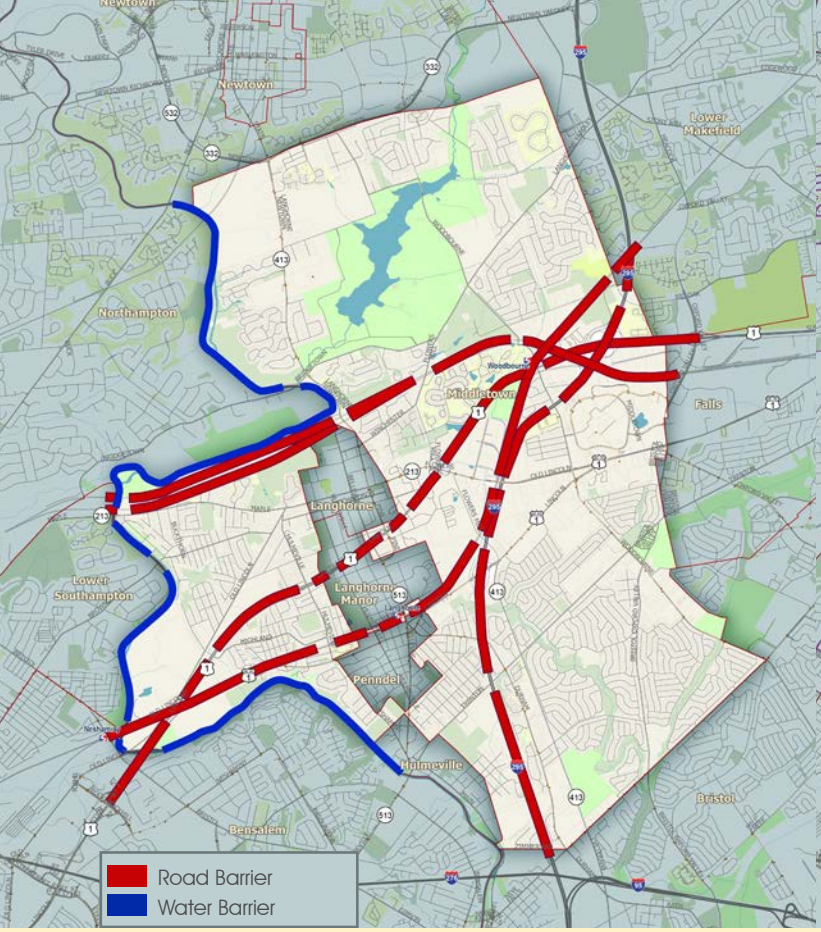
Recent re-development activity within the Oxford Valley Mall campus offers new impetus to connect internal walkways with highway corridor sidewalks that can safely move residents and visitors between shopping, working, and living destinations on foot. Future economic vitality of the area depends on these basic civic facilities.

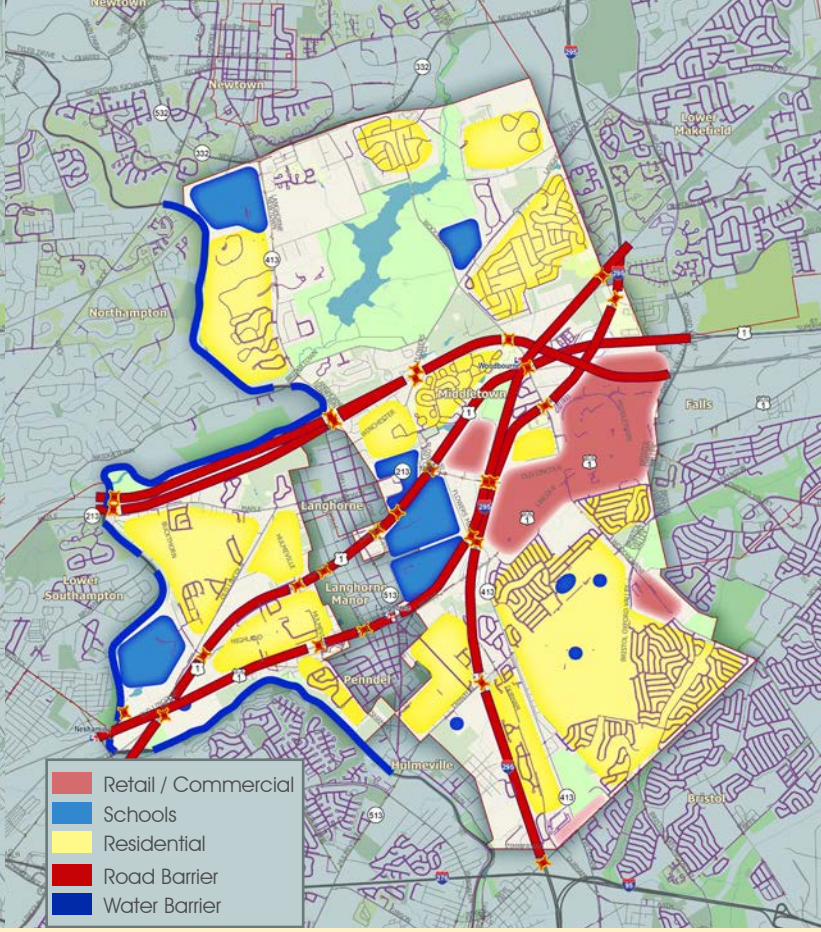



**Retail (Mall) & Commercial / Schools / Residential areas**



*An aerial view of the retail/commercial Township center (red) near the Oxford Valley Mall with abutting residential areas (yellow).*

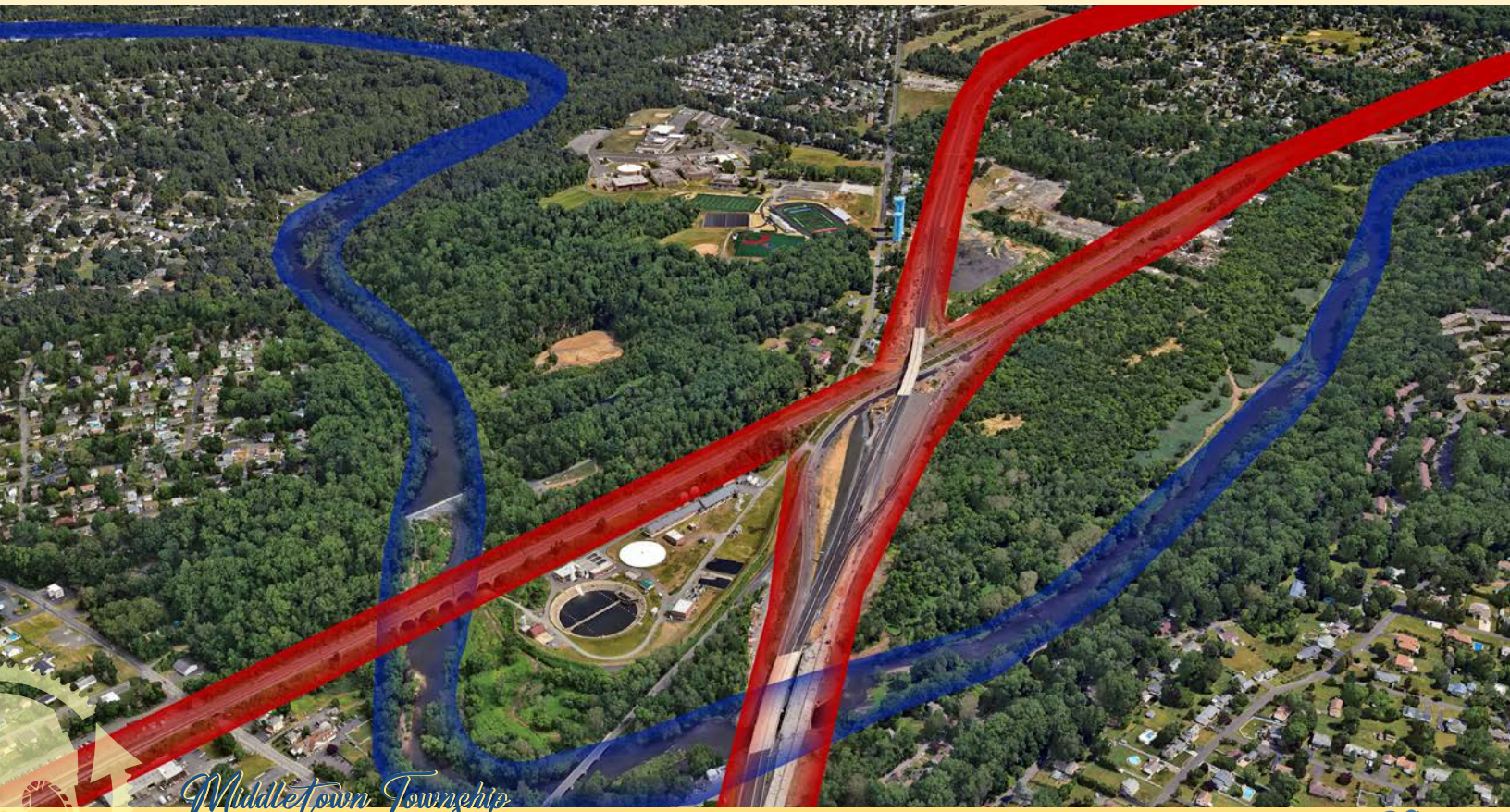



## Large Scale Gross Analysis Diagrams

### Barriers

### Retail / Schools / Residential





## 3.1.11 Site Reconnaissance Findings

- Middletown residents and workers are walking and biking!
- They are finding those cartways that allow more 'generous' shoulders as buffers to vehicular traffic.
- They are creating pathways to open space and parks within their own neighborhoods.
- Neighborhoods vary in the levels of pedestrian accommodations that are provided
- Signage and pavement markings are outdated.
- Pedestrian facilities exist in the popular parks.
- Improvements can be made with extensions to arterial roadways and improved safety markings, crossings and signage.










## 3.2 Public Participation

Public participation components of this study represent the largest task within the project budget – because Middletown understands that successful Township-wide initiatives requires as extensive stakeholder outreach opportunities to gain a much input as possible and to understand public perceptions of current obstacles and desired outcomes for multimodal transportation. Successful implementation of this multimodal plan began with the thoughtful involvement of individuals who know their community.

The consultant team worked with the Steering Committee and Township staff to develop multiple input venues, tailored to best serve the broadest population to ensure that every voice was heard and honored.

### *3.2.1 Meetings*

Public and stakeholder meetings for this plan included: three (3) committee meetings, three (3) public meetings, and nine (9) key person interviews (KPIs). Project meetings were held between Winter 2022 and Fall 2023. All public meetings were held in a hybrid format, online and in person, and were recorded and posted to the Township website along with meeting notes. A summary of Committee and Public meetings is as follows:

***Committee Meeting 1 – February 22, 2023***

The project team met with the Committee to introduce the team; the master planning process; and the project purpose and scope. The consultant team presented a list of possible user groups to target for key person interviews, as well as a draft of the online public opinion survey, and requested that the Steering Committee provide feedback on each before being formalized.

***Public Meeting 1 – April 4, 2023***

The first public meeting introduced the project, committee, and consultant team. The team explained the importance of planning; reviewed the project schedule, public participation process, and the project scope; and presented information regarding existing conditions and facilities in the Township. The team also gave an in-depth presentation about the ped-bike improvements 'toolbox' that would be used to make recommendations for the Township. The consultant team facilitated a brainstorming session, during which members of the public offered information and ideas on their Township experiences. This information was organized into four categories: goals, facts, concepts, and partners.

- Public Comments included: " Create a multimodal network; the need for a 'Town Center' identity; I'd like to safely get out of my own neighborhood on foot and bike; Need sidewalks to Core Creek; Educate the public on ped/bike safety; Sidewalk gaps on Durham Road; Importance of remembering people who seek to travel (outside of a vehicle) with disabilities; Residents have differing opinions on sidewalks; Pedestrian bridge over Business Route 1; Winchester Avenue needs sidewalks."

***Committee Meeting 2 – May 16, 2023***

Committee Meeting 2 reviewed previously presented materials (project scope, existing conditions, and the improvements toolbox.) Preliminary concepts were presented to the committee. A question and answer discussion was held after the presentation to gather comments and additional recommendations for the plan.

- Committee Comments included: "Woodbourne Station needs connections from the north and south; Look at Snowball Drive for reducing lane width to provide shoulder use; Inter-neighborhood connections are very important; Discus-




*Public Meeting #2 – May 30, 2023*



*Improvement Plan discussion – Public Meeting #2*

sion on the N-S crossing of Business Route 1---where? Woodbourne seems to be the logical location; Like the sidepath trail envisioned near Styers Orchard; PennDOT RC3 project might be opportunity to re-use abandoned ROW---collaboration with Langhorne Borough"

### *Public Meeting 2 – May 30, 2023*

Public Meeting 2 briefly reviewed previously presented materials such as the project scope, existing conditions, and the improvements toolbox. Preliminary concepts were presented to the public showing 'toolbox' application to various locations in the township. A question-and-answer discussion was held after the presentation to gather revisions and additional recommendations for the plan.

- Public Comments included: "Cars parked on sidewalks in residential areas require enforcement; jaywalking concerns' need for driver and pedestrian education; fill in sidewalk gaps that make sense; better maintenance needed for existing sidewalks and shoulders and better signage and traffic markings; what is the timeline for getting these improvements installed?; Please look at the Kingville Road area; Is there way to use the George School to access the Newtown Rail Trail?; Look at the Neshaminy HS area---need for more pedestrian access there.; Access to parks".

### *Committee Meeting 3 - August 29, 2023*

The Committee was presented with the final results and summaries of the public opinion survey (282 responses) and Wikimap input. The draft final Middletown Multimodal Improvements Plan (MMIP) was presented for input and comments noting that large amount of input received in the final month of the survey period. Draft cost estimates for Areas 1-4 (of 12) were presented along with estimating methodology.

- Committee Comments include: "MT Police commented on current safety concerns---Woodbourne, Old Lincoln Hwy, crossing through tunnels as a pedestrian, Neshaminy HS-stu-




*Public Meeting #3 – September 28, 2023*

dents after football games, etc.; TMA Bucks reminded group that Neshaminy SD considers a 1.25 mile distance with no safety concerns 'walkable'---no bus service; Fairhill/Highland Underpass is slated for improvements—importance of getting with PennDOT before final design to put forth township desires for ped connections; grant possibilities to implement improvements".

***Public Meeting 3 – September 28, 2023***

Meetings attendees were presented with the final results of the public opinion survey and wikimap input. The final draft plan and cost estimates were presented.

Public Comments Included: "Fulling Mill Road to Core Creek Park; shoulder maintenance; Woodbourne Tunnel---proposed location?; historical land development plans at 4th & Woodbourne; Hollywood Ave access to Township open space-please!; regional context of connectivity from trail connectivity activist; what are the Township priorities?".

## *3.2.2 Key Person Interviews*

Nine (9) key person / key organization interviews were conducted during the planning process. The interviews provided a chance to inform these individuals/ organizations of the study and to seek their input about concerns that affect their businesses, organizations and employees. The interviews also helped inform the team about updates to plans, studies and future improvements to places affecting ped/ bicycle movements in the Township. Meeting notes are contained in the Appendix. Key person interviews included the following organizations:

1. **Woods Services** – Educational / Institutional / Residential Community – a large land holder and employer within Middletown Township with a legacy reputation for serving those with disabilities. Discussion Items: Access to site for employees using public transit; security; impact of PennDOT RC3 project.

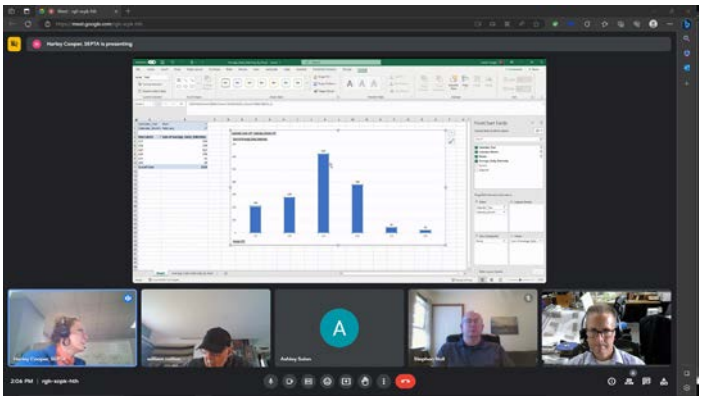
2. **Sesame Place** – Recreational / Tourism / Commercial Destination – a large Township employer; regional tourist destination. Discussion items: Highly interested in improving pedestrian access for park visitors and especially for employees accessing the park by transit and their safe movement to nearby retail areas on foot.

3. **Bucks County Planning Commission** – the County agency for transportation / land use planning. Discussion Items: Update on trails initiatives including the Frosty Hollow Park Trail; importance of connections to the regionally planned greenways and open spaces; discussion of Woodbourne Road and train station.

4. **Oxford Valley Mall (Simon)** – a major land owner (133 acres) / Retail / Commercial. Discussion Items: Currently navigating the uncertain retail climate post-pandemic; re-development of areas for multifamily residential underway; concerns for perceived unsafe pedestrian crossings (more signage needed; more lighting needed); please consider a crossing to the Target; partnering with Township on economic development grant opportunities.

5. **Shadybrook Homeowners Association** – a large residential community in the northern Middletown Township.

   Discussion Items: Large interest in accessing park—Middletown Community Park; high interest in using transit among older residents.



6. **SEPTA Bus Planning** – the primary transit provider in Middletown Township. Discussion Items: Current operations; rebounding from the pandemic; 'Bus Revolution' updates including a micro-transit initiative that will affect MT. (refer to 'Challenges & Opportunities' section, below)

7. **Village of Flowers Mill Homeowners Association** – a large residential community in central/ Woodbourne Station area of Township. Discussion Items: Interest/ concerns about pedestrian movement near station and community; transit access at Woodbourne Station.

8. **Penndel-Hulmeville Boroughs** – Neighboring Boroughs. Discussion Items: Which connections proposed in Middletown make sense to continue here?

9. **SEPTA Regional Rail Planning** – the rail transit provider in Middletown Township. Discussion Items: History, statistics, recent grant funding for at-grade rail crossing scope; introduction to 'Transit Supportive Community Development' initiative in SEPTA---the potential for re-use of parking areas.

A record of key person interviews can be found in the appendix of this report.

## 3.2.3 *Public Opinion Online Survey*

An online public opinion survey was posted and advertised on the Middletown Township website to as an alternative venue to gather additional public input. The survey (on the SurveyMonkey platform) was tailored to meet the unique needs of Middletown Township and provided multiple residents the opportunity to remotely express feelings and concerns about multimodal transportation options in the Township. Write-in responses were frequently given which allowed the project team to investigate specific concerns.

***Survey Highlights***

- 287 total responses
- 60% completion rate
- Equal distribution of responses from newcomers to long-time residents of the Township
- Ages 12-64 year=79% of respondents; >64 years=21% of respondents

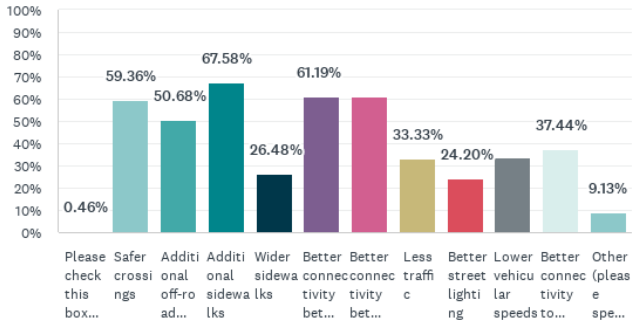
A sample survey question:

Q: Which types of connectivity facilities would you like to see in Middletown Township ?

A: Improved routes from neighborhoods to parks (72% of respondents).

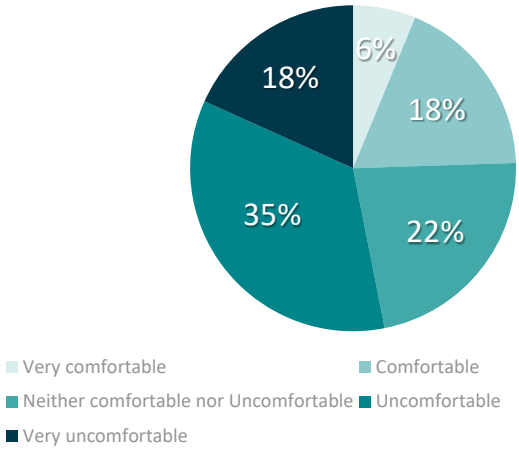
Samples of Public Responses Critical to 'Location' Analysis of Connectivity Improvements

**Q13 What would encourage you to walk more? If you are a wheelchair user, what would encourage you to travel more outside of a vehicle? Select all that apply.**




**Q9: From a perspective of traffic safety, how comfortable do you feel walking in Middletown Township?**

Answered: 241 Skipped: 46



**Neighborhoods:**

- Highland Gate
- Old Mill Woods
- Maple Point
- The 'Gates' (Forsythia, Red Rose)
- Cider Knoll
- Cobalt Ridge, Quincy Hollow

**Roads**

- Woodbourne
- Hulmeville Rd
- Trenton Road
- Durham
- Village Road
- Langhorne-Yardley Road (between Bridgetown & Woodbourne)
- Business Route 1 (Old Lincoln Highway)
- Parkvale, Gillam, Kingville

**Retail/Commercial**

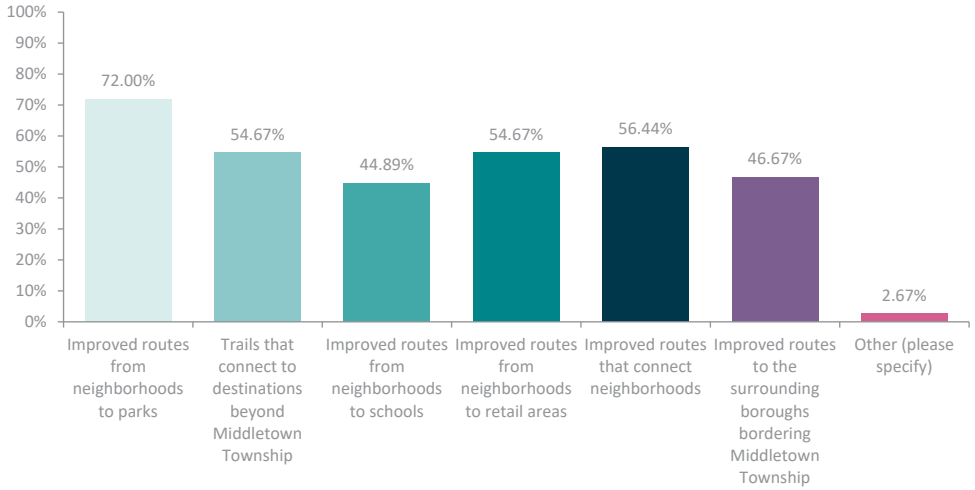
- Oxford Valley Mall
- Shoppes at Flowers Mill
- Summit Shopping Ctr; Langhorne Square Shopping Ctr.

**Parks**

- Core Creek Park
- Styers Orchard
- Middletown Community Park
- Playwicki Park

## Q15: Which types of connectivity facilities would you like to see in Middletown Township? Select all that apply.

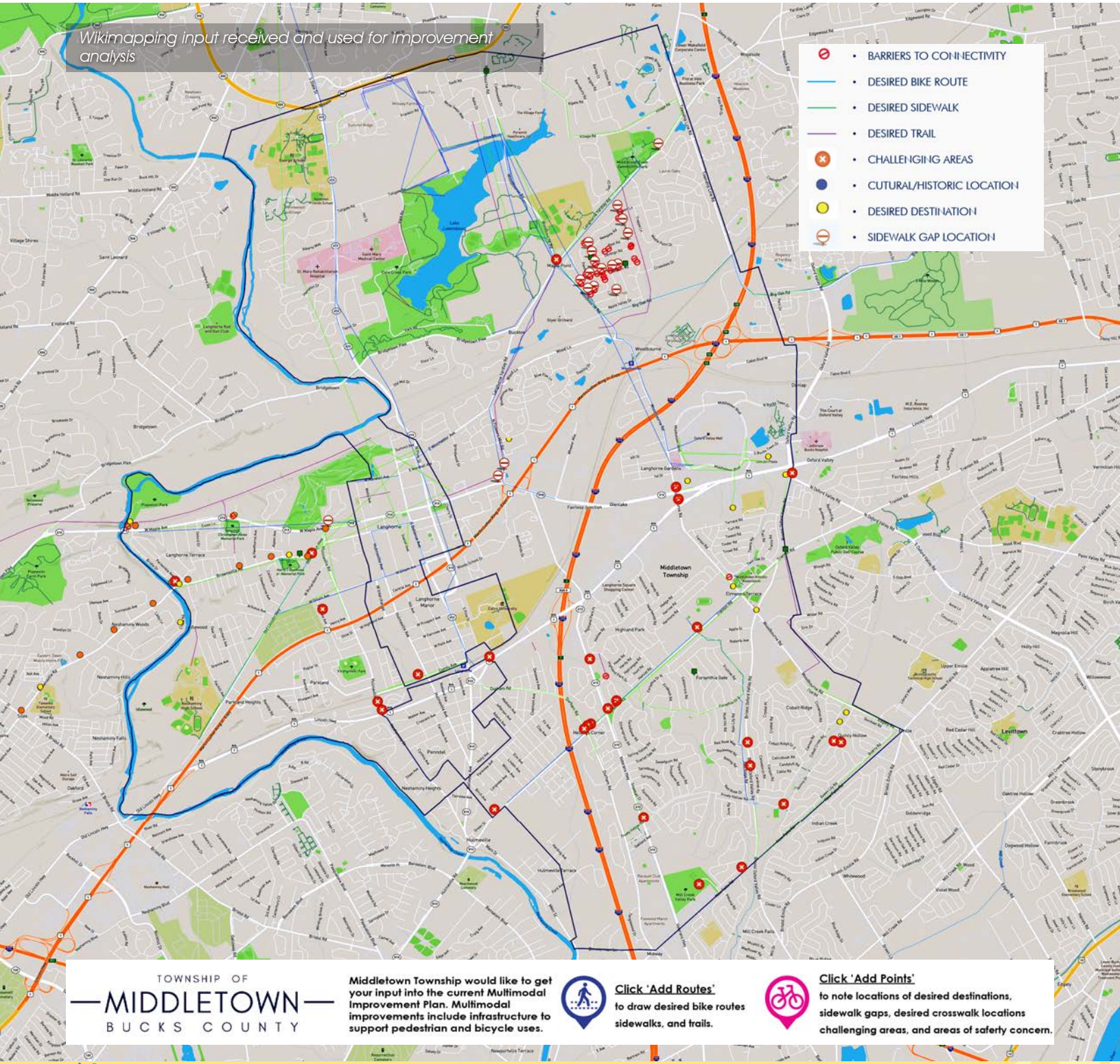
Answered: 225 Skipped: 62



### 3.2.4 Wikimapping

An online, interactive mapping tool was created to allow participants to enter the actual locations and issues which they experience as pedestrians or cyclists within Middletown Township. A total of 223 inputs were made to the project wikimap. Categories and number of responses associated with each are shown below.

- Barriers to connectivity (41 total)
- Desired bike route (26 total)
- Desired sidewalk (54 total)
- Desired trail (20 total)
- Challenging areas (33 total)
- Cultural/historic location (0 total)
- Desired destination (20 total)
- Sidewalk gap location (22 total)




*Wikimapping input received and used for improvement analysis*

# 3.3 Preferred Destinations

## *3.3.1 Parks and Open Spaces*

Middletown Township boasts many parks, open spaces and recreational areas, including host to two (2) County Parks; seventeen (17) local parks; Styer Orchard (Agri-tourism destination and open space); Middletown Country Club; and the Middletown Community/ Senior Center.

### *Core Creek Park*

Core Creek Park is a heavily used Bucks County Park located in the northern section of the Township. At 1,200 acres, it is the largest recreation area within Middletown Township. The park features active sports courts and fields, bicycle and pedestrian pathways, hiking trails, natural areas, picnic areas, playgrounds, and an off-leash dog park. existing utilities on site include restrooms and water fountains. Lake Luxembourg is a central feature of the park and allows fishing and boating. Boat rental and boating programs exist on site with services to rent kayaks, canoes, pedalboats and row boats.

### *Middletown Community Park*

Middletown Community Park is the most frequented local park in the Township. The 40-acre park is located in the northern portion of the Township near Core Creek Park and contains five (5) baseball/softball fields, eight (8) soccer fields, a basketball court, a playground, a practice soccer facility, and a skatepark. The park has sufficient parking and facilities. The main entrance is located along Langhorne-Yardley Road.

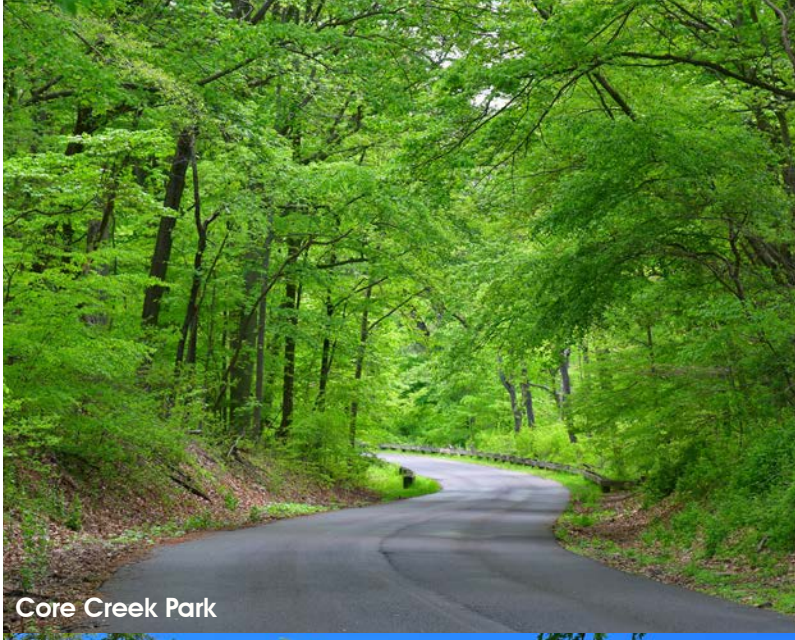
### *Playwicki Park*

Playwicki Park is a 33-acre County Park located in the western portion of the Township along Neshaminy Creek. It is home to playgrounds, covered picnic pavilions, hiking, sports fields, and fishing areas.

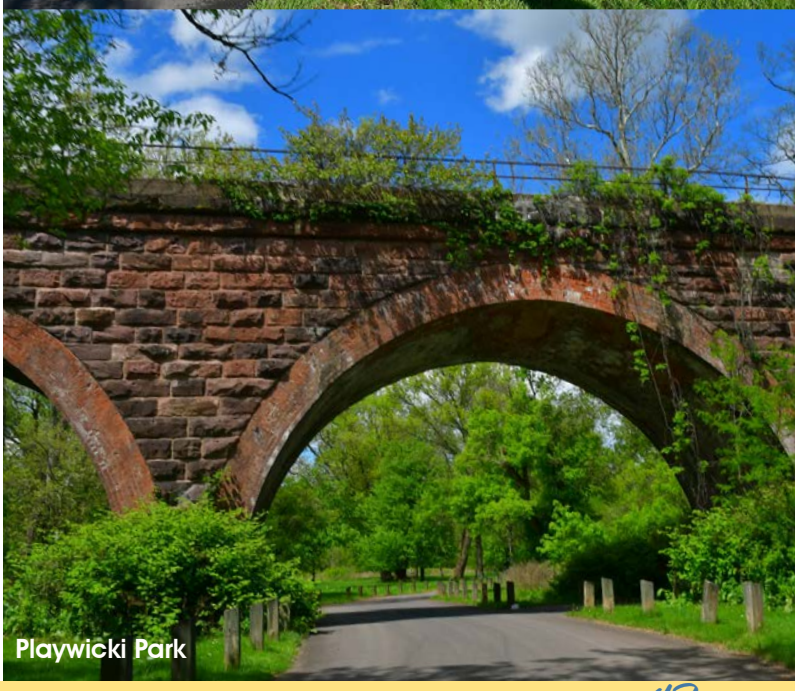
Access to these community resources was found to be the primary concern of survey respondents regarding connectivity improvements. Determinations include:

## *3.3.2 Parks mobility improvements approach*

1. Support previously-planned County / local routes to open space and parks with sidewalk and crosswalks.
2. Link existing park space trails to neighborhoods and schools with multi-use trails, pedestrian bridges, etc.
3. Provide for looped travel routes where possible instead of one-way routes.


Core Creek Park


Middletown Community Park


Playwicki Park

### 3.3.3 Neighborhood-to-neighborhood connections needed

Approximately thirty (30) distinct 'neighborhood identities" exist in the northern portion of Middletown Township, and thirty-three (3) in the southern portion. Existing transportation corridors provide significant barriers to connecting residents of these communities via ped or bicycle modes – leaving cars as the only practical and safe means to reach other neighborhoods. STRAVA user data indicates that the heaviest pedestrian / running activity occurs within the confines of neighborhoods that have existing sidewalks.

### 3.3.4 Neighborhoods to neighborhoods mobility improvements approach

1. Provide new sidewalks to fill existing gaps that prevent neighborhood loops or connections to other neighborhoods or community parks.
2. Prioritize routes that extend walking and biking distances to reach parks, playgrounds or schools.
3. Identify large obstacles that impede both N-S and E-W travel through the Township.
4. Use STRAVA heat map data for bicycle and pedestrian movements to identify emerging areas of high 'heat' (those areas reporting increasing levels of ped/ bike activities).

### 3.3.5 Retail / Commercial: Business Route 1 Corridor

PennDOT roads dominate the commercial areas of Middletown Township and require remedies to many previously ill-conceived roadway access locations into individual shopping areas that create multiple modal conflict points.

### 3.3.6 Retail/Commercial/ Business Route 1 Corridor improvements approach

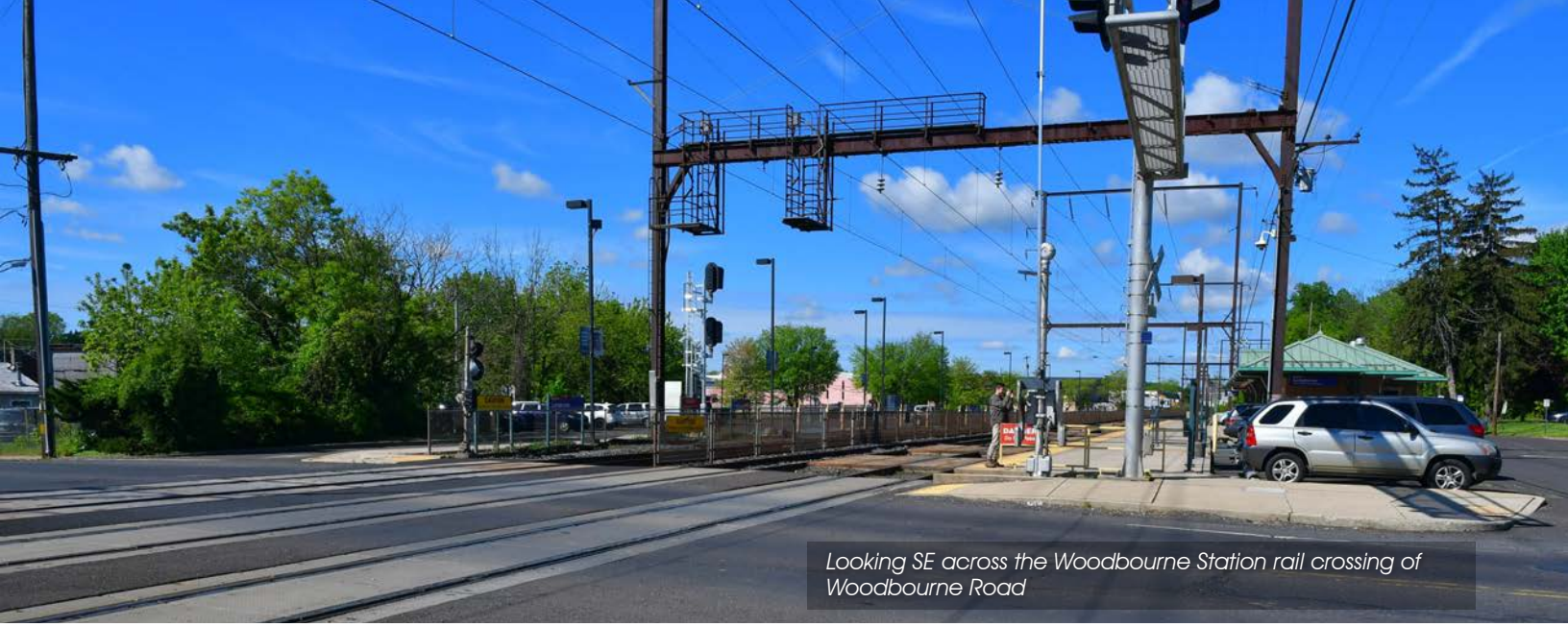
1. Plan for sidewalk infrastructure on both the north and south sides of Business Route 1 between Woodbourne Road and the Falls Township line at Bristol-Oxford Valley Road
2. Identify Durham-Trenton-Woodbourne-Veterans Hwy-Frosty Hollow as major bike/ped connection routes to the Oxford Valley Mall and Business Route 1.
3. Provide neighborhood connections and crosswalk locations to those pedestrian/ bicycling arterials.
4. Improve a N-S crossing of Business Route 1 at Woodbourne and South Bucks Town Road with appropriate signal modifications.
5. Conduct assessments of traffic calming measures.

### 3.3.7 Neighboring Boroughs improvement approach

1. Negotiate solutions to critical sidewalk gaps within the Boroughs to enable the E-W passage of pedestrians and cyclists.
2. Encourage 'Borough-Township' collaboration on critical segments of the Borough-Township links.




*Looking SE across the Trenton Road/ Woodbourne Road intersection*



*Looking SE across the Woodbourne Station rail crossing of Woodbourne Road*

### *3.3.8 SEPTA Rail Stations & SEPTA Bus Stops: Improvement Approach*

1. Install ADA-compliant crossings at stations (and at-grade rail crossings) with recommended pedestrian signals, signage and pavement markings.

2. Extend safe access improvements to station parking areas and platforms from arterial pedestrian and cycle infrastructure.

## 3.4 Challenges & Opportunities General analysis

### *3.4.1 Barriers: Vehicular & Rail Transportation Network*

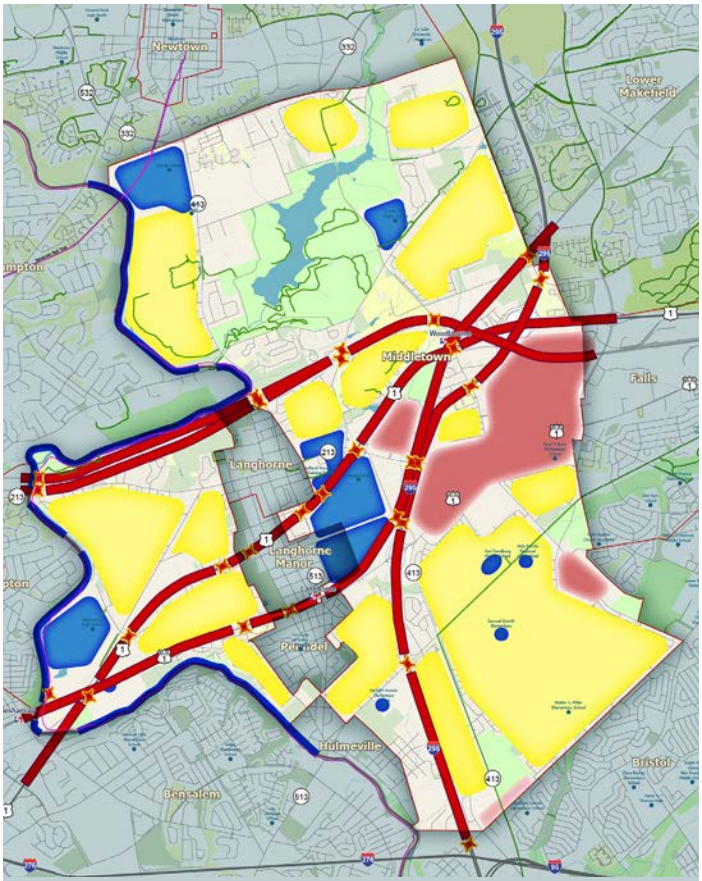
The network of rail and roadway corridors that cut across Middletown Township were not constructed for modern vehicular traffic demands, and completely ignored the needs for pedestrian mobility in multiple locations.

Suburban neighborhoods that grew in a major population flight from Philadelphia during post-WW2 days retreated from the urban concepts of walkability and transit, instead believing in the future of motor vehicles with their single mode infrastructure.

Middletown Township, like many similar communities now face challenges and opportunities of transitioning outdated transportation networks to increase pedestrian and bicycle connectivity as a major economic revitalization tool.

Right-of-way and cartway (the paved roadway surface) of the older roads are narrow, with little room on either side for expansions for pedestrian and cycling infrastructure. Existing crossing over or under major roadways and rail corridors were never envisioned to carry the traffic volumes of the 21st century.

Middletown Township hosts critical rail corridors with roadway surface crossings and tunnels that now allow minimal passage for motor vehicles and no safe passages for pedestrians or cyclists.




Township Analysis

- Barriers
- Barrier Crossings
- Residential Areas
- Institutional Areas
- Commercial Areas

### *Rail: CSX (SEPTA) & Norfolk Southern*

Middletown hosts CSX and Norfolk Southern operations and corridors that serve both passenger and freight rail across the Township westward and eastward across the Delaware River enroute to Trenton and the northeast corridor through New York City. Both entities hold ownership rights as well as trackage rights with each other's lines. SEPTA holds trackage rights from CSX.

CSX staging operations near the Woodbourne station have impacted the flow of vehicular traffic within the Township for decades as freight train cars are assembled by shuttling them back and forth across Woodbourne Road at any time without advanced warning, causing long traffic queues on both sides of Woodbourne Road and stranding long lines of cars through unknown durations of the road closures every day.

The externalized costs to Middletown of these unconstrained freight rail operations that block auto and pedestrian movements through the community and region have not been quantified.

Significant barriers exist at multiple rail bridge and tunnel locations, including:

- Woodbourne Road and Wood Lane
- Flowers Mill Road
- Langhorne-Newtown Road
- Hulmeville Road
- Langhorne-Yardley Road

PennDOT has jurisdiction over seventeen (17) state routes and interstate highway alignments within Middletown Township. These major roadways through Middletown Township are regional vehicular corridors as well as local major connectors between residential, retail, and cultural / recreational destinations.

Many of these routes follow alignments of early roads between historic population centers with limited rights of way, and little or no room for roadway expansions without major disruptions to the established cultural landscapes.

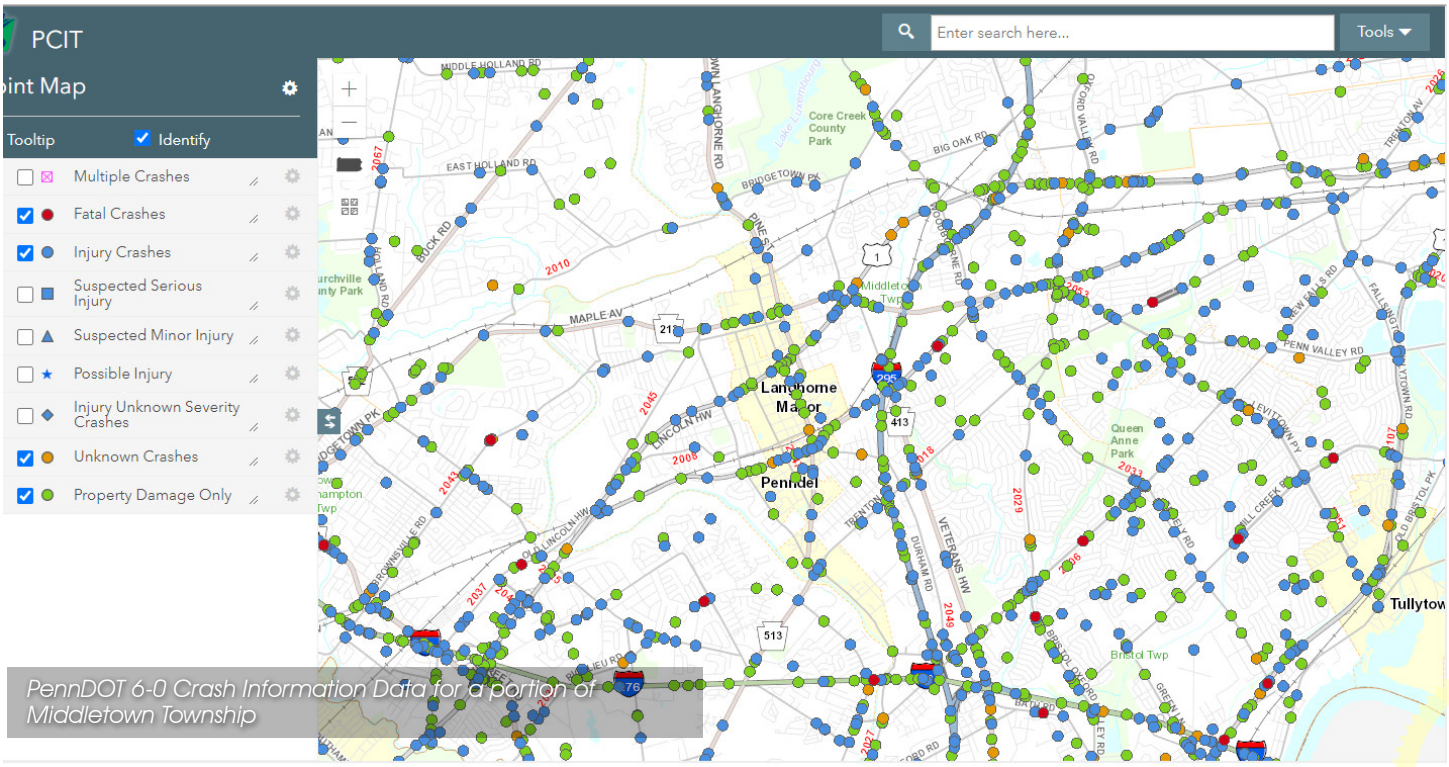
These constrained PennDOT corridors create functional "barriers" for pedestrian and bicycle movements at the levels that modern communities seek. Any improvements for highway access or ped-bike infrastructure on state routes require PennDOT approval.

Based on the miles of state routes within the Township; the increased traffic volumes over the past four decades; the crash data now available; and changing public perceptions – alternative travel modes and off-road routes are now priorities for Middletown residents.

The high volume, higher crash state route corridors that act as barriers to pedestrian connectivity include:

### *US Route 1*

US Route 1 is a major east coast thoroughfare that spans the Township from the southwest to the northeast quadrant. Multiple interchanges provide access either directly or through crossing arterial highways to the major town centers and commercial areas that have developed based on the central regional location and access to a nexus of travel corridors.




*PennDOT 6-0 Crash Information Data for a portion of Middletown Township*




*Aerial view of the US Route 1 and I295 corridors in Middletown Township*

### *Interstate 295*

I-295 in Middletown Township is a major regional feeder to the Interstate 95 corridor that runs between Maine and Florida. I-295 delivers large volumes of regional visitors to Middletown Township at the Old Lincoln Highway and US Route 1 interchanges. I–295 also serves local commuters and longer distance travelers on the heavily-traveled section between Philadelphia and New York City.

The critical locations that constrain pedestrian and bicycle movements in an E-W direction bridge through bridge and underpass structures within Middletown Township include:

- Durham Road (SR 2049), and
- Trenton Road (SR 2018)

### *State Route 213 (Maple Ave) becoming Business Route 1*

Similar to US Route 1, State Route 213 bisects the township from west to east. Barrier issues predominate along a stretch between I295 and the Township border with Falls Township at Bristol Oxford Valley Road.

### *State Route 2037 (Old Lincoln Highway) becoming Business Route 1*

The barriers to safe pedestrian movement along and across Old Lincoln Highway / Business Route 1 include: cartway widths; traffic volume; and numerous vehicular access points to the individual parcels along the corridor.

In the western section of the Township, the Old Lincoln Highway and Hulmeville Road intersection creates another restrictive location making a N-S crossing of Business Route 1 unsafe for pedestrians.

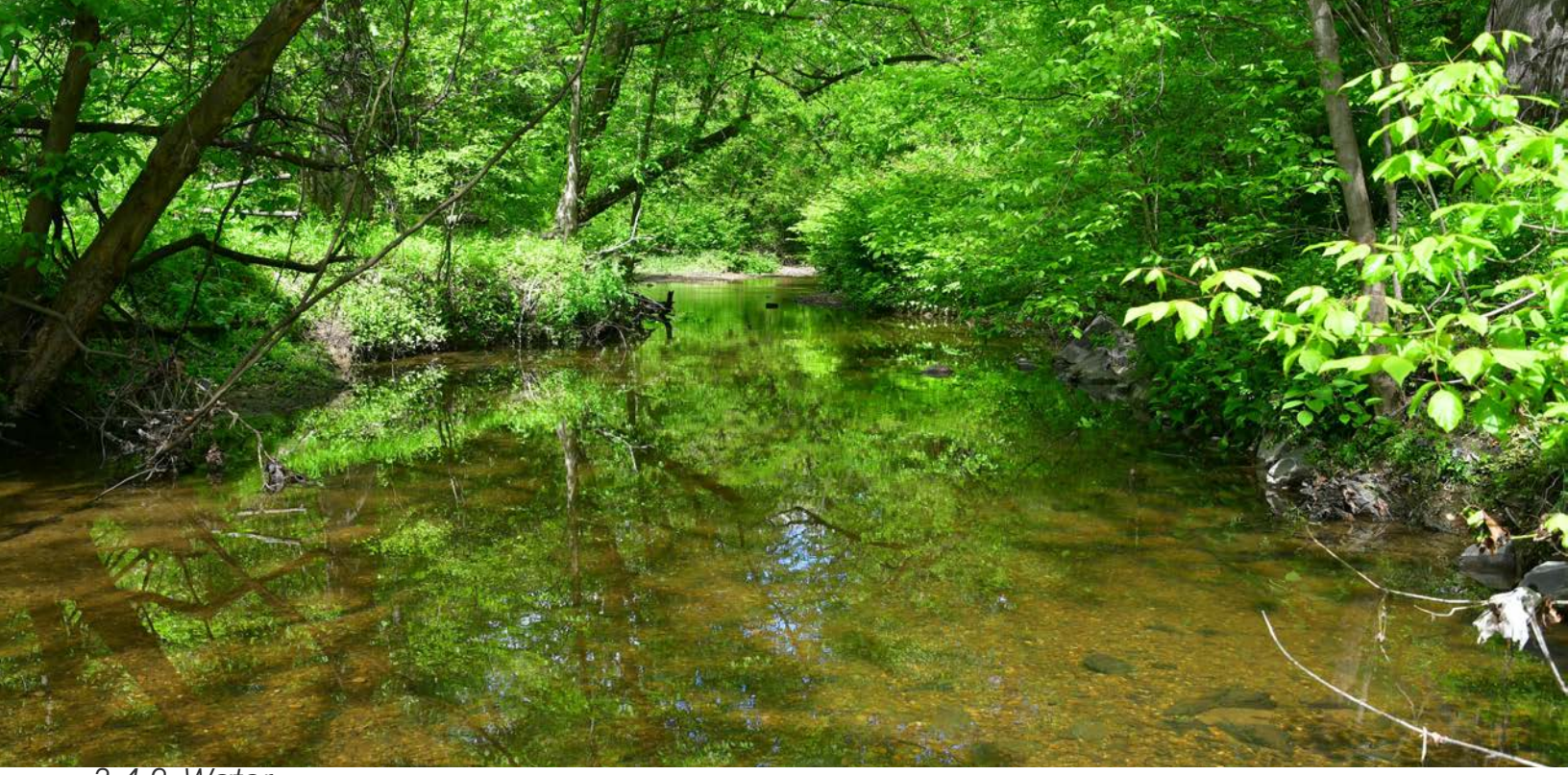
Shoulders along this route frequently act as entrance ramps for vehicles exiting the multiple driveways to merge onto Business Route 1. Available ROW and pedestrian safety are the major constraint and goal for any designed future infrastructure improvements within this important corridor. Opportunities exists along this corridor to re-imagine better highway access as property owners consider site redevelopments.

### *State Route 413 (Langhorne- Newtown Road & Veterans Highway)*

Veterans Highway is a critical N-S route within the Township that could provide vital ped-bike connectivity to the large amount of Levittown neighborhoods in the SE quadrant of the Township. It has been designated by Bucks County as a 'planned' bike route.

### *Woodbourne Road (SR 2033)*

Woodbourne Road may be an even more critical N-S route within the Township than Veterans Highway. While Veterans Highway becomes disconnected at I-295 (becoming Flowers Mill Road), Woodbourne Road extends the entire length of the Township providing a critical access location to the northern section of the Township including destinations of Styers Orchard, Core Creek Park, and Middletown Community Park, and Newtown Bypass commercial area along the northern Township line.



### 3.4.2 Water

Tributaries of Mill Creek, Neshaminy Creek and Queen Anne Creek are critical stormwater corridors within Middletown neighborhood – and in locations are recognized as important natural open space areas within the Township. Opportunities exist to connect neighborhoods via recreational trails through these riparian corridors that also serve to connect residents to a larger arterial sidewalk network with linkages to schools, parks and retail markets.

### 3.4.3 Public Transit

Pedestrian and bicycle connectivity when combined with increased transit uses can provide a major opportunity to meet other critical comprehensive plan goals for Middletown – specifically; climate action and sustainability based on reduced use of carbon-fueled transportation.

Both SEPTA regional rail stations within Middletown Township – Langhorne and Woodbourne exist within two bottlenecks of multi-modal accessibility – where roadway traffic constraints make it difficult for drivers, bicyclists and pedestrians to reach both the stations during peak travel hours.

These locations are major opportunities to achieve comprehensive, integrated transportation-land use improvements within the Township, especially considering two new initiatives by SEPTA (unveiled in 2022-2023) that are directly relevant to the goals of this MIP study. SEPTA initiatives include:

***SEPTA Bus Revolution & Microtransit***

The SEPTA 'Bus Revolution' under development seeks to prioritize efficiency and customer experience with revised bus route locations and schedules. Draft plans presented in Summer/ Fall 2023 show minor route and schedule changes within Middletown. SEPTA will pilot a micro transit option in Middletown--employing options of typical ride-hailing services within a defined area. More details about how this service will operate will be forthcoming from SEPTA.

***SEPTA-Transit Supportive Community Development***

As a measure to improve ridership and revenue in the post-pandemic era, SEPTA has created a new initiative to support partner communities seeking to realize planning goals that deliver residential housing within their station area neighborhoods – sometimes called transit-oriented development (TOD).

Many large parcels owned by SEPTA originally developed as parking facilities have been underutilized since the Covid pandemic transformed the commuting work force culture across the world. SEPTA is seeking communities to investigate TOD opportunities that will benefit SEPTA and those municipalities. Safe pedestrian and bike infrastructure within those communities are integral elements of any TOD partnership.

### 3.4.4 Right-of-Way Widths/ Ease of Acquisition

This Middletown MIP study establishes a strategy for the Township to implement improvements. In some locations existing rights of way will need to be expanded to construct the preferred public safety and access improvements.

Analysis of right-of-way widths (ROWs) to determine which priority improvements will require additional legal right of way area is

outside of the scope of this MIP study. Among priority areas to analyze for rights of way is Woodbourne Road.

See Chapter 4 - Recommended Township Actions for a discussion of initiatives that may advance ROW tasks.

## *3.4.5 Current Transportation Projects in Design/Construction*

Recent and current projects influence the Middletown MIP strategy, including:

### *Langhorne Yardley Road/ Bridgetown Pike/ Woodbourne Road*

The Langhorne-Yardley Road / Bridgetown Pike / Woodbourne Road intersections are currently in design and part of the Transportation Improvements Plan (TIP). developed by the Delaware Valley Regional Planning Commission (DVRPC) with County input and implemented by PennDOT 6-0 in coordination with Middletown The improvement of vehicular movements and safety at these intersections will be accomplished with a roundabout at LY Road at Bridgetown Pike; and through re-designed lane alignments and signalizations at LY Road at Woodbourne Road. Planned pedestrian and bicycle improvements include:

- 5'-wide paved shoulders for cyclists
- Ped crosswalks/accommodations at the roundabout and signalized intersections
- Paved pathways connecting to existing Core Creek hike-bike trails (unpaved); Core Creek driveways and Maple Point Middle School
- New sidewalk along southern side of LY Road from Woodbourne to Briggs Road

### *Maple Point Elementary School Construction*

Construction of the newest elementary school of the Neshaminy School District has begun as an addition to the existing Middle School campus. Infrastructure improvements in the MIP are shown to incorporate a multi-use trail through the campus and extend to a "side path" system on Village Road – that enables a connection to the residential communities in the northeast quadrant of the Township.

### *PennDOT SR001 RC3 Plan (2023)*

Outdated interchanges; travel lane geometries; and increased traffic volumes were the impetus for PennDOT to re-think how US Route 1 is aligned through Middletown Township. At the conclusion of this MIP study, PennDOT is in the final stages of completing the second phase of a three-phase reconstruction of US Route 1 known as the "RC" project. Project phase is complete; phase RC2 construction is nearly complete.

As fall 2023, the RC3 is beginning the final design phase. March 2023 preliminary design documents by PennDOT indicate the parallel 'feeder' road system that currently exists on both sides will be abandoned to streamline access to US Route 1 at the western boundary of the project near the Neshaminy High School. Opportunities may exist to strategically utilize those "remnant" rights-of-way (ROW) for a multimodal bike-ped corridor. See Chapter 4-Recommendations for further discussion of this concept.

### *PennDOT Business Route 1 & SR 2029 Bristol Oxford Valley Road*

Serious congestion and outdated pedestrian signal controls have created unsafe conditions for pedestrians. Higher than normal vehicular crash numbers also exist at this location.

Final design documentation of improvements to this intersection at the western edge of the Township include the widening of both roadways for dual-left turn lanes at all four (4) approaches to the intersection, with signal optimization; new curbs; sidewalks; and compliant ADA curb ramps included.

The work planned at this location provides the western 'starting point' for a re-imagined strategy to continue safe pedestrian movements on the north and south sides of Business Route 1.

### *School Zone Improvement Project*

Middletown Township has recently been awarded a PennDOT grant for pedestrian safety improvements within the school zones of select school locations.

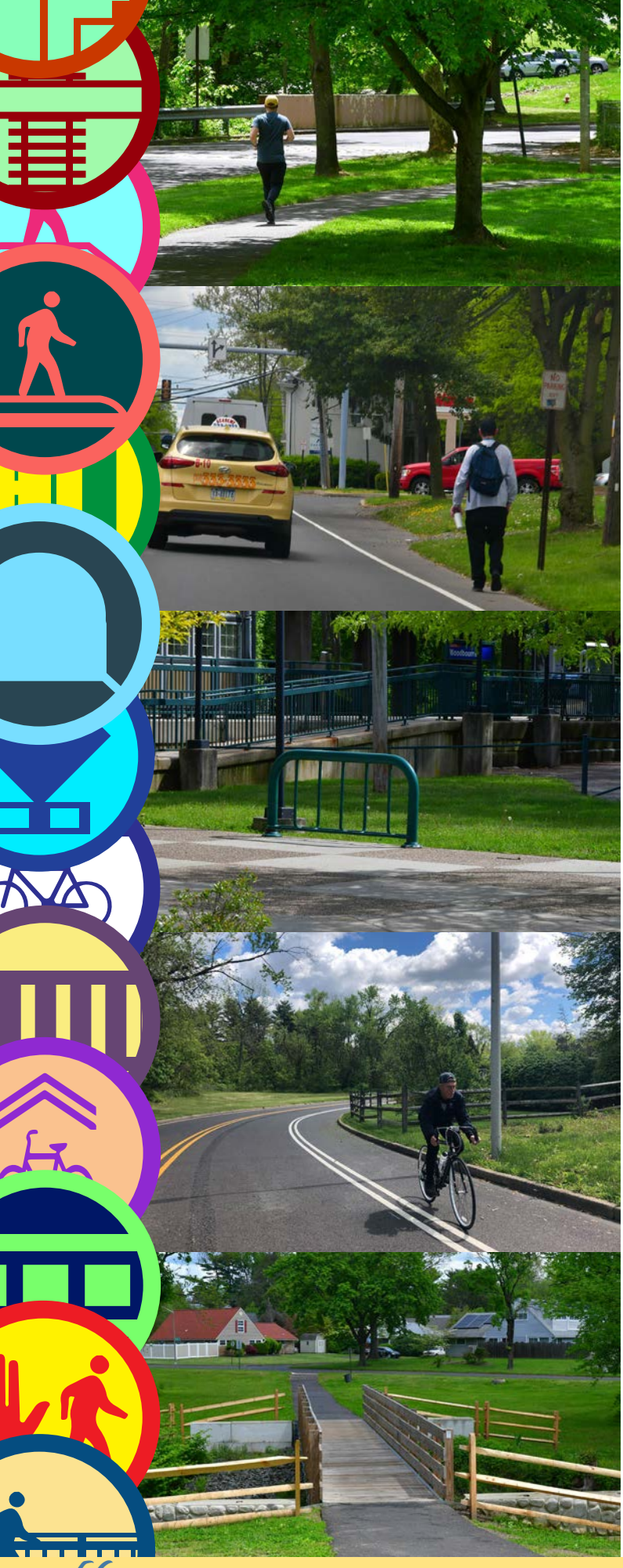
Maple Point Drive/ Langhorne Yardley Road – Pedestrian Crossing Signal

Middletown Township has applied for and is expecting grant funding for the implementation of a rapid flashing beacon signal at the Maple Point Drive / Langhorne Yardley Road intersection. This vital safety installation is noted on the MIP located in this report and represents a strategic investment in safely moving resident to the south/southeast of LY Road to the Middletown Community Park.


COINS
TAP
1. TO START PRESS ANY PINPAD KEY
Regional Rail Welcome Back
Free Parking Until Further Notice
SEPTA Commuters Only
COINS
TAP
1. TO START PRESS ANY PINPAD KEY
2. ENTER SPACE # & PRESS ENTER
3. ENTER # DAYS & PRESS ENTER
4. PAY WITH COINS OR CARDS
COIN RETURN

# 4 Recommendations





# 4 Recommendations: Multimodal Improvements Plan (MIP)

## 4.1 Middletown Multimodal Improvements Plan

This Multimodal Improvements Plan may be adopted at the discretion of the Middletown Township Board of Supervisors. The plan reflects a volume of technical analyses informed by a comprehensive public participation process with guidance from the Township Steering Committee.

### *4.1.1 Improvements Toolbox*

The "tool box" section details the types of improvements suggested for Middletown – which adhere to PennDOT design standards, and include off-road and on-road recommendations. Each improvement is assigned a symbol, which marks its location on the township map.

#### *Sidewalks*

Sidewalks are the basic transportation network for pedestrians, and probably the most familiar improvement to residents. They are a minimum of five feet wide, constructed of concrete, and located parallel and adjacent to a roadway.

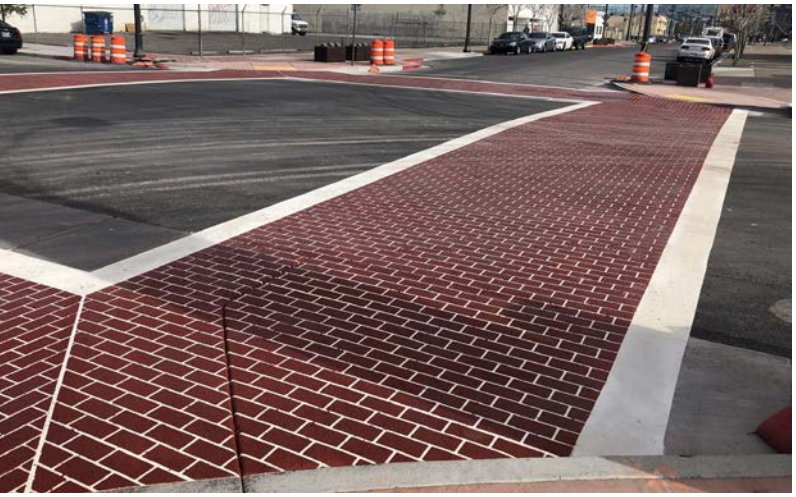
Sidewalks allow pedestrians to safely move and access home, work, school, transit stops, parks, places of worship, and any other desired destinations.

While there are extensive existing sidewalk networks within Middletown Township's residential areas, they tend to lack connections to other residential neighborhoods and destinations. These gaps and extensions to N-S and E-W networks become prime targets for recommended sidewalk locations.



*Rendering of sidewalk and compliant crosswalks improvement tools.*









*Example crosswalk images from other municipalities*

## *Crosswalks*

Crosswalks can be delineated in several ways. The continental crosswalks ("piano keys or "zebra stripes") are the most common type and highly visible crosswalks and are generally preferred by PennDOT and most regulatory agencies. Current crosswalks in the Township are dated, fading or non-standard. Continental crosswalks are generally constructed of thermoplastic materials that are applied onto the surface of asphalt paving and are highly durable, with an effective life span of up to ten years (dependent on traffic).

In recent years, thermoplastic materials have been preferred to pavers placed in the crosswalks due to the ability for pavers to become loose from snowplows and heavy traffic. Pavers or thermoplastic materials can also be used to designate a decorative crosswalk. Decorative crosswalks may include a color, symbol, logo, or pattern which further calls attention to pedestrians. Careful attention should be placed on the durability of high-visbility color-contrasted materials.

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

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





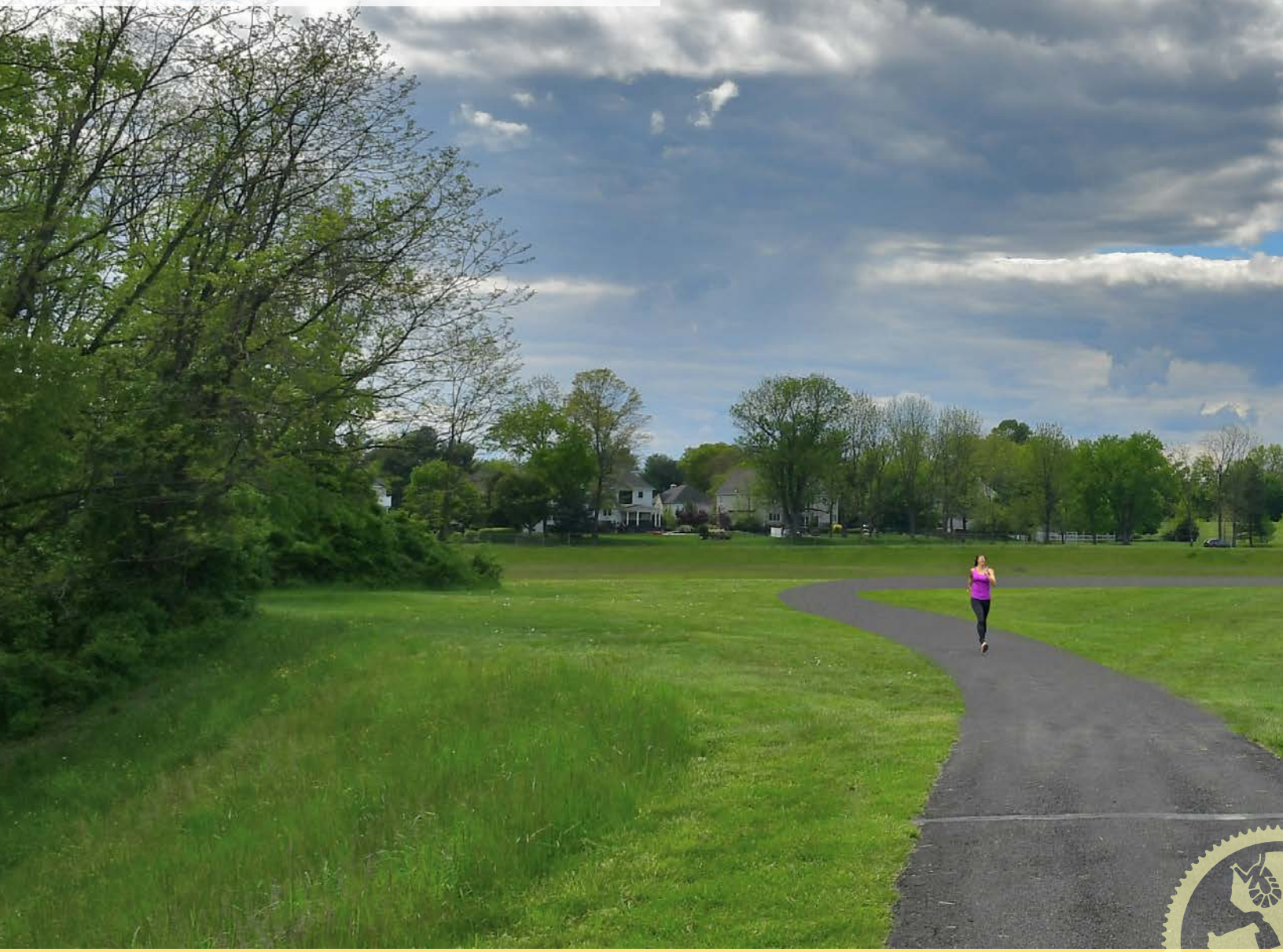
*Example of existing crosswalks at Forsythia Crossing Park that works as a traffic calming device.*

## *Multi-use Trail*

Multi-use trails, also referred to as multi-modal or shared-use trails, are designed to be inclusive and provide a safe and enjoyable space for people to walk, run, bike, rollerblade, or use other non-motorized forms of transportation. Multi-use trails are typically separated from roadways and motor vehicle traffic, offering a more pleasant and peaceful experience for users.

These trails are generally a minimum of 10 feet in width and may be designed at widths of up to 14 feet for high-volume routes. In rare instances where space is limited, trails may be installed at an 8-foot width.  Such trails can be paved with asphalt or stone dust / stone screenings.

The Middletown Township MIP suggests multi-use trails at multiple parks, open spaces, and school areas. Many of the multi-use trails are identified to connect into existing trail infrastructure and expand the existing network.





*Core Creek Park rendering extending to the existing Multi-use trail with connections to the north.*

## *Side Path*

A side path is a multi-use trail located immediately adjacent and parallel to a roadway. These trails require a 5' setback from the cartway if no barrier is present. Side paths are anywhere from 6' to 8' in width and are often constructed from asphalt. A side path can encourage bicycling and walking in areas where high-volume traffic and/or high-speed traffic might otherwise discourage such activity.



*Rendering of the use of a side path on a Middletown Township street*



*Rendering of the use of a side path along Middletown Boulevard near the Oxford Valley Mall.*

## *Bike Lane*

Bike lanes are designed to separate bicycle and vehicular traffic using pavement markings, striping, and signage. Bike lanes enable cyclists to ride at a comfortable speed without interference from traffic conditions. Design standards for bike lanes are as follows:

- Bike lanes should be provided on both sides of two-way streets.
- Bike Lane Widths without Parking: 4' minimum (not adjacent to curb) and 5' minimum (adjacent to curb or other obstacles).
- Bike Lane Widths with Parallel Parking: 5' minimum to 7' (wider bike lanes are recommended adjacent to parking areas to reduce conflict with opening vehicle doors).
- Bike lanes should be placed between the parking lane and travel lane (this applies to diagonal and parallel parking).
- Storm Drains and Utility Covers: Bike lanes should be wide enough to accommodate bicyclists swerving to avoid obstructions. Inlet grates that are bike-friendly are recommended.
- Bike Lane Striping: 4" to 6" solid white line (dotted lines are optional at major driveways and intersections, solid lines should be continued at all minor driveways).
- Pavement Marking: Bike Lane Symbols (MUTCD 9C - 3).
- Bike Lane Signage: Bike Lane (MUTCD R3-17) placed at periodic intervals with either Ahead (MUTCD R3-17aP) or Ends (MUTCD R3-17bP) where appropriate.

Buffered bike lanes, also known as separated bike lanes or cycle tracks, are dedicated lanes for bicycles that are physically separated from motor vehicle traffic by a designated buffer zone. This buffer zone can be in the form of a painted stripe, flexible bollards, a barrier, or a raised curb. Physical separation provides an added layer of safety, reducing the risk of collisions




*Rendering of a bike lane application, sidewalks and compliant crosswalks near an elementary school in Middletown Township along Trenton Road.*

between cyclists and motor vehicles. This enhanced safety feature encourages more people to take up cycling as a mode of transportation, even in areas with heavy traffic.

Contraflow bike lanes are dedicated cycling lanes that allow cyclists to travel in the opposite direction of the adjacent motor vehicle traffic on a one-way street. They enhance the connectivity and accessibility of bike networks, as they provide direct routes that may be more convenient and efficient for cyclists to reach their destinations, especially in areas with limited road options. The MIP shows the use of bike lanes on Trenton Road, Durham Road and Veterans Highway.

Implementation of bike lanes on PennDOT-controlled routes would be coordinated through PennDOT's Bike & Pedestrian Coordinator who would guide application efforts through a Highway Occupancy Permit process.



## *Sharrow*

Sharrows, short for "shared lane markings," are road markings used to indicate that a particular road or lane is intended to be shared by both cyclists and motor vehicles. Sharrows are not exclusive bicycle lanes but rather serve as a visual reminder to motorists that they should expect to encounter cyclists on that road and when they do, cyclists have the right to use the full lane.

The main purpose of sharrows is to improve safety and communication between cyclists and motorists. They help promote a sense of shared responsibility on the road and encourage cooperation and respect between different road users. By indicating that cyclists are allowed and expected to occupy the traffic lane, sharrows can help reduce conflicts.

Sharrows are often used in situations where dedicated bike lanes are not feasible due to space constraints or road design limitations. They are commonly found on streets with lower traffic volumes and lower speeds, where cyclists and motorists are more likely to interact closely.

It is important to note that sharrows have their limitations. They are not a substitute for dedicated bike lanes or protected cycling infrastructure. In areas with high traffic volumes and faster vehicle speeds, sharrows may not provide sufficient safety for cyclists. In such cases, cities and communities should consider implementing more comprehensive cycling infrastructure to create a safer environment for all road users.



*Rendering of sharrow markings as a tool for improved bicyclist safety on roadways.*




*Rendering of proposed sharrows and sidewalk along*

## *Pedestrian Refuge Island*

A pedestrian refuge island is a pedestrian safety device that is used between lanes of opposing traffic. This provides pedestrians a place of "refuge" to pause or rest when crossing busy or wide streets. Pedestrian refuge islands can take many forms - from basic islands to large expanses of pavement seen in larger urban settings. PennDOT has standards for size and use of refuge islands. Pedestrian refuge islands should be at least 6 feet wide but have a preferred width of 8'–10'. Pedestrian refuge islands may be combined with stormwater management solutions.






*Rendering of a pedestrian refuge island at the Woodbourne Road crossing from the station to the parking lot.*

## *Rapid Flashing Beacon*

A rapid flashing beacon (RFB) is a pedestrian-activated safety device used at crosswalks to improve pedestrian visibility and increase driver awareness. When activated by a pedestrian, or with the use of a motion sensor, the rapid flashing beacon provides a highly noticeable and attention-grabbing visual cue to alert drivers that someone is about to cross the road.

Rapid flashing beacons enhance pedestrian safety, particularly at locations where there may be higher risks of vehicle-pedestrian conflicts, such as busy intersections or mid-block crosswalks. By drawing attention to the presence of pedestrians, especially when visibility is reduced, RFBs encourage drivers to yield and allow pedestrians to cross safely. They are especially useful in areas where other traffic control measures like traffic signals or stop signs may not be justified or practical.

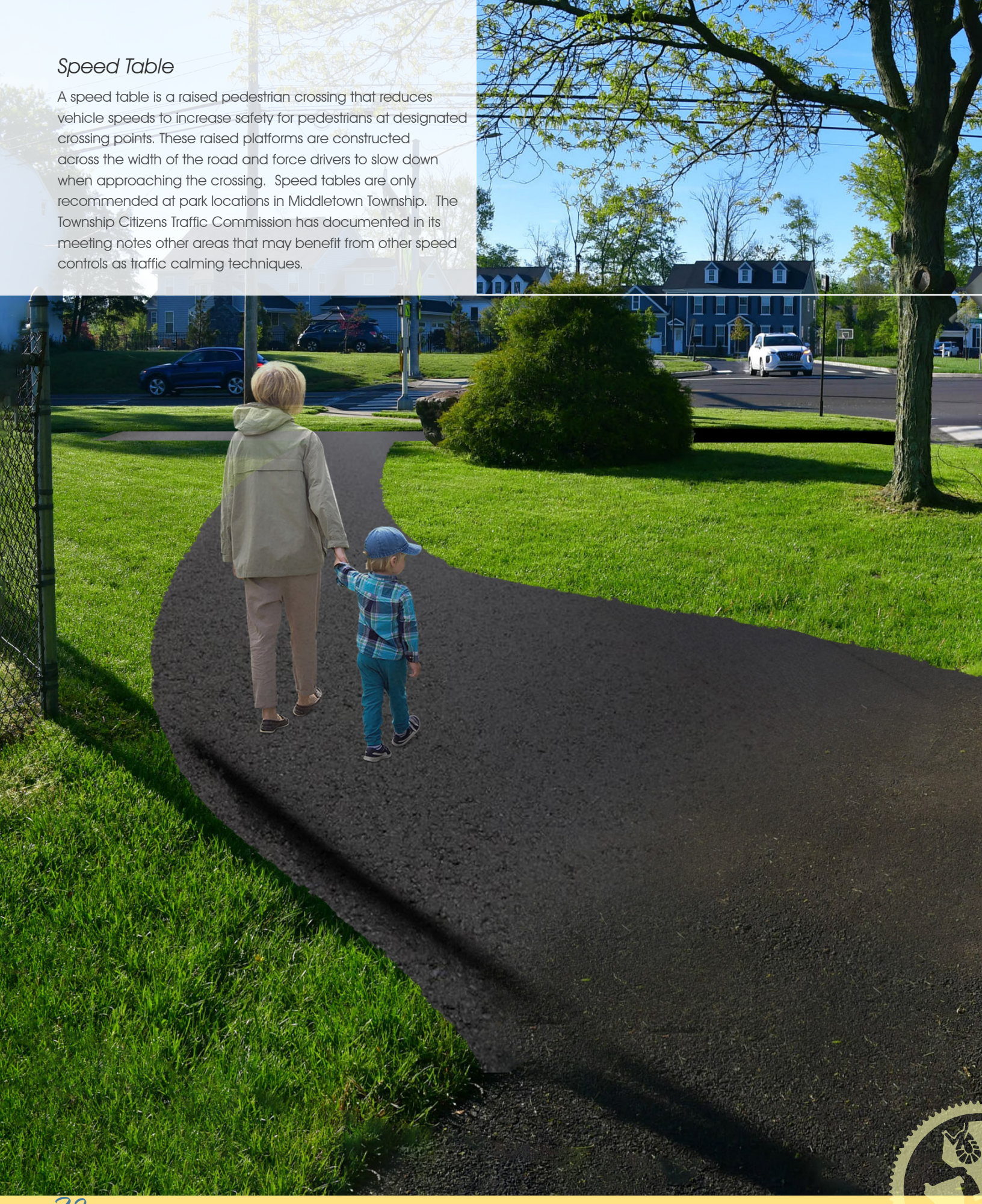




*Existing rapid flashing beacon in use at Middletown Community Park*

## *Speed Table*

A speed table is a raised pedestrian crossing that reduces vehicle speeds to increase safety for pedestrians at designated crossing points. These raised platforms are constructed across the width of the road and force drivers to slow down when approaching the crossing. Speed tables are only recommended at park locations in Middletown Township. The Township Citizens Traffic Commission has documented in its meeting notes other areas that may benefit from other speed controls as traffic calming techniques.






*Example; Image of a speed table at Park drive entrance safely connecting Park pedestrians across the driveway.*

## *Special Crossing: Rail Tracks*

Special crossings refer to improvements for a safe and accessible pedestrian route needed to traverse unique circumstances, such as locations where a roadway and sidewalk cross railroad tracks. It is important that measures are taken to cross railroad tracks at a perpendicular angle to avoiding bike tire - rail gap tangles.



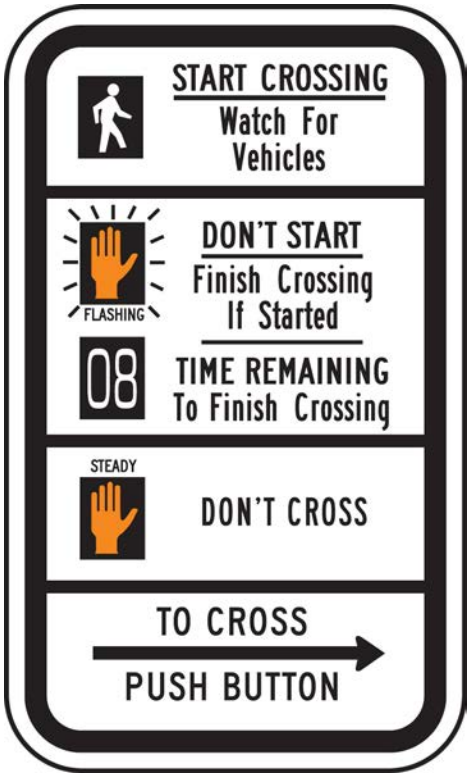




*Example images of safe pedestrian and bicycle crossing at rail tracks with pedestrian/cyclist signal arms.*




*Rendering of a potential crossing solution at Langhorne Station*




## *Handman-Pedestrian Countdown Signal*

Handman signals, or pedestrian countdown signals, provide pedestrians with information on the amount of time they have to cross a cartway. These countdown signals are typically mounted on traffic signal posts at intersections and accompanied by crosswalks.









*Existing Hand Man signal adjacent to the Township Building*



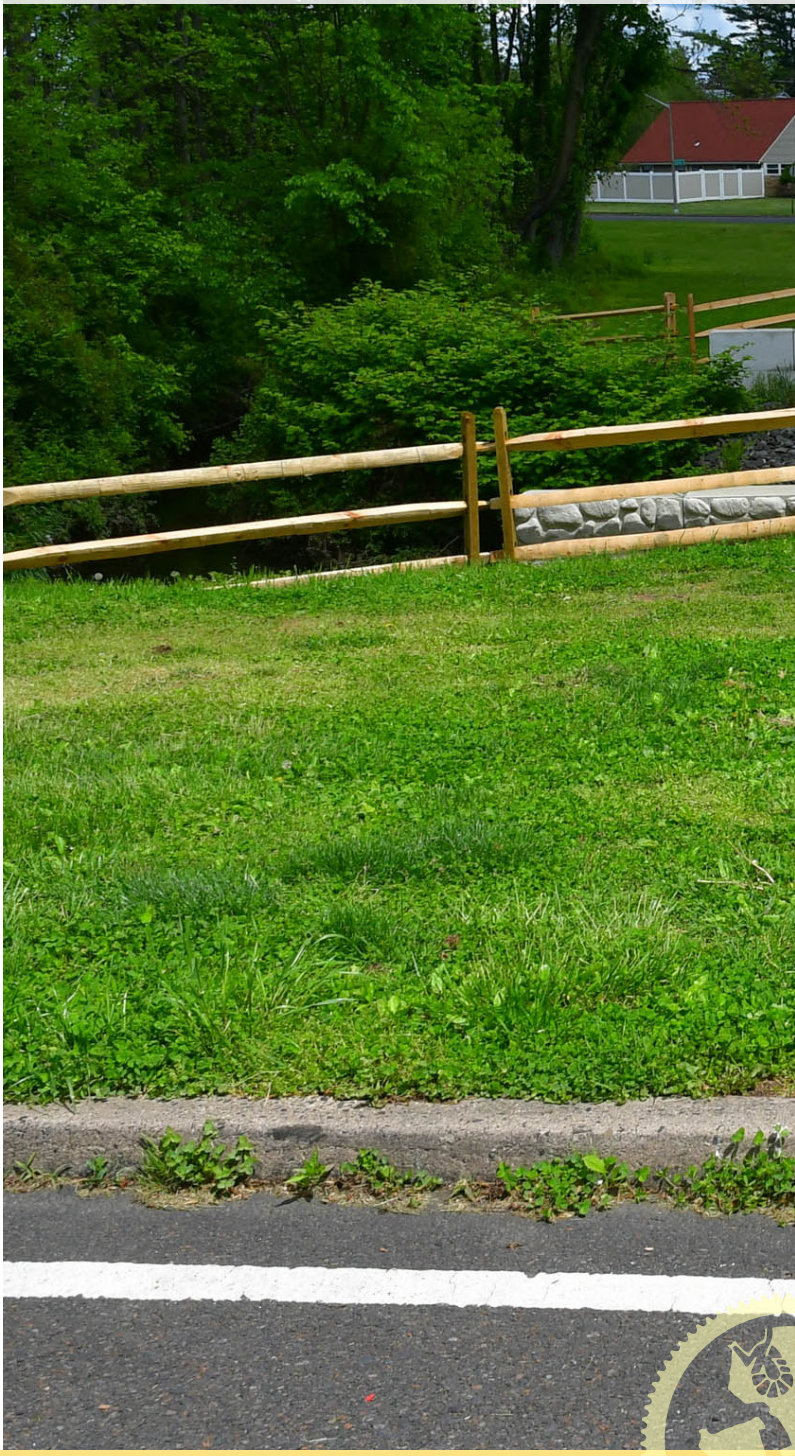




*Sample images of prefabricated pedestrian/cycle bridges on multiuse trails.*

## *Small Pedestrian Bridge*

Pedestrian-bicycle infrastructure sometimes cannot avoid stream crossings and utility structures and a ped-bike bridge structure may be needed. Structures require soils, hydrologic/hydraulic studies and permitting and are suggested for only the where other alternatives cannot work. Prefabricated structures are generally the most cost-effective types of structures for ped/bike crossings. All bridges require engineering inspections every two years over the course of their service lives.





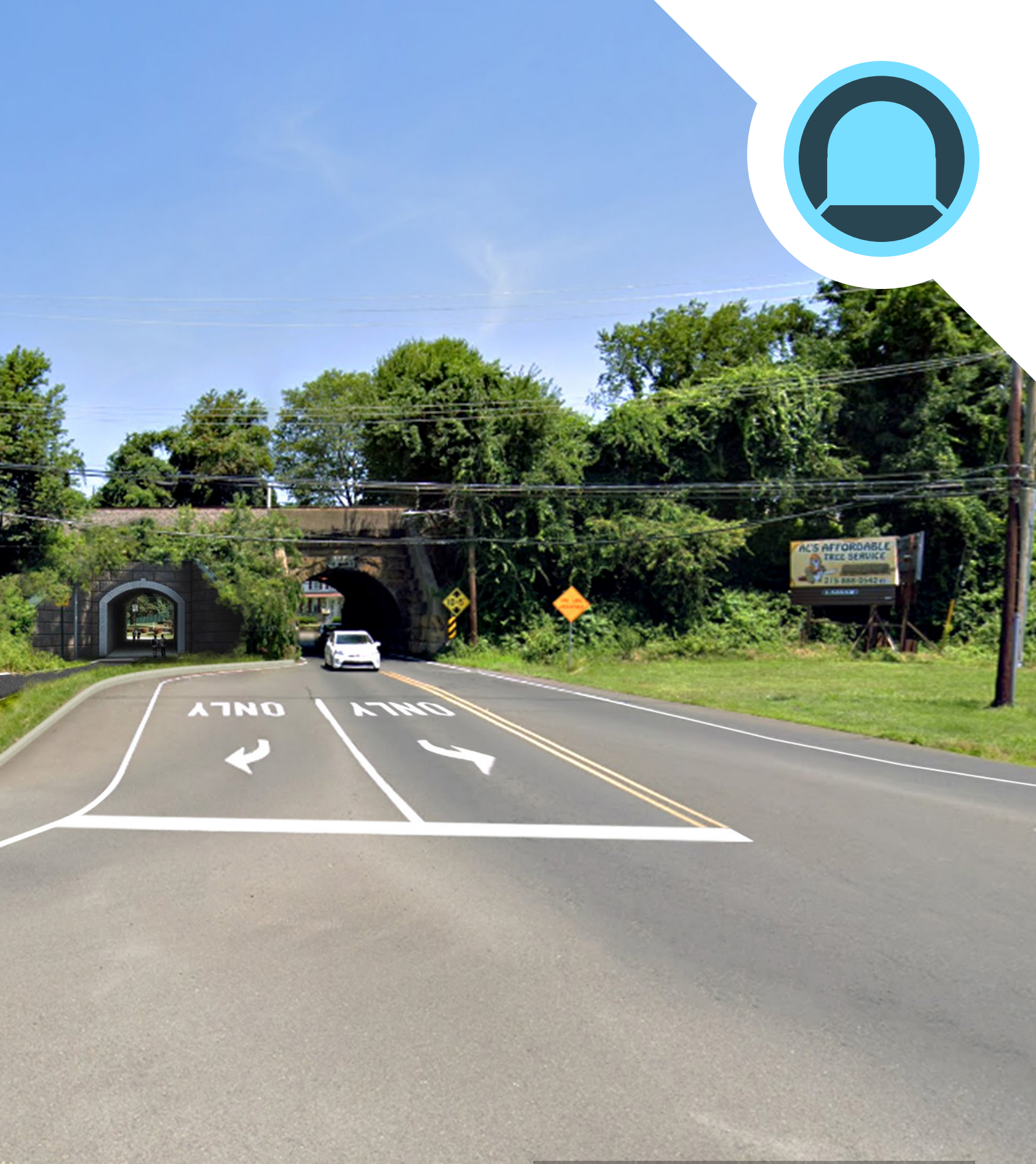
## *Pedestrian Tunnel or Multimodal Tunnel*

Like pedestrian bridges discussed above, modifications to existing rail bridge/tunnels or new rail bridge or vehicular bridge/tunnels are considered only as viable solutions where chronic needs for safe multimodal mobility are the highest Township priorities. This MIP suggests additional analyses of such improvements along the Woodbourne corridor at the Wood Lane/ Woodbourne Roads CSX rail tunnel and at the Woodbourne crossing at US Route 1.

These underpasses require high-cost improvements after significantly detailed analyses determine viability and cost-benefit. At issue in the Woodbourne Station area is the growing congestion caused by multiple past transportation infrastructure designs (of two roadway underpasses) and various modal improvements that were constructed incrementally and collectively do not deliver the modern levels of service needed for any of the modes affected.

Decisions on how these two "Woodbourne" underpasses can be modified in the future should be based on additional engineering alternatives analyses – so that Middletown Township is clear about what ped-bike improvements can be included in the ultimate replacement programs for both underpasses at Woodbourne Station. Analyses should be comprehensive to study all affected modes; surrounding land uses, projected vehicular demands, alternative freight rail operations in the area; pedestrians; cyclists and TOD options – with estimates for acquisition, engineering, construction, partners; and future maintenance of the new facilities.






*Rendering of a side path / pedestrian tunnel at the CSX crossing of Woodbourne Road (looking north/ NW).*

## *Pedestrian Activated Signal for Tunnel Access*

Pedestrian access through an existing tunnel that will prohibit vehicular thoroughfare while pedestrians occupy the tunnel is an option that may help overcome some barrier issues that narrow tunnel openings pose.

Public participation indicates that growing demands from pedestrians and cyclists are seeking destinations that require travel through these tunnels. If widening of the tunnels cannot be achieved in the near term, employing a pedestrian-activated signal may be considered as an appropriate measure to improve safety for all tunnel users.

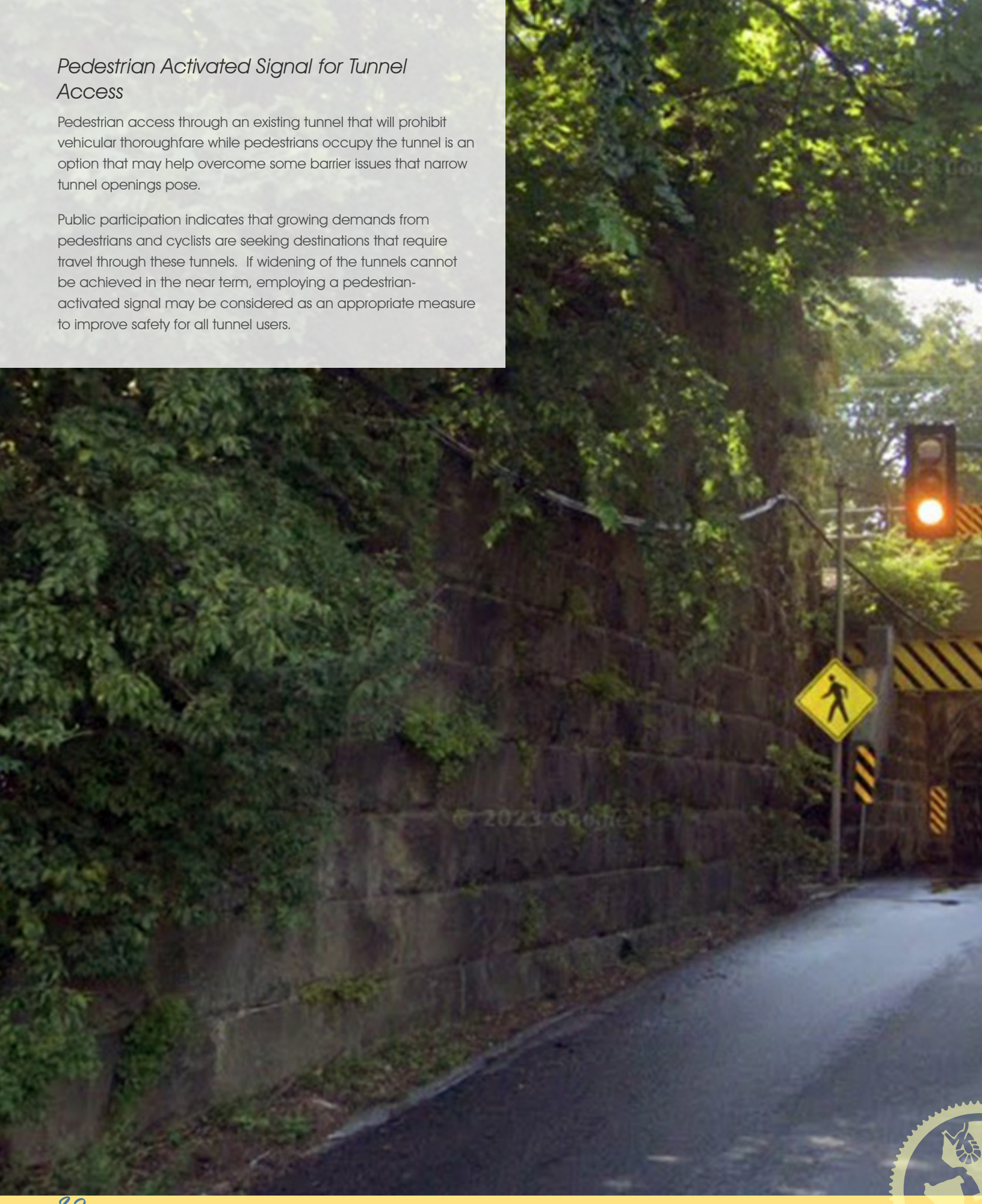
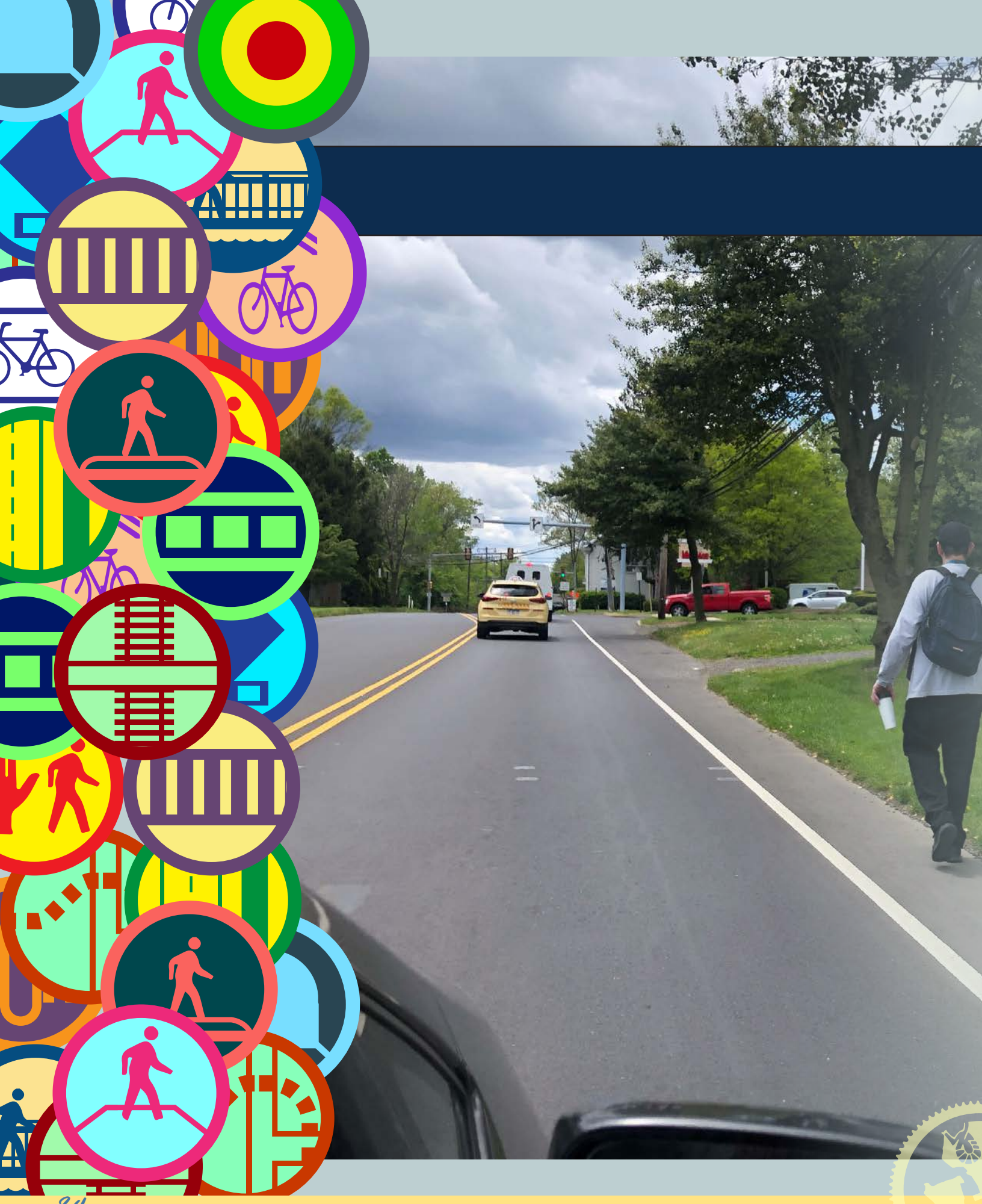


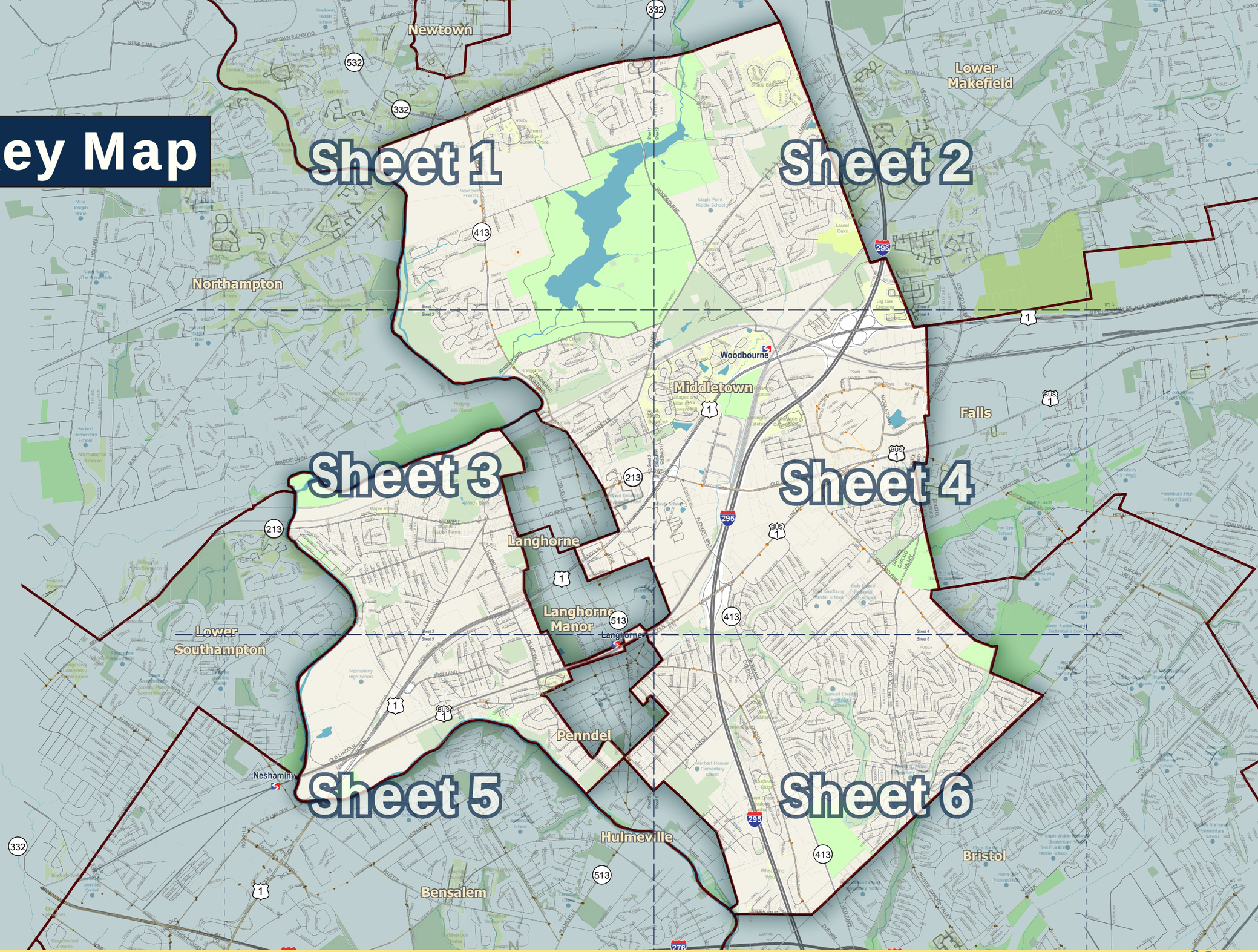


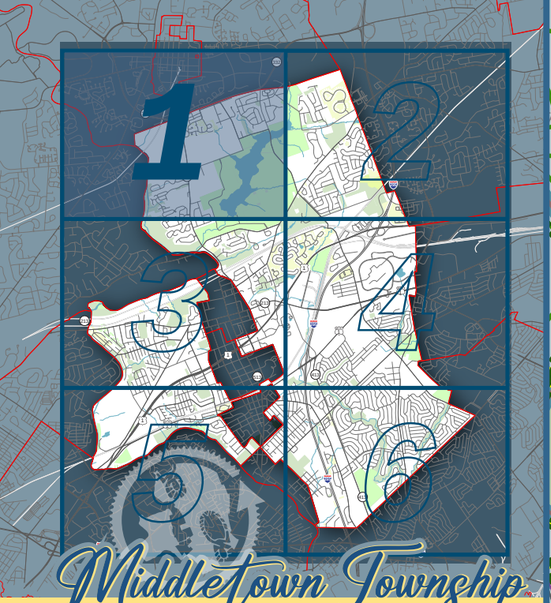

*Image of existing pedestrian activated signals for tunnel access at a SEPTA/ Amtrak location in Chester County, PA.*



# Project Key Map








# Middletown Township

Multimodal Improvement Plan

## Sheet 1 of 6

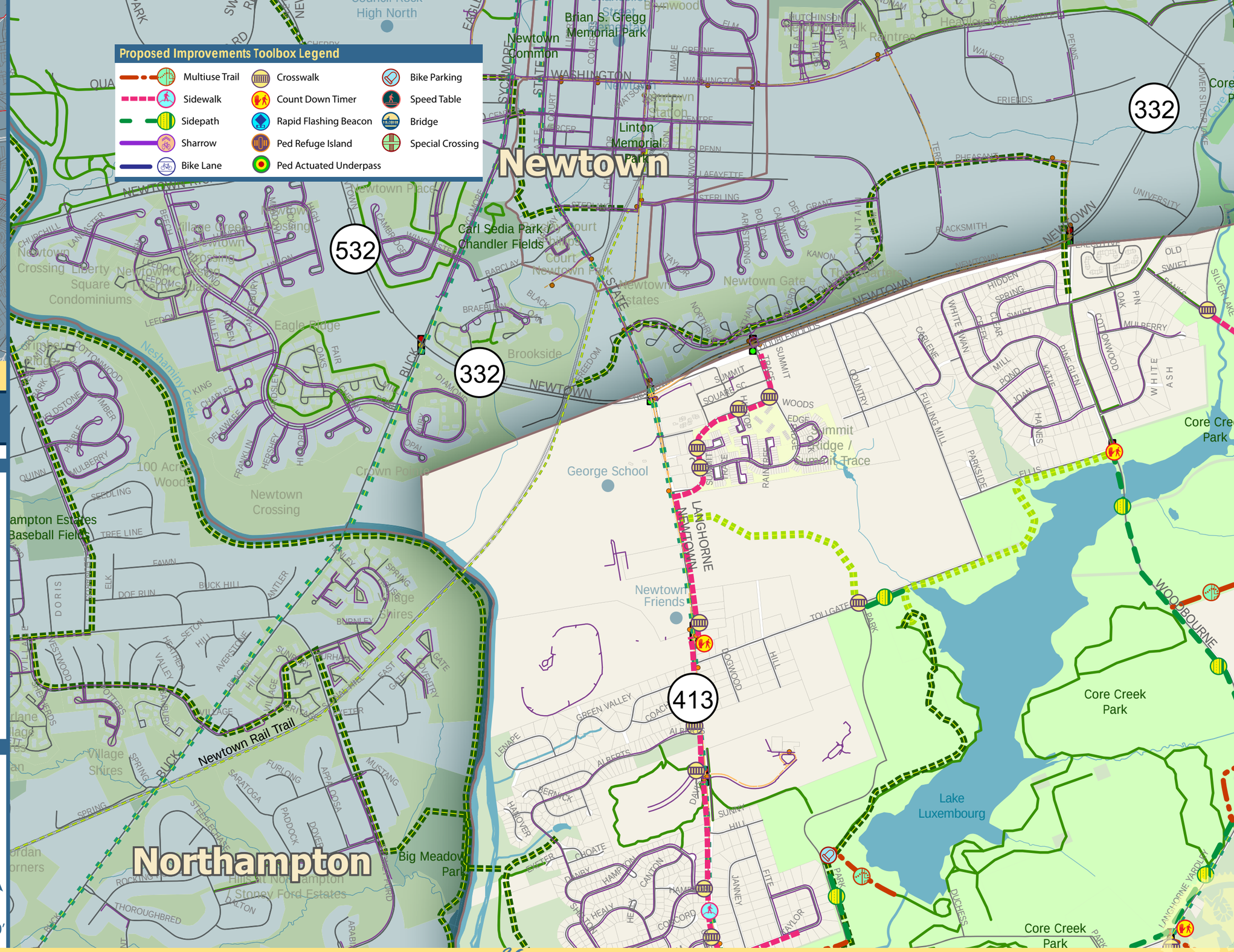
### Existing Conditions Legend

- Local Road
- State Road
- Parcel Boundary
- Municipal Boundary
- Sidewalk
- Trail
- Bus Route / Stop
- Bike PA - Route E
- County Parks, Rec, & Open Space
- Township Parks, Rec, & Open Space
- Water

### Previously Planned Routes

- Bucks County Bike Plan
- Future Trail - to be built
- Neshaminy Greenway Trail
- Newtown Rail Trail

0 1000' 2000' 4000'





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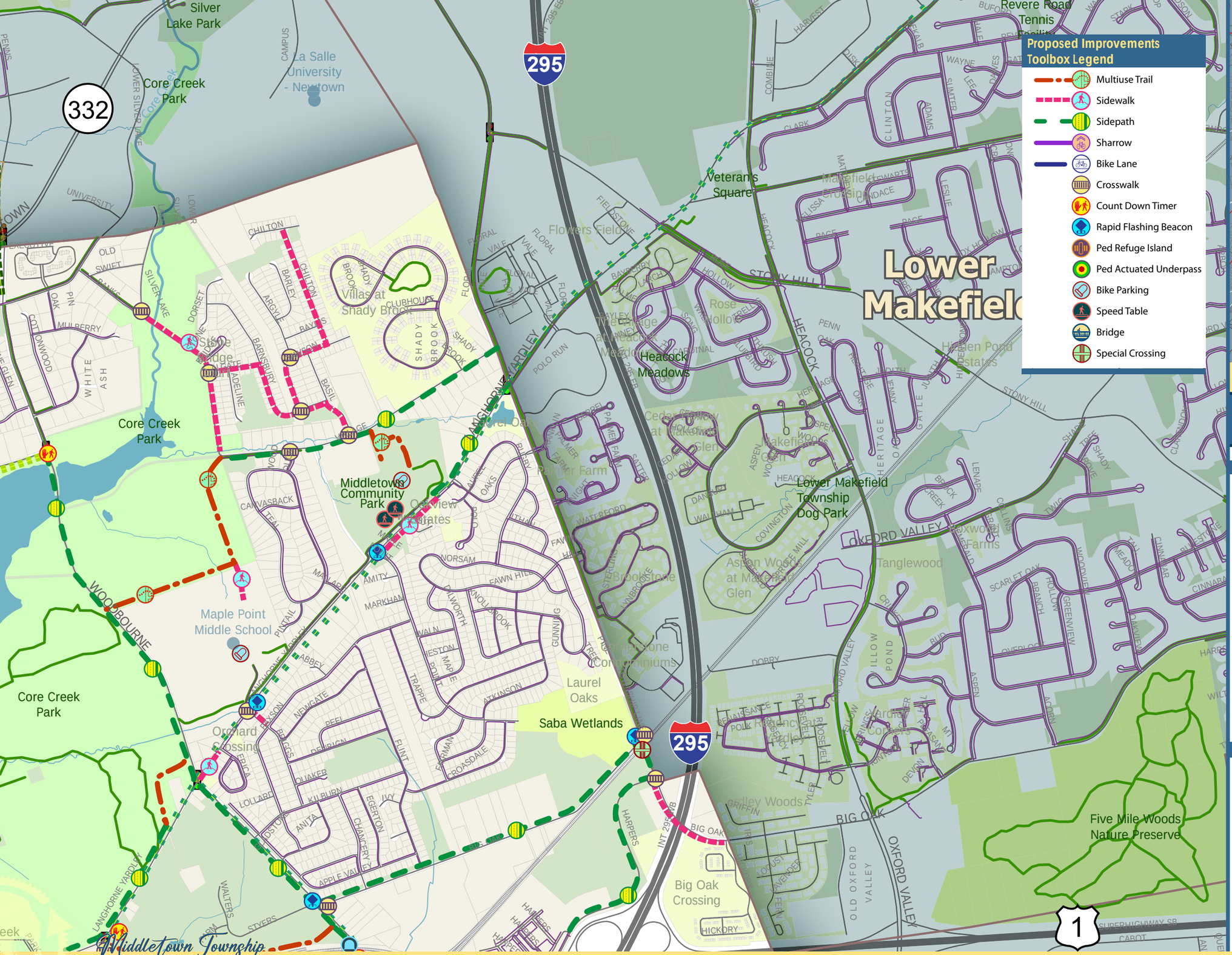



## Proposed Improvements Toolbox Legend

- Multiuse Trail
- Sidewalk
- Sidepath
- Sharrow
- Bike Lane
- Crosswalk
- Count Down Timer
- Rapid Flashing Beacon
- Ped Refuge Island
- Ped Actuated Underpass
- Bike Parking
- Speed Table
- Bridge
- Special Crossing




# Middletown Township
## Multimodal Improvement Plan

## Sheet 2 of 6

## Existing Conditions Legend

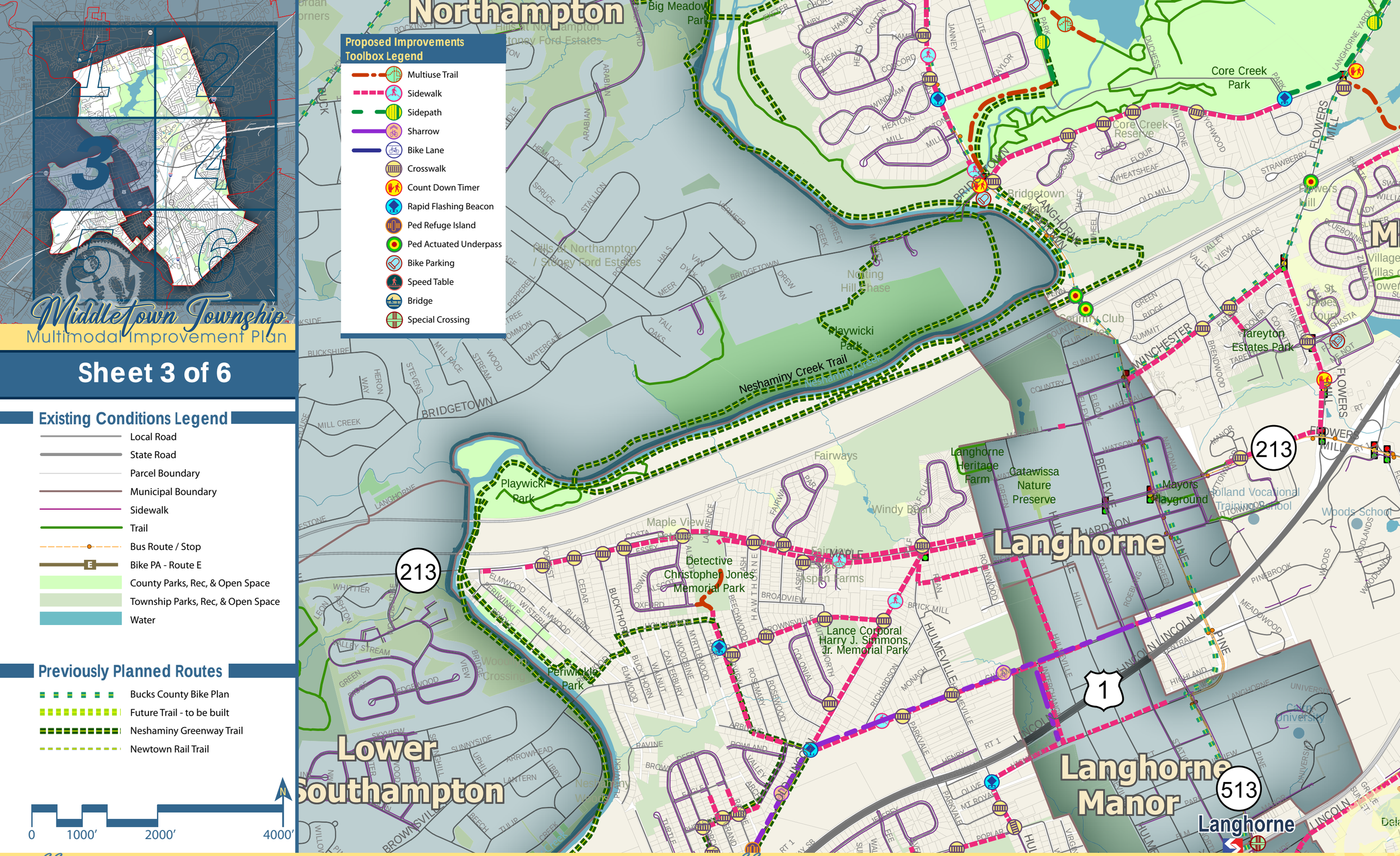
- Local Road
- State Road
- Parcel Boundary
- Municipal Boundary
- Sidewalk
- Trail
- Bus Route / Stop
- Bike PA - Route E
- County Parks, Rec, & Open Space
- Township Parks, Rec, & Open Space
- Water

## Previously Planned Routes

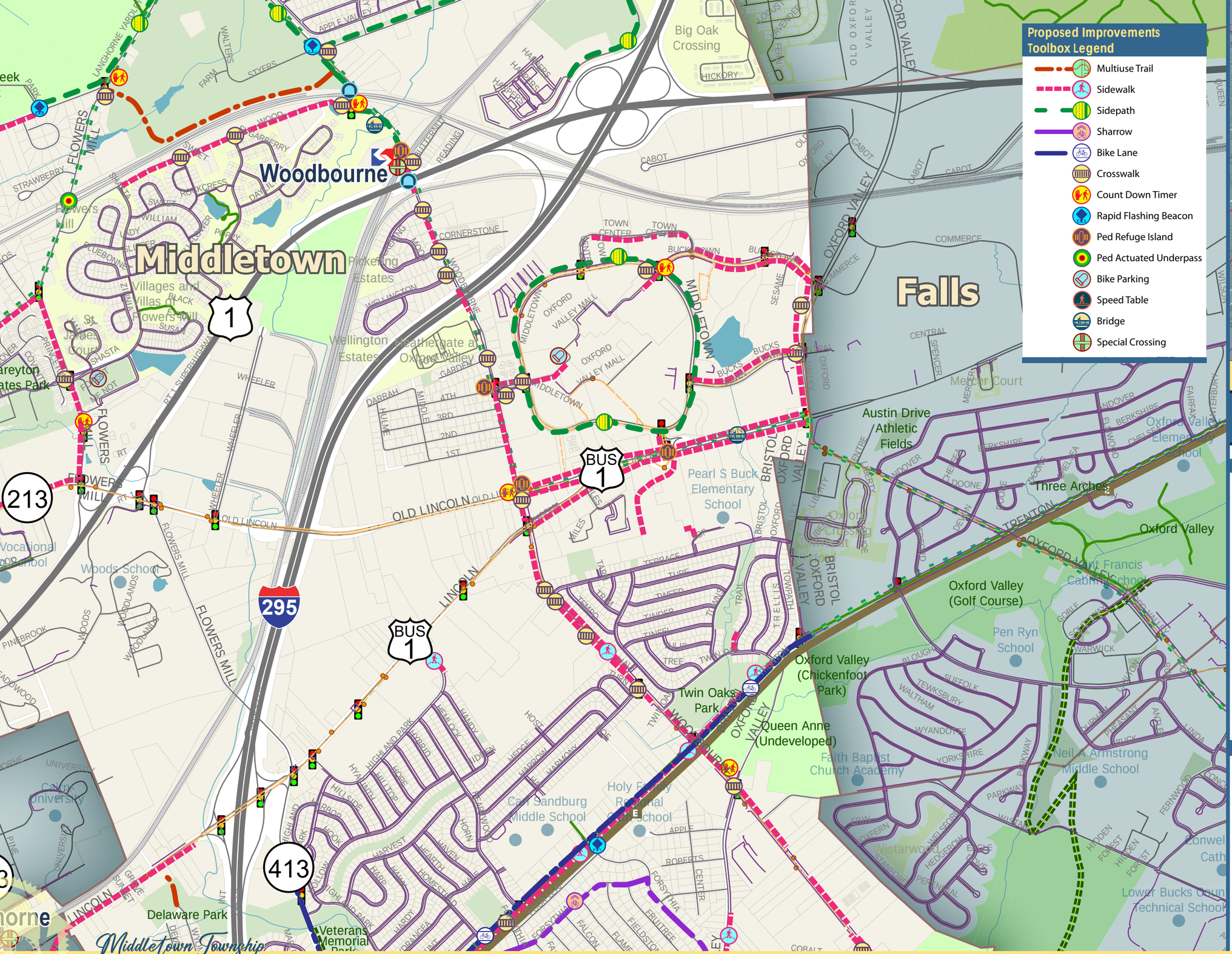
- Bucks County Bike Plan
- Future Trail - to be built
- Neshaminy Greenway Trail
- Newtown Rail Trail

N

0 1000′ 2000′ 4000′

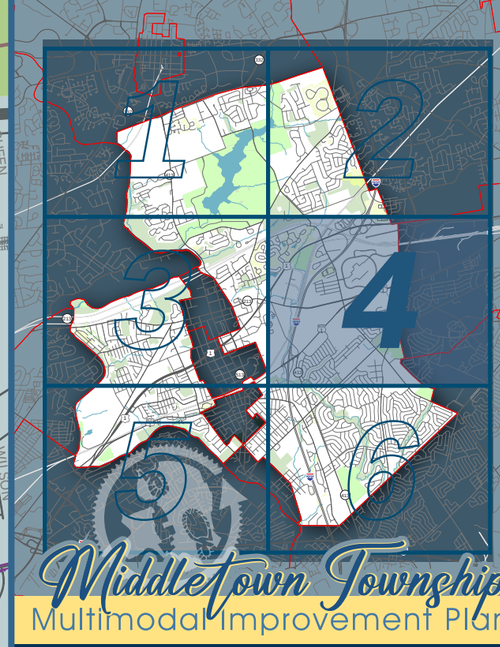


Middletown Township
Multimodal Improvement Plan
Sheet 3 of 6
Existing Conditions Legend
Local Road
State Road
Parcel Boundary
Municipal Boundary
Sidewalk
Trail
Bus Route / Stop
Bike PA - Route E
County Parks, Rec, & Open Space
Township Parks, Rec, & Open Space
Water
Previously Planned Routes
Bucks County Bike Plan
Future Trail - to be built
Neshaminy Greenway Trail
Newtown Rail Trail
0
1000'
2000'
4000'
Proposed Improvements Toolbox Legend
Multiuse Trail
Sidewalk
Sidepath
Sharrow
Bike Lane
Crosswalk
Count Down Timer
Rapid Flashing Beacon
Ped Refuge Island
Ped Actuated Underpass
Bike Parking
Speed Table
Bridge
Special Crossing
Northampton
Big Meadow Park
Core Creek Park
Core Creek Reserve
Bridgetown
Flowers Mill
Country Club
Tareyton Estates Park
Playwicki Park
Neshaminy Creek Trail
Langhorne Heritage Farm
Catawissa Nature Preserve
Mayors Playground
Langhorne
Detective Christopher Jones Memorial Park
Lance Corporal Harry J. Simmons, Jr. Memorial Park
Periwinkle Park
Lower Southampton
Langhorne Manor
Langhorne
213
1
513




## Proposed Improvements Toolbox Legend

- Multiuse Trail
- Sidewalk
- Sidepath
- Sharrow
- Bike Lane
- Crosswalk
- Count Down Timer
- Rapid Flashing Beacon
- Ped Refuge Island
- Ped Actuated Underpass
- Bike Parking
- Speed Table
- Bridge
- Special Crossing




# Middletown Township
## Multimodal Improvement Plan

## Sheet 4 of 6

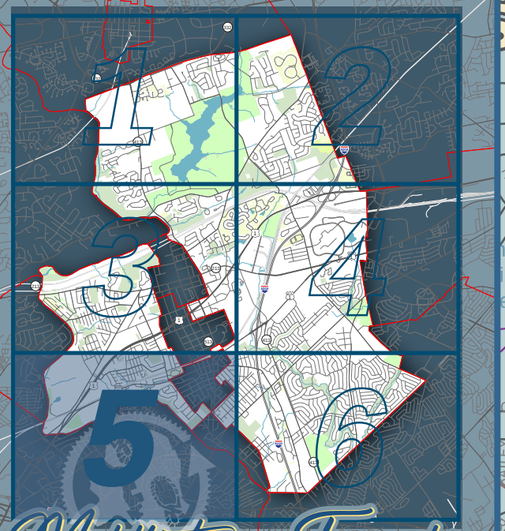
## Existing Conditions Legend

- Local Road
- State Road
- Parcel Boundary
- Municipal Boundary
- Sidewalk
- Trail
- Bus Route / Stop
- Bike PA - Route E
- County Parks, Rec, & Open Space
- Township Parks, Rec, & Open Space
- Water

## Previously Planned Routes

- Bucks County Bike Plan
- Future Trail - to be built
- Neshaminy Greenway Trail
- Newtown Rail Trail

0 1000′ 2000′ 4000′




# Middletown Township
## Multimodal Improvement Plan

## Sheet 5 of 6

### Existing Conditions Legend

- Local Road
- State Road
- Parcel Boundary
- Municipal Boundary
- Sidewalk
- Trail
- Bus Route / Stop
- Bike PA - Route E
- County Parks, Rec, & Open Space
- Township Parks, Rec, & Open Space
- Water

### Previously Planned Routes

- Bucks County Bike Plan
- Future Trail - to be built
- Neshaminy Greenway Trail
- Newtown Rail Trail

0 1000′ 2000′ 4000′

### Proposed Improvements Toolbox Legend

- Multiuse Trail
- Sidewalk
- Sidepath
- Sharrow
- Bike Lane
- Crosswalk
- Count Down Timer
- Rapid Flashing Beacon
- Ped Refuge Island
- Ped Actuated Underpass
- Bike Parking
- Speed Table
- Bridge
- Special Crossing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# Middletown Township
## Multimodal Improvement Plan

## Sheet 6 of 6

### Existing Conditions Legend

- Local Road
- State Road
- Parcel Boundary
- Municipal Boundary
- Sidewalk
- Trail
- Bus Route / Stop
- Bike PA - Route E
- County Parks, Rec, & Open Space
- Township Parks, Rec, & Open Space
- Water

### Previously Planned Routes

- Bucks County Bike Plan
- Future Trail - to be built
- Neshaminy Greenway Trail
- Newtown Rail Trail

### Proposed Improvements Toolbox Legend

- Multiuse Trail
- Sidewalk
- Sidepath
- Sharrow
- Bike Lane
- Crosswalk
- Count Down Timer
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- Ped Refuge Island
- Ped Actuated Underpass
- Bike Parking
- Speed Table
- Bridge
- Special Crossing

0 1000′ 2000′ 4000′



*Looking north along Woodbourne Road at the rail crossing north of the US Route 1 crossing.*



## 4.2 Recommended Township Actions

**1 Adopt MIP**

The formal adoption of the MIP allows the Township to incorporate elements of the comprehensive plan and help guide the overall planning for land development applications, capital improvements and grant funding requests. Chapter 5 -Costs divides the Township into twelve (12) areas. These areas can be used or revised based on the priorities that the Board of Supervisors establishes.

**2 Incorporate Multimodal Improvements within the PennDOT RC3 Design**

The PennDOT RC3 project represents a unique opportunity to work with agency and neighboring municipalities to make it a genuine multi-modal demonstration project by converting remnant Route 1 right of way into a dedicated ped-bike facility that can link residents to multiple priority destinations like the Neshaminy High School and the Woods Services Campus with a new off road bike trail.

Consistent communications with the PennDOT project manager for RC3 and state officials should begin immediately to review the most current draft improvements and continue the negotiation through the PennDOT public participation process for the RC3 project.

**3 Adopt a Complete Streets Policy**

'Complete Streets' is an approach to planning, designing, and building streets that enables safe access in major roadway corridors for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. This approach emphasizes the needs of those who have experienced systemic underinvestment, and those whose needs have not been met through traditional transportation improvements, such as older adults, people living with disabilities, people who don't have access to vehicles, and minority communities. (Adopted from National Complete Streets Coalition).

Adoption of a Complete Streets policy is a natural complement to a multimodal improvements plan and would usually precede the latter. Adoption indicates the Township commitment to public equity and accessibility.

**4 Adopt a Vision Zero Policy**

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all. First implemented in Sweden in the 1990s, Vision Zero has proved successful across Europe, and is now gaining momentum in American towns and cities. A key component of this program is the need to understand safety and crash data within the Township.

Vision Zero is a natural complement to the workings of the Citizens Traffic Commission and focuses on the very real need to protect residents' safety---whether they travel in a car or on foot or bicycle. Many examples of policies can be found in the Vision Zero Action Network website listed in the 'Design Resources' section of this chapter.

It is recommended that the Township collaborate with the Regional Vision Zero Plan currently in progess at DVRPC.

**5 Assume Planning Commission Responsibility to Monitor & Update the MIP**

The consultant team recommends that the ownership and responsibilities of the MMIP reside with the Planning Commission and the Township Manager's Office.

Consider these additional actions related to implementing the recommendations of the MIP below:

**Develop a MIP 'Matrix'**

Create a simple spreadsheet (matrix) of the recommended actions in this plan to track the tasks and resources needed to achieve each improvement priority. Create a method for updating the plan to show completed improvements.

**Review the MIP Matrix-Updating Priorities Annually**

Middletown Police and the Citizens Traffic Commission should be invited by the Planning Commission to participate in an annual review of the MIP to help provide updates and critical safety information to the MIP update process – in advance of the annual Township budget preparation season. Additional update memos should be prepared to accurately record these discussions and the Planning Commission should recommend MIP amended goals annually as may be needed.

**6 Create a Woodbourne Corridor and/or Business Route 1 Task Force(s)**

**CSX/ Norfolk Southern/ SEPTA Train Movement**

A comprehensive analysis of all train movements (transit and freight) that affect mobility is critical to the next stage of planning, design and implementation of multimodal improvements along the Woodbourne Corridor. This baseline data is essential to partners to effectively negotiate remedies to the long-standing cluster of transportation impacts that have never been addressed systematically.

Intensive communications by Middletown representatives with elected state and federal officials, CSX, Norfolk Southern and SEPTA is the way to move forward on a comprehensive multi-modal solution to the Woodbourne Station area transportation obstacles. A task force may be an appropriate tool for this issue.

**Redevelopment Master Planning Efforts/ Partner Recruitment**

Participants can identify other critical partners (landowners, businesses, chambers of commerce that are affected by the Woodbourne transportation obstructions – to help negotiate consensus on MIP improvement priorities.

**Business Improvement District Formation**

The Business Route 1 corridor is a large economic generator for the Township, and future successes in the area will be achieved as joint efforts between businesses and the Township. Safe, attractive multimodal improvements benefit businesses, workers, and patrons.

The costs of implementing critical multi-modal infrastructure improvements in this corridor will require partnerships. A 'Business Improvement District' (BID) in Middletown might be explored as a possible way to undertake a large commitment like implementation of the MIP and raise the funds to construct the improvements. Typical administration of a BID entails formation, dues, management, events, planning, identity, and branding.

**7 Advance Education Efforts**

A consistent comment and request from Middletown residents during the public meetings is the need to educate both motorists and pedestrians on the workings of new transportation improvements that are to come to the Township.

Completion of the MIP celebrates the first step toward increasing safe pedestrian / bicycle connectivity in Middletown, and the Township is encouraged maintain the momentum by seeking in-person and virtual training opportunities to be designed and conducted by TMA Bucks (Transportation Management Association for Bucks County, PA). Refer to the TMA Bucks narrative contained in the Appendix.

Creative methods to accomplish education goals may include: teaming with Neshaminy School District to allow student to produce these sessions in conjunction with TMA Bucks; soliciting Bucks County Community College to design identity branding and public outreach for this initiative; getting the perspective of the mobility-challenged community to incorporate knowledge of and sensitivity toward safe travel for all.

**8 Review Township impact fees**

The Transportation Service Areas and corresponding traffic impact fees associated with development applications in Middletown Township have been in existence for thirty-one (31) years (since 1992).

The Township may consider a revision to the Transportation Service Area map and associated fees per trip – specifically areas I, II and III, to account for the large improvements for the Woodbourne and Business Route 1 Corridors.

## 4.3 Future Design Phase Considerations

### *4.3.1 Accessibility*

The Americans with Disabilities Act (ADA) Standards for Accessible Design serve as a base line standard for building accessibility in the United States. These are standards mandated by Federal statute. Public recreation improvements must be designed following the most recent edition of the ADA Accessibility Guidelines for Buildings and Facilities. The most recent version of the ADA Accessibility Guidelines for Buildings and Facilities can be found at: http://www.ada.gov

Additional guidelines have been developed to provide guidance for outdoor recreation facilities including trails. Those guidelines can be found at: https://www.access-board.gov/aba/guides/chapter-10-outdoor/#trails.

Both standards will play a key role in the recommendations for Middletown Township to assure that universal access is achieved, and the facilities function for users of all abilities.

***ADA Curb Ramps***

An ADA curb ramp is a sloped section through a curb that individuals use to transition up from the street to the sidewalk or vice versa. More specifically, the ramp aides as an accessibility route for people with mobility issues. The Americans with Disabilities Act (ADA) has extensive laws, regulations, and standards set for the design and construction of the ramps at intersections.

The ADA curb ramps within the Township are documented and mapped by DVRPC. Based on the data, the Township has an extensive network of existing curb ramps some of which are out-

of-date with current PennDOT standards. The Township through its Public Works Department incorporates curb ramp upgrades into the Township capital improvements budget each year.

As the Township begins to implement some of the accessibility tools, ADA curb ramps will accompany the design of sidewalks and trails.

## 4.3.2 Universal Design

There are additional standards which exceed ADA. Universal Design (UD) is defined as "the design of products and environments to be usable by all people, to the greatest extent possible without the need for adaptation or specialized design" (Center for Universal Design, North Carolina State University). Universal design is meant to be adaptable to various building types, learning environments, and communities. UD is driven by five core principles:

- Equitable Use
- Flexibility in use
- Simple and intuitive
- Tolerance for Human Error
- Low Physical Effort

## 4.3.3 Walkway Surface Types

### *Asphalt Surfaces*

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

### *Concrete Surfaces*

Portland cement concrete pavement is the most durable material for trail surfaces but is more expensive than asphalt. Concrete trails are commonly used in urban environments. Advantages of concrete include longer service life, reduced susceptibility to cracking and deformation from roots and weeds, and a more consistent riding surface after years of use and exposure to the elements. The joints in concrete trail treads can degrade the experience of using the path for some wheeled users. In addition, users can see pavement markings more easily on asphalt than on concrete, particularly at night.

### *Compacted Aggregate Surfaces*

Compacted aggregate surfaces, or stone dust trails, can accommodate all trail user types except for in-line skaters. Initial installation costs for this trail surface are relatively low, however long-term maintenance costs increase due to this surface's higher susceptibility to erosion, especially if not properly installed with swales and cross drains. Crushed limestone or sandstone or "Trail Surface Aggregate (TSA) Mix" are typical aggregates used in this situation. A compacted aggregate surface can also serve as base material for an asphalt surface if trail use increases or funds become available for a surfacing upgrade. Compacted aggregate surfaces should be avoided in flood prone areas or on slopes over 3%.

### *Pavers*

Pavers, composed of clay or concrete, may be a suitable pavement material where the context is of a historic nature. This material is highly aesthetically pleasing and durable. However,

this material is the most expensive type of trail or sidewalk surface and is typically used only in areas of high visibility or in areas of historic significance.

## 4.4 Design Resources

Multimodal improvements are designed based on standards created to maximize the safety of their users. These standards are developed by national and local organizations. Depending on funding sources, specific design guides may be required for certain facilities i.e PennDOT standards for signalization warrant, placement, ADA curb ramps, crossings, etc. AASHOT and FHWA standards for federal funding opportunities. Examples of these standards and manuals can be found below:

- AASHTO (The American Association of State Highway Transportation Officials) Guide for the Development of Bicycle Facilities
- US DOT/ FHWA Manual on Uniform Traffic Control Devices (MUTCD)
- US DOT/ FHWA Small Town and Rural Multimodal Networks
- US DOT/ FHWA Incorporating On-Road Bicycle Networks into Resurfacing Projects
- US DOT/ FHWA Traffic Analysis & Intersection Considerations to Inform Bikeway Selection
- PA DCNR The Pennsylvania Trail Design and Development Principles
- NACTO (The National Association of City Transportation Officials) Urban Bikeway Design Guide
- NA-SEM Roadway Cross-Section Reallocation: A Guide 2022
- Vision Zero Action Network (Vision Zero Policy/Implementation Guidance)
- Smart Growth America (Complete Streets Guidance)

AASHTO and FHWA standards are federally recognized and should be adhered to for all on-road and multi-use trail improvements. DCNR guidelines are recognized at the state level and provide techniques for sustainable design methods that make use of natural systems. NACTO is an association of North American Cities and Township Officials formed to ideate on transportation issues. Their standards provide insight into the design of safe and accessible streets.




STATE
LAW

# 5 Implementation



| TOTAL PLAN IMPROVEMENT COSTS | $ | 42,933,566 |
|---|---|---|
| **Area 1** | **$** | **1,088,486** |
| Total Proposed Site Improvements | $ | 824,486 |
| Mobilization, E&S, Stormwater Allowances | $ | 57,800 |
| Construction Contingency (10%) | $ | 82,500 |
| Design & Engineering (15%) | $ | 123,700 |
| **Area 2** | **$** | **18,309,694** |
| Total Proposed Site Improvements | $ | 13,870,694 |
| Mobilization, E&S, Stormwater Allowances | $ | 971,200 |
| Construction Contingency (10%) | $ | 1,387,100 |
| Design & Engineering (15%) | $ | 2,080,700 |
| **Area 3** | **$** | **2,430,105** |
| Total Proposed Site Improvements | $ | 1,840,705 |
| Mobilization, E&S, Stormwater Allowances | $ | 129,100 |
| Construction Contingency (10%) | $ | 184,100 |
| Design & Engineering (15%) | $ | 276,200 |
| **Area 4** | **$** | **3,246,550** |
| Total Proposed Site Improvements | $ | 2,459,350 |
| Mobilization, E&S, Stormwater Allowances | $ | 172,200 |
| Construction Contingency (10%) | $ | 246,000 |
| Design & Engineering (15%) | $ | 369,000 |
| **Area 5** | **$** | **3,129,098** |
| Total Proposed Site Improvements | $ | 2,370,198 |
| Mobilization, E&S, Stormwater Allowances | $ | 166,200 |
| Construction Contingency (10%) | $ | 237,100 |
| Design & Engineering (15%) | $ | 355,600 |
| **Area 6** | **$** | **3,268,844** |
| Total Proposed Site Improvements | $ | 2,476,144 |
| Mobilization, E&S, Stormwater Allowances | $ | 173,500 |
| Construction Contingency (10%) | $ | 247,700 |
| Design & Engineering (15%) | $ | 371,500 |
| **Area 7** | **$** | **586,483** |
| Total Proposed Site Improvements | $ | 444,083 |
| Mobilization, E&S, Stormwater Allowances | $ | 31,200 |
| Construction Contingency (10%) | $ | 44,500 |
| Design & Engineering (15%) | $ | 66,700 |
| **Area 8** | **$** | **1,291,004** |
| Total Proposed Site Improvements | $ | 977,904 |
| Mobilization, E&S, Stormwater Allowances | $ | 68,600 |
| Construction Contingency (10%) | $ | 97,800 |
| Design & Engineering (15%) | $ | 146,700 |
| **Area 9** | **$** | **1,944,833** |
| Total Proposed Site Improvements | $ | 1,473,233 |
| Mobilization, E&S, Stormwater Allowances | $ | 103,200 |
| Construction Contingency (10%) | $ | 147,400 |
| Design & Engineering (15%) | $ | 221,000 |
| **Area 10** | **$** | **834,656** |
| Total Proposed Site Improvements | $ | 632,056 |
| Mobilization, E&S, Stormwater Allowances | $ | 44,400 |
| Construction Contingency (10%) | $ | 63,300 |
| Design & Engineering (15%) | $ | 94,900 |
| **Area 11** | **$** | **505,672** |
| Total Proposed Site Improvements | $ | 382,972 |
| Mobilization, E&S, Stormwater Allowances | $ | 26,900 |
| Construction Contingency (10%) | $ | 38,300 |
| Design & Engineering (15%) | $ | 57,500 |
| **Area 12** | **$** | **6,298,141** |
| Total Proposed Site Improvements | $ | 4,771,041 |
| Mobilization, E&S, Stormwater Allowances | $ | 334,200 |
| Construction Contingency (10%) | $ | 477,200 |
| Design & Engineering (15%) | $ | 715,700 |

# 5 Implementation

## 5.1 Development Costs

Estimated costs to develop the improvements proposed in this MIP are organized into twelve (12) cost areas. The method of delineation included: Township priority areas (Woodbourne Corridor and Business Route 1 Corridor); natural geographic delineations; important corridors containing a specific improvement (e.g bike lanes).

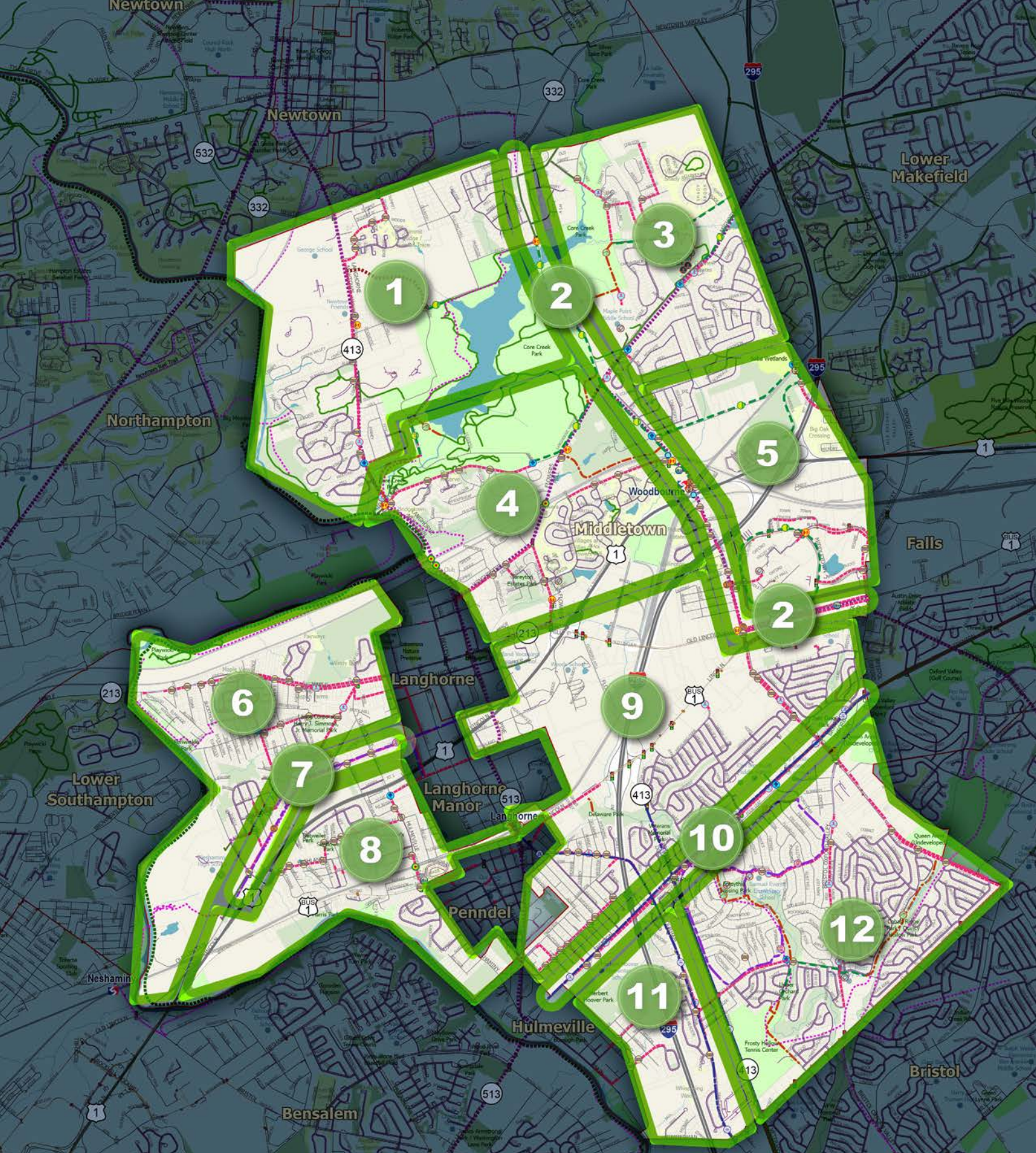
Year 2023 unit costs for construction values of specific improvements were estimated conservatively based on current industry data. Improvements were quantified using GIS data and Google mapping for lengths and areas.

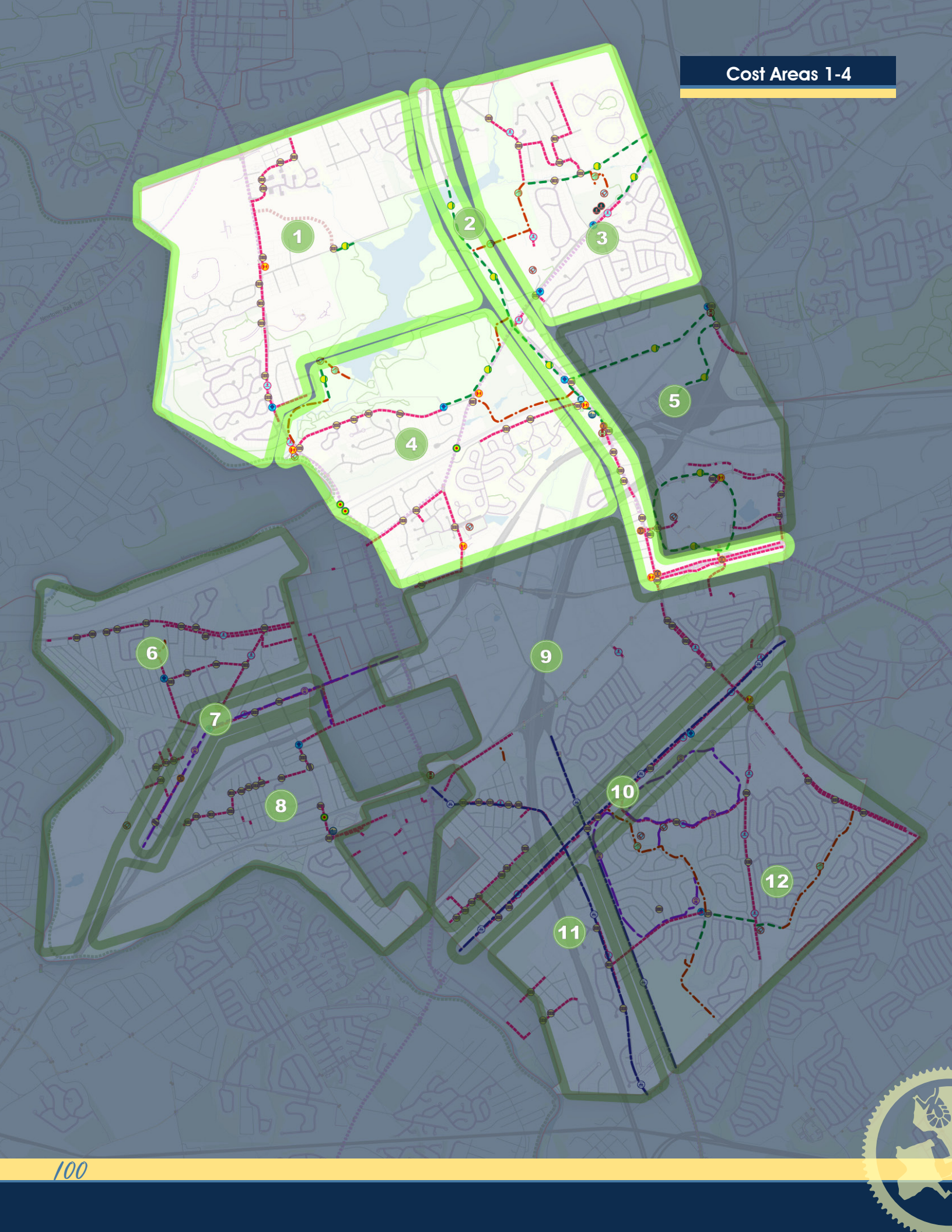
The cost spreadsheets include headings for the specific "tools" proposed in each area. Tool "locations" within each area are provided with specific quantities. Improvement types are tallied for each area – with a subtotal construction cost for each.

On the summary page, typical industry percentages of construction costs were added for the pre-construction costs, such as survey; design; engineering, permitting – and well as contingencies for construction costs, stormwater management, and erosion/sediment control measures for each area.

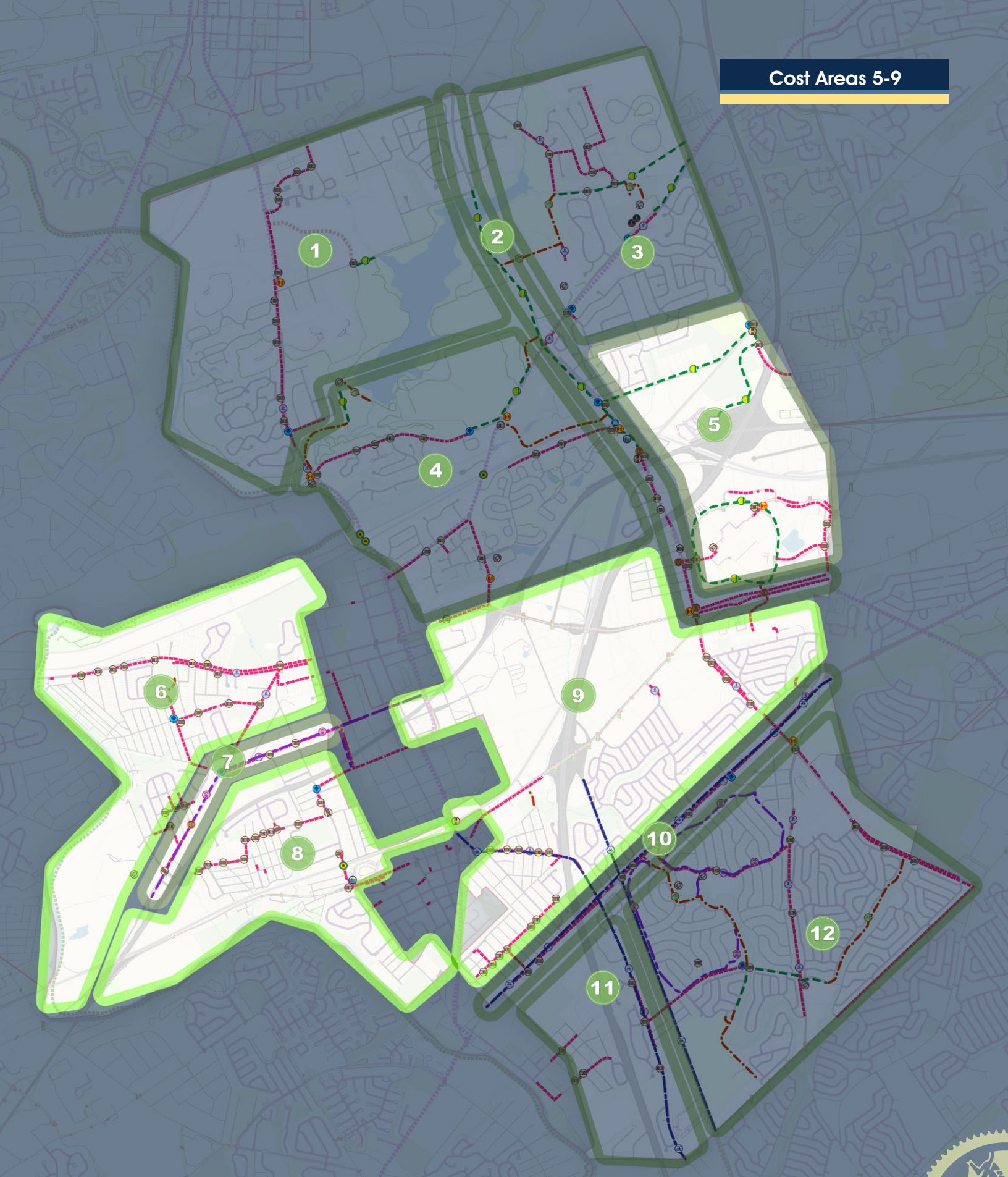
Unit costs are included in the appendix along with the full cost report.

The cost estimates were assembled to be capable of updating annually, by either including a gross escalation factor, or modifying unit prices as specific cost data becomes available.


1
2
3
4
5
6
7
8
9
10
11
12
Newtown
Lower Makefield
Northampton
Middletown
Falls
Langhorne
Lower Southampton
Langhorne Manor
Penndel
Hulmeville
Bensalem
Bristol
Neshaminy


Cost Areas 1-4
1
2
3
4
5
6
7
8
9
10
11
12

| | | | |
|---|---|---|---|
| **Area 1** | | **$** | **1,088,486** |
| 1 | Total Proposed Site Improvements | $ | 824,486 |
| | Mobilization, E&S, Stormwater Allowances | $ | 57,800 |
| | Construction Contingency (10%) | $ | 82,500 |
| | Design & Engineering (15%) | $ | 123,700 |
| **Area 2** | | **$** | **18,309,694** |
| 2 | Total Proposed Site Improvements | $ | 13,870,694 |
| | Mobilization, E&S, Stormwater Allowances | $ | 971,200 |
| | Construction Contingency (10%) | $ | 1,387,100 |
| | Design & Engineering (15%) | $ | 2,080,700 |
| **Area 3** | | **$** | **2,430,105** |
| 3 | Total Proposed Site Improvements | $ | 1,840,705 |
| | Mobilization, E&S, Stormwater Allowances | $ | 129,100 |
| | Construction Contingency (10%) | $ | 184,100 |
| | Design & Engineering (15%) | $ | 276,200 |
| **Area 4** | | **$** | **3,246,550** |
| 4 | Total Proposed Site Improvements | $ | 2,459,350 |
| | Mobilization, E&S, Stormwater Allowances | $ | 172,200 |
| | Construction Contingency (10%) | $ | 246,000 |
| | Design & Engineering (15%) | $ | 369,000 |


Cost Areas 5-9
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| Area 5 | $ | 3,129,098 |
|---|---|---|
| Total Proposed Site Improvements | $ | 2,370,198 |
| Mobilization, E&S, Stormwater Allowances | $ | 166,200 |
| Construction Contingency (10%) | $ | 237,100 |
| Design & Engineering (15%) | $ | 355,600 |

| Area 6 | $ | 3,268,844 |
|---|---|---|
| Total Proposed Site Improvements | $ | 2,476,144 |
| Mobilization, E&S, Stormwater Allowances | $ | 173,500 |
| Construction Contingency (10%) | $ | 247,700 |
| Design & Engineering (15%) | $ | 371,500 |

| Area 7 | $ | 586,483 |
|---|---|---|
| Total Proposed Site Improvements | $ | 444,083 |
| Mobilization, E&S, Stormwater Allowances | $ | 31,200 |
| Construction Contingency (10%) | $ | 44,500 |
| Design & Engineering (15%) | $ | 66,700 |

| Area 8 | $ | 1,291,004 |
|---|---|---|
| Total Proposed Site Improvements | $ | 977,904 |
| Mobilization, E&S, Stormwater Allowances | $ | 68,600 |
| Construction Contingency (10%) | $ | 97,800 |
| Design & Engineering (15%) | $ | 146,700 |

| Area 9 | $ | 1,944,833 |
|---|---|---|
| Total Proposed Site Improvements | $ | 1,473,233 |
| Mobilization, E&S, Stormwater Allowances | $ | 103,200 |
| Construction Contingency (10%) | $ | 147,400 |
| Design & Engineering (15%) | $ | 221,000 |


Cost Areas 10-12
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|---|---|---|---|
| **Area 10** | | **$** | **834,656** |
| 10 | Total Proposed Site Improvements | $ | 632,056 |
| | Mobilization, E&S, Stormwater Allowances | $ | 44,400 |
| | Construction Contingency (10%) | $ | 63,300 |
| | Design & Engineering (15%) | $ | 94,900 |
| **Area 11** | | **$** | **505,672** |
| 11 | Total Proposed Site Improvements | $ | 382,972 |
| | Mobilization, E&S, Stormwater Allowances | $ | 26,900 |
| | Construction Contingency (10%) | $ | 38,300 |
| | Design & Engineering (15%) | $ | 57,500 |
| **Area 12** | | **$** | **6,298,141** |
| 12 | Total Proposed Site Improvements | $ | 4,771,041 |
| | Mobilization, E&S, Stormwater Allowances | $ | 334,200 |
| | Construction Contingency (10%) | $ | 477,200 |
| | Design & Engineering (15%) | $ | 715,700 |
| **TOTAL PLAN IMPROVEMENT COSTS** | | **$** | **42,933,566** |

## 5.2 Township Priorities: Committee Recommendations

The development costs estimated for the MIP provide a valuable decision-making tool which the Township can use annually to help evaluate priority actions for the coming year.

Committee Meeting #3 was dedicated to a discussion about which areas of the Township are priorities for multi-modal improvements. Based on Committee recommendations, input from the public participation process; and direction from the Township, the consultant team synthesized two primary target project areas.

1. Access to the Woodbourne rail station, and
2. Safe pedestrian access to the commercial/retail areas along Business Route 1.

The Steering Committee agreed with these two priorities and offered additional guidance. Dawood Engineering was directed to focus their technical assessment of safe pedestrian movement in these two corridors. Their assessment (graphic map depictions, narrative and costs) is included as Section 11 in the Appendix.

A summary of these two major priorities with the Dawood recommendations is given below.

### *5.2.1 Woodbourne Road Corridor*

Pedestrian improvements along Woodbourne Road and access to destinations that are linked by Woodbourne Road were identified in the top three (3) improvement priorities from the public opinion survey. Access to Woodbourne SEPTA station was specifically mentioned repeatedly—as is supported by the DVRPC study commissioned by the Township in 2017 and noted in the project RFP.

Woodbourne Road (SR 2033) is a major N-S connector through Middletown Township. Creating safe pedestrian and bike facilities along the entire corridor will allow public access between concentrated residential communities in both the northern and southern halves of Middletown – to the commercial / retail area of Business Route 1, as well as a new, safe trail link to Core Creek Park and beyond.

The Woodbourne Corridor priority has been subdivided into seven (7) segments from the northern Township boundary with Newtown to the southern Township boundary with Bristol. The Dawood assessment included Segments 2 through 6:

**Segment 1:** Existing Eagles Mere Trail at Ellis Road (Core Creek Park) to North Side of CSX Rail Bridge near Styer Orchard

**Challenges:** Existing narrow ROW widths; high N-S vehicular volume; Styer Orchard destination

**Recommended Improvements:** Side path network along Woodbourne ROW

**Segment 2:** North side of CSX rail bridge (adjacent to Styer Orchard) to Woodbourne Train Station

**Challenges:** Narrow underpass of CSX rail bridge (vehicular movement choke point); immediate T-intersection with Wood Lane; Mill Creek tributary crossing on west side of ROW

**Recommended Improvements:** Multimodal tunnel (underpass structure E or W side of rail bridge); Side path on west side of cartway; crosswalks, and signalization improvements at Wood/Woodbourne intersection; prefabricated small pedestrian bridge crossing of creek.

**Segment 3:** Woodbourne Train Station- Pedestrian access improvements

**Challenges:** At-grade train crossings (by passenger and freight rail) at multiple, unpredictable times during the day/evening; parking lots located on both sides of ROW; at-grade pedestrian crossing is required

**Recommended Improvements:** Special ped/bike crossing with signalization with detectable warnings strips and pedestrian signalization and crossing arms (separate from vehicular lane crossing arms); pedestrian refuge island for crossing of Woodbourne between the E and W parking lots.

**Segment 4:** North of the US Route 1 Crossing to Pickering Bend Road

**Challenges:** Missing sidewalks; narrow tunnel width under Route 1 bridge, with substandard width for new ped/bike accommodations; special crossing consideration of rail lines

**Recommended Improvements:** Pedestrian/bicycle tunnel (underpass) under US Route 1; connect missing sections of sidewalks; provide special crossing treatment at rail tracks.

**Segment 5:** Pickering Bend Road to South of the I295 Crossing

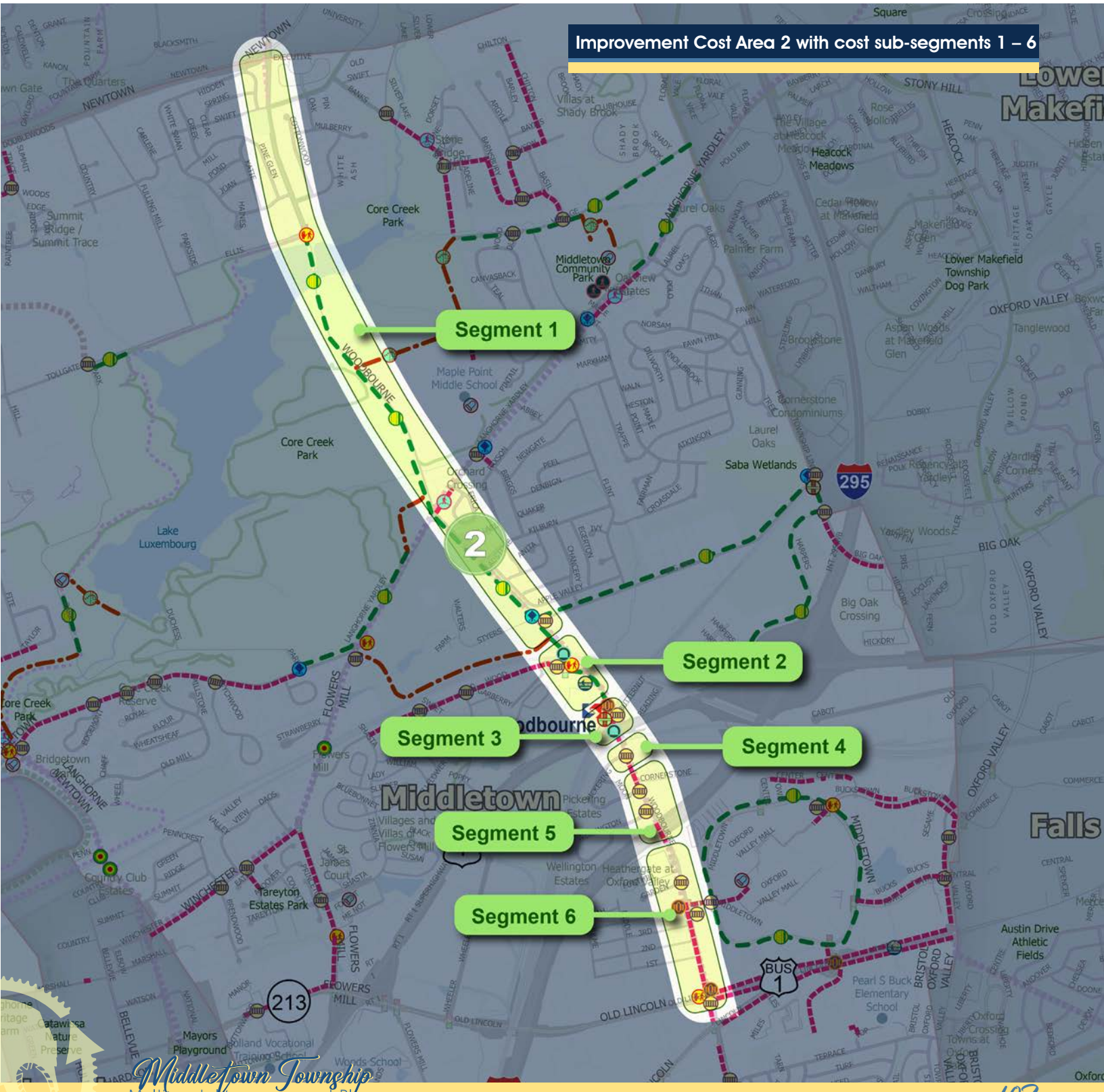
**Challenges:** Sidewalk gaps; no pedestrian crosswalks; no defined pedestrian access on the I295 bridge structure.

**Recommended Improvements:** Connect sidewalk gaps; providing crosswalks; investigate re-alignment of lane widths on I295 bridge for creation of either a sidewalk or buffered pedestrian lane.

**Segment 6:** South of the I295 Crossing to South quadrants of Woodbourne / Old Lincoln Highway Intersection

**Challenges:** Connecting sidewalk gaps; crosswalks; safe crossing of Woodbourne to eastern side of ROW and into Oxford Valley Mall complex; crossing of Old Lincoln Hwy; crossing of Business Route 1.

**Recommended Improvements:** Connecting sidewalk gaps; crosswalks improvements; Woodbourne crossing with pedestrian refuge island and modified/ improved ped signals. Old Lincoln Hwy crossing with pedestrian refuge island and modified/improved ped signals; Business Route 1 crossing with crosswalk and ped signal modifications.



## 5.2.2 Business Route 1 Corridor

The Business Route 1 Corridor is an economic engine for Middletown Township and a desirable destination for residents, workers and tourists alike. Public comments regarding existing ped-bike access to this area is described as "fear and loathing."

The organic development of multiple driveways from the highway to each commercial parcel has created a series of geometric safety challenges for retrofitting safe pedestrian facilities in this corridor.

The Consultant team and Committee agreed that bicycle accommodations along the Business Route 1 Corridor ROW did not merit consideration – but improved pedestrian connections are high priority for multiple reasons – including safe routes between residential areas to Business Route 1 that link to the Woodbourne Corridor and Veterans Highway (SR 0413). Sidewalks are considered important on both the north and side sides of Business Route 1.

Business Route 1 Corridor priorities are divided into three (3) segments:

**Segment 8:** Woodbourne crossing at SR 213/Maple to SR 213/ Business Route 1 Merge

**Challenges:** Multi-lane cross sections for both SR 213/ Maple Avenue and Business Route 1; large vehicular volumes; lack of pedestrian wayfinding signage; multiple commercial driveway crossings.

**Proposed Improvements:** New sidewalk on the northern side of SR 213/ Maple Avenue; new sidewalk on the southern side of the Lincoln Highway/ Business Route1 section only; improved crosswalk at Woodbourne/ Business Route 1 intersection; signal modifications for pedestrian signals; driveway crosswalks; compliant ADA curb ramps

**Segment 9:** North side of Business Route 1 from SR 213/ Business Route 1 Merge to Falls Township

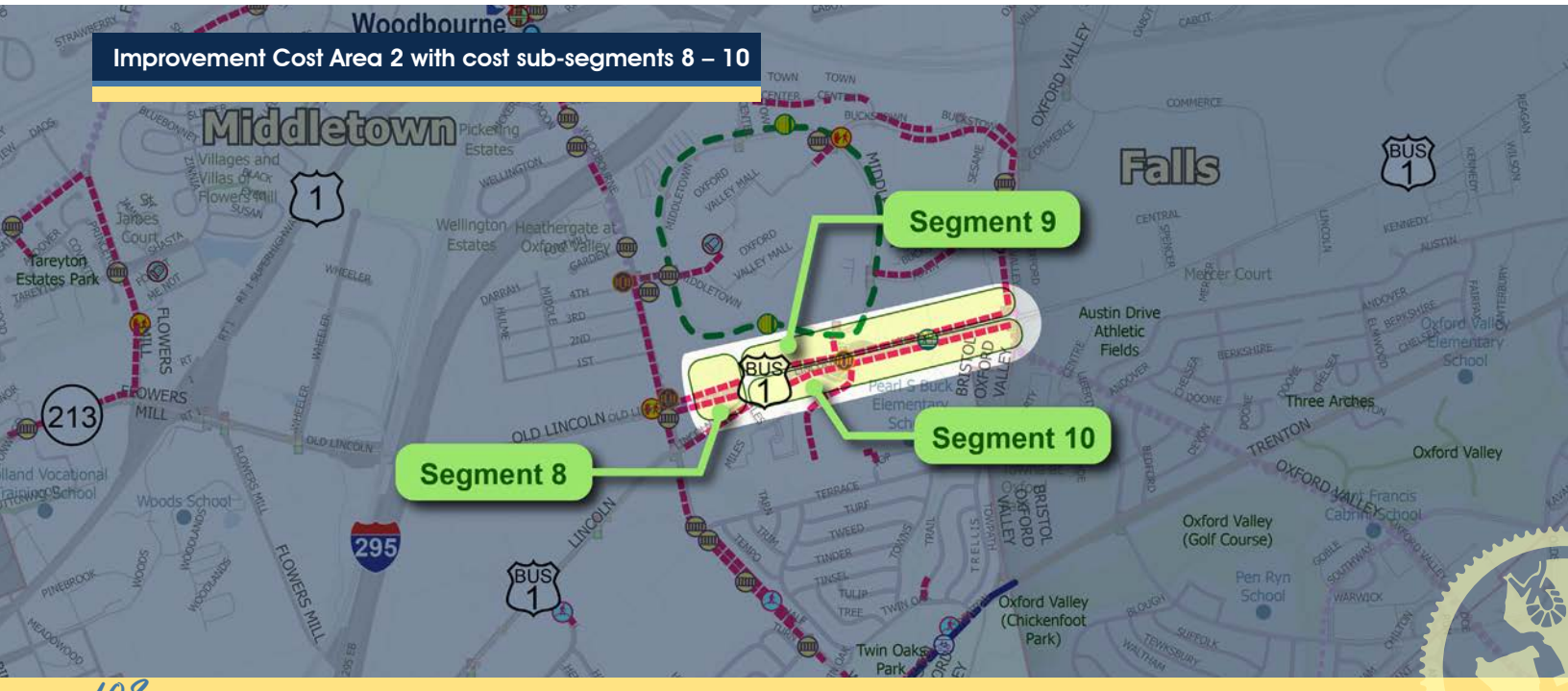
**Challenges:** Numerous driveway accesses to the Oxford Valley Mall (South Bucks Town Road) and other commercial establishments making pedestrian crossings challenging to navigate; wide shoulders allowing vehicles to use these as a 'merge' lane; a major drainage structure conveying a Mill Creek tributary and the Bucks County Water Sewage Authority maintenance facility (associated grade problems)

**Recommended Improvements:** New sidewalk along the northern side of Business Route 1; retaining wall considerations for a continuous sidewalk near the drainage structure; driveway crosswalks; signal modifications at South Bucks Town Road/ Business Route 1 (Target intersection); compliant ADA curb ramps.

**Segment 10:** South side of Business Route 1 from SR 213/ Business Route 1 Merge to Falls Township

**Challenges:** South Bucks Town Road combined entrances to the Target Shopping Center---difficulty in maintaining a consistent pedestrian walking route in this area; Mill Creek Tributary outlet without a crossing.

**Recommended Improvements:** New sidewalk along the southern side of Business Route 1; pedestrian bridge structure over the Mill Creek tributary; driveway crosswalks; signal modifications at South Bucks Town Road/ Business Route 1 (Target intersection); compliant ADA curb ramps.



## *5.2.3 Walkable Destinations from largest residential populations*

Connections between neighborhoods, parks, and retail areas are high priorities according to public responses. Extending the capabilities of walkers and bicyclists to use longer 'loop' routes safely for recreational/exercise was also discussed at public meetings. Possibilities include:

***1. Durham Road (SR 0413) from New Falls Rd/ Zimmerman intersection to Penndel Borough***

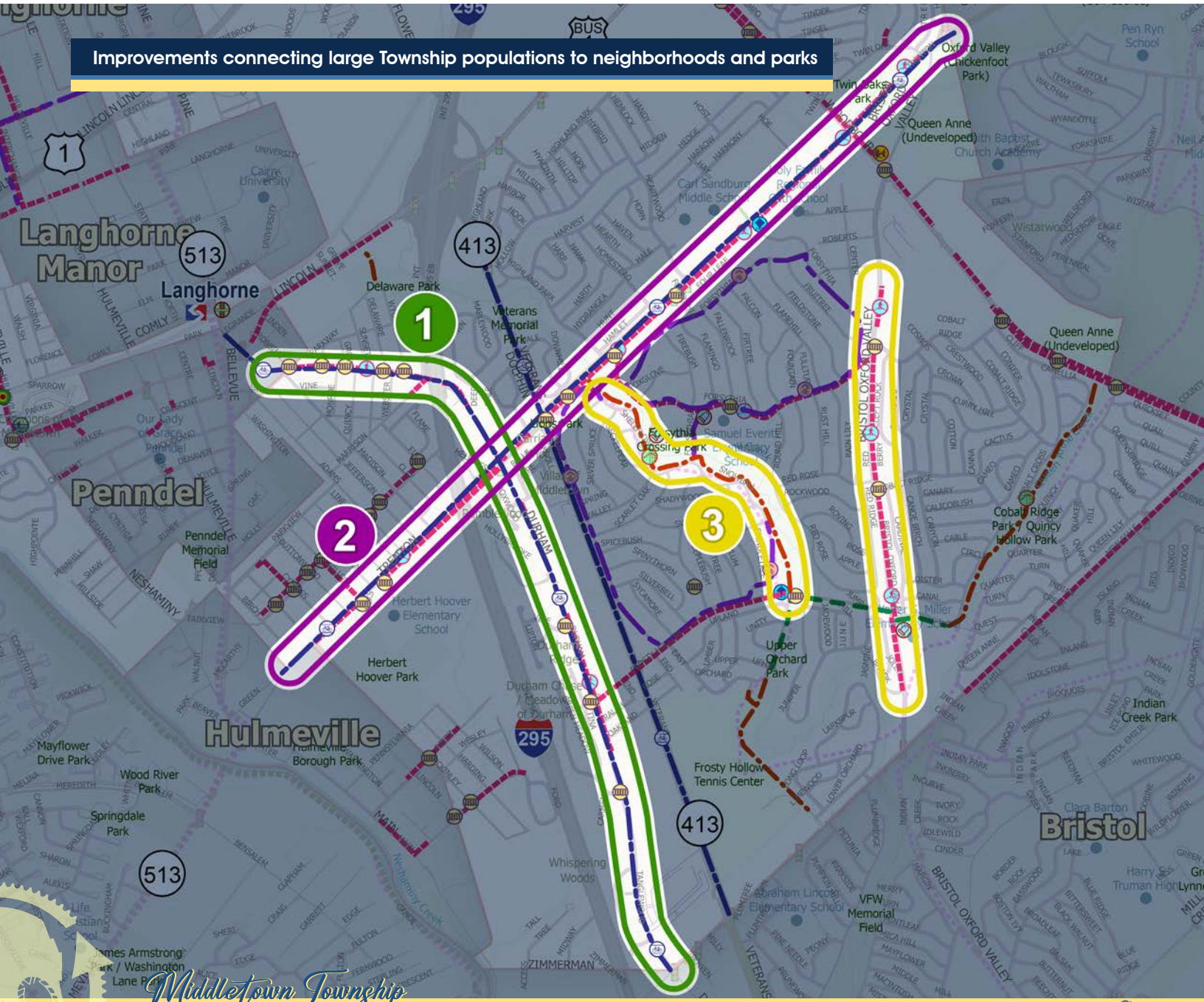
Construct bike lanes for the entire length; complete sidewalk gaps; improve crosswalks and Trenton Road crossing.

***2. Trenton Road from Hulmeville Borough Boundary to Falls Township Boundary***

Construct a full-length bike lane; complete sidewalk gaps; improve crosswalks; add rapid flashing beacons at Carl Sandburg ES.

***3. Bristol-Oxford Valley Road improvements + multi-use trail to link Forsythia Park/Samuel Everitt ES Along Mill Creek***

Complete a continuous sidewalk along Bristol-Oxford Valley Road from New falls Road northward; construct a multiuse trail for recreational and connect to the Snowball Gates, Upper/Lower Orchard, Deep Dale and Juniper Hill neighborhoods.



### 5.2.4 Neshaminy High School Area

Significant public support was received to improve connections both in both E-W and N-S directions within Middletown. Additionally, extended discussion was held at Steering Committee meeting #3 about providing safe access from surrounding neighborhoods to Neshaminy High School. The Police Department provided input on increased safety concerns of students accessing the high school for both school and sporting events.

***Gillam Avenue***

***1. Construct sharrows, sidewalks, crosswalks and add rapid flashing beacon at the intersection with Arbutis Avenue.***

***2. Old Lincoln Highway from Fairhill to Maple Avenue (SR 0213)***

Improve sidewalks, sharrows, and add rapid flashing beacon to Clearview & Brownsville crossing.

***3. Ivystream/ Langhorne Terrace/ Idlewoods Communities***

Connect sidewalk gaps to reach Old Lincoln Highway ped/ bike improvements linking to a multiuse trail in Christopher Jones Memorial Park.

## 5.3 Funding Sources

### 5.3.1 Middletown Township Act 209 Fees

Traffic impact fees associated with the adopted resolution of Act 209 provide funds for needed transportation improvements in a designated area of the Township.

In consultation with Township engineers and planning consultants, the Middletown Board of Supervisors may wish to consider reviewing the current traffic service areas to include MIP improvements in the re-calculation of traffic impact fees.

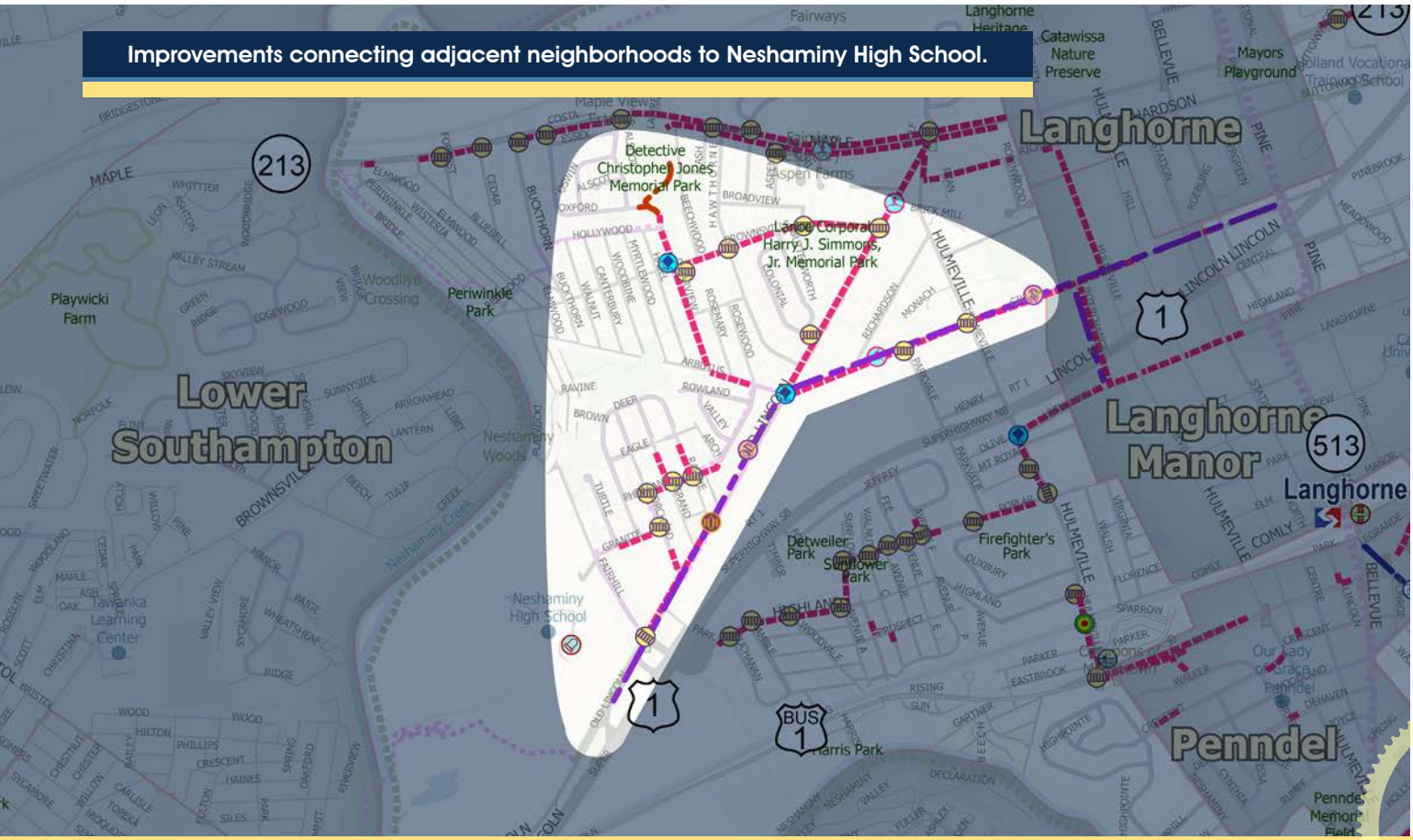
### 5.3.2 Grant Funding Opportunities

***US Department of Transportation (DOT) – BIL (Bipartisan Infrastructure Legislation; IIJA Infrastructure Investment and Jobs Act; 2022 Inflation Reduction Act)***

Multiple programs were created within the BIL and IIJA laws and supplemented by the 2022 Inflation Reduction Act that may benefit Middletown multi-modal efforts.

***Safe Streets and Roads for All Grant Program (SS4A)***

This program creates a new competitive grant program for "Vision Zero" grants for municipalities to develop Safety Action Plans.




Improvements connecting adjacent neighborhoods to Neshaminy High School.

A Comprehensive Safety Action Plan is defined as "a plan aimed at preventing transportation-related fatalities and serious injuries in a locality, commonly referred to as a "Vision Zero" or "Toward Zero Deaths" plan." Elements of the plan include goals; analyses of crash location and community input; a data driven approach to identify projects or strategies; and mechanisms for evaluating outcomes and effectiveness; and a timeline for eliminating causes of fatalities and serious injuries.

Eligible projects include development of a plan itself; planning, design, and implementation activities to execute projects and strategies. Projects are chosen based on whether they are likely to significantly reduce or eliminate transportation-related fatalities and serious injuries involving various road users, including pedestrians, cyclists, public transportation users, motorists, and commercial operators.

A successful grant application demonstrates engagement with a variety of public and private stakeholders; seeks to adopt innovative technologies or strategies to promote safety; employs low-cost, high-impact strategies that improve safety over a wider geographical area; ensures, or will ensure, equitable investment in the safety needs of underserved communities in preventing transportation-related fatalities and injuries; includes evidence-based projects or strategies; and achieves such other conditions as the U.S. DOT Secretary considers to be necessary.

NOTE: The Middletown MIP demonstrated a strong public participation effort that may be combined with analysis of comprehensive crash data available from MT Police and PennDOT to develop a Vision Zero Action Plan.

Available SS4A Funding: $5 billion over five years. Federal share is 80% with a non-Federal 20% match required. (As of October 2023, three (3) funding rounds remain.) Applications generally open in May. (Source: DVRPC / BIL 2023)

https://www.transportation.gov/grants/ss4a

### *Reconnecting Communities Grant Program (RCP)*

This program established a new pilot program to deliver capacity to communities who suffer from past transportation infrastructure that obstructs safe, accessible and equitable mobility for people and hinders community and economic viability.

Obstructions eligible for funding include, but are not limited to highway, viaducts, rail corridors, and other principal arterial facilities that "creates barriers to community activity" including mobility, access, economic development, and design factors such as high speeds or grade separations.

Funds can be used to conduct feasibility studies, planning, public engagement, engineering, environmental clearances and construction. Planning grants can be awarded up to $2 million per recipient with a maximum federal share of 80%, to MPOs or other units of local government)

Owners of obstacle facilities are eligible for capital construction grants with a minimum request of $5 million per recipient and a maximum federal share of 50% – to remedy an eligible obstruction or replace it with a modern solution.

https://www.transportation.gov/grants/rcnprogram

Available RCP Funding: $1 billion over five years; $500 million in contract authority from the Highway Trust Fund and $500 million in advance appropriations from the General Fund. In FY2024, $50 million is allocated towards Planning & Technical Assistance projects and $150 million is allocated to Capital Construction projects. RCP allows for the provision of technical assistance to build organizational or community capacity for planning and innovative solution development. Gives priority consideration to communities that are "economically disadvantaged."

Application period is expected to be open in the second quarter of 2024. (Source: DVRPC / BIL 2023)

NOTE: Woodbourne Road at Woodbourn Station represents a significant cluster of transportation barriers to multi-modal movements. The combination of obstacles at the station location, Including: the substandard railroad underpass; the substandard Route 1 underpass; and the unconstrained freight operations that regularly close Woodbourne Road to any other modal surface crossing movements while freight operations obstruct Woodbourne Road without any schedule for train staging movements that should be accomplished within a dedicated freight yard. Using a state ROW for corporate operations externalizes private costs which have never been quantified to the public and constitutes an obstacle eligible to be addressed with RCP funds.

### *Railroad Crossing Elimination Program (RCE)*

This program creates a new competitive grant program for "highway-rail or pathway-rail" grade crossing improvement projects that focus on improving the safety and mobility of people and goods." Goals are to eliminate highway-rail grade crossings frequently blocked by trains; improve the health and safety of communities; reduce the impacts that freight movement has on underserved communities; and improve the mobility of people and goods.

NOTE: Woodbourne Road at Woodbourn Station represents a significant rail crossing impact to the mobility of residents and visitors to Middletown Township, and this location should be considered for a RCE application.

Eligible projects include grade separation; track relocation; improvement or installation of protective features; other safety projects; a group of any of the above projects, and planning and design of eligible projects.

Available RCE Funding: $3 billion over five years. Minimum grant size is $1 million except for planning grants. Federal share is 80%. (Source: DVRPC / BIL 2023)

The RCEP program accepted FY2022 applications until October 4, 2022. As of October 2023, there has not been a NOFO released for FY2023. This program is not currently accepting applications, but may be re-opened in the future.

### *Federal Highway Administration: Transportation Alternatives Set-Aside (TASA)*

The Transportation Alternatives Set-Aside (TASA) provides funding for projects and activities defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities; infrastructure projects for improving non-driver access to public transportation and enhanced mobility; community improvement activities; and environmental mitigation; trails that serve a transportation purpose; and safe routes to school projects. Eligible projects may include the following:

- bicycle and pedestrian facilities.
- bicycle and pedestrian education (grades K-8 only).
- conversion of abandoned railway corridors to trails.
- construction of turnouts, overlooks, and viewing areas.
- outdoor advertising management.
- historic preservation and rehab of historic transportation facilities.
- vegetation management.
- archaeological activities.
- vulnerable road user safety assessment activities.
- stormwater management; and
- wildlife mortality mitigation.

Application periods are generally open every two-three years through a process administered by regional MPOs and PennDOT.

https://www.penndot.pa.gov/ProjectAndPrograms/Planning/Documents/cpdm/TASA/TASA%20Statewide%20Program%20Guidance.pdf

### *PA Dept. Conservation and Natural Resources (PA DCNR) Community Conservation Partnership Program (C2P2)*

The Community Recreation and Conservation Program through the PA DCNR Community Conservation Partnership Program (C2P2) provides funding to municipalities and authorized nonprofit organizations for recreation, park, trail, and conservation projects. Eligible planning project types include feasibility studies, trail studies, conservation plans, master site development plans and comprehensive recreation park and open space and greenway plans.

For trail construction, DCNR prefers to fund off-road trail facilities. Additionally, applicants must show either ownership or have a trail easement in place to qualify for an implementation (construction) grant. DCNR will fund construction and rehabilitation of parks, trails, and recreation facilities.

DCNR also provides funding to acquire land for active or passive parks, trails, and conservation purposes. These projects require a 50% match, which can include a combination of cash and/or non-cash values.

Grant applications for the C2P2 program are accepted annually—usually in April. More information at: http://www.dcnr.state.pa.us/brc/grants/indexgrantsinstruct.aspx

NOTE: The Mill Creek Trail (Forsythia to Opper Orchard) may be an ideal candidate for this program, considering the 'connectivity' value of the trail complements the recreational value of the trail within this dynamic community space in Middletown Township.

### *Commonwealth Financing Agency (CFA) Dept. of Community and Economic Development (DCED) Greenways, Trails, and Recreation Program (GTRP)*

The Greenways, Trails, and Recreation Program (GTRP) provides funding for: public park and recreation area projects, greenway and trail projects, and river conservation projects. The program requires a minimum 15% local cash match of a total project up to a $250,000 maximum DCED share.

NOTE: Existing and proposed greenways such those planned by Bucks County in Middletown Township are eligible as dual use facilities for recreation and transportation based on the analysis in the MIP – and GTRP may help contribute within a mix of funding sources to construct discrete segments of greenway-trails.

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

### *Department of Community and Economic Development (DCED) Multimodal Transportation Fund (MTF)*

The DCED Multimodal Transportation Fund provides grants to help deliver safe and reliable transportation systems and associated economic development to Commonwealth residents.

Funds may be used for the development, rehabilitation, and enhancement of transportation assets to existing communities, including: streetscape, lighting, sidewalk enhancement, pedestrian safety, connectivity of transportation assets and transit-oriented development. Grants are available for projects with a total cost of $100,000 or more and require a minimum 30% non-federal match. Grants shall not exceed $3,000,000 for any project.

This program is eligible to fund preliminary engineering as discrete standalone projects, with construction to be funded separately in a subsequent phase.

Applications for the Multimodal Transportation Fund are accepted annually between March 1 and July 31. All applications and all required supplemental information must be electronically submitted by close of business on July 31st for hopeful consideration at a November CFA board meeting. Please note that technical assistance will not be available after 5pm on July 29th. More information at: https://dced.pa.gov/programs/multimodal-transportation-fund/

***PennDOT Multimodal Fund (MTF)***

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

- Projects related to streetscape, sidewalk enhancement, pedestrian safety
- Transit oriented development projects
- Projects related to connectivity improvements
- Projects that coordinate local land use with transportation assets to enhance existing communities

The PennDOT Multimodal fund is federal funds administered through PennDOT and is not eligible to be matched by other federal transportation funds. The PennDOT MTF is separate from the state-funded MTF administered by PA DCED. A local match of at least 30% of the non-federal project costs is required. More information at: http://www.penndot.gov/ProjectAndPrograms/MultimodalProgram/Pages/default.aspx

***PennVEST (Pennsylvania Infrastructure Investment Authority)***

PennVEST offers both grants and low interest loans for projects that help to manage stormwater and improve water quality.

NOTE: Several multiuse greenway trails may be designed to also manage stormwater in Middletown Township and those elements may be eligible for PennVEST funding. More information at: http://www.pennvest.pa.gov/Information/Funding-Programs/Pages/default.aspx

## 5.4 Potential Partners

Existing relationships need to be strengthened to promote, fund, and/or implement the Middletown Multimodal Improvements Plan. Partners can help to advocate for completion of projects and assist in acquiring funding. Public-private as well as inter-municipality applications are looked on favorably by reviewing committees as the dollar investments have multiple beneficiaries.

### *5.4.1 Federal partners*

### *5.4.2 State partners*

- PennDOT
- Department of Community and Economic Development (DCED)
- Pennsylvania Infrastructure Reinvestment Authority (PennVEST)

### *5.4.3 County / regional partners*

- Adjacent Municipalities (Falls Township; Bristol Township)
- Adjacent Boroughs
- Bucks County Planning Commission
- DVRPC
- SEPTA

### *5.4.4 Local partners*

- Lower Bucks County Chamber of Commerce
- Local Businesses (Oxford Valley Mall-Simon; Sesame Place;)
- Local Bicycling groups
- Homeowner Associations
- Neshaminy School District
- Woods Services



# 6 Appendix



## Appendix Sections

1. MT Demographics Summary
2. MT Zoning Map
3. MT 2020 Comprehensive Plan Transportation Section: Goals/Implementation/Strategies
4. MT Traffic Service Area Map (1992-Act 209 Traffic Impact Fee Service Areas)
5. DVRPC Safe Routes to Transit (2017)
6. PA Circuit Trails Map
7. Public Participation
8. Steering Committee Meetings
9. Public Meetings
10. Key Person Interviews- Notes
11. Public Opinion Survey Results
12. Wikimapping Results
13. SEPTA-Bus Revolution Draft Service Routes May 2023-Bucks County System Map
14. PennDOT 6-0: Draft Preliminary Engineering Route 1 RC3 Project
15. TMA Bucks: Middletown Township Transportation Demand Management Narrative
16. Dawood Engineering - Priority Assessment: Woodbourne Corridor & Business Route 1 Corridor
17. Probable Cost Estimate

# 1. Middletown Township – Demographic Summary

A. Population_Age_Race

B. Income_Industry_Education

C. Commuting_Vehicle Ownership

D. Disability Assessment

E. Workers: Job Inflow/ Outflow (On the Map-Census 2020)

F. Work Destination Report (Census 2020)

# A. Population_Age_Race

| Population Trends and Forecasts: 2015 - 2045 | | | | |
|---|---|---|---|---|
| (f) = forecasted | Middletown Township | | Bucks County | |
| Year | Population | % Change | Population | % Change |
| 2015 | 45,407 | | 627,367 | |
| 2020 | 46,040 | 1.37% | 646,538 | 2.97% |
| 2025 (f) | 46,784 | 1.59% | 654,792 | 1.26% |
| 2030 (f) | 47,480 | 1.47% | 669,299 | 2.17% |
| 2035 (f) | 48,084 | 1.26% | 681,273 | 1.76% |
| 2040 (f) | 48,580 | 1.02% | 691,111 | 1.42% |
| 2045 (f) | 49,000 | 0.86% | 699,498 | 1.20% |
| | | 6.04% | | 7.57% |

Source: DVRPC

| Racial and Ethnic Composition: 2010 - 2020 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Middletown Township | | | | Bucks County | | | |
| Race/Ethnicity | 2010 Pop. | % | 2020 Pop. | % | 2010 Pop. | % | 2020 Pop. | % |
| White | 40,125 | 88.31% | 37,864 | 82.24% | 543,207 | 86.88% | 521,575 | 80.67% |
| African American | 1,393 | 3.07% | 1,912 | 4.15% | 21,454 | 3.43% | 25,277 | 3.91% |
| Am. Indian/Alaskan Native | 66 | 0.15% | 42 | 0.09% | 750 | 0.12% | 531 | 0.08% |
| Asian | 1,777 | 3.91% | 2,275 | 4.94% | 23,893 | 3.82% | 35,053 | 5.42% |
| Native Hawaiian/Pac. Islander | 7 | 0.02% | 14 | 0.03% | 138 | 0.02% | 143 | 0.02% |
| Hispanic/Latino | 1,411 | 3.11% | 2,226 | 4.83% | 26,782 | 4.28% | 39,770 | 6.15% |
| Some Other Race | 82 | 0.18% | 168 | 0.36% | 813 | 0.13% | 2,512 | 0.39% |
| Two or More Races | 575 | 1.27% | 1,539 | 3.34% | 8,212 | 1.31% | 21,677 | 3.35% |
| Total | 45,436 | | 46,040 | | 625,249 | | 646,538 | |

Source: US Census Bureau Decennial Census

| Population by Age - Middletown Township | | | |
|---|---|---|---|
| | 2011 | 2021 | |
| Age Group | % | % | % Change |
| Under 5 years | 4.50% | 5.9% | 1.40% |
| 5 to 9 years | 5.90% | 4.9% | -1.00% |
| 10 to 14 years | 6.20% | 4.9% | -1.30% |
| 15 to 19 years | 7.40% | 5.8% | -1.60% |
| 20 to 24 years | 6.30% | 5.7% | -0.60% |
| 25 to 29 years | 5.60% | 6.3% | 0.70% |
| 30 to 34 years | 5.30% | 6.2% | 0.90% |
| 35 to 39 years | 6.00% | 6.2% | 0.20% |
| 40 to 44 years | 7.00% | 6.5% | -0.50% |
| 45 to 49 years | 7.90% | 5.7% | -2.20% |
| 50 to 54 years | 9.30% | 5.9% | -3.40% |
| 55 to 59 years | 6.70% | 8.4% | 1.70% |
| 60 to 64 years | 6.40% | 7.6% | 1.20% |
| 65 to 69 years | 3.60% | 5.5% | 1.90% |
| 70 to 74 years | 3.20% | 4.5% | 1.30% |
| 75 to 79 years | 2.80% | 3.1% | 0.30% |
| 80 to 84 years | 2.80% | 2.6% | -0.20% |
| 85 years and over | 2.80% | 4.2% | 1.40% |

Source: US Census, ACS 5 Year Estimate

## B. Income_Industry_Education

| Median Houshold Income/Poverty Comparison | | | | |
|---|---|---|---|---|
| | Median Houshold Income | | % of Pop. Below Poverty Level | |
| | 2011 | 2021 | 2012 | 2021 |
| Upper Makefield Township | $76,019.00 | $99,302.00 | 5.30% | 5.50% |
| Bristol Township | $55,719.00 | $73,387.00 | 8.00% | 9.90% |
| Bensalem | $61,130.00 | $72,001.00 | 6.00% | 9.90% |
| **Middletown Township** | **$78,292.00** | **$101,356.00** | **4.70%** | **4.50%** |
| Northampton Township | $108,523.00 | $131,690.00 | 1.30% | 2.90% |
| Newtown | $113,520.00 | $139,191.00 | 3.70% | 1.80% |
| Bucks County | $76,019.00 | $99,302.00 | 5.30% | 5.50% |

Source: ACS 5-Year Estimates

| 2021 Industry Breakdown - Middletown Township | | | |
|---|---|---|---|
| Industry | Employed Population 16 years and over | Percent | Rank |
| Agriculture, forestry, fishing and hunting, and mining | 35 | 0.14% | 13 |
| Construction | 1,955 | 7.93% | 5 |
| Manufacturing | 2,475 | 10.04% | 4 |
| Wholesale trade | 635 | 2.58% | 11 |
| Retail trade | 2,603 | 10.56% | 2 |
| Transportation and warehousing, and utilities | 1,289 | 5.23% | 8 |
| Information | 409 | 1.66% | 12 |
| Finance and insurance, and real estate and rental and leasing | 1,924 | 7.81% | 6 |
| Professional, scientific, and management, and administrative and waste management services | 2,507 | 10.17% | 3 |
| Educational services, and health care and social assistance | 7,159 | 29.05% | 1 |
| Arts, entertainment, and recreation, and accommodation and food services | 1,701 | 6.90% | 7 |
| Other services, except public administration | 1,138 | 4.62% | 9 |
| Public administration | 816 | 3.31% | 10 |
| Total | 24,646 | | |

Source: 2021 ACS 5-Year Estimates

| Educational Attainment for Residents Over 25 Years of Age | | | | | | | |
|---|---|---|---|---|---|---|---|
| Educational Attainment | Upper Makefield | Bristol | Bensalem | Middletown Township | Northampton | Newtown | Bucks County |
| No High School Diploma | 3.10% | 9.20% | 10.30% | 4.70% | 2.40% | 3.60% | 5.50% |
| High School Graduate | 10.00% | 39.80% | 33.10% | 32.00% | 18.70% | 13.80% | 27.70% |
| Some College, No Degree | 11.00% | 19.10% | 18.10% | 17.30% | 15.40% | 9.80% | 15.90% |
| Associate's Degree | 6.60% | 8.60% | 9.10% | 7.10% | 8.70% | 6.50% | 7.90% |
| Bachelor's Degree | 35.10% | 15.50% | 18.70% | 23.10% | 32.10% | 37.50% | 25.50% |
| Graduate or Prof. Degree | 34.20% | 7.80% | 10.80% | 15.80% | 22.70% | 28.90% | 17.40% |
| | | | | | | | |
| Residents with at least a High School Diploma | 97.00% | 90.80% | 89.70% | 95.30% | 97.70% | 96.50% | 94.50% |
| Residents with at least a Bachelor's Degree | 60.00% | 23.30% | 29.40% | 38.90% | 54.90% | 66.40% | 42.90% |

Source: 2021 ACS 5-Year Estimates

# C. Commuting_Vehicle Ownership

| Commuting to Work (2021) | | |
|---|---|---|
| | Percentage of Workforce | |
| Transportation Mode | Middletown Township | Bucks County |
| Car, Truck, or Van-drove alone | 79.40% | 77.30% |
| Car, Truck, or Van-Carpooled | 6.90% | 5.80% |
| Public Transportation | 2.20% | 2.50% |
| Worked at Home | 10.00% | 12.20% |
| Other means (taxi, motorcycle, other) | 0.30% | 0.70% |
| Bicycle | 0.30% | 0.10% |
| Walked | 0.70% | 1.40% |

Source: 2021 ACS 5-Year Estimates

| Vehicles Available by Household (Estimate) | | |
|---|---|---|
| | Middletown Township | Bucks County |
| Workers 16 Years and Over in Households | 23,902 | 333,773 |
| No Vehicle Available | 1.30% | 1.70% |
| 1 Vehicle Available | 11.10% | 14.00% |
| 2 Vehicles Available | 40.40% | 43.10% |
| 3+ Vehicles Available | 47.20% | 41.20% |

Source: 2021 ACS 5-Year Estimates

| Travel Time to Work (2021) | | |
|---|---|---|
| | Percentage of Workforce | |
| Travel Time | Middletown Township | Bucks County |
| Less than 10 minutes | 9.90% | 10.90% |
| 10-19 minutes | 18.30% | 25.00% |
| 20-29 minutes | 22.70% | 19.80% |
| 30-34 minutes | 11.80% | 12.80% |
| 35-44 minutes | 7.00% | 8.00% |
| 45-59 minutes | 8.70% | 10.80% |
| 60+ minutes | 11.60% | 12.80% |
| Mean Travel Time (minutes) | 29 | 30 |

Source: 2021 ACS 5-Year Estimates

## D. Disability Assessment

| Disability | | |
|---|---|---|
| | **Middletown Township** | Bucks County |
| **Total noninstitutionalized population** | 45,342 | 638,103 |
| **With a Disability** | 5,854 | 67,414 |
| **% with a Disability** | 12.90% | 10.60% |

Source: 2021 ACS 5-Year Estimates

| Disability by Age | | | | |
|---|---|---|---|---|
| | **Middletown Township** | | Bucks County | |
| | **Number** | **Percent** | **Number** | **Percent** |
| **Under 5 years** | 0 | 0.00% | 212 | 0.70% |
| **5 to 17 years** | 416 | 6.80% | 5,125 | 5.10% |
| **18 to 34 years** | 497 | 5.50% | 8,177 | 6.80% |
| **35 to 64 years** | 1825 | 9.90% | 22,372 | 8.30% |
| **65 to 74 years** | 850 | 18.80% | 11,927 | 17.00% |
| **75 years and over** | 2266 | 51.40% | 19,601 | 41.50% |

| Disability Type by Age Range | | | | | | |
|---|---|---|---|---|---|---|
| | **Vision Difficulty** | | | **Ambulatory Difficulty** | | |
| | **<18 years old** | **18 to 64 years old** | **65+ years old** | **<18 years old** | **18 to 64 years** | **65+ years old** |
| **Middletown Township** | | | | | | |
| **Number** | 41 | 254 | 356 | 0 | 1,062 | 2,178 |
| **Percent** | 0.50% | 0.90% | 4.00% | 0.00% | 3.90% | 24.40% |
| Bucks County | | | | | | |
| **Number** | 729 | 4,658 | 4,232 | 661 | 12,815 | 20,386 |
| **Percent** | 0.60% | 1.20% | 3.60% | 0.70% | 3.30% | 17.30% |

# United States Census Bureau OnTheMap

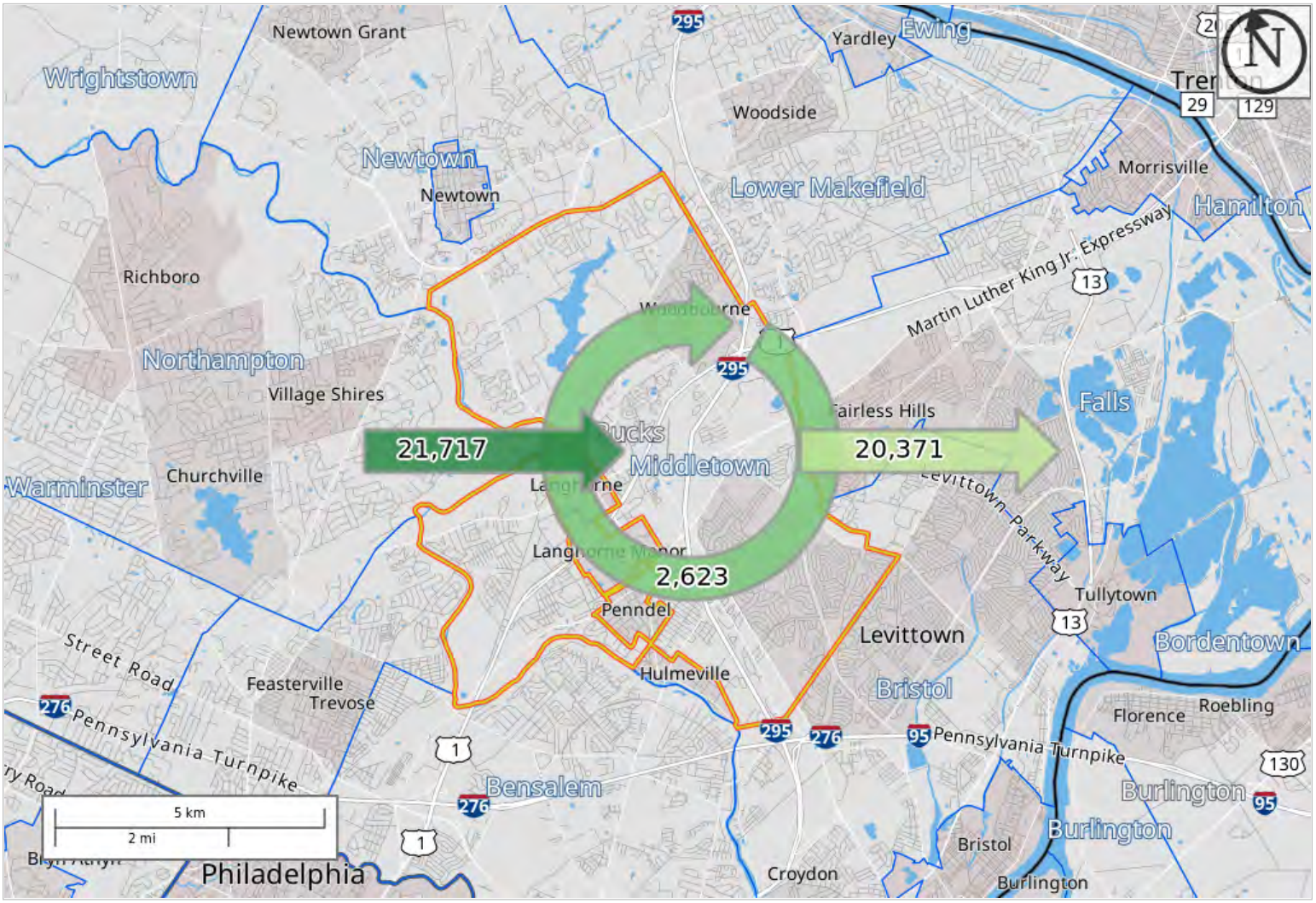
## Inflow/Outflow Report

All Jobs for All Workers in 2019

Created by the U.S. Census Bureau's OnTheMap `https://onthemap.ces.census.gov` on 07/11/2023

### Inflow/Outflow Counts of All Jobs for Selection Area in 2019

**All Workers**




### Map Legend

**Selection Areas**

- Selection Area

**Inflow/Outflow**

- Employed and Live in Selection Area
- Employed in Selection Area, Live Outside
- Live in Selection Area, Employed Outside

Note: Overlay arrows do not indicate directionality of worker flow between home and employment locations.

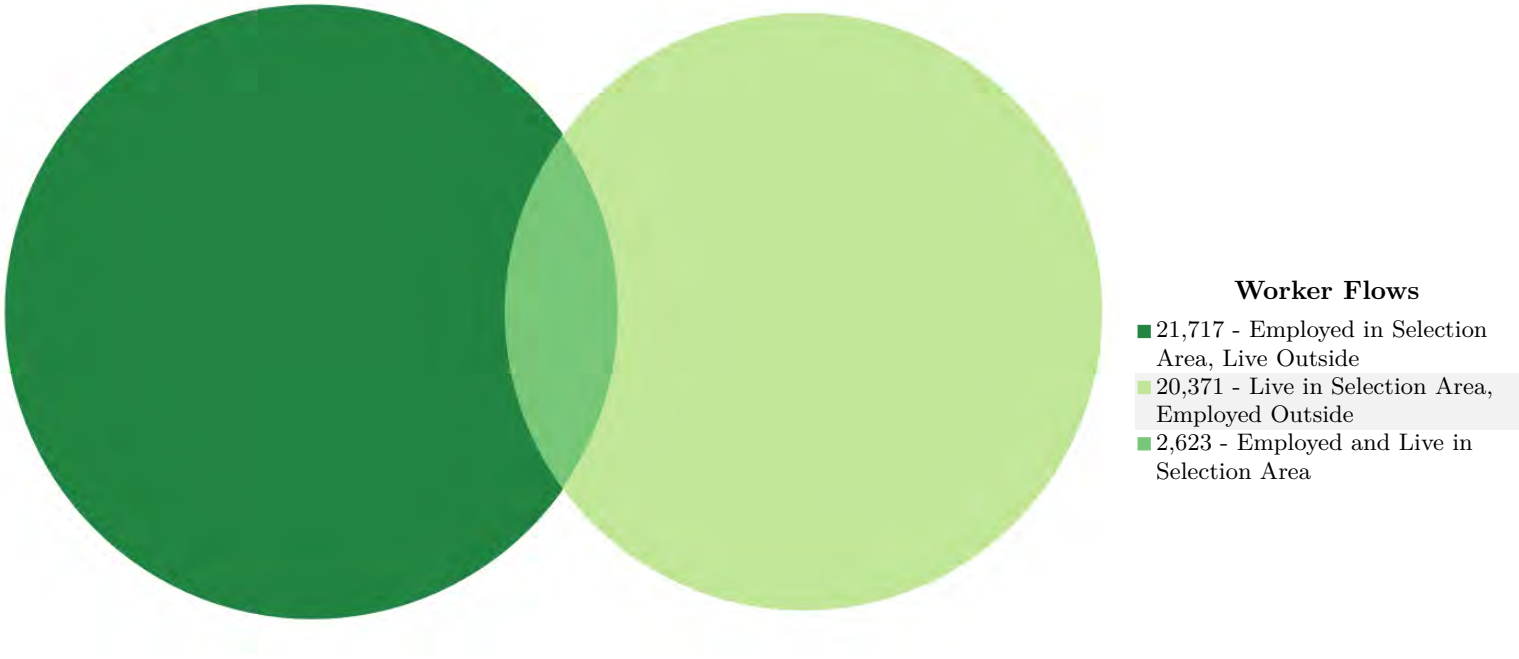





United States Census Bureau

## Inflow/Outflow Counts of All Jobs for Selection Area in 2019

**All Workers**




## Inflow/Outflow Counts of All Jobs for Selection Area in 2019

**All Workers**

| Worker Totals and Flows | 2019 Count | Share |
|---|---|---|
| **Employed in the Selection Area** | 24,340 | 100.0 |
| **Employed in the Selection Area but Living Outside** | 21,717 | 89.2 |
| **Employed and Living in the Selection Area** | 2,623 | 10.8 |
| | | |
| **Living in the Selection Area** | 22,994 | 100.0 |
| **Living in the Selection Area but Employed Outside** | 20,371 | 88.6 |
| **Living and Employed in the Selection Area** | 2,623 | 11.4 |

# Additional Information

## Analysis Settings

| | |
|---|---|
| **Analysis Type** | Inflow/Outflow |
| **Selection area as** | N/A |
| **Year(s)** | 2019 |
| **Job Type** | All Jobs |
| **Selection Area** | Middletown township (Bucks, PA) from County Subdivisions |
| **Selected Census Blocks** | 678 |
| **Analysis Generation Date** | 07/11/2023 09:39 - OnTheMap 6.23.1 |
| **Code Revision** | a0a13191a5f4f4a96c67a221fb70057ecc21a6d1 |
| **LODES Data Vintage** | 20230321_1647 |

## Data Sources

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2020).

## Notes

1. Race, Ethnicity, Educational Attainment, and Sex statistics are beta release results and are not available before 2009.
2. Educational Attainment is only produced for workers aged 30 and over.
3. Firm Age and Firm Size statistics are beta release results for All Private jobs and are not available before 2011.

# United States Census Bureau OnTheMap

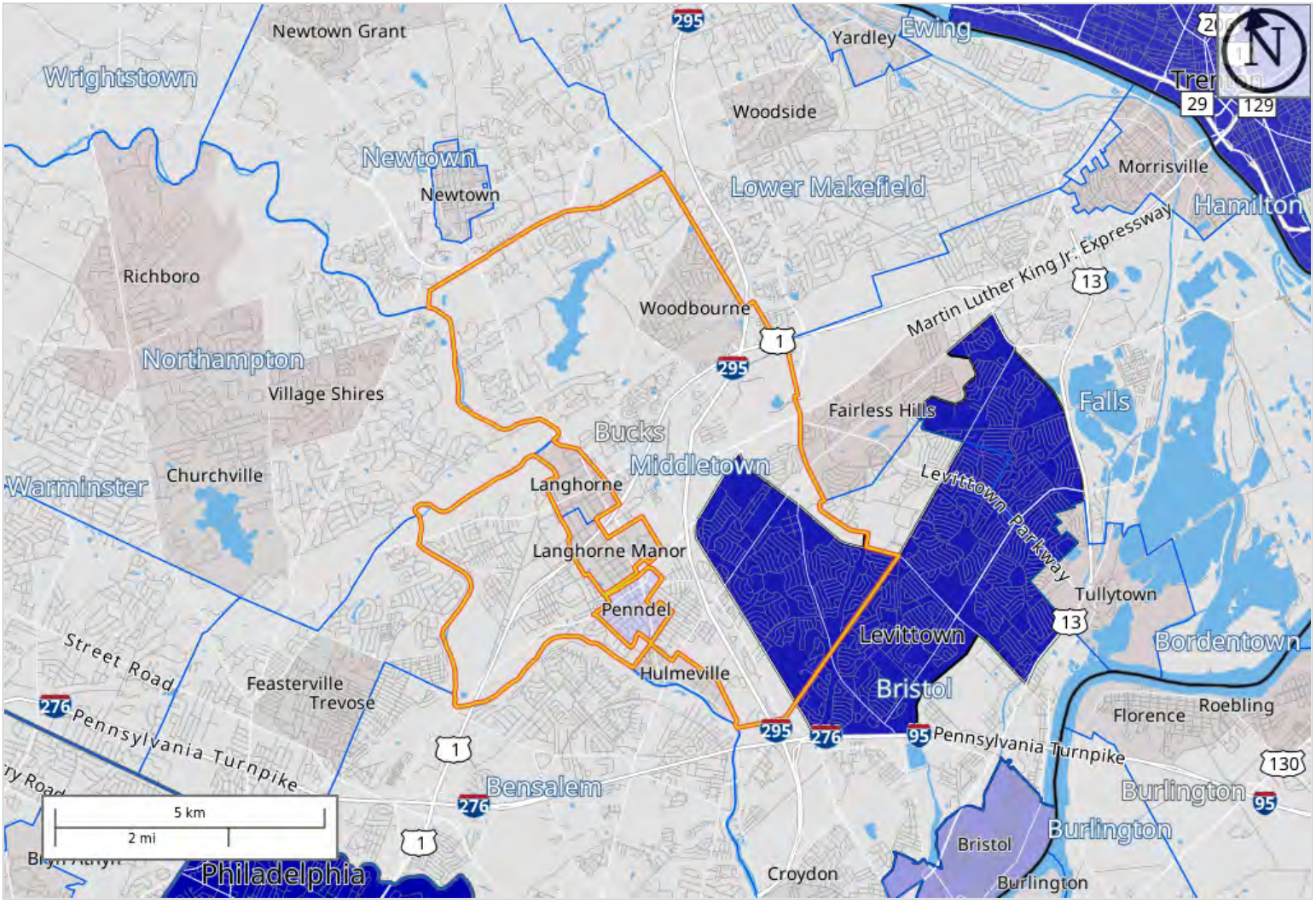
## Work Destination Report - Home Selection Area to Work Places (Cities, CDPs, etc.)

All Jobs for All Workers in 2019

Created by the U.S. Census Bureau's OnTheMap https://onthemap.ces.census.gov on 07/11/2023

### Counts of All Jobs from Home Selection Area to Work Places (Cities, CDPs, etc.) in 2019

**All Workers**




### Map Legend

**Job Count**

- 2,736
- 771
- 492
- 262
- 240
- 220
- 198
- 175
- 137
- 132

**Selection Areas**

Home Area

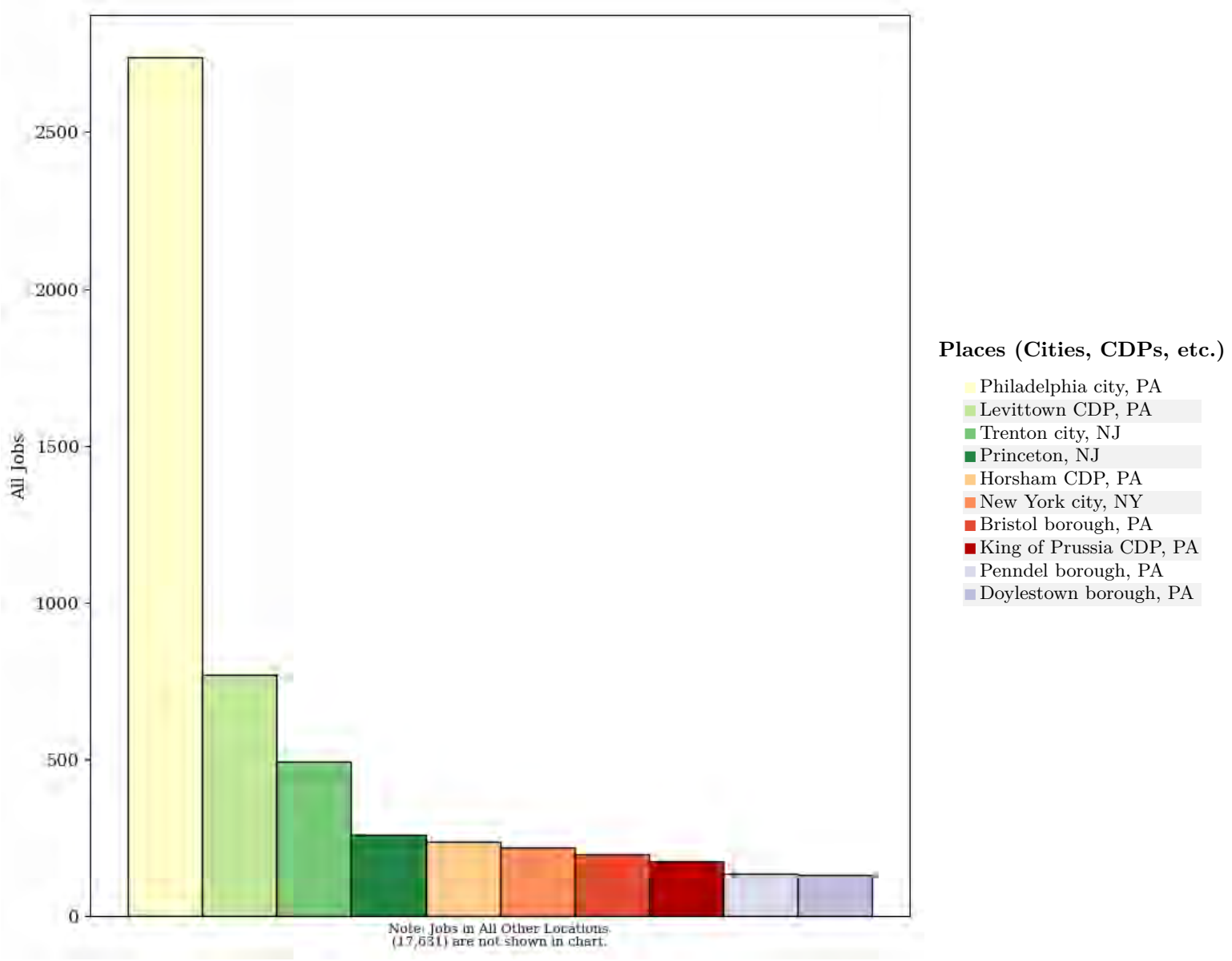





United States Census Bureau

## All Jobs from Home Selection Area to Work Places (Cities, CDPs, etc.) in 2019

**All Workers**




## All Jobs from Home Selection Area to Work Places (Cities, CDPs, etc.) in 2019

**All Workers**

| Places (Cities, CDPs, etc.) as Work Destination Area | 2019 Count | 2019 Share |
|---|---|---|
| **All Places (Cities, CDPs, etc.)** | 22,994 | 100.0 |
| **Philadelphia city, PA** | 2,736 | 11.9 |
| **Levittown CDP, PA** | 771 | 3.4 |
| **Trenton city, NJ** | 492 | 2.1 |
| **Princeton, NJ** | 262 | 1.1 |
| **Horsham CDP, PA** | 240 | 1.0 |
| **New York city, NY** | 220 | 1.0 |
| **Bristol borough, PA** | 198 | 0.9 |
| **King of Prussia CDP, PA** | 175 | 0.8 |
| **Penndel borough, PA** | 137 | 0.6 |
| **Doylestown borough, PA** | 132 | 0.6 |
| **All Other Locations** | 17,631 | 76.7 |

## Additional Information

### Analysis Settings

| | |
|---|---|
| **Analysis Type** | Destination |
| **Destination Type** | Places (Cities, CDPs, etc.) |
| **Selection area as** | Home |
| **Year(s)** | 2019 |
| **Job Type** | All Jobs |
| **Selection Area** | Middletown township (Bucks, PA) from County Subdivisions |
| **Selected Census Blocks** | 678 |
| **Analysis Generation Date** | 07/11/2023 09:42 - OnTheMap 6.23.1 |
| **Code Revision** | a0a13191a5f4f4a96c67a221fb70057ecc21a6d1 |
| **LODES Data Vintage** | 20230321_1647 |

### Data Sources

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2020).

### Notes

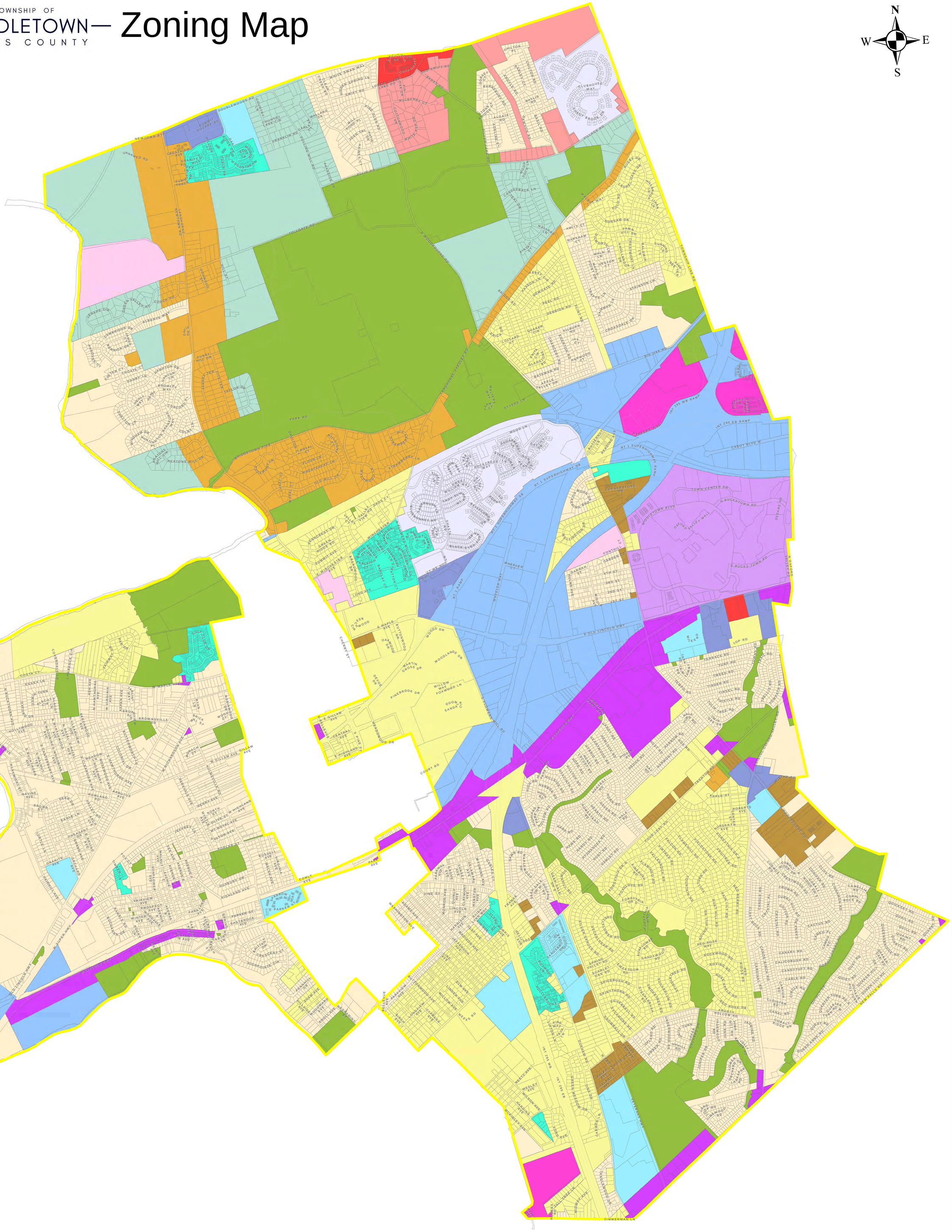
1. Race, Ethnicity, Educational Attainment, and Sex statistics are beta release results and are not available before 2009.
2. Educational Attainment is only produced for workers aged 30 and over.
3. Firm Age and Firm Size statistics are beta release results for All Private jobs and are not available before 2011.

## 2. Middletown Township – Zoning Map

TOWNSHIP OF
MIDDLETOWN
BUCKS COUNTY

# Zoning Map

N
W E
S


NEWTOWN BYP
DOUBLEWOODS RD
UNNAMED RD
SUMMIT SQUARE SC
CRESTVIEW AVE
HILLTOP RD
OAK RIDGE CT
WOODS EDGE PL
WOODSTREAM CT
COUNTRY LANE CIR
COUNTRY LN
FRANKLIN RD
CARLTON RD
FILLINGWELL RD
PARKSIDE DR
MALLARD DR
WHITE SWAN WAY
GREEN HERON RD
HIDDEN SPRING LN
OLD SWIFT RD
LOWER SILVER LAKE RD
MINE DLER RD
WILLOW POND PL
JOAN TRL
HAINES CT
ELLIS RD
CORPORATE DR
PINE DR
MULBERRY CT
COTTONWOOD DR
WHITE OAK DR
BANKS RD
CHILTON PL
CHILTON RD
GARLEY CT
ARGYLE RD
BAVLIS RD
DOWSON RD
BASH RD
DOUSET CT
BARNSBURY RD
TOKE RD
LAUGATE RD
ADELINE PL
CLUBHOUSE WAY
MUDDY BROOK DR
SILVER LAKE RD
VILLAGE RD
WOOD DUCK LN
CANVASBACK LN
TEAL DR
MALLARD LN
PINTAIL CT
N WOODSBURNE RD
TOLLGATE RD
LANGHORNE NEWTOWN RD
HUSEY DR
LAUREL OAK DR
HILLSIDE LN
WILLOW WAY
POLO RD
KORSAM DR
AMITY CT
MARKHAM CT
NORTHLIN
WALN LN
KNOLLBROOK DR
CRESTMONT LN
SALDOMIN
GUNNING
FAWN HILL DR
TOWNSHIP LINE RD
MAPLETON CT
POINT DR
TRAPPE LN
ATKINSON LN
ABBEY
MASON LN
SEDGATE RD
PEEL RD
DENBIGH RD
FLINT RD
LANMAN LN
CROASDALE DR
ERICA RD
LOCKARD CT
QUAKER CIR
KILBURN RD
IVY CT
EDGERTON RD
CHANCERY RD
MARWOOD CT
GLADSTONE RD
BATEMAN RD
APPLE ORCHARD DR
BIG OAK RD
JESSICA DR
JUDY LN
HICKORY HILL DR
INT 295 WB RAMP
INT 295 EB RAMP
HESSIANS XING
RT 1 SUPERHIGHWAY RAMP
CABOT BLVD W
BUTTERNUT LN
READING AVE
VILLAGE RD
CORNERSTONE DR
TOWN CENTER DR
MIDDLETOWN BLVD
OXFORD VALLEY MALL
N BUCKSTOWN RD
SESAME RD
S BUCKSTOWN RD
N OXFORD VALLEY RD
W ELLINGTON DR
MOOR DR
KINGSTON DR
RT 1 SUPERHIGHWAY NB
RT 1 SUPERHIGHWAY SB
WHEELER WAY
WHEELER CT
RT 1 RAMP
FONTHILL CT
GARDEN CT
DARHAM ST
FOLWELL ST
1ST ST
2ND ST
3RD ST
4TH ST
MIDDLE ST
E OLD LINCOLN HWY
BRIDGETOWN PIKE
PARK RD
STYERS LN
FARM WAY CT
WHITERS WAY
LANGHORNE-PENDEL RD
STRAWBERRY LN
5TH WHEEL CT
MILLSTONE CT
DUTTONTOWN CT
N ROYAL CT
FLOUR LN
WHEATSHEAF LN
DILO MILL DR
WAGON WHEEL CT
HEATONS MILL DR
WILLOW VALLEY DR
TAYLOR DR
JANINE TER
SUNNY HILL DR
DAVID RD
OAKWOOD
HICE ST
GREEN VALLEY RD
COACH RD
ALBERTS WAY
LENAPE CIR
CAMBRIDGE DR
BERWICK DR
HAROLD CT
CHOATE CT
DANBY LN
HAMPTON DR
LONDON LN
BROMLEY WAY
CONCORD PL
COLBY LN
PRESTON LN
HEALY WAY
WOODHAVEN DR
HUNTINGTON DR
BRAMLEY WAY
WOODHAVEN CT
WILLOW VALLEY VIEW RD
DODS CT
VALLEY VIEW DR
PENNCREST DR
GREEN RIDGE RD
SUMMIT AVE
E WINCHESTER AVE
WINCHESTER CT
ABERDEEN DR
LONG AVE
HAMPTON CT
FARLEIGH CT
SHELLEY CT
PRESTON CT
WINDSOR CT
WESTMINSTER CT
GUILFORD CT
HARVARD CT
YALE CT
PRINCETON CT
BROWN CT
BRIARWOOD CT
BRIARCREST DR
BRIARHILL RD
BRIARBONNET RD
BRIARFIELD CT
BRIARWOOD DR
BRIARCLIFF RD
BRIARBUSH RD
BRIARWOOD RD
BRIARCREST CT
BRIARBUSH CT
BRIARHILL CT
BRIARCLIFF CT
BRIARBONNET CT
BRIARFIELD RD
BRIARWOOD CT
BRIARCREST RD
BRIARHILL CT

# 3. Middletown Township: 2020 Comprehensive Plan
## Transportation: Goals/Implementation/Strategies

# Transportation



## Introduction

As displayed on the map below, Middletown Township is the benefactor of exceptional highway access, including U.S. Route 1, Interstate 295, Lincoln Highway, Woodbourne Road, and Newtown-Langhorne Road. These transportation connections are a strategic asset for the Township and have historically contributed significantly to Middletown's concentration of residents, businesses, and employment opportunities. Another valuable transportation asset is SEPTA's West Trenton Line, including Woodbourne and Langhorne stations. This 42-mile passenger rail line provides transit access to Philadelphia, New Jersey, and New York City.

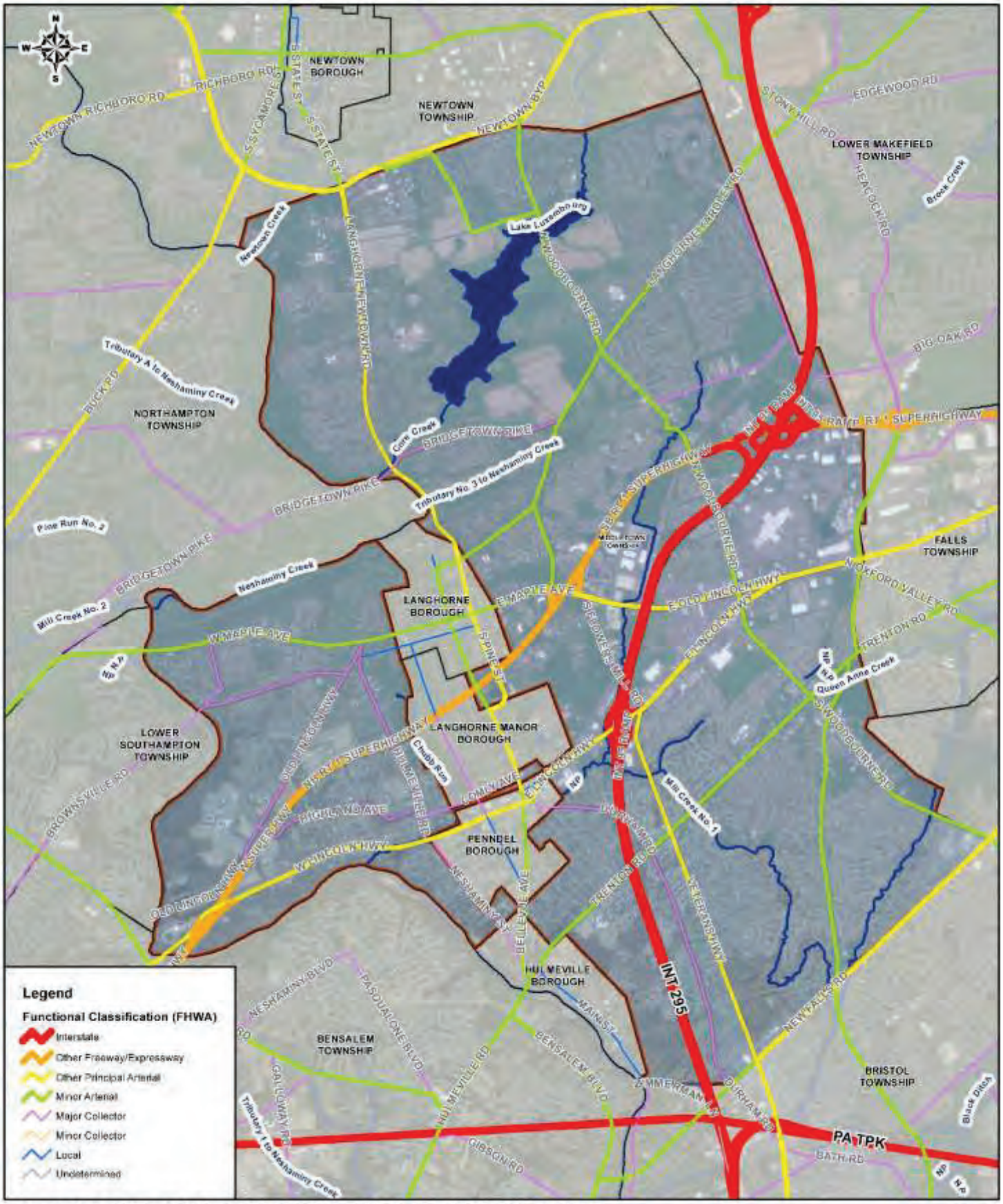
## Major transportation corridors restrict walkability across the Township

The major transportation routes within the Township (e.g. I-295, US Route 1, Lincoln Highway, SEPTA's West Trenton Line, Norfolk Southern's Morrisville Line, and CSX's Morrisville Line) restrict the residents' ability to use alternative transportation modes such as walking and bicycling. Additionally, with the bulk of the Township's growth occurring after World War II, including the notable development of Levittown, commercial land uses are concentrated along the Township's arterial roadways (generally without sidewalks), while residential neighborhoods are situated between these major transportation facilities.

Many neighborhoods are positioned in optimal locations nearby popular destinations such as parks and shopping centers, but currently lack dedicated sidewalk or trail connections. These issues are shared with many suburban towns in America but must be addressed as the Township's goals include creating a more walkable community in the future.

A map displayed later in this chapter shows existing sidewalks located in the Township. This map demonstrates that although there is some sidewalk connectivity within residential neighborhoods, major transportation corridors such as limited access highways (e.g. US 1, I-295) and railroads are generally barriers to greater pedestrian connectivity across the Township.

A 2018 study by Todd Litman, Victoria Transport Policy Institute, indicated that "walking and cycling provide affordable, basic transport. Physically, economically and socially disadvantaged people often rely on walking and cycling, so improving non-motorized transport can help achieve social equity and economic opportunity objectives." Resources required for providing walking and bicycle transport are much more affordable and simpler and should be a main priority for the Township in the years to come. The population of Middletown is aging, as much of the Township is represented by the baby boomer generation. These residents do not require expansion of highways or increased roads. Rather, they need basic sidewalks and the ability to cross the street safely without having to contend with vehicles speeding by at 45 miles per hour. Additionally, elderly residents can feel trapped in their own homes because of the lack of sidewalk connections. Many people do not feel comfortable driving at older ages, and without the infrastructure to walk anywhere, they are left without transportation options.




# HIGHWAY FUNCTIONAL CLASSIFICATION

0 0.5 1 2 Miles

## Public Feedback: Desire for Alternative Modes

Through the public open house event held for this Plan, the citizens of the Township were able to express their thoughts and opinions on the most relevant issues facing transportation in Middletown. Many of their concerns had overlapping themes and goals, displaying common notions of the major concerns regarding transportation in the community. Residents raised mutual concerns about:

- The **walkability of streets**; current streetscapes forced everyone to drive everywhere because of unsafe or lacking pedestrian infrastructure on streets.
- They expressed that **Woodbourne Road**, a heavily traveled minor arterial, needed improvements to many aspects, including dangerous intersections, inefficient at-grade railroad crossings, and narrow tunnels.
- **Key Township destinations and focal points lack multimodal infrastructure** such as Core Creek Park and the Oxford Valley Mall; these key community features offer no infrastructure for residents hoping to walk or bike to these destinations.
- **Hubs of public transit**, such as the Woodbourne Road Station, SEPTA bus stops, and the nearby Langhorne Station, **are entirely car oriented**, and lack sidewalks or other pedestrian elements that connect them to nearby neighborhoods.

The public meetings with residents were clear indicators that connectivity in the town needs to be improved. Members of the community expressed a strong desire to not have to drive for basic errands and short utilitarian trips. Similarly, they expressed frustration over the lack of safe walking and biking facilities which leaves them no other viable option than to drive their car for these trips.



*Image 9: Traffic congestion on Woodbourne Road is often exacerbated by the CSX Railroad crossing.*

## Goals

- Provide safe and convenient routes for pedestrians and bicyclists
- Enhance connections between neighborhoods and businesses
- Improve traffic circulation in heavily traveled areas

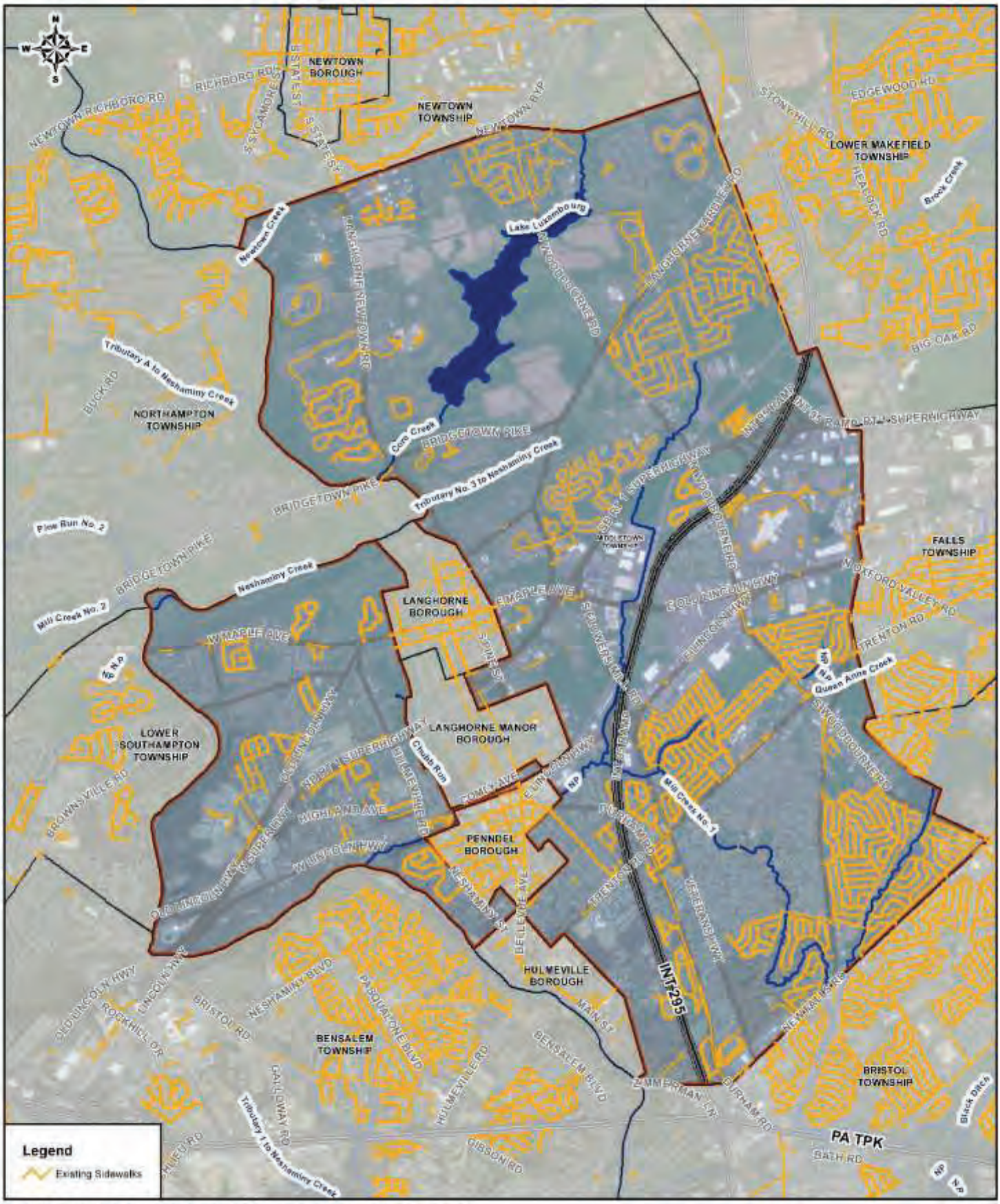
## Strategies

*Strategy #1: Upgrade the pedestrian, bicycle, and multi-use trail network across the Township*

A safe and accessible pedestrian, trail, and bicycle system will provide health, transportation, and recreation benefits to Township residents of all ages and abilities. A proposed trail network offers a multi-use "highway network" where sidewalk linkages could connect to and residents could traverse throughout the Township. The Recreation chapter which follows this chapter will address this topic in more detail.

**Implementation Steps:**

1) Conduct a walking and bicycling safety audit around key Township destinations such as schools, parks, and train stations.
2) Install high-visibility crosswalks at intersections like those at Styer Market and the Cider Knoll neighborhood.
3) Assess the feasibility of providing a bike lane on Old Lincoln Highway from Maple Avenue to Neshaminy High School; since Old Lincoln Highway is a PennDOT-owned road, coordinate this assessment and the potential implementation of this bike lane with PennDOT.
4) Assess the feasibility of adding a sidewalk and bike lane on Maple Avenue from the Langhorne Borough to Flowers Mill Shopping Center; coordinate with PennDOT.
5) Assess the feasibility of adding bike lanes/sidewalks along Route 413 to connect Core Creek with Maple Point; coordinate with PennDOT.
6) Assess the feasibility of adding bike lanes on Woodbourne Road between Lower Silver Lake Road and Ellis Road, as recommended in the Middle Neshaminy Creek Trail Feasibility Study (2019).
7) Assess the feasibility of implementing shared-lane marking (sharrows) as recommended in the Lower Neshaminy Creek Trail Feasibility Study (2016) and the Middle Neshaminy Creek Trail Study (2019) for several segments
8) Conduct a feasibility study to determine potential improvement strategies for the railroad underpass at Woodbourne Road and Wood Lane.




**EXISTING SIDEWALK NETWORK**

*Strategy #2: Increase walkability and bikeability in and around train stations*

Woodbourne Station, the Township's main access point for public transportation to the West Trenton area and Philadelphia, is located on a road that is both narrow and lacking sidewalks. The station is accessed almost exclusively by automobile and is situated less than one mile from the Oxford Valley Mall which is a major regional destination.

As mentioned in the previous chapter, Bucks County's "*SEPTA Station Visibility*" study classified Woodbourne Station as a "drive-up" station because of a lack of pedestrian connection to the station. The study recommended adding three signs to the area surrounding the station so that drivers would know how to get there and how far away it is. One of these signs would be north of the station and two to the south, one of which would be at the Woodbourne Road & Lincoln Highway intersection.

Walkscore.com, which scores locations based on their 'walkability', gave Woodbourne Station a walk score of 20 on a scale of 0-100 with 0 being the least walkable and 100 being the most. Accompanying the score was a comment that "almost all errands require a car." The train station should serve as a hub of transit that people can easily reach for travel to Philadelphia or West Trenton with ease. Instead, the train station is situated where pedestrian or bicycle access is difficult and unsafe.

The DVRPC has developed a screening tool for identifying bicycle facilities around train stations within the 9-county region it serves. Woodbourne Station earned a 2.6 out of 10 score because of the surrounding area's severe lack of pathways for bicyclists. Recognizing the need for improving multimodal access to Woodbourne Station, DVRPC is currently conducting a planning study around Woodbourne Station as part of DVRPC's *Safe Routes to Transit* program. One of the factors being considered by the study is the potential for connections from nearby pedestrian generators (See Figure 5 on the following page).

**Implementation Steps:**

1) Install improved station signage (for both motorists and pedestrians) in accordance with the Bucks County *SEPTA Station Visibility Study.*
2) Install sidewalks around the station to provide pedestrian connection to the station from nearby residential areas, Oxford Valley Mall, and other nearby amenities.
3) Install a one-mile multi-use path near Mill Creek connecting the train station and residential units along U.S. Route 1 to N. Flowers Mill Road.
4) Install sidewalks and bike lanes along Woodbourne Road to connect the train station to Oxford Valley Mall.

*Strategy #3: Connect destinations and amenities to each other*

Main locations that are in close proximity to each other should be connected, with priority given to connecting the most important destinations, e.g., Woodbourne Station, Oxford Valley Mall, schools and major parks.

*Figure 5: Potential Connections to Woodbourne Train Station*




*Several residential communities exist within a close proximity to Woodbourne Train Station. Improving the connections shown above would greatly increase multi-modal transit in the Township.*

**Implementation Steps:**

1) Improve sidewalks and crosswalk elements along Briggs Road to enable the crossing of Langhorne Yardley Road to access Maple Point Middle School.
2) Improve pedestrian crossings and install sidewalks around Oxford Valley Mall where they are lacking these elements.
3) Enhance the visual appearance of key roadways throughout the Township by installing pavers, trees, and landscaping.
4) Improve pedestrian crossings and sidewalks around parks and integrate them (Core Creek, Twin Oaks, etc.) so that nearby residential areas can connect with these green spaces in the Township via bicycle and walking.
5) Adopt a Complete Streets policy via ordinances or resolutions which would commit the Township to support these types of streets.
6) Township should study these corridors and define the preferred alternative for the safe passage of pedestrians and bicyclists. Additionally, this study should prioritize the potential projects among all such improvements identified within Middletown Township.

### *Strategy #4: Manage safety and speed utilizing traffic calming measures*

By calming traffic patterns, streets become more comfortable to walk and bike on, which will reduce the number of cars on the road. Currently, residents utilize their cars for most trips. Reducing the number of cars on the road would ease congestion, and bikers and walkers would feel safer.

**Implementation Steps**

1) Install features of the 2003 Middletown Township Traffic Calming Policy on residential roads to slow traffic speeds and promote pedestrian/bicyclist safety where appropriate.
2) Integrate traffic calming measures with the creation of complete streets in the community for all residents to share through various forms of transportation.
3) Apply the recommendations from DVRPC's 2003 study to PA 413 corridor congestion.

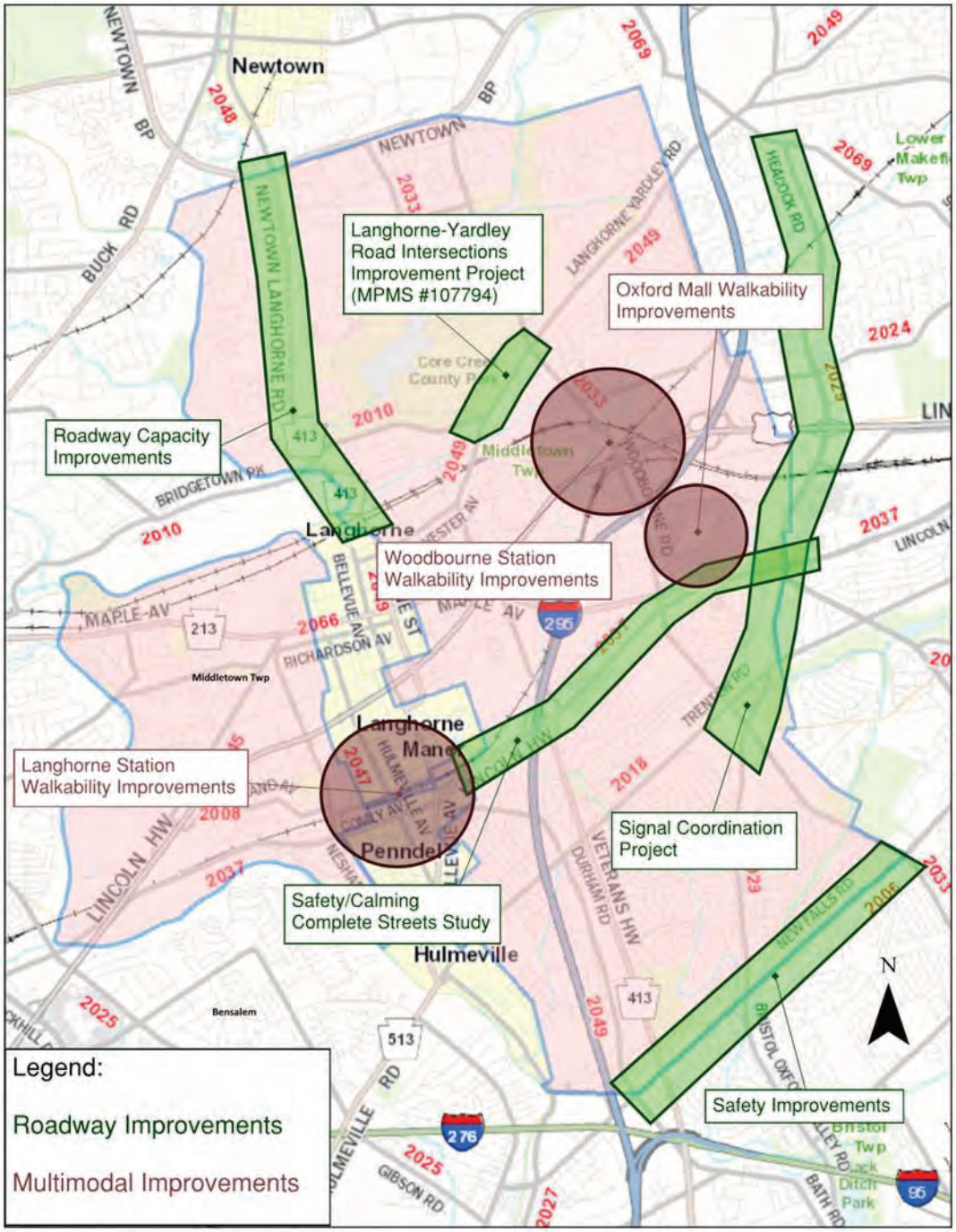
### *Strategy #5: Improve key transportation corridors and intersections throughout the Township*

There are a number of improvements to problem intersections that could reduce traffic congestion and facilitate smoother traffic flow. These improvements are summarized in Figure 6 on the following page.

**Implementation Steps**

1) Conduct a biennial assessment of congestion issues across the Township, identifying and prioritizing potential capital projects.
2) Schedule biennial meeting with Bucks County Planning Commission to review Township priority projects, discussing potential inclusion in future updates of DVRPC's Transportation Improvement Program (TIP).
3) Identify and monitor upcoming grant opportunities to conduct feasibility studies or conceptual engineering.
4) Conduct a traffic signal maintenance assessment on an annual basis; re-time critical corridors every two years.
5) Assess the feasibility of installing an alert system (using advanced-placed flashers and/or other technologies) for the at-grade train crossings at Woodbourne Road and Big Oak Road/Township Line Road; coordinate with SEPTA, CSX, and PennDOT.

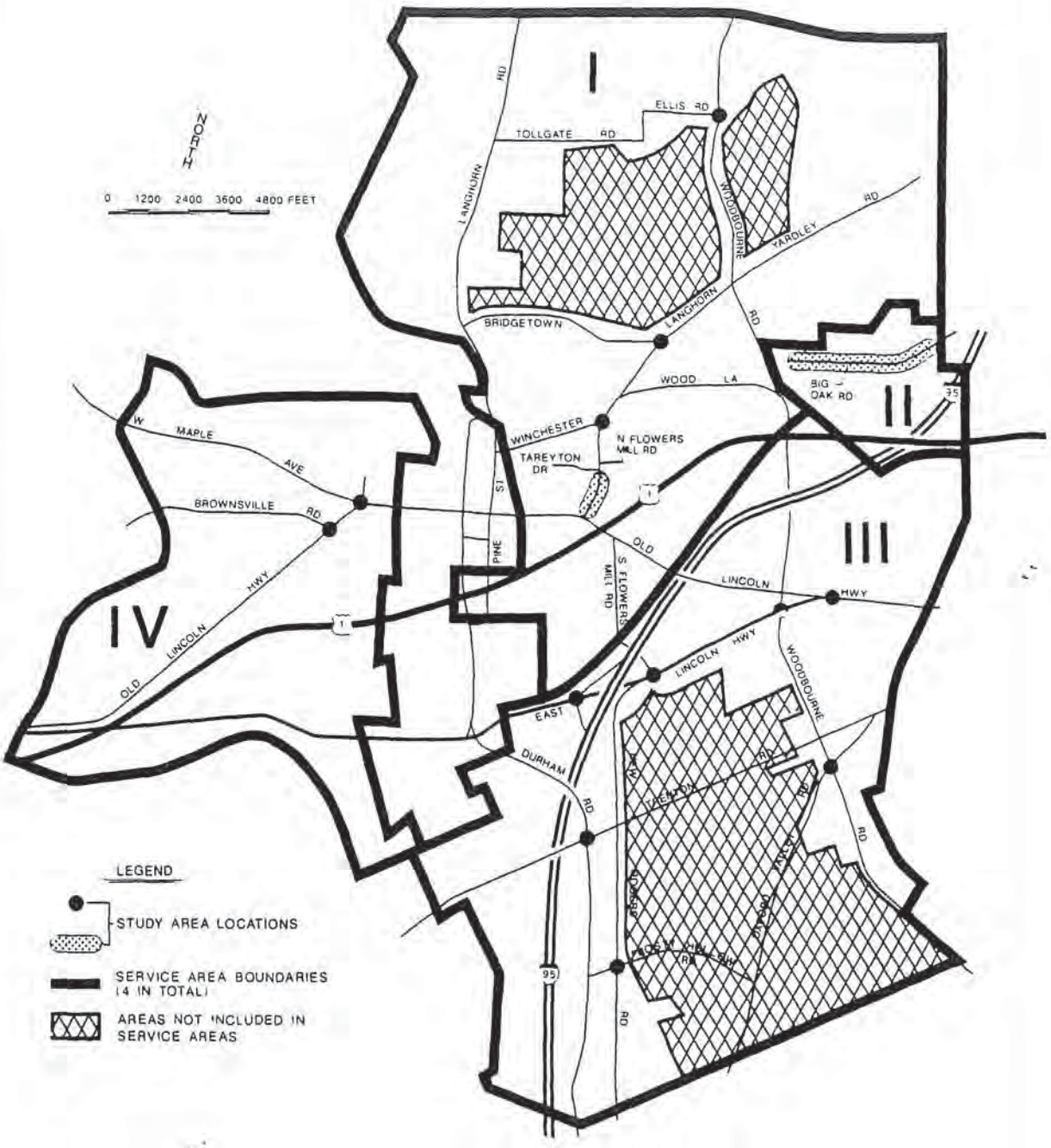
*Figure 6: Proposed Transportation Improvements*



# Recreation



## 4. Middletown Township – Traffic Service Area Map
## (1992 Traffic Impact Fee Service Areas)




# TRANSPORTATION SERVICE AREAS

DEVELOPER IMPACT FEE STUDY

Middletown Township, Pennsylvania

WILBUR SMITH ASSOCIATES

FIGURE 2

## 5. DVRPC Safe Routes to Transit (2017)

# SAFE ROUTES to TRANSIT

# Woodbourne Station

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

Middletown Township | Bucks County | SEPTA

## PROJECT BACKGROUND

The Delaware Valley Regional Planning Commission (DVRPC) worked with Middletown Township and Bucks County to improve bicycle and pedestrian access to Woodbourne Station, on SEPTA's West Trenton Regional Rail line. (*See "Figure 1: Station area"*).

This collaboration is part of DVRPC's Safe Routes to Transit Program, a technical assistance program offered to municipalities and counties interested in enhancing pedestrian and bicycle access to transit stations. The goal of Safe Routes to Transit studies are to provide a project sponsor with the analysis necessary to prepare a compelling application for competitive funding sources, helping to advance a project through final design and construction.

The DVRPC project team worked with a local steering committee to identify the most viable strategy for providing safe nonmotorized access between Woodbourne Station and nearby residential and commercial districts. After balancing several feasibility factors, including scope, cost, relationship to other Township projects, the steering committee identified Woodbourne Road just south of the station as the primary focus for this project.

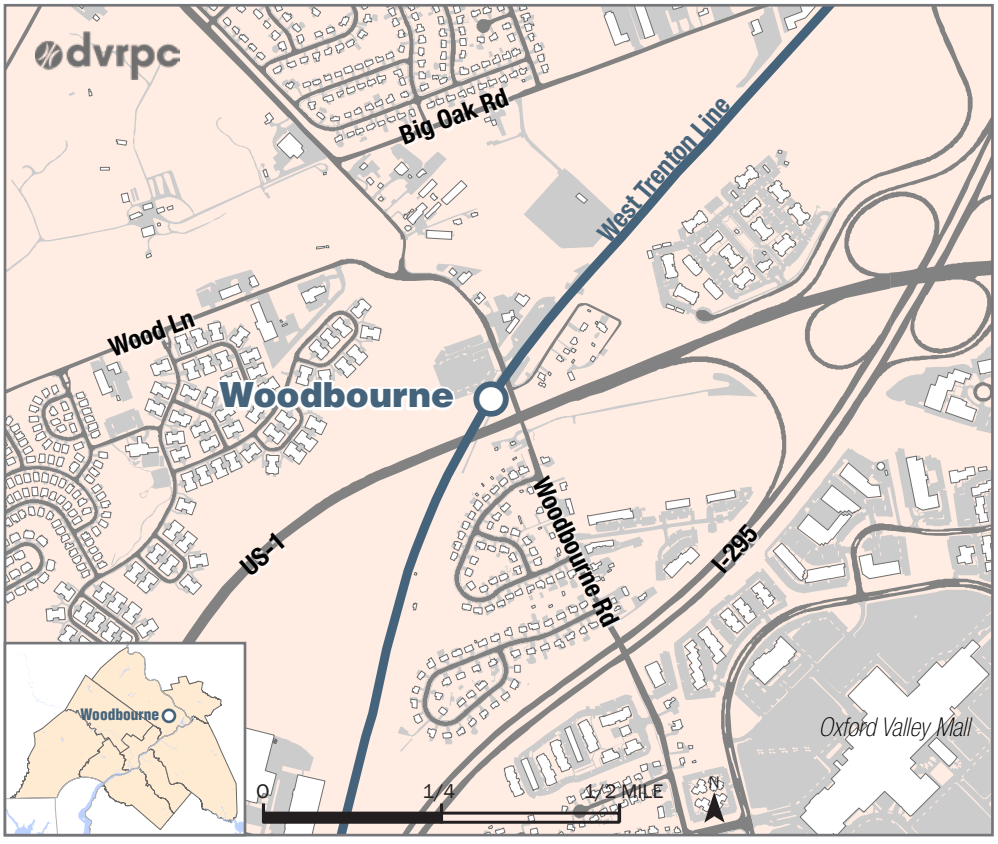



*Figure 1:* Station area

### STEERING COMMITTEE

**Middletown Township**

Scott Sadowsky
*Assistant to the Township Manager*

Isaac Kessler
*Remington & Vernick Engineers Township Engineer*

**Bucks County Planning Commission**

Richard G. Brahler, Jr.
*Director of Transportation Planning*

Christian Regosch
*Planner*

**TMA Bucks**

Steve Noll
*Executive Director*

**PennDOT District 6**

Scott Burton
*Senior Civil Engineer Supervisor*

**SEPTA**

Ryan Judge
*Senior Long Range Planner*

### ABOUT DVRPC

DVRPC is the federally designated Metropolitan Planning Organization for the bi-state, nine-county Greater Philadelphia Region. DVRPC works with a variety of stakeholders, including municipal, county, and state representatives, to address issues of transportation, land use, environmental protection, and economic development. For more information, see www.dvrpc.org and www.dvrpc.org/SafeRoutesToTransit.


DVRPC Project Contact:

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Senior Transportation Planner
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## EXISTING CONDITIONS

Woodbourne is a station on SEPTA's West Trenton Line in Bucks County. The station is the third from the end of the line, and an approximately one-hour ride from Center City Philadelphia. According to SEPTA, approximately 600 passengers use Woodbourne Station on a typical weekday.

Nearly all passengers arrive at Woodbourne by car. The station has 513 parking spaces spread across two lots, including 20 handicapped spaces. The main parking lot, adjacent to the station platform, contains 381 parking spaces, while the auxiliary lot, across Woodbourne Road, contains 132 spaces.

The two parking lots are connected by a mid-block crosswalk. This crosswalk includes pedestrian crossing signs, but no stop sign or red light controls. A pedestrian crossing sign approximately 250 feet south of the crosswalk includes flashing beacons that do not appear to meet PennDOT's standards; this sign should be replaced during any improvements to this corridor with a PennDOT-compliant sign. In 2014, a pedestrian was killed while crossing Woodbourne Road at this crosswalk.

There are no sidewalks along Woodbourne Road that could provide access to the station for pedestrians. Woodbourne Road generally features shoulders on either side of the roadway, but these shoulders disappear or shrink at several "pinch points" within a half mile of the station. These and other barriers present challenges for a pedestrian with no vehicle access to Woodbourne Station, and would also present challenges to any pedestrian improvement proposed as part of this project. The most notable of these barriers include:

1. CSX overpass
   A freight rail line owned by CSX crosses over Woodbourne Road, creating an 18-foot-wide, one-lane underpass for traffic. In practice, drivers use this as a two-lane underpass, traveling through in both directions.

2. Woodbourne Rd./Wood Ln. intersection
   This intersection is signed "No Pedestrians," and is not safe to cross on foot.

3. Box culvert over Mill Creek
   The shoulders narrow as Woodbourne Road crosses Mill Creek, bringing traffic very close to any potential pedestrians.

4. Route 1 overpass
   US-1 passes over Woodbourne Road just south of the station.

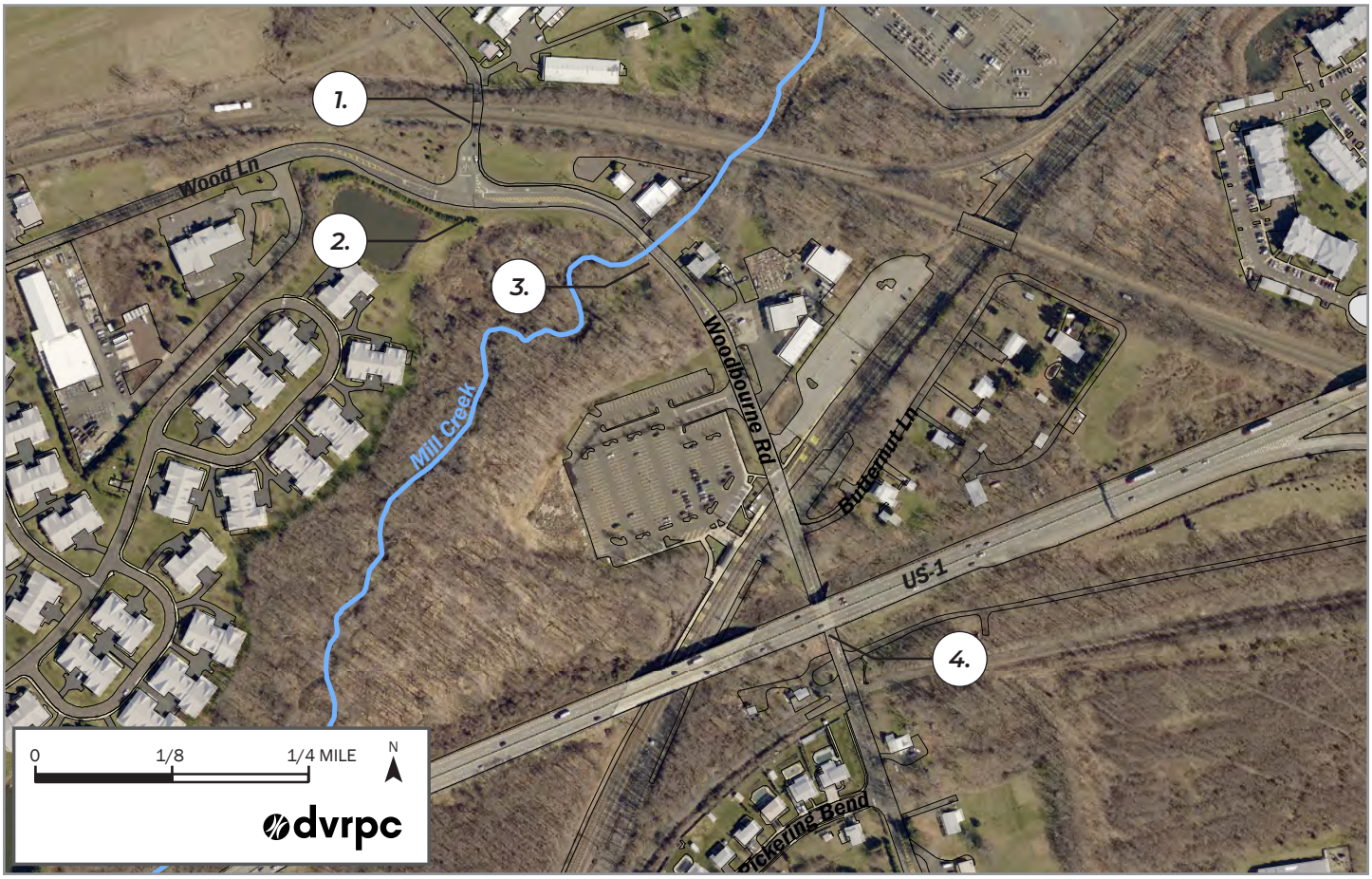



*Figure 2:* Station area, aerial view

## STATION INFRASTRUCTURE

Woodbourne is somewhat unusual for SEPTA's Regional Rail system, as rail operations on the station's three tracks are shared with CSX, the freight rail operator. Philadelphia-bound passengers board from a single, low-level platform. Woodbourne-bound passengers must alight from the center of the three tracks onto a concrete crossover of one of the outer track sets.

This has two major consequences. First, passengers must cross an active track, meaning SEPTA staff must take special care to ensure passenger safety during alighting. Second, passengers with disabilities cannot alight at Woodbourne. (Boarding in a wheelchair is possible via a single mini-high-level platform.)

Freight operations at Woodbourne also cause numerous closings of the at-grade crossings along Woodbourne Road. Closings by CSX trains happen at unpredictable times, and for unpredictable durations, causing long traffic back-ups. The project team timed one mid-morning closure at 13 minutes, and Township staff report regular instances of much longer than that.




*Figure 3:* A SEPTA train arrives on the inbound track as a CSX train moves on the outer track. The concrete pads for alighting SEPTA passengers are pictured.

## PASSENGER ACTIVITY

The DVRPC project team observed passenger activity during a morning peak period in February 2019. In general, the team's observations confirmed a main prior assumption: the station is not safely accessible by pedestrians or bicyclists.

In spite of this, the team did observe some pedestrian and bicycle activity, especially at the crosswalk between the station's parking lots.

The project team noted at least eight "reverse commuters," who alighted from outbound trains during the A.M. peak period, and then waited to be picked up by ride-hailing services.

The team saw one inbound passenger who arrived at Woodbourne by bicycle, and locked up using the one bicycle rack provided at the station.

The single pedestrian using the station (other than those walking from parked cars or being dropped off) was an outbound alighting passenger who traveled south through the Route 1 underpass.

Besides the West Trenton Line, no public transit serves Woodbourne to enable transfers. From the mid-2000s until 2012, TMA Bucks operated a transit shuttle under the federal Job Access and Reverse Commute (JARC) program that provided connections between Woodbourne Station and employers in the Oxford Valley Mall area as well as business parks in the Newtown area. According to TMA Bucks staff, this shuttle attracted 45–50 riders per day, but was ultimately discontinued because of reductions in JARC funding.



*Figure 4:* A parked bicycle and alighting passengers waiting for ride-hailing services.



*Figure 5:* A SEPTA passenger walks through the Route 1 underpass.

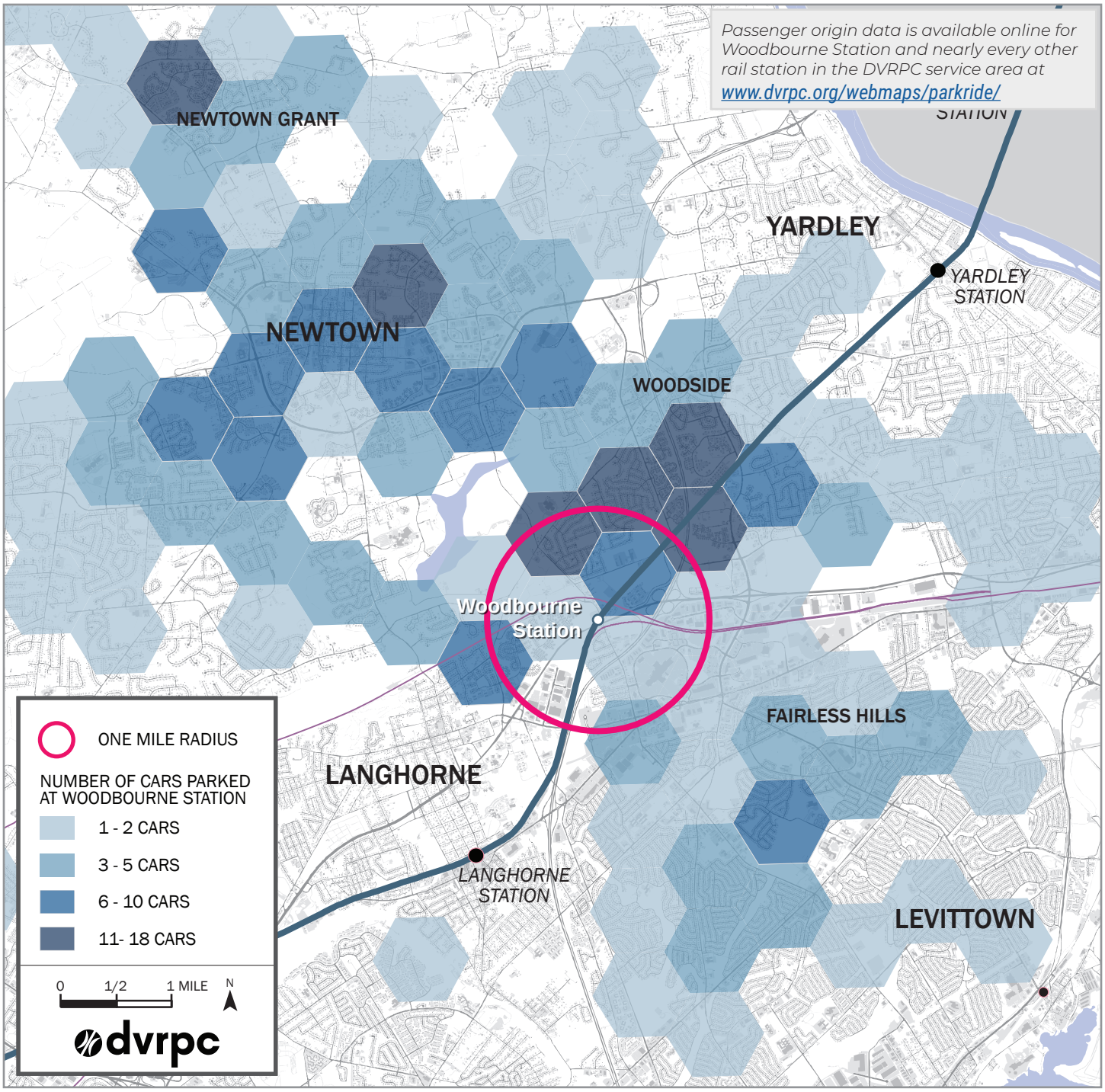



*Figure 6:* Park and Ride Passenger Origins map

## PARK AND RIDE PASSENGER ORIGINS

This map illustrates trip origins for Woodbourne Station passengers who drive to and park in the station lots. The dataset is based on a one day sample recorded in 2017 between 9 AM and 4 PM. License plate numbers of parked vehicles were recorded and sent to the PennDOT to be anonymously geocoded.

The map shows that most passengers driving to Woodbourne Station come from the north, largely from Newtown and northern Middletown Township, making trips of 2–5 miles. Some passengers who live closer to Yardley Station and Langhorne Station drive to Woodbourne, which has free parking unlike the other two stations.

Some passengers who drive to Woodbourne come from less than a mile away, particularly residents of the residential areas north of the station. If adequate bicycle and pedestrian facilities existed, we would expect that some portion of these passengers would choose to walk or bicycle to Woodbourne Station.

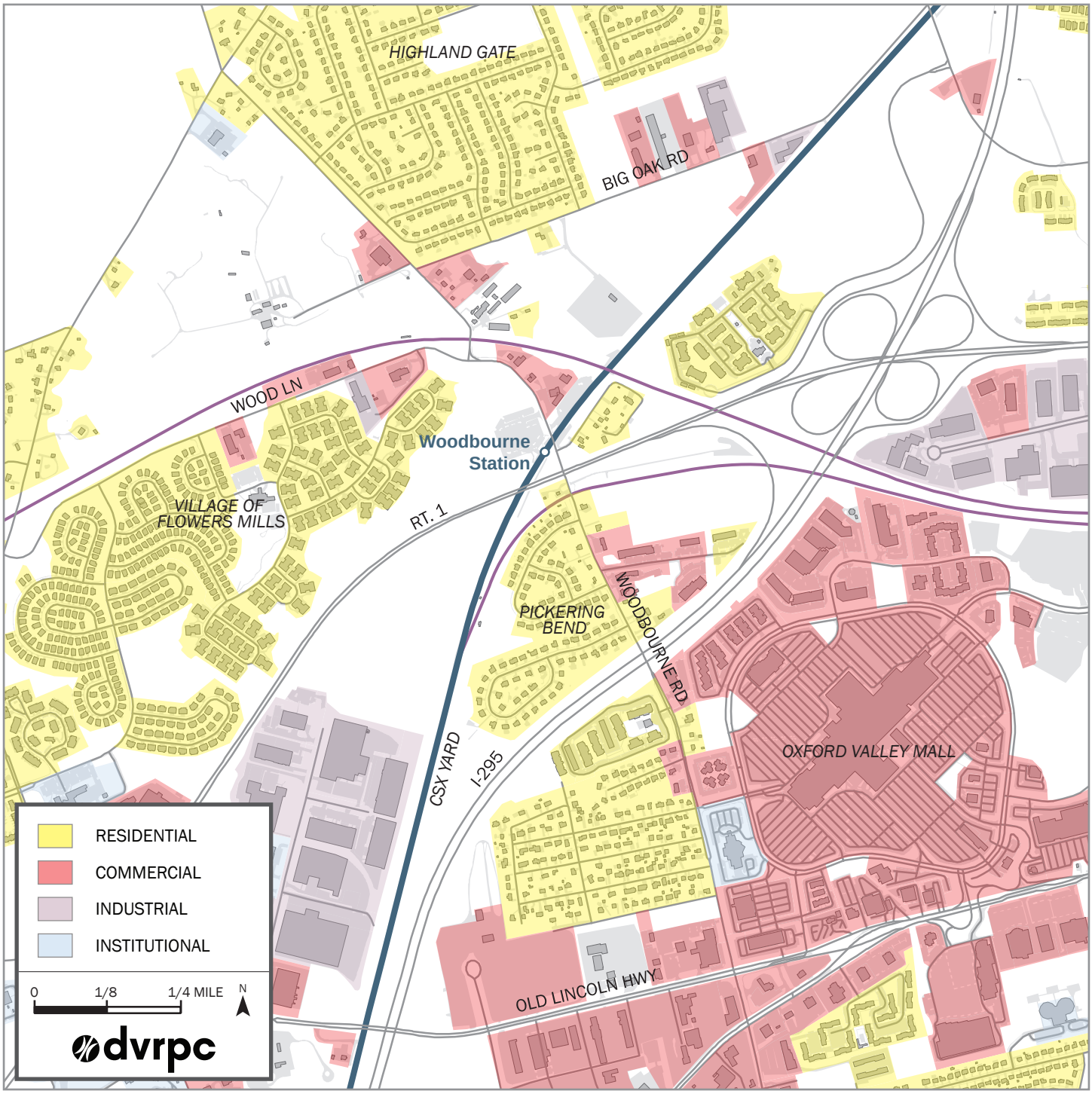



*Figure 7:* Land use map

## LAND USE

Woodbourne Station is surrounded by a range of land uses. There are several residential neighborhoods within walking distance, including a 55-and-over community to the west.

Oxford Valley Mall is one mile to the south, and big-box style commercial development runs along Old Lincoln Highway. Sesame Place, a family amusement park, is one-and-a-half miles to the east. Along the tracks to the south of Woodbourne Station is an industrial area, including a yard for the freight rail operator CSX.

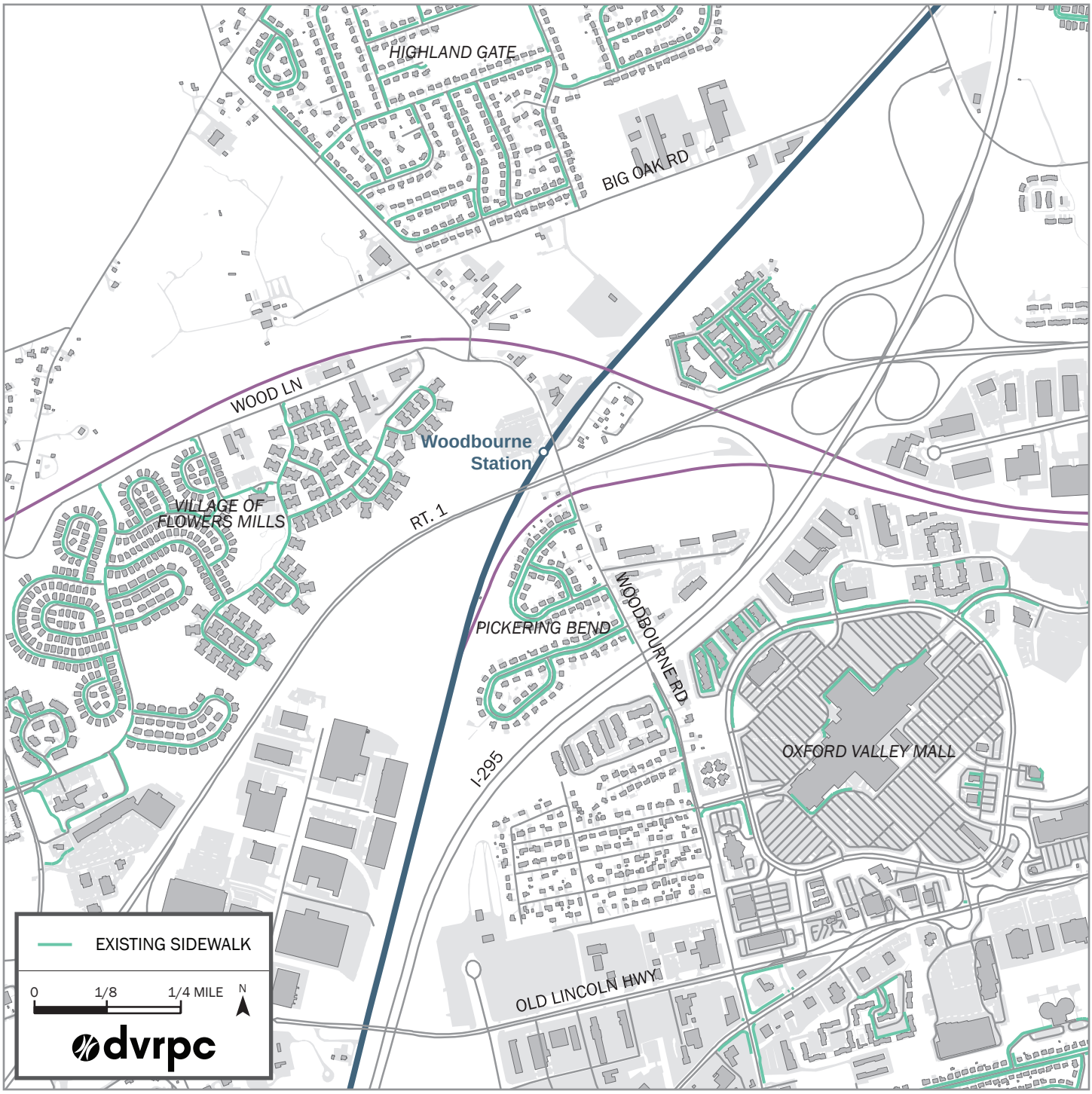



*Figure 8:* Sidewalk network map

## SIDEWALKS

There are no sidewalks on Woodbourne Road that connect to Woodbourne Station, and the sidewalk network in the greater area is inconsistent. The residential area to the south on Pickering Bend Road, the Village of Flowers Mill to the west, and the residential area to the north all have sidewalks, but Woodbourne Road and Wood Lane do not.

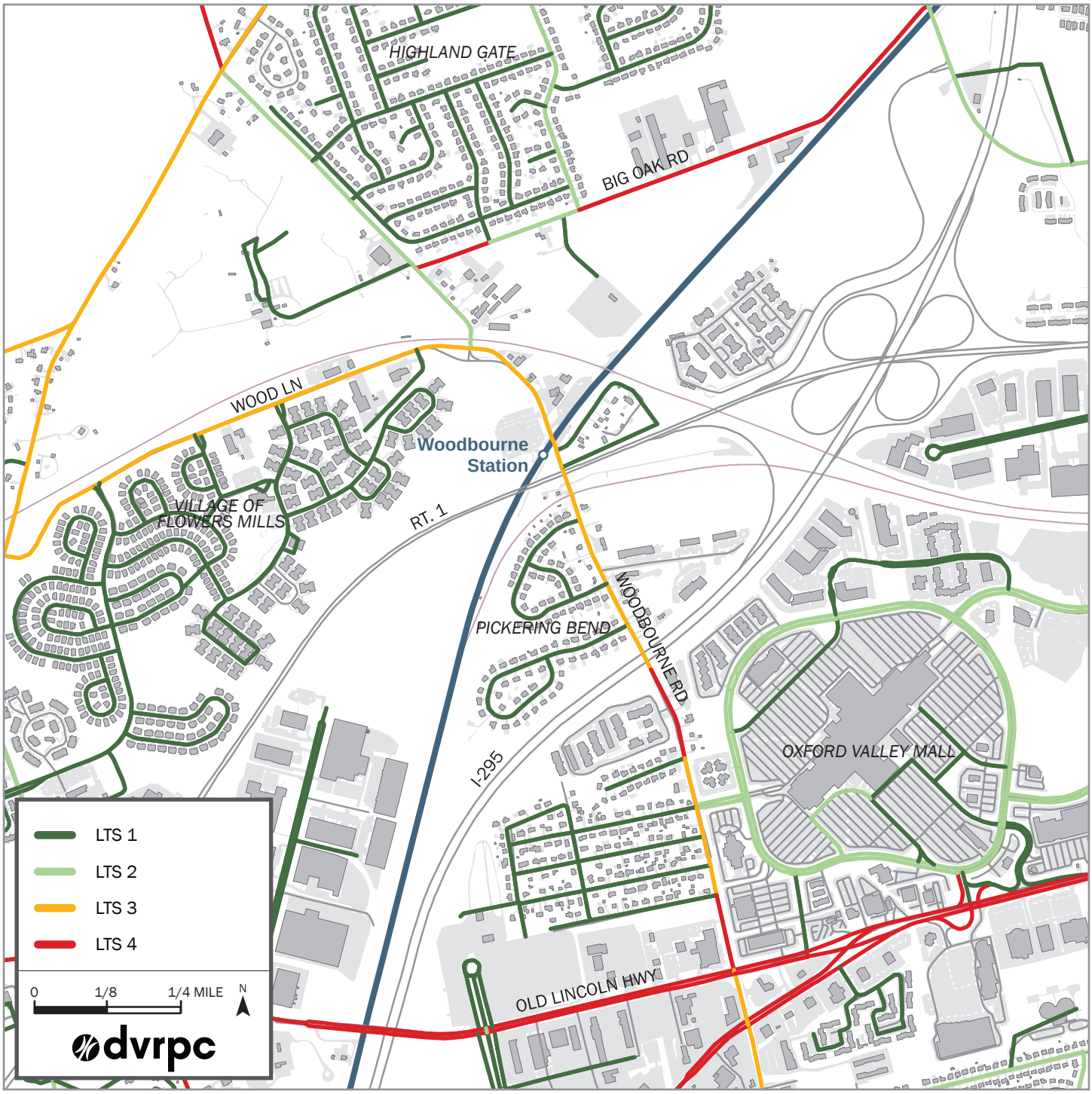



*Figure 9:* Bicycle LTS map

## BICYCLE FACILITIES

Just as connectivity in the sidewalk network is important for pedestrian access to and from the station, so too is the bicycle network. Currently there are no dedicated, on- or off-street bicycle facilities that provide access to Woodbourne Station.

Level of Traffic Stress (LTS) is a road classification technique based on the comfort of bicyclists on a given roadway. DVRPC's LTS assignment is based on the number of lanes, effective vehicle speed, and presence of a type of bicycle facility (i.e. bike lane, sharrow, etc.). Higher LTS assignments are less comfortable for cyclists. Woodbourne Road is classified at LTS 3 or LTS 4 within a mile of Woodbourne Station, indicating that biking to the station is an option only for very confident cyclists. The station has one rack for bicycle parking that can accommodate 4–5 bicycles.

## BICYCLE AND PEDESTRIAN ACCESS STRATEGIES

The project steering committee met on April 16, 2019 to discuss station data, the DVRPC team's field observations, and initial strategies for improving bicycle and pedestrian connections to Woodbourne Station.

The project team presented three potential strategies for bringing pedestrians and cyclists to Woodbourne, and the steering committee discussed the opportunities and challenges of each.

Each was reviewed in the context of the Safe Routes to Transit program, which provides the analysis communities will need to apply for a competitive grant to address an issue in the near-term. While only one of these strategies is pursued as part of this Safe Routes to Transit project, each strategy has merit, and may be worth pursuing in the future as part of a project with a different scope.

### *Access from the north on Woodbourne Road*

The residential subdivisions beginning at the intersection of Woodbourne and Big Oak roads, approximately half-a-mile north of the station, are home to dozens of commuters who drive to Woodbourne Station, but who might walk or bike if provided with a safe way to do so.

This option was intriguing to the committee, but ruled out for feasibility reasons. Two pinch points are unlikely to be resolved in a project of this scope. The CSX underpass cannot accommodate pedestrians, cyclists, and vehicles in two directions without full replacement, a multi-million-dollar proposition. The culvert where Woodbourne Road crosses Mill Creek would also need to be widened at great expense in order to accommodate pedestrian or bicycle facilities.

### *Access from the northwest on Woodbourne Road*

The Villages of Flowers Mill, an over-55 townhome community, is located a quarter-mile northwest of the station. The community features an internal sidewalk network, and could be within walking distance of Woodbourne if sidewalks existed along Woodbourne Road, and a pedestrian-only connection were made across Villages property.

This option was deprioritized for both feasibility and community issues. The culvert at Mill Creek remains a physical and financial barrier for this strategy. The Villages of Flowers Mill is a gated community with limited access points, and sufficient outreach has not yet been conducted to move forward with a proposed connection to that community.

### *Access from the south on Woodbourne Road*

South of the station, Woodbourne Road passes several single-family home and apartment developments, as well as small commercial developments, within approximately half-a-mile. Continuing south, the Oxford Valley Mall and associated office buildings are less than a mile from the station.

The steering committee gravitated to this option for several reasons. This strategy could serve both residents taking SEPTA to work, and reverse commuters heading toward area businesses. This approach also allows stakeholders to build upon an existing, if incomplete, sidewalk network along Woodbourne Road. There is potential for developers along this portion of Woodbourne Road to contribute to completing a continuous pedestrian connection between the station and the Oxford Valley Mall.

Township staff reported that the Township is currently pursuing a quiet zone project—safety measures that allow trains to cross a road without sounding a horn—on Woodbourne Road that could work in concert with this project.

Physical barriers are also less difficult to overcome along this route. The main physical challenge is the Route 1 underpass, which, at approximately 33', is wider than either the CSX underpass to the north (18') and the Mill Creek crossing to the north (30').

The steering committee agreed that the DVRPC project team should pursue this option because it appeared likely to serve many passengers within a reasonable project scope.




*Figure 10:* CSX underpass



*Figure 11:* Woodbourne Road at Mill Creek




*Figure 12:* Route 1 underpass

## PEDESTRIAN ACCESS PROPOSAL

At the steering committee's request, the project team produced a proposed sidewalk connection from Woodbourne Station to an existing sidewalk about 750' south of the station. This proposal connects to the portion of sidewalk proposed as part of the Township's quiet zone proposal, and continues south under U.S. Route 1, to meet the existing sidewalk. The sidewalk is typically 5'-wide, and located in the existing southbound shoulder. Access to existing driveways is preserved with curb cuts, and pedestrian gates and detectable warning surfaces are proposed at each at-grade railroad crossing.

Figure 13, below, presents an annotated view of the full extent of the proposed sidewalk.

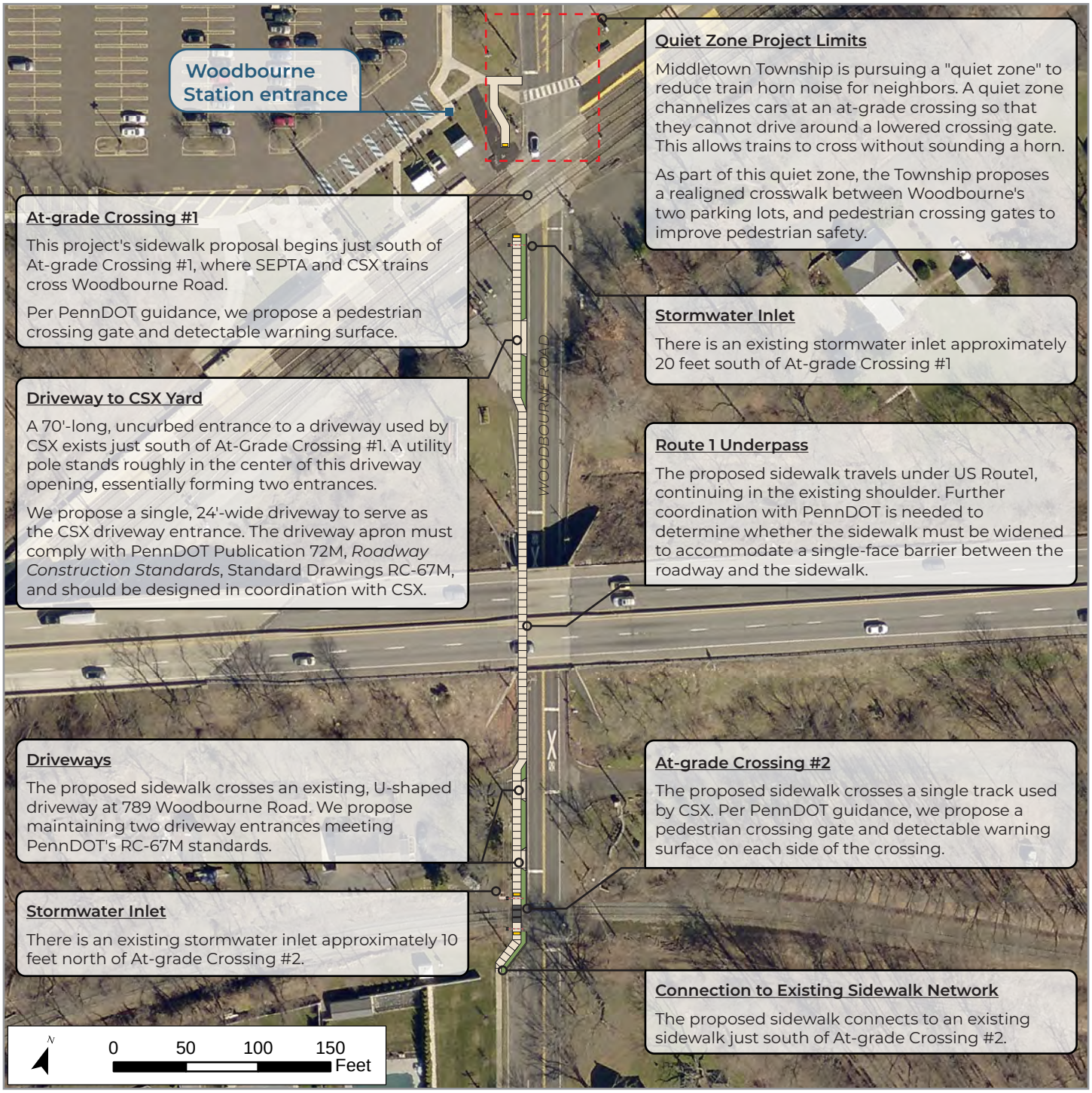



*Figure 13:* Proposed Sidewalk

## COST ESTIMATE

The following cost estimate for the proposed sidewalk detailed on page 9 are based on unit costs, and exclude soft costs. Coordination with PennDOT, CSX, local property owners, and other stakeholders is required.

| *Item* | *Unit* | *Quantity* | *Unit Price* | *Approximate Cost* |
|---|---|---|---|---|
| 5' wide concrete sidewalk | 290 | SY | $150 | $43,500 |
| ADA ramp | 3 | EA | $7,500 | $22,500 |
| Concrete curb | 375 | LF | $100 | $37,500 |
| Barrier & fence | 150 | LF | $500 | $75,000 |
| Signage | 3 | EA | $250 | $750 |
| Driveway adjustments | 3 | EA | $1,000 | $3,000 |
| Clearing and grubbing | 1 | EA | $5,000 | $5,000 |
| | | | ***Total***: | ***$187,250*** |

***Estimate does not include:***

Maintenance and Protection of Traffic: 3–5%
Mobilization: 3–5%
Construction Inspection: 10–15%

***Notes:***

+ Sidewalk may need to be narrowed to 4'-wide behind barrier under Route 1.
+ If ADA ramps are design/build, add $1,000 in construction phase.
+ PennDOT reviews will likely be required for improvements to SR.
+ Mailbox may need to be relocated at 789 Woodbourne Road.
+ Sidewalk locations are proposed to prevent utility pole relocations.
+ Two existing stormwater inlets may require further evaluation.
+ The headwall south of the Route 1 underpass may require an extension or adjustments.
+ 250 linear feet of existing guiderail will require further evaluation to determine warrants, length, need, and other factors.
+ Coordination with CSX is required for pedestrian crossings, gate arms, and approach.
+ A survey has not been completed for this study. Easements may be required.

## FUNDING OPPORTUNITIES

This study's recommendations and cost estimate tables are designed to assist Middletown Township in applying for grant funding. DVRPC's Municipal Funding Resource is an online database intended to assist local governments, community groups, and non-profit organizations in identifying federal, state, regional, county, and private sources of funding for locally initiated planning and development projects.

Some of the most relevant potential construction funding sources for pedestrian and bicycle projects include: DVRPC's Congestion Mitigation and Air Quality Improvement Program (CMAQ), PennDOT's Multimodal Transportation Fund, and PennDOT's Transportation Alternatives Set-Aside.

A potential funding source for future planning needs is the Transportation and Community Development Initiative (TCDI) program. TCDI supports municipalities by providing funding to undertake planning, analysis, or design initiatives which enhance the efficiency of the regional transportation system and implement the long-range plan. Applications for the next funding round for TCDI are expected in early 2022. This program may be particularly appropriate for planning or designing a sidewalk connection farther south towards the Oxford Valley Mall.

Nonprofit and advocacy groups often fund small walkability projects with microgrants, including America Walks Community Change grant and AARP's Community Challenge grant. The Pedestrian and Bicycle Information Center (PBIC) also provides examples of non-government funding sources.

## FUTURE BICYCLE AND PEDESTRIAN OPPORTUNITIES

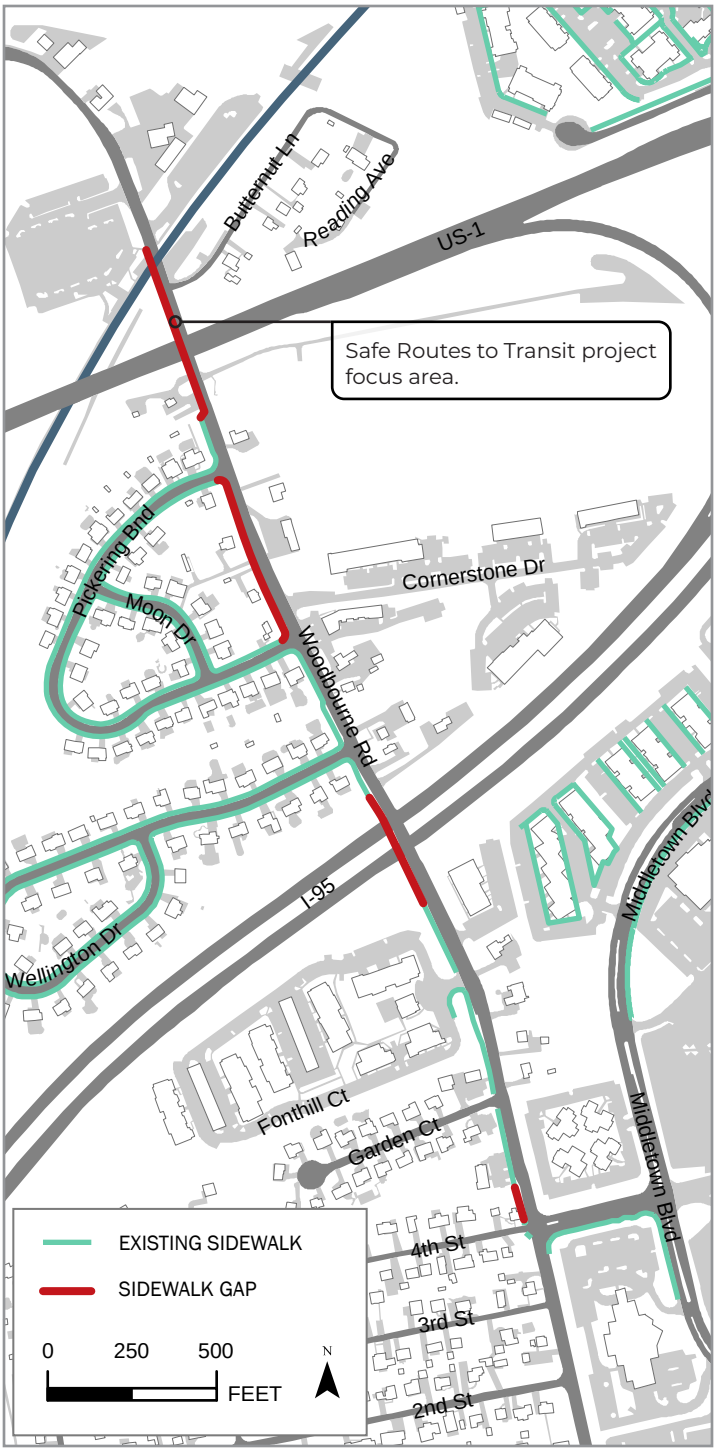
This project focused on the sidewalk gap closest to Woodbourne Station. Completing the partial sidewalk network south of the station offers several benefits:

Several sidewalk segments already exist, having been constructed along with developments on Woodbourne Road over the years.

Woodbourne Road south of Woodbourne Station does not suffer from the same physical constraints as those north of the station (see page 8).

The Oxford Valley Mall, along with other nearby businesses, is an employment destination for "reverse commuters."

Completing this connection would require approximately 1,125 linear feet of sidewalk, nine ADA-compliant curb ramps, and striping for four crosswalks.



## 6. PA Circuit Trails Map

# THE CIRCUIT TRAILS

100s OF MILES OF HAPPY

## Did you know that one of America's largest trail networks is in your backyard?

Pennsylvania and New Jersey are the proud home of the Circuit Trails, a vast regional network of hundreds of miles of multiuse trails that is growing in size each year. The Circuit connects our local communities, providing endless opportunities for recreating and commuting. What's more, it connects to countless destinations throughout the region, including the Alliance for Watershed Education Centers—a program committed to the health of the Delaware River watershed and inspiring people and communities to sustain this interconnected, natural system.

Explore all that the Circuit Trails have to offer: the trails that comprise the network and Alliance for Watershed Education Centers are listed to the right so that you can find them easily on the map. As you get out there, remember, whether you bike it, walk it or run it, the point is—just enjoy it.

Learn more about the Circuit Trails, get involved in our advocacy efforts, or find a trail near you—at **circuittrails.org**.

**CircuitTrails | # OnTheCircuit**







### CIRCUIT TRAILS


202 Parkway Trail....A-4
Audubon Loop Trail....B-3
Ben Franklin Bridge Pedestrian Walkway....B-4
Brandywine Trail....B-2
Chester Creek Trail....C-3
Chester Valley Trail....B-3
Cooper's Poynt Trail....B-4
Cooper River Trail....B-5
Cross County Trail....B-4
Cynwyd Heritage Trail....B-4
D&L Trail....A-5
Darby Creek Trail....B-4
Delaware & Raritan Canal State Park Trail....A-6
Delaware River Trail....B-5
East Branch Perkiomen Trail....A-4
East Coast Greenway....B-5
Gloucester Township Health and Fitness Trail....C-5
Johnson Trolley Line....A-6
Joseph Plumb Martin Trail (Valley Forge Loop)....B-3
Kinkora Trail....B-6
Lawrence Hopewell Trail....A-6
Manayunk Bridge Trail....B-4
Merchantville Trail....B-5
Monroe Township Bike Path....C-5
Neshaminy Creek Greenway....B-5
Newtown Square Branch Trail....B-4
Pennypack Trail....B-5
Perkiomen Trail....A-3
Power Line Trail....A-4
Radnor Trail....B-3
Rancocas Greenway....B-6
Runnemede Trail....C-5
Schuylkill River Trail....B-4
Skippack Trail....A-3
Struble Trail....B-2
Sullivan's Bridge Trail....B-3
Tacony Creek Trail....B-4
Ulysses Wiggins Waterfront Park Promenade....B-4
Uwchlan Trail....B-2
Wissahickon Trail....B-4


### OTHER REGIONAL TRAILS


Delaware & Raritan Canal State Park Trail....A-5
ECG Christiana to Newark....C-2
ECG Northern Delaware Greenway....C-3
ECG Wilmington to New Castle Trail....C-3
Enola Low Grade Trail....B-1
Union Canal Trail....A-1
Union Transportation Trail....A-7


### ALLIANCE FOR WATERSHED EDUCATION CENTERS


Audubon Pennsylvania Discovery Center....B-4
Bartram's Garden....B-4
Berks Nature....A-1
Camden Children's Garden....B-4
Camden County Environmental Center....B-5
Center for Aquatic Sciences at Adventure Aquarium....B-4
Cobbs Creek Community Environmental Education Center....B-4
DuPont Environmental Education Center....C-3
Fairmount Water Works....B-4
First State National Historical Park....C-3
Heritage Conservancy at Bristol Marsh....B-5
Independence Seaport Museum....B-4
John Heinz National Wildlife Refuge at Tinicum....C-4
John James Audubon Center at Mill Grove....B-3
Lehigh Gap Nature Center....A-1, North
New Jersey Conservation Foundation at Gateway Park....B-5
New Jersey Natural Lands Trust at Petty's Island....B-4
Pocono Environmental Education Center....A-4, North
Schuylkill Center for Environmental Education....B-4
Schuylkill River Greenways National Heritage Area....A-2
Tacony Creek Park....B-4
Tulpehaking Nature Center at the Abbott Marshlands....A-6
The Watershed Institute....A-6


### MAP LEGEND

- Passenger Rail Stations
- Bus Stations
- Watershed Education Centers
- Parks
- East Coast Greenway (ECG)
- 9/11 National Memorial Trail
- Existing Trails
- Trail Network Spines
- Trails in Progress
- Other Regional Trails

### INSET LEGEND

- Bicycle Lanes
- Indego Bike Share Station
- Bus Stops Less Than 1 Mile From Trail


The Circuit Trails is a TrailNation™ Project, Rails-to-Trails Conservancy's national trail-network-building initiative designed to prove what's possible when we connect people and places by trail.

This map was made possible with generous support from REI Co-op and the William Penn Foundation.

7. **Public Participation**
   a. **Steering Committee Meetings**
   b. **Public Meetings**
   c. **KPI Notes**
   d. **Public Opinion Survey Results**
   e. **Wikimapping Input Results**

## 7. PUBLIC PARTICIPATION

### a. Steering Committee Meetings - NOTES

- Committee Meeting #1
- Committee Meeting #2
- Committee Meeting #3

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Multimodal Improvement Plan (MIP) | Project No.: | **22059.10** |
| Location: | 3 Municipal Way Langhorne, Pennsylvania 19047 | Meeting Date/ Time: | 02.22.2023 4:00-5:30 pm |
| Re: | Committee Meeting #1 | Issue Date: | 02.24.2023 |

## ATTENDENCE:

See attendance list.

## ATTACHMENTS:

- CM #1 Attendance List
- Committee Meeting #1 Presentation (attached to email as separate file)

## GENERAL NOTES:

**Presentation:**

William Collins (WC) provided an introduction of the team and project scope. Geoff Creary (GC) gave an of overview description of trail/connectivity design process (user groups; design considerations). Bryce Brucker (BB) explained the "Trails 101" improvement toolbox. Anita Nardone (AN) discussed next steps and project logistics to the committee.

**Discussion:**

***Project Schedule***

- AN began discussion about the 'draft' schedule of the Multimodal planning process. SC emphasized that the schedule was drafted with the intent of 'pushing' to identify potential early-on Township priorities to take advantage of funding application opportunities in 2023.
- Township will take committee input and Township calendar and confirm schedule next week (week of 2/27/2023).

***Committee Discussion***

1. Patrick Graham (P&R/Program Coordinator)

- Sidewalk gaps in Levittown are extremely important as they create barriers to connect north. The parks and rec department has had casual discussions on this and may have some sketched designs. Will transmit to SC.
- A 'Middletown Greenway Trail' has been a long-term desire of the Township in the Levittown area.

2. Paul Kopera (P&R/ Director)
    - Discussed a connection from Middletown Community Park to Core Creek Park as a priority.
    - Maple Point campus is moving on a trail project. Core Creek Park is also advancing a trail project. The African American Museum is in the same area. Walkable field trips to the museum are a goal of the school.
    - How do you get over Business Route 1 to connect the entire Township? A pedestrian bridge could be a huge solution to a significant barrier. (Near 'Big S' Car Wash location.)
3. 'Large/ Aspirational Projects'
    - GC questioned group on the 'appetite' for large projects?
    - Township Supervisor Dana Kane (DK): Focus in the ability to walk and bike. If the problem is large enough, planning 'big' is certainly acceptable.
    - A pedestrian bridge over Business Route 1 could be an important component of the plan for ensuring equity in mobility.
    - WC added that current BIL (Bipartisan Infrastructure Bill) funding is available for pre-construction tasks (e.g. engineering). SC will assist the Township to explore all optionsto leverage funding and matching funds for it priority ped-bike transportation projects.
4. Police Capt. Pete Feeney (PF)
    - (Capt. Feeney substituting today for Sarg. Mark McLeod)
    - In the mid to late 1990's a bike path through Twin Oaks to Target to Oxford Valley Mall was discussed. This idea didn't go very far to connect Levittown to Langhorne.
    - Stephanie Teoli Kuhls (STK): Target worked with PennDOT on Business Rt.1 access issues; currently Target is not advancing their work with PennDOT on this matter
5. Stephanie Teoli Kuhls (STK-MT Township Manager)
    - Questions on the 'Data & Inventory' slide: Not a complete list. STK will work with SC and TPD (traffic consultant) to get SC relevant information. AN to reach out to TPD, Dawood and STK to possibly set up a virtual discussion to organize this data transfer.
    - Current Township program for ADA curb ramps; ped signals underway. Will get SC information on this.
    - PennDOT Route 1 RC3 project has a plan to convert old access roads to ped facilities.(Lori Ware (LW) has briefly reviewed this plan.)
    - Stone Meadows Farm development across from George School proposing a trail connection.
    - Current Board of Supervisors very supportive of pedestrian/bike connections
6. Traffic/ Crash Data/ Traffic Issues
    - AN noted that MT Police supplied, and Nick transmitted crash data to SC.
    - Pertinent TIS (traffic impact studies) submitted with LD applications made available to SC and Dawood.
    - Capt. Feeney: 600-1000 motor vehicle accidents/ year in MT. 75% are non-reportable.

- LW (Dawood): Is the MT accident data visual? Heat maps? Is data currently separated?
- Capt. Feeney: Cannot pull specific data on Ped vs. car, Car vs. Car etc.
- Can pull fatalities. MT averages 3-5 fatalities per year.
- NEXT STEPS: Dawood to get available breakdown of crash data from PennDOT 6-0 and listing of current HOP (highway occupancy permit) applications that could affect conceptual connection design.

7. Transit Oriented Development (TOD)/ 'Safe Routes to Schools' (SRTS)
   - WC asked if there were any TODs in the pipeline currently in MT
   - Steve Noll (SN) (TMA Bucks): No TODs planned currently. No SRTS projects.
   - PF: Biking to school is currently allowed only for high school students. There is an annual 'bike to school day'.
   - STK: School crossing guards are Township employees.
   - NOTED: School District will be an important partner in this project in promoting the project and public input.
8. Amy Strouse (AS) (Former Township Supervisor; resident)
   - Important to remember that the neighboring boroughs are very walkable---and are important Township resident destinations---not just 'pass throughs'.
   - Important for MT staff to reach out and get any significant planning docs from them
   - Important to include non-residents/ commuters to Township
   - Solicit input from large employers; STK has developed good relationships with employers.
   - SN noted that TMA Bucks has worked with getting data from employers on past transit projects.
   - The importance of a creating a strong 'Mission Statement' for the project. Craft this carefully so that interest and enthusiasm build from the start. WC agreed---messaging is important.
9. Joseph Leming (resident; bike/ped enthusiast)
   - Suggested local bike shop outreach for public participation and surveys.

**Next Steps:**

1. Steering Committee asked to supply schedule review comments to Nick Valla by Monday, Feb. 27th
2. Twp. to develop listing of KPIs (key person interviews)
3. Finalize project schedule by March 3rd.

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

Sincerely,
SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE



Bryce Brucker
Project Landscape Architect

# Middletown Township
## Multimodal Improvement Plan

Sign In Sheet
Committee Meeting 1
February 22, 2023

| Name | Email |
|---|---|
| Stephanie Teoli Kuhls | [redacted] |
| Jim Ennis | |
| Missy Kitzmiller | |
| Amy Strouse | |
| Pete Feeney | |
| Mark McLeod | |
| Dana Kane | |
| Joseph Leming | |
| Andrew McAloon | |
| Dawn Quirple | |
| Ashley Julon | |
| Patrick Graham | |
| Lori Wave | |
| Paul Kopera | |
| Steve Nou | |
| Nina Valla | |
| Chris Haughey | |
| | |
| Virtual Attendees | |
| Dave Devore | |
| Guy Triano | |

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Multi-Modal Improvements Plan | Project No.: | 22059.10 |
| Location: | Middletown Township Municipal Building Room 220 | Meeting Date/ Time: | 05.25.2023 4:00-5:30 pm |
| Re: | Committee Meeting #2 | Issue Date: | 06.19.2023 |

## ATTENDENCE:

See attached attendance list.

## DELIVERABLES:

- Committee #2 Meeting Presentation
- Committee #2 Meeting Notes
- Draft Improvements Plan to Committee

## GENERAL NOTES:

**Presentation:**

Anita Nardone (AN) provided an introduction and continued through data and inventory. Bryce Brucker (BB) explained the site reconnaissance and site analysis. Geoff Creary (GC) gave a description of initial concepts.

**Discussion:**

1. **Woodbourne Station Area**
    - Nick Valla (NV) asked/ wanted to confirm that we have seen PennDOT's plans for Langhorne-Yardley Road near Woodbourne Road. (AN noted that we have received these plans from TPD.)
        - He mentioned Flowers Mill Community research as to why there wasn't a connection to train station. (Sidewalk could be in Right-of-Way, therefore it can still go in as part of another project.) (Note: KPI to be scheduled with Village of Flowers Mill; issue to be added to discussion.)
    - All: Sidewalk connections between Woodbourne Station and Mall are an important priority.
        - William Collins (WC): The deck on overpass might become problem for Ped/ bike facilities, but that doesn't stop you from building Woodbourne improvements in

other connected segments. segments. People are walking this already. Alignment is built in phases

- WC: There is difficulty in getting at grade crossing on railroad tracks other than SEPTA (CSX, Norfolk, etc.) unless you have political clout or it's pre-existing.
    - Example: Delaware Water Gap, Smithfield township.
- WC: Woodbourne multimodal improvements are a good candidate for the 'Reconnecting Communities Program' (RCP) under the BIL Federal funding. Identifying multi modal needs will increase ability to get RCP grant .
- AN: Reminded the committee that our engineering consultant (Dawood) will be tasked with exploring the t4echnical challenges for the complex connection locations (bridges; tunnels; etc.)
- WC: Reiterated that the preliminary improvements shown in this discussion for Woodbourne work with the DVRPC plan
- NV: Reminded the Committee that DVRPC studied the Woodbourne Station area in a 'Safe Routes To Transit' study completed about 5 years ago.

**2. Specific Neighborhood Discussion Items**

- GC: Neshaminy HS-Noted missing sidewalks near High School.
    - Sharrows, crosswalks, and Rapid Flashing Beacons important tools to consider here.
- Missy Kitzmiller (MK) Asked GC to remind her of what Sharrows are.
    - GC explained sharrows use and design (painted pavement markings reminding motorists that bikes will share the roadway.)
- GC: Shared visual images of Snowball Drive during site visit. (Apparent bike lane?)
- MK asked what Snowball Drive's improvement was
    - NV explained that it was a traffic calming measure (reducing the lane width with painted lines which allowed for a 5' wide 'pavement area (shoulder) that people used in a way that works for pedestrian and bicycle traffic
- GC explained how this Snowball DriveGate improvement works with other 'tools'. (Shrinking roadway, creates new possibilities, i.e sidewalk or wide shoulder)
- Dawn Quirple (DQ) asked if this type of improvement could be used in Snowball Gates.
    - GC : Yes---if there is available pavement width. GC explained that there are other tools we can use when faced with the fact that pedestrians walk in the cartway of low-volume roadways.
- NV explained that we had a very similar discussion in preparation for this meeting. NV brought up the question if we want to look inward to neighborhoods or look at connections between neighborhoods. (Most committee members agreed that the 'inter' neighborhood connections were important to this study.)
- Multiple members suggested sharrows or bike lanes in Snowball Gates
- DQ: Agreed with neighborhood inter-connection idea.

**3. Important Connection between North and Side Sides of Twp (across Bus. Rt.1)**

- DQ: Re-centered the discussion on the 'north to south' connections across Bus. Rt.1 in the Township.
  Some discussion items between committee and SC:
  - Important! But it is very difficult to do. (Lincoln Highway, Route 1)
  - GC: Do we even consider some improvement along Business Route 1? Would require analysis of lane reductions and these are big-ticket design/ analysis items.
  - DQ: Offered her input to this 'Business Route 1 Crossing' discussion: Lane from Woodbourne across Lincoln Highway
    - MK – The Business Route 1 crossing seems like a better use of money than something like bike lanes on Route 1
  - GC: Our analysis will focus on finding the compromise between vehicular and pedestrian with Route 1. Once this area is shown on the draft improvements plan, the Committee will need to weigh in on the extent of the proposed improvements.
    - MK: Concurred with preference for getting over Business Route 1m(Lincoln Highway) rather than on it.
  - DQ thinks Woodbourne is a central place to cross Business Route 1 (Lincoln).
- GC: Route 1 is a PennDOT Road, which could be used as an opportunity
- Dana Kane (DK): Agrees with improvements, particularly the 'trail' shown to the south of the Styers Orchard. (A mechanism for getting peds/bikes to the western portion of the Township.

**4. Updates/ Relevance of PennDOT RC3 Project**

- WC – Curious about the progress of RC3 discussion within the Township.
- NV: Township sees the benefit of doing the RC3 project at large, other municipalities are hesitant and want to see the current or next phase plans, as to see the plans effect on their community.
- NV: PennDOT floated the idea to MT and boroughs the concept of using the 'old' Route 1 access roads for multi use trails.
  - DK mentioned that Langhorne is excited to discuss with us on that.
  - (NOTE: Follow up needed on scheduling the KPIs with the four (4) boroughs.)
- NV: MT and the neighboring boroughs are waiting on PennDOT to organize a public meeting to review the most recent plans.

**5. Core Creek Connections**

- BB: Perimeter trail and access possibilities exist in Core Creek Park. SC to explore recommendations for the County Park.

## 6. KPI (Key Person Interview) Updates

- AN: Explained that we have had our first two key person interviews with Wood School and Sesame Place
  - Both organizations very pleased with the MMIP effort; discussions centered on important improvements for their campuses; access of employees to their sites

7. **Miscellaneous**
    - Chris Haughey (CH) (Citizens Traffic Advisory): Questioned how the survey is/should be distributed
        - AN noted that the Township has used an email blast (responsible for a great response over the past weekend---doubling the response to 73. Twp also using webpage; social media
        - NV mentioned he is figuring out ways to get it out
            - Mailing (Costs?)
            - WC: Is it possible to piggy back on summer programs (since school is out )
            - Chris: yard signs with QR code (NV likes this)
            - DK: Is there a way to add question to survey as to where someone found out about it? (AN noted that questions can be added; sensitive to the length of the survey.)

**Next Steps:**

- Send draft improvement plan to committee.
- Public Meeting #2 on 05/30/2023

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Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE



Bryce Brucker

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Multi-Modal Improvements Plan Study | Project No.: | 22059.10 |
| Location: | 3 Municipal Way<br>Langhorne, Pennsylvania<br>19047 | Meeting Date/ Time: | 08.29.2023<br>4:00-5:30 pm |
| Re: | Steering Committee Meeting #3 | Issue Date: | August 30, 2023 |

## ATTENDENCE:

### Steering Committee

Patrick Graham- P&R

Jim Ennis-Public Works

Andy McAloon-Resident; EAC

David Devore-Resident; Human Relations Commission

Sgt. Mark McLeod-UMT-PD

Dana Kane-Resident; Supervisor

Nick Valla-MT Asst. Twp. Mgr.

Chris Haughey-Resident; Citizens Traffic Commission

### Project Team

Bill Collins-Principal, SC

Anita Nardone, PE-Proj. Mgr, SC

Geoff Creary-Sr. LA, SC

Bryce Brucker-Staff LA, SC

Lori Ware, PE, PTOE-Dawood Engineering

Natalia Dzietczyk-Dawood Engineering

Ashley Sulon-TMA Bucks

Steve Noll, TMA Bucks

## DELIVERABLES:

- Committee #3 Meeting Presentation
- Committee #3 Meeting Notes with Sign in Sheet

## GENERAL NOTES:

**Presentation:**

William Collins (WC) gave an introduction. Anita Nardone (AN) gave a summary of the project status and public input. Geoff Creary (GC) gave a brief on the draft improvement plan. Lori Ware (LW) gave an overview of the Dawood Engineering work on Woodbourne and Route 1 corridors. Bryce Brucker (BB) gave a breakdown of the costing methodology. AN gave the next steps and funding opportunities. WC and AN gave closing statements

**Discussion:**

*Priorities discussion: Slide introduced possible discussion items: schools, parks*

- Patrick Graham: Levittown "gates" neighborhoods would benefit from more connectivity.
    - Safer crossing at Trenton Road
    - Cobalt Ridge, Quincy Hallow Greenbelt, Forsythia Park, all destinations in that area. (SE corner of MT).
- Dana Kane – Wanted to remind group of Core Creek Park, Middletown Community Park, and Styers, as main destinations. (These not included on the priorities slide; however the slide was intended only to promote ideas.)
    - AN emphasized the importance of getting to Core Creek from both the south and north of the Business Rt. 1 divide.
- Sgt. Mark McLoed – SAFETY CONCERNS: Woodbourne Road/Wood Lane is very tight and they have had many crashes (including fatalities). Should never have foot traffic through the current underpass
    - MM – Sidewalks on the overpass may be expensive and doesn't currently see a lot of foot traffic
    - AN reminded group : "If you build it, they will come".
- Nick Valla: Apartment development at oxford Valley Mall. What is the estimated time remaining for the Mall apartments?
    - Jim Ennis: Roughly a year; developer waiting to see response before starting Phase 2.
- Sgt. Mark McLoed– warned about the danger of 4th Street and Woodbourne
    - MM emphasized East Lincoln Highway as a dangerous area as well
    - MM questioned the ownership of the land on the NE and NW sides of the Wood/Woodbourne tunnel? (NE-private; NW-Styers owned by the Township)
- Bill Collins – Costs for the major items like bridges and tunnels would be costed by the square foot to assist in balancing options.
- Nick Valla – Explore potential for solutions at the "Target Jughandle"

    - WC: For any proposed crossing, consideration must be given to reaching destinations on both sides.
- Geoff Creary – Reminded the group that a 'vision zero' approach to improvements puts the cost discussion into perspective. The cost of improvements is never too high when considering human life.
- Steve Noll – Schools Walkability: Neshaminy SD considers a 1.25 mile distance with no 'safety barriers/ hazards' walkable. (No bus transport.) Removing barriers may open that 1.25 mile to more population.
    - Are there simple fixes to the barriers to get that walkability up?
    - AN proposed looking for a pilot program to study within MT. Pearl Buck ES? Maple Pointe ES?
- Mark McLoed: Neshaminy HS-The Fairhill/Highland Underpass has many students walking to HS football games
    - Bad site lines, poor lighting
    - Other neighborhood connections to NHS.
- Nick Valla: The Fairhill/Highland Ave underpass beneath Route 1 is slated for improvement in the current RC3 plans from PennDOT.
    - PennDOT RC3 Discussion: Anita noted that SC will pursue meeting with the RC3 PM (Dawood provided connection); VERY important to put forth important multimodal ideas like the use of abandoned access road for trails before the advertisement for final design of that section. Bill Collins noted that our preliminary look noted that a horizontal alignment shift and stormwater considerations could make the 'trail' idea more reasonable to PennDOT. Nick reminded group that the RC3 project is 5-7 years away.
- Patrick Graham: Homestead and Trenton Road Sidewalk Gap – Access to Senior Center
- Dana Kane – Makes sense to focus on areas of high population with reasonable walking times to major destinations. What does the SC team think is a 'reasonable' walk length/ walk time?
    - Geoff Creary: A 15-minute walk for I mile is a 'guideline'. (Actual time probably closer to 18-20 minutes.) We should not only consider recreational/ errand walking---but also the fact that there are people who will need to walk (lack of a vehicle) to reach important destinations for work, etc. Middletown has many of these types of destinations between retail establishments and recreational areas.
- Bill Collins: Grant Funding
    - The current climate for funding with the BIL has three years remaining. Major projects like the Woodbourne Corridor elements that we have discussed are getting funding. Different from past practices, new Federal funding is covering design/ engineering costs.
    - Nick Valla noted that the recently awarded grant to PennDOT to study the at-grade rail crossing at Woodbourne complicates how the Twp may proceed since we don't know 'what' might be proposed.
- Closure of Public Opinion Survey/ Wikimap: Discussion on the closing date. **September 15th** decided by the group.
- Nick Valla: Please add a presentation to the Board of Supervisors after the Planning Commission presentation. (Date estimated at Nov. 13th.)

- Anita Nardone: Shared slides of final report pages currently drafted. Reminded group that the improvements plan will be included as 'tiles' of the entire Township. E.g Township divided into 10-12 maps; enlarged for readability. Plan will also be posted electronically for viewing.

**Next Steps:**

1. Transmission of FINAL Draft Improvements Plan and total costs for all twelve (12) areas to be transmitted to the Committee on September 20th in advance of the September 28th Public Meeting #3. Please supply all additional comments after the review of these documents.
2. September 28th-7pm-Public meeting #3-Presentation of Final Plan

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Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE



Bryce Brucker
Staff landscape Architect

# SIGN IN

Middletown MMIP Committee Mtg #3

8/29/2023
4-5:30pm
Room 221

## Committee

Patrick Graham Middletown Parks Rec

ANDREA M'ALOON MIDDLETOWN EAC

Nick Valle

Dana Kane (Zoom)

David Devore (Zoom)

SGT MCLEOD

Chris Haughey

## Team

STEVE NOLL TMA BUCKS

ASHLEY SILLON TMA BUCKS

Jim Ennis, Middletown Twp

WM COLLINS - SC

Anita Nardone - SC

Bryce Bricker - SC

## 7. PUBLIC PARTICIPATION

### b. Public Meetings – NOTES

- Public Meeting #1
- Public Meeting #2
- Public Meeting #3

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Multimodal Improvement Plan-Study | Project No.: | 22059.10 |
| Location: | Towamencin Township Office Building<br>3 Municipal Way<br>Langhorne, PA 19047 | Meeting Date/ Time: | 04.04.2023<br>6:00 – 8:00 pm |
| Re: | Public Meeting #1 | Issue Date: | 04.05.2023 |

## ATTENDENCE:

See attached attendance list.

## SIMONE COLLINS TEAM:

William Collins – Principal

Anita Nardone – Project Manager

Geoff Creary – Multimodal Trail Designer

Bryce Brucker – Staff Landscape Architect

## DELIVERABLES:

- Public Meeting #1 Meeting Notes
- Public Meeting #1 Sign-in Sheets
- Public Meeting #1 Agenda
- Public Meeting #1 Recording

## GENERAL NOTES:

**Presentation:**

William Collins introduced the project team and the multi-modal study. Anita Nardone explained the meeting agenda, project schedule, and partners. Geoff Creary detailed “Trails

101" which went over user groups, guidelines, and standards for connectivity improvements. Bryce Brucker went over the' toolbox' items for the connectivity study (those traffic control/ safety improvements/ bike/ped connectivity items that enhance multimodal transportation). After presenting this information, a public discussion and public input exercises ensued.

### Goals, Facts, Concepts, Partners:

An exercise took place, which included public input broken into these four categories. In addition, the public identified routes, destinations, and challenges on physical maps, using markers and stickers. The following list identifies the responses received for Goals, Facts, Concepts, and Partners for the Middletown Multi-Modal Connectivity Study.

*Goals:*

- Multi Modal Network
- Reach destinations in Newtown Borough
- Walk to Langhorne and Woodbourne Stations
- Plan with A.D.A accessibility as priority
- Build a united and accessible community
- Create access to public transportation
- Town Center
- Get outside of own neighborhood on foot and bike
- Get to Tyler Park
- Sidewalks to Core Creek Park
- Educate the Public
- Get to the Canal

*Facts:*

- There are challenging narrow roads in the Township
- There are sidewalk gaps on Durham Road
- Homeowners have different perspectives on sidewalks
- There is heavy traffic on 413 between Maple and Highland in Langhorne Borough
- Riding to the library is not comfortable
- ADA design is the Law
- Disability community covers all user groups
- Many smaller, neighborhood playgrounds in the Township have sidewalk access

*Concepts:*

- Historical Trail (use historical data)
- Pedestrian Bridge over Route 1
- Connect to Flowers Mill
- Safe Bike Parking
- Bike Share
- Pervious Paving for trails
- Sidewalks and Bike Lanes on Winchester Avenue
- Focus on the "Negative Space" in the Strava Data (places where people do not/ cannot travel)

- Signage and Wayfinding
- Walk more, Drive Less
- Yardley and Bristol Connections
- Need for a 'Mission Statement' for the multimodal improvement plan effort.

*Partners:*

- Neighboring Townships

**'Mission Statement':** Committee member David Devore suggested that the study include a 'mission statement' to guide efforts. Suggested mission statement:

"Build an accessible and united community".

**Next Steps – Public Opinion Survey/ Wikimap Tool and Public Meeting #2 on 5/30/2023**

The Public Opinion Survey and Wikimap tool are now LIVE. The next steps include promoting the public survey and online mapping tool. SC will begin to compile and analyze data to develop preliminary improvement recommendations.

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Sincerely,



Bryce Brucker

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE

# Middletown Township Multimodal Improvement Plan

MIDDLETOWN TOWNSHIP, BUCKS COUNTY, PENNSYLVANIA

# Please Sign In

## Public Meeting 1 - February 22, 2023

| Name | Email |
|---|---|
| Esta Devore | [redacted] |
| David Devore | |
| Dawn Quiple | |
| Elyse Turner | |
| Bob & Nancy Feather | |
| Samantha McGraw | |

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Multimodal Improvement Plan Study | Project No.: | 22059.10 |
| Location: | Middletown Township Municipal Building | Meeting Date/ Time: | 05.30.2023 6:00-8:00 pm |
| Re: | Public Meeting #2 | Issue Date: | 06.21.2023 |

## ATTENDENCE:

See attached attendance list.

## DELIVERABLES:

- Public Meeting #2 Presentation
- Public Meeting #2 Meeting Notes

## GENERAL NOTES:

**Presentation:**

William Collins (WC) introduced the project and team. Anita Nardone (AN) continued the presentation with data and inventory information. Bryce Brucker (BB) explained the site reconnaissance and site analysis. Geoff Creary (GC) gave a description of the 'toolbox' and initial concepts. (WC) Concluded the presentation with schedule and next steps.

**Discussion:**

1. Sidewalks/ Parked Cars/ Jaywalking
    - Participant commented on pedestrian safety in residential neighborhood where drivers frequently park on sidewalks blocking access and blocking curb cuts at the corners. He was also concerned about jaywalking—which requires defensive driving skills by motorists.
        - GC responded that jaywalking is illegal. Unfortunately, no physical design can lead to police enforcement, however we can create safety measures that aim to limit this.
2. Pedestrian and Driver Education
    - Participant commented on the need for education about multimodal safety.

- Nick Valla (NV) added that the facilities aren't always intuitive, which lead to incorrect use. Mentioned that Middletown is an old township and has improvements that are out of date and current 'tools' of multimodal safety need to be understood.
- NV explained that more detailed design of certain elements would come from Township engineers, which aim to limit things like jaywalking.
- AN explained that safety measures could be as simple as video clips online. Ssafety education would be part of our recommendations in the final report with examples from other municipalities.

**3.** Sidewalk Gaps / Obeying Traffic Conventions/ Need for Signage

- Member of Planning Commission noted that the Twp. in the past frequently waived the requirement for sidewalks---and is now playing 'catch up'. No more waiving sidewalks!
- He is concerned about sidewalk gaps.
- Agrees with need for refresher on basic traffic conventions of riding with traffic and walking against traffic for maximum safety. People do not obey this at Core Creek Park.
  - GC mentioned that we are looking at a better network for the park itself.

**4.** Better Signage & Traffic Markings

- Participant suggested better signage for crosswalks, to notify vehicular traffic to yield to pedestrians.
  - GC went back to safety, and how yielding to pedestrians and giving cyclists 4 feet of clearance is generally new law. New signage conventions help educate.

**5.** Timeline for Implementation of Improvements

- Participant questioned the process of implementation of the project. How would this work? Is this one project at a time?
  - GC explained that the answers depend on grant funding. If certain grants call for multi-use trails, the implementation of the improvement plan shifts to accommodate what grants will fund. (No cost to taxpayers.)
  - NV added input about the federally infrastructure bill and how it relates to the implementation of specific projects from the plan. The timing of this plan works in harmony with these opportunities.
  - WC added that the toolbox improvements will have cost estimates. The Township can 'plan' which areas should be priorities and where the possible funding can come from.

**6.** PennDOT RC3 Project / Kingville Road

- Participant brought up PennDOT's projects on Route 1 and how it may affect traffic plans
  - GC explained that we are requesting the current plans. We will work withwhat is planned in the RC3 corridor.
- Same participant mentioned Kingville Road, shallow shoulders.
  - GC noted that making recommendations on highway improvements was out of project scope.
  - NV explained that Township is waiting for Phase 3 of plans from PennDOT which will have its own discussion. NV explained that access roads to Route 1 being reused as multi use trail may be part of the plan and would be something the Township would support.

7. Newtown Rail Trail/ George School Connection?
    - Participant was curious if Newtown Rail on the backside of George school could be used as a rail trail.
        - GC explained that George School oversees that amenity, and we plan to talk to them.
8. Brownsville Road Area/ Neshaminy High School
    - A member of audience was curious if anything was slated for Brownsville Road. People use that bridge to walk and fish; planned bridge work does not include enough room for a sidewalk.
        - GC mentioned we will look at this. He also went into detail about the age of roads; narrow rights-of-way exist for older routes. Difficult to add onto bridges due to ROW.
    - Could there be sidewalks added to Neshaminy High School. Can we connect to residential areas around this location on Creek Road? Look at locations around Feasterville.
    - Another participant noted she lives between Brownsville and Maple Avenue said there are no sidewalks in her neighborhood. There are adjacent parks, however there is no way to get to them. (Simmons Park.)
    - An online participant echoed the remarks about Brownsville Road.
9. Old Lincoln Highway/ Hulmeville Road-Penndel Borough
    - Participant mentioned Hulmeville Road and Lincoln Highway, Penndel Borough, is a dangerous intersection.

NOTE: Paul Kopera (Dir, Parks & Recreation) shared photos of Jones Park, North Clearview Avenue Dead end. Noted a needed connection between parks.

**Next Meeting: Public Meeting #3 on September 28, 2023 – 6pm**

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Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE



Bryce Brucker

# Middletown Township
## Multimodal Improvement Plan

Sign In Sheet
PUBLIC MEETING 2
May 30, 2023

| Name | Email |
|---|---|
| TANYA STASZESKI | [redacted] |
| Elizabeth A. Birbeck | |
| Elyse Turner | |
| PATRICK DOUGHERTY | |
| SAMANTHA LENHERR | |
| Caroline Mael for Leming | |
| TOM PIACENTINO | |
| Rich & Denise Rush | |
| Jeff McCard | |
| Kim Hearn | |
| Mike Moran | |
| Samantha McGraw | |
| Virtual Attendees | |
| • Six (6) attendees | |

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Multimodal Improvement Plan Study | Project No.: | 22059.10 |
| Location: | Middletown Township Municipal Building | Meeting Date/ Time: | 09.3282023 6:00-8:00 pm |
| Re: | Public Meeting #3 | Issue Date: | 10.02.2023 |

## ATTENDENCE:

See attached attendance list.

## DELIVERABLES:

- Public Meeting #3 Presentation
- Public Meeting #3 Meeting Notes
- Draft Improvements Plan (9/28/2023): For posting to Township Website

## GENERAL NOTES:

**Presentation:**

William Collins (WC) introduced Anita Nardone, PE (AN). Anita Nardone (AN) continued the presentation on:

1. Project Status: Review of Scope/Schedule
2. Summary of Public Input
    - *Public Meeting #2 Review*
    - *Opinion Survey*
    - *Online Mapping*
3. Draft Final Improvements Plan
    - *Discussion/ Comment*
4. Advanced Investigation
    - *Woodbourne Corridor*
    - *Business Route 1 Corridor*

5. Cost Estimate

Geoff Creary (GC) presenting the Draft Final Improvements Plan---showing the concept for providing 'tiles' of the mapping to be shown in the report.

### Improvement Cost Estimate

1. AN provided an introduction to the discussion on improvements costs---noting that there are various methods that the Township can employ to cover the costs of the implementation of improvements.

### Discussion/ Participant Comments/ Questions:

1. Fulling Mill Road to Core Creek Park + Shoulder Maintenance + Woodbourne Tunnel Location+ Historical Development plans at 4th/Woodbourne
    - Participant who is also a member of the MT Planning Commission noted that Fulling Mill Road is a way that many residents in the N-NW section of the Township access Core Creek Park. (First major roadway west of Woodbourne). The condition of the shoulder which many use is poor and needs maintenance. (Over growth; debris concerns).
    - Participant commented on the location proposed for the tunnel at Wood/Woodbourne. Felt it would be better on the west side of the roadway crossing.
        - GC responded that the SC team agreed that the western location provided better access to Styer Orchard. Dawood will be looking at both locations. AN noted later in the presentation that ---once this concept is studied in more detail in future phases---there could other transportation and re-development reasons to include an eastern tunnel. This plan is preliminary.
    - Participant noted that Capital Health pursued a land development application that was never finalized at 4th/ Woodbourne and they were asked to provide a sidewalk.
    - Participant noted that the Planning Commission now does not accept 'fee in lieu of sidewalk. Sidewalks are required to be placed.

2. Hollywood Ave Access to Township Open Space
    - Participant commented on the need for easier access to the open space adjacent to her neighborhood on Hollywood. Currently, grades and debris have blocked access to open space to the north for walking. SC to review.
        - Later discussion---participant noted that maybe some small maintenance can be done to clear a 3'-wide access to the open space; perhaps later the Township can consider formalizing the entrance with a paved path.

3. Regional Context of Connectivity
    - Participant from Falls Township joined the discussion as an advocate for cycling and mobility in Lower Bucks County. Comments included:
        - Appreciative of the effort MT is making—especially calling it a 'Connectivity' study.

- Appreciative that there is still time to make comments; agreed with presentation that noted residents are interested in educating themselves on new ped safety signage and tools.
- Proposed that 'doing small things' is an important first step. (E.g paint and paint color)
- Not a 'fan' of concrete sidewalks. Too expensive; less inclusive of smaller wheeled vehicles.
- Mentioned an important resource to the group: 'Strong Towns' and 'Confessions of Retired Engineer' by Chuck Marrone
- Trenton Road: This major regional arterial runs through 4-5 townships/boroughs and can support a loop for Delaware Canal Towpath trail.
- Trenton Road can deliver cyclists to businesses, libraries and schools---without a lot of re-structuring.
    - GC noted that Area 10 represents the Trenton Road corridor ---the SC team agrees with the comments.

4. <u>Priorities?</u>
    - Participant noted that she has lived in MT in the 0-5 years range.
    - Participant asked for some information on which areas would be implemented first?
        - AN noted that the Improvements Plan will become a tool for the Township that should be entrusted to the Planning Dept and the Planning Commission to update yearly. There may be changes that might allow the Township to implement some areas with more 'ease' or 'cost' and, therefore, they may be implemented before others.
        - Improvement Plan range could be 10-15 years.
5. Next Steps
    - Bill Collins wrapped up the discussion by showing typical pages of the final report that is under construction.
    - Reminded participants that they can still reach out to the SC team with comments (contact info on agenda).

<u>Remaining Project Schedule</u>

1. Completion of FINAL Draft Plan, Cost Estimate & Final Report. Post to MT website.
2. Transmission of Plan/Report (link) to Stakeholders
3. 30-day Public Comment
4. Presentation to MT PC-Nov. 1st
5. Presentation to MT Board of Supervisors-Dec. 11th
6. Final publication/printing of report (Early January 2023)

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Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE



Anita Nardone, PE
Project Manager

# Middletown Township
## Multimodal Improvement Plan

MIDDLETOWN TOWNSHIP, BUCKS COUNTY, PENNSYLVANIA

# Please Sign In

## Public Meeting 3 - September 28, 2023

| Name | Email |
| --- | --- |
| Betty Ann Birbeck | [redacted] |
| ANDY McALEER | |
| CHARLIE BOZZO | |
| Joe Leming | |
| Loreena Sadowski | |
| THOMAS PIACENTINO | |

# 7. PUBLIC PARTICIPATION

## c. Key Person Interviews - NOTES

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Township Multi-Modal Improvement Plan | Project No.: | 22059.10 |
| Location: | Virtual | Meeting Date/ Time: | 05.24.2023<br>4:00-5:30 pm |
| Re: | Woods Services-KPI | Issue Date: | 05.26.2023 |

## ATTENDENCE:

Anita Nardone, PE – PM, Simone Colins

William Collins, RLA – Principal, Simone Collins

Kristin Farry (KF) – Woods Services-VP, Policy/ Gov't Relations

Dawn Diamond (DD) – Woods Services-VP, Operations

Cheryl Kauffman (CK) – Woods Services-VP, Communications & Development

## DELIVERABLES:

- KPI- Meeting Presentation
- Advertisement Flyer (Public meetings, Public Survey)
- SEPTA-Info on Microtransit Seminar
- BLANK map for markups by WS and returned!

## GENERAL NOTES:

**Presentation:**

Anita Nardone (AN) provided an introduction of the origin, purpose and current status of the project and asked specific clarification on the 'workings' of Woods Services in Middletown Twp. (Woods Services property also extends into the boroughs.)

**Discussion:**

1. Overview of Woods Services Operations
    - DD and CK provided the following info on operations, population and staff:
        - Woods Services serves in PA and NJ; a total of 22,000 persons with disabilities

- Langhorne campus is 'home' to 600 persons each day----500 children who live there and 100 students who attend day school there.
  - A total of 1600 staff; 85% who serve as 'direct service professionals' and the remainder as teachers, maintenance, admin, etc. Three shifts (24/7) service; approximately 250 staff onsite for the 11pm-7am shift.
- 65 homes on site
- 288 acres; 501©3 organization

2. Personnel/ Access to Woods Service campus
   - Transit Use
     - Two SEPTA bus stops service the campus---one unofficially at the current entrance on SR413 by agreement between WS and SEPTA. The other is the current official stop near the Dunkin Donuts (Intersection SR213/S. Flowers Mill Road). This one noted as especially dangerous to cross to Woods.
     - AN explained the 'bus revolution' microtransit initiative that will impact Middletown with three proposed zones---may help employees. May need to discuss with SEPTA 'where' users access the service on campus.
     - Apartments behind Target have WS workers; ped access from that direction desired.
3. PennDOT -RC3 Project
   - DD and CK noted that Woods is pleased about the current PennDOT plans for the subject interchange planned on/near the Woods campus—as the pedestrian accommodations seem better that what they have currently.
   - WC questioned the Corn Crib bridge; DD noted that this is a bridge that is slated to be re-built within the new project. WC noted (And DD confirmed) that it is the only PennDOT bridge connecting two private properties---as WS owns property on the north and south sides. WC suggested that WS request that the new bridge have pedestrian accommodations too (bike lanes; sidewalks)
4. Security/ Access
   - WS currently has four (4) entrances in and out of the campus; three (3) at night:
     - Woods Dr/ 213
     - Woods Dr/413
     - South entrance off of 213
     - Limited use driveway off of Corn Crib
   - WC questioned whether WS has problems with outsiders driving/biking through the campus; DD and CK noted that the 'private' property masks the routes from Waze, etc---so there are occasional cut-throughs for those who know it.
5. Programming/ Ped-Bike Access for residents
   - DD noted that the northern section of campus with resident would very much benefit from having bike and ped sidewalks to access township amenities. Theirs ia model of integration into the community---the more the better.
   - Tareyton neighborhood near the northern section of campus---would be a great access point for both communities. (Northern community residents include those with acquired TBI)

- WS is open to discussions with the Township to see where cooperation can advance multimodal around their campus.
- Southern portion of campus (children with severe behavioral issues) would require more protection.
- WS created a 'nature trail' during the pandemic to provide recreation for residents! DD and CK offered a tour of the facility if SC would like.

6. Followup
    - AN promised to send the items listed in 'Deliverables' to the Woods Services attendees…and sincerely thanked them for their sharing with the SC team and Middletown Township.

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Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE



Anita Nardone, PE
Project Manager

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Township Multi-Modal Improvement Plan | Project No.: | 22059.10 |
| Location: | Virtual | Meeting Date/ Time: | 05.25.2023 11am-12N |
| Re: | Sesame Place-KPI | Issue Date: | 05.31.2023 |

## ATTENDENCE:

Anita Nardone, PE (AN) – PM, Simone Colins

Cathy Valeriano (CV) – Sesame Place, General Manager

## DELIVERABLES:

- KPI- Meeting Presentation
- Meeting Notes
- DRAFT Middletown Improvements Plan (for markup)
- Google Map for Markup
- Advertisement Flyer (Public meetings, Public Survey)

## GENERAL NOTES:

**Presentation:**

Anita Nardone (AN) provided an introduction of the origin, purpose and current status of the project and an overview of the types of improvements that this study will incorporate in the final plan deliverable.

**Discussion:**

1. Overview OF Sesame Place Operations/ Tourist Information-CV
    - CV provided a snapshot of operations of Sesame Place for context:
        - Sesame Place (SP) is a full-year operation; less offerings in winter season; there are 1M visitors/ year! 50%-75% of all gate sales occur during the four month summer season.
        - Visitors average 4.5 guests/ car…and draw from a 300 mile radius.
        - Increasingly they are seeing more motor coach traffic to the park

- SP owned and operated by Sea World Park LLC; CV has been with SP for the past seven years
- Sesame Place employes 1700-1800—persons during peak season (May through August) and 450 persons off-season.
- SP recognizes that year-round attractions are important in positioning it for a share in the 'recreational wallet'. They have completed renovations at the Front Gate this past winter and are excited for a new year.
- Expansion of the campus is desirable; do not have any immediate plans.

2. Personnel/ Access to Sesame Place campus
    - Approximately 300-400 employees use SEPTA to access their employment at SP
3. Multimodal Improvements noted by CV
    - CV discussed her prime concern for the safety of the employees who travel to the campus from transit stops at Oxford Valley Mall; who utilize the surrounding retail stores during breaks and after work and the visitors who park off of the campus and make their way to SP from other areas with strollers and small children in tow.
    - Completed pedestrian connections needed on:
        - North Buckstown Road
        - Connections to SP from Lincoln Plaza, Route 1 Bus, Oxford Valley Road
        - SEPTA bus stop at the Oxford Valley Mall---safe route through parking to SP
    - Pedestrian lighting would improve overall safety for the many pedestrians
4. Followup
    - AN will send all the items listed in 'Deliverables' for use by SP in promoting the Middletown Multimodal Improvements Plan public opinion survey and public meeting on September 28th.
    - Draft plan and google map may be used to highlight any additional itmes that the SC team should investigate in their analysis.

Thank you, Cathy, for your time and gracious comments.

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Sincerely,

SIMONE COLLINS, INC.
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Anita Nardone, PE
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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Township Multi-Modal Improvement Plan | Project No.: | 22059.10 |
| Location: | Virtual | Meeting Date/ Time: | 05.31.2023 11am-12N |
| Re: | Oxford Valley Mall-Simon-Middletown MMIP Meeting | Issue Date: | 06.01.2023 |

## ATTENDENCE:

Anita Nardone, PE (AN) – PM, Simone Collins Landscape Architecture

Bill Collins, RLA (WC) – Principal, Simone Collins Landscape Architecture

Gwen Karpf (GK) – Oxford Valley Mall-Simon, General Manager

Chris Dudley (CD) – Oxford Valley Mall, Director of Marketing

## DELIVERABLES:

- KPI- Meeting Presentation (pdf)
- Meeting Notes
- DRAFT Middletown Improvements Plan
- Google Map for Markup
- Township Advertisement Flyer (Public meetings, Public Survey)

## GENERAL NOTES:

**Presentation:**

Anita Nardone (AN) provided an introduction of the origin, purpose and current status of the project and an overview of the types of improvements that this study will incorporate in the final plan deliverable.

**Discussion:**

1. Overview of Oxford Valley Mall-Simon-GK & CD
    - GK provided a snapshot of operations of Sesame Place for context:
        - GK has been GM of the Mall since 2014; previous experience at the King of Prussia Mall

- CD: Mall currently occupies 133 acres (Cornerstone Tracey-developer of the 614 apartments units on the previous Boscovs parcel; SW corner of the current site). Simon also control the Lincoln Plaza adjacent to the Mall.
- AN commented on the 'challenging' nature of operating malls amid the current climate of redevelopment; online shopping trends, and current economic and demographic trends. Future planning is difficult.
- Current use of Middletown Residents of the Mall Property: CD and GK noted increased use (since pandemic) of Mall property for exercise (walking). Residents use the interior of the mall for cold-weather walking; many use the exterior for warm weather walking.
- Mall understandably has concerns as a property owners of dangerous crossing of roadways surrounding Mall (poor lighting in early morning and evening during winter); no direct, safe paths, disregard of the 'No Ped Crossing' signage.
- GK and CD both felt that the amount of desired destinations (Mall, Sesame Place, cinema, restaurants, shopping) all require a look at safe ped connections.

2. Multimodal Improvements noted by GK and CD
    - GK noted that the Mall is considering restaurant expansion to the Mall in the area of the new apartments. No timetable established for this expansion.
    - Below are the comments to the MIP:
        - North and South Buckstown Drive: Use these roads for main entrance to-from US 1 (Bus.)
        - Crossing to the Target Shopping Center: Please provide a safe ped crossing
        - Lighting in this general area of Mall+Sesame Place+No-So Buckstown Drive---VERY important. (Also mentioned by Sesame Place)
3. Mall Planning – Coordinating with Sesame Place and Township to implement improvements
    - WC questioned whether an internal network of improvements at the Mall could be used to leverage funding. E.g Township pursues loop sidepath funding---which could be matched by the private entity (the Mall) to produce a more extensive system of improvements.
    - Joint application by the Mall and Township which spur economic activity (Using the DCED-Dept. of Community and Economic Development grant opportunities.)
4. Follow-up
    - AN will send all the items listed in 'Deliverables' for use by the Mall in promoting the Middletown Multimodal Improvements Plan public opinion survey and public meeting on September 28th.
    - Draft plan and google map may be used to highlight any additional items that the SC team should investigate in their analysis.

Thank you, Gwen and Chris for your time and thoughtful input to the project.

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Sincerely,

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Township Multi-Modal Improvement Plan | Project No.: | 22059.10 |
| Location: | Virtual | Meeting Date/ Time: | 05.31.2023 1:30pm-2:30pm |
| Re: | Shadybrook HOA- Middletown MMIP Meeting | Issue Date: | 06.08.2023 |

## ATTENDENCE:

Anita Nardone, PE (AN) – PM, Simone Collins Landscape Architecture

Tom Bird(TB) – HOA Board President, Shadybrook

## DELIVERABLES:

- KPI- Meeting Presentation (pdf)
- Meeting Notes
- DRAFT Middletown Improvements Plan
- Township Advertisement Flyer (Public meetings, Public Survey)

## GENERAL NOTES:

**Presentation:**

Anita Nardone (AN) provided an introduction of the origin, purpose and current status of the project and an overview of the types of improvements that this study will incorporate in the final plan deliverable.

**Discussion:**

1. Introductions and Background
    - Tom and Anita shared backgrounds; Tom is President and Allan Cohen is Director of Common Grounds. Some basic Shadybrook stats:
        - Shadybrook is roughly 20 years old
        - 457 residents
        - Pandemic saw the large 'spurt' of walkers; but the trend has continued.

2. Multimodal Improvements Discussed

- TB noted that the interest in walking has continued at Shadybrook
- Large interest in safely accessing Community Park via Village
- Concerns about walking safely along Village---as the speeds are high and it is a narrow cartway.
- More pressing concern about the amount of traffic generated by the developments in/ around Newtown---as the roads do not seem to be designed for the volume. Pedestrian safety could be sacrificed.
- Township Line Road will definitely have more traffic and some people use Village as a cut-through to reach the northern areas of Newtown.

3. Desired Destinations
    - Aside from Parks, TB felt that a pedestrian connection to neighboring Lower Makefield would be beneficial to Shadybrook and residents in the NE portion of the Township.
    - Investigate the Village to Township to Edgewood Road in Lower Makefield (good retail destinations.)
4. Follow-up
    - AN will send all the items listed in 'Deliverables' for use by Shadybrook in promoting the Middletown Multimodal Improvements Plan public opinion survey and public meeting on September 28th.
    - Draft plan map may be used to highlight any additional items that residents may want to print and markup.
    - SC grateful to have a markup of additional ideas!

Thank you, Tom, for your time and thoughtful input to the project.

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Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE



Anita Nardone, PE
Project Manager

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Township Multi-Modal Improvement Plan | Project No.: | 22059.10 |
| Location: | Virtual | Meeting Date/ Time: | 06.16.2023 1:30pm-3:00pm |
| Re: | SEPTA -Middletown MMIP Meeting | Issue Date: | 0x.xx.2023 |

## ATTENDENCE:

Harley Copper, SEPTA

William Collins, Simone Collins Landscape Architecture

Geoff Creary, Simone Collins Landscape Architecture

Stephen Noll, Greater Bucks TMA

Ashley Sulon, Greater Bucks TMA

## GENERAL NOTES:

**Introductions:**

Simone Collins (SC) provided an introduction of the origin, purpose and status of the project. An overview of the types of improvements that this study will incorporate in the final plan deliverable that SEPTA should be informed.

**Discussion/ Input:**

1. SEPTA stated that Routes 129 and 130 will remain the same in Middletown. Routes 128 and 133 will be eliminated. The reduction in routes was attributed to the decrease since the pandemic.
2. Woodbourne Station along the West Trenton Regional Rail line will continue to have bus service, along with the Rush Bus service.
3. SEPTA noted that the Oxford Valley Mall was the end of line service for the one of the bus routes and utilized it as a bus layover location allowing the bus drivers an area for work breaks. If this location was no longer allowed for this, Woodbourne Station would be a possible location. Concerns for that space are that there are no bathrooms presents and the train crossing could slow the process down.

4. Dial-a-ride is currently being planned to replace some of the bus routes that are to be eliminated.
5. Pedestrian scaled lighting was mentioned that people preferred lighting and not to walk in the dark to stations and bus stops.
6. Connecting SEPTA to the Woods campus was discussed.
7. SEPTA ahead of the meeting supplied GIS files containing the proposed bus network.
8. SEPTA also supplied links for more information for the project.
    - Remix here: https://platform.remix.com/project/29c2f5fb?latlng=39.98034,-75.24813,10.448
    - Ridership data: https://planning.septa.org/open-data-portal/
    - Bus Stop Design Guidelines: https://planning.septa.org/wp-content/uploads/2022/07/SEPTA-Bus-Stop-Design-Guidelines-2019.pdf

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Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE

Name

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Township Multi-Modal Improvement Plan | Project No.: | 22059.10 |
| Location: | Virtual | Meeting Date/ Time: | 06.20.2023 1:15pm-2:00pm |
| Re: | Village of Flowers Mill HOA- Middletown MMIP Meeting | Issue Date: | 06.20.2023 |

## ATTENDENCE:

Anita Nardone, PE (AN) – PM, Simone Collins Landscape Architecture

Jim Kerrigan, Linda, Barb Dotsey

## DELIVERABLES:

- KPI- Meeting Presentation (pdf)
- Meeting Notes
- DRAFT Middletown Improvements Plan
- Township Advertisement Flyer (Public meetings, Public Survey)

## GENERAL NOTES:

**Presentation:**

Anita Nardone (AN) provided an introduction of the origin, purpose and current status of the project and an overview of the types of improvements that this study will incorporate in the final plan deliverable.

**Discussion / Input:**

1. 1200 residents of Village of Flowers Mill
2. Very interested in the connection to Woodbourne Station
3. Very interested in expanding transit opportunities in Middletown. E.g. A stop at the Municipal Building could serve Tareyton, VOFM, employees of Flowers Mill shops, etc.

NOTE: Anita provided an overview of the planned SEPTA 'Bus Revolution' and 'microtransit' plans that would affect Middletown Township as low-ridership bus routes are re-imagined. More information to be provided by SEPTA at the final Public Meeting on Thursday September 28th.

4. All concurred that the connection to Core Creek Park would be an important desired destination for their community.
5. Connections across Langhorne-Yardley Road and up SR 413 (near George School) and into Newtown Borough is also a desired destination.
6. Acknowledged some concerns about sidewalks and sidepaths that could lead to unwelcome visitors into the community.
7. Questioned whether Woodbourne was the only Twp are studied. Anita responded that the entire Township will be studied and mapped for improvements. Woodbourne was noted by the Township in the Request for Proposal (RFP) as an important priority since it has been previously studied.

Thank you, Jim, Linda and Barb, for your time and thoughtful input to the project.

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

Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE



Anita Nardone, PE
Project Manager

SIMONE COLLINS
LANDSCAPE ARCHITECTURE
119 EAST LAFAYETTE STREET NORRISTOWN, PA 19401
PHONE: 610.239.7601 FAX: 610.239.7606
WWW. SIMONECOLLINS.COM

# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Township Multi-Modal Improvement Plan | Project No.: | 22059.10 |
| Location: | Virtual | Meeting Date/ Time: | 07.13.2023 2:00pm-2:45pm |
| Re: | Penndel & Hulmeville Boroughs-Middletown MMIP Meeting | Issue Date: | 07.20.2023 |

## ATTENDENCE:

Anita Nardone, PE (AN) – PM, Simone Collins Landscape Architecture

Bill Collins (BC)-Principal, Simone Collins Landscape Architecture

Bill Wheeler (BW)-Borough Manager-Hulmeville Borough

Geoff Thompson (GT)-Borough Manager-Penndel Borough

## DELIVERABLES:

- KPI- Meeting Presentation (pdf)
- Meeting Notes
- DRAFT Middletown Improvements Plan
- Township Advertisement Flyer (Public meetings, Public Survey)

## GENERAL NOTES:

**Presentation:**

Anita Nardone (AN) provided an introduction of the origin, purpose and current status of the project and an overview of the types of improvements that this study will incorporate in the final plan deliverable.

AN asked for Geoff and Bill to comment on the improvements plan that currently is also exploring important connections within their boroughs.

**Discussion/ Input:**

1. Penndel:

- Geoff noted that a major safety concern at present is the safe transport of pedestrians to Business Route 1—notably to the new Wawa.
- Challenges at this area include a specific culvert crossing.
- GT and BW questioned why missing residential area sidewalks were not proposed. AN explained that the intent of the study is to prioritize the connections within the Township and adjacent boroughs that provide connections to important destination and can link other areas---including other neighborhoods.

2. Hulmeville:
    - BW noted that a bike lane currently exists on 513
    - AN questioned whether Herbert Hoover Elementary School was the primary ES for Hulmeville and Penndel; should connections be made there?
    - Henry's Run; Wilson Road area-look at these places.
    -

Thank you, Geoff and Bill, for your time and thoughtful input to the project.

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# MEETING NOTES

| | | | |
|---|---|---|---|
| Project: | Middletown Multi-Modal Improvements Plan Study | Project No.: | 22059.10 |
| Location: | Virtual MS Team Meeting | Meeting Date/ Time: | 09.06.2023 2:30pm |
| Re: | Middletown Multimodal Improvement Plan-SEPTA Regional Rail Coordination - Woodbourne Station & Langhorne Station | Issue Date: | September 13, 2023 REV Oct. 26, 2023 |

## ATTENDENCE:

### SEPTA-Regional Rail/ Planning

Jen Dougherty-Planning Mgr; Station Access

Bill Lawson-Dir., Regional Rail Service Planning

Ken Starr-Mgr., Joint Real Estate Development

### Project Team

Bill Collins-Principal, SC

Anita Nardone, PE-Proj. Mgr, SC

Ashley Sulon-TMA Bucks

Steve Noll, TMA Bucks

### Township Staff

Stephanie Teoli Kuhl-Township Manager

Nick Valla-Ass't Township Manager

## GENERAL NOTES:

1. Project Introduction & Overview-Anita Nardone (AN)

- AN provided overview of the DVRPC-TCDI-funded project for Middletown (schedule, deliverables, large public involvement process
- RFP for study acknowledged Woodbourne as a primary emphasis in the Township; subject of a Safe Routes to Transit study by DVRPC.
- Importance of this plan, report, costs for MT capital planning and funding opportunities
- Report should contain as much data and history as is practical for 'next phase' engineering, acquisition and design
- Requested of SEPTA relevant information affecting pedestrian/ bike access at the Woodbourne and Langhorne stations; future plans for each? Details on the recently-awarded grant from FHWA (CARSI—Commuter & Rail Safety Improvements)

2. Woodbourne Station
    - Bill Lawson (BL) and Jen Dougherty (JD) gave a current status report:
        - Parking Lot: 493 spaces; current utilization-85%
        - Pre-pandemic weekdays: 54 trains in and out; weekends-36 trains in and out; 350 ppd ridership
        - Post-pandemic weekdays: 40 trains in and out; weekends-18 trains in and out
        - Ridership is currently 55-60% of pre-pandemic ridership
        - Limited ADA access due to platform levels; no plans for ADA improvements at this time.
        - ~~Bus connectivity at the station currently exists.~~
        - Inter-relationship of the CSX train movement at the adjacent staging yard can cause upward of 100 gate deployments per day! (Traffic implications).
        - CSX Woodbourne Yard is a smaller six track yard which is a hub for interchange and distribution of railcars for local businesses with rail sidings. CSX makes up trains in this yard for movement and the switching of cars between tracks during train assembly requires movements over Woodbourne Road.
    - FHWA (CARSI) grant Award to Woodbourne
        - BL noted that the grant is for signage, updated apparatus, etc. Not grade separations studies or timing/ routing studies.
        - Study also includes the next four at-grade crossings (Township Line Road, Heacock Road, ~~Stoney Hill Rd~~, Edgewood Rd.)
    - Comments: Group discussed impacts of the Woodbourne crossing to 'quality of life' in MT (STK commented that there has been much discussion with CSX over the years; little concrete action.)
3. Langhorne Station
    - BL and JD gave a current status report:
        - Platform reconstruction in 2010
        - Parking Lot: 331 spaces; 51% current utilization-51%. SEPTA cancelled a lease of parking spaces during the pandemic with an adjacent restaurant which is now closed. This decreased the amount of available spaces.
        - Bus connectivity at the station currently exists.
        - Pre-pandemic weekdays: 475 ppd; weekend-320 ppd
        - Post-pandemic: 25% reduction overall (355 weekday; 240 weekend)

- Langhorne Station considered more complex because of the high volume of traffic on Bellevue Ave (413). SEPTA hears more complaints about Langhorne than Woodbourne
- Recent reconstruction of the Hulmeville Road overpass over the rail lines was discussed as a missed opportunity to consider a reconfiguration of roads for 'through' movement between Route 1-over the rail-to local Route 1from a planning perspective.

4. SEPTA'S Initiative: Transit Supportive Community Development-Ken Starr (KS)
    - KS briefed the group on the new initiative SEPTA has begun to support TOD with host communities.
    - Interest in divesting parking areas for developments that would support ridership
    - Three pilot locations have been identified; currently Woodbourne and Langhorne are not 'higher' on the list due to the ack of ped access; the CSX issues and other traffic, parking lot sizes, hwy issues.
5. Important Links
    - JD provided links to important info on the FHWA grant award; DVRPC Transit Supportive Communities website; rail web-based accident reporting.
6. SEPT. 20, 2023: Additional Rail Safety Information
    - W. Lawson supplied public information from the Federal Rail Authority (FRA) web site on the risk assessment tool used called WBAPS. Under the Bucks County rqanking, Belleview Avenue is ranked higher than Woodbourne for safety risk assessment. (#4 vs. #24, respectively.) Report attached.

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

Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE

Anita Nardone, PE
Project Manager

# *Annual WBAPS 2022*

**WEB ACCIDENT PREDICTION SYSTEM**

Accident Prediction Report for
Public at-Grade Highway-Rail Crossings

***Including:***

Disclaimer/Abbreviation Key
Accident Prediction List

***Provided by:***

Federal Railroad Administration
Office of Safety Analysis
Highway-Rail Crossing Safety & Trespass Prevention

***Data Contained in this Report:***

STATE: PA
COUNTY: BUCKS

***Date Prepared:*** 10/21/2022

U.S. Department
of Transportation
**Federal Railroad
Administration**

# USING DATA PRODUCED BY WBAPS

(Web Accident Prediction System)

1200 New Jersey Avenue, SE
Third Floor West
Washington, DC 20590

WBAPS generates reports listing public highway-rail intersections for a State, County, City or railroad ranked by predicted collisions per year. These reports include brief lists of the Inventory record and the collisions over the last 10 years along with a list of contacts for further information. These data were produced by the Federal Railroad Administration's Web Accident Prediction System (WBAPS).

WBAPS is a computer model which provides the user an analytical tool, which combined with other site-specific information, can assist in determining where scarce highway-rail grade crossing resources can best be directed. This computer model does not rank crossings in terms of most to least dangerous. Use of WBAPS data in this manner is incorrect and misleading.

WBAPS provides the same reports as PCAPS, which is FRA's PC Accident Prediction System. PCAPS was originally developed as a tool to alert law enforcement and local officials of the important need to improve safety at public highway-rail intersections within their jurisdictions. It has since become an indispensable information resource which is helping the FRA, States, railroads, Operation Lifesaver and others, to raise the awareness of the potential dangers at public highway-rail intersections. The PCAPS/WBAPS output enables State and local highway and law enforcement agencies identify public highway-rail crossing locations which may require additional or specialized attention. It is also a tool which can be used by state highway authorities and railroads to nominate particular crossings which may require physical safety improvements or enhancements.

The WBAPS accident prediction formula is based upon two independent factors (variables) which includes (1) basic data about a crossing's physical and operating characteristics and (2) five years of accident history data at the crossing. These data are obtained from the FRA's inventory and accident/incident files which are subject to keypunch and submission errors. Although every attempt is made to find and correct errors, there is still a possibility that some errors still exist. Erroneous, inaccurate and non-current data will alter WBAPS accident prediction values. While approximately 100,000 inventory file changes and updates are voluntarily provided annually by States and railroads and processed by FRA into the National Inventory File, data records for specific crossings may not be completely current. Only the intended users (States and railroads) are really knowledgeable as to how current the inventory data is for a particular State, railroad, or location.

It is important to understand the type of information produced by WBAPS and the limitations on the application of the output data. WBAPS does not state that specific crossings are the most dangerous. Rather, the WBAPS data provides an indication that conditions are such that one crossing may possibly be more hazardous than another based on the specific data that is in the program. It is only one of many tools which can be used to assist individual States, railroads and local highway authorities in determining where and how to initially focus attention for improving safety at public highway-rail intersections. WBAPS is designed to nominate crossings for further evaluation based only upon the physical and operating characteristics of specific crossings as voluntarily reported and updated by States and railroads and five years of accident history data.

PCAPS and WBAPS software are not designed to single out specific crossings without considering the many other factors which may influence accident rates or probabilities. State highway planners may or may not use PCAPS/WBAPS accident prediction model. Some States utilize their own formula or model which may include other geographic and site-specific factors. At best, PCAPS and WBAPS software and data nominates crossings for further on-the-ground review by knowledgeable highway traffic engineers and specialists. The output information is not the end or final product and the WBAPS data should not be used for non-intended purposes.

It should also be noted that there are certain characteristics or factors which are not, nor can be, included in the WBAPS database. These include sight-distance, highway congestion, bus or hazardous material traffic, local topography, and passenger exposure (train or vehicle), etc. Be aware that PCAPS/WBAPS is only one model and that other accident prediction models which may be used by States may yield different, by just as valid, results for ranking crossings for safety improvements.

Finally, it should be noted that this database is not the sole indicator of the condition of a specific public highway-rail intersection. The WBAPS output must be considered as a supplement to the information needed to undertake specific actions aimed at enhancing highway-rail crossing safety at locations across the U.S. The authority and jurisdiction to appropriate resources towards the safety improvement or elimination of specific crossings lies with the individual States.

U.S. Department
of Transportation
**Federal Railroad
Administration**

# ABBREVIATION KEY

for use with WBAPS Reports

1200 New Jersey Avenue, SE
Third Floor West
Washington, DC 20590

The lists produced are only for public at-grade highway-rail intersections for the entity listed at the top of the page. The parameters shown are those used in the collision prediction calculation.

| | |
|---|---|
| RANK: | Crossings are listed in order and ranked with the highest collision prediction value first. |
| PRED COLLS: | The accident prediction value is the probability that a collision between a train and a highway vehicle will occur at the crossing in a year. |
| CROSSING: | The unique sight specific identifying DOT/AAR Crossing Inventory Number. |
| RR: | The alphabetic abbreviation for the railroad name. |
| CITY: | The city in (or near) which the crossing is located. |
| ROAD: | The name of the road, street, or highway (if provided) where the crossing is located. |
| NUM OF COLLISIONS: | The number of accidents reported to FRA in each of the years indicated. Note: Most recent year is partial year (data is not for the complete calendar year) unless Accidents per Year is 'AS OF DECEMBER 31'. |
| DATE CHG: | The date of the latest change of the warning device category at the crossing which impacts the collision prediction calculation, e.g., a change from crossbucks to flashing lights, or flashing lights to gates. The accident prediction calculation utilizes three different formulas, on each for (1) passive devices, (2) flashing lights only, and (3) flashing lights with gates. When a date is shown, the collision history prior to the indicated year-month is not included in calculating the accident prediction value. |
| WD: | The type of warning device shown on the current Inventory record for the crossing where: FQ=Four Quad Gates; GT = All Other Gates; FL = Flashing lights; HS = Wigwags, Highway Signals, Bells, or Other Activated; SP = Special Protection (e.g., a flagman); SS = Stop Signs; XB = Crossbucks; OS = Other Signs or Signals; NO = No Signs or Signals. |
| TOT TRNS: | Number of total trains per day. |
| TOT TRKS: | Total number of railroad tracks between the warning devices at the crossing. |
| TTBL SPD: | The maximum timetable (allowable) speed for trains through the crossing. |
| HWY PVD: | Is the highway paved on both sides of the crossing? |
| HWY LNS: | The number of highway traffic lanes crossing the tracks at the crossing. |
| AADT: | The Average Annual Daily Traffic count for highway vehicles using the crossing. |

# *PUBLIC HIGHWAY-RAIL CROSSINGS RANKED BY PREDICTED ACCIDENTS PER YEAR AS OF 12/31/2021**

*Num of Collisions: Most recent year is partial year (data is not for the complete calendar year) unless Accidents per Year is 'AS OF DECEMBER 31'.

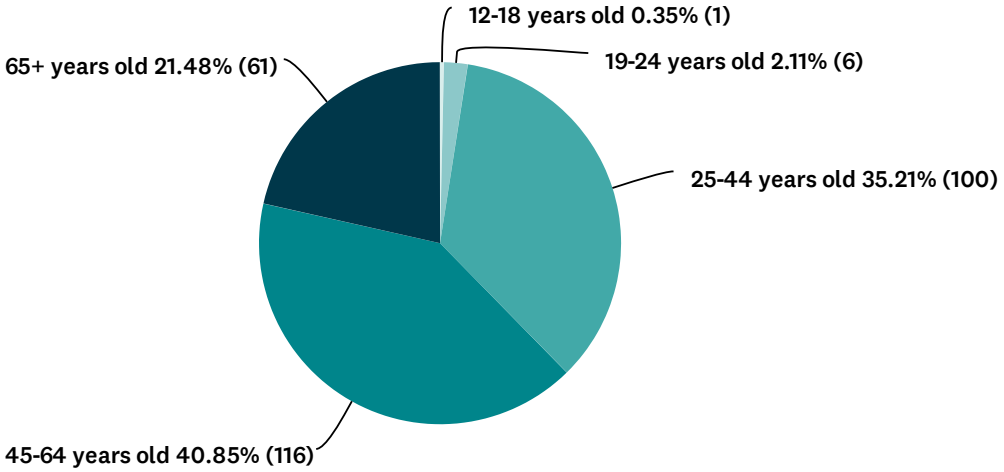
| RANK | PRED COLLS. | CROSSING | RR | STATE | COUNTY | CITY | ROAD | NUM OF COLLISIONS 21* | 20 | 19 | 18 | 17 | DATE CHG | WD | TOT TRN | TOT TRK | TTBL SPD | HWY PVD | HWY LNS | AADT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.063580 | 593130H | SEPA | PA | BUCKS | WARMINSTER | COUNTY LINE RO | 0 | 0 | 0 | 0 | 0 | | GT | 76 | 1 | 50 | YES | 5 | 14,187 |
| 2 | 0.062052 | 589735M | SEPA | PA | BUCKS | YARDLEY | Heacock Road | 0 | 0 | 0 | 0 | 0 | | GT | 58 | 3 | 70 | YES | 5 | 6,114 |
| 3 | 0.062001 | 593154W | SEPA | PA | BUCKS | NEW BRITAIN | Butler Pike | 0 | 0 | 0 | 0 | 0 | 08/18 | GT | 78 | 1 | 50 | YES | 2 | 17,154 |
| 4 | 0.056595 | 589958D | SEPA | PA | BUCKS | LANGHORNE | Bellview Avenue | 0 | 0 | 0 | 0 | 0 | | GT | 58 | 3 | 30 | YES | 2 | 13,762 |
| 5 | 0.055963 | 589737B | SEPA | PA | BUCKS | MORRISVILLE | EDGEWOOD ROAD | 0 | 0 | 0 | 0 | 0 | | GT | 71 | 3 | 70 | YES | 2 | 9,744 |
| 6 | 0.054385 | 589964G | SEPA | PA | BUCKS | LANGHORNE | Woodbourne Road | 0 | 0 | 0 | 0 | 0 | | GT | 58 | 3 | 30 | YES | 2 | 10,630 |
| 7 | 0.050945 | 589736U | SEPA | PA | BUCKS | YARDLEY | Stony Hill Road | 0 | 0 | 0 | 0 | 0 | | GT | 58 | 3 | 70 | YES | 2 | 7,091 |
| 8 | 0.050015 | 593146E | SEPA | PA | BUCKS | NEW BRITAIN | County Line Ro | 0 | 0 | 0 | 0 | 0 | | GT | 78 | 1 | 50 | YES | 2 | 11,571 |
| 9 | 0.043451 | 593162N | SEPA | PA | BUCKS | DOYLESTOWN | Lower State Ro | 0 | 0 | 0 | 0 | 0 | 08/18 | GT | 78 | 1 | 50 | YES | 2 | 5,244 |
| 10 | 0.037936 | 593156K | SEPA | PA | BUCKS | NEW BRITAIN | Tamanend Road | 0 | 0 | 0 | 0 | 0 | | GT | 78 | 1 | 50 | YES | 2 | 2,567 |
| 11 | 0.033524 | 589731K | SEPA | PA | BUCKS | MIDDLETOWN | TOWNSHIP LINE | 0 | 0 | 0 | 0 | 0 | | GT | 71 | 3 | 70 | YES | 2 | 586 |
| 12 | 0.027745 | 593155D | SEPA | PA | BUCKS | NEW BRITAIN | SAND ROAD | 0 | 0 | 0 | 0 | 0 | | GT | 78 | 1 | 50 | YES | 2 | 586 |
| 13 | 0.027745 | 593157S | SEPA | PA | BUCKS | DOYLESTOWN | BEULAH ROAD | 0 | 0 | 0 | 0 | 0 | | GT | 78 | 1 | 50 | YES | 2 | 586 |
| 14 | 0.027745 | 593158Y | SEPA | PA | BUCKS | DOYLESTOWN | SHADY RETREAT | 0 | 0 | 0 | 0 | 0 | | GT | 78 | 1 | 50 | YES | 2 | 586 |
| 15 | 0.021829 | 855436N | NHRR | PA | BUCKS | DOYLESTOWN | Durham Road | 0 | 0 | 0 | 0 | 0 | 08/18 | GT | 8 | 1 | 20 | YES | 2 | 12,347 |
| 16 | 0.021784 | 934825M | ESPN | PA | BUCKS | BRISTOL | Bristol Pk | 0 | 0 | 0 | 0 | 0 | | FL | 1 | 1 | 5 | YES | 4 | 11,217 |
| 17 | 0.020245 | 923085E | CRSH | PA | BUCKS | LANGHORNE | C YARD XING | 0 | 1 | 0 | 0 | 0 | | XB | 4 | 1 | 30 | YES | 2 | 0 |
| 18 | 0.018634 | 855409S | NHRR | PA | BUCKS | IVYLAND | Bristol Road | 0 | 0 | 0 | 0 | 0 | 08/18 | GT | 4 | 1 | 5 | YES | 2 | 17,880 |
| 19 | 0.018576 | 593147L | SEPA | PA | BUCKS | NEW BRITAIN | Schoolhouse Ro | 0 | 0 | 0 | 0 | 0 | 04/20 | GT | 78 | 1 | 50 | YES | 2 | 310 |
| 20 | 0.015627 | 855408K | NHRR | PA | BUCKS | IVYLAND | Wilson Avenue | 0 | 0 | 0 | 0 | 0 | | FL | 12 | 2 | 5 | YES | 2 | 586 |
| 21 | 0.015152 | 934827B | ESPN | PA | BUCKS | BRISTOL | AIRPORT ROAD | 0 | 0 | 0 | 0 | 0 | 08/18 | XB | 1 | 1 | 5 | YES | 2 | 300 |
| 22 | 0.015152 | 934826U | ESPN | PA | BUCKS | BRISTOL | PACIFIC AVENUE | 0 | 0 | 0 | 0 | 0 | 08/18 | XB | 1 | 1 | 5 | YES | 2 | 300 |
| 23 | 0.012223 | 855424U | NHRR | PA | BUCKS | WYCOMBE | Forest Grove R | 0 | 0 | 0 | 0 | 0 | 08/18 | GT | 6 | 2 | 10 | YES | 2 | 3,912 |
| 24 | 0.012146 | 592580B | CSX | PA | BUCKS | LANGHORNE | WOODBOURNE ROAD | 0 | 0 | 0 | 0 | 0 | | GT | 3 | 1 | 10 | YES | 2 | 15,234 |
| 25 | 0.011181 | 855447B | NHRR | PA | BUCKS | NEW HOPE | Aquetong Road | 0 | 0 | 0 | 0 | 0 | 08/18 | GT | 8 | 1 | 20 | YES | 2 | 2,092 |
| 26 | 0.010186 | 592632R | ESPN | PA | BUCKS | QUAKERTOWN | Paletown Road | 0 | 0 | 0 | 0 | 0 | | FL | 1 | 1 | 10 | YES | 2 | 2,967 |
| 27 | 0.009721 | 855448H | NHRR | PA | BUCKS | NEW HOPE | Reeder Road | 0 | 0 | 0 | 0 | 0 | | GT | 8 | 1 | 20 | YES | 2 | 310 |
| 28 | 0.009721 | 855446U | NHRR | PA | BUCKS | NEW HOPE | Lower Mountain | 0 | 0 | 0 | 0 | 0 | | GT | 8 | 1 | 15 | YES | 2 | 310 |
| 29 | 0.009721 | 855442S | NHRR | PA | BUCKS | NEW HOPE | Street Road | 0 | 0 | 0 | 0 | 0 | | GT | 8 | 1 | 20 | YES | 2 | 310 |
| 30 | 0.009721 | 855440D | NHRR | PA | BUCKS | NEW HOPE | Holicong Road | 0 | 0 | 0 | 0 | 0 | | GT | 8 | 1 | 20 | YES | 2 | 310 |
| TTL: | 0.885301 | | | | | | | 0 | 1 | 0 | 0 | 0 | | | | | | | | |

# 7. PUBLIC PARTICIPATION

## d. Public Opinion Survey Results

# Q1 What is your age?

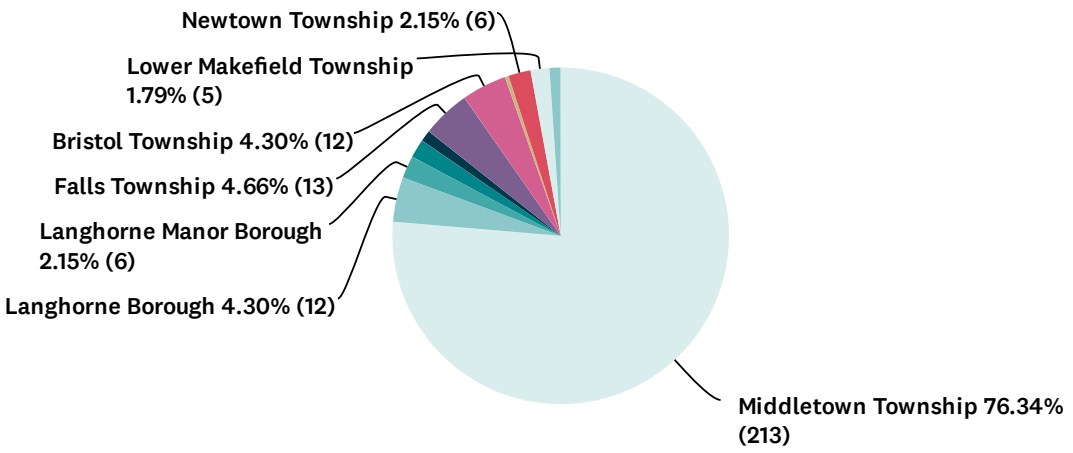
Answered: 284 Skipped: 3




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| 12-18 years old | 0.35% | 1 |
| 19-24 years old | 2.11% | 6 |
| 25-44 years old | 35.21% | 100 |
| 45-64 years old | 40.85% | 116 |
| 65+ years old | 21.48% | 61 |
| TOTAL | | 284 |

# Q2 What is your place of residence?

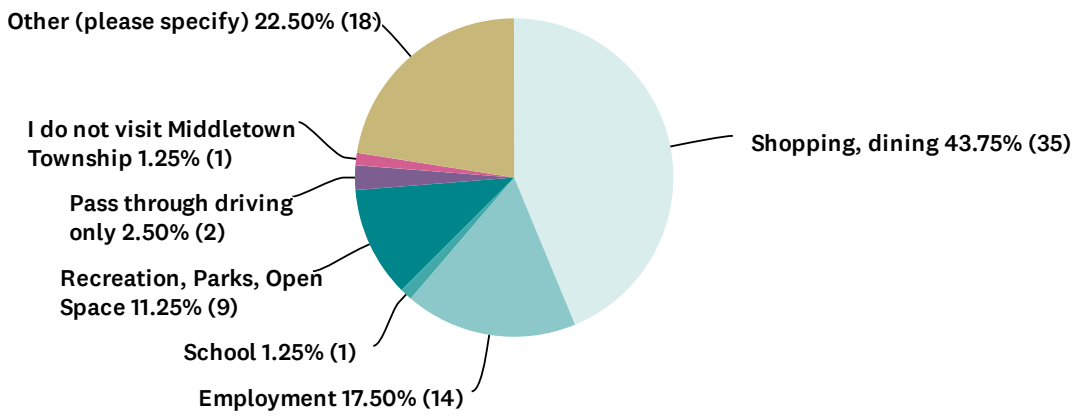
Answered: 279 Skipped: 8




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Middletown Township | 76.34% | 213 |
| Langhorne Borough | 4.30% | 12 |
| Langhorne Manor Borough | 2.15% | 6 |
| Penndel Borough | 1.79% | 5 |
| Hulmeville Borough | 1.08% | 3 |
| Falls Township | 4.66% | 13 |
| Bristol Township | 4.30% | 12 |
| Bensalem Township | 0.36% | 1 |
| Newtown Township | 2.15% | 6 |
| Northampton Township | 0.00% | 0 |
| Lower Makefield Township | 1.79% | 5 |
| Lower Southampton Township | 1.08% | 3 |
| TOTAL | | 279 |

# Q3 If you are not a resident of Middletown, what is the primary reason you visit?

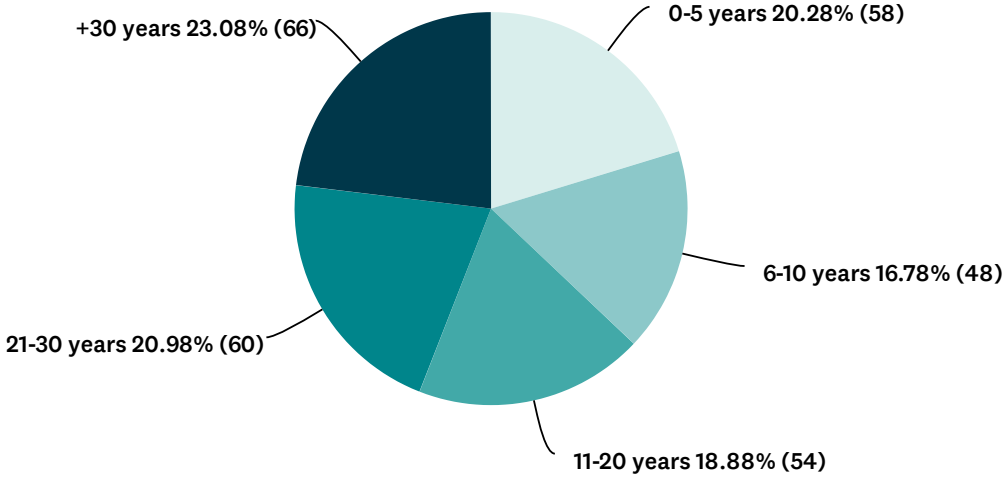
Answered: 80 Skipped: 207




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Shopping, dining | 43.75% | 35 |
| Employment | 17.50% | 14 |
| School | 1.25% | 1 |
| Recreation, Parks, Open Space | 11.25% | 9 |
| Local Attractions (eg. Sesame Place)/Festivals/ Events | 0.00% | 0 |
| Pass through driving only | 2.50% | 2 |
| I do not visit Middletown Township | 1.25% | 1 |
| Other (please specify) | 22.50% | 18 |
| TOTAL | | 80 |

# Q4 How many years have you lived at your current address?

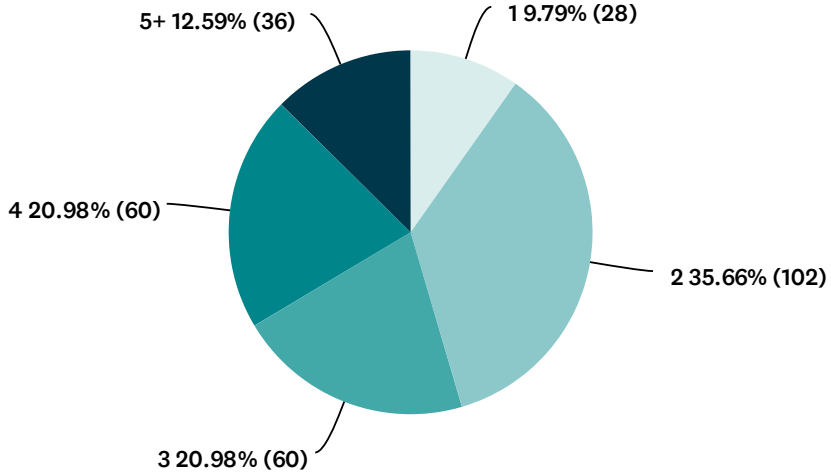
Answered: 286 Skipped: 1




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| 0-5 years | 20.28% | 58 |
| 6-10 years | 16.78% | 48 |
| 11-20 years | 18.88% | 54 |
| 21-30 years | 20.98% | 60 |
| +30 years | 23.08% | 66 |
| TOTAL | | 286 |

# Q5 How many people currently live in your household?

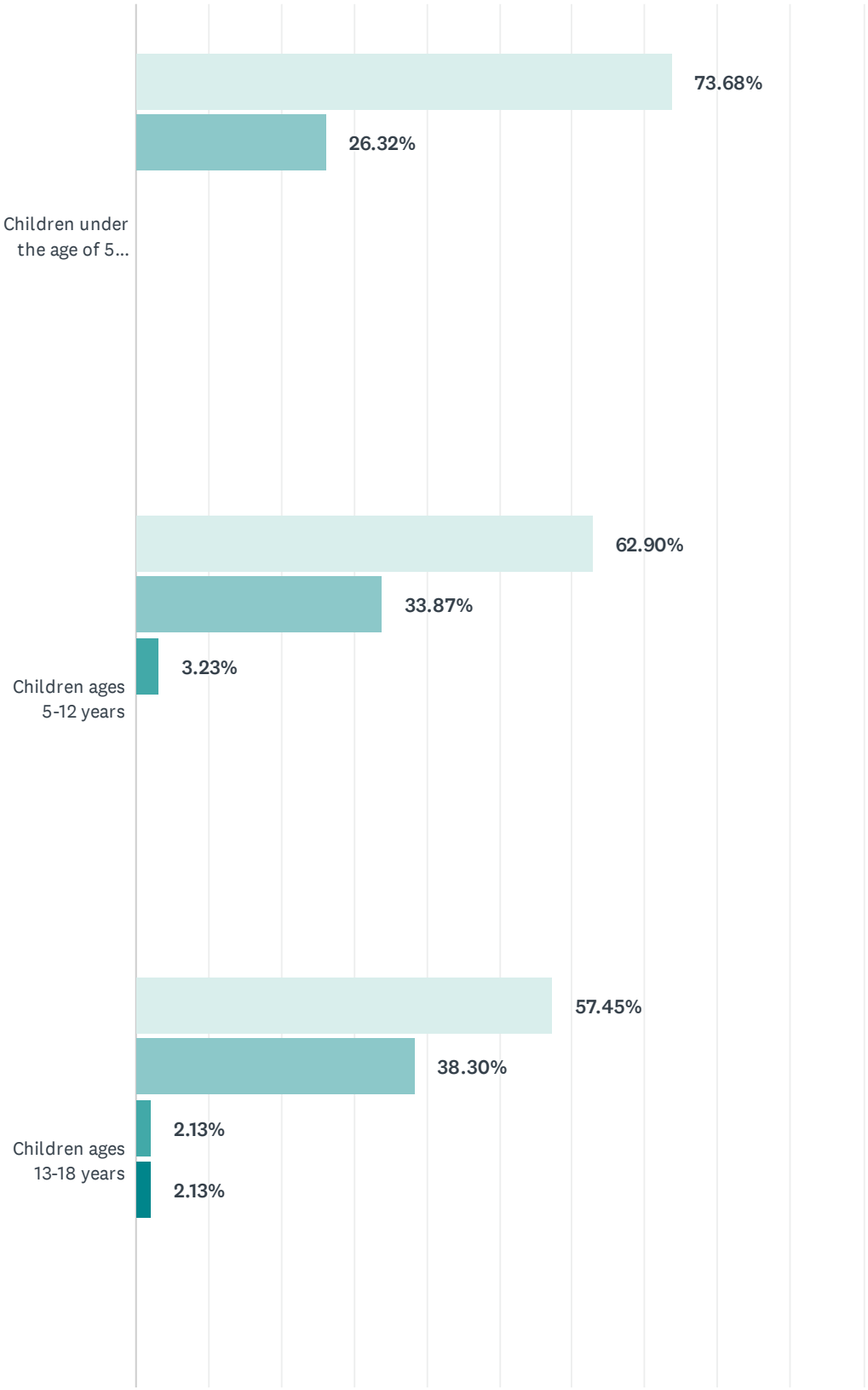
Answered: 286 Skipped: 1

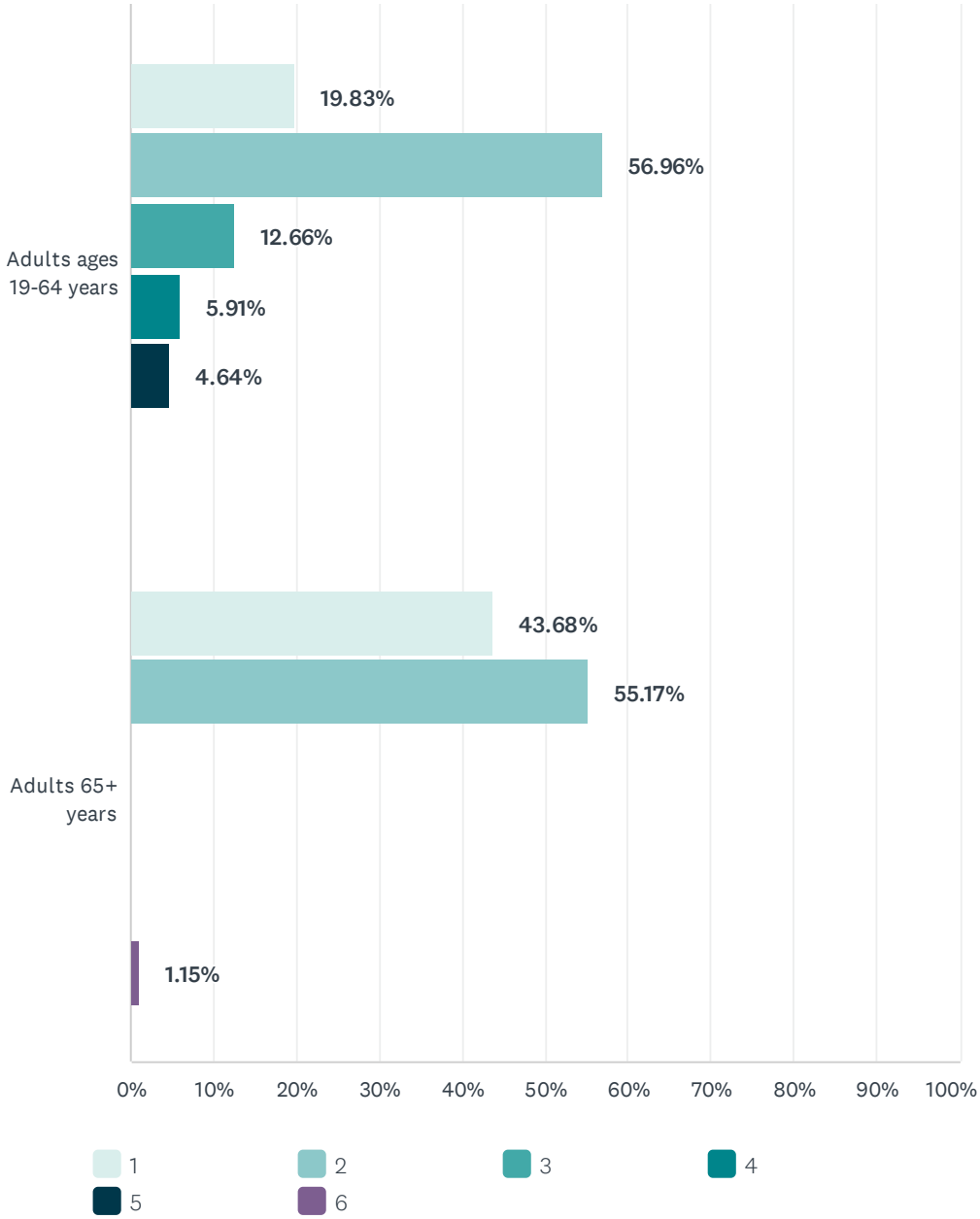



| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| 1 | 9.79% | 28 |
| 2 | 35.66% | 102 |
| 3 | 20.98% | 60 |
| 4 | 20.98% | 60 |
| 5+ | 12.59% | 36 |
| TOTAL | | 286 |

# Q6 What age groups currently live in your household? Please indicate number in each category.

Answered: 285 Skipped: 2

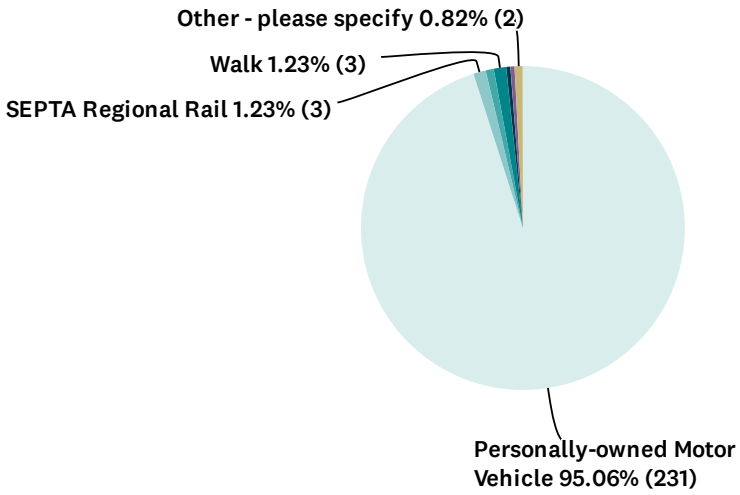





| | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|
| Children under the age of 5 years | 73.68%<br>28 | 26.32%<br>10 | 0.00%<br>0 | 0.00%<br>0 | 0.00%<br>0 | 0.00%<br>0 | 38 |
| Children ages 5-12 years | 62.90%<br>39 | 33.87%<br>21 | 3.23%<br>2 | 0.00%<br>0 | 0.00%<br>0 | 0.00%<br>0 | 62 |
| Children ages 13-18 years | 57.45%<br>27 | 38.30%<br>18 | 2.13%<br>1 | 2.13%<br>1 | 0.00%<br>0 | 0.00%<br>0 | 47 |
| Adults ages 19-64 years | 19.83%<br>47 | 56.96%<br>135 | 12.66%<br>30 | 5.91%<br>14 | 4.64%<br>11 | 0.00%<br>0 | 237 |
| Adults 65+ years | 43.68%<br>38 | 55.17%<br>48 | 0.00%<br>0 | 0.00%<br>0 | 0.00%<br>0 | 1.15%<br>1 | 87 |

# Q7 What is your primary mode of transportation?

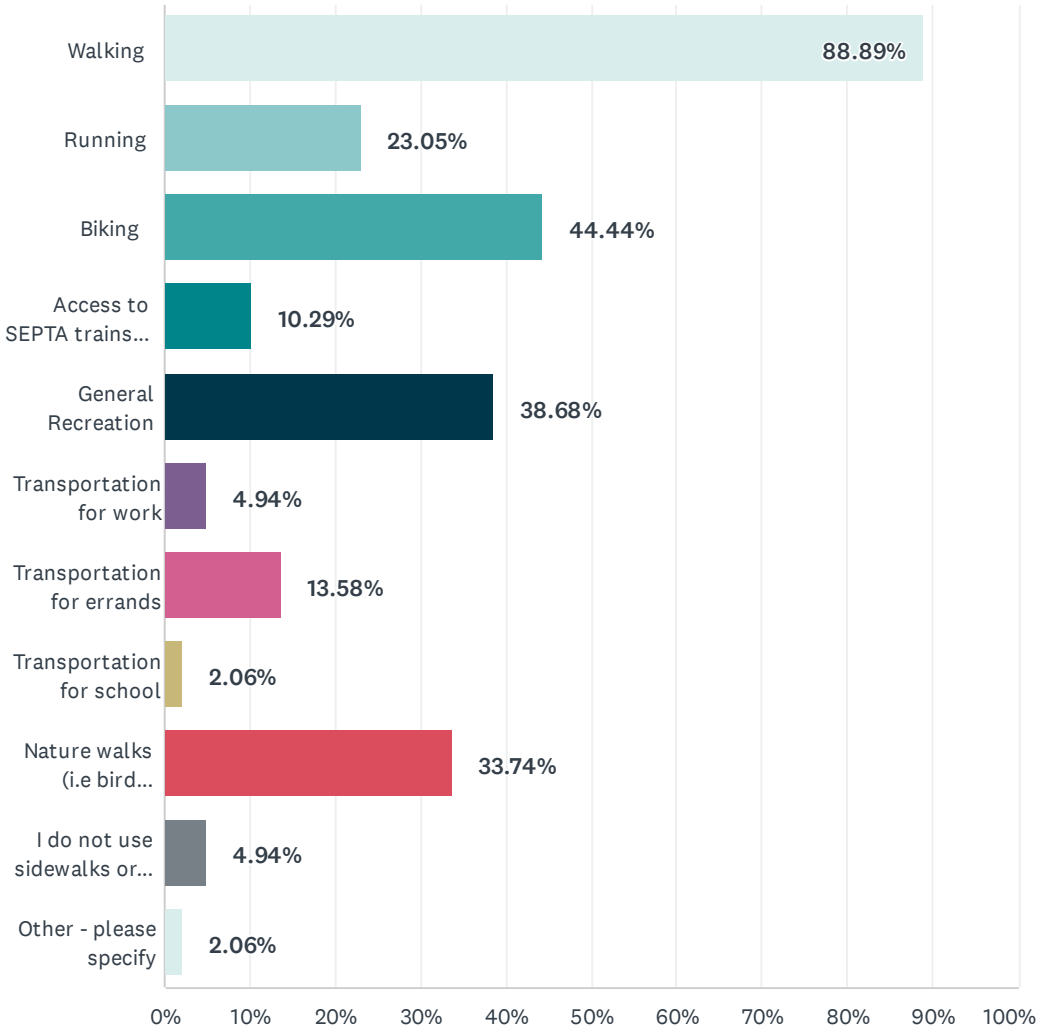
Answered: 243 Skipped: 44




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Personally-owned Motor Vehicle | 95.06% | 231 |
| SEPTA Regional Rail | 1.23% | 3 |
| Bike | 0.82% | 2 |
| Walk | 1.23% | 3 |
| Ride-sharing Motor Vehicle (Uber, Lyft, etc.) | 0.41% | 1 |
| SEPTA BUS | 0.41% | 1 |
| Wheelchair | 0.00% | 0 |
| Other - please specify | 0.82% | 2 |
| TOTAL | | 243 |

# Q8 For which activities do you currently use the sidewalks and trails? Select all that apply.

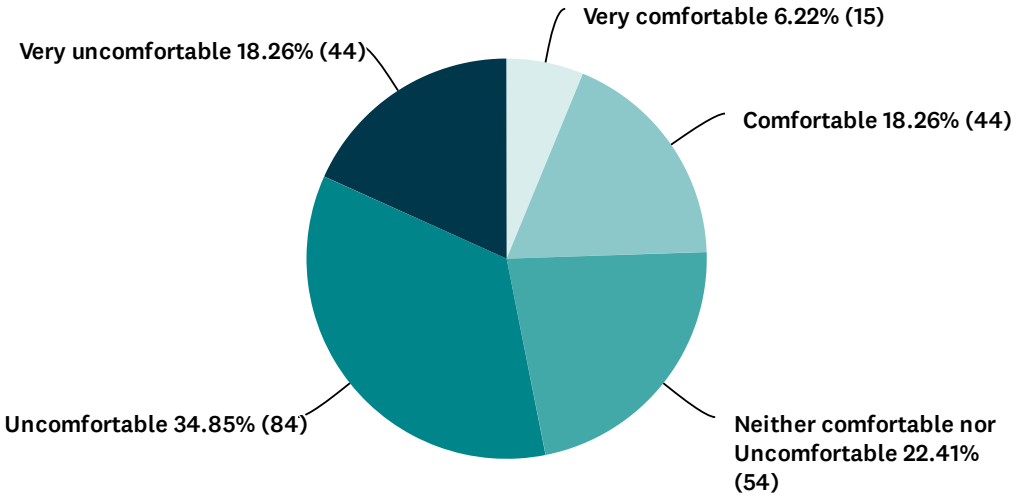
Answered: 243 Skipped: 44



| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Walking | 88.89% | 216 |
| Running | 23.05% | 56 |
| Biking | 44.44% | 108 |
| Access to SEPTA trains or bus stops | 10.29% | 25 |
| General Recreation | 38.68% | 94 |
| Transportation for work | 4.94% | 12 |
| Transportation for errands | 13.58% | 33 |
| Transportation for school | 2.06% | 5 |
| Nature walks (i.e bird watching) | 33.74% | 82 |
| I do not use sidewalks or trails | 4.94% | 12 |
| Other - please specify | 2.06% | 5 |
| Total Respondents: 243 | | |

# Q9 From a perspective of traffic safety, how comfortable do you feel walking in Middletown Township?

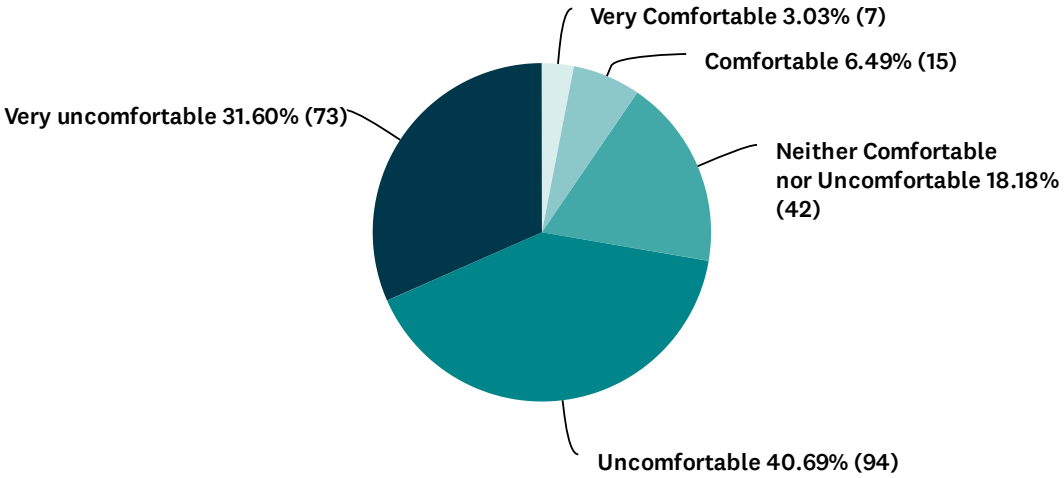
Answered: 241 Skipped: 46




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Very comfortable | 6.22% | 15 |
| Comfortable | 18.26% | 44 |
| Neither comfortable nor Uncomfortable | 22.41% | 54 |
| Uncomfortable | 34.85% | 84 |
| Very uncomfortable | 18.26% | 44 |
| TOTAL | | 241 |

# Q10 From a perspective of traffic safety, how comfortable do you feel biking in Middletown Township?

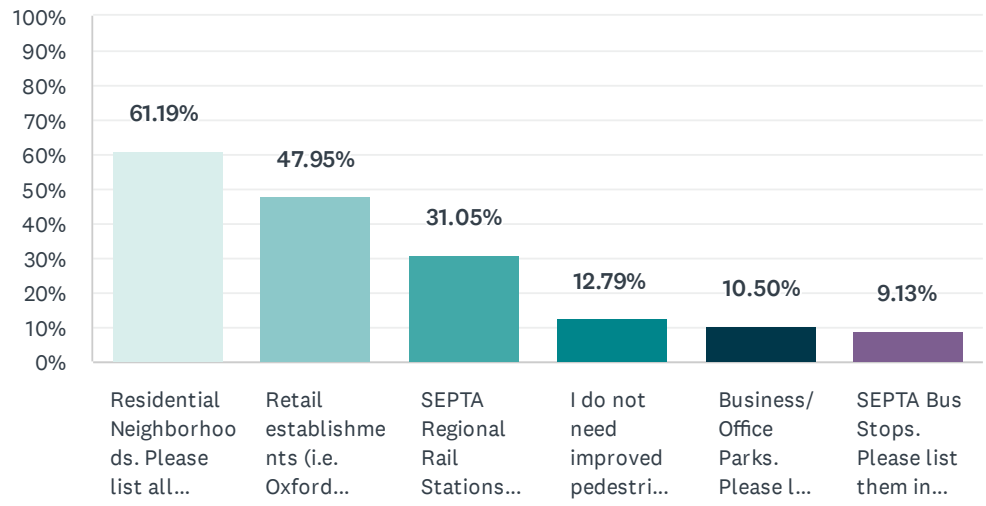
Answered: 231 Skipped: 56




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Very Comfortable | 3.03% | 7 |
| Comfortable | 6.49% | 15 |
| Neither Comfortable nor Uncomfortable | 18.18% | 42 |
| Uncomfortable | 40.69% | 94 |
| Very uncomfortable | 31.60% | 73 |
| TOTAL | | 231 |

# Q11 To what areas would you like improved pedestrian and/or bicycle access? (Please indicate specific locations within 'Other' that apply to you, or use the mapping tool which is linked at the end of this survey)

Answered: 219 Skipped: 68




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Residential Neighborhoods. Please list all neighborhood names that apply in 'Other" below. | 61.19% | 134 |
| Retail establishments (i.e. Oxford Valley Mall, Oxford Valley Plaza, Lincoln Plaza, Langhorne Square Shopping Center, Woodbourne Square). Please list all that apply in 'Other' below. | 47.95% | 105 |
| SEPTA Regional Rail Stations: Langhorne & Woodbourne | 31.05% | 68 |
| I do not need improved pedestrian access. | 12.79% | 28 |
| Business/ Office Parks. Please list all that apply in 'Other' below. | 10.50% | 23 |
| SEPTA Bus Stops. Please list them in 'Other" below | 9.13% | 20 |
| Total Respondents: 219 | | |

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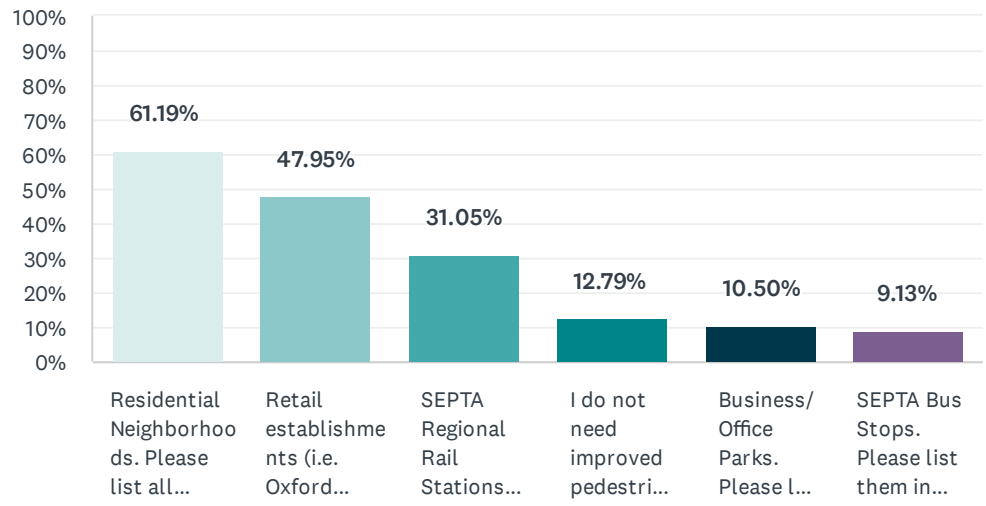
Answered: 219 Skipped: 68




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Residential Neighborhoods. Please list all neighborhood names that apply in 'Other" below. | 61.19% | 134 |
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| SEPTA Bus Stops. Please list them in 'Other" below | 9.13% | 20 |
| Total Respondents: 219 | | |

| # | OTHER (PLEASE SPECIFY) | DATE |
|---|---|---|
| 1 | All neighborhoods | 9/9/2023 2:42 PM |
| 2 | Area Near Old Lincoln Hwy and Arbutus Rd | 9/7/2023 10:40 AM |
| 3 | Along Rt 213 | 8/31/2023 8:49 PM |
| 4 | Village of Flowers Mill to Langhorne Library | 8/28/2023 7:41 PM |
| 5 | Im afraid to walk or ride a bike to any of these locations It would be wonderful to connect highland gate, all developments in that area as well as the community park to the nearby restaurants, banks, grocery stores and farmers market,(shady brook farm). I understand that is in a different Twp., but there are walkways all Middletown would need to do is connect to them | 8/28/2023 11:35 AM |
| 6 | All stops along business route 1. Also New falls Road. Sometimes I can get someplace by bus but can't make the return trip without taking my life into my hands. | 8/27/2023 5:47 PM |
| 7 | Old Mill woods and neighborhoods bordering Core Creek. It’s VERY dangerous to cross at any | 8/27/2023 2:42 PM |

| | | |
|---|---|---|
| | point I to Core Creek Park. Zero ped crossings. | |
| 8 | Core creek park from maple point area . | 8/27/2023 2:06 PM |
| 9 | Durham rd Trenton rd Route 1 | 8/27/2023 1:55 PM |
| 10 | Sidewalks or street lights in the gables would increase safety tremendously, especially at night. | 8/27/2023 1:41 PM |
| 11 | Langhorne | 8/26/2023 7:20 PM |
| 12 | Bike path on Langhorne Yardley road and Also Bridgetown pike leading to the Bridgetown pike entrance of core creek park. | 8/25/2023 6:21 PM |
| 13 | Langhorne Gables especially along Trenton Road | 8/25/2023 9:14 AM |
| 14 | Biking or walking paths in sections. Most people walk in the streets because some sidewalks are uneven. | 8/23/2023 9:24 PM |
| 15 | Walking and biking access along Trenton Rd, Bristol-Oxford Valley Rd, Rt. 413, and Bus. Rt. 1. No sidewalks or bike lanes currently exist. Too dangerous to walk or bike these areas to access businesses or residences. | 8/23/2023 5:51 PM |
| 16 | Langhorne Borough - sidewalks are spotty and uneven.We need consistent sidewalk access that doesn't end suddenly and then you have to walk along the roadway to the next sidewalk. Old Lincoln Highway from Dunkin Donuts to the High school needs sideway access. WindyBush development to Langhorne Borough downtown. From Oxford Retirement to Pine Watson shopping center needs consistent walkways. Complete sidewalks all along Gillam ave. From Langhorne Yardley Rd/413 (Oxford Residence) to St Mary hospital | 8/21/2023 12:45 PM |
| 17 | My wife and I live in Laurel Oaks. It would be nice to see pedestrian crosswalks along Township Line Road to access the paved walking path and an additional crosswalk at Langhorne-Yardley Road connecting our community to Middletown Park. Thanks for your consideration. | 8/21/2023 12:13 PM |
| 18 | Old mill woods | 8/21/2023 8:52 AM |
| 19 | Hulmelville rd between gillam Ave. to maple Ave. 413. Entre Gilliam Ave. from cemetery to over pass should have side walks. There should be side walks going to Neshaminy High school | 8/21/2023 8:34 AM |
| 20 | I only feel safe bike or walking in the area where there is separated and protect space for pedestrians and cyclists away from cars. This is not very prevalent anywhere and must become a priority. It is also important that walking and biking isn't just seen as recreational, people who commute and travel outside of a car need the infrastructure to help them more about safely and efficiently. | 8/20/2023 10:09 AM |
| 21 | Old Mill Woods | 8/19/2023 11:35 PM |
| 22 | Bridge crossing from Hulmeville Rd to Lincoln Hwy. Hulmeville Rd under railroad passing. Walk way on Lincoln Hwy along Rita's toward Dunkin Doughnuts. | 8/19/2023 9:49 PM |
| 23 | Walking path somehow to cross Bridgetown Pike to Core Creek for residents of Old Mill and Wychwood. | 8/19/2023 5:41 PM |
| 24 | Old Mill Woods | 8/18/2023 11:10 PM |
| 25 | from Old mill Woods to the Langhorne Boro. (under the rail bridges) | 8/18/2023 9:26 PM |
| 26 | - Comly Avenue from Hulmeville Rd. to Bellevue Ave. needs sidewalks and 25 MPH limit. Long overdue. Walking to the train station is dangerous. - Sidewalk gap between Bellevue Ave & S. Pine to the Langhorne Library. - Sidewalks needed at 413 & Maple Ave to The Shoppes at Flowers Mill - Comly and Hulmeville Ave intersection. Visibility, driving or walking, was already an issue. The new John Candy Bridge made visibility even worse! I go out of my way to avoid it. | 8/18/2023 4:32 PM |
| 27 | Snowball and Forsythia. Trenton Rd, around public schools, crosswalks for major 4 way stops | 8/18/2023 12:19 PM |
| 28 | Comley Avenue needs sidewalks to facilitate residents getting to the Langhorne train station. The road has stop signs, an intersection that's dangerous because of poor visibility of cars coming over the bridge from Pendell, a bridge that narrows traffic to one lane, and poor | 8/18/2023 11:14 AM |

| | | |
|---|---|---|
| | visibility because of trees and hills. Despite all of these factors, the speed limit is an astonishing 40 mph. Build sidewalks, lower the limit to 25 mph, and put in a four-way stop at the bridge (or some other fix to stop the frequent car wrecks and near wrecks) Add sidewalks so people can walk from Langhorne Borough to the Flowers Mill shopping center. People shouldn't have to drive two minutes to go to the stores. | |
| 29 | Woodbourne Road needs a whole new update | 8/18/2023 10:07 AM |
| 30 | Oxford valley mall and nearby stores, langhorne train station, septa bus stops on trenton and woodbourne rd, there are zero transportation options from high school besides school bus or car | 8/18/2023 9:47 AM |
| 31 | Oxford Valley Mall, Oxford Valley Plaza, Lincoln Plaza, Target Shopping Center, Langhorne Square Shopping Center. | 8/18/2023 9:42 AM |
| 32 | I do not understand the lack of sidewalks throughout Middletown. We live in Cobalt Ridge, and while we have sidewalks in our section, we cannot walk far out of our section without walking on the shoulder of the street or the actual street itself where cars and trucks are driving. This makes no sense in trying to build a family-friendly community | 8/18/2023 8:50 AM |
| 33 | Near Hulmeville. Main Street toward New Falls Road then up to 413. | 8/18/2023 6:58 AM |
| 34 | Langhorne Borough. Many sidewalks are impossible to use if you have a walker. | 8/17/2023 9:15 PM |
| 35 | Neighborhoods near Core Creek Park - difficult for bikers to ride safely on roads to access core creek | 8/17/2023 8:46 PM |
| 36 | Ox vly mall, Lincoln plaza, all food establishments, Target | 8/17/2023 8:45 PM |
| 37 | Gates neighborhoods-Snowball gate has the lane which was meant to slow the traffic but it also created a bike/walk lane, it would be nice to see it in all of the gates neighborhoods | 8/17/2023 7:08 PM |
| 38 | Safe off road access to parks and open spaces like DCNR trail, Core Creek and Tyler parks. It would be nice to have a safe way to ride a bike there rather than driving to the park and then biking. | 8/17/2023 5:54 PM |
| 39 | The walk from mall to 4th street to Wellington to Pickering. The whole bridge needs to be redesigned. Make sidewalks and turning lane onto Wellington. Do something with the train station and the traffic. The one lane bridge is horrible as well. | 8/17/2023 5:37 PM |
| 40 | Snowball gate, business, Oxford valley road, route 1, Levittown parkway | 8/17/2023 3:55 PM |
| 41 | There are no sidewalks anywhere and drivers make it extremely unsafe to use the shoulder | 8/17/2023 2:29 PM |
| 42 | All bus stops on 14 and 129 stops | 8/17/2023 1:41 PM |
| 43 | Im concerned about all the building, school construction, and DRBTA facility on Woodbourne rd. What is being done to improve intersections, i.e. Langhorne Yardley rd/Woodbourne RD? Langhorne Yardley Rd/Bridgeton Pike? | 8/17/2023 1:05 PM |
| 44 | Frosty hollow road. There's a paved path that is overtaken by grass and not well kept Bridge needs to be fixed in Quincy hollow to cobalt near Miller elementary. There is no ramp for starlets or wheel chairs | 8/17/2023 12:58 PM |
| 45 | Sidewalks can always be added and improved. Bicycle access should be limited to sidewalk upgrades as the roads should be upgraded or widened to accommodate the increase in motor vehicle traffic. | 8/17/2023 12:39 PM |
| 46 | Walking and bike paths from Penndel to langhorne Boro and parks (core creek, playwicki and playwicki farm) | 8/17/2023 11:06 AM |
| 47 | I was told by the Twp that Maple Point is supposedly on the list for sidewalk improvements (I.e. curb cuts). That was about 2 years ago so I'm hopeful this survey makes a difference. It is unsafe to have people with strollers & small children on bikes have to get off of the sidewalk earlier than necessary and be in the street. | 8/16/2023 9:54 PM |
| 48 | Twin Oaks | 8/16/2023 5:02 PM |
| 49 | Woodbourne rd is a direct route into and out of major shopping areas. It could use improved shoulders and or bike lane to accommodate cyclists. | 7/26/2023 11:29 AM |

| | | |
|---|---|---|
| 50 | Sidewalk to extend along Old Lincoln Highway from Gilliam Avenue down to Neshaminy High School. | 7/15/2023 11:46 AM |
| 51 | Highland Gate | 7/13/2023 1:50 PM |
| 52 | Highland Gate | 7/10/2023 10:15 PM |
| 53 | Sidewalks are not smooth, I fell off twice. Prefer to have bike road. On our way to the woodbourne train station from the highland gate, the roads look ugly. There is a tree brunch hanging in the tunnel which is not safe for cars. | 7/10/2023 6:23 PM |
| 54 | Cider Knoll, Highland Gate, Maple Point | 7/9/2023 11:19 AM |
| 55 | Highland Gate, Maple Point | 7/7/2023 4:04 PM |
| 56 | Walking path along Big Oak Road Behind Highland Gates to Aristaeus Brewing Company Walking path from Highland Gates to Styers Orchard and a safe way to cross Woodburne Road | 7/7/2023 12:48 PM |
| 57 | Highland gate | 7/7/2023 11:08 AM |
| 58 | Cider knoll | 7/7/2023 7:17 AM |
| 59 | Highland Gate | 7/7/2023 12:05 AM |
| 60 | Highland Gate, cider knoll | 7/6/2023 10:57 PM |
| 61 | Highland Gate to Maple point middle / new elementary. Crosswalk from cider knoll to Styers orchard, Woodbourne station to Oxford valley mall | 7/6/2023 10:40 PM |
| 62 | Highland Gate, Cider Knoll | 7/6/2023 10:16 PM |
| 63 | Forsythia Gate, Red Rose Gate, Snowball Gate, Highland Park, Cobalt Crossing, Woodbourne Road, Bristol-Oxford Valley Road, Route 413, Trenton Road | 7/4/2023 3:45 PM |
| 64 | Woodbourne Road - between Trenton Road and business route 1. | 6/23/2023 8:47 PM |
| 65 | Quincy Hollow. People drive entirely too fast on the drive and do not stop at end of blocks because there are no stop signs. | 6/23/2023 10:08 AM |
| 66 | Village Road which is the road these developments use ; Villas at Shady Brook , Silver Lake, a few private properties , and a new developement in 2024 at 2710 Village Rd Langhorne | 6/23/2023 8:59 AM |
| 67 | Safe access from the neighborhoods of highland gate/cider knoll/Laurel oaks to the following shopping areas: Giant/mccaffreys off stony hill and heacock roads, the giant shopping center at flower mills; also on big oak road to aristaeus and further to the shoprite shopping center; also along Yardley-Langhorne road to the Langhorne library snd also into the borough, and to Core Creek Park off Bridgetown pike. It would also be great if you could figure out a walkway to the train station and to the mall. | 6/19/2023 7:36 AM |
| 68 | The gates. Green belt sidewalks | 6/17/2023 4:38 PM |
| 69 | To connect Middletown Township and Newtown/Tyler Parm | 6/11/2023 5:52 PM |
| 70 | Connecting Parks canal trails Provide safe pathways to walk or bike to businesses Provide safe pedestrian pathways to bus stops and rail stations | 6/8/2023 8:56 PM |
| 71 | This is the suburbs not the city. If I wanted to live around busses and bikes I would like there. Maybe focus on the road that look like crap in the neighborhoods. | 6/8/2023 6:46 PM |
| 72 | Maple Point | 6/8/2023 2:54 PM |
| 73 | I enjoy Trenton Road going up to New Falls Road or 413 and I'm never comfortable there. The traffic anytime of day is way too much and the people are always in a hurry. They seem to care about bikers, but even the most careful driver it's dangerous ride for me. I enjoy stopping at the creeks on both sides of Highland Park. I would do this more often but the traffic is too heavy and there's not enough room for a bicycle to feel comfortable on. Besides that it's pretty good place to ride our bikes I enjoy seeing other bikers and waving to the people I may know four people that are just doing the same thing I'm doing it's a very pleasant experience. I also enjoy stopping at the park with the tank the Veterans Park it's a nice stop to rest and reflect on life. | 6/8/2023 12:11 PM |

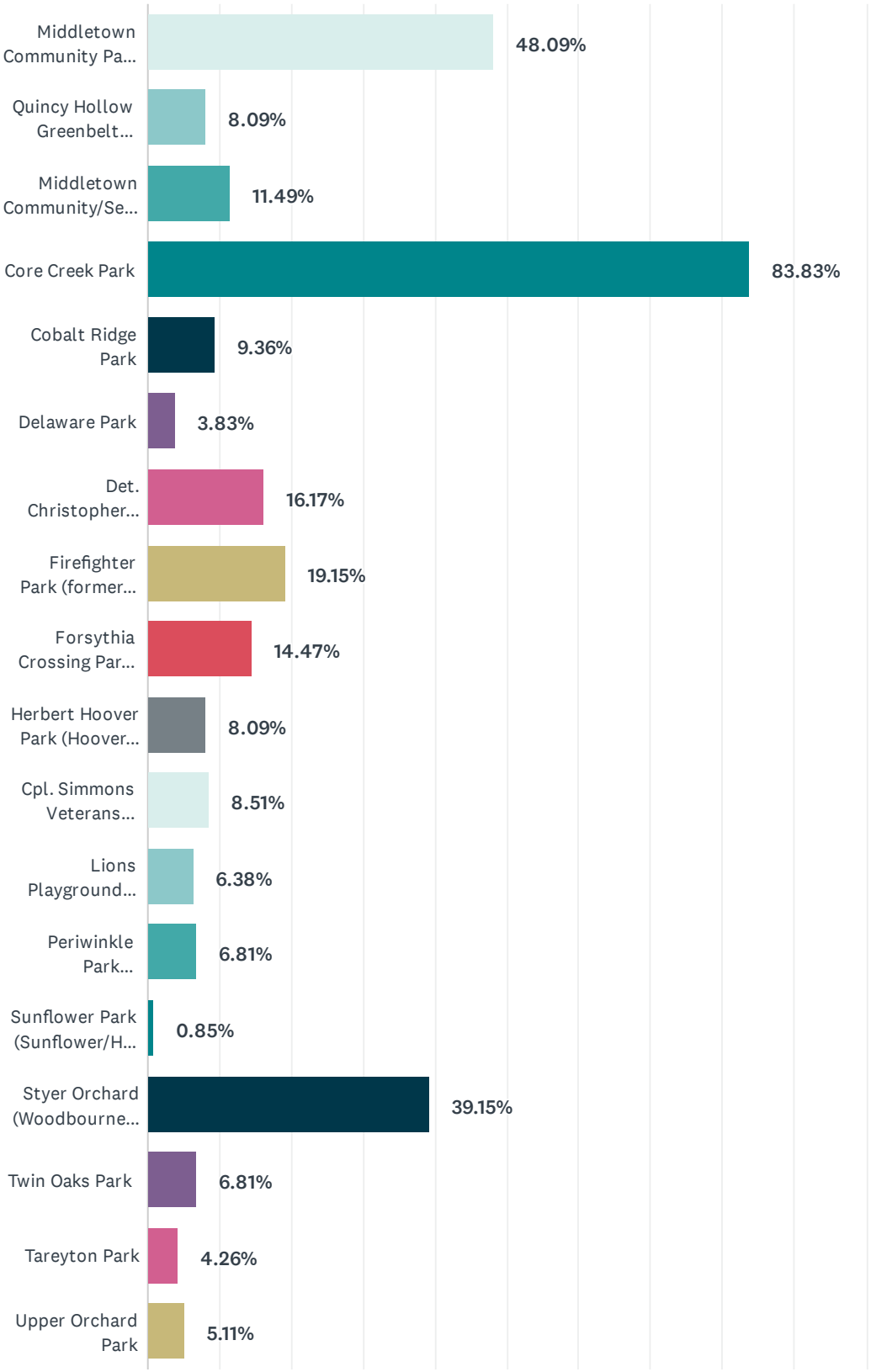
| | | |
|---|---|---|
| 74 | path along winchester to walk/bike to Tareyton Park and down to Country Club, along Langhorne-Yardley road to walk/bike to Core Creek, Styers and Community Park, along flowers mills road to walk/bike to grocery store (Giant) and shoppes at flowers mills shoppes (giant). | 6/6/2023 5:52 PM |
| 75 | Durham Road Corridor - From New Falls Road to the Newtown Bypass (picks up Summit Square Shopping Center, Langhorne Borough, Wawa at Trenton Road, and thousands of residents). Any pedestrian/bike path to The Shoppes at Flowers Mill. Pedestrian/Bike lane on Tollgate Road to Core Creek Pedestrian/Bike lane between Core Creek and Summit Square Shopping Center via Fulling Mill Road/Double Woods Road/Tollgate Road. | 6/4/2023 1:35 PM |
| 76 | Flowers Mill Shopping Center | 6/2/2023 12:24 PM |
| 77 | Along Woodborne, Langhorne Yardley Roads where schools and parks are | 6/2/2023 10:49 AM |
| 78 | Henry ave, Hulmeville rd, Parkvale rd. | 6/1/2023 10:16 PM |
| 79 | Neighborhood of W Gillam Ave and Hulmeville Rd. Hulmeville Rd is busy with traffic and there is no sidewalk and a very narrow shoulder that does not fit a stroller or wheelchair. | 5/31/2023 6:39 PM |
| 80 | used mapping tool; looking for better pedestrian paths along woodbourne rd near eagles mere and core creek park | 5/31/2023 4:18 PM |
| 81 | Really interested in being able to walk or bike to the Giant shopping center at Flowers Mill from Langhorne Borough. Right now there is a sidewalk gap along Maple avenue near the intersection of Flowers Mill, to round the corner into the shopping center. It's super dangerous, even though I do see Woods School residents walking there which is not safe. | 5/31/2023 2:57 PM |
| 82 | Access from my neighborhood to core creek park, newtown trail system and summit shopping center are difficult because of unsafe walking and biking on doublewoods road and fulling mill road. A designated bike lane and walking trail would be helpful and be a safer alternative to walking/biking on these roads. | 5/31/2023 9:19 AM |
| 83 | Neshaminy High School | 5/30/2023 4:59 PM |
| 84 | I live in Levittown. My husband and I walk every day - but in order to do so we need to cross Trenton Road near Veterans Hwy. It is EXTREMELY DANGEROUS. Kids from Deep Dale cross into Snowball gate via bike/ walk/ scooter / etc, and there are cars SPEEDING down Trenton road. Let alone cars going into the shoulder (even though added signage on Veterans Hwy says - 'Keep Off Shoulder.') Deep Dale is a small community in Levittown, and there should be a cross walk connecting it to Highland park or Snowball gate - as there is a cross walk connecting Forsythia and Highland park. There is NO safe way to walk from Deep Dale to any other community. Snowball / Forsythia have the parks, playgrounds, etc. So the only way to get there is to walk across Trenton road and risk getting hit by a speeding car | 5/30/2023 12:59 PM |
| 85 | Ivy Stream. Langhorne Borough to Playwicki Farm. | 5/30/2023 12:29 PM |
| 86 | Any thing in Middletown Twp to all businesses, post office, connection to all parks. | 5/30/2023 12:25 PM |
| 87 | Maple Avenue/Rt 213 needs a bike/walk lane from the Dunkin Donuts down to the circle/Playwicki FARM | 5/30/2023 11:58 AM |
| 88 | Highland Park and all other residential sections Retail establishements: Have you ever tried walking from Highland Park to Target or to Oxford Valley Mail? or to the Langhorne Train Station or Woodbourne Rd Train station. I did so years ago but not not! Septa bus stops? | 5/30/2023 11:39 AM |
| 89 | Please note: I don't think anything listed her should be fixed now. I think it should just be considered in future plans for repaving or construction work. Neighborhoods: Highland Gate Maple Point Specifically, I think there should be more curb cuts for people walking with strollers, if possible. Others: There are many instances where a larger paved shoulder would be beneficial for runners or bicyclists on some roads. For instance, Langhorne-Yardley Road between Bridgetown and Woodbourne, Big Oak Road near the I-95 overpass, and then having a pedestrian / bike friendly path for the tunnel on Woodbourne Road at Wood Lane. | 5/30/2023 11:18 AM |
| 90 | HULMEVILLE | 5/30/2023 9:35 AM |
| 91 | Langhorne Gables, Highland Park, Forsythia & Red Rose Gates, Langhorne Square Shopping Center | 5/30/2023 8:48 AM |
| 92 | 413 | 5/30/2023 8:30 AM |

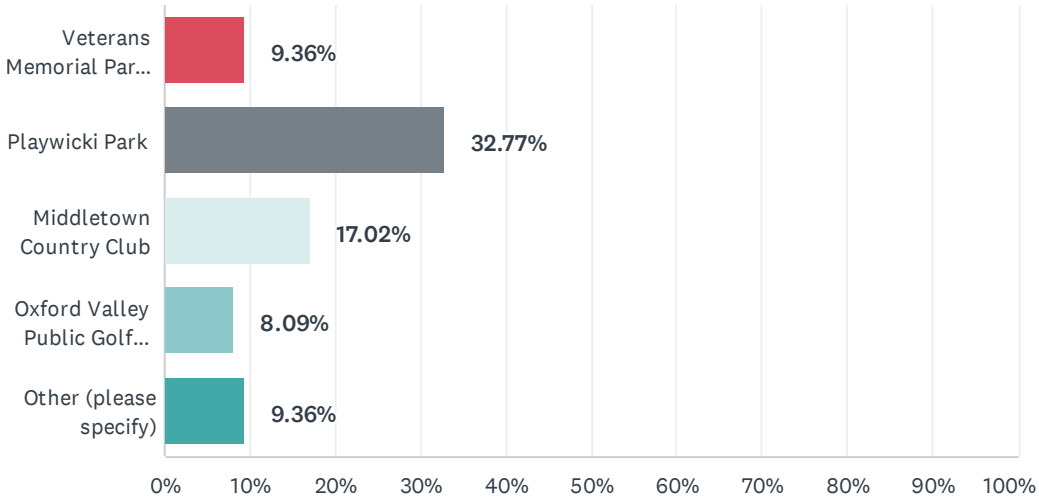
| | | |
|---|---|---|
| 93 | roads leading from residential neighborhoods to local retail establishments, e.g. Big Oak Crossing to Oxford Valley Plaza on Big Oak Road. | 5/29/2023 10:49 PM |
| 94 | Harper's Crossing to Woodbourne Station | 5/29/2023 8:23 PM |
| 95 | Snowball Gate | 5/29/2023 6:47 PM |
| 96 | It would be great to have trails to all of the main roads that do not have a walk way. Especially the roads we would use to connect to Yardley township's walkway/bike trails, or to get to Core Creek Park and the tennis courts such as Langhorne Yardley Rd, Township line Rd and Woodbourne Rd. | 5/29/2023 6:39 PM |
| 97 | Highland Ave and most streets in Parkland do not have sidewalks. Can’t walk to Langhorne train station due to no sidewalks. | 5/29/2023 5:41 PM |
| 98 | Access to Comly from Hulmeville Road is not possible. Then walking in Comly is terrifying—there are no sidewalks and very little shoulder. I live less than a mile from work but there is no safe way to get there via walking or bicycling. | 5/29/2023 5:22 PM |
| 99 | Biking trails or sidewalks to Core Creek Park | 5/27/2023 5:00 PM |
| 100 | Bike access to Core Creek Park from Township building or Langhorne Borough areas. | 5/24/2023 3:25 PM |
| 101 | Langhorne Terrace Access to the path leading to the Christopher Jones Memorial Park from Clearview Ave. | 5/23/2023 7:55 PM |
| 102 | Colonial village to Langhorne Borough | 5/22/2023 5:11 PM |
| 103 | From Middletown Twp. to Newtown Borough; along Rte 413 to Summit Square shopping center; from St. Mary's Hopsital along Rte. 413 to Langhorne Borough; | 5/22/2023 2:24 PM |
| 104 | Walking path from Christopher Jones Memorial Park to Langhorne Borough or at least the Dunkin Donuts. Would give residents from Ivystream and other streets safe walking access to shop, eat, and walk in the Borough. | 5/21/2023 1:19 PM |
| 105 | Village Road and Townshipline Road areas | 5/20/2023 12:04 PM |
| 106 | Crossing Bridgetown Pike from the Old Mill Woods development into the path in the woods to Core Creek Park. Also improving that path and having the grass/weeds cut regularly. | 5/17/2023 1:17 PM |
| 107 | Quincy Hollow near Woodbourne rd....bridge over the creek for access to Cobalt Ridge Playground | 5/16/2023 1:01 PM |
| 108 | OK specifically every neighborhood should allow for the public access route to be clear of cars parked on the sidewalk in the driveways blocking the normal flow of foot traffic of those who navigate the safety of sidewalks. This would include all ages especially children on bicycles dog walkers end those needing assistance. It is ridiculous to have to go to all the trouble to put the ramps on all the corners only to find that you have to walk into the street to avoid the cars that are blocking the sidewalks. I have personally made an attempt with any local neighbors 2 offer this as a consideration to others by asking them to not block our sidewalks. However, it seems to be somewhat of an epidemic as I travel within this and other Townships, whereby the concern for the safety of others is ignored. Enforcement is what is needed to deter those of this violation. | 5/16/2023 10:10 AM |
| 109 | Penncrest, Tareyton | 5/16/2023 7:51 AM |
| 110 | I would love for there to be better walking and cycling access to Maple Point. especially from the west side of Woodbourne Rd. I would also LOVE for us to complete the Newtown Rail Trail and/or a route that would connect to the towpath. | 5/11/2023 10:00 AM |
| 111 | Oxford Valley Mall, Langhorne | 5/10/2023 5:22 PM |
| 112 | Trenton Road, Woodbourne Road, Flowers Mill Road (North & South), Langhorne Yardely RAod, Durham Road, Route 413, Route 1, Bristol Oxford Valley Road | 5/4/2023 11:57 AM |
| 113 | bridge between Juniper Hill and Lower Orchard. The walkway is torn up | 5/2/2023 11:12 PM |
| 114 | Newtown Crossing, St Marys, Newtown borough shopping district | 4/26/2023 8:29 AM |
| 115 | Increased pedestrian access to central parts of Middletown township, such as downtown Langhorne from surrounding neighborhoods and bus/rail stations | 4/24/2023 2:03 PM |

| | | |
|---|---|---|
| 116 | Maple Point, Highland Gate, Lakeview Estates and surrounding neighborhoods | 4/24/2023 10:13 AM |
| 117 | Residential connections to Summit Trace Shopping center, Milway Farms to Core Creek, Silver Lake to Community Park, Oxford Valley Mall loop, Target to Oxford Valley, Mall to Langhorne Square, core Creek to Styers | 4/23/2023 10:18 PM |
| 118 | Entire Oxford Valley mall area, Woodbourne station area | 4/23/2023 9:14 PM |
| 119 | 1) In "the Gates". I think all the Gates would benefit from designated bike/pedestrian lanes such as those that have been installed in Snowball Gate. 2) Trenton Road needs sidewalks and traffic control. At night it's treated as a highway by drivers. Crosswalks are not respected except when there's a crossing guard present. I rarely see a traffic stop, traffic laws don't seem to be enforced. There have been several serious injuries and/or deaths to pedestrians and bicyclists caused by automobiles. | 4/22/2023 12:40 PM |
| 120 | If PennDot or the township decides to install pedestrian sidewalks along any of its roads or highways in the township, I would like pedestrian signal lights and signs asking pedestrians to yield to incoming motorists and asking outgoing motorists to yield to pedestrians. We need to ask motorists and pedestrians to recognize each other's "right of way" at the entrances and exits of shopping centers which are located along busy township and state roads and highways to improve public safety in the township. | 4/22/2023 11:26 AM |
| 121 | The tunnels on Langhorne Yardley and Langhorne Woodbourne roads are not safe for bicyclists The tunnel on Woodbourne Road is protected by a traffic light and is safe for bicyclist The safeway to get to Levitttown from Oxford Valley Mall is via the traffic light protected ctossover by Target Center | 4/20/2023 5:16 PM |
| 122 | To Core Creek Park and Summit Square from Millway Farm | 4/20/2023 4:53 PM |
| 123 | Very few sidewalks in area from township building to golf course | 4/20/2023 3:29 PM |
| 124 | Penncrest, Valleyview Road, Tareyton Estates, the main roads around this area are to dangerous to feel safe to walk. Around the Oxford Senior Community off of Winchester Avenue including Winchester Avenue are terrible. Good transportation to places like Pine Watson shopping center would be good too. | 4/13/2023 5:37 AM |
| 125 | Swan Pointe | 4/12/2023 11:07 PM |
| 126 | Brownsville Road. Maple Avenue. | 4/12/2023 5:04 PM |
| 127 | The gates need sidewalks like the rest of Levittown | 4/12/2023 12:57 PM |
| 128 | Would like better access on Brownsville rd towards neshaminy Creek | 4/11/2023 8:07 PM |
| 129 | All roads within the township. Creating a usable bike path for the community starts with it all. Why are the shoulder not repaved when the main road is paved, leaving riders to stay in the road. How do you get drivers to stop using shoulders, taking up any room for bikers. | 4/11/2023 6:42 PM |
| 130 | Langhorne boro | 4/11/2023 5:05 PM |
| 131 | It's less *at* those locations and more *getting to* them. | 4/11/2023 4:38 PM |
| 132 | Shoppes at Flowers Mill | 4/11/2023 2:25 PM |
| 133 | Oxford valley mall The Comic Collection | 4/11/2023 12:46 PM |
| 134 | Parker Street, Hulmville Road, US-1, some of the bus stops along Old Lincoln Highway. Parking lot in Oxford Valley Mall. | 4/4/2023 1:00 PM |

# Q12 Which trails, parks, natural areas, or open spaces areas do you currently visit? (Please check all that apply)

Answered: 235 Skipped: 52

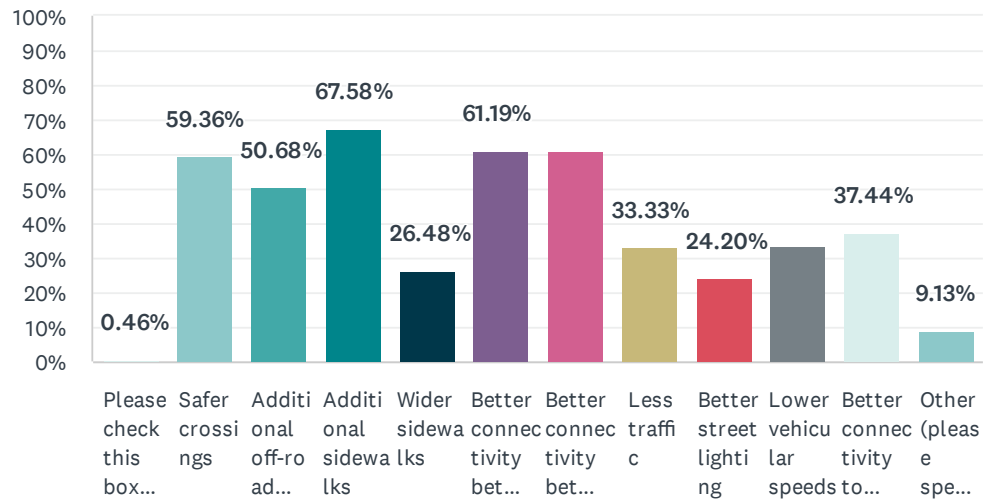



Veterans Memorial Par...
9.36%
Playwicki Park
32.77%
Middletown Country Club
17.02%
Oxford Valley Public Golf...
8.09%
Other (please specify)
9.36%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Middletown Community Park (Langhorne-Yardley Road) | 48.09% | 113 |
| Quincy Hollow Greenbelt (Quincy Drive) | 8.09% | 19 |
| Middletown Community/Senior Center (Trenton Road) | 11.49% | 27 |
| Core Creek Park | 83.83% | 197 |
| Cobalt Ridge Park | 9.36% | 22 |
| Delaware Park | 3.83% | 9 |
| Det. Christopher Jones Memorial Park (Maple Avenue - SR 213) | 16.17% | 38 |
| Firefighter Park (formerly known as Poplar Park) | 19.15% | 45 |
| Forsythia Crossing Park (Between Snowball Gate and Forsythia Gate) | 14.47% | 34 |
| Herbert Hoover Park (Hoover Elementary School, Trenton Road) | 8.09% | 19 |
| Cpl. Simmons Veterans Memorial Park (Brownsville Road) | 8.51% | 20 |
| Lions Playground (Trenton Road/Route 413) | 6.38% | 15 |
| Periwinkle Park (Brownsville Road) | 6.81% | 16 |
| Sunflower Park (Sunflower/Highland Avenues) | 0.85% | 2 |
| Styer Orchard (Woodbourne Road) | 39.15% | 92 |
| Twin Oaks Park | 6.81% | 16 |
| Tareyton Park | 4.26% | 10 |
| Upper Orchard Park | 5.11% | 12 |
| Veterans Memorial Park (Veterans Hwy) | 9.36% | 22 |
| Playwicki Park | 32.77% | 77 |
| Middletown Country Club | 17.02% | 40 |
| Oxford Valley Public Golf Course | 8.09% | 19 |
| Other (please specify) | 9.36% | 22 |
| Total Respondents: 235 | | |

# Q13 What would encourage you to walk more? If you are a wheelchair user, what would encourage you to travel more outside of a vehicle? Select all that apply.

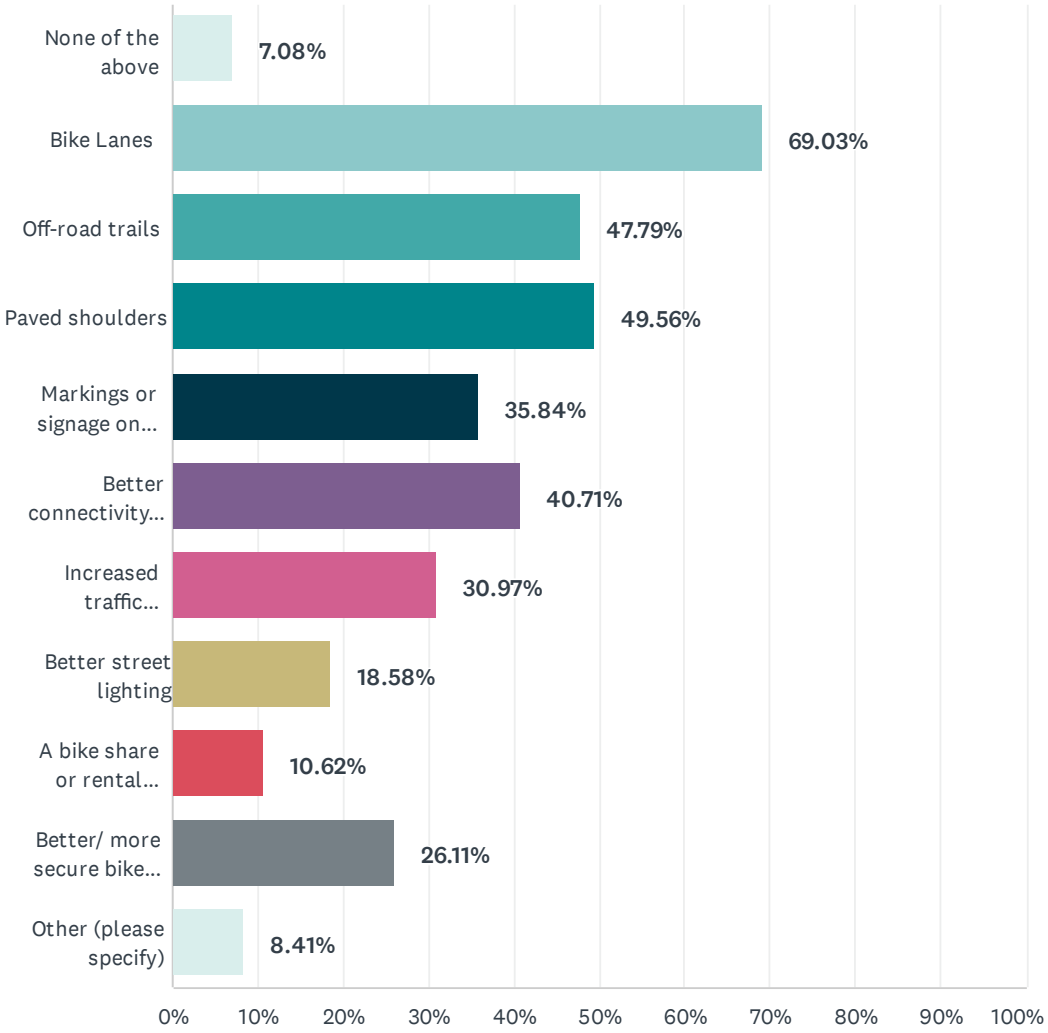
Answered: 219 Skipped: 68




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Please check this box ONLY if you are a wheelchair user | 0.46% | 1 |
| Safer crossings | 59.36% | 130 |
| Additional off-road trails | 50.68% | 111 |
| Additional sidewalks | 67.58% | 148 |
| Wider sidewalks | 26.48% | 58 |
| Better connectivity between sidewalks | 61.19% | 134 |
| Better connectivity between neighborhoods | 61.19% | 134 |
| Less traffic | 33.33% | 73 |
| Better street lighting | 24.20% | 53 |
| Lower vehicular speeds | 33.79% | 74 |
| Better connectivity to workplaces, businesses, and retail areas | 37.44% | 82 |
| Other (please specify) | 9.13% | 20 |
| Total Respondents: 219 | | |

# Q14 What safety infrastructure would encourage you to bike more? Select all that apply.

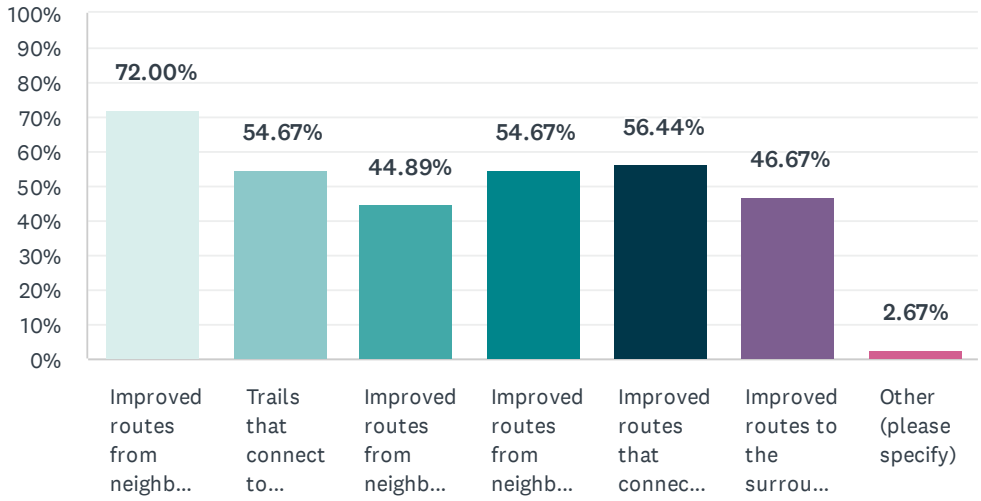
Answered: 226 Skipped: 61



| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| None of the above | 7.08% | 16 |
| Bike Lanes | 69.03% | 156 |
| Off-road trails | 47.79% | 108 |
| Paved shoulders | 49.56% | 112 |
| Markings or signage on roads | 35.84% | 81 |
| Better connectivity between bike facilities | 40.71% | 92 |
| Increased traffic enforcement | 30.97% | 70 |
| Better street lighting | 18.58% | 42 |
| A bike share or rental program | 10.62% | 24 |
| Better/ more secure bike parking in public spaces | 26.11% | 59 |
| Other (please specify) | 8.41% | 19 |
| Total Respondents: 226 | | |

# Q15 Which types of connectivity facilities would you like to see in Middletown Township? Select all that apply.

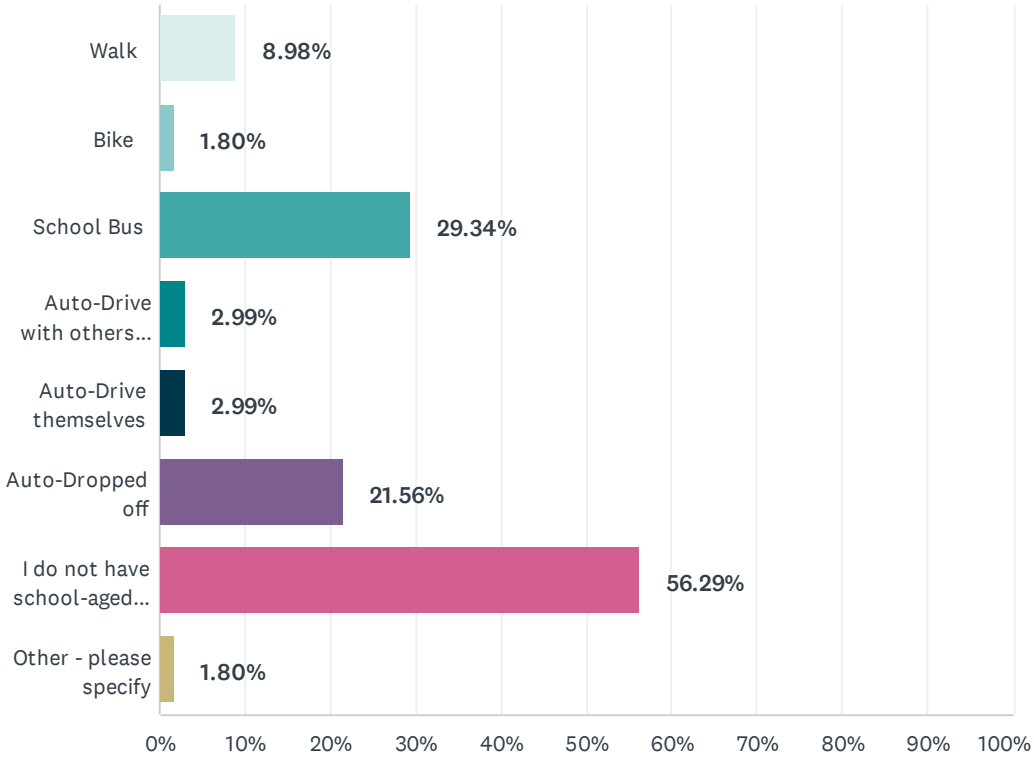
Answered: 225 Skipped: 62




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Improved routes from neighborhoods to parks | 72.00% | 162 |
| Trails that connect to destinations beyond Middletown Township | 54.67% | 123 |
| Improved routes from neighborhoods to schools | 44.89% | 101 |
| Improved routes from neighborhoods to retail areas | 54.67% | 123 |
| Improved routes that connect neighborhoods | 56.44% | 127 |
| Improved routes to the surrounding boroughs bordering Middletown Township | 46.67% | 105 |
| Other (please specify) | 2.67% | 6 |
| Total Respondents: 225 | | |

# Q16 If you have school-age children, what modes of transportation do they use to get to/from school? Select all that apply.

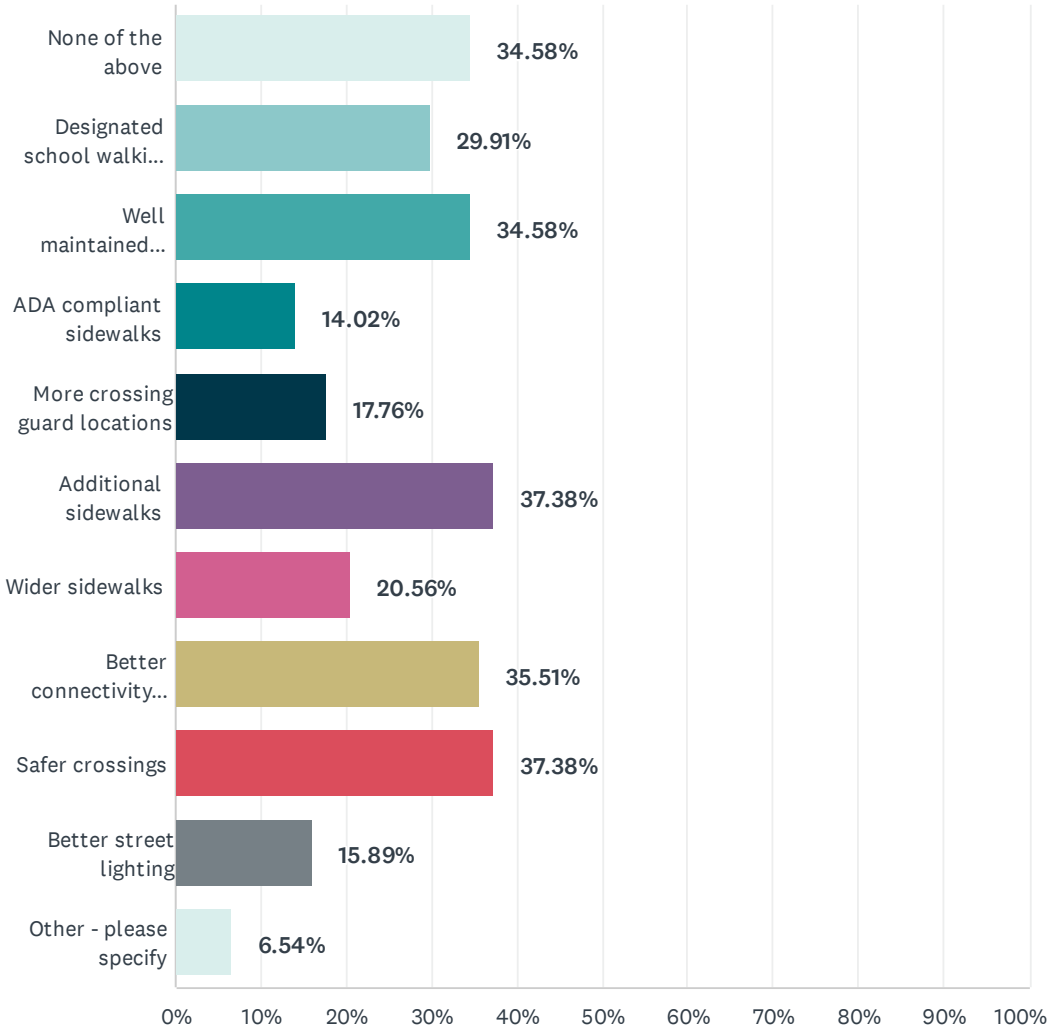
Answered: 167 Skipped: 120




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Walk | 8.98% | 15 |
| Bike | 1.80% | 3 |
| School Bus | 29.34% | 49 |
| Auto-Drive with others (carpool) | 2.99% | 5 |
| Auto-Drive themselves | 2.99% | 5 |
| Auto-Dropped off | 21.56% | 36 |
| I do not have school-aged children | 56.29% | 94 |
| Other - please specify | 1.80% | 3 |
| Total Respondents: 167 | | |

# Q17 If your child/children do not walk to/from school, which physical changes would need to be made for this to occur? Select all that apply.

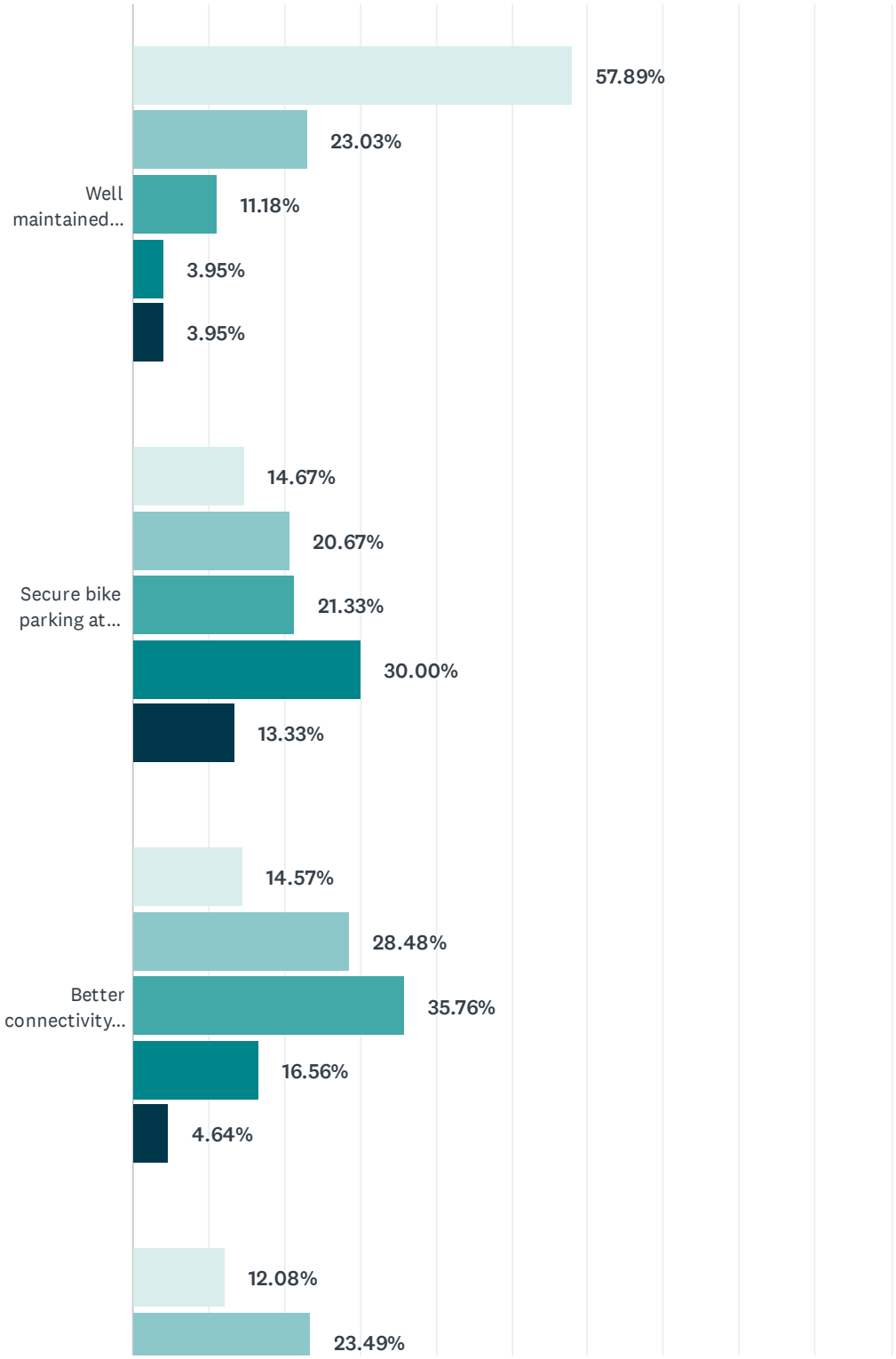
Answered: 107 Skipped: 180

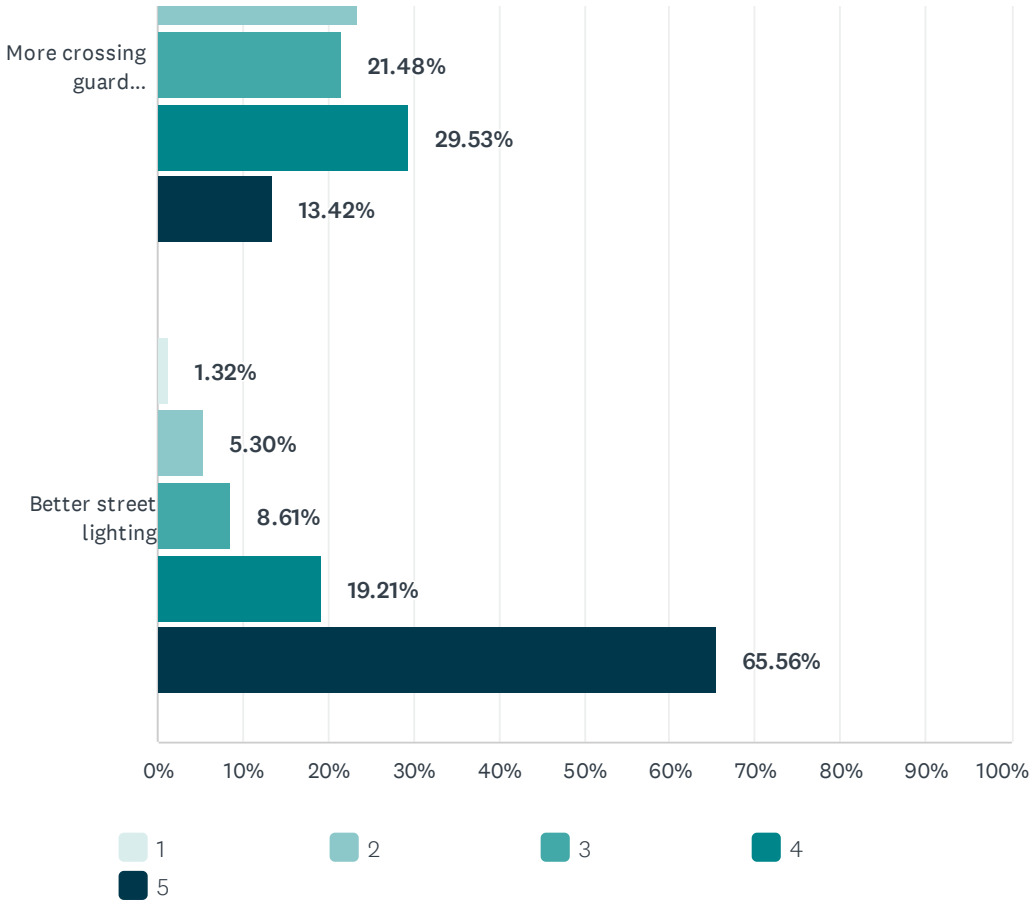


| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| None of the above | 34.58% | 37 |
| Designated school walking routes | 29.91% | 32 |
| Well maintained sidewalks that do not present tripping hazards | 34.58% | 37 |
| ADA compliant sidewalks | 14.02% | 15 |
| More crossing guard locations | 17.76% | 19 |
| Additional sidewalks | 37.38% | 40 |
| Wider sidewalks | 20.56% | 22 |
| Better connectivity between sidewalks | 35.51% | 38 |
| Safer crossings | 37.38% | 40 |
| Better street lighting | 15.89% | 17 |
| Other - please specify | 6.54% | 7 |
| Total Respondents: 107 | | |

# Q18 Currently, biking to/from elementary and middle schools is prohibited in Middletown Township. Rank the following issues on their importance to you in allowing your child/children to bike to elementary, middle and high school.

Answered: 158 Skipped: 129

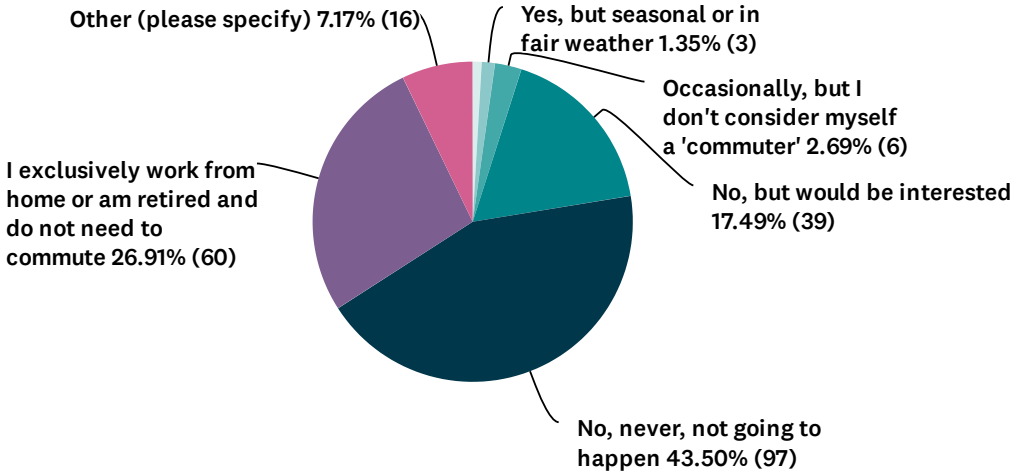





| | 1 | 2 | 3 | 4 | 5 | TOTAL | SCORE |
|---|---|---|---|---|---|---|---|
| Well maintained sidewalks or shoulders that allow for safe control of bicycles (eg. Wider sidewalks) | 57.89%<br>88 | 23.03%<br>35 | 11.18%<br>17 | 3.95%<br>6 | 3.95%<br>6 | 152 | 4.27 |
| Secure bike parking at schools | 14.67%<br>22 | 20.67%<br>31 | 21.33%<br>32 | 30.00%<br>45 | 13.33%<br>20 | 150 | 2.93 |
| Better connectivity between sidewalks | 14.57%<br>22 | 28.48%<br>43 | 35.76%<br>54 | 16.56%<br>25 | 4.64%<br>7 | 151 | 3.32 |
| More crossing guard locations/safer crossings | 12.08%<br>18 | 23.49%<br>35 | 21.48%<br>32 | 29.53%<br>44 | 13.42%<br>20 | 149 | 2.91 |
| Better street lighting | 1.32%<br>2 | 5.30%<br>8 | 8.61%<br>13 | 19.21%<br>29 | 65.56%<br>99 | 151 | 1.58 |

# Q19 Do you presently commute to work by bicycle?

Answered: 223 Skipped: 64



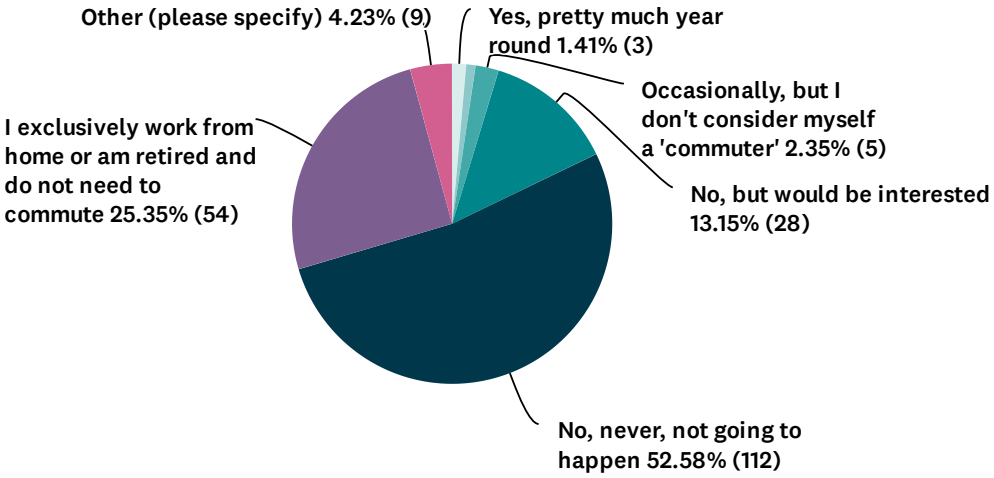

| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Yes, pretty much year round | 0.90% | 2 |
| Yes, but seasonal or in fair weather | 1.35% | 3 |
| Occasionally, but I don't consider myself a 'commuter' | 2.69% | 6 |
| No, but would be interested | 17.49% | 39 |
| No, never, not going to happen | 43.50% | 97 |
| I exclusively work from home or am retired and do not need to commute | 26.91% | 60 |
| Other (please specify) | 7.17% | 16 |
| TOTAL | | 223 |

# Q20 If you answered 'yes' to Question 19, please indicate your starting location (street) and final destination (work location) below.

Answered: 11 Skipped: 276

# Q21 Do you presently commute to work on foot?

Answered: 213 Skipped: 74



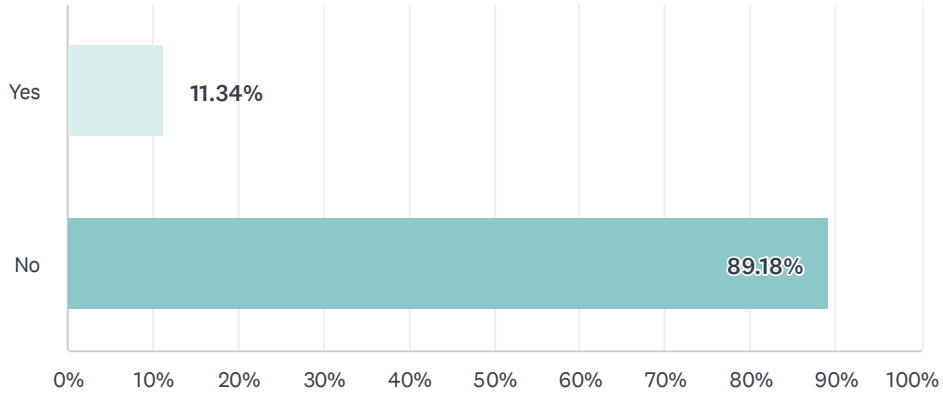

| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Yes, pretty much year round | 1.41% | 3 |
| Yes, but seasonal or in fair weather | 0.94% | 2 |
| Occasionally, but I don't consider myself a 'commuter' | 2.35% | 5 |
| No, but would be interested | 13.15% | 28 |
| No, never, not going to happen | 52.58% | 112 |
| I exclusively work from home or am retired and do not need to commute | 25.35% | 54 |
| Other (please specify) | 4.23% | 9 |
| TOTAL | | 213 |

# Q22 If you answered 'yes' to Question 21, please indicate your starting location (street) and final destination (work location) below.

Answered: 7 Skipped: 280

# Q23 Do you commute to work using transit(SEPTA Regional Rail, SEPTA Bus, or privately owned shuttle)? If 'yes', please specify in 'Other' below.

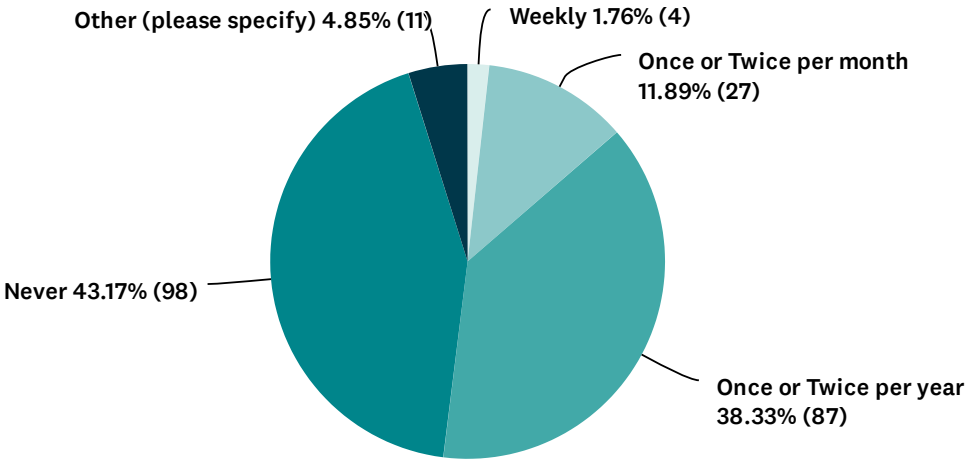
Answered: 194 Skipped: 93




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Yes | 11.34% | 22 |
| No | 89.18% | 173 |
| Total Respondents: 194 | | |

# Q24 Aside from transportation to work or school, how frequently do you use public transportation to access your chosen destination?

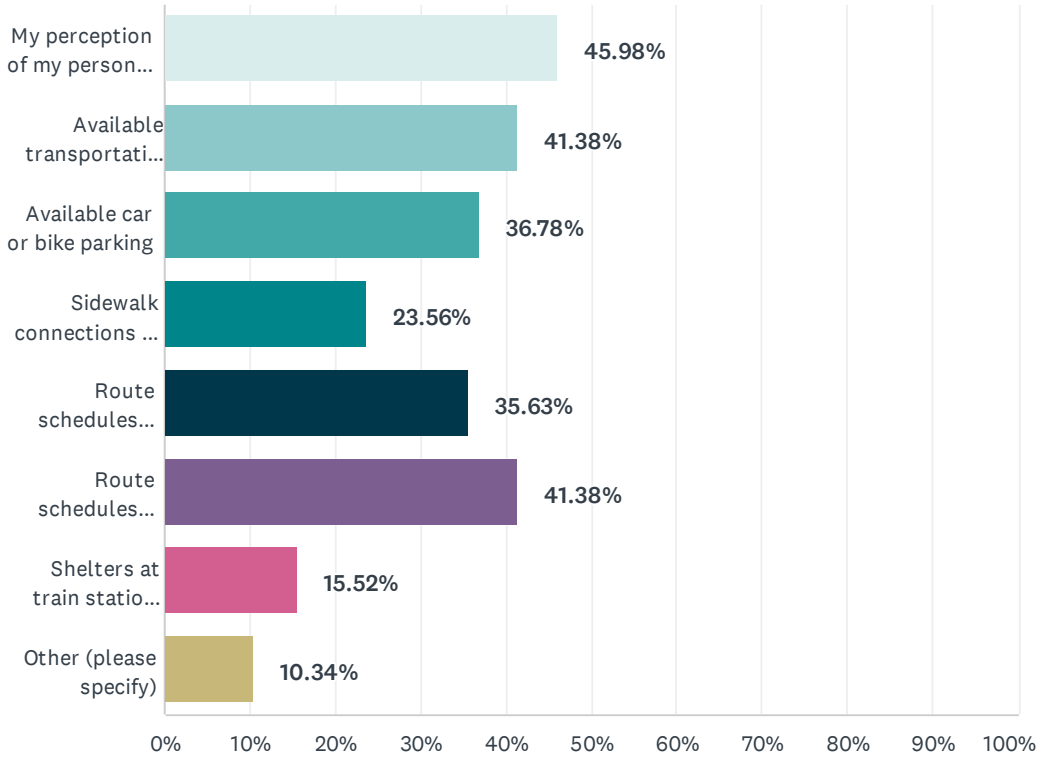
Answered: 227 Skipped: 60




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Weekly | 1.76% | 4 |
| Once or Twice per month | 11.89% | 27 |
| Once or Twice per year | 38.33% | 87 |
| Never | 43.17% | 98 |
| Other (please specify) | 4.85% | 11 |
| TOTAL | | 227 |

# Q25 What factors influence your decision to use public transportation? Check all that apply.

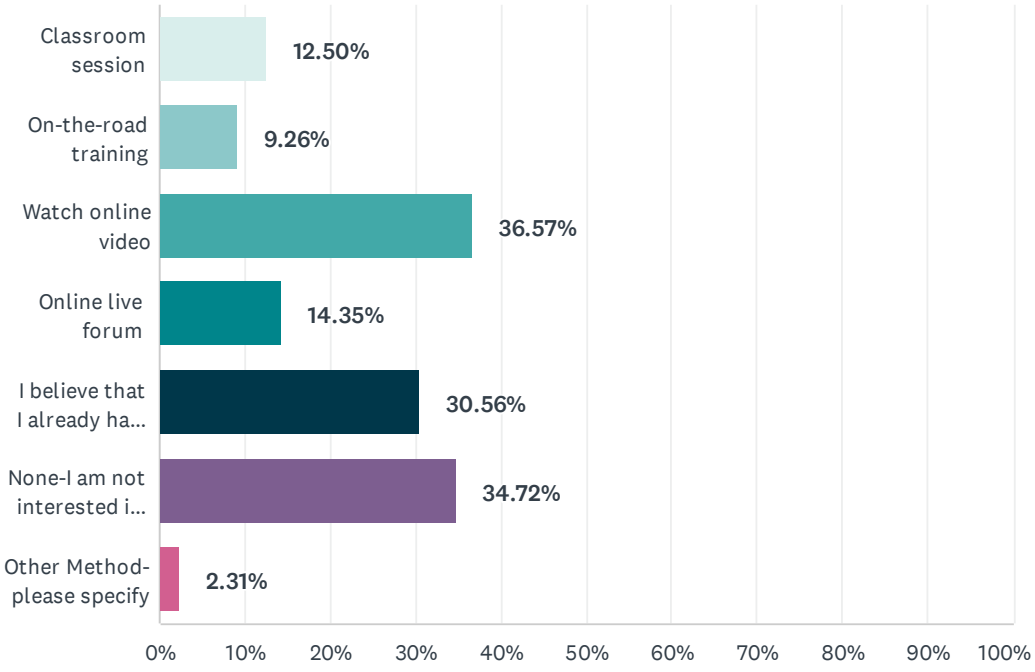
Answered: 174 Skipped: 113




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| My perception of my personal safety | 45.98% | 80 |
| Available transportation options to train stations or bus stops | 41.38% | 72 |
| Available car or bike parking | 36.78% | 64 |
| Sidewalk connections to train stations or bus stops | 23.56% | 41 |
| Route schedules during weekday hours | 35.63% | 62 |
| Route schedules during weekend hours | 41.38% | 72 |
| Shelters at train stations or bus stops | 15.52% | 27 |
| Other (please specify) | 10.34% | 18 |
| Total Respondents: 174 | | |

# Q26 What type of adult training/ education would you attend as a cyclist about safe riding on the road? Select all that apply.

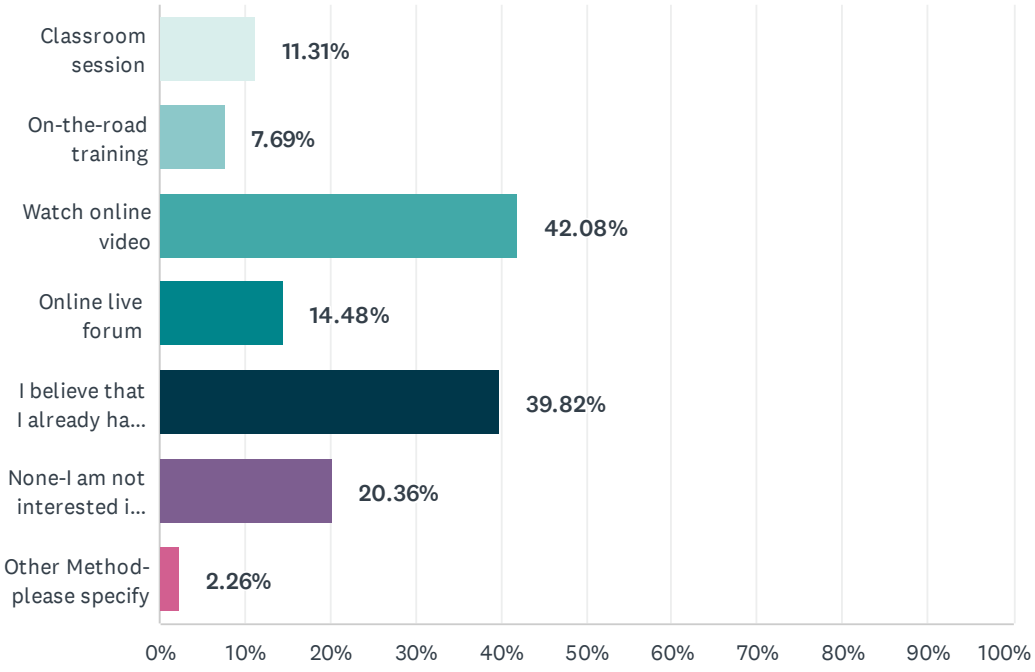
Answered: 216 Skipped: 71




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Classroom session | 12.50% | 27 |
| On-the-road training | 9.26% | 20 |
| Watch online video | 36.57% | 79 |
| Online live forum | 14.35% | 31 |
| I believe that I already have sufficient knowledge/ experience in this area | 30.56% | 66 |
| None-I am not interested in this topic. | 34.72% | 75 |
| Other Method- please specify | 2.31% | 5 |
| Total Respondents: 216 | | |

# Q27 What type of training/ education would you attend as a motorist on safe interaction with pedestrians and cyclists? Select all that apply.

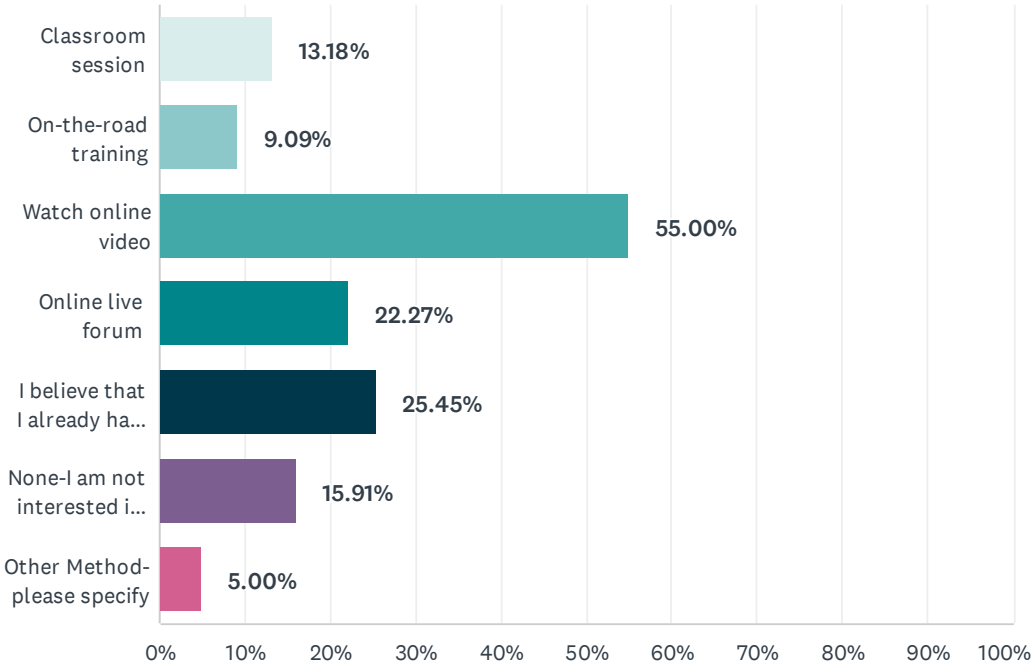
Answered: 221 Skipped: 66




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Classroom session | 11.31% | 25 |
| On-the-road training | 7.69% | 17 |
| Watch online video | 42.08% | 93 |
| Online live forum | 14.48% | 32 |
| I believe that I already have sufficient knowledge/ experience in this area | 39.82% | 88 |
| None-I am not interested in this topic. | 20.36% | 45 |
| Other Method- please specify | 2.26% | 5 |
| Total Respondents: 221 | | |

# Q28 New pedestrian/bicycle safety improvements may cause confusion. What type of adult training/education would you attend to learn/understand ways to increase your safety as a pedestrian? Check all that apply.

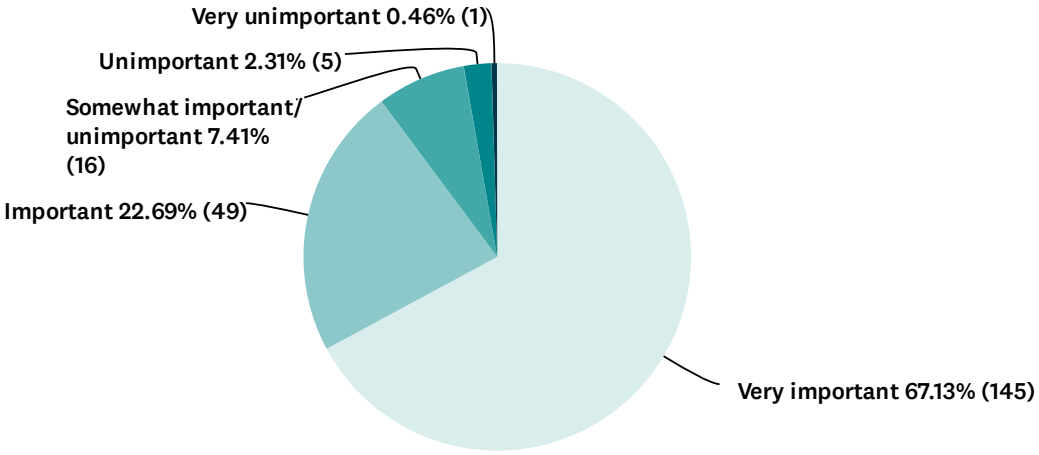
Answered: 220 Skipped: 67




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Classroom session | 13.18% | 29 |
| On-the-road training | 9.09% | 20 |
| Watch online video | 55.00% | 121 |
| Online live forum | 22.27% | 49 |
| I believe that I already have sufficient knowledge/ experience in this area | 25.45% | 56 |
| None-I am not interested in this topic. | 15.91% | 35 |
| Other Method- please specify | 5.00% | 11 |
| Total Respondents: 220 | | |

# Q29 How important are sidewalk connections and trails to the well-being of the community and the quality of life in Middletown Township?

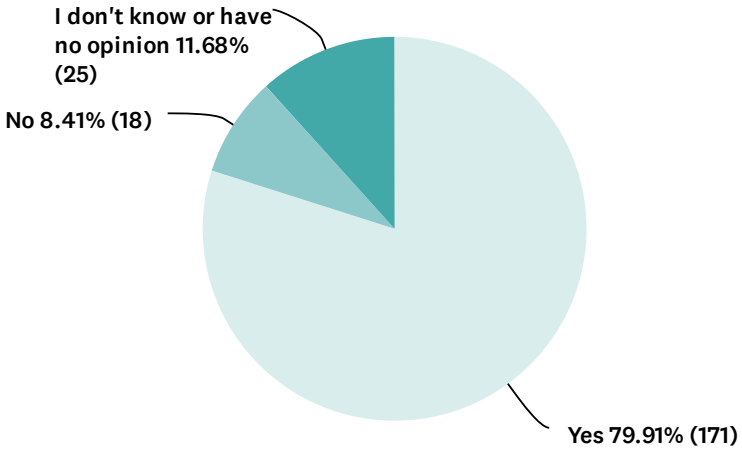
Answered: 216 Skipped: 71




| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Very important | 67.13% | 145 |
| Important | 22.69% | 49 |
| Somewhat important/ unimportant | 7.41% | 16 |
| Unimportant | 2.31% | 5 |
| Very unimportant | 0.46% | 1 |
| TOTAL | | 216 |

# Q30 Adding more sidewalks and trails would increase the amount of pedestrians and bicyclists in Middletown and decrease the amount of cars on the road. Please give your assessment of the following statement: As a motorist I would accept a slightly longer travel time if that meant a safer environment for pedestrians.

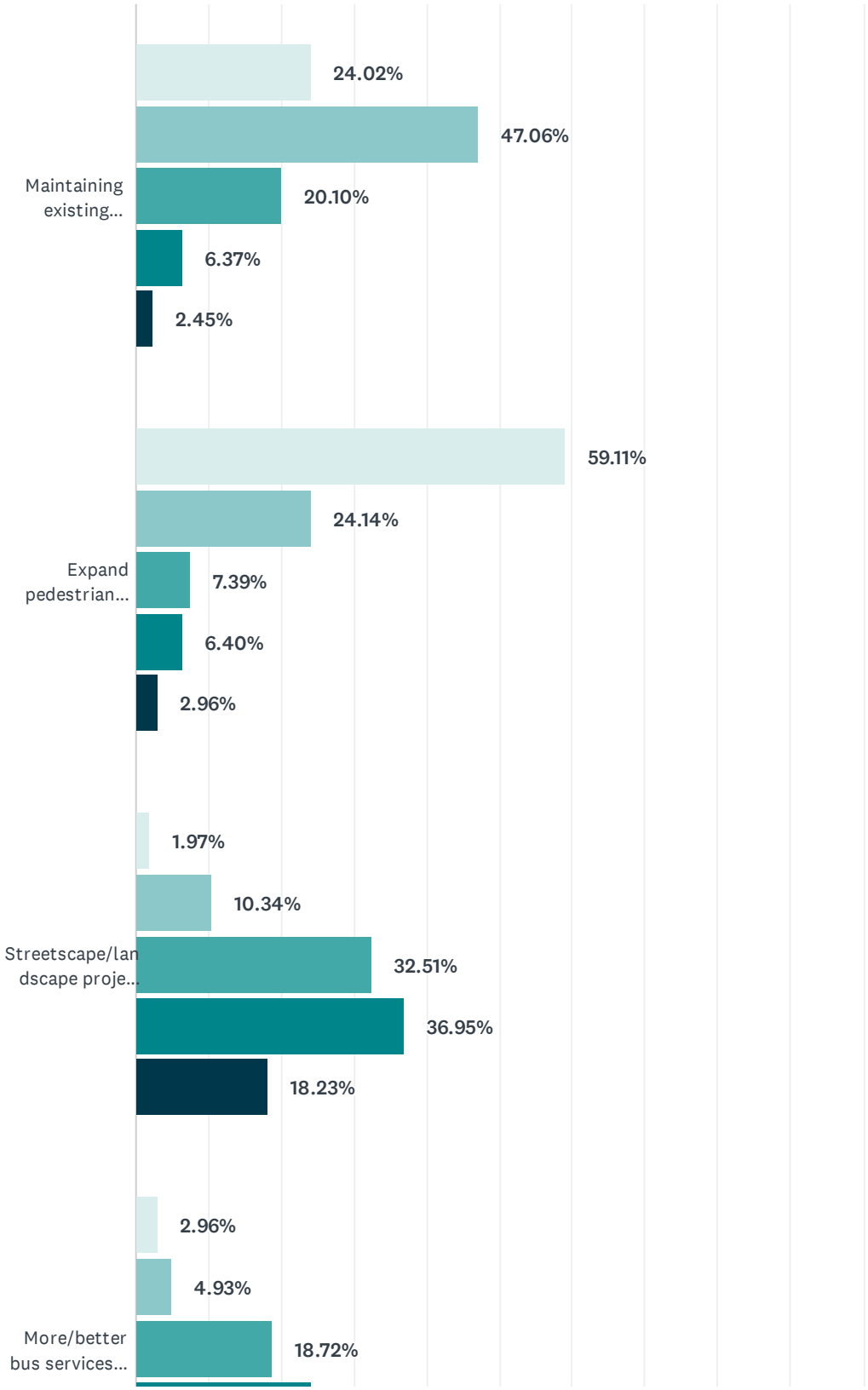
Answered: 214 Skipped: 73

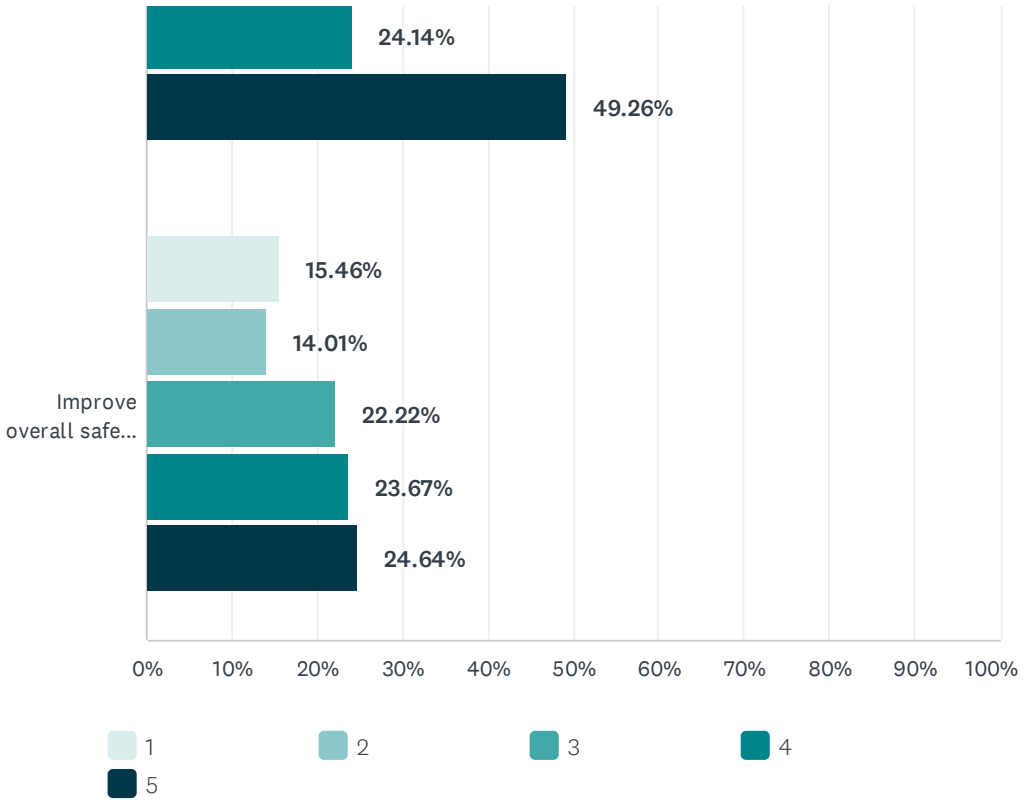



| ANSWER CHOICES | RESPONSES | |
|---|---|---|
| Yes | 79.91% | 171 |
| No | 8.41% | 18 |
| I don't know or have no opinion | 11.68% | 25 |
| TOTAL | | 214 |

# Q31 Rank the most important efforts that could create better connectivity in Middletown Township (1=High Priority; 5=Low Priority)

Answered: 213 Skipped: 74

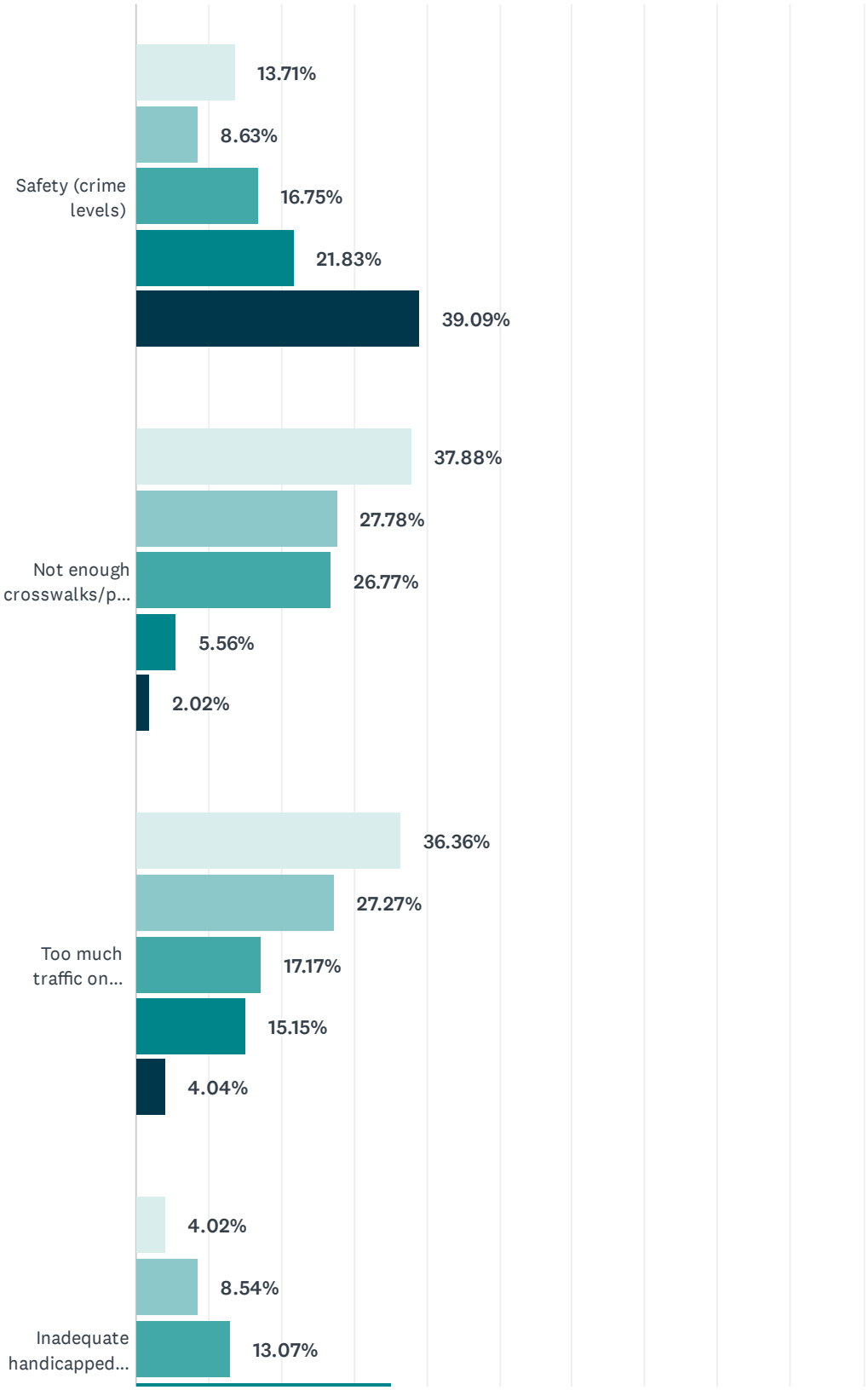


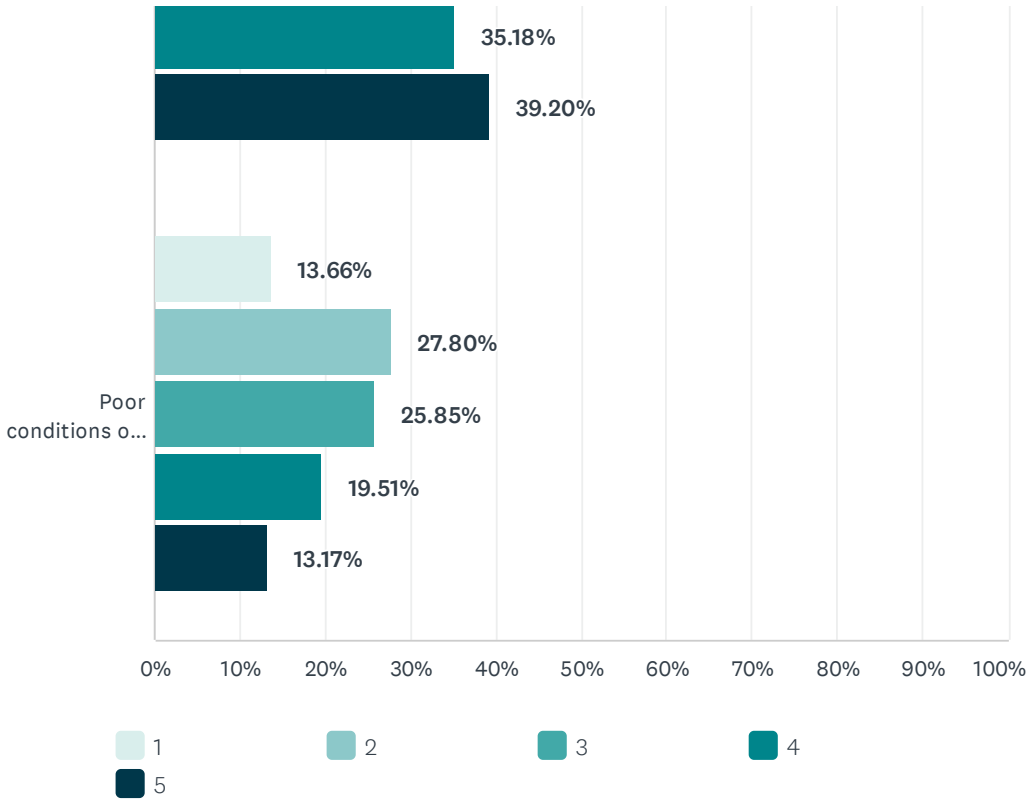



| | 1 | 2 | 3 | 4 | 5 | TOTAL | SCORE |
|---|---|---|---|---|---|---|---|
| Maintaining existing infrastructure (sidewalks, roadways, etc.) and upgrade for ADA accessibility | 24.02%<br>49 | 47.06%<br>96 | 20.10%<br>41 | 6.37%<br>13 | 2.45%<br>5 | 204 | 3.84 |
| Expand pedestrian network (eg. sidewalks/paths/trails) and bike network (eg. Bike Lanes/trails) | 59.11%<br>120 | 24.14%<br>49 | 7.39%<br>15 | 6.40%<br>13 | 2.96%<br>6 | 203 | 4.30 |
| Streetscape/landscape projects to improve corridor aesthetics | 1.97%<br>4 | 10.34%<br>21 | 32.51%<br>66 | 36.95%<br>75 | 18.23%<br>37 | 203 | 2.41 |
| More/better bus services and routes | 2.96%<br>6 | 4.93%<br>10 | 18.72%<br>38 | 24.14%<br>49 | 49.26%<br>100 | 203 | 1.88 |
| Improve overall safety within the community (reduce crime) | 15.46%<br>32 | 14.01%<br>29 | 22.22%<br>46 | 23.67%<br>49 | 24.64%<br>51 | 207 | 2.72 |

# Q32 Rank the concerns you have about walkability in Middletown Township (1=Top concern; 5=Low Concern)

Answered: 211 Skipped: 76

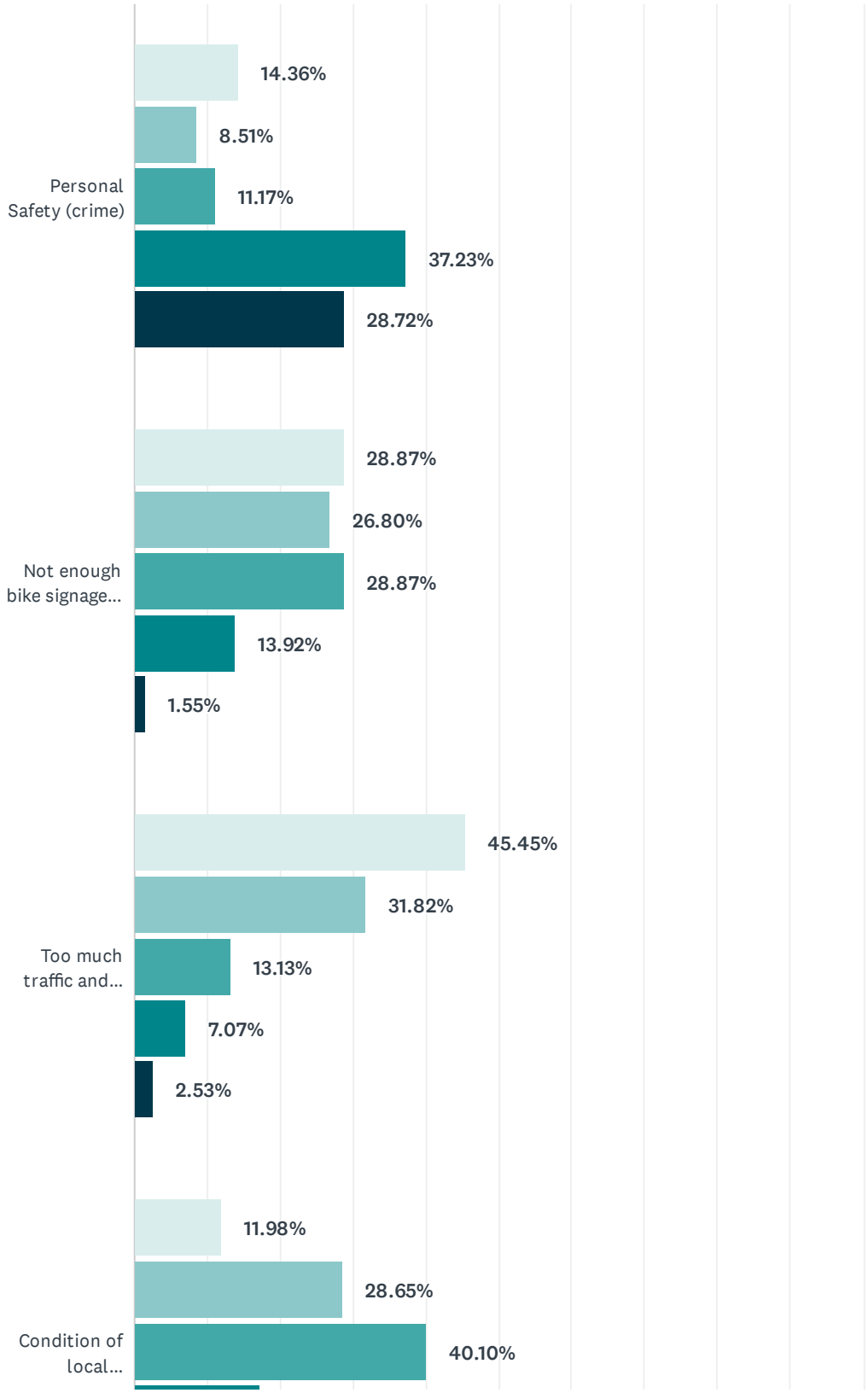


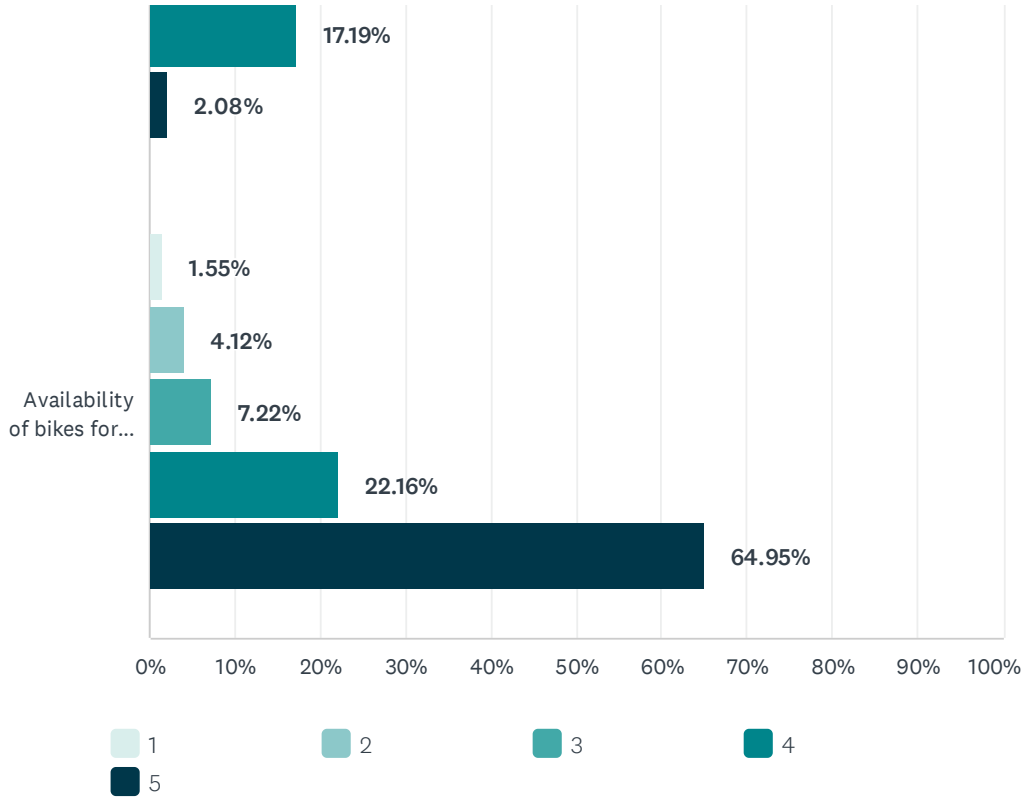



| | 1 | 2 | 3 | 4 | 5 | TOTAL | SCORE |
|---|---|---|---|---|---|---|---|
| Safety (crime levels) | 13.71%<br>27 | 8.63%<br>17 | 16.75%<br>33 | 21.83%<br>43 | 39.09%<br>77 | 197 | 2.36 |
| Not enough crosswalks/pedestrian signage/signals/sidewalk connections/access to parking | 37.88%<br>75 | 27.78%<br>55 | 26.77%<br>53 | 5.56%<br>11 | 2.02%<br>4 | 198 | 3.94 |
| Too much traffic on local roads | 36.36%<br>72 | 27.27%<br>54 | 17.17%<br>34 | 15.15%<br>30 | 4.04%<br>8 | 198 | 3.77 |
| Inadequate handicapped accessibility | 4.02%<br>8 | 8.54%<br>17 | 13.07%<br>26 | 35.18%<br>70 | 39.20%<br>78 | 199 | 2.03 |
| Poor conditions of sidewalks and pedestrian facilities | 13.66%<br>28 | 27.80%<br>57 | 25.85%<br>53 | 19.51%<br>40 | 13.17%<br>27 | 205 | 3.09 |

# Q33 Rank the concerns you have about bikeability in Middletown Township (1=Top concern; 5=Low Concern)

Answered: 202 Skipped: 85






| | 1 | 2 | 3 | 4 | 5 | TOTAL | SCORE |
|---|---|---|---|---|---|---|---|
| Personal Safety (crime) | 14.36%<br>27 | 8.51%<br>16 | 11.17%<br>21 | 37.23%<br>70 | 28.72%<br>54 | 188 | 2.43 |
| Not enough bike signage/ signals/parking/bike lanes | 28.87%<br>56 | 26.80%<br>52 | 28.87%<br>56 | 13.92%<br>27 | 1.55%<br>3 | 194 | 3.68 |
| Too much traffic and high speeds on local roads | 45.45%<br>90 | 31.82%<br>63 | 13.13%<br>26 | 7.07%<br>14 | 2.53%<br>5 | 198 | 4.11 |
| Condition of local (neighborhood) roads or major roads | 11.98%<br>23 | 28.65%<br>55 | 40.10%<br>77 | 17.19%<br>33 | 2.08%<br>4 | 192 | 3.31 |
| Availability of bikes for those who do not own their own | 1.55%<br>3 | 4.12%<br>8 | 7.22%<br>14 | 22.16%<br>43 | 64.95%<br>126 | 194 | 1.55 |

## Q34 Please share any additional thoughts, comments or ideas you have for the Middletown Township Multimodal Improvements Plan. If desired, use the space to indicate specific locations you perceive as being 'unsafe' or provide comments on the School District's policy on students biking/walking to school.

Answered: 98 Skipped: 189

Middletown Township (22059)

Survey Results Analysis

Question 34: Please share any additional thoughts, comments or ideas you have for the Middletown Township Multimodal Improvements Plan. If desired, use the space to indicate specific locations you perceive as being 'unsafe' or provide comments on the School District's policy on students biking/walking to school.

**Date Range: 04/04/23 - 04/25/2023**

- Question 10 needs to be revised, it implies that a wheelchair user's main mode of transportation is a wheelchair, rather than that being an accessibility device, and does not give them the option to select they're a wheelchair use who uses a car, etc. Also, I think that "safety" could be broken down further. I'm not worried about getting mugged (as an example), but as a young woman I don't want to be harassed or assaulted. I do not want to see more resources given to police, however I do think that things like better/more street lighting, blue light systems could be helpful. I also think that by improving other aspects and increasing the number of pedestrians walking at any given time would make it feel safer to walk alone at night.
- I am mostly in the area of Core Creek park.  Drivers use the surrounding  roads as a speed way.
- Between Woodbourne road and Oxford Valley road there is one crossing of business one and it is in an unsafe traffic light in front of Target.

- Thank you for this opportunity to share my opinions. I am grateful to live in a safe community such as Middletown, and I hope that we can all work together to further improve our quality of life

- To increase bicycle use you need bicycle racks where bikes can be locked up while shopping, at public parks, etc

- The case for bike lanes:

  - More bikes = fewer cars = less traffic

  - Cycling would have great public health outcomes

  - Reduced pollution

  - Economic benefits (http://bikewalkkc.org/wp-content/uploads/2016/03/Bicycling_and_the_Economy-Econ_Impact_Studies_web.pdf) In short, the local bike infrastructure is woefully under developed. While biking is possible, you take your life into your own hands when doing so. Bike lanes (especially protected bike lanes) would be a boon to the community. Bike infrastructure should connect points of interest within the township. Sidewalks are nice, but they are not a replacement for bike infrastructure. Bikes belong on the street, not on the sidewalk.
- The crosswalk on Woodbourne Rd connecting Core Creek Park and the pedestrian walkway near Maple Point Middle School is very unsafe. The traffic is heavy there and drivers do not stop to let pedestrians cross. One has to run across as fast as possible

when there is a brief clearance and hope you make it across without getting hit. I often prefer to drive to Core Creek (even though I can easily run there from my home) rather than risk being hit by a motor vehicle in this crosswalk.

- Excited about possible transit/Access upgrades. I'm not from bucks county but plan on living here for a long time. These improvements would greatly increase QOL here

- You have a lot of work to do. I have called in the past about road safety and was blown off. The traffic directors response was "do you want cars to sit in traffic longer". This is unacceptable..... You must enforce the current laws. Driving over the shoulder, not stopping at stop signs, speeding. As a biker in Middletown for over 25 years there is much to do. I also inquired why when roads where repaved the shoulder was not done also because as a biker the only safe spot to ride is the main ride. The response, we have to save money and only pace where cars are.

- Traffic in Langhorne Boro is a nightmare. I live on Maple Ave and it's nearly impossible to cross the street. I don't even want my kids to play outside because of the speeding and hate going over to the playground because of the impossible crosswalks.

- I would love to see more bike lanes to make it easier and safer to get from place to place in Middletown. I would also love to see an expansion of the parks with more accessible hiking trails. Also cleaning up all the litter would be great

- There are no safe ways to cross I-295. Both Trenton Rd and Bus-1 are incredibly unsafe for Pedestrians and Bicyclists.

- Would love to be able to let my kids bike to school (Nesh highschool and Maple Point Middle).

- I'm a coach for the lower bucks mountain bike team. We have ~60 kids on the team and meet at Core Creek and Neshaminy every week in season - getting to those sites would be a bonus for our riders.

- Woodbourne station has such potential but is inaccessible from my neighborhood (Maple Point) by bike/foot.

- 213 after you pass the CVS is too dangerous to bike on. Needs wider bike lanes. Protected bike lanes would be nice

- More trails that are accessible for the disabled. These trails have to be smooth from start to end with no grass, gravel, high cracks, or stones. All bus stops should have a sidewalk. And no one should have to walk or wheel on a highway, particularly on Old Lincoln Highway coming from Hulmville Road where there's places of business.

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**Date Range: 04/27/23 - 06/08/23**

- My neighborhood is boxed in by Woodbourne road. Please improve the walkability surrounding it so that we are not forced to depend on a car in order to get anywhere safely

- I think we live in a GREAT community and that it can only get better. I know this survey is about pedestrians and bikers, but I would really like if we would also consider a street vacuum for leaves during the fall versus using brown bags and burning and whatever other form that we are doing right now that is not environmentally sound. We are absolutely capable and able to do better and there are easy ways to fix that.

- Frosty Hollow Road headed towards Walter Miller needs to be addressed for walkers/kids.

- There are no safe walking or biking options on 413 between 213 and Bridgetown pike. Biking to school would be great option for maple point, hopefully it would alleviate all the congestion from parent drivers in the morning

- I would love for my kids to be able to bike to school! I didn't know it was illegal and have been trying to figure out a safe way to make it happen, but it seems there is not a safe route anyway. So I will have to drive them which is sad because I would prefer they would be getting exercise and fresh air. As a family we love to bike, but often find ourselves having to drive to a bike path because we have children and do feel comfortable with them riding in the streets yet.

- I do not understand the restriction of children prohibited to walk or bike to school.

- Frosty Hollow Rd from Durham Rd to Rt 413 really could benefit from a sidewalk.

- Although this survey doesn't apply much to me--elderly, access to transportation through my senior residence--these are important things to work on. Traffic is bad--need to work on carpooling incentives, tax break to businesses or workers that get serious on carpooling? priority access to EV charging for carpoolers (blue sky thing), smaller buses running between big employers and logical destinations? Also, ALWAYS keep ADA in your thoughts and plans. And beauty and environmental issues are important to everyone regardless of age and ability. Many thanks.

- Love Middletown Township. Thank you!

- Need improved connectivity from neighborhoods to surrounding Boroughs, parks, shopping centers, restaurants.

- Old Lincoln Highway from High School to Maple Ave. Also ALL of Brownsville Rd

- The township has become overcrowded and very unsafe. I'd never ride public transportation and never have my kids ride bikes as transport. The suburban attraction of this once great community is gone (I understand that today suburbia Is a bad word and 'unsustainable'). Neighborhood should already have adequate sidewalk for bikes and walking.

- Please create access to the Detective Christopher Jones Memorial Park from Clearview Ave. Currently it is a neighborhood eyesore. Walkers must negotiate a narrow dirt mound flanked with poison ivy to enter the grass/dirt path into the park.

- I really think the #1 problem is the crappy condition of our roads, lack of speed/traffic violation enforcement, and no side walks

- thank you for providing the community to participate in this Improvement Plan

- Middletown's distinct neighborhoods and commercial areas require a multifaceted approach to really make a difference. Pedestrian/vehicular destinations vary dramatically. I often see residents walking to wawa and other convenience stores, whereas the mall is not accessible safely and requires long walking distances through parking lots. I hope the Township prioritizes residential and historically mixed use areas first (while the mall is now mixed use- the burden should be put on the developer or a separate site plan by the owner).

- 413 near St. Mary hospital is horrible. Drivers cannot make a left out of developments. Speeding is also a problem, with huge trucks adding to the unsafe conditions. The traffic is astounding. We need more traffic lights to make the road less of high-speed freeway. 413 is a very dangerous road.

- I don't have school aged children yet, but living in Highland Gate, I can certainly foresee a situation where I'd allow a middle school aged child to walk to school given the close proximity to Maple Point and the crossing guard posted at Briggs and Langhorne-Yardley Roads. I'm sure the information about why children are not allowed to walk to school would be provided when my children reach that age, but it seems that such a policy would only serve to increase motor traffic and congestion, especially when the elementary school is constructed on the same location. This might serve as a good opportunity to revisit that policy and determine parental opinions on such a policy, separately from this online poll.

- Every interseciton in the township...there are too many drivers who don't even slow down and no one ever gives out tickets in the sections. Heartwood Rd is a speedway. What can't kids bike to school? whose stupid idea was it to disallow that? Buy a few bike racks and lend lock if needed

- Need a bike/walk path on Rt 213 from Dunkin Donuts to the circle/Playwicki FARM (not park). Unrelated, but whoever came up with the idea of the circle/roundabout on Rt 213 is a genius. That has been the best quality of life improvement with regard to road driving. Thank you for that and for this survey!

- I agree with no walking to school in Middletown Twp since the speed on the roads is too high. My own grandchildren in Middletown are not safe biking to our house since no trails exist.

- Road conditions in the Township are HORRIBLE - way too many potholes. Sidewalks, shoulders and vehicle speeds on Maple Ave. from Old Lincoln Highway to Playwicki Farm are not conducive to walking or biking.

- My husband and I are active in the community. My husband is an avid runner, and we take daily walks all year long. We wear lights in the fall/winter, and try to be as safe as possible; however, living in Deep Dale East makes it impossible to go for a walk without crossing a major road (Trenton Road in particular). There is a crosswalk with a

stop light between Highland Park and Forsythia/Snowball; however, there is no safe connection between Deep Dale East and any other community. In order to visit a park or playground, or go for a walk/hike/bike/run etc, we are forced to cross Trenton Rd or Veterans Hwy. The intersection of Trenton Rd and Veterans Hwy is atrocious. Cars SPEED up crossing over the double yellow in order to try and make the left turn signal to turn left onto Veterans Hwy - and could kill someone easily. We are adults - and take great caution when cross; however, we see kids crossing there every day with near miss accidents almost every time we cross. Please please please - please - consider making this area safer for walkers/runners/bikers.

- PA DOT is modifying route 1 access lanes with available entry and exit points. Please emphasize improved pedestrian safety of reworked rt 1 entrance/exit areas (eg Hulmeville rd which does not have any sidewalks and is not far from Neshaminy HS)

- When stone meadows housing project commences it would behoove the township to consider a walk/bike connection to newtown and core creek park through country lane, millway farms section or through summit trace development.

- Very unsafe getting from neighborhood of hulmeville rd and w gillam ave intersection to Neshaminy high school. No side walks, narrow shoulders, lots of traffic. Pedestrians in the neighborhood can not go for a walk with their children without fear of being hit.

- Parkvale Ave, Giiam ave, and Hulmeville rd have no sidewalks off of Henry Ave.

- I think it was very sad that the Oxford Valley Mall development project was approved without a sidewalk plan connecting it to the Septa station. Also street cleaning does not usually reach shoulders, leaving a lot of debris making it dangerous to ride even where there are wide shoulders.

- Speed limits are rarely observed or enforced. Biggest issue in the township for walking/biking/running as transportation are the train tracks on Durham Road and Woodbourne Road. The tunnels create a very dangerous situation for bikers/pedestrians. School District should allow the parents to decide if the children can bike/walk to school.

**Date Range: 6/9/2023- 8/21/2023**

- 413 between 213 & Bridgetown pike unsafe for walkers, bicyclists, children
- People and safety for vulnerable road users of all ages should be the top priority. Congestion and traffic should be secondary. Protecting vulnerable road users from distracted drivers in cars that are getting bigger every year must be the primary focus. I also implore you to implement universal no turn on red signs at all light intersections, red light cameras where possible, protect bike lanes and shared use paths, LEAD intersections where crosswalks are present, elevated crosswalks to improve compliance and slow traffic, traffic calming and public transit connectivity, and no more stroads!
- Neighborhoods need sidewalks. Dangerous for kids/ families who want to go for walks or bike rides and can not due to no sidewalk. Also old Mill woods kind of have a walking

path to core creek but needs to be maintained better for kids and families. Also traffic to get into Langhorne borough gets highly congested. The road is also unsafe to walk.

- The area around the shopping district of Middletown Twp should be more pedestrian friendly. Also, the area around the Penndel Bowling and Duncan Doughnuts/train station.
- Anything would be an improvement. Middletown is over built and does not see foot traffic as viable yet it's critical to the health and well being of everyone.
- The intersection of Bristol-Oxford Valley Road, North Oxford Valley Road and Lincoln Highway is a travesty. Install a traffic light at Bristol-Oxford Valley Road and North Oxford Valley Road and program it to work with the light that's at Lincoln Highway. It will regulate traffic and increase safety.
- I live in Old Mill woods. my main concern is pedestrian (walk ro run) access to Langhorne Boro. Admittedly I would not run up the hill often, but it would be nice to be able to do so. Sorry, i am a very small sliver of your population.
- "While I would love sidewalks everywhere, I'd just be happy with wider shoulders, especially in areas with parks or high traffic areas.
- As a resident who lives on a dead end road off Brownsville, I feel I'm taking my life in my hands going for my daily walk with my dog. "
- More sidewalks please
- Thank you!
- There are zero pedestrian walkways to cross over Lincoln Hwy to walk to the stores in the Oxford Valley neighborhood. It is so dangerous for visitors and locals to walk across the intersections. It should be an safe walk to Target, Aldi, Home Depot, Burger King. When I see a young person wondering how to cross the busy intersection, I help them to keep them safe. I am so glad Middletown Twp is doing something constructive- FINALLY!
- Students should be able to safely walk and bike to schools witch would reduce the strain on the transportation department to find enough bus drivers and would allow parents more flexiblity. All 4-way stops using either traffic lights or stop signs should have cross walks to promote safe travel between neighboorhoods, parks, retail, and schools. It has been one of the greatest disappointments of this community that in order to travel safely one must own and operate a car.
- Comley and Maple Avenues are the least safe that I use.
- Please redo the entire Woodbourne Road. If you could use Yardley-Langhorne Road as a sample, that would be great. Woodbourne Road is an old farm road. Styers existed back when it was nothing. Now the area is overcrowded and frustrating AND VERY DANGEROUS. Get a backho and redo the entire road. - Also please fix the road around the mall. it is overgrown and too many potholes. It's in shambles. Those high end apartments aren't going to sell if the area is junky. The overgrown brush is terrible.
- We moved here from wisconsin from a city that really prioritized biking and walking and were shocked by how much the infrastructure here discourages those options. This city was built to force people into cars and it is a huge task to undo that. I appreciate that you are taking on the challenge.

- There should be a sidewalk on Durham Road between Business Route 1 and the bridge that goes over the super highway. People walk there all the time and it is not safe. People have to walk on people's front yards or on the side of the road. Needs a sidewalk. Please think about that. Thanks!
- Make more pickleball courts
- Get rid of sesame. Get rid of that Big M
- Thank you for the opportunity for access to the survey. Even if one does not live in a community, it is important for economic development and visitation to have safe alternatives for people to visit.
- I am grateful something is being done *finally* to address the awful engineering of traffic into businesses. Businesses had too much say in designing all of Business RT 1 and it turns out, none of it was ever made amenable for pedestrians or bikers whom want to just walk to the store. I would love to ride a bike leisurely to the Oxford Valley Mall or even to Target but doing so would mean I would be putting my life in jeopardy because of traffic and traffic design. THANK YOU for finally addressing this, this should have great long term effects on road way maintenance and vehicular accidents.
- Don't plan any of my tax dollars unless you intend to maintain the improvements on an ongoing basis. All of the wonderful landscaping that went into the big "M" sign has never been tended to and now is an overgrown mess.
- I can't think of a single sidewalk in Middletown Township connecting areas. The neighborhood near Middletown Trace Apartments on Trenton road has no sidewalks anywhere except in the complex itself and in front of the elementary school. Middletown is not safely walkable at all; walking on the shoulder is taking your life into your hands with the way people drive here.
- I am a local Falls Twp. Mobility Solutions advocate. I would be interested in an in depth review of human powered transportation needs throughout Lower Bucks and specifically between townships and school districts.
- My concerns are listed above. Are intersections going to be upgraded before a new school opens? What route are buses going to take?
- "Maintenance is more important than adding things at this point.

- Add a ramp on the bridge connecting Quincy and Cobalt.

- Clean up paved road on Frosty Hollow Road

- Add a sidewalk on New Falls Road behind Quincy hollow. (Make sure residents keep their area cleaned and mow the grass) "
- Stop looking for ways to spend tax money on things that affect a small percentage of citizens. Our roads are already deteriorating and crowded. Use the money to upgrade and expand existing roads for increased car traffic.

- Stop adding new stuff that youre jot going to maintain. The existing township lacks maintenance. Weeds are growing into lanes of traffic. The streets arent swept. The rt1 access road looks horrible because it not cleaned regularly. In some places you have to be half way into the intersection to see around vegitation.
- Middeltown is going to turn into an unlivable area if you keep up with this liberal agenda. Addicts everywhere due to halfway houses that should not be in family neighborhoods. Homeless starting to be all over and tacky massage parlors operating on New Falls Rd. Get it together the suburbs is suppose to be an oasis of quiet and peace not junked up with buses and people walking throwing their trash all over the place, you can't even stop them from throwing it from their cars making Bristol Oxford Valley rd disgusting.
- Maple Point neighborhood (curb cuts needed) & crossing to parks across the street
- Improve Twin Oak Park with walking trails. Maybe add a dog park. Improve the sports fields to encourage a sense of community. A bridge was replaced yeats ago and just left to rust. Its not a very inviting area to take children.
- Wider shoulders and or bike lanes would help improve the community!
- Making it possible to walk to breweries and bars from local neighborhoods would be nice. Make it possible for folks in Highland Gates, Maple Point, and Laurel Oaks to be able to walk to Aristaeus, Shady Brook, and Styers. Need more sidewalks, pedestrian crossings, and lighting.
- Stop allowing new apartments to be built
- ADA compliant sidewalks would be a helpful change i highland gate.
- "My name is Elizabeth Andersen (524 Anita Circle, Langhorne), and I am writing to request changes to the sidewalks in the Highland Gate neighborhood in Langhorne (across from Styer Orchard). It is incredibly difficult to walk on the sidewalks in our beautiful neighborhood due to the structure of the sidewalks. In Highland Gate, many of the sidewalks do not connect to the streets at corners, and, where the sidewalks do connect to the streets, there are no ramps down to the street level. Accordingly, due to these limitations, people pushing strollers and pulling wagons, children on bicycles, and presumably those with wheelchairs and walkers cannot stay on the sidewalks and are constantly walking in the streets. This is incredibly unsafe and inconvenient.

- Will you please consider extending the sidewalks to the corners and adding ramps from the sidewalks down to the street level in the Highland Gate neighborhood?"
- "I understand that many of the roads within Middletown are state roads and that there is probably little interest or funds available to create bike lanes on these roads at the state level.But would it be possible for the the state to actually maintain the shoulders that exist on these roads a bit better? In general, the shoulders on these roads are full of broken glass and other hazards such as sticks, pieces of metal and garbage.

- One other thing, I am sure our police force is very busy with crime and other issues, but maybe they could spend a little more time on traffic control. Almost nobody stops at stop

signs in my neighborhood (Forsythia Gate), many drivers regularly blow through red lights on major roads and there are way too many drivers who drive on the wrong side of the road to get to a left-turn lane. This is a regular occurrence on 413 heading south towards the Trenton Road intersection and on Woodbourne Road heading south towards Trenton Road. "

- Village Road is unsafe .The herd of deer that run that road , few sidewalks , many bikers and excessive traffic that has increased this year need attention. Thank you
- Crosswalks with blinking lights are needed at the maple point/comm park; Briggs road/maple point middle school; maple point middle school/core creek park (by tennis courts) locations. Sidewalk and bike lane needed all along Yardley-Langhorne road from stony hill road to both Langhorne borough/library and to flowers mill shopping center. Signs and speed bumps to slow down and to prevent impatient motorists cutting through neighborhoods to avoid traffic at the Woodbourne/Yardley-Langhorne intersection.
- Crossing bristol -oxford valley road is unsafe for children
- I do not support many of your goals here. Much ado about nothing. Kids should not be traveling to school on busy streets by bicycle. Please spend staff time on more pressing matters.

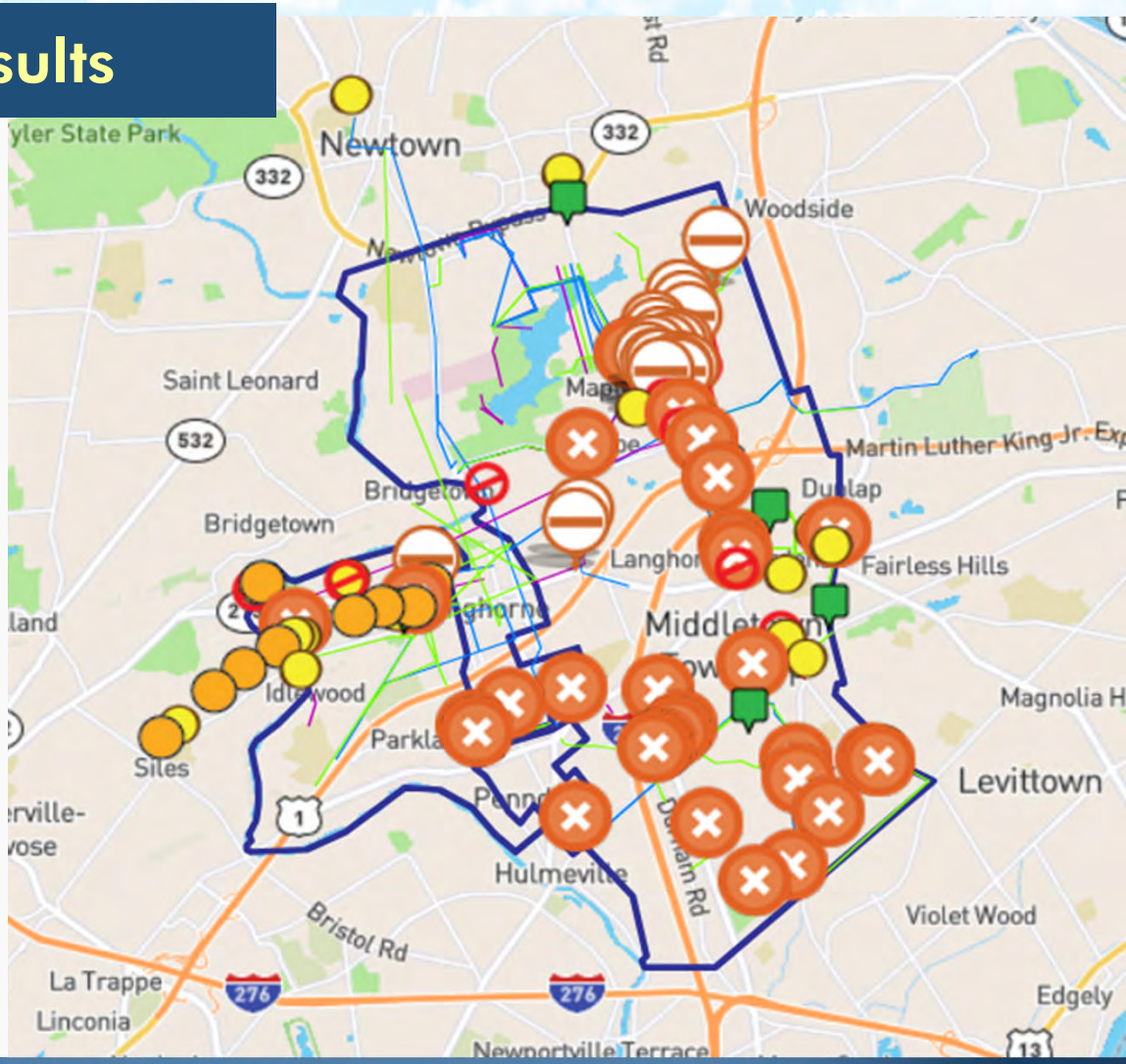
# 7. PUBLIC PARTICIPATION

## e. Wikimapping – Final Results

# Wikimap/Online Mapping – Results

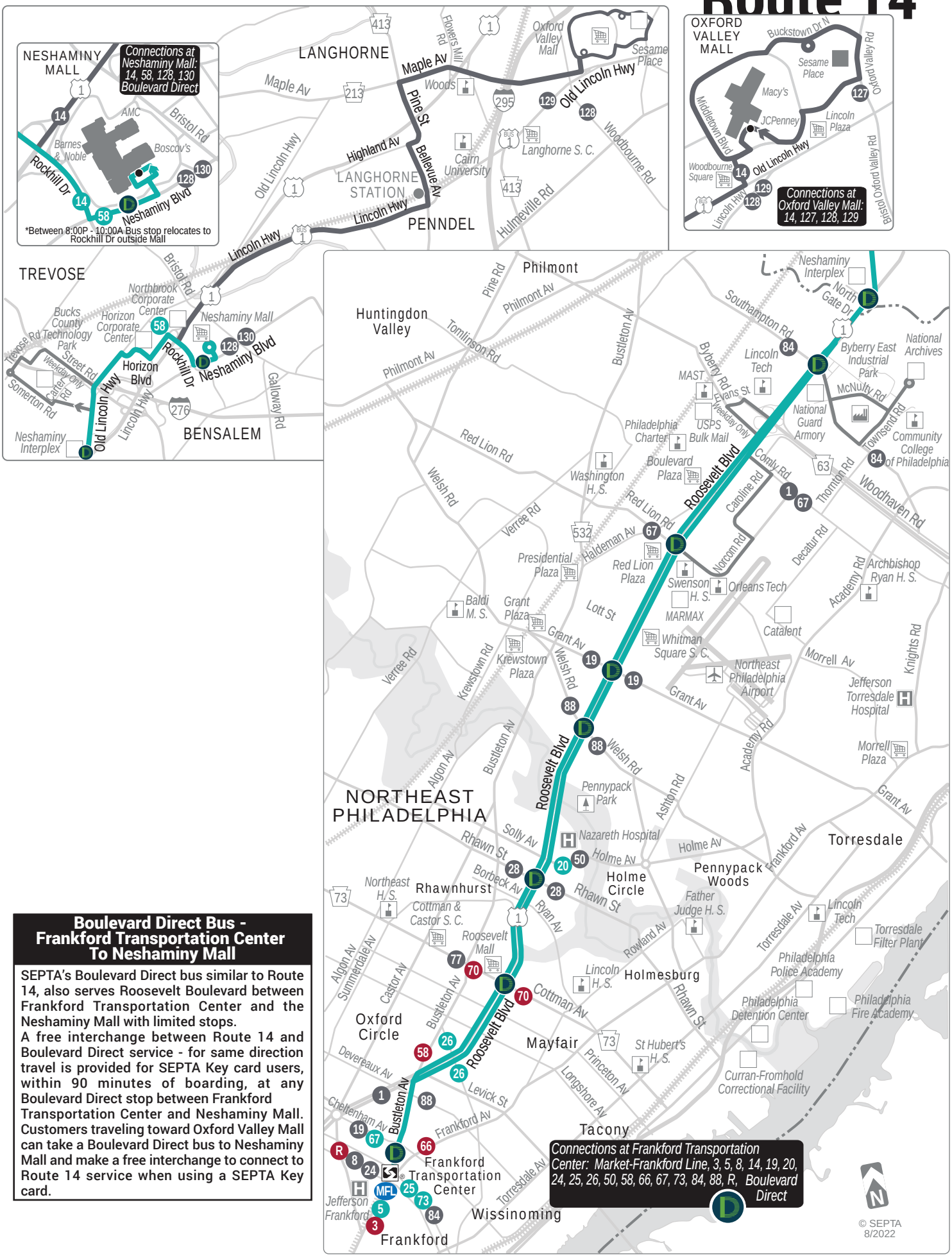
## 210 Total Results

- BARRIERS TO CONNECTIVITY 41 total)
- DESIRED BIKE ROUTE (22 Total)
- DESIRED SIDEWALK (52 Total)
- DESIRED TRAIL (12 Total)
- CHALLENGING AREAS (33 Total)
- CUTURAL/HISTORIC LOCATION (0 Total)
- DESIRED DESTINATION (20 Total)
- SIDEWALK GAP LOCATION (22 Total)



**8. SEPTA-Bus Revolution**
**Draft Service Routes May 2023**
**Bucks County System Map**

# Route 14

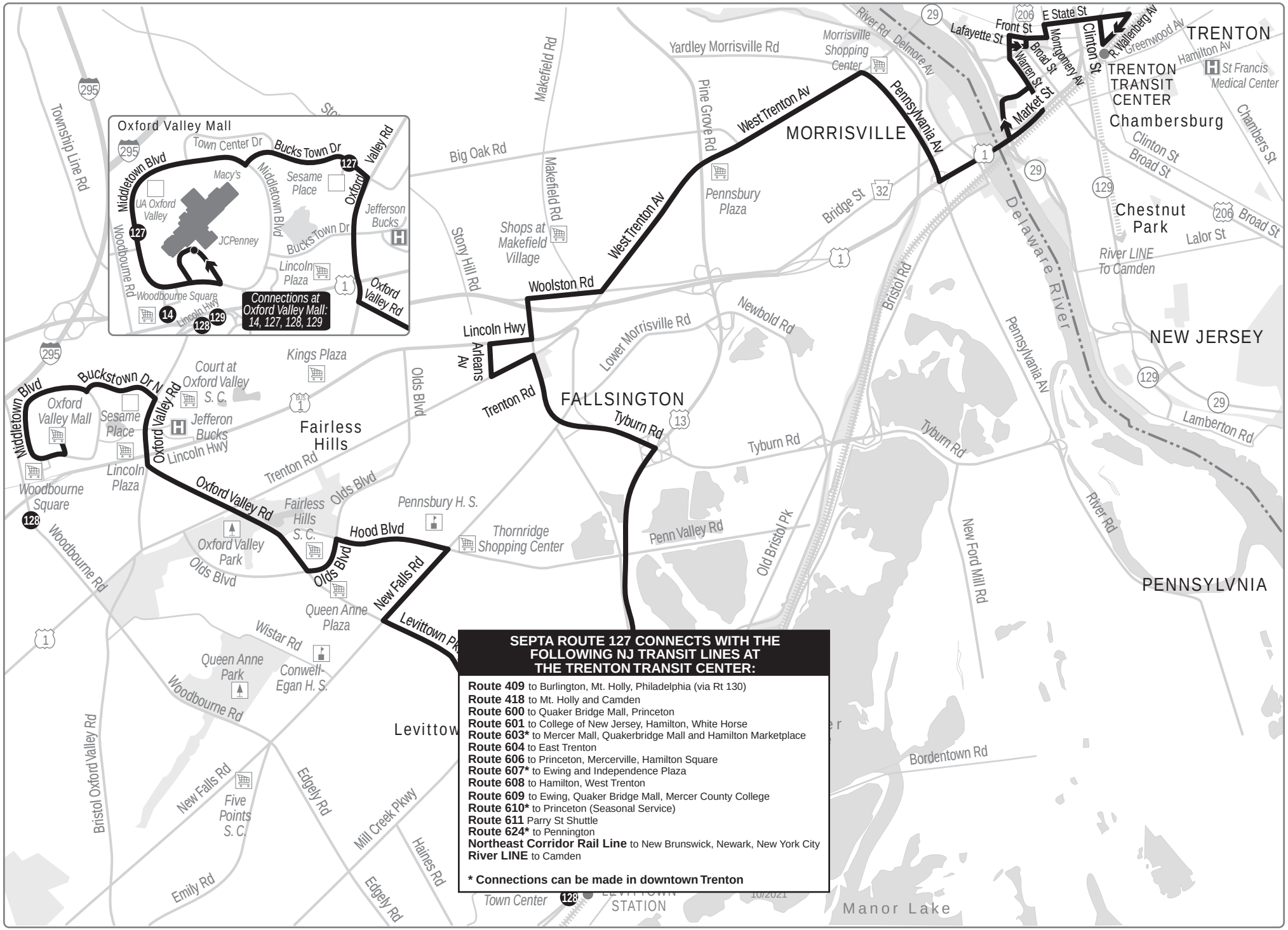



## Boulevard Direct Bus - Frankford Transportation Center To Neshaminy Mall

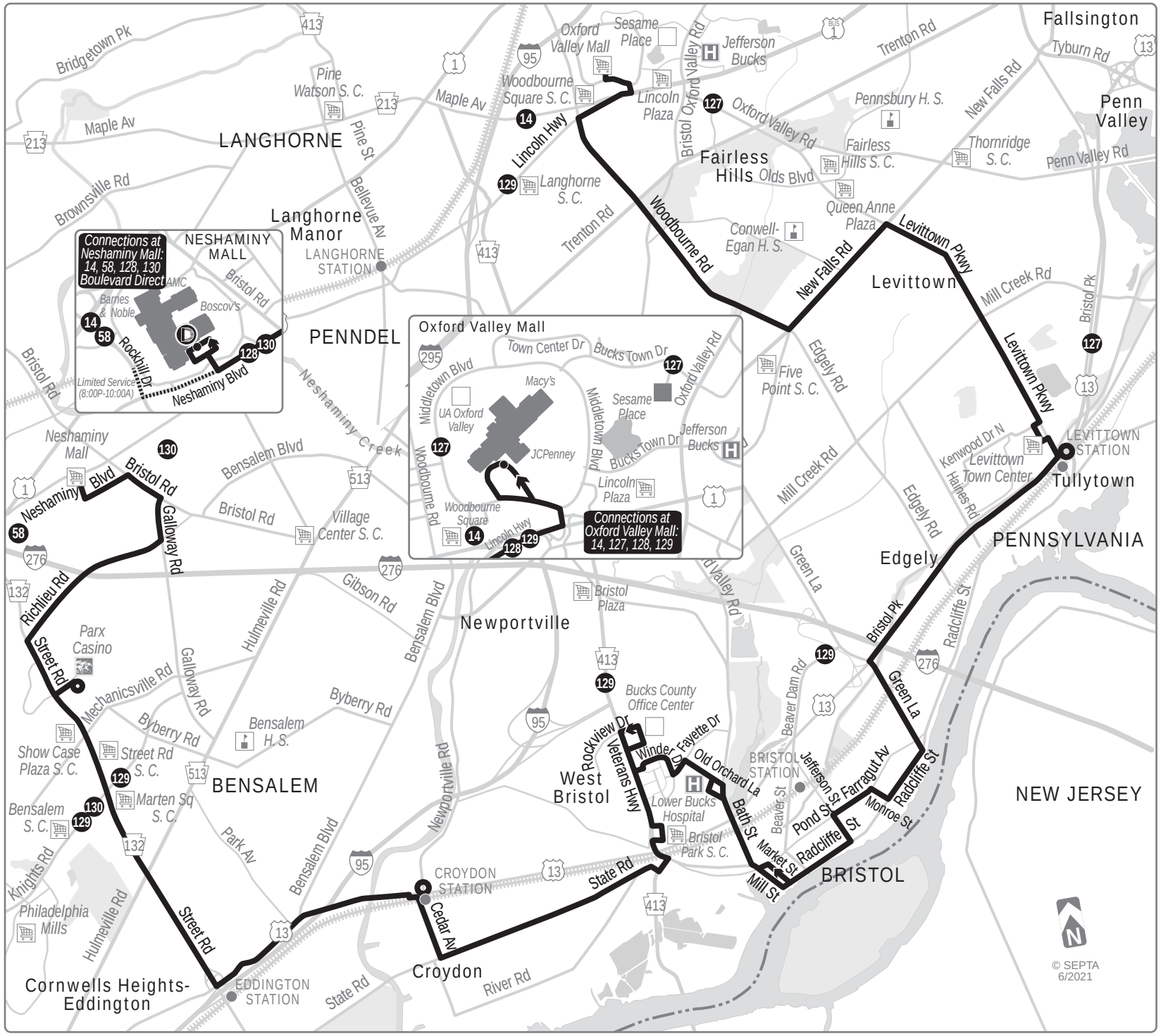
SEPTA's Boulevard Direct bus similar to Route 14, also serves Roosevelt Boulevard between Frankford Transportation Center and the Neshaminy Mall with limited stops.

A free interchange between Route 14 and Boulevard Direct service - for same direction travel is provided for SEPTA Key card users, within 90 minutes of boarding, at any Boulevard Direct stop between Frankford Transportation Center and Neshaminy Mall. Customers traveling toward Oxford Valley Mall can take a Boulevard Direct bus to Neshaminy Mall and make a free interchange to connect to Route 14 service when using a SEPTA Key card.

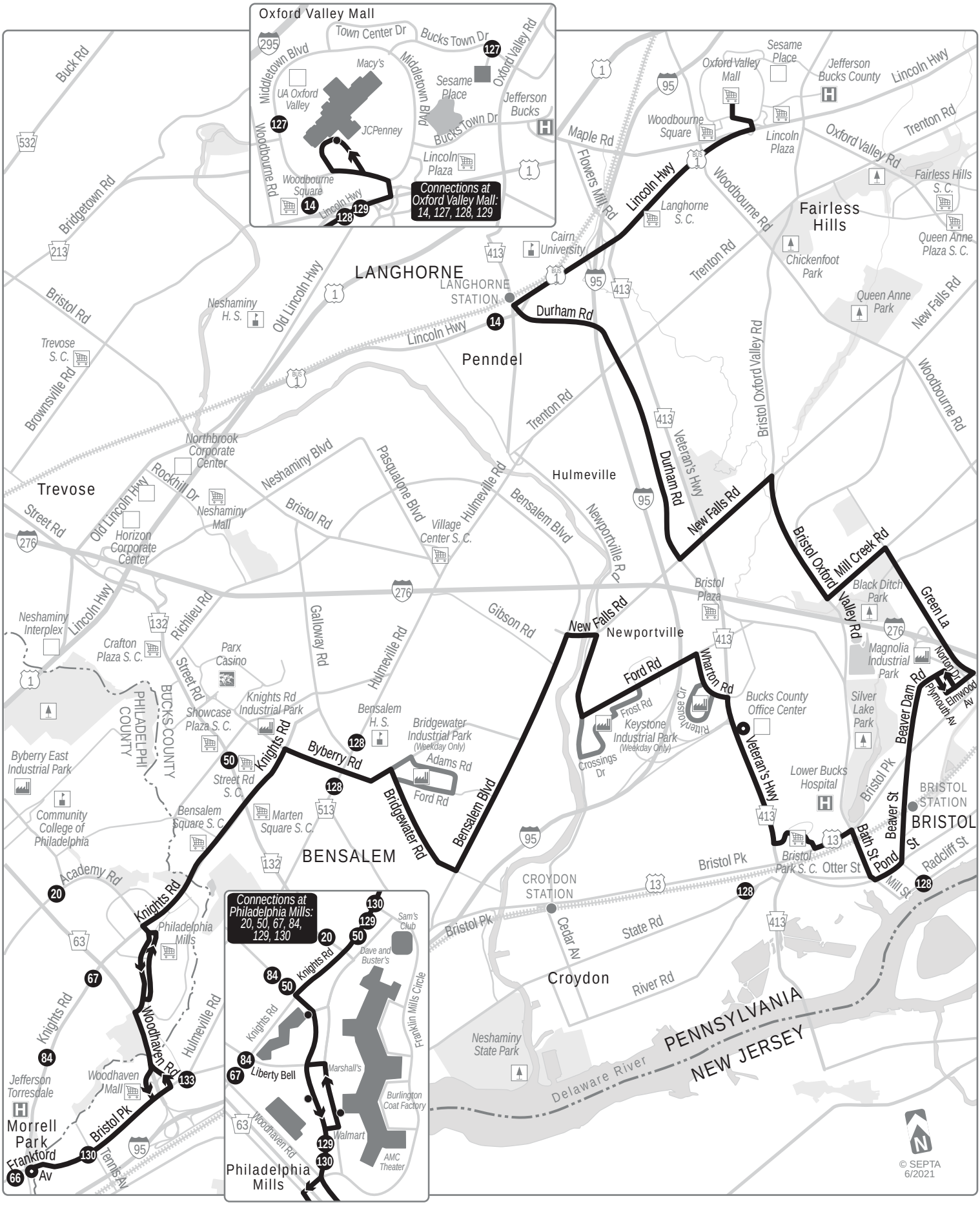
# Route 127


Oxford Valley Mall
Town Center Dr
Bucks Town Dr
Middletown Blvd
Macy's
Sesame Place
Oxford Valley Rd
UA Oxford Valley
JCPenney
Middletown Blvd
Jefferson Bucks
Woodbourne Rd
Bucks Town Dr
Lincoln Plaza
Woodbourne Square
Lincoln Hwy
Oxford Valley Rd
Connections at Oxford Valley Mall: 14, 127, 128, 129
Township Line Rd
Big Oak Rd
Makefield Rd
Yardley Morrisville Rd
Morrisville Shopping Center
River Rd
Delmore Av
Pine Grove Rd
West Trenton Av
Pennsylvania Av
MORRISVILLE
Pennsbury Plaza
Bridge St
Shops at Makefield Village
Stony Hill Rd
Woolston Rd
Lincoln Hwy
Arleans Av
Trenton Rd
Lower Morrisville Rd
Newbold Rd
Bristol Rd
FALLSINGTON
Tyburn Rd
Olds Blvd
Kings Plaza
Court at Oxford Valley S. C.
Buckstown Dr N
Middletown Blvd
Oxford Valley Mall
Sesame Place
Jefferon Bucks
Lincoln Hwy
Fairless Hills
Trenton Rd
Lincoln Plaza
Woodbourne Square
Oxford Valley Rd
Olds Blvd
Fairless Hills S. C.
Pennsbury H. S.
Hood Blvd
Thornridge Shopping Center
Penn Valley Rd
Old Bristol Pk
Oxford Valley Park
Olds Blvd
New Falls Rd
Levittown Pkwy
Queen Anne Plaza
Wistar Rd
Queen Anne Park
Conwell-Egan H. S.
Woodbourne Rd
Bristol Oxford Valley Rd
New Falls Rd
Five Points S. C.
Edgely Rd
Mill Creek Pkwy
Haines Rd
Emily Rd
Town Center
LEVITTOWN STATION
Manor Lake
Bordentown Rd
New Ford Mill Rd
River Rd
Pennsylvania Av
Delaware River
NEW JERSEY
PENNSYLVNIA
Lamberton Rd
Tyburn Rd
E State St
Front St
Lafayette St
Broad St
Warren St
Market St
Montgomery Av
Clinton St
R Wallenberg Av
Greenwood Av
TRENTON
TRENTON TRANSIT CENTER
Hamilton Av
St Francis Medical Center
Chambersburg
Clinton St
Broad St
Chambers St
Chestnut Park
Broad St
Lalor St
River LINE To Camden
SEPTA ROUTE 127 CONNECTS WITH THE FOLLOWING NJ TRANSIT LINES AT THE TRENTON TRANSIT CENTER:
Route 409 to Burlington, Mt. Holly, Philadelphia (via Rt 130)
Route 418 to Mt. Holly and Camden
Route 600 to Quaker Bridge Mall, Princeton
Route 601 to College of New Jersey, Hamilton, White Horse
Route 603* to Mercer Mall, Quakerbridge Mall and Hamilton Marketplace
Route 604 to East Trenton
Route 606 to Princeton, Mercerville, Hamilton Square
Route 607* to Ewing and Independence Plaza
Route 608 to Hamilton, West Trenton
Route 609 to Ewing, Quaker Bridge Mall, Mercer County College
Route 610* to Princeton (Seasonal Service)
Route 611 Parry St Shuttle
Route 624* to Pennington
Northeast Corridor Rail Line to New Brunswick, Newark, New York City
River LINE to Camden
* Connections can be made in downtown Trenton
10/2021

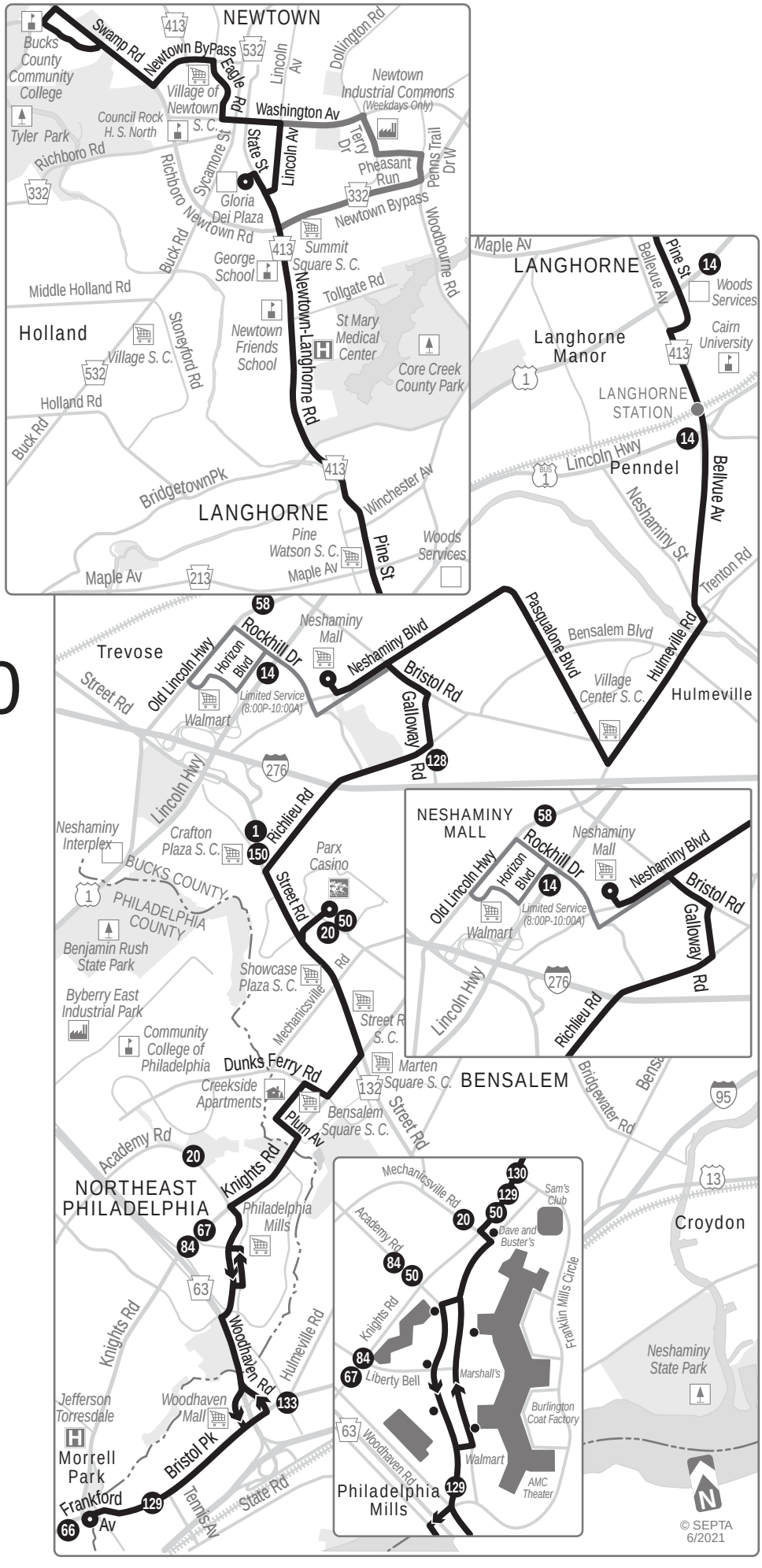
# Route 128


Connections at Neshaminy Mall: 14, 58, 128, 130 Boulevard Direct
NESHAMINY MALL
AMC
Barnes & Noble
Boscov's
Limited Service (8:00P-10:00A)
Rockhill Dr
Neshaminy Blvd
Oxford Valley Mall
Macy's
UA Oxford Valley
JCPenney
Sesame Place
Jefferson Bucks
Lincoln Plaza
Woodbourne Square
Connections at Oxford Valley Mall: 14, 127, 128, 129
LANGHORNE
Langhorne Manor
LANGHORNE STATION
PENNDEL
Fairless Hills
Levittown
Penn Valley
Fallsington
Tullytown
LEVITTOWN STATION
PENNSYLVANIA
NEW JERSEY
Edgely
Newportville
BENSALEM
West Bristol
BRISTOL
BRISTOL STATION
CROYDON STATION
Croydon
EDDINGTON STATION
Cornwells Heights-Eddington
Bridgetown Pk
Maple Av
Brownsville Rd
Pine Watson S. C.
Pine St
Bellevue Av
Lincoln Hwy
Woodbourne Rd
Oxford Valley Rd
Trenton Rd
Oxford Valley Mall
Sesame Place
Jefferson Bucks
Lincoln Plaza
Woodbourne Square S. C.
Langhorne S. C.
Bristol Oxford Valley Rd
Pennsbury H. S.
Fairless Hills S. C.
Olds Blvd
Queen Anne Plaza
Conwell-Egan H. S.
New Falls Rd
Levittown Pkwy
Mill Creek Rd
Thornridge S. C.
Penn Valley Rd
Tyburn Rd
Bristol Pk
Five Point S. C.
Edgely Rd
Kenwood Dr N
Haines Rd
Levittown Town Center
Neshaminy Creek
Neshaminy Mall
Neshaminy Blvd
Bristol Rd
Galloway Rd
Bensalem Blvd
Village Center S. C.
Richlieu Rd
Street Rd
Mechanicsville Rd
Gibson Rd
Hulmeville Rd
Byberry Rd
Parx Casino
Show Case Plaza S. C.
Street Rd S. C.
Marten Sq S. C.
Bensalem S. C.
Bensalem H. S.
Park Av
Knights Rd
Philadelphia Mills
Bristol Plaza
Bucks County Office Center
Rockview Dr
Veterans Hwy
Winder Dr
Fayette Dr
Old Orchard La
Lower Bucks Hospital
Bristol Park S. C.
Beaver Dam Rd
Beaver St
Jefferson St
Farragut Av
Monroe St
Pond St
Bath St
Market St
Radcliffe St
Mill St
Green La
Cedar Av
State Rd
River Rd
Newportville Rd
© SEPTA 6/2021

# Route 129


Oxford Valley Mall
Town Center Dr
Bucks Town Dr
Middletown Blvd
Oxford Valley Rd
Macy's
UA Oxford Valley
JCPenney
Sesame Place
Jefferson Bucks
Woodbourne Rd
Woodbourne Square
Lincoln Plaza
Lincoln Hwy
Connections at Oxford Valley Mall: 14, 127, 128, 129
Buck Rd
Bridgetown Rd
Bristol Rd
Brownsville Rd
Trevose S. C.
Neshaminy H. S.
Old Lincoln Hwy
LANGHORNE
LANGHORNE STATION
Cairn University
Penndel
Durham Rd
Maple Rd
Flowers Mill Rd
Langhorne S. C.
Fairless Hills
Chickenfoot Park
Queen Anne Plaza S. C.
Queen Anne Park
New Falls Rd
Trenton Rd
Bristol Oxford Valley Rd
Veteran's Hwy
Northbrook Corporate Center
Neshaminy Blvd
Pasqualone Blvd
Hulmeville Rd
Bensalem Blvd
Newportville Rd
Hulmeville
Trevose
Rockhill Dr
Neshaminy Mall
Horizon Corporate Center
Village Center S. C.
Street Rd
Richlieu Rd
Gallaway Rd
Gibson Rd
Newportville
Bristol Plaza
Black Ditch Park
Mill Creek Rd
Green La
Ford Rd
Wharton Rd
Frost Rd
Keystone Industrial Park (Weekday Only)
Crossings Dr
Rittenhouse Cir
Bucks County Office Center
Magnolia Industrial Park
Norton Pl
Plymouth Av
Elmwood Av
Beaver Dam Rd
Silver Lake Park
Neshaminy Interplex
Crafton Plaza S. C.
Parx Casino
Knights Rd Industrial Park
Showcase Plaza S. C.
Bensalem H. S.
Bridgewater Industrial Park (Weekday Only)
Adams Rd
Ford Rd
Byberry Rd
Knights Rd
Street Rd S. C.
Byberry East Industrial Park
Community College of Philadelphia
Bensalem Square S. C.
Marten Square S. C.
BENSALEM
Bridgewater Rd
Bensalem Blvd
PHILADELPHI COUNTY
BUCKS COUNTY
Lower Bucks Hospital
Bristol Pk
BRISTOL STATION
BRISTOL
Bath St
Pond St
Radcliff St
Mill St
Bristol Park S. C.
Otter St
Academy Rd
Knights Rd
Philadelphia Mills
Connections at Philadelphia Mills: 20, 50, 67, 84, 129, 130
Sam's Club
Dave and Buster's
Franklin Mills Circle
Marshall's
Liberty Bell
Burlington Coat Factory
Walmart
AMC Theater
Woodhaven Rd
Hulmeville Rd
Woodhaven Mall
Jefferson Torresdale
Morrell Park
Frankford Av
Tennis Av
CROYDON STATION
Cedar Av
State Rd
Croydon
River Rd
Neshaminy State Park
Delaware River
PENNSYLVANIA
NEW JERSEY
© SEPTA 6/2021

# Route 130


NEWTOWN
Swamp Rd
Newtown ByPass
Eagle Rd
Washington Av
Lincoln Av
Dollington Rd
Newtown Industrial Commons
(Weekdays Only)
Bucks County Community College
Village of Newtown S. C.
Council Rock H. S. North
Tyler Park
Richboro Rd
Richboro Newtown Rd
Sycamore St
State St
Lincoln Av
Tery Dr
Pheasant Run
Penns Trail Dr W
Newtown Bypass
Woodbourne Rd
Gloria Dei Plaza
Summit Square S. C.
George School
Buck Rd
Middle Holland Rd
Tollgate Rd
Holland
Stoneyford Rd
Village S. C.
Newtown Friends School
Newtown-Langhorne Rd
St Mary Medical Center
Core Creek County Park
Holland Rd
Buck Rd
BridgetownPk
Winchester Av
LANGHORNE
Pine Watson S. C.
Maple Av
Pine St
Woods Services
Maple Av
LANGHORNE
Bellevue Av
Pine St
Woods Services
Langhorne Manor
Cairn University
LANGHORNE STATION
Lincoln Hwy
Penndel
Bellvue Av
Neshaminy St
Trenton Rd
Trevose
Old Lincoln Hwy
Horizon Blvd
Rockhill Dr
Neshaminy Mall
Neshaminy Blvd
Limited Service (8:00P-10:00A)
Walmart
Street Rd
Bristol Rd
Galloway Rd
Pasqualone Blvd
Bensalem Blvd
Hulmeville Rd
Village Center S. C.
Hulmeville
Lincoln Hwy
Richlieu Rd
Neshaminy Interplex
Crafton Plaza S. C.
Parx Casino
BUCKS COUNTY
PHILADELPHIA COUNTY
Benjamin Rush State Park
Street Rd
Showcase Plaza S. C.
Mechanicsville Rd
Byberry East Industrial Park
Community College of Philadelphia
Dunks Ferry Rd
Creekside Apartments
Marten Square S. C.
BENSALEM
Bensalem Square S. C.
Plum Av
Street Rd
Academy Rd
Knights Rd
NORTHEAST PHILADELPHIA
Philadelphia Mills
Knights Rd
Woodhaven Rd
Hulmeville Rd
Jefferson Torresdale
Woodhaven Mall
Morrell Park
Bristol Pk
Frankford Av
Tennis Av
State Rd
Bridgewater Rd
Croydon
Mechanicsville Rd
Sam's Club
Dave and Buster's
Academy Rd
Knights Rd
Franklin Mills Circle
Liberty Bell
Marshall's
Burlington Coat Factory
Walmart
AMC Theater
Woodhaven Rd
Philadelphia Mills
Neshaminy State Park
NESHAMINY MALL
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6/2021

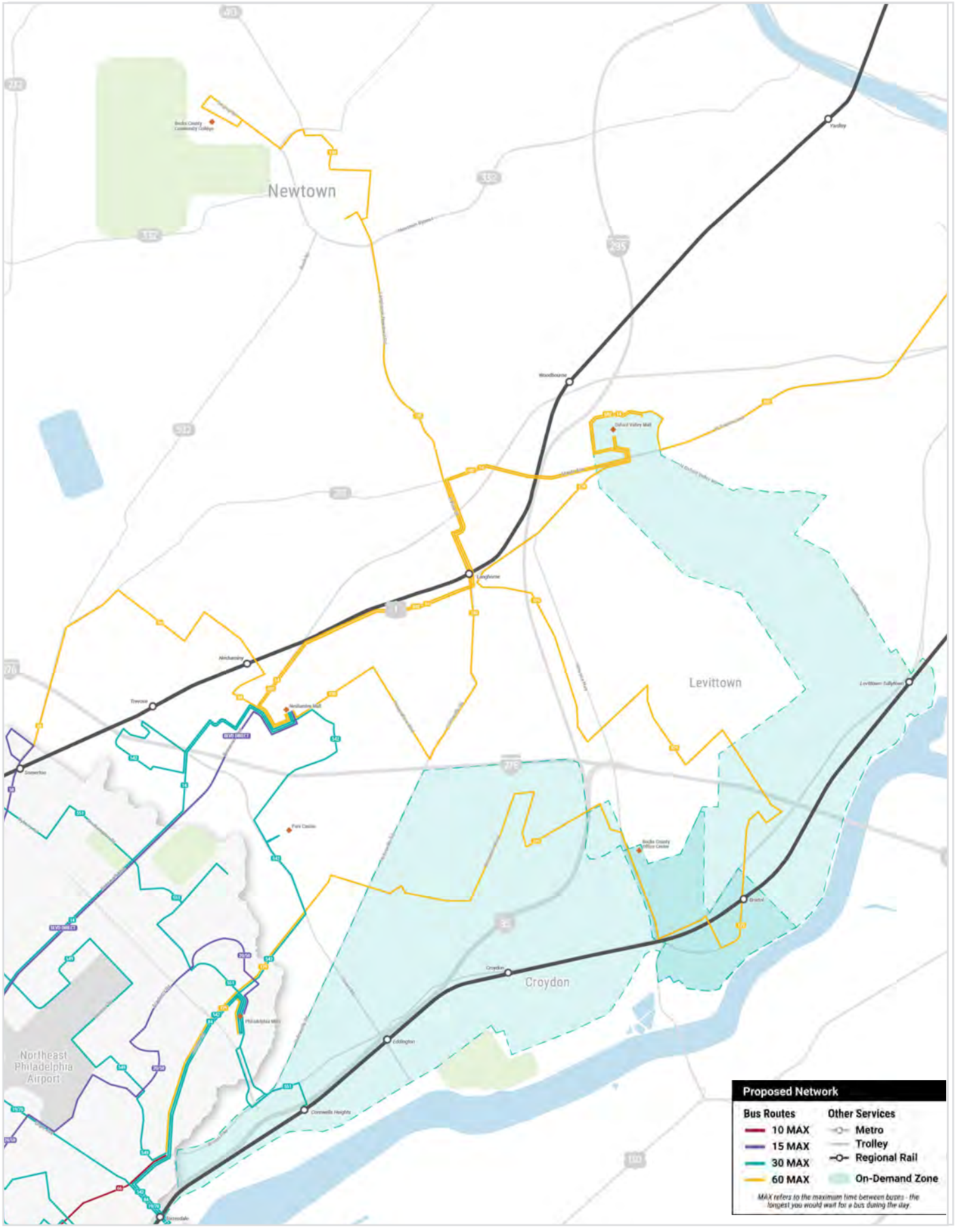
Bus Revolution

SEPTA Bus Revolution | Spring 2023

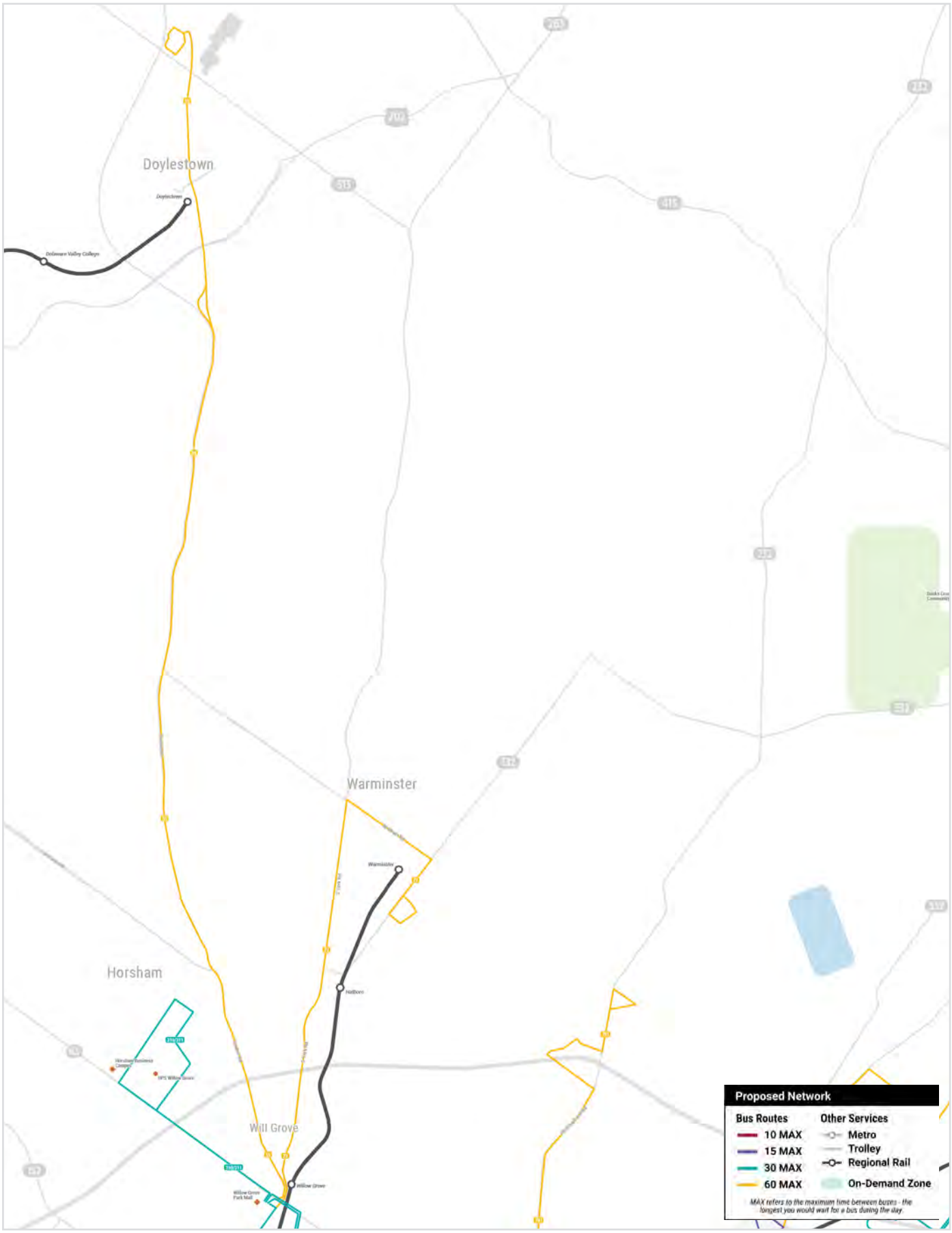
# Bucks County Recommendations

*Proposed Route-by-Route Changes*

## Lower Bucks County



# Doylestown Area



SEPTA Bus Revolution | Spring 2023

# Bucks County Recommendations

*Proposed Route-by-Route Changes*

## We heard you, Bucks County!

### Summary of Proposed SEPTA Bus Routes Changes

SEPTA received many comments on the draft bus network for Bus Revolution and we've updated the draft network, incorporating public feedback to create a bus network that is easier to use, more convenient, and more reliable.

**Get further faster with extended and newly combined routes:** Riders told us that they travel all over the region, including Center City Philadelphia.

**Routes 127 and 130** connect into the Neshaminy Mall, where riders can connect to the Boulevard Direct service, which provides fast, frequent bus service on Roosevelt Boulevard connecting to Frankford Transportation Center.

**Both on-demand services and Route 129** meet in downtown Bristol, offering transfers to transit services, with local and regional connections.

**Simpler, more direct bus routes that would be faster and easier to understand.** Bus routes are easier to understand if they stay on main streets and travel to the same places on all trips. Nearly all bus routes in Bucks County will travel the same way on every trip, every day of the week.

**Route 130** would be shortened to connect Neshaminy Mall and Bucks County Community College in a simple and direct way. Riders could use this service for local trips or to connect with other services.

**Route 129** would be streamlined in Philadelphia and in Bucks County to provide faster and more direct service between Frankford-Knights and Oxford Valley Mall.

**Two new flexible on-demand (microtransit) services:** In some parts of Bucks County residents want and need public transportation, but there aren't enough potential riders to schedule frequent bus service. In these areas, we are proposing a new on-demand service instead of infrequent fixed route bus service. There would be two on-demand zones in Bucks County:

**Bristol/Croydon/Cornwells Heights** – this zone would allow people to make local trips. It would also support riders traveling to/from other SEPTA services, like regional rail and/or bus service at Cornwells Heights, Torresdale Station or Frankford-Knights.

**Bristol/Levittown/Fairless Hills** – this service would allow people to travel within the zone and connect to other SEPTA buses at Oxford Valley Mall.

Routes in these Recommended Route Change summaries are tagged with labels describing the type(s) of change proposed:

| No Changes | Updated | New Route | Extended | Realigned | Consolidated |
|---|---|---|---|---|---|
| *No changes recommended* | *Reflects feedback from Fall 2022 engagement* | *Introduction of a brand-new route* | *Longer route to connect to new destinations* | *Longer route to connect to new destinations* | *Route no longer operates, and resources reinvested* |
| **Less Frequent** | **Simplified** | **Combined** | **Shortened** | **New Frequent Rt** | **More Frequent** |
| *Trips removed to downgrade Rt to a less frequent MAX category* | *Eliminated service variants to simplify understanding route* | *Two routes merged into one longer route* | *Truncated to enable faster round-trip travel* | *Trips added to upgrade to 10 MAX or 15 MAX* | *Trips added to upgrade to a more frequent MAX* |

## Recommended Changes in Bucks County

### Bus Revolution UPDATE recommends changes to 12 of 13 Bucks County bus routes:

Consolidated

**Route 1: Parx Casino to 54th-City**

**Route 1 would be consolidated.** Riders could use BLVD DIR or Route 14 for service on Roosevelt Boulevard and to Neshaminy Mall. New Route 542 will connect Parx Casino and Neshaminy Mall. New Route 14/84 will serve the National Archives.

Simplified | Shortened

**Route 14 (538): Frankford TC to Neshaminy Mall (and Oxford Valley Mall)**

**Route 14 would** operate all trips between Neshaminy Mall and Frankford Transportation Center. This service would operate every 30 minutes on weekdays and weekends. Every other trip on this route (538A) would continue to Oxford Valley Mall, serving the corridor hourly on weekdays and weekends. The Boulevard Direct route would also serve Roosevelt Boulevard and Neshaminy Mall. Service to Byberry East, Bucks County Tech Park, and Sesame Place will be provided by other routes.

New Frequent Rt | Simplified | Shortened | Combined

**Route 20/50 (540): Philadelphia Mills to Frankford TC**

**Routes 20 and 50 would be combined to provide a new frequent route (every 15 minutes all day, every day)** between Frankford Transportation Center and Philadelphia Mills via Roosevelt Boulevard and Academy Road. New Route 542 would provide service between Philadelphia Mills and Parx Casino.

Simplified | More Frequent | Shortened

**Route 22 (703): Olney TC to Willow Grove Park Mall or Warminster**

**Route 22 would provide direct service** between Olney Transportation Center and Willow Grove Mall, with every other trip traveling to Warminster (Route 22A). The route will provide more direct service in Glenside via Easton Road and will travel to Olney Transportation Center via a new alignment on Thouron Avenue and Wister Street. Passengers traveling between Cedarbrook and Olney Transportation Center via Cheltenham Avenue can use Route 16.

Simplified

**Route 55 (699): Olney TC to Willow Grove (and CKC Doylestown)**

**Route 55 would use a more direct alignment** on Thouron Avenue and Easton Road between Olney Transportation and Willow Grove. The route would also have two patterns, the main route (Route 55) would travel between Olney and Willow Grove, departing every 30 minutes. Every other trip (Route 55A) would continue to Doylestown and leave every hour.

Simplified | Realigned

## Route 58 (534): Frankford TC to Bustleton & County Line or Neshaminy Mall

**Route 58 would be simplified** to operate frequent service between Frankford Transportation Center and Bustleton Avenue/County Line Road, with one trip an hour (534A) continuing to Neshaminy Mall. Service to Bustleton-County Line would operate more consistently and be more direct. The deviation on Haldeman Avenue and Red Lion Road would be eliminated and served instead by Route 542. The deviation on Rennard Street would also be eliminated.

Consolidated

## Route 78: Express Cornwells Heights to Center City

**Route 78 would be consolidated.** The Cornwells Heights station would be served by new Route 14/84, new on-demand service in the Bristol-Croydon-Cornwells Heights zone and Regional Rail to Center City.

More Frequent | Realigned | Combined

## Route 602: Trenton Transit Center to Neshaminy Mall

**Route 602 would combine parts of Route 14 and 127 to create a new route that** extends service from Trenton Transit Center to Neshaminy Mall, traveling via Morrisville, West Trenton Avenue and Lincoln Highway to Oxford Valley Mall and then continue to Neshaminy Mall via Lincoln Highway and Langhorne Station. Service would be hourly on weekdays and weekends. Service along Levittown Parkway, Hood Boulevard, and Oxford Valley Road would be replaced with new on-demand service in the Bristol-Levittown-Fairless Hills zone. Service along Tyburn Road and Bristol Pike would be discontinued.

Consolidated

## Route 127: Trenton Transit Center to Oxford Valley Mall

**Route 127** would be discontinued. It would be replaced by a combination of New Route 602, which connects the Trenton Transit Center and Neshaminy Mall, with service to Oxford Valley Mall and the Bristol-Levittown-Fairless Hills On-Demand service.

Consolidated

## Route 128: Neshaminy Mall to Oxford Valley Mall

**Route 128 would be consolidated.** Service between Neshaminy Mall and Street/Knights Roads would be replaced with a new Route 524. Service on Street Road between Knights Road and Hulmeville Road would be discontinued. Service between Street/Hulmeville Roads and Bristol and between Bristol and Oxford Valley Mall would be replaced with on-demand service.

Realigned

## Route 129 (604): Frankford-Knights to Oxford Valley Mall

**Route 129 would be Realigned to operate hourly between Oxford Valley Mall and Frankford Avenue/Knights Road.** The route would use a more direct path near the Bridgewater Industrial Park via Ford Road. Service on Bridgewater Road and Bensalem Boulevard would be replaced by new on-demand service in the Bristol-Croydon-Cornwells Heights zone. Service would be hourly on weekdays and weekends.

Realigned | Shortened

## Route 130 (601): Bucks County Community College (BCCC) to Neshaminy Mall

**Route 130 would be shortened to provide hourly service between Neshaminy Mall and Bucks County Community College.** The shorter route will enable better reliability and on-time performance. A new Route 542 would connect Neshaminy Mall with Torresdale Station via Philadelphia Mills and Frankford-Knights. Woodhaven Road south of Philadelphia Mills would be served by new Route 14/84, while Bristol Pike would be served by new on-demand service in the Bristol-Croydon-Cornwells Heights zone. Service would be hourly on weekdays and Saturdays.

Consolidated

## Route 133: Frankford-Knights to Bensalem

**Route 133 would be replaced with new on-demand service in the Bristol-Croydon-Cornwells Heights zone.** This new on-demand zone would serve riders who want to make local trips and connect to employment, shopping, and schools. The on-demand zone will replace service currently provided by Route 133, which is infrequent (less than hourly) and does not carry many riders. The on-demand zone is designed to be a more convenient, easier to use service as compared with infrequent bus service.

Consolidated

## Route 150: Frankford-Knights to Bensalem

**Route 150 would be consolidated.**

No Changes

## Route BLVD DIR: Neshaminy Mall to Frankford TC

New Route

## Route 551: Forest Hills Station to Cornwells Heights Station

**This new route would combine segments of multiple routes and provide service between Forest Hills Station and Cornwells Heights Station**, via Byberry Road, Southampton Road, the National Archives, Academy Road, and Philadelphia Mills. The new service would provide new crosstown connections.

New Route

## Route 542: Bucks County Technology Park to Torresdale Station

**This new route would combine segments of multiple routes and provide half hourly service between Bucks County Technology Park and Torresdale Station,** via Neshaminy Mall, Parx Casino, Bensalem, Philadelphia Mills and Frankford-Knights. The new service would provide new crosstown connections. Service would be every 30 minutes on weekdays and weekends.

New Route

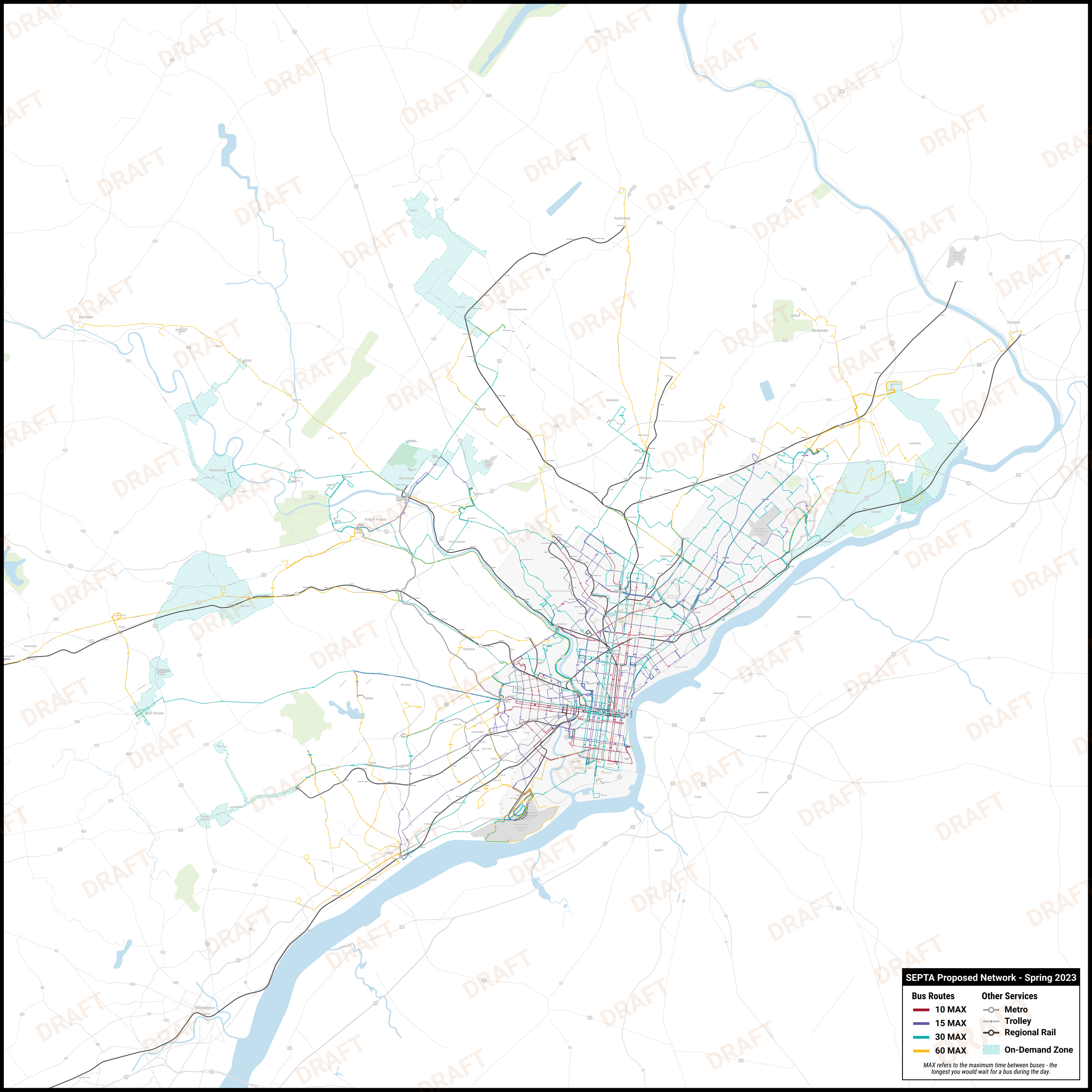
## On-Demand Zone: Bristol-Croydon-Cornwells Heights

**A new on-demand zone** in Bristol, Croydon and Cornwells Heights would serve riders who want to make local trips, connect to employment, shopping, and schools. Riders can use the on-demand to travel anywhere in the zone and to connect with other SEPTA bus routes (multiple routes at Frankford-Knights and Torresdale Station; new route 14/84 at Cornwells Heights Station; Route 129 to Oxford Valley Mall at multiple locations within the zone). The on-demand zone will replace service currently provided by Routes 128, 129, and 133, which are infrequent and do not carry many riders. The on-demand zone is designed to be a more convenient, easier to use service as compared with infrequent bus service.

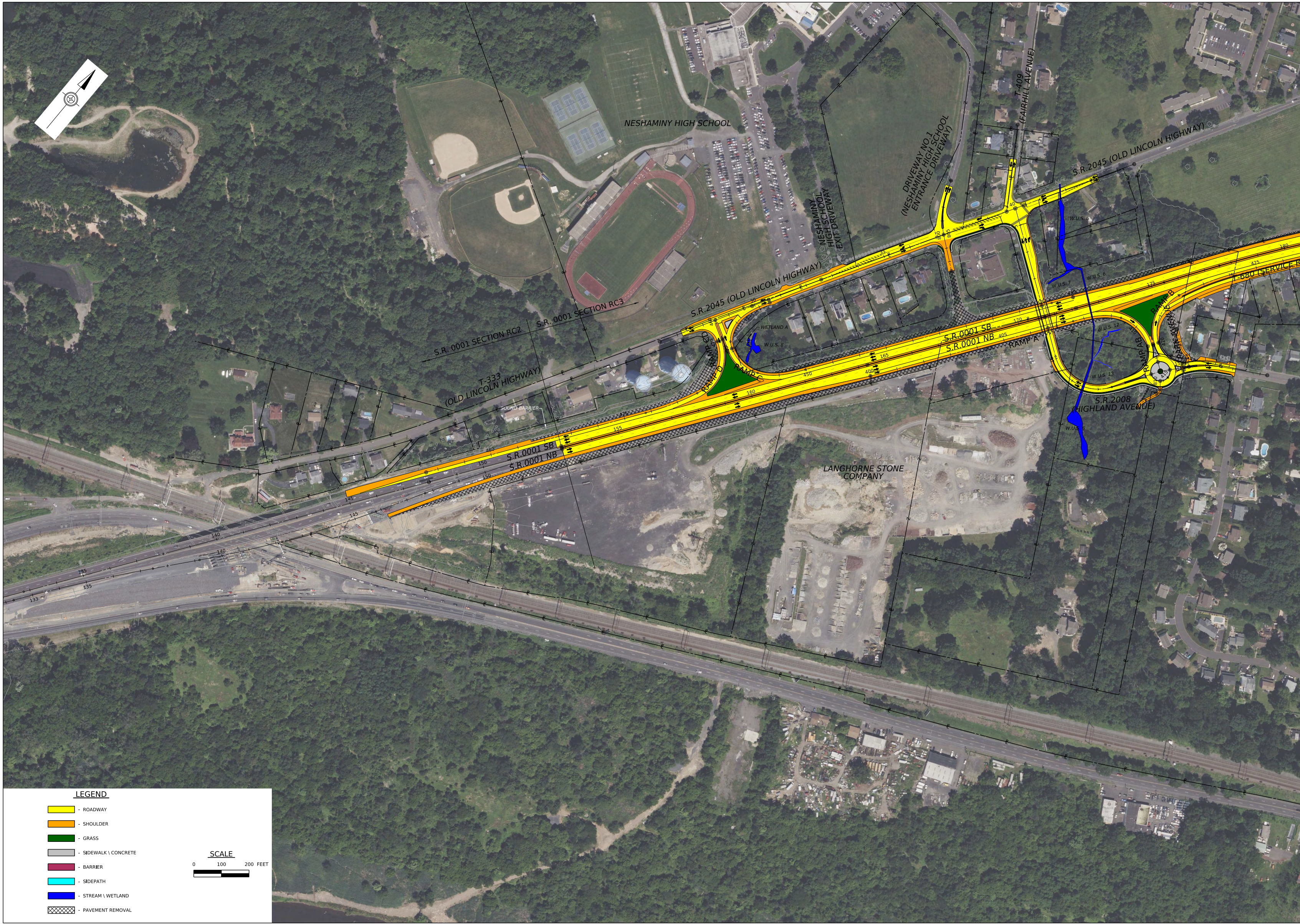
New Route

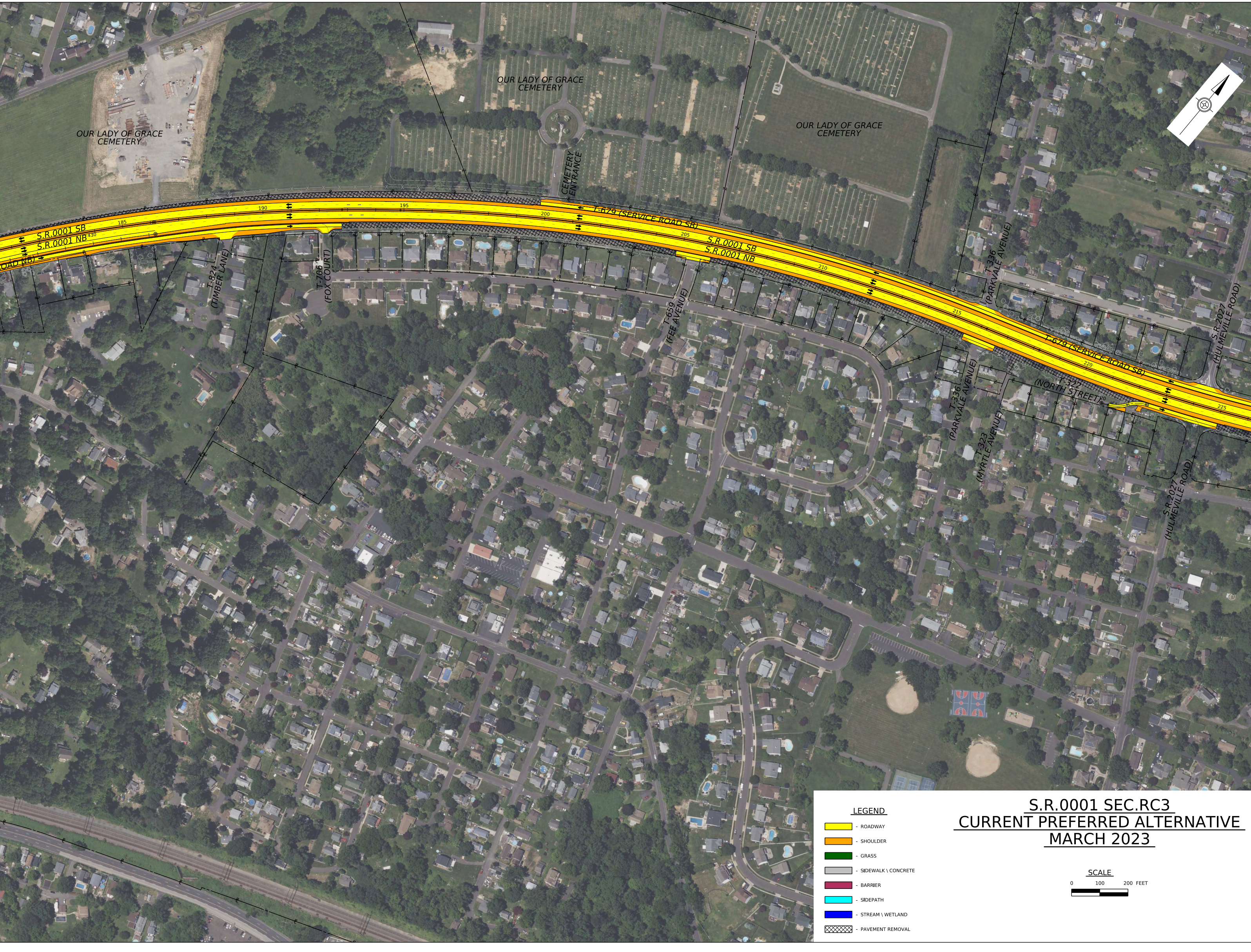
## On-Demand Zone: Bristol-Levittown-Fairless Hills

**A new on-demand zone** in Bristol, Levittown and Fairless Hills would serve riders who want to make local trips, connect to employment, shopping, and schools. Riders can use the on-demand service to travel anywhere in the zone, including Oxford Valley Mall and make connections to SEPTA bus routes (Route 14/127 to Trenton or Neshaminy Mall; Route 129 to Frankford-Knights). The on-demand zone will replace service currently provided by Routes 127 and 128, which are infrequent and do not carry many riders. The on-demand zone is designed to be a more convenient, easier to use service as compared with infrequent bus service.


Telford
Doylestown
Lansdale
Montgomeryville
Pottstown
Warminster
Horsham
Newtown
Trenton
Phoenixville
Norristown
Abington
Levittown
King of Prussia
Malvern
Exton
West Chester
Ardmore
Media
Chester
Wilmington
Croydon
Cinnaminson
Camden
SEPTA Proposed Network - Spring 2023
Bus Routes
10 MAX
15 MAX
30 MAX
60 MAX
Other Services
Metro
Trolley
Regional Rail
On-Demand Zone
MAX refers to the maximum time between buses - the longest you would wait for a bus during the day.

## 9. PennDOT 6-0: Draft Preliminary Engineering
## Route 1 RC3 Project


NESHAMINY HIGH SCHOOL
S.R. 0001 SECTION RC2
S.R. 0001 SECTION RC3
T-333
(OLD LINCOLN HIGHWAY)
SOUND BARRIER
S.R.2045 (OLD LINCOLN HIGHWAY)
NESHAMINY
HIGH SCHOOL
EXIT DRIVEWAY
DRIVEWAY NO.1
(NESHAMINY HIGH SCHOOL
ENTRANCE DRIVEWAY)
T-409
(FAIRHILL AVENUE)
S.R.2045 (OLD LINCOLN HIGHWAY)
WETLAND A
W.U.S. 8
W.U.S. 6
W.U.S. 7
W.U.S. 12
W.U.S. 13
RAMP CD
RAMP D
RAMP C
RAMP A
RAMP AB
RAMP B
S.R.0001 SB
S.R.0001 NB
I-680 (SERVICE B
S.R.2008
(HIGHLAND AVENUE)
LANGHORNE STONE
COMPANY
LEGEND
🟨 - ROADWAY
🟧 - SHOULDER
🟩 - GRASS
⬜ - SIDEWALK \ CONCRETE
🟥 - BARRIER
🟦 - SIDEPATH
🟦 - STREAM \ WETLAND
▨ - PAVEMENT REMOVAL
SCALE
0
100
200 FEET
Microsoft
Bing


OUR LADY OF GRACE CEMETERY
OUR LADY OF GRACE CEMETERY
OUR LADY OF GRACE CEMETERY
CEMETERY ENTRANCE
T-679 (SERVICE ROAD SB)
S.R.0001 SB
S.R.0001 NB
S.R.0001 SB
S.R.0001 NB
ROAD NB)
185
190
195
200
205
210
215
220
225
430
T-824 (TIMBER LANE)
T-706 (FOX COURT)
T-659 (FEE AVENUE)
T-336 (PARKVALE AVENUE)
T-336 (PARKVALE AVENUE)
T-679 (SERVICE ROAD SB)
T-322 (NORTH STREET)
T-323 (MYRTLE AVENUE)
S.R.2027 (HULMEVILLE ROAD)
S.R.2027 (HULMEVILLE ROAD)

S.R.0001 SEC.RC3
CURRENT PREFERRED ALTERNATIVE
MARCH 2023

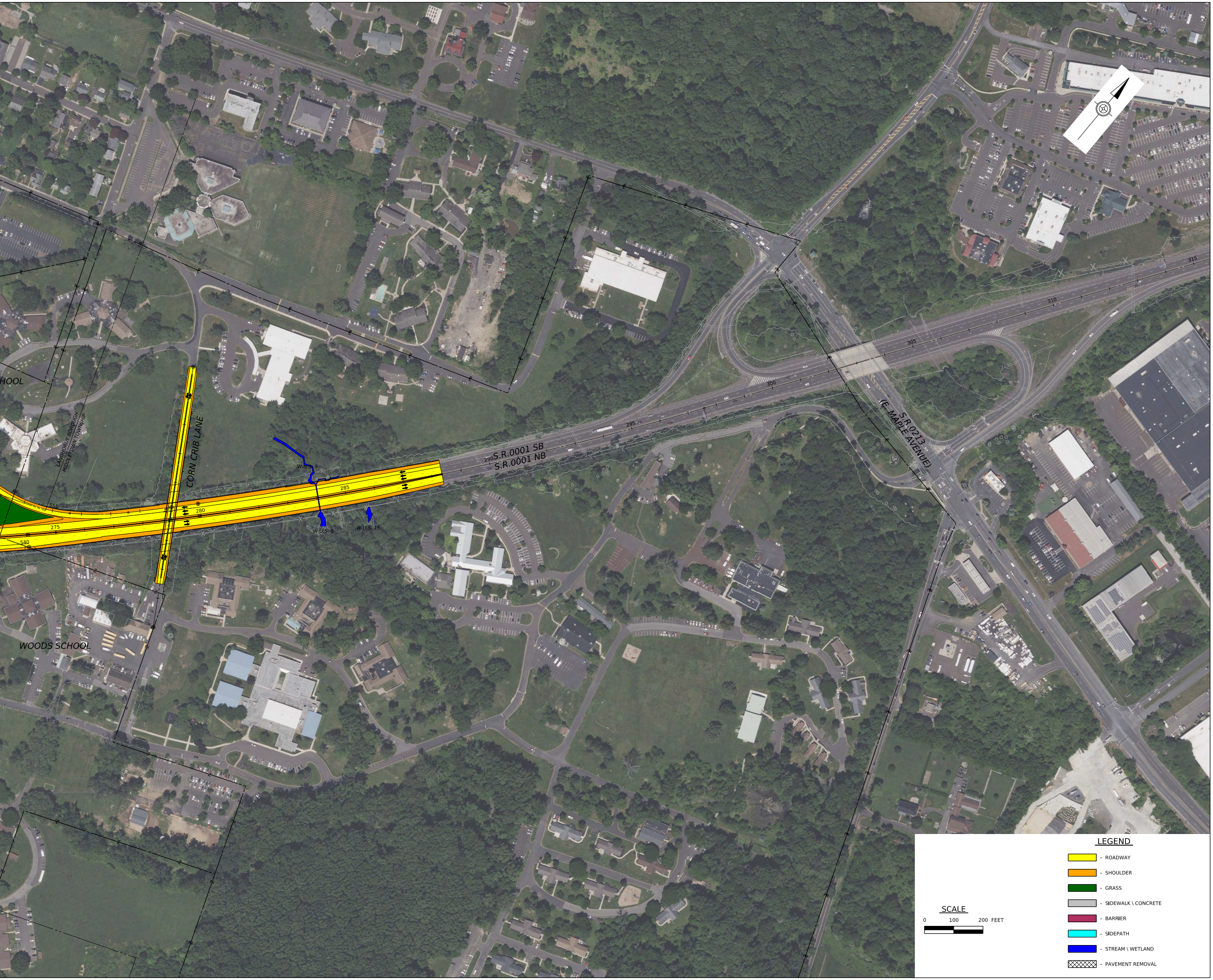
LEGEND

🟨	- ROADWAY
🟧	- SHOULDER
🟩	- GRASS
⬜	- SIDEWALK \ CONCRETE
🟥	- BARRIER
🟦	- SIDEPATH
🟦	- STREAM \ WETLAND
▨	- PAVEMENT REMOVAL

SCALE

0 100 200 FEET


GILLAM AVENUE
WEST INTERCHANGE ROAD
MIDDLETOWN TOWNSHIP
LANGHORNE MANOR BOROUGH
WETLAND B
WETLAND 3
W.U.S. 10
W.U.S. 4
WETLAND C
UNNAMED TRIBUTARY TO NESHAMINY CREEK
W.U.S. 14
S.R.0001 SB
S.R.0001 NB
T-680 (SERVICE ROAD NB)
S.R.2047 (HULMEVILLE AVENUE)
HILL AVENUE
STATION AVENUE
WEST HIGHLAND AVENUE
S.R.2049 (BELLEVUE AVENUE)
T-334 (GILLAM AVENUE)
LANGHORNE BOROUGH
MIDDLETOWN TOWNSHIP
WETLAND 1
W.U.S. 3
WETLAND 2
WETLAND E
W.U.S. 1
W.U.S. 2
RAMP GH
RAMP G
RAMP H
RAMP E
RAMP F
RAMP EF
WOODS DRIVE
WOODS SC
FLOWERS AVENUE
S.R.0413 (PINE STREET)
S.R.0413 (BELLEVUE AVENUE)
WETLAND D
230
235
240
245
250
255
260
265
270
530
535
565
740
750
755
760
765
770


S.R.0001 SB
S.R.0001 NB
S.R.0213
(E. MAPLE AVENUE)
CORN CRIB LANE
LANGHORNE BOROUGH
MIDDLETOWN TOWNSHIP
HOOL
WOODS SCHOOL
W.U.S. 9
W.U.S. 9
W.U.S. 15
275
280
285
290
295
300
305
310
315
540
555
LEGEND
ROADWAY
SHOULDER
GRASS
SIDEWALK \ CONCRETE
BARRIER
SIDEPATH
STREAM \ WETLAND
PAVEMENT REMOVAL
SCALE
0
100
200 FEET

## 10. TMA Bucks: Middletown Township Transportation Demand Management Narrative

**Technical Memorandum**

To: Anita Nardone, Simone Collins Landscape Architecture
From: Stephen Noll, Executive Director, TMA Bucks
Subject: TDM Possibilities for Middletown Township
Date: August 25, 2023

## Summary

This document examines the Township of Middletown, Bucks County in the context of the Middletown Multimodal Improvement Plan project, including discussion of the layout of the Township, previous and existing travel demand management (TDM) in place in the Township, and examples of TDM from other similar communities.

## Brief Township History

Middletown Township is a suburban second-class township of approximately 45,000 residents located in southeastern Bucks County, Pennsylvania, more commonly referred to as Lower Bucks County.

The township has no “town center” area to speak of within its own borders. The adjoining boroughs of Langhorne, Langhorne Manor, Penndel, and Hulmeville instead take on this role, effectively severing the western portion of the township from the remaining portion. The majority of the township is considered to fall in the Langhorne area, though portions of the township may identify more closely with nearby Newtown. A portion of the large Levittown housing development is located within the Township.

As is common in most suburban communities, Middletown Township is home to numerous housing developments, townhome and apartment communities, and commercial complexes that are designed with the automobile in mind. This is very evident in the neighborhoods (“sections”) of Levittown that were constructed in Middletown and adjacent Bristol and Falls Townships in the 1950s. These communities were built to appeal to young families living in the nearby City of Philadelphia that wanted to realize the post-World War II “American Dream” of a single-family home in the suburbs and a car in the driveway. The Levittown community was designed to be as “non-city” as possible and was designed with car ownership in mind. The “sections” have winding and circuitous streets set back from the wide parkways that serve as main arterials in the community. These designs, while wonderful for drivers, were not ideal for pedestrians and public transportation - a “city” element that clearly had no place in this bucolic suburban utopia.

Fast-forward to the present day, and the nearly 70-year-old Levittown is but one example of the housing developments that are prevalent throughout Middletown Township and surrounding communities. Interstate 95/295 and US Route 1 provide access to Philadelphia and New Jersey and the area remains quite car-dependent. SEPTA, however, does provide an alternative to single-occupant vehicles by way of several bus routes and one Regional Rail line that serve the township. A large parking area was dedicated in 2001 at the Woodbourne Regional Rail station for use by commuters on the SEPTA West Trenton Regional Rail line.

## Public Transportation

**Current Service**
Middletown Township is served presently by the following public transportation routes:

- **SEPTA West Trenton Line** - Commuter rail line with service to West Trenton, New Jersey, Center City Philadelphia, University City, Jenkintown, and the western Philadelphia Suburbs from Langhorne and Woodbourne Stations
- **SEPTA Route 14** - Bus service between Frankford Transportation Center and Oxford Valley Mall
- **SEPTA Route 127** - Bus service between Oxford Valley Mall and Trenton, NJ via Morrisville, PA
- **SEPTA Route 128** - Bus service between Oxford Valley Mall and Neshaminy Mall (Bensalem) via Bristol and Levittown
- **SEPTA Route 129** - Bus service between Oxford Valley Mall and Northeast Philadelphia via Bristol, Bensalem, and Philadelphia Mills (Formerly known as Franklin Mills Mall).
- **SEPTA route 130** - Bus service between Newtown and Northeast Philadelphia via Langhorne, Langhorne Manor, and Penndel, including the Langhorne Regional Rail Station.

**Past Service**
In the past, **SEPTA Route 203** provided connecting bus service between Woodbourne Station and the Oxford Valley Mall/Sesame Place complex. This route was discontinued in the early 2000s because of low ridership.

**TMA Initiatives - Job Access and Reverse Commute**
From 2005 to 2012, TMA Bucks, the county's transportation management association, operated the **Newtown Rushbus** service, a last-mile connector public service whose routing included a connection between Woodbourne Station and the Oxford Valley Mall/Sesame Place complex. The route was funded primarily by federal Job Access and Reverse Commute (JARC) funds. This route was discontinued in approximately 2012, when the JARC program was discontinued and funding withdrawn for the Newtown Rushbus and other similar services throughout the region. There has been no transit connection between the Woodbourne Station and Oxford Valley Mall/Sesame Place since this service was discontinued.

**Training and Education**
TMA Bucks offers educational opportunities to Middletown Township and communities throughout Bucks County. The organization offers training sessions on using public transportation, how to improve air quality, and traffic safety-related topics. The Township partners regularly with the TMA to provide education to its residents, particularly on the topic of air quality. The TMA will serve as a resource for training as a means to educate Middletown Township residents on Transportation Demand Management-related topics such as using public transportation, car and van pooling, and effective remote working.

**Transportation Demand Management Recommendations**
Transportation Demand Management (TDM) is, quite simply, any form of service, strategy, and/or policy that reduces or redistributes travel demand on the infrastructure network as a

means of increasing its efficiency and effectiveness. There are numerous TDM options that Middletown Township may consider in order to reduce congestion and tailpipe emissions and improve travel times:

- Consider the adoption or strengthening of policies, resolutions, and/or ordinances that set requirements for the accommodation of cycling, walking, and public transportation in any new land development or redevelopment. Do NOT apply “payment-in-lieu-of” accommodations for such policies. This could be accomplished in a standalone fashion or with a modification of the Township’s Subdivision and Land Development Ordinance.

  Link to example implemented in Lower Merion Township, Montgomery County: https://www.lowermerion.org/departments/building-and-planning-department/ongoing-projects-long-range-plans/transportation-demand-management-tdm

- Consider adopting more stringent policies that require certain TDM measures for employers.

  Link to information on City of Los Angeles Mobility Strategies, including information on relevant ordinances: https://planning.lacity.org/plans-policies/initiatives-policies/mobility

- Provide opportunities for developers to construct or improve public transportation infrastructure (e.g. passenger shelters) as part of its requirements for land development within the Township.

- Identify and take steps toward establishment of a Town Center.

  As stated previously, Middletown Township lacks a “town center” area or main attraction center for its residents. A community like Voorhees Township in Camden County, New Jersey is widely known for its “Voorhees Town Center,” home to many different shops, restaurants, and housing communities. In lieu of tearing down the site following the closure of the former Echelon Mall in 2008, the site was redesigned from its original mall structure into its more modern, pedestrian friendly ‘plaza’ layout we see there today. Since then, the Town Center has continued to expand upon itself with the additions of local businesses, restaurants, gyms, as well as an apartment complex with even more amenities, garnering more attraction from local and surrounding residents. The Town Center is conveniently equipped with a crosswalk entrance, sidewalks and crosswalks throughout the area for pedestrian ease and safety, as well as sidewalks along Echelon Road leading into Town Center Boulevard to allow walkability for its surrounding residents. For the incentives and outcomes stated above, the Voorhees Town Center and its progress shows an example of a successful TDM strategy completed with the safety and convenience of community residents in mind.

  Establishing an existing area as a “town center” similar to this for Middletown Township residents (Oxford Valley Mall area as an example, with attractions such as the movie

theater and upcoming new apartments surrounding the area) could open greater opportunities to garner further attraction throughout Lower Bucks County, increase pedestrian activity thus decreasing vehicular traffic, and provide an overall safe and unique community for its residents to access with ease.

The ideal "Town Center" will feature and encourage many modes of non-automobile travel to, from, and within the center, including transit, walking, cycling, and carpooling lots for commuters.

**Safe Routes to School**

Middletown Township is entirely within the Neshaminy School District. The school district's transportation eligibility policy (as posted on the Neshaminy School District website) is as follows:

A. State requirements are 2 miles for Secondary and 1.5 miles for Elementary.
B. Neshaminy will provide the following:
   1. All children who reside more than one and one-quarter miles walking distance from the school to which they are assigned.
   2. All children who reside less than one and one-quarter miles walking distance from the school to which they are assigned, but who encounter hazardous conditions en route to school.
C. Exceptions
   The walking distance may be increased by one-quarter mile if, in the judgment of the Transportation Department, the geographical layouts of the area or other factors make it practical to do so.

Schools in the Township, in partnership with the Township, TMA Bucks, and others, regularly participate in "walk to school" and "bike to school" days that draw an awareness to both the benefits of walking or biking to school AND the need for motorists to be vigilant for students who are walking or biking.

Middletown Township, the Neshaminy School District, and TMA Bucks' Community Traffic Safety Program can work together to identify an elementary and/or middle school to pilot a walk/bike-to-school program that demonstrates and educates on safe walking and riding behaviors and encourages practices such as the "walking school bus," in which larger groups of students, supervised by adults, walk to school together.

**Video Education**

There is public interest in education on best practices for biking and walking as a means to improve one's own perception of biking and walking. Following are educational videos that Middletown Township may make available on its website and through social media to provide this education:

1. LET'S GO NC! - This education program from the North Carolina Department of Transportation teaches elementary age children how to walk and bike safely, giving them

the essential skills that they need to enjoy a healthy and active lifestyle. Great for the whole family! (Series of 5 short walking lessons and 2 biking lessons)
https://www.youtube.com/playlist?list=PLKjJYg0oIE-W2d352NBOh9wdkSqFIX237

2. Walk This Way! - "Walk This Way" shows elementary-school aged children what a walker is and how to safely walk. It also stresses the importance of walking with a parent/guardian/older sibling, and shows dangerous crossing situations and how to address them.
https://www.youtube.com/watch?v=-t2oX6zQEyU

3. One Parent to Another - "One Parent to Another" shows how safety starts with parents and guardians, and that children model their behavior. It shows how and when to cross legally while walking.
https://www.youtube.com/watch?v=LU25aV4Nzao

4. Kids Explain - "Kids Explain" aims to increase pedestrian safety for middle school children walking to and from school by teaching them the basics of safe walking.
https://www.youtube.com/watch?v=8xmBSb5gguA

5. Before You Ride - "Before You Ride," is targeted at elementary school students and their parents, but serves as a good refresher for older riders or new riders! This video covers basics such as bike selection, helmet fitting, bicycle safety checks, and how to securely park a bike.
https://www.youtube.com/watch?v=h9sdtkhJ9tg

6. Basic Riding Skills - "Basic Riding Skills," is targeted at elementary school students and their parents. This video describes the essential skills such as braking, balancing, turning, hand signals and selecting safe travel routes to school.
https://www.youtube.com/watch?v=f9pzGNcdu8c

7. Riding on the Road - "Riding On the Road," is targeted at middle school students and other riders learning to ride their bicycle on the road. This video addresses the rules of the road and demonstrates riding with traffic, yielding, stopping, turning, avoiding hazards, passing parked cars, and proper lane positioning.
https://www.youtube.com/watch?v=1ViXq7cy14I

8. Sharing the Road - "Sharing the Road," is targeted at younger motorists, bicyclists and others who are unfamiliar with existing bicycle laws. This video covers roadway positioning of cyclists, traffic and hand signals, safe turning and cyclist rights on the road. The video also discusses how motorists and bicyclists can safely share the road.
https://www.youtube.com/watch?v=pW9EsY1RHuQ

9. Bicycle Laws - "Bicycle Laws," is targeted at motorists, cyclists and law enforcement officials. The video demonstrates common offenses by motorists and bicyclists. Common

misconceptions about bicycle laws are also addressed.
https://www.youtube.com/watch?v=vEUYjzIqD_Y

**11. Dawood Engineering: Priority Technical Assessment: Woodbourne Corridor & Business Route 1 Corridor**

Background

Dawood Engineering, LLC is working with Simone Collins to analyze Middletown Township, Bucks County to assess their accessibility for all modes of transportation. Middletown Township is located within the Delaware Valley and is surrounded by Langhorne, Langhorne Manor, Penndel and Hulmeville. Dawood was tasked with using our engineering expertise to review two particular corridors within the Township: Woodbourne Road and Business Route 1.

## Woodbourne Road Corridor

Analysis

The first priority project is providing pedestrian accessibility along the Woodbourne Road corridor from the Wood Lane intersection to the north and Business Route 1 to the south, spanning a total roadway length of approximately 1.33 miles. Woodbourne Road corridor is comprised of two travel lanes oriented north-south with shoulders of varying widths between Wood Lane and 4th Street. South of 4th Street, Woodbourne Road is comprised of four travel lanes. There are also two at-grade railroad crossings, two underpasses and one overpass within the Woodbourne Road corridor limits. Surrounding the corridor are woods, residential neighborhoods, a train station, and commercial/retail stores towards the southern limit of the corridor.

The Woodbourne Road corridor was marked as one of the main priorities to provide increased multimodal access between the residential neighborhoods to the pedestrian facilities in Middletown Township, which includes the SEPTA train station, Oxford Valley Mall, various commercial and retail businesses and the numerous options for trails. Currently, there are limitations in access for the modes of transportation, in particular bicyclists and pedestrians. Within this corridor, there are opportunities to improve the multimodal access, with both large and small types of projects.

It is proposed to add share the lane markings along both sides of this corridor for increased bicycle accessibility from the adjacent neighborhoods to the train station, the local businesses, Business Route 1, the mall, and any other destinations. In accordance with current standards, the sharrows will be spaced at intervals of no less than 250 feet and the center of the sharrow markings will be no less than four feet from the face of the curb. In total, improvements along Woodbourne Road include proposing approximately 30 ADA ramps, two pedestrian refuge islands, 2,900 linear feet of concrete curb, two pedestrian tunnels, and pavement restoration.

**Segment 2: North side of CSX rail bridge (adjacent to Styer Orchard) to Woodbourne Train Station**

The main point of interest in this segment is the CSX Underpass at the intersection of Wood Lane and Woodbourne Road. This connects to Segment 1 as indicated in the prior narrative. Under this bridge, the vehicular traffic is currently pinched to a narrow, one-lane underpass with no shoulder. There are two travel lanes north of the underpass and, south of the underpass, the roadway widens to provide separate right and left turn lanes. These exclusive turn lanes are located at the adjacent signalized intersection with Woodbourne Road located 150’ to the south. At this intersection, the eastbound and westbound Woodbourne Road approaches provide separate left and right turn lanes, respectively, onto Wood Lane. In essence, the CSX railroad crossing and resultant underpass divides the Township and there is no other pedestrian crossing of this railroad in this area, discouraging safe passage for pedestrians or bicyclists.

Challenges:

- Difference in elevations of CSX railroad and roadway does not promote at-grade pedestrian crossing of railroad tracks
- Existing constrained vehicular bridge sharing one-lane configuration between Wood Lane/Woodbourne Road intersection and Woodbourne Train Station
- Southbound Woodbourne Road approach north of tunnel is constrained by a horizontal curve
- Existing business on northern side of Woodbourne Road for potentially proposed sidewalk
- Elevation differences adjacent to edge of roadway for Woodbourne Road

Options Considered:

- Widen the bridge to add a sidewalk and bike lane
    - Provides all modes of transportation access at the same elevation as the current roadway
    - Construction is a concern under active railroad tracks
    - Large expense for this design and construction alternative
- Add a pedestrian switchback structure adjacent to roadway to cross the tracks at-grade
    - Proposes steps and ramps to enable pedestrians and bicyclists to climb elevation to approach the railroad tracks at elevation level
    - No adverse effect on existing roadway or traffic
    - Not desirable or safe to cross active railroad tracks
    - Large expense for this design and construction alternative
- Construct a separate pedestrian/bicycle tunnel adjacent to the vehicular tunnel
    - Provides access at the same elevation as the current roadway
    - No adverse effect on existing roadway or traffic
    - Construction is a concern under active railroad tracks
    - Large expense for this design and construction alternative
    - Disadvantages of a tunnel:
        - Encroach into adjacent property(ies)
        - Affect the Right-of-Way (ROW)
        - Environmental/historic/cultural resource considerations
        - Cannot disrupt active railroad tracks
        - Utility relocations
- Add a sidewalk on southern side of Woodbourne Road south of tunnel
    - Elevation differences off the edge of roadway
- Add a sidewalk on northern side of Woodbourne Road south of tunnel
    - Potential conflict with existing business and its parking spaces
- Update Wood Lane intersection
    - Include a pedestrian refuge island at the intersection of Wood Lane & Woodbourne Road
        - Lack of available pavement section outside truck turning wheelpaths
        - Provides rest area to cross one direction at time
    - Refresh crosswalk markings and provide ADA curb ramps
    - Ensure signal equipment is operational and upgrade as necessary
- Construct separate pedestrian crossing (See Improvement Plan)

Recommendations (Please see Conceptual Plans):

- Widen the underpass structure for a tunnel servicing all modes of transportation
    - Provides a safe connection to both sides of the CSX Railroad for all modes
    - If providing a separate pedestrian/bicyclist only tunnel, it would be advantageous to provide it on the western side of Wood Lane/Woodbourne Road
- Provide marked crosswalk and upgraded ADA ramp designs at intersection of Wood Lane & Woodbourne Road
    - Also provide updated signage and/or pavement markings at this intersection as needed
    - Signal modifications could include updates to APS (accessible pedestrian signals) push buttons, countdown pedestrian signal heads, updated timing or phasing
- Provide sidewalk on southern side of Woodbourne Road, south of tunnel, to train station
    - Provides a safe connection between the northern Township destinations (ie, Core Creek Park) and the Woodbourne Train Station

**Segment 3: Woodbourne Train Station – Pedestrian Access Improvements**

The next point of interest along the Woodbourne Road corridor is designing pedestrian improvements around the Woodbourne Road train station. If the proposed improvements described in Segment 2 are implemented, they can then be connected to and accessed by the proposed improvements described for this segment below. Woodbourne Road widens to provide separate right and left turn lanes into the main Woodbourne trail station parking lot. This main parking lot is located on the western side of Woodbourne Road; however, there is a separate overflow lot on the eastern side of Woodbourne Road. Currently, there is sidewalk circulating around the southeastern side of the western parking lot that leads to the train station platform. A midblock crossing of Woodbourne Road parallel to the railroad tracks provides access between the two parking lots. This midblock crossing is currently located approximately 25 feet north of the railroad crossing of Woodbourne Road. The midblock pedestrian crossing is supported by existing crosswalk striping, two depressed curbs, and a combination of regulatory and warning signs. There are no pedestrian crossings to cross the railroad tracks. Within the train station, there is a depressed curb ramp and an ADA accessible ramp with handrails to get from the parking lot to the train station platform.

Challenges:

- Uncontrolled, midblock crossing of Woodbourne Road
- Lack of connectivity between train station and surrounding areas

Options Considered:

- Propose ADA ramp designs on either side of Woodbourne Road marked crossing
- Propose pedestrian refuge island at Woodbourne Road marked crossing
    - Either curbed or flush with roadway
    - Allows for gap in each direction of travel versus waiting for gap within bi-directional traffic
    - Provides a safe, highly visible crossing
- Install rapid rectangular flashing beacon at Woodbourne Road marked crossing
    - Higher visibility for vehicles approaching pedestrian/bicyclist crossing
    - Actuated by pedestrians and bicyclists
- Install full traffic-controlled intersection at Woodbourne Road marked crossing
    - Numerous modes of transportation would require actuation with this one intersection
    - Could result in additional delays for every mode of transportation
    - Not currently warranted

- Install asphalt trail or sidewalk along western side of Woodbourne Road
    - Include level crossing signals and arms for pedestrian/bicyclists movements at railroad crossing
    - Maintains pedestrian and bicyclist access on western side of Woodbourne Road
- Install asphalt trail or sidewalk along eastern side of Woodbourne Road
    - Include level crossing signals and arms for pedestrian/bicyclists movements at railroad crossing
    - All surrounding pedestrian and bicyclists access is on western side so proposing this section on eastern side would require midblock crossings
- Extend current bus routes from Woodbourne Train Station to Oxford Valley mall development
    - Encourages consumers from New Jersey and Philadelphia regions to boost local economy

Recommendations (Please see Conceptual Plans):

- Install and upgraded ADA ramps for midblock, marked crossing of Woodbourne Road
    - Further analysis is required for a pedestrian refuge island for this crosswalk
- Install concrete sidewalk parallel to Woodbourne Road on western side
    - Also install level crossing signals and arms for pedestrian/bicyclists movements at railroad crossing

**Segment 4: North of the US Route 1 Crossing to Pickering Bend Road**

If the proposed improvements described in Segment 3 are implemented, they can then be connected to the proposed improvements described therein for this area. Currently, this section of Woodbourne Road designated as Segment 4 encompasses two travel lanes—one lane in either direction—under the U.S. Route 1 structure with the northbound shoulder measuring approximately five (5) feet in width and the southbound shoulder at two (2) feet. The structure is not wide enough to fit a compliant sidewalk or separate pedestrian lane under the overpass adjacent to the vehicular traffic traveling at 35 miles per hour at the current configuration. The overpass structure over Woodbourne Road for Route 1 is four lanes of travel with wide shoulders and center median barrier. South of this Route 1 overpass, Woodbourne Road continues with two travel lanes up to the intersection with Pickering Bend Road. Approximately 170 feet south of the Route 1 bridge structure is another set of railroad tracks, a spur of the CSX Railroad servicing the Woodbourne Train Station. South of the existing set of spur railroad tracks, concrete sidewalk begins on the western side of Woodbourne Road and continues until the Pickering Bend Road intersection located approximately 230 feet south of the railroad tracks.

Challenges:

- Lack of pedestrian facilities from Segment 3 up to the spur railroad tracks
- Route 1 overpass structure introduces tunnel for Woodbourne Road traffic
- Spur railroad tracks without proper pedestrian and bicycle crossing

Options Considered:

- Widen the overpass opening under Route 1 to add a sidewalk and bike lane
    - Provides access at the same elevation as the current roadway
    - Construction is a concern under active limited access interstate highway
    - Large expense for this design and construction alternative

- Provide pedestrian access in shoulder under Route 1 overpass
    - Provides connection to the adjacent Woodbourne Train Station to the surrounding neighborhoods, including commercial and retail businesses located further south
    - Safety concern for pedestrian/bicyclist access adjacent to travel lanes
        - Lateral separation from travel lane does not allow for compliant width pedestrian access in shoulder
    - Shift travel lane to provide wider shoulder
        - Provides a wider pedestrian/bicycle access
        - Travel lanes are already at minimum standards
        - Introduces the need for guiderail mounted on the structure wall for safety
        - Ensure a shy distance is provided per standards
        - Lateral lane shift must be in southbound travel direction to allow for a wider western shoulder
            - Maintains consistent pedestrian access
        - If wider eastern shoulder is provided, then additional midblock crossings would be introduced, which is not desirable
- Construct a separate pedestrian tunnel adjacent to the vehicular tunnel under Route 1
    - See information for Wood Lane/Woodbourne Road intersection for tunnels
    - Disadvantages of tunnel:
        - Encroach into adjacent property(ies)
        - Affect the Right-of-Way (ROW)
        - Environmental/historic/cultural resource considerations
        - Cannot disrupt active limited access interstate highway
        - Utility relocations
- Install asphalt trail or sidewalk and curb along western side of Woodbourne Road
    - Include level crossing signals and arms for pedestrian/bicyclists movements at railroad crossing
    - Maintains pedestrian and bicyclist access on western side of Woodbourne Road
    - Provides connection along Woodbourne Road to the surrounding neighborhoods, including commercial and retail businesses located further south
- Install asphalt trail or sidewalk and curb along eastern side of Woodbourne Road
    - Include level crossing signals and arms for pedestrian/bicyclists movements at railroad crossing
    - All surrounding pedestrian and bicyclists access is on western side, so proposing this section on eastern side would require midblock crossings
    - Provides connection along Woodbourne Road to the surrounding neighborhoods, including commercial and retail businesses located further south

Recommendations (Please see Conceptual Plans):

- Provide a separate pedestrian tunnel to west of Woodbourne Road
    - Provides a safe connection to both sides of the CSX Railroad spur for all modes of transportation
- Provide sidewalk on western side of Woodbourne Road connecting to existing sidewalk
    - Also install level crossing signals and arms for pedestrian/bicyclists movements at railroad crossing

**Segment 5: Pickering Bend Road to South of the I-295 Crossing**

Currently in this approximately 0.28-mile stretch of roadway, there are disjointed portions of sidewalk along and on the local roads intersecting Woodbourne Road. This segment of Woodbourne Road features residential neighborhoods consisting of single-family dwellings and an apartment complex that generates pedestrian traffic. At the intersections of Woodbourne Road with Pickering Bend Road, Wellington Drive, the apartment complex, and Garden Court, there are various ADA ramps, curb, crosswalks, and sidewalks needed to provide a continuous multimodal sidewalk/path. Moreover, for this specified section of Woodbourne Road, the road widens at numerous places with gored medians (striping) to then allow for exclusive left and right turn lanes, as appropriate. The existing sidewalk along Woodbourne Road terminates approximately 100 feet south of Wellington Drive. This termination is adjacent to the bridge over Interstate 295. The width of this structure includes travel lanes and wide shoulders but does not include a designated or separate pedestrian access facility. This bridge features a two-lane road with travel in both directions and a 13-foot-wide shoulder on the southbound side and a 10-foot-wide shoulder on the northbound side.

Challenges:

- Lack of consistent pedestrian facilities connecting Segment 4 and Segment 6
- I-295 overpass with a lack of pedestrian access

Options Considered:

- Install asphalt trail or sidewalk and curb along western side of Woodbourne Road
    - Maintains pedestrian and bicyclist access on western side of Woodbourne Road
    - Provides connection along Woodbourne Road to the surrounding neighborhoods, including commercial and retail businesses located further south
    - Does not appear that any ROW acquisitions or easements would be required
- Install asphalt trail or sidewalk and curb along eastern side of Woodbourne Road
    - All surrounding pedestrian and bicyclists access is on western side, so proposing this section on eastern side would require midblock crossings
    - Provides connection along Woodbourne Road to the surrounding neighborhoods, including commercial and retail businesses located further south
- Propose improvements on bridge for pedestrian access and safety
    - Reduce lanes and convert 8’ shoulder to 5’ wide pedestrian path with 3’ buffer parallel to travel lanes
        - Install delineators to designate pedestrian access route on structure
            - Delineators are light-weight, flexible, and can be anchored or bolted to bridge surface
            - Inexpensive solution
            - Can be replaced and removed as needed during snow removal months
        - Install concrete barrier to designate pedestrian access route on structure
            - Concrete barrier are heavy and must be anchored to bridge surface
            - Can be removed as needed during snow removal months
            - Structural integrity of bridge must be evaluated
        - Install curb and grade separated sidewalk on structure
            - Structural integrity of bridge must be evaluated

Recommendations (Please see Conceptual Plans):

- Provide sidewalk on western side of Woodbourne Road connecting to existing sidewalk
    - Include signage and pavement markings as needed
- Install flexible delineators on bridge/overpass surface to provide a 5'-wide pedestrian access area with 3' buffer to vehicular travel lanes

**Segment 6: South of the I-295 Crossing to South quadrants of Woodbourne Road / Old Lincoln Highway Intersection**

For this section of Woodbourne Road included as Segment 6, there are very few existing pedestrian facilities. There are existing sections of concrete sidewalk that run along the western side of Woodbourne Road adjacent to the existing apartment complex and Garden Court. Woodbourne Road widens to four lanes, two lanes of travel in each direction, after the intersection with 4th Street. Approximately 1,350 feet south of the I-295 overpass, there is an intersection with 4th Street. At the intersection of Woodbourne Road and 4th Street, there are recently upgraded ADA ramps on all corners and a banned crossing on the eastern leg (driveway). There are existing crosswalk markings, push buttons and pedestrian signals for the northern, southern, and western legs. Located further south along Woodbourne Road, there are two major intersections with Maple Avenue/SR0213 and Business Route 1. There is pedestrian signal equipment at the intersection with Maple Avenue (SR 0213), and existing concrete sidewalk on the TD Bank property located on the southeast quadrant and along the eastern side of Woodbourne Road. At the intersection with Maple Avenue (SR 0213), there are no depressed curbs nor crosswalk markings but there is curb on all corners. There is existing sidewalk on the southeast corner. There are also existing push buttons on the eastern and western legs and pedestrian signal heads on all legs of the intersection. In addition, there are bus stops, recently upgraded ADA ramps, crosswalks, sidewalks on all corners and pedestrian signal equipment at the intersection of Woodbourne Road & Business Route 1. The properties to the west of this intersection are mostly industrial while the properties to the east are mostly restaurants, small businesses, and retail strips.

Challenges:

- Lack of consistent pedestrian facilities connecting Segment 5 and Segment 7

Options Considered:

- Install asphalt trail or sidewalk and curb along western side of Woodbourne Road up to intersection with 4th Street
    - Maintains pedestrian and bicyclist access on western side of Woodbourne Road
    - Provides connection along Woodbourne Road to the surrounding neighborhoods, including commercial and retail businesses located further south
- Install asphalt trail or sidewalk and curb along eastern side of Woodbourne Road up to intersection with 4th Street
    - All surrounding pedestrian and bicyclists access is on western side, so proposing this section on eastern side would require midblock crossings
    - Provides connection along Woodbourne Road to the surrounding neighborhoods, including commercial and retail businesses located further south

- Update 4th Street intersection
    - Propose pedestrian refuge island for crosswalk
        - Lack of available pavement section outside truck turning wheelpaths
        - Provides rest area to cross one direction at time
    - Refresh crosswalk markings
    - Ensure signal equipment is operational and upgrade as necessary
    - Verify the existing ADA ramps are compliant to current standards
- Install asphalt trail or sidewalk and curb along western side of Woodbourne Road between 4th Street intersection and Business Route 1
    - Maintains pedestrian and bicyclist access on western side of Woodbourne Road
    - Results in potential utility relocations, retaining walls, ROW easements
    - Provides connection along Woodbourne Road to the surrounding neighborhoods, including commercial and retail businesses located further south and bus stops
- Install asphalt trail or sidewalk and curb along eastern side of Woodbourne Road between 4th Street intersection and Business Route 1
    - Design results in more efficient and cost-effective construction
        - Flatter terrain
        - Existing curb already along this section of 4th Street
    - Provides connection along Woodbourne Road to the surrounding neighborhoods, including commercial and retail businesses located further south and bus stops
- Install ADA ramp designs, update pedestrian signals and new pavement markings at intersection with Business Route 1
    - Add crosswalk markings for southern and eastern legs of intersection
        - Install pedestrian push buttons as needed
        - Remove pedestrian push buttons as needed
        - Existing bus stop on southwest corner
    - Add pedestrian refuge island utilizing the existing median on eastern leg
        - May need to revise travel lane widths to provide refuge island to standards
    - Ban crossings at the northern and western legs of intersection
        - Lack of sidewalk and other pedestrian facilities

Recommendations (Please see Conceptual Plans):

- Provide sidewalk on western side of Woodbourne Road connecting to existing sidewalk up to the 4th Street intersection
    - Include signage and pavement markings as needed
    - Signal modifications could include updates to APS (accessible pedestrian signals) push buttons, countdown pedestrian signal heads, updated timing or phasing
- Provide sidewalk on eastern side of Woodbourne Road connecting 4th Street intersection to existing sidewalk south of Maple Avenue/SR0213 up to Business Route 1
    - Include signage and pavement markings as needed
    - Signal modifications could include updates to APS (accessible pedestrian signals) push buttons, countdown pedestrian signal heads, updated timing or phasing

**Business Route 1**

Analysis

The second priority project is making improvements along Business Route 1 from Woodbourne Road to Bristol Oxford Valley Road. At the time of this report, there are planned plans and developments along this corridor that could alter the improvements proposed therein. Business Route 1 is in the east-west orientation and generally has two lanes of travel in each direction, with various introductions of exclusive left and right turn lanes. There are also several right-in/right-out driveways located along this corridor.

Business Route 1 was marked as another of the main priority projects to provide increased multimodal access between the residential neighborhoods and the commercial and retail businesses along this corridor. Currently, there are no facilities for any modes of transportation except motorized vehicles. Within this corridor, there are numerous enhancements available to improve the multimodal access.

Generally, it is proposed to install concrete sidewalks, ADA curb ramps, crosswalks, a pedestrian bridge, and new curbing along this corridor. It was considered to add share the lane markings, similar to Woodbourne Road, for increased bicycle accessibility along Business Route 1; however, it is recommended that share the lane markings not be used on roadways over 35 miles per hour. Also, given the high roadway speeds and vehicular tendency to utilize the shoulders for emergency stopping, acceleration and deceleration to the various business driveways, it is very dangerous to encourage bicyclists to utilize the roadway. A future analysis of bicycle usage and desired routes can encourage separate bike lanes to be established on this high-speed roadway, but no improvements of this nature are proposed at this time. The total improvements along Business Route 1 include proposing approximately 74 ADA ramps, 3,100 linear feet of concrete curb, one pedestrian bridge, one retaining wall structure, and pavement restoration.

**Segment 8: Woodbourne Crossing at SR 213/Maple to SR 213/Business Route 1 Merge**

As mentioned previously, two marked crossings are proposed for the southern and eastern legs of the Woodbourne Road and State Route 213 (SR 0213)/Maple Avenue intersection. There is existing sidewalk along the eastern side of Woodbourne Road that extends from the aforementioned intersection, with the proposed improvements listed in Segment 6, to the intersection with Business Route 1. This would connect locals to more SEPTA bus routes at the intersection of Woodbourne Road and Business Route 1. The existing pedestrian facilities at the intersection with Business Route 1 should be checked that they are operational at the time of design and construction for any proposed improvements.

Challenges:

- Lack of pedestrian facilities
    a. Conflict with business property frontages

Options Considered:

- Install asphalt trail or sidewalk and curb along northern side of Maple Avenue/SR0213
    - Along frontage of the commercial and retail properties
    - Provide ADA ramp designs for all applicable crossings
- Extend asphalt trail or sidewalk and curb along southern side of Maple Avenue/SR0213
    - Provide ADA ramp designs for all applicable crossings
    - Safety concerns to provide sidewalk at Business Route 1 and Maple Avenue crossover

- Install asphalt trail or sidewalk and curb along southern side of Business Route 1
    - Along frontage of the commercial and retail properties
    - Provide ADA ramp designs for all applicable crossings
- Extend asphalt trail or sidewalk and curb along northern side of Business Route 1
    - Provide ADA ramp designs for all applicable crossings
    - Safety concerns to provide sidewalk at Business Route 1 and Maple Avenue crossover

Recommendations (Please see Conceptual Plans):

- Provide sidewalk on northern side of Maple Avenue/SR0213
    - Include signage and pavement markings as needed
- Provide sidewalk along southern side of Business Route 1
    - Include signage and pavement markings as needed

**Segment 9: North Side of Business Route 1 from SR 213/Business Route 1 Merge to Falls Township**

Within this section of Segment 9, there are no current pedestrian facilities or access. At the intersection of Business Route 1 and S. Bucks Town Road, there currently are crosswalk markings but no ADA ramp designs. There are preliminary upgrades under future projects planned for the intersection with S. Bucks Town Road and at the intersection with N. Oxford Valley Road, but nothing has been finalized as of the date of this report.

Challenges:

- Lack of pedestrian facilities
- Existing drainage structure adjacent to existing Township building in frontage of shopping mall

Options Considered:

- Install asphalt trail or sidewalk and curb along northern side of Business Route 1
    - Along frontage of the commercial and retail properties
    - Provide ADA ramp designs for all applicable crossings
    - Provide uncontrolled crossings at right angles and away from Business Route 1
        - Verify safety and sight distance are evaluated for proper crossing locations
- Install asphalt trail or sidewalk and curb around S Bucks Town Road intersection
    - Provide pedestrian crossing parallel to Business Route 1
        - Include additional sidewalk north along S Bucks Town Road
    - Provide ADA ramp designs for all applicable crossings
- Provide sidewalk around existing drainage structure
    - Install retaining wall to route sidewalk over the drainage structure
        - May not meet construction, ADA, and design standards
        - Provides continuous pedestrian access
    - Utilize the existing roadway shoulder for pedestrian access on Business Route 1
        - Conflicts with vehicular movements, used as acceleration lane
        - Provides continuous pedestrian access
    - Install pedestrian bridge over drainage structure for connection to proposed sidewalk
        - Provides continuous pedestrian access
        - Large expense for this design and construction alternative
- Verify pedestrian signals and phasing at intersection with crossover
    - Refresh crosswalk markings and provide ADA curb ramps

    - Ensure signal equipment is operational and upgrade as necessary
- Verify pedestrian signals and phasing at intersection at S Bucks Town Road
    - Refresh crosswalk markings and provide ADA curb ramps
    - Ensure signal equipment is operational and upgrade as necessary

Recommendations (Please see Conceptual Plans):

- Provide concrete sidewalk on northern side of Business Route 1
    - Include signage and pavement markings as needed
    - Install ADA ramp designs for crosswalk markings at S. Bucks Town Road intersection
    - Propose sidewalk north of drainage structure, using retaining wall as needed
- Two intersections with Business Route 1 & crossover, and Business Route 1 & S Bucks Town Road
    - Signal modifications could include updates to APS (accessible pedestrian signals) push buttons, countdown pedestrian signal heads, updated timing or phasing

**Segment 10: South Side of Business Route 1 from SR 213/Business Route 1 Merge to Falls Township**

Challenges:

- Lack of pedestrian facilities
- Existing drop-off/ravine opening adjacent to Mavis Tire store

Options Considered:

- Install asphalt trail or sidewalk and curb along southern side of Business Route 1
    - Along frontage of the commercial and retail properties
    - Provide ADA ramp designs for all applicable crossings
    - Provide uncontrolled crossings at right angles and away from Business Route 1
- Install asphalt trail or sidewalk and curb around S Bucks Town Road intersection
    - Provide pedestrian crossing parallel to Business Route 1
        - Include additional sidewalk north along S Bucks Town Road
    - Provide ADA ramp designs for all applicable crossings
- Provide sidewalk around existing drop-off/ravine opening
    - Install retaining wall to provide sidewalk over opening
        - May not meet standards
        - May lead to soil erosion and safety concerns
        - Provides continuous pedestrian access
    - Utilize the existing roadway shoulder for pedestrian access on Business Route 1
        - Conflicts with vehicular movements, used as acceleration lane
        - Provides continuous pedestrian access
    - Install pedestrian bridge over opening for connection to proposed sidewalk
        - Provides continuous pedestrian access
        - Large expense for this design and construction alternative

Recommendations (Please see Conceptual Plans):

- Provide concrete sidewalk on southern side of Business Route 1
    - Include signage and pavement markings as needed
    - Install ADA ramp designs for crosswalk markings at S. Bucks Town Road intersection
    - Propose pedestrian bridge connecting southern sidewalk proposed parallel to Business Route 1

Moreover, it should be noted that the property at the northwest corner of the Business Route 1 and N. Oxford Valley Road intersection indicates the right-of-way extends up to the curb line. Further right-of-way investigation will be needed to determine where the sidewalk can be placed.

Lastly, there should be consideration to proposing connectivity from the proposed sidewalk along the southern edge of Business Route 1 to the existing walking paths adjacent to the Pearl S. Buck Elementary School. This will also encourage connectivity and accessibility between the residential neighborhoods south of Business Route 1 to the commercial and retail businesses along this corridor.

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 6-O | BUCKS | VARIOUS | | 1 OF 9 |
| MIDDLETOWN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY | APPROVED |
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SEE SHEET 2

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NOTES:
- NO SURVEY WAS PERFORMED FOR THESE PLANS.
- INFORMATION SHOWN IS APPROXIMATE AND EXACT MEASUREMENTS SHOULD BE VERIFIED IN THE FIELD OR USING OFFICIAL GEOSPATIAL SURVEY.

CONCEPTUAL PLANS PREPARED BY:

DAWOOD ENGINEERS PLANNERS SURVEYORS

DAWOOD ENGINEERING, INC.
4250 CRUMS MILL ROAD.
SUITE 301
HARRISBURG, PA 17112

COUNTY: BUCKS

MUNICIPALITY: MIDDLETOWN TOWNSHIP

PROJECT: MULTI-MODAL IMPROVEMENT PLAN

SCALE: 0 25 50 FEET

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
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| MIDDLETOWN TOWNSHIP | | | | |

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DAWOOD ENGINEERING, INC.
4250 CRUMS MILL ROAD,
SUITE 301
HARRISBURG, PA 17112

COUNTY: BUCKS

MUNICIPALITY: MIDDLETOWN TOWNSHIP

PROJECT: MULTI-MODAL IMPROVEMENT PLAN

SCALE: 0 25 50 FEET


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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
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| MIDDLETOWN TOWNSHIP | | | | |

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4250 CRUMS MILL ROAD,
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HARRISBURG, PA 17112

COUNTY: BUCKS

MUNICIPALITY: MIDDLETOWN TOWNSHIP

PROJECT: MULTI-MODAL IMPROVEMENT PLAN

SCALE: 0 25 50 FEET

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4250 CRUMS MILL ROAD.
SUITE 301
HARRISBURG, PA 17112

COUNTY: BUCKS

MUNICIPALITY: MIDDLETOWN TOWNSHIP

PROJECT: MULTI-MODAL IMPROVEMENT PLAN

SCALE: 0 25 50 FEET


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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
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SEE SHEET 6




SEE SHEET 4

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SUITE 301
HARRISBURG, PA 17112

COUNTY: BUCKS

MUNICIPALITY: MIDDLETOWN TOWNSHIP

PROJECT: MULTI-MODAL IMPROVEMENT PLAN

SCALE: 0 25 50 FEET

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SEE SHEET 5

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
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| MIDDLETOWN TOWNSHIP | | | | |

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DAWOOD ENGINEERS PLANNERS SURVEYORS
DAWOOD ENGINEERING, INC.
4250 CRUMS MILL ROAD.
SUITE 301
HARRISBURG, PA 17112

COUNTY: BUCKS

MUNICIPALITY: MIDDLETOWN TOWNSHIP

PROJECT: MULTI-MODAL IMPROVEMENT PLAN

SCALE: SCALE 0 25 50 FEET

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| MIDDLETOWN TOWNSHIP | | | | |

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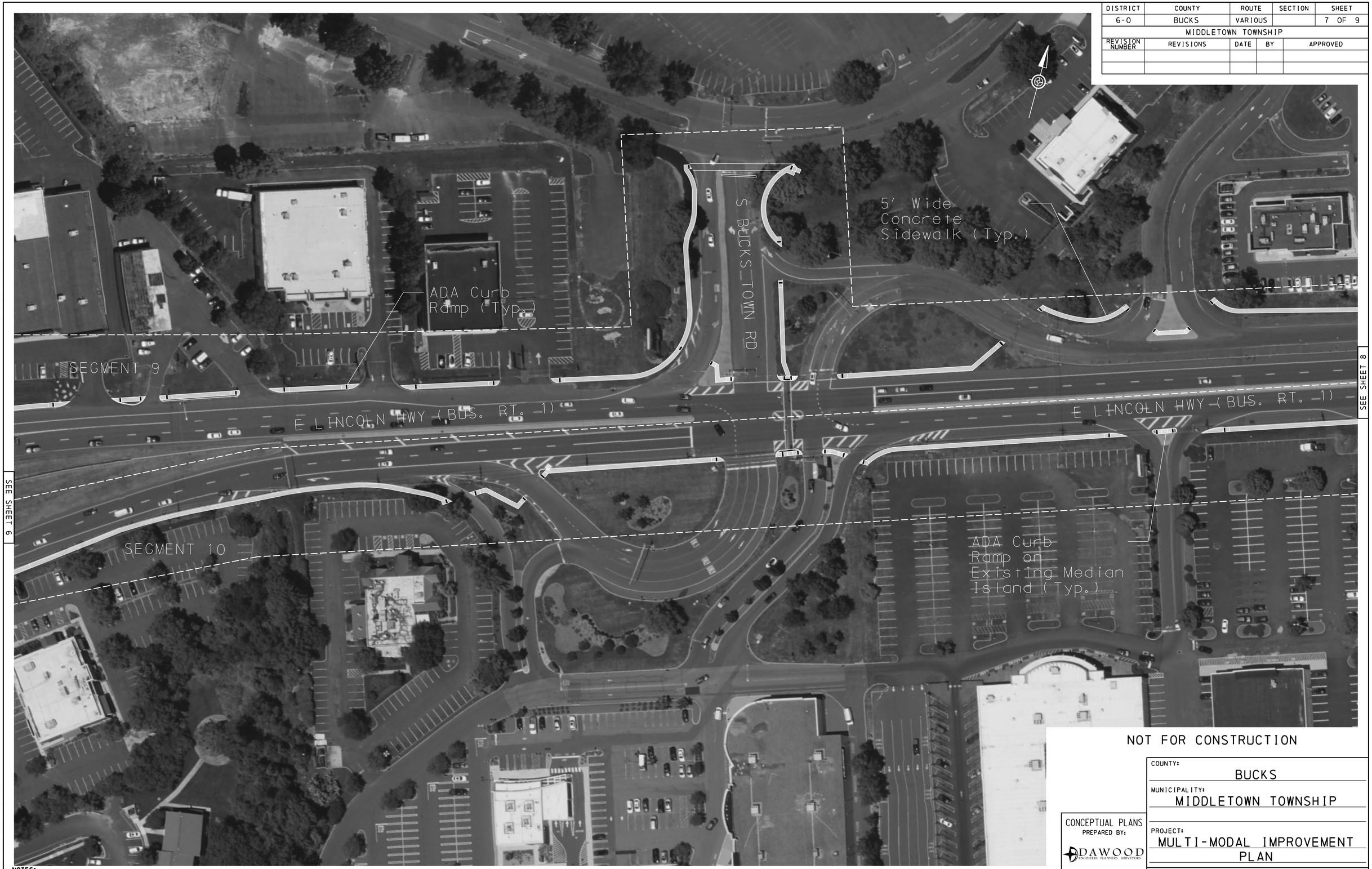


SEE SHEET 8

SEE SHEET 6

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CONCEPTUAL PLANS PREPARED BY:

DAWOOD ENGINEERS PLANNERS SURVEYORS

DAWOOD ENGINEERING, INC.
4250 CRUMS MILL ROAD.
SUITE 301
HARRISBURG, PA 17112

COUNTY: BUCKS

MUNICIPALITY: MIDDLETOWN TOWNSHIP

PROJECT: MULTI-MODAL IMPROVEMENT PLAN

SCALE: SCALE 0 25 50 FEET

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
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| 6-0 | BUCKS | VARIOUS | | 8 OF 9 |
| MIDDLETOWN TOWNSHIP | | | | |

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CONCEPTUAL PLANS PREPARED BY:

DAWOOD ENGINEERS PLANNERS SURVEYORS

DAWOOD ENGINEERING, INC.
4250 CRUMS MILL ROAD.
SUITE 301
HARRISBURG, PA 17112

COUNTY: BUCKS

MUNICIPALITY: MIDDLETOWN TOWNSHIP

PROJECT: MULTI-MODAL IMPROVEMENT PLAN

SCALE: 0 25 50 FEET

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
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| 6-O | BUCKS | VARIOUS | | 9 OF 9 |
| MIDDLETOWN TOWNSHIP | | | | |
| REVISION NUMBER | REVISIONS | DATE | BY | APPROVED |
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## ESTIMATED TABULATION OF QUANTITIES FOR WOODBOURNE ROAD

| Line # | Item Description | Unit | Segment 2 QTY | Segment 3 QTY | Segment 4 QTY | Segment 5 QTY | Segment 6 QTY | Unit Price | Total Price |
|---|---|---|---|---|---|---|---|---|---|
| **UTILITIES** | | | | | | | | | |
| 1 | Utilities Relocation/Reset | LS | - | - | - | - | - | $ 150,000.00 | $ 150,000.00 |
| **STRUCTURES** | | | | | | | | | |
| 2 | Pedestrian Tunnel | EA | 1 | 0 | 1 | 0 | 0 | $ 5,000,000.00 | $ 10,000,000.00 |
| 3 | Railroad Level Crossing Signals & Arms | EA | 0 | 1 | 1 | 0 | 0 | $ 200,000.00 | $ 400,000.00 |
| **ROADWAY IMPROVEMENTS** | | | | | | | | | |
| 4 | Cement Concrete Island | SY | 0 | 75 | 0 | 0 | 75 | $ 250.00 | $ 37,500.00 |
| 5 | Plain Cement Concrete Vertical Curb | LF | 1350 | 600 | 200 | 500 | 250 | $ 70.00 | $ 168,000.00 |
| 6 | Pavement Markings | LF | 1000 | 100 | 100 | 100 | 200 | $ 20.00 | $ 28,000.00 |
| 7 | Flexible Delineator Post, Surface-Mount Type SM-2, White Post with White/White Sheeting | EA | 0 | 0 | 0 | 110 | 0 | $ 120.00 | $ 13,200.00 |
| 8 | Pavement Restoration | SY | 300 | 70 | 30 | 60 | 30 | $ 25.00 | $ 10,750.00 |
| 9 | Traffic Signal improvements | EA | 1 | 0 | 0 | 0 | 2 | $ 15,000.00 | $ 45,000.00 |
| 10 | Detectable Warning Surface | SF | 30 | 60 | 20 | 120 | 60 | $ 60.00 | $ 10,200.00 |
| 11 | Post Mounted Signs, Type B and Type F | LS | - | - | - | - | - | $ 7,500.00 | $ 7,500.00 |
| | | | | | | | | | |
| | | | | | | Sub Total | | | $ 10,870,150.00 |
| | | | | | | Contingency (15%) | | | $ 1,630,530.00 |
| | | | | | | Total Cost | | | $ 12,500,680.00 |
| | | | | | | **Total Cost (Rounded)** | | | **$ 12,510,000.00** |

## ESTIMATED TABULATION OF QUANTITIES FOR BUSINESS ROUTE 1

| Line # | Item Description | Unit | Segment 8 QTY | Segment 9 QTY | Segment 10 QTY | Unit Price | Total Price |
|---|---|---|---|---|---|---|---|
| **UTILITIES** | | | | | | | |
| 1 | Utilities Relocation/Reset | LS | - | - | - | $ 75,000.00 | $ 75,000.00 |
| **STRUCTURES** | | | | | | | |
| 2 | Pedestrian Bridge | LS | 0 | 0 | 1 | $3,000,000.00 | $ 3,000,000.00 |
| **ROADWAY IMPROVEMENTS** | | | | | | | |
| 3 | Plain Cement Concrete Vertical Curb | LF | 600 | 1600 | 900 | $ 70.00 | $ 217,000.00 |
| 4 | Pavement Markings | LF | 500 | 200 | 200 | $ 20.00 | $ 18,000.00 |
| 5 | Pavement Restoration | SY | 140 | 360 | 200 | $ 25.00 | $ 17,498.00 |
| 6 | Traffic Signal improvements | EA | 0 | 2 | 0 | $ 15,000.00 | $ 30,000.00 |
| 7 | Detectable Warning Surface | SF | 160 | 300 | 280 | $ 60.00 | $ 44,400.00 |
| 8 | Post Mounted Signs, Type B and Type F | SF | - | - | - | $ 10,000.00 | $ 10,000.00 |
| | | | | | | | |
| | | | Sub Total | | | | $ 3,411,898.00 |
| | | | Contingency (15%) | | | | $ 511,790.00 |
| | | | Total Cost | | | | $ 3,923,688.00 |
| | | | **Total Cost (Rounded)** | | | | **$ 3,930,000.00** |

NOTES:
- NO SURVEY WAS PERFORMED FOR THESE PLANS.
- INFORMATION SHOWN IS APPROXIMATE AND EXACT MEASUREMENTS SHOULD BE VERIFIED IN THE FIELD OR USING OFFICIAL GEOSPATIAL SURVEY.

NOT FOR CONSTRUCTION

COUNTY: BUCKS

MUNICIPALITY: MIDDLETOWN TOWNSHIP

PROJECT: MULTI-MODAL IMPROVEMENT PLAN

SCALE:

CONCEPTUAL PLANS PREPARED BY:

DAWOOD ENGINEERS PLANNERS SURVEYORS

DAWOOD ENGINEERING, INC.
4250 CRUMS MILL ROAD.
SUITE 301
HARRISBURG, PA 17112

PLOT DRIVER: DEI.PDF grayscale.pltcfg
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# 12. Probable Cost Estimate

| Middletown Township Multimodal Improvement Plan Cost Estimate: October 2023 | | |
|---|---|---|

| TOTAL PLAN IMPROVEMENT COSTS | $ | 42,933,566 |
|---|---|---|

| Area 1 | $ | 1,088,486 |
|---|---|---|
| Total Proposed Site Improvements | $ | 824,486 |
| Mobilization, E&S, Stormwater Allowances | $ | 57,800 |
| Construction Contingency (10%) | $ | 82,500 |
| Design & Engineering (15%) | $ | 123,700 |

| Area 2 | $ | 18,309,694 |
|---|---|---|
| Total Proposed Site Improvements | $ | 13,870,694 |
| Mobilization, E&S, Stormwater Allowances | $ | 971,200 |
| Construction Contingency (10%) | $ | 1,387,100 |
| Design & Engineering (15%) | $ | 2,080,700 |

| Area 3 | $ | 2,430,105 |
|---|---|---|
| Total Proposed Site Improvements | $ | 1,840,705 |
| Mobilization, E&S, Stormwater Allowances | $ | 129,100 |
| Construction Contingency (10%) | $ | 184,100 |
| Design & Engineering (15%) | $ | 276,200 |

| Area 4 | $ | 3,246,550 |
|---|---|---|
| Total Proposed Site Improvements | $ | 2,459,350 |
| Mobilization, E&S, Stormwater Allowances | $ | 172,200 |
| Construction Contingency (10%) | $ | 246,000 |
| Design & Engineering (15%) | $ | 369,000 |

| Area 5 | $ | 3,129,098 |
|---|---|---|
| Total Proposed Site Improvements | $ | 2,370,198 |
| Mobilization, E&S, Stormwater Allowances | $ | 166,200 |
| Construction Contingency (10%) | $ | 237,100 |
| Design & Engineering (15%) | $ | 355,600 |

| Area 6 | $ | 3,268,844 |
|---|---|---|
| Total Proposed Site Improvements | $ | 2,476,144 |
| Mobilization, E&S, Stormwater Allowances | $ | 173,500 |
| Construction Contingency (10%) | $ | 247,700 |
| Design & Engineering (15%) | $ | 371,500 |

| Area 7 | $ | 586,483 |
|---|---|---|
| Total Proposed Site Improvements | $ | 444,083 |
| Mobilization, E&S, Stormwater Allowances | $ | 31,200 |
| Construction Contingency (10%) | $ | 44,500 |
| Design & Engineering (15%) | $ | 66,700 |

| Area 8 | $ | 1,291,004 |
|---|---|---|
| Total Proposed Site Improvements | $ | 977,904 |
| Mobilization, E&S, Stormwater Allowances | $ | 68,600 |
| Construction Contingency (10%) | $ | 97,800 |
| Design & Engineering (15%) | $ | 146,700 |

| Area 9 | $ | 1,944,833 |
|---|---|---|
| Total Proposed Site Improvements | $ | 1,473,233 |
| Mobilization, E&S, Stormwater Allowances | $ | 103,200 |
| Construction Contingency (10%) | $ | 147,400 |
| Design & Engineering (15%) | $ | 221,000 |

| Area 10 | $ | 834,656 |
|---|---|---|
| Total Proposed Site Improvements | $ | 632,056 |
| Mobilization, E&S, Stormwater Allowances | $ | 44,400 |
| Construction Contingency (10%) | $ | 63,300 |
| Design & Engineering (15%) | $ | 94,900 |

| Area 11 | $ | 505,672 |
|---|---|---|
| Total Proposed Site Improvements | $ | 382,972 |
| Mobilization, E&S, Stormwater Allowances | $ | 26,900 |
| Construction Contingency (10%) | $ | 38,300 |
| Design & Engineering (15%) | $ | 57,500 |

| Area 12 | $ | 6,298,141 |
|---|---|---|
| Total Proposed Site Improvements | $ | 4,771,041 |
| Mobilization, E&S, Stormwater Allowances | $ | 334,200 |
| Construction Contingency (10%) | $ | 477,200 |
| Design & Engineering (15%) | $ | 715,700 |

| AREA 1 | | | | | $824,486.42 |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$757,586.42** |
| Langhorne Newtown Road (413) | East side of road from Summit Trace to entrance of Penns Wood Village | 2000 | $ 127.44 | 1,111 | $141,604.94 |
| Langhorne Newtown Road (413) | west side of road from entrance of Penns Wood Village to Heatons Mill Drive | 4500 | $ 127.44 | 2,500 | $318,611.11 |
| Summit Trace Road | West side to South side of road | 3100 | $ 127.44 | 1,722 | $219,487.65 |
| Taylor Drive | South side of road to intersection of 413 | 1100 | $ 127.44 | 611 | $77,882.72 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Crosswalks** | | **N/A** | **1300** | **EA** | **$3,900.00** |
| Intersection: Summit Trace Road and Oakridge Drive (N) | Cross from N side of Summit Trace to South side at Oakridge | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Summit Trace Rd and Hilltop Ct | Cross Hilltop on S side of Summit Trace Rd | | $ 1,300.00 | 1 | |
| Intersection: Summit Trace Rd and Granite Hill Ct | Cross Granite Hill Ct on E side of Summit Trace Rd | | $ 1,300.00 | 1 | |
| Intersection: Summit Trace Rd and Oakridge Dr (S) | Cross Oakridge on S side of Summit Trace | | $ 1,300.00 | 1 | $1,300.00 |
| Crossing: Langhorne-Newtown Rd (SR 413) | E side of Langhorne-Newtown Rd (SR 413) to W side | | $ 1,300.00 | 1 | |

| | | | | | |
|---|---|---|---|---|---|
| Intersection: Tollgate Rd at Park Rd | S side of Tollgate across Park Rd | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Langhorne-Newtown Rd (SR 413) and Alberts Way | Crossing Alberts Way on W side of Langhorne-Newtown Rd (SR 413) | | $ 1,300.00 | | $0.00 |
| Intersection: Langhorne-Newtown Rd and Davis Rd (2 crossings) | Two (2) driveways to St. Marys Rehab Hospital | | $ 1,300.00 | 2 | $2,600.00 |
| Intersection: Langhorne-Newtown Rd (SR 413) and Hampton Dr | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Langhorne-Newtown Rd (SR 413) and Windham Dr | | | $ 1,300.00 | | $0.00 |
| Intersection: Langhorne-Newtown Rd (SR 413) and Alberts Way | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Count Down Timer** | | **N/A** | **$ 3,000.00** | **EA** | **$3,000.00** |
| Intersection of 413 and Pennswood Village entrance | | | $ 3,000.00 | 1 | $3,000.00 |

| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
|---|---|---|---|---|---|
| **Side Path (10' W)** | | **LF** | **$ 90.00** | **SY** | $30,000.00 |
| Tollgate Rd | S side of Tollgate to Park Rd | 700 | $ 90.00 | 778 | $30,000.00 |

| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
|---|---|---|---|---|---|
| **Rapid Flashing Beacon** | | | **$30,000.00** | **EA** | **$30,000.00** |
| Rapid Flashing Beacon | Crossing: W side of Langhorne-Newtown Rd at Taylor Dr. | | $30,000.00 | 1 | $30,000.00 |

| AREA 2 | | | | | $13,870,694.07 |
|---|---|---|---|---|---|
| **AREA 2: Woodbourne Corridor** | | | | | **$12,874,082.96** |
| **Segment 1: Eagles Mere Tr at Ellis Road (Core Creek Park) to N. Side of CSX Rail Bridge/Styer** | | | | | **$167,843.52** |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Side Path (10'-W)** | | **LF** | **$ 10.00** | **SY** | **$93,000.00** |
| Woodbourne Rd | W side of Woodbourne from | 9300 | $ 10.00 | 10,333 | $93,000.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$43,543.52** |
| Langhorne-Yardley Rd from Woodbourne to Extg SW | | 615 | $ 127.44 | 342 | $43,543.52 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |
| **Rapid Flashing Beacon** | | **N/A** | **$ 30,000.00** | **EA** | **$30,000.00** |
| Rapid Flashing Beacon | Intersection of Woodbourne and Styers La | | $ 30,000.00 | 1 | $30,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$1,300.00** |
| Intersection: Woodbourne Road and Styers Rd | | | $ 1,300.00 | 1 | $1,300.00 |
| **Segment 2: North side of CSX rail bridge (adjacent to Styer Orchard) to Woodbourne Station** | | | | | **$5,475,577.78** |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Side Path (10'-W)** | | **LF** | **$ 10.00** | **SY** | **$5,277.78** |
| Side Path (10'-W) | W side of Woodbourne; tunnel to station | 950 | **$ 10.00** | 528 | $5,277.78 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Structure: Small Pedestrian Bridge** | **Location** | **N/A** | **$ 300,000.00** | **EA** | **$300,000.00** |
| Small Pedestrian Bridge | Mill Creek crossing of Woodbourne Road | | $ 300,000.00 | **1** | $300,000.00 |
| **Structure: Rail Bridge Tunnel** | **Location** | **N/A** | **$ -** | **1** | **$5,000,000.00** |
| Pedestrian Tunnel-See Dawood Report-Appendix | CSX Rail@Woodbourne | | $5,000,000 | 1 | $5,000,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |

# 13. Comments/Responses to DRAFT Final Report

| | | | | | |
|---|---|---|---|---|---|
| **Roadways Improvements** | **Location** | **N/A** | **N/A** | **LS** | **$140,300.00** |
| See Dawood Report-Appendix | Total Segment Allowance | | $140,300 | 1 | $140,300.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |
| **Utilites** | | **N/A** | | **EA** | **$30,000.00** |
| See Dawood Report-Appendix | | | $ 30,000.00 | 1 | $30,000.00 |
| | | | | | |
| | | | | | |
| **Segment 3: Woodbourne Train Station- Pedestrian access improvements** | | | | | **$340,796.91** |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |
| **Pedestrian Refuge Island** | | **N/A** | **$ 15,000.00** | **EA** | **$15,000.00** |
| Pedestrian Refuge Island | Woodbourne: East-West Parking Lot | | **$ 15,000.00** | 1 | $15,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$26,196.91** |
| Woodbourne Road | W side of Woodbourne connecting parking lot sidewalks | 180 | $ 127.44 | 100 | $12,744.44 |
| Woodbourne Road | From rail crossing to US Route 1 Crossing | 190 | $ 127.44 | 106 | $13,452.47 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Special Crossing: Rail Tracks** | | **N/A** | **$ 200,000.00** | **EA** | **$200,000.00** |
| Special Crossing: Rail Tracks and Level Crossing Signal and Arms (Set of two crossing arms) | SEPTA Rail Tracks-Woodbourne Station | | $ 200,000.00 | 1 | $200,000.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Roadways Improvements** | **Location** | **N/A** | **N/A** | **LS** | **$69,600.00** |
| See Dawood Report-Appendix | Total Segment Allowance | | $69,600 | 1 | $69,600.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |
| **Utilites** | | **N/A** | | **EA** | **$30,000.00** |
| See Dawood Report-Appendix | | | $ 30,000.00 | 1 | $30,000.00 |
| | | | | | |
| | | | | | |
| | | | | | |

| Segment 4: North of the US Route 1 Crossing to Pickering Bend Road | | | | | $5,303,293.46 |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Sidewalks (Avg-8'W)** | | **LF** | **$ 127.44** | **SY** | **$53,243.46** |
| Woodbourne Road | Segment 4 | 470 | $ 127.44 | 418 | $53,243.46 |
| | | | | | |
| **Structure: Pedestrian Tunnel** | **Location** | **N/A** | **$ 500.00** | **1** | **$5,000,000.00** |
| Pedestrian Tunnel-See Dawood Report-Appendix | US Route 1 Crossing | | $5,000,000 | 1 | $5,000,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Special Crossing: Rail Tracks** | | **N/A** | **$ 200,000.00** | **EA** | **$200,000.00** |
| Special Crossing: Rail Tracks and Level Crossing Signal and Arms (Set of two crossing arms) | CSX Side Rail Crossing | | $ 200,000.00 | 1 | $200,000.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Roadways Improvements** | **Location** | **N/A** | **N/A** | **LS** | **$20,050.00** |
| See Dawood Report-Appendix | Total Segment Allowance | | $20,050 | 1 | $20,050.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |
| **Utilites** | | **N/A** | | **EA** | **$30,000.00** |
| See Dawood Report-Appendix | | | $ 30,000.00 | 1 | $30,000.00 |
| | | | | | |
| **Segment 5: Pickering Bend Road to South of the I295 Crossing** | | | | | **$145,747.84** |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Sidewalks (5'-W)** | | **LF** | **$ 127.44** | **SY** | **$52,747.84** |
| Woodbourne | Pickering to I295 | 625 | $ 127.44 | 347 | $44,251.54 |
| Woodbourne | I295 to extg SW | 120 | $ 127.44 | 67 | $8,496.30 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$2,600.00** |
| Woodbourne | Pickering; Wellington | | **$ 1,300.00** | 2 | $2,600.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Roadway Improvements-Ped Access on I295 Bridge See Dawood Report-Appendix** | | **N/A** | | **LS** | **$60,400.00** |
| Sidewalk on Bridge/Markings, Etc. | Woodbourne Bridge over I295 | | $ 60,400.00 | 1 | $60,400.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |

| | | | | | |
|---|---|---|---|---|---|
| **Utilites** | | **N/A** | **W side of Woodbourne** | **EA** | **$30,000.00** |
| See Dawood Report-Appendix | Total Segment Allowance | | $ 30,000.00 | 1 | $30,000.00 |
| | | | | | |
| **Segment 6: South of the I295 Crossing to South quadrants of Woodbourne / Old Lincoln Highway** | | | | | **$1,440,823.46** |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Sidewalks (5'-W)** | | **LF** | **$ 127.44** | **SY** | **$112,575.93** |
| Woodbourne | W Side of Woodbourne | 190 | $ 127.44 | 106 | $13,452.47 |
| Woodbourne | E Side of Woodbourne | 1400 | $ 127.44 | 778 | $99,123.46 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$3,900.00** |
| Woodbourne | | | **$ 1,300.00** | 3 | $3,900.00 |

| | | | | | |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Roadways Improvements** | **Location** | **N/A** | **N/A** | **LS** | **$76,100.00** |
| See Dawood Report-Appendix | Total Segment Allowance | | $76,100 | 1 | $76,100.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |
| **Utilites** | | **N/A** | | **EA** | **$1,248,247.53** |
| See Dawood Report-Appendix | Total Segment Allowance | | $ 30,000.00 | 1 | $30,000.00 |
| | | | | | |
| | | | | | |
| **Area 2: Business Route 1 Corridor** | | | | | **$996,611.11** |
| **Segment 8: Woodbourne crossing at SR 213/Maple to SR 213/ Business Route 1 Merge** | | | | | **$221,636.42** |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Sidewalks (5'-W)** | | **LF** | **$ 127.44** | **SY** | **$126,736.42** |
| SR 213 (Maple) | N side of Maple | 940 | $ 127.44 | 522 | $66,554.32 |
| Business Route 1 | S side of Business Route 1 | 850 | $ 127.44 | 472 | $60,182.10 |
| | | | | | |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$10,400.00** |
| Business Route 1 | Driveway crossings | | **$ 1,300.00** | 8 | $10,400.00 |

| | | | | | |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |

| Roadways Improvements | Location | N/A | N/A | LS | $59,500.00 |
|---|---|---|---|---|---|
| See Dawood Report-Appendix | Total Segment Allowance | | $59,500 | 1 | $59,500.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Utilites** | | **N/A** | | **EA** | **$25,000.00** |
| See Dawood Report-Appendix | Total Segment Allowance | | $ 25,000.00 | 1 | $25,000.00 |
| | | | | | |
| | | | | | |

| Segment 9: North side of Business Route 1 from SR 213/ Business Route 1 Merge to Falls Townshi | $432,947.53 |
|---|---|

| Item Description | Location | Distance | Unit Cost | Quantity | Cost |
|---|---|---|---|---|---|
| **Sidewalks (5'-W)** | | **LF** | **$ 127.44** | **SY** | **$215,947.53** |
| Business Route 1 | N side of Business Route 1 | 3,050 | $ 127.44 | 1694 | $215,947.53 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$15,600.00** |
| Business Route 1 | Drive crossings | | **$ 1,300.00** | 12 | $15,600.00 |

| Item Description | Location | Distance | Unit Cost | Quantity | Cost |
|---|---|---|---|---|---|
| **Roadways Improvements** | **Location** | **N/A** | **N/A** | **LS** | **$176,400.00** |
| See Dawood Report-Appendix | Total Segment Allowance | | $176,400 | 1 | $176,400.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |
| **Utilites** | | **N/A** | | **EA** | **$25,000.00** |
| See Dawood Report-Appendix | Total Segment Allowance | | $ 25,000.00 | 1 | $25,000.00 |
| | | | | | |
| | | | | | |

| Segment 10: South side of Business Route 1 from SR 213/ Business Route 1 Merge to Falls Townsl | $342,027.16 |
|---|---|

| Item Description | Location | Distance | Unit Cost | Quantity | Cost |
|---|---|---|---|---|---|
| **Sidewalks (5'-W)** | | **LF** | **$ 127.44** | **SY** | **$205,327.16** |
| Business Route 1 | S side of Business Route 1 | 2,900 | $ 127.44 | 1611 | $205,327.16 |
| | | | | | |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$19,500.00** |
| Business Route 1 | Drive crossings | | **$ 1,300.00** | 15 | $19,500.00 |

| Item Description | Location | Distance | Unit Cost | Quantity | Cost |
|---|---|---|---|---|---|

| **Roadways Improvements** | **Location** | **N/A** | **N/A** | **LS** | **$92,200.00** |
|---|---|---|---|---|---|
| See Dawood Report-Appendix | Total Segment Allowance | | $92,200 | 1 | $92,200.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanity** | **Cost** |
| **Utilites** | | **N/A** | | **EA** | **$25,000.00** |
| See Dawood Report-Appendix | Total Segment Allowance | | $ 25,000.00 | 1 | $25,000.00 |
| | | | | | |

| AREA 3 | | | | | $1,840,704.63 |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$763,604.63** |
| Silver Lake Road | West side of Road | 2500 | $ 127.44 | 1,389 | $177,006.17 |
| Barnsbury Road | South Side of Road | 2200 | $ 127.44 | 1,222 | $155,765.43 |
| Algate Road | South side of Road | 730 | $ 127.44 | 406 | $51,685.80 |
| Basil Road | South Side of Road | 610 | $ 127.44 | 339 | $43,189.51 |
| Briggs Road | East side of the Road | 535 | $ 127.44 | 297 | $37,879.32 |
| Dawson Road | North Side of road | 1300 | $ 127.44 | 722 | $92,043.21 |
| Chilton Road | West side of Road | 1750 | $ 127.44 | 972 | $123,904.32 |
| Shadybrook Drive | West side of Road/driveway | 300 | $ 127.44 | 167 | $21,240.74 |
| Langhorne Yardley Road | South Side of Road | 560 | $ 127.44 | 311 | $39,649.38 |
| Maple Point Middle School | Connects through rear property from proposed trail | 300 | $ 127.44 | 167 | $21,240.74 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Multimodal Trail (10')** | | **LF** | **$ 90.00** | **SY** | **$410,000.00** |
| Core Creek Park | eastern edge of park from Village Road | 3000 | $ 90.00 | 3,333 | $300,000.00 |
| Middletown Community Park | Northern side off of Village Road | 1100 | $ 90.00 | 1,222 | $110,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Side Path (10')** | | **LF** | **$ 90.00** | **SY** | **$600,000.00** |
| Village Road | South Side of Road | 4300 | $ 90.00 | 4,778 | $430,000.00 |
| Langhorne Yardley Road | East side of Park Road | 1700 | $ 90.00 | 1,889 | $170,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$9,100.00** |
| Intersection: Banks Rd and SilverLake Rd | Cross W side of Banks Rd to exist SW on E side | | $ 1,300.00 | 1 | $1,300.00 |

| | | | | | |
|---|---|---|---|---|---|
| Intersection: Algate and SilverLake Rd | Cross W side of SIlverLake to S side of Algate | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Dawson Rd and Argyle Rd | Cross N side of Dawson to E side of Argyle | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Barnsbury Rd and Dawson Rd | Cross E side of Dawson to S side of Barnsbury | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Basil Rd and Village Road | Cross E side of Basil to S side of Village | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Village Rd and Wood Duck La | Cross S side of Village to W side of Wood Duck. | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Paxson La and Briggs Rd | Cross S side of Paxson to E side of Briggs | | $ 1,300.00 | 1 | $1,300.00 |
| **Item Description** | **Location** | **Distance** | **$ 1,300.00** | **Quanitity** | **Cost** |
| **Speed Table** | | **N/A** | **$10,000.00** | **EA** | **$20,000.00** |
| Middletown Community Park | Entrance drive | | $10,000.00 | 2 | $20,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Rapid Flashing Beacon** | | **N/A** | **$30,000.00** | **EA** | **$30,000.00** |
| Langhorne Yardley Road | Crossing E side of Briggs Rd to N side of Langhorne-Yardley Rd. | | $30,000.00 | 1 | $30,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Bicycle Rack** | | **N/A** | **$ 2,000.00** | **EA** | **$8,000.00** |
| Bicycle Rack | Maple Point Elementary School | | $ 2,000.00 | 2 | $4,000.00 |
| Bicycle Rack | Middletown Community Park | | $ 2,000.00 | 2 | $4,000.00 |

| AREA 4 | | | | | $2,459,350.00 |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$860,250.00** |
| Bridgetown Pike | South side of road | 4900 | $ 127.44 | 2,722 | $346,932.10 |
| SR 413 (Langhorne-Newtown Rd) | West side of road from Bridgetown pike to sidewalk gap | 450 | $ 127.44 | 250 | $31,861.11 |
| Wood Lane | South Side of Road from Shasta Road to Woodbourne Road | 3500 | $ 127.44 | 1,944 | $247,808.64 |
| North Flowers Mill Road | West side of Road from Langhorne Yardley Road to Entrance of the Shoppes at Flowers Mill | 1900 | $ 127.44 | 1,056 | $134,524.69 |
| East Winchester Avenue | South side of road from North Pine Street to Bendwood Drive, then from Keton Drive to Langhorne Yardley Road | 1000 | $ 127.44 | 556 | $70,802.47 |
| Kenton Drive | West side of road from Andover Drive to East Winchester Avenue | 400 | $ 127.44 | 222 | $28,320.99 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Multimodal Trail (10')** | | **LF** | **$ 90.00** | **SY** | **$930,000.00** |
| Trail Additions within Core Creek Park | Directly south of Lake Luxembourg | 1100 | $ 90.00 | 1,222 | $110,000.00 |
| Trail Additions within Core Creek Park | North of Bridgetown Pike connecting to Park Road | 2200 | $ 90.00 | 2,444 | $220,000.00 |

| | | | | | |
|---|---|---|---|---|---|
| Trail Additions within Core Creek Park | North of Langhorne Yardley Road to Woodbourne Road | 2200 | $ 90.00 | 2,444 | $220,000.00 |
| Styer Orchard Trail | South of Langhorne Yardley Road to Woodbourne Road through Styer Orchard | 3800 | $ 90.00 | 4,222 | $380,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Side Path (10')** | | **LF** | **$ 90.00** | **SY** | **$285,000.00** |
| Trail Additions within Core Creek Park | E side of Park Road | 950 | $ 90.00 | 1,056 | $95,000.00 |
| Trail Additions within Core Creek Park | N side of Bridgetown Pike and Langhorne Yardley Road connecting to multiuse trail | 1900 | $ 90.00 | 2,111 | $190,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$9,100.00** |
| Intersection: Bridgetown Pike and Langhorne-Newtown Rd | Cross W side Langhorne-Newtown Rd to S side of Bridgetown Pike | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Bridgestown Pike and Edgemont La | Cross from S side of Bridgetown Pike to E side of Edgemont La. | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Bridgetown Pike and Daulton Ct | Cross from S side of Bridgetown to E side of Daulton | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Bridgetown Pike and Old Mill Drive | Cross S side of Bridgetown Pike to E side of Old Mill Dr | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Bridgetown Pike and Wychwood La | Cross S side of Bridgetown Pike to E side of Wychwood La | | $ 1,300.00 | 1 | $1,300.00 |

| | | | | | |
|---|---|---|---|---|---|
| Intersection: Wood Laneand Goldfields Ave | Cross S side of Wood La to E side of Goldfields Ave | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Wood Lane and Bellflower Rd | Cross S side of Wood La to E side of Bellflower | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: East Winchester Avenue at Brendwood Dr | Cross S side of E. Winchester to E. side of Brendwood | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: E. Winchester Ave and Kenton Dr | Cross S side of E. Winchester to E side of Kenton | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: N. Flowers Mill Rd and Shasta (Det. Chris Jones Way) | Cross W side of Flowers Mill to S side of Shasta | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Langhorne-Yardley Rd and Styers Orchard Multiuse Trail | Cross to S side of Langhorne-Yardley Rd from MUTr. | | $ 1,300.00 | 1 | $1,300.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Rapid Flashing Beacon** | | **N/A** | **$ 30,000.00** | **EA** | **$30,000.00** |
| Rapid Flashing Beacon | Park Road and Bridgetown Pike | | $ 30,000.00 | 1 | $30,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Handman** | | **N/A** | **$ 3,000.00** | **EA** | **$9,000.00** |
| Count Down Timer/ Handman | North Flowers Mill Road and Entrance to the Shoppes at Flowers Mill | | $ 3,000.00 | 1 | $3,000.00 |
| Count Down Timer/ Handman | Cross W side Langhorne-Newtown Rd to S side Bridgetown Pike sidewalk | | $ 3,000.00 | 1 | $3,000.00 |
| Count Down Timer/ Handman | Cross to S side of Langhorne-Yardley Rd from MUTr. | | $ 3,000.00 | 1 | $3,000.00 |

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| Item Description | Location | Distance | Unit Cost | Quanitity | Cost |
|---|---|---|---|---|---|
| **Bicycle Rack** | | **N/A** | **$ 2,000.00** | **EA** | **$6,000.00** |
| Bicycle Rack | Core Creek Park Entraace- Bridgetown Pike and Langhorne Newtown Rd. | | $ 3,000.00 | 1 | $3,000.00 |
| Bicycle Rack | Township Building | | $ 3,000.00 | 1 | $3,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Pedestrian-Activated Signal for Rail Tunnel Passage** | | **N/A** | **$ 110,000.00** | **EA** | **$330,000.00** |
| Pedestrian-Activated Signal for Rail Tunnel Passage | Flowers Mill Rd at SEPTA/ CSX Crossing | | $ 110,000.00 | 1 | $110,000.00 |
| Pedestrian-Activated Signal for Rail Tunnel Passage | Langhorne-Newtown Rd at SEPTA/ CSX Crossing | | $ 110,000.00 | 1 | $110,000.00 |
| Pedestrian-Activated Signal for Rail Tunnel Passage | Langhorne-Newtown Rd at SEPTA/ CSX Crossing | | $ 110,000.00 | 1 | $110,000.00 |

| AREA 5 | | | | | $2,370,197.53 |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$387,997.53** |
| Big Oak Road | South Side of Road over 295 | 1400 | $ 127.44 | 778 | $99,123.46 |
| North Oxford Valley Road | West side of Road | 1800 | $ 127.44 | 1,000 | $127,444.44 |
| North Bucks Town Drive | north side of road from Town Center Drive to sidewalk gap | 800 | $ 127.44 | 444 | $56,641.98 |
| North Bucks Town Drive | north side of road from Oxford Valley Road to sdewalk gap | 630 | $ 127.44 | 350 | $44,605.56 |
| North Bucks Town Drive | north side of road from Oxford Valley Road to sdewalk gap | 500 | $ 127.44 | 278 | $35,401.23 |
| Town Center Drive | South side of road filling sidewalk gaps | 350 | $ 127.44 | 194 | $24,780.86 |
| 4th Street (Ext) through to Mall Parking Area | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Side Path (10')** | | **LF** | **$ 90.00** | **SY** | **$1,740,000.00** |
| Middletown Blvd-Oxford Valley Mall Loop | | 8700 | $ 90.00 | 9,667 | $870,000.00 |
| Harpers Cross | | 3100 | $ 90.00 | 3,444 | $310,000.00 |
| Big Oak Road | | 5200 | $ 90.00 | 5,778 | $520,000.00 |
| Township Line Road | | 400 | $ 90.00 | 444 | $40,000.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$5,200.00** |
| Intersection: Middletown Blvd/ North Buckstown Rd/Internal Mall Parking Access | Cross W side of Middletown Blvd to S side of Access Lane | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: 4th Street and Middletown Blvd | Cross S side of 4th to E side of Middletown Blvd | | $ 1,300.00 | 1 | $1,300.00 |

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|---|---|---|---|---|---|
| Intersection: N. Oxford-Valley Rd andSheraton Bucks Driveway Connector | Cross W side of N. Oxford Valley Rd into Sesame Place | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: N. Oxford-Valley Rd and So. Buckstown Rd. | Cross W side of Oxford-Valley Rd to N side of So. Buckstown | | $ 1,300.00 | 1 | $1,300.00 |
| | | | | | |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Rapid Flashing Beacon** | | **N/A** | **$ 30,000.00** | **EA** | **$30,000.00** |
| Harpers Cross and Big Oak Rd | Crossing Township Line Road | | $30,000.00 | 1 | $30,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Special Crossing** | | **N/A** | **$ 200,000.00** | **EA** | **$200,000.00** |
| Intersection: Rail Crossing at Big Oak/Twp Line Rd | Crossing Train tracks on Township Line Road | | $ 200,000.00 | 1 | $200,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Handman** | | **N/A** | **$ 3,000.00** | **EA** | **$5,000.00** |
| Count Down Timer/ Handman | N. Buckstown Rd at Middletown Blvd | | $ 3,000.00 | 1 | $3,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Bicycle Rack** | | **N/A** | **$ 2,000.00** | **EA** | **$2,000.00** |
| Bicycle Rack | Oxford Valley Mall: Termination of 45th St. Ext. Sidewalk. | | $ 2,000.00 | 1 | $2,000.00 |

| AREA 6 | | | | | $2,476,144.44 |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$2,421,444.44** |
| West Maple Avenue/ SR 213 | S side of West Maple/ Gap W of Periwinkle | 2300 | $ 127.44 | 1,278 | $162,845.68 |
| West Maple Avenue/ SR 213 | S side of West Maple/Forrest to Cedar | 3750 | $ 127.44 | 2,083 | $265,509.26 |
| West Maple Avenue/ SR 213 | S side of West Maple/ Buckthorn to Alscot | 4700 | $ 127.44 | 2,611 | $332,771.60 |
| West Maple Avenue/ SR 213 | S side of West Maple/Det. C. Jones Park to Extg. SW near Township Border | 4700 | $ 127.44 | 2,611 | $332,771.60 |
| West Maple/ SR 213 | N side of West Maple/ Alscot Crossing to Township Border | 5100 | $ 127.44 | 2,833 | $361,092.59 |
| Old Lincoln Highway | W side of Old Lincoln Hwy from West Maple to Arbutus Ave | 3500 | $ 127.44 | 1,944 | $247,808.64 |
| Richardson Avenue | S side of Richardson Ave from Twp Border to Hulmeville Rd | 1500 | $ 127.44 | 833 | $106,203.70 |
| Hulmeville Road | E side of Hulmeville Rd to S side of West maple Ave/ SR 213 | 250 | $ 127.44 | 139 | $17,700.62 |
| Brownsville Road | S side of Brownsville Rd from Old Lincoln Hwy to W side of Clearview | 2600 | $ 127.44 | 1,444 | $184,086.42 |

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|---|---|---|---|---|---|
| North Clearview Avenue | W side of Clearview from Det. C. Jones Park to Arbutus | 2500 | $ 127.44 | 1,389 | $177,006.17 |
| Arbutus Ave | S side of Arbutus to Extg SW | | | | |
| East Ravine Avenue | W side of Ravine from Pheasant to Extg SW | 475 | $ 127.44 | 264 | $33,631.17 |
| Pheasant Drive | S side of Pheasant from Rosewood to Orchard | 1450 | $ 127.44 | 806 | $102,663.58 |
| Grand Avenue | W side of Grand toExtg SW near Eagle | 475 | $ 127.44 | 264 | $33,631.17 |
| Orchard Avenue | W side of Orchard from Extg SW to Pheasant | 155 | $ 127.44 | 86 | $10,974.38 |
| Orchard Avenue | East side of road from sidewalk gap to Old Lincoln Highway | 345 | $ 127.44 | 192 | $24,426.85 |
| Granite Avenue | S side of Granite from Turtle Lane to Orchard Avenue | 400 | $ 127.44 | 222 | $28,320.99 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$24,700.00** |
| Intersection: W. Maple Ave and Forrest | E side of Forrest to W side of Forrest | | $ 1,300.00 | 1 | 1,300 |
| Intersection: W. Maple Ave and Cedar | E side of Cedar to W side of Cedar | | $ 1,300.00 | 1 | 1,300 |
| Intersection: West Maple and Buckthorn | E side of Buckthorn to W side of Buckthorn | | $ 1,300.00 | 1 | 1,300 |
| Intersection: W. Maple Ave and Oxford Dr | E side of Oxford to W side of Oxford | | $ 1,300.00 | 1 | 1,300 |

| | | | | | |
|---|---|---|---|---|---|
| Intersection: W. Maple Ave and Alscot Ln | S side of W. Maple to N side of W. Maple | | $ 1,300.00 | 1 | 1,300 |
| Intersection: W. Maple Ave and Hawthorne | N and S side crossing of Hawthorne at W. Maple | | $ 1,300.00 | 2 | 2,600 |
| Intersection: W. Maple Ave and Fairway | W side of Fairway to E side of Fairway | | $ 1,300.00 | 1 | 1,300 |
| Intersection: W. Maple Ave and Aspen | N side of W. Maple to E side of Aspen | | $ 1,300.00 | 1 | 1,300 |
| Intersection: W. Maple Ave and Golf Club | N side of W. Maple to S side of W. Maple | | $ 1,300.00 | 1 | 1,300 |
| Intersection: Old Lincoln and Brownsville | N side of Brownsville to S side of Brownsville | | $ 1,300.00 | 1 | 1,300 |
| Intersection: Brownsville and Broadview | Crossing W side of Broadview to S side of Brownsville for entr to Park | | $ 1,300.00 | 1 | 1,300 |
| Intersection: Brownsville and Hawthorne | Crossing E side of N. Hawthorne to E side of S. Hawthorne | | $ 1,300.00 | 1 | 1,300 |
| Intersection: Brownsville and Clearview | Crossing W side of N. Clearview to W side of S. Clearview | | $ 1,300.00 | 1 | 1,300 |
| Intersection: Ravine and Pheasant | Crossing from S side of Pheasant to W side of Ravine | | $ 1,300.00 | 1 | 1,300 |
| Intersection: Pheasant and Grand | Crossing from W side of Grand to S side of Pheasant | | $ 1,300.00 | 1 | 1,300 |
| Intersection: Pheasant and Orchard | Crossing from E side of Orchard to W side of Orchard | | $ 1,300.00 | 1 | 1,300 |

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|---|---|---|---|---|---|
| Intersection: Orchard and Granite | Crossing from W side of Orchard to E side; and crossing Orchard from W to E side | | $ 1,300.00 | 2 | 2,600 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Rapid Flashing Beacon** | | **N/A** | **$30,000.00** | **EA** | **$30,000.00** |
| Brownsville Rd and Clearview | Crossing Township Line Road | | $30,000.00 | 1 | $30,000.00 |

| AREA 7 | | | | | $444,082.93 |
|---|---|---|---|---|---|
| *Item Description* | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$401,082.93** |
| Orchard Avenue | From sidewalk gap to Old Lincoln Hwy (west side) | 375 | $ 127.44 | 208 | $26,550.93 |
| Old Lincoln Hwy 213 | From Fairhill Lane to E. Ravine Ave (north side) | 1690 | $ 127.44 | 939 | $119,652.00 |
| W. Gillam Avenue | From Old Lincoln Hwy intersection to Township/ Borough boundary | 3600 | $ 127.44 | 2,000 | $254,880.00 |
| | | | | 0 | $0.00 |
| *Item Description* | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Sharrows (Every 100')** | | **LF** | **$ 300.00** | **EA** | **$22,800.00** |
| W. Gillam Avenue | | 3700 | $ 300.00 | 37 | $11,100.00 |
| Old Lincoln Hwy 213 | | 3850 | $ 300.00 | 39 | $11,700.00 |
| | | | | | $0.00 |
| | | | | | $0.00 |
| *Item Description* | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$5,200.00** |
| Intersection: Old Lincoln Hwy and Fairhill | Cross from S to N side of Fairview; cross Old Lincoln Hwy from N side of Fairview to W side of Old Lincoln | | $ 1,300.00 | 2 | $2,600.00 |
| Intersection: W. Gillam and Parkvale | Cross Parkvale on S side of W. Gillam | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: W. Gillam and Hulmeville | Cross Hulmeville on S side of W. Gillam | | $ 1,300.00 | 1 | $1,300.00 |
| *Item Description* | **Location** | **Distance** | **Unit Cost** | **Quantity** | **Cost** |
| **Pedestrian Refuge Island** | | **N/A** | **$15,000.00** | **EA** | **$15,000.00** |

| | | | | | |
|---|---|---|---|---|---|
| | Old Lincoln Hwy@E. Ravine Ave | | $15,000.00 | 1 | $15,000.00 |

| AREA 8 | | | | | $977,904.00 |
|---|---|---|---|---|---|
| *Item Description* | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$487,104.00** |
| W. Highland Ave | N side of W. Highland from Twp line to Hulmeville Rd | 850 | $ 127.44 | 472 | $60,180.00 |
| Hulmeville Rd | W side of Hulmeville Rd fromW. Highland/ Olive to Poplar | 850 | $ 127.44 | 472 | $60,180.00 |
| Poplar St | S side of Poplar from Hulmeville to Parkvale | 800 | $ 127.44 | 444 | $56,640.00 |
| Poplar St | S side of Poplar from Extg SW to to Sunflower | 1010 | $ 127.44 | 561 | $71,508.00 |
| Avenue F | W side if Avenue F from Extg SW to Poplar | 220 | $ 127.44 | 122 | $15,576.00 |
| Sunflower Ave | W side of Sunflower from Poplar to Highland | 600 | $ 127.44 | 333 | $42,480.00 |
| Highland Ave | S side of Highland from Sunflower to Park | 1710 | $ 127.44 | 950 | $121,068.00 |
| Avenue B | E side of Avenue B from Extg SW to Prospect | 280 | $ 127.44 | 156 | $19,824.00 |
| Avenue C | W side of Avenue C from Extg SW to Prospect | 280 | $ 127.44 | 156 | $19,824.00 |
| Hulmeville Rd | W side of Hulmeville Rd from Highland Ave to Lincoln Hwy | 630 | $ 127.44 | 156 | $19,824.00 |

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| *Item Description* | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
|---|---|---|---|---|---|
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$20,800.00** |
| Intersection: W. Highland/ Olive St and Hulmeville Rd | Cross from N side of W. Highland to W side of Hulmeville | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Hulmeville and Parkvale | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Hulmeville and Poplar | | | $ 1,300.00 | 1 | $1,300.00 |
| Intrewrsection: Poplar and Parkvale | | | $ 1,300.00 | 1 | $1,300.00 |
| | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Poplar and Avenue F | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Poplar and Avenue E | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Poplar and Avenue D | | | $ 1,300.00 | 1 | $1,300.00 |
| Intesection: Poplar and Avenue A | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Highland and Sunflower | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Highland and Woodvale | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Highland and Ramble | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Highland and Buchanan | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Hulmeville and Highland | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Hulmeville and Parker | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Hulmeville and Lincoln Hwy | | | $ 1,300.00 | 1 | $1,300.00 |
| | | | | | $0.00 |
| *Item Description* | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Small Pedestrian Bridge** | | **N/A** | **$ 300,000.00** | **EA** | **$330,000.00** |
| Small Pedestrian Bridge | W side of Hulmeville Rd and Trributary of Neshaminy Creek | | $ 300,000.00 | 1 | $300,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Rapid Flashing Beacon** | | **N/A** | **$ 30,000.00** | **EA** | **$30,000.00** |

| | | | | | |
|---|---|---|---|---|---|
| Hulmeville and W. Highland/ Olive | Crossing Hulmeville Road | | $30,000.00 | 1 | $30,000.00 |
| **Pedestrian-Activated Signal for Rail Tunnel Passage** | | **N/A** | **$ 110,000.00** | **EA** | **$110,000.00** |
| Pedestrian-Activated Signal for Rail Tunnel Passage | Hulmeville Rd at SEPTA Crossing | | $ 110,000.00 | 1 | $110,000.00 |

| AREA 9 | | | | | $1,473,233.33 |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$1,414,633.33** |
| Lincoln Hwy | S side of Lincoln Hwy to I295 | 3400 | $ 127.44 | 1,889 | $240,728.40 |
| Cypress | | 850 | $ 127.44 | 472 | $60,182.10 |
| Parkview | S side of Parkview from Extg SW to Cypress | 230 | $ 127.44 | 128 | $16,284.57 |
| Longview | N side of Longview from Birch to Fir Ave | 3800 | $ 127.44 | 2,111 | $269,049.38 |
| Harrison Ave Deadend | Extension of SW from deadend to Durham Rd | 700 | $ 127.44 | 389 | $49,561.73 |
| Durham Rd | N side of Durham Rd from Twp line(Penndel) to Extg SW near Dawn Rd | 3750 | $ 127.44 | 2,083 | $265,509.26 |
| Woodbourne Rd | W side of Woodbourne from Business Rt. 1 at Extg SW to Twin Oak Entry | 3000 | $ 127.44 | 1,667 | $212,407.41 |
| Woodbourne Rd | E side of Woodbourne from Terrace to Twin Oak | 1500 | $ 127.44 | 833 | $106,203.70 |
| Pearl S Buck ES | School to Businees Route 1 | 1400 | $ 127.44 | 778 | $99,123.46 |
| Trail Rd | W side of Trail Rd from Extg SW to Twin Oak | 675 | $ 127.44 | 375 | $47,791.67 |
| Highland Park Rd | W side of Highland Park Rd from Extg SW near Bus Rt 1 to Extg SW near retail | 675 | $ 127.44 | 375 | $47,791.67 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Bike Lanes** | | | **$ 5.00** | **LF** | **$36,500.00** |

| | | | | | |
|---|---|---|---|---|---|
| Bike Lanes | Durham from Twp Line to Trenton Rd | 4000 | $ 5.00 | 4,000 | $20,000.00 |
| Bike Lanes | Veterans Hwy (SR 413) from Highland Park Ent Dr to Trenton Rd | 3300 | $ 5.00 | 3,300 | $16,500.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$22,100.00** |
| Intersection: Longview and Fernwood Ave | | | $ 1,300.00 | 1 | $1,300.00 |
| Interse ction: Longview and Cypress | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Longview and Buttonwood | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Longview and Willow | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Longview and Adams | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Longview and Jefferson | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Longview and Fir La | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Durham and E. Woodland | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Durham and Parkway | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Durham and Grove | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Durham and Sunset | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Durham and Delaware | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Durham and Wyoming | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Woodbourne and Terrace (N to S) | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Woodbourne and Terrace (W to E) | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Woodbourne and Twin Oaks Dr Entry | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Woodbourne | | | $ 1,300.00 | 1 | $1,300.00 |

| AREA 10 | | | | | $632,056.17 |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$521,106.17** |
| Willow La | W side of Willow Ave from Longview to Trenton Rd | 750 | $ 127.44 | 417 | $53,101.85 |
| Trenton Rd | S side of Trenton from Twp boundary with Borough to Willow/ Meeks | 980 | $ 127.44 | 544 | $69,386.42 |
| Trenton Rd | S side of Trenton Rd from Meeks (E) to Durham | 2530 | $ 127.44 | 1,406 | $179,130.25 |
| Trenton Rd | N side of Trenton Rd from Meeks to Madison; from Extg SW east of Madison to Twp boundary with Falls | 3100 | $ 127.44 | 1,722 | $219,487.65 |
| | | | $ 127.44 | 0 | $0.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Bike Lanes** | | **LF** | **$ 5.00** | **LF** | **$69,250.00** |
| Trenton Rd | Trenton Rd from Twp Boundary with Borough to Falls Twp | 13850 | $ 5.00 | 13,850 | $69,250.00 |
| | | | $ 5.00 | | $0.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$11,700.00** |
| Intersection: Trenton and Willow/ Meeks | HHES Sschool Access | | $ 1,300.00 | 2 | $2,600.00 |
| Intersection: Trenton and Willow/ Meeks | HHES Access | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Trenton Rd and Veterans Hwy (SR 413) and | | | $ 1,300.00 | 4 | $5,200.00 |
| Intersection: Trenton Rd and Deep Dale Way | N side of Trenton; W to E side of Deep Dale Way | | $ 1,300.00 | 1 | $1,300.00 |

| | | | | | |
|---|---|---|---|---|---|
| Intersection: Trenton Rd and Highland Park Dr | N side of Trenton; W to E side of Highland Park | | $ 1,300.00 | 1 | $1,300.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Rapid Flashing Beacon** | | **N/A** | **$30,000.00** | **EA** | **$30,000.00** |
| Trenton Rd and Forsythia Dr E (Holy Familiy RegCS) | S to N side of Trenton Rd | | $30,000.00 | 1 | $30,000.00 |

| AREA 11 | | | | | $382,971.60 |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$332,771.60** |
| Durham Rd | E side of Durham Dr from Extg SW near Vine to Racquet Club Apts | 2800 | $ 127.44 | 1,556 | $198,246.91 |
| Ford Ave | S side of Ford from Twp boundary with Borough (Hulmeville) to Extg SW on Ford | 1000 | $ 127.44 | 556 | $70,802.47 |
| Reetz Ave | N side of Reetz from Twp Boundary (Hulmesville) to Wilson | 900 | $ 127.44 | 500 | $63,722.22 |
| | | | $ 127.44 | 0 | $0.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Bike Lanes** | | **LF** | **$ 5.00** | **LF** | **$45,000.00** |
| Durham Rd | From Trenton Rd to New Falls Road | 9000 | $ 5.00 | 9,000 | $45,000.00 |
| | | | $ 5.00 | | $0.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$5,200.00** |
| Intersection: Ford and McKinley | S side of Ford; cross from W to E of McKinley | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Durham Rd and Vine Way | E side of Durham cross to W side of Vine Way | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Durham Rd and Frosty Hollow Rd | E side of Durham cross to N side of Frosty Hollow | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Durham Rd and Green Meadow Dr | E side of Surham to N side of Green Meadow Sr. | | $ 1,300.00 | $ 1.00 | $1,300.00 |
| | | | $ 1,300.00 | | $0.00 |
| | | | | | $0.00 |

| AREA 12 | | | | | $4,771,040.74 |
|---|---|---|---|---|---|
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Sidewalks (5')** | | **LF** | **$ 127.44** | **SY** | **$2,774,040.74** |
| Woodbourne Rd | E side of Woodbourne Rd from Trenton Rd to Quarry Rd | 7500 | $ 127.44 | 4,167 | $531,018.52 |
| Woodbourne Rd | W side of Woodbourne Rd from Cobalt Ridge to New Falls Rd | 4100 | $ 127.44 | 2,278 | $290,290.12 |
| Bristol Oxford Valley Rd | E side of Bristol Oxford Valley from Woodbourne to Jollybrook Rd | 8100 | $ 127.44 | 4,500 | $573,500.00 |
| Forsythia Dr | S side of Forsythia from Trenton Rod to Bristol Oxford Valley Rd | 4900 | $ 127.44 | 2,722 | $346,932.10 |
| Frosty Hollow Rd | S side of Frosty Hollow Rd from Snowball to Durham Rd | | $ 127.44 | 0 | $0.00 |
| New Falls Rd | N side of New Falls Rd from Quincy Rd to Edgely/ Woodbourne Rd | 5300 | $ 127.44 | 8,100 | $1,032,300.00 |
| | | | | | $0.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Sharrows (Every 100')** | | | **$ 300.00** | **EA** | **$55,200.00** |
| Snowball Dr | | 7600 | $ 300.00 | 76 | $22,800.00 |
| Forsythia Dr Circular Loop | | 10700 | $ 300.00 | 108 | $32,400.00 |
| | | | | | $0.00 |
| | | | | | $0.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Crosswalks** | | **N/A** | **$ 1,300.00** | **EA** | **$7,800.00** |
| Intersection: Forsythia Dr and Fallenrock | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Bristol Oxford Valley Rd and Cobalt Ridge (N) | | | $ 1,300.00 | 1 | $1,300.00 |

| | | | | | |
|---|---|---|---|---|---|
| Intersection: Bristol Oxford Valley Rd and Cobalt Ridge (S) | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Woodbourne and Cobalt Cross | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Woodbourne and Quincy | | | $ 1,300.00 | 1 | $1,300.00 |
| Intersection: Frosty Hollow Rd and Snowball Side path/ Multiuse Trail | | | $ 1,300.00 | 1 | $1,300.00 |
| | | | $ 1,300.00 | | $0.00 |
| | | | | | $0.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Rapid Flashing Beacon** | | **N/A** | **$30,000.00** | **EA** | **$30,000.00** |
| Rapid Flashing Beacon | W side of Snowball Trail to E side Sidepath | | $30,000.00 | 1 | $30,000.00 |
| **Item Description** | **Location** | **Length** | **Unit Cost** | **Quanitity** | **Cost** |
| **Multi-Use Trail (10'W)** | | **N/A** | **$ 100.00** | **LF** | **$1,420,000.00** |
| Off Road | Near Snowwball from Trenton Rd to Frosty Hollow Rd | | $ 100.00 | 5300 | $530,000.00 |
| Off Road | Near end of Upper Orchard Dr into Mill Creek Greenway/Frosty Hollow Tennis to Lower Orchard Dr | 3900 | $ 100.00 | 3900 | $390,000.00 |
| Off Road | Cobalt Ridge Park; Quenn Annes Greenway from Woodbourne to W.S. Miller ES | 5000 | $ 100.00 | 5000 | $500,000.00 |
| **Item Description** | **Location** | **Distance** | **Unit Cost** | **Quanitity** | **Cost** |
| **Bicycle Rack** | | **N/A** | **$ 2,000.00** | **EA** | **$4,000.00** |
| Bicycle Rack | Samuel Everitt ES | | $ 2,000.00 | 1 | $2,000.00 |
| Bicycle Rack | MultiUse Trail near Snowball Rd | | $ 2,000.00 | 1 | $2,000.00 |
| | | | | | |
| | | | | | |

Middletown Multimodal Improvements Plan
Project #22059

| Item Description | Location | Length | Unit Cost | Quanitity | Cost |
|---|---|---|---|---|---|
| **Side Path (10'W)** | | **N/A** | **$ 100.00** | **LF** | **$480,000.00** |
| Side Path (10'W) | Upper Orchard Road from Uphill to Frosty Hollow | 1400 | $ 100.00 | 1400 | $140,000.00 |
| Side Path (10'W) | Frosty Hollow from Upper Orchard to Bristol Oxford Valley (S side) | 1600 | $ 100.00 | 1600 | $160,000.00 |
| Side Path (10'W) | Cobalt Ridge from QuennAnn Greenway Trail terminus to Bristol Oxford Valley Rd (W.S. Miller ES) | 1800 | $ 100.00 | 1800 | $180,000.00 |
| | | | | | |

## Unit Cost Breakdown

| Trail Surfaces | | Qty | Unit | Unit Cost | Sub Total |
|---|---|---|---|---|---|
| Asphalt Walkway - 10' Wide | | 1 | SF | | |
| 1 | Class 1 Excavation | 0.03 | CY | $ 25.00 | $ 0.77 |
| 2 | Subbase 6"Depth (No. 2a) | 0.11 | SY | $ 30.00 | $ 3.33 |
| 3 | Superpave Asphalt Mixture Design, Base Course 2" | 0.11 | SY | $ 30.00 | $ 3.33 |
| 4 | Superpave Asphalt Mixture Design, Wearing Course 2" | 0.11 | SY | $ 20.00 | $ 2.22 |
| 5 | Estimated Grading Costs | 1.11 | SY | $ 2.00 | $ 2.22 |
| | | | | total | $ 9.66 |
| | | | | Cost / LF | $ 100.00 |
| | | | | Cost / SF | $ 10.00 |
| | | | | Cost / SY | $ 90.00 |

| Concrete Pavers | | | | | |
|---|---|---|---|---|---|
| | | 1 | SF | | |
| 1 | Excavation | 0.03 | CY | $ 25.00 | $ 0.77 |
| 2 | Grade Subgrade | 0.11 | SY | $ 1.18 | $ 0.13 |
| 3 | 2A Aggregate Subbase - 4" | 0.11 | SY | $ 14.00 | $ 1.56 |
| 4 | Reinforced Concrete - 4" | 1.00 | SF | $ 8.00 | $ 8.00 |
| 5 | Sand Bedding - 1" | 1.00 | SF | $ 2.00 | $ 2.00 |
| 6 | 2" Concrete Pavers | 1.00 | SF | $ 7.00 | $ 7.00 |
| | | | | total | $ 19.46 |
| | | | | Cost / SF | $ 19.50 |
| | | | | Cost / SY | $ 175.50 |

| Concrete Pavement | | | | | |
|---|---|---|---|---|---|
| | | 1 | SF | | |
| 1 | Excavation | 0.03 | CY | $ 25.00 | $ 0.77 |
| 2 | Grade Subgrade | 0.11 | SY | $ 1.50 | $ 0.17 |
| 3 | 2A Aggregate Subbase - 6" | 0.11 | SY | $ 20.00 | $ 2.22 |
| 4 | Reinforced Concrete - 6" | 1.00 | SF | $ 11.00 | $ 11.00 |
| | | | | total | $ 14.16 |
| | | | | Cost / LF | $ 71.00 |
| | | | | Cost / SY | $ 127.44 |
| | | | | Cost/SF | $ 14.16 |

| Retaining Wall | | Qty | Unit | Unit Cost | Sub Total |
|---|---|---|---|---|---|
| 0' - 3' Height | | 1 | LF | | |
| 1 | Class 1 Excavation | 1.20 | CY | | $ - |
| 2 | 10" Wide Wall | 1.00 | LF | $ 250.00 | $ 250.00 |
| | | | | total | $ 250.00 |
| | | | | Cost / LF | $ 250.00 |
| | | | | Cost / SF | $ 250.00 |
| | | | | Cost / SY | $ 2,250.00 |

| 3' - 6' Height | | 1 LF | | |
|---|---|---|---|---|
| 1 | Class 1 Excavation | 1.50 CY | | $ - |
| 2 | 1'-0" Wide Wall | 1.00 LF | $ 450.00 | $ 450.00 |
| 3 | 42" Galvanized Steel Hand Rail (posts 5' off center) | 1.00 LF | $ 80.00 | $ 80.00 |
| | | | total | $ 530.00 |
| | | | Cost / LF | $ 530.00 |
| | | | Cost / SY | $ 4,770.00 |

| > 6' Height | | 1 LF | | |
|---|---|---|---|---|
| 1 | Class 1 Excavation | 2.45 CY | | $ - |
| 2 | 1'-6" Wide Wall | 1.00 LF | $ 600.00 | $ 600.00 |
| 3 | 42" Galvanized Steel Hand Rail (posts 5' off center) | 1.00 LF | $ 80.00 | $ 80.00 |
| | | | total | $ 680.00 |
| | | | Cost / LF | $ 680.00 |
| | | | Cost / SY | $ 6,120.00 |

| Bicycle Features | | | | |
|---|---|---|---|---|
| Sharrow Route | | 1 LF | | |
| 1 | | 1.00 SF | | $ - |
| 2 | | 2.00 CY | | $ - |
| 3 | | 0.18 CY | | $ - |
| | | | total | $ 3.00 |
| | | | Cost / LF | $ 3.00 |
| | | | Cost/EA | $ 300.00 |

| Bike Lane | | 1 LF | | |
|---|---|---|---|---|
| 1 | | 1.00 LS | | $ - |
| 2 | | 2.00 CY | | $ - |
| 3 | | 0.18 CY | | $ - |
| | | | total | $ 5.00 |
| | | | Cost /LF | $ 5.00 |

| Safety Features | | | | |
|---|---|---|---|---|
| Rapid Flashing Beacon | | 1 EA | | |
| | | | total | $ 30,000.00 |
| | | | Cost / EA | $ 30,000.00 |

| Hand Man | | 1 EA | | |
|---|---|---|---|---|
| | | | total | $ 3,000.00 |
| | | | Cost / EA | $ 3,000.00 |

| Bump Out | | 1 EA | | |
|---|---|---|---|---|
| | | | total | $ 13,000.00 |
| | | | Cost / EA | $ 13,000.00 |

| Pedestrian Refuge Island | | 1 EA | | |
|---|---|---|---|---|
| | | | total | $ 15,000.00 |
| | | | Cost / EA | $ 15,000.00 |

| Crosswalk | 1 EA | | |
|---|---|---|---|
| | | total | $ 1,300.00 |
| | | Cost / EA | $ 1,300.00 |

| Decorative Crosswalk | 1 EA | | |
|---|---|---|---|
| | | total | $ 1,500.00 |
| | | Cost / EA | $ 1,500.00 |

| Tunnel - Side Path (Multimodal Access Under Rail, I295) | 1 EA | | |
|---|---|---|---|
| | | total | $ 2,000,000.00 |
| | | Cost / EA | $ 2,000,000.00 |

| Speed Cushion | | 1 EA | | |
|---|---|---|---|---|
| 1 | | | | $ - |
| 2 | | | | $ - |
| 3 | | | | $ - |
| | | | total | $ 4,000.00 |
| | | | Cost /LF | $ 4,000.00 |

| Special Cosntruction Items | | | | |
|---|---|---|---|---|
| Special Crossing: Rail Crossing | | 1 EA | | |
| | | | total | $ 200,000.00 |
| | | | Cost / EA | $ 200,000.00 |
| Small Pedestrian Bridge (Prefabricated) | | | | |
| 1 | | | | $ - |
| 2 | | | | $ - |
| 3 | | | | $ - |
| | | | total | |
| | | | Cost /LF | |
| | | | Cost/SF | $ 300,000.00 |

| Bicycle Rack | | 1 EA | | |
|---|---|---|---|---|
| 1 | | | | $ - |
| 2 | | | | $ - |
| 3 | | | | $ - |
| | | | total | $ 2,000.00 |
| | | | Cost /EA | $ 2,000.00 |

| Pedestrian-Activated Signal System | | 1 EA | | |
|---|---|---|---|---|
| for Rail/ Vehicle Tunnel Passage | | | | |
| 1 | | | | $ - |
| 2 | | | | $ - |
| 3 | | | | $ - |
| | | | total | $ 110,000.00 |
| | | | Cost /EA | $ 110,000.00 |

# 13. Comments/Responses to DRAFT Final Report

SIMONE LANDSCAPE ARCHITECTURE COLLINS

January 23, 2023

Mr. Nick Valla
Assistant Township Manager
Middletown Township
3 Municipal Way
Langhorne, PA 19047

RE: Middletown Multimodal Improvements Plan
Responses to Comments Received
DRAFT Final Report/ Plan

Dear Nick:

As discussed in our email communication of December 19th, below is the listing of comments received on the DRAFT Final Plan/ Report along with our responses corresponding to the edits made in the report.

***Bucks County Planning Commission-Received from Richard Brahler (December 1, 2023)***
*Comments*

*Document Text Edits*

- *Pg. 14, Section 2.1.1 – it says there were originally 4 counties that surrounded Philadelphia in 1692. We believe it was 3, Delaware County was formed from Chester County in 1789.*
- *Pg. 17, Section 2.2.2 – need to specify if this is talking about Bristol Borough or Bristol Township.*
- *Pgs. 41 to 43 – we suggest that bullet points be used to summarize the comments from the meeting recap portions of sections 3.2.1 and 3.2.2.*
- *Pg. 24 – "Off-road" should be hyphened.*
- *Pg. 60 – add a hyphen between multi and use in the title "Multi Use Trails".*
- *Pg. 72 – discusses Speed Table, but graphic is a stone path.*
- *Pg. 73 – discusses safe crossing of rail tracks. No tracks are shown in picture.*
- *Pg. 75 – "Langhorne" misspelled.*
- *Pg. 92 – DVRPC is starting a Regional Vision Zero Plan. This should be incorporated under Bullet #4. Under bullet #5, "Manager" is misspelled.*
- *Pg. 95 – Can hyperlinks to the documents be provided?*

**SC Response: All text edits requested above have been addressed or clarified in FINAL report. Hyperlinks to documents have not been added as they often change.**

*Map Edits*

119 E. LAFAYETTE STREET NORRISTOWN, PA 19401
PHONE: 610.239.7601 FAX: 610.239.7606
WWW.SIMONECOLLINS.COM

- *For most maps, the symbols in the legend aren't clear unless the user enlarges the image significantly.*
- *Make the symbols in the legend match the symbols on the map, specifically the multi-use trail and sidewalk symbols should be dashed when shown in the legend.*
- *Change the municipal boundary color from red to black/muted gray, currently it looks like a multi-use trail.*
- *Pg. 88 – Neshaminy Creek Trail label is blurry.*
- *Pg. 89 – Tunnels are depicted on the map but are not shown within the legend.*

**SC Response: 'Multiuse Trail' symbol in legend revised to match plan line type. Municipal boundary color addressed. Neshaminy Creek label addressed. Tunnel symbol added to Woodbourne/ US1 crossing.**

*Plan Notes*

- *For improvements proposed for Core Creek Park and the proposed Styer's Orchard to Township Line Road via Big Oak Road route, we recommend that the side pathways to be changed to multi-use trails, right of way permitting.*

**SC Response: Sidepaths and multiuse trails are functionally equal. Sidepaths were proposed specifically to remain within Township right-of-way to the maximum extent possible.**

- *The plan proposes pedestrian/trail tunnels beneath the CSX line and Route 1. The plan should propose a similar connection beneath Interstate 295 to connect both sides of Delaware Park. This would allow the township to extend the multi-use trail that ends at Trenton Road to Delaware Park. This "tunnel" could be similar to the pedestrian underpass found beneath the Newtown Bypass in Silver Lake Park. We would have sent this comment back in October, but tunnels weren't listed in the legend on the draft map. Therefore, we assumed that such an expensive improvement wasn't being considered by the plan.*

**SC Response: CS appreciates the thoughtful comment re: a tunnel connection in Delaware Park under I295. A Delaware Park tunnel at I295 was evaluated on an early site reconnaissance visit as part of a potential connection to the multiuse trail in the Forsythia/ Frosty Hollow Trail (see page 91-Sheet 6) and is based on the BCPC (Bike Plan) preliminary plan for the Frosty Hollow Trail. Significant floodplain and flooding evidence present challenges to this connection which would serve mainly pedestrians and bikers (recreational). Additional challenges include the crossing of Trenton Road and SR 413.**

**It is the opinion of SC that the cost of such an improvement be reserved for the highest, multimodal priorities of the Township. The Woodbourne/ CSX tunnel addresses all modes: bike, pedestrian and vehicular.**

***DVRPC-Received from Spencer Gober via TCDI Portal***

*Comments*

*P. 58 - add a note acknowledging the necessity for contrast - the stamped brick crosswalk wouldn't stand out without the high visibility white edge line*
*P. 64 - storm drains, etc, can also be bicycle-friendly (less reveal and smaller holes/spacing)*
*P. 72 - did you mean to have a pic of a speed table here?*
*P. 73 - text doesn't describe the pic*
**SC Response: All text edits requested above have been addressed in FINAL report.**

*P. 80 - add that grade-separated solutions should only be considered where at-grade solutions can't be completed safely because they force peds/cyclists to go further, walk at grade, degrade personal safety perceptions, and add significant costs*
**SC Response: SC agrees with comment on grade-separated solutions. This location remains the most highly prioritized barrier to Middletown Township connectivity and meets the criteria.**

*P. 82 - I'm not familiar with this strategy but think mast arms physically stopping vehicles from passing, in addition to the signal, would improve the pedestrian experience*
**SC Response: Pg. 80 photo is used as an example and is located *outside* of Middletown Township. A pedestrian activated signal for tunnel access will adhere to standard safety requirements which may include vehicular mast arms.**

*P. 86-91 - Are all purple lines/roads proposed to have sharrows? That's not realistic, suggest they are prioritized*
**SC Response: Suggested routes for sharrows represent the prioritized locations for sharrows as they appear.**

*P. 98 - Cost estimate intro says that there will be some explanation on why/how each area was grouped - I didn't see that anywhere, makes sense to explain why.*
**SC Response: The first paragraph of section 5.1 clearly establishes how the Township was divided for cost areas. The paragraph has been revised to include the Township priority areas: Woodbourne Corridor and Business Route 1 Corridor.**

*P. 106 - this is the only citing of DVRPC's Woodbourne Station memo - what's the rfp it's mentioned in. Add in recommendations from that memo.*
**SC Response: An entire discussion of the DVRPC SRTT study is in section 2.3.2 and the study is included in the appendix.**

*P. 110/111 - DVRPC is getting underway with a regional SS4A project that will identify a regional high injury network and create a clearinghouse for safety action plans in the region, to better support future municipal applications. Middletown Twp/Bucks Co should engage with DVRPC's process.*

***MT Resident Comment-Received Nov. 24th via Steering Committee member***
*Comments*

- *Traffic light at Trenton Road/ Forsythia Drive East-to be used for traffic calming for speeding occurrences*
- *Enforcement: Trenton Road near Senior Center has regular red-light running/speeding; suggest police car attention there.*

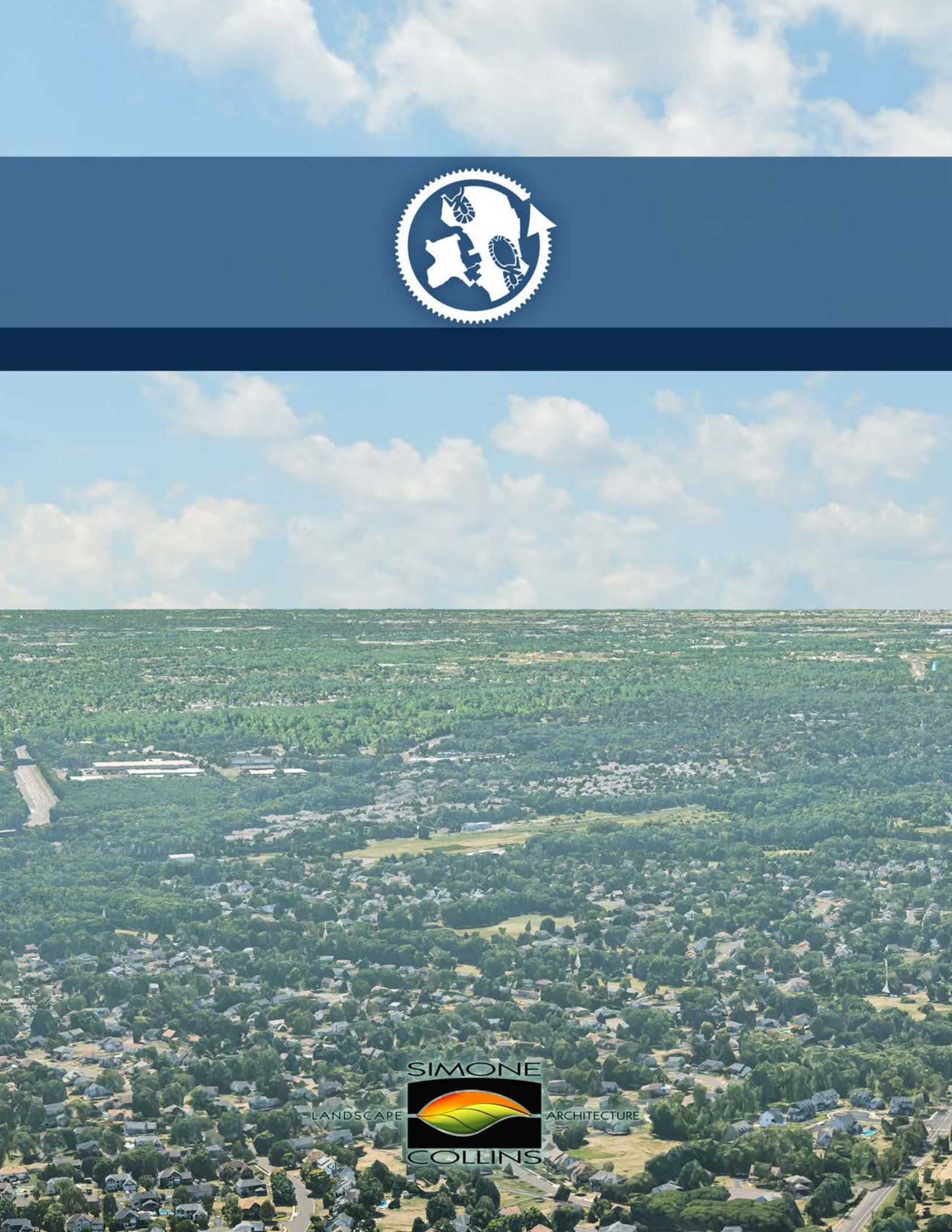
**<u>SC Response</u>: 'Enforcement' was a frequent comment at public hearings for this project. Traffic signals require a warrant study. MT's Citizen Traffic Commission is an ideal venue for discussing these issues in light of this MMIP. These concerns were discussed in the report with the Public Participation section.**

We appreciate the thorough attention to the draft report and the opportunity to incorporate or respond to the additional comments.

Sincerely,



Anita Nardone, PE
Project Manager
CC:
Bucks County Planning Commission
DVRPC-Spencer Gober


SIMONE
LANDSCAPE
ARCHITECTURE
COLLINS