

### Central Chester County Improvement Plan Pedestrian Improvements

**Improvements**

- Multi-Use Trails (dashed purple line)
- Restricted-Use Trails (solid yellow line)
- Proposed Sidewalks (dashed orange line)
- Trail Parking (P icon)
- Add Transit Shelter (red square icon)
- Priority Corridors (thick red line)

**Intersections Improvements**

- Update Crosswalks/Ped. Signals (red circle icon)
- Add Crosswalks/Ped. Signals (orange circle icon)
- Mid-block Crossing (green circle icon)
- Signalized Trail Crossing (yellow diamond icon)

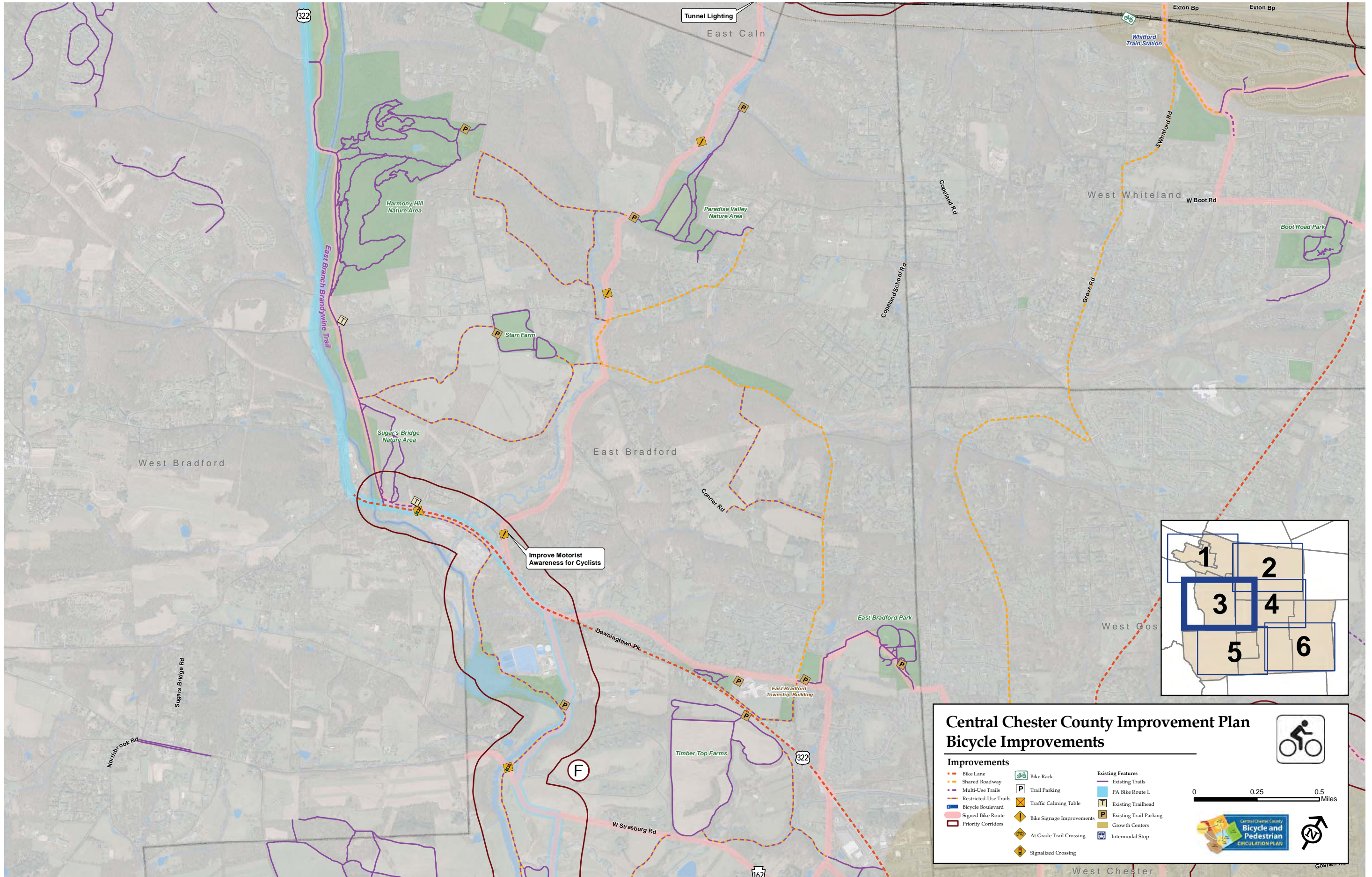
**Existing Features**

- Existing Trails (solid purple line)
- Existing Sidewalks (dashed yellow line)
- Growth Centers (yellow square icon)
- Existing Trailhead (T icon)
- Existing Trail Parking (P icon)
- Intermodal Stop (blue square icon)

0 0.25 0.5 Miles

Central Chester County  
Bicycle and Pedestrian  
CIRCULATION PLAN





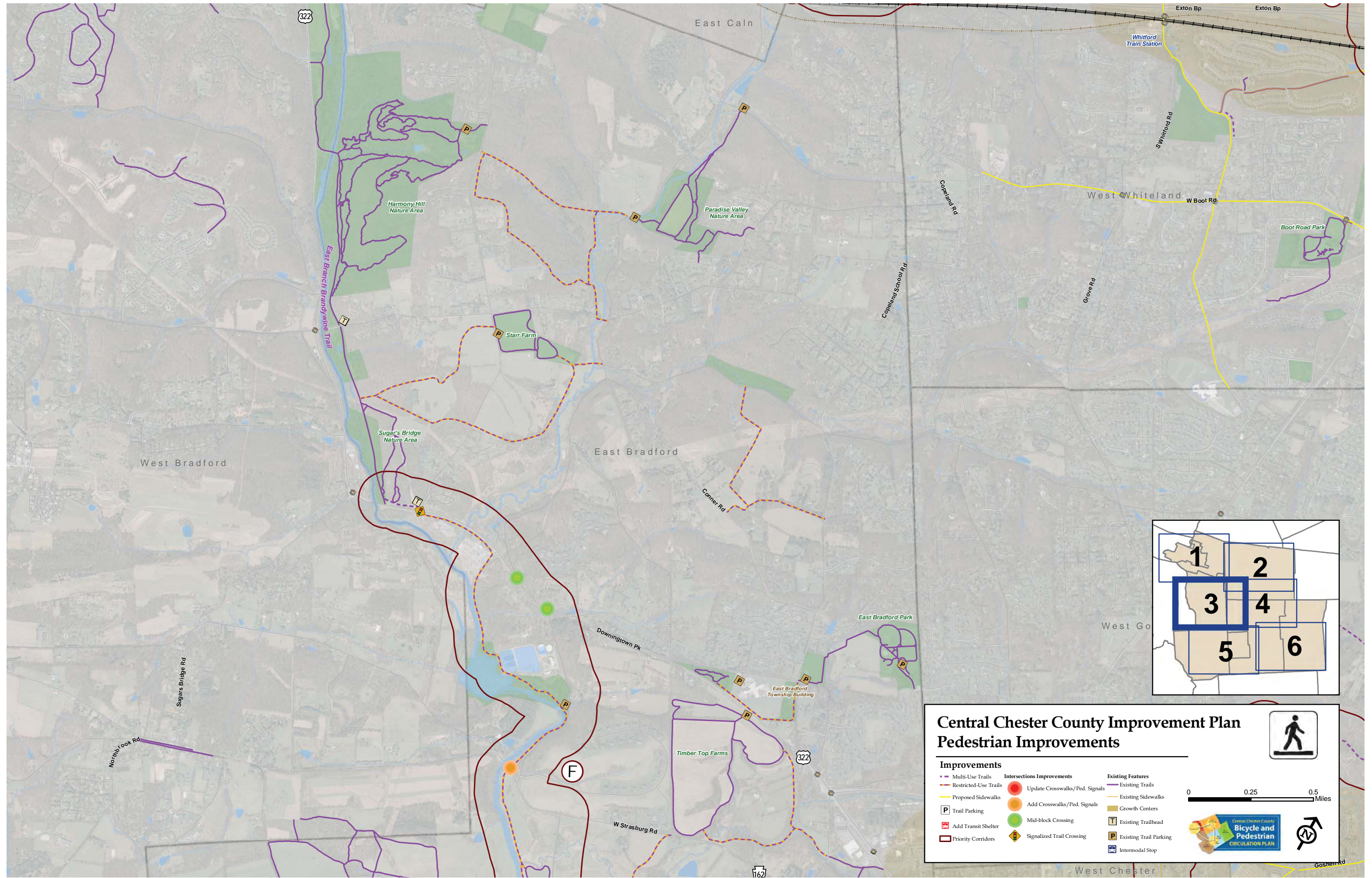
### Central Chester County Improvement Plan Bicycle Improvements

Bike Lane	Bike Rack	Existing Trails
Shared Roadway	Trail Parking	PA Bike Route L
Multi-Use Trails	Traffic Calming Table	Existing Trailhead
Restricted-Use Trails	Bike Signage Improvements	Existing Trail Parking
Bicycle Boulevard	At Grade Trail Crossing	Growth Centers
Signed Bike Route	Signalized Crossing	Intermodal Stop
Priority Corridors		

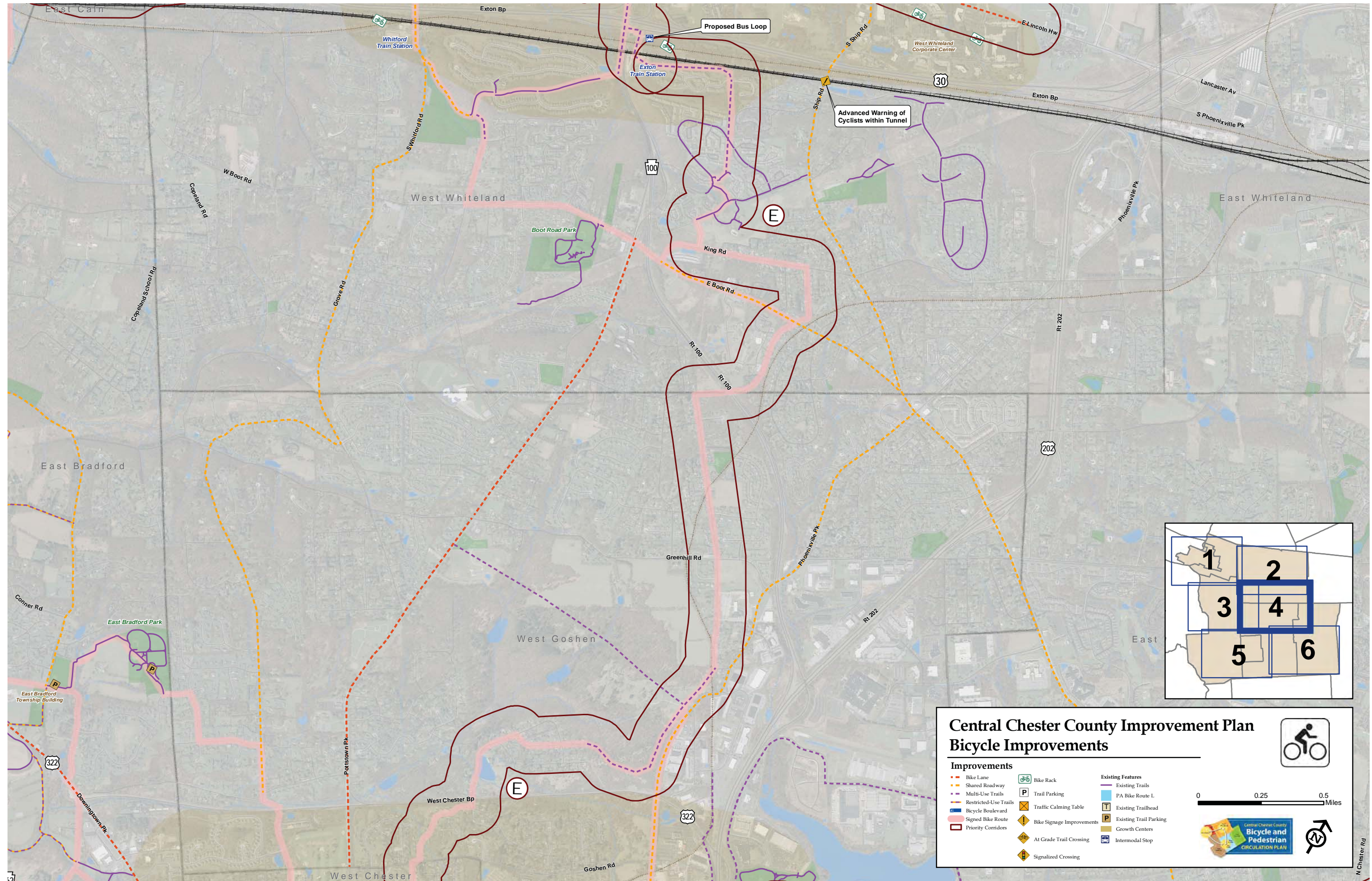
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Central Chester County  
Bicycle and Pedestrian  
CIRCULATION PLAN









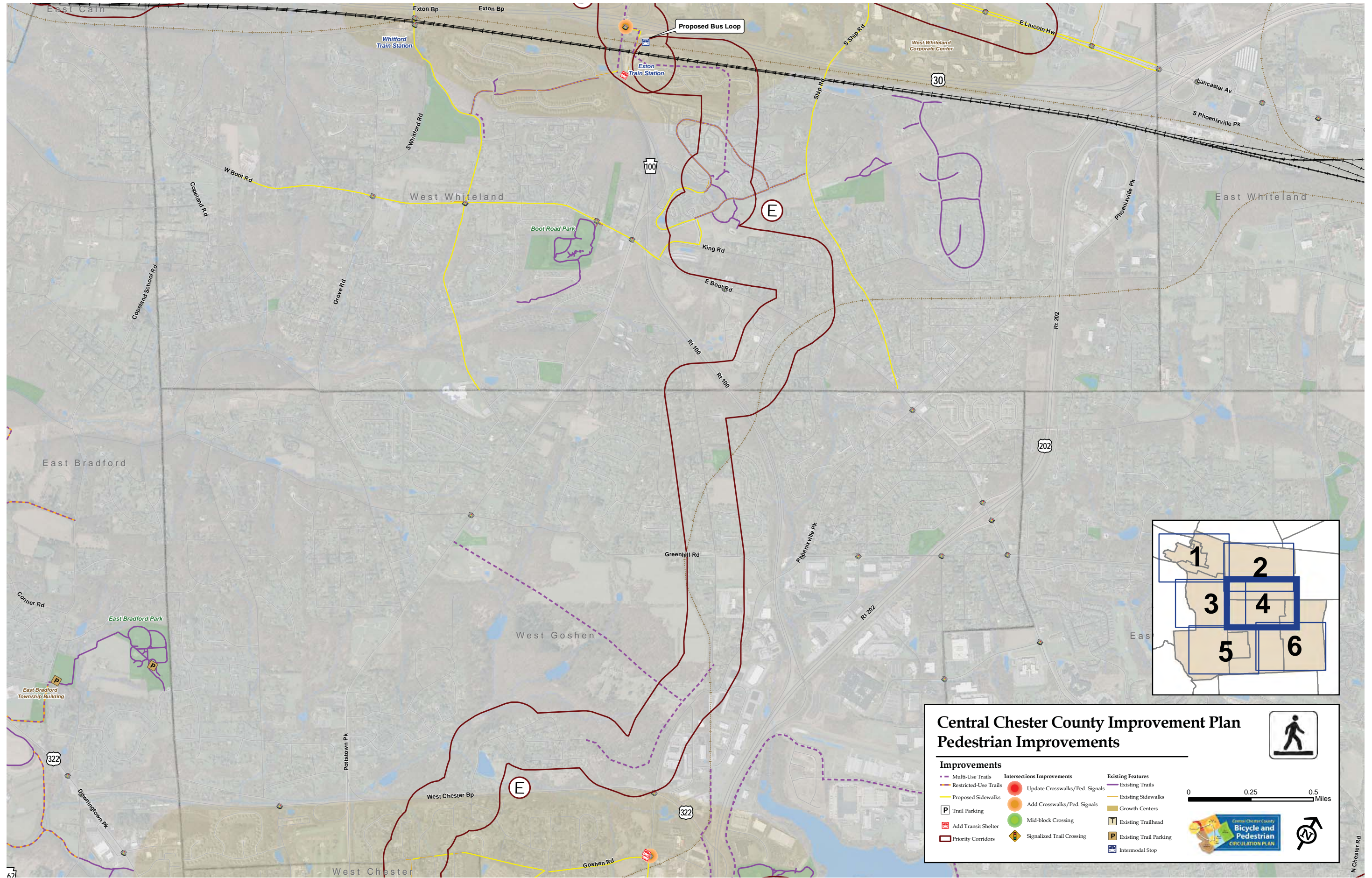
### Central Chester County Improvement Plan Bicycle Improvements

- | Improvements |                       | Existing Features |                           |
|--------------|-----------------------|-------------------|---------------------------|
|              | Bike Lane             |                   | Existing Trails           |
|              | Shared Roadway        |                   | PA Bike Route L           |
|              | Multi-Use Trails      |                   | Existing Trailhead        |
|              | Restricted-Use Trails |                   | Existing Trail Parking    |
|              | Bicycle Boulevard     |                   | Growth Centers            |
|              | Signed Bike Route     |                   | Intermodal Stop           |
|              | Priority Corridors    |                   | Bike Signage Improvements |
|              | Bike Rack             |                   | At Grade Trail Crossing   |
|              | Trail Parking         |                   | Signalized Crossing       |
|              | Traffic Calming Table |                   |                           |

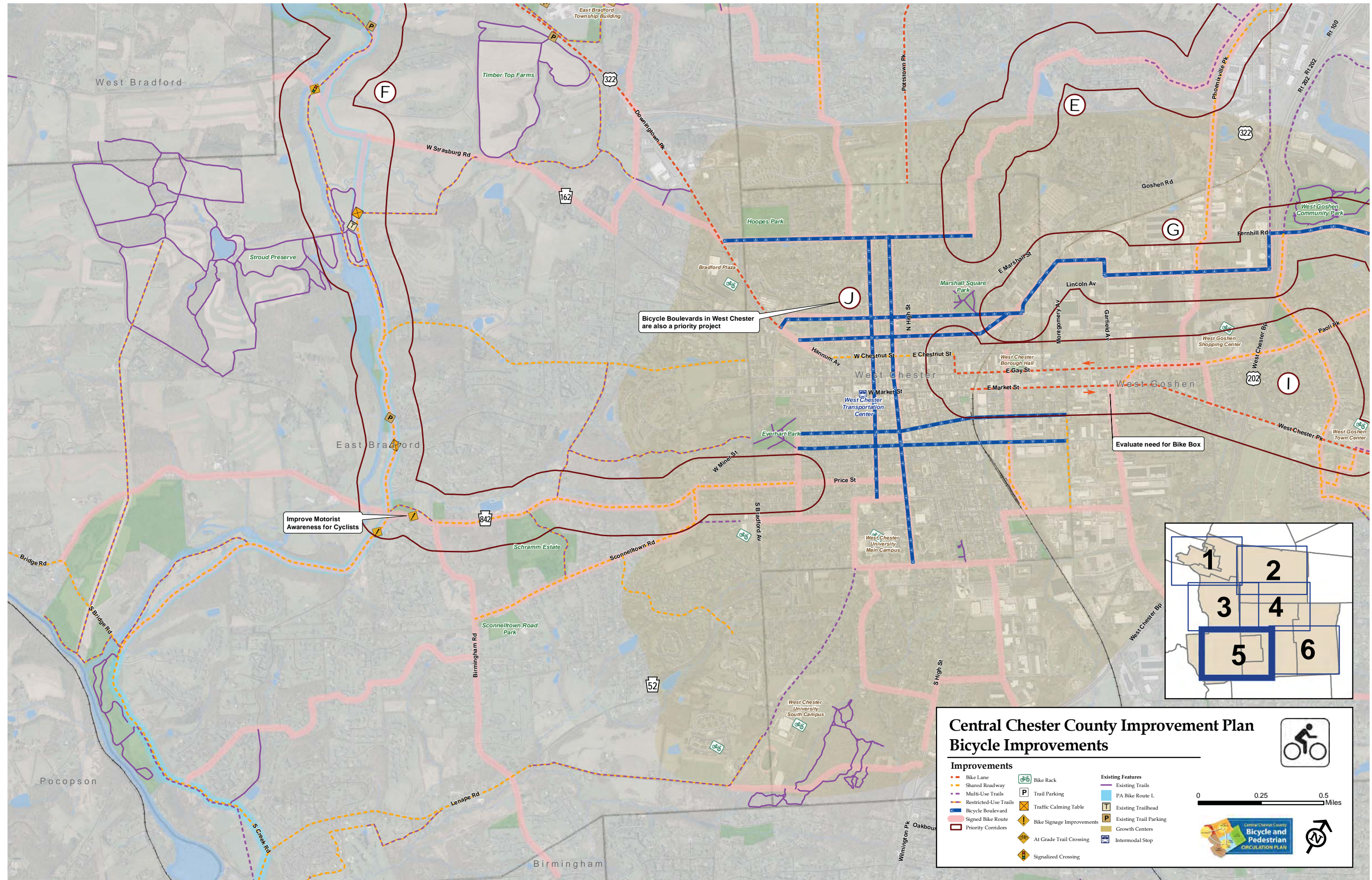
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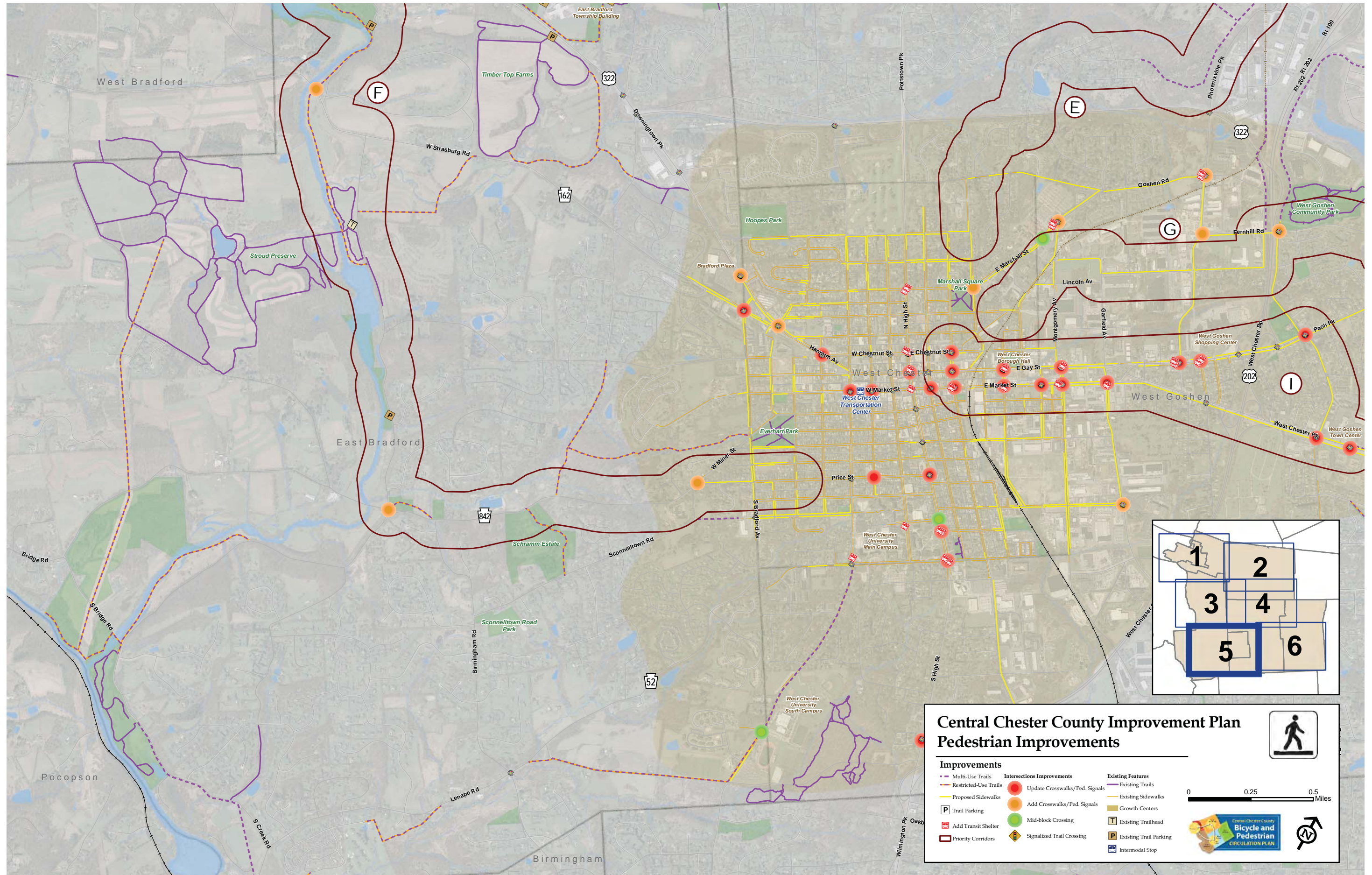




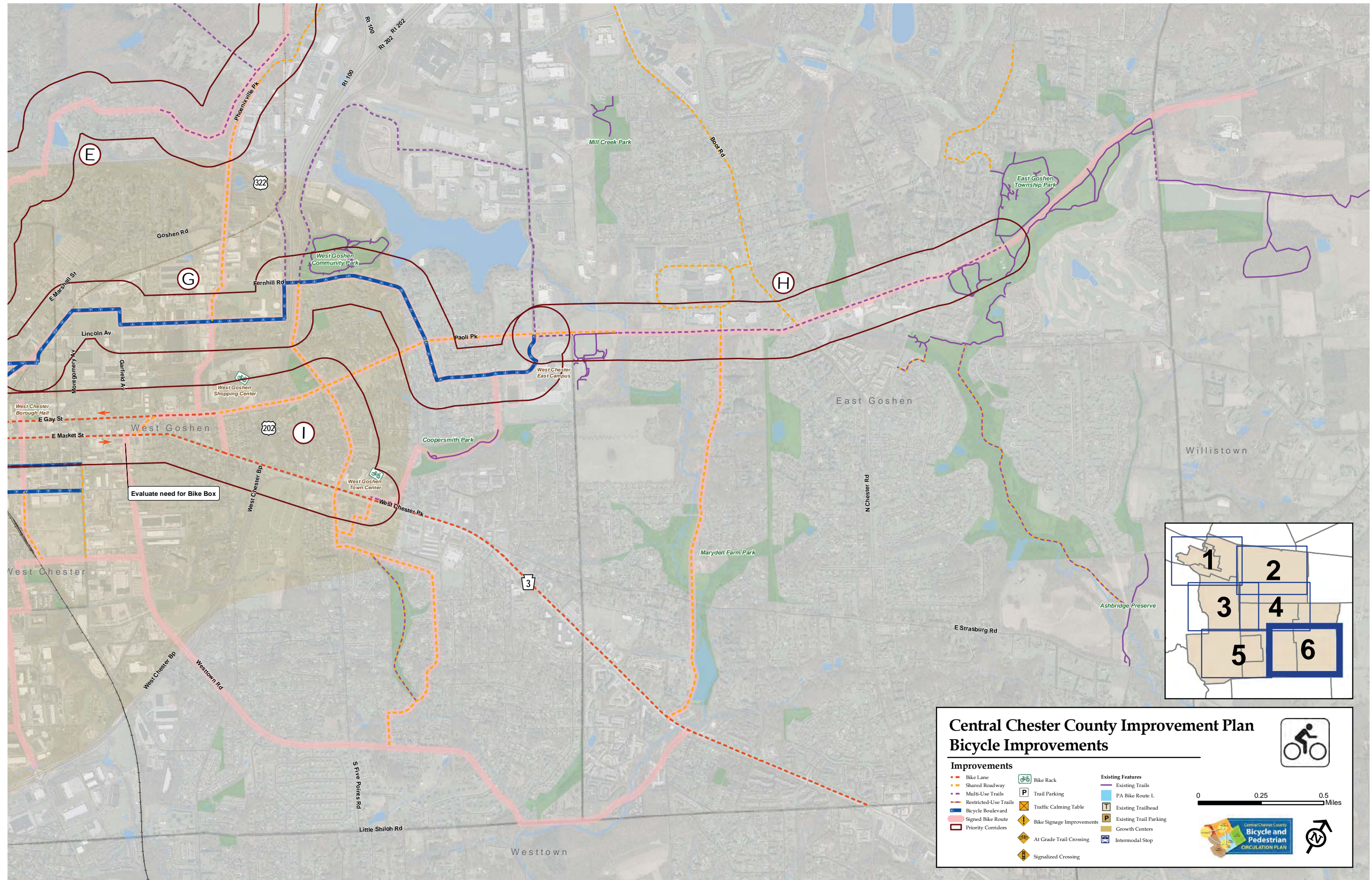














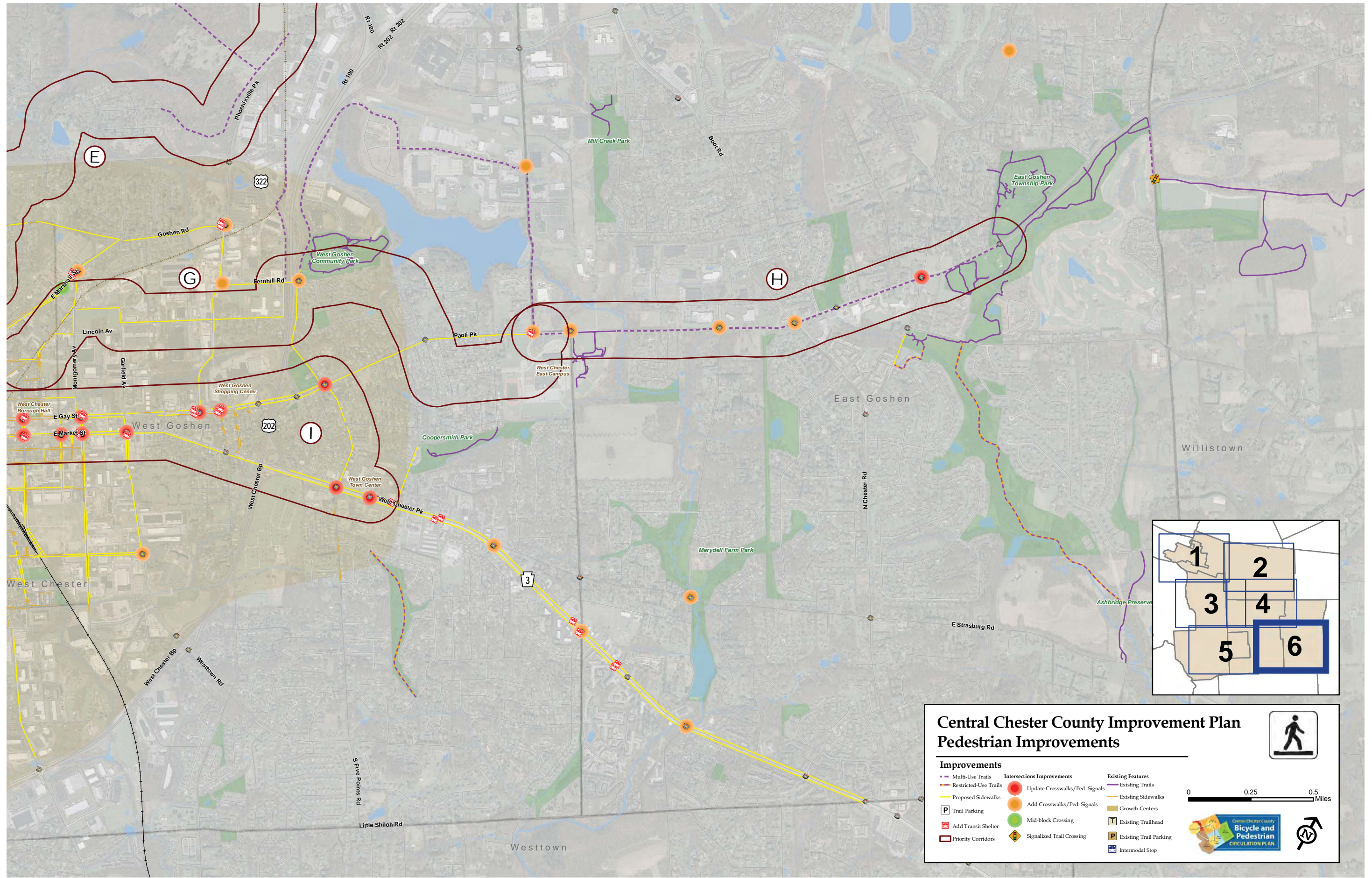




Figure 37:  
**Estimate of Probable Development Costs**

	Municipality													
	Downingtown Borough		East Bradford Township		West Chester Borough		West Goshen Township		East Goshen Township		West Whiteland Township		East Caln Township	
	miles	cost	miles	cost	miles	cost	miles	cost	miles	cost	miles	cost	miles	cost
<b>Network Improvements</b>	<b>21.87</b>	<b>\$3,713,000</b>	<b>54.75</b>	<b>\$1,951,000</b>	<b>33.23</b>	<b>\$3,927,000</b>	<b>55.16</b>	<b>\$5,533,000</b>	<b>18.21</b>	<b>\$1,773,000</b>	<b>59.68</b>	<b>\$10,185,000</b>	<b>14.07</b>	<b>\$3,222,000</b>
Bike Lane	3.59	\$123,078	3.01	\$103,415	1.13	\$38,740	4.92	\$169,000	1.36	\$46,508	4.42	\$151,840	2.78	\$95,485
Shared Roadway	2.34	\$49,460	13.79	\$291,160	1.33	\$28,180	10.66	\$225,080	5.20	\$109,740	8.36	\$176,480	0.07	\$1,500
Multi-Use Trails	1.46	\$462,600	1.09	\$345,600	0.00	\$0	5.08	\$1,608,000	2.47	\$782,700	5.12	\$1,620,600	1.15	\$363,300
Chester Valley Multi-Use Trail	0.29	\$139,500	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	1.52	\$721,800	1.42	\$676,800
Restricted-Use Trails	0.00	\$0	15.74	\$332,400	0.00	\$0	0.66	\$14,040	1.57	\$33,260	0.00	\$0	0.00	\$0
Bicycle Boulevard	1.26	\$53,400	0.00	\$0	7.47	\$315,680	2.57	\$108,360	0.00	\$0	0.64	\$27,240	0.00	\$0
Signed Bike Route	6.91	\$182,450	20.26	\$534,875	9.42	\$248,600	19.06	\$503,275	4.78	\$126,075	17.02	\$449,200	4.40	\$116,050
Proposed Sidewalks	6.01	\$1,427,625	0.86	\$203,400	13.87	\$3,296,250	12.21	\$2,901,600	2.84	\$675,000	22.61	\$5,371,650	4.25	\$1,008,900
Other Network Improvements		\$1,275,000		\$140,000		\$0		\$3,500		\$0		\$1,666,500		\$960,000
<b>Amenity Improvements</b>		<b>\$85,000</b>		<b>\$8,000</b>		<b>\$198,000</b>		<b>\$158,000</b>		<b>\$30,000</b>		<b>\$130,000</b>		<b>\$7,500</b>
<b>Intersection Improvements</b>		<b>\$215,000</b>		<b>\$282,500</b>		<b>\$1,375,000</b>		<b>\$1,275,000</b>		<b>\$605,000</b>		<b>\$590,000</b>		<b>\$562,500</b>
Subtotal:		\$4,013,000		\$2,242,000		\$5,500,000		\$6,966,000		\$2,408,000		\$10,905,000		\$3,792,000
Contingency (10%):		\$401,000		\$224,000		\$550,000		\$697,000		\$241,000		\$1,091,000		\$379,000
Total:		\$4,414,000		\$2,466,000		\$6,050,000		\$7,663,000		\$2,649,000		\$11,996,000		\$4,171,000
Design & Engineering (15%):		\$662,000		\$370,000		\$908,000		\$1,149,000		\$397,000		\$1,799,000		\$626,000
<b>Grand Total:</b>		<b>\$5,076,000</b>		<b>\$2,836,000</b>		<b>\$6,958,000</b>		<b>\$8,812,000</b>		<b>\$3,046,000</b>		<b>\$13,795,000</b>		<b>\$4,797,000</b>
<b>Grand Total-Region:</b>		<b>\$45,320,000</b>												

**Interpreting the estimate of probable development costs:**

The estimated costs were developed to give the plan partners an order-of-magnitude estimate of the probable costs of the improvements shown in the Improvement Plan.

It is helpful to emphasize the following points when interpreting the probable development costs:

- The role of this Plan is to establish a long-term vision for the Central Chester County Region. These improvements are suggested for incremental implementation as opportunities arise over the next 20-25 years.
- These cost estimates are not a financial obligation or commitment to any of the Region’s municipalities, Chester County, or other Plan partners. The advancement and funding of any project identified in the Improvement Plan must be decided on a project-by-project basis by the project sponsor.
- These cost estimates were prepared based on previous projects constructed using state and federal requirements; the permitting and construction standards required for state and federally-funded projects tends to be significantly more costly than projects using non-state and non-federal sources.
- Many of the proposed improvements can be developed as part of the land and/or roadway development processes where the improvements are constructed as a condition of the land development approval process.
- Many of the proposed improvements can be funded through grant programs where project sponsors can leverage their funds against state, federal, and private resources. The Chester County Planning Commission specializes in assisting municipalities to identify appropriate grant funding sources.
- Given the scope of the improvement plan and limited funding, this Plan recommends that the Region work collaboratively on the advancement of the Plan’s Priority Projects.



## Estimate of probable development costs

Cost estimates have been developed for the proposed linear network improvements (as described in this chapter) and the proposed amenity and intersection improvements described in [Chapter 5](#). These cost estimates are summarized in [Figure 37](#). **It should be noted that while the costs are summarized by municipality, this does not imply that these improvements are the sole responsibility of the Region's municipalities.**

### Interpreting the estimate of probable development costs:

The estimated costs were developed to give the plan partners an order-of-magnitude estimate of the probable costs of the improvements shown in the Improvement Plan.

It is helpful to emphasize the following points when interpreting the probable development costs:

- The role of this Plan is to establish a long-term vision for the Central Chester County Region. These improvements are suggested for incremental implementation as opportunities arise over the next 20-25 years.
- These cost estimates are not a financial obligation or commitment to any of the Region's municipalities, Chester County, or other Plan partners. The advancement and funding of any project identified in the Improvement Plan must be decided on a project-by-project basis by the project sponsor.
- The Action Plan in [Chapter 8](#) distinguishes key responsibilities for all of the Plan's partners. PennDOT and Chester County (in particular, the development of the Chester Valley Trail) have defined roles towards the implementation of this network, as well as the Region's municipalities.
- These cost estimates were prepared based on previous projects constructed using state and federal requirements; the permitting and construction standards required for state and federally-funded projects tends to be significantly more costly than projects using non-state and non-federal sources.
- Many of the proposed improvements can be developed as part of the land and/or roadway development processes where the improvements are funded and/or constructed by private land developers or other roadway related projects. (See [Chapter 7](#) for specific recommendations on how to implement some of the improvement plan elements via zoning, subdivision requirements, official map, and other regulatory tools.) .
- Many of the proposed improvements can be funded through grant programs where project sponsors can leverage their funds against state, federal, and private resources. The Chester County Planning Commission specializes in assisting municipalities to identify appropriate grant funding sources.
- Given the scope of the improvement plan and limited funding, this Plan recommends that the Region work collaboratively on the advancement of the Plan's Priority Projects.

## METHODOLOGY

Network Improvements indicated on the Improvement Plan were tabulated using GIS mapping for counts and distances then multiplied by historical construction unit prices for each improvement type. For those improvements estimated with linear foot costs, a number of assumptions were made regarding the number and/or frequency of non-linear improvements (bike safe grates, for example) to generate the linear foot costs. Amenity and intersection improvements estimates were generated in a similar fashion using historical construction unit prices and a number of non-site specific assumptions.

Total costs include a 10% contingency on the improvements, plus another 15% for Design & Engineering (D&E) fees. Please note that D&E fees may vary greatly depending on the funding source.

Private funding sources typically have fewer necessary reviews and approvals resulting in a 5-15% of improvements costs range for D&E, while state and federal funding agency requirements could result in D&E fees as high as 25-30% of the proposed improvements.

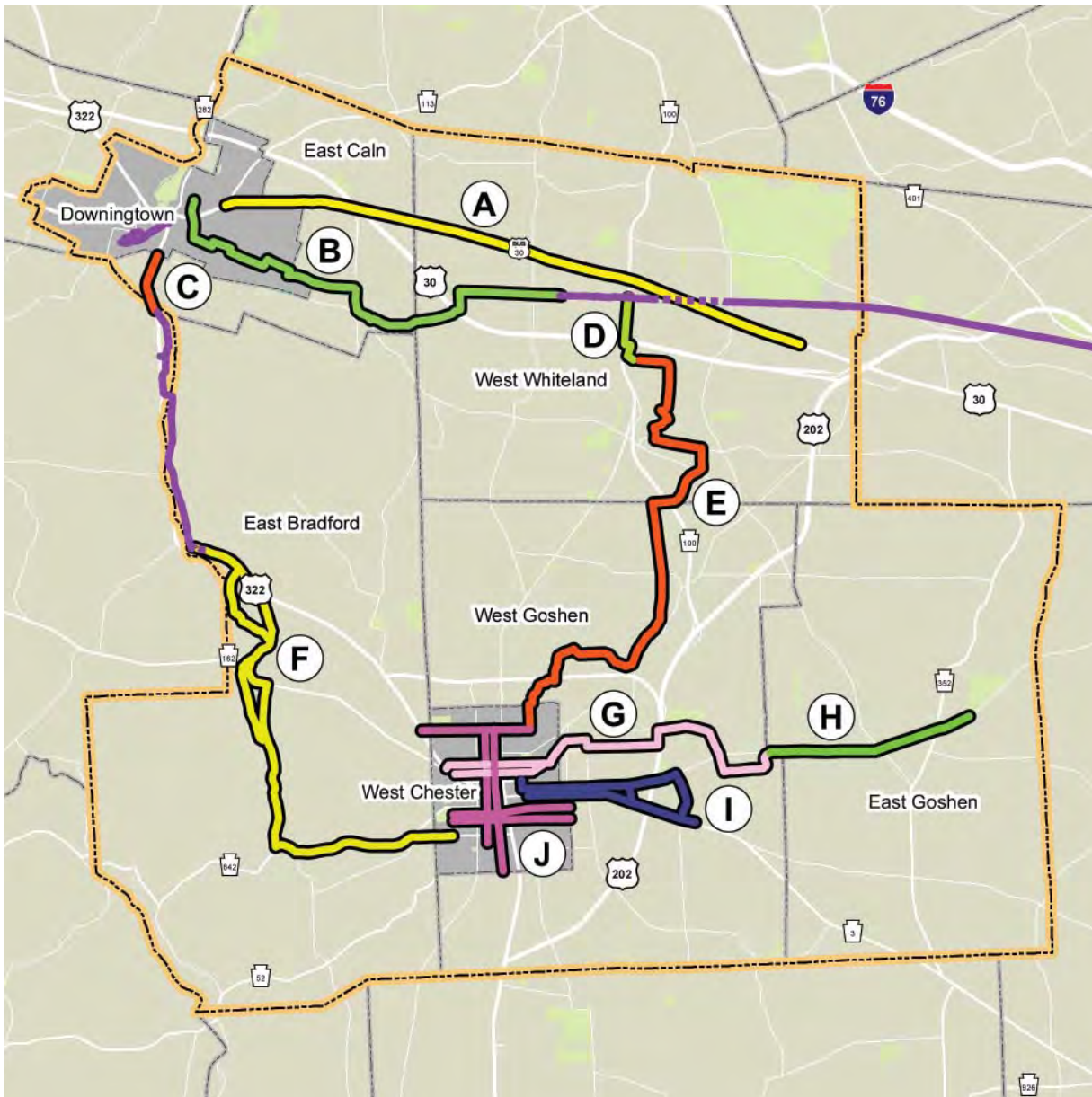
These costs do not include property acquisition and are based on estimated construction costs for 2012, including standard prevailing wage rates associated with public sector development. Over time, these costs will need to be adjusted to reflect economic fluctuations relative to inflation and petroleum costs, typically at a rate of +3% per year.



## Priority implementation projects

Ten priority projects have been identified from the overall Improvement Plan. These priority projects (as displayed in Figure 38) are regionally significant projects that will be emphasized for implementation. Many of these projects will require further planning or engineering before funding sources for construction can be identified and solicited. In aggregate, the estimated construction cost for these 10 projects is approximately \$12.9 million, or approximately 28 percent of the Improvement Plan's total estimated cost.

Figure 38:  
Regional priority projects





Below are brief descriptions of the proposed improvements associated with each of the priority projects. Please consult the Improvement Plan (Figure 36) for further details and information.

## Priority project descriptions

### A. Business Route 30 Improvements

This approximately 5-mile stretch of Business Route 30 includes the proposed installation of bike lanes, sidewalks, bus shelters, signage, and a signalized crossing for the existing Chester Valley Trail in the vicinity of Exton Mall. These improvements would enable the Business Route 30 corridor to function as a “complete street.”

**Estimated cost: \$2,787,000**

### B. Chester Valley Trail (CVT)

This segment of the Chester Valley Trail will extend the trail from its current terminus in Exton to Downingtown, the Struble Trail, and East Branch Brandywine Trail. Proposed improvements include a multi-use trail, bike boulevard, bike lanes, three new bridges, three at-grade trail crossings, and signage.

**Estimated cost: \$5,527,000**

### C. Brandywine Trail Connector

This half-mile multi-use trail will extend the East Branch Brandywine Trail in West Bradford Township from its northern terminus to the Boot Road/Route 322 intersection.

**Estimated cost: \$182,000**

### D. Exton Station to Chester Valley Trail Connection

This proposed connection between the Exton Train Station and the Chester Valley Trail will be a multi-use trail along the west side of Route 100. In addition to the multi-use trail, other improvements include signage and intersection upgrades, particularly the addition of a new crosswalk on the south side of the Route 100/Commerce Drive for the Chester Valley Trail.

**Estimated cost: \$319,000**

### E. Exton Station to West Chester Bike Route

This proposed connection between Exton and West Chester includes approximately  $\frac{3}{4}$  miles of multi-use trail, 5.6 miles of signed bike routes, and limited sidewalk improvements along the proposed route.

**Estimated cost: \$519,000**

### F. Creek Road/PA 842-East Bradford/West Chester Connection

Proposed improvements include a combination of bike lanes, shared roadway, signed bike routes, restricted-use trails and other associated improvements. This route will provide a connection from South Bradford Avenue in West Chester Borough to the Brandywine Creek area along West Miner Street, then north along Creek Road to the East Branch Brandywine Trail's current terminus near Skelp Level Road.

**Estimated cost: \$568,000**

### G. West Chester/West Goshen Bike Boulevard

Includes the establishment of bicycle boulevards along Biddle Street and Washington Street in West Chester Borough and extending eastward along Evans Street, Maple Avenue, Virginia Avenue, Lincoln Avenue, Old Fern Hill Road, Fern Hill Road, Fern Hill Lane, and Gateway Lane to the intersection of Airport Road and Paoli Pike in West Goshen Township. This bike boulevard will provide a signed route using lower-volume, lower-speed roadways to access West Goshen Township Park, East High School, and the YMCA on Airport Road.

**Estimated cost: \$391,000**

### H. Paoli Pike Multi-Use Trail

Includes the proposed installation of a 1.75 mile +/- multi-use trail to parallel Paoli Pike in both East Goshen and West Goshen Townships. This trail (in combination with Priority G) will connect East Goshen Township Park with adjacent municipalities and destinations.

**Estimated cost: \$765,000**

### I. Market St./Gay St. Bike Lanes & Sidewalks

Proposed improvements include the proposed installation of bike lanes, shared roadways, sidewalks, bus shelters, and signage along the commercial corridor of Market and Gay Streets between downtown West Chester and the shopping plazas at the West Goshen Shopping Center and the West Goshen Town Center.

**Estimated cost: \$1,400,000**

### J. West Chester Bike Boulevards (remainder)

Includes the installation of the remaining bicycle boulevards in West Chester Borough. As planned, these bike boulevards will establish one north-south and two east-west boulevards, using Ashbridge, Darlington, Church, Barnard, and Union streets.

**Estimated cost: \$409,000**



## Recommendations

The bicycle and pedestrian network improvements recommended in this chapter are intended to increase the mobility options within and between each growth center of the Region. Implementation of these recommendations is a core component of improving bicycle and pedestrian circulation within the seven municipalities. Additional detail for each of the recommendations can be found in the Implementation Tables in [Chapter 8](#) of this document.

### 4-A Identify and pursue funding sources.

The proposed improvements outlined in the Improvement Plan are eligible for various state, federal, and private grant programs. The [Delaware Valley Regional Planning Commission's Implementing Connections: A Guide for Municipalities](#) maintains a list of current funding programs and opportunities.

### 4-B Initiate further planning and engineering for priority projects.

To best position the priority projects for grant funding, further planning and design should be initiated. These technical efforts should further refine the project scope and associated cost estimates for these projects.

### 4-C Install bicycle lanes in accordance with the Improvements Map.

In some cases, installing bicycle lanes will involve simply adding bicycle legends and/or striping to road shoulders. In these instances, the installation of bike lanes should be programmed within PennDOT or a municipality's resurfacing program.

Other locations may require additional work including road widening. In these instances, any impediments to widening should be identified as well as possible remediation strategies.

### 4-D Implement shared roadways in accordance with the Improvements Map.

Shared roadways in this Region are considered a low cost and effective means of improving bicycle and pedestrian safety. The routes indicated on the Improvements Map will increase motorists awareness of potential use conflict with cyclists and pedestrians.

### 4-H Construct trails in accordance with the Improvements Map.

Preliminary engineering and/or feasibility studies should be initiated for the proposed trail improvements. These technical efforts should identify existing right-of-way widths, precise trail alignments, and required environmental mitigation.

### 4-F Implement bicycle boulevards in accordance with the Improvements Map.

On the Improvements Map, bicycle boulevards are recommended to connect destinations of interest in areas where roadway conditions are generally conducive to bicycling. A roadway signage and striping plan should be prepared for these selected roadways. Opportunities for traffic calming should also be explored.

### 4-G Implement signed bike routes in accordance with Improvements Map.

A detailed signed plan should be initiated that specifically identifies the type, frequency, and placement of bicycle route signage.

### 4-H Construct sidewalks in accordance with the Improvements Map.

Sidewalks can be constructed by a variety of mechanisms, such as land development approval, grants for streetscape projects, and municipal capital budgets. Due to regulatory requirements of grants, many municipalities in Chester County have found the installation of sidewalks to be cheaper (and significantly quicker) using local funding that when securing state or federal funding. [Chapter 7](#) discusses regulatory strategies for implementing sidewalks.



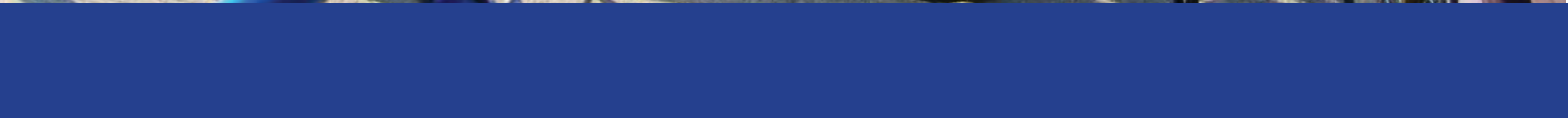
*The East Branch Brandywine Trail is a key north-south multi-use trail in East Bradford Township.*





CHAPTER FIVE

# Providing Supportive Amenities











## Introduction

To fully “complete” the Region’s bicycle and pedestrian network that amenities support walking and biking such as striped crosswalks, bike racks, bus shelters, and showers are essential elements for the Region to realize the Plan’s Mission and Vision. This chapter articulates a strategy for the Region to fulfill the Plan’s second goal: **“PROVIDE supportive amenities that address the needs of pedestrians, bicyclists, and public transportation users at their destinations.”**

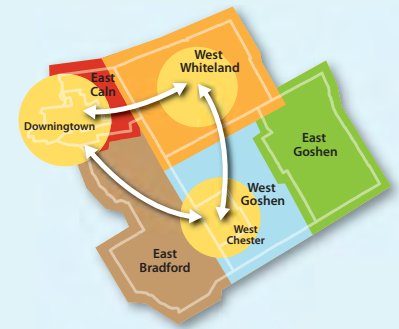
## Intersection Treatments

Many intersections within the Region lack proper pedestrian accommodations, crosswalks, and signage. This lack of pedestrian amenities is observed adjacent to the Region’s train stations (i.e. Whitford, Exton), bus routes, office parks, and major shopping centers. Based on the extent of proposed sidewalks proposed in the Improvement Plan, this Plan proposes an aggressive change-of-course with respect to pedestrian accommodations at intersections.

The proposed intersection improvements were identified by a review of existing conditions, input from the Plan Advisory Committee and public, and the selection of priority corridors. Three types of intersection improvements were identified:

- **Add Crosswalks and Pedestrian Signals:** Improvements include adding crosswalks, pedestrian signage and signalization.
- **Update Crosswalks and Pedestrian Signals:** Improvements include adding high visibility crosswalks, pedestrian signage and countdown signalization.
- **Add Midblock Crossing:** Improvements include adding high visibility crosswalks, pedestrian signage and pedestrian signalization. PennDOT design guidelines suggests a different planning process to be used when implementing such crossings.

Figure 39 lists the proposed intersection improvements by municipality. The location of these intersection improvements are noted on pedestrian maps within the Improvement Plan (Figure 36).



### GOAL

**PROVIDE** supportive amenities that address the needs of pedestrians, bicyclists, and public transportation users at their destinations.



## Prioritizing the Intersection Improvements

The identified intersection improvements cannot be accomplished all at once. Therefore, the intersection improvements were prioritized by municipality. These priorities were primarily based upon the priority corridors shown on the Improvement Plan (Figure 36) and Priorities

Map (Figure 38) in Chapter 4. Projects that have a “High” priority designation are located within the priority corridors. “Medium” priority projects are located within or on the periphery of the priority corridors, while “Low” priority projects are at other locations. Priorities are subject to change based on the municipality’s goals and funding availability for related projects.

Figure 39:  
**Intersection improvements**

Location/Intersection Improvements	Priority
<b>Downingtown Borough</b>	
<b>Add Crosswalks and Pedestrian Signals</b>	
Chestnut St & Boot Rd	Medium
<b>Update Crosswalks and Pedestrian Signals</b>	
Brandywine Ave (US 322) & Boot Rd	High
Whiteland Ave/Uwchlan Ave (PA 113) & Lancaster Ave (BUS 30)	Medium
<b>Add Midblock Crossing</b>	
Green St & Pennsylvania Ave (Kardon Park Entrance)	High
Norwood Rd (Struble Trail Trailhead)	Low
<b>East Bradford Township</b>	
<b>Add Crosswalks and Pedestrian Signals</b>	
Downingtown Pk (US 322) & Bradford Plaza Entrance	High
Strasburg Rd (PA 162)/Copes Bridge	High
Creek Rd & Miner St/Creek Rd (PA 842)/Allerton Rd	Medium
Sconnelltown Rd & Price St/Miner St (PA 842)	Low
<b>Update Crosswalks and Pedestrian Signals</b>	
Bradford Ave & Strasburg Rd (PA 162)	Low
<b>Add Midblock Crossing</b>	
New St (Access to WCU Stadium and South Campus Village)	Medium
Creek Rd & Downingtown Pk (US 322)	Low
Creek Rd/Frank Rd & Downingtown Pk (US 322)	Low
<b>East Caln Township</b>	
<b>Add Crosswalks and Pedestrian Signals</b>	
Chestnut St & Boot Rd	Medium
Bell Tavern Rd & Lancaster Ave (BUS 30)	Medium
Wallace Ave (PA 282) & Norwood Rd	Low
Quarry Rd & Boot Rd	Low
Quarry Rd & Lancaster Ave (BUS 30)	Low
Quarry Rd & Entrance to Quarry Crossings	Low
Quarry Rd & Exton Bypass (US 30) EB on/off Ramps	Low
<b>Update Crosswalks and Pedestrian Signals</b>	
Brandywine Ave (US 322) & Boot Rd	High
Country Club Dr & Lancaster Ave (BUS 30)	Low



Figure 39: Intersection Improvements (continued)

Location/Intersection Improvements	Priority
<b>Add Midblock Crossing</b>	
Norwood Rd (Struble Trail Trailhead)	Low
<b>East Goshen Township</b>	
<b>Add Crosswalks and Pedestrian Signals</b>	
Ellis Ln & Paoli Pk	High
Airport Rd & Paoli Pk	High
Airport Rd & Ward Ave	Medium
Ellis Ln/Falcon Ln & West Chester Pk (PA 3)	Medium
Boot Rd & Paoli Pk	Medium
Westtown Wy & West Chester Pk (PA 3)	Low
Enterprise Dr/Reservoir Rd & Paoli Pk	Low
Reservoir Rd & Strasburg Rd	Low
Chester Rd (PA 352) & Hershey's Mill Village West Entrance	Low
<b>Update Crosswalks and Pedestrian Signals</b>	
Chester Rd (PA 352) & Paoli Pk	Medium
<b>West Chester Borough</b>	
<b>Add Crosswalks and Pedestrian Signals</b>	
Downingtown Pk (US 322) & Bradford Plaza Entrance	High
Everhart St/Strasburg Rd (PA 162) & Hannum Ave (US 322)	Medium
Franklin St & Marshall St/Marshall Dr	Low
<b>Update Crosswalks and Pedestrian Signals</b>	
Bolmar St & Gay St (PA 3)	High
Bolmar St & Market St (PA 3)	High
High St & Rosedale Ave	Medium
Worthington St & Market St (PA 3)	Medium
Adams St & Gay St (PA 3)	Medium
Adams St & Market St (PA 3)	Medium
High St & Gay St (PA 3)	Medium
Matlack St & Gay St (PA 3)	Medium
Matlack St & Market St (PA 3)	Medium
Bradford Ave & Strasburg Rd (PA 162)	Low
Matlack St & Chestnut St	Low
Walnut St & Market St (PA 3)	Low
Darlington St & Market St	Low
New St & Market St	Low
Wayne St & Hannum Ave (US 322)/Chestnut St	Low
High St & Price St	Low
Darlington St & Price St	Low
High St & Linden St	Low
<b>Add Midblock Crossing</b>	
High St & University Ave	Medium
Marshall St & Chester County Hospital/Medical Facilities Entrance	Medium



Figure 39: Intersection Improvements (continued)

Location/Intersection Improvements	Priority
<b>West Goshen Township</b>	
<b>Add Crosswalks and Pedestrian Signals</b>	
Ellis Ln & Paoli Pk	High
Airport Rd & Paoli Pk	Medium
Airport Rd & Ward Ave	Medium
Ellis Ln/Falcon Ln & West Chester Pk (PA 3)	Medium
Montgomery Ave and Marshall St	Medium
Five Points Rd & Fernhill Rd	Low
Turner Ln & Fernhill Rd	Low
Phoenixville Pk /Fernhill Rd & Goshen Rd/Old Fern Hill Rd	Low
Glen Ave/Strasburg Rd & West Chester Pk (PA 3)	Low
<b>Update Crosswalks and Pedestrian Signals</b>	
Bolmar St & Gay St (PA 3)	High
Bolmar St & Market St (PA 3)	High
High St & Rosedale Ave	Medium
Westtown Rd & Market St (PA 3)	Medium
Five Points Rd & West Chester Pk (PA 3)	Medium
West Chester Pk (PA 3) & West Goshen Town Center Entrance	Medium
Turner Ln & Paoli Pk	Medium
Concord Rd & Paoli Pk	Medium
Five Points Rd & Paoli Pk	Low
High St & Yorktown Ave	Low
<b>Add Midblock Crossing</b>	
New St (Access to WCU Stadium and South Campus Village)	Medium
Marshall St & Chester County Hospital/Medical Facilities Entrance	Medium
<b>West Whiteland Township</b>	
<b>Add Crosswalks and Pedestrian Signals</b>	
Pottstown Pk (PA 100) & Bartlett Ave	High
Pottstown Pk (PA 100) & Exton Bypass (US 30) EB on Ramp	High
Whitford Rd & Lincoln Hwy (BUS 30)	Medium
Lincoln Hwy (BUS 30) & Entrance to Whiteland Town Center	Medium
<b>Update Crosswalks and Pedestrian Signals</b>	
Pottstown Pk (PA 100) & Commerce Dr	High
Pottstown Pk (PA 100) & Miller Way	Medium
Pottstown Pk (PA 100) & Swedesford Rd/Waterloo Blvd	Medium
Exton Square Pwy/Iron Lakes Blvd & Lincoln Hwy (BUS 30)	Medium
Ship Rd & Lincoln Hwy (BUS 30)	Low
<b>Add Midblock Crossing</b>	
Ship Rd & Sunrise Blvd	Low
Swedesford Rd & Meadowbrook Park	Low



# Bus Shelters

Many of the Region’s corridor that are served by bus transit—especially Business 30 and PA 3—lack bus shelters or an equivalent waiting area. To improve pedestrian safety while using public transportation within the Region, [Figure 30](#) lists the location of proposed bus shelters. The location of these bus shelters are also displayed on pedestrian maps within the Improvement Plan ([Figure 36](#)).

When planning the installation of a new bus shelter, it is recommended that one consult the recently published [SEPTA Bus Stop Design Guidelines](#), which was authored for municipalities to standardize and improve the provision of bus stops within the Philadelphia region.



A bus passenger debarks the Krapf A bus at a location lacking sidewalks or a bus shelter.



A bus shelter on Business Route 30, West Whiteland Township

Figure 40: Proposed bus shelters

Proposed Shelter Locations	Priority
<b>Downingtown Borough</b>	
Wallace Ave/Brandywine Ave (US 322) & Lancaster Ave (BUS 30)	High
Manor Rd (US 322) & Lancaster Ave (BUS 30)	Medium
Lloyd Ave & Lancaster Ave (BUS 30)	Low
Whiteland Ave/Uwchlan Ave (PA 113) & Lancaster Ave (BUS 30)	Low
<b>East Goshen Township</b>	
Airport Rd & Paoli Pk	High
Mary Fran Dr & West Chester Pk (PA 3)	High
<b>West Chester Borough</b>	
Bolmar St & Gay St (PA 3)	High
Bolmar St & Market St (PA 3)	High
Church St & University Ave	High
Adams St & Gay St (PA 3)	Medium
Adams St & Market St (PA 3)	Medium
Matlack St & Market St (PA 3)	Medium
High St & Linden St	Medium
High St & Chestnut St	Medium
High St & Gay St (PA 3)	Medium
High St & Market St (PA 3)	Medium
New St & Rosedale Ave	Medium
High St & Marshall St	Low
High St & Rosedale Ave	Low
<b>West Goshen Township</b>	
Montgomery Ave and Marshall St	Medium
Spring Ln & West Chester Pk (PA 3)	Medium
Kingsway Rd & West Chester Pk (PA 3)	Medium
Westtown Rd & Market St (PA 3)	Medium
Turner Ln & Paoli Pk	Medium
Concord Rd & Paoli Pk	Medium
Airport Rd & Paoli Pk	Medium
Ellis Ln/Falcon Ln & West Chester Pk (PA 3)	Low
Phoenixville Pk /Fernhill Rd & Goshen Rd/Old Fern Hill Rd	Low
High St & Rosedale Ave	Low
<b>West Whiteland Township</b>	
Pottstown Pk (PA 100) & Bartlett Ave	High
Exton Train Station	High
Pottstown Pk (PA 100) & Miller Way	Medium
Exton Square Pwy/Iron Lakes Blvd & Lincoln Hwy (BUS 30)	Medium
Exton Mall North Entrance & Exton Square Pwy	Medium



# Bicycle Parking

Parking is an essential feature to the accessibility of all land use types. Whether it is an automobile or a bicycle, people need a safe, secure, and convenient location to store their vehicle/bicycle once they get to their trip destination.

The type of bicycle parking facility is dependent on the type of user and volume of cyclists. For instance, commuters may prefer covered bicycle parking, such as a bike locker, for added security and to protect their vehicles from the elements for extended lengths of time. Alternatively, someone running errands may be more concerned with ease of access to quickly park and depart the location.

Bicycle parking should be targeted to the following land uses:

- Institutional (libraries, schools, government offices)
- Retail centers
- Employment centers
- Recreational uses (parks and trails)
- Rail stations

Figure 41 provides a list of specific locations that warrant consideration for bicycle parking. These locations are also identified on the pedestrian maps within the Improvement Plan (Figure 36).

Chapter 7 of the Plan explains how municipalities can use regulatory tools to ensure that adequate bicycle parking is provided throughout each municipality. Any place that is accessible by bike or could be accessed by a facility identified in the improvement plan should be prepared to facilitate an increased number of patrons arriving by bicycle.



This bike corral at 49th and Baltimore Avenue in Philadelphia can store a dozen bicycles.

Figure 41:  
Proposed bicycle parking

Proposed Shelter Locations	Priority
<b>Downingtown Borough</b>	
Kerr Park	High
Johnsontown Park	High
Borough Hall	High
Downingtown Library	High
East Ward Elementary School	High
Bishop Shanahan High School	High
Various locations/ businesses along Rt. 30	High
Downingtown Rail Station	High
Downingtown West High School	Medium
<b>East Bradford Township</b>	
East Bradford Township Building	Medium
East Bradford Park	Medium
East Bradford Shops Shopping Center	High
WCU South Campus Housing	Medium
Bradford Plaza Shopping Center	Medium
<b>East Caln Township</b>	
Brandywine Square Plaza	High
Lloyd Park	Medium
Bell Tavern Park	High
Ashbridge Square Shopping Center	High
<b>East Goshen Township</b>	
East Goshen Township Park	High
East Goshen Township Building	High
Goshen Corporate Park	High
YMCA	High
<b>West Chester Borough</b>	
West Chester Transportation Center	High
West Chester Borough Hall	High
WCU Main Campus (all buildings)	High
Hillsdale Elementary School	Medium
Henderson High School	High
Various locations/ businesses in the CBD	High
<b>West Goshen Township</b>	
West Goshen Shopping Center	High
West Goshen Town Center	High
West Goshen Community Park	High
Coopersmith Park	Medium
West Chester East High School	High
Various employers in Airport Road Corridor	Medium



Figure 41:  
Proposed Bicycle Parking (continued)

Proposed Shelter Locations	Priority
<b>West Whiteland Township</b>	
Whitford Rail Station	Medium
Exton Rail Station	High
Main Street at Exton	High
West Whiteland Township Building	High
Whiteland Town Center	High
Exton Library	High
Exton Square Mall (SEPTA bus stop)	Medium
Fairfield Plaza	Medium
Target	Medium
Festival at Exton	High
Oaklands Corporate Center	High
West Whiteland Corporate Center	High

\*Bicycle parking might already exist at some locations.

## Showers

Showers are a supportive amenity and incentive for those who commute to work by walking or biking. The provision of shower/changing facilities (as well as bicycle storage facilities) is an eligible credit for [LEED certification](#) of newly constructed buildings.

The Region has many corporate/ office parks located around the regional trails system and along proposed designated bike routes shown in [Chapter 4](#). Data on the availability of shower facilities at existing locations was not available; however, based on anecdotal discussion with municipal staff, the availability of shower facilities is generally assumed to be low and limited to fitness clubs and the most significant employers with the Region.

This Plan recommends the consideration of shower facilities in future corporate/ office parks and other major employers. Showers as well as other employer based incentives (discussed in [Chapter 6](#)) should be encouraged within corporate/office parks to reward employees who choose not to use their automobiles.



This bike corral in Philadelphia at Sydenham Street and Walnut Street features a car-shaped design.



## Recommendations

### 5-A Identify and pursue funding sources

Identify and pursue traditional and non-traditional forms of funding to implement all recommendations. Funding forms include but are not limited to County, State and Federal grant programs. To elevate the competitiveness of a grant application, the Region should consider coordinating the submission of multi-municipal projects.

### 5-B Improve Intersections as recommended within the Improvement Plan

Based on the prioritization as listed in [Figure 39](#), the most critical intersections should be targeted for improvement. For each intersection, the required scope of improvements should be identified. It is recommended that any existing capital projects in the design/engineering process be reviewed for possible integration with these recommendations. Coordination with PennDOT will be necessary for intersections along state-owned roads.

### 5-C Install midblock intersections as recommended within the Improvement Plan

Midblock intersections require a more detailed engineering assessment to determine their appropriateness, location, and design. The proposed midblock crossing locations should be reviewed by municipal engineering staff, in coordination with PennDOT (if warranted).

### 5-D Install bus shelters in accordance with the Improvement Plan

Bus shelters require coordination with the municipality, property owners, transit service provider, and transportation management association. This coordination should identify proper shelter siting, funding, and maintenance responsibilities, among other appropriate considerations.

### 5-E Install bicycle parking in accordance with the Improvement Plan

Based on the prioritization as listed in [Figure 31](#), bicycle parking amenities should be pursued at the highest priority locations. The size and required space for each location should be identified. A field view is recommended for each site to identify possible locations. Coordination between the municipality, property owner, and Chester County Cycling Coalition is recommended.

### 5-F Provide shower facilities to encourage more active lifestyles

The provision of shower facilities may require unique coordination with a property owner or potential development applicant. The municipality should consider if any regulatory incentives could assist in the implementation of shower facilities.



## CHAPTER SIX

# Improving Public Health and Safety

see  
say point read

Start your child on the road to reading.

Try this:

- Point to the letters painted on the ground. Say the sound each letter makes.
- Think of words or names that start with A, B or C.
- Point and say, "I see a tree. What rhymes with tree?" Take turns.

Trail Tip: Playing with letters and sounds helps children get ready to read.

United Way  
of Chester County

bornlearning.org™







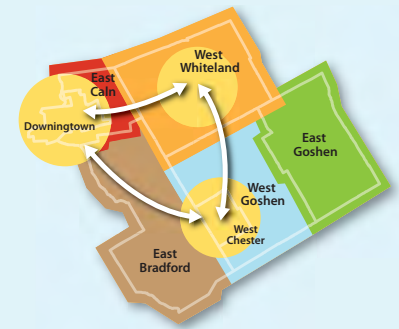


## Introduction

The infrastructure improvements and engineering solutions presented in [Chapter 4](#) and [Chapter 5](#) will not solely fulfill the Plan’s mission of “transforming” the Central Chester County Region. As noted by [The League of American Bicyclists](#), engineering strategies are only one of the five pillars that ultimately define a bicycle and pedestrian-friendly community. The five focus areas are:

- Engineering
- Enforcement
- Education
- Evaluation
- Encouragement

This chapter, therefore, outlines a regionally coordinated set of programs that will fulfill the Plan’s goal to **“IMPROVE public health and safety through education, enforcement, and encouragement strategies.”** While many of the projects identified in the Improvement Plan will require further engineering and significant funding, the recommended programs are low-cost/high-return strategies that can be implemented in next one to three years.



## Program Evaluation

A list of twenty-five possible strategies was developed, as displayed in [Figure 42](#). The strategies were chosen from a review of best practices, success stories, and bicycle and pedestrian plans from across the United States.

With input from the Plan Advisory Committee and the residents who attended the public workshops, a list of implementable priorities for the seven municipalities was identified.

Figure 42: **List of program strategies for public input**

<ul style="list-style-type: none"> <li>• Wayfinding</li> <li>• Interpretive Signage</li> <li>• Trail Mile Markers</li> <li>• Yield to Pedestrian Channelizing Devices</li> <li>• Trail Speed Limit</li> <li>• Issue Reporting</li> <li>• Maintenance Planning</li> <li>• Spot Maintenance</li> <li>• Walking School Bus</li> </ul>	<ul style="list-style-type: none"> <li>• Walkability Audit</li> <li>• Ped/Bike Concepts in Drivers’ Education</li> <li>• Bike Rodeos</li> <li>• Employer Based Incentives</li> <li>• Commuter Parking “Cash-out”</li> <li>• Emergency Ride Home</li> <li>• Commute Planner</li> <li>• Bike Share</li> <li>• Donation Program</li> </ul>	<ul style="list-style-type: none"> <li>• Educate Police</li> <li>• Trail Patrol</li> <li>• Give Respect/Get Respect (Edu-forcement)</li> <li>• Passport to Fitness</li> <li>• Bike Tours/Fun Rides</li> <li>• Community Walks</li> </ul>
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### GOAL

**IMPROVE** public health and safety through education, enforcement, and encouragement strategies.



# Priority Programs

Ten priority programs have been chosen with the purpose of improving public health and safety through education, enforcement, and encouragement strategies. Recommendations to implement each of the priority programs can be found in Chapter 8.

## 6-A Bicycle/ Pedestrian Concepts in Driver’s Education

Throughout the development of the Plan, one of the most commonly-raised issues was the general lack of education for motorists, bicyclists, and pedestrians. To emphasize the importance of this subject area, the Bicycle Coalition, with support from Chester County and the municipalities, is recommended to prepare a letter to PennDOT encouraging more bicycle/pedestrian be included in the PA Driver’s Manual. Specifics about safe driver/cyclists/pedestrian interaction that could be added to the next update of the Driver’s Manual should be contained within the text. Once finalized, the letter should be sent as a joint document, endorsed by all municipalities and participating agencies, to the Pennsylvania Department of Transportation.

## 6-B Education and Enforcement

This priority refers to targeted enforcement of bicycle and pedestrian related traffic laws. Along with violation tickets, police would hand out guides about being responsible drivers, walkers, or bikers. Buy-in from local law enforcement agencies is crucial to the success of an education and enforcement program. Officers must be willing to fully engage in a conversation with individuals regarding how their behaviors affect the safety of bicyclists and pedestrians. Advocacy groups should provide input on the materials distributed and monitor the program, but they cannot enforce traffic laws. Local government entities would lead the implementation of the program through their law enforcement agency, such as police departments or park rangers.

## 6-C Route Signage and Mapping

As noted in Chapter 2, there are limited signed bike routes in the Region—only the PA Bike Route L and multi-use trails are signed. However, favorable or “bike-able” roadways have been mapped by the Chester County Planning Commission, Greater Philadelphia Bicycling Coalition, and West Chester BLUER.

As a near-term strategy, it is recommended that the Region’s “bikeability” and recommended rides be mapped and distributed via the Chester County Cycling Coalition and other project partners. Downtown and Exton may warrant similar dedicated maps, as piloted by West Chester Borough. This effort could also be a way to showcase Central Chester County as a bicycling destination in the Philadelphia Region.

As a mid-term strategy, these routes should be designated as signed bike routes as displayed in Figure 43 and the Improvement Plan. This guidance system would provide uniform, consistent signage throughout the Region. Moreover, this signage would provide motorists with a visual cue to expect bicyclists on these designated roadways.

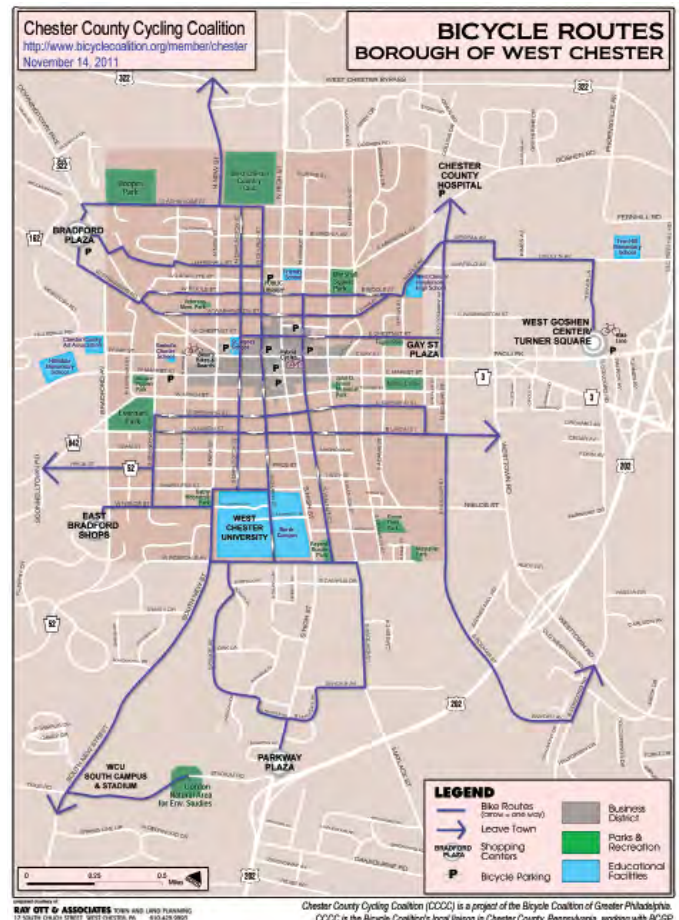




Figure 43:  
Signed bike routes and “maintenance-first” priority routes



See “Signed Bike Routes” on Improvement Plan (Figure 36) for more detail on these routes.

**6-D Maintenance Planning**

Proper maintenance of pedestrian and bicycle facilities will ensure that they are free of obstacles and debris. The two main entities that would be responsible for developing a maintenance plan would be local public works departments and PennDOT. Chester County is also responsible for the maintenance of the Chester Valley Trail. Maintenance planning should address topics such as street sweeping, leaf removal, gravel removal, snow removal, lighting, and signage condition.

**“Maintenance-First” Priority Routes**

Given limited resources and the vast number of roadways in the Region, it is imperative to identify the most critical roadways for targeted, aggressive, and proactive maintenance treatment. The Region should use the proposed signed bike route network (Figure 43) as the prioritized network for maintenance activities. This policy will emphasize that those roadways signed as bike routes are also a priority for maintenance.

**6-E Employer Based Incentives**

Programs that encourage employees to walk/bike/take transit to work have a multitude of benefits for employers and their workers. Benefits to employees include: physical and mental health, congestion reduction, stress relief, and financial benefits. Employers benefit by having healthier workers, increased environmental sustainability, and reduced parking demand.

The [County Health Department](#), partnering with local municipalities, can provide guidance to employers who are interested in developing this type of program. A fact sheet or white paper could be crafted and provided to employers. The information packet should include ideas that employers could implement and explain the benefit to the employer. Larger employers, especially those near regional trails, should be targeted first, because they tend to have the staffing capacity in the human resources department to implement these types of initiatives.

**6-F Yield for Pedestrians Channeling Devices**

This is an effective program to increase the safety of pedestrians within crosswalks through a simple traffic calming technique. The signs can be temporarily placed in the center of the road to alert motorists of increased potential of pedestrians crossing the road (some municipalities have permanently placed signs). They have the affect of causing motorist to slow down to avoid striking them. Also, the words “State Law: Yield for Pedestrians Within Crosswalk” serve as a form of education, informing motorists that they must legally yield for pedestrians crossing the roadway. The signs are provided by PennDOT free of charge to municipalities if specified crossing criteria are met.



*This image is from the Manual of Traffic Signs, by Richard C. Moeur (<http://www.trafficsign.us/>)*



### 6-G Walking School Bus

A walking school bus is a group of children walking to school along a defined route supervised by an adult. It can be as informal as two families walking their kids to school together, or it can be a structured program administered through the school district. A feasibility assessment is useful to calm any fears that parents may have of allowing their kids to walk to school. Typically, the grassroots version precedes a more structured program. An informal program typically starts with a small group of parents and children. A route is chosen and a test walk is taken. Then the parents decide how often the group will walk together. If this is successful, the community may desire additional routes to be established. A more structured program requires coordination, volunteers and attention to other issues, such as safety training and liability. The school administration, law enforcement and other community leaders are likely to become involved. The program development follows the same basic outline as the informal version. Routes should be identified and tested without children. Then, the number of adult supervisors should be identified. Next, logistical details need to be finalized, such as: Who will participate? How often? When do children meet the bus? Where will the bus meet? What training do volunteers need? What safety training do children need? Walk to School Day, in October, is a great time to kick-off the program.



*A walking school bus is a supervised program that encourages children to walk to school in appropriate settings.*

### 6-H Bicycle Share

A bicycle sharing program makes bicycles available for use by individuals who do not own them. There are three different types of bike share programs: free, membership based, and fee based. With free programs, bicycles are lent out at no cost to the user. Membership based programs may either be free or have some fees attached.

A prerequisite of using the service is to have registered with the program. Fee based programs are essentially a bicycle rental program. In all three of these cases, the exchange of bicycles may either be through a program administrator or by an automated system. A few companies have developed automated systems specifically for bike sharing programs. These systems are all-in-one units that include specifically designed bicycles, docking stations, and payment methods. The companies often are awarded contracts to administer the programs. Many major corporations have used bike share programs as an opportunity for advertisement. By allowing advertisers, the programs have been able to offset some costs associated with program administration. Another key feature of bicycle sharing programs are uniform, easily recognizable bicycles. This is important for exposure to future potential customers. Lastly, successful programs are always located in strategic locations. Those may be near trails, public transportation hubs, or major employment centers.

Identified potential leaders of a bike share program are the Bicycle Coalition of Greater Philadelphia, local TMAs, local chambers of commerce, business improvement districts, and Main Street managers.



*A bike share program is a green initiative for major employers.*



### 6-I Educate Police

Ensuring that police officers are informed of the latest developments in pedestrian and bicycle laws is vital to the safety of all users. Officers do receive regular training on a variety of topics related to law enforcement. However, most police agencies do not have a special program dedicated to bicycle and pedestrian laws and safety. The Chester County Highway Safety program, who administers many police education programs, and the Bicycle Coalition could partner to provide training materials for local police agencies. This information could come in the form of seminars or handouts, whichever is best suited for each specific police department.

### 6-J Bike Rodeos

Events that teach children techniques to improve their safety and ability on bicycles are known as bicycle rodeos. These events are chances to instill, at a young age, safe bicycle riding skills. There are two key components to a successful bicycle rodeo, education and practice. Children are taught how to properly fit and wear their safety equipment, how to fit their bicycle, and safe riding skills. They then negotiate an obstacle course to test their skills. Generally, refreshments are available to all who attend. An active coordinator/ facilitator is vital to develop the program and coordinate with all involved parties. Also, a location with ample space is needed for parking and to set up a riding course. This type of program can be implemented by a variety of parties ranging from local municipalities to bike shops. Partnerships generally make for the most successful events.

A Local Success Story:

#### **Bike Schuylkill**

The only active bicycle sharing program in Chester County is Bike Schuylkill. It is characterized by its easily recognizable, beach cruiser type, yellow or blue bicycles with the Bike Schuylkill logo attached to a front basket. This program is completely free, and it makes it possible for anyone over the age of 16 to borrow a bike for short periods of time, up to one day. A program administrator must be presented with a driver's license or valid state-issued identification. In return, a bicycle is loaned out. The bicycle must be returned to the loaning office before it closes, at which time, the driver's license or ID is returned. Currently, there are four locations for the Bike Schuylkill program: Phoenix Cycles in Phoenixville, Tri-County Bicycles in Pottstown, Schuylkill River Heritage Area offices in Pottstown, and State Street Cycles in Hamburg. Additional information can be found by visiting [www.schuylkillriver.org](http://www.schuylkillriver.org)

Bicycle Rodeos:

#### **Tredyffrin Township's Experience**

To coincide with Bike to Work Month in May, a Bike Safety Rodeo is held at Wilson Farm Park in Tredyffrin Township annually. At the second year of the annual event in 2012, 60 children ages 3-13 attended to learn safe bicycle riding techniques. Each child was awarded a bike driver's license upon completion of the course. Sponsors graciously donated prizes, food, and volunteer hours. The most important partner that added to the success of the event was the Tredyffrin Township Police Department.



Phoenixville's Bike Schuylkill is presently Chester County's only bicycle sharing program.







A photograph of a park path. In the foreground, a black metal bench is partially visible on the left. A concrete path leads from the bottom left towards the right, where it curves upwards. A black lamp post stands on a concrete base to the left of the path. In the background, a bridge with a metal railing spans across a body of water. The sky is blue with some clouds. The overall scene is bright and sunny, with shadows cast on the path.

CHAPTER SEVEN

# Integrating Concepts within Policies and Practices





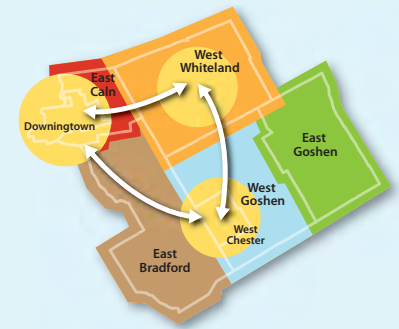




## Introduction

In an era of highly competitive grant funding and constrained capital improvement budgets, one of the most efficient strategies for “transforming” the Region over the next 20 years is through the revision of regulatory documents such as the municipal zoning and subdivision and land development ordinances.

This chapter provides specific recommendations and sample ordinance language that will guide the Region towards the fulfillment of the Plan’s final goal: **“INTEGRATE concepts that enhance walking, bicycling, and public transportation within the policies and practices of government, private, and non-profit organizations.”**



## Regulatory Assessment

As part of the plan development process, an assessment of municipal ordinance regulations addressing bicycle and pedestrian facilities was completed. This assessment reviewed the degree to which various bicycle and pedestrian concepts were addressed by the existing, adopted ordinance. The status of those regulations should be interpreted as follows:

- Yes** Effective standards are in place.
- Limited** Standards are in place but a significant issue was identified that limits their effectiveness.
- No** No standards are in place for this particular concept.

### GOAL

**INTEGRATE** concepts that enhance walking, bicycling, and public transportation within the policies and practices of government, private, and non-profit organizations.



Figure 44:  
**Summary of bicycle and pedestrian standards within existing ordinances**

Standard	Downingtown	East Bradford	East Caln	East Goshen	West Chester	West Goshen	West Whiteland
<b>Pedestrian Facilities - Sidewalks</b>							
Are pedestrian facilities defined?	Yes	No	No	No	Yes	Limited	No
Support purpose statement?	Limited	Limited	Limited	Limited	Yes	No	Yes
When required? (i.e., for what types of uses)	Yes	Yes	Yes	Limited	Yes	Limited	Yes
Where required? (location, etc.)	Yes	Yes	Yes	Limited	Yes	Limited	Yes
Are sidewalks required?	Yes	Yes	Yes	Limited	Yes	Limited	Yes
Is a minimum sidewalk width specified?	Yes	Yes	Yes	Limited	Yes	Yes	Yes
Owner/maintenance responsibilities?	No	No	No	No	Yes	No	Yes
Reference ADA standards? (curb cuts)	Limited	Yes	Limited	No	No	No	Yes
Are bus shelters required?	No	No	Limited	No	No	No	TC District
Are crosswalks required?	No	Yes	No	No	No	No	TC District
<b>Trail Facilities</b>							
Are trail facilities defined?	No	No	No	No	No	No	Trail Def.
Supported in purpose statement.	No	Limited	No	No	Limited	Limited	Yes
When required? (i.e., what type of uses)	Limited	Limited	No	No	TND District	Limited	Limited
Where required? (i.e., location, linkages?)	Limited	Limited	No	No	TND District	Limited	Limited
Are trails mandatory or optional?	Limited	Limited	No	No	Limited	POR Dev.	Limited
Ownership/Maintenance responsibilities?	No	Limited	No	No	Limited	Limited	Limited
Is a minimum trail width included?	Limited	Limited	No	No	No	No	Limited
Is a surface treatment specified?	No	Limited	No	No	Limited	Limited	Limited
<b>Bicycle Facilities</b>							
Bike facilities defined	No	No	No	No	No	No	No
When required (i.e., for what type of use)	No	No	No	No	No	POR Dev.	TC District
Where required? (i.e., location)	No	No	No	No	No	No	TC District
Ownership/maintenance responsibilities?	No	No	No	No	No	No	No
Is a minimum width specified?	No	No	No	No	No	No	No
Is a surface treatment specified?	No	No	No	No	No	No	No
Are bicycle parking facilities required?	No	No	No	No	No	No	Yes
<b>Official Map</b>							
Are trails/sidewalks designated?	No	Yes	Limited	No	No	No	Yes
Are bike routes designated?	No	Yes	Limited	No	No	No	No

**Yes** Effective standards are in place.

**Limited** Standards are in place but a significant issue was identified that limits their effectiveness.

**No** No standards are in place for this particular concept.



# Recommendations

The following recommendations address ordinance definitions, the official map and ordinance, the traffic impact study, and the development process.

## Ordinance Definitions

### 7-A: Amend municipal ordinances to include the terms for bicycle and pedestrian facilities.

Municipalities should amend their zoning and subdivision and land development ordinances to

include consistent definitions for bicycle and pedestrian facilities and clarify these terms across municipal borders. To this end, it may be necessary to 1) include new definitions 2) address inconsistencies with current definitions, and 3) delete conflicting definitions and replace wording as appropriate throughout all municipal ordinances. [Figure 45](#) on page 97 provides recommended definitions for bicycle- and pedestrian-related concepts discussed within this Plan.

[Figure 45](#) provides recommended definitions for bicycle and pedestrian-related concepts discussed within this Plan.

Figure 45: Recommended ordinance definitions

<b>Bike Lane</b>	Designated travel lanes within the cartway or along the road shoulder for exclusive use by bicyclists. Bike lanes typically involve a combination of supplemental indicators including but not limited to Share the Road Signs, Sharrows, and other pavement markings.
<b>Bicycle Boulevard</b>	A street corridor treatment that prioritizes and enhances bicycle travel via traffic calming measures, signs, pavement markings, and crossing improvements.
<b>Bus Shelter</b>	A pedestrian amenity located at a bus stop to provide convenience, comfort, and shelter from the elements in the form of a structure such as a canopy.
<b>Crosswalk</b>	A public right-of-way used for pedestrian travel across a roadway at an intersection or any portion of a block to provide safe pedestrian access to adjacent roads, lots, or public use areas.
<b>Internal Walkway</b>	A designated single use facility with an improved surface, primarily for use by pedestrians, typically located outside of the road right-of-way and/or not directly adjacent to a street. A walkway is generally used for pedestrian transportation between buildings and parking areas or sidewalks, within parking lots, between buildings on a parcel or within a development, or between adjacent uses, developments, or facilities.
<b>Official Map and Ordinance</b>	An independent map and ordinance enabled by the MPC that may identify public facilities including but limited to parks, trails, areas of open space, recreation, utilities, and other similar facilities. The Official Map gives the municipality the first right of refusal to purchase land necessary to facilitate the identified public improvement(s) and may delay a development for up to one year.
<b>Share the Road Sign</b>	Supplemental signage added to a shared roadway to warn motorists of the increased likelihood of bicyclists.
<b>Shared Roadway (limited or no shoulder)</b>	A street which accommodates bicyclists and motorists in the same travel lane. Typically the travel lanes are wider than what would be designed for automobile traffic only for the associated functional classification of the road and its context. Shared roadways may be a Signed Bike Route or include other indicators such as Share the Road Signs, Sharrows, or other pavement markers.
<b>Shared Roadway (paved shoulder)</b>	A street with a paved shoulder or wide curb lane that accommodates bicyclists adjacent to the vehicle travel lanes. A four (4) foot shoulder is preferable, in conjunction with applicable municipal and PennDOT guidelines. Shared Roadways with paved shoulders may be a Signed Bike Route or include other indicators such as Share the Road Signs, Sharrows, or other pavement markers.
<b>Shared-Use/ Multi-Use Trails</b>	A facility that is physically separated from the roadway and typically accommodates bi-directional travel by both bicyclists and pedestrians. The trail can be located within a publicly owned right-of-way, an exclusive right-of-way, or an easement. Shared use trails typically have an improved surface (e.g., asphalt, concrete, compacted gravel, etc.) and have a recommended width (per AASHTO) of 10 feet, although a minimum width of 8 feet may be used where space is constrained or in environmentally-sensitive areas.
<b>Sharrows</b>	A pavement marking that increases driver awareness of shared roadway arrangements. Typically, the use of sharrows has been approved by PennDOT; however, the approval of sharrows is presently evaluated on a case-by-case basis.
<b>Sidewalk</b>	A pedestrian route, typically constructed of concrete and parallel to a street that provides a means for pedestrians to travel within the public right-of-way while physically-separated from vehicular traffic. Sidewalks are designed for pedestrian use.
<b>Traffic Impact Study</b>	An analysis of the effect of traffic generated by a development on the capacity, operations, and safety of the public street and highway system. The TIS is used to determine the improvements that are necessary to ensure that the transportation network can accommodate the new development
<b>Use-Restricted/ Single Use Trails</b>	Trails that are primarily used for one form of travel or by one type of user such as cyclists or pedestrians. These trails are typically paved or have an improved surface.



## Official Map and Ordinance

### 7-B: Identify and prioritize the installation of a pedestrian network on municipal official maps and ordinances

All municipalities should adopt an official map and ordinance or amend their current official map and ordinance to identify a pedestrian network and prioritize the areas that are most in need of connection in accordance with the Improvement plan in [Chapter 4](#).

The Official Map, which is enabled by Article IV of the Pennsylvania Municipalities Planning Code (Act 247), is typically used as a negotiating tool to inform developers of intended future facilities the municipality intends to implement when development occurs. Currently, three of the seven municipalities in the Region, East Bradford and East Caln, and West Whiteland townships, have a adopted official maps.

## Traffic Impact Study

### 7-C: Promote the use of municipal Traffic Impact Studies to facilitate the pedestrian and bicycle network

Municipalities should consider adopting a Traffic Impact Study (TIS) if one is not already included in their municipal ordinances. Potentially a TIS could be required for all development, with different scales of TIS depending on the size or impact of the development. Each municipality will need to evaluate the criteria for when a TIS is required.

A traffic impact study may be required through either the zoning or subdivision and land development ordinance based on a minimum number of units, a pre-determined density, or a particular use or uses or developments that may have a significant traffic generation or impact. Municipalities should ensure that Traffic Impact Studies include an evaluation of bicycle/pedestrian/transit needs and appropriate requirements.

PennDOT's 2009 publication, Policies and Procedures for Transportation Impact Studies, includes a list of characteristics (or thresholds) that, when met or exceeded, require a TIS for HOP (Highway Occupancy Permit) applications:

- The site is expected to generate 3,000 or more average daily trips or 1,500 vehicles per day.

- During any one(1) hour time period of any day of the week, the development is expected to generate 100 or more vehicle trips entering the development or 100 or more vehicle trips exiting the development.
- For existing sites being redeveloped the site is expected to generate 100 or more additional trips entering or exiting the development during any one hour time period of any day of the week.
- In the opinion of the Department, the development or redevelopment is expected to have a significant impact on highway safety or traffic flow, even if 1, 2, or 3 above are not met.

Municipalities may want to include lower thresholds for requiring a TIS for development proposals within their borders. East Caln, for example, requires a Traffic evaluation study (aka, Traffic Impact Study) for all residential developments or subdivisions containing twenty (20) or more dwelling units or residential lots and all nonresidential subdivision and land developments (with the exception of agricultural development) with buildings containing in excess of 10,000 square feet of space. Other Chester County communities use a general threshold of any development generating 500 or more average daily trips of 100 or more a.m. or p.m. peak hour trips.

## Development Process

### 7-D: Work with applicants through the land development process to promote implementation of the Improvements Plan

It is common for municipal officials to place conditions on the approval of subdivision and land development applications. Through this "negotiation," a municipality can request the installation of sidewalks, trails, or other facilities that will implement the Improvements Map and be beneficial to the community.

# Pedestrian Facilities

The following recommendations address pedestrian facilities including sidewalks, crosswalks, walkways, and bus shelters.

## Sidewalks

### 7-E: Require Sidewalks in Accordance with the Improvements Map

Municipalities may use the Improvements Plan mapping in Chapter 4 as justification for when sidewalks may or may not be waived. Municipalities should reference the improvement maps in their individual ordinance(s), particularly if the mapping is adopted into the municipal comprehensive plan. Municipalities should work towards filling in missing gaps in the sidewalk network, and particularly the missing connections and corridors identified on the Improvement Plan. Municipalities should work with local property owners and businesses (See Recommendation 7-D) in addition to applying for funding to facilitate the installation of these sidewalks.

#### Option 1

Require Sidewalks on Both Sides of All Public Roads. If a municipality intends to promote a comprehensive sidewalk network throughout their community, they may chose to amend their subdivision and land development ordinance.

#### Option 2

Requiring the installation of sidewalks in prioritized locations will help to fill gaps in the network by requiring the installation of sidewalks when there is a change in use, change in ownership or when a subdivision or land development is submitted. Municipalities should reference the relevant Improvements Plan maps in their ordinances as justification for not waiving sidewalks for certain subdivision and land developments. Borough's may use the authority of the State Borough Code to require the installation of sidewalks on a property, potentially in conjunction with the improvements map as justification or prioritization.

#### Sample ordinance language:

Sidewalks a minimum of five (5) feet in width shall be required on both sides of all public streets where identified as a priority on the [Improvements Map of the Central Chester County Bicycle and Pedestrian Plan or municipal Comprehensive Plan]. Where sidewalks are not identified as a priority installation is encouraged, but not required along both sides of public streets.

#### Option 3

The adoption of "fee-in-lieu" of sidewalk regulations would enable a municipality to collect fees from an applicant where the installation of a sidewalk may not be possible or practical based on the location of the proposed use. This fee would be dedicated to the construction of a sidewalk or section thereof in a more appropriate public location. Fee-in-lieu of sidewalks is not common in Southeastern Pennsylvania although it is used in other areas of the country. Many municipalities in Chester County have fee-in-lieu of open space provisions which are effectively the same concept, and could be used as model provisions for fee-in-lieu of sidewalks. For example, East Bradford Township has fee-in-lieu of open space provisions in Section 95-34.1.E of its subdivision and land development ordinance.

#### Sample ordinance language:

Where sidewalks are not identified as a priority on the Improvements Map the applicant may either install sidewalks on both sides of all public streets or pay a fee-in-lieu of the installation of sidewalks, as determined by the municipality.



## Crosswalks

### 7-F: Facilitate the installation or improvement of crosswalks in accordance with Chapter 5 and any other identified municipal priorities

Municipalities should implement the installation or improvement of crosswalks in accordance with the Improvements Map (Chapter 4) and at other identified priority locations. In certain cases this may be as simple as allocating municipal resources to paint crosswalks at priority locations. In other cases, it may be necessary to install signals or work with PennDOT where a state road is involved. Municipalities should require crosswalks within certain zoning districts or development types, such as a town center, and tie their implementation to the improvements map via reference. The following sample language is based on the West Whiteland Township Subdivision and Land Development Ordinance.

#### Sample ordinance language:

1. Crosswalks shall be installed and maintained as an integral component of the sidewalk and pathway system of the [zoning district/other designation] and shall be provided at all intersections of streets and driveways, and at all continuations of sidewalks and paths across streets and driveways.
2. All crosswalks shall be signed to indicate a pedestrian crossing.
3. Crosswalks shall be a minimum of six (6) feet wide defined through the use of interlocking unit pavers or striped in accordance with the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD).

## Internal Walkway

### 7-G: Consider requiring walkways within parking areas and between parking areas and buildings

Where buildings are constructed with a setback or a development that occurs on a parcel where the buildings do not abut a public sidewalk, a requirement for a walkway from the building entrance to the public sidewalk should be required. Such requirements ensure that pedestrians can avoid using parking aisles or travel lanes for access to building entrances. This requirement may be linked to criteria such as parking lots over a certain size or where a parking lot does not directly abut a public sidewalk. Walkways should also be required within parking areas, between parking lots on adjacent lots or developments, and between adjacent developments on abutting tracts where applicable. Walkways should be a minimum of five (5) feet in width and constructed to sidewalk standards.

#### Model ordinance language:

- A. Walkways shall be required between building entrances and sidewalks, buildings and parking areas, adjacent building entrances on the same lot, multiple uses on the same lot, and between developments on adjacent parcels.
- B. Walkways shall be required within parking lots containing greater than twenty (20) parking spaces within a center island or along the perimeter of the parking lot.
- C. Walkways shall be a minimum of five (5) feet wide and otherwise constructed in accordance with the requirements for a sidewalk within the applicable regulation within the municipal ordinances.

## Bus Shelters

### 7-H. Require bus shelters in accordance with the Improvements Map

Municipalities should adopt requirements for the placement of bus shelters in municipal ordinances when buildings, uses, or developments, that meet a minimum threshold, occur along an existing or planned bus route. Pedestrian connections to the bus stop/transit shelter from parking lots and nearby development should be required. Each municipality will need to determine the appropriate criteria for what type of development (size, number of units, density) should trigger the requirement for a bus shelter.

SEPTA and the Delaware Valley Regional Planning Commission (DVRPC) recently released [SEPTA Bus Stop Design Guidelines](#), which was authored for municipalities to standardize and improve the provision of bus stops within the Philadelphia region.



### Sample ordinance language:

A. Bus shelters shall be installed and maintained for any development where the gross leasable area for commercial, industrial, or institutional uses is X s.f. or more or where there is a residential development greater than X units where there is existing bus service and/or where the development is determined to be of a significant nature to warrant a bus transit stop.

*(Note: Municipalities should consider referencing the Improvements Map, particularly if the map is adopted into the municipal comprehensive plan.)*

B. Bus shelters shall be consistent with the design standards of the SEPTA Bus Stop Design Guide developed by SEPTA and the DVRPC.

C. Design standards

1. A pull-over area for buses and for the discharge of passengers shall be provided, and such area shall be line striped.
2. Sidewalks and pedestrian paths shall be provided to connect bus stops/shelters to nearby commercial, office, institutional, recreational, residential, or other similar uses that generate significant pedestrian traffic.
3. Bus shelters shall be adequately illuminated to provide visibility during darkness. The source of the light shall be shielded from all abutting properties and from traffic along the road.
4. Bus shelters shall utilize a bench with center divider/armrest and trash receptacle in a style approved by the Municipality.
5. Each bus shelter shall consist of at least three sides and a roof, in a style approved by the municipality.



## Bicycle Parking

### 7-I: Require bicycle parking facilities for uses that meet minimum requirements

There are a number of ways to incorporate bicycle parking into ordinances. Ordinances can require a certain amount of parking spaces be dedicated to bicycle parking through the installation of bike racks. Ordinance standards can also require or encourage the installation of bike racks near the entrance to a business or use on a public sidewalk where appropriate accommodations can be made. This can be accomplished through off-street parking requirements, streetscape requirements, or incentives.



*A bike rack in Kerr Park, Downingtown Borough*

### Sample ordinance language:

- A. Bike racks shall be required as an integral component to the pedestrian orientation of the [zoning district/other designation] and shall be installed and maintained accordance with the following:
1. One (1) bike rack, [x] in color, with a capability of holding up to ten (10) bicycles shall be required for every thirty thousand (30,000) square feet of gross leasable area.
  2. Bike racks shall be permanently anchored or in a concrete footing to promote stability and security.
  3. Bike racks shall be located near building entrances, in a visible area, and major areas of pedestrian activity.
  4. If and as possible, bike racks may be located under a shelter or a building overhang or inset to provide shelter for bicycles.

## Trails

### 7-J: Require identification and maintenance of existing trails and establishing additional trails and connections in new development.

There are a number of ways to protect existing trails and establish new trails through ordinances. A few key points should be included in ordinances trail requirements. First, ordinances should require the identification of existing trails and/or recreational needs or impacts during the land development process in the subdivision and land development ordinance (preliminary plan requirements, impact assessments, conservation plan requirements). Second, ordinance requirements should protect existing trails or allow for the realignment of existing trails on a site. Third, there should be requirements for the identification and establishment of new trails as appropriate to connect to adjacent existing or planned facilities. Lastly, existing, realigned, or new trail alignments should be installed prior to the construction of building or other structures on a site. Identification and establishment of trails may occur through either the zoning or subdivision and land development ordinance, or a combination of both.



*The Struble Trail*

**Sample ordinance language:**

A. Pedestrian circulation. The following regulations shall apply to all uses:

1. The developer shall preserve existing trails or install trails and paths devoted to pedestrian, equestrian, or bicycle use other pedestrian facilities as necessary and desirable to achieve the following:
  - a. Logically continue, link or expand existing pedestrian facilities on, across and abutting the site consistent with the [Official Map, Improvements Plan Map, Comprehensive Plan, etc.]. The applicant may be requested to provide an easement dedicated to the municipality with connections to abutting properties that will enable the future continuation of the pedestrian network.
  - b. Alter the course of a trail within the tract for which development is proposed provided the proposed alteration exhibits quality trail design according to generally accepted principles of trail design. The municipality recommends the guidelines in [Trail & Path Planning: A Guide for Municipalities \(2007\)](#), available from the Chester County Planning Commission.
  - c. Provide pedestrian access to existing or anticipated public bus or train transportation pickup points, public parks, community facilities, commercial areas, or higher density residential developments.
  - d. Implement the pedestrian circulation plan identified on Map [x] of the [Comprehensive Plan, Improvements Plan, Official Map, etc.].

- e. Identify existing and proposed trails and paths during the site development process and install them prior to the construction of buildings and other structures.
- f. As appropriate, provide for the continued ownership and maintenance of trails and trail easements by having them dedicated to the public sector, donated to a private conservation organization, or placed under the care of a community association.

For more information see the [Trail & Path Planning: A Guide for Municipalities \(2007\)](#), available from the Chester County Planning Commission under Open Space Planning ([www.chesco.org](http://www.chesco.org)). This guide contains detailed recommendations for addressing trail planning and includes chapters on how to address trails in municipal plans and ordinances.





# CHAPTER EIGHT Action Plan









## Prioritization of recommendations

The Action Plan provides guidance for the implementation of the recommendations described in [Chapters 4, 5, 6 and 7](#). This table serves as the Region's blueprint for implementing the concepts within the Plan and fulfilling the Plan's Mission, Vision, and Goals. Each recommendation has been assigned a timeframe for completion as well as the method and agencies responsible for its implementation.

### Timeframe (When)

The Central Chester County Region recognizes that all of the recommendations cannot be advanced simultaneously. Therefore, the recommendations have been strategically allocated a recommended timeframe for initiating action on a particular method.

#### Immediate:

Recommendations that should be implemented within the next one to two years.

#### Short-term:

Recommendations to be implemented within the next three to five years.

#### Mid-term:

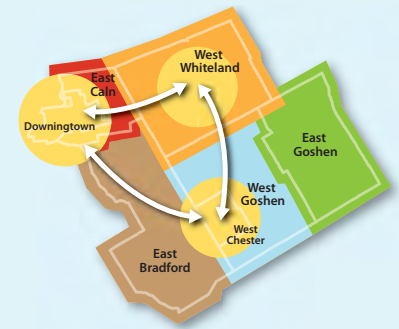
Recommendations to be implemented within the next five to ten years or when funding becomes available.

#### Long-term:

Recommendations to be implemented within the next ten to 20 years or when funding becomes available.

#### Ongoing:

Recommendations that will require a continued effort or are only undertaken on an as-needed basis. The initial action, if not already begun, should be undertaken in the next one to two years. These actions often involve monitoring or the continuation of existing programs.





## Responsibility (Who)

The group or groups with primary responsibility for implementing a recommendation are listed under this heading. Generally, the groups that have the most responsibility assigned to them are the planning commissions, the boards of supervisors or borough councils, or municipal administration. In some cases, a special task force or sub-committee may be formed consisting of members from one or more of the main groups.

The following abbreviations have been used in the table:

<b>GB</b>	Governing Body/Administration (Board of Supervisors/Borough Council/Municipal Managers)
<b>PC</b>	Planning Commission
<b>RM</b>	Roadmaster/Public Works/Engineer
<b>PADOT</b>	Pennsylvania Department of Transportation
<b>CCFP</b>	Chester County Facilities & Parks Department
<b>CCPC</b>	Chester County Planning Commission
<b>CCHD</b>	Chester County Health Department
<b>CCCC</b>	Chester County Cycling Coalition
<b>TMA</b>	Transportation Association of Chester County (TMACC)
<b>NP</b>	Non-Profits (Activate Chester County, etc.)

## Suggested Method of Implementation (What)

The suggested method of implementation provides a recommendation for the document, tool, or other method that may be used for implementation. The municipality and/or Region may decide to move ahead with a different method or methods to implement the specified recommendation.

## Goal: ESTABLISH a Comprehensive Network (Chapter 4)



#	Recommendation (What)	When	Who	Suggested Methods (What)	Page #
<b>All Facility Types</b>					
4-A	Identify/pursue funding sources.	Immediate	GB/PC	Coordinate internally and regionally to identify priority projects	
		Immediate	GB/PC CCPC	Add priority projects to County Transportation Improvement Inventory	
		Ongoing	GB/PC CCPC	Pursue both traditional and non-traditional funding sources (i.e. County, State, Federal, private, donations)	
4-B	Initiate further planning/engineering for priority projects.	Short-term	PC CCFP	Review priority projects with Township Engineer, Roadmaster, CCPC, and PennDOT (if applicable)	
<b>Bike Lanes</b>					
4-B	Install Bicycle Lanes in accordance with the Improvements Map.	Ongoing	RM PADOT	Where there is sufficient shoulder width, install bicycle lane signage and pavement legends.	
		Ongoing	RM PADOT CCPC	Where there is sufficient roadway width, rework pavement markings to include bicycle lanes. Coordinate with responsible entity(ies) to incorporate into repaving program.	
		Long-term	GB/PC PADOT	Where there is not sufficient roadway width, install bicycle lanes; perform engineering assessment.	
<b>Shared Roadways</b>					
4-C	Implement Shared Roadways in accordance with the Improvements Map.	Short-term	RM PADOT	Install "Share the Road" signage on roadways indicated on Improvements Map.	
<b>Multi-Use/Restricted-Use Trails</b>					
4-D	Construct Trails in accordance with the Improvements Map.	Short-term	GB/PC CCFP	Conduct preliminary engineering studies for trail improvements indicated on Improvements Map.	
		Mid/ Long-term	GB/PC CCFP	Perform final design/right-of-way/construction	
<b>Bicycle Boulevard</b>					
4-E	Implement Bicycle Boulevards in accordance with the Improvements Map.	Short-term	RM CCFP CCCC	Where current conditions are sufficient, install bicycle boulevard signage and pavement markings.	
		Mid-term	PADOT RM	Where current conditions are insufficient, apply traffic calming techniques in association with bicycle boulevard signage and pavement markings.	
<b>Signed Bike Route</b>					
4-F	Implement Signed Bike Routes in accordance with the Improvements Map.	Short-Term	CCCC	Develop wayfinding signage for use throughout the Region.	
		Short-term	PADOT RM	Install Bicycle Route signage to roadways indicated on Improvements Map.	
<b>Sidewalks</b>					
4-G	Construct Sidewalks in accordance with the Improvements Map.	Ongoing	PC RM	See Recommendation 7-E	



**Goal:**  
**PROVIDE Supportive Amenities (Chapter 5)**



#	Recommendation (What)	When	Who	Suggested Methods (What)	Page #
<b>All Amenities</b>					
5-A	Identify/pursue funding sources.	Ongoing	GB/PC	Coordinate internally and regionally to identify funding sources for projects	
		Short-term	GB/PC CCPC	Pursue both traditional and non-traditional funding sources (i.e. County, State, Federal)	
<b>Intersection Treatments</b>					
5-B	Improve Intersections as recommended in Chapter 5.	Short-term	GB/PC	Include identified intersections as elements within streetscape projects (particularly in the Boroughs)	
		Short-term	GB/PC PADOT	Allocate resources to manageable elements of projects (Crosswalks, Signage)	
		Short-term	RM PADOT	At signalized intersections coordinate improvements with PennDOT Traffic Unit and revise Signal Plan	
		Short-term	RM/PC PADOT	Pursue design and engineering for identified projects	
5-C	Install Midblock Crossing as recommended in Chapter 5.	Short-term	GB/PC	Include identified midblock crossing as elements within streetscape projects (particularly in the Boroughs)	
		Short-term	GB/PC PADOT	Allocate resources to manageable elements of projects (Crosswalks, Signage)	
		Short-term	RM PADOT	At signalized midblock crossings coordinate improvements with PennDOT Traffic Unit and revise Signal Plan	
		Short-term	RM/PC PADOT	Pursue design and engineering for identified projects	
		Immediate	RM	Follow Chapter 6: Recommendations for Pedestrian Channeling Devices	
<b>Bus Shelters</b>					
5-D	Install bus shelters in accordance with Chapter 5 locations.	Short-term	GB/PC	Include identified bus shelters as elements within streetscape projects (particularly in the Boroughs)	
		Short-term	GB/PC SEPTA TMA	Pursue design and engineering for identified projects	
		Mid/ Long-term	RM GB	Provide additional pedestrian amenities as part of project (i.e. connection to existing sidewalk systems and signage)	
		Immediate	GB/PC	Follow Chapter 7: Regulatory Tools Recommendations	

#	Recommendation (What)	When	Who	Suggested Methods (What)	Page #
<b>Bicycle Parking</b>					
5-E	Install bicycle parking in accordance with Chapters 3 & 5 descriptions and locations.	Short-term	PC	Include identified bicycle parking as elements within streetscape projects (particularly in the Boroughs)	
		Ongoing	CCCC GB	Coordinate with parties that own areas where proposed bicycle parking would be located	
		Immediate	PC	Follow Chapter 7: Regulatory Tools Recommendations	
<b>Showers</b>					
5-F	Provide shower facilities to encourage more active lifestyles	Immediate	PC CCFP CCCC TMA	Coordinate with employment centers and corporate parks owners located adjacent to Regional Trails or along multi-modal corridors	
		Short/ Mid-term	TMA CCCC	Follow Chapter 6: Recommendations for Employer Based Incentives	

<b>GB</b>	Governing Body/Administration (Supervisors/Council/Managers)	<b>CCPC</b>	Chester County Planning Commission
<b>PC</b>	Planning Commission	<b>CCHD</b>	Chester County Health Department
<b>RM</b>	Roadmaster/Public Works/Engineer	<b>CCCC</b>	Chester County Cycling Coalition
<b>PADOT</b>	Pennsylvania Department of Transportation	<b>TMA</b>	Transportation Association of Chester County (TMACC)
<b>CCFP</b>	Chester County Facilities & Parks Department	<b>NP</b>	Non-Profits (Activate Chester County, etc.)



**Goal:**  
**IMPROVE Health and Safety (Chapter 6)**



#	Recommendation (What)	When	Who	Suggested Methods (What)	Page #
<b>Bicycle/ Pedestrian Concepts in Driver’s Education</b>					
6-A	Emphasize the importance of bicycle and pedestrian safety concepts in new driver education.	Short-term	CCCC GB Region	Draft letter to PennDOT and State representatives with recommendations on information to include in the next edition of the PA Driver’s Manual.	
<b>Education &amp; Enforcement</b>					
6-B	Educate drivers, bikers, and walkers about responsibly “sharing the road.” Enforce relevant traffic laws.	Immediate	CCCC CCHD NP	Identify core team responsible to develop program.	
		Immediate	CCCC CCHD NP	Develop program and materials.	
		Immediate and Ongoing	CCCC CCHD NP	Deploy program.	
<b>Route Signage and Mapping</b>					
6-C	Provide guidance to help individuals determine the best route between destinations.	Short-term	CCCC RM PADOT	See Recommendation 4-F.	
		Immediate	CCCC CCPC	Draft region-wide map of bikeability, including suggested circuits. Make maps available to general public and post to web.	
		Short-term	CCCC NP	Develop QR codes and post them at all trailheads to provide trail users with useful information.	
<b>Maintenance Planning</b>					
6-D	Ensure pedestrian and bicycle facilities are free of obstacles and debris.	Immediate	CCCC RM PADOT	Identify high maintenance priorities and responsible entities. Refer to the maps within this Plan.	
		Ongoing	CCCC	Monitor maintenance status.	
<b>Employer Based Incentives</b>					
6-E	Develop incentive program for employers to encourage their employees to walk or bike to work.	Immediate and Ongoing	CCCC RM PADOT	Draft information packet and provide to employers.	
		Immediate and Ongoing		Develop and implement program.	
<b>Yield for Pedestrians Channeling Devices</b>					
6-F	Install warning devices to alert motorists of pedestrian crossings.	Immediate	RM	Acquire signs from PennDOT.	
		Immediate	RM	Place signs in locations that meet PennDOT standards.	

#	Recommendation (What)	When	Who	Suggested Methods (What)	Page #
<b>Walking School Bus</b>					
6-G	Develop a program for children to walk to school under adult supervision.	Immediate	CCHD NP	Develop pilot program for one school.	
		Immediate	CCHD NP	Launch pilot program.	
		Ongoing	CCHD NP	Demonstrate pilot program's success and expand regionally.	
<b>Bicycle Share</b>					
6-H	Make bicycles available to individuals who do not own them.	Short-term	CCCC TMA CCHD NP	Identify responsible entity(s) to develop a bicycle share program.	
		Short-term		Identify funding source, partners, and sponsors.	
		Short-term		Identify the type of bicycle share program that would best benefit the Region.	
		Mid-term		Identify bicycle share locations.	
		Mid-term		Purchase bicycles and other necessary supplies.	
		Mid-term		Launch program.	
<b>Educate Police</b>					
6-I	Keep police up to date on new developments in pedestrian and bicycle safety and laws.	Immediate	CCCC	Draft handout to provide to police agencies.	
		Mid-term	CCCC	Develop training session to be administered by Highway Safety Program.	
		Ongoing	CCCC	Update training materials.	
<b>Bike Rodeos</b>					
6-J	Teach children techniques to improve their safety and ability levels on bicycles.	Short-term	CCCC CCHD NP	Identify responsible entities, partners and sponsors.	
		Ongoing	CCCC CCHD NP	Identify locations and event details.	

<b>GB</b>	Governing Body/Administration (Supervisors/Council/Managers)	<b>CCPC</b>	Chester County Planning Commission
<b>PC</b>	Planning Commission	<b>CCHD</b>	Chester County Health Department
<b>RM</b>	Roadmaster/Public Works/Engineer	<b>CCCC</b>	Chester County Cycling Coalition
<b>PADOT</b>	Pennsylvania Department of Transportation	<b>TMA</b>	Transportation Association of Chester County (TMACC)
<b>CCFP</b>	Chester County Facilities & Parks Department	<b>NP</b>	Non-Profits (Activate Chester County, etc.)



**Goal:**  
**INTEGRATE within policies and practices (Chapter 7)**



#	Recommendation (What)	When	Who	Suggested Methods (What)	Page #
<b>Definitions</b>					
7-A	Amend municipal ordinances to include the terms for bicycle and pedestrian facilities defined in Chapter 7	Immediate	PC GB	Method specified in recommendation	
<b>Official Map and Ordinance</b>					
7-B	Identify and prioritize the installation of a pedestrian and bicycle network on municipal official maps (and ordinances)	Short-term and Ongoing	PC GB	Adopt or amend municipal official maps and ordinances to include pedestrian and bicycle facilities as specified in Chapter 7	
<b>Traffic Impact Studies</b>					
7-C	Promote the use of Municipal Traffic Impact Studies to facilitate the pedestrian and bicycle network	Short-term	PC GB	Amend municipal zoning and/or subdivision and land development (SLDO) ordinances to require traffic impact studies in accordance with the specifications include in Chapter 7	
<b>The Development Process</b>					
7-D	Work with applicants through the development to promote implementation of the Improvements Map (Chapter 4)	Ongoing	PC/GB CCPC	Method specified in recommendation	
		Short-term	PC/GB PADOT CCPC	Coordinate improvements with PennDOT's Highway Occupancy Permit approval (if applicable)	
<b>Sidewalks</b>					
7-E	Require Sidewalks in accordance with the Improvements Map	Immediate	PC GB	Amend municipal ordinances (preferably zoning) to require sidewalks on one or both sides of all public roads	
			PC GB	Adopt a sidewalk ordinance that requires the installation of sidewalks under certain circumstances in accordance with Chapter 7	
		Mid-term	PC GB	Amend municipal zoning ordinances to require fee-in-lieu of sidewalk regulations in accordance with Chapter 7	
<b>Crosswalks</b>					
7-F	Facilitate the installation or improvement of crosswalks in accordance with Chapter 5 and any other identified municipal priorities	Short-term	GB	When possible, allocate municipal resources to install marked crosswalks in accordance with Chapter 7	
		Ongoing	GB PADOT	Work with PennDOT to improve crosswalks when intersections with state roads are upgraded	
			PC GB	Work with applicants through the land development process to improve crosswalks associated with new land development. See Recommendation 7-D	

#	Recommendation (What)	When	Who	Suggested Methods (What)	Page #
<b>Internal Walkway</b>					
7-G	Require walkways within parking areas and between parking areas and buildings	Immediate	PC GB	Amend municipal subdivision ordinance to require walkways in accordance with Chapter 7. See Chapter 7 for model ordinance language	
<b>Bus/Transit Shelter</b>					
7-H	Require bus/transit shelters in accordance with Chapter 5	Immediate	PC GB	Amend municipal ordinances to require bus shelters based on size/units/density and the provision of connection to bus shelters	
<b>Bicycle Parking</b>					
7-I	Require bike parking facilities for uses that meet minimum requirements (Set forth by each municipality).	Immediate	GB RM	Amend municipal ordinances to require bike parking facilities based on type of use, density, and/or proximity to pedestrian and bicycle network.	

<b>GB</b>	Governing Body/Administration (Supervisors/Council/Managers)	<b>CCPC</b>	Chester County Planning Commission
<b>PC</b>	Planning Commission	<b>CCHD</b>	Chester County Health Department
<b>RM</b>	Roadmaster/Public Works/Engineer	<b>CCCC</b>	Chester County Cycling Coalition
<b>PADOT</b>	Pennsylvania Department of Transportation	<b>TMA</b>	Transportation Association of Chester County (TMACC)
<b>CCFP</b>	Chester County Facilities & Parks Department	<b>NP</b>	Non-Profits (Activate Chester County, etc.)



