

# CONNECTING OUR COMMUNITY

*A Plan for Connecting Allentown's Parks and People through a Network of Bicycle and Pedestrian Trails*



**Allentown**  
City without limits.

*Prepared For:*

**THE CITY OF ALLENTOWN, PENNSYLVANIA**

*Prepared By:*

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# Acknowledgements

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More than 500 City of Allentown residents contributed to this plan through public workshops, advocacy activities, comment forms, direct dialogue, and public outreach.

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# Table of Contents

<b>Executive Summary</b>	ES-1
<b>1. Introduction</b>	
<i>Project Purpose</i>	1-1
<i>Vision and Goals</i>	1-1
<i>Creating a World Class Network of Trails in Allentown</i>	1-2
<i>The Benefits of Trails and Greenways</i>	1-4
<b>2. Existing Conditions</b>	
<i>Overview</i>	2-1
<i>Demographic Analysis</i>	2-1
<i>Existing Trail Level of Service</i>	2-2
<i>Non-Motorized Travel User Demand</i>	2-25
<i>Public Input</i>	2-28
<i>Important Community Factors</i>	2-31
<i>Summary of Related Planning Documents</i>	2-33
<b>3. Concept Plan</b>	
<i>Concept Plan Overview</i>	3-1
<i>The Hub and Spokes Model</i>	3-1
<i>Designing the Trail Network</i>	3-2
<i>Signing the Trail Network</i>	3-4
<i>Methodology</i>	3-6
<i>The Concept Plan</i>	3-8
<i>Project Cut-Sheets</i>	3-8
<b>4. Implementation</b>	
<i>Policy/Administrative Action Steps</i>	4-1
<i>Organizational Framework Chart</i>	4-3
<i>Key Partners in Implementation</i>	4-7
<i>Facility Development</i>	4-12
<i>Operations and Management</i>	4-16
<i>Moving Forward in Tight Times</i>	4-18
<b>Appendices</b>	
<i>A. Public Involvement Summary</i>	A-1
<i>B. Program and Policy Toolbox</i>	B-1
<i>C. Funding Opportunities</i>	C-1
<i>D. Legal Feasibility</i>	D-1
<i>E. Signage Report</i>	E-1
<i>F. Design Toolbox</i>	F-1
<i>G. Operations and Management Toolbox</i>	G-1

**List of Maps and Project Cut-Sheets**

<i>Map 2.1 Population Density</i>	2-3
<i>Map 2.2 Workers Without Cars</i>	2-4
<i>Map 2.3 Pedestrian Commuters</i>	2-5
<i>Map 2.4 Bicycle Commuters</i>	2-6
<i>Map 2.5 Existing Parks + Trails</i>	2-7
<i>Map 2.6 Trail Service Radius</i>	2-8
<i>Map 2.7 Points of Interest</i>	2-9
<i>Map 2.8 Allentown Neighborhoods</i>	2-10
<i>Map 2.9 Bus Routes</i>	2-11
<i>Map 2.10 Regional Trail Resources</i>	2-12
<i>Map 2.11 Incidents by Census Tract</i>	2-13
<i>Map 3.1 Trail Network Concept Plan</i>	3-9
 <i>West End Trail Projects</i>	
<i>1 Trexler Memorial Park to Cedar Creek Park</i>	3-10
<i>2 Cedar Creek Park to Dadonna Park</i>	3-11
<i>3 Dadonna Park to Little Lehigh Parkway</i>	3-12
<i>4 Bike and Ped Streetscape Improvements</i>	3-13
 <i>Center City Trail Projects</i>	
<i>5 MLK Parkway Trail</i>	3-14
<i>6 Jordan Park to Jordan Meadows</i>	3-15
<i>7 Jordan Park to Fountain Park</i>	3-16
<i>8 Bike and Ped Streetscape Improvements</i>	3-17
 <i>1st and 6th Ward Trail Projects</i>	
<i>9 Lehigh River Rails-to-Trails</i>	3-18
<i>10 Auburn Cross Trails to Lehigh Landing</i>	3-19
<i>11 Bike and Ped Streetscape Improvements</i>	3-20
<i>12 Tilghman Street Bridge</i>	3-21
 <i>East Side Trail Projects</i>	
<i>13 Bike and Ped Streetscape Improvements</i>	3-22
<i>14 Hamilton Street Bridge</i>	3-23
<i>15 Green Alleyway Pilot Project</i>	3-24
<i>16 East Side Trail</i>	3-25
 <i>South Side Trail Projects</i>	
<i>17 Little Lehigh Creek Rails-to-Trails</i>	3-26
<i>18 South Side Bike and Ped Streetscape Improvements</i>	3-27
<i>19 Trout Creek Park to South Mountain Park</i>	3-28
<i>20 Auburn Cross Trails Park</i>	3-29



# CONNECTING OUR COMMUNITY

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## Executive Summary

### Introduction

'Connecting our Community' is a City of Allentown comprehensive trails study that contains the findings and recommendations of a year-long public planning process, including input from area residents, community groups, key departments, and the project Steering Committee. The purpose of this study is to identify potential trail projects, programs, policies, and guidelines that will better connect pedestrians and bicyclists to Allentown's excellent system of parks and trails.

In addition to trails, this study features many streetscape improvements for bicyclists and pedestrians. Such improvements are necessary to safely connect more people from neighborhoods to parks, schools and other important destinations, where creating typical off-road trails is not possible.<sup>1</sup> Examples of streetscape improvements include adding high-visibility crosswalks and crossing signals at intersections, and painting and signing select streets to better accommodate bicyclists. Programs are also identified in the study that can be used to increase safety while encouraging higher amounts of walking, bicycling, and trail use.



*The 'hubs and spokes' model conceptually illustrates how destinations are linked through various types of trail, bicycle, and pedestrian facilities.*

### Background

This study was financed in part by the Harry C. Trexler Trust, and by a grant from the Community Conservation Partnerships Program, Keystone Recreation, Park and Conservation Fund under the administration of the Pennsylvania Department of Conservation and Natural Resources, Bureau of Recreation and Conservation.

The City's intent to create a system of locally and regionally linked trails was established in advance of this study in the officially adopted *City of Allentown Comprehensive Plan, Allentown 2020* (see statement #8 on pages 17-18), and in the *City of Allentown Parks and Recreation Master Plan* (see initiative #1 on page 8). Furthermore, the *Leigh Valley Greenway Plan* recognizes the City of Allentown as the focal point to connecting regional trails. These and other relevant planning documents are summarized at the end of Chapter 2, including excerpts showing support for this type of study.

The goal of a connected system of trails is clearly supported in these plans because of the benefits that trails have for communities. Scores of studies from experts in the fields of public health, urban planning, urban ecology, real estate, transportation, sociology, and economics have acknowledged the substantial value of supporting walking and bicycling as they relate to active living, alternative transportation, and economic growth.<sup>2</sup>

For example, in York County, PA, a 2007 report showed an annual economic impact of more than \$6 million from the 21-mile Heritage Rail-Trail (*Heritage Rail Trail County Park User Survey and Economic Impact Analysis, 2007*). Comparatively, Allentown has nearly 34 miles of existing trails, yet these trails are currently disconnected and therefore cannot be operated, marketed, or used as a singular facility such as the Heritage Rail-Trail.<sup>3</sup>



*The City's intent for this study was established in the officially adopted City of Allentown Comprehensive Plan (Allentown 2020), and in the City of Allentown Parks and Recreation Master Plan.*



Above: The January 2010 public meeting for the trails study.

Connecting these valuable City resources will allow their full potential benefits to be realized. Communities across the United States are building similar trail networks. They do so because of their obligations to promote health, safety and welfare, and also because of the growing awareness of the many benefits associated with increasing community livability through bicycle, pedestrian, and trail resources.

### The Process

In January 2009, the City of Allentown began this study with a set of 'kick-off' meetings for the Steering Committee and the general public. Each meeting was attended by 20 or more people, and covered the overall scope, vision and goals of the study.

Spring of 2009 was dedicated to the analysis of existing plans, GIS data, field research, and the start of the public comment form. Initial findings were presented at the April 2009 committee meeting, at which point more than 450 people had filled out comment forms.

In June 2009, 32 people participated in a public workshop and provided hand-written and hand-drawn input on a draft concept map and draft list of potential projects. There were also 17 people in attendance at the June committee meeting. Throughout summer of 2009, the draft map and project list was refined based on input from the public and the committee.

In the fall of 2009, all earlier components of the draft study were assembled and the concept map was broken down into 20 individual projects. Sections on design guidelines, implementation and other topics were further refined. During this time, project consultants also assisted the City in applying for trail-related grants.

The full draft study was released in December 2009, followed by a final committee meeting and public meeting in January 2010. Twenty-three people and 74 people attended those meetings, respectively. Final edits and revisions are being made in advance of the February 2010 presentation to the City for adoption.



Above: The key inputs of the trails study.

Right: Summary Timeline: Throughout the process, many interviews and outreach efforts were conducted along the way, including three newsletters, a project website, Parks and Rec. publications, Morning Call news articles, a 'Benefits of Trails Brochure', and notices in the City's water bill mailings.

SUMMARY TIMELINE OF THE PLANNING PROCESS:	
January 2009	Committee Meeting; Public Meeting
February 2009	Existing Conditions Analysis; Start Project Website; Newsletter #1
March 2009	Stakeholder Interviews; Start Online Comment Form
April 2009	Begin Draft Concept Plan; Committee Meeting; Newsletter #2
June 2009	Present Draft Concept Plan; Committee Meeting; Public Meeting
August 2009	Assemble Full Draft Study; Committee Meeting; APD Meeting
October 2009	Grant Applications for Trail Funding; Newsletter #3
November 2009	Release Full Draft Study
January 2010	Committee Meeting; Public Meeting
February 2010	Final Plan and Presentations

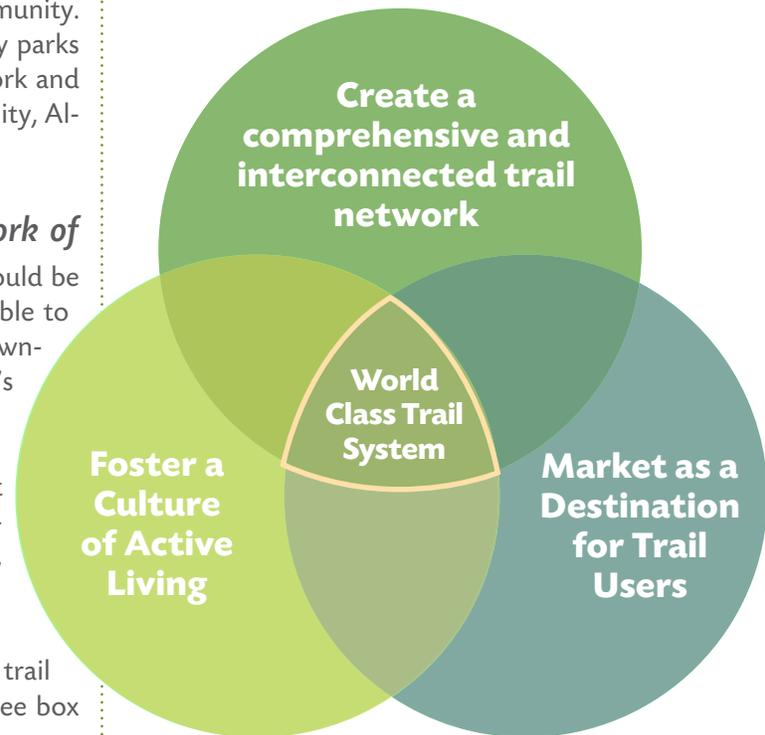
## The Vision: Creating a World Class Network of Trails in Allentown

The City of Allentown wants to create a trail network that will establish safe, continuous corridors throughout the community that promote outdoor recreation, facilitate non-motorized transportation and highlight the natural and cultural resources of the community. The trail network should complement the city's extraordinary parks system and serve to make Allentown a great place to live, work and raise a family. To be regarded as a "world class" trails community, Allentown must be willing and able to achieve the following:

**Create a comprehensive and interconnected network of trails that serves all user groups.** The primary goal should be that once you enter the community as a trail user, you are able to navigate, travel and link to popular destinations (parks, downtown, shopping, restaurants, public buildings, etc.). Allentown's physical environment must be altered to accommodate trail use. Roads and alleyways will need to be retrofitted to support pedestrian and bicycle use. Off-road trails will need to be built both strategically and as opportunities arise. Once key connections are made, Allentown will serve as a hub for regional trails, and will link seamlessly into the statewide network of trails.

**Foster a culture of active living.** Allentown must make trail use part of its culture (i.e. part of the community "DNA"). See box below for key steps involved in this process.

**Market and promote Allentown as a destination for trail users.** Portland, OR, Davis, CA, Durango, CO, Minneapolis, MN, Denver, CO and Raleigh, NC are all great models for world-class trails and greenways systems. They work hard to promote these systems by achieving the goals previously outlined. Allentown needs to strive for the same. Embrace trail use, build a comprehensive network of trails, and then market the city as a destination for trail users through outdoor programs, regional trail events, and a variety of local activities that incorporate and encourage trail use on a regular basis.



Above: The triple bottom line (society, environment, economy) is adapted for development of a world-class trail system.

### FOSTER A CULTURE OF ACTIVE LIVING

Businesses and hospitality organizations should cater to the needs of trail users and provide accommodations for mode of travel and navigation needs of these users. For example, bicycle rentals, racks and bicycle parking should be conveniently located for ease of safe access and use. Maps of the community trail system should be readily available. A world class trails community welcomes trail users with a willingness to make their travel and stay as enjoyable as possible.

Residents of the community could not only welcome and embrace trail users, but more of them could become active trail users themselves. Walking or bicycling to work, school, and for social occasions could be the norm rather than the exception. Ultimately, local residents need to be able to see themselves as pedestrians and bicyclists in order to create a truly bicycle and pedestrian friendly community.

City departments should continue working together to help make the community safe for all trail users. Trails, roadways, and intersections should be designed and constructed with pedestrian and bicycle safety in mind. Landscapes and trail facilities should be maintained to a high standard, through all four seasons. Harassment or intimidation by motorists or others should never be tolerated.

# Policy/Administrative Action Steps:



The PRTC could be represented by individuals from the Steering Committee (above) and individuals from local organizations such as Bike Allentown, Community Bike Works, Coalition for Appropriate Transportation, and others.

Below: Park and trail signs in Allentown could be consolidated and simplified to display easy-to-understand rules like the ones shown here.



## 1. Adopt This Plan

One major action step for the City of Allentown is to adopt, publicize, and champion this plan. This should be considered the first step in implementation. Through adoption of this document and its accompanying maps as the City's official trails plan, Allentown will be better able to shape transportation and development decisions so that they fit with the goals of this plan. Most importantly, having an adopted plan is extremely helpful in securing funding from state, federal, and private agencies. Adopting this plan does not commit the City to dedicate or allocate funds, but rather indicates the intent of the City to implement this plan over time, starting with these key action steps.

## 2. Establish a Parks, Recreation, and Trails Commission (PRTC)

As recommended in Allentown's *Parks and Recreation Master Plan*, the City of Allentown should establish a Parks, Recreation, and Trails Commission (PRTC) to assist in implementation. One leader from the PRTC should be appointed to bicycle, pedestrian, and trail issues. The PRTC's role would be to provide a communications link between the citizens and the City of Allentown, as well as an avenue for reviewing/revising project priorities for implementation. These organizations, and others like them, traditionally focus on education, advocacy, partnerships, events and community service. PRTC should begin quarterly meetings directly after members are appointed.

## 3. Seek Multiple Funding Sources and Facility Development Options

Multiple approaches should be taken to support bicycle, pedestrian, and trail facility development and programming. It is important to secure the funding necessary to undertake priority projects but also to develop a long-term funding strategy to allow continued development of the overall system. Capital and local funds for sidewalk, bicycle lane, crosswalk, and trail construction should be set aside every year, even if only for a small amount (small amounts of local funding can be matched to outside funding sources). A variety of local, state, and federal options and sources exist and should be pursued. These funding options are described in Appendix C: Funding. Other methods of pedestrian and bicycle facility development that are efficient and cost-effective are described at the end of Chapter 4: Implementation.

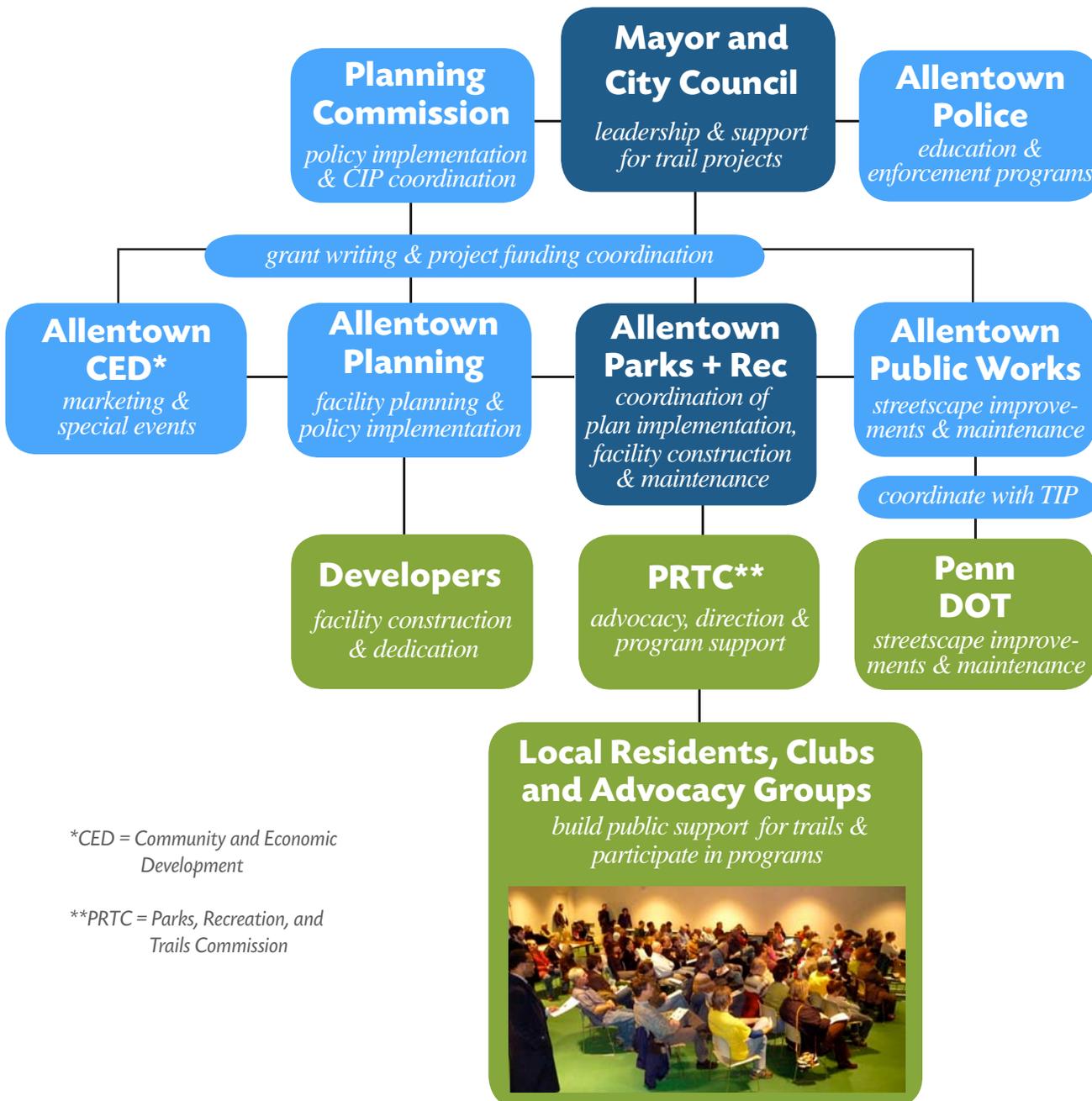
## 4. Improve Signage along Existing Trails and Parks

The goal of this study's signing program is to establish a framework of sign types, information hierarchy and design standards to create a seamless experience as one navigates along the City's trail system. One of the primary results of a coordinated sign program is that it naturally reduces clutter by presenting a consistent design and organized information. Key elements of the new sign program include establishing a brand identity and following the guidelines provided for kiosks, directional signs, interpretive signs, and regulatory signs.

## 5. Begin Semiannual Meeting With Key Project Partners

Coordination between key project partners will establish a system of checks and balances, provide a level of accountability, and ensure that recommendations are implemented. The City Trails Benchmark Report should be a product of these meetings, and goals for the year should be reconfirmed by participants. The meetings could also feature special training sessions on bicycle, pedestrian, and trail issues. Chapter 4 describes the roles and responsibilities of each of the key partners.

### ORGANIZATIONAL FRAMEWORK FOR IMPLEMENTATION WITH KEY PROJECT PARTNERS



\*CED = Community and Economic Development

\*\*PRTC = Parks, Recreation, and Trails Commission



## COMPLETE STREETS POLICY

The general spirit of a 'Complete Streets' policy could be summarized as follows:

*The future design and reconstruction of streets and intersections in the City of Allentown should aim to serve all types of users, including pedestrians, bicyclists, and motorists, and should be inclusive of all levels of ability, such as those in wheelchairs, the elderly and the young.*

## PREPARE ADDITIONAL DOCUMENTS AND STUDIES

**1. Develop trail construction documents for priority projects.** The City could prepare these in-house to save money, using the design guidelines of this plan and the project cut-sheets as starting points. The public should have an opportunity to be involved in the design of new facilities.

**2. Publish a user-friendly hand-held map and online website for bicycling and walking in Allentown.** The map would encourage individuals and groups to become more active through biking and walking by showcasing key destinations, suggested routes of travel, and safety/etiquette information. The map should also be available for download on a web site or City web page that is entirely dedicated to hosting information about bicycling, walking and trail-related issues in Allentown. The website and map could be maintained (and possibly even created) by volunteer members of the City's Parks, Recreation, and Trails Commission (PRTC), and should feature information about PRTC meetings and activities.

**3. Coordinate with LANTA** and associated boards and commissions to identify multi-modal transportation initiatives that would benefit pedestrians, bicyclists, and transit users in Allentown.

## 6. Improve Bicycle, Pedestrian and Trail Policies

While Allentown's Comprehensive Plan (Allentown 2020) and zoning codes address non-motorized transportation in a number of important ways, some policy updates are recommended to ensure future development provides pedestrian and bicycle facilities and improves bicycle/pedestrian friendliness. Specifically, a Complete Streets Policy should be drafted and adopted according to the guidelines set forth in this study (see sidebar at left).

## 7. Continue to Maintain Bicycle, Pedestrian, and Trail Facilities

Additional maintenance costs for bicycle, pedestrian, and trail facilities (striping, sweeping, etc) are small incremental costs relative to the City's overall public works budget. The recommended strategy is to integrate maintenance into ongoing City programs. For bicycling, an emphasis for maintenance crews is to sweep all the way to the curb or edge of shoulder (where many bicyclists often ride). For trails, emphasis should be on target areas of improvement. Efforts can also be made through the PRTC to establish 'adopt a trail' and 'adopt a bike-way' programs—bringing attention to maintenance 'hot-spots' as they arise. Consider sub-contracting for striping and painting bicycle and pedestrian facilities.

## 8. Prepare Additional Documents And Studies

This Plan should be viewed as a springboard for additional bicycle, pedestrian, and trail planning, research, and documentation. Additional efforts that should be completed are featured in the sidebar at left.

## 9. Launch Programs as New Projects are Built

Through cooperation with the City of Allentown, the PRTC, and groups such as the Coalition for Appropriate Transportation (CAT), strong education, encouragement, and enforcement campaigns could occur as new facilities are built. When an improvement has been made, the roadway environment has changed and proper interaction between motorists, bicyclists, and pedestrians is critical for the safety of all users. A campaign through local television, on-site enforcement, education events, and other methods will bring attention to the new facility, and educate, encourage, and enforce proper use and behavior.

## 10. Offer Training for Enforcement

Law enforcement officers have many things to worry about, yet bicyclists and pedestrians remain the most vulnerable forms of traffic. The APD was consulted during this planning process, and should continue to be involved in implementation. In many cases, officers and citizens do not fully understand state and local laws related to bicyclists and pedestrians. Training on this topic can lead to additional education and enforcement programs that promote safety. Training for Allentown's officers could be done through free online resources available from the National Highway Traffic Safety Administration (NHTSA) (see links at [www.bicyclinginfo.org/enforcement/training.cfm](http://www.bicyclinginfo.org/enforcement/training.cfm)). Should PennDOT release grants for education, the City could also seek instructor-led courses offered by the NHTSA or groups such as the Coalition for Appropriate Transportation (CAT).

### 11. Continue Working with Safe Routes to School (SRTS) Programs

In late 2009, the Allentown School District was awarded Safe Routes to School grants for Central and McKinley Elementary Schools and South Mountain Middle School. Safe Routes to School is a national program with \$612 million dedicated from Congress from 2005 to 2009. Local Safe Routes to School programs are sustained by parents, community leaders, and citizens to improve the health and well-being of children by enabling and encouraging them to walk and bicycle to school. This funding can also be used towards the development of school-related programs to improve safety and walkability initiatives. The City of Allentown should continue to assist its schools in applying for future SRTS programs, and be prepared to assist in implementation.

### 12. Become a Bicycle Friendly Community (BFC)

The BFC Campaign is an awards program that recognizes municipalities that actively support bicycling. A BFC provides safe accommodation for bicycling and encourages its residents to bike for transportation and recreation. Communities that are bicycle-friendly are seen as places with a high quality of life, and becoming a bicycle friendly community often translates into increased property values, business growth and increased tourism.

### 13. Create a Bicycle and Pedestrian Coordinator Position (when the City is capable)

*This recommendation is made with the understanding that it may take years before the City is able to afford to take on new positions.*

The City of Allentown will eventually need to create and fund the full-time dedicated position of Bicycle and Pedestrian Coordinator to handle the day-to-day implementation of recommended policies, programs and activities described within this study. The Coordinator will lead efforts to apply for funding, oversee planning, mapping, design and development of bicycle, pedestrian and trail projects. The Coordinator will assist with programming, public outreach, and monitoring of implementation. In the absence of a coordinator, these tasks fall to the Parks and Recreation Department and the Special Events Coordinator (some cities use a combination of staff, contract employees, consultants, partnerships with advocacy organizations and inter-department teams).

### 14. Benchmark Progress

Performance measures should be stated in an official City Trails Benchmark Report, prepared by the Parks and Recreation Director (with assistance from other departments) within one year after this plan is officially adopted. The report needs only to cover key performance measures, and should be concise (see Chapter 4: Implementation for suggested measures). This report could also be a showcase of success stories and would serve as a barometer for work that still needs to be accomplished.



*This study is an essential first step to becoming a BFC, yet Allentown will need to make significant strides in accomplishing the other action steps prior to applying for BFC status.*



*Advocacy groups (such as Bike Allentown shown above) are important partners for implementation of this study's recommendations. BikeAllentown is an advocacy group dedicated to improving the Greater Allentown community by promoting safe and enjoyable bicycling for transportation and recreation.*

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## Priority Trail Projects

Chapter 3: Concept Plan presents an overall map followed by individual project descriptions (pinpoints on the map correspond to individual projects). Below is a suggested list of priority projects. The City, with guidance from the Parks, Recreation, and Trails Commission (PRTC), should take charge of identifying and reevaluating priorities as implementation occurs. Priority projects should be selected based on several key factors: 1) *Available Funding*; 2) *Public Support*; 3) *Available Land/Right-of-Way*; 4) *Function of the Segment*; and 5) *Ease of Development*. These factors are discussed further in Chapter 4: Implementation.

### 20 **Auburn Cross Trails Park** (page 3-29)

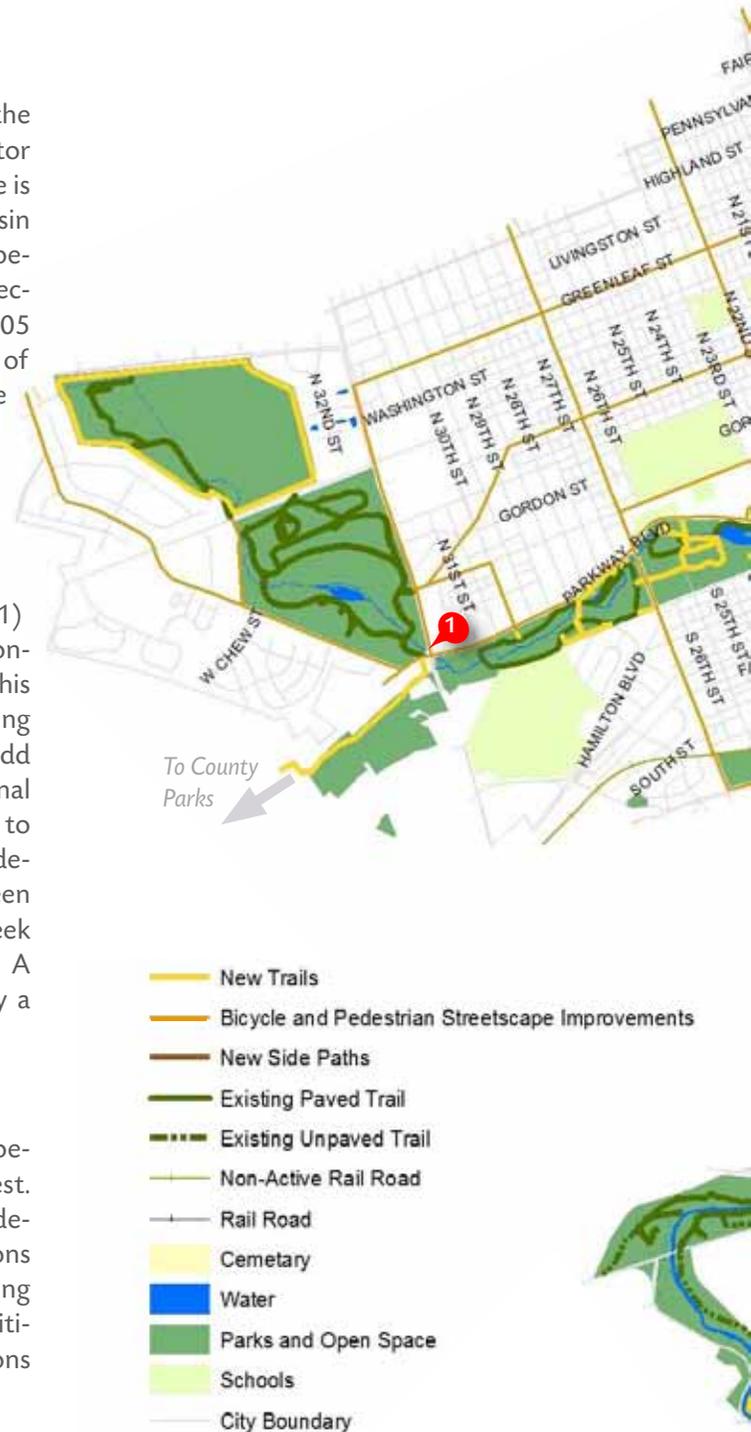
In the completed trail network, one could access almost any of the City's trails from the Auburn Cross Trails site (the former incinerator site). This will be the main hub for the entire trail network. The site is generally bound by MLK Blvd./Union St. to the north and west; Basin St. to the north and east; and Barber Street to the south. A site-specific map in Chapter 3 depicts a combination and compromise of recommended trail routes to reflect many factors, including: The 2005 *Auburn Cross Trails Park Conceptual Plan*; the proposed reactivation of rail; and the potential sale of this property by the City to private ownership. Regardless of future sale or development by the City, this study recommends the inclusion of trails on this site, requiring close coordination as the site develops.

### 2 **Cedar Creek Park to Dadonna Park** (page 3-11)

This connection is a priority primarily because of the function (connecting two key parks) and the relative ease of development. This short trail connection could be provided in part through the existing pedestrian activated signal on Hamilton Street (near S 22nd St). Add high visibility crosswalk markings and a pedestrian countdown signal to the Hamilton St. crossing and consider closing part of Yocco Dr. to automobiles. Add new crosswalks and a minimum 10-foot wide sidewalk or side path along the south side of Hamilton Street between S. 22nd St. and the creek to the east. Trail should follow the creek south, on the SW side, then cross Walnut St. into Dadonna Park. A short easement will be necessary and should be accompanied by a landscaped buffer to the adjacent properties.

### 5 **MLK Parkway Trail** (page 3-14)

The MLK Parkway Trail will be Allentown's strongest connection between downtown and the City's extensive park resources to the west. The existing 'trails' within Fountain Park are a combination of side-paths and sidewalks, often lacking connectivity. Recommendations include filling the gaps in the existing system, enhancing and adding new spurs to adjacent trails and the downtown core, and making critical on-street improvements, such as pedestrian-friendly intersections and striping bicycle lanes along MLK Boulevard.



# CONCEPT PLAN

To South White Hall,  
Jordan Creek Parkway and  
Trexler Game Preserve

To Catsasauqua  
and the Ironton  
Rail-Trail

To Bethlehem

To Fountain Hill,  
Lehigh Uplands  
Preserve and  
Walking  
Purchase Park

To Emmaus



DATA SOURCE:  
CITY OF ALLENTOWN



**Concept Plan Highlights:**  
 34 miles of existing trail<sup>3</sup>  
 14 miles of new trail  
 47 miles of bicycle shared-lane markings  
 4 miles of bicycle lanes or paved shoulders  
 2 miles of new side paths  
 New trail bridges and bridge retrofits  
 New crosswalks and pedestrian facilities

Miles



## Priority Bike/Ped Improvements

Grant funding awarded to the City of Allentown in 2009 for bicycle infrastructure improvements (sharrows and bicycle racks) could be used on the following streets, with detailed recommendations to be determined in part by the City's future PRTC:

### Priority Center City Bike/Ped Improvements:

- 8 Turner, Linden, 4th, Union, and Lehigh streets (page 3-17)
- 7 Jordan Park to Fountain Park (5th + 6th) (page 3-16)

### Priority 1st and 6th Wards Bike/Ped Improvements:

- 11 Hamilton and Front Street (page 3-20)

### Priority East Side Bike/Ped Improvements:

- 13 Union Blvd, Irving St, Albert St (page 3-22)
- 15 Green Alleyway Pilot Project on Delp and Clair Streets (page 3-24)

### Priority West End Bike/Ped Improvements:

- 4 Turner, Linden, 16th, and Ott streets (page 3-13)

### Priority South Side Bike/Ped Improvements:

- 18 Wyoming St, Emaus Ave, Chapel Ave, 2nd, and Oxford Drive (page 3-27)



This map of priority bike/ped improvements is a starting point and is subject to change with further input from City staff and the PRTC.



**EXISTING** (*Auburn Cross Trails to Lehigh Landing*)



**PROPOSED** (*Auburn Cross Trails to Lehigh Landing*)



**EXISTING** (*Little Lehigh Creek Rails-to-Trails*)



**PROPOSED** (*Little Lehigh Creek Rails-to-Trails*)

### Projects Currently Underway

- 16 *East Side Trail + Canal Towpath* (page 3-25)

### Projects to be Ranked as Implementation Occurs

*All Other Bike/Ped Improvements* (chapter 3)

- 3 *Dadonna Park to Little Lehigh Parkway* (page 3-12)
- 6 *Jordan Park to Jordan Meadows* (page 3-15)
- 19 *Trout Creek Park to South Mountain Park* (page 3-28)

### Opportunity-Based Projects

- 17 *Little Lehigh Creek Rails-to-Trails* (initially depending on funding opportunities; page 3-26)
- 1 *Trexler Memorial Park to Cedar Creek Park* (requires close coordination with PennDOT; page 3-10)
- 12 *Tilghman Street Bridge* (requires close coordination with PennDOT; page 3-21)
- 14 *Hamilton Street Bridge* (requires close coordination with PennDOT; page 3-23)
- 10 *Auburn Cross Trails to Lehigh Landing* (requires close coordination as riverfront develops; page 3-19)
- 9 *Lehigh River Rails-to-Trails* (requires close coordination as riverfront develops; page 3-18)

## Moving Forward in Tight Times

The recommended projects, programs, and policies identified in this study represent a visionary and ambitious plan for the future of Allentown. At first, this may appear daunting or impractical during the tough economic climate that faces Allentown and most U.S. cities. However, such projects are in fact better implemented over time, in logical stages. As lower-cost projects and initiatives are taken, they will help build momentum and support for the larger, more ambitious tasks. For example, Allentown was already awarded a grant in 2009 to begin implementing some aspects of the plan. Key bicycle and pedestrian improvements along with short, but critical, trail segments could also have a great impact for little investment.



The overall horizon for more ambitious trail projects is much longer-term: anywhere from five to 15 years, depending on the level of political support and available funding. As Allentown and other potential partners begin to recover economically, the City may have more opportunities for larger trail projects, ideally with the outside assistance of grants and public-private partnerships. Many such opportunities are outlined in the funding appendix of this study.

**EXISTING** (*Oxford Drive at Alton Park*)



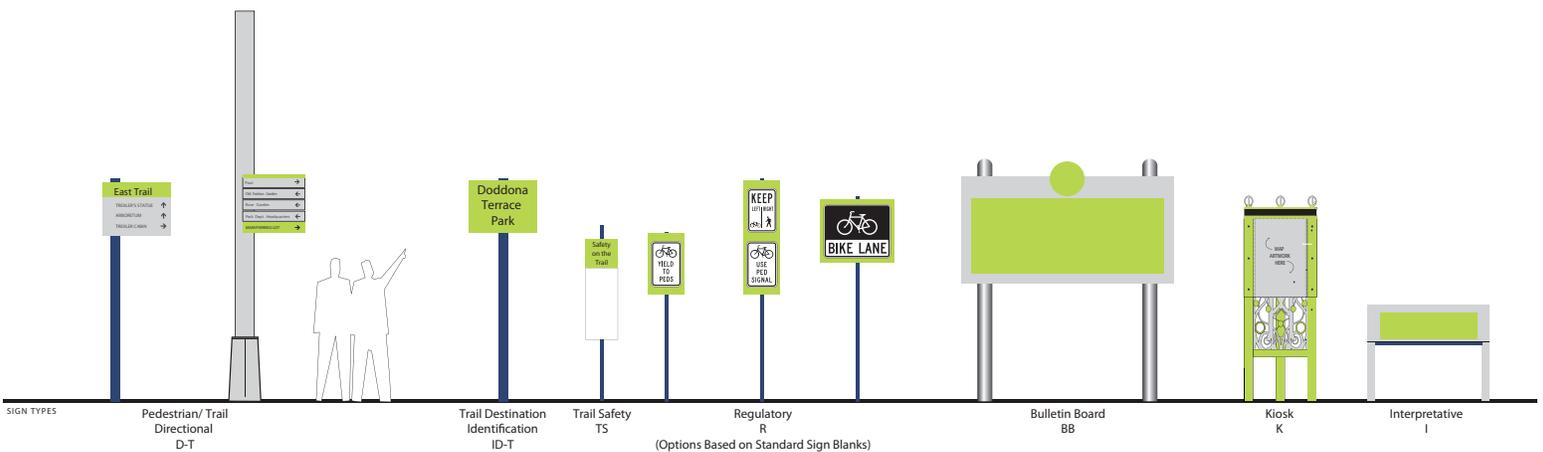
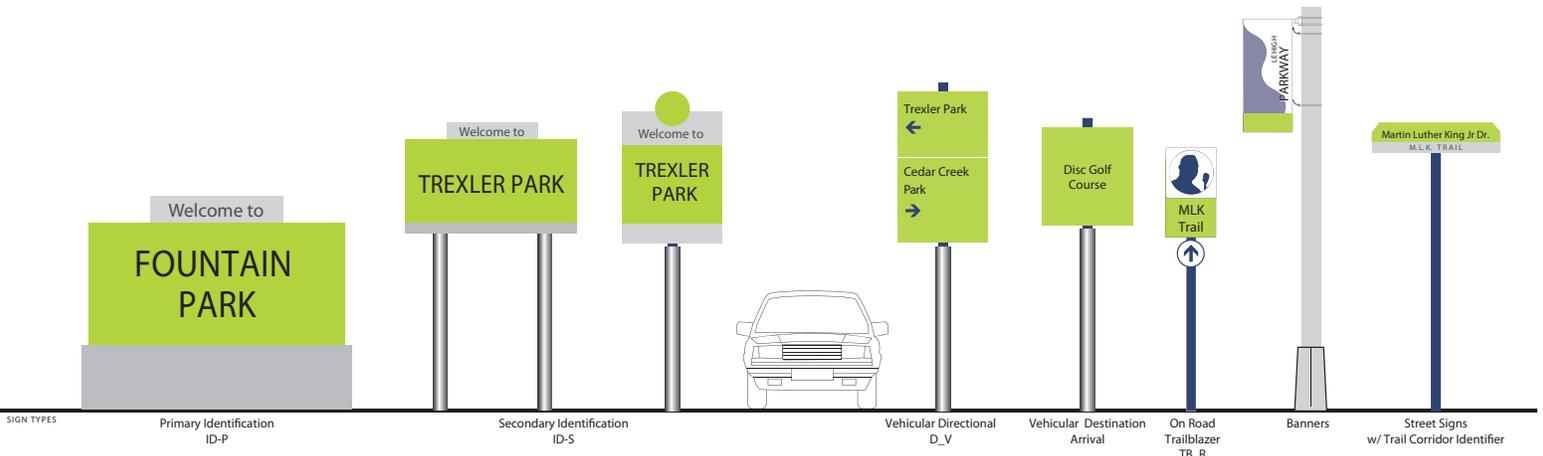
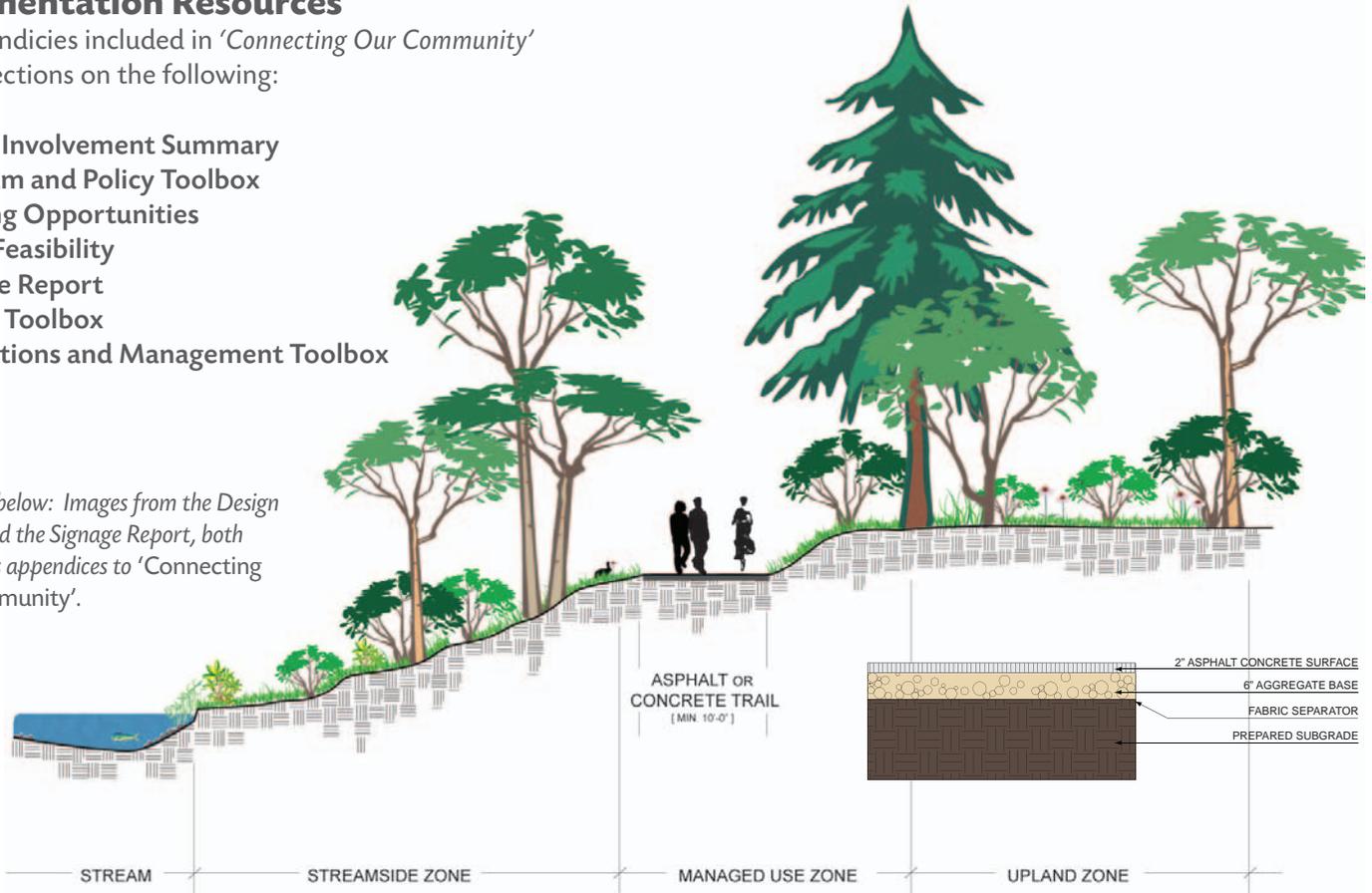
**PROPOSED SIDEPATH** (*Oxford Drive at Alton*)

## Implementation Resources

The appendices included in 'Connecting Our Community' feature sections on the following:

- A. Public Involvement Summary
- B. Program and Policy Toolbox
- C. Funding Opportunities
- D. Legal Feasibility
- E. Signage Report
- F. Design Toolbox
- G. Operations and Management Toolbox

Right and below: Images from the Design Toolbox and the Signage Report, both included as appendices to 'Connecting Our Community'.



(Options Based on Standard Sign Blanks)

From the top, from left to right: 1) mapping input at the January 2010 public meeting, 2) Lehigh Parkway, 3) public review of draft project cut-sheets, 4) Lehigh Parkway, 5) 8th Street bridge over MLK Parkway, 6) Trexler Memorial Park, 7) example image of Safe Routes to School; 8) Cedar Creek Park, 9) example image of a bicycle shared-lane marking, a.k.a. 'sharrow'. Photos 5, 6, and 8 by Robert Hosking.



### EXECUTIVE SUMMARY FOOTNOTES

<sup>1</sup>There were more than 100 incidents related to walking and bicycling (21 bicycle-related and 87 pedestrian-related) in close proximity to elementary schools in Allentown from 1/1/2006 to 12/31/2008. Source: City of Allentown Safe Streets Grant Application (2009).

<sup>2</sup>Studies referenced in the plan for benefits of trails: York County Department of Parks and Recreation: Heritage Rail Trail County Park User Survey and Economic Impact Analysis (2007); American Planning Association: How Cities Use Parks for Economic Development (2002); National Association of Realtors and National Association of Home Builders: Consumer's Survey on Smart Choices for Home Buyers (2002); Institute for Transportation Research and Education: Assessing the Economic Impact of Bicycle Facilities (2006); Virginia Department of Conservation: The Virginia Creeper Trail: An Assessment of User Demographics, Preferences, and Economics (2004); Rails to Trails Conservancy: Trails and Tourism (2006)/Economic Benefits of Trails and Greenways (2005)/Health and Wellness Benefits (2006); U.S. Department of Health and Human Services, Centers for Disease Control and Prevention: Guide to Community Preventive Services (2002); Federal Emergency Management Agency: Building Stronger: State and Local Mitigation Planning (2005); The League of American Bicyclists: The Economic Benefits of Bicycle Infrastructure Investments (2009); U.S. Environmental Protection Agency: Planning for a Sustainable Future (2008); CEOs for Cities: Walking the Walk: How Walkability Raises Home Values in U.S. Cities (2009).

<sup>3</sup>The calculation for mileage of existing trails is based on a combination of the City of Allentown's GIS data, and data collected and created as part of this planning process. The figure includes 19.3 miles of unpaved trails and 14.3 miles of paved trails, most of which are in Jordan Park, Trout Creek Park, Fountain Park, Lehigh Parkway, Cedar Creek Park, Trexler Memorial Park, and the Lehigh Canal towpath.

# Chapter One Introduction

**Chapter Overview** This chapter presents the project purpose, visions and goals, and the overall benefits for a city wide network of trails in Allentown.

## Project Purpose

In January 2009, the City of Allentown commissioned Greenways Incorporated to prepare a trails network feasibility study. The purpose of this study, known as *Connecting Our Community*, is to build upon the nearly 34 miles of existing multi-use trails in Allentown, which are primarily found along the City's waterways, including Jordan Park, Trout Creek Park, Fountain Park, the Little Lehigh Creek Parkway, Cedar Creek Park, Trexler Memorial Park, and the Lehigh Canal Park. This study recommends that the City develop a broader framework for an interconnected system of pathways that will link a variety of resources to key destinations and recreational opportunities throughout the community. A network of greenways and trails will not only provide Allentown residents with multi-modal transportation options for commuting between home and work, but will also greatly increase accessibility to the City's many recreational, cultural, and historic destinations. By supplementing existing transportation infrastructure while simultaneously serving to conserve the City's natural and scenic resources, trails will serve as an important step in achieving sustainable and healthy economic growth. Building upon the Commonwealth's Greenways initiative, the Leigh Valley Greenways Plan, Allentown's Parks and Recreation Master Plan, and other local planning efforts, this study provides detailed recommendations and design development guidelines, which together will provide a strategic framework for building and operating a future comprehensive network of trails.

## Vision and Goals

The City of Allentown wants to create a "world class" trails and greenway network that will establish safe, continuous corridors throughout the community that promote outdoor recreation, facilitate non-motorized transportation and highlight the natural and cultural resources of the community. The trails network should complement the city's extraordinary parks system and serve to make Allentown a great place to live, work and raise a



family. Residents of Allentown value a high quality of life, and want to ensure that it is preserved and enhanced as the area continues to grow in population. The goals of *Connecting Our Community* reflect this vision, and include the following for success:

- Expand on existing planning efforts to develop a safe and interconnected citywide trail network that links people to destinations, both locally and regionally, including adjacent counties.
- Connect residents to existing and proposed state and regional trails and greenways, including the Delaware and Lehigh National and State Heritage Corridor.
- Improve the quality of life in Allentown by developing a trail network and related programs designed to promote active lifestyles, community cohesion, and more equitable transportation choices.
- Protect valued open space as an ecological, scenic, and economic resource for current and future generations of Allentown residents.
- Enhance bicycle and pedestrian connectivity throughout the city by offering trail routes to destinations and transit centers, ultimately decreasing dependence on the automobile and unstable gas prices.
- Stimulate tourism in Allentown by improving access to the numerous historic sites and scenic landscapes.

### **Creating a World Class Network of Trails in Allentown**

Creating a “world class” trails and greenways network throughout Allentown will require a concerted effort on the part of public and private sector resources. Allentown possesses the raw ingredients for a comprehensive, state-of-the-art system of trails. The vision must be shared by all who reside within the community and efforts must begin in earnest to transform the vision into reality. To be regarded as a “world class” trails community, Allentown must be willing and able to achieve the following:

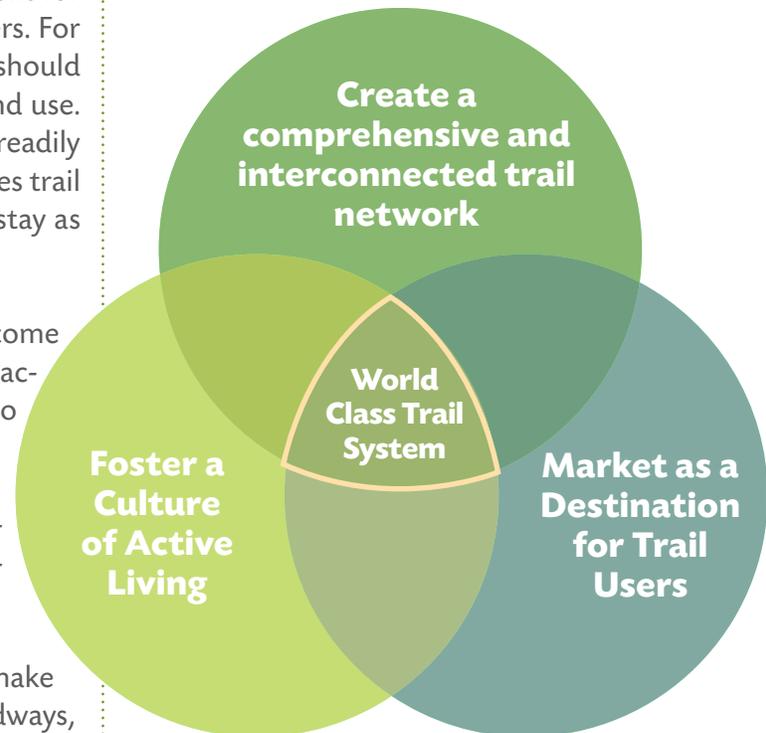
1. *Create a comprehensive and interconnected network of trails that serves all user groups.* The primary goal should be that once you enter the community as a trail user, you are able to navigate, travel and link to all of the popular destinations (parks, downtown, schools, restaurants, public buildings, etc.). Al-

lentown's physical environment must be altered to accommodate trail use. Roads and alleyways will need to be retrofitted to support pedestrian and bicycle use. Off-road trails will need to be built both strategically and as opportunities arise.

2. *Foster a Culture of Active Living: Allentown must make trail use part of its culture (i.e. part of the community "DNA").*

- Businesses and hospitality organizations should cater to the needs of trail users and provide accommodations for mode of travel and navigation needs of these users. For example, bicycle rentals, racks and bicycle parking should be conveniently located for ease of safe access and use. Maps of the community trail system should be readily available. A world class trails community welcomes trail users with a willingness to make their travel and stay as enjoyable as possible.
- Residents of the community should not only welcome and embrace trail users, but they should also be active trail users themselves. Walking or bicycling to work, school, and for social occasions should be the norm not the exception. Ultimately, local residents need to be able see themselves as pedestrians and cyclists in order to create a truly bicycle- and pedestrian-friendly community.
- City departments should work together to help make the community safe for all trail users. Trails, roadways, and intersections should be designed and constructed with pedestrian and bicycle safety in mind. Landscapes and trail facilities should be maintained to a high standard, through all four seasons. Harassment or intimidation by motorists or others should never be tolerated.

3. *Allentown should market and promote itself as a destination for trail users.* Portland, Oregon, Davis, California, Durango, Colorado, Minneapolis, Minnesota, Denver, Colorado and Raleigh, North Carolina are all great models for world-class trails and greenways systems. They work hard to promote these systems by achieving the goals previously outlined. Allentown needs to strive for the same. Embrace trail use, build a comprehensive network of trails, and then market the city as a destination for trail users through outdoor programs, regional trail events, and a variety of local activities that incorporate and encourage trail use on a regular basis.



*Above: The triple bottom line (society, environment, economy) is adapted for development of a world-class trail system.*

## The Benefits of Trails and Greenways

Since creating a world class trail system will require a great amount of time and resources, it is important to remember the many benefits of trails and greenways. These benefits include:

- Creating value and generating economic activity
- Bicycle and pedestrian transportation
- Improving health through active living
- Clear skies, clean rivers, and protected wildlife
- Protecting people and property from flood damage
- Enhancing cultural awareness and community identity

### *Creating Value and Generating Economic Activity*

There are many examples, both nationally and locally, that affirm the positive connection between greenspace and property values<sup>1</sup>. Residential properties will realize a greater gain in value the closer they are located to trails and greenspace. According to a 2002 survey of home buyers by the National Association of Realtors and the National Association of Home Builders, trails ranked as the second most important community amenity out of a list of 18 choices (highway access was #1)<sup>2</sup>. Findings from the Trust for Public Land's Economic Benefits of Parks and Open Space, and the Rails-to-Trails Conservancy's Economic Benefits of Trails and Greenways (listed below) illustrate how this value is realized in property value across the country.

Trails and greenways increase real property values:

- Front Royal, VA: A developer who donated a 50-foot-wide, seven-mile-long easement for a new trail sold all 50 parcels bordering the trail in only four months.
- Apex, NC: The Shepard's Vineyard housing development added \$5,000 to the price of each of the 40 homes adjacent to the regional greenway – and those homes were still the first to sell<sup>3</sup>.
- Dayton, OH: Five percent of the selling price of homes near the Cox Arboretum and park was attributable to the proximity of that open space.
- Salem, OR: land adjacent to a greenbelt was found to be worth about \$1,200 an acre more than land only 1,000 feet away.
- Oakland, CA: A three-mile greenbelt around Lake Merritt, near the city center, was found to add \$41 million to surrounding property values.



A new residential development advertises the “Last Greenway Sites Available”

- Seattle, WA: Homes bordering the 12-mile Burke-Gilman trail sold for six percent more than other houses of comparable size.
- Brown County, WI: Lots adjacent to the Mountain Bay Trail sold faster and for an average of nine percent more than similar property not located next to the trail.

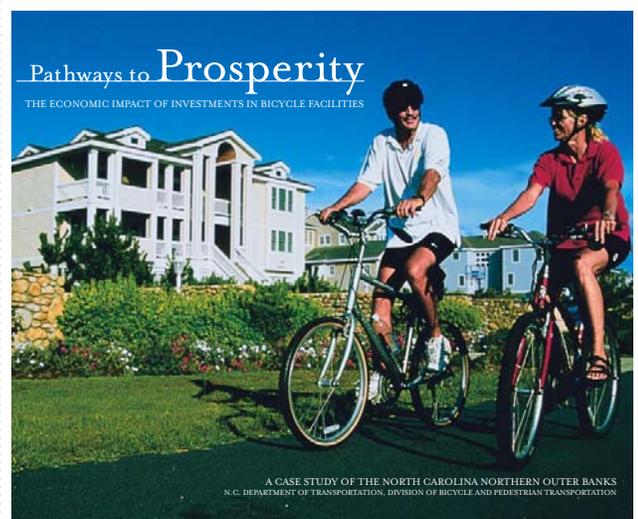
Tourism and recreation-related revenues from trails and greenways come in several forms. Trails and greenways create opportunities in construction and maintenance, recreation rentals (such as bicycles, kayaks, and canoes), recreation services (such as shuttle buses and guided tours), historic preservation, restaurants and lodging. The industry rule of thumb is that for every one dollar of investment, there is a three dollar return on that investment, if not more.

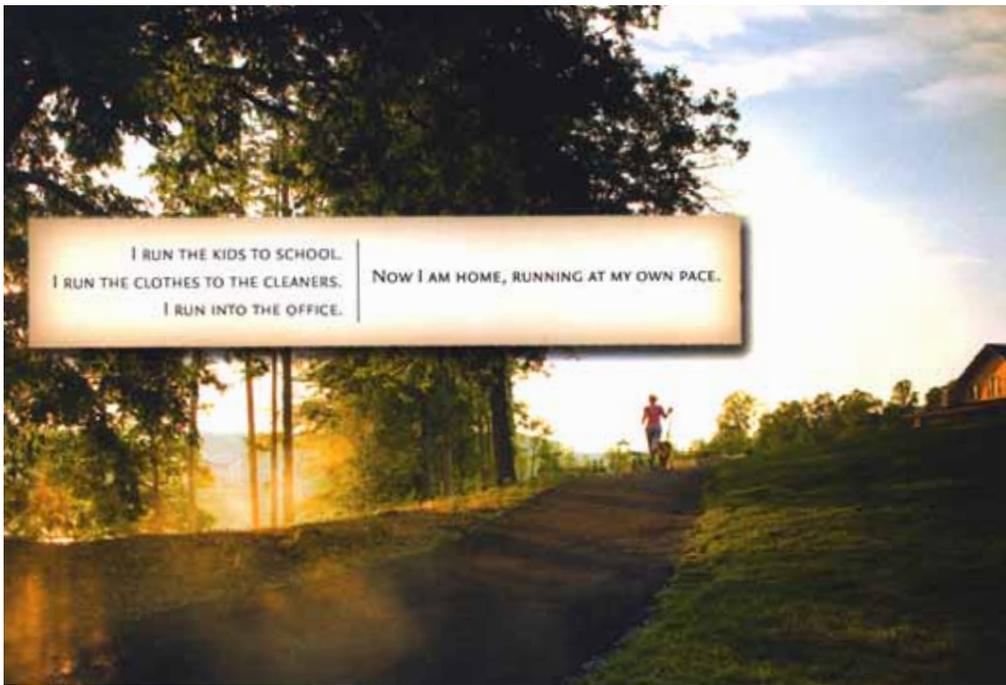
Trail tourism creates economic impacts:

- York County, PA, a 2007 report showed an annual economic impact of more than \$6 million from the 21-mile Heritage Rail-Trail (Heritage Rail Trail County Park User Survey and Economic Impact Analysis, 2007).
- Allegheny Passage, PA: The 2008 'Trail Town Economic Impact Study' found a solid economic contribution from trail users, with respondents estimating that on average, one-quarter (24.9%) of the business they received in 2007 could be attributed to the existence of the area's biking/hiking trail.
- Damascus, VA: At the Virginia Creeper Trail, a 34-mile trail in southwestern Virginia, locals and non-locals spend approximately \$2.5 million annually related to their recreation visits. Of this amount, non-local visitors spend about \$1.2 million directly in the Washington and Grayson County economies<sup>5</sup>.
- Morgantown, WV: The 45-mile Mon River trail system is credited by the Convention and Visitors Bureau for revitalizing an entire district of the city, with a reported \$200 million in private investment as a direct result of the trail<sup>6</sup>.
- The Outer Banks, NC: Bicycling is estimated to have an annual economic impact of \$60 million and 1,407 jobs supported from the 40,800 visitors for whom bicycling was an important reason for choosing to vacation in the area. The annual return on bicycle facility development in the Outer Banks is approximately nine times higher than the initial investment<sup>4</sup>.

*“The industry rule of thumb is that for every one dollar of investment, there is a three dollar return on that investment, if not more.”*

Download the full report, “Pathways to Prosperity”, from: [http://ncdot.org/transit/bicycle/safety/safety\\_economicimpact.html](http://ncdot.org/transit/bicycle/safety/safety_economicimpact.html)





I RUN THE KIDS TO SCHOOL.  
I RUN THE CLOTHES TO THE CLEANERS.  
I RUN INTO THE OFFICE.

NOW I AM HOME, RUNNING AT MY OWN PACE.

Developers are taking advantage of the positive impact of trails on property values by marketing their greenways; left and below are examples of two magazine advertisements from developers that focus their marketing on greenways.



**I WANT**  
top schools nearby  
my kids to get fresh air  
my kids to have lots of friends  
our TV to be ignored

A place where video games get lonely from lack of use. A place where people are always going somewhere—families hiking on the miles of trails, or kids biking to our onsite top-rated schools. A place with best-in-class amenities, including a huge Aquatic Club. A place with a natural setting and tight-knit neighbors that always seem to be doing something together. All this and beautiful homes to match? That's FishHawk Ranch.



- Tallahassee, FL: The Florida Department of Environmental Protection Office of Greenways and Trails estimate an economic benefit of \$2.2 million annually from the 16-mile St. Marks Trail<sup>8</sup>.
- San Antonio, TX: Riverwalk Park, created for \$425,000, has surpassed the Alamo as the most popular attraction for the city's \$3.5-billion tourism industry<sup>7</sup>.
- Leadville, CO: In the months following the opening of the Mineral Belt Trail, the city reported a 19 percent increase in sales tax revenues.
- Dallas, TX: The 20-mile Mineral Wells to Weatherford Trail attracts 300,000 people annually and generates local revenues of two million dollars.

### *Bicycle and Pedestrian Transportation*

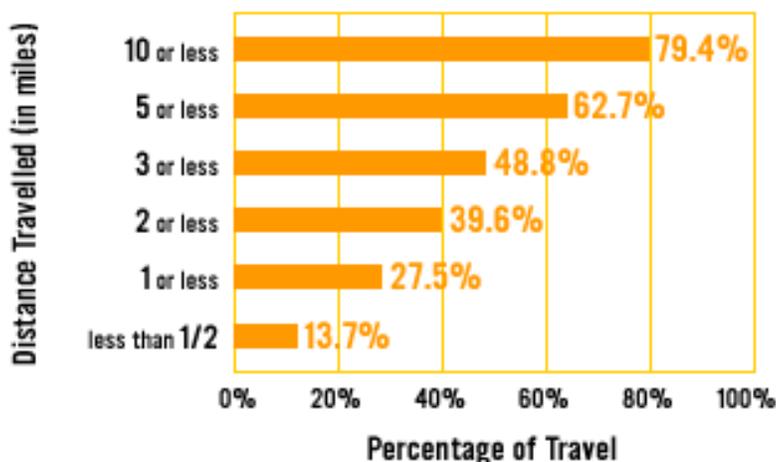
The sprawling nature of many land development patterns often leaves residents and visitors with no choice but to drive, even for short trips. In fact, nearly two-thirds (62.7%) of all trips we make are for a distance of five miles or less. Surveys by the Federal Highway Administration show that Americans are willing to walk as far as two miles to a destination and bicycle as far as five miles. A complete greenway and trails network in Allentown, as part of the local transportation system, will offer effective transportation alternatives by connecting homes, workplaces, schools, parks, downtown, and cultural attractions, sometimes providing connections faster than by car.

Greenway networks can provide alternative transportation links that are currently unavailable. Residents who live in neighbor-



*Above: By walking or biking for our trips that are less than 2 miles, we could eliminate 40% of local car trips.*

### Daily Trip Distances



*“A complete greenway and trails network in Allentown, as part of the local transportation system, will offer effective transportation alternatives by connecting homes, workplaces, schools, parks, downtown, and cultural attractions, sometimes providing connections faster than by car.”*

*Above: ‘Daily Trip Distances’ chart from the Bicycle and Pedestrian Information Center website, [www.pedbikeinfo.org](http://www.pedbikeinfo.org)*

*“Individuals must choose to exercise, but communities can make that choice easier.”*

*-Rails-to-Trails Conservancy*

*“The CDC determined that creating and improving places to be active could result in a 25 percent increase in the number of people who exercise at least three times a week.”*

*-U.S. Department of Health and Human Services, Centers for Disease Control and Prevention*

hoods outside of downtown areas are able to walk or bike downtown for work, or simply for recreation. Residents are able to circulate through urban areas in a safe, efficient, and fun way. Residents are able to move freely along greenways without paying increasingly high gas prices and sitting in ever-growing automobile traffic. Last but not least, connectivity through alternative transportation can be achieved once adjacent greenway and trails networks are completed and combined with bus routes and other transit/car pooling opportunities.

#### *Improving Health through Active Living*

Allentown’s greenways and trails network will contribute to the overall health of residents by offering people attractive, safe, accessible places to bike, walk, hike, jog, skate, and possibly places to enjoy water-based trails. In short, the trails network will create better opportunities for active lifestyles. The design of our communities—including towns, subdivisions, transportation systems, parks, trails and other public recreational facilities—affects people’s ability to reach the recommended 30 minutes each day of moderately intense physical activity (60 minutes for youth). According to the Centers for Disease Control and Prevention (CDC), “Physical inactivity causes numerous physical and mental health problems, is responsible for an estimated 200,000 deaths per year, and contributes to the obesity epidemic”<sup>9</sup>.

In identifying a solution, the CDC determined that by creating and improving places in our communities to be physically active, there could be a 25 percent increase in the percentage of people who exercise at least three times a week<sup>10</sup>. This is significant considering that for people who are inactive, even small increases in physical activity can bring measurable health benefits<sup>11</sup>. Additionally, as people become more physically active outdoors, they make connections with their neighbors that contribute to the health of their community.

Many public agencies are teaming up with foundations, universities, and private companies to launch a new kind of health campaign that focuses on improving people’s options instead of reforming their behavior. A 2005 Newsweek Magazine feature, “Designing Heart-Healthy Communities”, cites the goals of such programs: “The goals range from updating restaurant menus to restoring mass transit, but the most visible efforts focus on making the built environment more conducive to walking and cycling.”<sup>12</sup> Clearly, the connection between health and greenways is becoming common knowledge. The Rails-to-Trails Conservancy puts it simply: “Individuals must choose to exercise, but communities can make that choice easier.”

### *Clear Skies, Clean Rivers, and Protected Wildlife*

There are a multitude of environmental benefits from trails, greenways, and open spaces that help to protect the essential functions performed by natural ecosystems. Greenways protect and link fragmented habitat and provide opportunities for protecting plant and animal species. Trails and greenways reduce air pollution by two significant means: first, they provide enjoyable and safe alternatives to the automobile, which reduces the burning of fossil fuels; second, they protect large areas of plants that create oxygen and filter air pollutants such as ozone, sulfur dioxide, carbon monoxide and airborne particles of heavy metal. Greenways improve water quality by creating a natural buffer zone that protects streams, rivers and lakes, preventing soil erosion and filtering pollution caused by agricultural and road runoff.



As an educational tool, trail signage can be designed to inform trail-users about water quality issues particular to each watershed. Such signs could also include tips on how to improve water quality. Similarly, a greenway can serve as a hands-on environmental classroom for people of all ages to experience natural landscapes, furthering environmental awareness.

### *Protecting People and Property from Flood Damage*

The protection of open spaces associated with greenway development can also protect natural floodplains along rivers and streams. According to the Federal Emergency Management Agency (FEMA), the implementation of floodplain ordinances is estimated to prevent \$1.1 billion in flood damages annually. By restoring developed floodplains to their natural state and protecting them as greenways, many riverside communities are preventing potential flood damages and related costs<sup>13</sup>.



*Environmental benefits can be further promoted through trails by offering interpretive signs that educate passers by about the local environment and environmental systems.*

*(Left photo from [americantrails.org](http://americantrails.org); signage example from Cloud Gehshan Associates at [www.cloudgehshan.com](http://www.cloudgehshan.com))*

### *Enhancing Cultural Awareness and Community Identity*

Trails, greenways, and open space can serve as connections to local heritage by preserving historic places and by providing access to them. They provide a sense of place and an understanding of past events by drawing greater public attention to historic and cultural locations and events. Trails often provide access to historic sites such as battlegrounds, bridges, buildings, and canals that otherwise would be difficult to access or interpret. Each community and region has its own unique history, its own features and destinations, and its own landscapes. By recognizing, honoring, and connecting these features, the combined results serve to enhance cultural awareness and community identity, potentially attracting tourism. Being aware of the historical and cultural context when naming parks and trails and designing features will further enhance the overall trail- and park-user experience.

Finally, greenways and trails provide opportunities for people to interact with one another outside of work and their immediate neighborhood. Positive interaction (such as through exercising, strolling, or even just saying 'hello') among people from a wider community helps to build trust and awareness of others, which strengthens the overall sense of community.

#### *Chapter 1 Footnotes*

1 American Planning Association. (2002). *How Cities Use Parks for Economic Development*.

2 National Association of Realtors and National Association of Home Builders. (2002). *Consumer's Survey on Smart Choices for Home Buyers*.

3 Rails to Trails Conservancy. (2005). *Economic Benefits of Trails and Greenways*.

4 NCDOT and ITRE. (2006). *Bikeways to Prosperity: Assessing the Economic Impact of Bicycle Facilities*.

5 Virginia Department of Conservation. (2004). *The Virginia Creeper Trail: An Assessment of User Demographics, Preferences, and Economics*.

6 Rails to Trails. (Danzer, 2006). *Trails and Tourism*.

7 American Planning Association. (2002). *How Cities Use Parks for Economic Development*.

8 Rails to Trails. (Danzer, 2006). *Trails and Tourism*.

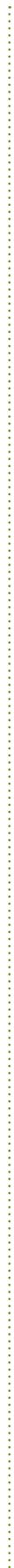
9 U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (1996). *Physical Activity and Health: A Report of the Surgeon General*.

10 U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (2002). *Guide to Community Preventive Services*.

11 Rails-to-Trails Conservancy. (2006) *Health and Wellness Benefits*.

12 Newsweek Magazine. (10/3/2005). *Designing Heart-Healthy Communities*.

13 Federal Emergency Management Agency. (2005) *Building Stronger: State and Local Mitigation Planning*.



## Chapter 2 Existing Conditions



**Chapter Overview** This chapter provides a summary of findings from a demographic analysis, trail level of service analysis, non-motorized travel demand analysis, a public input summary, and a summary of related planning documents.

### Overview

The need and demand for a more accessible, safe and functional bicycle, pedestrian and greenway system is paramount throughout the Allentown area. This is clearly demonstrated through demographic analyses and user demand models, and was articulated by community residents who attended open house meetings. Service area and user demand analyses serve as the basis for developing a system of greenways, pedestrian and bicycle facilities, and related policies and programs. It is also important to consider a variety of factors that impact the overall existing conditions, such as land use, points of interest, transit service, and regional connections.

### Demographic Analysis

Through analyses of demographic information, trail user need and demand can be better understood. US Census demographic data provides geographic information regarding the means of transportation to work and percent of population not owning a vehicle. Regardless of the availability or condition of existing trail facilities, a number of residents walk throughout Allentown to destinations such as work, shopping centers, parks, and neighbors' homes. Also, during field research, pedestrians and bicyclists were observed throughout all areas of Allentown.

In terms of population growth, only two of Pennsylvania's 15 largest cities increased in population between 2006 and 2007. Allentown City grew by 315 persons, followed by Reading City (+49). Allentown and Reading were the only two cities in Pennsylvania that did not lose population between 1990 and 2000. Allentown ranked 159th among the 1,262 largest cities in the United states in terms of population growth in 2007.

Map 2.1 shows 2000 population density within the City of Allentown. The darker shades represent higher density and can be seen concentrated in and around the downtown and urban areas. It is important to link these areas with bicycle and pedestrian connections to serve larger portions of the population.

*“Allentown ranked 159th among the 1,262 largest cities in the United states in terms of population growth in 2007.”*

*“Allentown is fortunate to have nearly 34 miles of existing trails along its waterways, yet these trails are currently disconnected and therefore cannot be operated, marketed, or used as a singular facility (See Map 2.6). Connecting these valuable City resources will allow their full potential benefits to be realized.”*

- The calculation of 34 miles for existing trails is based on a combination of the City of Allentown’s GIS data, and data generated as part of this planning process. The figure includes 19.3 miles of unpaved trails and 14.3 miles of paved trails, most of which are in Jordan Park, Trout Creek Park, Fountain Park, Lehigh Parkway, Cedar Creek Park, Trexler Memorial Park, and the Lehigh Canal towpath.

Many of the maps on the following pages rely on Census information. These maps should be updated and analyzed once the 2010 U.S. Census data is available (expected by Summer 2011).

When considering Allentown as a whole, 14.3% of the working population does not own a vehicle. 7.4% of workers in Allentown walk to work. Both these numbers put Allentown in the top 15% of all cities or boroughs in the State of Pennsylvania for these categories. This indicates a more pressing need for trail, bicycle, and pedestrian facilities for Allentown residents.

A more detailed investigation of US census data provides a further understanding of need. Map 2.2 presents a geographic view of the percentage of workers that do not own a vehicle and would thus be more dependent on alternative means of transportation. The darker shades of green show areas where higher percentages of the working population do not own a vehicle.

Maps 2.3 and 2.4 present a geographic view of the percentage of pedestrian and bicycle commuters by block group. The darker shades of green show areas in which higher numbers of people are already walking or biking to work. In many locations, over 25% of the working population walks to work.

### **Existing Trail Level of Service**

Map 2.5 shows the existing parks and trails within the City of Allentown. As shown, Allentown has many miles of existing trails and linear parks stretching from downtown throughout the city, though access to parks in the north-west and eastern sections of city is limited. There should be trails or connections from these areas to downtown and nearby parks and trails.

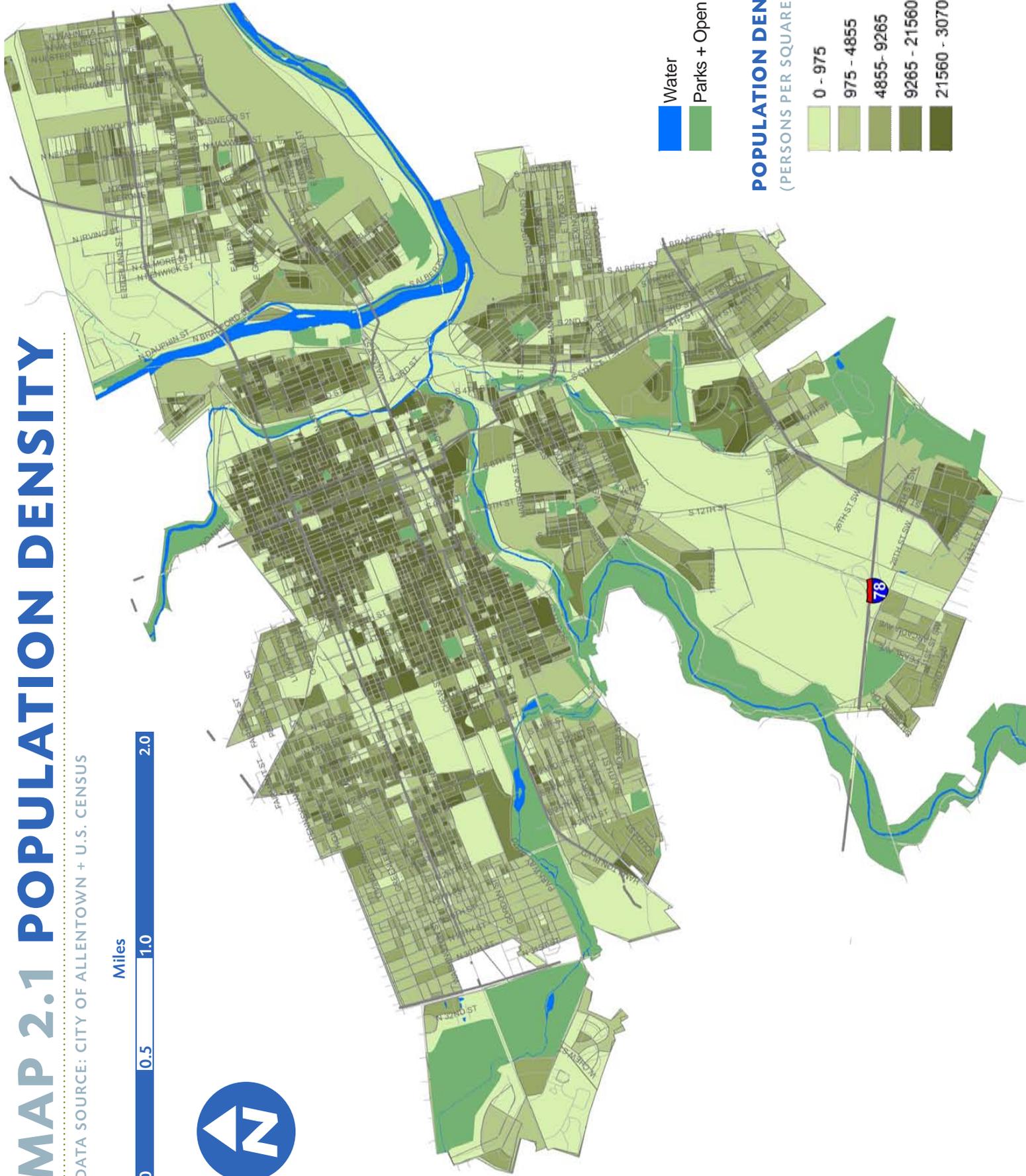
Allentown is fortunate to have nearly 34 miles of existing trails along its waterways, yet these trails are currently disconnected and therefore cannot be operated, marketed, or used as a singular facility (See Map 2.6). Connecting these valuable City resources will allow their full potential benefits to be realized. During the this study’s committee visioning session, it was determined that trails should be connected through the on-road system and within a 2 to 5 minute walk of every residence. Translated to distance, this is approximately 0.25 mile. The map shows existing trails with 1/4 mile buffers indicating the gaps in the current system.

Another factor in trail level of service is the destinations which are served (or not served) by trails. Map 2.7 shows a few of the major points of interest such as recreational and youth fa-

# MAP 2.1 POPULATION DENSITY

DATA SOURCE: CITY OF ALLENTOWN + U.S. CENSUS

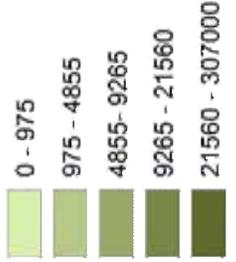
Miles



Water

Parks + Open Space

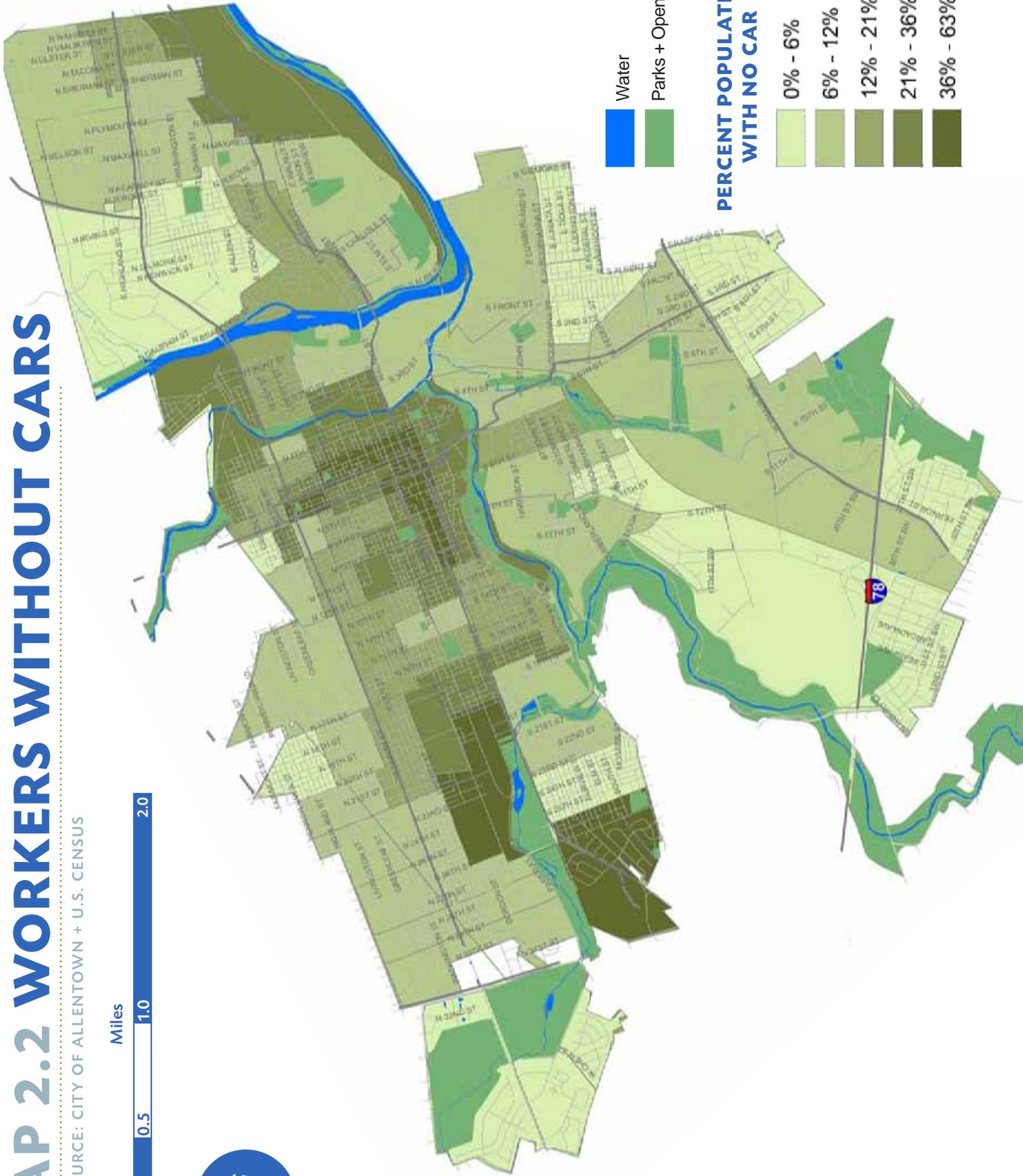
**POPULATION DENSITY**  
(PERSONS PER SQUARE MILE)



# MAP 2.2 WORKERS WITHOUT CARS

DATA SOURCE: CITY OF ALLENTOWN + U.S. CENSUS

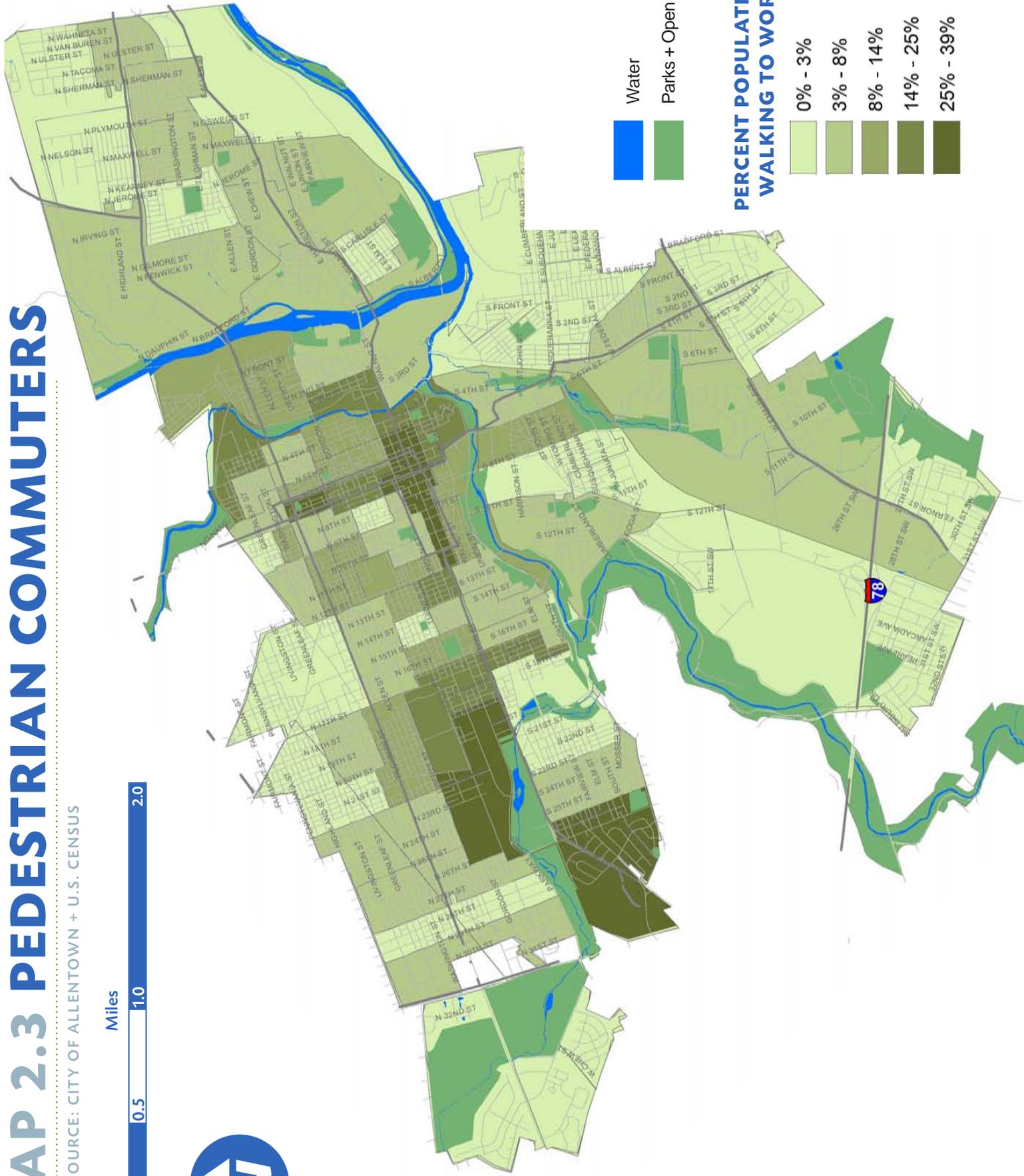
Miles



# MAP 2.3 PEDESTRIAN COMMUTERS

DATA SOURCE: CITY OF ALLENTOWN + U.S. CENSUS

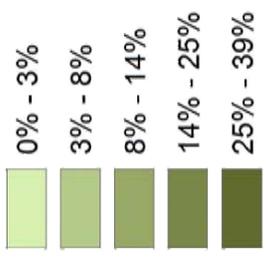
Miles



Water

Parks + Open Space

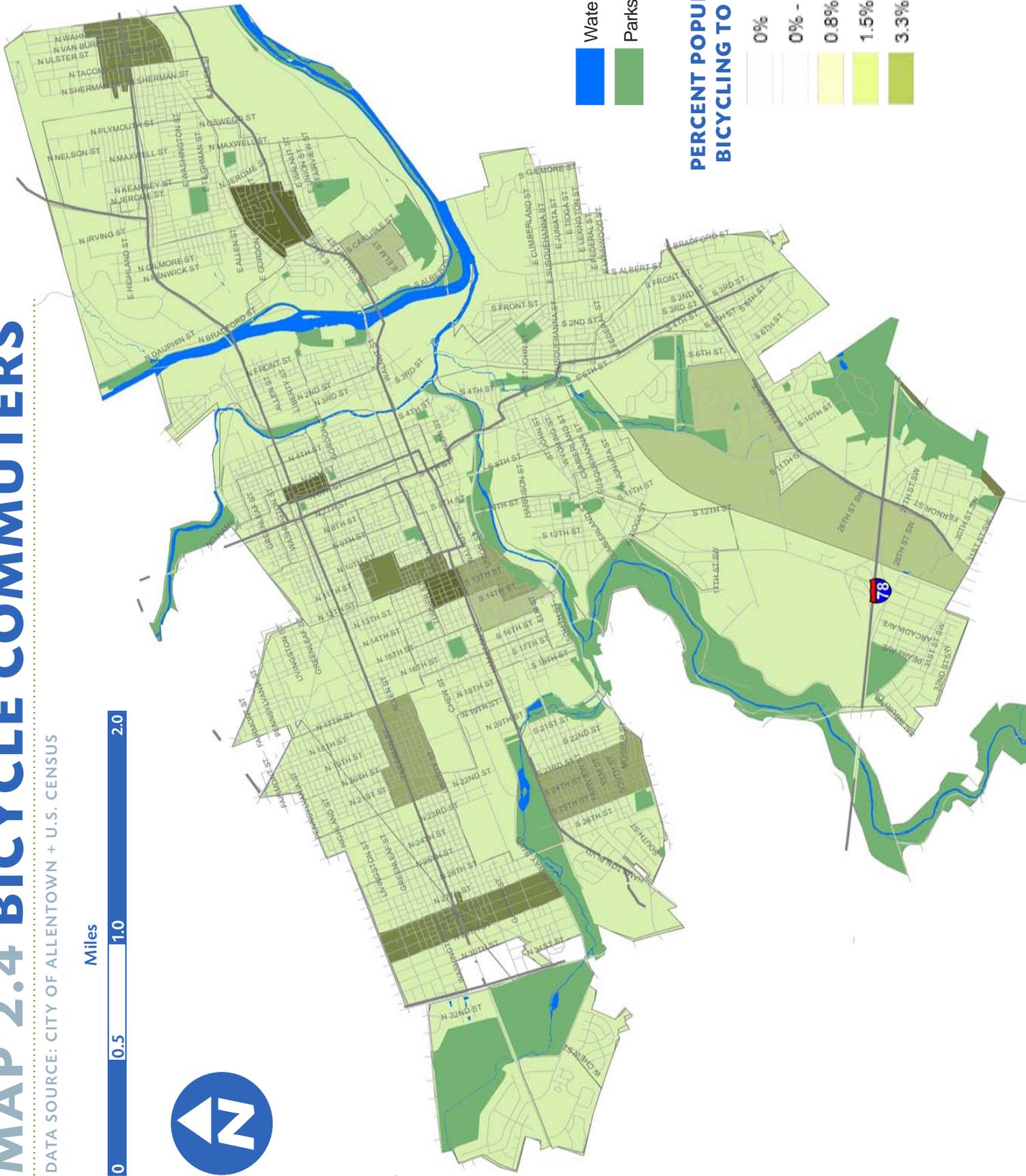
## PERCENT POPULATION WALKING TO WORK



# MAP 2.4 BICYCLE COMMUTERS

DATA SOURCE: CITY OF ALLENTOWN + U.S. CENSUS

Miles



Water



Parks + Open Space



## PERCENT POPULATION BICYCLING TO WORK

0%



0% - 0.8%



0.8% - 1.5%



1.5% - 3.3%



3.3% - 7.0%



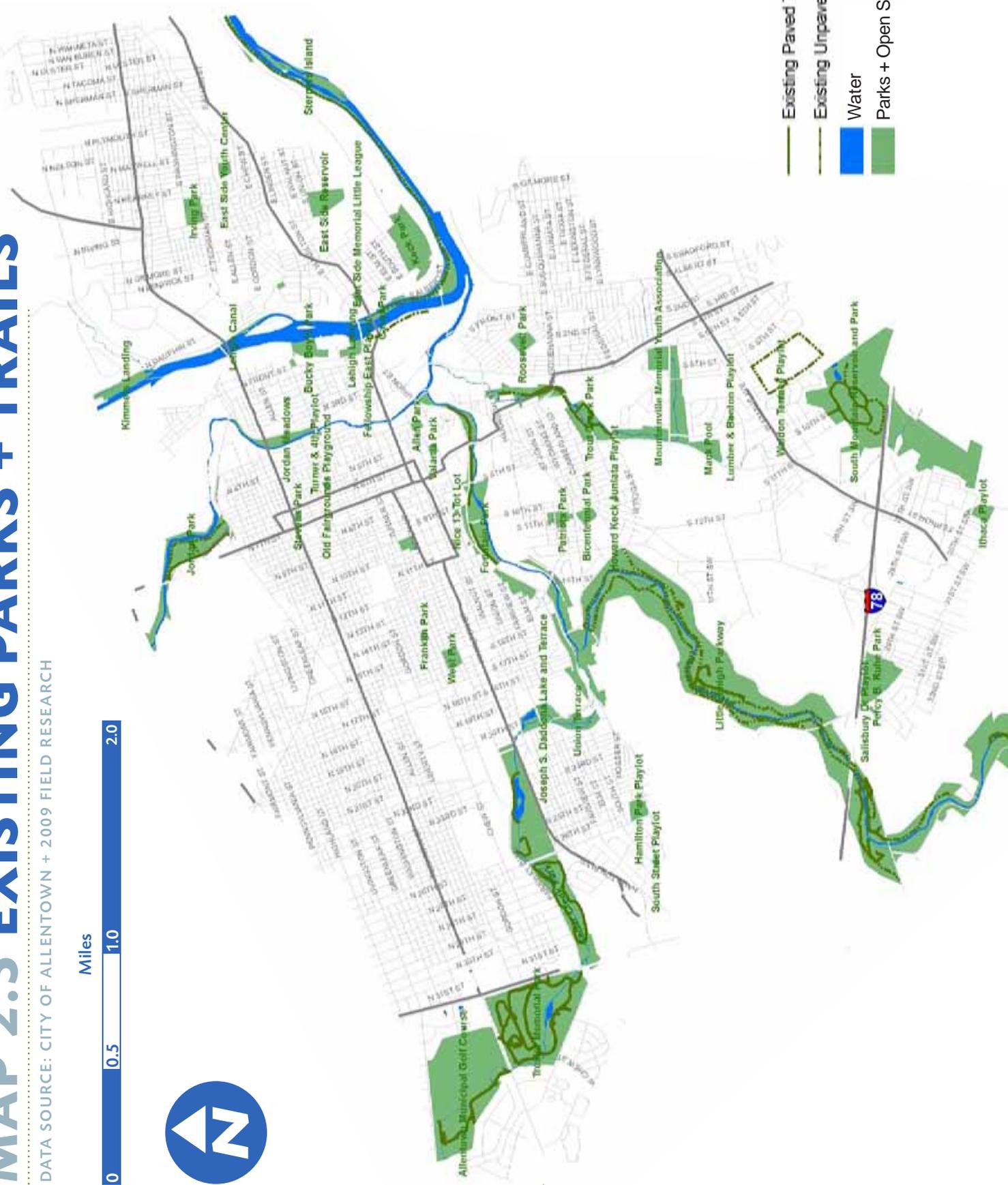
# MAP 2.5 EXISTING PARKS + TRAILS

DATA SOURCE: CITY OF ALLENTOWN + 2009 FIELD RESEARCH

Miles



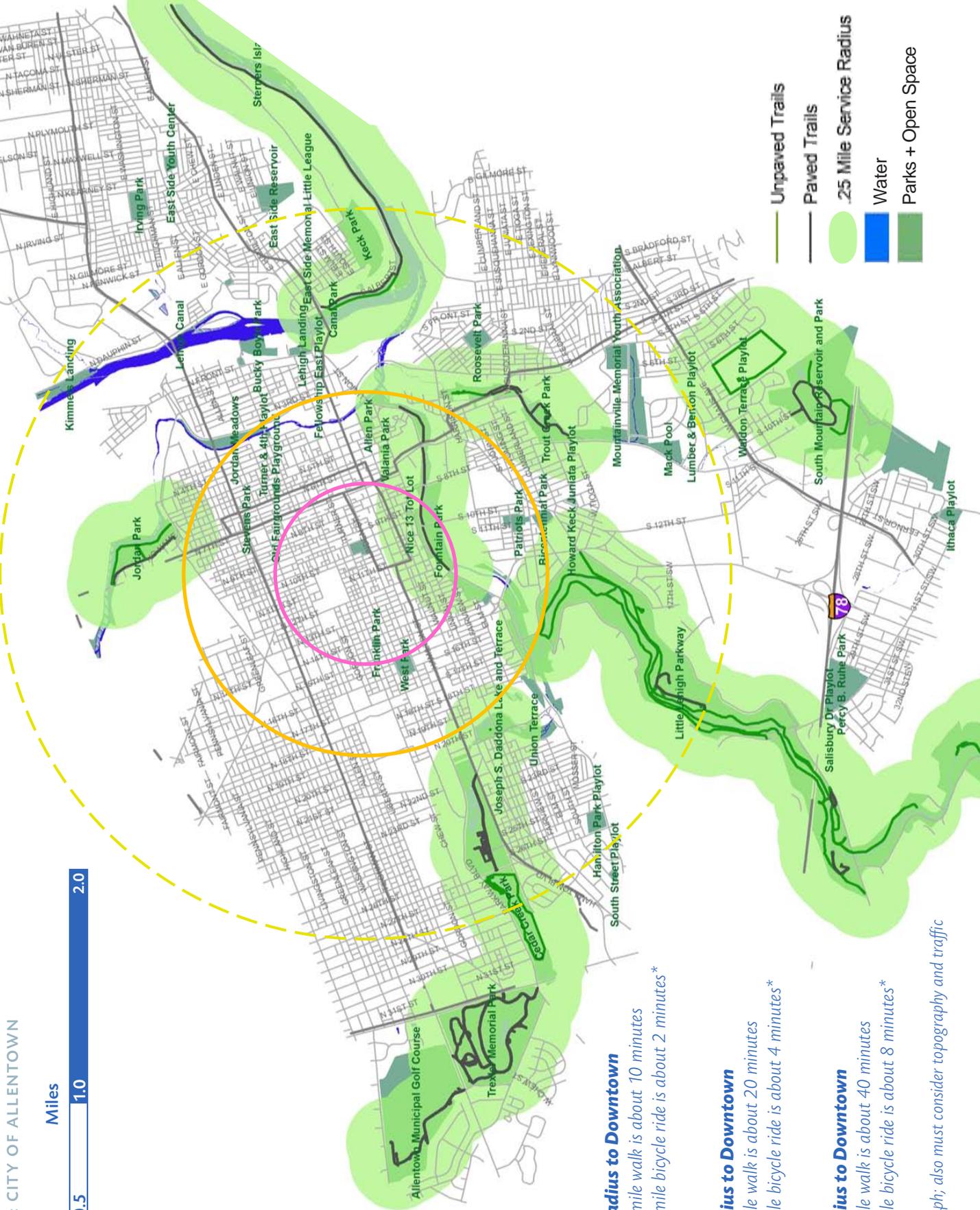
- Existing Paved Trail
- Existing Unpaved Trail
- Water
- Parks + Open Space



# MAP 2.6 TRAIL SERVICE RADIUS (1/4 mi)

DATA SOURCE: CITY OF ALLENTOWN

Miles



- 0.5 Mile Radius to Downtown**
  - 0.5 mile walk is about 10 minutes
  - 0.5 mile bicycle ride is about 2 minutes\*
- 1 Mile Radius to Downtown**
  - 1 mile walk is about 20 minutes
  - 1 mile bicycle ride is about 4 minutes\*
- 2 Mile Radius to Downtown**
  - 2 mile walk is about 40 minutes
  - 2 mile bicycle ride is about 8 minutes\*

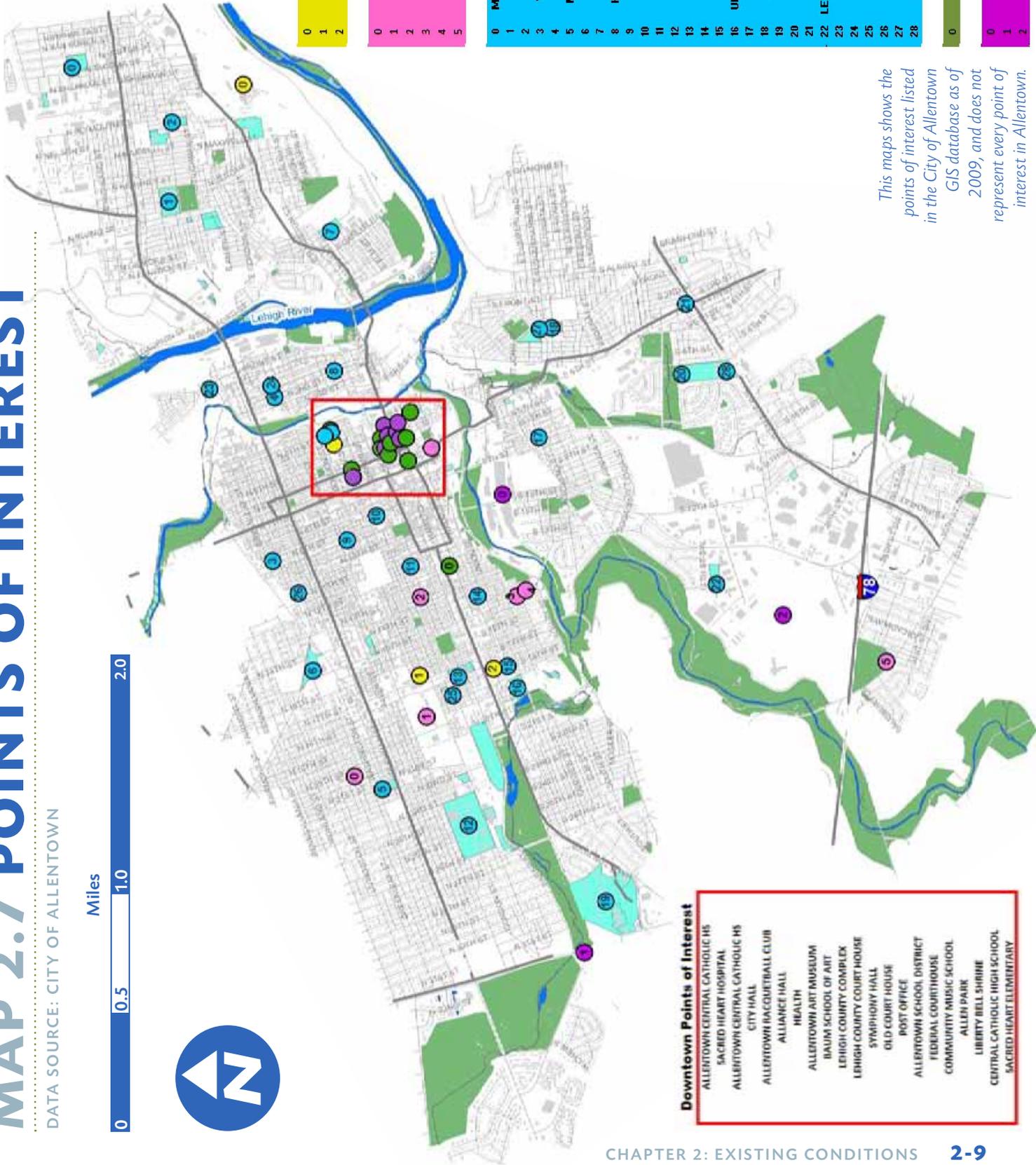
Unpaved Trails  
 Paved Trails  
 .25 Mile Service Radius  
 Water  
 Parks + Open Space

\*Assumes 15 mph; also must consider topography and traffic

# MAP 2.7 POINTS OF INTEREST

DATA SOURCE: CITY OF ALLENTOWN

Miles



**Hospitals**

0	ALLENTOWN STATE HOSPITAL
1	LEHIGH VALLEY HOSPITAL
2	ST. LUKE'S HOSPITAL

**Recreational and Youth**

0	WEST END YOUTH CENTER
1	FAIR GROUNDS
2	GIRLS CLUB OF ALLENTOWN
3	YMCA
4	YMCA
5	ALTON PARK YOUTH LEAGUE

**Colleges and Schools**

0	MIDWAY MANOR ELEMENTARY SCHOOL
1	DIERUFF HIGH SCHOOL
2	RITTER ELEMENTARY SCHOOL
3	WASHINGTON ELEMENTARY SCHOOL
4	SHERIDAN ELEMENTARY SCHOOL
5	MUHLEMBERG ELEMENTARY SCHOOL
6	MUHLEMBERG ELEMENTARY SCHOOL
7	TREXLER MIDDLE SCHOOL
8	MOSSER ELEMENTARY SCHOOL
9	HARRISON-MORTON MIDDLE SCHOOL
10	CLEVELAND ELEMENTARY SCHOOL
11	CENTRAL ELEMENTARY SCHOOL
12	MCKINLEY ELEMENTARY SCHOOL
13	MUHLEMBERG COLLEGE
14	ALLEN HIGH SCHOOL
15	LINCOLN ELEMENTARY SCHOOL
16	RAUB MIDDLE SCHOOL
17	UNION TERRACE ELEMENTARY SCHOOL
18	JEFFERSON ELEMENTARY SCHOOL
19	ROOSEVELT ELEMENTARY SCHOOL
20	CEDAR CREST COLLEGE
21	DODD ELEMENTARY SCHOOL
22	WILSON ELEMENTARY SCHOOL
23	LEHIGH PARKWAY ELEMENTARY SCHOOL
24	HOLY SPIRIT ELEMENTARY
25	HOLY SPIRIT MIDDLE SCHOOL
26	ST. CATHERINE OF SIENNA
27	ST. FRANCIS SCHOOL
28	SOUTH MOUNTAIN MIDDLE SCHOOL

**Cultural**

0	ALLENTOWN PUBLIC LIBRARY
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**Governmental**

0	BRIDGEWORKS
1	PARKS OFFICE
2	QUEEN CITY AIRPORT

**Downtown Points of Interest**

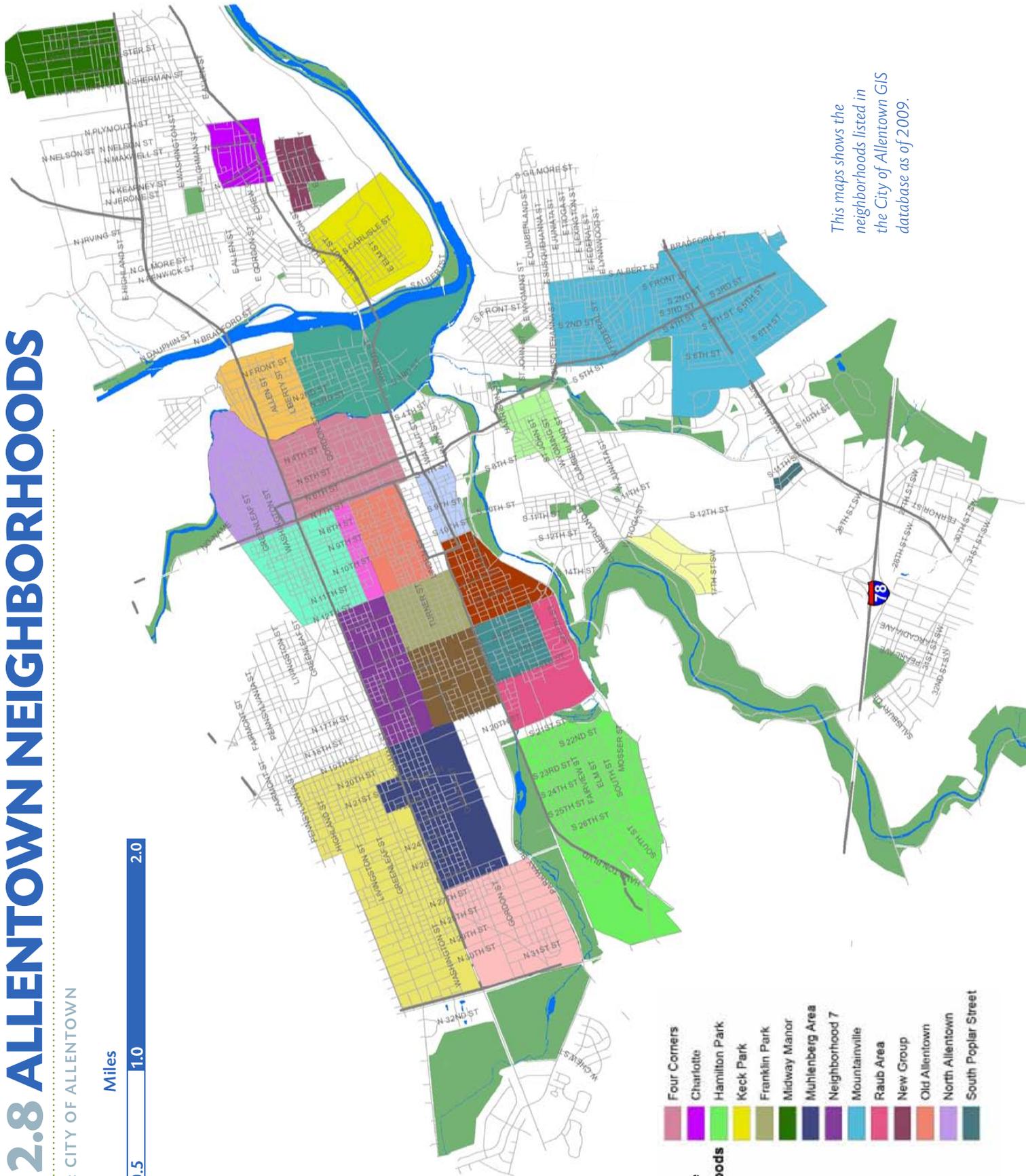
ALLENTOWN CENTRAL CATHOLIC HS
SACRED HEART HOSPITAL
ALLENTOWN CENTRAL CATHOLIC HS
CITY HALL
ALLENTOWN RACQUETBALL CLUB
ALLIANCE HALL
HEALTH
ALLENTOWN ART MUSEUM
BAUM SCHOOL OF ART
LEHIGH COUNTY COMPLEX
LEHIGH COUNTY COURT HOUSE
SYMPHONY HALL
OLD COURT HOUSE
POST OFFICE
ALLENTOWN SCHOOL DISTRICT
FEDERAL COURTHOUSE
COMMUNITY MUSIC SCHOOL
ALLEN PARK
LIBERTY BELL SHRINE
CENTRAL CATHOLIC HIGH SCHOOL
SACRED HEART ELEMENTARY

This map shows the points of interest listed in the City of Allentown GIS database as of 2009, and does not represent every point of interest in Allentown.

# MAP 2.8 ALLENTOWN NEIGHBORHOODS

DATA SOURCE: CITY OF ALLENTOWN

Miles



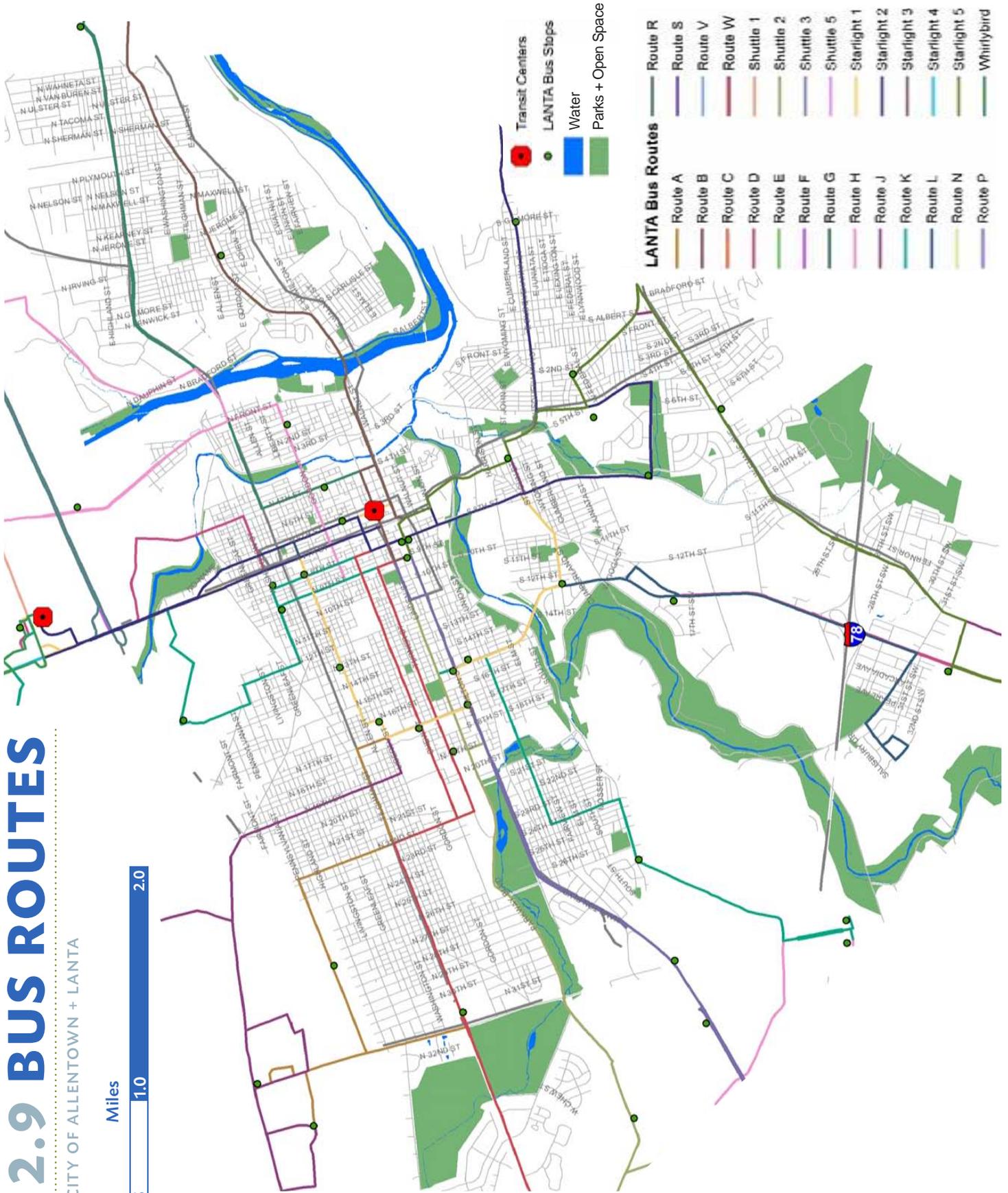
- |  |                                |  |                     |
|--|--------------------------------|--|---------------------|
|  | Water                          |  | Four Corners        |
|  | Parks + Open Space             |  | Charlotte           |
|  | <b>Allentown Neighborhoods</b> |  | Hamilton Park       |
|  | St Pauls Park                  |  | Keck Park           |
|  | Library Area                   |  | Franklin Park       |
|  | West Watch                     |  | Midway Manor        |
|  | West Walnut                    |  | Muhlenberg Area     |
|  | Rose Garden                    |  | Neighborhood 7      |
|  | Fairviewers                    |  | Mountainville       |
|  | 6th Ward                       |  | Raub Area           |
|  | Little Lehigh                  |  | New Group           |
|  | Old Town                       |  | Old Allentown       |
|  | 1st Ward Riverfront            |  | North Allentown     |
|  | West Park                      |  | South Poplar Street |
|  | 8th Ward                       |  |                     |

This map shows the neighborhoods listed in the City of Allentown GIS database as of 2009.

# MAP 2.9 BUS ROUTES

DATA SOURCE: CITY OF ALLENTOWN + LANTA

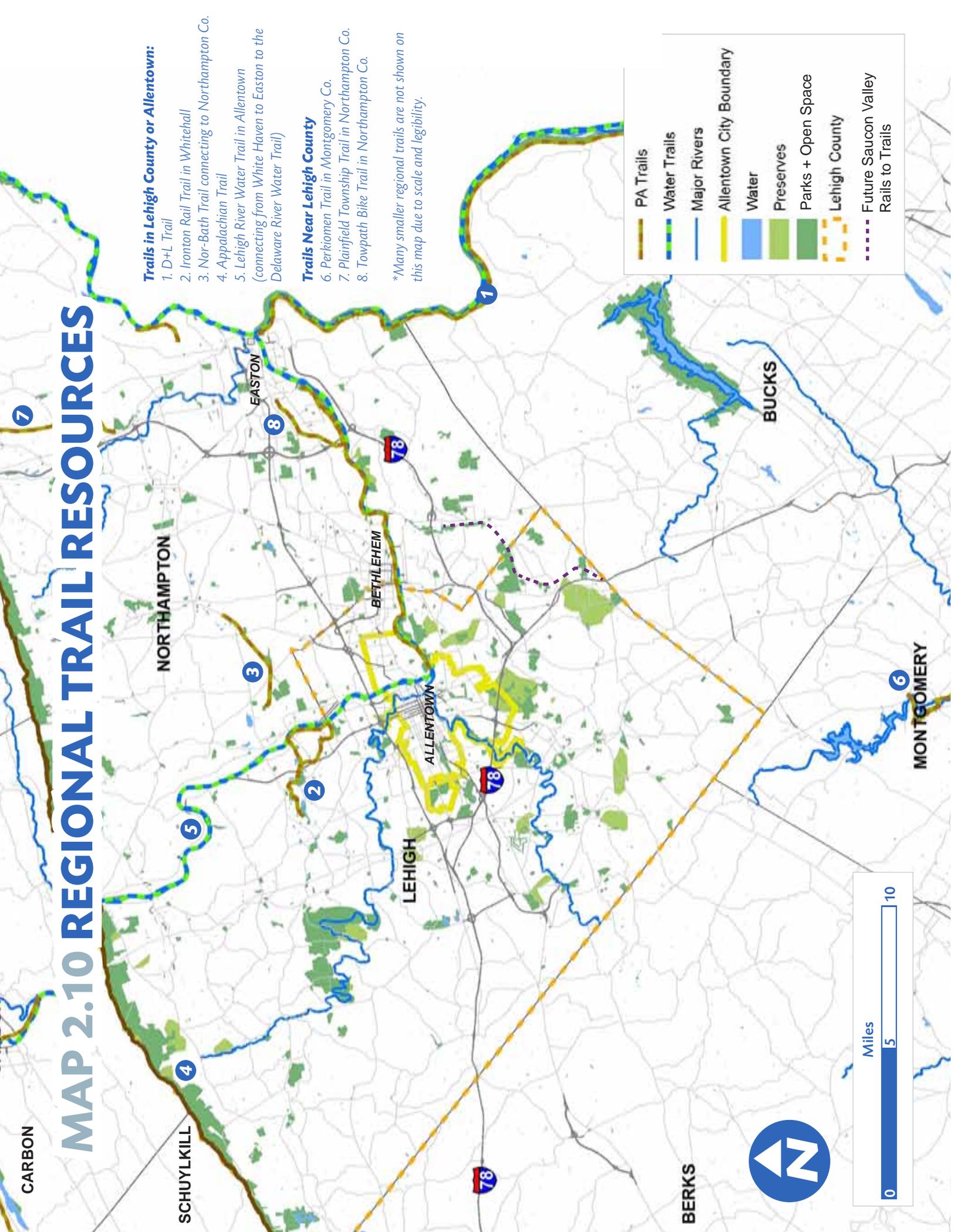
Miles



- Transit Centers
- LANTA Bus Stops
- Water
- Parks + Open Space

- LANTA Bus Routes**
- Route R
  - Route A
  - Route B
  - Route C
  - Route D
  - Route E
  - Route F
  - Route G
  - Route H
  - Route J
  - Route K
  - Route L
  - Route N
  - Route P
  - Route S
  - Route V
  - Route W
  - Shuttle 1
  - Shuttle 2
  - Shuttle 3
  - Shuttle 5
  - Starlight 1
  - Starlight 2
  - Starlight 3
  - Starlight 4
  - Starlight 5
  - Whirlybird

# MAP 2.10 REGIONAL TRAIL RESOURCES



## Trails in Lehigh County or Allentown:

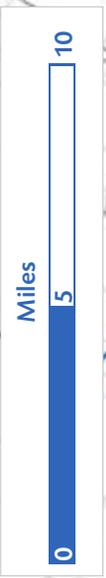
1. D+L Trail
2. Ironton Rail Trail in Whitehall
3. Nor-Bath Trail connecting to Northampton Co.
4. Appalachian Trail
5. Lehigh River Water Trail in Allentown (connecting from White Haven to Easton to the Delaware River Water Trail)

## Trails Near Lehigh County

6. Perkiomen Trail in Montgomery Co.
7. Plainfield Township Trail in Northampton Co.
8. Towpath Bike Trail in Northampton Co.

\*Many smaller regional trails are not shown on this map due to scale and legibility.

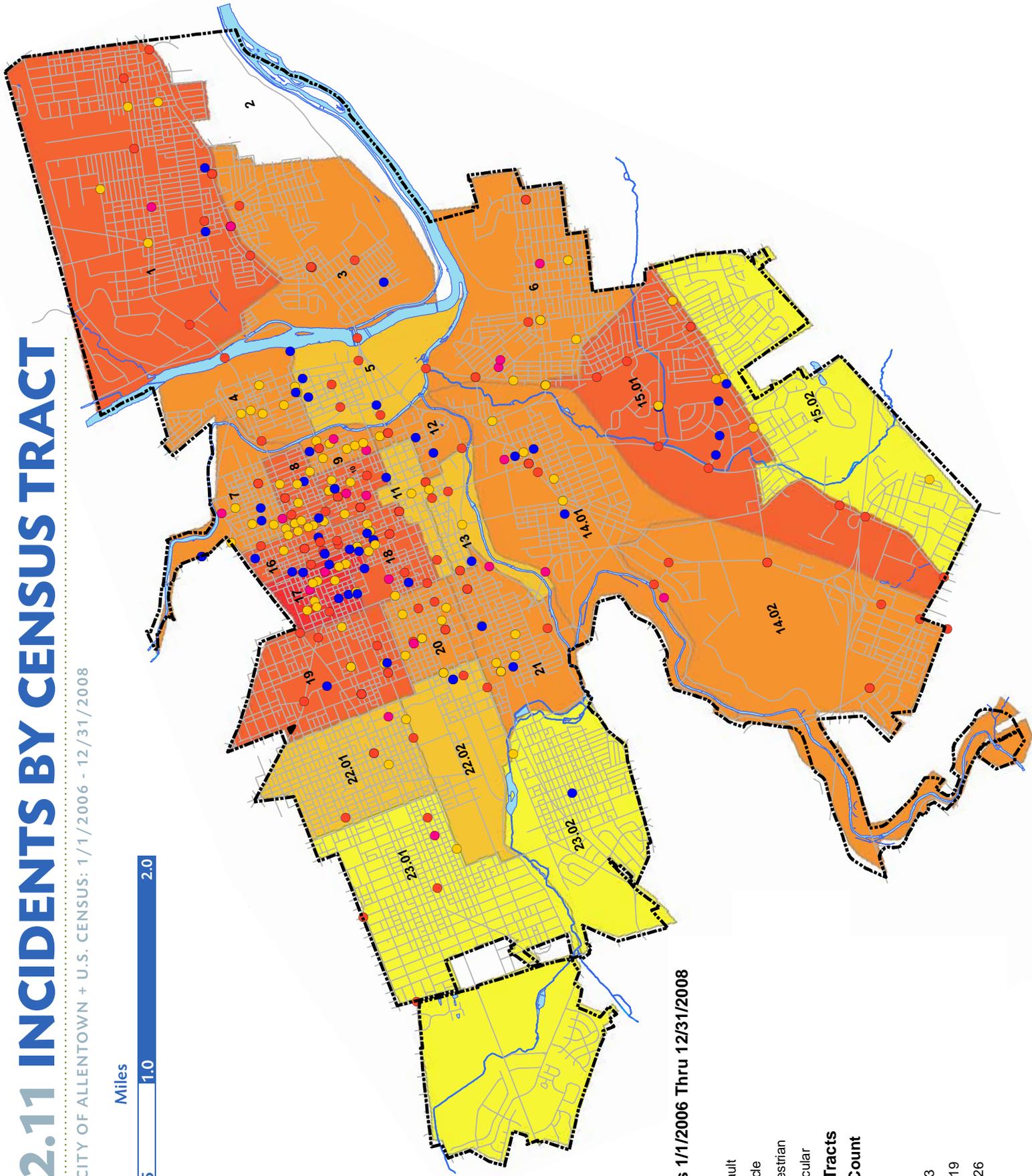
	PA Trails
	Water Trails
	Major Rivers
	Allentown City Boundary
	Water
	Preserves
	Parks + Open Space
	Lehigh County
	Future Saucon Valley Rails to Trails



# MAP 2.11 INCIDENTS BY CENSUS TRACT

DATA SOURCE: CITY OF ALLENTOWN + U.S. CENSUS: 1/1/2006 - 12/31/2008

Miles



Incidents 1/1/2006 Thru 12/31/2008

**TYPE**

- Assault
- Bicycle
- Pedestrian
- Vehicular

**Census Tracts**

**Incident Count**



cilities, hospitals, entertainment, cultural, governmental, and colleges and schools within the City of Allentown. They represent important starting and ending points for pedestrian and bicycle travel and provide a good basis for planning ideal routes. As shown, most of these points are within downtown and the north-west section of the City. Allentown neighborhoods could also be considered points of interest and are shown on Map 2.8. Maps 2.9 and 2.10 show bus routes and regional trail resources as references for future connections. Finally, Map 2.11 (originally developed for a *Safe Routes to School* grant application) shows several types of incidents by Census tract, including bicycle and pedestrian incidents from 2006 through 2008.

### **Non-Motorized Travel User Demand**

The models used for this study incorporate information from existing publications as well as data from the U.S. Census. All data assumptions and sources are noted in the tables following each section of the analysis.

To estimate bicycle and pedestrian demand for Allentown, a model was developed consisting of several variables including commuting patterns of working adults and predicted travel behaviors of area college students and school children. For modeling purposes, the study area included all residents within the city of Allentown in 2000. The information was ultimately aggregated to estimate the total existing demand for bicycle and pedestrian trails in the city. Tables 1 and 2 identify the variables used in the model. Data regarding the existing labor force (including number of workers and percentage of bicycle and pedestrian commuters) was obtained from the 2000 U.S. Census. The 2000 Census was also used to estimate the number of children in Allentown. This figure was combined with data from National Safe Routes to School surveys and informal interviews with Allentown Schools District to estimate the proportion of children riding bicycles and walking to and from school. College students constituted a third variable in the model due to the presence of Cedar Crest College and Muhlenberg College. Data from the Federal Highway Administration regarding bicycle mode share in university communities was used to estimate the number of students bicycling to and from campus. Finally, data regarding non-commute trips was obtained from the 2001 National Household Transportation Survey to estimate bicycle and pedestrian trips not associated with traveling to and from school or work.

Table 3.1 summarizes estimated existing daily bicycle trips in Allentown. Table 3.2 summarizes estimated existing daily pedestrian trips in Allentown. The tables indicate that an estimated 6,755 bicycle trips are made on a daily basis, with an estimated 178,000 pedestrian trips on a daily basis.

Table 3.1: Aggregate Estimate of Existing Daily **Bicycling** Activity in Allentown

Variable	Figure	Calculations
<b>Employed Adults, 16 Years and Older</b>		
a. Study Area Population <sup>(1)</sup>	106,632	
b. Employed Persons <sup>(2)</sup>	45,221	
c. Bicycle Commute Percentage <sup>(2)</sup>	0%	
d. Bicycle Commuters	136	(b*c)
<b>School Children</b>		
e. Population, ages 5-17 <sup>(3)</sup>	18,318	
f. Estimated School Bicycle Commute Share <sup>(4)</sup>	2%	
g. School Bicycle Commuters	366	(e*f)
<b>College Students</b>		
h. Full-Time College Students <sup>(5)</sup>	4,035	
i. Bicycle Commute Percentage <sup>(6)</sup>	10%	
j. College Bicycle Commuters	404	(h*i)
<b>Work and School Commute Trips Sub-Total</b>		
k. Daily Commuters Sub-Total	906	(d+g+j)
l. Daily Commute Trips Sub-Total	1,811	(k*2)
<b>Other Utilitarian and Discretionary Trips</b>		
m. Ratio of "Other" Trips in Relation to Commute Trips <sup>(7)</sup>	3	ratio
n. Estimated Non-Commute Trips	4,944	(l*m)
<b>Total Estimated Bicycle Trips</b>	<b>6,755</b>	(l+n)

Notes: Census data collected from 2000 U.S. Census for City of Allentown.

(1) 2000 U.S. Census, STF3, P1.

(2) 2000 U.S. Census, STF3, P30.

(3) City of Allentown Planning Department (2010).

(4) Estimated share of school children who commute by bicycle, as of 2000 (source: National Safe Routes to School Surveys, 2003).

(5) Source: <http://en.wikipedia.org> for Allentown.

(6) Review of bicycle commute share in 7 university communities (source: Nat. Bicycling + Walking Study, FHWA, Case Study #1, 1995).

(7) 27% of all trips are commute trips (source: National Household Transportation Survey, 2001).

The overall pedestrian mode share percentage of 7.4% is relatively high when compared to other cities in Pennsylvania and the United States. Out of all cities, boroughs, and CDP's in Pennsylvania, Allentown is ranked in the top 15% of the highest pedestrian mode shares. The models show that non-commuting trips comprise the vast majority of existing bicycle and pedestrian demand.

Table 3.2: Aggregate Estimate of Existing Daily **Pedestrian** Activity in Allentown

Variable	Figure	Calculations
<b><i>Employed Adults, 16 Years and Older</i></b>		
a. Study Area Population <sup>(1)</sup>	106,632	
b. Employed Persons <sup>(2)</sup>	45,221	
c. Pedestrian Commute Percentage <sup>(2)</sup>	7%	
d. Pedestrian Commuters	3,346	(b*c)
<b><i>School Children</i></b>		
e. Population, ages 5-17 <sup>(3)</sup>	18,318	
f. Estimated School Pedestrian Commute Share <sup>(4)</sup>	90%	
g. School Pedestrian Commuters	16,486	(e*f)
<b><i>College Students</i></b>		
h. Full-Time College Students <sup>(5)</sup>	4,035	
i. Pedestrian Commute Percentage <sup>(6)</sup>	100%	
j. College Pedestrian Commuters	4,035	(h*i)
<b><i>Work and School Commute Trips Sub-Total</i></b>		
k. Daily Commuters Sub-Total	23,868	(d+g+j)
l. Daily Commute Trips Sub-Total	47,735	(k*2)
<b><i>Other Utilitarian and Discretionary Trips</i></b>		
m. Ratio of "Other" Trips in Relation to Commute Trips <sup>(7)</sup>	3	ratio
n. Estimated Non-Commute Trips	130,317	(l*m)
<b>Total Estimated Pedestrian Trips</b>	<b>178,052</b>	<b>(l+n)</b>

Notes: Census data collected from 2000 U.S. Census for City of Allentown.

(1) 2000 U.S. Census, STF3, P1.

(2) 2000 U.S. Census, STF3, P30.

(3) City of Allentown Planning Department (2010).

(4) Estimated share of school children who commute by walking is 90%; this is mostly due to the fact that Allentown is a 'walking school district' (source: Allentown Schools District).

(5) Source: <http://en.wikipedia.org> for Allentown.

(6) Review of walking commute share in 7 university communities (source: National Bicycling + Walking Study, FHWA, Case Study #1, 1995).

(7) 27% of all trips are commute trips (source: National Household Transportation Survey, 2001).

More recent data was retrieved from the 2005-2007 three-year estimate American Community Survey (ACS), which shows separate data for walking and bicycling. The ACS shows a 0.3% bicycling mode share and approximately 7% walking mode share for Allentown (virtually the same as 2000 estimates). Note that the Census and ACS data only counts trips to work, and does not capture Allentown's significant amount of travel to schools, other utilitarian travel or recreation.

## Public Input

Public input was analyzed for previous planning efforts and during this planning process for *Connecting Our Community*. Important results were analyzed and presented here. For more details on public involvement for the trails study, please see Appendix A: Public Involvement Summary.

### *Public Input from the Allentown Parks and Recreation Master Plan*

The 2006 Allentown Parks and Recreation Master Plan defined user demand and needs and serves as a great resource for this effort. This planning process made clear that trails need to be a priority for the City of Allentown. The plan recommended a series of initiatives, the first of which was creating a city and regional trail and greenway network. One of the goals of the Plan was to integrate parks through an interconnected system of physical linkages, open spaces, and trails. Through public feedback, it was determined that a readily available trails map and signage that informed citizens of the availability and location of trails are needed.

A random survey of households was conducted and a newsletter survey was distributed to determine parks and recreation use and needs. Key findings related to trails include:

- 75% of interested respondents said they knew either none or just some of the recreational opportunities available to them.
- 80% want walking and biking paths along the Lehigh River.
- 52% say that bike paths are not available enough.
- 62% said that creating trails and connections should be a priority or high priority with only 4% saying that it wasn't necessary.
- 51% supported the City of Allentown spending additional funds for trail development.

*“Through public feedback, it was determined that a publicly available trails map and signage that informed citizens of the availability and location of trails would be critical.”*

*Public Input from 'Connecting Our Community'*

Another expression of need and demand comes from public input throughout this planning process. Input received for this Plan clearly shows a desire for trail improvements in Allentown. During the planning process, public input was gathered through several different means. Public meetings and comment forms were the key instruments used.

An initial kick-off meeting was conducted to determine overall goals and needs for this project. Goals and needs from the Committee and public included:

- Safe neighborhood connections to paths
- Residents should be within a 2-5 minute walk of trails
- Gaps in the existing trail system should be filled
- Connections to parks, Boys and Girls Club, and YMCA
- Connections for the 18,000 students in the area – Safe Routes to School
- Downtown Allentown should be a hub for trails
- Regional connections
- Bicycle and pedestrian safe bridge needed across Lehigh River to connect points east and west
- Need to get more citizens on a bicycle (encouragement and education programs)

Another public meeting was held to respond to the preliminary concept plan in summer, 2009. During public workshops, attendees communicated directly with City and consultant staff and marked-up public input maps indicating their ideas for trails in Allentown. The final public meeting, in January 2010 is similar in nature, but the focus is on the full draft plan.

*Online Comment Form*

Comment forms were made available online in March 2009, and as of September 2009 there were just over **470** responses. The online comment form helped project staff to understand current trends in trail use, and helped to define what the City can do to better meet the needs of its residents. Although not a statistical survey, this tool does allow an understanding of important trail-related concerns and desires for hundreds of Allentown residents. The following page contains a sample of the results. For full results, please see Appendix A: Public Involvement Summary.

## Sample of Online Comment Form Results

1. How important to you is the goal of creating more trails? (select one)				
			Response Percent	Response Count
very important		72.0%	340	
somewhat important		24.8%	117	
not important		3.2%	15	
			<b>answered question</b>	<b>472</b>

3. Would you use trails more often if you could easily bike or walk to one?				
			Response Percent	Response Count
Yes		95.6%	452	
No		4.4%	21	
			<b>answered question</b>	<b>473</b>

7. What do you think are the biggest factors that discourage trail, sidewalk, or bicycle facility use? Rank Top 3.						
	#1	#2	#3	Rating Average	Response Count	
Lack of information about local trails	<b>46.7% (107)</b>	23.1% (53)	30.1% (69)	1.83	229	
Unsafe street crossings	37.0% (64)	<b>39.3% (68)</b>	23.7% (41)	1.87	173	
High traffic volume	37.9% (61)	<b>39.1% (63)</b>	23.0% (37)	1.85	161	
Lack of interest	25.5% (14)	<b>43.6% (24)</b>	30.9% (17)	2.05	55	
Lack of time	31.9% (23)	<b>36.1% (26)</b>	31.9% (23)	2.00	72	
Personal safety concerns	<b>38.1% (85)</b>	33.2% (74)	28.7% (64)	1.91	223	
Aggressive motorist behavior	32.8% (44)	32.1% (43)	<b>35.1% (47)</b>	2.02	134	
Deficient sidewalks	17.3% (19)	37.3% (41)	<b>45.5% (50)</b>	2.28	110	
Lack of nearby destinations	20.7% (28)	28.9% (39)	<b>50.4% (68)</b>	2.30	135	
					<b>answered question</b>	<b>451</b>

(See Appendix A: Public Involvement Summary for full results)

## Important Community Factors

### *Health Challenges*

Lehigh County ranks third among Pennsylvania's 67 counties in terms of obesity. In the Allentown School District, 48 percent of the students are overweight or obese based on Body Mass Index (BMI) according to the standards set forth by the Pennsylvania Department of Health. The lack of physical activity is a primary factor leading to obesity. Obesity leads to chronic life threatening diseases such as diabetes, heart disease, high blood pressure and others. Projections show that this generation of children and youth may be the first generation to have a shorter life expectancy than their parents due to decreasing physical activity with the associated increasing levels of obesity. According to the U.S. Surgeon General, obesity is an epidemic resulting in a public health care crisis in America. Allentown's situation in which nearly one out of every two students in the school district are obese or overweight stands in testimony to the magnitude of this issue. At the same time, the U.S. Surgeon General has indicated that municipalities have an important role to play in dealing with this public health crisis: providing close-to-home places where citizens can engage in healthy activities including safe places to walk and bicycle.

In 2004, there were over 6,000 teenage mothers and expectant teenage mothers in Allentown. Facing issues such as low self-esteem, lack of an adequate support system and limited exposure to regular exercise and nutrition programming, these young women often form poor lifestyle habits. Pregnant youth are an incredibly high-risk group for obesity and sedentary behavior according to Cedar Crest College's Allen Center for Nutrition. While studies show that, nationally, teen births are on the decline, Hispanic youths remain at an increased risk. The percentage of births to mothers under age 18 in Lehigh County is 4.2 percent among the general population; that same statistic among Hispanic teens is 13.5 percent. This all indicates a need for increased opportunities for active living.

### *Diversifying Community*

Allentown's Latino population makes up more than 30 percent of the city's nearly 106,000 residents with projections as high as 50 percent by 2020. According to the U.S. Census, that number was 4.5 percent in 1980, 14.4 percent in 1990 and 24.2 percent in 2000. Fifty-nine percent (59%) of the students in the Allentown School District are Latino. In a diverse district of 18,500+ students, the student population comes from 43 countries and speaks 26 languages. This influx has firmly positioned Allentown

*See page 1-8 for more on how trails improve health through active living.*

as Pennsylvania's third largest city while changing the mainly white European demography to a predominantly Latino composition.

Nearly 70 percent of the Latino community in Allentown is of Puerto Rican heritage, while Dominicans, Mexicans and South and Central Americans, among others, comprise the rest. This diverse community, with origins from the mountains of Peru, the valleys of Colombia, the shores of the Yucatan and the barrios of Newark, N.J., may share a common language of Imperial Spain, but it is obvious this wide range of life experiences presents a kaleidoscope of a Latino community that many in the Lehigh Valley mistakenly perceive as a monolithic, homogenous group. This indicates the need for a concerted outreach effort during the implementation of this plan's program recommendations, in order for those programs to reach *all* Allentown residents.

### *Poverty*

In 2007, the percentage of Allentown residents who were living in poverty was 18.9%, which is more than double the United States average of 9.2%. In Allentown, those who live below the poverty level included 11.8% of White Non-Hispanics, 26.7% of Hispanic or Latino residents, and 32.2% for all other residents. Sixty-seven (67%) percent of the students in the Allentown School District qualify for the free or reduced lunch program. People who live in poverty including Hispanic and African Americans have higher rates of obesity and obesity related health problems. In a 2004 report prepared for the City of Allentown by the Urban Land Institute, the need to bridge the cultural divide with the Hispanic population was documented. Important community organizations dedicated to serving the Hispanic Community include: Latinos for Healthy Communities, Casa Guadalupe, Hispanic American Organization, YMCA and others. These organizations continue to work for the social and physical health of this burgeoning community. This underscores the need for outreach through inter-cultural coordination and programing during plan implementation. It also emphasizes the need for one of the benefits of an enhanced bicycle and pedestrian network, which is more equitable transportation choices.

## Summary of Related Planning Documents

### *Jordan Creek Greenway Feasibility Study (2009)*

The Jordan Creek Greenway Feasibility Study examines the possibility of creating a 53-mile greenway that would connect Jordan Park, in Allentown, to the Appalachian Trail. The plan breaks the proposed trail into six sections with section #1 encompassing the part within Allentown from Jordan Meadows Park to Jordan Park. Recommendations from *Connecting Our Community* will help determine the specific route within Allentown.

### *Cedar Creek Parkway: A ReDiscovery of the Park (2008)*

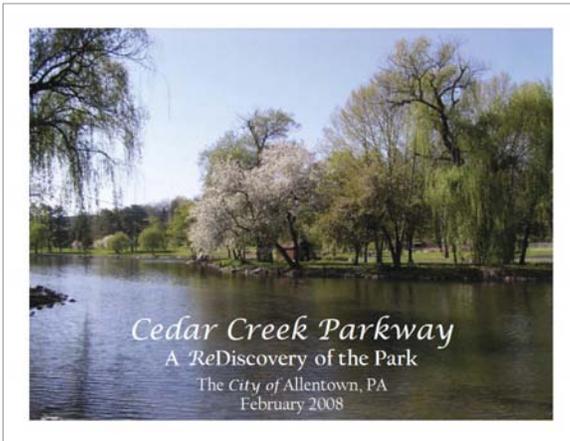
The Cedar Creek Parkway Master Plan was developed to improve the conditions and utilize the natural features of the 109 acre Cedar Creek Parkway. This plan recognizes the assets that this park provides to the City of Allentown and builds upon this to provide a destination for citizens and visitors to enjoy. One of this plan’s goals was to “provide trails for recreation and fitness throughout the park and beyond to link to nearby recreation sites.”

### *City of Allentown Comprehensive Plan— Allentown 2020 (2008)*

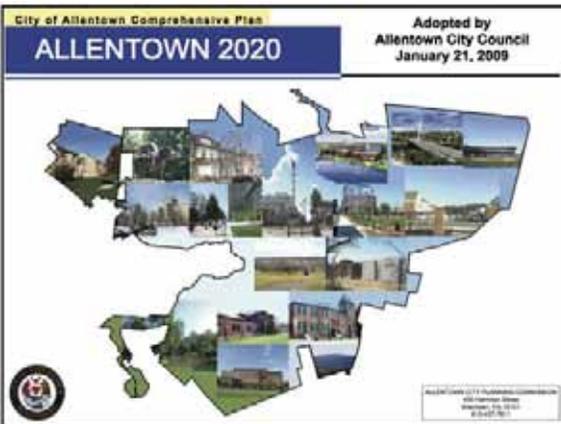
Allentown 2020 was developed to provide policy goals, guidance, and recommendations for the City. This plan supports the Parks and Recreation Master Plan and the Lehigh Valley Greenways Plan recommendations for trails and greenways throughout the city and county. Two overarching goals in the Allentown 2020 plan stemmed from these plans:

“We must continue to enhance and promote the great asset that is our parks system by: completing its system of greenways and establishing a system of local and regionally linked trails, providing additional parks and open space in Center City and downtown, and promoting the parks system and its use for community events.”

“We must promote a transportation system that ensures mobility throughout our city and the region, that provides access to jobs and that is neighborhood and pedestrian friendly.”



One goal of the Cedar Creek Parkway Master Plan was to “provide trails for recreation and fitness throughout the park and beyond to link to nearby recreation sites.”



The City’s intent for ‘Connecting Our Community’ was established in the officially adopted City of Allentown Comprehensive Plan (Allentown 2020), and in the City of Allentown Parks and Recreation Master Plan (see following page), both of which call for a comprehensive approach to trail planning.

See the end of Appendix B for policy recommendations.

Establishing these goals demonstrates the importance the City of Allentown has placed on providing trails and greenways throughout the city and connecting to locations throughout the county.

The following policy statements relate directly to bicycle and pedestrian transportation, and are found on page 93 of Allentown 2020:

- 37.1 Land development proposals should include provisions for both pedestrians and bicyclists, such as appropriately designed sidewalks, street crossings, access onto and through commercial sites and bicycle storage facilities at high traffic areas.
- 37.2 The City's Subdivision and Land Development Ordinance should be kept up-to-date with the best practices for bicyclists and pedestrians for their application in substantial developments.
- 37.3 The City's Capital Program should include public improvements that facilitate both walking and bicycling to employment and neighborhood shopping facilities proximate to City residential areas.
- 37.4 Pedestrian and bicycling trends should be monitored in order to better meet changing resident transportation choices and how they impact employment and shopping.

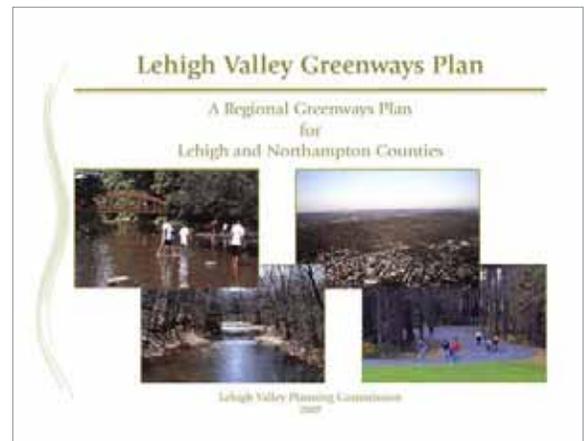
#### *Lehigh Valley Greenways Plan (2007)*

The Lehigh Valley Greenways Plan provides comprehensive recommendations for connectivity between the many greenways in the Lehigh Valley. The plan recognizes the City of Allentown as a focal point to connecting various greenways together. The plan identifies nine priority corridors throughout the Lehigh Valley, four of which run through parts of Allentown. The Jordan Creek corridor and the Pennsylvania Highlands corridor, Lehigh River Greenway, and the Little Lehigh River Greenway, are identified as priority greenways.

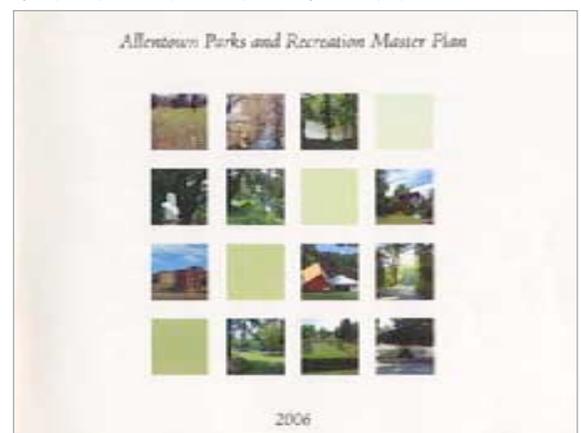
#### *Allentown Parks and Recreation Master Plan (2006)*

The City of Allentown Parks and Recreation System Master Plan, completed in 2006, was developed to assess the current condition and provide recommendations of improvement for the many parks within the city. This plan realizes the importance of trails, greenways, and pedestrians to parks and the surrounding neighborhoods.

*The Lehigh Valley Greenways Plan recognizes the City of Allentown as a focal point to connecting various greenways together.*



*The City of Allentown Parks and Recreation Master Plan specifically called for a city-wide pathway system.*



One of the goals used throughout the plan development process was:

“A city-wide pathway system that connects people to facilities, parks, schools, the downtown, the river, and neighborhoods as well as to connections in adjoining communities that will take them for long distances elsewhere in the region and beyond.”

A few excerpts from this plan are below:

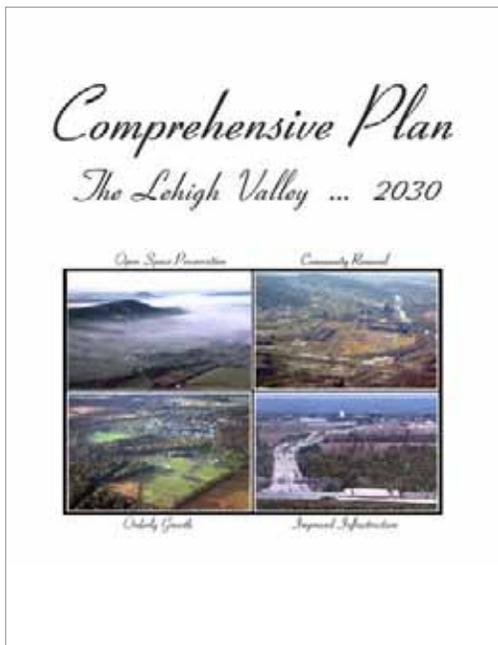
“Create a City and Regional Trail and Greenway Network ‘All Trails Lead to Allentown’ The City lies in a strategic location within the region to place it at the center of a major regional trail network. In several places, including inside and outside the City’s limits, trails exist or are being considered. A comprehensive network of trails linking the City to the region and vice versa, could serve as a major stimulus for regional cooperation and partnership and provide for unlimited recreation and multi-modal opportunities. The creation of a regional network could be the pilot for future regional partnerships on various parks and recreational endeavors. The goal of this initiative is a comprehensive and highly interconnected trail network that links as many of the City’s parks together as possible.” (Executive Summary page 8)

“The municipal open space system will use trails and greenways (open space connectors) to link parks, historic sites, and natural areas (open space nodes) into a continuous network of open space resources.” (Chapter 3 page 24)

“Local and regional connectors will be encouraged to connect people to parks, schools neighborhoods, and conservation areas via public access, scenic landscape, or natural habitat corridors, to municipal and regional public open space.” (Chapter 3 page 24)

*Lehigh Valley Comprehensive Plan—Lehigh Valley 2030 (2005)*  
The Lehigh Valley 2030 Plan, prepared by the Lehigh Valley Planning Commission, offers recommendations to accomplish goals relevant to conservation, development, and redevelopment to municipalities located within Lehigh and Northampton counties. One of the goals pertinent to trails and greenways mentioned in this plan is: “To support bicycle and pedestrian activity and to provide safe access to the transportation system for cyclists and pedestrians in the Lehigh Valley.” Some of the implementation measures suggested are:

One of the goals of Lehigh Valley 2030 plan is to support bicycle and pedestrian activity.



“Promote the construction of missing links in the bicycle and pedestrian networks.”

“Support future development patterns conducive to non-motorized travel.” (page 82)

A few excerpts from the plan relevant to trails and greenways:

“The second component of the B/P network consists of multiuse paths, distinguished from the previous network by protected rights-of-way. This network is developing but not truly regional at this point.” (page 81)

“Emphasis should be placed in developing a series of multiuse paths that address regional transportation needs. Of particular interest should be “missing links” in the network, with the goal of developing a network of paths that allow users to move around the region. Also, communities should consider linking adjacent residential developments through B/P paths to reduce the dependence on the automobile and to increase alternatives to the user.” (page 81)

#### *Allentown Cultural Arts and Entertainment District Master Plan (2004)*

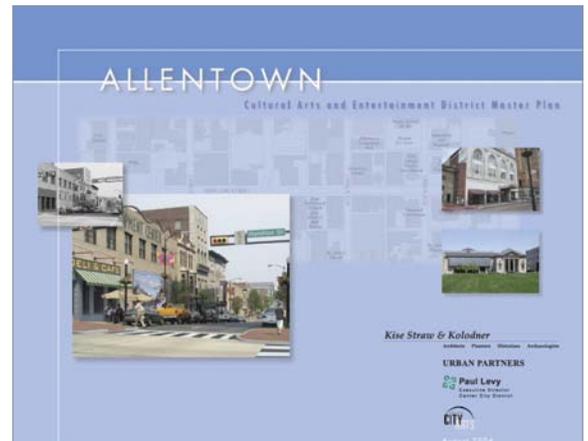
This small plan focuses on an Arts District in the eastern portion of downtown Allentown. This plan provides a vision and recommendations for this area for revitalization, connectivity, and development. Pedestrian connectivity, safety, and streetscape enhancements are major recommendations in this plan. Additionally, this plan calls for pedestrian connections through sidewalks and paths to the outlying neighborhoods and districts within downtown.

#### *Land Development and Subdivision Ordinance*

As mentioned in Allentown 2020, this ordinance should be kept up-to-date with the best practices for bicyclists and pedestrians for their application in substantial developments. The same is true for greenway and trail dedication and development. Currently, the ordinance has some language for such facilities, but the sections that address pedestrians should be expanded to cover bicyclists and other forms of transportation. For example, the words, ‘bicycle’, ‘trail’, and ‘greenway’ are not included anywhere in the ordinance. As part of the purpose of the ordinance, pedestrians are mentioned in section seven (*italics added*):

- 1371.03 PURPOSE, #7: “To provide the most beneficial relationship between the uses of land and building, the circula-

*Pedestrian connectivity, safety, and streetscape enhancements are major recommendations in the Allentown Cultural Arts and Entertainment District Master Plan*





# Chapter Three Concept Plan

**Chapter Overview** This chapter contains an overall map of proposed trail projects, plus individual cut-sheets that conceptually illustrate project recommendations. This chapter focuses on *physical* recommendations. Other aspects—such as programs, policies, and guidelines—are found in other chapters and appendices.

## Concept Plan Overview

The purpose of this chapter is to identify potential trail projects that will link together Allentown’s many existing trails and destinations. While the Concept Plan identifies trail projects, it also features many streetscape improvements for bicyclists and pedestrians. Such improvements are necessary to safely connect more people from neighborhoods to parks, schools and other important destinations, where creating typical off-road trails is not possible (see *Map 2.11: Incidents by Census Tract* as an example of the need for such improvements). Examples of streetscape improvements include adding high-visibility crosswalks and crossing signals at intersections, and painting and signing select streets to better accommodate bicyclists.

The recommendations in this chapter are conceptual and for planning purposes only. Specific design for implementation of these recommendations will occur on a project-by-project basis. For example, issues such as whether a new trail is to be paved versus unpaved, or whether a road is to have a bicycle lane versus a shared-lane marking, are topics to be covered in the *design phase* of such projects, rather than in the comprehensive analysis that this plan represents.

## The Hubs and Spokes Model

One of the underlying themes in the City of Allentown’s recommended trail network is the “hubs and spokes” model. The concept involves connecting destinations (hubs) with trail corridors (spokes). Examples of hubs include downtown Allentown, parks, shopping areas, residential areas, and schools. Examples of spokes could include trails that follow waterways, railroad corridors, and even roadways that are bicycle and pedestrian friendly. Application of this philosophy in developing the network provides accessibility, transportation, recreation, and healthy lifestyle opportunities for a wide range in types of trail users throughout the City of Allentown and the region.



*Below: The ‘Hub and Spokes’ model for trails encourages connectivity by providing safe and accessible ways to reach every-day destinations, such as schools, parks, shopping centers, and neighborhoods.*



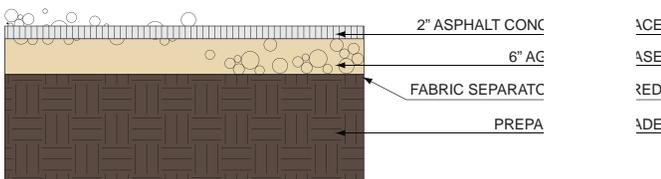
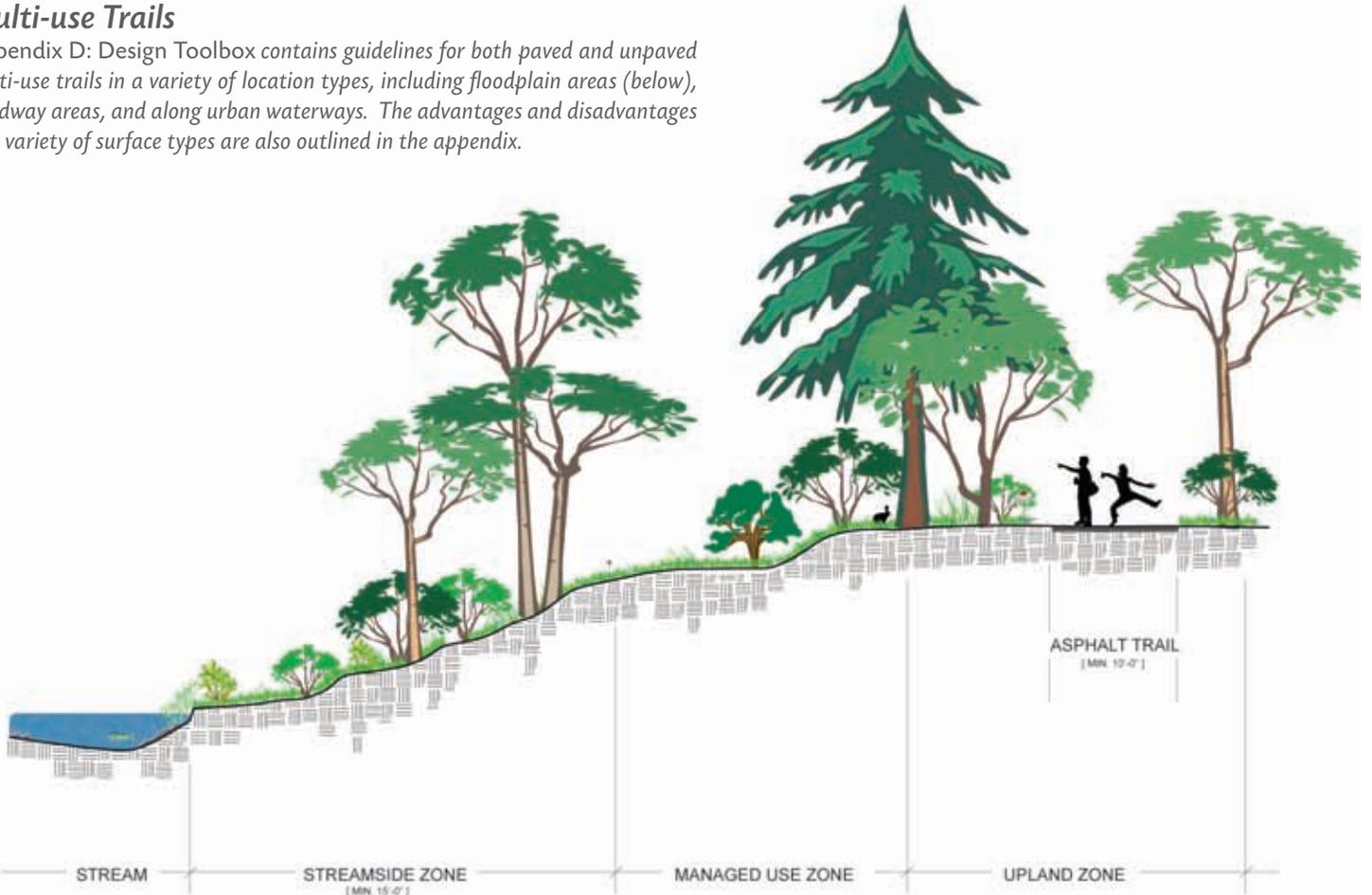


## Designing the Trail Network

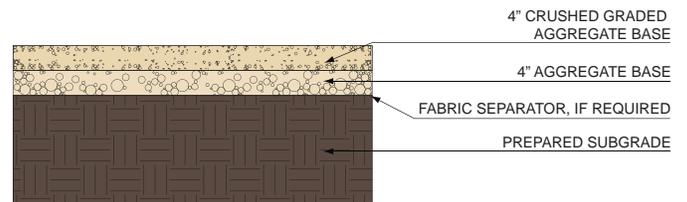
“Connecting Our Community” represents a planning-level analysis; the specific design of Allentown’s bicycle, pedestrian, and trail facilities (i.e., the ‘spokes’ of the overall network) will be done on a project-by-project basis. *Appendix F: Design Toolbox*, contains a ‘menu’ of facility-types that are used in various locations across the U.S. and throughout the world. The design guidelines are intended to be flexible and can be applied with professional judgment by designers and engineers. Some national and state guidelines are identified in the appendix, as well as design treatments that may exceed such guidelines. Some new treatments may require formal applications to PennDOT and FHWA for approval as experimental uses. Allentown’s future Parks, Recreation, and Trails Commission (see Chapter 4: Implementation) should also assist in determining future facility types.

### Multi-use Trails

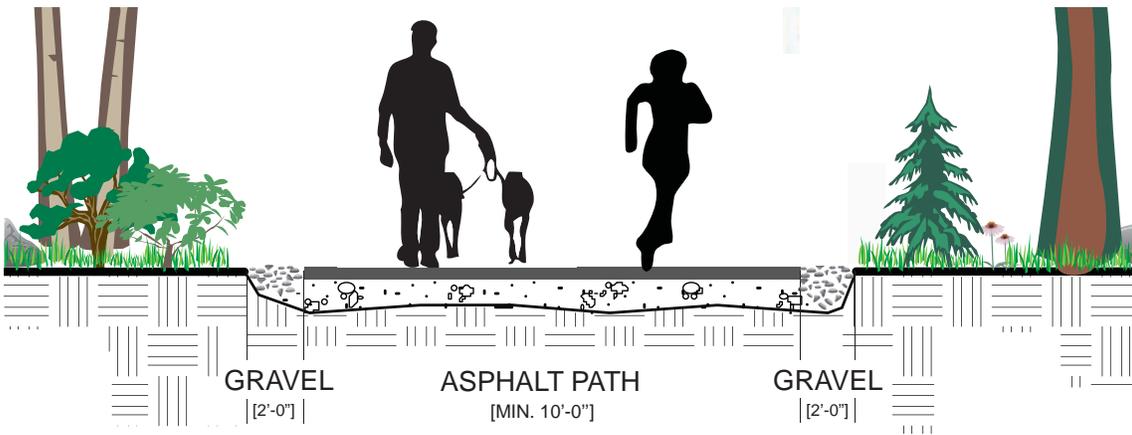
Appendix D: Design Toolbox contains guidelines for both paved and unpaved multi-use trails in a variety of location types, including floodplain areas (below), floodway areas, and along urban waterways. The advantages and disadvantages of a variety of surface types are also outlined in the appendix.



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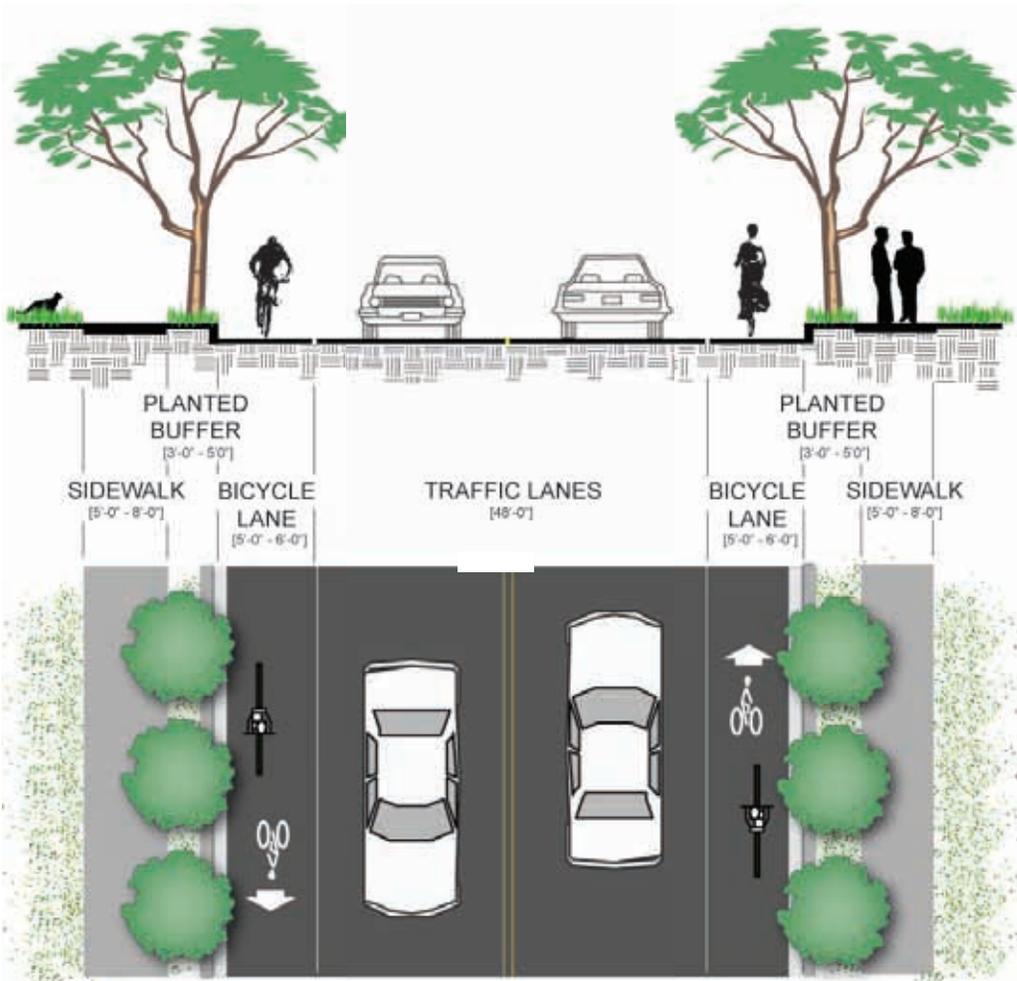
GRAVEL PAVING ON AGGREGATE



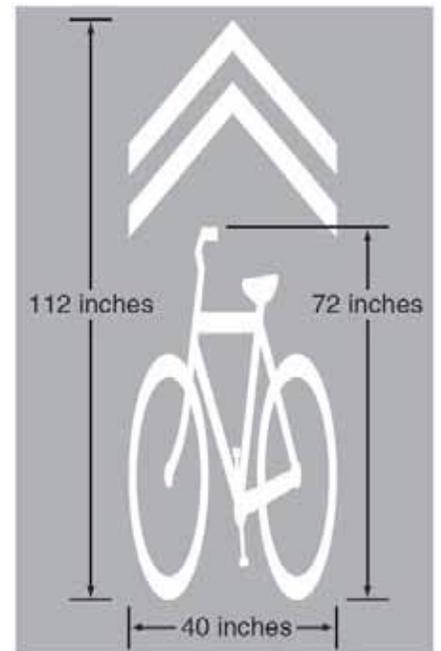
Left: Where paved trails are used, two-foot wide gravel shoulders on either side can offer space for those who prefer a softer jogging surface.

### Bike/Ped Streetscape Improvements

Some improvements for bicycle and pedestrian friendly streets are recommended to provide safe, non-motorized access (where off-road trails are not feasible) between parks, trails, neighborhoods, and other destinations. For pedestrians, these typically include sidewalks (minimum width of 5'), high visibility crosswalks, curb ramps, and pedestrian crossing signals at intersections with traffic lights. For bicyclists, a variety of facility types are recommended, including shared-lane markings (sharrows), wide outside lanes, paved shoulders, and bicycle lanes, depending on the specific street.



Below: One alternative to the bicycle lane is the bicycle shared-lane marking (a.k.a. 'sharrow'). This diagram is from the 2009 Manual for Urban Traffic Control Devices.

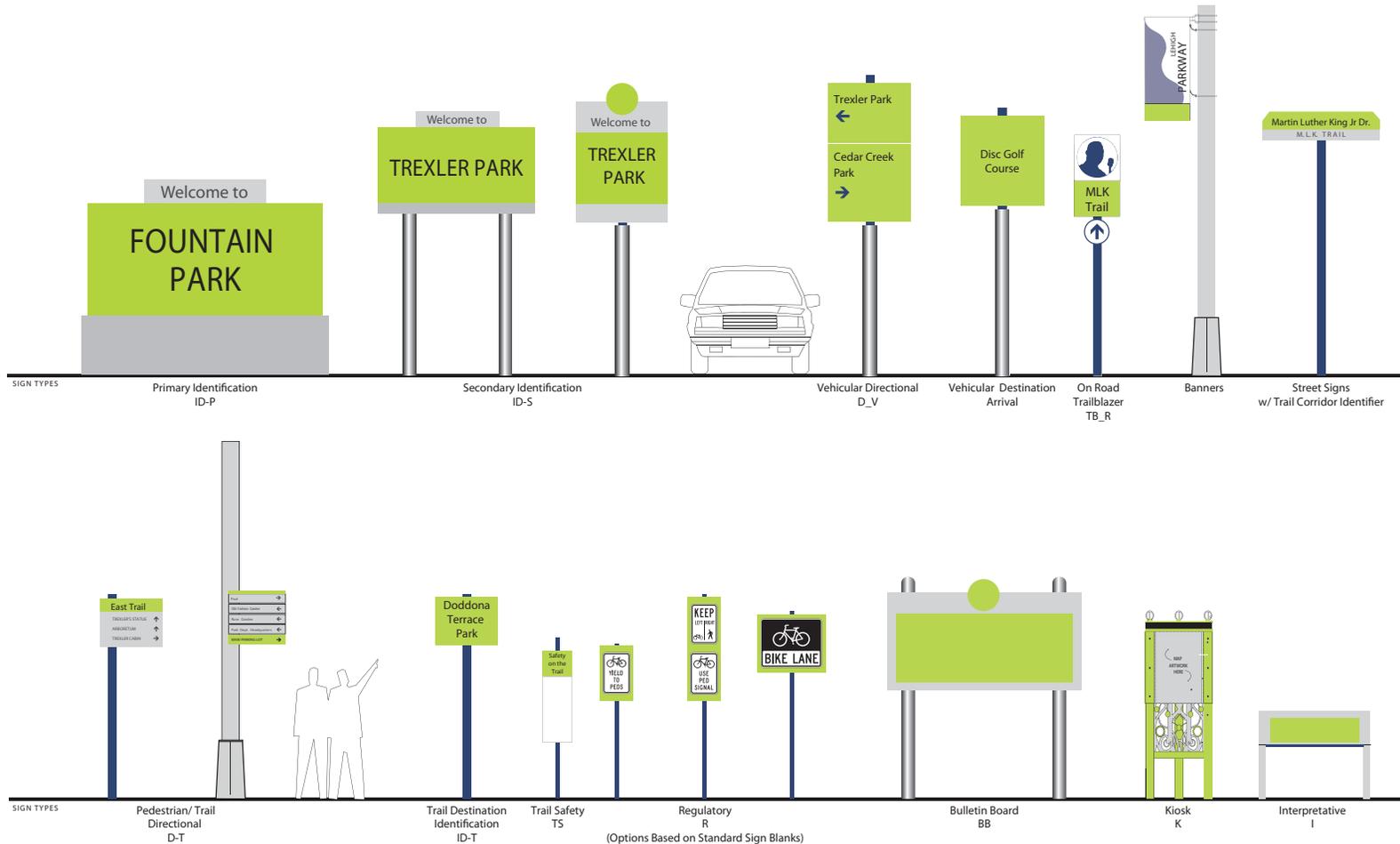


## Signing the Trail Network

The proposed network of trails will require a thoughtful application of signs that enable trail users travel throughout the City. The following is a summary of key findings from the signage report developed for 'Connecting Our Community'. The goal of the report (provided in Appendix E) is to establish a framework of sign types, information hierarchy and design standards. The report is an analysis of initial findings and recommendations, forming a basis from which the design process should continue to evolve.

**Sign Palette:** Below is a proposed sign palette for all sign types for the park system, of which trail signing is one key component. The various sign types are defined by type and application. The palette that is presented is intended to be flexible to include needs identified within the study area as well as potential conditions that may exist in other areas of the park system. Design guidelines for the sign system are also provided for guidance for the environmental graphic designers to use as a tool when developing the actual design of each sign type.

*A coordinated sign program reduces clutter by presenting a consistent design and organized information, reducing the need for multiple signs at congested decision points. Consistent design (standard colors, graphics, typefaces and size) helps to present a well-planned park system and trail network and a uniform identity for the City as a whole.*



**Directional Signs:** Clear and effective directional signs are important to any high-quality park system and trail network. There are few directional signs located within the existing park system, and those few have legibility limitations. Typically, trail directional signs should denote key access points or trailheads, by name. Mile markers or small signs which provide trail user with a sense of distance are also valuable. All existing wayfinding signs should be removed in coordination with the installation of the new signs.

**Regulatory Signs:** Regulatory signs are a fundamental part of every municipal park system. The challenge with signs of this type is balancing the necessary information and the potential for sign overloading. An effort should be made to replace and/or consolidate existing regulatory signs, and remove all out-dated rules and regulations. Standardized nomenclature throughout the park system should be established as part of this effort (a palette of icons for the system is considered to reduce sign text in Appendix E).

**Informational Signs and Kiosks:** Due to the exhaustive length of the rules, regulations, and information (and the variations in such information), the use of kiosks at key park locations would be more effective. Information kiosks provide extensive information in a manner that is uncluttered and reduces the need for redundant sign types. Also, quality maps at kiosks are an important tool in providing directional information to park and trail users and can be linked to map information provided on the City's website.

**Identity/Gateway Signs:** These signs would be located at the primary and secondary entrances to each park. Due to the great variation of park types within the City's park system, several sign variations should be created within this sign type. Individual parks can still have unique design elements incorporated in the sign design, but some basic components should be universal. For example, the larger stone walls and piers at Trexler Park could remain, but the incorporated sign panels would follow a standard design.

**Interpretive Signs:** Signs which focus on the unique attributes of the City's park system, whether focused on historical elements or specific environmental characteristics, can add additional interest to the parks. The 2008 interpretive signing recently installed in West Park and the pending signing for the Fish Hatchery are good models for the larger system.

**Brand Identity:** The development of a comprehensive signing system which considers all elements from color, form and branding through design elements such as logo should be established for the parks and recreation system. Generally, city seals do not work well for many of the applications needed since they have too much detail that tends to clutter signs.

**Donor Signs:** A palette of several types of donor signs which acknowledge financial sponsorships and "friends-of" groups should be developed. It is important that these be quality signs that provide a sense of caring to acknowledge the value of public, community and corporate support.



*This example of a directional sign shows distances to nearby destinations.*



*This example kiosk from Central Park is three sided. One side includes a comprehensive map of the park; another includes key regulations and a third provides interpretative information on nearby sites within the park.*



*The recently released City of Allentown logo is a perfect example of a brand identity that can be easily transferred to an overall palette of sign types.*



Above: Images from the January 2010 public workshop.

## Methodology

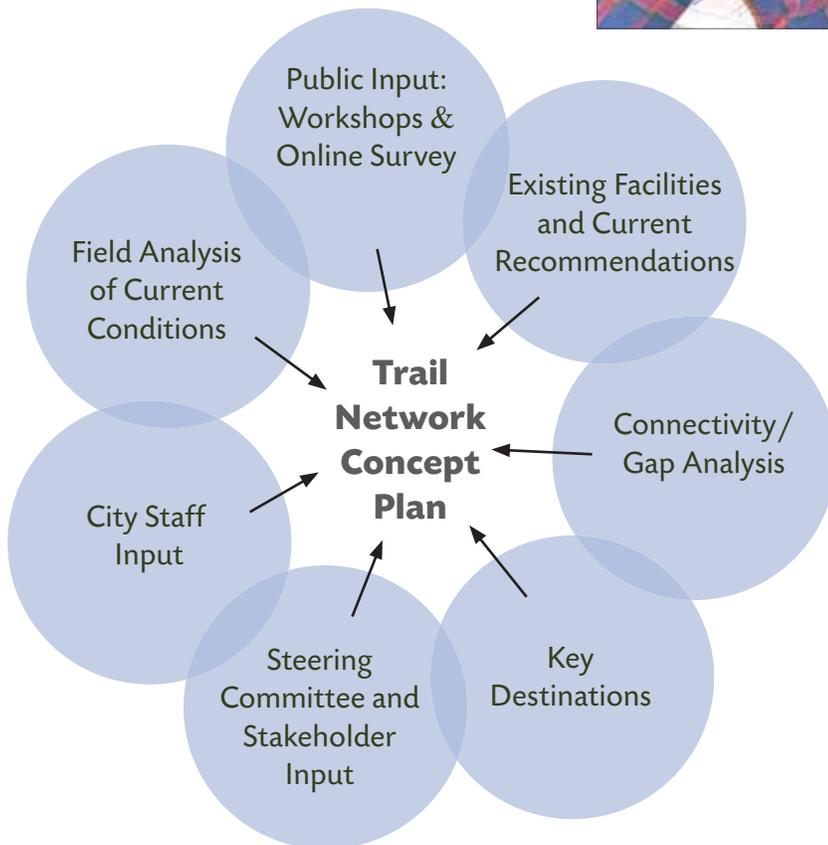
To meet the goals outlined for this plan (see page 1-1), the following key inputs were used to make recommendations. Findings from most of these factors are the subject of Chapter 2: Existing Conditions.

- *Field Analysis of Current Conditions* - Fieldwork throughout the City of Allentown was conducted to analyze 'on-the-ground' site conditions for opportunities and constraints for recommended trails and on-street bike/ped improvements.
- *Public Input: Workshops and Online Comment Forms* - Trail use trends, ideas, concerns, and preferences for future trails were identified through the online comment form and discussed during public meetings (See Appendix A: Public Involvement Summary).
- *Existing Facilities and Current Recommendations* - Locations of existing facilities were identified in the field by project consultants and by city staff; current recommendations were also analyzed from existing planning efforts.
- *Connectivity/Gap Analysis* - Gaps in existing facilities were identified through a Geographic Information Systems (GIS) mapping analysis; recommendations were then made to connect those gaps.
- *Key Destinations* - Destinations which are likely to attract trail users were considered in network design and trail routing. Examples include schools, parks, downtown areas, etc.
- *Steering Committee and Stakeholder Input*- Trail system ideas, concerns, and preferences were also collected during project steering committee meetings and stakeholder interviews.
- *City Staff Input*- Opportunities for greenway development, including open space, easements, and new developments, were highlighted by planning and parks and recreation staff from the City of Allentown.

Together, these factors not only influenced specific trail connections, but also the overall design of the trail network itself.



Left and below: Steering committee members learn about draft recommendations and provide comments at the April 2009 committee meeting.



This diagram illustrates the many inputs and levels of analysis used to make recommendations for the trail network.

## The Concept Plan

Map 3.1 shows the overall recommended network of trails for the City of Allentown. Further investigations at the permitting, design, and construction documentation stages will be necessary to finalize specific trail alignments and facility types. Also, recommended trail alignments may change due to future opportunities such as new easements, land acquisitions or newly added sidewalks and/or bicycle facilities.

## Project Cut-sheets

The cut-sheets on the following pages (starting on page 3-10) present a closer look at each specific trail project. Listed below are the names of each project, with an ID number that corresponds to both the overall map and the associated cut-sheet. The ID number *does not* indicate priority for development (for information on prioritization, see Chapter 4: Implementation).

### West End Trail Projects

- 1 Trexler Memorial Park to Cedar Creek Park (page 3-10)
- 2 Cedar Creek Park to Dadonna Park (page 3-11)
- 3 Dadonna Park to Little Lehigh Parkway (page 3-12)
- 4 Bike and Ped Streetscape Improvements (page 3-13)

### Center City Trail Projects

- 5 MLK Parkway Trail (page 3-14)
- 6 Jordan Park to Jordan Meadows (page 3-15)
- 7 Jordan Park to Fountain Park (page 3-16)
- 8 Bike and Ped Streetscape Improvements (page 3-17)

### 1st and 6th Ward Trail Projects

- 9 Lehigh River Rails-to-Trails (page 3-18)
- 10 Auburn Cross Trails to Lehigh Landing (page 3-19)
- 11 Bike and Ped Streetscape Improvements (page 3-20)
- 12 Tilghman Street Bridge (page 3-21)

### East Side Trail Projects

- 13 Bike and Ped Streetscape Improvements (page 3-22)
- 14 Hamilton Street Bridge (page 3-23)
- 15 Green Alleyway Pilot Project (page 3-24)
- 16 East Side Trail (page 3-25)

### South Side Trail Projects

- 17 Little Lehigh Creek Rails-to-Trails (page 3-26)
- 18 South Side Bike and Ped Streetscape Improvements (page 3-27)
- 19 Trout Creek Park to South Mountain Park (page 3-28)
- 20 Auburn Cross Trails Park (page 3-29)

## Chapter Four Implementation



**Chapter Overview** This chapter outlines the key action steps, the key partners involved, staffing recommendations, guidelines for facility development, and guidelines for estimating project costs.

The projects, programs, and policies recommended throughout this document represent a visionary and ambitious plan for the future of the City of Allentown. There are more than twenty proposed bicycle, pedestrian, and trail projects, all requiring careful coordination among stakeholders, creative funding strategies, further design, and ultimately, construction, maintenance, and management. There are also many ideas for programs presented in earlier chapters, ranging from things as simple as enforcing the speed limit, to large-scale events, such as Cycling Sundays. Finally, policy recommendations also vary, from including bicyclists and pedestrians in the official definition of ‘traffic’, to introducing the policy framework of Complete Streets.

All these improvements cannot be made overnight, and in fact, they are better implemented in logical stages. As small steps are taken, they build the necessary momentum and support for the larger, more ambitious projects and initiatives. This implementation plan brings together recommendations made throughout this study, describes the main parties who will be involved, and the steps that need to be taken.

### Policy/Administrative Action Steps

#### 1. Adopt This Plan

One major action step for the City of Allentown is to adopt, publicize, and champion this plan. This should be considered the first step in implementation. Through adoption of this document and its accompanying maps as the City’s official trails plan, Allentown will be better able to shape transportation and development decisions so that they fit with the goals of this plan. Most importantly, having an adopted plan is extremely helpful in securing funding from state, federal, and private agencies. Adopting this plan does not commit the City to dedicate or allocate funds, but rather indicates the intent of the City to implement this plan over time, starting with these action steps.



The PRTC could be represented by individuals from the Steering Committee (above) and individuals from local organizations such as Bike Allentown, Community Bike Works, Coalition for Appropriate Transportation, and others.

Below: Park and trail signs in Allentown could be consolidated and simplified to display easy-to-understand rules like the ones shown here.



## 2. Establish a Parks, Recreation, and Trails Commission (PRTC)

As recommended in Allentown's Parks and Recreation Master Plan, the City of Allentown should establish a Parks, Recreation, and Trails Commission (PRTC) to assist in implementation. One leader from the PRTC should be appointed to bicycle, pedestrian, and trail issues. The PRTC's role would be to provide a communications link between the citizens and the City of Allentown, as well as an avenue for reviewing/revising project priorities for implementation. These organizations, and others like them, traditionally focus on education, advocacy, partnerships, events and community service. PRTC should begin quarterly meetings directly after members are appointed.

## 3. Seek Multiple Funding Sources and Facility Development Options

Multiple approaches should be taken to support bicycle, pedestrian, and trail facility development and programming. It is important to secure the funding necessary to undertake priority projects but also to develop a long-term funding strategy to allow continued development of the overall system. A priority action is to immediately evaluate the proposed trail system against transportation projects that are currently programmed to the Lehigh Valley Transportation Improvement Program (TIP) to see where projects might overlap, compliment, or conflict with each other. The City should also evaluate which of the proposed projects could be added to future TIP updates.

Capital and local funds for sidewalk, bicycle lane, crosswalk, and trail construction should be set aside every year, even if only for a small amount (small amounts of local funding can be matched to outside funding sources). A variety of local, state, and federal options and sources exist and should be pursued. These funding options are described in Appendix C: Funding. Other methods of pedestrian and bicycle facility development that are efficient and cost-effective are described in the Project Development section of this chapter.

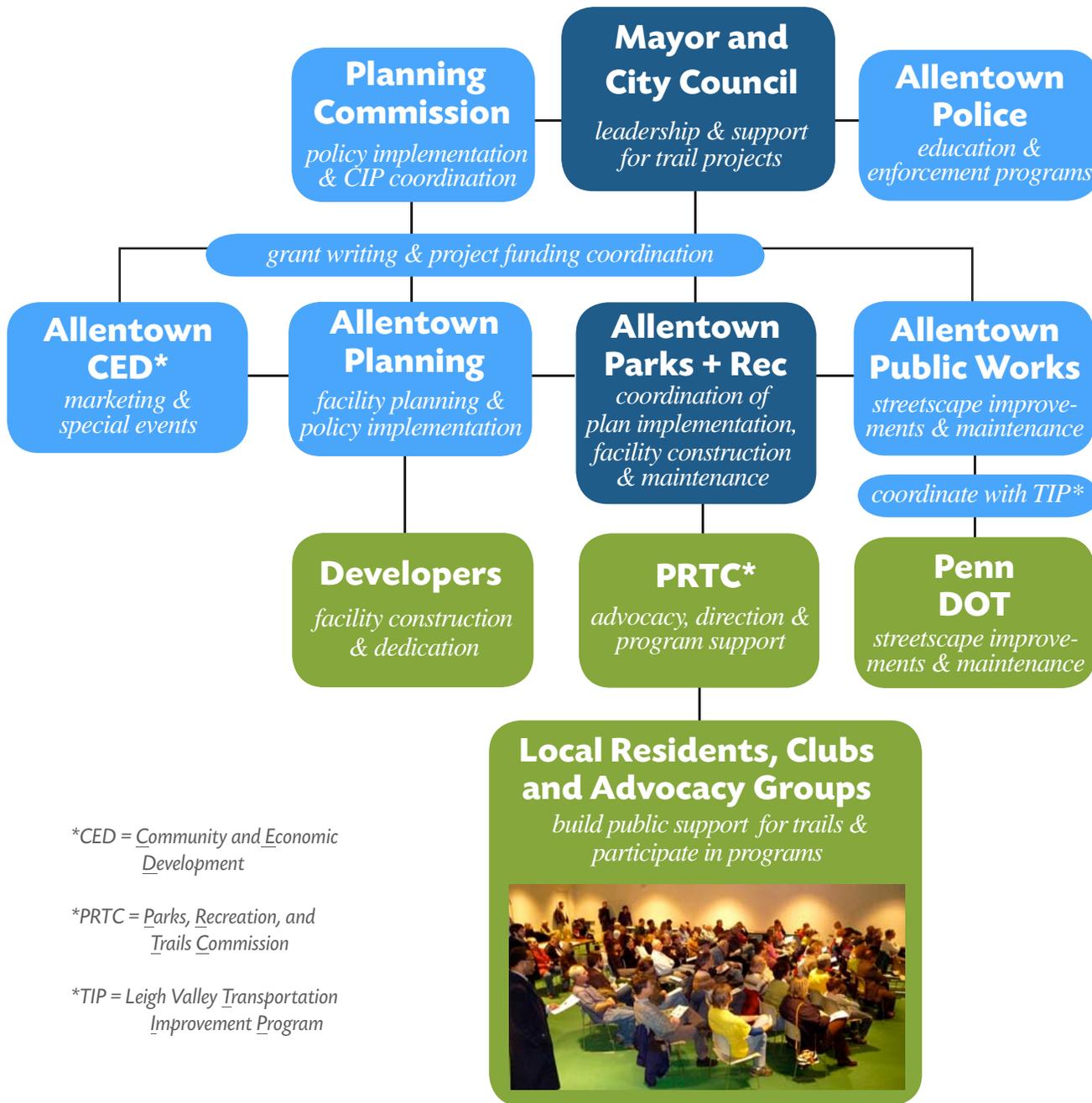
## 4. Improve Signage along Existing Trails and Parks

The goal of this study's signing program is to establish a framework of sign types, information hierarchy and design standards to create a seamless experience as one navigates along the City's trail system. One of the primary results of a coordinated sign program is that it naturally reduces clutter by presenting a consistent design and organized information. Key elements of the new sign program include establishing a brand identity and following the guidelines provided for kiosks, directional signs, interpretive signs, and regulatory signs.

### 5. Begin Semiannual Meeting With Key Project Partners

Coordination between key project partners will establish a system of checks and balances, provide a level of accountability, and ensure that recommendations are implemented. The City Trails Benchmark Report should be a product of these meetings, and goals for the year should be reconfirmed by participants. The meetings could also feature special training sessions on bicycle, pedestrian, and trail issues.

## ORGANIZATIONAL FRAMEWORK FOR IMPLEMENTATION WITH KEY PROJECT PARTNERS



\*CED = Community and Economic Development

\*PRTC = Parks, Recreation, and Trails Commission

\*TIP = Leigh Valley Transportation Improvement Program

## COMPLETE STREETS POLICY

The general spirit of a 'Complete Streets' policy could be summarized as follows:

*The future design and reconstruction of streets and intersections in the City of Allentown should aim to serve all types of users, including pedestrians, bicyclists, and motorists, and should be inclusive of all levels of ability, such as those in wheelchairs, the elderly and the young.*

## PREPARE ADDITIONAL DOCUMENTS AND STUDIES

**1. Develop trail construction documents for priority projects.** The City could prepare these in-house to save money, using the design guidelines of this plan and the project cut-sheets as starting points. The public should have an opportunity to be involved in the design of new facilities.

**2. Publish a user-friendly hand-held map and online website for bicycling and walking in Allentown.** The map would encourage individuals and groups to become more active through biking and walking by showcasing key destinations, suggested routes of travel, and safety/etiquette information. The map should also be available for download on a web site or City web page that is entirely dedicated to hosting information about bicycling, walking and trail-related issues in Allentown. The website and map could be maintained (and possibly even created) by volunteer members of the City's Parks, Recreation, and Trails Commission (PRTC), and should feature information about PRTC meetings and activities.

**3. Coordinate with LANTA** and associated boards and commissions to identify multi-modal transportation initiatives that would benefit pedestrians, bicyclists, and transit users in Allentown.

## **6. Improve Bicycle, Pedestrian and Trail Policies**

While Allentown's Comprehensive Plan (Allentown 2020) and zoning codes address non-motorized transportation in a number of important ways, some policy updates are recommended to ensure future development provides pedestrian and bicycle facilities and improves bicycle/pedestrian friendliness. Specifically, a Complete Streets Policy should be drafted and adopted according to the guidelines set forth in this study (see sidebar at left).

## **7. Continue to Maintain Bicycle, Pedestrian, and Trail Facilities**

Additional maintenance costs for bicycle, pedestrian, and trail facilities (striping, sweeping, etc) are small incremental costs relative to the City's overall public works budget. The recommended strategy is to integrate maintenance into ongoing City programs. For bicycling, an emphasis for maintenance crews is to sweep all the way to the curb or edge of shoulder (where many bicyclists often ride). For trails, emphasis should be on target areas of improvement. Efforts can also be made through the PRTC to establish 'adopt a trail' and 'adopt a bikeway' programs—bringing attention to maintenance 'hot-spots' as they arise. Consider sub-contracting for striping and painting bicycle and pedestrian facilities.

## **8. Prepare Additional Documents And Studies**

This Plan should be viewed as a springboard for additional bicycle, pedestrian, and trail planning, research, and documentation. Additional efforts that should be completed are featured in the sidebar at left.

## **9. Launch Programs as New Projects are Built**

Through cooperation with the City of Allentown, the PRTC, and groups such as the Coalition for Appropriate Transportation (CAT), strong education, encouragement, and enforcement campaigns could occur as new facilities are built. When an improvement has been made, the roadway environment has changed and proper interaction between motorists, bicyclists, and pedestrians is critical for the safety of all users. A campaign through local television, on-site enforcement, education events, and other methods will bring attention to the new facility, and educate, encourage, and enforce proper use and behavior.

## **10. Offer Training for Enforcement**

Law enforcement officers have many things to worry about, yet bicyclists and pedestrians remain the most vulnerable forms of traffic. The APD was consulted during this planning process, and should continue to be involved in implementation. In many

cases, officers and citizens do not fully understand state and local laws related to bicyclists and pedestrians. Training on this topic can lead to additional education and enforcement programs that promote safety. Training for Allentown's officers could be done through free online resources available from the National Highway Traffic Safety Administration (NHTSA) (see links at [www.bicyclinginfo.org/enforcement/training.cfm](http://www.bicyclinginfo.org/enforcement/training.cfm)). Should PennDOT release grants for education, the City could also seek instructor-led courses offered by the NHTSA or groups such as the Coalition for Appropriate Transportation (CAT).

### **11. Continue Working with Safe Routes to School (SRTS) Programs**

In late 2009, the Allentown School District was awarded Safe Routes to School grants for Central and McKinley Elementary Schools and South Mountain Middle School. Safe Routes to School is a national program with \$612 million dedicated from Congress from 2005 to 2009. Local Safe Routes to School programs are sustained by parents, community leaders, and citizens to improve the health and well-being of children by enabling and encouraging them to walk and bicycle to school. This funding can also be used towards the development of school-related programs to improve safety and walkability initiatives. The City of Allentown should continue to assist its schools in applying for future SRTS programs, and be prepared to assist in implementation.

### **12. Becoming a Bicycle Friendly Community**

One of the goals for this study is to transform Allentown into a "Bicycle Friendly Community" (BFC). The BFC Campaign is a League of American Bicyclists (LAB) awards program that recognizes municipalities that actively support bicycling. A BFC provides safe accommodation for cycling and encourages its residents to bike for transportation and recreation.

Communities that are bicycle-friendly are seen as places with a high quality of life. Becoming a 'Bicycle Friendly Community' often translates into increased property values, business growth and increased tourism. BFCs are places where people feel safe and comfortable riding their bikes for fun, fitness, and transportation. With more people bicycling, communities experience reduced traffic demands, improved air quality and greater physical fitness. A committee of the LAB reviews and scores the BFC application and consults with local cyclists in the community. An award of platinum, gold, silver or bronze status is designated for a period of four years. The LAB and technical assistance staff continue to work with awardees and those communities that do

*PA Walks and Bikes is an organization that could be contacted for more information on Safe Routes to School's Pennsylvania Network Project. The following link has more information: [www.livablestreets.com/projects/pabikewalk/safe-routes-to-school](http://www.livablestreets.com/projects/pabikewalk/safe-routes-to-school)*



*This study is an essential first step to becoming a BFC, yet Allentown will need to make significant strides in accomplishing the other action steps prior to applying for BFC status.*

not yet meet the criteria to encourage continual improvements. The LAB recognizes newly designated Bicycle Friendly Communities with an awards ceremony, a Bicycle-Friendly Community road sign, and a formal press announcement.

The development and implementation of this plan is an essential first step in Allentown eventually becoming a BFC. Allentown will need to make significant strides in accomplishing the other action steps prior to applying for BFC status.

### **13. Create a Bicycle and Pedestrian Coordinator Position (when the City is capable)**

*This recommendation is made with the understanding that it may take years before the City is able to afford to take on new positions.*

The City of Allentown will eventually need to create and fund the full-time dedicated position of Bicycle and Pedestrian Coordinator to handle the day-to-day implementation of recommended policies, programs and activities described within this study. The Coordinator will lead efforts to apply for funding, oversee planning, mapping, design and development of bicycle, pedestrian and trail projects. The Coordinator will assist with programming, public outreach, and monitoring of implementation. In the absence of a coordinator, these tasks fall to the Parks and Recreation Department and the Special Events Coordinator (some cities use a combination of staff, contract employees, consultants, partnerships with advocacy organizations and inter-department teams).

### **14. Benchmark Progress (Evaluation and Monitoring)**

The City of Allentown should establish performance measures to benchmark progress toward achieving the goals of this plan. Performance measures should be stated in an official City Trails Benchmark Report, prepared by the Parks and Recreation Director (with assistance from other departments) within one year after this plan is officially adopted.

The report needs only to cover key performance measures, and should be concise. The performance measures should address the following:

- 1) *Safety*: measure the number of bicycle and pedestrian crashes involving automobiles on an annual basis.
- 2) *Usage*: target specific bicycle, pedestrian, and trail facilities and take measurements to determine levels of use.
- 3) *Facilities*: measure how many facilities have been im-

proved, updated, or constructed, in accordance with the recommendations of this plan. Also report on the quality of these facilities.

4) *Education and Enforcement*: work with local law enforcement to measure the number of people that participate in education programs and the number that are ticketed for violations of motor vehicle and bicycle laws.

5) *Institutionalization*: measure the total budget spent by the City on bicycle, pedestrian, and trail projects and programs.

5) *Reconfirm Annual Goals*: based on meetings with department heads and citizens groups, set three goals for the following year: for funding acquisition, priority project development, and program implementation.

This report would also be a showcase of success stories and would serve as a barometer for work that still needs to be accomplished. Such a performance report would also be an excellent tool as the City of Allentown works toward gaining its Bicycle Friendly Community status.

## Key Partners in Implementation

### *Role of the Mayor and City Council*

As mentioned in the Action Steps section above, the City Council will be responsible for adopting this plan. Through adoption, the City's leadership is recognizing the value of bicycle and pedestrian transportation and is putting forth a well-thought out set of recommendations for improving public safety and overall quality of life (see page 1-4: The Benefits of Greenways).

By adopting this Plan, the City Council is also signifying that they are prepared to support the efforts of other key partners in the plan's implementation, including the work of its own departments and the local division of PennDOT. For example, if the Council adopts this plan, they should be prepared to:

- Approve ordinance updates to enhance bicycle-and pedestrian-related policy
- Include priority bicycle, pedestrian, and trail projects in upcoming capital improvement plans whenever possible
- Consider consistent annual funding for trail and roadway improvements for bicycle and pedestrian transportation that could be used for construction or matching grants for construction.

*Note: Allentown's online comment form (which yielded nearly 500 responses) showed strong support for trails. Eighty-seven percent (87%) indicated that the goal of creating more trails in Allentown is important, with only 3% indicating that it is not. Ninety-six (96%) said they would use trails more often if they could easily bike or walk to one.*

***Role of the City Planning Commission***

The City Planning Commission serves as an advisory body to the City Council on all matters of planning and zoning. The commission should be prepared to:

- Learn about bicycle-related policy and potential policy revisions to the Planning Ordinance; in particular the Complete Streets policy guidance at the end of Appendix B..
- Become familiar with the recommendations of this Plan, and be prepared to support its implementation.

***Role of the Allentown Parks and Recreation Department***

The Parks and Recreation Department will take primary responsibility for the day-to-day operations necessary to implement the plan. For example, the department should be prepared to:

- Pursue grants for funding priority projects and priority programs.
- Communicate and coordinate with the Public Works Director and the Planning Director on priority projects for city-maintained roadways and greenway trail corridors/easements.
- Meet with the PRTC and the Planning Department on the development of priority projects; provide progress updates for plan implementation and gather input regarding pedestrian and bicycling issues
- Communicate and coordinate with the Planning Department, Lehigh County, and neighboring municipalities on regional trail corridors; partner for joint-funding opportunities.
- Ensure that recommended programs are carried out; Work with locale advocacy groups and the PRTC to assist in organizing trail and bicycle-related events, educational activities, and enforcement programs. Coordinate with APD and CED for their participation.

***Role of the Allentown Planning Department***

The Planning Department is responsible for a variety of activities as it carries out its mission of providing direction for the future growth and development of the city. For this study, the department should be prepared to:

- Assist in pursuing grants for funding priority projects and priority programs.

- Communicate and coordinate with the Public Works Director and the Parks and Recreation Director on priority projects for city-maintained roadways and greenway trail corridors/easements.
- Communicate and coordinate with local developers on adopted recommendations for bicycle and pedestrian facilities, including trails.
- Communicate and coordinate with the Parks and Recreation Department, Lehigh County, and neighboring municipalities on regional greenway corridors; partner for joint-funding opportunities.
- Ensure that when PennDOT-maintained roadways in Allentown are resurfaced or reconstructed, that this Plan's adopted recommendations for bicycle facilities are included on those streets, whenever feasible (especially for longer distance resurfacing projects).
- Present bicycle-related policy and policy revisions to the Planning Commission and City Council for their approval; encourage the Commission to approve funding for plan implementation.

### ***Role of the City of Allentown Public Works Department***

The Public Works Department will take primary responsibility for the construction and maintenance of bicycle and pedestrian streetscape improvements on city-owned and maintained roadways. For example, the department should be prepared to:

- Communicate and coordinate with the Parks and Recreation Director and the Planning Director on priority projects for city-maintained roadways and greenway trail corridors/easements.
- Become familiar with the standards set forth in the Design Toolbox appendix, as well as state and national standards for bicycle facility design.
- Construct and maintain bicycle and pedestrian facilities (on city roadways) using the Design Toolbox appendix as a starting point for design.
- Notify the Planning Department of all upcoming roadway reconstruction or resurfacing/restriping projects, no later than the design phase; Provide sufficient time for comments; Incorporate bicycle recommendations from the planning staff.

*PennDOT policy (Bike and Pedestrian Checklist) requires the integration of the identified bike/ped needs into transportation project planning and design processes. The City, with the help of Lehigh County and the Lehigh Valley MPO should ensure that these needs are properly integrated during the planning and design of transportation facilities.*

### ***Role of the Parks, Recreation, and Trails Commission (PRTC)***

As mentioned in the Action Steps section above, this commission will contribute significantly to the development of this plan; their support is critical for its implementation. The PRTC should be prepared to:

- Meet with staff from the Parks and Recreation Department; evaluate progress of the plan's implementation and offer input regarding bicycling issues; assist town staff in organizing bicycle-related events and educational activities.
- Build upon current levels of local support for bicycling issues and advocate for local project funding.

### ***Role of the Local PennDOT Division***

The local division of the PennDOT is responsible for the construction and maintenance of bicycle facilities on PennDOT-owned and maintained roadways in the City of Allentown. The local division should be prepared to:

- Recognize this study as an adopted plan of the City of Allentown, establishing the intent of the City to make certain roadways in Allentown more bicycle- and pedestrian-friendly, including roadways owned and maintained by PennDOT.
- Become familiar with the facility recommendations for PennDOT roadways (see *Bicycle and Pedestrian Streetscape Improvements* on Map 3.1); take initiative in incorporating this plan's recommendations into the Division's schedule of improvements.
- Become familiar with the standards set forth in the Design Toolbox appendix, as well as state and national standards for bicycle facility design; construct and maintain bicycle facilities using the highest standards allowed by the State (including the use of innovative treatments on a trial-basis).
- Continue to notify the City of Allentown of all upcoming roadway reconstruction or resurfacing/restriping projects in Allentown, no later than the design phase; Provide sufficient time for comments from city staff.

### ***Role of the Allentown Police Department***

The Allentown Police Department is responsible for making Allentown a safe place to live, work, and raise a family. The Police Department should be prepared to:

- Become experts on pedestrian- and bicycling-related laws in Pennsylvania.

- Enforce not only bicycling-related laws, but also motorist laws that affect bicycling, such as speeding, running red lights, aggressive driving, etc.
- Whenever possible, participate in bicycle-related education programs, especially in the inner core neighborhoods where bicycle theft and proper riding are concerns identified by community stakeholders.
- Set up a hotline and online reporting mechanism for reporting bicycling-related violations (by both bicyclists and motorists).
- See Appendix G: Operations and Management Toolbox for information on Crime Prevention Through Environmental Design (CPTED)

### ***Role of Developers***

Developers in Allentown play a critical role in facility development whenever a project requires the enhancement of transportation facilities or the dedication and development of greenways. Developers should be prepared to:

- Become familiar with the benefits, both financial and otherwise, of providing amenities for walking and biking (including greenways) in residential and commercial developments.
- Become familiar with the guidelines in Appendix F: Design Toolbox, as well as state and national standards for bicycle, pedestrian, and trail facility design.

### ***Role of Local Residents, Clubs and Advocacy Groups***

Local residents, clubs and advocacy groups, including, but not limited to Bike Allentown, Community Bike Works, the Coalition for Appropriate Transportation, Lehigh Valley Wheelman, etc., play a critical role in the success of this plan. They should be prepared to:

- Continue offering input regarding bicycling and trail issues in Allentown.
- Assist town staff and PRTC by volunteering for bicycle-related events and educational activities and/or participate in such activities.
- Assist town staff and PRTC by speaking at City Council meetings and advocating for local bicycle and trail funding for projects and programs.

## FACILITY DEVELOPMENT

### *Selecting Priority Projects*

The entire Trail Concept Plan, including twenty individual projects, is described in Chapter 3. However, these projects will be developed incrementally, based on the lists below. Suggested criteria for selecting priority projects includes the following:

- 1) *Public Support*: Candidate trail projects need to have public support. The initial list of priority projects was developed with input from the public and the project Steering Committee. Future priority lists should also be developed with public input, primarily from the PRTC.
- 2) *Available Land/Right-of-Way*: Trails where land or right-of-way is contiguous and capable of supporting future trail development should be pursued first. Some projects only have minor ROW issues, and should also be strong candidates.
- 3) *Functional Segment*: Each project should have an “anchor” or destination landscape on each end, such as a park, neighborhood, school, shopping area, or an existing trail. Projects should be implemented over time with a relatively even distribution throughout the City.
- 4) *Ease of Development*: Potential projects should be studied further to better understand obstacles to future facility development, such as environmental permitting and major infrastructure retrofits.
- 5) *Available Funding*: An assessment should be made as to how each individual segment will be funded. For example, if a project presents a strong case for transportation funding, PennDOT would be the logical choice for a matching grant.

### *Top Priority Trail Projects*

Based on the above criteria, the following projects are recommended as priorities. These lists should be reconfirmed annually in the City Trails Benchmark Report. The list should also evolve as projects are completed and as opportunities arise.

*Auburn Cross Trails Park (page 3-29)*

*Cedar Creek Park to Dadonna Park (page 3-11)*

*MLK Parkway Trail (page 3-14)*

## Priority Bike/Ped Improvements

Grant funding awarded to the City of Allentown in 2009 for bicycle infrastructure improvements (sharrows and bicycle racks) could be used on the following streets, with detailed recommendations to be determined in part by the City's future PRTC:

### *Priority Center City Bike/Ped Improvements:*

Turner, Linden, 4th, Union, and Lehigh streets (page 3-17)  
Jordan Park to Fountain Park (5th + 6th) (page 3-16)

### *Priority 1st and 6th Wards Bike/Ped Improvements:*

Hamilton and Front Street (page 3-20)

### *Priority East Side Bike/Ped Improvements:*

Union Blvd, Irving St, Albert St (page 3-22)  
Green Alleyway Pilot Project on Delp and Clair Streets (page 3-24)

### *Priority West End Bike/Ped Improvements:*

Turner, Linden, 16th, and Ott streets (page 3-13)

### *Priority South Side Bike/Ped Improvements:*

Wyoming St, Emaus Ave, Chapel Ave, 2nd, and Oxford Drive (page 3-27)

## Projects Currently Underway:

*East Side Trail + Canal Towpath* (page 3-25)

## Projects to be Ranked as Implementation Occurs

*All Other Bike/Ped Improvements* (chapter 3)  
*Dadonna Park to Little Lehigh Parkway* (page 3-12)  
*Jordan Park to Jordan Meadows* (page 3-15)  
*Trout Creek Park to South Mountain Park* (page 3-28)

## Opportunity-Based Projects

*Little Lehigh Creek Rails-to-Trails* (initially depending on funding opportunities; page 3-26)  
*Trexler Memorial Park to Cedar Creek Park* (requires close coordination with PennDOT; page 3-10)  
*Tilghman Street Bridge* (requires close coordination with PennDOT; page 3-21)  
*Hamilton Street Bridge* (requires close coordination with PennDOT; page 3-23)  
*Auburn Cross Trails to Lehigh Landing* (requires close coordination as riverfront develops; page 3-19)  
*Lehigh River Rails-to-Trails* (requires close coordination as riverfront develops; page 3-18)

*Bicycle Racks:* During February 2010, Bike Allentown created a detailed list of possible locations for new bicycle racks throughout the City. The City should use Bike Allentown's list as a starting point for identifying where new racks should be placed. Additional areas to be considered include Health Bureau locations, and other areas where youth programs are held. (See Appendix F: Design Toolbox for standards related to bicycle rack design.)

*As noted on page 4-2, a priority action is to immediately evaluate the proposed trail system against transportation projects that are currently programmed to the Lehigh Valley Transportation Improvement Program (TIP) to see where projects might overlap, compliment, or conflict with each other. The City should also evaluate which of the proposed projects could be added to future TIP updates.*

### **Facility Construction**

This section discusses issues related to bicycle, pedestrian, and trail facility construction. Note that roadway re-construction projects offer excellent opportunities to incorporate facility improvements for bicyclists and pedestrians. It is much more cost-effective to provide a bicycle facility when these road projects are implemented than to initiate the improvement as a “retrofit.”

#### *Transportation Project Coordination*

In order to take advantage of upcoming opportunities to incorporate bicycle and pedestrian facilities into routine transportation projects, the City should continue to track repaving schedules, and other lists of projects. Additionally, the PennDOT’s district office should be encouraged to use this plan as a ready reference when maintenance projects are being programmed. As recommended in this chapter, a semiannual meeting with project partners will ensure this critical communication. As the long-range transportation plan is updated in future years, bicycle and pedestrian improvements should be included in appropriately programmed projects.

#### *Restriping*

The simplest type of restriping project is the addition of bicycle lanes, edgelines, or shoulder stripes to streets without making any other changes to the roadway. Bicycle lanes, edgelines, and shoulder stripes can also be added by narrowing the existing travel lanes or removing one or more travel lanes. In some locations where the existing lanes are 12- or 13-foot wide, it may be possible to narrow them to 10 feet. This requires changing the configuration of the roadway during a resurfacing project. Many cities are considering lane narrowing or “road diet” initiatives as a traffic calming measure. This type of downsizing represents an opportunity for adding bicycle and pedestrian facilities while working within the construct of an existing right-of-way width.

#### *Parking Issues*

Removing parking is likely to create considerable controversy and is not recommended unless there is no other solution (unless the parking is never used). In the rare case that removing parking is being considered, the parking should not be removed unless there is a great deal of public support for the bike lanes on that particular roadway, and a full public involvement process with adjacent residents and businesses is undertaken prior to removing parking. Consider bicycle shared lane markings as an alternative (see following page and the Design Toolbox).

#### *Repaving*

Repaving projects provide a clean slate for revising pavement markings. When a road is repaved, the roadway should be re-

striped to create narrower lanes and provide space for bike lanes and shoulders, where feasible. In addition, if the spaces on the sides of non-curb and gutter streets have relatively level grades and few obstructions, the total pavement width can be widened to include paved shoulders.

#### *Installing Bicycle Shared Lane Markings*

Shared lane markings take the place of traditional bicycle lanes where lanes are too narrow for striping, where speeds do not exceed 35 mph, and/or where there is on-street parking. The intent of the shared lane marking is threefold: 1) they draw attention to the fact that the roadway is accommodating bicycle use and traffic; 2) they clearly define direction of travel for both bicyclists and motorists; and 3) with proper placement, they remind bicyclists to bike further from parked cars to prevent “dooring” collisions.

*Note: Bicycle Shared Lane Markings (sharrows) were included in the 2009 version of the Manual on Uniform Traffic Control Devices (MUTCD).*

#### *Roadway Construction and Reconstruction*

The needs of bicyclists and pedestrians should be accommodated any time a new road is constructed or an existing road is reconstructed, especially on roadways that are identified in Chapter 3 as Bicycle and Pedestrian Streetscape Improvements.

#### *Bridge Replacement*

All new or replacement bridges should accommodate bicycles and pedestrians. Federal law, as established in the Transportation Equity Act for the 21st Century (TEA-21), makes the following statement with respect to bridges:

*“In any case where a highway bridge deck is being replaced or rehabilitated with Federal financial participation, and bicyclists are permitted on facilities at or near each end of such bridge, and the safe accommodation of bicyclists can be provided at reasonable cost as part of such replacement or rehabilitation, then such bridge shall be so replaced or rehabilitated as to provide such safe accommodations.” (23 U.S.C. Section 217)*

#### *Bridge Retrofits*

Recommendations for retrofitting the Tilghman Street Bridge and the Hamilton Street Bridge are detailed on pages 3-21 and 3-23.

#### *Residential and Commercial Development*

In residential and commercial development, emphasis should also be focused on safe bicycle and pedestrian access into, within, and around the site(s). This ensures the future growth of the trail network and the development of safe and accessible transportation.

## **COST ESTIMATE ASSUMPTIONS:**

**1. Trails:** Trail construction requires a high level of preparation – purchasing property, engineering design, and coordination with many stakeholders. In addition, construction and material costs are often much higher since they are frequently constructed independently of any other project. Costs for a new greenway trail typically range from \$100-\$133 per linear foot, based on projects completed nationally. Costs also vary according to surface material used, and the nature of the existing corridor.

**2. Bicycle shared-lane markings** consist of signs every half-mile and roadway markings about every 350 feet. At about \$250 per installed sign and \$65 per marking, the per mile cost is roughly \$3,000 (\$1,500 on one-way streets).

**3. Painting a bicycle lane** on a road with sufficient width costs roughly \$6,500 per linear mile for thermoplastic striping. May be included as part of a routine resurfacing.

**4. Crosswalks:** High-visibility thermoplastic crosswalks cost roughly \$5 per linear foot

**5. Crossing signals:** Pedestrian-activated 'countdown' crossing signals are roughly \$5K per intersection.

**6. New sidewalk:** Varies greatly, between \$35-\$75 per linear foot, depending on inclusion of curb and gutter during installation.

**7. Trail Maintenance:** Trail maintenance typically costs about \$10K per mile, based on projects completed nationally (see page G-8 for a breakdown of this estimate).

**8. Bicycle Facility and Sidewalk Maintenance:** Integrate into ongoing street maintenance.

### *New Trail Construction*

Most trail projects will require completely new construction, except for bridge retrofits and corridors that use an existing cleared pathway, such a utility or inactive rail corridor.

### *Trail Crossings*

Trail crossings within District 5-0 of State Highways will require a Shared-Use Path Crossing Agreement. This agreement may cover multiple trail crossings, so long as a single entity is responsible for each. The agreement process usually takes about 2-3 months. Contact the PA DOT District 5-0 Bike/Ped Coordinator for more information.

### *Estimating Project Costs*

The overall estimates below were generated based on the type of recommendation and the type of construction required. *Keep in mind that these estimates are for outright construction, and do not reflect the lower costs associated with recommended methods of development, such as public-private partnerships, grants, and facility construction during routine repaving and resurfacing projects.* Figures used and their assumptions are listed at left.

- 14 miles of new trail at \$500K/mi ~ \$7M
- 47 miles of bicycle shared-lane markings at \$3K/mi ~ \$141K
- 4 miles of bicycle lanes or shoulders at \$6,500/mi ~ \$26k
- 2 miles of side paths at \$500K/mi ~ \$1M

The cost assumptions listed at left could be used as a starting point to estimate individual projects, however, the assumptions should be compared to local contractor estimates whenever available.

### **Operations and Management**

In 2006, the City of Allentown merged the Parks Department and the Recreation Department. The City hired a parks and recreation professional to become the Director of the newly formed Parks and Recreation Department. The Director has begun work on the development of a planned maintenance management system for the parks, including trails. A formal system to plan, direct, control and evaluate park and trail maintenance will result in higher quality facilities and more effective use of labor and financial resources.

### *Fiscal Challenges*

The City of Allentown is experiencing the challenges of the current global economic crisis. As a result, the Parks and Recreation Department is operating with reduced staff and de-

creased funding. Between 2006 and 2010, the department's budget has been cut by \$800,000. Table 1 presents the 2010 Parks and Recreation Department Budget.

Park maintenance operates with a staff of 51. Since 2006, 20 positions in the department have been eliminated due to retirements, unfilled vacancies and layoffs. Seventeen of these positions were lost between 2009 and 2010. Due to budget struggles and high maintenance demands, the Mayor requested that the Trexler Trust allow \$250,000 of their annual allocation to be used for maintenance instead of capital improvements in 2010 as a stopgap measure.

### ***Park and Trail Maintenance***

Park maintenance operates within two divisions: Park Maintenance and Watershed Maintenance. While both divisions perform trail maintenance, most trail maintenance falls under the purview of the Watershed Division. The Watershed Division maintains parklands associated with the watershed with most responsibilities, including trails, along the Lehigh Parkway. Currently, the Watershed Division maintains about 12 miles of trails. Seven miles in the Lehigh Parkway are the most heavily used trails in the system and among the most heavily used park facilities overall in the City. About five miles of trails are more rugged nature trails such as in South Mountain Reservoir.

*The Park Maintenance Division* undertakes trail maintenance mainly in response to the remediation of hazardous conditions and in preparation of trails for special events and permitted uses. In years past, the division was able to undertake a preventive maintenance program. Due to cutbacks, the division primarily operates in a responsive manner rather than according to a planned schedule. The division focuses trail work on preparing for special events or activities that have a city permit to use the respective trail for the activity. Emergencies occupy a large portion of the work program. The trails under the care of this division are stone dust. In the past, the division was able to put down screenings annually but have not had the resources to do so on a regular basis. If there is a maintenance problem on a trail, they try to fix it as soon as they are aware of it. There is no regular inspection system. Trails and existing roads in parks that are deteriorating need to be restored to optimal condition. There are no standards for trail conditions. The division is responsible for city tasks outside of parks such as road signs, fallen trees, removing sneakers from overhead wires, set up for all special events and other tasks that are not in parks.

*The Watershed Division* service area extends from the 15th Street Bridge on Martin Luther King Boulevard up to the Emmaus border and includes the South Mountain Reservoir. The division has a regular system of maintenance and monitoring trail use primarily because of the heavy use the trails get on the Lehigh Parkway. The trail surface includes both macadam and stone dust. Maintenance practices include inspections, removal of fallen limbs; removal of walnut, hickory and oak nuts from the paths; repairs; mowing; emergency restoration due to periodic flooding; and setting up for special events. The Watershed Division coordinates with other community organizations for trail improvements such as the construction of paths in South Mountain with the Girl Scouts. Due to the staff and budget cutbacks, the division performs the most pressing tasks deferring work that cannot be accomplished with the current workforce.

In addition to routine maintenance, both maintenance divisions periodically undertake trail restoration due to flooding. Hurricanes including Katrina and Floyd required the re-building of trails due to the extensive damage caused by the storms. The City submitted for FEMA funding to pay for the cost of these repairs.

### **Moving Forward in Tight Times**

The recommended projects, programs, and policies identified in this study represent a visionary and ambitious plan for the future of Allentown. At first, this may appear daunting or impractical during the tough economic climate that faces Allentown and most U.S. cities. However, such projects are in fact better implemented over time, in logical stages. As lower-cost projects and initiatives are taken, they will help build momentum and support for the larger, more ambitious tasks. For example, Allentown was already awarded a grant in 2009 to begin implementing some aspects of the plan. Key bicycle and pedestrian improvements along with short, but critical, trail segments could also have a great impact for little investment.

The overall horizon for more ambitious trail projects is much longer-term: anywhere from five to 15 years, depending on the level of political support and available funding. As Allentown and other potential partners begin to recover economically, the City may have more opportunities for larger trail projects, ideally with the outside assistance of grants and public-private partnerships. Many such opportunities are outlined in Appendix C: Funding Opportunities.

# Appendix A Public Involvement Summary

**Appendix Overview** Over 500 people have contributed to this plan through comment forms, committee meetings, and public workshops. This appendix includes a brief summary of the public meetings followed by the responses from the comment form.



## Public Meetings

An initial public kick-off meeting was conducted on January 22, 2009 to help determine overall goals and needs for this project. Goals and needs from the Committee and public included:

- Safe neighborhood connections to paths
- Residents should be within a 2-5 minute walk of trails
- Gaps in the existing trail system should be filled
- Connections to parks, Boys and Girls Club, and YMCA
- Connections for the 18,000 students in the area – Safe Routes to School
- Downtown Allentown should be a hub for trails
- Regional connections
- Bicycle and pedestrian-safe bridge needed across Lehigh River to connect points east and west
- Need to get more citizens on a bicycle (encouragement and education programs)

Another public meeting was held to respond to the preliminary concept plan on June 24, 2009. The final public meeting, on January 13, 2010, focused on the full draft plan. During these meetings, a combined total of 125 attendees communicated directly with City and consultant staff and marked-up public input maps indicating their ideas for trails in Allentown.

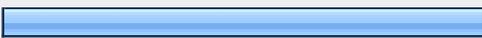
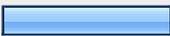
## Online Comment Form

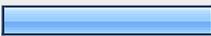
Comment forms were made available online in March 2009. As of Fall 2009, there were just over 470 responses. The online comment form helped project staff to understand current trends in trail use, provided a demographic profile, and helped to define what the community can do to better meet the needs of its residents. Although not a statistical survey, this tool does allow an understanding of important trail-related concerns and desires for hundreds of Allentown residents. The following pages contain the results.

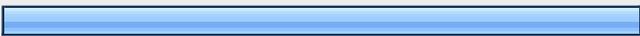
*Images from the January 2010 Public Meeting*



Online Comment Form Results

1. How important to you is the goal of creating more trails? (select one)			
		Response Percent	Response Count
very important		72.0%	340
somewhat important		24.8%	117
not important		3.2%	15
<i>answered question</i>			<b>472</b>

2. How often do you use trails now? (select one)			
		Response Percent	Response Count
never		7.6%	36
few times per year		32.6%	154
few times per month		29.0%	137
few times per week		30.9%	146
<i>answered question</i>			<b>473</b>

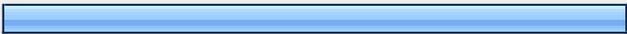
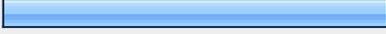
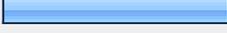
3. Would you use trails more often if you could easily bike or walk to one?			
		Response Percent	Response Count
Yes		95.6%	452
No		4.4%	21
<i>answered question</i>			<b>473</b>

## Online Comment Form Results (Continued)

**4. For what purposes do you walk or bike most often? (Or for what purposes would you use trails in the future?). (Rank Top 3).**

	#1	#2	#3	Rating Average	Response Count
Fitness or recreation	<b>81.2% (368)</b>	13.9% (63)	4.9% (22)	1.24	453
Transportation to some destination	10.6% (24)	<b>56.6% (128)</b>	32.7% (74)	2.22	226
Social visits	3.0% (8)	37.0% (100)	<b>60.0% (162)</b>	2.57	270
Walking the dog	25.1% (42)	<b>47.9% (80)</b>	26.9% (45)	2.02	167
Walking with a baby/stroller	19.7% (15)	31.6% (24)	<b>48.7% (37)</b>	2.29	76
	<b>answered question</b>				<b>466</b>

**5. What are the most important benefits and uses of a trail system? Select all that apply.**

		Response Percent	Response Count
Transportation		42.1%	197
<b>Recreation</b>		<b>93.4%</b>	<b>437</b>
<b>Exercise</b>		<b>93.4%</b>	<b>437</b>
Community-building and events		49.6%	232
Connectivity to surrounding area		56.4%	264
Environmental improvements		57.3%	268
Tourism		31.2%	146
Education and interpretation		33.5%	157
	<b>answered question</b>		<b>468</b>

Online Comment Form Results (Continued)

6. What destinations would you most like to get to by trail and/or bicycle lane? (Rank Top 3)					
	#1	#2	#3	Rating Average	Response Count
Place of work	<b>55.0% (66)</b>	19.2% (23)	25.8% (31)	1.71	120
School	23.8% (5)	<b>38.1% (8)</b>	<b>38.1% (8)</b>	2.14	21
Restaurants	18.3% (15)	31.7% (26)	<b>50.0% (41)</b>	2.32	82
Public Transportation	10.3% (3)	<b>44.8% (13)</b>	<b>44.8% (13)</b>	2.34	29
Shopping	19.5% (16)	26.8% (22)	<b>53.7% (44)</b>	2.34	82
Parks	<b>56.0% (186)</b>	34.0% (113)	9.9% (33)	1.54	332
Regional trails and greenways	40.8% (126)	<b>41.7% (129)</b>	17.5% (54)	1.77	309
Libraries or recreation centers	8.3% (9)	32.1% (35)	<b>59.6% (65)</b>	2.51	109
Neighborhoods	8.4% (14)	27.7% (46)	<b>63.9% (106)</b>	2.55	166
<i>answered question</i>					<b>450</b>

7. What do you think are the biggest factors that discourage trail, sidewalk, or bicycle facility use? Rank Top 3.					
	#1	#2	#3	Rating Average	Response Count
Lack of information about local trails	<b>46.7% (107)</b>	23.1% (53)	30.1% (69)	1.83	229
Unsafe street crossings	37.0% (64)	<b>39.3% (68)</b>	23.7% (41)	1.87	173
High traffic volume	37.9% (61)	<b>39.1% (63)</b>	23.0% (37)	1.85	161
Lack of interest	25.5% (14)	<b>43.6% (24)</b>	30.9% (17)	2.05	55
Lack of time	31.9% (23)	<b>36.1% (26)</b>	31.9% (23)	2.00	72
Personal safety concerns	<b>38.1% (85)</b>	33.2% (74)	28.7% (64)	1.91	223
Aggressive motorist behavior	32.8% (44)	32.1% (43)	<b>35.1% (47)</b>	2.02	134
Deficient sidewalks	17.3% (19)	37.3% (41)	<b>45.5% (50)</b>	2.28	110
Lack of nearby destinations	20.7% (28)	28.9% (39)	<b>50.4% (68)</b>	2.30	135
<i>answered question</i>					<b>451</b>

**8. Are there specific destinations in Allentown or the Lehigh Valley that you believe should be connected by trails?**

*All responses are listed verbatim.*

3/26/13	Trexler park to county fields off of Dorney Park rd
	Lehigh Parkway to Cedar Beach
	Fish Hatchery to the West End (Trexler Park?)
3/26/13	Canal Park (to the trail that goes to Sand Island) to the west side of the river so it connects to Lehigh Parkway
3/26/13	Businesses and medical facilities along Cedar Crest Boulevard.
3/26/13	Cedar parkway/ Union Terract to Little lehigh trails and Little /lehigh trails to Lehigh towpath trails
3/26/13	Trexler PARK
	Cedar Beach and the Lehigh Valley Parkway; The Parkway, Trout Creek trail, and the trails on the East side of the Lehigh River
3/26/13	Lehigh River
3/27/13	Schools, restaurants, churches, parks/golf course, ice cream/coffee shops.
3/27/13	Should have bicycle lanes or trails to get to all parks from local neighborhoods
3/27/13	Rose Garden to Fish hatchery
	The rail trails should connect to the city parks,
	Rodale Park, and back country roads west of Allentown (Fogelsville, Kutztown areas), More people would ride to work if the major arteries had slightly off-road bike paths (Cedar Crest Blvd] for one.
3/27/13	
3/28/13	Cedar Brook Park (Parkway Blvd) and Trexler Park
	Allentown already has an amazing parks system (Thanks to General Trexler) - it merely needs to tie them together in a way that one does not have to risk life and/or limb to travel between them
3/28/13	
3/29/13	I never knew there were trails. Maybe they should be publicized more.
	connect Lehigh Canal Towpath, Union Terrace, Rose Garden, Trexler Park, Haines Mill into one trail, could be called something like Trexler Urban Rail & Park Trail
3/30/13	
	Allentown has an extensive park network. It would be nice if there would be a bike/pedestrian accessible system that connected the parks safely.
3/30/13	
4/4/13	trexler park
	Cultural/educational attractions like Da Vinci Science Center, Art Museum, Historical Society. Also creating a greenway along the river
4/7/13	
4/14/13	Neighborhoods and schools should be connected to their nearby parks.
	Connect the parkway, cedar beach and trexler park. Create a trail heading south towards Coopersburg and Quakertown.
4/14/13	
4/14/13	Allentown, Bethlehem, Easton canal paths with the Velodrome/ Bob Rodale Park, and The Parkway
4/14/13	Little Lehigh Creek to its tributaries - a trail on the fish hatchery road site
4/15/13	Breinigsville to Trexlertown to Wescosville to the lehigh parkway
	Trexler park to the Lehigh Parkway...possible link to the canal path via lehigh parkway for access into bethlehem from allentown and also to easton.
4/15/13	
	1. Trexler Park, the Rose Garden, Cedar Beach, Union Terrace, to Lehigh Parkway. (Especially Trexler Park and the Rose Garden)
	2. Bucky Boyle, Canal Park, and Lehigh Parkway
4/15/13	3. Street side trail(s) connecting the parks with downtown and the parks with 17th/19th Street areas
4/15/13	West End/19th Street/Fairgrounds area
	The Lehigh River should be more accessible by trails. Pedestrian access into the Fairgrounds from the north/ west needs to be greatly improved.
4/15/13	
4/15/13	Downtown! Schools! Major parks (cedar beach, trexler, Buck Boyle)
4/15/13	Lehigh Parkway to Emmaus or Bethlehem. Trails that lead to shopping and restaurants for family excursions.
	it would be great to have connections between the major parks such as Trexler Park and Cedar Creek Park and on to the Lehigh Parkway
4/15/13	
4/15/13	Downtown to burbs with bike lanes
4/15/13	I believe all the major parkways should be connected by some type of bike path.
4/15/13	The suburbs to downtown
4/15/13	It would be great if the parks were connected by trails.
4/15/13	A connection from Trexler Park to the Allentown Rose Garden trails to the Lehigh Parkway
	There are great Mountain Biking trails at Walking Purchase Park in Salisbury Township. It would be nice if there were an easy connection to the Park from the existing Lehigh Towpath.
4/15/13	
	The D&L Trail must be connected to the Little Lehigh Parkway trail network via a pedestrian/bike lane on one or more bridges across the Lehigh.
4/15/13	
	There should be a E-W throughway and a N-S throughway that crosses the entire Lehigh Valley area. This would greatly improve the ability to use trailsystems as transportation corridors.
4/15/13	Lehigh Towpath & Walking Purchase Park
4/15/13	the Allentown parks system to start and the tow path in conjunction with that.
	No specifics. But any destination(s) or trails that could be connected would be great. How about some type of connection between the counties like Bucks, Lehigh, and Berks?
4/15/13	
	connect west to east, north to south. run trails along hamilton street, tilghman street, emmaus ave, lehigh st, s 4th st, cedar crest
4/15/13	Just need safe pathways to travel into and out of downtown.
4/15/13	No. We just need more of them to enjoy. Let's keep some green....

**8. Are there specific destinations in Allentown or the Lehigh Valley that you believe should be connected by trails?**

*All responses are listed verbatim.*

4/15/13	My husband has ridden the trail from Burnside Plantation to Allentown and has found it to be tight in places. Even more concerning, I think the greatest need is better/safer crossing of the Lehigh River. All bridges across right now are tight for motorists, let alone bikers.
4/15/13	Downtown Corridors; Western Lehigh -- Upper Macungie to the shops along Tilghman. Lehigh Valley Parkway.
4/15/13	Downtown Bethlehem Saucon Promenade Shops Lehigh Valley Mall
4/15/13	Jordan park; Downtown; Rose garden; Muhlenberg College; Cedar Crest College; 19th Street Area;
4/15/13	I believe any connected area that lends itself to the use of recreational runners/walkers/bikers is an added benefit anywhere it exists.
4/15/13	Interconnection and completion of existing trail network would help as well as better defined connections into the Center City
4/15/13	Schools, libraries, and large office parks.
4/15/13	Lehigh Riverfront in Allentown with Sand Island in Bethlehem
4/15/13	The entire Lehigh River Corridor should be improved for bike/walk along the banks on both sides of the river with pedestrian traffic only bridges at points to cross the river safely and have many trails/bike lanes connect to all points of interest (i.e. Coca Cola Park, Downtown, etc.)along the Lehigh, Little Lehigh, Monocacy and Jordan Creeks.
4/15/13	Some kind of bike lane or trail between Allentown and Bethlehem
4/15/13	I'd love to see Jordan park connected somehow to the towpath, to ride to/from Bethlehem and Easton.
4/15/13	The fish hatchery with the rest of the park. You have to walk on a narrow space along the road. Also would be great if there was a safe way to get from the park below Mulhenberg to the Lehigh ParkWay. To go between the two is very dangerous.
4/15/13	AMERICA ON WHEELS
4/15/13	Lehigh parkway and the park near Wegmans
4/15/13	The centers of our towns and villages.
4/15/13	all three major center cities to up to the north and back to the south. I would love to be able to ride to Nazareth without going 24 (13 miles extra than by car) from wegmans in allentown
4/16/13	everywhere
4/16/13	Link up with the Ironton Rail Trail and others in the Lehigh Valley
4/16/13	Trexler Park and Cedar Beach (Cedar Creek Park)
4/16/13	anywhere and everywhere!
4/16/13	More trails along the Lehigh River
4/16/13	Acess between Lehigh Parkway and other parks or areas (Alton Park, Union Terrace etc.)
4/16/13	No
4/16/13	West Bethlehem to East Allentown - near Conrail.
4/16/13	jordan park to lehigh parkway and rail to trails in whitehall
4/16/13	All trails to each other. Connect the missing links.
4/16/13	Alburtis, Macungie, Lower Macungie, Emmaus
4/16/13	west end Allentown: Dorney Park - Trexler Park - Cedar Beach Park - ???
4/16/13	I can't think of any at the moment, but I think this is a good idea overall.
4/16/13	schools, shopping facilities, neighborhoods,
4/16/13	Allentown Canal Park-Whitehall's Ironton Rail To Trail
4/16/13	i don't know the area that well
4/16/13	Downtown Allentown from the Bethlehem path along the Lehigh.
4/16/13	Center city to the Farmer's Market. Allentown to South Mountain (needs better connection between Lehigh Parkway and Emmaus)
4/16/13	Crossing the Lehigh River in Allentown...so I could bike to the Iron Pigs.
4/16/13	It is not difficult to ride from the center of Allentown to the country, but unexperienced cyclists fear traffic. A trail to the city line would help. I don't find traffic that bad.
4/16/13	Connecting trails together to provide for longer rides, better trails along waterways
4/16/13	Lehigh Parkway to Canal Park
4/16/13	Canal and River to other parts of the community. Parks directly connected to neighborhoods and schools.
4/16/13	The Jordan river connected from Allentown to the Trexler Nature Preserve in Schnecksville, would open up access to the cities for the preserve and the zoo.
4/16/13	The Allentown park system should all be interconnected.
4/16/13	Hope that Allentown Trails link to Lehigh River Towpath, Ironton Rail-Trail, and other regional rail-trails
4/16/13	Yes
4/16/13	all the south mountain trails should be connected and mapped. All the trails along the lehigh river as well.
4/16/13	Golf Course/Trexler, Trexler/Cedar, Cedar/Union, Union/Lehigh Parkway...need I go on?
4/16/13	Link to the Whitehall IRT.
4/16/13	Parks, shopping areas
4/16/13	downtown A-town to its western section and malls
4/16/13	Link IRT with Lehigh Canal tow path-- create bike trail farther south on banks of Lehigh so can ride all way to Jim Thorpe & beyond as well as south to Philly!

**8. Are there specific destinations in Allentown or the Lehigh Valley that you believe should be connected by trails?**

*All responses are listed verbatim.*

4/17/13	Don't have enough knowledge on the subject
4/17/13	Emmaus trails connected.
4/17/13	The Lehigh Valley has several safe/well maintained trails already in place; The Ironton Rail Trail, the Nor-Bath Trail and parts of the D & L Trail to name a few. The 3 trails mentioned are in close proximity to one another in the neighboring communities of Whitehall, Coplay and Northampton. By connecting these trails, recreational opportunities in the Lehigh Valley would be greatly enhanced. There is even an old abandoned railroad bridge already in place over the Lehigh River just south of the Coplay-Northampton bridge which could be utilized to connect the trails to one another.
4/17/13	Hamilton St, Tilghman St, All schools and parks.
4/17/13	A connection from Allentown to the Ironton Rail Trail!
4/17/13	Connections to the bus system. I live two miles from the bus, but it is too dangerous to bike there.
4/17/13	I currently bike commute to work on occasion, but cannot safely get across the Hamilton Street Bridge to access the toe path. It is currently very dangerous. I would love the opportunity to commute to work by bicycle more often.
4/17/13	Connection to the Lehigh Canal System. Connection to Arts Walk.
4/17/13	I grew up in Oregon, there was a trail to everywhere!
4/17/13	As many as possible
4/17/13	Rose Gardens, Jordan Park, Lehigh Parkway, Trexler Park
4/17/13	Trexler Park to Rose Garden
4/17/13	Rose Garden to Lehigh Parkway
4/17/13	Lehigh Parkway to Cedar Beach
4/17/13	Trexler Park to Cedar Beach
4/17/13	some of the Allentown parks, i.e. The Parkway with Cedar Beach with the Rose Garden with Trexler Park.
4/18/13	Cedar Beach Park
4/18/13	Rose Gardens
4/18/13	Trexler park
4/18/13	all park systems connected
4/18/13	allentown fairgrounds farmers market, coca cola park, south mountain, promenade shops,
4/18/13	The parks, the velodrome, pools, shops
4/18/13	Lehigh Parkway, tow path,
4/18/13	Transportation Museum
4/18/13	I would like to see Trexler Park, the Rose Garden, Union Terrace Parkway, the Lehigh Parkway and the Lehigh Canal Trail connected. We run and bike the trails. I am especially interested in making the link from St. Elmo to the Parkway on Martin Luther safe for running and biking. We take our lives in our hands every time we traverse that section of the system.
4/18/13	1). East Allentown Canal area with Little Lehigh Parkway
4/18/13	2). Little Lehigh Parkway with Cedar Beach
4/18/13	as many as possible
4/18/13	College campuses, the great parks system of Allentown
4/18/13	parks where feasible, trexler, cedar, fountain, lehigh parkway
4/18/13	Emmaus borough with Allentown
4/18/13	Allentown to Bethlehem
4/18/13	Bike lanes or trails from Allentown to shopping centers, such as Promenade, Lehigh Valley Mall, and South Mall
4/18/13	Bike lanes or trails on all major Allentown streets, such as Hamilton St and especially Cedar Crest. (Cedar Crest Blvd is VERY unsafe for cyclists).
4/18/13	What is important to me is total mileage along a trail the could be biked, walked or run, so having several trails connected is nice to have.
4/18/13	All area parks in general.
4/18/13	Macungie parks
4/18/13	vera cruz area & emmaus
4/18/13	Trexler park should connect with a safe crossing at Cedar Crest Blvd to Cedar Beach which should connect with greenway or crossing over Hamilton to reach Union Terrace.
4/18/13	There should be complete connectivity via the trail system of all lehigh county municipalities
4/18/13	Lehigh, Trout Creek, Cedar & Trexler Parks
4/18/13	Lehigh Parkway with Canal Park and Lehigh Canal with Delaware Canal
4/18/13	America on Wheels and more new eating places, shoping and perhaps ice hockey
4/19/13	Jordan Park; Bethlehem canal path
4/19/13	Trexlertown
4/19/13	link up parks or greenspace some how either by trails or signage. Somehow bridge spaces -- Allentown has a lot of great parks but they are all very much islands in a way.
4/19/13	All parks
4/20/13	the existing park system

**8. Are there specific destinations in Allentown or the Lehigh Valley that you believe should be connected by trails?**

*All responses are listed verbatim.*

4/20/13	Yes, the Cedar Beach-Trexler Parks should be linked to the Parkway trails that run all the way to Emmaus Also there is a problem for bicyclists getting to the east side Canal pathways because there is no right shoulder on the bridge over the river. A bike path along Martin Luther King to the canal would be great if this problem could be solved.
4/20/13	Allentown to Easton; Northampton area; Wind Gap area
4/21/13	We live within a ten minute drive to Whitehall Mall, but the major highway entrances and exits make it impossible to walk with a stroller and not feel unsafe. There are also sections where there are simply no sidewalks, unviable for walking.
4/21/13	I would like to see better river crossings in all three cities (pedestrian and bike friendly) to connect to trails along river/canal and also to connect within cities safely and healthfully.
4/21/13	The parks being connected would be a great thing.
4/21/13	I ride on the tow path. It would be good to have a linkup from Canal Park to other destinations in Allentown
4/21/13	All areas
4/22/13	connect the city parks to create a continuous walking route ; connect cultural and historic attractions with walking trail (LCHS, America on Wheels, Symphony Hall, etc.)
4/22/13	The Allentown Golf Course to the Lehigh River
4/22/13	hawk mountain
4/22/13	You should be able to cross the length of the Lehigh Valley - Easton to Bethlehem to Allentown through trails.
4/22/13	Trexler Park & Rose Garden & Cedar Beach Park
4/22/13	There should be a over-the-road bicycle/walking bridge over Cedar Crest Blvd to join Trexler Park & the west side of the Rose Garden area or the Pavillion Area
4/22/13	transportation museum
4/22/13	entrances to outdoor recreational areas
4/22/13	Schnecksville with allentown.
4/22/13	trexler park with cedar creek
4/22/13	1. Connect Allentown to Lehigh Street shopping district, west of R. 309. 2. Connect Fountain Park at Union Street to Jordan Meadows via trail along west bank of the Jordan Creek.
4/22/13	Parkway to Union Terrace to Cedar Beach
4/22/13	Lehigh Valley Mall
4/22/13	schnecksville and allentown
4/22/13	Lehigh Parkway to Trexler Park
4/22/13	don't know
4/23/13	West End to downtown Traxler Park to Lehigh River Canal trail Trexler Park to Cedar Beach Park
4/23/13	Jordan Creek Parkway Main Street Bethlehem
4/23/13	I would like to better connections between existing parks also more awareness or better signage to help make people aware of the trails.
4/23/13	Lehigh Parkway
4/23/13	connecting school parks
4/23/13	First, connect all the major parks; then extend Allentown's trails to connect with other municipalities.
4/23/13	the city of Allentown could have improved sidewalks for bikes - very cracked concrete
4/23/13	The parks should be connected, for example RoseGarden, Trexler Park and the Lehigh Parkway. Also, it would be great to go to restaurants and shopping by trail.
4/24/13	I would like to be able to ride from Trexler park to the lehigh river tow path without riding on the street.
4/24/13	West End Allentown to Trexler Park
4/24/13	Upper Milford, the Buss Development would be so easy to connect all the streets. It would be a safety relief since now you have to exit each street and go out to a busy St Peter's Rd and nearly get killed.
4/24/13	not sure
4/25/13	Cedar Beach, West Park, Little Lehigh Creek corridor, canal
4/25/13	Downtown Allentown and malls, supermarkets
4/26/13	west side of allentown to the little lehigh
4/26/13	connections from town to rural areas and country roads via parkways, and creek- and riverside trails. Also, the Lehigh River front in Allentown is an amazing potential resource for hike and bike trails, etc.
4/26/13	Canal Path(hamilton st. bridge) and Lehigh Parkway
4/26/13	Allentown Park Systems- Cedar Beach,Fountain Park etc to connect to Canal Park; Connect Ironton Trail with Jordan Park....Canal Park.
4/28/13	All the beautiful parks should have connectivity with each other, so that a resident or visitor could go through parks or paths from one end of Allentown to the other using a trail.
4/28/13	Parks
4/28/13	Mauch Chunk Rd
4/29/13	Vera Cruz to Emmaus
4/29/13	Allentown to Emmaus by trail
4/29/13	Downtown, along the rivers
4/29/13	Emmaus and Salisbury to the Parkway

**8. Are there specific destinations in Allentown or the Lehigh Valley that you believe should be connected by trails?**

*All responses are listed verbatim.*

4/29/13	Easton-Bethlehem
4/29/13	1. Cedar Beach to Union Terrace to Lehigh Parkway. 2. Mack Boulevard to South Mountain Reservoir and Park. 3. Mack Boulevard to Trout Creek to Basin Street to Fountain Park. 4. Fountain Park to Jordan Meadows to Jordan Park to Whitehall Township/Jordan Creek. 5. Fountain Park to Lehigh Landing to Bucky Boyle to Kimmets Landing to Catasauqua. 6. Lehigh/Delaware River Heritage Corridor - Allentown to Bethlehem. Allentown to Whitehall/Catasauqua.
4/29/13	Trexler Park with Lehigh Parkway to avoid MLK Drive !
4/29/13	trexler park to other parks
4/29/13	I like the idea of connecting the existing park trails to each other. Bike lanes on roadways would also encourage people to bike to shopping centers, work, the library, etc.
4/29/13	All Parks
4/29/13	Cedar beach park area to the Lehigh parkway.
4/29/13	Canal Park with the Lehigh Parkway.
4/29/13	D&L Trail system
4/29/13	Parkway with Lehigh River Trails. Eastern Salisbury residential neighborhoods with Parkway and Lehigh River Trails.
4/29/13	Cedar Beach Park and the Rose Garden park also to include Trexler if possible
4/29/13	No, but something like Bucks County would be cool.
4/29/13	Connect Alburtis to Lower Macungie Township trails
4/29/13	If there was a feasible way to connect the various parks in the area, that would be fabulous. On a broader commuter level, in Allentown it is very hard to get from Cedar Crest Blvd to the other side of 309 (heading west), because Hamilton Blvd, Tilghman, 222 etc get so busy and dangerous for biking
4/29/13	We need a pedestrian bridge over Cedar Crest Blvd near Trexler park and the Rose Gardens area
4/29/13	• Connect Dadonna Park with Lehigh Parkway! • Bike trails wherever possible
4/29/13	a safe pathway from Lehigh Parkway to Cedar Beach. Martin Luther King Dr is the best way but has high traffic and no sidewalks or walkways.
4/29/13	Lehigh Canal Towpath...Ironton Railtrail
4/29/13	All of the parks, access to the Lehigh River and connections to other trails in and round the Lehigh River.
4/29/13	Community neighborhoods with community pools (I live in Lower Macungie). It would be unsafe as there are no sidewalks for my daughter to walk to the pool.
4/29/13	Dorney Park with Atown
4/29/13	Trails to libraries, pools etc. in LMT so that people do not need to walk on busy streets with no side walks
4/29/13	Walking is ok, bicyclists are hazards to drivers
4/29/13	downtown Allentown (i.e. west of the Lehigh River) to East Allentown (east of the Lehigh River)
4/29/13	Allentown, both sides of the river
4/29/13	Allentown Canal Park near Hanover Avenue north to Catasauqua
4/29/13	East Penn area to anywhere
4/30/13	All city Parks
4/30/13	Yes
4/30/13	Parkway-Allentown Rodale Park-Trexler town Quarry Fields off Rt 100
4/30/13	None
4/30/13	Continue the trail that goes from Easton to Bethlehem to Allentown further west into Allentown. Also have it go north and connect with the Lehigh gorge. Also would like a working trail to Philly.
4/30/13	As many as possible
5/2/13	It would be nice to be able to ride from Cedar Beach to the Lehigh Parkway without car traffic
5/2/13	The entire Jordan Creek area should be connected by one long continuous trail.
5/2/13	the lehigh valley all together, specifically in Allentown the parks, downtown with suburbs, neighborhoods, high location of jobs
5/2/13	not sure
5/3/13	I would be a great asset if cycle lanes could be added in major corridors, such as Tilghman Street from Fogelsville to Union Blvd to Bethlehem. Various north - south corridors also.
5/4/13	None specifically
5/4/13	Lehigh Parkway and Trexler Park Both sides of Trexler Park
5/5/13	I believe that all of the parks and recreational areas should be connected to each other, wherever feasible.
5/5/13	The parks should be connected to each other somehow
5/7/13	All of the parks.
5/8/13	Allentown/Whitehall and north Allentown/Bethlehem/Easton
5/9/13	Trails should connect to all public parks and open space areas, community facilities, and commercial areas.
5/11/13	East side to center city



**9. Are there specific locations where bicycle racks are needed?** *All responses are listed verbatim.*

3/26/13	Any place where there would be basketball hoops or playgrounds for the kids - so people could ride there and enjoy the facility without worrying about their bike being stolen.	All schools should have safe, visible racks.	
3/26/13	Shopping centers, such as village west		
3/26/13	Trexler Park	Parkway	
3/27/13	Farmers Market	Village West	
3/27/13	Trexler Park	Little Lehigh Park	
3/27/13	All the parks.	Possibly some businesses along the way.	
3/28/13	Trexler Park		
3/28/13	Stores/Restaurants	Downtown	Offices
3/30/13	Shopping Centers	Parks	
4/7/13	destinations above		
4/14/13	covered bridge at Parkway	New Bridge at Parkway	Rose Garden Area
4/15/13	not a biker		
4/15/13	lehigh parkway		
4/15/13	N. 19th Steet	City Parks	
4/15/13	West End/19th Street	Downtown Allentown	
4/15/13	DOWNTOWN!!!	parks with playgrounds	
4/15/13	Shopping areas	Libraries	Downtown area
4/15/13	Restaurants close to trails e.g. Main Street Depot		
4/15/13	Covered and Monitored locations at every major shopping center	Covered and Monitored locations at every industrial park	Each town center should have some kind of secured facility
4/15/13	Lehigh Parkway	Canal Path	Scattered throughout the cities and nearby towns
4/15/13	everywhere	everywhere	everywhere
4/15/13	Shopping Centers		
4/15/13	rest areas		
4/15/13	Supermarkets	Schools	
4/15/13	All of the above	All restaurants	Places of work
4/15/13	Colleges	Downtown and	Commercial/shopping areas
4/15/13	Not sure! I'm a runner!		
4/15/13	Downtown areas	Shopping areas/Mall	Hospitals
4/15/13	downtown	farmer's market	
4/15/13	Near the covered bridge		
4/15/13	stores	restaurants	parks
4/15/13	Village West Shopping Center (Cedar Crest & Tilghman), Allentown		
4/15/13	grocery and shopping areas	restaurants	
4/15/13	all parks	recreation areas	
4/16/13	stores	restaurants	
4/16/13	Downtown Allentown	Near grocery stores and other places of business	Hospitals
4/16/13	No	No	No
4/16/13	Allentown Public Library	Hamilton Street between 4th and 15th St.	Various shopping centers throughout the Lehigh Valley.
4/16/13	The Brew Works	The schools	All public buildings
4/16/13	schools	malls	
4/16/13	grocery stores	restaurants	
4/16/13	Fairgrounds/Farmers Market	Hamilton/7th Street	19th St Theatre District
4/16/13	Allentown Farmer's Market		
4/16/13	City Hall, Court Houses, Hamilton Street	Schools and Colleges (Community College)	Restaurants
4/16/13	on buses	near destinations (Trout Nursery)	at parks
4/16/13	Promenade Shops	Lehigh Valley Mall	Downtown Bethlehem
4/16/13	downtown	malls	
4/17/13	no opinion		

9. Are there specific locations where bicycle racks are needed? *All responses are listed verbatim.*

4/17/13	Irontron Rail Trail trailhead (N. Ruch & Chestnut Streets	Saylor Park in Coplay	
4/17/13	Hamilton St all Gov bldgs, restaurants, Library	Banks	Shopping centers incl malls
4/17/13	By restaurants in Easton	By restaurants in Bethlehem	If Allentown were safer, lots of places
4/17/13	Library	Historic Museum	Arts Walk
4/17/13	N/A		
4/17/13	Parks	Shopping areas	
4/17/13	Sand Island		
4/18/13	Lehigh Parkway		
4/18/13	not sure		
4/18/13	They would need to be secure		
4/18/13	Permanent bathrooms in Lehigh Parkway		
4/18/13	many places		
4/18/13	west end of Allentown	south mountain/Moountainville area	
4/18/13	parks, schools, work places, especially goverment		
4/18/13	Schools	Government buildings	Along the streets, perhaps near bus stops
4/18/13	outside of grocery stores		
4/18/13	Sand Island	Lehigh Parkway	Easton Canal Park
4/18/13	America on Wheels		
4/19/13	downtowns	Panera locations	
4/20/13	Whereeven there might be an opportunity to stop and separate oneself from area of bicycle		
4/20/13	Downtown Bethlehem		
4/21/13	Everywhere!	More at high schools.	In parks
4/21/13	downtowns of all cities/boroughs		
4/21/13	Everywhere		
4/21/13	Mall parking lots	Parks	
4/21/13	South Bethlehem E. and W. 4th Street	Not sure -I would know if I would ride my bike!	
4/21/13	I live in Bethlehem and can't comment on Allentown bike rack needs.		
4/22/13	parks	by the river or lake	
4/22/13	All major bus hubs	All Parks / Recreational facilities - Libraries etc. too!	All major work hubs
4/22/13	Rose Garden area & Pavillon Area		
4/22/13	Rose Garden	Pavillion	
4/22/13	allentown	Mall area	
4/22/13	Downtown	Parks	Grocery Stores
4/22/13	not too familiar with area		
4/22/13	For special events, i.e.,Mayfair, Sportsfest, etc.	Most parks in Allentown	Shopping Malls
4/23/13	shopping centers/supermarkets		
4/23/13	Downtown	Public buildings	Shopping centers
4/23/13	At the Farmer's Market in Allentown.		
4/23/13	allentown/bethlehem		
4/24/13	19th Street shopping district	Allentown Farmer's Market	Village west shopping center
4/24/13	lehigh parkway	trexler park	iron pigs park
4/24/13	Not that I know of		
4/25/13	Downtown		
4/25/13	In Front of Butz Building	At start of Canal Park Trails	
4/26/13	every 1 mile		
4/26/13	Bethlehem	Each sction should have bike racks	
4/28/13	Downtown, first & third wards	first & third wards	
4/28/13	At shopping centers near existing parks, like Trexler Park, Cedar Beach, etc.	Near restaurants or coffee shops.	
4/28/13	All parks and recreation areas		
4/29/13	Schools	Bus Stations	Public Buildings

9. Are there specific locations where bicycle racks are needed? *All responses are listed verbatim.*

4/29/13	Libraries	Parks	Shopping Centers
4/29/13	Hersh's market on north 19th Street in Allentown	Kim's Taekwondo on Sumner Avenue	Target on Ceder Crest BLVD
4/29/13	Everywhere	Added: However, Often bikes are not safe even locked to the	to the bike racks.
4/29/13	More in downtown Allentown		
4/29/13	Off the road		
4/30/13	Yes		
4/30/13	Bethlehem - Main St, Broad St; along 3rd St and 4th St, SouthSide		
4/30/13	No		
4/30/13	yes...at beginning and end of trails	places to take breaks along the way	
5/3/13	shopping areas like Wegmans or Giant in West Allentown		
5/4/13	Trexler Park		
5/5/13	Trexler Park	The Rose Garden	Lehigh Parkway and Cedar Beach Park
5/9/13	Downtown	In parks adjacent to sports facilities and pavilions	At transit (bus) terminals
5/11/13	by PPL plaza and other business areas	near schools	in parks
5/19/13	shopping centers	all parks	sports fields
6/15/13	libraries		
6/30/13	Cedar Beach ( 400 parking spaces is madness !!!! )	Everywhere, limit cars. Keep em off park grass!	Neighborhood playgrounds,city buildings.
7/4/13	All public pools	Main St-Bethlehem	Hamilton St-Allentown
10/5/13	in Cedar beach	down by the allentown credit union and along that trail	
11/19/13	Allentown Farmer's Market	Anywhere - do we even have bicycle rack locations?	

PUBLIC INPUT 'WORD CLOUD'

This image was created using [www.wordle.net](http://www.wordle.net) to generate "word clouds" from answers to open-ended questions. Greater prominence is given to words that appeared more frequently in answers to question #9:



**10. What other trail-related improvements do you consider priorities?** *All responses are listed verbatim.*

3/26/13	This is a great project - thank you!
3/27/13	Unfortunately, since the road system is so often unfriendly to walkers (no sidewalks in adjacent townships, no room for bicyclists) the parks and trails are often alternatives to use of the road. On streets and roads, shared use markings for bicycles are better than bike lanes.
3/28/13	It is a great idea to promote the use of bicycles, a walks to the youth in Allentown. Also, programs that allow the kids to exercise and get out.
3/29/13	I think getting South Whitehall on board when it comes to sidewalks would benefit everyone in the West End of Allentown and the park usage.
3/30/13	In my hometown, of Homer City, PA, we had a rails to trails path put in- it actually extended through three different towns. but, i was lucky enough to have the trail (hoodlebug trail) directly across the street from my house. and saw so many people, even in winter months using the trail for excersize and walking from A to B. i used the trail for recreational bike rides and walking myself. it was very safe, and helped to bring people out. anything that can be done to provide more safety related to allentown traffic would be a bonus!
3/31/13	A very important project for the entire Lehigh Valley!
4/1/13	Cross walks on Parkway blvd, Cedar Crest Blvd, more walkability and pedestrian friendly features all over town (bollards, curb cuts, lighting, child play structures,
4/2/13	I think this project is worth every penny. It's a no-brainer as far as protecting the environment, promoting healthy exercise in a safe environment.
4/3/13	I live across from the Rec. Dept. on Parkway Blvd. What a beautiful spot! But for better bike riding, I go to Trexler Park. I'd love sidewalks on Parkway alol the way, or some connection of the trails through both parks.
4/4/13	I know of at least three separate groups working through the same goal at the moment. There should be an effort to get all working together as to not be working against each other
4/5/13	Promote public awareness of naming opportunities available (in memory of, or in honor of). Those opportunities would beautify the entire connected trail system (ideas could be annual and perennial gardens, tree & shrub planting, outdoor art & furniture, small shelters from the elements, etc. The gift of a naming opportunity would include perpetual care by either the Allentown Park System or a private business "caretaker".
4/6/13	Enhancing trail networks would be a very good thing for the Lehigh Valley
4/7/13	Don't make the trails a throughway, make them opportunities for people to connect to their parks and use them!
4/8/13	I use the Parkway 4 times each week with my running group. I am amazed by how many women feel comfortable at the Parkway and how much it is used year round for fitness.
4/9/13	we have an amazing system now & should expand upon it & publicize it
4/10/13	the park system in allentown is superb. the watershed dept has maintained the lehigh parkway beautifully. linking them would provide miles and miles of recreational access as well as the ability to bridge communities.
4/11/13	We mostly use the sidewalks to walk to our neighborhood elementary school play ground. We also like to visit the creek near cedar beach and the rose gardens. Creek access for wading and playing could be improved. More picnic tables near the creek. How about some tables at Union Terraces? That is a great park that is under used. The soccer goals in the rose garden area are great! Could we get a dog park in the neighrbohood of Muhlenberg Elementary School? Could we stock one of the ponds/ lakes with bass?
4/12/13	one of the reasons why I like the Lehigh Valley is the parks/trails - improvements only makes it better & more of a selling point for the area.
4/13/13	I love our parks! Improving them would improve life here in the Lehigh Valley!
4/14/13	More energy and funding could be put into the promotion of the trail systems developed at Walking Purchase Park and improving the Park more in general. It's a great unused/unknown resource.
4/15/13	Do not expand the trail network beyond the capability of the city maintenance. Otherwise, neglected areas will breed crime and deter long-term resident interest in trails.
4/16/13	With the density of riders and recreationalists in the Lehigh Valley area, I believe a comprehensive trail system would be well utilized and would be a great benefit to all residents of the area.
4/17/13	the Jaindl family is the largest farm land owner in the area, i've always thought that if they really want to do something great for the valley and leave a legacy like Harry Trexler, they should consider adding bike trails or donating land alongside the roads that are so narrow and typically pass by their farmland.
4/18/13	I would LOVE to see an expansion of trails in the area.
4/19/13	education must accompany trail development
4/20/13	BUILD TRAIN SERVICE TO PHILY AND NYC!!!!!!!!!!!!!!
4/21/13	We don't need bike lanes; we need more cost-effective measures like bicycle education, shared use lane markings, and share the road markings.
4/22/13	Thank you for taking the time to ask us trail blazers!
4/23/13	Just this...Get 'er Done. Allentown will be a happier place. Just ask the people of Portland, Oregon.
4/24/13	keep up the good work
4/25/13	The trail that includes the hill closest to the hospital, by the fish hatchery needs some attention especially the log that has been blocking the path for as long as i have been running there.
4/26/13	Love the park, the plants and animals we see there. thanks for the great place.
4/27/13	The Lehigh River walk should be priority.
4/28/13	Please do not put me on a mailing list for emails or snail mail or phone calls. Thank you.
4/29/13	Develop themes for rides, like sculptures in the parks, as well as cultural site such as museums, etc.

**10. What other trail-related improvements do you consider priorities?** *All responses are listed verbatim.*

4/16/13	Bicycle lanes and less one way streets to improve traffic flow
	Keeping the trail in cinder for improved health to users and ease in maintenance
4/16/13	Connectivity of Parks to everything else (ex. Trexler park to Little Cedar Creek park)
4/16/13	None
4/16/13	Safety patrols, lighting in various locations, litter control/clean up.
4/16/13	paved walkways, restrooms..ie like Jacobsburg st. park
4/16/13	Wayfaring signage
4/16/13	The completion of the trails between Alburtis, Macungie, Lower Macungie and Emmaus.
4/16/13	Trash on trails needs to be cleaned up from time to time, and I think greater knowledge of these events would lead to greater community participation in such events.
4/16/13	Trail Maintenance, especially at the start of the trail, so that the trail does not look closed and a display map is visible.
4/16/13	safe environments, should be monitored daily with reserve policemen for safety
4/16/13	Packed crushed stone
4/16/13	keeping it free from trash and fallen branches and things like that
4/16/13	Emergency Transponders that signal police or paramedics in case of injury, burglary, or personal assaults like college campuses have.
4/16/13	A safe way to get up and down the hill from downtown to the Lehigh Parkway. A bike path is needed along MLK starting in the Parkettes area to get people safely to the Park.
	Keeping trails free of trash
	Having community events in parks with trails
4/16/13	Having organized exercise and walks on trails
4/16/13	Safety call boxes, lighting and wide enough for passing in either direction.
4/16/13	bike lanes and signage where needed
4/16/13	I think connecting Trexler Park, Lehigh Parkway, and the toepath on the Lehigh should be a top priority. Many urban areas (ie. Washington, DC) have interconnecting trail systems.
4/16/13	signage (directional) MAPS!
4/16/13	safety and lighting
	better trail markers
4/16/13	volunteer guides
4/16/13	Allowing dogs on all public trails and walking paths
4/17/13	plant flowers
4/17/13	Benches, bike racks, trash/recycling containers, trail signage, good maps of trails, restrooms, drinking fountains
4/17/13	Easier access to trails by bicycle
4/17/13	Lots of runners enjoy the Parkway in Allentown, but are forced to drive there because of traffic. Martin Luther King Blvd is a dangerous road with no sidewalks that I and others often run on for short periods in order to enjoy the Parkway.
4/17/13	Trails must be maintained to prevent or quickly repair pot holes and wash outs.
4/17/13	Walker/bike friendly city
4/17/13	Trash cleanup; promotion of trails as valuable asset to region, and something that belongs to all residents
4/17/13	Paving
4/17/13	bicycle lane--safety of riding in traffic and the safety of runners & walkers mixed with bikers, particularly those traveling at higher speeds
4/17/13	police surveillance
4/17/13	Very interested in the development of the Rails-to-Trails in Center Valley and Saucon Valley.
4/18/13	Jordan Creek Area
4/18/13	safety; monitoring
4/18/13	signage, mapped routes,
4/18/13	more of them
4/18/13	none
4/18/13	Rails to Trails network
4/18/13	improve the trails themselves. many of them have potholes or get easily flooded by rain
4/18/13	Bike lanes are a priority of mine. However, this must be paired with a thorough education campaign for motorists to understand how they should be used and protected. Signs like "share the road" are only partially beneficial. As I was biking along Cedar Crest Blvd once, a little old lady in a sedan honked incessantly behind me. Motorists should be educated about etiquette and safety for all.
4/18/13	Toilet facilities along the way either porto potties or latrines are important, as well as water fountains for hydration.
4/18/13	As a runner, Allentown parks does a great job in keeping the trails groomed. Thank you :)
4/18/13	A restaurant or cafe in Cedar Beach with a view of the Rose Garden possibly by using an existing city building which are already located in the park. City could offer the property on a 5-10 year lease to a private operator the same way the golf course does for its restaurant. Not only would this provide a stop in the park for current users but by providing an outdoor banquet facility for small events (50-100 people) could draw attention from people who otherwise don't use the parks. When not booked for private parties it could be used for live music.
4/18/13	Place to sit and relax; read about the vegetation or unique features of the trail; definitely a place to let dogs run off leash

**10. What other trail-related improvements do you consider priorities?** *All responses are listed verbatim.*

4/18/13	Take care of huge ruts on the trails
4/19/13	when possible, separation of motor vehicle traffic from bicycles - bicycle lanes in town tend to be ignored by drivers
4/19/13	Access to canal park
4/19/13	Not only increase the number and/or improve existing trails -- but prominent signage for where trails are, etc would be great. Somehow making sure the trails are easy to find -- easily accessible. Maps for trails / brochure -- made available in the courthouse/city hall lobby etc. would be great.
4/19/13	Brochures or signs to show where the trails are.
4/20/13	My top priority is that the parks be managed as friendly to wildlife, including birds, by creating and maintaining true natural areas rather than manicured, mowed spaces.
4/20/13	Too many of the trails are mud during much of the year and the roads through center city allentown are dangerous.
4/20/13	disc golf along route
4/21/13	Education
4/21/13	constant maintenance of trails once created.
4/21/13	Maps of trails in Allentown-Bethlehem-Easton and directions on how to get to them. Adding bathrooms/porta-potties along the Bethlehem to Easton portion of the tow path.
4/21/13	Sidewalks, traffic lights, making streets like 7th street in Allentown (center city) into 2-way traffic, would slow speeding drivers.
4/21/13	#1 concern is that there are few places that are paved well enough for rollerblading. Its hard to find trails to rollerblade on because either it is paved with stone or the the blacktop is not a smooth enough grade.
4/21/13	Planning for bathroom facilities. Connection to placed to put in/take out a canoe/kayak and some parking. I like would link from trail to trail by kayak if possible.
4/21/13	public bathroom access, cleanliness/repair (less mud), stewardship groups to help care for
4/21/13	Safety. Better trails for walking not just biking. Very little is advertised about the availability of trails. Some areas in the parks need to be cleaner and safer.
4/21/13	More regional trails that are paved for road bikes to use. There are models in many metropolitan areas.
4/21/13	Signage
4/22/13	Signage ; trailhead parking
4/22/13	dog waste bag resepricals.
4/22/13	Satisfactory crossings of Hamilton St (about 21st St) and various spots along MLK would be my first concern.
4/22/13	maintaing of the trails
4/22/13	Public Education - in schools, websites, public meetings...
4/22/13	planting shrubs or trees to naturalize areas for wildlife and viewing enjoyment to hopefully bring more people to enjoy our area
4/22/13	commuting paved bike paths. Bridge repairs.
4/22/13	please have all dogs leashed. i live next to the LV soccer park which has a walking trail. I CANNOT use it because most dogs run free there.
4/22/13	Trail or bike lane from Stone Bridge in the parkway to Union Terrace.
4/22/13	Bridges & Underpasses
4/22/13	Safe passages along Sumner Avenue through American Parkway.
4/22/13	don't know
4/22/13	Put kiosks at trailheads. Give a history of the area where the trail is located and why it is important to know about this region.
4/23/13	Lighting in areas considered to be unsafe Fresh potable water availability (drinking fountains)
4/23/13	A "permanent home" for the Coalition for Appropriate Transportation.
4/23/13	I personally use the Lehigh Parkway for running and would like to see better mile markers. I also think if I knew mile markers were available at other parks I would be more likely to visit them.
4/23/13	better maps and advertisements for where they are
4/23/13	Traveler concessions (food & drink), educational signboards, connecting neighborhoods & communities
4/23/13	Improving the safety. There is a trail between Allentown and Bethlehem, but it passes through some dangerous areas so i don't feel safe using it.
4/23/13	bathrooms, water fountains, shelter
4/24/13	I ride under the Ott street bridge, next to the Rose Garden, but I have to ride on the grass and in the mud under the bridge. It would be great if paths were added here. The paved road along Muhlenberg lake which is currently closed to motor vehicles is an excellent bike path. I've noticed many people are using it on the weekends now that the weather is nice. It's width and surface are excellent and it should be used for the entire trail network along the streams to the Lehigh river and Jordan creek.
4/24/13	Bathrooms along the way at most trails
4/25/13	Lighting for greater safety. Emergency telephones at intervals.
4/25/13	Keeping surface maintained and free of tree limbs rootsor other obstacles level and not rutted with bicycle tracks in the mud that are left to harden
4/25/13	1 - benches along the trail
4/26/13	no dogs

**10. What other trail-related improvements do you consider priorities?** *All responses are listed verbatim.*

4/26/13	Lehigh River front from Allentown north to Slatington and/or Walnutport; Jordan Creek to Trexler Game Preserve and beyond
4/26/13	Bathrooms at trail heads
4/26/13	Bathroom facilities somewhere along a trail.
4/28/13	Posted paths or trails to educate and encourage walking or bike riding.
4/28/13	Better info, walk or trail clubs
4/29/13	Cleanliness, particularly of the waterways
4/29/13	Keep path in good biking condition
4/29/13	<ol style="list-style-type: none"> <li>1. Paved trails for biking, rollerblading the entire system. 10-12 foot wide that they can also be utilized for maintenance and emergency access for vehicles.</li> <li>2. Horse riding trails near Fish Hatchery Road/Lehigh Parkway.</li> <li>3. Signage.</li> <li>4. Emergency call boxes.</li> <li>5. Toilets</li> <li>6. Water stations</li> </ol>
4/29/13	All infrastructure should be self-sustaining utilizing wind/solar and self-cleaning technologies.
4/29/13	Some trails cross major highways and appear dangerous. (24th St) Bridge out in Parkway for several years limit access. Need safe areas for off-leash dog trails. This is currently only provided on state game lands or State park land, and for hunting dog training only for the latter
4/29/13	Make sure water fountains and trash cans are available along trails. Bicycle rental facilities at existing trails (i.e. Ironton Rail Trail, LV Parkway) would encourage tourism on those trails.
4/29/13	Bike lanes on major roadways
4/29/13	A way to get from Lehigh Parkway to the Canal Parkway.
4/29/13	Simply a larger network of trails would be wonderful, but public education and involvement is necessary for trail maintenance, as it establishes pride in the citizens for the trail systems.
4/29/13	<ul style="list-style-type: none"> <li>• Availability of drinking water &amp; restrooms</li> <li>• Interpretive stations in locations where there is something of interest/historic sites</li> </ul>
4/29/13	Please no asphalt or cement....cinder, dirt, or wood chip pathways only. Please!!!
4/29/13	Safety
4/29/13	Connectivity! Also, would be so much better if we could walk to the grocery store, post office. Now, that is impossible.
4/30/13	Restroom facilities
4/30/13	<ol style="list-style-type: none"> <li>#1. extend biking/towpath along Lehigh River north of Hamilton St Bridge to connect with Ironton and Nor-Bath Trails</li> <li>#2. extend trail along Monocacy Creek northward thru Monocacy Park and beyond</li> <li>#3. build trail on right bank of Lehigh River</li> <li>#4. loop trail on both sides of Little Lehigh Creek in southern part of Little Lehigh Park</li> <li>#5. connect trails in Little Lehigh Park to trails along northern Little Lehigh Creek and then across Lehigh River to Canal Towpath</li> <li>#6. connect trails from Trexler Park, thru Cedar Creek Park, then build trail along Little Cedar Creek to connect with Little Lehigh trail system</li> <li>#7. bike lane on 9th St Bridge between Northampton and Coplay, or make current sidewalk more biker friendly; this would make connection between Ironton and Nor-Bath Trails more user friendly</li> <li>#8. extend Ironton Trail to west</li> <li>#9. extend Nor-Bath Trail to northeast</li> <li>#10. pedestrian and bike bridge across Lehigh River near Sand Island, from foot of Main St, Bethlehem</li> </ol>
4/30/13	Mileage indicators
4/30/13	None. There are other more urgent concerns for the city of Allentown
4/30/13	Street crossings. I know it would cost more, but to have bridges instead of street crossings.
4/30/13	smooth, without major problems for bikers; easy crossways where traffic is involved
5/2/13	connection of the history associated with the trail
5/2/13	easy access to nice downtown areas where there are restaurants.
5/3/13	Linking trails at existing parks with safer intersection crossings and or bike lanes.
5/4/13	Just having more well-groomed trails would be great
5/5/13	Get the word out about this tremendous asset through signage, brochures, promotional campaigns, etc. Also, rest room facilities and picnic areas need improvement.
5/5/13	port-a-potties, water, emergency phones
5/7/13	A more unified Rails to Trails - I love walking along the railways, and they aren't that safe.
5/9/13	Trails should also be green spaces.
5/11/13	Whatever the consultants determine
5/14/13	Barriers to entry by motorized vehicles
5/14/13	Trash bins
5/14/13	Police patrolling / or checking routinely on their rounds



**11. Do you have any other comments?** *All responses are listed verbatim.*

3/26/13	This is a great project - thank you!
3/27/13	Unfortunately, since the road system is so often unfriendly to walkers (no sidewalks in adjacent townships, no room for bicyclists) the parks and trails are often alternatives to use of the road. On streets and roads, shared use markings for bicycles are better than bike lanes.
3/28/13	It is a great idea to promote the use of bicycles, a walks to the youth in Allentown. Also, programs that allow the kids to exercise and get out.
3/29/13	I think getting South Whitehall on board when it comes to sidewalks would benefit everyone in the West End of Allentown and the park usage.
3/30/13	In my hometown, of Homer City, PA, we had a rails to trails path put in- it actually extended through three different towns. but, i was lucky enough to have the trail (hoodlebug trail) directly across the street from my house. and saw so many people, even in winter months using the trail for excersize and walking from A to B. i used the trail for recreational bike rides and walking myself. it was very safe, and helped to bring people out. anything that can be done to provide more safety related to allentown traffic would be a bonus!
3/31/13	A very important project for the entire Lehigh Valley!
4/1/13	Cross walks on Parkway blvd, Cedar Crest Blvd, more walkability and pedestrian friendly features all over town (bollards, curb cuts, lighting, child play structures,
4/2/13	I think this project is worth every penny. It's a no-brainer as far as protecting the environment, promoting healthy exercise in a safe environment.
4/3/13	I live across from the Rec. Dept. on Parkway Blvd. What a beautiful spot! But for better bike riding, I go to Trexler Park. I'd love sidewalks on Parkway alol the way, or some connection of the trails through both parks.
4/4/13	I know of at least three separate groups working through the same goal at the moment. There should be an effort to get all working together as to not be working against each other
4/5/13	Promote public awareness of naming opportunities available (in memory of, or in honor of). Those opportunities would beautify the entire connected trail system (ideas could be annual and perennial gardens, tree & shrub planting, outdoor art & furniture, small shelters from the elements, etc. The gift of a naming opportunity would include perpetual care by either the Allentown Park System or a private business "caretaker".
4/6/13	Enhancing trail networks would be a very good thing for the Lehigh Valley
4/7/13	Don't make the trails a throughway, make them opportunities for people to connect to their parks and use them!
4/8/13	I use the Parkway 4 times each week with my running group. I am amazed by how many women feel comfortable at the Parkway and how much it is used year round for fitness.
4/9/13	we have an amazing system now & should expand upon it & publicize it
4/10/13	the park system in allentown is superb. the watershed dept has maintained the lehigh parkway beautifully. linking them would provide miles and miles of recreational access as well as the ability to bridge communities.
4/11/13	We mostly use the sidewalks to walk to our neighborhood elementary school play ground. We also like to visit the creek near cedar beach and the rose gardens. Creek access for wading and playing could be improved. More picnic tables near the creek. How about some tables at Union Terraces? That is a great park that is under used. The soccer goals in the rose garden area are great! Could we get a dog park in the neighrbhood of Muhlenberg Elementary School? Could we stock one of the ponds/ lakes with bass?
4/12/13	one of the reasons why I like the Lehigh Valley is the parks/trails - improvements only makes it better & more of a selling point for the area.
4/13/13	I love our parks! Improving them would improve life here in the Lehigh Valley!
4/14/13	More energy and funding could be put into the promotion of the trail systems developed at Walking Purchase Park and improving the Park more in general. It's a great unused/unknown resource.
4/15/13	Do not expand the trail network beyond the capability of the city maintenance. Otherwise, neglected areas will breed crime and deter long-term resident interest in trails.
4/16/13	With the density of riders and recreationalists in the Lehigh Valley area, I believe a comprehensive trail system would be well utilized and would be a great benefit to all residents of the area.
4/17/13	the Jaindl family is the largest farm land owner in the area, i've always thought that if they really want to do something great for the valley and leave a legacy like Harry Trexler, they should consider adding bike trails or donating land alongside the roads that are so narrow and typically pass by their farmland.
4/18/13	I would LOVE to see an expansion of trails in the area.
4/19/13	education must accompany trail development
4/20/13	BUILD TRAIN SERVICE TO PHILLY AND NYC!!!!!!!!!!!!!!
4/21/13	We don't need bike lanes; we need more cost-effective measures like bicycle education, shared use lane markings, and share the road markings.
4/22/13	Thank you for taking the time to ask us trail blazers!
4/23/13	Just this...Get 'er Done. Allentown will be a happier place. Just ask the people of Portland, Oregon.
4/24/13	keep up the good work
4/25/13	The trail that includes the hill closest to the hospital, by the fish hatchery needs some attention especially the log that has been blocking the path for as long as i have been running there.
4/26/13	Love the park, the plants and animals we see there. thanks for the great place.
4/27/13	The Lehigh River walk should be priority.
4/28/13	Please do not put me on a mailing list for emails or snail mail or phone calls. Thank you.
4/29/13	Develop themes for rides, like sculptures in the parks, as well as cultural site such as museums, etc.

**11. Do you have any other comments?** *All responses are listed verbatim.*

4/30/13	love that someone is doing this
5/1/13	Please DO NOT raise taxes for this.
5/2/13	I would love to see more green trails around!!
5/3/13	No.
5/4/13	I can't wait to see the results.
5/5/13	I have worked with the EPBC serving on a committee to go forth with the plan to connect the trails in this area.
5/6/13	"no pedestrian" signs are disgrace to the city of Allentown!!
5/7/13	I'm glad there are a number of nice trails in the Lehigh Valley, and I'd gladly welcome more. :)
5/8/13	should be monitored daily at times with reserve police to feel safe when walking or having your children go there.
5/9/13	no
5/10/13	Good luck, I look forward to any improvements.
5/11/13	Yes, have bicycle lanes where space on roads permits
5/12/13	The Allentown Parks system is wonderful, but it is very underused. There should be events in parks every weekend and many week days.
5/13/13	This is an awesome effort!
5/14/13	Invite input from local rail-trail, hiking, and biking organizations - Ironton Rail-Trail, AL Hiking Club, LV Mountain Bikers (they like park trails too).
5/15/13	At least start small and then extend into outlying areas later. The trail system would allow people to enjoy recreational activities, but also provide the option to commute by bike to work.
5/16/13	Quit paving over trails and turning them into roads.
5/17/13	Good luck!
5/18/13	I believe, as a busy society, we have used walking less as a mode of transportation than we did years ago. We were healthier when we walked more and should do all we can to encourage it again.
5/19/13	none
5/20/13	We should all be able to bike or walk safely to a grocery store and to work
5/21/13	Just do it!
5/22/13	I would like to voice a preference for cinder trail rather than paved. Paved trails increase the speed of bicycles making the trail unsafe for walkers/runners, as well as causing more wear and tear on walkers/runners bodies.
5/23/13	Good work. Thank you.
5/24/13	I wish this project the best of luck. I have been hoping for something like this since I came to the valley 10 years ago.
5/25/13	Trails must be wide enough to accomodate both hickers and cyclists to avoid confrontations.
5/26/13	This helps our health and reduces our carbon footprint.
5/27/13	If feasible, trash and recycling containers at key locations may help to mitigate littering on trails.
5/28/13	I think this is a great idea. It will allow me to run in different areas, bike in a safe environment and enjoy our greenland
5/29/13	Dog owners are for the most part very good about picking up waste. Some dog owners allow dogs off leash in the parkway which is a concern to me as a runner.
5/30/13	I live a distance away from ITR, but joined because I take my grandkids there because it is safe and well maintained.
5/31/13	Jordan Creek area from Hamilton to Union Streets is a filthy mess
6/1/13	patrols would increase confidence in safety
6/2/13	every trail shall be useable by all parties,walkers, runners and bicycles
6/3/13	I can barely go a mile from my house and I hit impassable areas by bike due to dangerous roads
6/4/13	I would like to see the D & L National Heritage Corridor trails all linked together to form the 165 miles of trails.
6/5/13	I love our parks and think this is one of the best features of our city. I'm very pleased that our mayor and council have seen fit to pursue this study. Thank you!
6/6/13	fewer than 5 miles to work ride a bike, maybe leave some oil for the next generation. A little fresh sweat isn,t as affensive as some perfumes and colones people dump on
6/7/13	Bike lanes and trails where bikes are accepted (not banned) would be wonderful. Biking along busy thoroughfairs is not ideal.
6/8/13	Is there a way to enforce dog walkers to keep their dogs on lease! Allentown defintely needs a dog park.
6/9/13	more trails = healthier people
6/10/13	The outdoor theatre/stage at Union Terrece is under utilized. Upgrades to the facility electric and a restroom could lead to more events. Have a yearly concert event over a weekend. Invite local wineries to set up tasting tents and people could sip wine and sit on a blanket to enjoy the music.
6/11/13	Can't wait to get on a trail with the beautiful weather presenting itself. Preservation of natural resources should be a prime target for the valley.
6/12/13	They're not the trails themselves, but better crosswalks between parks (where crossing a busy street - particularly American Parkway - is necessary) could make a huge difference
6/13/13	Excited about this.
6/14/13	it would be nice to somehow link up parks/greenspace with trails or signs. I also think that signs/brochures/maps would be good.
6/15/13	My entire family loves using the trails!
6/16/13	Some small ponds with native plantings, and increasing other native vegetation areas (meadow, brushy, woods, etc.) would be great alongside the trails for attracting birds, butterflies, amphibians, etc. Maybe some interpretive boards with names and pictures of species present could be put up at key spots.
6/17/13	Inform everyone!

### 11. Do you have any other comments? *All responses are listed verbatim.*

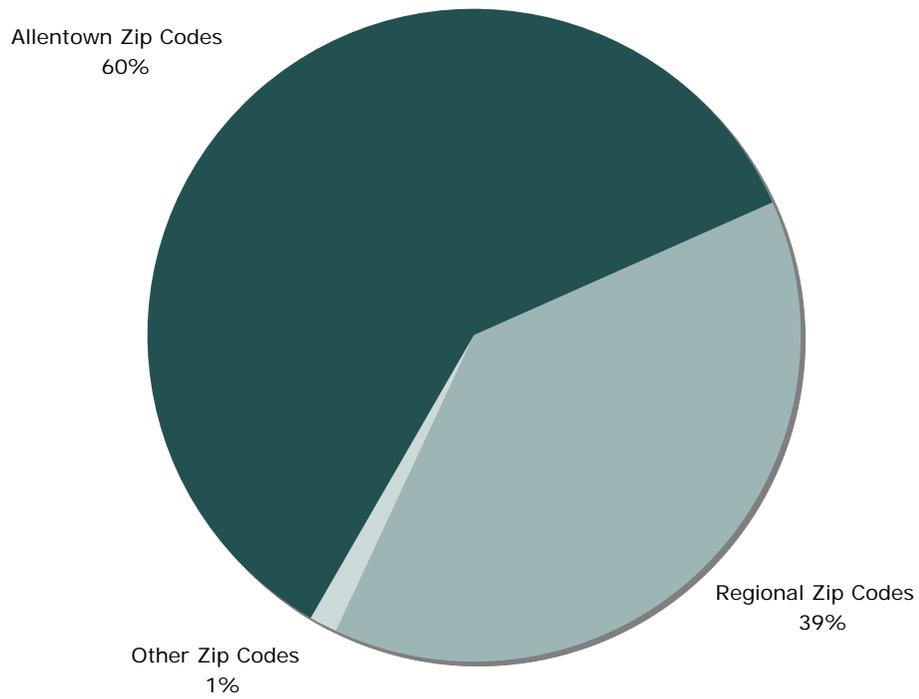
6/18/13	How about some bike lanes?
6/19/13	I am a female who loves to run on the tow path between Bethlehem and Easton but sometimes I worry about my safety in some of the more secluded portions of the trail (areas not near parking lots or trail heads). Hopefully if more people are aware of local trails, then I won't feel so scared because more people will be using the trails.
6/20/13	Don't know what to recommend for tick control, but I don't go to places where there is a lot of poison ivy or ticks because I always take my dogs. There are places I won't go to because of that, same with other dog lovers and we share that kind of info with each other - so maintenance is important.
6/21/13	I think it would be a great benefit if there was a dog park in the Allentown area. A small fenced in area for dogs to run - you could charge a yearly association fee to cover the cost for maintenance
6/22/13	of utmost importance to me is trying to get safely from north Bethlehem to south Bethlehem on foot or bike. I don't feel I can do that now. It's also difficult to get to Sand Island except a roundabout way. There should be a separate ped/bike bridge that has a ramp to go down to the island, and then a bike lane on New St even though that's not what CAT wants to do.
6/23/13	Community events would be nice to be connected to trails. Also, it would be great to connect the Valedrome somehow to these trails. Runners and walkers clubs need to be connected to these trails. The public needs to know the what's safe and available in Allentown to make this happen. Connect with the neighborhood associations. Ex. The West End Watch and The West End Alliance. Much information and help may be attained here.
6/24/13	Looking forward to new walking opportunities in the city
6/25/13	website with maps of all trails should be available
6/26/13	The desire to bike / walk for green and health reasons is growing. I meet more people interested and groups forming in small pockets everywhere. We need to be proactive in our developing this for Allentown.
6/27/13	there should be more picnic tables around Rose Garden area & Cedar Beach & Trexler Park. There should also be a swing set area & a fenced in area for dogs
6/28/13	Our city has beautiful parks!
6/29/13	interconnected bike paths for safe commuting to and from the city
6/30/13	This is very important, especially when gas prices increase again.
7/1/13	Connecting all the city parks via walking paths would be a great start.
7/2/13	With the large number of people who lost their jobs, I'm sure you can get many to help with establishing the trails and miscellaneous volunteer work.
7/3/13	I would really appreciate walkways over busy streets (such as over Cedar Crest connecting streets like Liberty to get you to across to the park) you can NEVER cross street like that safely
7/4/13	When this becomes reality, keep them clean, maintained and secure. If they cannot be lighted for evening use, keep people off of them.
7/5/13	I'm very excited about this project. Some day I would be able to ride down the hill from my house to the Rose garden, get on the trail and ride all the way to the Delaware river without riding on the street. Then I could ride south to Trenton NJ and get on the East Coast Greenway trail and ride to the northern tip of Maine or south to Key West Florida. Amazing!
7/6/13	Streets need bike lanes to get to all the parks.
7/7/13	Let's get some 911 alerts as well.
7/8/13	In connecting trails, safety should be a priority. The areas that are used to connect trails should not be opportunities for dangerous activity. Would there be a policing policy? Phone access for people to call for help - such as emergency phones on college campuses?
7/9/13	I think Allentown is truly fortunate to have such a wonderful number of parks and trails particularly the Canal Park between Allentown Bethlehem and beyond is a delight, in spite of or sometimes because of the railyard. Maintain it and it will give joy to future generations who will bless us for doing so
7/10/13	We used to go often to A-town parks, but limitations of aging are making that harder to do - so we walk more around our neighbor. We approve of the concept of linking neighborhoods with the Park system.
7/11/13	We have used the bike trails from White Haven to Jim Thorpe. and would like to try trails around here
7/12/13	no dogs on some trails
7/13/13	I sure hope this transpires- i plan to retire in a few years and then will have lots of time to ride. i have biked most trails in the area.
7/14/13	Must serve the inner city, not the suburbanites who come to visit, like our other parks
7/15/13	Set up bike riding groups for targeted constituents - families with young children, seniors, singles- with group leader.
7/16/13	Great idea but it shouldn't be funded which yet another tax increase. Residents are already overburdened with taxes, crime, and incompetent bureaucrats. I live in the burbs so this decision should be primarily based on the city residents as they'll use it more. most people don't have the time or too lazy to bike
7/17/13	Great idea! I fully support additional trails. A trails system throughout Allentown could invigorate neighborhoods in need of some new interest and young energy.
7/18/13	This has been poorly handled for decades. I'll be very surprised if it actually happens. Shocked really.
7/19/13	Fire Ed Pawlowski as Mayor.
7/20/13	I'm glad to see someone is doing this
7/21/13	Trout Run Creek in Eastern Salisbury would provide an ideal corridor for a trail.
7/22/13	All sounds like a wonderful project as Allentown already has a beautiful park system.
7/23/13	I am excited about this project. I was born and raised in the Netherlands, where biking and walking to destinations is very normal.

**11. Do you have any other comments?** *All responses are listed verbatim.*

	There are many, many people who would be willing to help in the design and planning, and the groundbreaking / maintenance of off-road walking/biking trails. There are many local members of IMBA and the Valley Mountain Bikers that are already active in trail planning and building (with permission from local authorities) and we are always looking for new opportunities to help, and for new ways to spread the word and recruit new people. See <a href="http://www.bikevmb.com/">http://www.bikevmb.com/</a> if the committee is looking for people with experience in planning environmentally and local-government-friendly trail systems.
7/24/13	
7/25/13	I hope this flies! I think it's a great idea.
7/26/13	Connect, connect! Build the trails and people will come! We love Allentown parks--The Lehigh Parkway, Trexler Park but we must drive to everything. Let's turn this community GREEN!
7/27/13	Keep bicycles off the road, other than that the project is fine. Bicycles are hazards to drivers and themselves.
7/28/13	People with children do not heed the rules at Trexler Park...kids are biking at any given time- any given day...rules are up but even the parents dont pay attention.
7/29/13	Let's get it done with Obama Stimulus Funds now!
7/30/13	I hope to see good work off this. I love biking and running on the trails.
7/31/13	Keep up the good work
8/1/13	A connection throughout the whole Lehigh Valley with historical facts about the nature and previous uses of land. THE importance of exercise, history, and culture should be explored throught this trail
8/2/13	I enjoyed R to T in FL - really miss being able to ride my bike safely in PA.
8/3/13	Educating the public about the benefits of transportation by biking and walking and how it can help alleviate traffic and pollution issues.
8/4/13	Allentown has a wonderful park system, and we should take steps to improve it and get the word out about this tremendous asset.
8/5/13	It would be great to walk from the family friendly Trexler Park, to the "Dog Park" (the park area West of the Rose garden) then through the Rose Garden, through Cedar Beach and then somehow to the Parkway. I do not feel safe doing this now, but with few improvements, I think it would be awesome!
8/6/13	Major public infrastructure, like the American Parkway and the proposed new American Parkway bridge should be constructed with dedicated bicycle lanes and sidewalks on both sides. Direct connections should be provided between the bridge and intersecting trails.
8/7/13	Connect to neighborhoods
8/8/13	no
8/9/13	A rails-to-trails is in the early stages in my township (Upper Saucon Township). In my opinion, the township has not done adequate planning. They seem to believe "if we build it, they will come" without considering some of the questions that you have asked in this survey. Would you share the survey results with them or promote your company's services to them?
8/10/13	all progressive communities and cities, old and new, are doing this in some form. Allentown needs to move up if it wants to be viewed as a city for youth, fitness and environmental attractiveness.
8/11/13	This is a great project. I think this will be an assest to the city.
8/12/13	Thank You for being aware of this need.
8/13/13	How can we keep up maintenance of this remarkable asset,over taxed now,with thousands of additional users in a time of diminished resources? Don't"tart-up"passive parks!!! Hands off the Rose Garden. This survey is very limited, appears to reinforces preordained strategy options. Don't sacrifice Parks for "Rec" !! Restore WPA Stonework. Cedar Beach Park is not a fairground and should not be used like one. Keep "Rec" emphasis at the neighborhood level, no mega "destination playgrounds" dependent on cars and buses. End "Lights in the Park", it's an embarassment., how not to use our parks. Question #5 has extremely limited responses.
8/14/13	It's important to state that once a trail has been paved over, the trail has lost the scenic beauty that takes one away from urban life temporarily. We have a great section of our trail now that is only earth and people love it. It is important to keep it this way.
8/15/13	Better identification from main roads to trails. Designate an arrowed colored sign indicating to trail.
8/16/13	Trexler Park has become over crowded with people walking their dogs on the weekend, much like in years past cyclists forced walkers to be wary. It is difficult to find a parking place and there is also a concern what they will step on. Very few dog owners carry a bag or make an effort to clean up after their dogs. We no longer go to Trexler Park on the weekends.
8/17/13	My thoughts are for a healthier, safer, diverse, and involved community. That involves our youth and the older members of our community.
8/18/13	Suggestion - It might be worthwhile to form partnerships with local colleges and high schools in terms of developing trails, encouraging students to bicycle and use the bike paths as ways of directing them to commercial areas other than the mall.



What is your zip code?



## Appx. B Program and Policy Toolbox

### Appendix Overview

Programming is a key element of a comprehensive strategy aimed at creating a more walkable and bikable City of Allentown. Physical improvements are only one piece of the puzzle. Once facilities are in place, it is critical to focus on use and safety for the different transportation groups through education, encouragement, and enforcement programs. This appendix outlines current programs and makes recommendations to advance the City of Allentown even further.

### Bicycle/Pedestrian Program History and Current Programs

A number of creative and innovative programs are in place in the Allentown area related to cycling, hiking and even water trails for kayaking and canoeing. These range from bicycle rodeos in the summer recreation program to the professional world class Univest Bicycle Race. Sponsored and run by a diverse group of program and event providers, these opportunities stand in testimony to the great potential for Allentown building a reputation as a community that celebrates cycling as a way of life.

#### ***Bike Allentown***

Bike Allentown is an advocacy group dedicated to improving the Greater Allentown community by promoting safe and enjoyable bicycling for transportation and recreation. Bike Allentown offers monthly bike rides often with a theme such as visiting the Allentown Art Museum. The organization is involved in important projects such as locating additional bicycle racks in the community. In order to engage the community, Bike Allentown has a WEB site: [www.bikeallentown.com](http://www.bikeallentown.com)

#### ***Community Bike Works***

Community Bike Works was conceived by Allentown residents with backgrounds in education, drug abuse prevention, vocational training, mechanics, business, and community action. Community Bike Works develops and uses peer role models, adult mentors, and bicycles to draw boys and girls, ages 9 to 17, into the program and away from drugs, crime, and the streets. The participants learn mechanics, develop business skills, com-



#### ***Program and Policy Toolbox Outline:***

*Bicycle/Pedestrian Program History and Current Programs*

- Bike Allentown*
- Community Bike Works*
- Coalition for Appropriate Transportation*
- Lehigh Valley Wheelmen*
- Bike and Boat Program*
- Valley Mountain Bikers*
- Univest Grand Prix*
- The Velodrome*
- Delaware and Leigh Canal National Heritage Corridor*

*City Trail and Physical Activity Related Programs*

- Education*
- Encouragement*
- Enforcement*
- Policy Recommendations*



*Advocacy groups (such as Bike Allentown shown above) are important partners for implementation of this study's recommendations. BikeAllentown is an advocacy group dedicated to improving the Greater Allentown community by promoting safe and enjoyable bicycling for transportation and recreation.*

mitment and responsibilities, and improve their employability. Through partnerships with the Catholic Charities Refugee Program and the Conference of Churches Linkage Program the participants provide needy residents with safety inspections and reconditioned bikes. Participants in the program earn a recycled bike and a new helmet for their efforts. The programs of the Community Bike Works counter entitlement by showing youngsters the benefits and rewards of working.

### ***Coalition for Appropriate Transportation (CAT)***

CAT is an educational charity encouraging car free activity: biking, walking, riding the LANTA bus and local trail use. CAT has generated more League Cycling Instructors per capita in the Lehigh Valley than anywhere else in the United States ('League' refers to the League of American Bicyclists, which promotes bicycling with a current membership of 300,000 affiliated cyclists). CAT's bicycle education program cover the following five areas:

1. Basic Riding Skills (closed course, no traffic – all ages)
2. Effective Cycling Principles and Traffic Laws (classroom – all ages)
3. Traffic Skills 101 (live traffic situations – ages 10 and up)
4. Bicycle Repair and Maintenance Skills for Mechanical Self-Sufficiency (all ages) (Park Tool School)
5. Bicycle Education for Motorists

CAT is supported through grants, private fundraising, and fees and charges from educational programs. A major grant through PennDOT for education and outreach is still on hold pending release by PennDOT. CAT's WEB site is [www.car-free.org](http://www.car-free.org).

### ***Lehigh Valley Wheelmen (LVW)***

Established in 1951, LVM has since been the Lehigh Valley's largest cycling organization, with a program of recreational riding and racing. LVW's activities are centered in, but not limited to, the Lehigh Valley of Eastern Pennsylvania. . The organization offers a full schedule of road and off-road rides. The racing team hosts several criteriums and training races for licensed (USCF) riders, as well as a club championship and monthly time trials that are open to all members. In addition to the traditional schedule of races, the Lehigh Wheelmen will be host to the Tour de FCCC (Future Champions Cycling Club); a junior stage race for cyclists ages 10 through 18. The Tour de FCCC, begun in 1994, attracts cyclists from the tri-state area as well as teams from as far away as Bermuda. The 'Tour' consists of a road race and time trial at the Pagoda in Reading, PA, followed by a criterium at the Rodale Cycling and Fitness Park in Trexlertown, PA. FCCC, founded in 1984 has been instrumental in providing support to juniors involved in competitive road and track cycling. The new junior group will race under the name of Bike Line Future Champions, as Bike Line sponsors the LWA racing team. LVW has monthly meetings and offers a newsletter about the organization's activities, events and information. The WEB site is [www.lehigh-wheelmen.org](http://www.lehigh-wheelmen.org).

### ***Bike and Boat Program***

The Wildlands Conservancy's Bike and Boat Adventures program offers the opportunity to discover the Lehigh River through exciting canoeing and biking trips. Wildlands Conservancy provides the equipment, professional safety guides, and a unique perspective of the river as it flows through the Lehigh Valley. The Conservancy offers public recreational bike and boat trips as well as educational versions for school groups designed to enable students to experience the river and develop an appreciation for the outdoors. The Conservancy operates two concession locations: one for bicycles and one for canoes and kayaks along the Lehigh River.

### ***Valley Mountain Bikers***

Members are everyday people who love to ride bikes and have chosen to preserve and promote the sport of mountain biking for future generations. VMB offers group rides for all levels to promote the best trails in the area as well as cycling friendships and riding buddies. VMB emphasizes respect for trails through education and involvement and routinely sets up volunteer Trail Days in which members repair, build or maintain trails based on IMBA trail standards to prevent damage to the environment. For racing, VMB is dedicated to promoting, participating and volunteering at races and bicycle events. Their experienced racers are glad to offer advice and help, or more importantly, help riders hone their skills. The WEB site offers helpful information such as trail finders and user ratings of trails. The organization's WEB site is [www.bikevmb.com](http://www.bikevmb.com).

### ***Univest Grand Prix: World Class Bicycle Racing in Pennsylvania***

The 2009 Univest Grand Prix series included three team time trials, one of which was in Allentown. The Univest Grand Prix is one of only thirteen Union Cyclist International (UCI)-ranked professional road cycling competitions for men in the United States. More than 150 professional riders from over a dozen countries competed. Allentown receives national news coverage during this event as the host. The event generates significant spending in the local community through the thousands of spectators and tourists that come into town for the event. This includes additional overnight stays and purchases in restaurants, retail shops, gas and services.

### ***The Velodrome***

Located in nearby Trexlertown, the Valley Preferred Cycling Center has some of the best community cycling programs in the country. Built in the 1970's, the concrete crater in a cornfield was the idea of publisher Bob Rodale, the president of Rodale Press and later publisher of *Bicycling* and *Mountain Bike* magazines. It was known as the Lehigh County Velodrome - or simply "T-town," by the national and international racers who make their homes here each summer. The velodrome is now managed by a non-profit 501(c)(3) foundation that continues to promote track cycling. Thanks to the generosity of Valley Preferred, a community partnership of doctors and hospitals, the newly renamed Valley Preferred Cycling Center continues to lead the nation in quality competition, championship racer development and community programs that offer the opportunity for racers and non-racers to enjoy the thrill of bicycle track racing in the nation's most-loved and most-successful velodromes in modern American cycling. Several top American cyclists, including Olympic Gold Medalist Marty Nothstein, got their start in these grassroots programs. These community programs have been instrumental in making Valley Preferred Cycling Center one of the top velodromes in the world. The WEB site is [www.thevelodrome.com](http://www.thevelodrome.com).

### ***Delaware and Lehigh Canal National Heritage Corridor***

The D&LCNHC is one of only 49 national heritage areas in the United States. The D&L is a destination and major tourism attraction drawing visitors from around the world and especially from the Mid-Atlantic Region. In 2006 the World Canal Conference was held in Bethlehem. Allentown's section of trail is part of the 165 mile pathway that played a significant role in United States history. The Lehigh Valley's three largest cities - Allentown, Bethlehem and Easton - became the cradle of America's 19th century Industrial Revolution in large part

because of the canals and railroads found here. Research with tourism bureaus in Pennsylvania found that facilities must be in premier condition in order for the bureaus to advertise them for tourism.

## **City Trail and Physical Activity Related Programs**

### ***Department of Parks and Recreation***

Over 150 permits are issued annually for events that use city trails and Allentown parks. Most of these permits for events are for trail events. These events are primarily runs, walks and rides to generate funds for non-profit organizations such as the Lehigh Valley Hospital that raises over \$100,000 for people with developmental disabilities through its VIA Marathon held in the City. The Department facilitates these events by providing facility maintenance, event support and promotion.

### ***Special Events***

Over 110 special events are held in the City of Allentown annually. The City has a Special Events Coordinator housed in the Department of Community and Economic Development. Most of these events are in city parks and on city trails.

### ***Allentown Health Bureau***

The City of Allentown was one of only ten cities nationwide to receive an ACHIEVE grant from the Centers for Disease Control (CDC) and Prevention. The grant of \$80,000 was split between the Health Bureau and the YMCA. ACHIEVE brings together local leaders and stakeholders to build healthier communities by promoting policies and environmental change strategies centering on obesity, diabetes, heart disease, healthy eating, physical activity and preventing tobacco use. Local leaders include the Allentown Director of Parks and Recreation, Director of Community and Economic Development, and the Health Bureau's Nutrition and Physical Activity Manager among others. They have a productive alliance in advancing bicycle and pedestrian initiatives in both physical facility improvements and in programming. An additional \$50,000 grant was received to focus on school-based physical education among children and adolescents. The Bureau is assisting the Department of Community and Economic Development in the placement of additional bicycle racks provided through a grant. The Department of Parks and Recreation is coordinating in this endeavor in site locations as well as in generating highly visible publicity on the project. An additional grant application has been submitted to CDC for funding in 2010-2012 aimed at increasing physical activity as a public health measure. The grant scope includes significant work on bicycling programs and facilities with a concentration on outreach to youth. If funded, staff will be put into place to plan, direct, and evaluate programs, events, and awareness related to physical activity and bicycling/walking.

## **Education**

### ***Public Education and Educational Devices***

The City of Allentown should build on its existing programs by continuing to develop a variety of safety materials and distribute them widely throughout the community. Educational materials focus on safe behaviors, rules, and responsibilities. Information may include important bicycle and pedestrian laws, bulleted keys for safe bicycle and pedestrian travel, helmet requirements, safe motor vehicle operation around bicyclists and pedestrians, and general facility rules and regulations. This safety information is often available for download from national pedestrian advocacy organizations, such as the Pedestrian and Bicycle Information Center website, [www.pedbikeinfo.org](http://www.pedbikeinfo.org)



# Pedestrian and Bicycle Information Center

Brown-bag events and clinics are also excellent means to provide education, especially for adults. Local events should be utilized to distribute information using a booth provided by the City to display related print media. A representative from the newly formed PRTC could volunteer at the booth to answer questions related to bicycling and walking in Allentown.

## Motorist Education

Equally important as bicyclist education is motorist education. Many motorists do not recognize the simple fact that a bicycle is considered a vehicle by Pennsylvania state law. This is a major problem in Pennsylvania including in the Allentown area where this was repeatedly mentioned as an issue throughout the public participation process for this plan. Budget cuts in Pennsylvania have resulted in the elimination of the Bicycle Pedestrian Coordinator position in Penn DOT. The City should continue to relay to the state senator and representatives about the need for assistance in making Allentown (and Pennsylvania overall) pedestrian and bicycle friendly, in part, through Penn DOT support. The implementation of Pennsylvania’s 2007 Bicycle and Pedestrian Plan is crucial in supporting the City of Allentown’s efforts.

Several examples of safety materials have already been developed in other states. An example of a motorist guide is the Triangle Motorist Guide to Bicycle Safety Brochure which is available for download on the CAMPO website: [www.campo-nc.us/BPSG/BPSG\\_Home.htm](http://www.campo-nc.us/BPSG/BPSG_Home.htm).

PennDOT’s website, ‘bikesafe’ is devoted to bicycles, bicyclists’ rights and responsibilities, and how motorists and bicyclists should behave. (Resource: [www.dot.state.pa.us/BIKE/WEB/index.htm](http://www.dot.state.pa.us/BIKE/WEB/index.htm)).

The StreetSmart public awareness campaign in the Washington, DC region is another example of a Public Service Agency educating residents about pedestrian and bicycle safety. [www.mwcog.org/streetsmart/about.asp](http://www.mwcog.org/streetsmart/about.asp)



Above: An example educational brochure which educates motorists on the rights of bicyclists.



Above: [www.dot.state.pa.us/BIKE/WEB/index.htm](http://www.dot.state.pa.us/BIKE/WEB/index.htm)

### ***Internal Training***

'Internal' education refers to the training of all people who are involved in the actual implementation of 'Connecting Our Community'. Internal training is essential to institutionalizing bicycle and pedestrian issues into the everyday operations of public works, planning, and parks and recreation departments. In addition to relevant municipal staff, PENNDOT staff, and Lehigh County staff should also be included in training sessions whenever possible. This training should cover all aspects of the transportation and development process, including planning, design, development review, construction, and maintenance.

This type of 'inreach' can be in the form of brown bag lunches, professional certification programs, and special sessions or conferences. Even simple meetings to go over 'Connecting Our Community' and communicate its strategies and objectives can prove useful for staff and newly elected officials that may not have otherwise learned about the plan. Bicycle and pedestrian planning and design issues are complex, and state-of-the-art research and guidelines continue to evolve. Therefore, training sessions need to be updated and repeated on a regular basis.

Local law enforcement should be trained in accurate reporting of bicycle and pedestrian crashes involving automobiles. In many communities, police do not always adequately understand the rights of bicyclists. Proper interpretation of individual circumstances and events is critical for proper enforcement and respect between motorists and bicyclists. Special training sessions should be instituted and occur annually for new employees within the local police forces that focus on laws relating to bicycle travel. Every effort should be made for representation from the different police forces on the PRTC.

### ***LCI Training / Bike ED***

CAT provides LCI training in the Lehigh Valley. This is the League of American Bicyclists' (LAB) national bicycle education program (Bike ED) that includes training to become certified League Cycling Instructors (LCI's). LCI's are trained to teach local bicycle skills training courses. Ideally, all PRTC members and key City, PENNDOT, and County staff would take LCI courses, or even become LCI instructors themselves. This effort should continue with expansion to other state, federal and municipal agencies.

### ***Bicycle Ambassador Program***

The newly formed PRTC should begin this program as an early initiative. The Bicycle Ambassadors Program would be the bicycle outreach and education component of the PRTC, promoting bicycle safety and awareness. Programs around the country promote safety for all road users, bicyclists, motorists, and pedestrians. Members of the PRTC may volunteer to be ambassadors as well as recruiting community members to be ambassadors. Ambassadors host and attend programs, demonstrations, and activities at events, summer camps, and schools.

One very successful model program is Mayor Daley's Bicycling Ambassadors in Chicago ([www.bicyclingambassadors.org/](http://www.bicyclingambassadors.org/)) where the group includes adult and junior ambassadors, hosts a number of educational events, and gives presentations that promote bicycling. Closer to home, York County has an ambassadors program that is very successful and actually has a waiting list. The ambassadors serve as eyes and ears on the trails. They are certified in first aid and bicycle maintenance. They also receive training in customer service. The department provides information about their program to others wishing to start up a similar program. Local bicycle shops and groups in Allentown mentioned in this appendix should be involved.

### ***Bicycle Helmets Program***

The City of Allentown, and the PRTC should form a charity program aimed to ensure young cyclists are educated and equipped to take part in bicycling. Community Bike Works has undertaken such a program over the last two decades and could perhaps help to expand this citywide. Hospitals such as Geisinger and Lewistown

have been instrumental in other communities in getting bicycle helmets donated. The main objective would be to increase helmet wearing among children. Strategies should start by expanding this component in existing bicycle programs.

### ***School Crossing Guard Training Program***

As traffic continues to increase on streets and highways, concern has grown over the safety of our children as they walk and bike to and from school. At the same time, health agencies, alarmed at the increase in obesity and inactivity among children, are encouraging parents and communities to get their children walking and biking to school. Numerous school crossing guards are present throughout the City of Allentown. It is important to ensure that crossing guards are trained and provided at every school in which there are pedestrians and bicyclists.

### ***Environmental, Cultural and Historic Education/Interpretation***

Educational programs and interpretative signage could be developed along greenways. Greenways provide opportunities for learning outside the classroom. Specific programs that focus on water quality and animal habitat are popular examples. Simple educational signage would offer interactive learning opportunities for people who use the trails. Brochures can be used to supplement signage with more detailed information and a map of the interpretive system. Coordination with the National Park Service (NPS) and the Wildlands Conservancy on interpretive signage would help to advance this effort in Allentown. Consideration of the NPS signage system is important since the City occupies a major segment of the National Heritage Corridor. Also, see Appendix E for more on signage recommendations.

### ***Bicycle Map Education***

The City of Allentown should develop an updated bicycle and pedestrian map that includes new bicycle facilities and new greenways. This map is an opportunity for the City of Allentown to present education and safety materials including basic safety information, commuting information, trail etiquette, transit information, and a list of local resources on the back side of the map. This map should be developed as a foldable hardcopy map or on the website.

### ***Education Resources***

The *Pedestrian and Bicycle Information Center* website provides important messages for a range of different audiences that can be part of an educational campaign or program. It also offers links for finding more information related to bicycling education: [www.bicyclinginfo.org/education/](http://www.bicyclinginfo.org/education/)

*The League of American Bicyclists* has been working for better cycling in America since 1880. They do this by promoting bicycling, educating cyclists and motorists, and advocating on behalf of cyclists on Capitol Hill and with state legislators across the United States. This web page has information on some of their programs: [www.bikeleague.org/programs/index.php](http://www.bikeleague.org/programs/index.php)

The mission of the *National Center for Bicycling and Walking (NCBW)* is to help create bicycle-friendly and walkable communities across North America by encouraging and supporting the efforts of individuals, organizations, and agencies. This section of the website provides information on the workshops they offer for the general public as well as for training professionals: [www.bikewalk.org/workshops.php](http://www.bikewalk.org/workshops.php)

*Safe Communities* is a project of the *National Highway Traffic Safety Administration (NHTSA)*. Nine agencies within the U.S. Department of Transportation are working together to promote and implement a safer national transportation system by combining the best injury prevention practices into the Safe Communities approach to serve as a model throughout the nation. [www.nhtsa.dot.gov/safecommunities](http://www.nhtsa.dot.gov/safecommunities)



Left: Example images from the NHTSA's Speed Campaign Tool Kit.

Speed Campaign Tool Kit. The intent of this National Highway Traffic Safety Administration (NHTSA) tool kit is to provide marketing materials, earned media tools, and marketing ideas for communities to distribute to fit local needs and objectives while at the same time partnering with other states, communities, and organizations all across the country on a speed management program. It includes messaging and templates you may choose from to support your speed management initiatives. Free TV and radio materials, posters, billboards, and other media materials can be downloaded here: [www.nhtsa.gov/speed/toolkit/index.cfm](http://www.nhtsa.gov/speed/toolkit/index.cfm) (Example posters shown above)

Safe Kids Worldwide is a global network of organizations whose mission is to prevent accidental childhood injury, a leading killer of children 14 and under. More than 450 coalitions in 15 countries bring together health and safety experts, educators, corporations, foundations, governments and volunteers to educate and protect families. Visit their website to receive information about programs, involving media events, device distribution and hands-on educational activities for kids and their families. [www.usa.safekids.org/](http://www.usa.safekids.org/)

Rules of the Road for Grandchildren: Safety Tips is an information website for grandparenting. If you are a grandparent, you can play an important role in teaching your grandchildren the "rules of the road." AARP. [www.aarp.org/contact/grandparents/rulesroad.html](http://www.aarp.org/contact/grandparents/rulesroad.html)

*American Trails* supports local, regional, and long-distance greenways and trails, whether in backcountry, rural, or urban areas. This page of the website contains studies and reports that can be referenced in educational materials related to trails and greenways: [www.americantrails.org/resources/](http://www.americantrails.org/resources/)

*Worldcarfree.net* is a clearinghouse of information from around the world on how to revitalize towns and cities and create a sustainable future. In addition to serving the carfree movement, *Worldcarfree.net* offers resources for architects, planners, teachers/professors, students, decision-makers and engaged citizens: [www.worldcar-free.net/](http://www.worldcar-free.net/)

## Encouragement

### ***Bicycle Lending Program***

A bicycle lending service could be established in Allentown designed to increase availability and access to bicycles. This program would accept new or used bicycles, which would be repaired by an expert mechanic. These bikes may then be borrowed. This type of program has also served to teach bike safety, maintenance, and on-road skills and has encouraged more people to bicycle for exercise, transportation, and leisure. This could possibly be done in conjunction with the Community Bike Works or with another organization such as the Bethlehem Bicycle Cooperative operated by CAT.

An example of this program is the *Fort Collins Bike Library*. The Bike Library is a free service for residents, students, and visitors to Fort Collins, CO. Members can borrow a bike for as short as one hour or for as long seven days. Bike Library members can enjoy a variety of bicycles and tag-a-longs for older children. The Bike Library also offers a variety of self-guided tours ranging from brewery tours and historic tours to an environmental learning tour along the scenic bike trails. For details, see [www.fcbikelibrary.org](http://www.fcbikelibrary.org)

### ***Employer Programs***

To encourage bicycling and walking to work, employers can provide programs and incentives. When bicycling and walking is encouraged, the employer benefits from improved employee health and morale along with an enhanced community perception when protecting the environment and being active in the community. Promotions could include a Bike to Work Day or a morning Pit-Stop where employees can receive free refreshments. Employers can provide educational workshops, bicycle parking options, and employee incentives. Incentives may include prize drawings, t-shirts, and free tune-ups at a local bicycle shop.

The Smart Commute Challenge is a great example in the Raleigh-Durham area of North Carolina. It is actively supported and encouraged throughout the region by the local transit agency (Triangle Transit), and is an excellent means of having residents pledge to commute to work by bicycle. Prizes are available and educational information on commuting to work are available at [www.smartcommutechallenge.org/](http://www.smartcommutechallenge.org/).

### ***Showers at Work***

Some employees will not consider biking or walking to work without the assurance that they can shower when they arrive. Showers also allow employees to exercise at lunch. In buildings with 50-100 employees, one shower should be sufficient. In buildings with 100- 250 employees, one shower for each sex should be provided. Buildings housing over 250 employees should provide at least four showers with two of them being accessible to the disabled.

***Clothes Lockers***

Ideally, there should be one lockable gym locker for every long-term bicycle parking space provided. The regular bicycle commuter can store work clothes. In addition to providing a locker to each regular bicycle commuter, other lockers should be available to encourage potential new bike commuters. These facilities will also encourage lunch-time fitness activities which benefit both the employee and the employer.

***School Programs***

Many programs exist to aid communities in developing safer pedestrian and bicycle facilities around schools. Programs can be adopted by parents or the schools to provide initiatives for biking and walking. Information is available to encourage group travel, prevent bicycle-related injuries, and sponsor commuter-related events. After-school programs, summer bike camps, bicycle rodeos, and 'family fun rides' can be created to provide a supportive environment for children to learn how to ride a bike comfortably and safely with friends, learn how to repair and maintain a bicycle, and tour their city and its destinations.

The Allentown School District could incorporate cycling and walking in to the physical education curriculum. An after school program or club devoted to cycling could be established in the high school. It could include road cycling, mountain biking and repairs. The Indian Valley High School in Mifflin County has provided such a program successfully. (See page G-20 for Safe Routes to School information).

***Bringing Kids Back to Bikes***

A strategy should be developed that would specifically target how to get more kids riding bikes to school and the recreation programs.

***Awareness Days/Events******Creating a Bicycle Culture***

All that Allentown is doing in terms of planning physical improvements for cycling and walking as well as undertaking programs and building awareness is necessary to change the culture of Allentown towards a community leading active healthy lifestyles. It is imperative to launch public events, programs and initiatives that are highly visible and have a presence among the citizenry. Developing ways to foster a culture where riding a bicycle for trips that are less than two miles as well as for recreation and wellness will be an important goal and needs to be developed as a strategy.

***Car Fee Sundays***

Designating an area in Allentown that would be car-free on specified Sundays would have an important impact on getting more people to ride bicycles. This program is proposed in the CDC grant for 2010-2012.

***Allentown Bike Week***

This would be a special weeklong celebration of bicycling in Allentown. The week would be jam packed with educational, recreation, wellness and community building events organized around a cycling theme. It could be organized in conjunction with a high visibility event such as the Univest Grand Prix.

A specific day of the year can be devoted to a theme to raise awareness and celebrate issues relating to that theme. A greenway and its amenities can serve as a venue for events that will put the greenway on display for the community. Major holidays, such as July 4th, and popular local events serve as excellent opportunities to distribute bicycling information. The following are examples of other national events that the City of Allentown can use to improve usage of bicycle facilities:



Left: Images from bicycle education events.

### ***Bike-to-Work Day (Third Friday in May)***

Bike-to-Work Day is an annual event held on the third Friday of May across the United States that promotes the bicycle as an option for commuting to work. Leading up to Bike-to-Work Day, national, regional, and local bicycle advocacy groups encourage people to try bicycle commuting as a healthy and safe alternative to driving by providing route information and tips for new bicycle commuters. On Bike-to-Work Day, these groups often organize bicycle-related events, and in some areas, pit stops along bicycle routes with snacks.

### ***Walk to Work Day/International Car Free Day (September 22)***

Designate one day a year for people to walk to work to help advance programs, promote active living, and raise awareness for environmental issues. Walk to Work Day can be at the end of an entire week or month of pedestrian promotional activities, including fitness expos, walking and jogging group activities, running and bicycling races and rides, etc.

Car Free Day is an international day to celebrate getting around without cars. This fall event coincides with the beginning of the school year and is the perfect way to kick-off programs that promote bicycling and raise awareness for environmental issues. Car-Free events can last for an entire week or month, featuring alternative transportation promotional activities, fitness expos, transit-use incentives, walking and jogging group activities, running and bicycling races and rides, etc.

### ***“Strive Not to Drive Day”***

This event example, from the Town of Black Mountain, North Carolina, is an annual event to celebrate and promote the Town’s pedestrian achievements for the year throughout their region. Awards for pedestrian commuters, as well as booths, contests, and other events are organized through their local MPO Bicycle and Pedestrian Task Force and the Land-of-Sky Regional Council. A similar event could be held in the City of Allentown to focus on walking or bicycling issues, as ‘*Connecting Our Community*’ is implemented.

### ***National Trails Day***

This event is held every year in June. Other events, competitions, races, and tours can be held simultaneously to promote trail use within the City of Allentown. For example, in Greensboro, North Carolina, the Parks and Recreation-Trails Division sponsors events for National Trails Day, and it has become a huge event for the entire city.

### ***Earth Day***

Earth Day is April 22nd every year and offers an opportunity to focus on helping the environment. Efforts can be made to encourage people to help the environment by bicycling to destinations and staying out of their automobiles. This provides an excellent opportunity to educate people of all ages in Allentown.

### ***Use Facilities to Promote Other Causes***

Bicycle and pedestrian facilities could be used for events that promote other causes, such as health awareness. Not only does the event raise money/publicity for a specific cause, but it encourages and promotes healthy living and an active lifestyle, while raising awareness for bicycling and walking activities. Non-profit organizations such as the American Cancer Society, American Heart Association, and the Red Cross sponsor events such as the Tour de Cure, a series of cycling events held in more than 80 cities nationwide to benefit the American Diabetes Association.

### ***Bicycle and Pedestrian Activities/Promotion within Local Organizations***

The City of Allentown has numerous organizations that could be utilized to promote bicycling and walking activities (e.g. the local bicycle stores, local cycling groups, local schools/PTAs, neighborhood groups, homeowners associations, etc). Education, enforcement, and encouragement programs can be advertised and discussed in local organization newsletters, seminars, and meetings. Such organizations could even organize and cross-promote their own group rides, trail clean-ups, and other activities listed in this section.

### ***Cycling Clubs/Bicycle-Commuting Groups***

Neighborhoods, local groups, or businesses could promote cycling clubs for local residents or employees to meet at a designated area and exercise on certain days before or after work (or even to work), during lunch breaks, or anytime that works for the group. This informal group could be advertised on local bulletin or information boards and could be specialized to attract different interest groups. Clubs and bicycle shops also provide opportunities for group rides. These rides should be promoted by the City of Allentown and the PRTC, reaching out to bicyclists of all abilities.

### ***Art in the Landscape***

The inclusion of art along greenway corridors and trails would encourage use of facilities and provide a place for artwork and healthy expression to occur. Artwork could be displayed in a variety of ways and through an assortment of materials. Living artwork could be “painted” through the design and planting of various plant materials. Sculpture gardens could be arranged as an outdoor museum. Artwork can be provided by local schools, special interest clubs and organizations, or donated in honor or memory of someone. Coordination with the Allentown Art Museum, Art Commission, and the new Art Park would help to launch such as effort here.

### ***City of Allentown Bicycle/Walking Map***

Currently, there is no official bicycle/walking map for Allentown. A hardcopy and online map should be developed and subsequently distributed widely throughout the community, through municipal governments, schools, advocacy groups, and other organizations throughout the county. Maps should be made available at parks and recreation centers, libraries, municipal buildings, the transit center, on transit buses, and at tourism information centers. The map should be updated every 3 to 5 years to reflect the bicycle and greenway improvements that will be implemented through this Plan. The map should be made available in hardcopy format and online and contain educational and safety information as well.

### ***Special College-Based Programs***

The City of Allentown should work with Cedar Crest and Muhlenberg colleges, to develop a comprehensive network of campus bicycle and walking routes that are connected with bicycle and pedestrian facilities in the surrounding areas. Integration with colleges and universities will allow greenway and bike facilities to cater to one of the network’s largest user groups.

### ***Adopt-A-Trail***

Local clubs and organizations provide great volunteer services for maintaining and patrolling trails. This idea could be extended to follow tour routes or specified streets/sidewalks. A sign to recognize the club or organization could be posted as an incentive to sustain high quality volunteer service. The Boy Scouts of America serve as a good model for participation in this type of program.

### ***Revenue Generating Programs***

The City of Allentown should be proactive in increasing revenue from programs and events that can help fund the building, management, and maintenance of future facilities. Fees could be increased in events annually or biannually to increase revenue. With over 100 events annually, the city's policy on fees and charges regarding special events should be re-evaluated and revised to reflect city costs in staging such events that generate hundreds of thousands of dollars conservatively. Specific program and event ideas that are being used across the country to generate revenue through fees and/or donations include:

- Races/triathlons
- Educational/Nature/Historic tours
- Fund-raisers including dinners/galas
- Moonlight bike rides and walks
- Greenway parade
- Concerts
- Art events along greenway
- Events coincident with other local events such as fairs, festivals, historic/folk events, etc.
- Media events and ribbon-cuttings for new trails and bicycle facilities

### **Encouragement Resources**

Safe Routes to School is a national program with \$612 million dedicated from Congress from 2005 to 2009. Local Safe Routes to School programs are sustained by parents, community leaders, and citizens to improve the health and well-being of children by enabling and encouraging them to walk and bicycle to school. This funding can also be used towards the development of school related programs to improve safety and walkability initiatives. The state requires the completion of a competitive application to apply for funding and a workshop at the school to determine what improvements are needed. <http://www.saferoutesinfo.org>

Bikelowa provides a good resource, the "Employer's Bike to Work Guide," providing ideas for encouraging bicycle commuting: [www.bikeiowa.com/asp/bike/EmployerGuide.asp](http://www.bikeiowa.com/asp/bike/EmployerGuide.asp)

This web page from the League of American Bicyclists has information on encouraging bicycle commuting: [www.bikeleague.org/resources/better/commuters.php](http://www.bikeleague.org/resources/better/commuters.php)

The role of the Active Living Resource Center (ALRC) web site is to provide resources and tools to help make walking and bicycling part of your community's healthy lifestyle. This page of the website has encouraging success stories from other communities: [www.activelivingresources.org/stories\\_directory.php](http://www.activelivingresources.org/stories_directory.php)

Bikes Belong is sponsored by the U.S. bicycle industry with the goal of putting more people on bicycles more often. From helping create safe places to ride to promoting bicycling, they carefully select projects and partnerships that have the capacity to make a difference. Their work concentrates on four main areas: federal policy and funding, national partnerships, community grants, and promoting bicycling. In addition, they operate the Bikes Belong Foundation to focus on kids and bicycle safety. [www.bikesbelong.org/](http://www.bikesbelong.org/)

## **Enforcement**

### ***Motorist Enforcement***

Based on crash data analysis and observed patterns of behavior, law enforcement can use targeted enforcement to focus on key issues such as motorists speeding, passing too closely to cyclists, parking in bicycle lanes, etc. These issues should be targeted and enforced consistently. The goal is for bicyclists and motorists to recognize and respect each other's rights on the roadway.

### ***Bicyclist and Pedestrian Enforcement***

Observations made by local trail and bicycle facility users can be utilized to identify any conflicts or issues that require attention (see online public comment form results). To maintain proper use of trail facilities, volunteers could be used to patrol the trails, particularly on the most popular trails and on days of heavy use. The volunteer patrol can report any suspicious or unlawful activity, as well as answer any questions a trail user may have. When users of the bicycle or pedestrian network witness unlawful activities, they should have a simple way of reporting the issue to police. A hot line should be created, which would compliment trail patrol programs. People could call in and talk to a live operator or to leave a voice mail message about the activity they witnessed. Accidents could also be reported to this hot line. Accident locations could then be mapped to prioritize and support necessary facility improvements.

Additionally, unsafe cycling and walking (e.g. riding on the wrong side of the street, without lights at night, or crossing roadways not in a marked crosswalk) should be addressed by local law enforcement through warnings, with an understanding that there may be a learning curve for new or inexperienced cyclists and pedestrians. Again, the goal is for bicyclists, pedestrians, and motorists to recognize and respect each other's rights on the roadway.

### ***Police on Bikes***

The City of Allentown should increase use of police on bike and strive to enhance their potential as role models for other cyclists. They could help to set the bar for cycling safety in Allentown. This is a significant benefit for community policing and quality of life. This idea should be coordinated with and extended to include enforcement within the college campuses. Police on bicycles should be models for other cyclists by wearing helmets and riding accordingly.

### ***Local Police Input***

An appointed member of the police forces should serve on the PRTC if possible to understand issues in the area and contribute to the process. Police understand firsthand the common bicycle and pedestrian problems, issues, and areas of concern.

### ***Mandatory Helmet Law***

The City of Allentown should consider enacting a new mandatory helmet law for their residents. Currently Pennsylvania requires helmets for all persons under 12 years of age. The City of Allentown should consider options such as mandatory helmet laws for all ages or possibly increasing to ages above 16. The National Highway Traffic Safety Administration (NHTSA) supports the enactment of bicycle helmet usage laws by states and municipalities. This is due to statistics that prove bicycle helmets provide protection (Example: Helmets are 85 to 88% effective in mitigating head and brain injuries). A number of communities throughout the country have made helmet usage mandatory for all ages especially in the states of Missouri and Washington. For more information, visit <http://helmets.org/mandator.htm> and [www.bikeleague.org/media/facts/pdf/BicycleHelmetUseLaws.pdf](http://www.bikeleague.org/media/facts/pdf/BicycleHelmetUseLaws.pdf)

As an enforcement/education measure, a partnership between the City of Allentown, local shops and groups, and the PRTC could distribute prizes to children seen wearing a helmet. Enforcement should not be heavy-handed but rather an opportunity to educate and encourage helmet usage.

### ***Enforcement Resources***

The National Highway Traffic Safety Administration (NHTSA) awarded a grant to MassBike to develop a national program to educate police departments about laws relating to bicyclists. The program is intended to be taught by law enforcement officers to law enforcement officers as a stand-alone resource. The link contains downloads for presentations, videos, and other resources that are useful for police officers and everyday cyclists alike: <http://www.massbike.org/police/>

This webpage of the Pedestrian and Bicycle Information Center has a wealth of resources regarding enforcement issues, ranging from training for local law enforcement to procedures for handling violators, to enforcement example case studies: <http://www.bicyclinginfo.org/enforcement/>

The State of Pennsylvania *pedestrian* laws can be found here: [www.dot.state.pa.us/Pedestrian/web/laws.htm](http://www.dot.state.pa.us/Pedestrian/web/laws.htm)

The State of Pennsylvania *bicycle* laws can be found here: [www.dot.state.pa.us/BIKE/WEB/bikelaws.htm](http://www.dot.state.pa.us/BIKE/WEB/bikelaws.htm)

## **Policy Recommendations**

### ***Complete Streets Policy***

There is a growing national trend towards integrating bicycling, walking and transit as a routine element in highway and transit projects. This movement has developed under the name of “Complete Streets,” which is defined by the Complete the Streets Coalition as follows:

“Complete Streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and bus riders of all ages and abilities are able to safely move along and across a complete street.”  
([www.completethestreets.org](http://www.completethestreets.org))

While Allentown’s Comprehensive Plan (Allentown 2020) and zoning codes address non-motorized transportation in a number of important ways, Complete Streets could be a new framework for integrating this study into a more systematic approach to implementation. A number of similar cities, including Columbia, MO; Santa Barbara, CA; Ft. Collins, CO and others have taken this approach to non-motorized transportation policy. One interesting example is the DuPage County Healthy Roads initiative (Illinois), which links public health with roadway improvements for pedestrians and bicyclists. The most up-to-date review of Complete Streets policies from throughout the U.S. is available here: [www.completethestreets.org](http://www.completethestreets.org)

Most city ordinances for complete streets refer back to an existing, adopted city policy. Allentown can establish it’s policy several ways. 1) Policy language in the transportation section of Allentown 2020 (page 94) could be updated, or 2) a stand alone resolution that introduces, outlines, and establishes the city’s complete streets policy could be adopted. Examples of what would make a good policy are outlined in the box below.

Some example Complete Streets policy statements for Allentown might include:

*“The future design and reconstruction of streets and intersections in the City of Allentown should aim to serve all types of users, including pedestrians, bicyclists, and motorists, and should be inclusive of all levels of ability, such as those in wheelchairs, the elderly and the young.”*

*“Definition of Traffic: Pedestrians and vehicles including bicycles, automobiles and other conveyances either singly or together while using streets for the purposes of travel.”* (Using this definition in the Comprehensive Plan and development ordinances ensures that pedestrians and bicyclists will be considered where ever ‘traffic’ is considered)

*“...providing adequate facilities for all types of traffic, including motorists, pedestrians, bicyclists, and transit users, and including of all levels of ability, such as those in wheelchairs, the elderly and the young.”* (this phrase can be added to many existing street design and land development policies to strengthen commitment to complete streets)

*Below: The National Complete Streets Coalition has identified ten elements of a comprehensive complete streets policy. Each bullet is expanded upon here: [www.completestreets.org/changing-policy/policy-elements](http://www.completestreets.org/changing-policy/policy-elements)*

### ***From the National Complete Streets Coalition website:***

An ideal complete streets policy:

- Includes a vision for how and why the community wants to complete its streets
- Specifies that ‘all users’ includes pedestrians, bicyclists and transit passengers of all ages and abilities, as well as trucks, buses and automobiles.
- Encourages street connectivity and aims to create a comprehensive, integrated, connected network for all modes.
- Is adoptable by all agencies to cover all roads.
- Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right of way.
- Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- Directs the use of the latest and best design standards while recognizing the need for flexibility in balancing user needs.
- Directs that complete streets solutions will complement the context of the community.
- Establishes performance standards with measurable outcomes.
- Includes specific next steps for implementation of the policy

### ***Trail-Related Policy Recommendations***

In addition to the Complete Streets policies, below are suggested changes to the City of Allentown Comprehensive Plan that relate to trail development and help to tie the Comprehensive Plan back to 'Connecting Our Community', where appropriate:

Add to the Community Facilities- Parks and Recreation Section Recommendations (pg 63):

*Greenways shall be planned and designed following 'Connecting Our Community' recommendations in conjunction with the Allentown Parks and Recreation Master Plan and the Lehigh Valley Greenways Plan.*

Add to the Community Facilities- Parks and Recreation Section Policies (pg 65):

*Greenways shall be planned and designed following 'Connecting Our Community' recommendations in conjunction with the Allentown Parks and Recreation Master Plan and the Lehigh Valley Greenways Plan.*

And

*Land development proposals should include provisions for developing or dedicating land for trails as indicated in 'Connecting Our Community'.*

Add the Transportation Policy (pg 94):

*Land development proposals should include provisions for developing or dedicating land for greenways as indicated in 'Connecting Our Community'.*

Add the Transportation Action (pg 94):

*Require the dedication or development of greenways and trails as part of the site plan review and development of land.*



# Appendix C Funding Opportunities



## Appendix Overview

The following pages offer a comprehensive description of funding sources that can be used to support the acquisition of land and the development of trail facilities for the City of Allentown. The sources are organized and defined by local, state and federal resources and agencies.

### Local Sources

The City of Allentown has in place a number of local resources required to finance a trails program. It is important that a local, dedicated source of revenue be established and utilized to attract state and federal funding. Below are listed other possible sources of local revenue for the trails program.

### Taxation Options

These are presented as options with the understanding that their utilization in this current economic climate is not likely.

### Property Tax

Property taxes are assessments charged to real property owners based on a percentage (millage rate) of the assessed property value. These taxes generally support a significant portion of a stakeholder's or municipality's non-public enterprise activities. However, the revenues from property taxes can also be used for public enterprise projects and to pay debt service on general obligation bonds issued to finance open space system acquisitions. Because communities are limited in the total level of the millage rate, use of property taxes to fund open space could limit the stakeholder's or a municipality's ability to raise funds for other activities.

Property taxes can provide a steady stream of financing while broadly distributing the tax burden. In other parts of the country, this mechanism has been popular with voters as long as the increase is restricted to parks and open space. Note, other public agencies compete vigorously for these funds, and taxpayers are generally concerned about high property tax rates.

### Excise Taxes – See below for hotel tax

Excise taxes are taxes on specific goods and services. These taxes require special legislation and the use of the funds generated

through the tax are limited to specific uses. Examples include lodging, food, and beverage taxes that generate funds for promotion of tourism, and the gas tax that generates revenues for transportation related activities.

### ***Earned Income Tax***

The earned income tax is a kind of income tax levied only on residents' earned income (such as wages, salaries, or other reimbursements for work). Unearned income, such as interest, dividends, pensions, and social security are exempt from the tax. Unlike the federal or state income taxes, the earned income tax allows no exemptions or standard deductions. A jurisdiction can collect earned income tax from non-residents who work in the jurisdiction but do not pay an earned income tax in their "home" jurisdiction. The maximum levy is 1 percent of earned income. If both the municipality and school district levy the earned income tax, both must share the 1 percent.

### ***Act 153 of 1996***

Pennsylvania municipalities have added a percentage of the Earned Income Tax for open space purposes. The municipalities generally put the question of adding to the Earned income tax generally one-quarter to one-half of one percent on a voter referendum. Generally these have been passing in Pennsylvania. Amending the Pennsylvania Conservation and Land Development Act, Act 153 provides certain types of local government units with a valuable financing tool as many municipalities seek the means to preserve open space in their communities.

The Act allows cities, boroughs, towns and townships, as well as certain cooperative governmental units, to impose one of two taxes in addition to the taxing limitations set forth elsewhere to finance certain types of open space initiatives. Counties and county authorities are specifically prohibited from invoking either of the local taxing options. By ordinance, qualifying local government units may impose either (a) a tax on real property not exceeding the millage authorized by voter referendum, in addition to the statutory rate limits on real estate taxes in the relevant municipal code, or (b) an earned income tax on residents of that local government unit not exceeding the rate authorized by referendum, in addition to the earned income tax rate limit found in the Local Tax Enabling Act.

The Act requires that revenue from either of the two authorized tax levies be used to retire indebtedness incurred in purchasing "interests in real property" or in making additional acquisitions of real property to secure an "open space benefit" under either the Conservation and Land Development Act or the Agricultural Area Security Law. The terms "interest in real property" and "open space benefits" are defined broadly in the Act and allow municipalities significant flexibility to achieve their land preservation goals in the manner best suited to their specific needs.

In addition to the local taxing options, the Act authorizes school district boards to exempt by resolution certain real property from further millage increases imposed on real property. Those types of real property that may be exempted include those whose open space property interests are acquired by a local government unit pursuant to the Conservation and Land Development Act, real property that is subject to an easement acquired under the Agricultural Area Security Law and real property whose transferable development rights have been transferred and retired by a local government unit without the development potential having occurred on other lands. The tax exemptions granted under the Act are not to be considered by the State Tax Equalization Board in deriving the market value of school district real property resulting in a reduction in the subsidy to that school district or an increase in the subsidy to any other school district.

### ***Realty Transfer Tax***

The realty transfer tax is a tax on the sale of real estate. The maximum levy is 1 percent of the sales price. If both the municipality and school district levy this tax, both must share the 1 percent.

### ***Amusement Tax***

The amusement tax is a tax on the privilege of engaging in an amusement. It is tax levied on the admissions prices to places of amusement, entertainment, and recreation. Amusements can include such things as craft shows, bowling alleys, golf courses, ski facilities, or county fairs. The amusement tax is considered a tax on patrons, even though it is collected from the operators of the amusement.

### ***Mechanical Devices Tax***

The mechanical devices tax is a tax on coin-operated machines of amusement, such as jukeboxes, pinball machines, video games, and pool tables. The tax rate is set as a percentage of the price to activate the machine.

### ***Personal Property Tax***

The personal property tax is similar to the real property and occupation taxes, in that it is levied on the value of property owned by residents. The property it taxes is intangible personal property, such as mortgages, other interest bearing obligations and accounts, public loans, and corporate stocks. The personal property tax has sometimes been called an honesty tax because the only way a county knows the value of a taxpayer's personal property is if that taxpayer is honest enough to report it.

### ***Hotel Tax***

The hotel occupancy tax, imposed at the same rate as sales and use tax, applies to room rental charges for periods of less than 30 days by the same person. The purpose of the hotel tax is to increase tourism and economic development in Pennsylvania. The tax supports advertising, development of publications related to tourism, capital and program projects to attract tourists, and in some counties open space conservation, trails and recreation facility improvements.

## **Bonds/Loans**

Bonds have been a very popular way for communities across the country to finance their open space, parks and trails projects. A number of bond options are listed below. Since bonds rely on the support of the voting population, an education and awareness program should be implemented prior to any vote.

### ***Revenue Bonds***

Revenue bonds are bonds that are secured by a pledge of the revenues from a certain local government activity. The entity issuing bonds, pledges to generate sufficient revenue annually to cover the program's operating costs, plus meet the annual debt service requirements (principal and interest payment). Revenue bonds are not constrained by the debt ceilings of general obligation bonds, but they are generally more expensive than general obligation bonds.

### ***General Obligation Bonds***

Local governments generally are able to issue general obligation (G.O.) bonds that are secured by the full faith and credit of the entity. In this case, the local government issuing the bonds pledges to raise its property taxes, or use any other sources of revenue, to generate sufficient revenues to make the debt service payments on the bonds. A general obligation pledge is stronger than a revenue pledge, and thus may carry a lower interest rate than a revenue bond.

Frequently, when local governments issue G.O. bonds for public enterprise improvements, the public enterprise will make the debt service payments on the G.O. bonds with revenues generated through the public enterprise's rates and charges. However, if those rate revenues are insufficient to make the debt payment, the local govern-

ment is obligated to raise taxes or use other sources of revenue to make the payments. G.O. bonds distribute the costs of open space acquisition and make funds available for immediate purchases. Voter approval is required.

### ***Special Assessment Bonds***

Special assessment bonds are secured by a lien on property that benefits by the improvements funded with the special assessment bond proceeds. Debt service payments on these bonds are funded through annual assessments to the property owners in the assessment area.

### ***Installment Purchase Financing***

As an alternative to debt financing of capital improvements, communities can execute installment/lease purchase contracts for improvements. This type of financing is typically used for relatively small projects that the seller or a financial institution is willing to finance or when up front funds are unavailable. In a lease purchase contract the community leases the property or improvement from the seller or financial institution. The lease is paid in installments that include principal, interest, and associated costs. Upon completion of the lease period, the community owns the property or improvement. While lease purchase contracts are similar to a bond, this arrangement allows the community to acquire the property or improvement without issuing debt. These instruments, however, are more costly than issuing debt.

## **Fees and Service Charges**

### ***Mandatory dedication of Parkland and Trails***

The Mandatory Dedication of parkland is traditionally applied to development in suburban areas. However, it can also be applied to redevelopment projects. For example the redevelopment of a brownfield site in Plymouth Township Montgomery County into the Metroplex, that can be viewed from the Pennsylvania Turnpike, generated over one million dollars through the fee-in-lieu of parkland dedication provision Mandatory Dedication of Parkland Act.

If suitable parkland is not available the developer may offer a fee-in lieu of dedication under the provisions of the Mandatory Dedication of park land Ordinance under the Pennsylvania Municipalities Code. Municipalities can also require the mandatory dedication of trails. The fee-in-lieu of dedication alternative allows the community to purchase land worthy of protection rather than accept marginal land that meets the quantitative requirements of a developer dedication but falls a bit short of qualitative interests.

## **Other Local Options**

### ***Local Park, Open Space and Trail Sponsors***

A sponsorship program for trail amenities allows smaller donations to be received from both individuals and businesses. Cash donations could be placed into a trust fund to be accessed for certain construction or acquisition projects associated with the greenways and open space system. Some recognition of the donors is appropriate and can be accomplished through the placement of a plaque, the naming of a trail segment, and/or special recognition at an opening ceremony. Types of gifts other than cash could include donations of services, equipment, labor, or reduced costs for supplies.

### ***Volunteer Work***

It is expected that many citizens will be excited about the development of a greenway corridor or a new park or canoe access point. Individual volunteers from the community can be brought together with groups of volunteers from church groups, civic groups, scout troops and environmental groups to work on greenway development on special community workdays. Volunteers can also be used for fund-raising, maintenance, and programming needs.

### **State of Pennsylvania Funding Sources**

The Commonwealth's current economic climate leaves many of these programs in a state of limbo. It is not clear if the programs will remain intact, but in a dormant stage until revenue returns or if they will disappear permanently.

Historically, however, Pennsylvania has offered a plethora of funding resources in support of open space and greenway implementation. The following provides a summary of these sources.

#### ***PENNDOT***

PENNDOT's primary means of funding greenways projects is through the Transportation Enhancements Program that is part of SAFETEA-LU. Greenways projects with a tie to transportation, historic preservation, bicycle/pedestrian improvements, or environmental quality are eligible candidates for Transportation Enhancements funding.

#### ***The Community Conservation Partnership Program***

The State of Pennsylvania makes available grant moneys to municipal governments through this program to support greenway and park planning, design and development. Applications for these grants are due in October of each year, and a 50 percent match is required from the local project sponsor. The amount of maximum award varies with the requested activity. Planning grants are typically awarded \$50,000 or less. Land acquisition and construction grants range from \$150,000 to \$200,000. Small community grants are also available through this program for municipalities with populations less than 5,000. These grants can support up to 100 percent of material costs and professional design fees for recreational facilities. Grants for these projects are typically limited to \$20,000.

#### ***Rails-to-Trails Grants***

The Rails-to-Trails Grants provide 50% funding for the planning, acquisition or development of rail-trail corridors. Eligible applicants include municipalities and nonprofit organizations established to preserve and protect available abandoned railroad corridors for use as trails or future rail service.

#### ***Urban and Community Forestry Grants***

Can be used to encourage the planting of trees in Pennsylvania communities. Municipal challenge grants provide 50 percent of the cost of the purchase and delivery of trees. Special grants are available for local volunteer groups, civic clubs, and municipalities to train and use volunteers for street tree inventories, and other projects in urban and community forestry.

#### ***Pennsylvania Recreational Trails Program (PRTP)***

The Pennsylvania Recreational Trails Program (PRTP) provides funds to develop and maintain recreational trails and trail related facilities for motorized and nonmotorized recreational trail use. Federal funding for the program is through the Federal Highway Administration (FHWA) and the Federal Recreational Trails Program (RTP).

In Pennsylvania, the Recreational Trails Program is administered by the Department of Conservation and Natural Resources (DCNR), Bureau of Recreation and Conservation (BRC) in consultation with the Pennsylvania Recreational Trails Advisory Board (PARTAB), which is composed of both motorized and non motorized recreational trail users.

For this grant round the Department has approximately \$1 million available for grants. This funding must be distributed among motorized, nonmotorized, and diverse trail use, as follows:

- \* 40% minimum for diverse trail use
- \* 30% minimum for motorized recreation
- \* 30% minimum for nonmotorized recreation

Match requirements for Pennsylvania Recreational Trails Program Grants are 80% grant money, up to a maximum of \$100,000, and 20% project applicant money.

“Soft match” (credit for donations of funds, materials, services, or new right-of-way) is permitted from any project sponsor, whether a private organization or public agency.

Eligible applicants include federal and state agencies, local governments and private organizations.

Eligible project categories are:

- maintenance and restoration of existing recreational trails;
- development and rehabilitation of trailside and trailhead facilities and trail linkages;
- purchase and lease of recreational trail construction and maintenance equipment;
- construction of new recreational trails (with restrictions on new trails on Federal land);
- acquisition of easements or property for recreational trails or recreational trail corridors.

The Commonwealth may also use up to 5 percent of its funds for the operation of educational programs to promote safety and environmental protection related to the use of recreational trails. The Department will also give consideration to projects that provide for the redesign, reconstruction, nonroutine maintenance, or relocation of recreational trails to benefit the natural environment. Project sponsors are encouraged to enter into contracts and cooperative agreements with qualified youth conservation or service corps to perform trail construction and maintenance.

### ***Rivers Conservation Program***

This program seeks to maintain, restore, and enhance rivers throughout Pennsylvania. Non-profit organizations and municipalities may apply for grants above \$2,500. Before being considered for river conservation, implementation, acquisition, or development projects, a grant applicant must have an approved river conservation plan.

***Department of Community and Economic Development*** DCED’s mission includes four elements that each have a relationship to greenways: economic development, travel and tourism, technical assistance and community development. Each of DCED’s funding programs is listed and described below.

- **Community Revitalization Program**

This funding source supports local initiatives aimed at improving a community’s quality of life and improving business conditions.

- **State Planning Assistance Grant**

This program provides funding to municipalities for preparation and maintenance of community development plans, policies, and implementation measures. The grant requires a 50% match and priority is given to projects with regional participation.

- **Communities of Opportunity Program**

This program provides funding to prepare communities to be competitive in attracting, expanding, and maintaining businesses and providing affordable housing. The program is open to municipalities, redevelopment and housing authorities, and nonprofit housing corporations. The program does not require a local match.

- **Community Development Block Grants**

This program provides financial and technical assistance to communities for infrastructure improvements, housing rehabilitation, public services, and community facilities. The program targets local governments and 70% of each grant must be used for activities or projects that benefit low to moderate income people.

- **Main Street Program**

The Main Street Program provides grants to municipalities and redevelopment authorities to foster economic growth, promote and preserve community centers, creating public/private partnerships, and improve the quality of life for residents. The program has two components, a Main Street Manager and Commercial Reinvestment. The Main Street Manager component funds a staff position that coordinates the community's downtown revitalization activities. The Community Reinvestment component provides funding for actual improvement projects in the community. The Main Street Manager is partially funded for a 5-year period while the Community Reinvestment activities require a minimum of a 50% match. A business district action plan must be completed for eligibility in this program.

- **Elm Street Program**

*Allentown is currently (as of 2009) using this program.* The Elm Street Program was created to strengthen the older historic neighborhoods that characterize many of the commonwealth's communities. The Elm Street Program is a work in progress and is likely to be so for the next several years. Although receiving one grant is not predicated on receiving the others, there is an ideal sequencing to the funding and assistance available through the Elm Street Program. Following text from [www.padowntown.org/programs/elm-street/](http://www.padowntown.org/programs/elm-street/)

- **Planning Grants:** Communities must have a plan that meets the program's requirements—it must address all five facets of the approach, for example—to be eligible for Elm Street designation. Thus, most communities will apply for and receive planning grants first. Even communities with recent plans that don't quite meet Elm Street Program requirements might apply for planning grants to augment existing documents for Elm Street. Communities with DCED-approved eligible plans may forgo the planning grant and apply for designation directly.
- **Elm Street Designation:** An application to DCED and the submission of an Elm Street plan make up the package required for designation. The majority of communities will have completed an Elm Street Plan with an Elm Street planning grant, but some will submit plans created independent of Elm Street funding. Designation carries administrative and staffing funds, including support for an Elm Street Manager position.

- **Residential Reinvestment Grants:** These grants provide funds for physical improvements in neighborhoods. Elm Street Designation is not currently required for grant eligibility, but these grants are generally targeted for Elm Street communities. As more Elm Street communities are designated, competition for the Residential Reinvestment Grants will grow, making it more and more difficult for non-designated neighborhoods to acquire these funds.

### ***Public Health Management Corporation (PHMC)***

The PHMC's funding for the 2009-2010 Fiscal Year was cut by more than 50 percent. The PHMC received 174 Project applications in December 2008. The PHMC has suspended application deadlines and is currently trying to address the budget reduction impacts on the 165 museums, historical organizations and county historical societies it currently supports.

### ***Keystone Historic Preservation Grants***

Local governments and non-profit groups may apply for this grant that ranges in value from \$5,000 to \$100,000. A 50% local match is required and funds may be used for preservation, rehabilitation, and restoration of historic properties, buildings, structures, sites, or objects.

### ***Certified Local Government Grants***

Federal funding program limited to certified Local Governments for purposes of cultural resource surveys, technical and planning assistance, educational and interpretive programs, and national register nominations. The program includes a 40% local match that can be made with in-kind services, cash, or Community Development Block Grants.

### ***DEP Growing Greener***

Growing Greener, the largest single investment of state funds in Pennsylvania's history, is set to expire. Growing Greener directed nearly \$650 million over five years to the new Environmental Stewardship Fund. Growing Greener funds can be used for farmland-preservation projects; preserving open space; cleanup of abandoned mines, watershed planning; recreational trails and parks; and help communities address land use concerns. Eligible applicants include non-profit groups, counties, and municipalities. A local match is encouraged, but not required. A Growing Greener III program may replace the existing program, but there is no certainty of a replacement at this time.

### ***Stormwater Planning and Management Grants***

This program provides grants to counties and municipalities for preparation of stormwater management plans and stormwater ordinances. The program requires a 25% local match that can come in the form of in-kind services or cash. While greenways are not specifically funded by the project, they are excellent elements of a stormwater management system. This program is part of the Growing Greener Initiative.

### ***Nonpoint Source Management Section 319 Grants***

Section 319 grant funding comes from the federal Clean Water Act. The grants are available to local governments and nonprofit groups for watershed assessments, watershed restoration projects, and projects of statewide importance. The grant requires a 60% local match and 25% of the construction costs of practices implemented on private land must come from non-federal sources.

***Environmental Fund for Pennsylvania***

This fund is available to environmental, conservation, and recreation organizations for projects that improve the quality of life for Pennsylvania communities.

***Environmental Education Grants***

This program uses a 5% set aside of the pollution fines and penalties collected in the Commonwealth each year for environmental education in Pennsylvania. There are eight different grant tracks with grants ranging from \$1,000 to \$20,000, most requiring a 20% match. Public and private schools, non-profit conservation/education organizations and county conservation districts may apply for the grants.

***Land Recycling Grants Program***

Provides grants and low interest loans for environmental assessments and remediation. The program is designed to foster the cleanup of environmental contamination at industrial sites and remediate the land to a productive use.

**Federal Sources**

There are two approaches the City can utilize to pursue federal funding for trail and multi-modal supportive projects and programs. Traditionally most federal programs provide block grants directly to states through funding formulas. For example, if a Pennsylvania community wants funding to support a transportation initiative, they would contact the PENNDOT and not the US Department of Transportation to obtain a grant. Despite the fact that it is rare for a local community to obtain a funding grant directly from a federal agency, it is relevant to list the current status of federal programs and the amount of funding that is available to the City of Allentown through these programs. The other approach is to pursue direct appropriations through the City's legislative representation in the form of project earmarks.

Funding for the federal government is provided by annual appropriations bills that are supposed to be enacted into law before October 1, the beginning of the federal fiscal year. The appropriations bills are written by the House and Senate Appropriations Committees, which are each divided into subcommittees, each of which has jurisdiction over one of the appropriations bills. The Appropriations Committees are divided into 13 subcommittees. The subcommittees do most of the work on the appropriations bills, and influencing the content of an appropriations measure is done most effectively at the subcommittee level.

Each appropriations subcommittee has its own system for accepting funding requests ("earmarks") from individual Members of Congress, but in general the subcommittees set deadlines for these "Member requests," which, generally, must be in writing. Usually, the deadline is near the end of the hearing process in mid/late March or April. Most Members of Congress, in turn, set their own deadlines for receiving appropriations requests from constituents, local agencies and interest groups. These congressional office deadlines are usually one to three weeks in advance of the Member request deadlines set by the appropriations subcommittees. Some Members require that funding requests be presented to them in a very specific format.

***Surface Transportation Act (SAFETEA LU) (Accessed through PENNDOT)***

For the past 15 years, the Surface Transportation Act has been the largest single source of funding for the development of bicycle, pedestrian, trail and greenway projects. However, the original bill expired on September 30, 2009. Congress approved a continuing resolution that keeps the government funded through December 2009. Congress could take up a new surface transportation reauthorization bill (\$450 billion in road and transit funding is being considered) early in 2010. There was serious discussion of passing an 18 month extension which would have extended SAFETEA\_LU through March 2011. It is uncertain whether this is still possible with the current continuing resolution.

There are many programs within SAFETEA-LU that deserve mention. The authorizing legislation is complicated and robust. The following provides a summary of how this federal funding can be used to support the Allentown Trails System. All of the funding within these programs would be accessed through the PENNDOT.

### **1) Surface Transportation Program (STP)**

This is the largest single program within the legislation from a funding point of view, with \$32.5 billion committed over the next five years. Of particular interest to greenway enthusiasts, 10 percent of the funding within this program is set aside for Transportation Enhancements (TE) activities. Historically, a little more than half of the TE funds have been used nationally to support bicycle/pedestrian/trail projects.

### **2) Congestion Mitigation and Air Quality (CMAQ)**

Under SAFETEA-LU, approximately \$8.6 billion has been set aside. Historically, about five percent of these funds have been used to support bicycle/pedestrian/trail projects. This would equal about \$430 million under SAFETEA-LU.

### **3) Transportation, Community and System Preservation Program (TCSP)**

This program is administered by the FHWA and is comprehensive initiative of research and grants to investigate the relationships between transportation, community and system preservation plans. Cities are eligible for discretionary grants to carry out eligible projects to integrate planned transportation and community practices that specifically reduce environmental impacts of transportation and examine community development patterns and identify strategies to encourage private sector development patterns and investments that support these goals. Typical project applications that utilize this funding include corridor safety upgrades such as signal improvements, striping and multi-modal upgrades. The primary method of securing this funding is through congressional appropriations.

### **4) Highway Safety Improvement Program (HSIP)**

SAFETEA-LU funds this program at \$5 billion over four years. Historically, bicycle and pedestrian projects have accounted for one percent of this program, or about \$50 million under SAFETEA-LU. Some of the eligible uses of these funds would include traffic calming, bicycle and pedestrian safety improvements, and installation of crossing signs. This is not a huge source of funding, but one that could be used to fund elements of a project.

### **5) Recreational Trails Program (RTP)**

The Recreational Trails Program is specifically set up to fund both motorized and non-motorized trail development. Under SAFETEA-LU, funding was established at \$370 million for the five-year term of the legislation. At least 30% of these funds must be spent on non-motorized trails, or \$110 million. This program has a relatively low cap on grant size (\$100,000 per grant) but can't be used to supplement other larger funding sources. This program has a 20 percent local matching funds requirement. It is not clear if this funding program will continue under the reauthorization of SAFETEA-LU.

### **6) Scenic Byways**

The National Scenic Byway program has not traditionally been a good source of funding for bicycle/pedestrian/trail projects. The total amount of funding available nationally is \$175 million under SAFETA-LU. Historically only 2 percent of these funds have been used to support bicycle and pedestrian improvements. Applications are only accepted by PENNDOT from established scenic byways groups, but historically, byways groups have advanced proposals in partnership with other organizations – including cultural heritage tourism groups – in support of the byways' goals.

### **7) Safe Routes to School Program (SR2S)**

A new program under SAFETEA-LU is the Safe Routes to School (SR2S) program, with \$612 million in funding during the term of the legislation. This is an excellent new program to increase funding for access to the outdoors for children. Each state will receive no less than \$1 million in funding, with 10% to 30% of the funds allocated to non-infrastructure activities. The SR2S Program was established in August 2005 as part of the most recent federal transportation re-authorization legislation--SAFETEA-LU. This law provides multi-year funding for the surface transportation programs that guide spending of federal gas tax revenue. Section 1404 of this legislation provides funding (for the first time) for PENNDOT to create and administer SR2S programs which allow communities to compete for funding for local SR2S projects.

The administration of section 1404 has been assigned to FHWA's Office of Safety, which is working in collaboration with FHWA's Offices of Planning and Environment (Bicycle and Pedestrian Program) and the National Highway Traffic Safety Administration (NHTSA) to establish and guide the program.

### **8) High Priority Projects**

Under SAFETEA-LU more than 5,091 transportation projects were earmarked by Congress for development, with a total value in excess of \$3 billion.

### ***Land and Water Conservation Fund (LWCF)***

The Land and Water Conservation Fund is the largest source of federal money for park, wildlife, and open space land acquisition. The program's funding comes primarily from offshore oil and gas drilling receipts, with an authorized expenditure of \$900 million each year. However, Congress generally appropriates only a fraction of this amount. The program provides up to 50 percent of the cost of a project, with the balance of the funds paid by states or municipalities. These funds can be used for outdoor recreation projects, including acquisition, renovation, and development. Projects require a 50 percent match.

### ***Environmental Protection Agency (EPA)***

The EPA funds a program that enables communities to clean up polluted properties. Funding for these programs is available directly from the EPA and is administered in the form of grants to localities. Eligible projects must be on or within identified brownfields areas. The funding can be used for planning as well as environmental assessment activities where there is no known responsible party for the contamination. The City, in conjunction with the Lehigh Valley Economic Development Corporation has received funding through this program in the past, specifically for several sites in the City, including brownfields properties along the Lehigh River corridor. Assessment grants are capped at \$200,000 per round and applications are typically due in mid-October each year.

### ***Brownfields Revitalization Assessment and Cleanup Grant Funding***

- Needy communities fare better in competition
- High unemployment rates, high poverty rates, loss of jobs/population, minority or other sensitive populations. Include demographic statistics.
- Mention any unusually high health concerns in the area.
- Present the environmental, economic, social and health impacts of brownfields on the community
- Environmental Justice concerns
- Focus on the environmental and health impacts of your project.

### ***US Department of Energy (DOE) Energy Efficiency and Conservation Block Grant Program***

This program, authorized in the Energy Independence and Security Act of 2007, exists to assist eligible entities in implementing energy efficiency and conservation strategies to reduce fossil fuel emissions, total energy use, and to improve energy efficiency in the transportation sector. Specifically, funds are available for transportation infrastructure: bike lanes/pathways, pedestrian walkways, and synchronized traffic signals. The total annual appropriation is \$2B, and DOE will develop a formula for allocating \$1.36B (68%) of the block grants among cities and counties. Approximately \$560M (28%) will be passed to the states and each state will decide how to award these funds among its cities and counties. \$40M (2%) is available in a competitive program to non-formula cities/counties, and the final \$40M (2%) is appropriated under a tribal program.

### ***National Highway Traffic Safety Administration (NHTSA) State and Community Highway Safety Program***

More commonly referred to as “Section 402 Funds,” these grants exist to assist eligible entities in carrying out specific programs that will have a direct impact in reducing the number of collisions and traffic-related fatalities and injuries. Eligible areas of funding include the development, implementation and evaluation of educational and enforcement programs that will enhance pedestrian safety. These funds support, in general, non-construction activities.

### ***Community Block Development Grant Program (HUD-CBDG)***

The U.S. Department of Housing and Urban Development (HUD) offers financial grants to communities for neighborhood revitalization, economic development, and improvements to community facilities and services, especially in low and moderate-income areas. Grants from this program range from \$50,000 to \$200,000 and are either made to municipalities or non-profits.

### ***Preserve America***

The Preserve America grants program funds “activities related to heritage tourism and innovative approaches to the use of historic properties as educational and economic assets.” Its five categories are: research and documentation, interpretation and education, planning, marketing, and training. Interpretative signing programs are one of the largest project types that receive funding through this program. The grant does not fund “bricks and mortar” rehabilitation or restoration. This grant is available to State Historic Preservation Officers (SHPOs), Tribal Historic Preservation Officers (THPOs), designated Preserve America communities and Certified Local Governments (CLGs) applying for designation as Preserve America Communities.

Grants require a dollar-for-dollar non-federal match in the form of cash or donated services. In order to be eligible for funding, communities must first apply to receive Preserve America designation by the U.S. Department of the Interior. Once designated, a community is then eligible to apply for grant funding through the program. The maximum grant amount is typically \$250,000 and the application deadline occurs quarterly. [www.preserveamerica.gov/federalsupport.html](http://www.preserveamerica.gov/federalsupport.html)

### ***Small Business Administration***

Many cultural heritage tourism businesses are small businesses. The Small Business Administration (SBA) does not itself loan money, but guarantees loans from banks or from specially chosen small business investment companies. These loans can be used for business expenses ranging from start-up costs to real estate purchases. Eligible companies must be defined as “small” by the SBA. This program could help support the expansion of existing small and upstart bicycle sales/repair/rental shops, outfitters and sports and tourism related businesses in the City. [www.sba.gov](http://www.sba.gov)

### ***U.S. Fish and Wildlife Service***

The U.S. Fish & Wildlife Service has a long list of grant programs that benefit the conservation or restoration of habitats. These include grants for private landowners to assist in protecting endangered species, grants to restore the sport fish population and grants for habitat conservation planning and land acquisition. The amount, matching requirements and eligibility for each grant vary. The website also provides practical information about successful projects and conserving specific habitats [www.fws.gov/grants](http://www.fws.gov/grants).

### ***The Water Resources Development Act (WRDA)***

The Water Resources Development Act (WRDA) authorizes new water resources related projects every two years. Administered by the Army Corps of Engineers (ACOE) civil works program, it is the nation's largest water resources program and includes projects for navigation, flood control, shoreline protection, hydropower, dam safety, water supply, recreation, environmental restoration and protection and disaster response and recovery. This program represents a major potential source of funding for trail projects, especially along water course and flood prone environmental areas, if the trail projects can be married with larger habitat enhancements, wetland and flood control improvements and stream bank restoration projects. In order to receive funding, the City would need to work with its legislators and the Philadelphia District of the ACOE in order to ensure that the proposed projects receive priority attention within their project program.

The first step in an ACOE water resources development project is a study of the project's feasibility. If the ACOE has conducted a study in the area previously, the new study can be authorized by a resolution (known commonly as a "survey resolution") of either the House Transportation and Infrastructure Committee or the Senate Committee on Environment and Public Works. If the ACOE has not previously studied the area, then an Act of Congress is necessary to authorize the study. The majority of the studies are authorized by Transportation Committee survey resolutions.

Assuming the study recommendations are favorable, the next step is authorization. Project authorizations are traditionally contained in a biennial WRDA. The ACOE also has certain authorities to construct small projects without specific authorization by Congress. These authorities known as the "continuing authorities program" include beach erosion, navigation, flood control, stream bank and shoreline protection, snagging and clearing, modifications to existing projects for the benefit of the environment and aquatic ecosystem restoration. Project along the major and minor watercourses in the City, especially the Lehigh River, may qualify under this authorization, if deemed a priority by the ACOE. The number of projects funded nationally on an annual basis ranges between 200 and 300 and the annual total funding earmark is typically between \$50M and \$60M.

## **D. Private Foundations/Philanthropic Sources**

### ***Harry C. Trexler Trust***

Harry C. Trexler and his wife Mary bequeathed their estate to Lehigh County charities in a fund known as the Harry C. Trexler Trust. Under the provisions of Mr. Trexler's will, one-half of the annual revenues are distributed to Lehigh Valley charities, one quarter is returned to the principal and one-quarter is paid to the City of Allentown for the maintenance, improvement and extension of municipal parks. The amounts vary annually based on the market value of the fund which is about \$100,000,000. The annual amount has been about \$1,500,000 over the last ten years. Trexler Trust supports capital improvements which extend the reach and utilization of existing parks throughout the City, especially to economically challenged neighborhoods and youth in particular.

### ***American Greenways Eastman Kodak Awards***

The Conservation Fund's American Greenways Program has teamed with the Eastman Kodak Corporation and the National Geographic Society to award small grants (\$250 to \$2,000) to stimulate the planning, design and development of greenways. These grants can be used for activities such as mapping, conducting ecological assessments, surveying land, holding conferences, developing brochures, producing interpretive displays, incorporating land trusts, and building trails. Grants cannot be used for academic research, institutional support, lobbying or political activities. For more information visit the Conservation Fund website at [www.conservationfund.org](http://www.conservationfund.org).

### ***Bikes Belong Coalition***

Bikes Belong formed in 1999 when U.S. bicycle companies recognized an exceptional opportunity to work together to maximize bike funding in TEA-21 – the multi-year transportation bill of the time. The initial goal was to ensure funding for new bicycle facilities that would increase riding, boost public health and enjoyment, and strengthen the bike business. In the intervening years, Bikes Belong has successfully harnessed the collective power of the U.S. bicycle industry. They have steadily expanded their efforts, but remain focused on creating safe places to ride so more people will bike, and bike more by:

- Working with the federal government to maximize federal funding for bicycling
- Awarding grants to help create more and better places to ride
- Sponsoring programs to help cities and towns become more bike-friendly
- Cultivating cooperation throughout the bike industry

The Bikes Belong Grants Program funds important and influential projects that leverage federal funding. These projects include bike paths, lanes, routes, as well as bike parks, mountain bike trails, BMX facilities, and large-scale bicycle advocacy initiatives. Since 1999, Bikes Belong has awarded 186 grants in 45 states, investing nearly \$1.5M in bicycling projects and leveraging close to \$500M in federal, state, and private funding.

Bikes Belong will accept requests for funding up to \$10,000 for project construction. They do not require a specific match, but will not consider grant requests in which they are the sole funder – they look for existing funding partnerships. Priority is given to bicycle organizations, coalitions, and associations that have not received Bikes Belong funding in the past.

Applications are reviewed on a quarterly basis, and typically 15-20% of the received applications are approved.

### ***Active Living by Design***

Active Living by Design was established in 2001 as a national program office of the Robert Wood Johnson Foundation. Based in Princeton, New Jersey, the mission of the Robert Wood Johnson Foundation is to improve the health and health care of all Americans. Active Living by Design works with local and national partners to build a culture of active living by pursuing a "5P Approach." Active Living by Design has focused on five strategies to promote physical activity: preparation, promotions, programs, policies, and physical projects.

Active Living by Design's approach to grant making is "high touch, low dollar" and is demonstrated by modest financial contributions to the community partnerships – just \$200,000 over five years for each site – but providing generous support in the form of high-quality technical assistance to build capacity in the communities.

Active Living by Design can be reached at  
 University of North Carolina at Chapel Hill School of Public Health  
 400 Market Street, Suite 205, Chapel Hill, NC 27516-4028  
 (919) 843-2523

### ***General Mills Foundation***

The General Mills Foundation was created in 1954 to focus on the Company's philanthropic resources on community needs. The Foundation's mission is to provide financial assistance to nonprofit organizations that create sustainable community improvement in the areas of youth nutrition and fitness, social services, education and arts and culture. Based in the General Mills World Headquarters in Minneapolis, the Foundation has awarded over \$400M to nonprofits since its inception. In fiscal 2008, the Foundation contributed \$21M in grants.

Among the Foundation's four grant categories, the Champions for Healthy Kids grant program is most relevant to this plan. Under this category, the Foundation awards 50 grants per year of \$10,000 each to community-based groups that develop creative ways to help youth adopt a physically active lifestyle. The grant cycle begins in November when applications are made available. Grant checks are mailed to recipients in May. The Foundation may be reached at [Community.ActioQA@genmills.com](mailto:Community.ActioQA@genmills.com) . (763) 764-2211.

### ***Surdna Foundation***

Surdna is a New York-based family foundation established in 1917 to pursue philanthropic purposes. The foundation makes grants to non-profit organizations in the areas of environment, community revitalization, effective citizenry, the arts and the non-profit sector, with annual grantmaking of approximately \$37M. Applicants are asked to first submit a letter of inquiry to request funding. Due to the large number of requests Surdna receives, applicants are asked to send full proposals only when requested by the foundation following a successful review of the letter of inquiry. Within the context of this Plan, the following information describes the relevant grant programs:

- Build support for programs to stabilize climate change at the local, state, and national level. This includes accelerating energy efficient solutions to conserve energy, reduce emissions and promote a "green" economy.
- Improve transportation systems and patterns of land use across metropolitan areas, working landscapes, and intact ecosystems. Specifically, this grant category seeks to ensure the implementation of demonstration projects that will improve patterns of land use and transportation systems in metropolitan areas, enhance community sustainability, and enhance regional green infrastructure.

The Surdna Foundation can be reached at:  
330 Madison Avenue, 30th Floor  
New York, NY 10017  
(212) 557-0010

### ***Bank of America Charitable Foundation, Inc.***

The Bank of America Charitable Foundation is one of the largest in the nation. The primary grants program is called Neighborhood Excellence, which seeks to identify critical issues in local communities. Another program that applies to greenways is the Community Development Programs, and specifically the Program Related Investments. This program targets low and moderate income communities and serves to encourage entrepreneurial business development. Visit the web site for more information: [www.bankofamerica.com/foundation](http://www.bankofamerica.com/foundation).

### ***National Trails Fund***

American Hiking Society created the National Trails Fund in 1998; the only privately supported national grants program providing funding to grassroots organizations working toward establishing, protecting and maintaining foot trails in America. 73 million people enjoy foot trails annually, yet many of our favorite trails need major

repairs due to a \$200 million backlog of badly needed maintenance. National Trails Fund grants help give local organizations the resources they need to secure access, volunteers, tools and materials to protect America's cherished public trails.

To date, American Hiking has granted more than \$382,000 to 105 different trail projects across the U.S. for land acquisition, constituency building campaigns, and traditional trail work projects. Awards range from \$500 to \$10,000 per project. What types of projects will American Hiking Society consider? Securing trail lands, including acquisition of trails and trail corridors, and the costs associated with acquiring conservation easements. Building and maintaining trails which will result in visible and substantial ease of access, improved hiker safety, and/or avoidance of environmental damage. Constituency building surrounding specific trail projects - including volunteer recruitment and support. Annual applications are typically due in the late summer, with grants awarded in the spring of the following year. Website: [www.americanhiking.org/NTP.aspx](http://www.americanhiking.org/NTP.aspx)

### ***The Conservation Alliance***

The Conservation Alliance is a non-profit organization of outdoor businesses whose collective annual membership dues support grassroots citizen-action groups and their efforts to protect wild and natural areas. One hundred percent of its member companies' dues go directly to diverse, local community groups across the nation. For these groups, who seek to protect the last great wild lands and waterways from resource extraction and commercial development, the Alliance's grants are substantial in size (about \$35,000 each), and have often made the difference between success and defeat. Since its inception in 1989, The Conservation Alliance has contributed more than \$7 million to conservation projects across the nation, and its member companies are proud of the results: To date the groups funded have saved over 39 million acres of wild lands and 27 dams have been either prevented or removed-all through grassroots community efforts.

The Conservation Alliance is a unique funding source for grassroots environmental groups. It is the only environmental grant maker whose funds come from a potent yet largely untapped constituency for protection of ecosystems - the non-motorized outdoor recreation industry and its customers. This industry has great incentive to protect the places in which people use the clothing, hiking boots, tents and backpacks it sells. The industry is also uniquely positioned to educate outdoor enthusiasts about threats to wild places, and engage them to take action. Finally, when it comes to decision-makers - especially those in the Forest Service, National Park Service, and Bureau of Land Management, this industry has clout - an important tool that small advocacy groups can wield.

The Conservation Alliance Funding Criteria: The Project should be focused primarily on direct citizen action to protect and enhance our natural resources for recreation. We're not looking for mainstream education or scientific research projects, but rather for active campaigns. All projects should be quantifiable, with specific goals, objectives and action plans and should include a measure for evaluating success. The project should have a good chance for closure or significant measurable results over a fairly short term (one to two years). Funding emphasis may not be on general operating expenses or staff payroll. Web site: [www.conservationalliance.com/grants](http://www.conservationalliance.com/grants)

### ***Wildlands Conservancy***

Wildlands Conservancy is a non-profit, member-supported organization that has been dedicated to land preservation, river restoration, trail development and environmental stewardship through education for the past thirty-five years. The mission of Wildlands Conservancy is to preserve, protect, restore, and enhance the land, water, ecological, and recreational resources of the Lehigh Valley and the Lehigh River valley. The Conservancy fulfills its vision and mission through involvement with many partners in proactive education and advocacy programs, various land-protection and stewardship strategies, science-informed water quality and ecological restoration projects, comprehensive community-planning efforts, and greenway and recreational-trail development.

# Appendix D Legal Feasibility

**Appendix Overview** This appendix summarizes research completed for potential trail corridor analysis, including trail easement and ROW issues, railroad issues, and resources related to acquisitions and easements.



## Overview

The information provided in this appendix is intended as a resource for the City of Allentown to begin considering several key factors related to trail feasibility. Included is an evaluation of land use along potential trail corridors, a brief overview of issues related to railroad ROW in Allentown, and an overview of tools to be considered for negotiating acquisitions and easements. Further research will be required as implementation of priority trail segments progresses.

## Potential Trail Corridor Research and Mapping

Project consultants worked with data provided from the City of Allentown to produce a base map highlighting parcels adjoining all railroad and stream corridors within the City. The parcels were broken down into eight categories that included residential, residential multi, open land (including railroad), industrial, commercial, parks, schools, and public government. The first round of mapping highlighted over 800 parcels and was used to ground-truth potential trail and connector trail locations within the City. After this initial field work was completed, the map was analyzed and adjusted to reflect the field work findings. The next map produced contained just over 200 identified parcels. This map and parcel list will continue to be refined through further field work, public input on trail corridors, and committee meetings. (See page D-2 for a diagram illustrating this process).

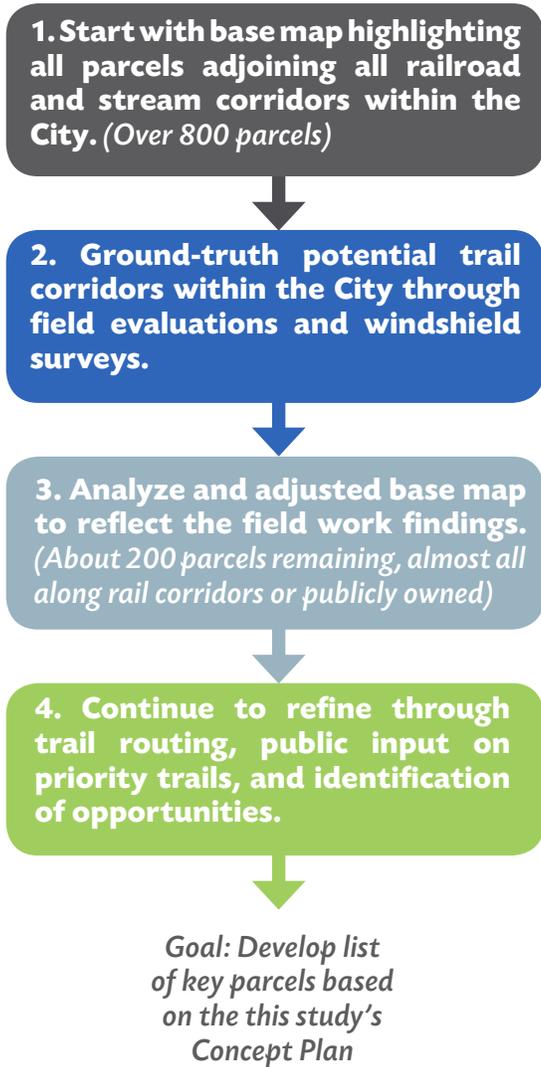
Through this initial review, the majority of the parcels identified are: open land (including railroad), public government, or industrial. A few instances of residential land have been identified but will need further investigation.

Additionally, maps were made that show existing and potential trails and on-street connections identified through existing plans, aerial photography, and field work. Using both the trails

map and the parcels map, it is clear that Allentown has an excellent opportunity to construct several new trails along many of its stream and railroad corridors that will connect many of the City’s parks together.

*Corridor Analysis Diagram*

*This diagram shows the process used to generate Map D-1.*



**Trail Easements and ROW Issues**

Connections between parks within Allentown, especially within the urban downtown area, have been identified as on-street connections. Streets with lower traffic speeds, less traffic, and generally good sidewalk infrastructure were investigated to provide these connections. Some alley ways were also considered for connectivity. These connections will require bicycle facilities such as sharrows (shared-lane markings) and pedestrian facilities such as high-visibility cross walks and sidewalk improvements (specific details to be provided in design guidelines). While most of these roadways are owned and maintained by the City, the rights-of-ways for sidewalk construction and improvements will need to be investigated and in some instances the City may need to work with the property owner to obtain additional right-of-way.

**Identified Railroad Issues**

With the consolidation of the railroads in the 1970s and the sale of Conrail in the late 1990s the City is currently served by one class-one railroad, Norfolk/Southern, and one short-line railroad, Corman.

In the 1980s the City undertook a process of determining ownership of the numerous inactive and/or abandoned rail lines throughout the City. This process resulted in two outcomes. The City either retained ownership or subdivided rights-of-way and transferred to adjacent land owners. It was through this process that much of the American Parkway right-of-way and portions of what is now Jordan Meadow Park were acquired. There was a former Lehigh Valley Railroad West End Branch line that diverged off of the line near Jordan Creek and traveled in an arc through the north portion of the City, towards the fairgrounds. The Allentown Economic Development Corporation (AEDC) handled the land transfer work associated with this line, which included much of the legal and negotiation work. The AEDC essentially acted as a legal pass through for the transfer of property titles.

More recently the City acquired the rail line that extends to the west from the former incinerator site, along the south side of the Little Lehigh Creek. In this instance the City Solicitor handled the lengthy and complicated negotiations with Corman to achieve this acquisition. Although originally purchased with the intention of creating a trail, reactivation is still a possibility. Recommendations for a trail at this location should consider the possibility of creating a ‘rails with trails’ configuration, which would be viable since the corridor is owned by the City and they are the primary decision-maker on its use.

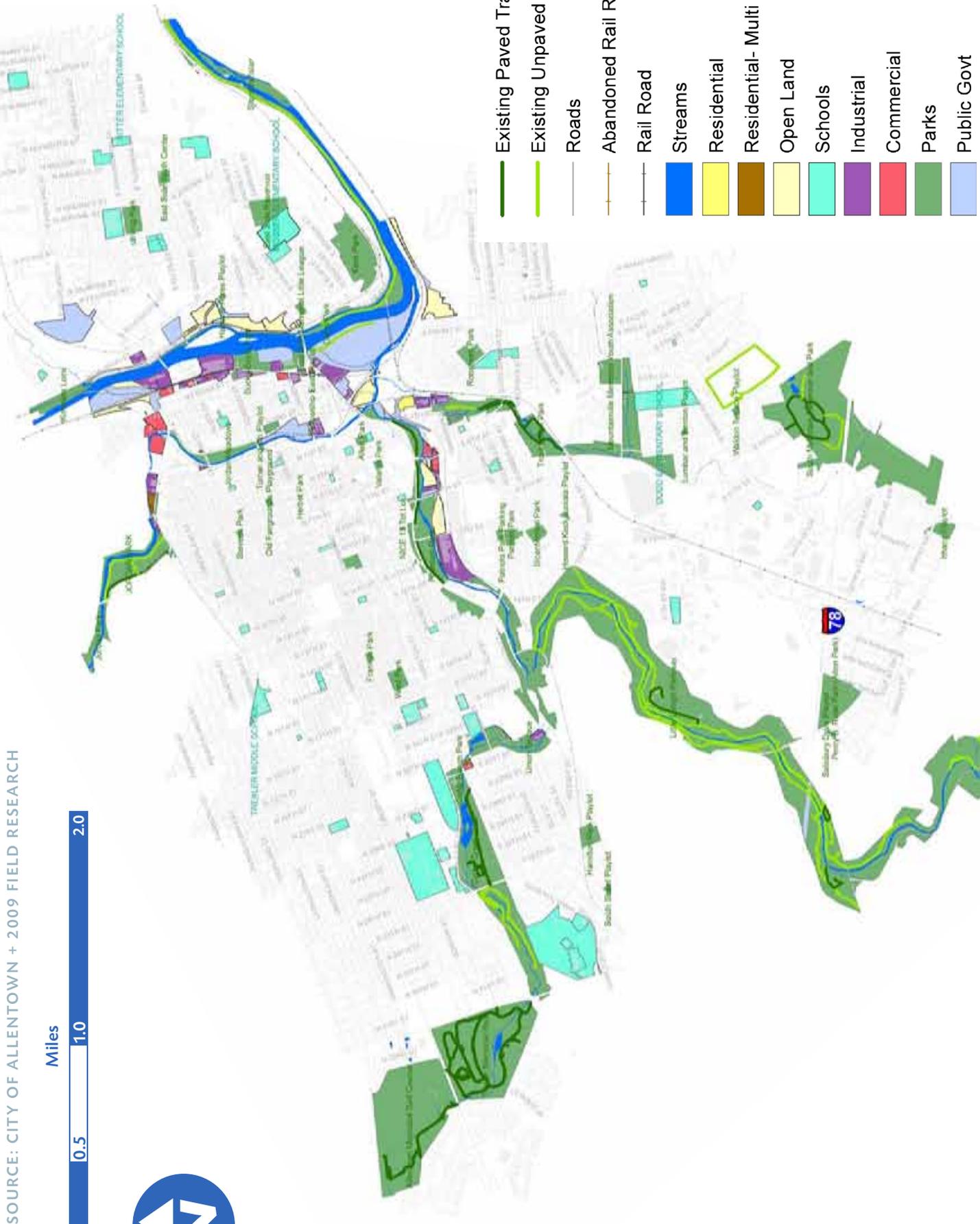
# MAP D.1 TRAIL CORRIDOR LAND USE

DATA SOURCE: CITY OF ALLENTOWN + 2009 FIELD RESEARCH

Miles

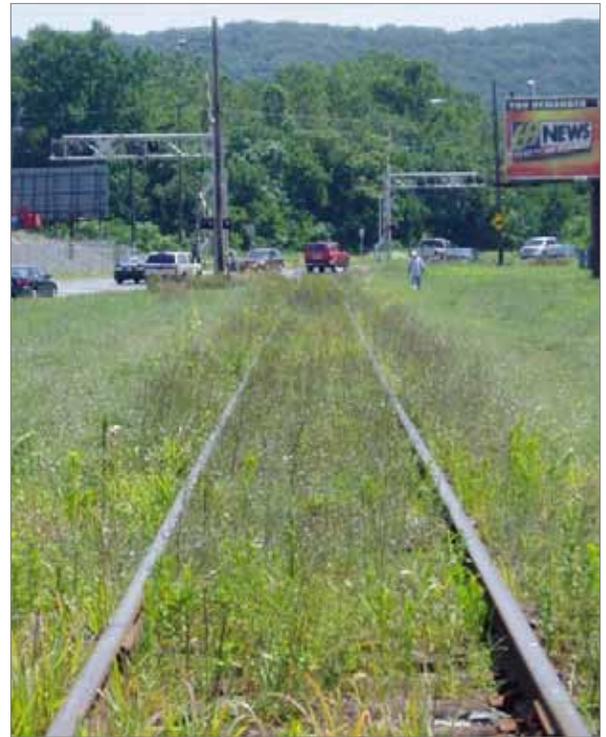


- Existing Paved Trail
- Existing Unpaved Trail
- Roads
- Abandoned Rail Road
- Rail Road
- Streams
- Residential
- Residential- Multi
- Open Land
- Schools
- Industrial
- Commercial
- Parks
- Public Govt



Corman retained ownership of the line that extends from the N/S wye (i.e., the Y-shaped portion of tracks), north towards Gordon Street, where a small rail yard is located. The Corman Company also owns the line that travels north along Front Street, near the Lehigh River. This line served a flooring company that was located in Whitehall Township, but is no longer in business, as well as a few industries uses located on the Lehigh Structural Steel site near the location of the future American Parkway Bridge. These tenants are also no longer in business.

There are several issues related to determining other parcel ownerships and undertaking acquisition. In terms of railroad rights-of-way, there are little or no unknowns, since the City has performed extensive research on the matter, as described above, and in numerous cases, has performed parcel subdivisions. In many cases the City has facilitated the transfer of railroad ROWs to adjacent land owners, hence making cohesive rights-of-way again very difficult. The more important issue is the determination of an expeditious approach for the out-right acquisition of rights-of-way or the purchase of easements for trails, whether they are former railroad rights-of-way or just privately owned parcels.



*Above: Inactive rail near the former incinerator site.*

## **Negotiating Rights-of-Way or Easement Acquisitions**

Based on available resources, there appears to be three options to consider for the lead party on negotiating rights-of-way or easement acquisitions.

1. *Rely exclusive on the City's Solicitor:* In this case the City Solicitor would undertake legal and purchase price negotiations with each of the landowners identified. The positive element of this approach is the Solicitor office has familiarity with the steps involved, especially as a result of the past Corman negotiations. The negative aspect of this approach is obtaining priority within the Solicitor's office, where resources are limited and the demand for services is high.
2. *Work with the City's Redevelopment Authority and that agency's Solicitor:* The City Redevelopment Authority has its own legal counsel and the agency is very familiar with the methods and tools available for real estate/parcel assemblage. The effort to undertake the acquisition process may receive higher priority within this agency than through the City's Solicitor's office. This approach would require discussions with the Redevelopment Authority's Director to determine viability.
3. *Utilize outside legal counsel with specialized knowledge of trail easement and rights-of-way acquisitions:* This approach would provide increased capacity to handle the matter and would likely provide the most expeditious timeline for acquisition. This approach would also allow the Parks and Recreation Department to take the lead position in undertaking this effort and would allow the purchase agreements to be pre-packaged for the City Solicitor and therefore only requiring review of the terms to ensure compliance with the City's requirements. This approach, however, would require that separate funding be obtained to pay legal fees associated with the procurement of outside legal counsel.

## Methods for Acquiring Landholdings or Public Access

The following text offers broad guidance on different methods that can be pursued by the City to build the necessary landholdings and rights of public access for the citywide trails system.

Essentially, there are three primary methods for building the landholdings or public access: the city can purchase, use regulation or enter into management agreements to achieve its objectives. These strategies are further described below.

*Partial Acquisition:* It is not always necessary to acquire the full ownership of a property to protect it. In some cases, it may be more desirable to simply acquire certain rights to the property. For example, the right to develop the property can be separated from the right to permit public access and use. In the case of partial acquisition, the rights associated with full ownership of a property are disaggregated and multiple people or organizations share ownership of the property through their control of different rights. The most commonly used example of this type of arrangement in greenway development is the conservation easement. In this case, a landowner either sells, or donates certain rights to a conservation organization who then retires those rights so that certain uses of the land are forbidden. These arrangements can be permanent or temporary and generally result in a lower tax value of the land. A public access easement is another popularly used type of partial ownership. In this case, the landowner sells or donates the right to restrict access to a portion of the property. This can be a very effective tool for placing a trail across a portion of a property that continues to be used in part, for other purposes.

*Full Acquisition:* This is the simplest option. Through a number of means, full ownership of all the rights associated with a particular piece of property is transferred to a new owner. This is often referred to as a fee-simple acquisition. This type of acquisition can be done as a donation of the full value of the property or for any portion of the value of the property to which the existing and new owners agree.

*Easements:* If a landowner provides an easement (either through donation or sale) for public use, the easement contract should specify that the managing agency would carry liability insurance, will build the trail to recognized standards, and will develop and carry out a maintenance plan. Abutting property owners frequently express concerns about their liability to greenway users. In general, their liability, if any, is limited and is defined only by their own actions in relation to the greenway.

*Management Agreements:* This is the least intrusive way for an entity to control the use of a property. It is based on an agreement between two or more entities regarding the appropriate care of a resource. This concept is not new to Pennsylvania. In general, the property owner helps prepare a set of rules that will guide the use of that land. In exchange, the landowner may receive some special use privilege, a reduction in tax liability, or a cash reimbursement. Management agreements on public land are also commonly used by the managing organization.

*Regulation:* Similar to a management agreement, this tool shapes the use of the land. However, this class of tools is often not based on a mutual understanding or exchange, but on rules established by a governing body that are put in place for the public good and enforced on a landowner regardless of his wishes. Types of regulations include: required dedications of land, a fee-in-lieu of dedication, buffer requirements, and overlay zones.

## Trail Users as Defined by the Law

There are three legal precepts, either alone, or in combination, that define and in many cases limit liability for injury resulting from use of the greenway. The first is the concept duty of care, which speaks to the responsibility that a landowner (public or private) has to anyone on his or her land. Second is the Recreational Use Statute (RUS), which is available in all 50 states and provides protection to private and some public landowners, who allow free public access to land for recreational purposes. For those public entities not covered by a RUS, states tend to have a tort claim act, which defines and limits governmental liability. Third, for all private and public parties, liability insurance provides the final line of defense.

### *Recreational Use Statutes (RUS)*

The Council of State Governments produced a model recreational use statute (RUS) in 1965 in an effort to encourage landowners to make their land available for public recreational purposes by limiting their liability provided they do not charge a fee. The RUS limits the duty of care a landowner would otherwise owe to a recreational licensee to keep his or her premises safe for use. It also limits a landowner's duty to warn of dangerous conditions provided such failure to warn is not considered grossly negligent, willful, wanton, or reckless. The result of many of these statutes is to limit landowner liability for injuries experienced by people partaking in recreational activities on their land. The existence of RUS may also have the effect of reducing some insurance premiums for landowners whose land is used for recreation.

The preamble of the model RUS is clear that it was designed for private landowners but the actual language of the model legislation does not differentiate between private and public landowners. However, under the Federal Tort Claims Act, the federal government is liable for negligence like a private landowner under the law of the state. As a result, RUS's intended for private individuals has been upheld applicable to the federal government where it has opened land up for public recreation.

*(See following pages for the RUS fact sheet for Pennsylvania)*

### *Risk Management*

The City of Allentown should have a risk management plan in place for all lands that are brought into the city trails network. Overall, the best defense against an injury related lawsuit is a sound policy and practice for maintenance and usage. Trails that are properly designed and maintained go a long way to ward off any potential liability. There are some general design guidelines, for example the American Association of State Highway Transportation Officials (AASHTO) Bicycle Facilities Design Guidelines and the Manual on Uniform Traffic Control Devices (MUTCD), which governs installation of signage for trail systems, that if adhered to, can provide protection by showing that conventional standards were used in the design and construction and may be able to take advantage of any design immunities under state law.

The City of Allentown should also develop a comprehensive maintenance plan that provides for regular maintenance and inspection by a qualified person who has the expertise to identify hazardous conditions and maintenance problems. These procedures should be spelled out in detail and a record should be kept of each inspection including what was discovered and any corrective actions taken. Maintenance problems should be quickly resolved or warning signs should be posted until the problem is addressed and corrected. The goal is to ward off or eliminate any hazardous situations before an injury occurs. Procedures for handling medical emergencies should be developed. The procedures should be documented as well as any occurrence of medical emergencies.

# Pennsylvania's Recreational Use of Land and Water Act



## INTRODUCTION

Pennsylvania has a law that limits the legal liability of landowners who make their land available to the public for free recreation. The purpose of the law is to supplement the availability of publicly owned parks and forests by encouraging landowners to allow hikers, fishermen and other recreational users onto their properties. The Recreational Use of Land and Water Act (“RULWA”), found in Purdon’s Pennsylvania Statutes, title 68, sections 477-1 et seq., creates that incentive by limiting the traditional duty of care that landowners owe to entrants upon their land. **So long as no entrance or use fee is charged, the Act provides that landowners owe no duty of care to keep their land safe for recreational users and have no duty to warn of dangerous conditions.** Excepted out of this liability limitation are instances where landowners willfully or maliciously fail to guard or warn of dangerous conditions. That is, the law immunizes landowners only from claims of negligence. Every other state in the nation has similar legislation.

## PEOPLE COVERED BY THE ACT

The “owners” of land protected by the Act include public and private fee title holders as well as lessees (hunt clubs, e.g.) and other persons or organizations “in control of the premises.” Holders of conservation easements and trail easements are protected under RULWA if they exercise sufficient control over the land to be subject to liability as a “possessor.” (See *Stanton v. Lackawanna Energy Ltd.* (Pa. Supreme Ct. 2005)(RULWA immunizes power company from negligence claim where bike rider collided with gate that company had erected within the 70-foot wide easement over mostly undeveloped land it held for power transmission)).

## LAND COVERED BY THE ACT

Although on its face RULWA applies to all recreational “land”—improved and unimproved, large and small, rural and urban—in the last 15 years or so, Pennsylvania courts have tended to read the Act narrowly, claiming that the legislature intended it to apply only to large land holdings for outdoor recreational use.

Courts weigh several factors to decide whether the land where the injury occurred has been so altered from its natural state that it is no longer “land” within the meaning of the Act. In order of importance:

(1) Extent of Improvements – The more developed the property the less likely it is to receive protection under RULWA, because

recreational users may more reasonably expect it to be adequately monitored and maintained;

(2) Size of the Land – Larger properties are harder to maintain and so are more likely to receive recreational immunity;

(3) Location of the Land – The more rural the property the more likely it will receive protection under the Act, because it is more difficult and expensive for the owner to monitor and maintain;

(4) Openness – Open property is more likely to receive protection than enclosed property; and

(5) Use of the Land – Property is more likely to receive protection if the owner uses it exclusively for recreational, rather than business, purposes.

## SITE IMPROVEMENTS

The following cases focus on the nature and extent of site improvements that might negate RULWA immunity:

- The state Supreme Court ruled that the Act was not intended to apply to swimming pools, whether indoor (*Rivera v. Philadelphia Theological Seminary* (Pa. Supreme Ct. 1986)) or outdoor (*City of Philadelphia v. Duda* (Pa. Supreme Ct. 1991)).
- RULWA immunity does not cover injuries sustained on basketball courts, which are “completely improved” recreational facilities (*Walsh v. City of Philadelphia* (Pa. Supreme Ct. 1991)).
- Playgrounds are too “developed” to qualify for immunity (*DiMino v. Borough of Pottstown* (Pa. Commonwealth Ct. 1991)).
- Playing fields generally are held not to be “land” within the protection of the Act (*Brown v. Tunkhannock Twp.* (Pa. Commonwealth Ct. 1995) (baseball field); *Seifert v. Downingtown Area School District* (Pa. Commonwealth Ct. 1992)(lacrosse field); *Lewis v. Drexel University* (Pa. Superior Ct. 2001, unreported)(football field); but see *Wilkinson v. Conoy Twp.* (Pa. Commonwealth Ct. 1996)(softball field is “land” under RULWA)).

- An unimproved grassy area at Penns Landing in Philadelphia was deemed outside the Act's scope, given that the site as a whole was highly developed (*Mills v. Commonwealth* (Pa. Supreme Ct. 1993); *compare Lory v. City of Philadelphia* (Pa. Supreme Ct. 1996) (swimming hole in "remote" wooded area of Philadelphia is covered by RULWA)).

RULWA immunity has been found in several cases where people were injured at outdoor sites containing limited improvements:

- An earthen hiking trail in a state park is not an improvement vitiating the Act's immunity (*Pomeren v. Commonwealth* (Pa. Commonwealth Ct. 1988)).
- The owner of property containing a footpath created by continuous usage, which led down to the Swatara Creek, has no duty to erect a warning sign or fence between his property and the adjacent municipal park (*Rightnour v. Borough of Middletown* (Lancaster Cty. Ct. of Common Pleas 2001)).
- A landscaped park containing a picnic shelter is still "unimproved" land for RULWA purposes (*Brezinski v. County of Allegheny* (Pa. Commonwealth Ct. 1996)).
- An artificial lake is just as subject to RULWA protection as a natural lake, although the dam structure itself is not covered (*Stone v. York Haven Power Co.* (Pa. Supreme Ct. 2000)).
- An abandoned rail line in a wooded area is covered by RULWA, even where the plaintiff fell from a braced railroad trestle (*Yanno v. Consolidated Rail Corp.* (Pa. Superior Ct. 1999)(but may no longer be good law after *Stone*)).

Uncertainty about what constitutes an improvement under the Act reportedly has had a dampening effect on efforts to improve public access to outdoor recreation sites. Public and private landowners are concerned that installation of fishing piers, boat docks, parking facilities, or paths and ramps for wheelchair use will strip much-needed RULWA immunity from otherwise protected land. A bill introduced in the state Senate in the late 1990s attempted to clarify that public access improvements would not affect immunity under the Act, but the legislation was not successful.

### **FAILURE TO WARN**

As noted above, although negligence liability is negated by the Act, a landowner remains liable to recreational users for "willful or malicious failure to guard or warn" against a dangerous condition. To determine whether an owner's behavior was willful, courts will look at two things: whether the owner had actual knowledge of the threat (e.g., was there a prior accident in that same spot); and whether the danger would be obvious to an entrant upon the land. If the threat is obvious, recreational users are considered to be put on notice, which precludes liability on the part of the landowner. In a recent drowning case, for example, landowner Pennsylvania Power & Light Company

claimed immunity under RULWA. The judge, however, sent to the jury the question of whether PP&L was willful in not posting warning signs. A previous tubing accident had occurred in the same location, and there was testimony that the dangerous rapid where the drowning occurred was not visible to people tubing upstream (*Rivera v. Pennsylvania Power & Light Co.* (Pa. Superior Ct. 2003)).

### **GOVERNMENTAL IMMUNITY**

Interestingly, Pennsylvania's governmental immunity statutes, the Tort Claims and Sovereign Immunity Acts, shield municipalities and Commonwealth agencies from claims of willful misconduct. Liability only may be imposed upon these entities for their negligent acts. But, as noted above, where an injury occurs on "land" within the meaning of RULWA, the law shields landowners from negligence suits. In essence, public agencies are granted complete immunity for many recreational injuries. (See *Lory v. City of Philadelphia* (Pa. Supreme Ct. 1996)(city immune for both its negligent maintenance of recreational lands and its willful failure to guard or warn of hazards on that property)).

### **RECREATIONAL PURPOSE; PUBLIC ACCESS**

Though not all recreational land is covered by the Act, the law's definition of "recreational purpose" is broad enough to include almost any reason for entering onto undeveloped land, from hiking to water sports to motorbiking. (See *Commonwealth of Pa. v. Auresto* (Pa. Supreme Ct. 1986)(RULWA covers snowmobile injury)). This is true even if the landowner has not expressly invited or permitted the public to enter the property. However, where the land is open only to selected people rather than to the public in general, this will weigh against RULWA immunity. (See *Burke v. Brace* (Monroe Cty. Ct. of Common Pleas 2000)(lake located in a subdivision and open only to homeowner association members and guests is not covered by RULWA)).

### **NO USER FEE**

Finally, charging recreational users a fee (which is different than accepting payment for an easement) takes the property out from under the Act's protection.

Copies of this fact sheet may be obtained from:

PA Department of Conservation and Natural Resources  
Bureau of Recreation and Conservation  
Rachel Carson State Office Building  
P.O. Box 8475  
Harrisburg, PA 17105-8475  
Telephone: (717) 787-7672  
Fax: (717) 772-4363  
[www.dcnr.state.pa.us](http://www.dcnr.state.pa.us)



Prepared by Debra Wolf Goldstein, Esq., of counsel to Penna. Land Trust Association, with financing in part from the Commonwealth of PA, Department of Conservation & Natural Resources, May 2006. This fact sheet is for purposes of general information only and is not intended as legal advice. The accuracy of the information could be affected by court rulings or statutory changes made after publication.

# Appendix E Signage Report

**Appendix Overview** Note: this appendix was originally produced as a separate report in 11 x 17 format. It is printed on the following pages at 8.5 x 11 to save space and printing expenses. For the full 11 x 17 report, contact the Allentown Parks and Recreation Department.





# Trail Wayfinding Signing Program

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**CITY OF ALLENTOWN: CONNECTING OUR COMMUNITY**

February 2010

*Project Manager- Lead Consultant*

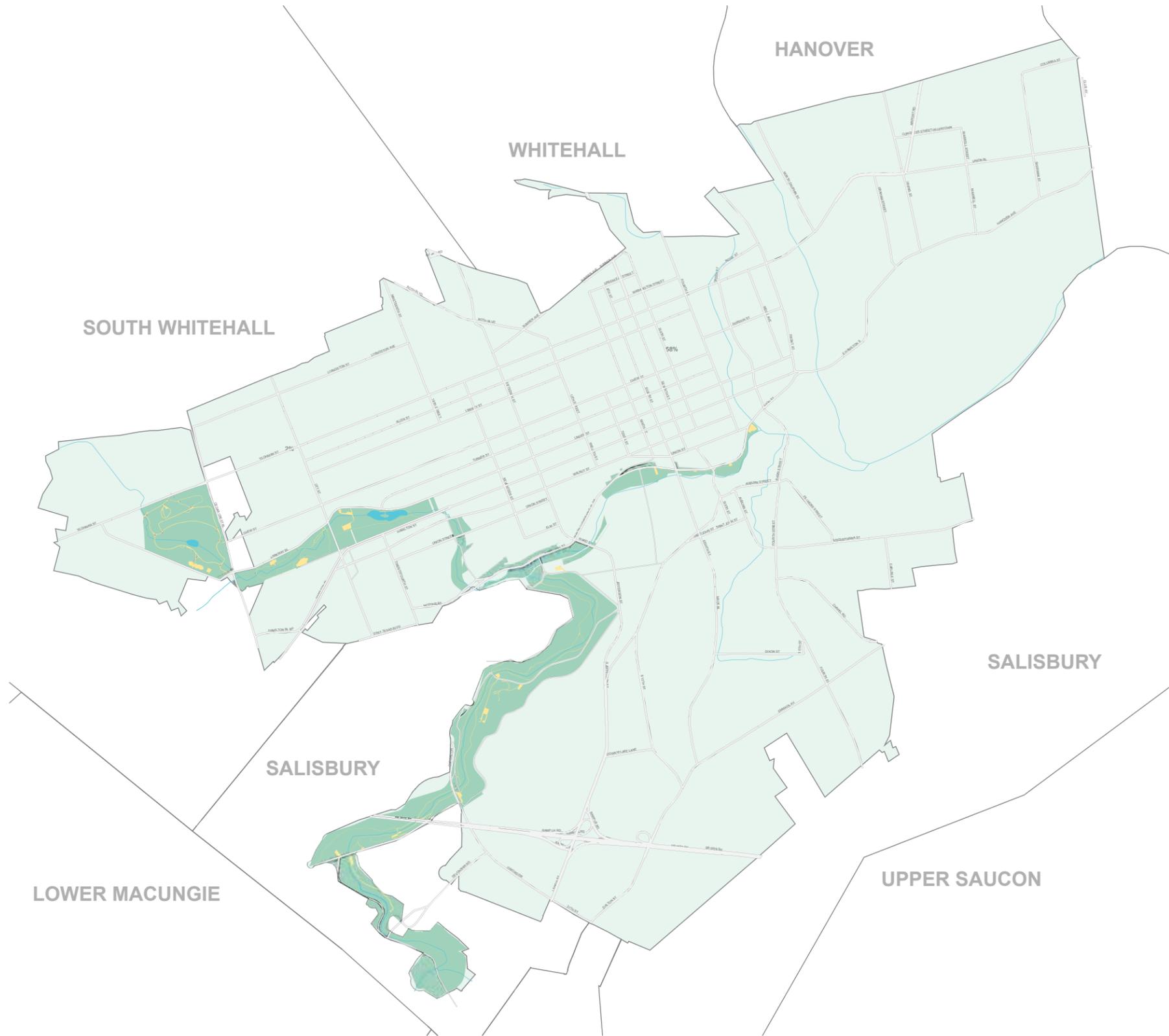
**Greenways, Incorporated**

5850 Fayetteville Road  
Suite 211  
Durham, NC 27713  
Tele: (919) 484 -8448  
Fax: (919) 484-3003

*Landscape Architects - Planners*

**Stromberg/Garrigan & Associates, Inc.**

The Penn Building - Suite 300  
102 E. Main Street  
Somerset, PA 15501  
Tele: (814) 443-1073  
Fax: (814) 444.0484



As part of the development of an overall Trails Master Plan for the City of Allentown, Stromberg/Garrigan & Associates, Inc., as part of team led by Greenways, Inc., was tasked to develop a model trail signing program. The goal of this effort is to establish a framework of sign types, information hierarchy and design standard to support further efforts to formulate final sign designs and construction documents, in order to implement the system. One factor that became immediately clear, and references back to recommendations made in the City's 2006 Parks & Recreation Master Plan, is the fact that any signing system within an individual park should fit within the context of promoting a cohesive brand image for the overall park system. As a result, since trails are in many cases the primary way through the City's parks, trail signing cannot be developed in a vacuum, but instead must be thought of as a key component of an overall park signing system.

As a way to make this planning effort manageable and yet comprehensive, it was determined that the primary focus would be on the greenways that are created by off-road and on-road trails that link Trexler, Cedar Creek, Daddona Terrace, Lehigh Parkway and Fountain Parks. This area would represent a logical first phase of implementation and would consist of a majority of the City's overall trail network. A comprehensive inventory of all existing signing within and between these parks was performed. Each sign location was mapped and photo documentation was collected. This inventorying was utilized as the basis of the wayfinding analysis that focuses on the existing conditions, issues and identified needs. This document is an analysis of initial findings and recommendations and forms a basis from which the design process should continue to evolve.

Design criteria is presented which depicts a proposed sign palette for all sign types for the park system, of which trail signing is one key component. The various sign types are defined by type and application. The palette that is presented is intended to be flexible to include needs identified within the study area as well as potential conditions that may exist in other areas of the park system. Design guidelines for sign system are also provided for guidance for the environmental graphic designers to use as a tool when developing the actual design of each sign type.

A proposed sign location plan and message schedule is provided which shows the proposed location of the applicable wayfinding sign types.



## Objectives:

- To establish a comprehensive and consistent wayfinding program for the City of Allentown's Park System.
- To help direct visitors and users through the parks and between parks via trails, as well as to other nearby attractions and services as well as to the downtown core.
- To enhance the success and market potential for the parks, recreation facilities, natural resources, arts/ entertainment attractions and historic resource.
- Provide clear and consistent rules and regulations for all park and trail users throughout the entire system.
- The system should anticipate the continued evolution of the park system and the trail network and the expansion of the program.



## Philosophy:

### Create an Identity:

- Provide visitors and residents with a sense of place and pride in the park system and trail network.
- First impressions—Allentown park and trail system is high-quality, well planned, organized and safe.
- Image is a culmination of the history, natural landscape, energy and vibrant spirit that makes Allentown a welcoming and lively destination.

### Market the Assets of City of Allentown Park System:

- Enable visitors to discover the unique aspects of the City through the use of the City's parks, recreation, natural and cultural resources.
- Signs give validation that a destination is worth visiting.
- Encourage pedestrian and bicycle circulation and use of park facilities in an efficient and safe manner.

### Build Relationships:

- Increase the physical linkage between related resources.
- Expand the utilization of the system as a whole.
- Formally acknowledge resources that today may be under appreciated.

Identity and Park Gateway Signs

The current park system’s signing lacks a cohesive “branding” image. As discussed in the City’s Parks and Recreation Master Plan, Allentown’s park system has a great opportunity to promote itself as a world-class park system for a city its size. A key component to achieving such stature would be the establishment of a high-quality and consistent branding image for the City’s parks and trails.



This sign utilizes the City’s seal as the graphic branding element which is too intricate to be legible on signs intended for a vehicular setting. The sign also provides more information than is comprehensible in a vehicular location, creating clutter and clouding the branding message.



This sign utilizes a similar structure as the sign shown above, yet the sign panel is completely different. Park identification signs, in most cases, should be scaled for visibility from automobiles and messages should be limited to the park’s name and reinforced with the overall system’s branding, through color, text and possibly a simple graphic or logo. The typeface should be large and legible as depicted in this example.



Trexler Park has the most complete signing of any park in the City’s system. The approach that was utilized promotes the uniqueness of this park, possibly at the cost of visually promoting it as part of a much larger system. The General Trexler logo is a good example of the effectiveness of a quality logo and purveying a sense of quality, however, such logos should relate to the overall system’s branding.



The Lehigh Parkway signing employs a common “rustic” aesthetic for park signing. This style of signing is commonly used by state park systems. Although the signing does exhibit a good legibility contrast between lettering and background it really doesn’t present an urban sophistication of the same quality of the actual parks. Rusticated wood signing also illustrates the two general constraining issues with park signing. The need to provide clear and effective visual information, yet the desire to minimize the obtrusive effect of the signing on the visual environment. In the end, clear, visually appealing and well designed signing adds to overall visitor’s experience and doesn’t need to be wooden or rustic in order to be appropriate.

In contrast, as part of the overall system implemented in Trexler Park, a series of pre-cast concrete sign panels were constructed as gateway/destination signs. These signs utilize a special typeface developed as part of the park’s overall logo. Despite the large size and location of these signs, the lack of contrast between the typeface and the background surface makes them extremely difficult to read, especially for motorists. Trendy typefaces and design elements also risk making the signs feel dated after only a few years, versus a more classic or timeless approach. The use of quality materials is very effective in creating a sense of “richness and care” for the parks and is an important part of establishing the brand identity. Adding contrast to the existing incised lettering would be an effective method for enhancing the legibility of these otherwise well designed signs.

## Directional, Regulatory and Informational Signs

Clear and effective directional signs are important to any high-quality park system and trail network. There are few directional signs located within the existing park system and those that do exist have legibility limitations or are of poor quality and serve more as a distraction than an asset in terms of the user's experience.

Regulatory signs are a fundamental part of every municipal park system. The challenge with signs of this type is striking a balance between providing the necessary information and the potential for sign overloading. In many cases regulatory signs are the most prevalent signs in a park, yet they are often given the least amount of care and attention, especially in terms of how they are designed and where they are located. All of the signs in the system should feel as though they belong and yet not overpower their context.

The use of regulatory signs is rampant throughout the park system and in some cases, signs of different eras actually contradict each other. Common messages are not presented with consistent language. In one park the same message is presented in two or three different ways, yet all are trying to relay the same intent.



## EXISTING SIGNING, LACK OF CONSISTENCY AND VISUAL CLUTTER

Based on the inventory of existing signs, it appears that there is an attempt to present park rules and regulations at each parking lot entrance point into the parks, although this is not applied consistently. In general, this is a good practice. In most cases these access points have a small policy sign related to dogs, a pick-up mit dispenser and an extensive park rules board. The park rules boards typically consist of what appears to be a thin vinyl panel applied to a piece of plywood that is connected with a bolt to a channel post. Based on field observation nearly half of the vinyl panels with the park rules were missing or extensively damaged, often only a weathered piece of plywood remains.

Due to the exhaustive length of the rules and regulations and the fact that there are at least three variations of applicable park rules, depending on the park type (General Park, Watershed and Passive Park as well as additional Trexler Park rules), the presentation of these rules on information kiosks or bulletin boards located at key park access points would likely be more effective. This would allow for easy changeability as rules are modified and would allow for them to be posted at a size that is easily readable, yet not promote sign clutter by appearing on individual signs throughout the parks.



**Existing Regulatory Message for Bicyclists, Pedestrian, Equestrians and Motorist**

The Parks and Recreation Department recently reviewed and refined the General Park, Watershed and Passive Park Rules and Regulations. An effort should be made to remove all posted out-dated rules and regulations throughout the park system. In addition, site specific regulation information is handled very inconsistently throughout the system.

For the sake of this planning effort the focus is primarily on messages that are related to various modes of travel through and between the parks, however, a similar effort should be performed for all general park regulation signing.

The following is a listing of verbatim messages identified in the parks or trail corridors evaluated as part of this effort. The list shows the number of related yet different messages presented to the public. A consistent list of regulatory messages and signing types that presents the required information with the least amount of signing as possible should be developed with the input of all relevant entities within the City.

This information is presented as closely as possible as depicted on the actual signs including the use of upper and lower case characters. The park where the message is located is also identified.

**Bicycle/Pedestrian**

Welcome to Trexler Memorial Park For Your Safety Share the Park with a Cyclist/ Walker Bicycle Speed 10 MPH (Trexler Park)

BICYCLE SPEED LIMIT 10 IN PARK (Trexler Park)

BICYCLE ONE WAY (With arrow) (Trexler Park)

Pedestrian Only beyond this point For the safety of all park visitors, bicycles are not permitted on the upper pathways. (Trexler Park)

NO BICYCLES PERMITTED IN PARK MONDAY WEDNESDAY FRIDAY SUNDAY NO ROLLER SKATING (Trexler Park)

BICYCLES PERMITTED TUESDAY THURSDAY SATURDAY (Trexler Park) (Presented in the opposite manner as above)

BICYCLES PERMITTED TUESDAYS, THURSDAYS & SATURDAYS NO ROLLER SKATING (Trexler Park) (Presented as above with the addition of roller skating)

Vehicular/bicycle speed is limited to (20) miles per hour or as otherwise posted. (Trexler Park) (Presented as number 10 of the park rules)

SHARE THE ROAD (Bicyclist and Motorist Symbol – MUTCD sign type) (MLK Boulevard)

CAUTION  
SLIPPERY TRIP HAZARD (Lehigh Parkway)

**Equestrian**

Equestrians shall ride only on the bridal path. (Trexler Park) (Presented as number 17 of the park rules)

BRIDAL PATH NO AUTOS ALLOWED  
RIDER STAY ON PATH (Lehigh Parkway)

**Motor Vehicles**

NO PARKING ANY TIME (Trexler Park)

Park motor vehicles only in areas designated for parking or as otherwise posted. All motor vehicles shall be operated only on roads. Parking on the grass is prohibited. (Trexler Park) (Presented as number 9 of the park rules)

CAUTION 2-Way Traffic Ahead (Trexler Park)

PARKING FOR PARK PATRONS ONLY (Daddona Terrace)

NO PARKING 10 PM TO 6 AM (Daddona Terrace)

(No Parking Symbol) DUSK TO DAWN  
NO MOTOR VEHICLES (Lehigh Parkway)

NO PARKING BETWEEN SIGNS (Lehigh Parkway)

NO MOTOR VEHICLES ALLOWED (Lehigh Parkway)

DO NOT ENTER PRIVATE DRIVE  
ALLENTOWN POLICE PISTOL RANGE OFF LIMITS TO UNAUTHORIZED PERSONNEL (Lehigh Parkway)

NO PARKING ON GRASS (Lehigh Parkway)

PARKING THIS SIDE OF THE ROAD (Lehigh Parkway)

(No Parking Symbol) THIS SIDE (Lehigh Parkway)

NO PARKING THIS STREET  
NO ATV VEHICLES ALLOWED (Lehigh Parkway)

AUTHORIZED VEHICLES ONLY (Lehigh Parkway)

AUTHORIZED VEHICLES BEYOND THIS POINT (Lehigh Parkway)

**Recommendations**

**Establish a Brand Identity:**

The development of a comprehensive signing system which considers all elements from color, form and branding through design elements such as logo should be established for the parks and recreation system. Branding could also include sub-elements for the trails network and even individual trails. Logos can be a powerful tool to reinforce a brand image. In order to be effective, however, the design needs to consider all applications, from letterhead to vehicular signs that must be read at 35 m.p.h. or faster. The logos that are the most effective tend to be simple and sleek. Main systems rely on their municipal seal as their logo. Generally City seals do not work well for many of the applications needed since they have too much detail that tends to clutter signs when used in the landscape.



The New York City Parks and Recreation Department has established one of the strongest parks branding programs in the United States. The logo, a silhouette of a maple leaf, is simple, yet is universally used throughout the City's extensive park system. An effective logo should work on print materials including letterhead and websites and on small and large park signs.



**Directories/Information Kiosks:**

The utilization of centralized information kiosks would provide valuable information, including maps, regulations, and other relevant information, including interpretive information.

Information kiosks provide the opportunity for extensive information in a manner that is uncluttered and reduces the need for redundant sign types. This example from Central Park is three sided. One side includes a comprehensive map of the park; another includes key regulations and a third provides interpretative information on nearby sites within the park.

Quality maps are an important tool in providing directional information to park and trail users and can be linked to map information provided on the City's website.



**Identity/Gateway Signs:**

These signs would be located at the primary and secondary entrances to each park. Due to the great variation of park types within the City's park system, several sign variations should be created within this sign type. These variations may include large vehicular gateways for large parks like Trexler and Cedar Beach Parks, medium sized gateway signs for medium-sized parks that still receive numerous visitors via automobiles, such as Fountain Park and Daddona Terrace and smaller pedestrian-scaled signs for parks like West Park or Old Fairgrounds Park. Individual parks can still have unique design elements incorporated in the sign design, but some basic components should be universal. For example, the larger stone walls and piers at Trexler Park could remain, but the incorporated sign panels would follow a standard design palette for color, typeface, logo, etc.

**Recommendations (continued)**

**Directional and Trailblazer Signs:**

Linear recreation facilities require unique signing. Typically they include signs which denote key access points or trailheads, by name. Mile markers or small signs which provide trail user with a sense of distance are also valuable. Information kiosks with trail maps and regulatory information located at access points provide the necessary user orientation information.

Trail signing, including directional signs that orient trail users to nearby facilities and mile markers which provide general distance information, aid in formalizing trails as important park and recreation facilities.

**Regulatory Signs:**

As mentioned earlier, the need for regulatory signing is universal. These signs could be approached as a kit of parts which include permanent signs that address issues such as dog walking, bicycle riding rules, etc. Standardized nomenclature throughout the park system should be established as part of this effort and a palette of icons for the system could be considered to reduce sign text (for facilities such as restrooms, information, etc.). The issue of temporary signs should also be considered as part of this task. These signs should be simple and easy to produce, yet also appear to be part of the overall family of sign types.



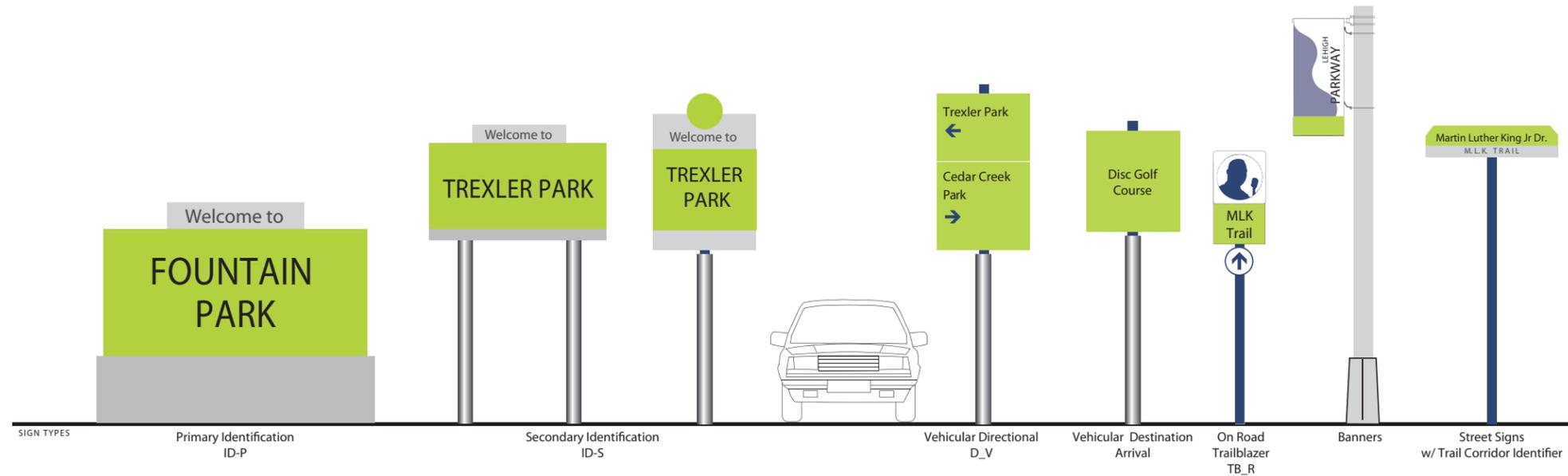
New York's Central Park is arguably one of the most heavily used public parks in the world. With facilities well over one hundred years in age, the City of New York and the Central Park Conservancy constantly have major projects under construction. As a result, the need for temporary signing is significant and the Park's Department has established a simple system of paper printed signs that are laminated and are temporarily fastened using plastic ties.

**Interpretive Signs:**

Signs which focus on the unique attributes of the City's park system, whether focused on historical elements or specific environmental characteristics, can add additional interest to the parks. The 2008 interpretive signing recently installed in West Park and the pending signing for the Fish Hatchery are good models for the larger system.

**Donor Signs:**

A palette of several types of donor signs which acknowledge financial sponsorships and "friends-of" groups should be developed. It is important that these signs be well done and provide a sense of caring to acknowledge the value of public, community and corporate support for the City's parks.



**How the new wayfinding program cleans up clutter:**

One of the primary results of a coordinated sign program is that it naturally reduces clutter by presenting a consistent design and organized information. The new sign program will reduce the need for multiple signs at congested decision points. One sign holds multiple messages, rather than three signs arbitrarily mounted to a pole(s). Consistent design: Standard colors, graphics, typefaces and size help to present a well-planned park system and trail network and a uniform identity for the City as a whole. Sign placement is planned as part of a comprehensive system, taking into consideration both the environment and type of circulation and targeted audience. Placement is also logical and based on a coordinated park-wide sign system. Signs can be sized depending on their context and pedestrian and trailblazer sign types can be mounted to existing poles whenever possible. This will reduce the quantity of poles added to current conditions as well as reduce obstacles for cyclist and pedestrians. With regards to regulatory signs, standard sign blanks can be used for the panels in order to keep costs manageable and ease replacement, however, they should be mounted onto a consistent system backing panel that are painted the same color on both front and back, as well as the pole and mounted bracket. This will provide a high-level of consistency even though regulatory signs will vary dramatically in terms of size and color, etc.

**Additional Recommendations:**

All existing wayfinding signs should be removed and as many existing regulatory signs should be replaced and/or consolidated. This can be coordinated with the installation of the new signs.

Purge and Repair: All unnecessary, damaged or inappropriate park/street furniture should be removed or replaced. If not already established a "Design Standard Manual" should be set (and utilized) for all park/street furniture. This would provide a variety of coordinated options throughout the park system based on individual park aesthetics and environments. Elements may include: lamp posts, bike racks, benches, trash cans, tree grates, etc.

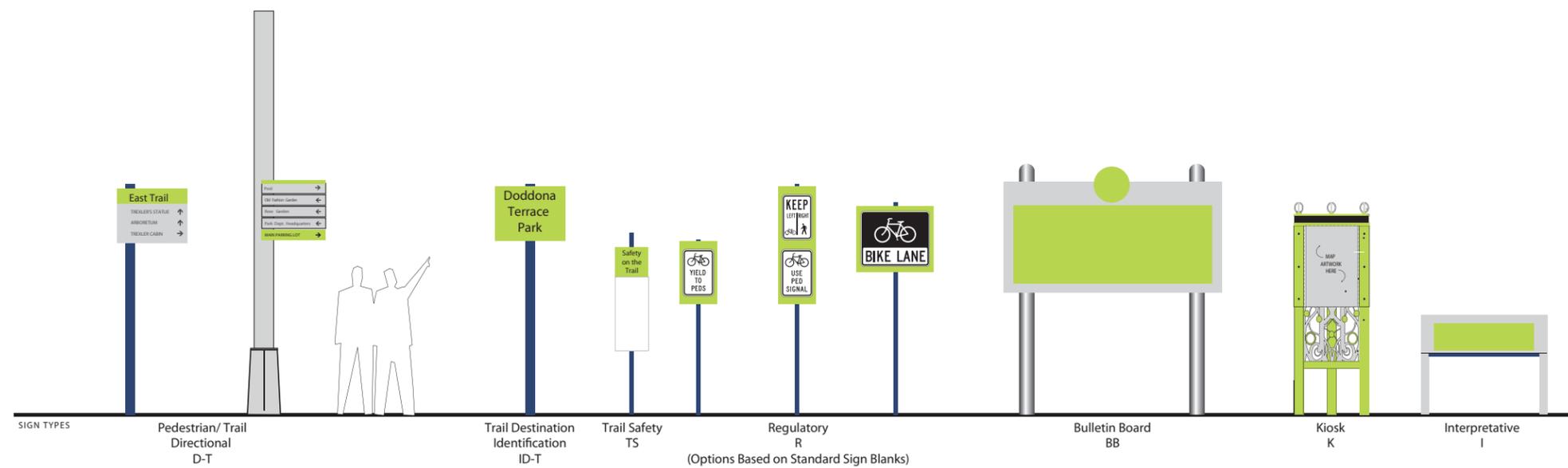
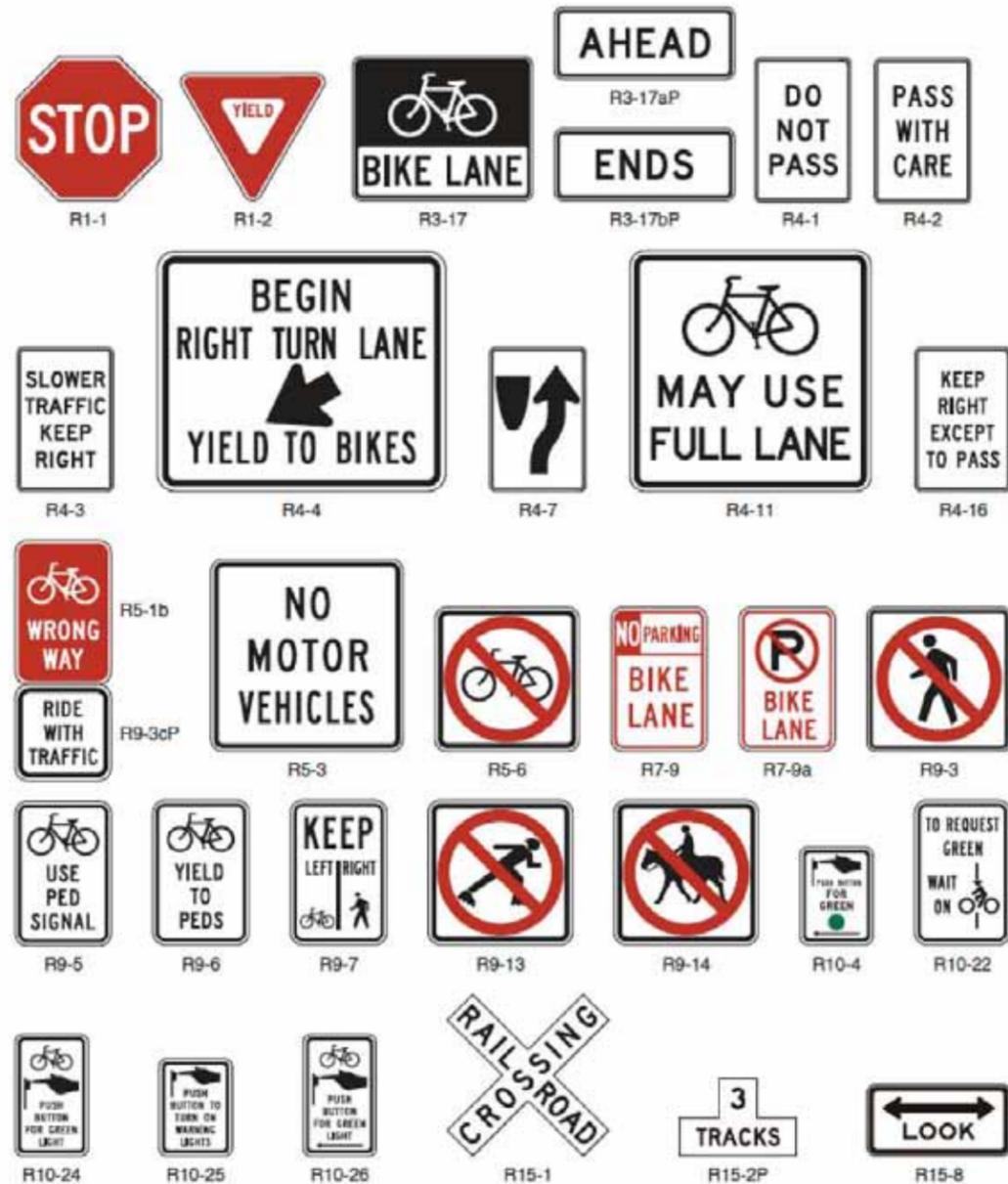


Figure 9B-2. Regulatory Signs and Plaques for Bicycle Facilities



**On-Road Regulatory Signs for Bicycle Facilities - Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD) 2009 Edition**

The Federal Highway Administration's MUTCD has a palette of regulatory signs for utilization of bicycle and pedestrian circulation with motor vehicles. In general, these devices should be used in conjunction with approved striping techniques. As a general rule some of these signs, such as R9-3, should not be used if possible because they do not present a pedestrian and bicycle friendly image to the general public.



**Potential Off-Road Trail Signing Icons:**

Off-road trail signing allows for greater design flexibility. One option to reduce the size of the signs and to minimize text, is to utilize icons as a way to provide basic information. Any icons that are utilized should be simple and their intent should be very obvious and universal. The above is an example palette that covers typical messages for trail users.

# Appendix F Design Toolbox



**Appendix Overview** This appendix contains a 'menu' of facility-types that are used in various locations across the U.S. and throughout the world. The guidelines are intended to be flexible and applied with professional judgment on a *project-by-project basis*.

## Design Toolbox Contents

**Overview** \_\_\_\_\_ F-2

### **Trails and Trail-Related Facilities**

Multi-use Trails	F-3
Sidepaths	F-7
Natural Surface Trails	F-8
Water Based Trails	F-9
Neighborhood Spur Trail	F-10
Vegetation Buffer, Landscaping, and Street Trees	F-11
Boardwalk	F-12
Railings and Fences	F-13
Innovative Accessways	F-13
Trail Bridges, Overpasses and Underpasses	F-14
Trail-Roadway Intersections	F-17
Trail Amenities	F-19

### **Bicycle Facilities and Related Streetscape Improvements**

Neighborhood Streets	F-22
Shared Lane Marking	F-23
Bicycle Lanes	F-24
Striped/Paved Shoulder	F-26
Bicycle Boulevards	F-27
Wide Outside Lanes	F-27
Green Alleyways	F-28
Bicycle-Friendly Intersections	F-30
Roundabouts/Traffic Circles	F-33
Bicycle Facilities at Railroad Crossings	F-34
Bicycle Friendly Drainage Grates	F-35
Bicycle Parking and Bicycle Stations	F-36
Bicycle Access on Transit	F-41

### **Pedestrian Facilities and Related Streetscape Improvements**

Bike/Ped Treatments for Transit Stops	F-42
Sidewalks and Walkways	F-43
Marked Crosswalks	F-45
Curb Ramps	F-46
Raised or Lowered Medians	F-47
Advance Stop Bars	F-48
Bulb-outs	F-49
Roundabouts	F-50
Traffic Signals	F-51
Pedestrian Signals	F-52
Street Furniture and Walking Environment	F-54

Design Resources:

*Greenways: A Guide to Planning, Design and Development.* Island Press, 1993. Authors: Charles A. Flink and Robert Searns

*Trails for the Twenty-First Century* Island Press, 2nd ed. 2001. Authors: Charles A. Flink, Robert Searns, Kristine Olka

*Engineer Bicycle Facilities* Bicycle and Pedestrian Information Center, 2008 [www.bicyclinginfo.org/engineering/](http://www.bicyclinginfo.org/engineering/)

*Bicycle Parking Design Guidelines* <http://www.bicyclinginfo.org/engineering/parking.cfm>

*Guide for the Development of Bicycle Facilities\** American Association of State Highway Transportation Officials, 1999 <http://www.transportation.org>

*Manual on Uniform Traffic Control Devices (MUTCD)* U. S. Department of Transportation, Washington, DC, 2009 <http://mutcd.fhwa.dot.gov>

*Policy on Geometric Design of Streets and Highways.* American Association of State Highway Transportation Officials, 2001 <http://transportation.org>

*Universal Access to Outdoor Recreation: A Design Guide.* PLAE, Inc., Berkeley, CA, 1993.

*Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice.* [www.ite.org/css](http://www.ite.org/css)

\*Once available, the City of Allentown should use the updated AASHTO Bicycling Guide scheduled for release in 2010.

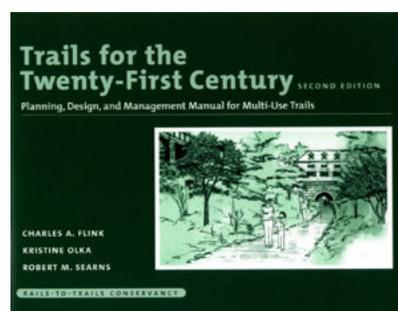
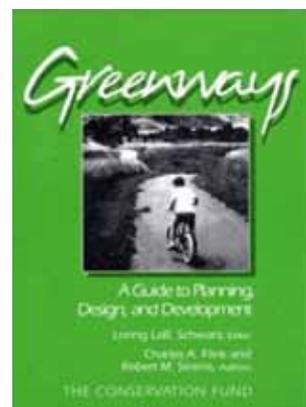
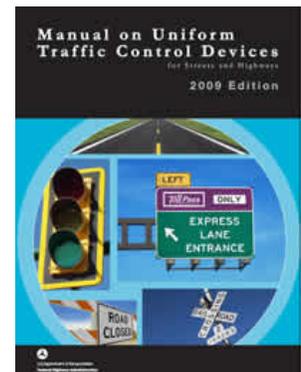
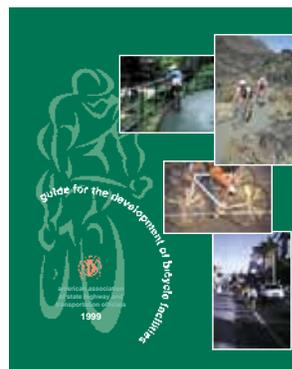
**Overview**

This appendix provides guidelines to both public and private entities for the future development of various types of bicycle, pedestrian, and trail facilities in the City of Allentown. The guidelines noted herein are based on the best practices in use throughout the United States, as well as accepted national standards.

The guidelines should be used with the understanding that design adjustments will be necessary in certain situations in order to achieve the best results. Facility installation and improvements should be evaluated on a case-by-case basis, in consultation with local or state bicycle coordinators, and/or a qualified engineer and landscape architect. Some new treatments may require formal applications to PennDOT and the Federal Highway Administration (FHWA) for approval as experimental uses. Should national standards be revised in the future and result in discrepancies with this appendix, the national standards should prevail for all design decisions.

*On facilities maintained by PennDOT, the State's design guidelines will apply. The City of Allentown has the potential to exceed minimum guidelines where conditions warrant (within its jurisdiction).*

*These resources (and those listed at left) can be consulted for more information on design standards.*

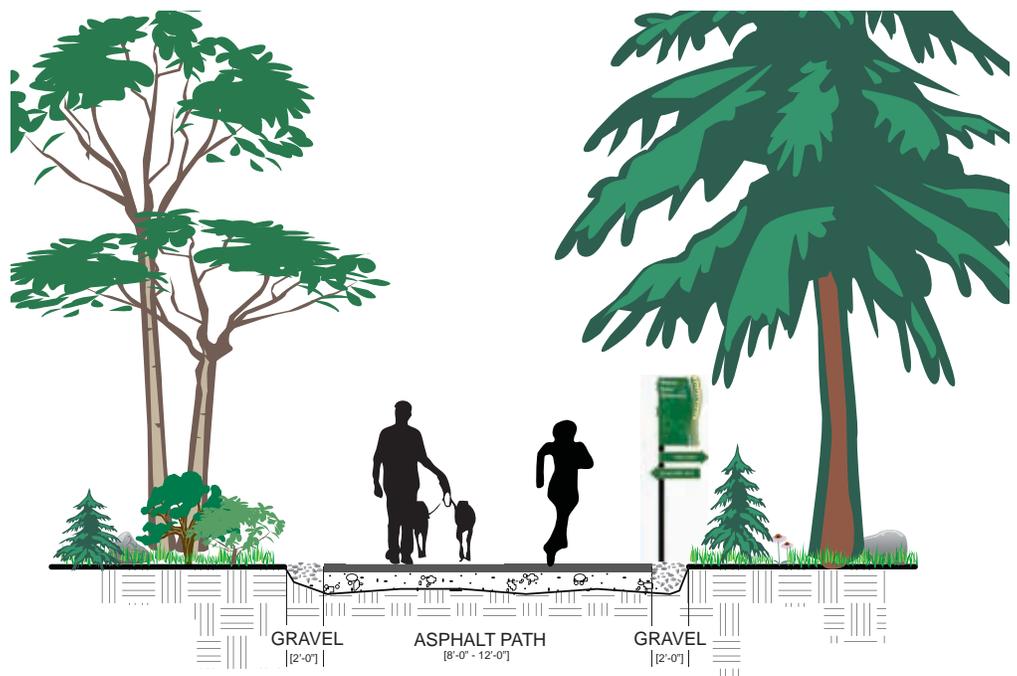


## Multi-use Trails

### *Paved Multi-use Trail: Overview*

Multi-use paths are completely separated from motorized vehicular traffic and are constructed in their own corridor, often within an open-space area. Multi-use trails typically have a paved asphalt surface and are capable of being constructed within flood-prone landscapes as well as upland corridors.

- Paved asphalt, concrete or permeable paving is recommended.
  1. In most areas, paved asphalt trails offer substantial durability for the cost of installation and maintenance. As a flexible pavement, asphalt should also be considered for installing a paved trail on slopes.
  2. In areas prone to frequent flooding, and for intensive urban applications, it is recommended that concrete be used for its superior durability and lower maintenance requirements; Consider using high albedo pavement in place of conventional concrete surfaces (it reflects sunlight, reducing radiated heat).
  3. Consider the following for permeable paving: a) It can be twice the cost of asphalt, b) A maintenance schedule for vacuuming debris is required to retain permeability, and c) Not suitable in the floodplain, or in areas without proper drainage (sheet flow or pooling of water with sediment clogs pours).
- Proper trail foundation will increase the longevity of the trail; two inches surfacing material over four inches (min.) of base course gravel over geotextile fabric is recommended. Soil borings may need to be conducted to determine adequate material depths; it should be designed to withstand the loading requirements of occasional maintenance and emergency vehicles.
- Typically 10' wide, 2% cross slope, with two-foot wide graded shoulders; the shoulders help prevent edges from crumbling and provide an alternate walking and jogging surface.
- Centerline stripes should be considered for trails that generate substantial amounts of traffic, and are particularly useful along curving sections of trail.
- Trail landscaping and maintenance should enhance conditions for wildlife by planting only native species in the trail corridor, removing invasive species when possible, and avoiding harmful pesticides and herbicides. The overall shape of protected natural landscapes along trail corridors also influences wildlife: single, large, contiguous natural areas are more beneficial to wildlife than the same acreage split into smaller segments.



### ***Paved Multi-use Trail: Urban Waterways***

'Paved Multi-use Trail' guidelines apply, with the following considerations and exceptions:

- Located only in urban areas, where right-of-way constraints and channelized streams restrict trail development to the floodway.
- Typically positioned directly adjacent to the stream channel and are therefore subject to frequent flooding; require hard paved surfaces of concrete to withstand high-velocity stream flows.
- Parking areas near urban waterways can also be retrofitted to accommodate this type of trail.
- When box culverts are built along creeks on planned trail routes, they should be designed to meet with this trail type, and should have sufficient space for trail users.
- Retaining walls or other structural elements may also be required for stable construction and to protect the trail from erosion and flood damage.
- The installation of railings, benches, signage, and trash receptacles, that could obstruct flow during storm events, should be carefully considered.
- The use of retaining walls as seat walls is one way in which non-obtrusive amenities can be included.
- Special consideration should be paid to the mitigation of impacts from trail construction on the natural environment.

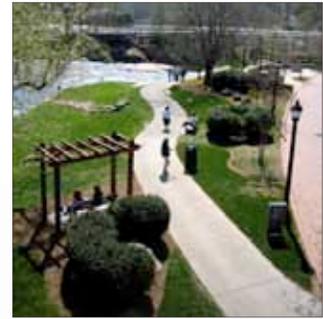


**Paved Multi-use Trail : Floodway Areas**

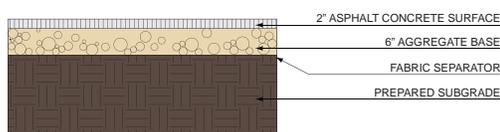
‘Paved Multi-use Trail’ guidelines apply, with the following considerations and exceptions:

- Typically positioned within the floodway, but not directly adjacent to streams; some vegetative buffer between the stream and trail should be left intact.
- Use existing cleared corridors for trail routing whenever possible, to avoid unnecessary vegetative clearing.
- Subject to infrequent, periodic flooding.
- Require paved surfaces of either asphalt or concrete depending on frequency of flooding and expected velocity of flow.
- No soft shoulder should be constructed due to flood considerations.

- All elements of the trail, including the trail tread, railings, benches, and trash receptacles, will be periodically flooded; design and materials should be carefully selected, and sited accordingly.
- Hard mount trail elements such as railings, benches, and trash receptacles.
- Special consideration should be paid to the mitigation of impacts from trail construction on the natural environment.

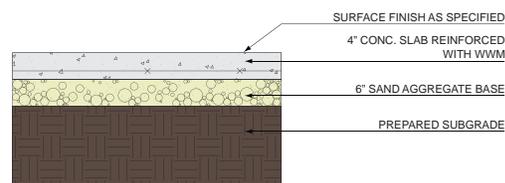


LOW VELOCITY



ASPHALT PAVING ON AGGREGATE BASE

HIGH VELOCITY

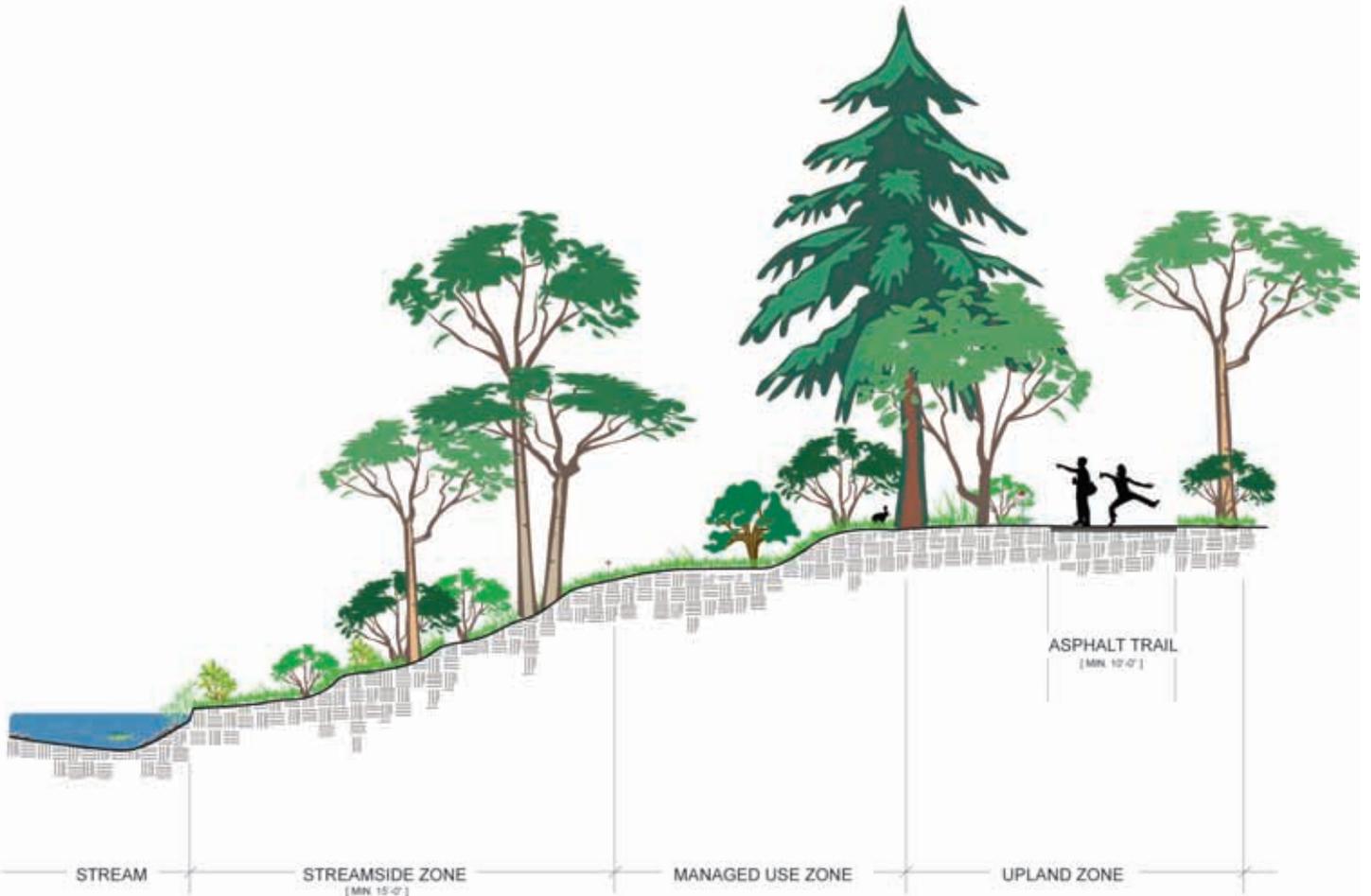


CONCRETE PAVING ON AGGREGATE

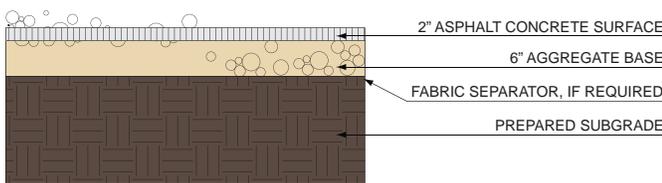
**Multi-use Trail : Floodplain Areas**

'Paved Multi-use Trail' guidelines apply, with the following considerations and exceptions:

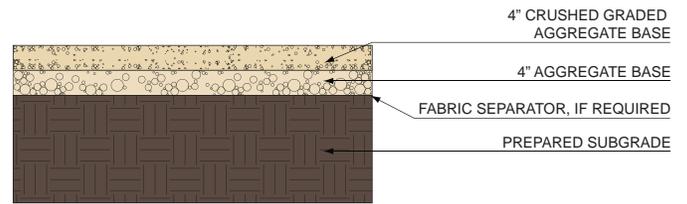
- Typically positioned outside the floodway, within the floodplain; significant vegetative buffer between the stream and trail should be left intact.
- Use existing cleared corridors for trail routing whenever possible, to avoid unnecessary vegetative clearing.
- Subject to occasional flooding, during large storm events.
- Paved asphalt recommended, though an aggregate stone surface may be adequate in some locations.



TYPICAL PAVED & UNPAVED TRAIL CROSS SECTIONS



ASPHALT PAVING ON AGGREGATE BASE

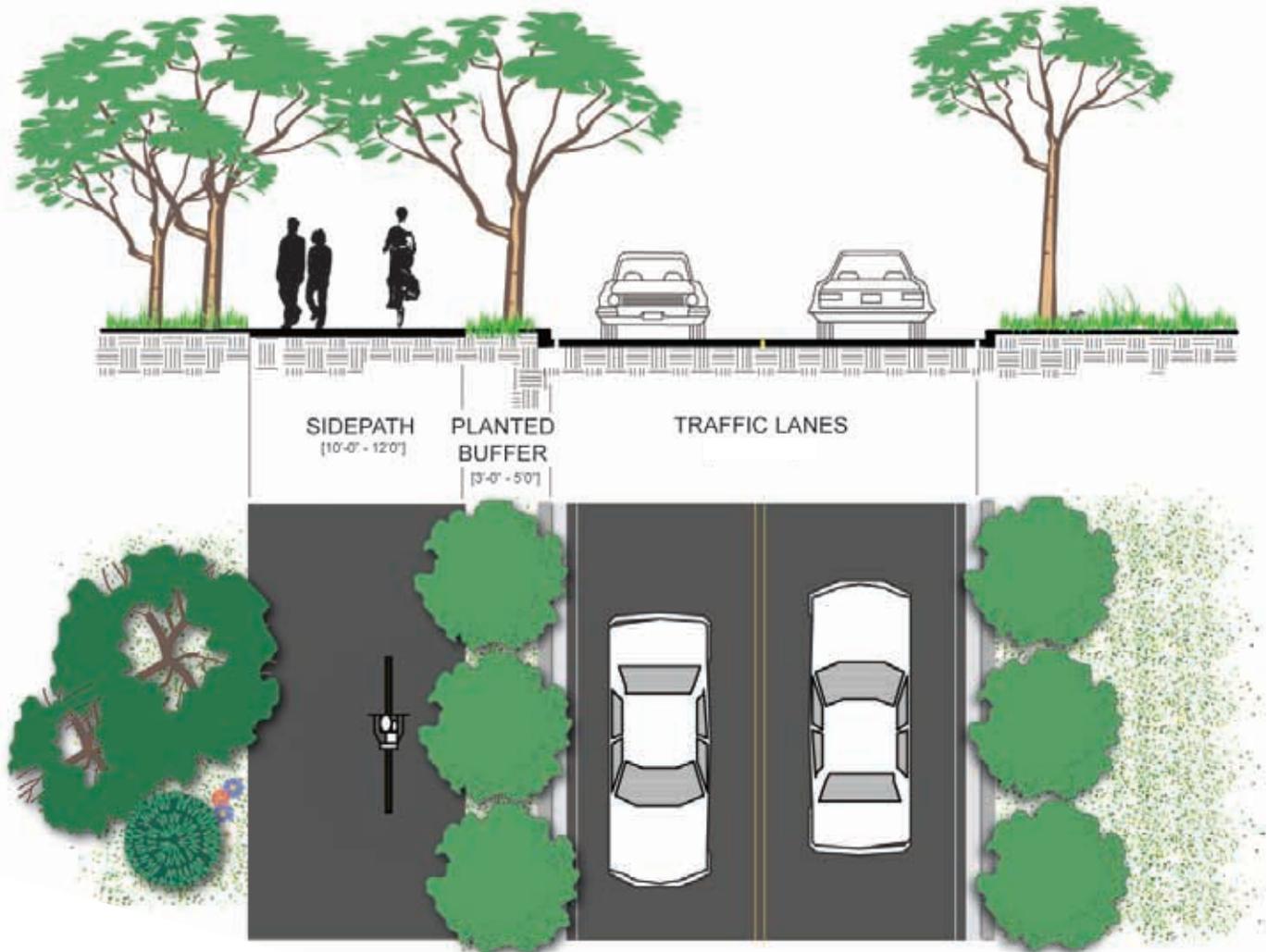


GRAVEL PAVING ON AGGREGATE

## Sidepaths

Multi-use paths located within the roadway corridor right-of-way, or adjacent to roads, are called 'Sidepaths'. Sidepaths provides a comfortable walking space for pedestrians and enables children and recreational bicyclists to ride without the discomfort of riding in a busy street.

- This configuration works best along roadways with limited driveway crossings and with services primarily located on one side of the roadway, or along a riverfront or other natural feature. *Not recommended in areas with frequent driveways or cross streets.*
- A minimum 10' width is necessary on sidepaths for bicyclists to pass one another safely (12' for areas expecting high use)
- A 6' or greater vegetated buffer between the sidepath and the roadway should be provided where possible.
- Roadway corridors where side paths are recommended should also have adequate on-road bicycle facilities (such as shared lane markings, paved shoulders, or bicycle lanes), so that all levels of bicyclists are accommodated.
- Well-designed transitions from sidepaths to on-road facilities will direct bicyclists to the correct side of the roadway (see guidelines for Trail-Roadway Intersections)



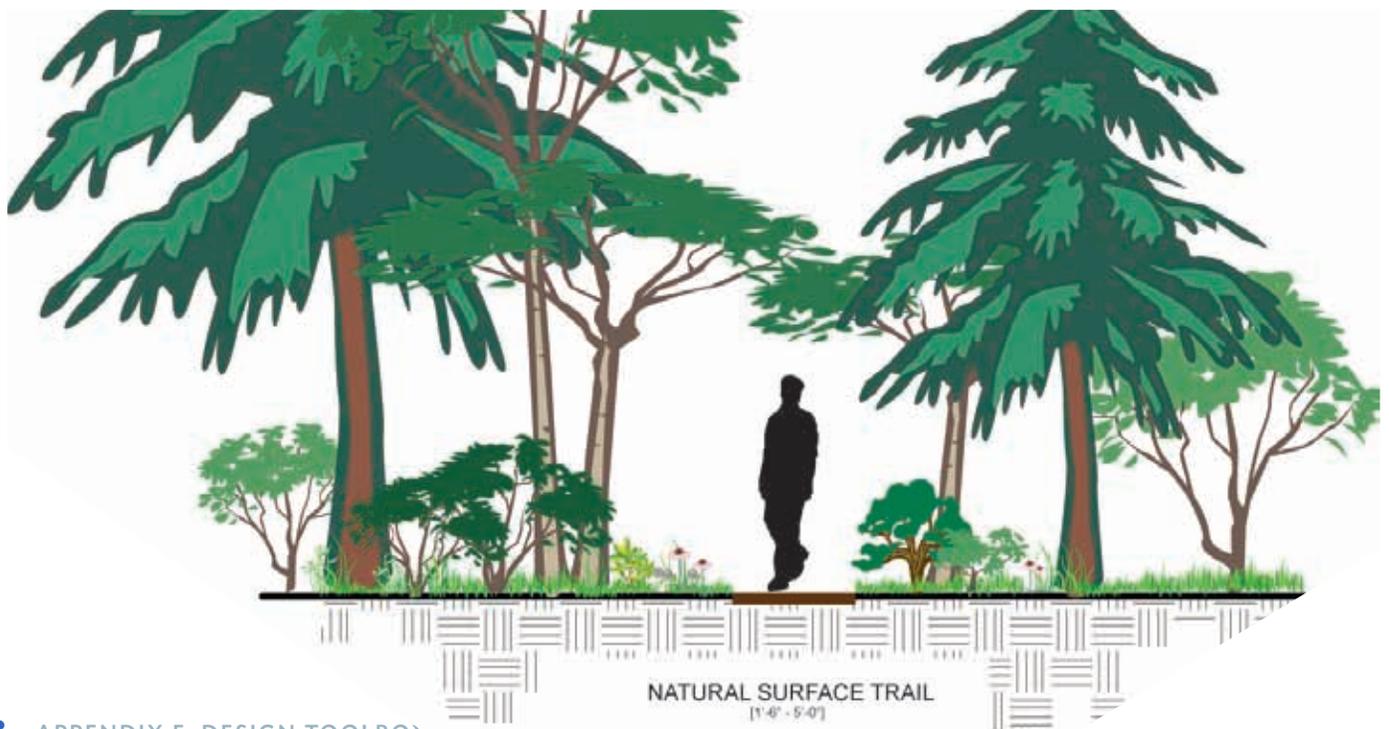
## Natural Surface Trails

Sometimes referred to as footpaths or hiking trails, the natural surface trail is used along corridors that are environmentally-sensitive but can support bare earth, wood chip, or boardwalk trails. Natural surface trails are a low-impact solution and found in areas with limited development.

- The trail can vary in width from 18-inches to 6-feet; vertical clearance should be maintained at nine-feet above grade.
- Preparation varies from machine-worked surfaces to those worn only by usage.
- Trail surface can be made of dirt, rock, soil, forest litter, or other native materials. Some trails use crushed stone (a.k.a. “crush and run”) that contains about 4% fines by weight, and compacts with use.
- At the time of this writing, a new, environmentally sound trail surface is being researched in Greenville County, SC. The organic soil stabilizer, called Roadzyme, is non-toxic, made from sugar beet extract.
- Provide positive drainage for trail tread without extensive removal of existing vegetation; maximum slope is five percent (typical).
- Trail erosion control measures include edging along the low side of the trail, steps and terraces to contain surface material, and water bars to direct surface water off the trail; use bedrock surface where possible to reduce erosion.
- Consider implications for accessibility when weighing options for surface treatments.
- For the purposes of this Plan, ‘Natural Surface Trails’ do not include bicycles. For guidelines on mountain bike trails, refer to the International Mountain Bicycling Association (IMBA) standards.



*Natural surface trails provide options in areas that are environmentally sensitive.*



## Water Based Trails

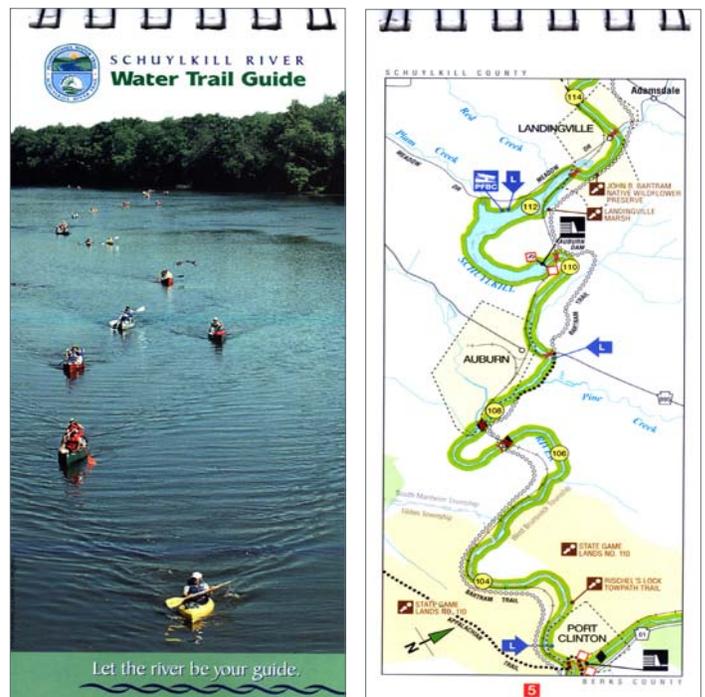
Also known as paddle trails, blueways or blue trails. This designation applies to rivers and streams that can successfully accommodate (and are designated to support) canoeing and kayaking. Water based trails can be designated with features and facilities that make this activity more enjoyable for residents, including signage systems, improved rapids, safety systems, and access points. Rental outfits could be established at put in/take out points.

- Clearly marked access points and/or trailheads should be provided.
- Educational signs, directional signs, and regulatory signs should inform users of their surroundings and how to navigate the watercourse safely.
- The provision of designated picnic areas and camp sites along water trails can reduce the problem of trespassing on private property along the watercourse.
- If a pathway from parking area to water access exceeds 1500 feet, a permanently affixed canoe or kayak stand should be positioned every 1000 feet.
- Informational signs containing emergency contact numbers, as well as contact numbers for the managing partner, must be displayed at the parking space area and/or within 150 feet of the access site.
- Improved rapids are increasingly popular along water trails, however, they should only be used in areas where high usage is expected and a demand for such a facility has been established.
- Access to waterway must be firm, compacted, and permanently delineated
- Minimum construction for facilities
- Maps should be provided to guide users along the watercourse and to access sites for drop-in and take-out.
- Natural but well maintained pathway from parking to water access:
  - Pathway at least 6' wide
  - Grass not higher than 5"
  - Tree overhang not lower than 14'
  - Grade must not exceed 20%

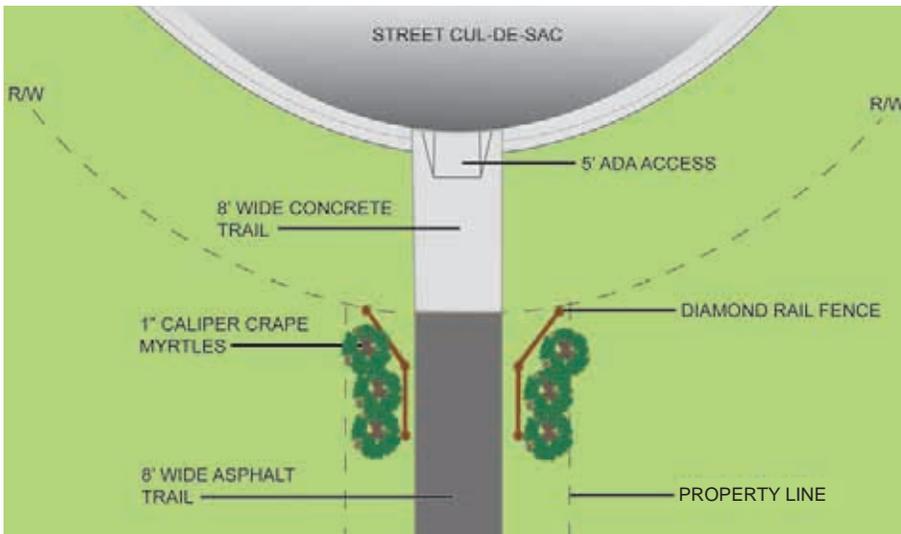


Below: An example water trail map and guide for Shuylkill River, PA

Below: Water trail on the Potomac River, designed for kayak slalom.



## Neighborhood Spur Trail



*Neighborhood entrance trail diagram.*

Neighborhood spur trails provide residential areas with direct bicycle and pedestrian access to parks, trails, greenspaces, and other recreational areas. They most often serve as small trail connections to and from the larger trail network, typically having their own rights-of-way and easements. Additionally, these smaller trails can be used to provide bicycle and pedestrian connections between dead-end streets, cul-de-sac, and access to nearby destinations not provided by the overall street network. Neighborhood and homeowner association groups are encouraged to identify locations where such connects would be desirable.

- Neighborhood spur trails should remain open to the public.
- Trail pavement shall be at least 8' wide to accommodate emergency and maintenance vehicles, meet ADA requirements and be considered suitable for multi-use.
- Trail widths should be designed to be less than 8' wide only when necessary to protect large mature native trees over 18" in caliper, wetlands or other ecologically sensitive areas.
- Access trails should meander whenever possible.
- Landscaping shall be included at the street frontage of the access trail based upon input from the residents of the cul-de-sac or dead-end street. If the access is not in a cul-de-sac, the adjacent property owners and property owners directly across from the access trail will be invited to provide landscape design input. See following section related to landscaping.
- Two sections of diamond rail fencing should be included on each side of the trail near the street frontage. Diamond rail will not be included if the respective neighborhood deeds and covenants do not permit it.

*Example of a neighborhood entrance trail, featuring landscape signage.*



## Vegetation Buffer, Landscaping, and Street Trees

Vegetated buffers are used to separate trails not only for floodplain protection and noise from the road, but also, where desired, to screen trail corridors from nearby properties.

- Use native plant species and plants appropriate to the region that are already adapted to the local soil and climate, reducing overall maintenance costs and enhancing local identity. Landscape materials should be installed during the appropriate planting season for the particular species.
- Design the buffer with a combination of evergreen and deciduous plants for year-round interest.
- Plant buffers with a combination of trees and large shrubs, understory plantings, and ground cover.
- Keep the vegetation buffer maintained so that it does not impede views or interfere with trail circulation.
- Avoid vegetation “walls” that box-in trail users.
- Select and place trail vegetation to provide seasonal comfort: shade on trails in the warmer months and warming sunlight on trails in colder months.



*Street trees and other plantings provide comfort, a sense of place, and a more natural and inviting setting for pedestrians.*

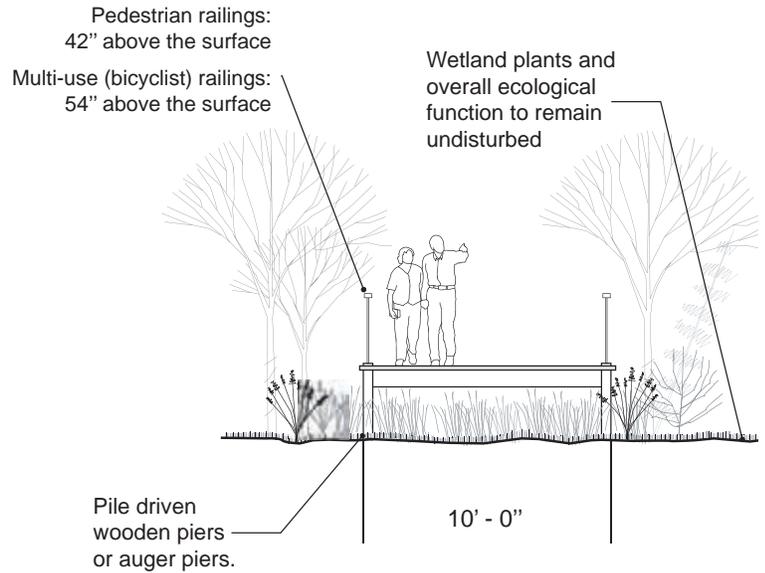
- Street and sidewalk landscaping can be used to provide a separation buffer between pedestrians and motorists (see image at left), reduce the width of a roadway, calm traffic by creating a visual narrowing of the roadway, enhance the street environment, and help to generate a desired aesthetic.
- Growth pattern and space for maturation, particularly with larger tree plantings, are important to avoid cracking sidewalks and other pedestrian obstructions.
- Islands of vegetation can be created to collect and filter stormwater from nearby streets and buildings. These islands are referred to as constructed wetlands, rain gardens, and/or bioswales. When these devices are employed, the benefits listed above are coupled with economic and ecologic benefits of treating stormwater at its source. See Seattle’s Green Streets Program as a model.

*Landscaping used on the Capital Crescent Trail, Washington DC, shows how stormwater treatment can be tied to aesthetically pleasing plantings.*

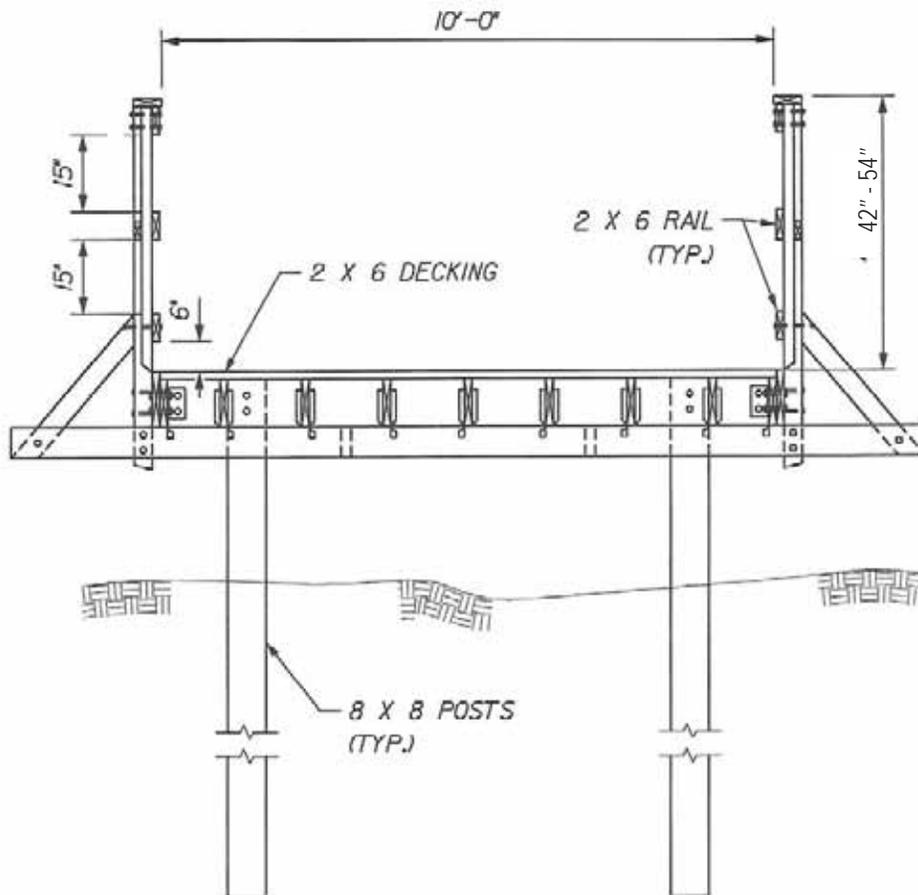


## Boardwalk

Boardwalk or wood surface trails are typically required when crossing wetlands or other poorly drained areas. They are constructed of wooden planks or recycled material planks that form the top layer of the boardwalk. The recycled material has gained popularity in recent years since it lasts much longer than wood, especially in wet conditions. A number of low-impact support systems are also available that reduce the disturbance within wetland areas to the greatest extent possible.



- When the height of a boardwalk exceeds 30", railings are required (see section on 'Railings and Fences' for details)
- The thickness of the decking should be a minimum of 2"
- Decking should be either non-toxic treated wood or recycled plastic.
- The foundation normally consists of wooden posts or auger piers (screw anchors). Screw anchors provide greater support and last much longer.
- Opportunities exist to build seating and signage into boardwalks.
- In general, building in wetlands should be avoided.
- Note: muddy bicycle tires may be slick on wood surfaces.



A boardwalk allows for travel through wet areas.

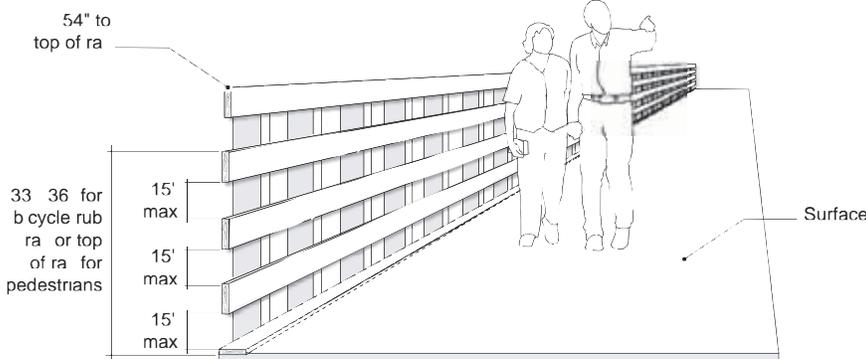
## Railings and Fences

Railing and fences are important features on bridges, some boardwalks, or in areas where there may be a hazardous drop-off or hazardous adjacent land uses (such as active rail lines).

- At a minimum, railings and fences should consist of a vertical top, bottom, and middle rail. Picket style fencing should be avoided as it presents a safety hazard for bicyclists.
- A pedestrian railing should be 42-inches above the surface.
- A bicyclist railing should be 54-inches above the surface.
- The middle railing functions as a “rub rail” for bicyclists and should be located 33-and 36-inches above the surface.
- Local, state, and/or federal regulations and building codes should be consulted to determine when it is appropriate to install a railing.



Example image of fence used along a rail with trail (Grand Rounds Parkway).



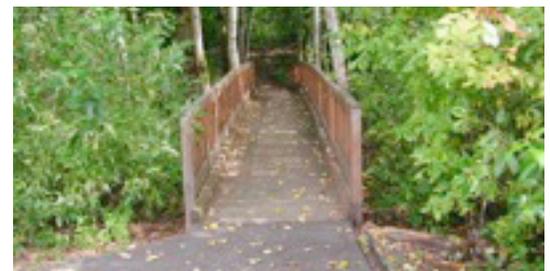
## Innovative Accessways

There are also other innovative ways to provide direct access, particularly in topographically constrained areas (e.g., on steep hills, over waterways, etc.) Stairs, alleyways, bridges, and elevators can provide quick and direct connections throughout the city and can be designed so they are safe, inviting, and accessible to most trail users. For example, stairways can have wheel gutters so that bicyclists can easily roll their bicycles up and down the incline and boardwalks can provide access through sensitive wet areas and across small waterways.



Left and above: Bicycle wheel gutters on stairs.

Below: A boardwalk bridge

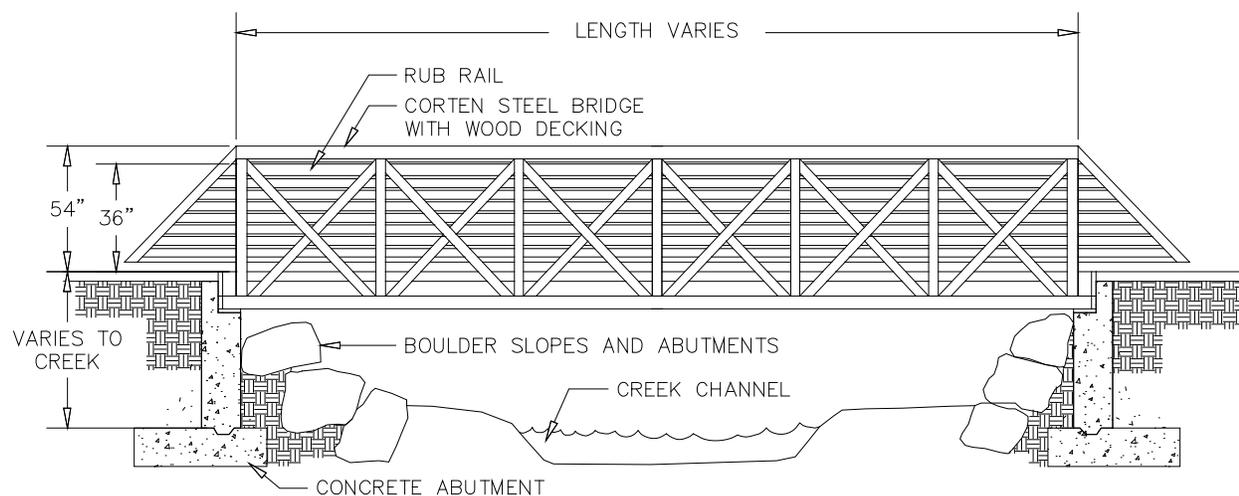


## Trail Bridges, Overpasses and Underpasses

### Trail Bridges

Multi-Use Trail bridges (also ‘bicycle/pedestrian bridges’ or ‘footbridges’) are most often used to provide trail access over natural features such as streams and rivers, where a culvert is not an option. The type and size of bridges can vary widely depending on the trail type and specific site requirements. Some bridges often used for multi-use trails include suspension bridges, prefabricated span bridges and simple log bridges. When determining a bridge design for multi-use trails, it is important to consider emergency and maintenance vehicle access.

- If a corridor already contains a bridge such as an abandoned rail bridge, an engineer should be consulted to assess the structural integrity before deciding to remove or reuse it.
- A trail bridge should support 6.25 tons; Information about the load-bearing capacity of bridges can be found in the American Association of State Highways and Transportation Officials (AASHTO) Standard Specifications for Highway Bridges.
- There are many options in terms of high quality, prefabricated pedestrian bridges available. Prefabricated bridges are recommended because of their relative low cost, minimal disturbance to the project site, and usually, simple installation.
- All abutment design should be sealed by a qualified structural engineer and all relevant permits should be filed.



### *Trail Overpass*

Trail overpasses are most often used to provide trail access over large man-made features such as highways and railroads.

- Overpasses work best when existing topography allows for smooth transitions.
- Safety should be the primary consideration in bridge/overpass design.
- Specific design and construction specifications will vary for each bridge and can be determined only after all site-specific criteria are known.
- Always consult a structural engineer before completing bridge design plans, before making alterations or additions to an existing bridge, and prior to installing a new bridge.
- A 'signature' bridge should be considered in areas of high visibility, such as over major roadways. While often more expensive, a more artistic overpass will draw more attention to the trail system in general, and could serve as a regional landmark.
- For shared-use facilities, a minimum width of 14' is recommended.
- Trail overpasses are prohibitively expensive and should only be placed in areas of substantial need.



### *“Vehicular” Bridges And Underpasses*

All new or replacement bridges and tunnels should accommodate pedestrians and bicyclists. Even though bridge replacements do not occur regularly, it is important to consider these in longer-term pedestrian planning.

- Sidewalks should be included on roadway bridges on both sides, minimum 5' wide, with minimum hand-rail height of 42"
- Sufficient bridge deck width should be provided on new bridges, including approaches, to accommodate bicyclists
- In roadway underpasses, where vertical clearance allows, the pedestrian walkway should be separated from the roadway by more than a standard curb height.
- On bridges built for controlled access roadways, a separated, multi-use sidepath should be provided, minimum 12' wide, with connections made to bike/ped facilities on both sides of the bridge.

### Trail Underpass

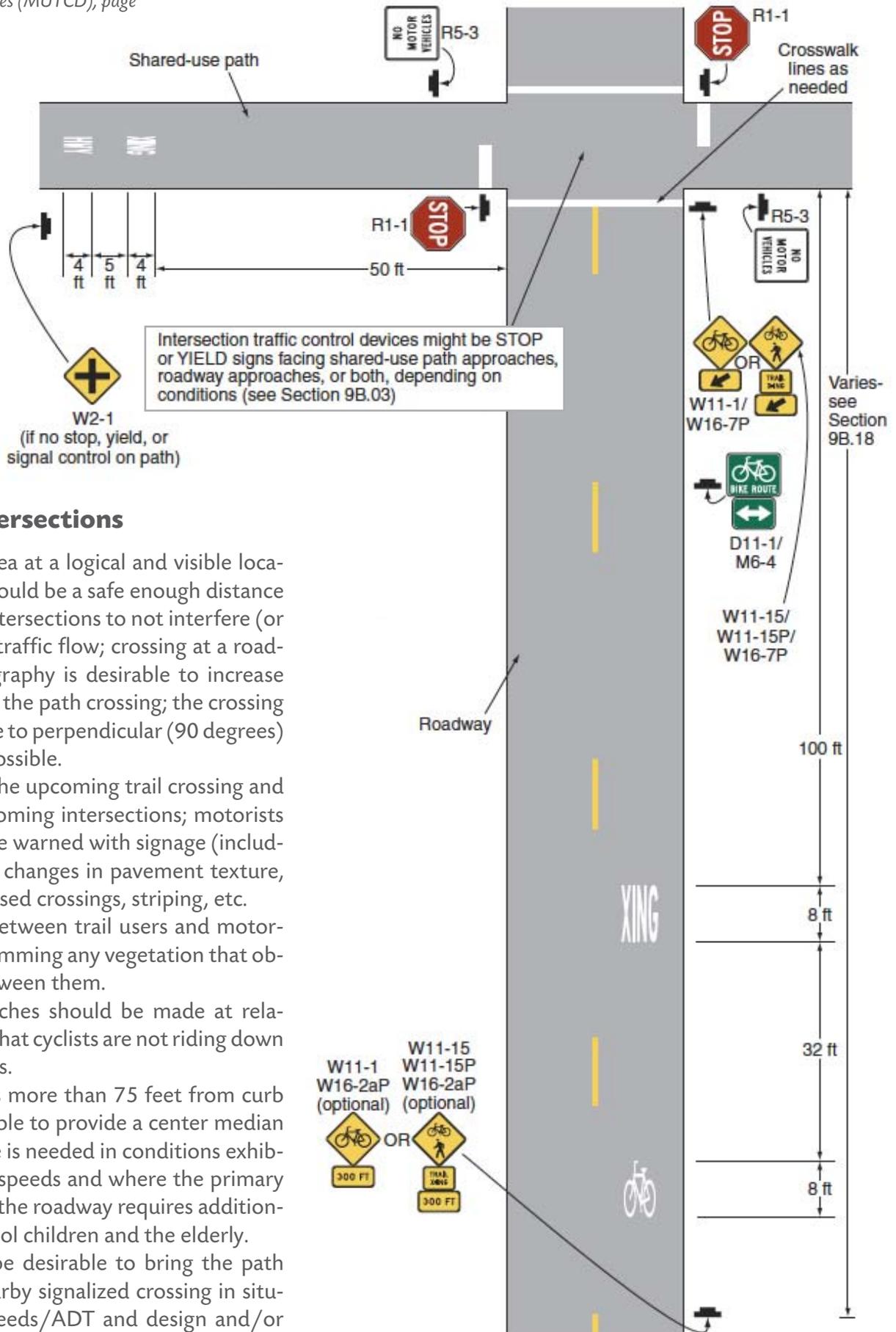
- Over and underpasses should be considered only for crossing arterials with greater than 20,000 vehicle trips per day and speeds 35 - 40 mph and over.
- Underpasses work best with favorable topography when they are open and accessible, and exhibit a sense of safety.
- Underpasses should have a daytime illuminance minimum of 10 fc achievable through artificial and/or natural light provided through an open gap to sky between the two sets of highway lanes, and a night time level of 4 foot-candle.
- Typically utilize existing overhead roadway bridges adjacent to streams or culverts under the roadway that are large enough to accommodate trail users
- Vertical clearance of the underpass is ideally at least 10'; minimum clearance is 8'.
- Width of the underpass is ideally at least 12'; minimum width is 10'.
- Proper drainage must be established to avoid pooling of stormwater, however, some underpasses can be designed to flood periodically (after significant rainfall, for instance). See image below, at top right, as an example).



*Curb-cut used for drainage.*



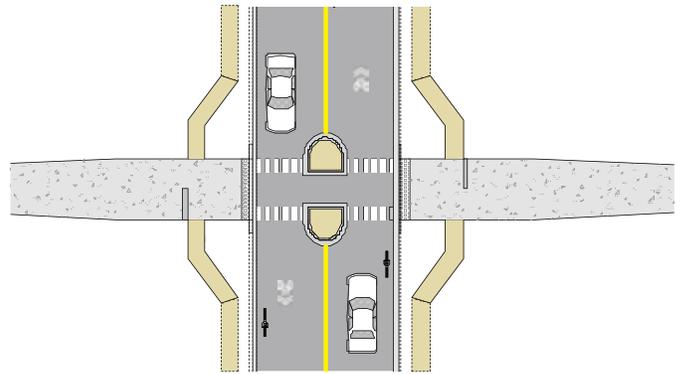
The diagram on this page is from the 2009 Manual for Urban Traffic Control Devices (MUTCD), page 803, Figure 9B-7.



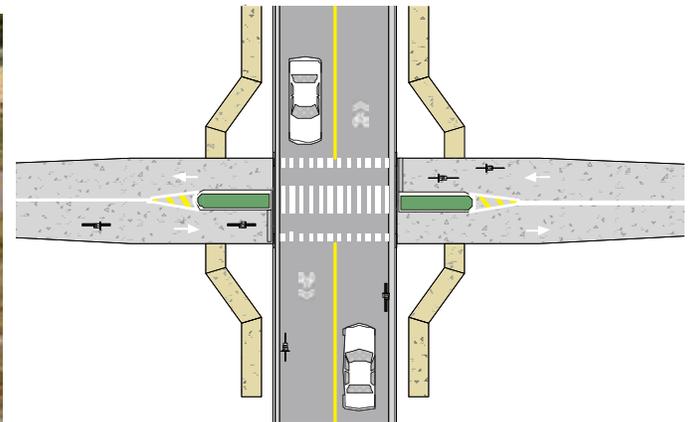
### Trail-Roadway Intersections

- Site the crossing area at a logical and visible location; the crossing should be a safe enough distance from neighboring intersections to not interfere (or be interfered) with traffic flow; crossing at a roadway with flat topography is desirable to increase motorist visibility of the path crossing; the crossing should occur as close to perpendicular (90 degrees) to the roadway as possible.
- Warn motorists of the upcoming trail crossing and trail users of the upcoming intersections; motorists and trail users can be warned with signage (including trail stop signs), changes in pavement texture, flashing beacons, raised crossings, striping, etc.
- Maintain visibility between trail users and motorists by clearing or trimming any vegetation that obstructs the view between them.
- Intersection approaches should be made at relatively flat grades so that cyclists are not riding down hill into intersections.
- If the intersection is more than 75 feet from curb to curb, it is preferable to provide a center median refuge area; a refuge is needed in conditions exhibiting high volumes/speeds and where the primary user group crossing the roadway requires additional time, such as school children and the elderly.
- If possible, it may be desirable to bring the path crossing up to a nearby signalized crossing in situations with high speeds/ADT and design and/or physical constraints.

## Trail-Roadway Intersections (Continued)



Median Refuge  
Shared Use Path with Sidewalks



Mid-block Crossing  
Shared Use Path with Sidewalks and Medians

## Trail-Roadway Intersections (Signalized)



- Signalized crossings may be necessary on trails with significant usage when intersecting with demanding roadways, but the Manual for Urban Traffic Control Devices (MUTCD) warrants must be met for the installation of a signalized crossing. Consult the MUTCD or PennDOT for signal, sign and light placement.

- The Federal Highway Administration (FHWA) issued an interim approval for the optional use of rectangular rapid flashing beacons (RRFBs, shown at left) as warning beacons supplementing pedestrian crossing or school crossing warning signs at crossings across uncontrolled approaches. An analysis by the Center for Education and Research in Safety found them to have much higher levels of effectiveness in making drivers yield at crosswalks than the standard over-head and side-mount round flashing beacons.

## Trail Amenities

*Benches:* There are a wide variety of benches to choose from in terms of style and materials. The illustrated bench is a custom design that reflects the industrial feel of the warehouse district it is found in. Material selection should be based on the desired design theme as well as cost.

- Due to a wide range of users, all benches should have a back rest.
- A bench should normally be 16 - 20" above ground with sturdy hand-rails on either side.
- The seating depth should be 18-20" and the length should vary between 60 - 90".
- Provide wheelchair access alongside benches, at least a 30-by-48-inch area for adequate maneuvering. If benches are next to each other (either side by side or face to face), allow 4 feet between them.



*Other Seating:* Other more informal seating opportunities may exist along a trail or near a parking area where other furniture like a picnic table may be appropriate.

- This type of furniture can be triangulated with cooking facilities, and a trash receptacle.
- Wheelchair access spacing recommendations, as noted in the preceding section on 'benches,' also applies to other seating.



*Trash Receptacles:* Trash receptacles should be constructed of a suitable material to withstand the harsh elements of the outdoor environment. Adequate trash receptacles will combat littering and preserve the natural environment for all trail users.

- Trash receptacles should be placed along the trail and at all trailheads.
- Trash receptacles should ensure that litter is contained securely preventing contamination or spillage into the surrounding environment.



### Public Art on Trails

Explore opportunities to include public art within the overall design of the trail system. Local artists can be commissioned to provide art for the trail system, making it uniquely distinct. Many trail art installations are functional as well as aesthetic, as they may provide places to sit and play on. According to American Trails,

*“Art is one of the best ways to strengthen the connection between people and trails. Across America and elsewhere, artists are employing a remarkably wide range of creative strategies to support all phases of trail activities, from design and development to stewardship and interpretation. In particular, art can be an effective tool for telling a trail’s story compellingly and memorably.”*

Example art programs for trails can be found at:  
[www.americantrails.org/resources/art/ArtfulWays.html](http://www.americantrails.org/resources/art/ArtfulWays.html)



### Trail Heads

Major access points should be established near commercial developments and transportation nodes, making them highly accessible to the surrounding communities. Minor trailheads should be simple pedestrian and bicycle entrances at locally known spots, such as parks and residential developments.

A minor trailhead could include facilities such as parking, drinking fountains, benches, a bicycle rack, trash receptacles, and an information kiosk and/or signage. Major trailheads could include all of the above plus additional facilities, such as rest rooms, shelters, picnic areas, a fitness course, an emergency telephone, and a larger parking area.

Partnerships could also be sought with owners of existing parking lots near trails. Benefits are three fold: Business benefit from trail-user patronage; trail owners benefit from not having to buy more land and construct a parking facility; and the environment benefits from less development in the watershed.



A major trail head with bike racks, air compressor (for bicycle tires), water fountain, rest rooms, phone and benches.



A major trail head at the Capital Crescent Trail in Maryland, featuring concessions and bicycle, canoe, and kayak rentals.



A water fountain and pet-water fountain..

### *Trail Lighting*

Lighting for multi-use trails should be considered on a case-by-case basis in areas where 24-hour activity is expected (such as college campuses or downtown areas), with full consideration of the maintenance commitment lighting requires. In general, lighting is not appropriate for off-road trails where there is little to no development.

- A licensed or qualified lighting expert should be consulted before making any lighting design decisions. Doing so can reduce up-front fixed costs as well as long-term energy costs.
- Use full cut-off, energy-efficient lighting that is IDA Approved Dark Sky Friendly to avoid excess light pollution and save costs (See [www.darksky.org](http://www.darksky.org) for more info)
- If a main trail corridor is unlit and closes at dark, extended hours for commuters should be considered, particularly during winter months when trips to and from work are often made before sunrise and after dusk. See the American Tobacco Trail in Durham, NC, as an example, which is unlit and remains open to commuters until 10 PM.
- Consider lighting at the following locations:
  - Entrances and exits of bridges
  - Public gathering areas along the greenway
  - Trail access points
- Only use lighting along a trail if:
  - Night usage is desired or permitted
  - It is acceptable to residents living along or near the trail
  - The area is not a wildlife area

### *Roadway Lighting*

Proper lighting in terms of quality, placement, and sufficiency can greatly enhance a nighttime urban experience as well as create a safe environment for motorists and pedestrians. Two-thirds of all pedestrian fatalities occur during low-light conditions (AASHTO, 2004: Guide for the Planning, Design, and Operation of Pedestrian Facilities). Attention should be paid to crossings so that there is sufficient ambience for motorists to see pedestrians. To be most effective, lighting should be consistently and adequately spaced.

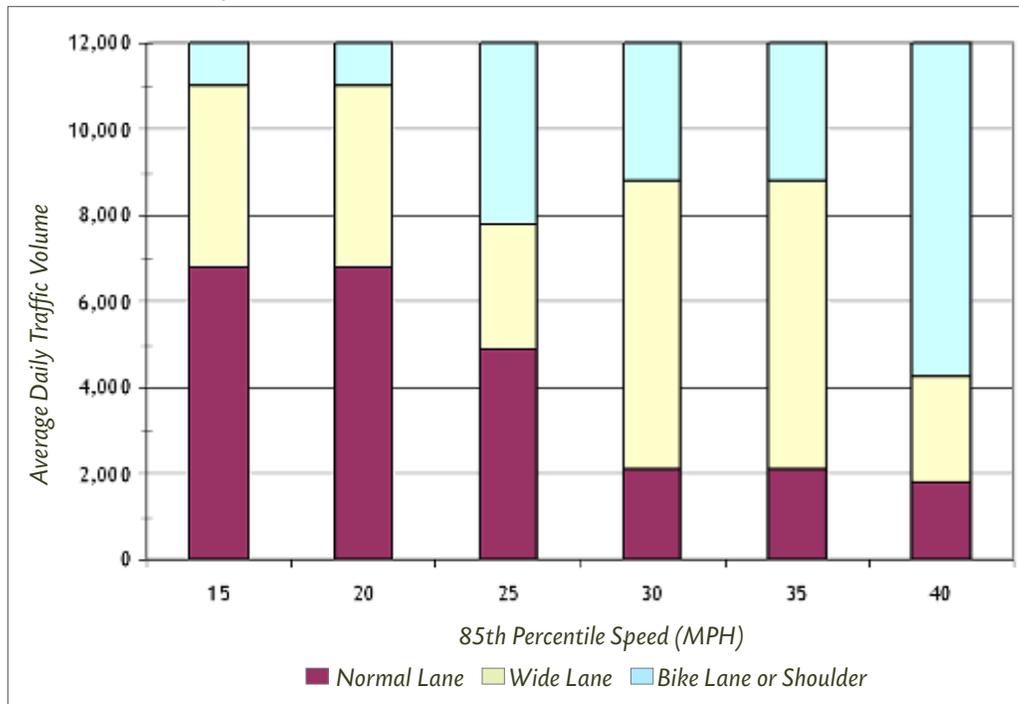
In commercial or downtown areas and other areas of high pedestrian volumes, lower level, pedestrian-scale lighting with emphasis on crossings and intersections may be employed to generate a desired ambience. Roadway streetlights can range from 20-40 feet in height while pedestrian-scale lighting is typically 10-15 feet. It is important to note that every effort should be made to address and prevent light pollution. Also known as photo pollution, light pollution is 'excess or obtrusive light created by humans'.

- Ensure pedestrian walkways and crossways are sufficiently lit.
- Consider adding pedestrian-level lighting in areas of higher pedestrian volumes, downtown, and at key intersections.
- Install lighting on both sides of streets in commercial districts.
- Use uniform lighting levels
- As also noted above, use full cut-off, energy-efficient lighting that is IDA Approved Dark Sky Friendly to avoid excess light pollution and save costs (See [www.darksky.org](http://www.darksky.org) for more info)

## Bicycle Facilities and Related Streetscape Improvements

A wide variety of on-road bicycle facilities have been developed to meet different transportation needs in different roadway situations. The appropriate bicycle facility for any particular roadway, whether new or existing, should be dictated primarily by vehicle volume and speed of the roadway. The figure below provides a matrix for evaluating bicycle facilities. The speed of the travel lane is shown along the x-axis and total traffic volumes per day are shown along the y-axis. The different colors represent the type of bikeway facility prescribed given the volume and speed of the travel lane.

North American Speed-Volume Chart



Source: M. King: *Bicycle Facility Selection: A Comparison of Approaches*

## Neighborhood Streets

Many bicyclists can safely share the road with vehicles on low volume (less than 3,000 cars per day), low speed roadways (e.g., a residential or neighborhood street).



Left: Neighborhood street examples.

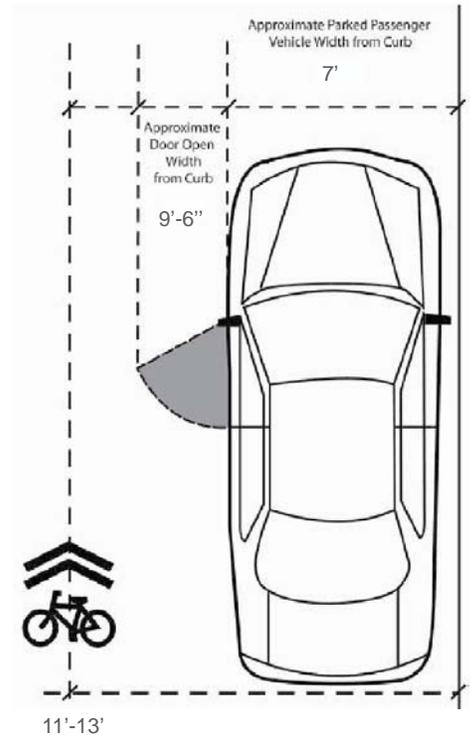
## Shared Lane Marking

A bicycle shared lane marking (or ‘sharrow’) can serve a number of purposes, such as making motorists aware of bicycles potentially traveling in their lane, showing bicyclists the appropriate direction of travel, and, with proper placement, reminding bicyclists to bike further from parked cars to prevent “dooring” collisions. The shared lane marking stencil is used:

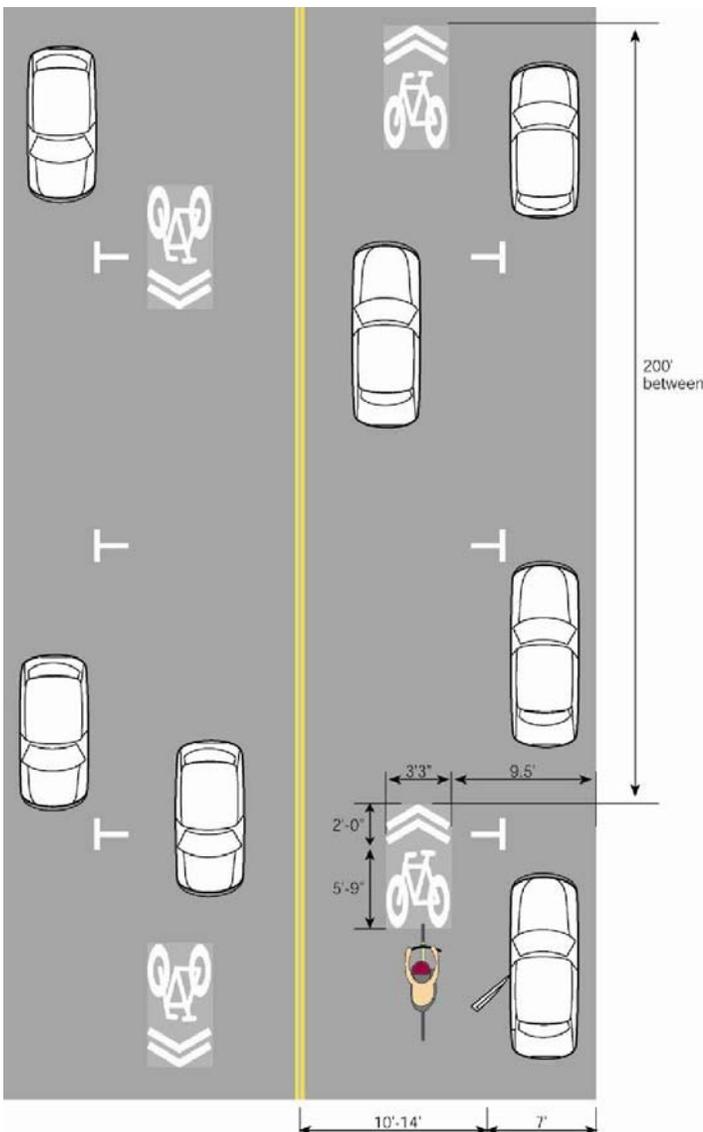
- Where lanes are too narrow for striping bike lanes
- Where the speed limit does not exceed 35 MPH
- With or without on-street parking

Cities throughout the United States have effectively used this treatment for several years. In Pennsylvania, cities such as Pittsburgh, Philadelphia, and Bethlehem have also begun using the shared lane marking.

For one-way streets with two travel lanes, the marking should be placed in the left lane to reduce chances of a dooring collision. Even though traffic laws generally call for slower vehicles in the right-hand lane, there is an exception for bicyclists (“Any person operating a pedalcycle upon a roadway which carries traffic in one direction only and has two or more marked traffic lanes may ride as near the left-hand curb or edge of the roadway as practicable” [www.dmv.state.pa.us/pdotforms/vehicle\\_code/chapter35.pdf](http://www.dmv.state.pa.us/pdotforms/vehicle_code/chapter35.pdf))



Placement of shared lane marking from the face of the curb should be a minimum of 11 feet according to the 2009 MUTCD. However, in Bethlehem, PA (shown below) a standard of 13 feet from the curb was used to ensure greater distance from car door openings.

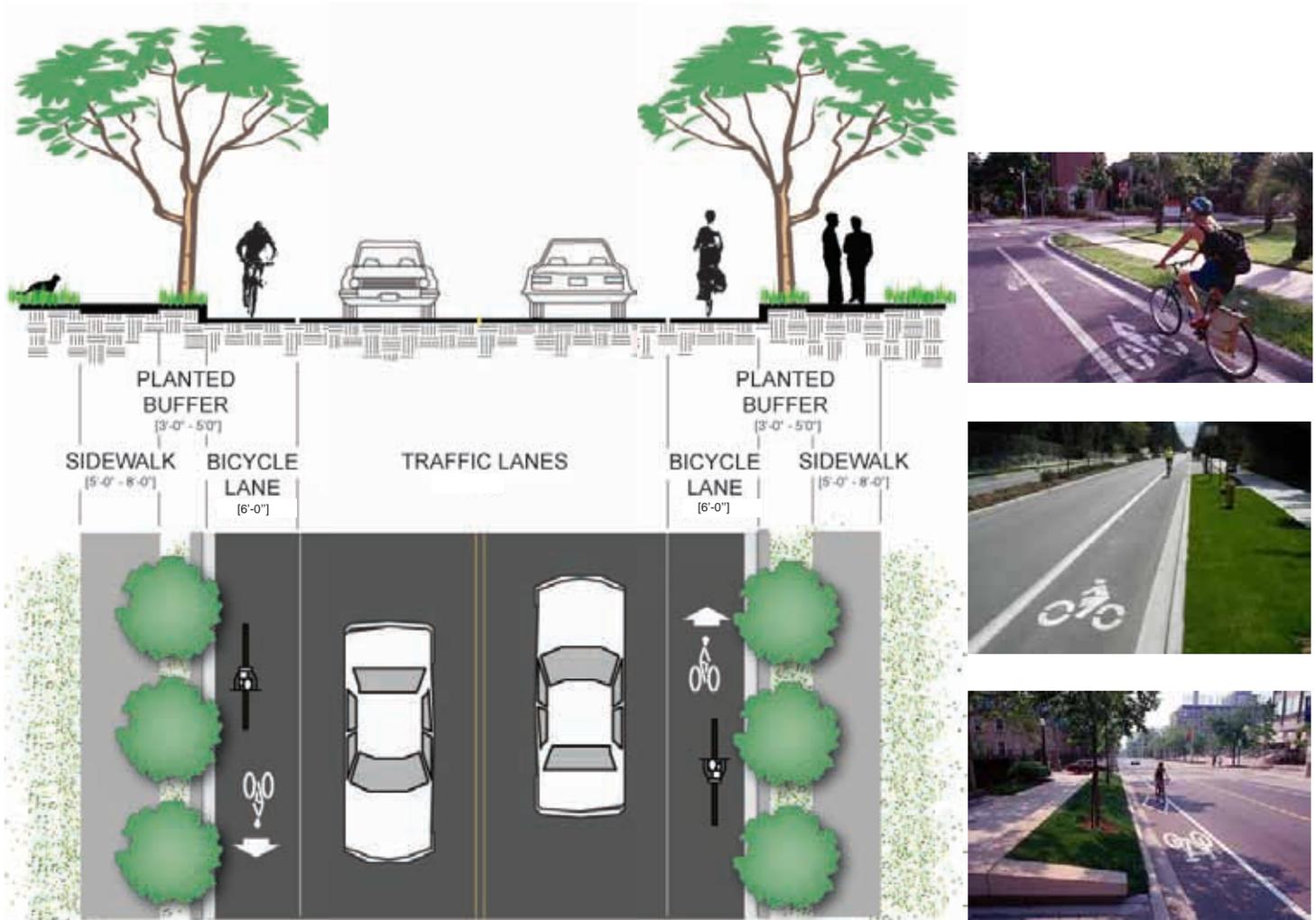


## Bicycle Lanes

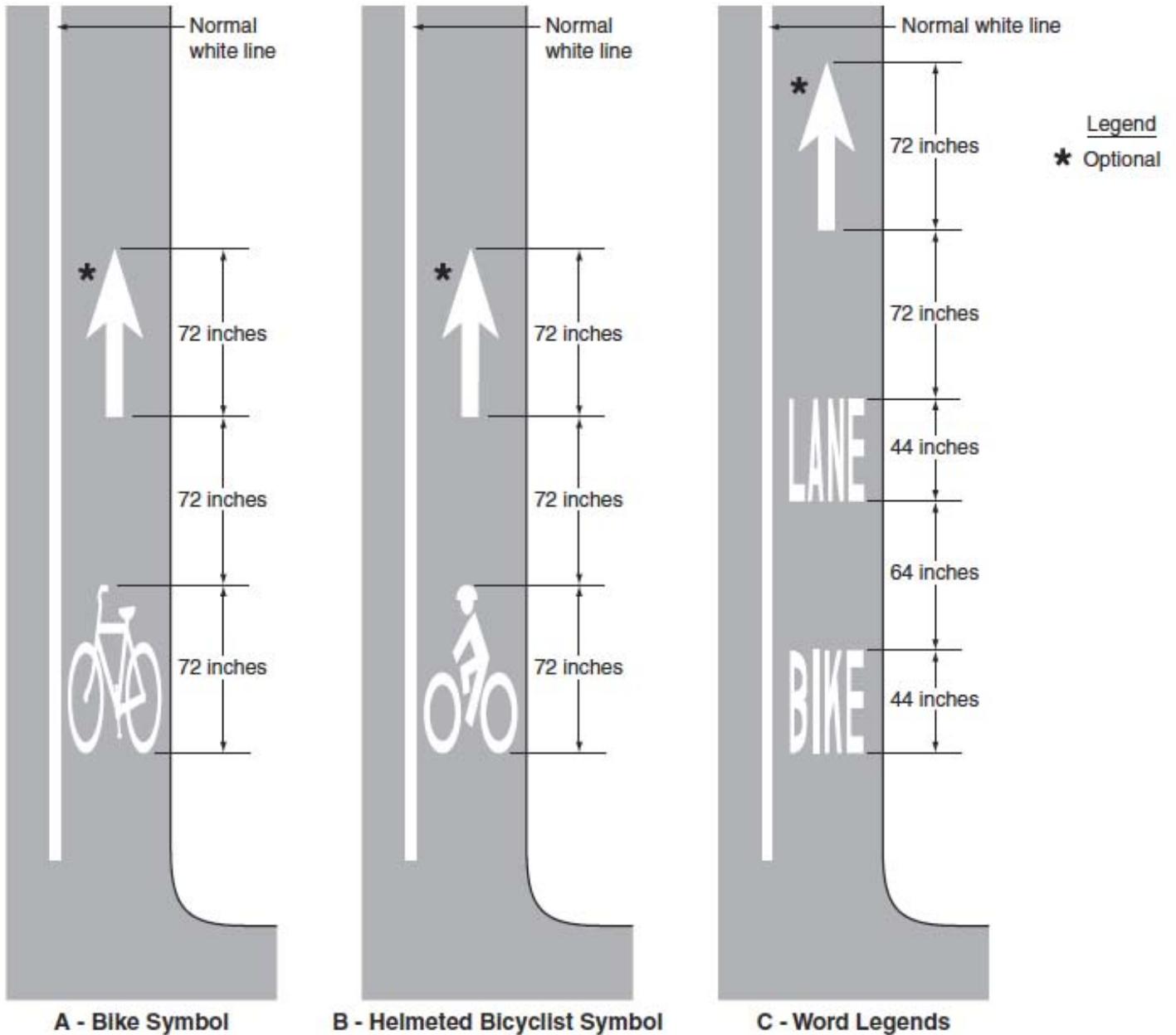
A bicycle lane is a portion of the roadway that has been designated by striping, signing, and pavement markings for the preferential and exclusive use of bicyclists. Bicycle lanes are located on both sides of the road, except one way streets, and carry bicyclists in the same direction as adjacent motor vehicle traffic. In the City of Allentown, PA, many local cyclists have expressed the desire to use striped shoulders as an alternative to bicycle lanes (see guidelines for 'Striped/Paved Shoulders').

Recommended bicycle lane width:

- 6' from the curb face when a gutter pan is present (or 4' from the edge of the gutter pan)
- 4' from the curb face when no gutter pan is present
- Should be used on roadways with average daily traffic (ADT) counts of 3,000 or more
- Not suitable where there are a high number of commercial driveways
- Suitable for 2-lane facilities and 4-lane divided facilities



Below: 2009 MUTCD examples of word, symbol, and pavement markings for bicycle lanes.



### Colored Bike Lanes

In addition to markings presented in the MUTCD, the following experimental pavement markings may be considered. European countries have used colored pavement for bicycle lanes in areas that tend to have a higher likelihood for vehicle conflicts. Examples of such locations are freeway on- and off-ramps and where a motorist may cross a bicycle lane to move into a right turn pocket. In the United States, the City of Portland and New York City have colored bike lanes and supportive signing with favorable results. Studies after implementation showed more motorists slowing or stopping at colored lanes and more motorists using their turn signals near colored lanes. Green is the recommended color (some cities that have used blue are changing to green, since blue is associated with handicapped facilities).

Below: Henry Street in Brooklyn, NY.



### Bike Lanes with On-Street Parking

Where on-street parking is permitted, and a bike lane is provided, the bike lane must be between parking and the travel lane, and be a minimum of 6' wide. Appropriate space must be allocated to allow passing cyclists room to avoid open car doors. For lanes with combined vehicle parking and bike use, a minimum width of 12' to 13' is recommended, and AASHTO recommends 11' to 13'.

### Striped/Paved Shoulder

Paved shoulders are the part of a roadway which is contiguous and on the same level as the regularly traveled portion of the roadway. There is no minimum width for paved shoulders, however a width of at least four feet is preferred. Ideally, paved shoulders should be included in the construction of new roadways and/or the upgrade of existing roadways, especially where there is a need to more safely accommodate bicycles.

- Most often used in rural environments, although not confined to any particular setting
- Should be delineated by a solid white line, and provided on both sides of the road
- Should be contiguous and on the same level as the regularly traveled portion of the roadway
- 4' minimum width; however for speeds higher than 40 MPH with high ADT, a shoulder width of more than 4' is recommended.
- Rumble strips should be avoided, but if used, then a width of more than 4' is needed.
- Paved shoulders should not be so wide as to be confused with a full automobile travel lane



## Bicycle Boulevards

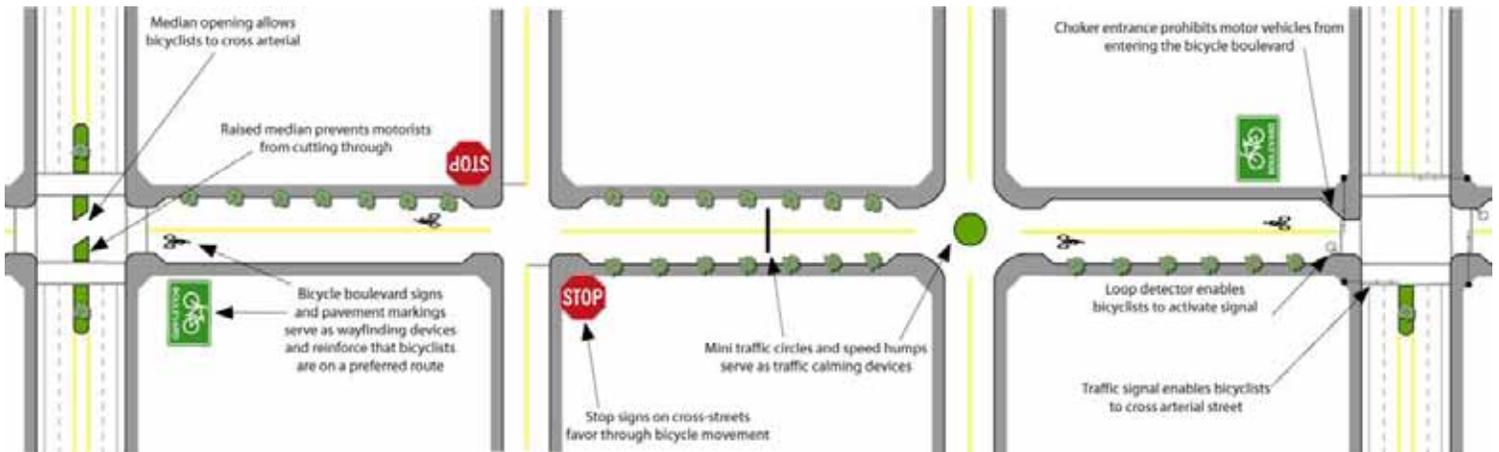
To further identify preferred routes for bicyclists, the operation of lower volume roadways may be modified to function as a through street for bicycles while maintaining local access for automobiles. Traffic calming devices reduce traffic speeds and through trips while limiting conflicts between motorists and bicyclists, as well as give priority to through bicycle movement.

For a complete overview, see [www.ibpi.usp.pdx.edu/guidebook.php](http://www.ibpi.usp.pdx.edu/guidebook.php)



Above: Bike boulevard route pavement markings and signs direct bicyclists.

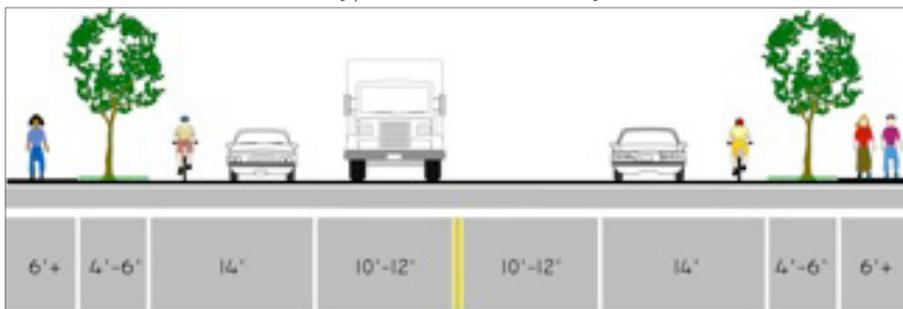
Below: A bicycle boulevard.



## Wide Outside Lanes

Even without a bicycle facility or marking, the conditions for bicycling are improved when the outside travel lane in either direction is widened to provide enough roadway space so that bicyclists and motor vehicles can share the roadway without putting either in danger (e.g., higher volume roadways with wide (14') outside lanes).

Below: Wide Outside Lane on a Typical Two Lane Roadway



## Green Alleyways

Green alley projects are being implemented in cities all over the U.S. and Canada in an effort to retrofit alleys to reduce runoff and better absorb rainwater through the use of permeable pavements, landscaping and infiltration basins. The best resource currently available (online) is the City of Chicago's 2009 Green Alley Handbook. The handbook explains sustainable alley design, illustrates the BMP techniques for green alley design, and provides sample layouts of how these elements have been combined in pilot applications. In addition, information and resources are provided for property owners interested in implementing their own environmental BMPs, ranging from recycling to installing your own rain gardens. The five main elements for green alleys outlined in the handbook include: 1) Alley Drainage Improvement through Proper Alley Pitching and Grading; 2) Permeable Pavement; 3) High Albedo Pavement; 4) Recycled Construction Materials; and 5) Dark Sky Compliant Light Fixtures.

Many cities are taking these initiatives a step further, aiming to attract pedestrians and bicyclists to these newly renovated, low-volume corridors. Considerations for using green alleyways as bicycle and pedestrian facilities include the following:

- The top consideration for using a green alley as bicycle and pedestrian corridor is whether the retrofitted alleyway would serve as a superior connection compared with nearby streets. The best candidates for alleyways as bicycle facilities are ones that provide a continuous, parallel route to a street that is both dangerous for cyclists, and is unlikely to accommodate bicycles in the future (due to costs or other constraints).
- To increase circulation space for bicycles and pedestrians in green alleys, parking in the alley should only be allowed for alley residents without driveways or garages directly off the alley. For parking under these circumstances, the alleyway should be designed with trees and/or tree planters to help organize the parking, making it a more pleasant environment for cyclists (woonerf parking example at top right).
- The green alley design option of replacing a center strip of pavement with grass is not recommended for alleys intended for bicycle use; a permeable pavement center strip is recommended as an alternative to this option (example at lower right).
- Automobile traffic on green alleys should be limited to alley residents accessing their property.



- Sufficient lighting should be made available at night and on dark days. See section on 'Lighting' for related guidelines.
- Where green alleys intersect streets, integrate features into the streets that would prioritize bicyclists (i.e., improve crossing safety) and improve driver awareness as to presence of bikes. See section on 'Bicycle Boulevards' for more related guidelines.
- Ensure that green alleys are plowed in the winter, providing year round accessibility.
- Generating funding for alley greening projects is most feasible through public-private partnerships and various stormwater-related state and federal programs.
- Surface should be smooth and clear of debris.



*The concept of 'green alleyways' is varied and evolving. Many focus primarily on water infiltration (opposite-bottom), others slow automobile traffic and prioritize bike/ped traffic (opposite-top and above), while still others close automobile traffic entirely, creating areas for exclusively for vegetation and people (right).*

## Bicycle Facilities at Intersections

Intersections represent one of the primary collision points for bicyclists, with many factors involved:

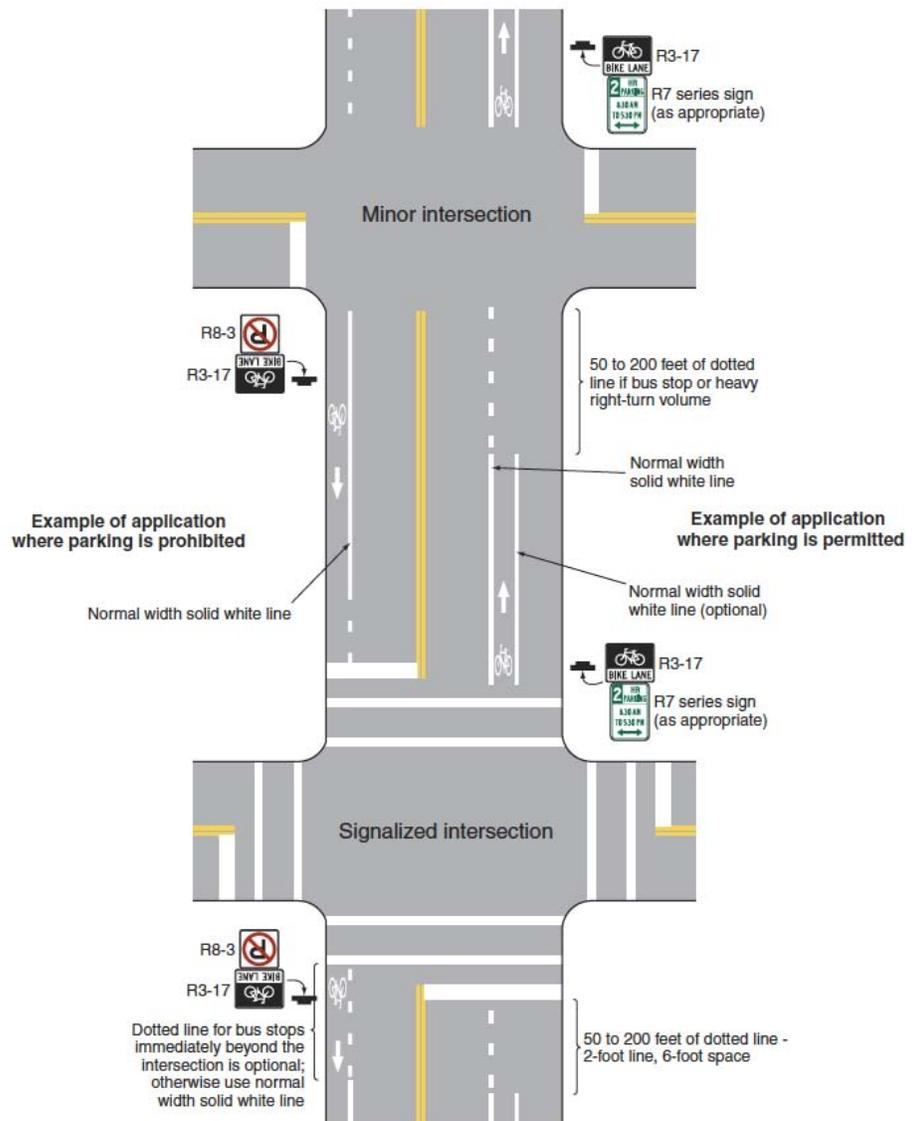
- Larger intersections are more difficult for bicyclists to cross.
- On-coming vehicles from multiple directions and increased turning movements make it more difficult for motorists to notice non-motorized travelers.
- Most intersections do not provide a designated place for bicyclists.
- Loop and other traffic signal detectors, such as video, often do not detect bicycles.
- Bicyclists making a left turn must either cross travel lanes to a left-turn lane, or dismount and cross as a pedestrian.
- Bicyclists traveling straight may have difficulty maneuvering from the far right lane, across a right turn lane, to a through lane of travel.

Solutions to some these issues are illustrated at right and in the following pages, including intersection configurations for bicycle lanes, signage, and bicycle-activated detector loops.

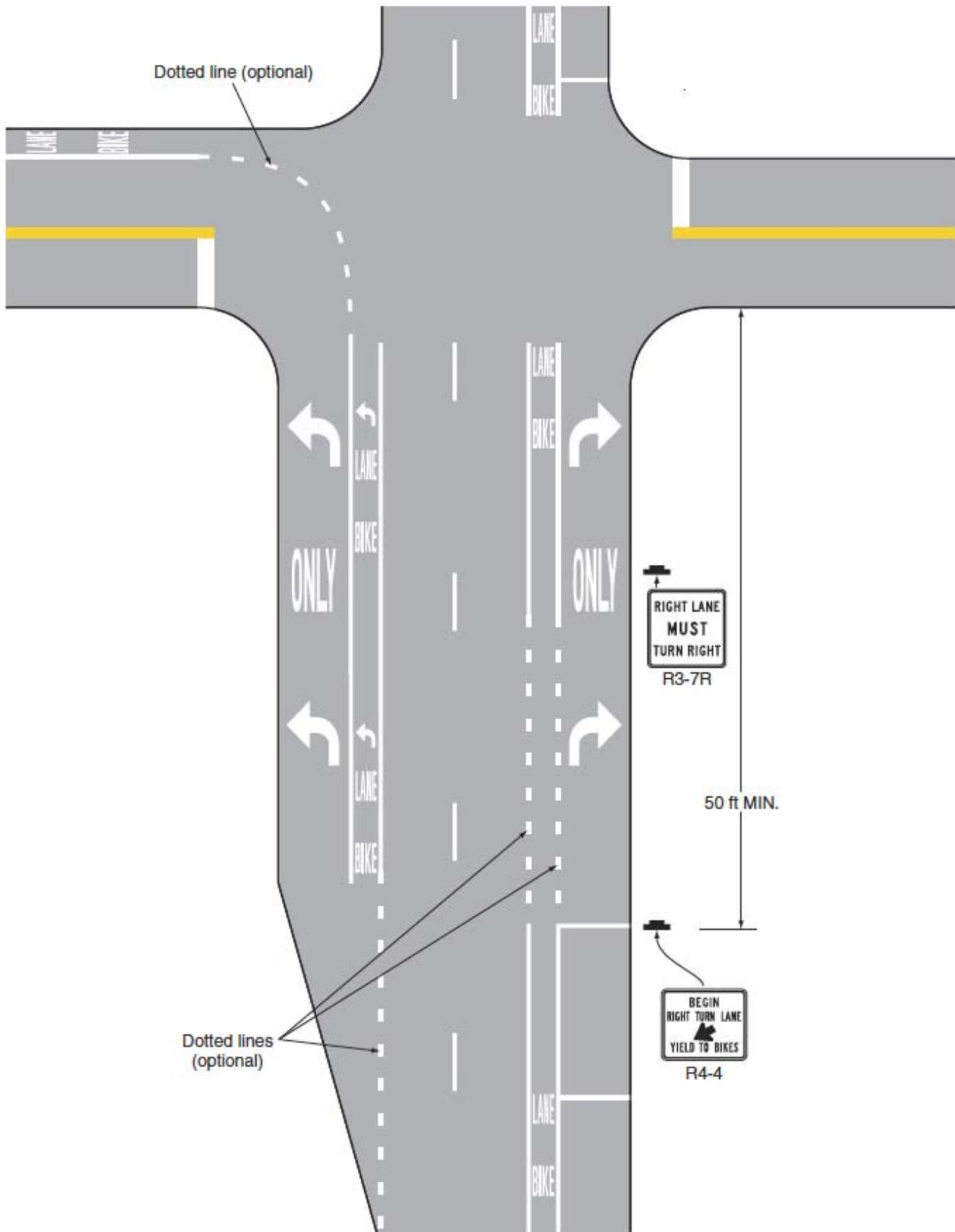
### Typical Intersection

#### Configuration for Bike Lanes

See the Manual on Uniform Traffic Control Devices (MUTCD) for guidance on lane delineation, intersection treatments, and general application of pavement wording and symbols for on-road bicycle facilities and off-road paths (updated version was released in 2009); example from the MUTCD at right.



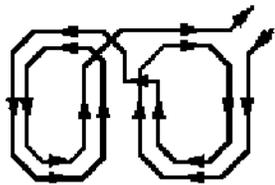
Example of Intersection Pavement Marking-Designated Bicycle Lane with Left-Turn Area, Heavy Turn Volumes, Parking, One-Way Traffic, or Divided Highway (Image below from the 2009 MUTCD, Figure 9C-1).



### Bicycle-Activated Detector Loop

Changing how intersections operate can help make them more “friendly” to bicyclists. Improved traffic signal timing for bicyclists, bicycle-activated loop detectors, and camera detection make it easier and safer for cyclists to cross intersections. Bicycle-activated loop detectors are installed within the roadway to allow the weight of a bicycle to trigger a change in the traffic signal. This allows the cyclist to stay within the lane of travel and avoid maneuvering to the side of the road to trigger a push button, which ultimately provides extra green time before the light turns yellow to make it through the light. Current and future loops that are sensitive enough to detect bicycles should have pavement markings to instruct cyclists on how to trip them. These common loop detector types are recommended:

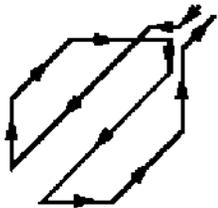
Use pavement marking to aid bicyclists in locating loop detectors at intersections.



#### Quadruple Loop

*(Recommended for bike lanes)*

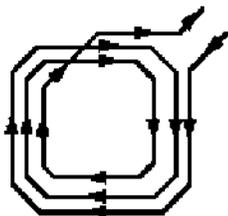
- Detects most strongly in center
- Sharp cut-off sensitivity



#### Diagonal Quadruple Loop

*(Recommended for shared lanes)*

- Sensitive over whole area
- Sharp cut-off sensitivity

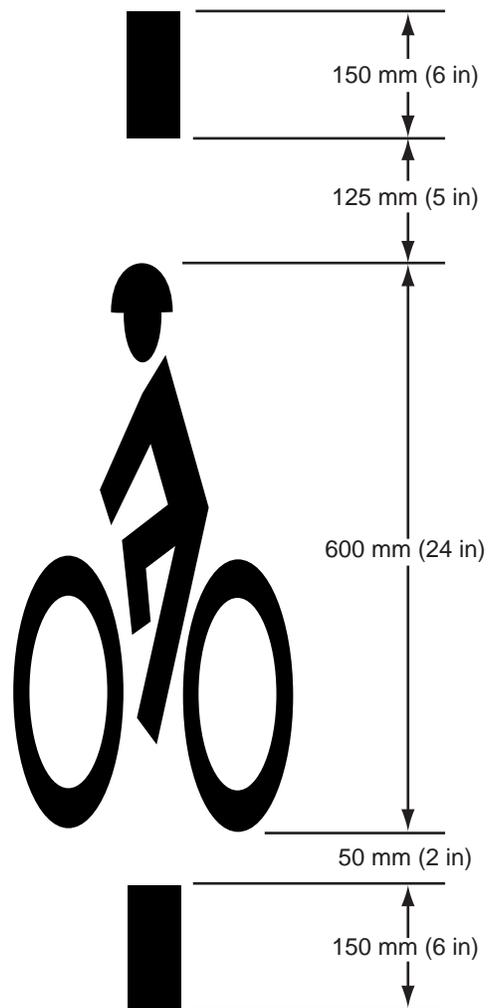


#### Standard Loop

*(Recommended for advanced detection)*

- Detects most strongly over wires
- Gradual cut-off

*(See: Implementing Bicycle Improvements at the Local Level, FHWA, 1998, p. 70)*



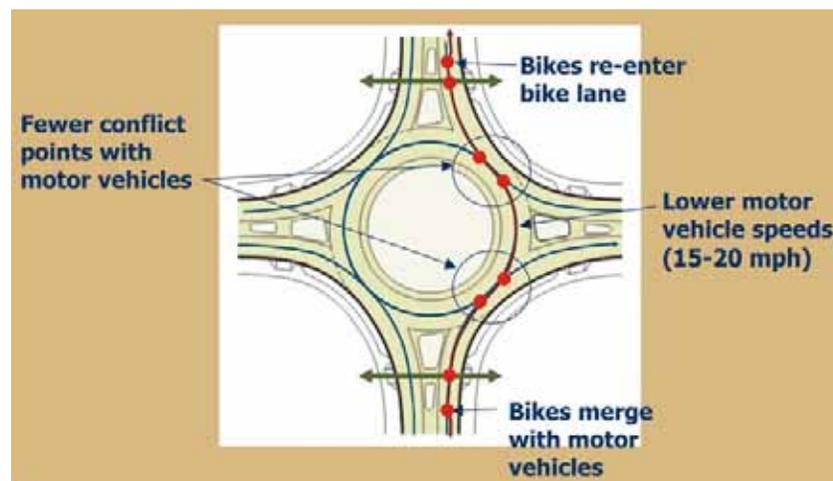
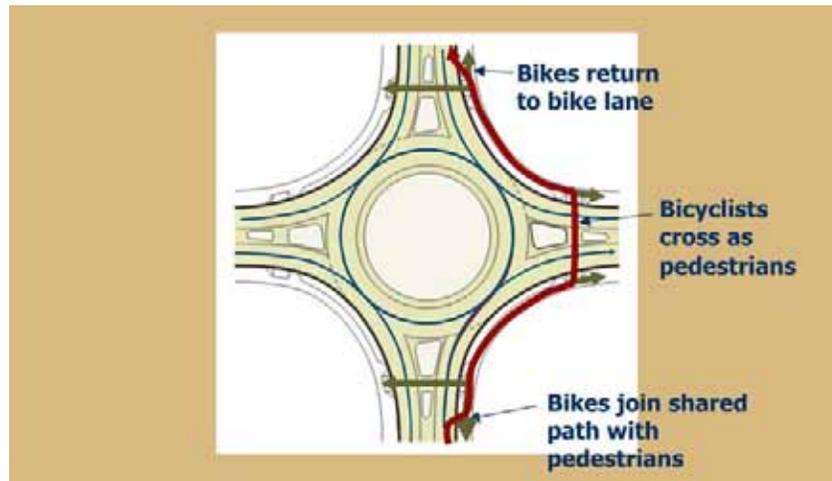
## Roundabouts/Traffic Circles

Roundabouts are one-way circular intersections in which traffic flows around a center island without stop signs or signals. Because roundabout traffic enters and exits through right turns only and speeds are reduced, the occurrence of severe crashes is substantially less than in many traditional four-way intersections. The lower speeds within roundabouts also allow entering traffic to access smaller gaps between circulating vehicles, increasing traffic volume and decreasing delays, congestion, fuel consumption and air pollution.

Modern roundabouts greatly reduce the potential for high-speed, right-angle, rear-end and left turn/head-on collisions. In traditional four-way traffic intersections, there are 32 points of conflict in which two vehicles may collide. Modern roundabouts have only eight conflict areas, greatly reducing potential crashes.

- For bicyclists, roundabouts with only one circulating lane are much safer to navigate than are multi-lane roundabouts.
- Diagrams at right show two ways for bicyclists to navigate roundabouts, depending on comfort and skill level.

*Below: Circulating as a Pedestrian: If a cyclist is uncomfortable riding with traffic, a cyclist can choose to travel instead as a pedestrian.*



*Above: Circulating as a Vehicle: Bike lanes are not recommended within a roundabout. Instead, cyclists merge with traffic before entering the roundabout, circulate with traffic, and then re-enter the bike lane after existing.*

## Bicycle Facilities at Railroad Crossings

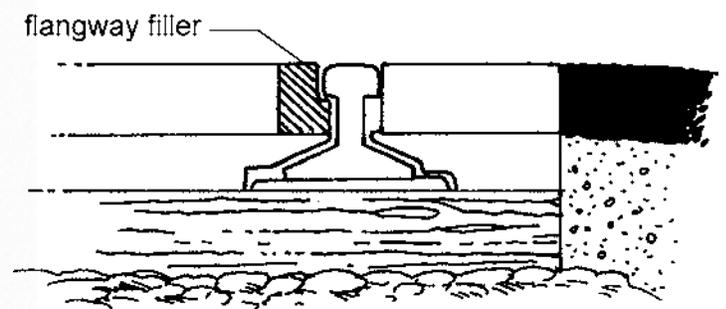
Railroad crossings are particularly hazardous to those who rely on wheeled devices for mobility (railroad crossings have flangeway gaps that allow passage of the wheels of the train, but also have the potential to catch wheelchair casters and bicycle tires). In addition, rails or ties that are not embedded in the travel surface create a tripping hazard. Recommendations:

- Make the Crossing Level: Raise approaches to the tracks and the area between the tracks to the level of the top of the rail.
- Bikes Should Cross RR at Right Angle
- When bikeways or roadways cross railroad tracks at grade, the roadway should ideally be at a right angle to the rails. When the angle of the roadway to the rails is increasingly severe, the approach recommended by Caltrans (Highway Design Manual, Section 1003.6) and AASHTO (Guide for the Development of Bicycle Facilities, 1999, p.60) is to widen the approach roadway shoulder or bicycle facility, allowing bicycles to cross the tracks at a right angle without veering into the path of passing motor vehicle traffic.

- Use Multiple Forms of Warning: Provide railroad crossing information in multiple formats, including signs, flashing lights, and audible sounds.
- Clear Debris Regularly: Perform regular maintenance to clear debris from shoulder areas at railroad crossings.
- Fill Flangeway with Rubberized Material or Concrete Slab: Normal use of rail facilities causes buckling of paved-and-timbered rail crossings. Pavement buckling can be reduced or eliminated by filling the flangeway with rubberized material, concrete slab, or other treatments. A beneficial effect of this is a decrease in long-term maintenance costs.



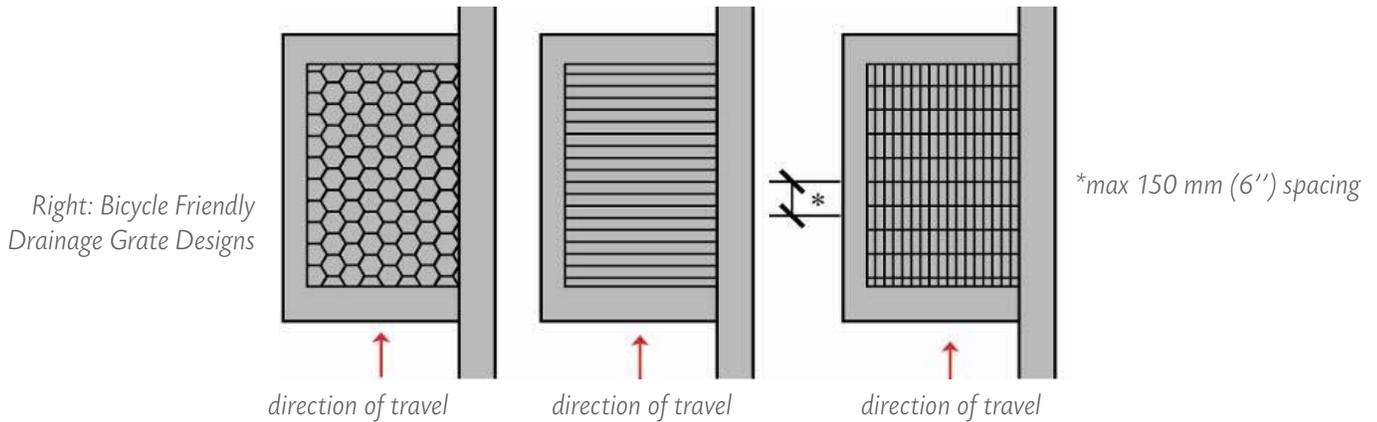
*Installing a rubber surface rather than asphalt around railroad flangeways reduces changes in level and other maintenance problems.*



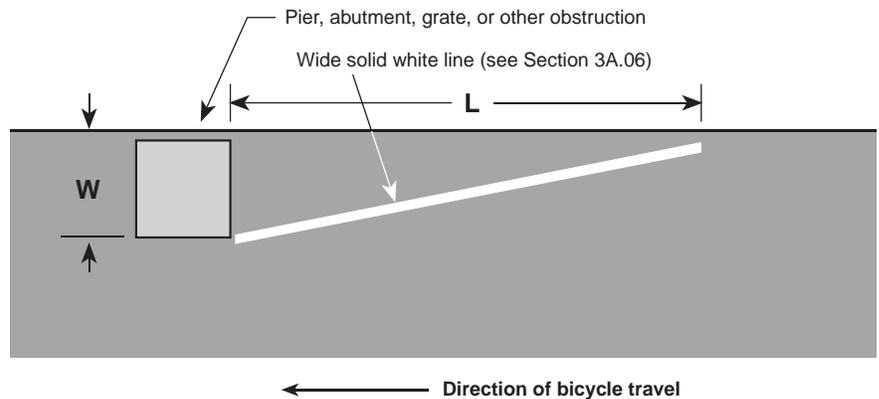
*The "flangeway filler" eliminates the gap in the path of travel for pedestrians crossing railroad tracks. The filler, consisting of a rubber insert, will deflect downward with the weight of a train and does not affect railway function.*

## Bicycle Friendly Drainage Grates

Drainage grates usually occupy portions of roadways, such as bicycle lanes, where bicycles frequently travel. Often drainage grates are poorly maintained or are of a design that can damage a bicycle wheel or in severe circumstances, cause a bicyclist to crash. Improper drainage grates create an unfriendly obstacle a cyclist must navigate around, often forcing entrance into a motor vehicle lane in severe cases. Bicycle friendly drainage grates should be installed in all new roadway projects and problem grates should be identified and replaced.



Right: MUTCD example of obstruction pavement marking; if dangerous drainage grates (or other obstructions) are not to be fixed in the short term, then this pavement marking should direct cyclists away from the obstruction.



*Dangerous Drainage Grate Condition; this example is dangerous due to the grate running parallel to the roadway, creating a trap for bicycle tires.*



*Dangerous Drainage Grate Condition; this example is dangerous due to the surrounding paving condition (when the road was resurfaced the drainage grate remained at the same height).*



*Bicycle-Friendly Drainage Grate*

## Bicycle Parking and Bicycle Stations

### Bicycle Parking

As more bikeways are constructed and bicycle usage grows, the need for bike parking will climb. Long-term bicycle parking at transit stations and work sites, as well as short-term parking at shopping centers and similar sites, can support bicycling. Bicyclists have a significant need for secure long-term parking because bicycles parked for longer periods are more exposed to weather and theft, although adequate long-term parking rarely meets demand. These bicycle parking standards should also be shared with local colleges.

When choosing bike racks, there are a number of things to keep in mind:

- The rack element (part of the rack that supports the bike) should keep the bike upright by supporting the frame in two places allowing one or both wheels to be secured.
- Install racks so there is enough room between adjacent parked bicycles. If it becomes too difficult for a bicyclist to easily lock their bicycle, they may park it elsewhere and the bicycle capacity is lowered. A row of inverted “U” racks should be installed with 15” minimum between racks.
- Empty racks should not pose a tripping hazard for visually impaired pedestrians. Position racks out of the walkway’s clear zone.
- When possible, racks should be in a covered area protected from the elements. Long-term parking should always be protected.

The table below provides basic guidelines on ideal locations for parking at several key activity centers as well as an optimum number of parking spaces.

### Bicycle Parking Locations and Quantities

Use Category	Specific Use	Required Long-term Parking Spaces	Required Short-term Parking Spaces
Residential	Boarding houses	2, or 1 per ten sleeping rooms	None
	Hotels, motels	2, or 1 per 50 employees	None
Commercial / Industrial	Retail sales, service operations *	2, or 1 per 50,000 square feet of gross floor area	2, or 1 per 25,000 square feet of gross floor area
	Office buildings **	2, or 1 per 50,000 square feet of gross floor area	2, or 1 per 50,000 square feet of gross floor area
	Museums, libraries	2, or 1 per 50 employees	4, or 1 per 25,000 square feet of gross floor area
	Movie theaters	2, or 1 per 50 employees	4, or 1 per 50 seats
	Restaurants, ice cream shops, coffee shops	2, or 1 per 50 employees	4, or 1 per 50 seats
	Recreation centers	2, or 1 per 50 employees	4, or 1 per 25,000 square feet of gross floor area
	Major event entertainment (e.g., stadiums, arenas)	2, or 1 per 50 employees	8, or 1 per 500 seats
	Manufacturing	2, or 1 per 50 employees	None
	Warehousing	2, or 1 per 50 employees	None
Institutional	Medical centers	2, or 1 per 50 employees	2, or 1 per 25,000 square feet of gross floor area
	Transit park and ride lots	1 per 50 daily boardings	None

\* Retail businesses below 3,000 square feet of gross floor area are exempt from bicycle parking requirements

\*\* Office buildings below 10,000 square feet of gross floor area are exempt from bicycle parking requirements

## Bicycle Rack Standards

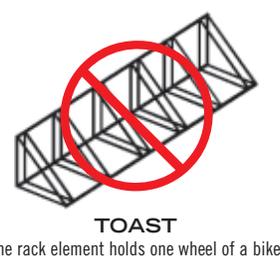
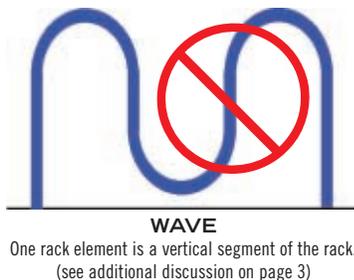
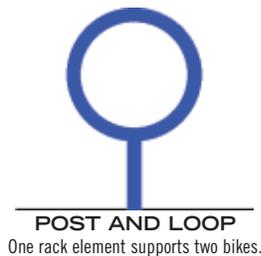
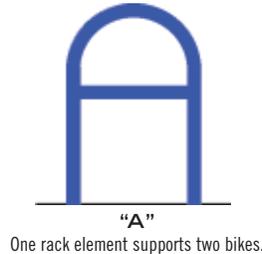
The rack element should:

- Support the bicycle upright by its frame in two places
- Prevent the wheel of the bicycle from tipping over
- Enable the frame and one or both wheels to be secured
- Support bicycles without a diamond-shaped frame with a horizontal top tube (e.g. a mixte frame)
- Allow front-in parking: a U-lock should be able to lock the front wheel and the down tube of an upright bicycle
- Allow back-in parking: a U-lock should be able to lock the rear wheel and seat tube of the bicycle



Comb, toast, school-yard, and other wheel-bending racks that provide no support for the bicycle frame are NOT recommended.

The rack element should resist being cut or detached using common hand tools, especially those that can be concealed in a backpack. Such tools include bolt cutters, pipe cutters, wrenches, and pry bars.



Bicycle racks that incorporate advertising can be sponsored by local merchants.



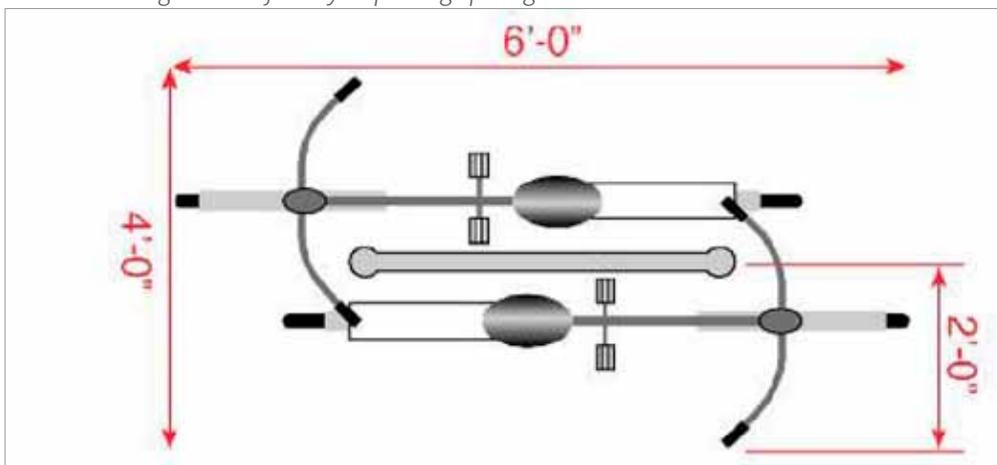
Provision of shelter from rain greatly increases usefulness of this bicycle parking facility during inclement weather.



A single inverted "U" rack can accommodate two bicycles.

Recommended guidelines for bicycle parking from the Association of Pedestrian and Bicycle Professionals, 2002, [www.apbp.org](http://www.apbp.org).

Recommended guidelines for bicycle parking spacing dimensions.



### *Bicycle Parking and the Public vs. Private Right-of-Way*

Bicycle parking can be located either in the public right of way or on private property, depending on the adjacent land uses and streetscape. For example, an office park may provide short-term bicycle parking racks near building entrances, and may also provide secure indoor parking for employees. For on street bike parking, the following example from the Portland, OR offers guidelines for city policy.

#### *Example On-Street Bicycle Parking Requirements (City of Portland, OR, Administrative Rule for On-Street Bicycle Parking)*

- Sidewalk racks are at capacity on a recurring basis.
- City staff and applicant jointly determine time of day and day of week for highest bicycle use. This assessment must be independent of any special event that may inflate the average daily use.
- City staff visits site to assess bicycle use, based on the formula listed below, and whether or not it can be met by normal sidewalk rack installations. Due to seasonal variations and weather dependence, determination of bicycle use may need to be delayed pending suitable conditions to assess actual needs.
- Formula used to determine supply and demand for the areas:
  1. Bicycles parked within 50 feet of proposed site multiplied by 1.5
  2. Bicycles parked more than 50 feet, but less than 150 feet, of proposed site multiplied by 1.0
  3. Bicycles parked more than 150 feet, but less than 200 feet, of proposed site multiplied by 0.5
- City staff inventories parked bicycles and available bicycle racks within 200 feet of the site, measured using marked and unmarked crosswalks, including street crossing distances. City staff also will assess the possibilities for additional sidewalk racks.
- If sidewalk bicycle parking cannot be installed to meet 80 percent of inventoried, parked bicycles, then a bicycle corral is warranted. City staff will determine this.
- At a minimum there must be 100 percent agreement with adjacent property owners, established through petition.
- A Maintenance Agreement must be signed by the requestors and the City and kept on file with the City.
- If the business owner that originally requested the bicycle parking closes, sells or transfers ownership the new owner must give written approval of the bicycle parking to the City within 30 days of taking ownership.

*Below: An example of replacing on-street vehicular parking with a 'bicycle corral' (in Portland, OR).*



### Attended Bike Parking and Bike Lockers

Attended bike parking is analogous to a coat check – your bike is securely stored in a supervised location. An organization called The Bikestation Coalition is promoting enhanced attended parking at transit stations.

The Bikestation concept is now in use in Palo Alto, Berkeley and San Francisco and Seattle. Bikestations offer secured valet bicycle parking near transit centers. What makes Bikestations distinctive are the other amenities that may be offered at the location – bicycle repair, cafes, showers and changing facilities, bicycle rentals, licensing, etc. Bikestations become a virtual one-stop-shop for bicycle commuters.



*A bicycle station with attended parking in Long Beach, CA.*

Attended bicycle parking can be offered at some special events. For example, the Marin County Bicycle Coalition sponsors valet parking at many festivals in the county, the Sonoma County Bicycle Coalition sponsors valley parking at the downtown Santa Rosa Farmer's Market, and secured bicycle parking is offered at Pac Bell Park in San Francisco.

*Bike lockers should be constructed of opaque materials and be clearly labelled as bicycle parking. Rental management can be either under contract or provided as a service by transit operators or other agencies. (photos from [www.cyclesafe.com/LockerPhotos.tab.aspx](http://www.cyclesafe.com/LockerPhotos.tab.aspx)).*



*Bicycle lockers are a crucial component of the bicycle system. They offer safe and secure storage at transit centers and destinations. Parking rates are reasonable at about 3-5 cents per hour ([www.bikelink.org](http://www.bikelink.org)).*

### *Bike Sharing Programs*

Many cities including Washington, DC, Montreal and Louisville are implementing innovative bike-sharing programs using a variety of revenue generating and fee-for service programs. Copenhagen, Denmark, pioneered the concept of providing a fleet of bicycles for free public use throughout the urban center. Paris has made this concept popular with the development of the city-wide Velib system of credit-card operated bike rentals. The Danish free bikes are subsidized by advertising sales on the bicycles, and they require a coin or credit card deposit for use. The bicycles are single speed, durable and suitable only for short trips. Their design makes them less likely to be stolen. They can be picked up and dropped off at a variety of destinations – making them an easy choice for in-town travel by residents and visitors. A variety of similar programs utilize recycled bicycles or bicycles painted in a common color for free public use.



*Louisville’s “Freewheelin” bike sharing system is supported by Humana Healthcare. The City is working with public private partnerships to provide a fleet of shared bicycles.*

### *Bicycle Stations and Repair Stands*

Bicycle repair stands and bicycle stations are fixtures in highly successful bicycle-friendly communities. Popular locations include farmer’s markets or public areas that are centers for activity, easily accessible by foot or bicycle. Local bike shops and local events in Allentown could provide similar services. The presence of smaller scale operations that primarily provide maintenance and repair functions within semi-permanent structures like the tent and tarp shown below allow for a lower cost operation, thereby passing on savings to the customer in terms of lower repair and maintenance costs.

In North Carolina communities (Durham and Carborro, for example), local, volunteer-run bicycle non-profit organizations offer maintenance training and space for local residents to work on their bikes. The City of Durham, for example, granted funding to their local bicycle co-op for their provision of this important bicycle support facility.



*Far left: A bicycle stand in Copenhagen, Denmark.*

*Left: A bicycle maintenance stand at a farmers’ market in Durham, NC.*

## Bicycle Access on Transit

Integrating bicycle facilities with transit modes allows bicyclists to greatly expand the area accessible. Below are examples of commuter trains and bus services with customized facilities allowing for simple and secure storage of bicycles without hindering or impeding other passengers. The City of Allentown should continue to accommodate bikes on all buses, and should support similar options if and when light-rail or similar transit options become available.



1. Have your bike ready to load—always approach the bus from the curbside. Remove water bottles or other loose items.
2. Make eye contact with the driver to alert him/her to your presence.
3. If the rack is empty, lift the metal handle and pull the folded bike rack down flat.

4. Load the bike in the space nearest the bus.

If another bike is on the rack, load your bike in the open position. You are responsible for loading and securing your bike on the rack. Drivers are not allowed to load or unload bicycles.

5. Lift the support arm and hook it over the front tire.

Make sure the support arm clamps the tire and not the fender or frame. Your bike now is securely fastened in the rack.

6. Hop on and pay your fare.

7. When you reach your stop, tell the driver before you exit the bus that you'll be removing your bike.

Raise the support arm, lower it into place and lift your bike off the rack.

Fold up the rack if it is empty, and step onto the sidewalk with your bike.

NEVER cross in front of the bus—wait until the bus has left the stop.

If the rack is full, please wait for the next bus.

*Instructions on how to load a bicycle onto a bus equipped with a bicycle rack, developed for a bicycle user map by Fremont, CA*

## Bike/Ped Treatments for Transit Stops

Integrating bicycle and pedestrian facilities with transit modes allows users to greatly expand their range of travel or “trip chain”.

- At a minimum, marked crosswalks (especially at mid-block stops), curb ramps, and proper sidewalk widths should be provided.
- Although the current buses that serve Allentown are equipped with bicycle racks, bus stops should also incorporate bicycle racks, and at major stops, bicycle lockers.
- Local walking and biking maps should also be provided at bus stops, so that people are aware of the nearby destinations and how best to get there without an automobile.
- Additional elements to consider include: water fountains, pedestrian-scale lighting, legible and adequate transit stop signage, shelter, seating, air compressors, and electronic signs displaying real-time bus arrival information.
- At bus stops, special attention should be paid to the number of lanes and direction of traffic when deciding to locate a stop on the near or far side of an intersection. Also special consideration must be paid to the wheelchair lifts in terms of how and where the mobility impaired will exit and enter the bus.

*Right and below: bike racks, air compressor (for bicycle tires), maps, and water fountains should be included at bus stops to encourage multi-modal transportation.*



*This typical transit stop features a shelter, ample seating, bicycle parking, landscaping, and trash bins (Image from <http://www.walkinginfo.org>).*

## Sidewalks and Walkways

Sidewalks and walkways are extremely important public right-of-way components often times adjacent to, but separate from automobile traffic. In many ways, they act as the seam between private residences, stores, businesses, and the street.

There are a number of options for different settings, for both downtown and more rural and/or suburban areas. From a wide promenade to, in the case of a more rural environment, a simple asphalt or crushed stone path next to a secondary road, walkway form and topography can vary greatly. In general, sidewalks are constructed of concrete although there are some successful examples where other materials such as asphalt, crushed stone, or other slip resistant material have been used. The width of the walkways should correspond to the conditions present in any given location (i.e. level of pedestrian traffic, building setbacks, or other important natural or cultural features). FHWA (Federal Highway Administration) and the Institute of Transportation Engineers both suggest five feet as the minimum width for a sidewalk. This is considered ample room for two people to walk abreast or for two pedestrians to pass each other. Often downtown areas, near schools, transit stops, or other areas of high pedestrian activity call for much wider sidewalks.

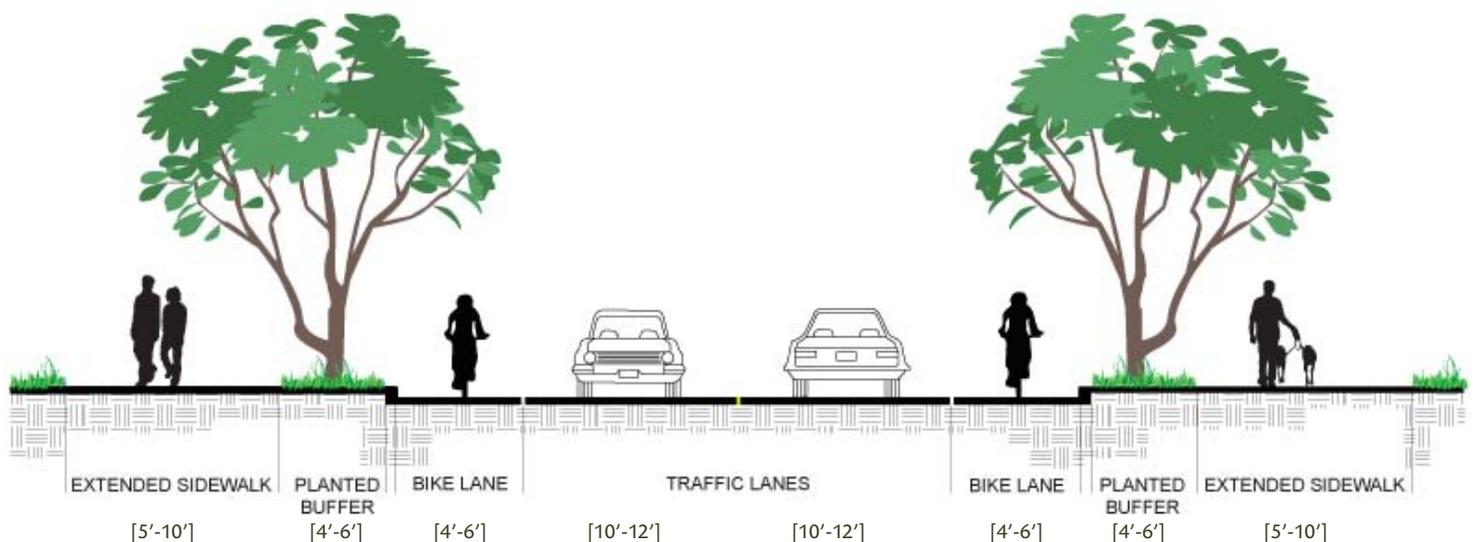


A well designed residential sidewalk will have a width of at least five feet. (Image from <http://www.walkinginfo.org>)



Sidewalk with a vegetated buffer zone. Notice the sense of enclosure created by the large canopy street trees. (Image from <http://www.walkinginfo.org>)

Below: Typical street with bike lanes and adjacent sidewalk.



*Sidewalks and Walkway Guidelines:*

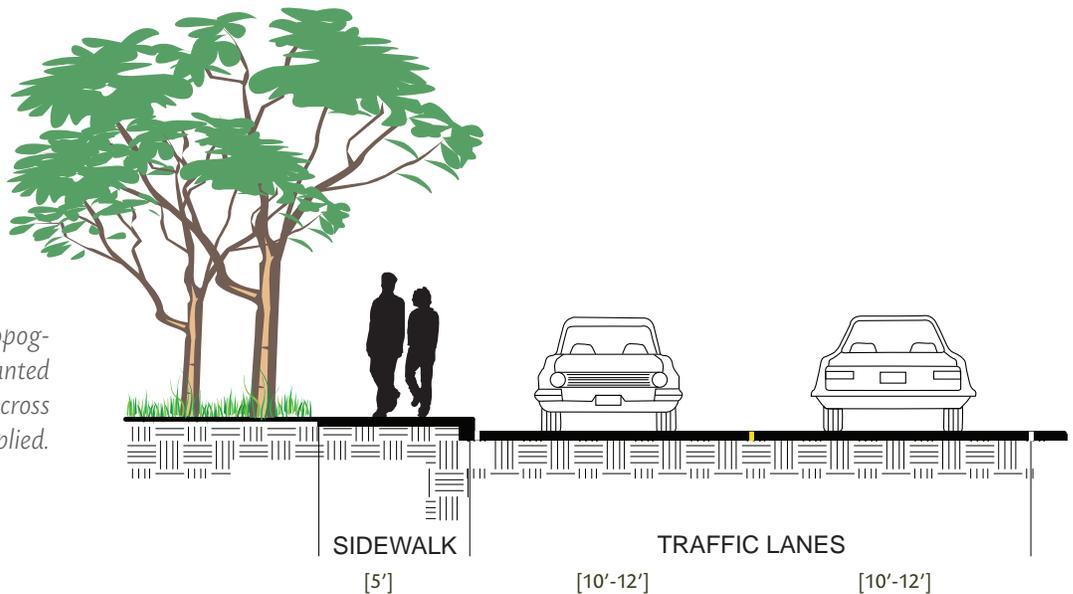
*Sidewalk Guideline Sources:*

*American Association of State Highway and Transportation Officials. (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities.*

*Metro Regional Government. (2005). Portland, Oregon: Transportation Information Center. <http://www.oregon-metro.gov>*

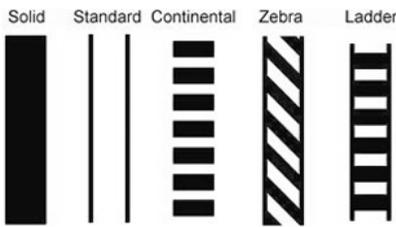
- Concrete is preferred surface, providing the longest service life and requiring the least maintenance. Permeable pavement such as porous concrete may be considered to improve water quality.
- Sidewalks should be built as flat as possible to accommodate all pedestrians; they should have a running grade of five percent or less; with a two percent maximum cross-slope.
- Concrete sidewalks should be built to minimum depth of four inches; six inches at driveways.
- Sidewalks should be a minimum of five feet wide; sidewalks serving mixed use and commercial areas shall be a minimum of 8 ft in width (12–15 feet is required in front of retail storefronts).
- Buffer zone of two to four feet in local or collector streets; five to six feet in arterial or major streets and up to eight feet in busy streets and downtown to provide space for light poles and other street furniture. See the Vegetation section later in this appendix for shade and buffer opportunities of trees and shrubs.
- Motor vehicle access points should be kept to minimum.
- If a sidewalk with buffer on both sides is not feasible due to topography and right-of-way constraints, then a sidewalk on one side is better than no facility. Each site should be examined in detail to determine placement options.

*Right: Where space and topography are limiting and a planted buffer is not possible, this cross section may be applied.*



## Marked Crosswalks

A marked crosswalk designates a pedestrian right-of-way across a street. It is often installed at controlled intersections or at key locations along the street (a.k.a. mid-block crossings). Every attempt should be made to install crossings at the specific point at which pedestrians are most likely to cross: a well-designed traffic calming location is not effective if pedestrians are instead using more seemingly convenient and potentially dangerous locations to cross the street. Marked pedestrian crosswalks may be used under the following conditions: 1) At locations with stop signs or traffic signals, 2) At non-signalized street crossing locations in designated school zones, and 3) At non-signalized locations where engineering judgment dictates that the use of specifically designated crosswalks are desirable.



A variety of patterns are possible in designating a crosswalk; an example of a 'continental' design is shown above.

There is a variety of form, pattern, and materials to choose from when creating a marked crosswalk. It is important however to provide crosswalks that are not slippery, are free of tripping hazards, or are otherwise difficult to maneuver by any person including those with physical mobility or vision impairments. Although attractive materials such as inlaid stone or certain types of brick may provide character and aesthetic value, the crosswalk can become slippery. Potential materials can be vetted by requesting case studies from suppliers regarding where the materials have been successfully applied. Also, as some materials degrade from use or if they are improperly installed, they may become a hazard for the mobility or vision impaired.

### Crosswalk Guidelines:

#### Crosswalk Guideline Sources:

American Association of State Highway and Transportation Officials. (2004). *Guide for the Planning, Design, and Operation of Pedestrian Facilities*.

Metro Regional Government. (2005). *Portland, Oregon: Transportation Information Center*. <http://www.oregon-metro.gov>

- Should not be installed in an uncontrolled environment [at intersections without traffic signals] where speeds exceed 40 mph. (AASHTO, 2004)
- Crosswalks alone may not be enough and should be used in conjunction with other measures to improve pedestrian crossing safety, particularly on roads with average daily traffic (ADT) above 10,000
- Width of marked crosswalk should be at least six feet; ideally ten feet or wider in downtown areas.
- Curb ramps and other sloped areas should be fully contained within the markings.
- Crosswalk markings should extend the full length of the crossings.
- Crosswalk markings should be white per MUTCD.
- Either the 'continental' or 'ladder' patterns are recommended for intersection improvements for aesthetic and visibility purposes. Lines should be one to two feet wide and spaced one to five feet apart.

## Curb Ramps

Curb ramps are critical features that provide access between the sidewalk and roadway for wheelchair users, people using walkers, crutches, or hand-carts, people pushing bicycles or strollers, and pedestrians with mobility or other physical impairments. In accordance with the 1973 Federal Rehabilitation Act and to comply with the 1990 Federal ADA requirements, curb ramps must be installed at all intersections and mid-block locations where pedestrian crossings exist (Pedestrian and Bicycle Information Center: [www.walkinginfo.org/engineering/roadway-ramps.cfm](http://www.walkinginfo.org/engineering/roadway-ramps.cfm)). In addition, these federal regulations require that all new constructed or altered roadways include curb ramps.

Two separate curb ramps should be provided at each intersection (see image below). With only one large curb ramp serving the entire corner, there is not safe connectivity for the pedestrian. Dangerous conditions exist when the single, large curb ramp inadvertently directs a pedestrian into the center of the intersection, or in front of an unsuspecting, turning vehicle.

### *Curb Ramp Guidelines:*

- Two separate curb ramps, one for each crosswalk, should be provided at corner of an intersection.
- Curb ramp should have a slope no greater than 1:12 (8.33%). Side flares should not exceed 1:10 (10%); it is recommended that much less steep slopes be used whenever possible.

### *Curb Ramp Guideline Sources:*

*Metro Regional Government. (2005). Portland, Oregon: Transportation Information Center. <http://www.oregon-metro.gov>*



*Left: The curb ramps shown have two separate ramps at the intersection (visible across the street) (Image from <http://www.walkinginfo.org>).*

*For additional information on curb ramps see *Accessible Rights-of-Way: A Design Guide*, by the U.S. Access Board and the Federal Highway Administration, and *Designing Sidewalks and Trails for Access, Parts I and II*, by the Federal Highway Administration. Visit: [www.access-board.gov](http://www.access-board.gov) for the Access board's right-of-way report.*

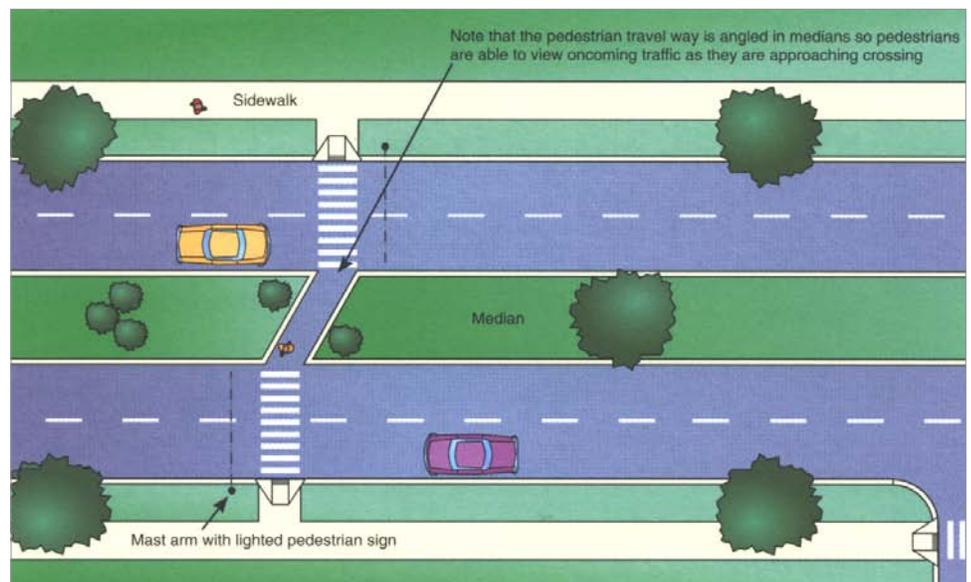
## Raised or Lowered Medians

Medians are barriers in the center portion of a street or roadway. When used in conjunction with mid-block or intersection crossings, they can be used as a crossing island to provide a place of refuge for pedestrians. They also provide opportunities for landscaping that in turn can help to slow traffic. A center turn lane can be converted into a raised or lowered median thus increasing motorist safety.

A continuous median can present several problems when used inappropriately. If all left-turn opportunities are removed, there runs a possibility for increased traffic speeds and unsafe U-turns at intersections. Additionally, the space occupied may be taking up room that could be used for bike lanes or other treatments. An alternative to the continuous median is to create a segmented median with left turn opportunities.

Raised or lowered medians are best suited for high-volume, high-speed roads, and they should provide ample cues for people with visual impairments to identify the boundary between the crossing island and the roadway.

*Right: A median used in conjunction with mid-block crossing, serving as a refuge for pedestrians. (Image from AASHTO).*



*Right: an attractive lowered and landscaped median that collects stormwater, yet appears to be raised. (Image from AASHTO)*



*Median Guidelines:*

- Median pedestrian refuge islands should be provided as a place of refuge for pedestrians crossing busy or wide roadways at either mid-block locations or intersections. They should be utilized on high speed and high volume roadways.
- Medians should incorporate trees and plantings to change the character of the street and reduce motor vehicle speed.
- Landscaping should not obstruct the visibility between motorists and pedestrians.
- Median crossings should provide ramps or cut-throughs for ease of accessibility for all pedestrians.
- Median crossings should be at least 6 feet wide in order to accommodate more than one pedestrian, while a width of 8 feet (where feasible) should be provided for bicycles, wheelchairs, and groups of pedestrians.
- Median crossings should possess a minimum of a 4 foot square level landing to provide a rest point for wheelchair users.
- Pedestrian push-buttons should be located in the median of all signalized mid-block crossings, where the roadway width is in excess of 60 feet.

*Median Guideline Sources:*

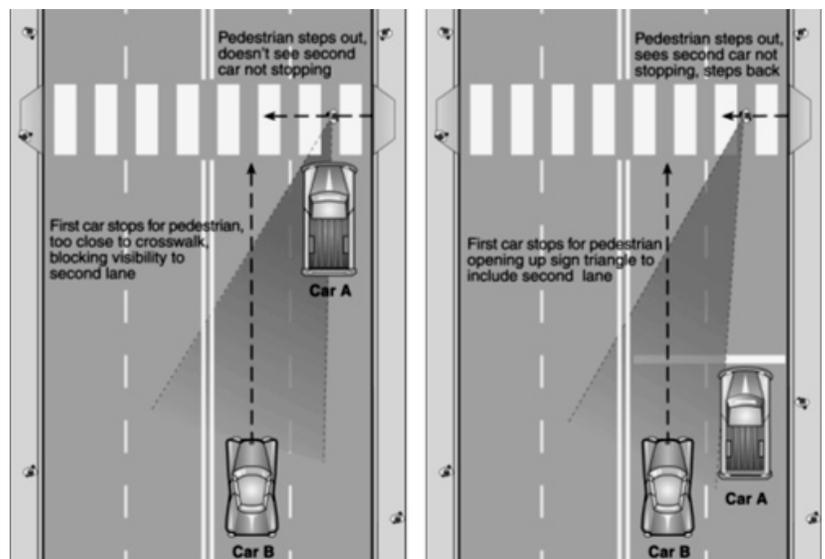
*American Association of State Highway and Transportation Officials. (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities.*

*Metro Regional Government. (2005). Portland, Oregon: Transportation Information Center. <http://www.oregon-metro.gov>*

**Advance Stop Bars**

Moving the vehicle stop bar 15–30 feet back from the pedestrian crosswalk at signalized crossings and mid-block crossings increases vehicle and pedestrian visibility. Advance stop bars are 1–2 feet wide and they extend across all approach lanes at intersections. The time and distance created allows a buffer in which the pedestrian and motorist can interpret each other’s intentions. Studies have shown that this distance translates directly into increased safety for both motorist and pedestrian. One study in particular claims that by simply adding a “Stop Here for Pedestrians” sign reduced pedestrian motorist conflict by 67%. When this was used in conjunction with advance stop lines, it increased to 90% (Pedestrian and Bicycle Information Center:<http://www.walkinginfo.org/engineering/crossings-enhancements.cfm>).

*Below: Advance stop bars enhance visibility for pedestrians (Image from [www.walkinginfo.org](http://www.walkinginfo.org)).*



## Bulb-outs

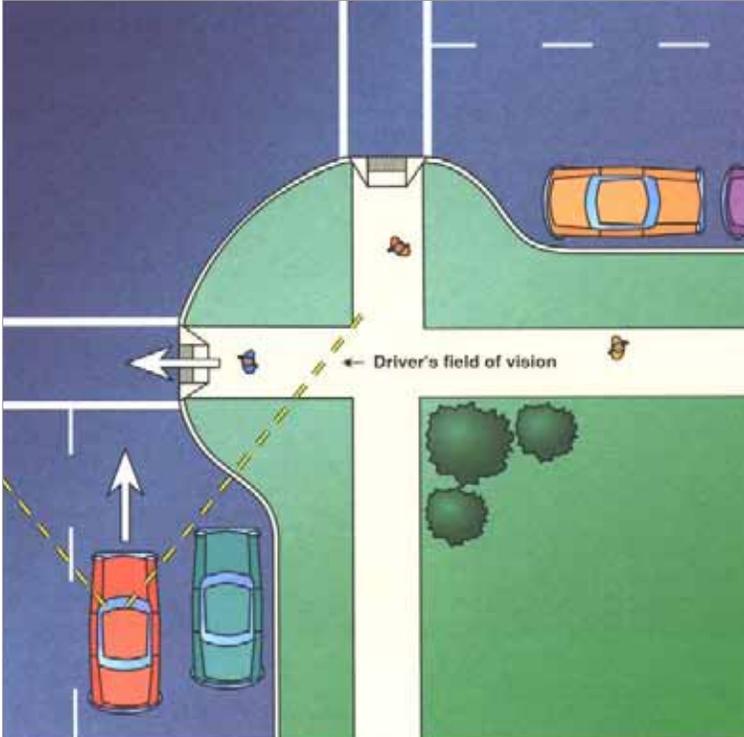
A bulb-out, or curb extension, is a place where the sidewalk extends into the parking lane of a street. Because these curb extensions physically narrow the roadway, a pedestrian's crossing distance—and consequently the time spent in the street—is reduced. They can be placed either at mid-block crossings or at intersections.

Sightlines and pedestrian visibility are reduced when motor vehicle parking encroaches too close to corners creating a dangerous situation for pedestrians. When placed at an intersection, bulb-outs preclude vehicle parking too close to a crosswalk. Also, bulb-outs at intersections can greatly reduce turning speed, especially if curb radii are set as tight as possible (Pedestrian and Bicycle Information Center: [www.walkinginfo.org/engineering/crossings-curb.cfm](http://www.walkinginfo.org/engineering/crossings-curb.cfm)). Finally, bulb-outs also reduce travel speeds when used in mid-block crossings because of the reduced street width.

*By reducing a pedestrian's crossing distance, less time is spent in the roadway, and pedestrian vehicle conflicts are reduced (Image from AASHTO).*

Bulb-outs should only be used where there is an existing on-street parking lane and should never encroach into travel lanes, bike lanes, or shoulders. (Pedestrian and Bicycle Information Center)

### Bulb-Out Guidelines:



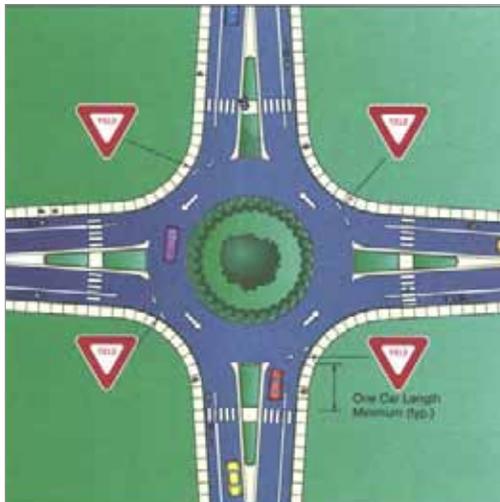
- Bulb-outs should be used on crosswalks in heavy pedestrian areas where parking may limit the driver's view of the pedestrian.
- Where used, sidewalk bulb-outs should extend into the street for the width of a parking lane (a minimum five feet) in order to provide for a shorter crossing width, increased pedestrian visibility, more space for pedestrian queuing, and a place for sidewalk amenities and planting.
- Curb extensions should be used on mid-block crossing where feasible.
- Curb extensions may be inappropriate for use on corners where frequent right turns are made by trucks or buses.

## Roundabouts

A roundabout is a circular intersection that maneuvers traffic around in a counterclockwise direction so that cars make a right-hand turn onto a desired street. Vehicles from approaching streets are generally not required to stop although approaching vehicles are required to yield to motorists in the roundabout. It is believed that this system eliminates certain types of crashes at traditional intersections.

Every effort must be made to prompt motorists to yield to pedestrians crossing the roundabout. A low design speed is required to improve pedestrian safety. Splitter islands and single lane approaches both lend to pedestrian safety as well as other urban design elements discussed in this appendix.

Typical roundabout  
(Image from AASHTO)



Problems also arise with the vision-impaired because there are not proper audible cues associated with when to cross. Studies are underway to develop and test solutions. Auditory accessible pedestrian signals placed on sidewalks and splitter islands are one solution, but again there is no research to prove their efficacy.

In areas where traffic is low, a roundabout presents little in the way of a barrier for bicyclists. However, in multi-lane roundabouts where speeds are higher, and the traffic is heavy, bicyclists are at a distinct and dangerous disadvantage. Adding a bike lane within such a roundabout has not proven to be effective. A possible solution involves creating a bike lane that completely skirts the roundabout allowing the cyclist to use or share the pedestrian route.

### *Roundabout Guidelines:*

- The recommended maximum entry design speed for roundabouts ranges from 15 mph for 'mini-roundabouts' in neighborhood settings, to 20 mph for single-lane roundabouts in urban settings, to 25 mph for single-lane roundabouts in rural settings.
- Refer to roundabout diagram for typical crosswalk placement.
- Please refer to FHWA's report, Roundabouts, an Information Guide, available online through: [www.fhrc.gov](http://www.fhrc.gov). The report provides information on general design principles, geometric elements, and provides detailed specifications for the various types of roundabouts.



Above: A pedestrian walks through a pedestrian refuge island, as part of a roundabout.

## Traffic Signals

Traffic signals assign the right of way to motorists and pedestrians and produce openings in traffic flow, allowing pedestrians time to cross the street. When used in conjunction with pedestrian friendly design, proper signalization should allow for an adequate amount of time for an individual to cross the street. The suggested amount of pedestrian travel speed recommended in the Manual on Uniform Traffic Control Devices (MUTCD) is 4ft/sec however this does not address the walking speed of the elderly or children. Therefore it is suggested that a lower speed of 3.5ft/sec be used whenever there are adequate numbers of elderly and children using an area.

Engineering, as well as urban design judgment, must be used when determining the location of traffic signals and the accompanying timing intervals. Although warrants for pedestrian signal timing have been produced by the MUTCD, each site must be analyzed for factors including new facility and amenity construction (i.e. a popular new park or museum) to allow for potential future pedestrian traffic volume. In addition, creating better access to existing places may in fact generate a higher pedestrian volume.

Fixed timed sequencing is often used in high traffic volume commercial or downtown areas to allow for a greater efficiency of traffic flow. In such instances, the pedestrian speed must be carefully checked to ensure safety.

### *Right Turn on Red Restrictions*

Introduced in the 1970's as a fuel saving technique, the Right Turn on Red (RTOR) law is thought to have had a detrimental effect on pedestrians. The issue is not the law itself but rather the relaxed enforcement of certain caveats within the law such as coming to a complete stop and yielding to pedestrians. Often motorists will either nudge into a crosswalk to check for oncoming traffic without looking for pedestrians or slow, but not stop, for the red-light while making the turn.

There is legitimate concern that eliminating an RTOR will only increase the number of right-turn-on-green conflicts where all of the drivers who would normally have turned on red, now are anxious to turn on green. As discussed in the prior section, LPI or exclusive pedestrian intervals may help to alleviate this problem. Eliminating RTOR should be considered on a case-by-case basis and only where there are high pedestrian volumes. This can be done by simple sign postings as illustrated at right.



*A low cost sign that restricts right-hand turns at a red light (Image from <http://www.walkinginfo.org>).*



*International symbols used in a crosswalk to designate WALK and DON'T WALK (Image from <http://www.walkinginfo.org>).*

## Pedestrian Signals

There are a host of traffic signal features and enhancements that can greatly improve the safety and flow of pedestrian traffic. Some include countdown signals, the size of traffic signals, positioning of traffic signals, audible cues, and timing intervals which are discussed below (Pedestrian and Bicycle Information Center: <http://www.walkinginfo.org/engineering/crossings-signals.cfm>).

As of 2008, new federal policy requires all new pedestrian signals to be of the countdown variety. In addition, all existing signals must be updated to countdown within 10 years (updated in MUTCD). Countdown signals have proven to be an effective measure of crash reduction (25% crash reduction in 2007 FHWA study).

Countdown signals are pedestrian signals that show how many seconds the pedestrian has remaining to cross the street. The countdown can begin at the beginning of the WALK phase, perhaps flashing white or yellow, or at the beginning of the clearance, or DON'T WALK phase, flashing yellow as it counts down. Audible cues can also be used to pulse along with a countdown signal.

Signals should be of adequate size, clearly visible, and, in some circumstances, accompanied by an audible pulse or other messages to make crossing safe for all pedestrians. Consideration should be paid to the noise impact on the surrounding neighborhoods when deciding to use audible signals.

The timing of these or other pedestrian signals needs to be adapted to a given situation. In general, shorter cycle lengths and longer walk intervals provide better service to pedestrians and encourage better signal compliance. For optimal pedestrian service, fixed-time signal operation usually works best. Pedestrian pushbuttons may be installed at locations where pedestrians are expected intermittently. Quick response to the pushbutton or feedback to the pedestrian (e.g.- indicator light comes on) should be programmed into the system. When used, pushbuttons should be well-signed and within reach and operable from a flat surface for pedestrians in wheelchairs and with visual disabilities. They should be conveniently placed in the area where pedestrians wait to cross. Section 4E.09 within the MUTCD provides detailed guidance for the placement of pushbuttons to ensure accessibility (Pedestrian and Bicycle Information Center: <http://www.walkinginfo.org/engineering/crossings-signals.cfm>).

There are three types of signal timing generally used: concurrent, exclusive, and leading pedestrian interval (LPI). The strengths and weaknesses of each will be discussed with an emphasis on when they are best employed.

When high-volume turning situations conflict with pedestrian movements, the exclusive pedestrian interval is the preferred solution. The exclusive



*Audible cues can also be used to pulse along with a countdown signal.*

pedestrian intervals stop traffic in all directions. In order to keep traffic flowing regularly, there is often a greater pedestrian wait time associated with this system. Although it has been shown that pedestrian crashes have been reduced by 50% in some areas by using these intervals, the long wait times can encourage some to cross when there is a lull in traffic (Pedestrian and Bicycle Information Center: <http://www.walkinginfo.org/engineering/crossings-signals.cfm>).

An LPI gives pedestrians an advance walk signal before the motorists get a green light, giving the pedestrian several seconds to start in the crosswalk where there is a concurrent signal. This makes pedestrians more visible to motorists and motorists more likely to yield to them. This advance crossing phase approach has been used successfully in several places, such as New York City, for two decades and studies have demonstrated reduced conflicts for pedestrians. The advance pedestrian phase is particularly effective where there is a two-lane turning movement. There are some situations where an exclusive pedestrian phase may be preferable to an LPI, such as where there are high-volume turning movements that conflict with the pedestrians crossing.

The use of infrared or microwave pedestrian detectors has increased in many cities worldwide. These devices replace the traditional push-button system. They appear to be improving pedestrian signal compliance as well as reducing the number of pedestrian and vehicle conflicts. The best use of these devices is when they are employed to extend crossing time for slower moving pedestrians.

#### *Pedestrian Signal Guidelines:*

- Pedestrian signals should be placed in locations that are clearly visible to all pedestrians.
- Larger pedestrian signals should be utilized on wider roadways, to ensure readability.
- Pedestrian signal pushbuttons should be well-signed and visible.
- Pedestrian signal pushbuttons should clearly indicate which crossing direction they control.
- Pedestrian signal pushbuttons should be reachable from a flat surface, at a maximum height of 3.5 feet and be located on a level landing to ensure ease of operation by pedestrians in wheelchairs.
- Walk intervals should be provided during every cycle, especially in high pedestrian traffic areas.

## Street Furniture and Walking Environment

As part of a comprehensive sidewalk and walkway design, all street furniture should be placed in a manner that allows for a safe, pleasurable, and accessible walking environment. Good-quality street furniture will show that the community values its public spaces and is more cost-effective in the long run. Street furniture includes benches, trash bins, signposts, newspaper racks, water fountains, bike racks, restaurant seating, light posts, and other ornaments that are found within an urban street environment. Street furniture should mostly be considered in the downtown area and other important pedestrian-active areas.

In addition to keeping areas free of obstruction from furniture, a walking environment should be clean and well maintained. Attention should be given to removing debris, trimming vegetation, allowing for proper storm-water drainage, providing proper lighting and sight angles, and repairing or replacing broken or damaged paving material can make an enormous difference in pedestrian perception of safety and aesthetics. Special attention should be paid to the needs of the visually impaired so that tripping hazards and low hanging obstructions are removed.

### *Guidelines:*

- Ensure proper placement of furniture; do not block pedestrian walkway or curb ramps or create sightline problems.
- Wall mounted Objects = not to protrude more than 4" from a wall between 27" and 7' from the ground
- Single post mounted Objects = not to protrude more than 4" from each side of the post between 27" and 7' from the ground
- Multiple Post Mounted Objects = lowest edge should be no higher than 27" and no lower than 7'
- Place street furniture at the end of on-street parking spaces rather than in middle to avoid vehicle-exiting conflict.

*The street furniture shown here (Downtown Belmont) is placed in such a manner so as to create a safe, pleasurable, and accessible walking environment*



# Appx. G Operations + Management Toolbox



## Appendix Overview

This appendix defines key aspects of facility management, beginning with an overview of the Parks and Recreation Department regarding maintenance, operational policies, followed by facility management, land management, safety, security, emergency response and risk management.

This operations and management plan for 'Connecting Our Community' provides baseline information for tasks that need to be undertaken by the City of Allentown and other local partners. This plan recommends a series of work items and tasks that need to be completed in order to maintain the trail system as an attractive, safe, and secure amenity.

### Allentown Parks and Recreation Department

In 2006, the City of Allentown merged the Parks Department and the Recreation Department. The City hired a parks and recreation professional to become the Director of the newly formed Parks and Recreation Department. The Director has begun work on the development of a planned maintenance management system for the parks, including trails. A formal system to plan, direct, control and evaluate park and trail maintenance will result in higher quality facilities and more effective use of labor and financial resources.

*Note: Parts of this section on "Allentown Parks and Recreation Department" are also included in an abbreviated form as part Chapter 4: Implementation.*

### Fiscal Challenges

The City of Allentown is experiencing the challenges of the current global economic crisis. As a result, the Parks and Recreation Department is operating with reduced staff and decreased funding. Between 2006 and 2010, the department's budget has been cut by \$800,000.

Park maintenance operates with a staff of 51. Since 2006, 20 positions in the department have been eliminated due to retirements, unfilled vacancies and layoffs. Seventeen of these positions were lost between 2009 and 2010. Due to budget struggles and high maintenance demands, the Mayor requested that the Trexler Trust allow \$250,000 of their annual allocation to be used for maintenance instead of capital improvements in 2010 as a stopgap measure.

### ***Park and Trail Maintenance***

Park maintenance operates within two divisions: Park Maintenance and Watershed Maintenance. While both divisions perform trail maintenance, most trail maintenance falls under the purview of the Watershed Division. The Watershed Division maintains park lands associated with the watershed with most responsibilities, including trails, along the Lehigh Parkway. Currently, the Watershed Division maintains about 12 miles of trails. Seven miles in the Lehigh Parkway are the most heavily used trails in the system and among the most heavily used park facilities overall in the City. About five miles of trails are more rugged nature trails such as in South Mountain Reservoir.

*The Park Maintenance Division* undertakes trail maintenance mainly in response to the remediation of hazardous conditions and in preparation of trails for special events and permitted uses. In years past, the division was able to undertake a preventive maintenance program. Due to cutbacks, the division primarily operates in a responsive manner rather than according to a planned schedule. The division focuses trail work on preparing for special events or activities that have a city permit to use the respective trail for the activity. Emergencies occupy a large portion of the work program. The trails under the care of this division are stone dust. In the past, the division was able to put down screenings annually but have not had the resources to do so on a regular basis. If there is a maintenance problem on a trail, they try to fix it as soon as they are aware of it. There is no regular inspection system. Trails and existing roads in parks that are deteriorating need to be restored to optimal condition. There are no standards for trail conditions. The division is responsible for city tasks outside of parks such as road signs, fallen trees, removing sneakers from overhead wires, set up for all special events and other tasks that are not in parks.

*The Watershed Division* service area extends from the 15th Street Bridge on Martin Luther King Boulevard up to the Emmaus border and includes the South Mountain Reservoir. The division has a regular system of maintenance and monitoring trail use primarily because of the heavy use the trails get on the Lehigh Parkway. The trail surface includes both macadam and stone dust. Maintenance practices include inspections, removal of fallen limbs; removal of walnut, hickory and oak nuts from the paths; repairs; mowing; emergency restoration due to periodic flooding; and setting up for special events. The Watershed Division coordinates with other community organizations for trail improvements such as the construction of paths in South Mountain with the Girl Scouts. Due to the staff and budget cutbacks, the division performs the most pressing tasks deferring work that cannot be accomplished with the current workforce.

In addition to routine maintenance, both maintenance divisions periodically undertake trail restoration due to flooding. Hurricanes including Katrina and Floyd required the re-building of trails due to the extensive damage caused by the storms. The City submitted for FEMA funding to pay for the cost of these repairs.

### **Trail Facility Management**

Trail maintenance shall include the removal of all debris, trash, litter, obnoxious and unsafe human-made structures, vegetation and other foreign matter. Trail heads, points of public access, rest areas, and other activity areas shall be maintained in a clean and usable condition at all times. The primary concern for trail maintenance shall always be public safety.

All trail facilities shall be maintained in a safe and usable manner during hours of operation. Rough edges, severe bumps or depressions, cracked or uneven pavement, gullies, rills and washed out tread surface shall be repaired immediately. Volunteer vegetation occurring in the trail tread should be removed in such a manner so that the trail surface is maintained as a continuous, even and clean surface.

## Land Management

Right-of-way and property that is deemed to be part of the Allentown Trails System shall be maintained in a condition that promotes safety and security for trail users and adjacent property owners.

Vegetation within the trail corridor should be managed to promote safety, serve as habitat for wildlife, buffer public use from private property, enhance water quality and preserve the unique aesthetic values of the natural landscape. Removal of native vegetation should be done with clear purpose and discretion. The objective in controlling growth of vegetation shall be to maintain clear and open lines of sight along the trail, at intersections with roadways and driveways, and along roadways. Vegetation removal should be accomplished to eliminate potential hazards that could occur from natural growth.

To promote safe use of the trail, all vegetation should be clear-cut to a minimum distance of 3 feet from the edge of the trail. Selective clearing of vegetation should be conducted within a zone that is defined as being between three to ten feet from the edge of the trail. At any point along the trail, a user should have an unobstructed view, along the centerline of the trail, 300 feet ahead and behind his/her position. The only exception to this policy is where terrain or trail curvature is a limiting factor.

The City of Allentown is the party responsible for the cutting and removal of vegetation. Removal of vegetation within the trail right-of-way by an individual other than the City of Allentown or its designee, is deemed unlawful and subject to fines and/or prosecution.

## Safety and Security

Safety is a duty and obligation of all public facility managers, therefore, as the construction documents for the Allentown Trails System are completed, appropriate local and state agencies should review these plans and specifications to ensure that they meet all current safety regulations.

The City of Allentown should work in cooperation with other local government agencies to develop and implement a safety and security program for the Allentown Trails System. This program should consist of well-defined safety and security policies; the identification of trail management, law enforcement, emergency and fire protection policies; and a system that offers timely response to the residents and visitors for issues or problems related to safety and security. Important components of the safety and security program should include:

1. Establishment of a safety committee and/or coordinator,
2. Preparation of a trail safety manual,
3. Establishment of user rules and regulations,
4. Development of trail emergency procedures,
5. Preparation of a safety checklist for the trail,
6. Preparation of a trail-user response form,
7. A system for accident reporting and analysis,
8. Regular maintenance and inspection programs,
9. Site and facility development and review,
10. Public information programs,
11. Employee training programs for safety and emergency response, and
12. Ongoing research and evaluation of program objectives.

The program should discourage the general public from using any segment of the Allentown Trails System that is under construction. Trail segments should not be considered open for public use until a formal dedication

ceremony has been staged and authorized agents of the City of Allentown have declared the trail open. Individuals who use trail segments under construction without written permission from an authorized agent shall be deemed in violation of the Allentown Trails System operation policy.

### ***Trail User Rules and Regulations***

The following rules and regulations should be implemented for the Allentown Trails System Trail. These rules should be displayed in brochures and on information signs (see Appendix E: Signage Report for application more on the display of information):

- 1) **Be Courteous:** All trail users, including bicyclists, joggers, walkers should be respectful of other users regardless of their mode of travel, speed or level of skill. Respect the privacy of adjacent landowners.
- 2) **Keep Right:** Always stay to the right as you use the trail or stay in the lane that has been designated for your user group. The exception to this rule occurs when you need to pass another user.
- 4) **Pass on the Left:** Pass others going in your direction on their left. Look ahead and behind to make sure that your lane is clear before you pull out and around the other user. Pass with ample separation. Do not move back to the right until you have safely gained distance and speed on the other user.
- 5) **Give Audible Signal When Passing:** All users should give a clear warning signal before passing. This signal may be produced by voice, bell or soft horn. Voice signals might include "Passing on the Left!" or "Cyclist on the left!" Always be courteous when providing the audible signal -- profanity is unwarranted and unappreciated.
- 6) **Be Predictable:** Travel in a consistent and predictable manner. Always look behind before changing position on the trail regardless of your mode of travel.
- 7) **Control Your Bicycle:** Inattention, even for a second, can cause disaster—always stay alert! Maintain a safe and legal speed at all times.
- 8) **Don't Block the Trail:** When in a group, including your pets, use no more than half the trail so as not to block the flow of other users. If users approach your group from both directions, form a single line or stop and move to the far right edge of the trail to allow safe passage by these users.
- 9) **Yield When Entering or Crossing Trails:** When entering or crossing a trail at uncontrolled intersections, yield to traffic already using the other trail.
- 10) **The Use of Lights:** When using the trail during periods of low visibility each cyclist should be equipped with proper lights. Cyclists should have a white light that is visible from 500 feet to the front, and a red or amber light that is visible from 500 feet to the rear. Other trail users should use white lights (bright flashlights) visible 250 feet to the front, and wear light or reflective clothing.
- 11) **Don't Use this Trail Under the Influence of Alcohol or Drugs:** It is illegal to use this trail if you have consumed alcohol in excess of the statutory limits, or if you have consumed illegal drugs. Persons who use a prescribed medication should check with their doctor or pharmacist to ensure that it will not impair their ability to safely operate a bicycle.

- 12) Clean Up Your Litter: Please keep this trail clean and neat for other users to enjoy. Do not leave glass, paper, cans or other debris on or near the trail. Please clean up after your pets. Pack out what you bring in –and remember always to recycle your trash.
- 13) Keep Pets on Leashes: All pets must be kept on a secure and tethered leash. Failure to do so will result in fines and possible detention of the pet.
- 14) Use the Buddy System: Always use the trail system with a friend!
- 15) Vegetation Removal: It is illegal to remove vegetation of any type, size, or species from the trail. Please contact the City of Allentown should you have concerns about noxious weeds, poisonous vegetation, dying or dead vegetation or other concerns about vegetation growth in the trail.
- 16) Share the Trail! Always exercise due care and caution when using the trail!

### ***Police Patrol and Emergency Response System***

In order to provide effective patrol and emergency response to the needs of trail users and adjacent property owners, the City of Allentown should develop a specific patrol and emergency response plan for the Allentown Trails System. This plan should define a cooperative law enforcement strategy for the trail based on the capabilities of different agencies and services typically required for the facility. The trail system will go through numerous phases of development before completion. All phases should illustrate: points of access to the trail; approved design details for making these access points safe, secure, and accessible to law enforcement officials; and potential locations for a system of cellular-type emergency phones.

The City of Allentown and its partners should also define an emergency response system in conjunction with appropriate local fire and paramedical units in order to define which agencies should respond to 911 calls, and provides easy-to-understand routing plans and access points for emergency vehicles. Local hospitals should be notified of these routes so that they may also be familiar with the size and scope of the project. The entire trail system will be designed and developed to support a minimum gross vehicle weight of 6.5 tons to allow emergency vehicle access.

### ***Crime Prevention Through Environmental Design***

“CPTED is the proper design and effective use of the built environment which may lead to a reduction in the fear and incidence of crime, and an improvement of the quality of life.” - National Crime Prevention Institute

Crime Prevention Through Environmental Design (CPTED) theories contend that law enforcement officers, architects, city planners, landscape designers and resident volunteers can create a climate of safety in a community, right from the start. CPTED’s goal is to prevent crime through designing a physical environment that positively influences human behavior. For trails, people who use the Allentown Trails System Trail regularly will need to perceive it as safe, and would-be criminals will view the Trail as a highly risky place to commit crime. CPTED is a multi-disciplinary approach to deterring criminal behavior through environmental design. CPTED strategies rely upon the ability to influence offender decisions that precede criminal acts.

### ***Natural surveillance***

Natural surveillance increases the threat of apprehension by taking steps to increase the perception that people can be seen. Natural surveillance occurs by designing the placement of physical features, activities and people in such a way as to maximize visibility and foster positive social interaction among legitimate users of public space. Potential offenders feel increased scrutiny and limitations on their escape routes.

- Use adjacent roadways and the passing vehicular traffic as a surveillance asset.
- Create landscape designs that provide surveillance, especially in proximity to designated points of entry and opportunistic points of entry.
- Use the shortest, least sight-limiting fence appropriate for the situation.
- When creating lighting design, avoid poorly placed lights that create blind-spots for potential observers and miss critical areas. Ensure potential problem areas are well-lit: trails, stairs, entrances/exits, parking areas, children's play areas, recreation areas, storage areas, dumpster and recycling areas, etc.
- Avoid too-bright security lighting that creates blinding glare and/or deep shadows, hindering the view for potential observers. Eyes adapt to night lighting and have trouble adjusting to severe lighting disparities. Using lower intensity lights often requires more fixtures.
- Place lighting along trails and other pedestrian-use areas at proper heights for lighting the faces of the people in the space (and to identify the faces of potential attackers).
- Natural surveillance measures can be complemented by mechanical and organizational measures. For example, closed-circuit television (CCTV) cameras can and should be utilized.

### ***Natural access control***

Natural access control limits the opportunity for crime by taking steps to clearly differentiate between public space and private space. By selectively placing entrances and exits, fencing, lighting and landscape to limit access or control flow, natural access control occurs.

- Use a single, clearly identifiable, point of entry
- Use low, thorny bushes to keep people out of sensitive areas.
- Use waist-level, picket-type fencing to control access and encourage surveillance.
- Natural access control is used to complement mechanical and operational access control measures, such as target hardening.

### ***Natural territorial reinforcement***

Territorial reinforcement promotes social control through increased definition of space and improved proprietary concern. An environment designed to clearly delineate private space does two things. First, it creates a sense of ownership. Owners have a vested interest and are more likely to challenge intruders or report them to the police. Second, the sense of owned space creates an environment where "strangers" or "intruders" stand out and are more easily identified. By using buildings, fences, pavement, signs, lighting and landscape to express ownership and define public, semi-public and private space, natural territorial reinforcement occurs. Additionally, these objectives can be achieved by assignment of space to designated users in previously unassigned locations.

- Maintained premises and landscaping such that it communicates an alert and active presence occupying the space.
- Provide trees in residential areas. Research results indicate that, contrary to traditional views within the law enforcement community, outdoor residential spaces with more trees are seen as significantly more attractive, more safe, and more likely to be used than similar spaces without trees.
- Restrict private activities to defined private areas.
- Display security system signage at access points.
- Avoid cyclone fencing and razor-wire fence topping, as it communicates the absence of a physical presence and a reduced risk of being detected.

- Placing amenities such as seating or refreshments in common areas in a commercial or institutional setting helps to attract larger numbers of desired users.
- Scheduling activities in common areas increases proper use, attracts more people and increases the perception that these areas are controlled.
- Territorial reinforcement measures make the normal user feel safe and make the potential offender aware of a substantial risk of apprehension or scrutiny.

There are four primary obstacles to the adoption of CPTED. First is a lack of knowledge of CPTED by environmental designers, land managers, and individual community members. For this reason, allocating substantial resources to community educational programs are often required.

The second major obstacle is resistance to change. Many specifically resist the type of cooperative planning that is required to use CPTED. Beyond that, skeptics reject the research and historic precedents that support the validity of CPTED concepts.

The third obstacle is the perception that CPTED claims to be a panacea for crime that will be used to displace other more traditional approaches rather than a small, but important, complementary tool in deterring offender behavior.

The fourth obstacle is that many existing built areas were not designed with CPTED in mind, and modification would be expensive, politically difficult, or require significant changes in some areas of the existing built environment.

### **Risk Management and Liability**

The design, development, management and operation of the Allentown Trails System must be carefully and accurately executed in order to provide a resource that protects the health, welfare, and safety of the public.

Liability most often occurs when a facility has been under-designed for the intended volume of use; when management of the facility is poor; or when unexpected accidents occur because the trail manager failed to recognize the possibilities of a potentially hazardous situation. To reduce the exposure to liability, the City of Allentown and its partners should have in place the following measures prior to opening the first phase of the trail:

1. A complete maintenance program that provides the appropriate duty or level of care to greenway users;
2. A risk management plan that appropriately covers all aspects of the trail; and,
3. A comprehensive working knowledge of public use laws and recent case history applicable in Pennsylvania.

Public use of the Allentown Trails System should be covered under existing city, county and State of Pennsylvania policies for the use of parkland and public spaces. The City of Allentown is charged with the care of the Trail and should exercise reasonable care in the construction of all Trail facilities to reduce hazardous, public nuisance and life threatening situations. The Allentown Trails System is available for public use as defined by the hours of operation policy; therefore, any individual found using the Trail outside the normal hours of operation would not be covered by the City of Allentown policies for public use.

## Budget for Maintenance of Allentown Trails System Trail

There are many factors that influence the cost of managing bike trails and trails. The estimate of probable costs itemized herein is based on trail industry averages using contract labor, materials and industry practices. Long-term maintenance of the fully developed Allentown Trails System will require an annual source of revenue.

### *Maintenance Costs for One Mile of Trail*

<i>Description of Activity</i>	<i>Estimated Annual Costs</i>
Drainage maintenance (12x/year)	\$1,000
Maintenance of trail surface (52x/year)	\$2,000
Pick up and removal of trash (52x/year)	\$2,000
Weed and vegetation mgt. (12x/year)	\$1,200
Mowing of 3-ft grass safe zone (52x/year)	\$2,000
Minor repairs trail furniture/safety features	\$500
Maintenance supplies	\$300
Equipment fuel and repairs	\$1,000
<i>Total Maintenance costs for one mile of trail</i>	<i>\$10,000</i>

## Program and Event Management

The Department of Parks and Recreation plans, directs, schedules, and conducts the city's public recreation programs. In addition, the department facilitates the provision of events, programs and activities offered by other providers. This involves the permitting of facilities along with providing the support needed for the events such as security, maintenance, set-up of equipment and so on.

### *Special Events*

Over 130 special event permits are issued annually. About 110 of the permits are for events on trails such as races and walk-a-thons. The Parks and Recreation Department handles all aspects of providing the facilities and support for the events that are offered by other organizations. However, the Special Events Coordinator is housed organizationally within the Department of Community and Economic Development. Re-assigning this position to be located within the Department of Parks and Recreation would help to streamline operations, scheduling, advertising and coordinating the special events which are mostly staged in city parks and on city trails. Additionally, the Parks and Recreation Department could create a work program for this position that would also include the tracking of the economic, social, community and individual benefits of social events (as well as trails, parks, and recreation) in the city and the region. This information is crucial to parks and recreation in making the case for continued support for park operations and maintenance.

## Additional Information and Material

### *Studies of Trail Liability*

A study by the Rails to Trails Conservancy (RTC) provides a primer on trail-related liability issues and risk management techniques. The report was co-authored by RTC in cooperation with the National Park Service: Rivers, Trails, and Conservation Assistance Program.

### *Concerns and Solutions*

There are two primary categories of people who might be concerned about liability issues presented by a trail: the trail managing and owning entity (typically a public entity) and private landowners. Private landowners can be divided into two categories, those who have provided an easement for a trail over their land and those who own land adjacent to a trail corridor.

Similarly, there may be a pre-existing corridor traversing or lying adjacent to their property such as a former rail corridor that has been converted to a trail. In either situation, private landowners may have some concerns about the liability should a trail user stray onto their land and become injured. In the first instance, where an easement is granted, the concern may be over injuries on both the granted right-of-way as well as injuries that may occur on land under their control that is adjacent to the trail. Under the latter condition, where the landowner has no ownership interest in the trail, the landowner will only be concerned with injury to trail users wandering onto their property and getting hurt or perhaps a tree from their property falling onto the trail.

In general, people owning land adjacent to a trail—whether the trail is an easement granted by them or is held by separate title—foresee that people using the trail may be endangered by a condition on their land. Potential hazards such as a pond, a ditch, or a dead tree may cause the landowner to worry about liability for a resulting injury. The landowners may reduce their liability by taking the following actions.

- Work with trail designers to have the trail located away from hazards that cannot be corrected,
- Make it clear that trail users are not invited onto the adjoining land. This can be aided by having the trail designer develop signs, vegetative screening, or fencing,
- If a hazardous condition does exist near the trail, signs should be developed to warn trail users of the hazard if it cannot be mitigated.

Of particular concern to adjacent landowners are attractions to children that may be dangerous, such as a pond. Many states recognize that children may trespass to explore an attractive nuisance. These states require a legal responsibility to children, even as trespassers, that is greater than the duty of care owed to adults.

If a landowner provides an easement for a public-use-trail, the easement contract should specify that the managing agency will carry liability insurance, will design the trail to recognized standards and will develop and carry out a maintenance plan. The landowner may also request that an indemnification agreement be created in their favor.

Abutting property owners frequently express concerns about their liability to trail users. In general, their liability, if any, is limited and is defined by their own actions in relation to the trail. If an abutting property owner possesses no interest in the trail, then he or she does not have any right or obligation to warn trail users about defects in the trail unless the landowner creates a dangerous condition on the trail by his own act or omission. In that event, the abutting landowner would be responsible for his own acts or omissions that caused the injury to a third party using the trail, just as the operator of one car is responsible to the operator of another for an accident he caused on a city street.

### ***Forms of Protection***

There are three legal precepts, either alone or in combination, that define and in many cases limit liability for injury resulting from trail use. The first is the concept of duty of care, which speaks to the responsibility that a landowner (private or public) has to anyone on his or her land. Second is the Recreational Use of Land and Water Act (“RULWA”), found in *Purdon’s Pennsylvania Statutes*, title 68, sections 477-1 et seq., creates that incentive by limiting the traditional duty of care that landowners owe to entrants upon their land. So long as no entrance or use fee is charged, the Act provides that landowners owe no duty of care to keep their land safe for recreational users and have no duty to warn of dangerous conditions. Excepted out of this liability limitation are instances where landowners willfully or maliciously fail to guard or warn of dangerous conditions. That is, the

law immunizes landowners only from claims of negligence. Every other state in the nation has similar legislation. Third, for all private and public parties, liability insurance provides the final line of defense. Trail owners can also find much protection through risk management.

### ***Duty of Care***

Tort law, with regard to finding fault for an incident that occurs in a particular location is concerned with the “class” of person who incurs the injury, and the legal duty of care that a landowner owes a member of the general public varies from state to state but is generally divided into four categories. In most states, a landowner’s responsibility for injuries depends on the status of the injured person. A landowner owes increasingly greater duties of care (i.e.; is more at risk) if the injured person is a “trespasser”, a “licensee”, an “invitee”, or a “child”.

**Trespasser** -- a person on land without the landowner’s permission, whether intentionally or by mistaken belief that they are on public land. Trespassers are due the least duty of care and therefore pose the lowest level of liability risk. The landowner is generally not responsible for unsafe conditions. The landowner can only be held liable for deliberate or reckless misconduct, such as putting up a trip wire. Adjacent landowners are unlikely to be held liable for injuries sustained by trespassers on their property.

**Licensee** -- a person on land with the owner’s permission but only for the visitor’s benefit. This situation creates a slightly higher liability for the landowner. For example, a person who is permitted to hunt on a farm without paying a fee, if there were no recreational use statute (RUS), would be classified as a licensee. If the landowner charged a fee, the hunter would probably be classified as an invitee. Again, the landowner is not responsible for discovering unsafe conditions; however, the landowner must provide warning of the known unsafe conditions.

**Invitee** -- a person on the owner’s land with the owner’s permission, expressly or implied, for the owner’s benefit, such as a paying customer. This is the highest level of responsibility and therefore carries the highest level of liability. The owner is responsible for unknown dangers that should have been discovered. Put in a different way, the landowner has a duty to:

1. Inspect the property and facilities to discover hidden dangers;
2. Remove the hidden dangers or warn the user of their presence;
3. Keep the property and facilities in reasonably safe repair;
4. Anticipate foreseeable activities by users and take precautions to protect users from foreseeable dangers.

The landowner does not insure the invitee’s safety, but must exercise reasonable care to prevent injury. Generally, the landowner is not liable for injuries caused by known, open, or obvious dangers where there has been an appropriate warning. For example, customers using an ice rink open to the public for a fee would be invitees.

**Children** -- even if trespassing, some states accord children a higher level of protection. The concept of “attractive nuisance” is particularly relevant to children. Landforms such as ponds can be attractive to children who, unaware of potential danger, may be injured if they explore such items.

Prior to the widespread adoption of RULWA’s by the states, this classification system defined the liability of adjacent landowners. Even now, trail managers or private landowners who charge a fee are at greater risk of liability because they owe the payee a greater responsibility to provide a safe experience. If a trail manager charges a fee, the facility provider tends to owe a greater duty of care to the user and thus has a greater risk of liability if a trail user is injured due to a condition of the trail.

### ***Recreational Use Statutes (RUS)*** (See pages D-7 and D-8 for the RUS fact sheet for Pennsylvania)

The Council of State Governments produced a model recreational use statute (RUS) in 1965 in an effort to encourage private landowners to open their land for public recreational use by limiting the landowner's liability for recreational injuries when access was provided without charge.

Recreational use statutes are now on the books in all 50 states. These state laws provide protection to landowners who allow the public to use their land for recreational purposes. The theory behind these statutes is that if landowners are protected from liability they would be more likely to open up their land for public recreational use and that, in turn, would reduce state expenditures to provide such areas. To recover damages, an injured person must prove "willful and wanton misconduct" on the part of the landowner, essentially the same duty of care owed to a trespasser. However, if the landowner is charging a fee for access to the property, the protection offered by the recreational use statute is lost in most states.

The preamble of the model RUS is clear that it was designed for private landowners but the actual language of the model legislation does not differentiate between private and public landowners. The result is that while some states have followed the intent of the model statute and limited the immunity to private landowners, other states have extended the immunity either to cover public landowners legislatively or judicially.

Under lease arrangements between a public agency and a private landowner, land can be provided for public recreation while the public agency agrees to defend and protect the private landowner. The private landowner may still be sued but the public agency holds the landowner harmless, taking responsibilities for the cost of defending a lawsuit and any resulting judgments.

While state RUS's and the court interpretations of these laws vary somewhat, a few common themes can be found. The statutes were created to encourage landowners to make their land available for public recreation purposes by limiting their liability provided they do not charge a fee. The RUS limits the duty of care a landowner would otherwise owe to a recreational licensee to keep his or her premises safe for use. It also limits a landowner's duty to warn of dangerous conditions provided such failure to warn is not considered grossly negligent, willful, wanton, or reckless. The result of many of these statutes is to limit landowner liability for injuries experienced by people partaking in recreational activities on their land. The existence of a RUS may also have the effect of reducing insurance premiums for landowners whose lands are used for recreation.

These laws do not prevent somebody from suing a trail manager/owner or a private property owner who has made his or her land available to the public for recreational use, it only means the suit will not advance in court if certain conditions hold true. Thus, the trail manager/owner may incur costs to defend himself or herself. Such costs are the principal reason for purchasing liability insurance.

### ***Risk Management***

All of the above-mentioned forms of protection aside, perhaps the best defense a trail manager has are sound policy and practice for trail maintenance and usage. Developing a comprehensive technique is the best defense against an injury-related lawsuit.

Trails that are properly designed and maintained go a long way to ward off any potential liability. There are some general design guidelines (AASHTO and MUTCD) that, if adhered to, can provide protection by showing that conventional standards were used in designing and building the trail. Trails that are designed in accordance with recognized standards or "best practices" may be able to take advantage of any design immunities under state law. Within the spectrum of public facilities, trails are quite safe, often less risky than roads, swimming pools and playgrounds.

The managing agency should also develop a comprehensive maintenance plan that provides for regular maintenance and inspection. These procedures should be spelled out in detail in a trail management handbook and a record should be kept of each inspection including what was discovered and any corrective action taken. The trail manager should attempt to ward off or eliminate any hazardous situations before an injury occurs. Private landowners that provide public easements for a trail should ensure that such management plans are in place and used to reduce their own liability. Key points include:

During trail design and development:

- Develop an inventory of potential hazards along the corridor;
- Create a list of users that will be permitted on the trail and the risks associated with each;
- Identify all applicable laws;
- Design and locate the trail such that obvious dangers are avoided. Warnings of potential hazards should be provided, and mitigated to the extent possible;
- Trail design and construction should be completed by persons who are knowledgeable about design guidelines, such as those listed in AASHTO and MUTCD documents;
- Trail regulations should be posted and enforced.

Once the trail is open for use:

- Regular inspections of the trail by a qualified person who has the expertise to identify hazardous conditions and maintenance problems.
- Maintenance problems should be corrected quickly and documented. Where a problem cannot be promptly corrected, warnings to trail users should be erected.
- Procedures for handling medical emergencies should be developed. The procedures should be documented as well as any occurrence of medical emergencies.
- Records should be maintained of all inspections, what was found, and what was done about it. Photographs of found hazardous conditions can be useful.

These risk management techniques will not only help to ensure that hazardous conditions are identified and corrected in a timely manner, thereby averting injury to trail users, but will also serve to protect the trail owner and managing agency from liability. Showing that the agency had been acting in a responsible manner can serve as an excellent defense in the event that a lawsuit develops

### ***Use of Volunteers for Trail Work***

Trail managers often use volunteers for routine trail maintenance or even for trail construction. What happens if the volunteer is injured while performing trail-related work? What happens if an action taken by a volunteer leads to an injury of a trail user? First, make sure your insurance covers volunteer workers. Second, the trail manager should be protected from any user injury created by an act of a volunteer provided the act is not one of willful or reckless misconduct. The Federal Volunteer Protection Act of 1997 protects the volunteer worker. This act protects volunteers of nonprofit organizations or governmental entities. The Act states that such volunteers are not liable for harm caused by their acts of commission or omission provided the acts are in good faith.