

# Executive Summary

The central Delaware is central to Philadelphia's future. The time to take action to create a vibrant, open, green, connected central Delaware riverfront is now.

**Philadelphia has an extraordinary opportunity to create a world-class riverfront along the central Delaware, but it must act now.** Rapid, dramatic change—in the form of hundreds of millions of square feet of new housing, entertainment and retail uses—is coming to the central Delaware. The critical decisions we make today about this vital natural asset and development opportunity will define the riverfront's future for the next century. We must seize the opportunity to do it right. We will not have a second chance. By investing in parks and open spaces, establishing clear development rules and creating an effective waterfront manager, Philadelphia, like cities around the world, can capitalize on its waterfront's significant potential for recreation and economic development.

**Philadelphia has the vision to make the central Delaware a vibrant, open, green and connected riverfront.** In 2006–2007, four thousand Philadelphians partnered with Penn Praxis (the clinical arm of the School of Design of the University of Pennsylvania) to create *A Civic Vision for the Central Delaware*, a thirty-year roadmap for the riverfront from Oregon Avenue to Allegheny Avenue.

**The civic vision, released in November 2007, calls for the following:**

- Public access to the river over paths and extended streets;
- Parks within a ten-minute walk of every home and neighborhood;
- A recreational trail along the river for walkers and cyclists;
- A streetcar line along the median of Delaware Avenue/Columbus Boulevard;
- Parking that does not ruin water views or dominate the landscape; and
- A healthy river's edge that includes a 100-foot greenway along its shore.

The goal of this action plan is to define concrete, doable actions needed to redevelop the river over the next ten years in agreement with the civic vision.

**Immediate Actions Needed to Protect Riverfront Opportunities:**

- Adopt the civic vision and this action plan and sign a memorandum of understanding establishing the vision as the basis for interim development review.
- Reform Penn's Landing Corporation to make it an open, accountable and transparent waterfront manager.
- Add a zoning overlay under the existing zoning code to set rules for riverfront public spaces, public access and parking.
- Preserve the Belt Line median of Delaware Avenue/ Columbus Boulevard for transit and rail.
- Plat street extensions to connect the city with the river.

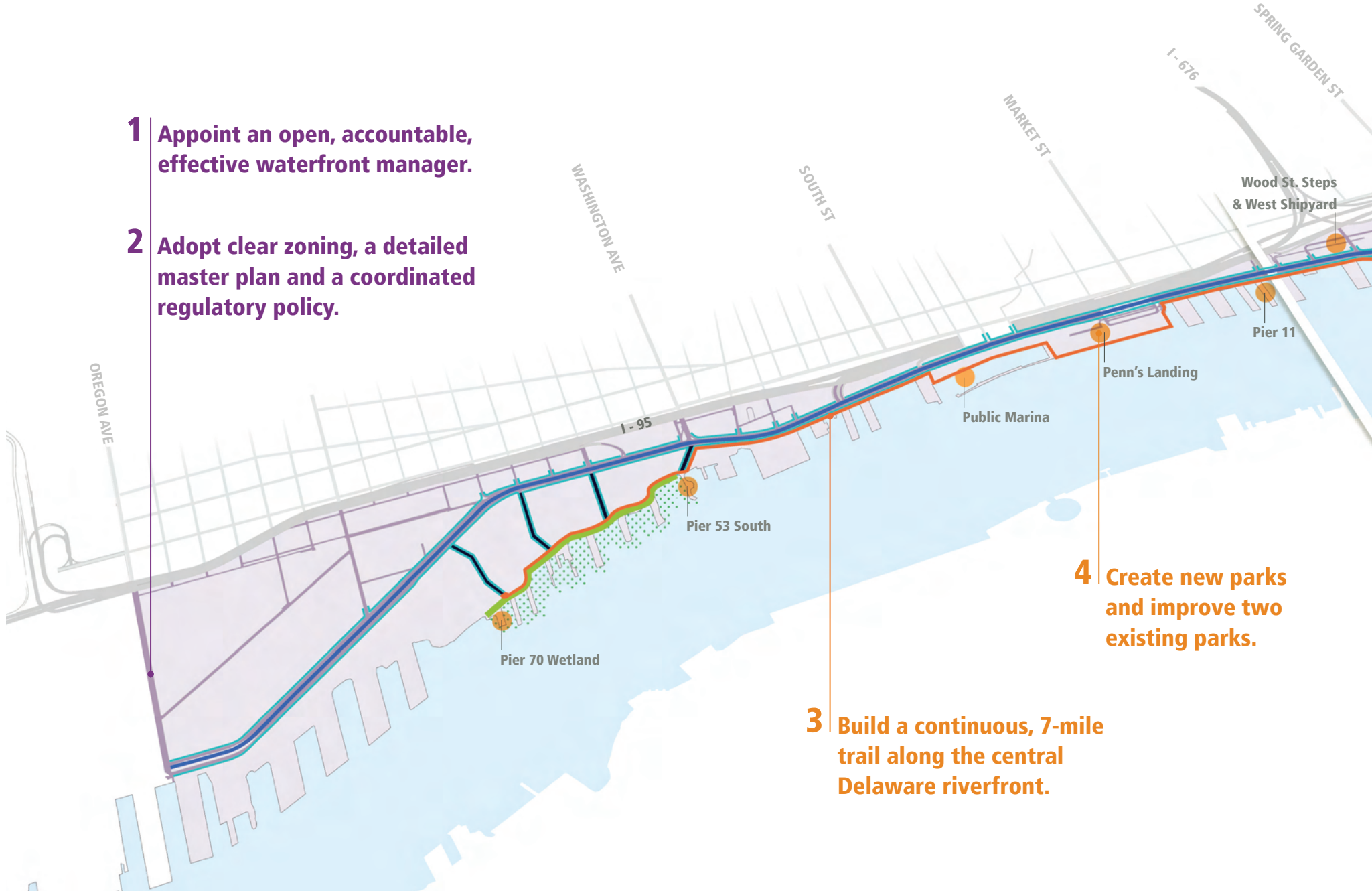


## Ten Action Plan Objectives

- 1. Appoint an open, accountable, effective waterfront manager.** This action plan proposes a reformed Penn's Landing Corporation as waterfront manager, because it has the powers and annual revenue needed to rapidly and effectively transform the riverfront. Reforming Penn's Landing Corporation into a transparent, open and accountable waterfront manager will require changes to board membership, the application of the Sunshine Act and open-records law, and an overhaul of its governance and budget processes.
- 2. Adopt clear zoning, a detailed master plan and a coordinated regulatory policy.** In 2008, pass a zoning overlay that ensures public space, active ground floor uses, urban setbacks, and concealed and reduced parking at the riverfront. With interim zoning in place, the Zoning Code Commission can create comprehensive zoning for the central Delaware. A master plan will provide a detailed physical-development plan for the area to guide investment, while a memorandum of understanding between government agencies at all levels will ensure a coordinated approach.
- 3. Build a continuous, 7-mile trail along the central Delaware riverfront.** The trail will connect neighborhoods, create a recreational asset and attract investment. The Schuylkill River Development Corporation estimates that the \$170 million public investment in the Schuylkill Banks trail will bring in \$2.4 billion in private investment over the next decade.
- 4. Create new parks and improve two existing parks.** Riverfront parks are extraordinary assets that raise adjacent property values by 30 percent and create new public spaces for residents to enjoy. By building destination public parks and encouraging private open spaces, we can anticipate a return of four private dollars for every public dollar spent.
- 5. Guarantee public access to the riverfront and make it easier for residents to walk and bike to the river.** More than sixty thousand people live within a ten-minute walk of the central Delaware River, but physical obstacles such as I-95 make the river difficult to reach. Philadelphia can guarantee public access through zoning that requires all new developments to provide safe, public river access from the nearest public street.
- 6. Extend transit to the river.** The future of the central Delaware must include a reliable public-transit system. By adding a streetcar line along the existing right-of-way in the median of Delaware Avenue/Columbus Boulevard, the city will add the equivalent capacity of two and a half car lanes in each direction. Peer cities have obtained a return on public investment exceeding 1000 percent for a streetcar line.
- 7. Extend key streets to the river.** Extending key east-west streets that currently dead-end at I-95 or Delaware Avenue/Columbus Boulevard through parking lots, service roads or vacant private land will significantly increase public access to the river.
- 8. Manage traffic and parking in the central Delaware area.** To avert a traffic crisis caused by thousands of additional cars on already-congested roads, the action plan recommends traffic-signal synchronization to reduce congestion by 10 percent, a new streetcar line to carry the same number of people as five traffic lanes and improved bicycle and pedestrian connections to increase Delaware Avenue/Columbus Boulevard's capacity by up to 10 percent. Parking-design standards are also needed to prevent cars from dominating the riverfront.
- 9. Create a 100-foot greenway along the water's edge.** Restricting development within 100 feet of the river's edge (or not more than 20 percent of a property) will improve river-water quality, create habitat where fish and wildlife can thrive and raise surrounding property values by 10 to 20 percent.
- 10. Create a natural river's edge and restore habitat.** Restoring wetlands along the river's edge, cleaning trash and replacing bulkheads with natural shoreline will improve water quality, wildlife habitat and the river's health.

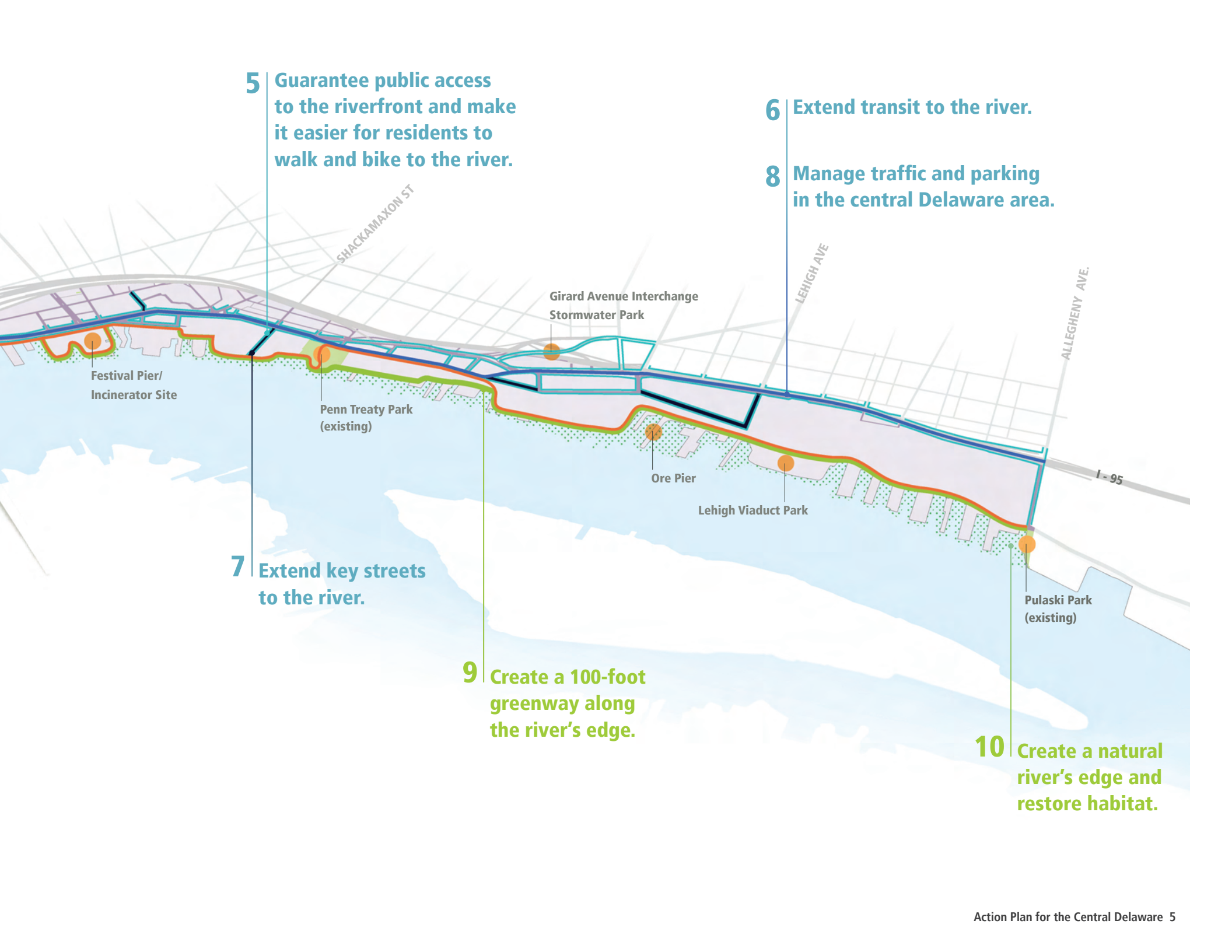
# An Action Plan for the Central Delaware: 2008–2018

- 1 Appoint an open, accountable, effective waterfront manager.**
- 2 Adopt clear zoning, a detailed master plan and a coordinated regulatory policy.**



- 3 Build a continuous, 7-mile trail along the central Delaware riverfront.**

- 4 Create new parks and improve two existing parks.**



**5** Guarantee public access to the riverfront and make it easier for residents to walk and bike to the river.

**6** Extend transit to the river.

**8** Manage traffic and parking in the central Delaware area.

**7** Extend key streets to the river.

**9** Create a 100-foot greenway along the river's edge.

**10** Create a natural river's edge and restore habitat.

## MAKING IT HAPPEN

# Strategies to achieve ten objectives in ten years

### AN ACTION PLAN FOR THE CENTRAL DELAWARE PRESENTS THESE TEN OBJECTIVES:

1. Appoint an open, accountable, effective waterfront manager.
2. Adopt clear zoning, a detailed master plan and a coordinated regulatory policy.
3. Build a continuous, 7-mile trail along the central Delaware riverfront.
4. Create new parks and improve two existing parks.
5. Guarantee public access to the riverfront and make it easier for residents to walk and bike to the river.
6. Extend transit to the river.
7. Extend key streets to the river.
8. Manage traffic and parking in the central Delaware area.
9. Create a 100-foot greenway along the water's edge.
10. Create a natural river's edge and restore habitat.

#### The central Delaware riverfront is central to Philadelphia's future.

In major cities like New York and Chicago, the redevelopment of former industrial waterfronts with a mix of housing, retail, offices, industry, parks and recreational activities has driven new economic growth and brought life back to the water. Today in Philadelphia, we have an extraordinary opportunity to redevelop the central Delaware riverfront as an open, green, active recreational amenity and connected community. A revitalized central Delaware will create a burst of energy for the entire city, allowing for the expansion of Center City and river neighborhoods and attracting more residents, workers and visitors.

**At this very moment, hundreds of millions of square feet of new housing, entertainment and retail sites are planned along the 7-mile riverfront.** How these properties are built and how they are complemented and supported by public investments will define the future of the riverfront for the next century.

In 2006, Mayor Street signed an executive order assigning PennPraxis (the clinical arm of the University of Pennsylvania School of Design) the task of creating a vision for the future of the central Delaware riverfront. In thirteen months, PennPraxis worked with residents, state and city government leaders, property owners and experts from across the country to set out a civic vision for the central portion of the Delaware riverfront. Four thousand Philadelphians participated in the creation of this homegrown vision, *A Civic Vision for the Central Delaware*, which was released in November 2007.

**This document, *An Action Plan for the Central Delaware*, is a guide to the implementation of that civic vision.** Its goal is to lay out a clear plan of action for the redevelopment of the river in the next ten years. Building on the foundation supplied by the civic vision, this action plan recommends

that the riverfront is redeveloped over the next ten years in agreement with the vision, in a manner that opens the riverfront up to residents, improves the health of the city's economy and improves environmental conditions along the river's edge.

**This action plan describes what actions need to be taken, who has the authority to take each action, how much it will cost and what funding resources are available to pay for it.** This action plan does not attempt to predict the hundreds of unknowable factors that may impact market conditions, nor does it attempt to control what private developers build. Rather, it creates a public framework within which private development can happen in a more rational, predictable, and orderly process and it provides critical strategies and detailed action steps for creating a vibrant, active riverfront filled with new investment.

A coalition of fifteen central Delaware neighborhood associations is leading the charge to implement *An Action Plan for the Central Delaware's* ten major objectives over the next ten years—the initial phase of the thirty-year vision.<sup>3</sup> These diverse neighborhoods have come together because of a shared belief that the riverfront is central to Philadelphia's future and will be the catalyst for our future vitality.

**The steps and results detailed in this action plan are concrete and doable.** These are not pie-in-the-sky dreams that are suggested without the certainty that they can be accomplished. Other cities have successfully completed each of the short-term actions (2008 to 2012) and longer-term actions (2012 to 2018) outlined. With civic and political will, Philadelphia can complete them as well. The vibrant waterfront shown in these pictures can exist.



## INVESTMENT RETURNS IN COMPARABLE WATERFRONT CITIES

Philadelphia will attract an excellent return on public investment. The numbers are in from cities big and small, and they prove that investments used to reconnect the river to the rest of the city, create new recreational opportunities and zone and manage the riverfront effectively do pay off in increased private investment, real property appreciation and a new destination for residents and visitors. Boston Harbor has seen over \$10 billion of private investment since new trails and parks were added to its waterfront. In fact, 60 percent of

the city of Boston's population growth in the 1990's occurred in its waterfront neighborhoods. St. Paul, Minnesota brought in over \$2.3 billion in private investment and \$150 million in public-space improvements in the six years from 1997 to 2003.<sup>1</sup> Pittsburgh, Pennsylvania, Newport, Rhode Island and Knoxville, Tennessee have found that public improvements to their waterfronts paid off hugely in new private investment.<sup>2</sup>

	Knoxville, TN	Chattanooga, TN	Louisville, KY	Pittsburgh, PA	Newport, RI	Memphis, TN
Time Span	20 years	1 year	8 years	8 years	5 years	5 years
Private Investment	\$814 million	\$115 million	\$364 million	\$220 million	\$158 million	\$220 million
Public Investment	\$139 million	\$120 million	\$98 million	\$103 million	\$110 million	\$65 million
Total Investment	\$953 million	\$235 million	\$462 million	\$323 million	\$268 million	\$285 million
Return on Investment \$1 of public invest leverages...	\$5.86	\$0.96	\$3.71	\$2.14	\$1.44	\$3.38

**To implement the *Civic Vision for the Central Delaware through this action plan*, we will need an effective waterfront development and management organization, strategic public investments, clear zoning and a complementary package of investments, incentives and regulations. We will need strong leadership from the mayor and City Council. We will need an open and transparent process that residents can believe in. We will need a true public-private partnership with riverfront owners based upon a mutual understanding of how extending transit and streets, regulating traffic and investing public funds in new parks and a greenway with trails will provide economic benefits for property owners and the city.**

## Strategies to achieve ten objectives in ten years

### The central Delaware faces unprecedented opportunities and challenges.

OPPORTUNITIES	CHALLENGES
A powerful vision with broad support to guide development	Full implementation of vision plan will take up to 30 years
Significant interest from private developers	Prior attempts to redevelop the riverfront have been unsuccessful
Strong leadership from the Nutter administration	Unprecedented cooperation between city, state and federal agencies is needed
Hundreds of acres of undeveloped or underutilized land	Majority of land is privately owned
Growing riverfront neighborhoods	Traffic congestion is worsening
Cleanest river conditions in 100 years	Area needs substantial investment in public infrastructure
Philadelphia Zoning Code Commission will set new rules for riverfront	Each riverfront parcel is unique
Peer cities prove that riverfronts with amenities and ample public access are strong economic-development tools	Area suffers from unsafe, inconvenient public access and few amenities

#### THE POWER OF A VIBRANT CENTRAL DELAWARE RIVERFRONT

1. Generates economic development.
2. Provides recreation and fun.
3. Creates new river neighborhood assets.
4. Reduces pollution and improves river health.

#### IMMEDIATE ACTIONS NEEDED TO PROTECT RIVERFRONT OPPORTUNITIES

- Adopt the civic vision and this action plan and sign a memorandum of understanding establishing the vision as the basis for interim development review.
- Reform Penn's Landing Corporation to make it an open, accountable and transparent waterfront manager.
- Add a zoning overlay under the existing zoning code to set rules for riverfront public spaces, public access and parking.
- Preserve the Belt Line median of Delaware Avenue/ Columbus Boulevard for transit and rail.
- Plat street extensions to connect the city with the river.

**The civic vision advances the principles of public access, connectivity and quality land development through an integrated series of networks.** A *Civic Vision for the Central Delaware* proposes the following major shifts in the riverfront environment:

- the extension of the Philadelphia street grid to the river's edge to encourage public riverfront access and connectivity to the river;
- an improved, pedestrian-friendly boulevard;
- a continuous recreational trail;
- rights-of-way dedicated to transit and biking;
- a public riverfront green space every 1/4 mile;
- a 100-foot greenway to filter pollutants and create wildlife habitat; and
- a mixed-use, transit-oriented and urban-scale riverfront that truly extends Philadelphia's river-ward neighborhoods to the river's edge.

A *Civic Vision for the Central Delaware* was the result of a year-long planning process led by PennPraxis, the outreach arm of the School of Design of the University of Pennsylvania. The creation of the vision was commissioned by executive order of Mayor Street in 2006 and overseen by a forty-six member advisory group comprised of state and city officials, civic-group leaders and people from other riverfront agencies. The planning process involved meetings with over four thousand members of the public and riverfront stakeholders. The efforts of all of these parties resulted in a planning document meant to guide growth over the next thirty years on the central Delaware riverfront. The civic vision received the national Charter Award from the Congress for New Urbanism in March 2008.



*A tangle of infrastructure is both a challenge and an opportunity for the central Delaware.*

The central Delaware riverfront area extends between Oregon Avenue in the south, Allegheny Avenue in the north, I-95 to the west and the Delaware River to the east. It encompasses the neighborhoods of Whitman, Pennsport, Queen Village, Society Hill, Old City, River's Edge, Northern Liberties, Fishtown, Kensington and Port Richmond. Key existing businesses include big-box stores and the industrial port to the south and two gated residential condominium towers and hotels in the center and north. Proposed businesses include two casinos and twenty-two residential towers.

**The Civic Vision for the central Delaware can be viewed at [www.planphilly.com/vision](http://www.planphilly.com/vision).**



## SETTING A NEW COURSE FOR THE RIVER

# 1 Appoint an open, accountable, effective waterfront manager

Great visions require managers with the power and resources to implement them. We have set high standards for the future of the central Delaware, and we must set similarly high standards for the waterfront manager—the management organization that will have the responsibility of implementing the civic vision and the master plan to achieve waterfront revitalization over the long term. A waterfront redevelopment project succeeds or fails based upon the abilities of its manager and the strong, visionary leadership of the mayor and the City Council.

### These are among the key functions the waterfront manager plays in peer cities:

- Implements waterfront master plan/civic vision over short and long term.
- Uses legal authority to acquire, hold and dispose of land and legal rights-of-way.
- Finances riverfront public-infrastructure projects through bond issues and other means.
- Coordinates efforts among government agencies and nonprofits to maximize effectiveness.
- Maintains an ongoing relationship between board and existing neighborhood organizations and keeps the public engaged in decision-making.
- Improves and maintains trails, greenways, parks and public spaces.
- Reviews proposed development in a manner that complements existing project review processes.
- Markets and promotes the waterfront as a destination and programs activities for the waterfront.

“Quite simply, the central waterfront has suffered for decades from an absence of planning and an absence of management. Regardless of what is decided about casinos, we need to commit to a course of thoughtful planning, capable implementation and well-funded management.”

Paul R. Levy, president,  
Center City District  
Testimony before the  
City Council Rules Committee  
February 25, 2008

**The waterfront manager’s mission should be to implement the *Civic Vision for the Central Delaware* and the anticipated master plan for the central Delaware** in order to grow the city’s economy, improve quality of life along the river and in adjacent neighborhoods and ensure that each new development or open space adds to the attractiveness and health of the river’s edge. To be successful at this difficult job, the waterfront manager must have the means to finance capital improvements, acquire land and conservation easements, carry out operations and maintenance and improve open spaces. The waterfront manager must have adequate financial strength to be able to move the central Delaware project forward in times of economic downturn as well as real-estate booms—pushing forward parks, trails and street extensions even when economic conditions make private investors reluctant to move forward on large-scale, private development projects.



East Boston’s Piers Park, which reclaims an old pier and provides direct waterfront access, is owned and maintained by the Massachusetts Port Authority.



**After analyzing the four potential waterfront management structures (see sidebar), this action plan proposes that a reformed and rehabilitated Penn's Landing Corporation is the best choice for waterfront manager.** A reformed Penn's Landing Corporation will have the powers and annual revenue needed to rapidly and effectively transform the riverfront. Penn's Landing Corporation has the power to finance riverfront public-infrastructure projects through bond issues and other means, to buy and sell land and legal rights-of-way (although not to hold conservation easements) and to coordinate efforts among government agencies. The Penn's Landing Corporation was established as a quasi-governmental corporation in 1970 to manage publicly owned land on the central Delaware; it now extends from just south of Washington Avenue to just north of Spring Garden Street.<sup>4</sup> Philadelphia, like New York and other cities, believed that a powerful, quasi-governmental entity with the authority to issue bonds without voter approval, execute contracts without a lengthy bidding process and conduct business in private would bring new investment to a post-industrial riverfront efficiently. These corporations created for the public benefit, such as Penn's Landing Corporation and Battery Park City Authority in New York City, were given many of the powers of government without the safeguards. As a result, they made decisions affecting the future of the city without public input, and they often became known as shadow governments susceptible to patronage and corruption.<sup>5</sup>

**These four alternative waterfront management structures were analyzed:**

- 1. New public benefit corporation:** This option was discounted, as it does not seem justified, fiscally prudent or politically acceptable to create a separate government entity focused on a small portion of the city's landscape when one already exists.
- 2. City waterfront agency:** City agencies have the power of the mayor behind them and the resources of the city. Research demonstrates, however, that city agencies dedicated to waterfront development rarely outlive the administration that created them and are often diverted by competing needs. Few cities, with the exception of Portland, Oregon, have made this model work.<sup>6</sup>
- 3. Business Improvement District (BID):** A BID assesses fees from property owners to fund services. BIDs work best when businesses drive their creation and have a financial ability and willingness to absorb assessed fees. *A Civic Vision for the Central Delaware* and this action plan ask a great deal from riverfront owners, and it is unclear whether they would be willing to be assessed additional fees. If they were willing, a BID could generate about \$700,000 annually on commercial properties without the casinos and \$2 million annually with the two proposed casinos. This money could supplement Penn's Landing Corporation's current \$8 million annual revenue stream, but its funding alone would be insufficient to implement the civic vision and action plan.<sup>7</sup> Waterfront BIDs in other cities tend to start as traditional nonprofits and become BIDs only after the waterfront experiences substantial economic growth.<sup>8</sup>
- 4. Nonprofit 501(c)(3) organization:** A waterfront nonprofit, like those leading the efforts on the northern Delaware and the Schuylkill, has the freedom to fundraise and can often implement projects at lower cost than the government can. 501(c)(3) organizations, however, have no regulatory power, cannot hold public land or public rights-of-way and require tremendous cooperation from government to achieve their goals. The Schuylkill Banks was created largely through the efforts of a nonprofit, but it took over twenty years.

# 1

## Appoint an open, accountable, effective waterfront manager

A twenty-first century waterfront manager should have a clear mission statement and dedicated funding, be open, transparent, responsive to residents and property owners and accountable to the mayor and the public.

**Penn's Landing Corporation, as it is currently governed, could not be an effective waterfront manager.** The 501(c)(4) corporation is neither open nor accountable. It has unpublished by-laws, holds all meetings behind closed doors and does not have a strategic plan that defines its policies or goals for the public. The Penn's Landing Corporation does not operate under the Sunshine Act (the state law regulating open meetings) or any open records laws. While some publicly owned parcels have been successfully redeveloped, in its thirty-eight-year tenure, this agency has faced dramatic and very public failures in redeveloping the waterfront and has left publicly owned land underutilized. Discussions during the planning process for the *Civic Vision for the Central Delaware* revealed that Penn's Landing Corporation has lost the trust of the majority of the four thousand Philadelphians who contributed to the civic vision. They view Penn's Landing Corporation as a secretive agency that is a part of Philadelphia's backroom political culture. The model of a quasi-governmental organization with no accountability to voters has not worked.

**Penn's Landing Corporation can be rehabilitated into an effective, open and accountable waterfront manager through a reform process that is very public and that results in a very different type of agency.** A complete rehabilitation of its governance and budget processes will be needed to transform this agency into a twenty-first century waterfront manager and to reclaim the public's trust. Its articles of incorporation can be amended to increase its geographic jurisdiction to include the whole central Delaware area. Its board can be changed to reduce the number of political appointments, creating a leaner corporate structure. Regional corporate leaders will serve on the board as well as residents and experts in areas such as law, architecture, planning, fundraising and development.<sup>9</sup> A requirement currently included in deed agreements with the Philadelphia Redevelopment Authority that all public land be leased or sold for fair market value or higher should also be changed because it precludes the use of public land for parks and public spaces.<sup>10</sup>



*Battery Park City is owned and managed by a public benefit corporation that has floated bonds to create the public space that fills this 92-acre community in Lower Manhattan.*



*Through riverfront planning and management, Chattanooga's 21st Century Waterfront Trust has helped transform the city's image and generate millions of dollars in tax revenue.*

## REFORMS TO BUDGET PROCESS

- Create an open and transparent budget process.
- Appoint an independent audit committee that rotates periodically, as well as an external auditor.
- Require official certification, by board members and corporate executives, of the corporation's financial statements.
- Designate a procurement officer who will receive training in ethical procurement practices from the city's Office of the Controller.
- Develop and publish five-year financial plans and written investment policies.
- Provide the city controller with access to corporate books for regular inspections.

Penn's Landing Corporation has a board made up of twenty-six members, each serving a three-year staggered term. The mayor is a board member, along with seven other members of his administration. Other public board-member positions include the president of City Council and First District councilperson, First District state senator and First District Congressperson, representatives of three local Chambers of Commerce and the chairpersons of the Redevelopment Authority and Philadelphia Industrial Development Corporation. In addition, nine private-sector members are elected by the board, typically after being recommended by the mayor. Each year, three of these private-sector members are selected. In FY 2007, the corporation's revenues were \$8,462,275. Significantly, in that year, its expenditures exceeded revenues by over \$40,000. The city contributes \$500,000 to PLC's annual budget—6 percent of the total budget.<sup>11</sup>

## REFORMS TO GOVERNANCE STRUCTURE

The following proposed reforms are vital to the effectiveness and integrity of the board and governance structure of the Penn's Landing Corporation, and many can be accomplished through a board vote:<sup>12</sup>

- Enforce Sunshine Act requirements for all meetings and current and past votes and transactions. The Sunshine Act is the state law requiring that some agencies hold open meetings.
- Maintain open records.
- Expand the mission of the corporation to include a commitment to implementing the *Civic Vision for the Central Delaware* and the master plan for the area.
- Reduce the number of political board appointments, allowing residents and regional corporate leaders to serve as well as experts in areas such as law, architecture, planning, fundraising and development.
- Appoint private-sector board members with relevant experience in areas such as law, architecture, planning, landscape architecture, recreation, public art and real-estate development.
- Adopt a strict code of ethics to keep the board accountable and transparent, and make all records available for regular inspection by the mayor's chief integrity officer.
- Separate the board from the workings of the staff so that the board can be independent and not engage in rubber-stamping agency decisions.
- Require board members to undergo oversight and ethics training.
- Expand the responsibilities of board members to include examination of ethical issues.
- Develop new by-laws, including rules for conducting board business.
- Require an annual report to be posted on the Penn's Landing Corporation website.
- Require the minutes of all meetings to be posted on the authority's website within forty-eight hours of the meeting. Commit to funding improvements in an equitable fashion to serve the entire central Delaware and to ensure the equal quality and condition of public spaces along the central Delaware.

# 1

## Appoint an open, accountable, effective waterfront manager

### SHORT-TERM ACTIONS

1. Reform Penn's Landing Corporation into an open, accountable and effective waterfront manager.
2. During the reform process, the mayor's office should take the lead on all short-term actions.
3. Share with the public the reforms being implemented and a timeline for their implementation.
4. The waterfront manager should set goals and agree to track indicators to monitor the progress and performance of organizations and should report on an annual basis to the public.
5. The waterfront manager can begin to coordinate efforts among government agencies and nonprofits involved in riverfront work.
6. The waterfront manager should fundraise from government and private sources and take actions to ensure that riverfront improvements have dedicated funding sources.
7. Create new open spaces on the riverfront on publicly held land.

### LONGER-TERM ACTIONS

1. Implement master plan.
2. Publish annual report and monthly progress updates for the mayor, City Council and the public.
3. Maintain an ongoing relationship with residents and stakeholders.
4. Hold the waterfront manager accountable for achieving the goals of the civic vision that Philadelphia residents developed.

### BENEFITS TO CITY AND IMPACT ON CITY BUDGET OF APPOINTING AN OPEN, ACCOUNTABLE, EFFECTIVE WATERFRONT MANAGER

**Economic:** Open and accountable manager will increase private investment and leverage investment with public improvements.

**Environmental:** Waterfront manager can take actions to clean up the river's edge, plant wetlands and maintain a healthy greenway.

**Community:** Waterfront manager can restore faith in the potential of the riverfront to serve Philadelphians and partner with neighborhoods.

**Impact on City Budget:** The Regional Plan Association studied the management costs for significant greenways and riverfront public spaces in New York City. They found that costs for the management and administration of trails, greenways and parks, including salaries of managers and supervisors and associated administrative supplies, averaged \$34,000 per acre per year. In fact, this is the amount that Hudson River Park spent on management in 2006. For 35-acre Battery City Park, management costs for 2007 were \$42,000 per acre.<sup>13</sup> Perhaps the best estimate of management costs would come from Penn's Landing Corporation's current budget, which we were unable to obtain for this report.

## CIVIC ACTIONS: WHAT PHILADELPHIANS CAN DO TO HELP

1. Get involved in the rehabilitation of Penn's Landing Corporation.
2. Monitor the organization and what it is doing.
3. Attend meetings and make your voice heard.
4. Hold the waterfront manager to an open, accountable and transparent method of doing business.

**The waterfront manager should track progress on the riverfront** by setting clear goals and regularly updating data that will show improvements in the economy, quality of life and river health in the central Delaware region. Important data to track include the following:

- Indicators of a strong economy, including the number of jobs, employers and new residents, as well as the amount of private investment and taxes generated on the riverfront.
- Indicators of a safe and convenient transportation system, including number of transit riders, frequency of traffic delays, number of accidents and number of pedestrians and cyclists in the area.
- Indicators of the extent and popularity of recreational activities, including linear feet of trail, number of trail users, area of land open to the public on and along the riverfront, number of events and number of people who attended.
- Indicators of a healthy river's edge, including water quality, number of wildlife species, acres of green space, acres of restored habitat, number of new constructed wetlands and linear feet of naturalized shoreline.

## FUNDING RESOURCES

**Penn's Landing Corporation's current revenue stream** from leases of land and parking is about \$8 million a year (based on the best information available).

**Tax Increment Financing (TIF):** A newly popular tool for closing funding gaps. A TIF created under the Commonwealth's Tax Increment Financing Act could provide dedicated funding for trail creation and maintenance. Tax-increment financing takes the incremental increase in taxes paid, due to the development or redevelopment of former un- or underdeveloped sites within a defined district, and dedicates this increment to finance new development, supportive infrastructure and public-area improvements. Within a TIF district, incremental revenues from multiple taxes are devoted to pay the debt service on a bond issue that could provide upfront money to build the trail and other public improvements exclusively within the boundaries of the TIF district. Under state law, properties already benefiting from 10-year tax abatements do not participate in the TIF until the expiration of their abatement. However, no new abatements may be granted within the boundaries of the TIF District, though developers of new projects could benefit instead from low-interest TIF financing as well as publicly funded infrastructure and public area improvements.

In 2007, Economics Research Associates (ERA) estimated the potential bonding capacity of TIFs to raise funds for riverfront infrastructure improvements, including trails.<sup>14</sup> ERA studied four sites:

- 68 acres currently occupied by big-box stores in South Philadelphia;
- 29 acres that currently include Penn's Landing, the Seaport Museum and the Hyatt Hotel;
- 12 acres that include the incinerator and Festival Pier sites; and
- 134 acres occupied by the Conrail site and the former Pinnacle site.

ERA estimates that, in combination, the four sites will produce bondable TIF capacity of up to \$371 million, which would generate annual taxes of up to \$177 million in 2007 dollars. The term of the TIF would commence in 2011 and conclude in 2030.

**Business Improvement District (BID):** Assessed fees from area owners could add to revenues.

**Parking-Garage Revenues:** This aspect of PLC's budget could be expanded through well-placed, attractive public parking.

**Four percent of gross casino revenues** are specified by the Commonwealth's Gaming Act to offset increased city operating costs for managing the impact of the casinos on transportation, the police, and the health, safety and social welfare of areas surrounding the casinos.

## SETTING A NEW COURSE FOR THE RIVER

# 2 Adopt clear zoning, a detailed master plan and a coordinated regulatory policy

**The central Delaware is a rapidly changing area. It needs clear rules put in place immediately to guide that change.** Without rules for the development of private and public spaces, we can not achieve the central Delaware civic vision. Without establishing rules, we may find that in twenty years we will describe this as the decade in which developers paved the waterfront and put up only casinos, parking lots, apartment buildings and No Trespassing signs.

**In order to set a new course for the river, we must take four steps in addition to creating effective leadership.** First, an interim zoning overlay is needed to set clear public-access and public-space rules. Second, a master plan will provide a physical development plan for the riverfront and set priorities for public investment. Third, a full rewrite of Philadelphia's outdated zoning code should set clear, long-term rules for development. Finally, it is critical that city, state and federal stakeholders come together and commit to implementing the *Civic Vision for the Central Delaware* and set out the role that each will play.

**1. Write and pass into law an immediate interim zoning overlay to protect public space and ensure active ground-floor uses, urban setbacks and concealed parking in the short term.** Waterfront development isn't going to stop just because the city now has a vision in place for the central Delaware, and it doesn't have to. A simple zoning overlay can ensure that the transformation of the riverfront that is underway will benefit from the wisdom of the four thousand Philadelphians and others who contributed to the *Civic Vision for the Central Delaware*. Rather than Philadelphia's typical let's-try-this-and-see-what-happens approach, which

puts developers in the driver's seat, a zoning overlay will ensure that today's decisions help to create the riverfront that thousands of Philadelphians seek and that millions of people from around the world will enjoy. Philadelphia is at the very beginning stages of a rewrite of its almost fifty-year-old zoning code, and this will be completed within the next few years. Due to immediate development pressures, the central Delaware cannot wait for this effort to be completed.

The zoning overlay should be created as soon as possible. It should require owners to provide public access to the river from the nearest public street and to preserve a 100-foot setback from the water's edge, or no more than 20 percent of the total land area of the parcel. This new requirement will be helped along greatly by a simple change to the existing code; in combination, the requirement and code change will define this new responsibility for owners and help them to fulfill it. Currently, Philadelphia's zoning code does not include as "open area" any area covered by an easement serving three or more parties. This means that the greenway and trail cannot satisfy the city's open-space requirement. By simply changing this language to state, "area dedicated to a public trail or greenway shall be considered 'open area' for purposes of determining whether applicable open area requirements are met," the overlay will help owners to preserve a greenway.<sup>15</sup>

The zoning overlay should also provide design guidelines that address active ground floor uses, urban street lines and parking requirements. Developers will be making important decisions that will affect the future of the river for decades, and we need to ensure that these decisions will help us move toward the riverfront we envision rather than cutting off important opportunities.



**2. Rewrite the zoning code to set comprehensive rules and standards for development along the central Delaware.**

The Philadelphia Zoning Code Commission was established in 2007 to rewrite its almost fifty-year-old code, remap areas like the central Delaware where zoning does not reflect market realities, add requirements and incentives to ensure that the city takes best advantage of its assets and help its neighborhoods thrive. The Philadelphia Zoning Code Commission is just starting to make the hard decisions about where to focus its attention first. Chicago and other peer cities began by focusing on areas just like the central Delaware that were experiencing tremendous change, change that would be better regulated under updated rules. The Philadelphia Zoning Code Commission should rezone and remap the central Delaware early in its rewrite process, setting standards for types of uses, design and open-space requirements that are in accord with the *Civic Vision for the Central Delaware*.

**3. Create a master plan that will guide the transformation of the riverfront.**

A master plan is a detailed physical-development plan that provides a framework for future planning and building decisions. A master plan can define appropriate land uses and densities for different segments of the riverfront, analyze the need for new parks and community facilities, inform transit providers of needed transit options and plan street extensions. It can also serve as a document that citizens, businesses and government can look to in order to measure performance. Once completed, a master plan can guide public-infrastructure investments, direct development activities and provide an appropriate decision-making framework for a broad range of issues on the central Delaware.

**4. Bring together key stakeholders from city, state, federal and quasi-governmental agencies to sign a memorandum of understanding of the type used by other waterfront cities.**

Through signing this document, they agree to work together, to share information and to leverage each public investment to make a revitalized riverfront a reality. On the Anacostia Waterfront in Washington, D.C., for example, all levels of government signed a memorandum of understanding that set shared goals and standards for the waterfront and put each agency’s commitment to improving the waterfront in writing. Under current law, private owners are required to go through two different approval processes by the city and the state and to pass federal standards as well in order to get permission to build. The memorandum of understanding can identify issues associated with waterfront approvals that can be handled jointly or assigned to a single authority to increase the efficiency of the approval process. A master plan can respect current authority and decision-making structures and hierarchies at city, state and federal levels while making collaboration feasible.

**Current waterfront zoning is inadequate. In 2005, the Philadelphia City Council adopted a Waterfront Redevelopment District (WRD) designation that has not effectively regulated the creation of a greenway, trail and parks along the river.** The WRD is one of the few codes in the city that is optional and that requires the landowner to apply for the designation. In addition, the WRD doesn’t provide adequate definitions (for example, it requires a 50-foot greenway starting at “the top of the bank,” but “the top of the bank” is not defined). Finally, half of the WRD open-space requirement can be satisfied with balconies, decks and even parking lots rather than the parks and recreational areas that the WRD was designed to encourage.

This action plan sets out new requirements for private owners that restrict where development can take place and requires that owners dedicate portions of their land for public benefit. In return, we must assure owners that additional requirements will not be added on an ad hoc basis. We are asking a great deal of private owners along the central Delaware. In return, we must offer clear development rules, predictability and incentives. For this reason, it is essential that communities do not negotiate individually for additional community benefits that would make it difficult or impossible for an owner to satisfy the requirements of this action plan.



## 2

### Adopt clear zoning, a detailed master plan and a coordinated regulatory policy

#### CIVIC ACTIONS: WHAT PHILADELPHIANS CAN DO TO HELP

- Educate local leaders and elected officials about the need for an interim zoning overlay.
- Consider initiating a memorandum of understanding among civic organizations similar to the one recommended for local, state and federal governments.
- Participate actively in the creation of a master plan for the central Delaware.

#### SHORT-TERM ACTIONS

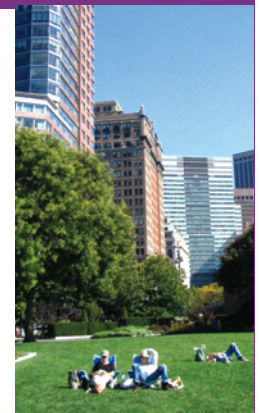
1. Write and pass into law a zoning overlay that sets clear rules for open-space and public-access requirements. Pass it through City Council. The overlay should require owners who are developing new or substantially rehabilitated buildings to accomplish the following:
  - provide access to the riverfront and trail from a public road,
  - preserve a greenway that extends 100 feet from the water's edge or preserve a maximum of 20 percent of the land area within a parcel,
  - allow a trail to be built within the greenway or another path over their property and
  - meet requirements for active ground floor uses, urban street lines and parking.
2. Encourage the Philadelphia Zoning Code Commission to rezone the central Delaware riverfront as one of its earliest projects.
3. The Philadelphia City Planning Commission should write a detailed master plan for the central Delaware with the participation of the waterfront manager, the Coalition for Philadelphia Riverfronts and riverfront property owners.
4. City, state and federal regulatory agencies should meet to determine how they can agree to work together, to share information and to leverage each public investment on the central Delaware. They should also determine if they can conduct joint review or take any additional action to streamline development review. The agreements between these bodies should be captured in a memorandum of understanding.

#### LONGER-TERM ACTIONS

1. The Philadelphia Zoning Code Commission should adopt new zoning for the central Delaware riverfront in accordance with the civic vision and remap the area.
2. Stakeholders should agree not to make additional requirements of developers who satisfy new requirements for riverfront development.
3. The city needs to explore a regulation on big-box stores to prohibit the stores from standing vacant for more than six months. Big-box stores have relatively short life spans. The experience of peer cities has shown that big-box owners often find a new location and purposefully keep their former location vacant in order to avoid having its competitors lease the space. Big-box owners should either state that these properties are no longer viable as big-box store sites—in which case new zoning designations and requirements will take effect—or should ensure that the property continues to contribute jobs, retail amenities and tax revenues to the city.

#### OTHER CITIES HAVE DONE IT—WE CAN, TOO

From **New York City** to **Sacramento, CA**, cities have created master plans for their riverfronts. Sacramento's Master Plan sets out a detailed guide for "creating a remarkable riverfront that provides a strong and well-functioning public-space system."<sup>16</sup> Post-industrial cities have also established new waterfront zoning districts over the past two decades in order to welcome new uses, add public-access requirements and shape the look and feel of their riverfronts. It is time for Philadelphia to rewrite its zoning code and to create a master plan for the central Delaware.



Battery Park City, NY

## FUNDING RESOURCES

### Grants from private local and national foundations.

**Four percent of gross casino revenues** are specified by the Commonwealth's Gaming Act to offset increased city operating costs for managing the impact of the casinos on transportation, the police, and the health, safety and social welfare of areas surrounding the casinos.

**Take Me to the River Grant Program (Delaware Valley Regional Planning Commission, or DVRPC)** : A \$1 million grant pool is available for projects to improve riverfront areas.

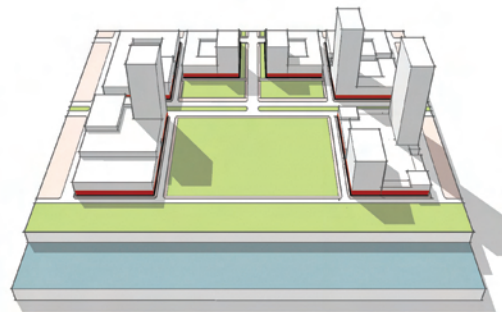
## BENEFITS TO CITY AND IMPACT ON CITY BUDGET OF ADOPTING CLEAR ZONING, A DETAILED MASTER PLAN AND A COORDINATED REGULATORY POLICY

**Economic:** Master plan and clear zoning will set predictable development rules and streamline development review through the agreement of city, state and federal agencies.

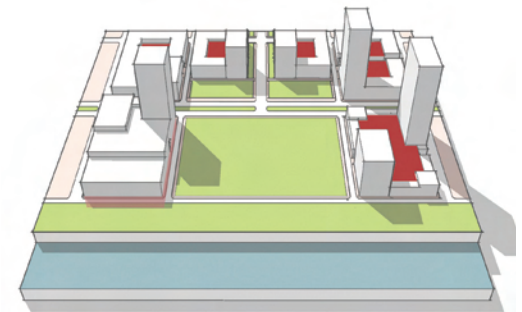
**Environmental:** For the first time, the zoning code will include mandatory provisions to improve the environmental health of the Delaware River.

**Community:** Residents will have input into zoning changes and the master plan to help create a riverfront they can be proud of and enjoy.

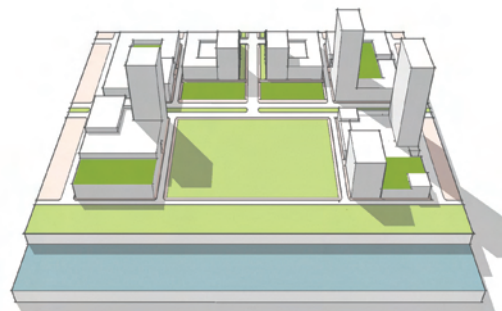
**Impact on City Budget:** The cost to pass a zoning overlay is minimal. The Philadelphia Zoning Code Commission is already in place and budgeted to rewrite the zoning code. A master plan would utilize City Planning Commission staff time and specialized consultants.



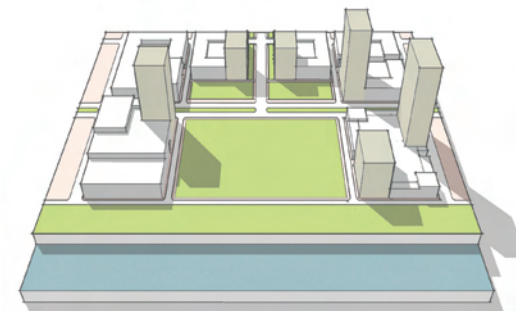
*One provision of interim zoning should be to require that all buildings are built up to the sidewalk line, with active ground floors along the boulevard and primary streets.*



*Interim zoning should also address on-site parking requirements to limit the visibility of parking facilities and to create a less auto-dominated corridor.*



*Regulatory policy must be set to ensure that environmentally sustainable building practices are used consistently along the riverfront.*



*Given the development pressures along the riverfront, a master plan should resolve how to integrate high-rise towers into the urban fabric while maintaining view corridors.*

## ENJOYING THE RIVER

# 3

## Build a continuous, 7-mile trail along the central Delaware riverfront

**Philadelphia, like many older cities, has begun to recognize that a well-maintained trail system along the central Delaware River will provide the city, residents and property owners with multiple benefits. A continuous, 7-mile trail along the central Delaware will offer a fun recreational destination for the city's residents, whether they are walkers, joggers, bikers or river watchers.** The trail will connect river neighborhoods and, over time, will connect to a network of trails along the northern Delaware and the Schuylkill. These miles of trails will answer growing public demand for safe and pleasant ways to travel about the city, allowing residents to get to work or school, shop, do errands and reach other riverfront destinations away from traffic. Offering river trails on the Delaware, as we already do on the Schuylkill, will increase the health of our city by allowing residents more opportunities for outdoor recreation and creating more educational opportunities for students.

**Trails are relatively inexpensive public investments compared to road and sewer infrastructure, but their economic-development potential is great.** The Schuylkill River Development Corporation estimates that the \$170 million public-sector investment in the central portion of the Schuylkill Banks trail will result in \$2.4 billion in private investment over the next five to ten years. Indianapolis spent \$6 million to build the 10.5-mile Monon trail through its downtown in 1999. In its first ten years, the trail has attracted close to a billion dollars along its downtown route, bringing thirty new businesses and various public and private revitalization projects along its corridors. An estimated 1.2 million people use the trail annually for walking, biking and roller-blading.<sup>17</sup> In Seattle, a 12-mile recreational trail increased property values and added a new attraction that created great demand for new properties in proximity to the trail.<sup>18</sup>

**Wherever possible, the trail will be built within a greenway, a 100-foot band of green along the river's edge that will offer users scenic views.** (Further discussion of the greenway can be found in section nine.) While the greenway's primary function is to clean the river's edge and improve water quality, it will also provide an attractive, natural trail setting. Where security or business requirements or the absence of land at the water's edge make this greenway impossible, the trail will be diverted back to a public road or perhaps will continue over the water on a boardwalk.

To create a continuous trail along the central Delaware, where most of the land is privately owned, will require clear zoning rules for redeveloped sites and strong partnerships with riverfront owners. Cities have typically used three methods to obtain permission to create a trail over private land:

### OTHER CITIES HAVE DONE IT—WE CAN, TOO



Hudson River Park, NY

When you think of **New York City**, your first thought may be of tall buildings, Broadway theater or great restaurants. But the city's boroughs have been working for the last two decades to build trails and greenways along its rivers. Like Philadelphia, but with a twenty-year head start, Manhattan is building a greenway and trail along the water's edge around the entire island and is redeveloping former riverfront industrial properties into areas with trails and parks. While some of the river land was publicly owned, most of it was privately owned. New York has had great success with its appeal to owners to donate rights-of-way and has achieved high levels of participation in its greenway and trails program. We can, too.



**1. Obtain a right-of-way by making it a requirement for new development.** Philadelphia's zoning code can require owners seeking zoning and building permits to redevelop their property to provide a setback along the river for a greenway and trail. Overall project densities will still be based on the entire site area, including the portion dedicated to the greenway, so that there is no loss in development rights or potential. Where this is not possible, owners seeking permits can be required to provide a right-of-way along another identified route. In other cities, when owners submit a site plan to city agencies for review, they identify where a trail will be located that meets city standards. In exchange for building and zoning permits, they allow the creation of a trail across their land. Where this isn't possible, the owners seek a variance from the requirement. Requiring a trail (or greenway) as a condition of development approval is a valid use of city power because the requirement affects the placement of building on a property but does not prohibit development or remove all or most of the economic value of the land. In exchange for zoning and building permits, the city should also explicitly request a public-access easement that gives the public the legal right to use the trail.

**2. Request that owners without redevelopment plans provide a right-of-way for a trail in return for federal tax deductions and other incentives.** Owners without imminent plans to redevelop should be asked to participate in a new central Delaware trail program by donating a conservation easement for a public trail across their property. Conservation easements<sup>19</sup> offer the best tool through which to permanently protect a right-of-way for recreation and conservation while compensating the owner with federal tax deductions.<sup>20</sup> Owners should be provided with multiple local and federal incentives to dedicate a portion of their private land for public benefit. Through successful public-private partnerships, many miles of

recreational trails can be added each year. The easement can set limitations on the public's use of the trail, forbidding, for example, motorized vehicles or alcohol. The public can address the liability concerns of owners by assuming responsibility for the "care, custody and control of the public trail."<sup>21</sup>

**3. Where owners will not participate in the central Delaware trail program by donating a right-of-way, the city can purchase rights-of-way over privately owned land.** The waterfront manager or city determines whether the owner will sell a portion of the land or a public-access right-of-way. While the city cannot possibly afford to buy an easement over every parcel of land along the riverfront, this is an option for some key parcels.

Trails in Philadelphia and peer cities are typically designed to be 12 to 20 feet wide, with six-foot planted shoulders on each side of the trail to absorb stormwater and create an attractive path. Good lighting, emergency phones and frequent patrols are important to keep the trail safe. Two high-crime cities that have implemented these safety measures, Detroit and Hartford, have not experienced a single violent crime on their trails.<sup>22</sup> Maintenance of the trail will ensure its safety for users.

### CIVIC ACTIONS: WHAT PHILADELPHIANS CAN DO TO HELP

- Make preserving land for a trail and providing a public-access right-of-way a part of every community benefits agreement.
- Approach owners with whom you have a relationship about their donating or selling a right-of-way or conservation easement in return for tax benefits and other incentives.
- Offer awards or other forms of recognition to owners who donate rights-of-way or take other action to support a public riverfront.
- Inform residents that density on the riverfront makes sense for the river when it is paired with trails, greenways and parks.
- Meet with citizens in neighborhoods on the northern Delaware and Schuylkill Rivers to share experiences, and learn from those who have been working on reinventing riverfronts for years.

# 3

## Build a continuous, 7-mile trail along the central Delaware riverfront

### BENEFITS TO CITY AND IMPACT ON CITY BUDGET OF A CONTINUOUS TRAIL ALONG THE CENTRAL DELAWARE

**Economic:** An asset with strong economic-development potential, the trail will attract employers, knowledge workers, families and empty nesters to live and work in the city.<sup>23</sup>

**Environmental:** The trail will provide alternative modes of transportation without emissions, bring people to water and a natural greenway, create new relationships between Philadelphians and the river and promote private management of public space.

**Community:** The trail will connect river neighborhoods, create new recreational opportunities for health and fitness, improve quality of life and provide educational opportunities for children.

**Impact on City Budget:** Cost estimates for building the trail are based on the best local example, Schuylkill Banks. Estimates include landscaping, trail connections and construction. The estimated cost for trail design and construction from West River Drive to South Street, with improved connections to the South Street Bridge, was \$9.4 million (\$2,192,000 design, \$7,208,000 construction). The extension of the trail from South Street to Bartram’s Garden is estimated at \$6.8 million. The trail is 18 feet wide (14 feet of asphalt with a 2-foot shoulder on each side).<sup>24</sup>

#### Maintenance Costs for Trail, Greenway and Park Space:

A study of New York City’s waterfront public-space maintenance costs, including the trail, greenway area and park space, found that the average cost per acre per year is \$55,000 for maintenance and landscaping and \$18,000 for security.<sup>25</sup> The replacement or repair of docking, bulkhead, benches, drinking fountains, lighting, pavement and railway costs an additional \$15,000 an acre per year.

### SHORT-TERM ACTIONS (2008 TO 2012)

1. Announce central Delaware trail program and ask owners to participate.
2. Pass a zoning overlay that requires a setback from the water’s edge for a greenway and trail, public access and unobtrusive parking.
3. Support Center City District in its creation of an immediate trail from Wal-Mart to the Benjamin Franklin Bridge to bring people to the river for recreation.
4. Identify incentives for owners without redevelopment plans to provide rights-of-way for trail in the form of conservation easement (in addition to federal tax deductions). A proposed list of incentives is on page 47.
5. Create quick and painless procedures for owners to donate legal rights-of-way for the trail to the city or waterfront manager and for the city to indemnify owners from liability for injuries on trails and greenways that run across privately owned land.
6. Identify trail width, materials, stormwater infiltration measures and safety features to allow owners and waterfront manager to create consistent design.
7. Acquire rights-of-way over privately owned land in exchange for zoning and building permits and indemnification of owners from liability for injuries on their land.
8. Acquire rights-of-way from riverfront owners who voluntarily provide rights-of-way in exchange for incentives.
9. Take advantage of any immediate opportunities to build initial permanent segments of the trail that may arise from development proposals or available funding.
10. Identify where alternate trail routes are needed due to national security or harm to existing businesses.
11. Wherever possible, reach agreements with state agencies, utilities, city agencies, river authorities, the Delaware Valley Regional Planning Commission (DVRPC) and other funding agencies to make public access to the river a condition of grant awards or infrastructure projects, as it is for all property that leases state riparian land.

## LONGER-TERM ACTIONS (2012 TO 2018)

1. Design and build alternate routes for trail along road or over water where needed.
2. Build safe, well-designed and permanent trail segments.
3. Create rental facilities for bicycles and other recreational equipment and refreshment areas. These concessions can help fund maintenance and improvements to the trail.
4. Once a trail through Center City is complete, create a historic tour using personal cell phones. A historic tour using personal cell phones and other digital media can be offered inexpensively to highlight the historic places and events along the central Delaware, including America's first European settlements, the founding of the United States military and the beginnings of American industry.



Chicago's trail runs for over 20 miles along Lake Michigan.

## FUNDING RESOURCES

**Funding has already been approved for the Center City District to create an immediate interim 2-mile trail along the river.** The William Penn Foundation made the grant in 2007.

**City Capital Funding:** Virtually all city waterfront trails in peer cities rely to a certain degree on the city's general operating budget and park personnel.

**Take Me to the River Grant Program (Delaware Valley Regional Planning Commission, or DVRPC):** A \$1 million grant pool is available for projects to improve riverfront areas.

**Trump Tower and Penn Treaty Tower riparian lease agreements:** Under the state's riparian land lease, Trump and Penn Treaty Towers must dedicate 50 cents for every square foot of building space for implementing the *Civic Vision for the Central Delaware*. Based on the square footage of plans submitted to the Philadelphia City Planning Commission, this will create a one-time payment of approximately \$350,000.<sup>26</sup>

**Private Donations:** One strategy that Philadelphia has used to fund large projects such as the Avenue of the Arts (an improved section of Broad Street) is to form a partnership with a group of private donors who provide seed money and show significant community support.

**Tax Increment Financing District (TIF):** As noted on page 15, a TIF is a tool for closing funding gaps. It allows tax revenues to be deferred and instead used to pay for the cost of redevelopment. A TIF could provide consistent funding for trail creation and maintenance. Pennsylvania TIF legislation requires that TIF dollars be spent only in the district. Residential properties with ten-year tax abatements will not contribute to the TIF until the expiration of the tax abatements.

**Transportation Enhancements (Pennsylvania Department of Transportation, or PennDOT):** This annual program funds the creation of bicycle and pedestrian facilities.

**Recreational Trails Program (PennDOT):** Awards grants to develop and maintain recreational trails and trail-related facilities and to acquire easements and properties. Typical grant is about \$150,000.

**Coastal and Estuarine Land Conservation Program and National and Estuarine Research Reserve System (National Oceanic and Atmospheric Administration):** Gives funds to states for land acquisition, research and educational activities on lands sheltered from development to provide waterfront access. Maximum grant is \$3 million; a 100 percent match is required.

**Pennsylvania Recreational Trails Program (Pennsylvania Department of Conservation and Natural Resources, or DCNR):** Funds development and maintenance of recreational trails through the Federal Highway Administration. A total of \$300,000 is available for nonmotorized trails only. Applicant must provide 20 percent match.

**Balance Bar Community Grants Program (Balance Bar Food Company):** Funds projects that provide community residents the opportunity to lead healthy, active lifestyles. Up to \$25,000 per grant.

**Fees for Events, Concessions and Parking:** These fees can generate substantial revenues.

## ENJOYING THE RIVER

# 4

## Create new parks and improve two existing parks

Currently in Philadelphia, of the 1,146 acres of land along the central Delaware, only 8 acres are parkland. These 8 acres make up two neighborhood parks: Penn Treaty Park and Pulaski Park.

**Philadelphians love their parks. Add a series of parks to the riverfront linked by a greenway and a water view and you have a special asset for the city that will generate millions to billions in new investment.** Chicago built the 24.5-acre Millennium Park along its waterfront to spur economic growth. The city's public investment of \$270 million was originally expected to return \$1.4 billion of private investment over ten years, but now the return is believed to total over \$5 billion in job growth and tax revenue.<sup>27</sup> Adjacent property owners are seeing an average bonus for units near the park of \$100 per square foot and absorption rates 30 to 50 percent faster than those of comparable projects away from the park. In addition, the existence of Millennium Park played a role in attracting both Boeing and the BP subsidiary Innoventure to locate their corporate headquarters in Chicago.<sup>28</sup>

**A park within a ten-minute walk or a quarter mile of every home or neighborhood is the civic vision's goal for the central Delaware.** To achieve this goal, publicly owned land will need to be transformed into larger destination parks. Private owners will be encouraged but not required to create small parks to serve their residents, customers and workers, as well as the public. The advantage of linking new development with a park is clear. For the owner, a single small park can raise property value by 30 percent, well beyond the costs of creating and maintaining the park.<sup>29</sup> Nearby residential and commercial development will provide the people needed to keep parks lively, active and safe, day and night.



*Millennium Park, which transformed 16.5 acres of underutilized land along Chicago's lakefront, is expected to yield \$5 billion in job growth and tax revenue in its first ten years.*



**To reach this goal, we must accomplish the following:**

**Create destination parks on public land at the Festival Pier, former incinerator site and Penn’s Landing.**

On the few publicly owned parcels within the central Delaware, we can provide parks that will serve the entire city and region. Two adjacent pieces of public land, located at Spring Garden Street, Festival Pier and the former incinerator site, currently serve as concert locations during warm months. By taking better advantage of these sites—adding attractive gathering areas, events and activities—we could make them lively, year-round destinations for residents and tourists. On Penn’s Landing, from Walnut to Market Streets along the river, an extraordinary opportunity exists to replace cement with grass and create a great lawn where Philadelphians can play games, sunbathe or read. Other activities could be offered, including water features such as splash pads that provide a playground for kids, interactive public art and attractive viewing areas for watching ships. As the popularity of these new destination parks grows, Philadelphia could extend the riverfront and add performance space by using a floating concert and movie barge, as cities across the country have done.

**Open publicly controlled piers, such as Pier 11 beneath the Benjamin Franklin Bridge, for public use and provide unique waterfront-recreation spaces.**

New York City’s Hudson River Park converted one former shipping pier into a dog run, another into a golf driving range and some piers into playgrounds for children. The piers, like all potential park sites, must be tested for environmental contamination, and environmental remediation must be completed if needed. Parks and green spaces built on former industrial sites must be cleaned to the same level required for residential properties, with virtually all contamination removed.

**Improve the existing 8 acres of parkland.** Fishtown’s Penn Treaty Park and Port Richmond’s Pulaski Park provide the riverfront’s only parkland, yet both need significant improvements. Although the Fairmount Park Commission controls Penn Treaty and the Philadelphia Department of Recreation controls Pulaski Park, maintenance has been left largely to volunteer friends-of-park organizations. Penn Treaty will have an opportunity to create a master plan for improvements and upgrades through a grant from the Department of Conservation and Natural Resources (DCNR). It is hoped that Pulaski Park will have a similar opportunity in the next year.

**Expand boating and fishing opportunities along the central Delaware by building a public marina and fishing piers and encouraging private boat-rental operations along the river.**

Today, motor boating is a popular river activity, yet there are no active public marinas on the Philadelphia side of the Delaware and just a few private marinas. Activating the public marina in the boat basin of Penn’s Landing would provide a much-needed place to launch and dock boats. Motorboat, kayak and canoe rentals would give many households the chance to enjoy the river.<sup>30</sup> Less experienced kayakers and canoeists could be driven to a safe, calm launching point without currents or wakes from large ships and could be returned to centrally located Penn’s Landing after their trips. Well-maintained, safe fishing piers and a cleaner river’s edge will also expand the small number of locations from which residents can enjoy fishing.



Battery Park City, NY



Penn Treaty Park, Philadelphia, PA



Pulaski Park, Philadelphia, PA



# 4

## Create new parks and improve two existing parks

### SHORT-TERM ACTIONS

1. Improve two existing parks.
2. Create destination parks on publicly owned land, such as Pier 11 and Penn's Landing. Encourage riverfront owners to dedicate land for public parks as a part of their open-space requirement.
3. Determine the condition and feasibility of converting each publicly owned pier into publicly accessible open space.
4. Test potential destination-park sites for environmental contamination.
5. Purchase priority parcels for parks or recreational activities as they become available, with support from DCNR and private foundations.
6. Define the best uses for vacant and underutilized public spaces and approach owners about improving the land. (For example, cities have placed skate parks under freeway ramps and dog runs on piers.) Land under the reconstructed Girard Avenue Interchange provides an important opportunity for the creation of a new green space and a path to the river.

### SHORT-TERM PARK OPPORTUNITIES: RECOMMENDED LOCATIONS

- Transform Pier 11 beneath the Benjamin Franklin Bridge into a high-quality public space.
- Create a destination park at the foot of Spring Garden Street on the publicly owned Festival Pier/incinerator site. Issue a Request for Proposals for a landscape architect to design the park space in 2008–2009.
- Create a park under I-95 at the Girard Avenue Interchange that would offer a pedestrian route under I-95. This is just one example of how we can take advantage of the imminent need to replace or rebuild aging roads and sewer infrastructure to implement innovative improvements. This is currently budgeted as a part of the Pennsylvania Department of Transportation's plan for the rebuild of the Girard Interchange.
- Preserve and restore the Wood Street Steps.

### LONGER-TERM ACTIONS

1. Build diverse, attractive parks on available land.
2. Establish an endowment for their maintenance or encourage opportunities for consistent revenue streams (e.g., concessions). While it is fairly easy to obtain new dollars to support a new park or program, it is far more difficult to obtain funding for their maintenance. As a result, many waterfront agencies have fundraised for a maintenance endowment during their early years, when excitement about the new riverfront is at its highest.
3. Create new opportunities for fishing, boating and other water recreation.

### LONGER-TERM PARK OPPORTUNITIES: RECOMMENDED LOCATIONS

- Create a great lawn at Penn's Landing in the area between Walnut and Market Streets. By transforming the cement gathering spaces of Penn's Landing into a great lawn, we will create a destination park. At the foot of Dock Street, improve the boat basin to encourage people to come to the river.<sup>31</sup>
- Develop Pier 53 South as a new park at the end of Washington Avenue. Penn's Landing Corporation controls the pier. The civic vision extends Washington Avenue to the river and moves it a bit to the south (see section five) to open up more space.
- Create Ore Pier Park. At the end of Cumberland Street, where the Ore Pier stands, another small park is planned. Conrail owns the pier but has left the site unused, without plans to restore working rail lines to the site.
- Plan and create an open space at the end of the Lehigh Viaduct.
- Explore possible open space and development options for the site of the former West Shipyard (on Delaware Ave. between Vine and Callowhill) that honor the archaeological and historical significance of the site.

## OTHER CITIES HAVE DONE IT—WE CAN, TOO

Cities are building parks to attract economic development, and the strategy is working.

**Chicago** transformed 16.5 acres of commuter rail lines, a surface parking lot and another 8 acres of shabby parkland that fronted historic Michigan Avenue into Millennium Park, attracting billions of dollars of new investment. **San Jose** and **Louisville** built waterfront parks and attracted about four private investment dollars for every public dollar invested. Parks are good business.



Louisville, KY

## BENEFITS TO CITY AND IMPACT ON CITY BUDGET OF NEW PARKS AND IMPROVEMENTS TO EXISTING PARKS

**Economic:** Parks raise values of nearby properties and attract new investment, employers and residents.

**Environmental:** Parks help manage stormwater, keep air clean and connect city residents to nature.

**Community:** Parks improve health by providing places to play and exercise and bring residents together.

**Impact on City Budget:** The cost to create a recreational park is approximately \$1.75 million per acre.<sup>32</sup> This figure does not include funding for environmental remediation if the soil is contaminated. Ongoing costs, based on a study of New York City waterfront public-space maintenance, are \$55,000 per acre for maintenance and landscaping and \$18,000 per acre for security.

## FUNDING RESOURCES

### Funding has already been approved for the improvement of Penn Treaty

**Park:** The Pennsylvania Department of Conservation and Natural Resources has granted funding to create a master plan and to implement improvements.

**Take Me to the River Grant Program (DVRPC):** A \$1 million grant pool is available for projects to improve riverfront areas.

**Trump Tower and Penn Treaty Tower riparian lease agreement:** Under the state's riparian land lease, Trump and Penn Treaty Towers must dedicate 50 cents for every square foot of building space to implementing the *Civic Vision for the Central Delaware*.

### Grants from private local and national foundations.

**Keystone Community Grant Program (DCNR)** gives grants to governments to support the planning, design and development of greenways and parks. Planning grants are typically \$50,000 or less. Land acquisition and construction grants range from \$150,000 to \$200,000.

**Tax Increment Financing:** As noted, creating a TIF district is an excellent way to generate funds for creating and maintaining parks.

**Legislative Initiative Grants, or WAMs (Walking Around Money),** are state discretionary funds available to create or improve parks.

**Four percent of gross casino revenues** are specified by the Commonwealth's Gaming Act to offset increased city operating costs for managing the impact of the casinos on transportation, the police, and the health, safety and social welfare of areas surrounding the casinos.

## CIVIC ACTIONS: WHAT PHILADELPHIANS CAN DO TO HELP

- Define the park activities and amenities that your neighborhood needs most.
- Identify highest-priority improvements for Pulaski Park and Penn Treaty Park and actively engage in the planning process for these parks.
- Inform residents that density on the riverfront makes sense for the river when it is paired with trails, greenways and parks.
- If you live in a river neighborhood, help create a new park in your neighborhood by helping to identify a park site and determining the type of park needed.
- If you make use of a river park, organize volunteers to ensure its regular maintenance.

## GETTING TO THE RIVER

# 5

## Guarantee public access to the riverfront and make it easier for residents to walk and bike to the river

**Every Philadelphian should have access to our rivers. More than sixty thousand people live within a ten-minute walk of the central Delaware River, but fences, I-95, vacant properties and blight make the river a very difficult destination to reach.**<sup>33</sup> Insufficient sidewalks, bike lanes, paths and crosswalks discourage all but the most fearless pedestrian or biker from traveling to the river. Philadelphia can and should guarantee public access to the river by passing a zoning requirement that all new developments must provide convenient, safe public access to the river from the nearest public street. Pennsylvania already requires owners who lease state-owned riparian land to ensure public access to the river. The requirement could be met through the creation of safe paths designed exclusively for pedestrians and cyclists, sidewalks bordering an existing public or private road or a new road designed to accommodate cars, pedestrians and cyclists.

A safe, secure and comfortable system allowing pedestrians and cyclists to travel along existing roads to the central Delaware riverfront is also essential. Many existing roads in the central Delaware were built for cars and do not provide bike lanes and adequate sidewalks for cyclists and pedestrians. The reason for this is simple: in the past, it was an industrial area that needed freight rail and trucks and had little or no demand for recreational access. Providing sidewalks and bike lanes will help residents walk and bike to the river, lessen congestion by providing an alternative to short car trips and improve the attractiveness of the area to new residents and businesses.

**Actions must be taken to increase the safety of pedestrians and cyclists traveling on the highway-like Delaware Avenue/Columbus Boulevard and throughout the area.** Delaware Avenue/Columbus Boulevard poses the greatest challenge to a walkable and bikeable central Delaware, as it

is currently a wide, high-speed, congested road with three to four car lanes in each direction. East-west streets that connect neighborhoods to the riverfront must also be able to accommodate Philadelphians on foot and on bike.

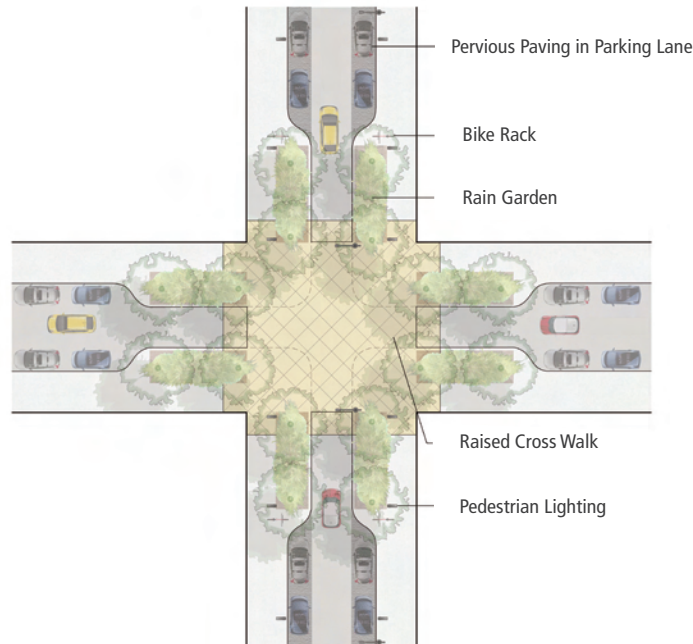
**Here are some of the ways in which this can be accomplished:**

- 1. Build and improve sidewalks** to create wide, well-lit and well-maintained sidewalks on both sides of Delaware Avenue/Columbus Boulevard and on connecting east-west streets. While wide and relatively new sidewalks exist along stretches of Delaware Avenue/Columbus Boulevard at Penn's Landing, there are long stretches south of Penn's Landing and near the Girard Avenue Interchange that have no sidewalks at all. Driveway curb cuts should be limited to make the sidewalks easier and safer to use by all residents, including seniors and people with disabilities.
- 2. Build safe crosswalks** at all four corners of every intersection of Delaware Avenue/Columbus Boulevard to permit pedestrians to cross safely. Crosswalks should be highly visible, with striped markings and pedestrian lighting. No crossing should be wider than 40 feet or include more than one turn lane in either direction because this design is unsafe for pedestrians.<sup>34</sup> In places where the existing crosswalk exceeds 40 feet, medians can be used to allow pedestrians to stop in the middle of the road and to confront traffic traveling in one direction at a time.
- 3. Add bike lanes to key routes to the river.** Cyclists have only three east-west bike lane connections to the river: Spring Garden Street north of Center City and Snyder and Oregon Avenues in South Philadelphia. Bike lanes on the riverfront have some dangerous gaps, primarily at the northern end of the project area.<sup>35</sup> Bike lanes that start and stop make it dangerous to bike in the corridor.



Early progress along the riverfront could serve as a demonstration project for bike-friendly initiatives. Improvements should include (1) the addition of safe bike lanes to portions of Delaware Avenue/Columbus Boulevard that lack them, (2) the addition of bike lanes to one or two east-west roads that will improve access from Center City and nearby neighborhoods to the north<sup>35a</sup>, (3) the enforcement of parking restrictions to prevent cars from parking in existing bike lanes and (4) the installation of bike racks for cyclists along Delaware Avenue/Columbus Boulevard to allow more people to bike to the river and stop at various destinations during the course of a ride.

In the longer term, a full analysis of the area should be completed, one that examines needed improvements in safety and in pedestrian and bicyclist access. This analysis could be a part of either the master-planning process or the city Pedestrian and Bicycle Plan already underway.<sup>36</sup> Also in the longer term, as the civic vision is implemented, all street extensions should include bike lanes and wide pedestrian sidewalks.



“An integrated series of new connections, from streets and sidewalks to bike paths and pedestrian trails, are essential to the successful development of the Delaware Riverfront.”

Rina Cutler, deputy mayor for transportation and utilities, City of Philadelphia

Above: Simple enhancements at intersections such as widened sidewalks and more visible crosswalks can significantly improve pedestrian connectivity at the river’s edge.

Left: New York City cyclists enjoy new, wide bicycle lanes along 9<sup>th</sup> Avenue in Manhattan. The bicycle lanes are separated from vehicle traffic by the parking lane to improve safety.



# 5

## Guarantee public access to the riverfront and make it easier for residents to walk and bike to the river

### SHORT-TERM ACTIONS

1. Adopt zoning that requires owners to provide public access to the river.
2. Identify necessary improvements to central Delaware intersections, including better crosswalks and pedestrian lighting to make the area friendly to pedestrians and bicyclists.
3. Require improvements to pedestrian and bicycle crossings as a part of any changes made to roads by developers or government.

### LONGER-TERM ACTIONS

1. Through the master-planning process, define a complete list of high-impact improvements to existing roads, paths and sidewalks. Work with the Philadelphia Department of Streets to schedule these improvements in its five-year plan.
2. Add signs and lighting to guide pedestrians and cyclists to the river and to increase the river's presence in the city.
3. Create pedestrian paths and active recreation areas under I-95 where possible.
4. When creating extensions of key east-west streets to the river, make them "green streets" that provide lanes and sidewalks for cyclists and pedestrians. Line the road and the median with trees and shrubs to absorb stormwater and prevent flooding of streets and homes.
5. Wherever possible, transform existing streets into green streets by including bike lanes and sidewalks and increasing plantings.

### BENEFITS TO CITY AND IMPACT ON CITY BUDGET OF IMPROVING PEDESTRIAN AND BICYCLE ACCESS TO THE RIVER

**Economic:** Allows customers to reach riverfront retail and entertainment destinations, reduces number of public parking spaces needed and improves public health through exercise.

**Environmental:** Encourages residents to walk or bike rather than driving to river; reduces traffic and pollution.

**Community:** Transforms riverfront into neighborhood and citywide asset, reduces pedestrian injuries and encourages people to travel by bike and on foot.

**Impact on City Budget:** The costs of pedestrian and bicycle improvements vary. To restripe a crosswalk at an intersection costs approximately \$10,000.<sup>37</sup> To create a median island costs about \$15,000.<sup>38</sup> Putting in a new concrete sidewalk costs \$50 to \$60 for 12 feet or 3 square yards.<sup>39</sup> Pedestrian lighting (including foundation, wiring, installation and fixture) costs about \$10,000 per light. Overhead lights without a pole or foundation cost about \$3,000 per light.<sup>40</sup>



A "green street" in Denver includes tree plantings and stormwater retention gardens.

## CIVIC ACTIONS: WHAT PHILADELPHIANS CAN DO TO HELP

- Identify where painted pedestrian crosswalks, stop signs, bike lanes or sidewalks could be added to improve access to the river.
- Identify opportunities to combine routine public actions, such as street repair, transit improvements and grants for other purposes, with improvements to pedestrian and bicycle access.
- Identify locations from which you can see the river. These view corridors will be particularly important pedestrian-access points.
- Identify locations where fences can be torn down to increase access to the river. Approach owners about taking fences down and allowing the public to cross their land.
- Identify for the waterfront manager where abandoned properties, poor lighting or other conditions deter residents from walking to the river.



Along the central portion of Seattle's waterfront, extended streets provide frequent public access to the water's edge.

## OTHER CITIES HAVE DONE IT—WE CAN, TOO

Since 1992, **New York City** has required every large-scale waterfront property to provide public access.<sup>41</sup> **Seattle** made a priority of improving conditions for cyclists and pedestrians by completing a Bicycle Master Plan in 2007 and a Pedestrian Master Plan in 2008. In accordance with the plan, Seattle added miles of new bike lanes, constructed two new bike trails and improved two hundred curb ramps and 750 crosswalks throughout the city to encourage residents to bike. It worked. Bicycle commuters have increased by 600 percent since 1992. Today, six thousand cyclists travel daily. The city has also built blocks of new sidewalks and repaired existing sidewalks in order to encourage residents to walk.<sup>42</sup> **Chicago** added a hundred miles of bike lanes and ten thousand bike racks to create a more sustainable city.<sup>43</sup>



Battery Park City, NY

## FUNDING RESOURCES

**Congestion Mitigation and Air Quality (CMAQ) (PennDOT and DVRPC)** funds projects that reduce air pollutants from transportation-related sources. Funding approved for 2006 funding cycle ranged from \$20,000 to \$20 million.

**Transportation, Community and System Preservation Program (TCSP) (FHWA):** A total of \$270 million is authorized for this program through 2009 for projects that improve the efficiency of the U.S. transportation system, reduce the environmental effects of transportation and ensure efficient access to jobs, services and centers of trade. Program has funded essential pedestrian and bicycle upgrades.

**Trump Tower and Penn Treaty Tower riparian lease agreement:** Under the state's riparian land lease, Trump and Penn Treaty Towers must dedicate 50 cents for every square foot of building space to implementing the *Civic Vision for the Central Delaware*.

**Four percent of gross casino revenues** are specified by the Commonwealth's Gaming Act to offset increased city operating costs for managing the impact of the casinos on transportation, the police, and the health, safety and social welfare of areas surrounding the casinos.

## GETTING TO THE RIVER

# 6

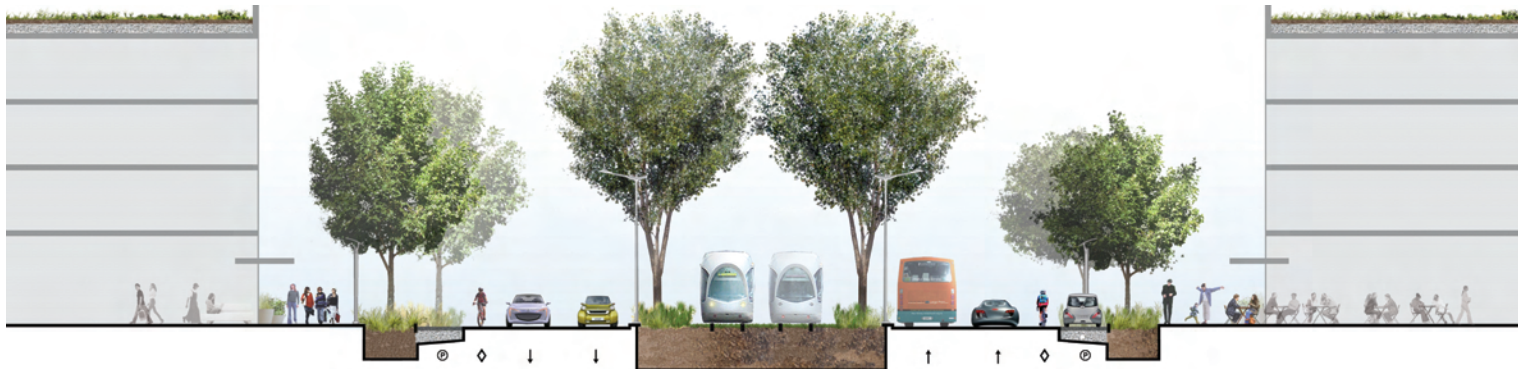
## Extend transit to the river

**Plans for the future of the central Delaware must include a reliable transit system that can bring residents and visitors to and from the river.** Currently, only buses provide service to the river, and only one bus carries riders north and south along a significant stretch of the central Delaware: Bus 25.<sup>44</sup> This action plan recommends that a streetcar line be built along an existing right-of-way. This new line will transport residents to the river, reduce traffic congestion and create new economic-development opportunities.

Streetcars provide an excellent return on investment. In cities across the nation, energy-efficient, frequent-service streetcars have attracted significant private investment.

**By adding a streetcar line along the median where a right-of-way already exists, we add the equivalent capacity of two and a half car lanes in each direction.** One high-frequency streetcar line using large, modern vehicles can transport two to three thousand passengers per hour in each direction. That is the same number of people that five (of the six total) car-traffic lanes can carry now.<sup>45</sup> The reduction in car traffic will be critical once further development occurs, as the existing Delaware Avenue/Columbus Boulevard will not be able to absorb the anticipated increase in auto traffic. In addition, a streetcar line will open up the river to the large numbers of Philadelphians who do not own cars—53 percent of Center City residents and 45 percent of South Philadelphia residents.

In cities across the nation, energy-efficient, frequent-service streetcars have attracted significant private investment.



*The above cross-section shows how existing right-of-way down the center of Columbus Boulevard can be used to accommodate transit that will significantly increase the corridor's efficiency. In order to achieve this ultimate vision, it is imperative that the city maintain this existing right-of-way.*



**The existing right-of-way along the median of Delaware Avenue/ Columbus Boulevard could accommodate a streetcar line.** The right-of-way in the median of Delaware Avenue/Columbus Boulevard extends south from Race Street past Oregon Avenue to the Packer Avenue Marine Terminal at Hoyt Street. It is held by the Philadelphia Belt Line Railroad Company as a part of a century-old agreement with the city.<sup>46</sup> The greatest cost of creating a streetcar line is acquiring a right-of-way on which to locate the tracks, which will not be necessary in this case, as the Delaware Boulevard median provides an existing and underutilized right-of-way that will substantially reduce start-up costs. It is therefore essential to the future of the riverfront that the right-of-way be preserved.

**Buses must improve transit access in the short term.** Transit users must have suitable, reliable transit service during the streetcar’s planning and construction phases, and frequent bus service will fill that need. Even after streetcar service begins, buses will need to offer service to the riverfront from areas of the city that will not have convenient connections to the streetcar line.

**The Port Authority Transit Corporation (PATCO), our bistate transit agency, is evaluating three alternative plans to finance and build a streetcar or trolley line along the central Delaware.** This effort is a part of their Alternatives Analysis, the first phase of project development for major transit investments that seek federal funding from the Federal Transit Administration.<sup>47</sup> PATCO hopes to decide on the best possible route in 2008. Each of the three routes being considered will create or extend a trolley or streetcar line north-south along the river within the Belt Line right-of-way that PATCO says is available, pending negotiations with the railroad on Columbus Boulevard.<sup>48</sup> Each of these new transit-line alternatives will take six to ten years to complete. Each will require the streetcar to share tracks with freight rail by operating at different times than Southern New Jersey’s Riverline and Baltimore passenger rail.<sup>49</sup> All three plans call for connection to the SEPTA (Southeastern Pennsylvania Transportation Authority) and PATCO transit systems and for a joint fare agreement between PATCO and SEPTA that will allow easy transfers.<sup>50</sup>

### STREETCARS ATTRACT \$10 OF PRIVATE INVESTMENT FOR EVERY PUBLIC DOLLAR SPENT

City	Opened	Initial Miles	Initial Cost	Development Near Track	Return on investment	Annual Operating Cost
Little Rock, Arkansas	2004	2	\$6 million	\$150 million	2400%	\$302,000
Portland, Oregon	2001	4.8	\$55.2 million	\$1.1 billion	1794%	\$3.3 million*
Portland extension	2005	1.2	\$18 million	\$1.3 billion	750%	
Tampa, Florida	2003	2.3	\$48.3 million	\$1 billion	1970%	\$2.5 million

Source: *Reconnecting America*, American Public Transportation Association<sup>51</sup>

\* \$3.3 million is the annual operating cost for both the Portland streetcar and its extension.



# 6

## Extend transit to the river

### SHORT-TERM ACTIONS

1. Preserve the rail right-of-way along Delaware Avenue/ Columbus Boulevard median for future transit use.
2. SEPTA will continue to work with the city to modify and/or expand bus-route options for getting to and traveling along the river.
3. Create better pedestrian connections from transit stops to the river.
4. Build safe, comfortable transit shelters along Delaware Boulevard.
5. Monitor PATCO process and advocate for a central Delaware streetcar.

### LONGER-TERM ACTIONS

1. A feasibility study should be conducted to determine the type of streetcar line that will prove most feasible and beneficial.
2. Partner with SEPTA and PATCO to obtain federal funding to create streetcar line.
3. Install new streetcar line so that it connects with SEPTA and PATCO transit networks.
4. Enhance ferry service and begin water-taxi service to New Jersey along the Pennsylvania side of the river shoreline.

### CIVIC ACTIONS: WHAT PHILADELPHIANS CAN DO TO HELP

- Work to preserve the right-of-way along the Delaware Avenue/Columbus Boulevard median for a future streetcar line. Oppose any plans to place a vehicle turn lane over the median.
- Support PATCO's proposed transit line on the central Delaware. Community support at public meetings will help at the local selection level and will help PATCO succeed with its application for federal transportation funding.
- Work with SEPTA and Philadelphia's Office of Transportation to identify additional bus routes that will improve access to the river in the short term.
- Identify the most popular transit stops, which should be priority locations for transit shelters.



Portland's streetcar line has generated \$1.1 billion of development near its tracks.

## BENEFITS TO CITY AND IMPACT ON CITY BUDGET OF EXTENDING TRANSIT TO THE RIVER

**Economic:** Attracts \$10 investment for every \$1 of public investment, improves worker mobility and limits parking needs.

**Environmental:** Increases transit ridership, decreases automobile pollution linked to asthma and improves air quality.

**Community:** Improves access to the river, connects residents to the river and reduces traffic congestion.

**Impact on City Budget:** PATCO is currently studying \$1 billion in transit-system extensions, but most of that cost is due to tunneling to reach stops in Center City. On its own, construction of a streetcar line costs \$20 to \$35 million per mile.<sup>52</sup> The Girard Avenue Trolley Line, an 8.5-mile trolley line, was reinstated by SEPTA in 2005 for a total cost of \$88 million. Portland's original 2.4-mile streetcar line was put in place for a cost of \$56.9 million. Any transit alternative will be funded with federal transportation funds and matched by funding from the state, the city and the Delaware River Port Authority (DRPA).<sup>53</sup>

## FUNDING RESOURCES

The state, city and DRPA will need to raise a match to the federal transportation funds. Potential funding resources to meet that matching grant requirement include bonds, TIFs, parking-garage revenue and general funds. Contributions from private companies that will benefit greatly from the line could also be sought to make this a true public-private partnership.

## OTHER CITIES HAVE DONE IT—WE CAN, TOO

In several cities, such as **San Francisco** and **New Orleans**, streetcars have never gone out of style as transportation systems. Today, cities are building or have plans to build new streetcar lines—from **Tucson**, AZ and **Miami**, FL to **Birmingham**, AL and **Trenton**, NJ. The streetcar is a proven draw for investment in houses, stores and restaurants. In **Little Rock**, AK, a streetcar reconnected the river with downtown. Little Rock opened its 2.5-mile River Rail streetcar in 2004. To date, about \$200 million in development has either been planned or built along the \$19.6-million line. And in **Portland**, OR, the streetcar system has helped bring \$2.7 billion in investment within two blocks of its 3.6-mile line, transforming the Pearl District into one of the most vibrant neighborhoods in the city.



*In 2004, Little Rock opened a streetcar line that reconnected the river with its downtown.*

## GETTING TO THE RIVER

# 7

## Extend key streets to the river

Over the next ten years, we should extend key streets to reconnect the river with the city and create access for residents.

**Extend key streets to the river to provide multiple safe, efficient and attractive routes for cars, pedestrians and cyclists.** Currently, many city streets dead-end at I-95 or Delaware Avenue/Columbus Boulevard and do not provide access to the riverfront. Over the next ten years, key east-west streets to the river can be extended through existing parking lots, service roads or vacant private land. In this way, public access to the riverfront can be significantly improved. In addition, because these key streets will connect the river with existing neighborhoods, the likelihood that investors will face the risks of a thin line of isolated development at the water's edge is greatly reduced.<sup>54</sup>

**At right is a list of streets that can be extended within the next ten years without impacting a single viable business or residence.** Extending a Philadelphia street is a two-part process. First the street is platted, meaning that it is added to the City Plan. While the actual street does not yet exist, its presence on the official City Plan preserves the right-of-way and stops developers from locating buildings on that and other future road sites. The second step is the construction of the road extension. Neither is easy to accomplish. To plat a street, the city requires a public hearing, full City Council vote and the mayor's signature. In addition, the city often asks adjacent owners to sign an indemnification agreement stating that they will not sue the city for damages they may suffer because of the presence of the road in the plat. Even though the extensions listed at right only add at most a couple of blocks to the existing streets and often go through parking lots or along existing alley streets, getting them platted will require significant political leadership, property-owner cooperation and citizen support.

### WHERE

#### Tasker Street

In South Philadelphia, Tasker Street is just north of the big-box stores at Pier 70 and is used as a loading area for Wal-Mart and Home Depot.

#### Reed Street

Reed Street should be upgraded and formalized into a pedestrian-friendly road. In South Philadelphia, Reed Street is five blocks south of Washington Avenue. On the east side of Columbus Boulevard, Reed Street is between the Foxwoods and the Comcast sites.

#### Pier 70 Boulevard

Pier 70 Boulevard serves as a parking-lot entry at the Pier 70 shopping center. It has its own street sign and is listed as a street on City GIS Data, Google Earth and MSN Live Local, but it is not noted on the City Plan.

#### Washington Avenue

Washington Avenue is an important east-west through-way in South Philadelphia. It forms a major intersection with Delaware Boulevard.

#### Brown Street

Brown Street is located one block north of Fairmount Avenue.

#### Shackamaxon Street

Shackamaxon Street is located north of Frankford Avenue and ends at the proposed Sugarhouse casino site.

#### Beach Street

Beach Street currently exists and functions as a back-alley-style street with significant curb cuts and access to loading areas between Marlborough and Dyott and between Schirra and Cumberland.

#### Lehigh Avenue

Lehigh Avenue is located south of Allegheny Avenue. It stops at Richmond Street.



**WHY**

**HOW**

**WHO**

Tasker Street should be upgraded and formalized into a pedestrian-friendly street with the addition of sidewalks, crosswalks and pedestrian-scale lighting. The street will also need to be extended beyond Wal-Mart to the river to provide adequate access to the riverfront. This is an important short-term project because the infrastructure is in place, and Foxwoods’ redevelopment plans call for only minor pedestrian improvements to Tasker Street.

Tasker currently extends about 700 feet toward the river as a service road behind Wal-Mart. Extending this service road into a narrow street would only require permission of the owner of the property.

City and owner

From Columbus Boulevard to the river, Reed is a private street that does not provide public access. Currently, the roadway appears to be a private way utilized by Comcast. The street does currently extend to the river. In order to connect the street to the future trail, it will need simple pedestrian upgrades, such as sidewalks and pedestrian lighting.

Foxwoods has committed verbally to opening up this road to allow public access if it builds a casino on the site. Every effort should be made to link this improvement with the redevelopment of the Foxwoods site, which is located directly to the south.

This road is owned jointly by Foxwoods and Comcast. Foxwoods has agreed to make the improvements but would like to maintain the road as a private road.

By extending this road through a parking lot, we can create a connection to the river.

Upgrade the road with sidewalks and lighting.

City and owner

Washington Avenue is connected to the riverfront through a privately owned parking lot of the Sheet Metal Workers’ Union.

A road could be extended to the river through the existing parking lot.

Penn’s Landing Corporation controls an easement through it for access to Pier 53 south of the Coast Guard. The details of this easement must be explored.

Brown Street becomes a private service road at Front Street. East of Front Street, Brown continues as a small service road that runs between buildings and a parking lot.

The street should be upgraded with pedestrian lighting and sidewalks and extended as a public road, connecting it to Delaware Boulevard.

City and owner

The extension of this street will provide important access to the proposed trail for communities in the northern section of the central Delaware.

Shackamaxon Street should be extended across the northern boundary of the proposed Sugarhouse site. Extending the road will require new sidewalks, lighting and paving.

Changes should be implemented in conjunction with the redevelopment of the Sugarhouse site.

A significant stretch of I-95 is being rebuilt at the Girard Interchange, from Race Street to Allegheny Avenue. On and off ramps are being reconfigured. The new location for a set of on and off ramps will be directly outside of the former Pinnacle Casino site. Drivers will leave I-95 and drive directly into the property. This makes providing riverfront access through this property a top priority. It also makes north-south river access important.

In the short term, Beach Street should be upgraded to include sidewalks, bike lanes and pedestrian-scale lighting. In the longer term, Beach Street should be connected through undeveloped private property between Schirra Drive and Dyott Street. This will extend Beach, uninterrupted, from Marlborough through to Cumberland and Lehigh Avenues.

The extension of Beach Street would occur within close proximity to the Girard Avenue Interchange rebuild and could be achieved in part through that billion-dollar effort. Ownership issues should be carefully considered.

The street should be extended across underutilized and vacant Conrail land and through to the riverfront to provide important connections to the community.

The extension of the street should become a part of the Girard Avenue Interchange rebuild.

PennDOT, city and Conrail

# 7

## Extend key streets to the river

### SHORT-TERM ACTIONS

1. Identify key streets that can be extended without impacting viable homes or businesses.
2. Plat streets on City Plan to reserve the right of way.
3. Enforce reserved street rights-of-way to ensure that development does not impede future streets.
4. Purchase necessary vacant properties to extend streets.

### LONGER-TERM ACTIONS

1. Fund public street construction when development in area of platted street occurs or as part of a Streets Department five-year plan.



Numerous streets have been extended across Battery Park City to the river's edge, facilitating public access to and increasing the success of its promenade and public spaces.

### BENEFITS TO CITY AND IMPACT ON CITY BUDGET OF EXTENDING KEY STREETS TO THE RIVER

**Economic:** East-west streets expand the investment area, prevent a single thin line of water's edge development and make it easier for customers to frequent riverfront businesses.

**Environmental:** Will limit emissions from clogged traffic and create pedestrian and bicycle alternatives.

**Community:** Will improve access to the river, connect neighborhoods with the river and improve overall circulation and accessibility.

**Impact on City Budget:** Platting streets is a difficult process but there is virtually no cost outside of staff time. The cost to construct a typical 34-foot wide residential street in Philadelphia is approximately \$957 per linear foot. This price includes subgrade prep, base course, wearing course, curbs, sidewalks, lighting, inlets and street trees. It does not include underground utilities. This price also assumes good soil conditions. The need for pilings adds significant costs. In 2007, 1800 feet of roadway were built for \$2 million.<sup>55</sup>

## CIVIC ACTIONS: WHAT PHILADELPHIANS CAN DO TO HELP

- Support street extensions to river.
- Work with city Office of Transportation to ensure that street extensions accommodate cars, bicycles and pedestrians safely.
- Support greening of river neighborhood streets to filter stormwater and keep sewers from sending combined sewer overflows into the river.

## FUNDING RESOURCES

**Hometown Streets (PennDOT and Growing Greener Program):** Funds the repair, redesign and reconstruction of main streets, commercial corridors and major boulevards in older communities to support local revitalization plans. Eligible projects include sidewalk improvements, street lighting, pedestrian crossings, traffic calming, bicycle amenities and transit-bus shelters. The program will not cover the costs of street paving, stormwater management and traffic signals. The program uses federal funds and requires a minimum 20 percent local match. Grants are awarded for up to \$1 million per project.

**Local Municipal Resources and Development Program (DCED):** This program makes grants to municipalities for the construction or rehabilitation of infrastructure, the acquisition and demolition of structures/land, public safety, crime prevention and recreation. Typical grants are between \$5,000 and \$25,000.

**Transportation Enhancement Program (PennDOT, DVRPC):** This program funds streetscape improvements, bicycle facilities and the acquisition of scenic easements and scenic or historic sites.

## OTHER CITIES HAVE DONE IT—WE CAN, TOO

In **Camden**, in order to create an accessible waterfront district, the Cooper's Ferry Development Association obtained \$4.5 million in grants to pay for extension of six streets.<sup>56</sup> With a grant of \$3.2 million from New Jersey Department of Transportation (NJDOT) and \$1.2 million from the Economic Recovery Board (ERB), Camden extended Riverside Drive, created Arch and Aquarium Drive and improved Market Street. **Cincinnati** extended its major east-west streets to the river in order to create a truly accessible, city-scale riverfront. Cincinnati financed its street extensions with City Capital Dollars, federal transportation grants and a TIF.<sup>57</sup> For **Portland's** South Waterfront, the city agreed to finance street and sidewalk construction for the north-south streets, while the developers paid for street construction for the east-west streets (with each developer being responsible for connections in their land). The total cost to the city for its road construction was about \$13 million. Portland raised this money from grants, impact fees and a TIF district.<sup>58</sup>



*Extending the downtown street fabric across Portland's South Waterfront has made its parcels very lucrative for private development.*

## GETTING TO THE RIVER

# 8

## Manage traffic and parking in the central Delaware area

**Delaware Avenue/Columbus Boulevard is a state highway that provides access north-south along the river.** Delaware Avenue/Columbus Boulevard is slated for millions of square feet of development that could bring thousands of new cars to the area. This already congested road does not have the capacity to absorb large amounts of new traffic.

**Strategic traffic management is needed to ensure that residents and visitors can reach the riverfront.** If the casinos and other new, large-scale developments swallow up all the traffic capacity or make the area even less safe for pedestrians and cyclists, then no matter how attractive the waterfront is, few residents will choose to go there. Lowering existing traffic congestion and ensuring that the area can handle anticipated increases in traffic is essential to the health of the central Delaware area.

**Managing parking presents another key challenge for Delaware Avenue/Columbus Boulevard.** Until pedestrian and transit improvements are in place, the car is the only convenient way to reach the river. It is therefore tempting for developers to create a sea of surface parking or exposed parking podiums to accommodate cars. Parking-design standards need to be put in place to prevent cars from dominating the riverfront, ruining water views and taking up space that could be dedicated to people.

**In this section, we discuss actions to address traffic congestion and the parking options available to owners, as well as comparing their costs and benefits.**

### Key Actions to Lower Traffic Congestion

#### **Synchronize traffic signals to reduce congestion by 10 percent.**

Timing traffic lights along Delaware Boulevard will allow traffic to flow with fewer delays. The goal is to coordinate traffic signals to allow a series of cars to pass through a particular segment of road without stopping for red lights. Once that group of cars clears the light, the light turns red. This avoids the constant stop-and-go that drivers experience currently on Delaware Avenue/Columbus Boulevard. A computerized system can monitor and shift signal timing in either direction during the course of the day as traffic patterns change. Synchronization also saves on gas and emissions. Portland, Oregon and surrounding suburbs synchronized their traffic signals and saved 1.75 million gallons of fuel and reduced CO<sub>2</sub> emissions by 15,000 tons.<sup>59</sup> Transportation experts estimate that timed traffic lights can reduce congestion by 10 percent.<sup>60</sup>

#### **Extend east-west cross streets to the river and create new intersections that can handle one to two hundred turns per hour.**

Extending east-west streets to the river gives drivers several different routes to travel to the river and a choice of where to turn onto Delaware Avenue/Columbus Boulevard.

#### **Build a streetcar line to add the capacity of two and a half lanes of traffic in each direction.**

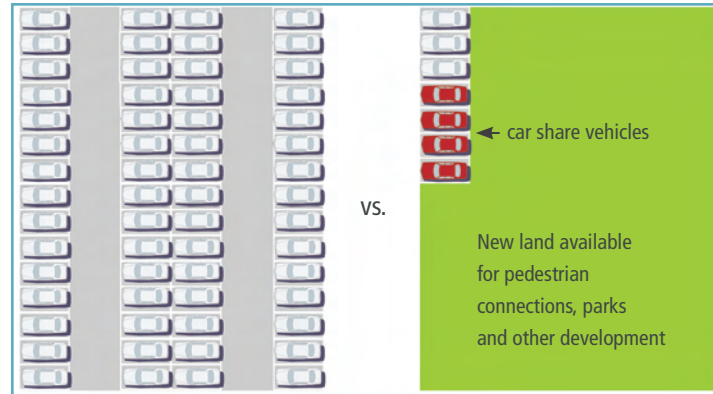
A modern streetcar can carry two to three thousand passengers per lane, the same amount of people as two and a half auto lanes in each direction can carry. Offering transit as an alternative will remove private cars from the traffic stream and give residents and visitors an alternative way to travel to and along the river.



**Improve bicycle connections and pedestrian connections to increase the capacity of Delaware Avenue/Columbus Boulevard by up to 10 percent.** Creating a safe, convenient system for walkers and bikers will allow residents to take short trips to and along the river without getting in their cars, traveling a short distance and turning into another driveway. The reduction in short car trips will increase through-traffic capacity by up to 10 percent. Downtown and river-neighborhood residents will start to take short trips on foot or bike once they are confident that it is safe to do so.

**Build parking garages at easy drop-off locations, in particular next to all I-95 exit ramps, to free up to 25 percent of the traffic capacity on Delaware Avenue/Columbus Boulevard.** By building easy car drop-off locations and creating a safe pedestrian environment, the riverfront area can become a “park once district” where people park for the day and then visit several destinations by walking or using transit. Eliminating short car trips from one part of the riverfront to another could free up 25 percent of the through capacity along the boulevard.

**Regulate private casino buses.** Casinos attract large numbers of private buses for the general public, as well as junkets that transport gamblers and receive compensation from their passengers’ gambling losses. The South Jersey Transportation Authority (SJTA) restricts buses and junkets, requiring them to obtain permits and to drive only on certain allowable routes.<sup>61</sup> The Pennsylvania Gaming Control Board has agreed only to regulate junket operators (but not private buses) and to require them to certify their planned routes and bus-storage locations. The state also prohibits the storing or stacking of junket buses on public roadways and idling for more than ten minutes, no matter what the weather conditions.<sup>62</sup> Philadelphia should pass legislation to apply these regulations to private casino buses as well as junkets.



*Philadelphia developers who have partnered with car-share companies have reduced their on-site parking construction requirements by up to 95%.*



*In the event of congestion, a connected street network helps traffic by offering multiple route options for drivers instead of forcing all cars to a single roadway to reach their destination.*



# 8

## Manage traffic and parking in the central Delaware area

### CIVIC ACTIONS: WHAT PHILADELPHIANS CAN DO TO HELP

1. Advocate for regulations on the routes and emissions of casino buses.
2. Advocate for progressive parking and transportation policies in the central Delaware.
3. Start neighborhood-based programs that promote walking or biking to the river rather than driving.

### FUNDING RESOURCES

**Foxwoods Casino:** Foxwoods has agreed to implement traffic-signal synchronization as a part of its traffic-mitigation responsibilities during Phase 1 of its building plans.

**State Gaming Act:** Requires that 4 percent of gross casino revenues be earmarked to offset increased city operating costs for managing the casinos' impact on transportation, police, and the health, safety and social welfare of adjacent areas.

### Key Actions to Encourage Parking Options That Make Parked Cars Less Visible along the Riverfront

Large portions of the central Delaware riverfront are dedicated to cars. There is currently more surface parking than there is park space along the central Delaware. In the South Philadelphia Pier 70 shopping district, parking lots cover more land area than stores cover. Foxwoods Casino plans to construct over five thousand on-site parking spaces—over one spot per slot machine. As a result, effective parking location and design is critical.

#### Public parking-garage revenues can help finance riverfront projects.

Operations and maintenance for Millennium Park in Chicago are entirely financed by revenues from a vast parking garage beneath the park. Many waterfront open-space developments, including New York's Hudson River Park, also receive significant revenues from paid parking areas. Chicago went one step further earlier this year by leasing two parking garages that will yield enough revenue to finance fifty park-improvement projects throughout the city.

#### A new streetcar line and the use of PhillyCarShare will reduce parking-space needs.

In a few hours, a streetcar line can deliver a huge number of people to the river; if the same number of people drove to the river, their cars would fill twenty parking garages. PhillyCarShare, which allows residents to rent cars by the hour, can also help limit the need for parking. Including PhillyCarShare spaces in residential projects will allow for fewer required parking spaces.

#### In the short term, limit the visibility of surface parking and lower minimum parking requirements.

Until sales and rental prices are so high along the central Delaware that valuable land cannot be devoted to cars, many developers will choose to store cars in low-cost surface lots or parking podiums that place cars in the most visible, street-level floors of a building. As a result, in the short term, a zoning overlay should establish rules to construct well-designed parking solutions by wrapping surface parking lots or structures with stores, restaurants or other active uses to shield the facilities from view. Where wrapping the parking lot with buildings is not possible and the lot is located

by the street and public sidewalk, owners should be required to provide a landscaped strip of trees or planters to screen the parking lot from view. The zoning overlay should also allow lower parking-space minimums for properties near transit stops that offer access to PhillyCarShare vehicles and good bicycle and pedestrian access.

#### In the longer term, as land becomes more valuable, provide incentives to developers to encourage the use of attractive and appropriate parking solutions.

At this point, hidden, shared and remote parking will become options that can serve major destinations along the river.

- Create public parking at easy drop-off locations next to I-95 exits. The best location for public garages in the riverfront area is on the city side of Delaware Avenue/Columbus Boulevard, immediately adjacent to exit ramps. This allows the driver to find parking quickly and keeps cars off congested riverfront roads. Some existing stretches of land under I-95 may also provide space for needed parking.
- Remote parking with free shuttle service will allow Delaware Avenue/Columbus Boulevard to better handle up to thirty thousand more cars a day—the anticipated increase from casino traffic. Numerous Center City developers already operate shuttles to employment centers from remote parking facilities.
- Underground parking is expensive, particularly near water, but it allows a developer to provide the most units of retail, housing or office space on the surface of the property while keeping parking hidden.
- Automated parking lots use advanced machinery to accommodate more cars while using 50 percent less space than traditional structured parking. Construction costs may also be lower because elements such as ventilation systems, pedestrian elevators and emergency staircases are not necessary.

## SHORT-TERM ACTIONS

1. Perform a traffic-signal synchronization study to determine how signals should be timed for maximum improvement to traffic flow.
2. Synchronize traffic signals on Delaware Boulevard to reduce congestion by 10 percent.
3. Regulate casino buses.
4. Extend east-west cross streets to create more turn options onto Delaware Avenue/Columbus Boulevard.
5. Establish zoning that provides incentives for projects that use best practices for parking.
6. Encourage owners to include designated car-share and bicycle-parking spots in existing developments and require these for future development of riverfront property.
7. Explore potential sites for public parking garages next to I-95 ramps.
8. Improve pedestrian and bicycle connections to increase Delaware Avenue/Columbus Boulevard capacity by 5 to 10 percent.
9. Explore parking as a tool with which to finance riverfront improvements.

## LONGER-TERM ACTIONS

1. Create a streetcar line to increase by nearly 100 percent the capacity of the boulevard to transport people.
2. Complete a parking study to examine the parking needs of the area before and after the completion of the streetcar and pedestrian and cyclist improvements. Set parking ratios as a part of the area's master plan.
3. Build parking garages at easy drop-off locations to add 30 percent more traffic capacity.

## OTHER CITIES HAVE DONE IT—WE CAN, TOO

**Los Angeles** has begun a \$150 million effort to reduce congestion throughout Los Angeles by synchronizing all of the city's 4,385 intersections with signals by 2011. Operation Green Light in **Kansas City** relies on traffic-signal coordination to reduce traffic congestion. **San Francisco** is extending streetcar lines to its northern waterfronts because its administrators know that transporting ever-increasing numbers of visitors through improved transit services rather than automobile access avoids greater traffic headaches and spillover parking problems in adjacent neighborhoods.<sup>63</sup>

**Chicago** provides density bonuses for developers who conceal parking or build underground parking to ensure that cars don't dominate the city landscape. Traffic-management and parking restrictions are key tools used across the country that help create more attractive communities.



*A diagram that shows "embedded parking" in San Jose, CA.*

## BENEFITS TO CITY AND IMPACT ON CITY BUDGET OF MANAGING TRAFFIC AND PARKING IN THE CENTRAL DELAWARE AREA

**Economic:** Reducing traffic will improve business viability by making riverfront properties easier to reach. Parking garages could be financing tools. Limiting parking creates more land for people to occupy.

**Environmental:** Reduces emissions from congested traffic, improves air quality and increases the riverfront's attractiveness by concealing parking.

**Community:** Improves access to the river, connects river neighborhoods and decreases automobile pollution linked to asthma, heart disease and cancer.

**Impact on City Budget:** Signal synchronization along the Delaware Avenue/Columbus Boulevard corridor would cost in the range of \$200,000 to \$400,000, depending on the complexity of the system. In the short term, developers should be offered incentives such as density bonuses to build more expensive, more attractive parking structures. After the initial capital costs of public garages have been paid, parking fees can help finance the ongoing maintenance of public spaces.

## CLEANING THE RIVER

# 9

## Create a 100-foot greenway along the water's edge

“A central Delaware riverfront greenway will protect natural, cultural and scenic resources, provide recreational benefits, enhance natural beauty and quality of life in neighborhoods and communities, and stimulate economic development opportunities.”

Michael DiBerardinis, secretary,  
Pennsylvania Department  
of Conservation and  
Natural Resources

In many cities, land at the river's edge is reserved for birds, plants and people rather than for buildings. Whether at the Jersey shore or along the Delaware River, there are many reasons for requiring that buildings be set back from rivers. Space along the central Delaware River's edge can be preserved as a public recreational space, offering trails and other activities that open up the riverfront to Philadelphians. When the space at the water's edge is filled with trees and plants, it becomes a greenway. A greenway improves river water quality, creates new habitat and generally contributes to a healthy river in which fish and other wildlife can thrive.<sup>64</sup> A greenway attracts investment and raises the value of surrounding properties by 10 to 20 percent.<sup>65</sup> In addition, a greenway can manage the immediate area's stormwater and limit the negative economic effects of river flooding, which some predict will increase in coming decades due to climate change.

**An economic study estimates that the development and remediation of a greenway on the northern Delaware will create between \$828 million and \$1.4 billion in private capital investment.**<sup>66</sup>

Cities such as New York City limit any construction or pavement within 100 feet of a river, and other cities and states have enforced much more extensive greenways.<sup>67</sup> The width of a greenway determines its effectiveness in filtering pollutants out of the river and absorbing stormwater. The width of 100 feet is recommended by the Environmental Protection Agency and respected scientists.<sup>68</sup> The zoning for Philadelphia's Waterfront Redevelopment District currently calls for only a 50-foot setback and does not require that the setback be planted with shrubs and grasses, which filter pollutants and improve water quality.

**Joining our peer cities in establishing a 100-foot greenway is important for the health of Philadelphia's central Delaware.** The popular Schuylkill River Banks trail is wonderful, but with only 12 feet of available land at various points along the river, the trail could not allow for a greenway to create new habitat or reduce river pollution. The Schuylkill River, however, does have the protection of Fairmount Park, which was established in the 1850's to protect the city's water supply by creating a natural border around the river. Philadelphia has not created any similar green space to protect the Delaware River. While the city's optional Waterfront Redevelopment District guidelines call for a 50-foot greenway, which will contribute to the health of the river, Sarah Thorp, executive director of the Delaware River City Corporation, says that this narrow width significantly limits options for creating habitat or filtering pollution and at times is too narrow a setting for a recreational trail.





**A greenway setback of 100 feet or not more than 20 percent of any property should be enforced through Philadelphia’s zoning code.**

To preserve a greenway at the water’s edge, an immediate zoning overlay is needed that will limit development within 100 feet of the water’s edge. The ordinance should anticipate that some properties will not be able to reserve 100 feet across their entire parcel and should allow greenway averaging that permits the greenway to become narrower at some points along the river, as long as the average width of the greenway meets the minimum requirement. For some properties, 100 feet may restrict development on an unreasonable percentage of the total land. To ensure that the greenway requirement does not take value from properties unreasonably, no more than 20 percent of any one parcel should be deemed unbuildable under the combined greenway and trail requirement. Parks and other green spaces will be recognized as parts of the greenway system in order to achieve an average width of 100 feet while allowing for the greenway’s narrowing at some points along the river.<sup>69</sup>



*The greenway in Saint Paul, MN (shown at left), protects the edge of the Mississippi River and increases property value for nearby residents.*

Courts have upheld city regulations that require owners to dedicate private land for trails and greenways. However, cities may not impose a mandatory requirement for public or city access to that land or remove all or nearly all economically beneficial uses of the land. The courts have repeatedly upheld the legality of zoning ordinances that require public trails or greenways because they provide compelling public-safety, welfare and environmental benefits to the community that justify partial restrictions on land use.<sup>70</sup> In October 2006, the New Jersey Supreme Court upheld New Jersey’s 300-foot greenway requirement.<sup>71</sup> To avoid a legal challenge, a zoning requirement that requires owners to provide land along the water’s edge in exchange for needed city permits should do the following:

- Allow the public on private land through a voluntary agreement rather than by regulation. A city cannot regulate the right of the public to trespass on private land. The city or the state can require public access in return for a zoning or building permit or the granting of a lease over riparian land. In the case of a donation or the purchase of a conservation easement as a legal right-of-way, a companion agreement should provide for public access.
- Include flexible provisions to ensure that the agreement does not regulate such a large percentage of the parcel as to remove its economic value. This action plan recommends a limit of 20 percent on the affected amount of the parcel.
- Enforce the greenway requirement only with zoning-permit applicants seeking to build new construction or to change uses. The law is clear that if the city simply required owners to dedicate a strip of land along the river for a trail, rather than requiring it in exchange for a zoning permit, a taking would be considered to have occurred.
- Permit a variance or waiver from requirements in the case of economic hardship or unique circumstances.
- Define an appeals process for circumstances in which a variance is denied.

# 9

## Create a 100-foot greenway along the water's edge

Density bonuses allow developers to maximize the value of their developable land by creating a taller building with more square footage to offset substantial land-carrying costs and the demands of providing a variety of services—including streets and open space—that traditionally were the responsibility of the public sector. In order to create a connected, green, open riverfront, we must recognize that substantial height and density are needed to make construction and debt-service feasible for riverfront property owners.

### SHORT-TERM ACTIONS

1. Implement a zoning overlay to create a 100-foot greenway on which development is not permitted. Set a maximum of 20 percent of each property that can be affected.
2. The Pier 70 shopping center already includes a 50-foot reservation for a future greenway along the river. Install a greenway along this area to demonstrate its beauty and effectiveness at improving river-edge health.
3. Adopt an official list of native trees and plants that may be planted in Philadelphia greenways.
4. Identify incentives for owners without redevelopment plans to provide rights-of-way for a trail in the form of a conservation easement (in addition to federal tax deductions). A proposed list of incentives is on page 47.
5. Create quick and painless procedures through which owners can donate legal rights-of-way for the greenway to the city or waterfront manager and for the city to indemnify owners from liability for injuries on greenways that run across privately owned land.
6. Acquire rights-of-way over privately owned parcels in exchange for zoning and building permits and indemnification of the owners from liability for injuries on their land.
7. Acquire rights-of-way from riverfront owners who voluntarily offer land for a greenway in exchange for incentives.

### LONGER-TERM ACTIONS

1. Plant native vegetation throughout the greenway to create good habitat, improve water quality and offer visual beauty. Plantings will also be chosen for their ability to flourish with less frequent care and maintenance.
2. Maintain and expand the greenway.
3. Offer environmental education to Philadelphia's students through the creation of the central Delaware greenway and wetlands restoration. Students can see the riverfront transformed, measure impacts in reduced pollution and help install habitat. The greenway can also aid understanding of stormwater and the impact of combined sewer overflows on river water quality.

### CIVIC ACTIONS: WHAT PHILADELPHIANS CAN DO TO HELP

- Make this greenway requirement a part of every community benefits agreement.
- Meet with waterfront property owners to discuss the need for a greenway to reduce flooding in neighborhoods and to add open space to the waterfront.
- Work with the School District of Philadelphia and after-school programs to create education programs for children involving the various habitats that the greenway will provide for plant life and wildlife.
- Help plant the greenway with native trees, shrubs and grasses.

### BENEFITS TO CITY AND IMPACT ON CITY BUDGET OF CREATING A 100-FOOT GREENWAY ALONG THE WATER'S EDGE

**Economic:** A greenway will raise property values, reduce stormwater-management needs, increase revenue from bird watching and fishing and create an attractive trail site.

**Environmental:** A greenway will restore habitats for birds, fish, turtles and other animals, filter pollutants before they enter the river and connect residents with the natural environment.

**Community:** A greenway will add connected, green public space to the riverfront that will link neighborhoods and create a new destination for neighbors and visitors.

**Impact on City Budget:** The maintenance cost, based on a study of New York City waterfront public-space maintenance, is \$55,000 per acre for maintenance and landscaping and \$18,000 per acre for security. This amount does not include funding for environmental remediation in locations with contaminated soil.

## FUNDING RESOURCES

**Congestion Mitigation Air Quality (CMAQ) Program:** This funded Manhattan’s Waterfront Greenway Master Plan, in conjunction with a local match. Philadelphia is eligible because we do not meet federal air-quality standards.<sup>72</sup>

**Brownfields Assessment, Revolving Loan Fund and Cleanup Grants (EPA):** The Assessment Grants fund up to \$200,000 over three years, the Revolving Loan Fund gives up to \$1 million over five years and Cleanup Grants fund up to \$200,000 over three years.

**Wildlife Habitat Incentives Program (USDA NRCS):** This program develops habitat for fish and wildlife on private lands. Participants implement wildlife habitat in exchange for cost-share funding to install the habitat. NRCS pays up to 75 percent of the installation cost.

**Clean Water State Revolving Fund (EPA, through State of Pennsylvania):** This fund gives loans for water-quality activities, including wetland and estuary restoration or creation and brownfields remediation. A single entity can get \$200,000 to \$11 million, while multiple-entity applicants can receive up to \$20 million.

**Pennsylvania Coastal Zone Management Program (DEP):** Program gives grants of an average of \$50,000 to protect fragile coastal resources.

**Fish America Foundation:** Foundation gives grants to enhance or conserve water and fisheries resources. Average grant is \$10,000.

**North American Wetlands Conservation Act Grant (Interior Department, U.S. Fish and Wildlife Service):** Gives funding to conserve wetlands and waterfowl habitat, acquire conservation easements and establish water management. Maximum grant is \$1 million. Match required.

**Industrial Sites Reuse Program (DCED):** Grant and low-interest loan financing for environmental site assessment and remediation at former industrial sites. Up to \$200,000 for environmental assessments and up to \$1 million for remediation.

**Infrastructure Development Program (DCED):** Program funds—at former industrial sites only—the clearing and preparation of land and environmental remediation, water and sewer systems, parking facilities, bridges, waterways, and rail and port facilities. Gives loans and grants up to \$1.25 million.

**Growing Greener Watershed Grants (DEP):** Grants given to restore watersheds and streams. Average grant amount is \$95,000.

### The city should consider offering the following incentives to owners who dedicate private land for a trail or greenway:

- Hold owners harmless for injuries or damage. The city or waterfront manager can formally assume all liability for the public’s injuries and damages on the trail or greenway. Pennsylvania’s Recreation Use of Land and Water Act<sup>73</sup> encourages property owners to open their lands for recreational purposes by immunizing them from negligence liability for injuries suffered by people using the land without a fee for recreational purposes. Additional liability protection can be provided by having the city or waterfront manager take ownership or hold a legal right-of-way on the property and explicitly adopt all liability.<sup>74</sup>
- Provide density bonus so that owners can build on the same square footage as they could have if they had built on the preserved greenway/trail space.
- Facilitate transfer of development rights: The city can allow owners to assign affected property-development rights to another property where growth can be accommodated and is desirable.
- Finance public roads within private property so owner is not responsible for building costs or maintenance, trash pickup or snow removal.
- Permit greenway to satisfy some or all of the property’s stormwater-management responsibilities.
- Increase transit access to river properties. Owners will benefit from improved transit access.

## OTHER CITIES HAVE DONE IT—WE CAN, TOO

Greenways around the United States are drawing people, investment and development to waterfront areas. Golden Gate Park in **San Francisco** raises the values of nearby properties by \$500 million to \$1 billion and thus generates \$5 to \$10 million annually in property taxes. In **Oakland**, CA, a 3-mile greenbelt around Lake Merritt, near downtown, has added over \$41 million to local property values. In **San Antonio**, TX, Riverwalk Park has surpassed the Alamo as the most popular feature of the city’s \$3.5 billion tourism economy.



Golden Gate Park, San Francisco, CA

# 10

## CLEANING THE RIVER

### Create a natural river's edge and restore habitat

Walk along the edge of the central Delaware today and you will see cement, trash and the occasional floating shopping cart. You will not see river plants, fish or other signs of a healthy river.

**Cleaning and planting the river's edge will increase the area's attractiveness to residents, business owners and tourists.** In addition, a healthy river's edge prevents flooding, cleans local air, improves water quality and protects the health of those who live in river neighborhoods. A healthy river's edge will give Philadelphia a new reason to be proud of its river.

The first step toward creating a healthy river's edge is to clean up the years of accumulated trash dumped in the water and at the water's edge and replace the garbage with trees, shrubs and grass wherever they can withstand the force of the river flow. Reconstructing destroyed river wetlands is also critical for two reasons: because wetlands are where thousands of types of fish, birds and other wildlife live, and because wetlands remove dangerous toxins from polluted river waters naturally. Another critical task is to begin to naturalize shorelines where old steel or concrete bulkheads are crumbling and no longer effective by replacing them with sand or rock beaches that will stop erosion, allow the greenway to filter pollution more effectively and allow people to touch the water. Finally, we need to reduce and divert combined sewer overflows that allow sewage to flow directly into the river when the combined sewer system exceeds its capacity after a storm.

**Each of these actions will lower pollution, improve habitat for fish and birds, help manage stormwater and create a healthier, more beautiful river's edge:**

**Clean the river's edge.** With the help of Philadelphia Water Department trash boats, Fairmount Park Commission staff and hundreds of volunteers, remove trash from the river's edge. Pick up litter and garbage. Remove furniture and other items that have been dumped into the water. Create a trash-free river's edge.

**Restore plants to the riverbank.** Trees and plants work hard along the river's edge to filter pollutants, absorb stormwater, beautify the landscape and create habitat for birds and other river animals. Wherever we have the land to preserve a greenway along the river's edge, plants will line the shores. At locations where a 100-foot greenway is not possible, a narrow line of native plants can still beautify the riverbank. Some pier sites will not have any riverbank areas for planting. These sites will be priority targets for reconstructed tidal wetlands—underwater planted areas.

**Reconstruct river wetlands.**<sup>76</sup> Wetlands, the shallow areas where land meets water, once lined the banks of the central Delaware. Less than 5 percent of the Philadelphia area's original wetlands remain today.<sup>77</sup> Yet wetlands play the crucial role of filtering pollutants out of the water, a service that has been valued at \$1 million per mile.<sup>78</sup> Wetlands are home to thousands of plants and animals, so by reconstructing wetlands as a part of a plan set out by the Philadelphia Water Department, we can bring many species of fish, oysters and shore birds back to the river. The Philadelphia Water Department has created a list of priority sites for wetland reconstruction, restoration and enhancement

“This is a long-term issue, but I think needs to be in people’s minds as well—and that is climate change, sea-level rise and the risk of flooding. A ‘softer’ approach to development and allowing for wildlife habitat could stem that tide. The revival of wetlands along the shoreline could provide a buffer area for flooding.”

Barry Seymour,  
executive director,  
Delaware Valley Regional  
Planning Commission<sup>75</sup>



along the central Delaware, which includes structurally deficient piers. Structurally deficient piers provide exciting opportunities to create wetlands, as native wetland plants can extend from the water to the pier; thus nature can reclaim the pier. Several publicly owned piers can be used to demonstrate how beautiful and effective these wetlands can be. Private owners may be interested in donating or leasing their structurally deficient piers to the Water Department for wetland creation in exchange for the city assuming liability for the pier.

**Wetland credits will allow the restoration or construction of many river wetlands to be privately funded.** The federal Clean Water Act requires anyone who places fill material in a wetland area to restore wetlands or construct new ones at their own expense.<sup>79</sup> In the last months, several developers have called city agencies and river nonprofits to shop for a compensation wetland site. “Compensation wetlands,” constructed to make up for the permitted loss of another wetland, are often called wetlands credits. Because many property owners along the central Delaware need wetlands credits, private entrepreneurs, city agencies and nonprofits can all invest in producing wetlands, which they can then sell to owners in need of compensation wetlands. This means that wetlands will be constructed at private expense. In addition, where the agreement made with a property owner requires it, the long-term maintenance costs for the site will be covered as well. So one important action step for Philadelphia is to evaluate available sites more extensively and to have sites ready for wetland construction when a developer calls and asks for a site. The Philadelphia Water Department (through its Tidal Wetland Registry) and the Pennsylvania Environmental Council are both working toward this goal. At the present time, it is far easier to build new wetlands on the New Jersey side of the river, but we need them right here in Philadelphia.

**Naturalize shorelines.** The majority of the central Delaware is separated from land by concrete or steel bulkheads. These bulkheads were built based on the best erosion and stabilization technology of the nineteenth and early twentieth centuries. Today, however, scientists and river users prefer natural shorelines for river areas that are not in a main shipping channel because they look more natural and attractive, restore fish habitat and improve water quality.<sup>80</sup> Bulkheads have a limited lifespan of about fifty years, and many of the Delaware River bulkheads north of Center City are made of wood and were installed in 1909.<sup>81</sup> The cost to replace one linear foot of bulkhead is \$7,000 to \$10,000.<sup>82</sup> This substantial cost alone may encourage property owners to replace bulkheads with natural shoreline.<sup>83</sup> A natural shoreline is currently being installed along the Harlem River, with a green seawall made up of stacks of steel-cage containers that are filled with soil and plants.<sup>84</sup> A protective breakwater of rock can be seeded with oysters and installed in shallow water to protect the shoreline land and habitat from waves. Where bulkheads are for the most part intact, wetland plants can be placed into the holes and cracks within the bulkhead surface to create a seawall made up of a combination of plants and hard materials.

**Reduce, filter and divert combined sewer overflows to create a healthier river’s edge.** As is true in many older cities, Philadelphia’s combined sewer system, which carries both stormwater and sewage, discharges wastewater into the Delaware when a storm overwhelms its capacity. These combined sewer overflows, or CSOs, threaten the health of the river’s edge, produce unsightly trash and allow sewage and other pollutants to enter the river. The Philadelphia Water Department is working on long-term solutions to this problem, including the construction of wetlands to filter out the pollutants. In the short term, the health of the river’s edge can be improved by diverting CSOs farther into the river and away from the river’s edge. Distributing CSOs into the deeper, flowing region of the river can create a cleaner river’s edge, one where native plants, fish, shellfish and birds can once again begin to thrive.



*Tinicum Marsh, the largest freshwater tidal wetland in Pennsylvania, is a significant naturalized habitat along the Delaware River, outside the project area.*



# 10

## Create a natural river's edge and restore habitat

### SHORT-TERM ACTIONS

1. Organize a river's edge clean-up day and make it an annual Philadelphia tradition.
2. Explore the feasibility of a natural living shoreline initiative for the central Delaware similar to the Harlem River effort.
3. Plant shrubs and grasses along the river's edge in places where land is insufficient for a greenway and not actively eroding or armored by bulkhead.
4. Use developer wetland-mitigation funding to reconstruct three demonstration wetlands on priority sites identified by the Water Department's Tidal Wetland Registry.
5. Create a convenient process through which developers can fund and achieve compensation for wetland reconstruction.
6. Assess bulkhead condition along the shore and choose priority sites for creating a naturalized shore (places where the bulkhead is in poor condition and the site is outside of the shipping channel and not subject to significant waves).
7. Extend CSO pipes at new development sites so that overflowing sewers do not empty at the river's edge.
8. Identify deficient piers that can be naturalized with wetlands around and under them. Funding is allocated in the city's capital budget for identifying deficient piers.
9. Approach owners of dilapidated, privately owned piers and ask if they are interested in leasing or donating piers to the city's Water Department in exchange for the city assuming liability and providing maintenance.

### LONGER-TERM ACTIONS

1. Plant the riverbanks with native plants in areas where there is insufficient land for a greenway.
2. Restore and reconstruct additional wetlands.
3. Naturalize shorelines by removing or planting over cracked and broken bulkheads to allow water filtered on land to flow into the river.
4. Create signage and a lesson plan for students to allow them to track the changes in water quality, fish and birds as well as other improvements to river health as a result of these actions.
5. Implement the Philadelphia Water Department's Combined Sewer Overflow Long Term Control Plan (CSOLTCP) in order to reduce overflows.

### CIVIC ACTIONS: WHAT PHILADELPHIANS CAN DO TO HELP

- Organize large-scale, citizen-led cleanups of the river's edge.
- Help plant native grasses, plants and shrubs along the river's edge.
- Work with the city and the waterfront manager to stop people from dumping trash into the river.
- Partner with the waterfront manager to help maintain the greenway.

## BENEFITS TO CITY AND IMPACT ON CITY BUDGET OF CREATING A NATURAL RIVER'S EDGE AND RESTORING HABITAT

**Economic:** Improves the riverfront's attractiveness to investors, raises property values and creates potential for increased fishing, boating and other water recreation.

**Environmental:** Cleans up the river's edge, restores habitat and brings fish and migratory birds back to the river.

**Community:** Cleans up the river's edge, improves community pride, creates the opportunity for visitors and residents to understand and appreciate wetlands and contributes toward community beautification.

**Impact on City Budget—Wetlands:** The city may be able to create wetlands at very little cost. Some property owners are seeking compensation wetland sites and will pay the full cost of construction. One estimated cost for the creation of a wetland from PennDOT is about \$4,000 per acre.<sup>85</sup> PennDOT notes, however, that wetland reconstruction by a nonprofit that requires the subcontracting of design, construction and monitoring activities can cost as much as \$40,000 per acre.

**Impact on City Budget—Natural Shoreline:** Along the Harlem River shoreline within Harlem River Park in New York City, steel bulkheads are being replaced by natural shorelines. The cost to replace steel bulkhead is \$7,000 to \$10,000 per linear foot. The cost to remove the bulkhead, excavate and put in a new foundation and a natural shoreline on the Harlem River was \$8,000 per linear foot.<sup>86</sup> At Louisville, KY's 120-acre Waterfront Park, which was built on former industrial land, natural shoreline installation cost \$100,000 per linear mile of riverfront. Louisville used a wire mesh holding topsoil, rock and plantings of native riparian species to provide support and erosion control.<sup>87</sup>

## OTHER CITIES HAVE DONE IT—WE CAN, TOO

Although cleaned-up riverbanks and wetland restoration are not the first things that come to mind when you think about tools to create economic growth, in cities across the United States, environmental improvements along major bodies of water have drawn people, commerce and development back to waterfront districts. **Chattanooga, TN's** 21<sup>st</sup> Century Waterfront project, which is credited with revitalizing that city, prioritized cleaning and greening the polluted river. The city restored riverbanks, reconstructed wetlands and built a suspended boardwalk over the wetlands that students and visitors use to see wildlife that has come back. The city of **Louisville, KY**, installed a combination of rock and native plants along its 120-acre Waterfront Park that allows people to sit at the water's edge for the first time in years. Natural shorelines are also emerging on the Chesapeake Bay in cities such as **Annapolis** and are planned for Lardner's Point along the north Delaware. In **Hartford, CT**, the river cleanup has created a vibrant riverfront that has generated more than \$19 million in economic activity for the region and brought fishing tournaments to the area, a major tourist attraction.



Louisville, KY

## FUNDING RESOURCES

**Wetland Credits:** Owner pays for construction of wetlands to compensate for those destroyed elsewhere.

**Wetlands Protection Development Grants (EPA):** This program funds wetland protection, restoration or management; \$750,000 is available for three to eight grants. Typical awards range from \$25,000 to \$350,000.

**National Coastal Wetlands Conservation Grants Program (U.S. Fish and Wildlife Service):** This program funds the acquisition, enhancement and restoration of coastal wetlands. In 2008, \$20.5 million in grants went to 29 conservation projects encompassing nearly 10,000 acres of coastal wetlands.

**National Marine Fisheries Service Habitat Program:** This funds wetland rehabilitation, streambank stabilization and spawning habitat for fish. Matching funds of at least 50 percent are required. Up to \$300,000 is granted yearly for up to two years.

**Aquatic Ecosystem Restoration (Army Corps of Engineers):** Design and engineering assistance is given to restore degraded aquatic ecosystems. Fully pays for feasibility study but requires a local match for design and construction costs.

**Partners for Fish and Wildlife (U.S. Fish and Wildlife Service):** Funds are available for the restoration of degraded wetlands, river corridors and fish and wildlife habitats.

# Actions Summary 2008–2018

1

ACTIONS TO SELECT A WATERFRONT MANAGER	WHO MUST TAKE ACTION	WHEN
Reform Penn’s Landing Corporation	Mayor, Council, Civic Organizations	2008 or early 2009
Incubate central Delaware efforts through Mayor’s office for approx. 6 months	Mayor, Office of Planning and Econ. Development	2008
Create goals & track indicators to monitor progress	Waterfront Mgr.	2008–2018
Coordinate efforts of government, owners & nonprofits	Waterfront Mgr.	2009–2018
Fundraise for riverfront improvements	Waterfront Mgr.	2009–2018
Implement master plan	Waterfront Mgr.	2009–2018
Publish annual report & monthly progress updates	Waterfront Mgr.	2008–2018
Maintain ongoing relationship with residents & stakeholders	Waterfront Mgr.	2008–2018
Hold the waterfront mgr. accountable for achieving the goals of the civic vision	City, Civic Organizations	2008–2018

2

ACTIONS TO PLAN & ZONE FOR A THRIVING CENTRAL DELAWARE AREA	WHO MUST TAKE ACTION	WHEN
Create zoning overlay to require public access, 100 ft. setback, concealed parking	City Council, Planning Commission (PCPC), Mayor	2008
Prepare memorandum of understanding among government agencies	City, State & Federal Agencies	2008
Write & adopt detailed master plan for the central Delaware area	PCPC, City Council, Mayor	2008–2010
Adopt new zoning & remap central Delaware area	Zoning Code Commission, City Council, Mayor, PCPC	2009–2010
Explore big-box store regulations to ensure they are not vacant for 6+ months	City Council, PCPC, Mayor	2008

# 3

ACTIONS TO CREATE A TRAIL	WHO MUST TAKE ACTION	WHEN
Announce central Delaware trail program & ask owners to participate	Mayor, District Councilperson, State Legislators, Civic Organizations	2008
Pass zoning overlay requiring a 100 ft. setback or no more than 20% of parcel from the water's edge, public access & unobtrusive parking	City Council, Mayor, PCPC, L&I, & ZBA to enforce	Spring 2008
Create interim two-mile trail alignment to bring people to river for recreation	Center City District	Spring 2008
Establish incentives for property owners who provide space for trails & greenway, build parking according to best practices	Zoning Code Commission, PCPC, City Council, Mayor	2008
Create guidelines for consistent trail design by identifying width, materials, amenities, & safety features	PCPC, with assistance of PennPraxis	Spring 2008
Acquire right-of-way over privately held land in exchange for permits	Waterfront Mgr. or City	2008–2018
Create quick procedures for owners to donate rights-of-way & city to indemnify	Law Dept.	2008
Once trail through Center City is complete, create historic tour via cell phone	Waterfront Mgr., Greater Phila. Tourism & Marketing	2010–2010
Where trail in greenway impossible, connect trail along streets or over water	Waterfront Mgr., U.S. Army Corps of Engineers, Office of Planning & Economic Development, PennDOT	2010–2018
Build safe, well-designed trail segments	Waterfront Mgr.	Ongoing
Create bicycle rental & other recreation concessions	Waterfront Mgr.	2010–2012
Reach agreements to make public access a condition of grant awards or funded infrastructure projects	Waterfront Mgr.	2008–2010

## Actions Summary 2008–2018, continued

### 4

ACTIONS TO CREATE AND IMPROVE PARKS	WHO MUST TAKE ACTION	WHEN
Improve Penn Treaty Park	DCNR, PHS, Fairmount Park, Civics, Waterfront Mgr.	2008–2010
Improve Pulaski Park	DCNR, Recreation Dept, Waterfront Mgr., Civics	2008–2010
Test publicly owned park & trail sites for environmental contamination	DEP, Waterfront Mgr., DCNR	2008–2009
Create destination parks on publicly owned land	City, State, Waterfront Mgr.	2008–2011
Encourage riverfront owners to dedicate land for parks	Waterfront Mgr., PCPC, Water Dept.	2008 on
Determine the condition & best use for each publicly owned pier	Water Dept., Waterfront Mgr., L&I, Army Corps	2008
Purchase available properties for parks or recreational activities	Waterfront Mgr., Fairmount Park DCNR, Foundations	2008–2012
Define best use for vacant & underutilized public spaces i.e. below I-95	Waterfront Mgr., PennDot, Water Dept., ILMAC	Ongoing
Establish endowment for park maintenance	Waterfront Mgr., Civic Organizations, Foundations	2010–2018
Create new opportunities for fishing, boating & water recreation	Waterfront Mgr.	2009–2018

### 5

ACTIONS TO GUARANTEE PUBLIC ACCESS AND MAKE IT EASIER	WHO MUST TAKE ACTION	WHEN
Adopt zoning requiring owners to provide public access to river	PCPC, City Council, Mayor	2008
Identify improvements to central Delaware intersections	Civics, PCPC, PennDOT, Streets, Waterfront Mgr.	2008
Add necessary improvements to Streets Dept. 5 yr. plan	Streets, Civics, Waterfront Mgr.	2008–2009
Extend streets to the river with sidewalks & bike lanes	Streets, PCPC, City Council, Mayor, Owners	2008–2018
Add signage to guide pedestrians & cyclists to the river	Waterfront Mgr., Center City District	2009–2012
Create green space & paths under I-95	Waterfront Mgr., PennDOT, ILMAC, Owners	2008–2018

ACTIONS TO EXTEND TRANSIT TO THE RIVER	WHO MUST TAKE ACTION	WHEN
Preserve median along Delaware Ave./Columbus Blvd. for future transit use	Chamber of Commerce (controls median), Waterfront Mgr., Port, Streets, PennDOT, Civics	2008–2014
Expand bus route options to & along river	SEPTA, Office of Transportation, Civics	2008–2010
Create better pedestrian connections from transit stops to river	PCPC, Streets Dept., Waterfront Mgr.	2009–2010
Build safe, comfortable & attractive transit shelters along Delaware Blvd.	Office of Transportation, Commerce (contract negotiations pending for new bus shelters & maintenance), SEPTA, Waterfront Mgr.	2009–2018
Actively engage in PATCO’s transit line selection process	Civics, Waterfront Mgr., City, SEPTA, Congressperson	2009–2018
Partner to obtain federal funding for streetcar line	PATCO, SEPTA, Waterfront Mgr., Civics, City	2009–2010
Install new streetcar line	PATCO, SEPTA, City	2012–2018

## 6

ACTIONS TO EXTEND KEY STREETS TO THE RIVER	WHO MUST TAKE ACTION	WHEN
Identify key streets that can be extended without impacting viable homes or businesses	PennPraxis, PCPC, Streets Dept., Owners	2008
Plat streets on City Plan to reserve the right-of-way	Bd. of Surveyors, City Council, Mayor, Owners	2008–2009
Enforce reserved street rights-of-way	L&I, Streets & PCPC	2008 on
Obtain necessary vacant properties to extend streets	Waterfront Mgr., City	2009–2018
Fund public street construction when development in area of platted street occurs	Waterfront Mgr., City, PennDOT	2008–2012

## 7

## Actions Summary 2008–2018, continued

### 8

ACTIONS TO MANAGE TRAFFIC & PARKING	WHO MUST TAKE ACTION	WHEN
Perform traffic-signal synchronization study to determine timing of signals	Office of Transportation, DVRPC, Waterfront Mgr.	2008
Synchronize traffic signals on Delaware Blvd. to reduce congestion by 10%	Office of Transportation, DVRPC, Waterfront Mgr.	2009–2010
Extend east-west cross streets to create more turn options onto blvd.	Streets, PCPC, City Council, Mayor, Owners	2008–2018
Build a streetcar line to add the capacity of 5 car lanes	PATCO, SEPTA, DVRPC, Office of Transportation, PennDOT, Chamber of Commerce	2010–2018
Improve pedestrian & bicycle connections	Office of Transportation, Waterfront Mgr.	2008–2012
Explore parking as a tool to finance riverfront improvements	Waterfront Mgr.	2009–2012
Build parking garages at easy drop-off locations to add 30% traffic capacity	Waterfront Mgr., Parking Authority, Penn's Landing	2010–2018
Establish policies that provide incentives for projects using parking best practices	PCPC, L&I, Zoning Code Commission	2008–2018
Complete parking study to determine parking needs & set sensible ratios	PCPC, PennPraxis	2010
Encourage Philly CarShare & bicycle parking spots	Waterfront Mgr., PCPC, Office of Transportation	2008–2018
Regulate casino buses	City Council, Mayor	2008



# 9

ACTIONS TO CREATE A GREENWAY	WHO MUST TAKE ACTION	WHEN
Implement zoning overlay to limit development within 100 ft. of river	City Council, Mayor, Water Dept., PCPC, L&I	2008
Install a greenway on Pier 70 shopping ctr.'s preserved land	Water Dept., DEP, PCPC, PennPraxis, Owner	2008
Adopt an official list of native trees & plants that may be planted in greenways	Waterfront Mgr., Fairmount Park, Water Dept.	2008
Plant greenway with native plants that serve as good habitats & filter pollutants	Waterfront Mgr., Civics, Fairmount Park	2009 on
Maintain greenway	Waterfront Mgr., Civics, Partners	2009 on
Offer environmental education	Water Dept., School District, Waterfront Mgr., Seaport Museum, DCNR	2009–2018

# 10

ACTIONS TO CREATE A HEALTHY RIVER'S EDGE	WHO MUST TAKE ACTION	WHEN
Organize a river's edge clean-up day	Waterfront Mgr., Civics, Partners	2008
Plant shrubs & grasses along river's edge where land insufficient for greenway	Waterfront Mgr., Civics, Partners	2009
Create procedure for owner to fund compensatory wetland & wetland to be built	Water Dept., Law Dept.	2008
Use private wetland mitigation funding to reconstruct 3 demonstration wetlands	Water Dept., EPA, DEP, DCNR, Army Corps	2008–2018
Extend CSO pipes into river at new development sites	Water Dept.	2009–2011
Assess bulkhead condition & choose sites for naturalized shore	Water Dept., DCNR	2008
Naturalize shorelines in priority areas outside of shipping channel where bulkhead in poor condition—3 demo projects	Waterfront Mgr., EPA, DEP, DCNR & Army Corps	2008–2018
Create educational program focused on the health of the region's rivers	School District, Seaport Museum, Water, DCNR	2009–2018



## Conclusion

**This action plan is written for the people of Philadelphia.**

It is intended to guide the actions of Mayor Nutter, City Council, our future waterfront manager, riverfront developers and our civic and nonprofit leaders as we take the bold steps required to achieve a world-class waterfront.

**The Delaware River is a vital public resource.** It is our collective responsibility to ensure that the development of the central Delaware is consistent with the goals and values of the thousands of Philadelphians who shared in the creation of *A Civic Vision for the Central Delaware*. This action plan will guide public, civic and private actions that will determine the character and quality of the central Delaware for generations to come.

**Philadelphia is ready to take action, with a bold civic vision for the central Delaware and an action plan that sets out the steps to implement that vision.**

**This is a momentous time in the history of Philadelphia, and we cannot afford to allow the opportunities along the central Delaware yet again to elude our grasp.** Significant resources, both public and private, will be pouring into this area. We have the opportunity right now to coordinate assets, leverage investments and make smart choices that will result in the creation of quality public spaces and a rational development framework. This action plan lays out strategies as well as specific actions that will create a central Delaware that will strengthen our economy, revitalize river neighborhoods, improve the health of the river and reclaim the river's edge for public use and enjoyment.

**The central Delaware is central to Philadelphia's future.** The wise redevelopment of this 7-mile stretch along the Delaware River offers an extraordinary opportunity for Philadelphia to grow its successful downtown, its recreational assets and its green public spaces.



## Footnotes

<sup>1</sup> *St. Paul on the Mississippi Development Framework, Progress Report 1997–2003*, prepared by Saint Paul Riverfront Corporation. [http://www.riverfrontcorporation.com/Files/SPOMDF\\_Progress\\_Report\\_\(2003\).pdf](http://www.riverfrontcorporation.com/Files/SPOMDF_Progress_Report_(2003).pdf)

<sup>2</sup> *Knoxville South Waterfront Action Plan Report, 2006*. [http://www.ci.knoxville.tn.us/southwaterfront/draft\\_action\\_plan.pdf](http://www.ci.knoxville.tn.us/southwaterfront/draft_action_plan.pdf)

<sup>3</sup> Dickinson Narrows Civic Association, Fishtown Neighbors Association, Franklin Bridge North, Neighbors Allied for the Best Riverfront, New Kensington Community Development Corporation, Northern Liberties Neighbors Association, Old City Civic Association, Old Swede's Court Homeowners' Association, Pennsport Civic Association, Port Richmond on Patrol and Civic Association, Queen Village Neighbors Association, River's Edge Community Association, Society Hill Civic Association, Society Hill Towers Homeowners' Association and Whitman Council.

<sup>4</sup> "Amended and Restated By-Laws of Penn's Landing Corporation as of October 26, 1999," provided by Penn's Landing Corporation in pdf form on March 18, 2008.

<sup>5</sup> Christopher Swope, "The Phantom of New York," *Governing* (November 2004), <http://www.governing.com/textbook/auth.htm>; William J. Stern, "Questionable Authorities: State Controller Hevesi Needs to Clean up New York's Corrupt Public Authorities," *City Journal* (July 22, 2004), [http://www.city-journal.org/html/eon\\_07\\_22\\_04ws.html](http://www.city-journal.org/html/eon_07_22_04ws.html); "Public Authority Reform: Reining in New York's Secret Government," New York State Office of the State Controller, Alan G. Hevesi (February 2004). <http://www.osc.state.ny.us/press/releases/feb04/publicauthorityreform.pdf>

<sup>6</sup> The Regional Plan Association recently studied city agency-run waterfront organizations and found that their greatest weaknesses were their vulnerability to turf issues among departments, to politicians' conflicting agendas and to poor community engagement.

<sup>7</sup> Paul Levy, president of the Center City District, stated in testimony before City Council that "based on our preliminary review of Board of Revision of Taxes data, a waterfront special district from Pier 70 to Cumberland Street that assesses the commercial properties east of I-95 at a rate equal to a 10 percent surcharge of their real-estate property tax bill could generate approximately \$700,000 annually without the casinos and between \$1.7 and \$2.2 million annually if casinos come on line." "Managing the Central Delaware Waterfront," Testimony of Paul R. Levy, President, Center City District, City Council Rules Committee (February 25, 2008).

<sup>8</sup> For instance, in 2003, the nonprofit Waterfront Partnership of Baltimore was formed to maintain and improve Inner Harbor, a Baltimore attraction the city had been working on since the mid-1960's. In July 2007, the group became a BID (with the unanimous approval of eighty Inner Harbor property owners). Similarly, Milwaukee began its Riverwalk Development program in 1998 and established a BID to complete improvements along the river in March 2004.

<sup>9</sup> The articles of incorporation state explicitly that board composition and jurisdiction can be changed through amendment of the articles. "Restated Articles of Incorporation of Penn's Landing Corporation, Filed April 29, 1989," provided by Penn's Landing Corporation in pdf form on March 18, 2008.

<sup>10</sup> Representatives of Penn's Landing Corporation have stated that this requirement exists.

<sup>11</sup> Penn's Landing Corporation FY 2007 990 Form, provided by Penn's Landing Corporation in pdf form on March 18, 2008.

<sup>12</sup> New York State included many of the reforms listed below in legislation to reform its public authorities statewide. "Public Authority Reforms Strengthen Transparency and Accountability" (May 24, 2007), <http://www.ny.gov/governor/press/0524075.html>; "Senate Passes Legislation to Reform Public Authorities" (May 21, 2007), <http://www.senate.state.ny.us/pressreleases.nsf/2e0e86fa9105ed5a85256ec30061c0be/a4bf91ce97b72786852572e20070f34b?OpenDocument>

<sup>13</sup> *On the Verge: Caring for New York City's Emerging Waterfront Parks and Public Spaces*, Regional Plan Association (Spring 2007).

<sup>14</sup> *Delaware Waterfront Economic Feasibility Analysis*, Economic Research Associates, No. 17354 (September 25, 2007). [http://www.planphilly.com/files/Delaware%20Waterfront%20Economic%20Analysis\\_Final.pdf](http://www.planphilly.com/files/Delaware%20Waterfront%20Economic%20Analysis_Final.pdf)

<sup>15</sup> Open-space requirements are calculated as a percentage of lot size, and lot size has been interpreted as including the area of any riparian lease. As a result, land that is underwater and undeveloped is included as open space. As a result, some owners with riparian leases satisfy open-space requirements without adding any green space.

<sup>16</sup> *Sacramento Riverfront Master Plan* (July 2003), <http://www.sacramentoriverfront.org/master-plan.htm>

<sup>17</sup> Monon Greenway Description, Indiana Trails.org, [http://www.indianatrails.org/Monon\\_Carmel.htm](http://www.indianatrails.org/Monon_Carmel.htm); Bill Ruthhart and Cathy Kightlinger, "The Monon Trail Stays on the Move," *Indy Star* (May 21, 2005), [http://www.biketraffic.org/southland/cal-sag/monon\\_on\\_the\\_move\\_IndyStar.pdf](http://www.biketraffic.org/southland/cal-sag/monon_on_the_move_IndyStar.pdf); "Monon Trail Celebrates 10th Anniversary," *Indy Parks and Recreation* Press Release (June 24, 2006).

<sup>18</sup> Seattle real-estate agents found that properties near a 12-mile recreational trail sold faster and were priced 6 percent higher than similar properties farther away. "From Pollution to Parklands: Alternatives for a Waterfront Park on Hunters Point Shipyard," *Arc Ecology*, Chapter 7, <http://www.arceology.org/HuntersPointWaterfrontPark.shtml>

<sup>19</sup> A conservation easement is a written legal agreement between a landowner and a government entity or a nonprofit conservation organization that permanently restricts the use of a portion of a property to protect its conservation and recreational value. Easements "run with the land," binding the original owner and all subsequent owners to the easement's restrictions. There are no nonprofits in Philadelphia whose primary mission includes holding easements over land.

<sup>20</sup> An owner who donates a conservation easement is eligible for a federal income-tax deduction and estate-tax benefits. In 2006, the newly passed Pension Reform bill amended the conservation tax incentive that has been in place for twenty-six years by raising the maximum deduction a donor can take for donating a conservation easement from 30 percent of adjusted gross income (AGI) in any year to 50 percent, and to extend the carry-forward period for a donor to take tax deductions for a voluntary conservation agreement from five to fifteen years. In addition, the owner is eligible for a reduction in estate taxes.

<sup>21</sup> A recent Pennsylvania Superior Court case, *Stanton v. Lackawanna Energy, Ltd.*, 822 A.2d 707 (Pa. Super. 2003), extended liability protection to easement holders such as land trusts and municipalities. <http://www.dcnr.state.pa.us/brc/Easements.pdf>

<sup>22</sup> Telephone interview with Leonard Marszalek, chief operating officer, The Detroit Riverfront Conservancy (January 9, 2008). E-mail correspondence with Marc Nicol, director of planning and park development, Hartford Riverfront Recapture (January 10, 2008).

<sup>23</sup> A National Association of Home Builders survey in 2000 found that the top community amenity home buyers fifty-five and older look for is a walking or jogging trail. "Boomers on the Horizon: Housing Preferences of the 55+ Market" (Wylde, 2002).

<sup>24</sup> *Transformations: 2005 Annual Report*, Schuylkill River Development Corporation; *Realizations: 2006 Annual Report*, Schuylkill River Development Corporation; *Schuylkill Banks: Master Plan and Priority Projects 2004–2008*, Schuylkill River Development Corporation.

<sup>25</sup> *On the Verge: Caring for New York City's Emerging Waterfront Parks and Public Spaces*, Regional Plan Association (Spring 2007). The cost maintenance and security varies. However, the costs for the 102-acre Hudson River Park were \$111,000 in 2006.

<sup>26</sup> The legislation states that the fees will be paid to the Philadelphia Department of Commerce to implement the work of the Central Delaware Advisory Group.

<sup>27</sup> *Economic Impact Study for Millennium Park, Chicago*, released in April 2005.

<sup>28</sup> Edward K. Uhler, "The Millennium Park Effect: Creating a Cultural Venue with an Economic Impact," *Greater Philadelphia Regional Review* (Winter 2006).

<sup>29</sup> Wachter and Gillen, "Public Investment Strategies: How They Matter for Neighborhoods in Philadelphia—Identification and Analysis," The Wharton School, University of Pennsylvania (April 2006).

<sup>30</sup> In 2005, total retail sales for canoes and kayaks alone exceeded \$200 million. In 2001, thirty-four million American anglers, ages sixteen and older, spent \$36 billion on fishing, \$15 billion of which were spent on trip-related expenses. <http://www.nmma.org/facts/boatingstats/2005/files/market1.asp> <http://www.census.gov/prod/2002pubs/QFBRO.pdf>

<sup>31</sup> To achieve this marina and destination green space, the Penn's Landing Corporation would need to initiate a by-law change to allow land to be devoted to recreational space rather than only to the "highest and best economic use," as currently required.

<sup>32</sup> Estimates provided by Wallace, Roberts and Todd based on the cost to build parks that they have designed.

<sup>33</sup> Calculated using 2000 U.S. Census population data for Philadelphia census tracts 1, 10, 16, 17, 25, 26, 27, 42.01, 42.02, 43, 128, 129, 130, 142, 143, 158, 159, 160, 180 and 181. Exact population figure: 62,863. Does not include more recent population shifts, including the opening of Waterfront Square and the burgeoning neighborhood growth in areas such as Northern Liberties.

<sup>34</sup> Some developers may want to create two turn lanes to increase the volume of cars that can turn into their property on a single traffic signal. But unless there is a separate signal phase for turns and walking, pedestrians and cars are competing to travel during a single traffic-signal phase. Adding an additional signal phase would reduce the number of cars that could travel through the signal and largely offset the benefit of the second lane. Instead, we should increase the number of locations at which left turns from Delaware Boulevard are possible. Each new east-west street connection we create can accommodate one to two hundred more turns per hour. Multiple turn opportunities will create manageable crossings, allow more direct travel paths to different destinations and keep signal cycles relatively simple.

<sup>35</sup> At this point, the road is called Richmond Street.

<sup>35a</sup> The city has evaluated Walnut, Spruce, and Pine Streets as possible east/west streets that could be complete bicycle connections from river to river, though no bicycle lanes currently exist. Stretches of Chestnut and Market Streets were also evaluated.

<sup>36</sup> The city is soliciting proposals for such a plan, and it currently covers the central Delaware area, with the exception of the area from Frankford Avenue to Allegheny Avenue. The goal of the project is to create a comprehensive plan that identifies and helps prioritize strategies that will improve Philadelphians' ability to travel more safely and frequently on foot and bike. The project will be funded with a \$180,000 TCDI grant from the Delaware Valley Regional Planning Commission. The Pennsylvania Environmental Council has received a grant as well to study the "missing links" in the East Coast Greenway, an ambitious project to create a greenway from Maine to Florida. This study will include a detailed engineering study of east-west bicycle connections to the river, but it will not address north-south connections or pedestrian issues. The study is to be completed late in Summer 2008.

<sup>37</sup> Cost estimate is based on analysis from JzTI, a Philadelphia-based transportation and public-transit consultant.

<sup>38</sup> *Ibid.*

<sup>39</sup> Cost estimate is from the *Ridge Avenue Master Plan*, completed in September 2004 and adjusted for inflation, as well as from recent architectural projects by Kise Straw and Kolodner.

<sup>40</sup> Cost estimate is based on a recent local purchase of pedestrian streetlights.

<sup>41</sup> *New York City Comprehensive Waterfront Plan: Reclaiming the City's Edge* (Summer 1992).

## Footnotes, continued

<sup>42</sup> 2007–2008 Seattle Climate Action Plan, Progress Report, <http://www.seattle.gov/climate/docs/SeaCAP%20Progress%20Report2007.pdf>

<sup>43</sup> *Urban Planning Tools for Creating a Cooler, Greener Community: Implementation in the Community, Chicago Case Study* (July 2006).

<sup>44</sup> The average daily ridership on Bus Route 25 in 2006 was roughly 3,900 trips, up 12 percent from 2005.

<sup>45</sup> This estimate is based upon a large, articulated streetcar and a general traffic-lane estimate of eight hundred vehicles per hour per direction. We assume an average vehicle occupancy of 1.5 people. Transit capacity for a large, articulated streetcar is two hundred to 250 persons per vehicle, and achievable transit frequency is better than five minutes.

<sup>46</sup> Belt Line is a real-estate holding company whose main objective is to ensure non-discriminatory access to the Port of Philadelphia for any railroad. The Greater Philadelphia Chamber of Commerce controls 51 percent of the Belt Line.

<sup>47</sup> PATCO is controlled by the Delaware River Port Authority.

<sup>48</sup> “Southern New Jersey to Philadelphia Transit Study,” PATCO (October 2005).

<sup>49</sup> “Waivers to Allow Light Rail Trains to Share Track with Freight Trains Granted to San Diego, CA and Baltimore, MD,” *Railway Age* (February 2001), [http://findarticles.com/p/articles/mi\\_m1215/is\\_2\\_202/ai\\_71634644](http://findarticles.com/p/articles/mi_m1215/is_2_202/ai_71634644); “River Line,” *South New Jersey News* (August 11, 2004), <http://www.southjerseynews.com/lightrail/>

<sup>50</sup> The three transit route options that PATCO is considering are the following: (1). Old City to Pier 70 shopping center (with Home Depot and Wal-Mart): A streetcar or trolley route would run from the now-closed PATCO station at Franklin Square (at Sixth and Race Streets) to the riverfront along Florist Street, up Delaware Avenue to the proposed SugarHouse Casino and down Columbus Boulevard to the Pier 70 shopping center. Later extensions could be made to the stadium complex and to the Navy Yard. (2). A variation on that proposal would extend the existing SEPTA subway-surface trolley lines to Franklin Square through a tunnel under Arch and Cherry Streets before it would continue along the riverfront. Service would be provided every five minutes at peak and every twelve minutes in the off-peak, with travel times of five minutes from Franklin Square to Spring Garden Street and fifteen minutes from Franklin Square to Pier 70. (3). Juniper and Market to Pier 70: This would extend SEPTA’s subway surface trolley service under Market Street to Front Street, where it would cross I-95 and travel along the median of Columbus Boulevard, north to the proposed SugarHouse Casino and south to Pier 70. Later extensions could be made to the stadium complex and to the Navy Yard. PATCO is also investigating a surface rail alternative for this route. Paul Nussbaum, “Two Meetings Set on Waterfront Transit,” *Philadelphia Inquirer* (January 10, 2008).

<sup>51</sup> Chris O’Malley, “Desirable? Portland Makes It Work, But Viability Here Uncertain,” *Indianapolis Business Journal* (February 23, 2008).

<sup>52</sup> Based on analysis from JzTI, a Philadelphia-based transportation and public-transit consultant.

<sup>53</sup> Federal “New Starts” or “Small Starts” funding will be needed to finance the transit line. Historically, the federal government paid 80 percent of the total cost. Under President George W. Bush, the federal government has paid only 40 to 50 percent of the total cost of the line. It is unclear what the transit-grant policy of our next presidential administration will be.

<sup>54</sup> Alex Krieger, “On the Waterfront,” *Preservation Magazine* (February–March 2000).

<sup>55</sup> Paul Lonie, by e-mail and interview, Westrum Development shared typical road-construction costs based on road-building costs Westrum encountered in 2007.

<sup>56</sup> Telephone interview with Joe Myers, Cooper’s Ferry Development Association (November 29, 2007).

<sup>57</sup> Telephone interview with City Architect Michael Moore (December 6, 2007).

<sup>58</sup> South Waterfront Central District Project Development Agreement (August 22, 2003), [http://www.pdc.us/pdf/ura/north\\_macadam/project\\_development\\_agreement/project-development-agreement.pdf](http://www.pdc.us/pdf/ura/north_macadam/project_development_agreement/project-development-agreement.pdf). The cost estimates are from a specific exhibit of the agreement at [http://www.pdc.us/pdf/ura/north\\_macadam/8th-amendment-res\\_11-06/exhibit-i-1.pdf](http://www.pdc.us/pdf/ura/north_macadam/8th-amendment-res_11-06/exhibit-i-1.pdf) (downloaded March 11, 2008).

<sup>59</sup> Bill Kloos, “ITS and Sustainability: A System Operator’s Perspective,” Portland Office of Transportation (February 5, 2007), [http://egov.oregon.gov/ODOT/TD/TP\\_RES/docs/2008NWTC2008\\_presentations/1A\\_3\\_kloos.pdf](http://egov.oregon.gov/ODOT/TD/TP_RES/docs/2008NWTC2008_presentations/1A_3_kloos.pdf)

<sup>60</sup> Based on analysis from JzTI, a Philadelphia-based transportation and public-transit consultant.

<sup>61</sup> Thomas Barlas, “Bus Companies Ask SJTA to Withdraw New Route Plans,” <http://buses.org/files/PressofAtlanticCitystory.pdf>

<sup>62</sup> Rules and Regulations, Title 58. Recreation, Pennsylvania Gaming Control Board [58 PA. CODE CH. 439], Response to Public Comment, [http://www.pgcb.state.pa.us/Comments\\_Responses/junket/Junket\\_response.pdf](http://www.pgcb.state.pa.us/Comments_Responses/junket/Junket_response.pdf)

<sup>63</sup> Historic Streetcar Extension.org Frequently Asked Questions, National Park Service, <http://www.historicstreetcarextension.org/faq.htm> (downloaded March 19, 2008).

<sup>64</sup> A greenway is a corridor of undeveloped land set aside for recreational use, environmental preservation and nonmotorized transportation. A greenway can link parks, nature preserves, cultural features or historic sites. A greenway located along a river also can be termed a riparian buffer, which is a vegetated area adjacent to a water body that is fully or partially protected from human disturbance and therefore can protect the water body from pollution and restore habitat.

<sup>65</sup> *North Delaware Riverfront Greenway Master Plan* (2005). Completed by Pennsylvania Environmental Council, Econsult and Schelter and Associates. The plan also cites two National Park Service reports: “Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors” and “Rivers, Trails, and Conservation Assistance.”

<sup>66</sup> *North Delaware Riverfront Greenway Master Plan* (2005). Completed by Pennsylvania Environmental Council, Econsult, and Schelter and Associates.

<sup>67</sup> New York City Department of Environmental Protection Bureau of Water Supply, "City Efforts to Protect Riparian Buffer Areas" (July 31, 2004).

<sup>68</sup> Wenger, S., "A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation," University of Georgia, Office of Public Service and Outreach, Institute of Ecology (1999), p.12; "Riparian/Forested Buffer- Minimum Measure: Post-Construction Stormwater Management in New Development and Redevelopment," Environmental Protection Agency, [http://cfpub.epa.gov/npdes/stormwater/menueofbmps/index.cfm?action=factsheet\\_results&view=specific&bmp=82](http://cfpub.epa.gov/npdes/stormwater/menueofbmps/index.cfm?action=factsheet_results&view=specific&bmp=82) (downloaded July 27, 2007).

<sup>69</sup> Ensuring a degree of flexibility in the required size of a greenway is important to ensure that we do not remove all or most of the value from a parcel. This can be addressed by building a system of "buffer averaging" into the zoning ordinance. This allows the buffer width to be reduced at certain points at which a small parcel cannot dedicate 100 feet of land at the water's edge for a buffer or greenway. Although buffer averaging will address many concerns, in some cases landowners will need to request a formal variance from the provisions of the greenway requirement.

<sup>70</sup> Seiber, 364 F.3d at 1368–69; Walcek, 303 F.3d at 1355–56; Machipongo, 799 A.2d at 769–70; *Mock v. Department of Environmental Resources*, 623 A.2d 940, 948–49 (Pa. Cmwlth. 1993), *aff'd* 653 A.2d 1234 (Pa. 1995), *cert. denied* 517 U.S. 1216 (1996) (holding that a regulation does not effect a taking simply because it deprives the property owner of the most valuable use of the property). See *Jones v. Zoning Hearing Board of the Town of McCandless*, 578 A.2d 1369, 1371 (Pa. Cmwlth. 1990) (reviewing ordinance that establishes restrictions on development to preserve woodlands, streams and steep slopes and finding no taking where landowner could not develop his property as intensively for residential purposes as he could prior to the ordinance, but nonetheless could still develop his land).

<sup>71</sup> "NJ 300-Foot Buffer Rule Upheld by Highest State Court" (October 11, 2006), <http://www.delawariverkeeper.org/newsresources/pressrelease.asp?ID=27>

<sup>72</sup> *Manhattan Waterfront Greenway Master Plan* (November 2004), [http://www.nyc.gov/html/dcp/pdf/transportation/mwg\\_full.pdf](http://www.nyc.gov/html/dcp/pdf/transportation/mwg_full.pdf) (downloaded March 13, 2008).

<sup>73</sup> Pennsylvania Statutes Annotated, title 68, sections 477-1 et seq.

<sup>74</sup> On the north Delaware and the Schuylkill Banks trail, this is done by providing ownership or a right-of-way to the Fairmount Park Commission.

<sup>75</sup> Alan Jaffe, "Buck Stops at the Infrastructure," Plan Philly (October 2007).

<sup>76</sup> Constructed wetlands are artificial versions of natural wetlands, using shallow bodies of standing water filled with reeds and other wetland vegetation to filter the water. Urban wetlands have been restored along the Chicago River and Denver's Platte River. As a part

of Chattanooga's 21st Century Waterfront project, the city built a 1.5-acre wetland, as well as a flooded forest and historical and recreational features, on a 23-acre downtown industrial brownfield site that contained drainage areas.

<sup>77</sup> Kreeger, D. "Signature Ecological Traits of the Delaware Estuary: Tidal Freshwater Wetlands," *Concepts in Delaware Estuary Science and Management* (No. 05-01, 2005), Partnership for the Delaware Estuary.

<sup>78</sup> Steve Lerner and William Poole, *The Economic Benefits of Parks and Open Space, The Trust for Public Land* (1999), p. 41, citing a study of a 3-mile stretch of Georgia's Alchey River. Studies have similarly attempted to value the habitat and flood-prevention functions of wetlands.

<sup>79</sup> Section 404 of the Clean Water Act, administered by the U.S. Army Corps of Engineers with oversight by the U.S. Environmental Protection Agency, gives owners who place fill in wetland areas the legal and financial responsibility to restore degraded wetlands not affected by the permitted fill or to create new wetlands.

<sup>80</sup> When Hurricane Isabel hit in 2003, the Anne Arundel County shoreline experienced significant damage along bulkheads, but where there was a natural shoreline with wetlands, very little damage occurred at the shoreline. Lara Lutz, "Shoring up Coasts Against Erosion: Living Shorelines Are the Latest Front in Battle to Control Sediment Loss, Preserve Habitat," *Alliance for the Chesapeake Bay Journal* (November 2005), <http://www.bayjournal.com/article.cfm?article=2651> (downloaded March 11, 2008).

<sup>81</sup> Interview with Elmer Boles, Boles Smyth Associates (March 13, 2008).

<sup>82</sup> Estimates based upon bulkhead replacement along the Schuylkill River by Elmer Boles, Boles Smyth Associates.

<sup>83</sup> John C. Kuehner, "Putting Curbs on the Cuyahoga River: 'Green' Bulkheads Are Planners' Vision," *Plain Dealer Reporter* (November 11, 2006), <http://www.cuyahogariverrap.org/newsgreenbulkhead.html>

<sup>84</sup> Bulkheads are being replaced with natural shoreline along the Harlem River. For details on the natural shoreline construction process, go to "Designing the Edge, Harlem River Park" (2006), <http://www.nyswaterfronts.com/downloads/pdfs/On%20The%20Edge%20News%20Final.pdf>

<sup>85</sup> "Results of the FHWA Domestic Scan of Successful Wetland Mitigation Programs," U.S. Department of Transportation, Federal Highway Administration, <http://www.fhwa.dot.gov/environment/wetland/scanrpt/pa.htm> (downloaded March 11, 2008).

<sup>86</sup> Costs provided by Dr. Marcha Johnson, landscape architect with New York City Department of Parks and Recreation and a project leader for Designing the Edge at the Harlem River Park.

<sup>87</sup> *Renovating Post-Industrial Landscapes—The North Delaware Riverfront, Philadelphia*. Study conducted for the Pennsylvania Environmental Council. Report written by Field Operations, Fall 2001. [http://www.pecpa.org/\\_final\\_pec/DelRivRepCh5Ch6.pdf](http://www.pecpa.org/_final_pec/DelRivRepCh5Ch6.pdf)

# Photo Citations

- "Battery Park." Photograph. *Panoramio: h2chu*. Available from Panoramio: <http://www.panoramio.com/photo/3480897>. Accessed 25 April 2008.  
Battery Park City Photo Collection. Steve Stainbrook. (RWP)
- "Bike Lane Built for Two." Photograph. *Kyle Gradinger*. Available from Flickr: <http://www.flickr.com/photos/kgradinger/2367382978/>. Accessed 5 May 2008. (RWP)
- "Boston Skyline from Piers Park." Photograph. *Flickr.com: AntyDiluvian*. Available from Flickr: <http://www.flickr.com/photos/antydiluvian/771524517/>. Accessed 25 April 2008.  
Central Delaware Riverfront Photograph Collection. Andrew Goodman. (RWP)  
Central Delaware Riverfront Photograph Collection. Harris Steinberg. (RWP)  
Central Delaware Riverfront. Photograph. *PhillySkyline photos*. Available from Bradley Maule, PhillySkyline: [www.phillyskyline.com](http://www.phillyskyline.com). Accessed 1 January 2007. (RWP)  
Chattanooga Riverfront Photo Collection. *Mark S. Wurst Photography*. Available from <http://www.mswphoto.com/chatt.html>. Accessed 6 July 2007.
- "CIMG1593." Photograph. *dav\_eros*. Available from Flickr: <http://www.flickr.com/photos/daveros/214986520>. Accessed 5 May 2008.
- "Clayton Lane Retail." Photograph. Available from AmCap Properties, Inc.: <http://www.claytonlaneretail.com/>. 2006.  
Diagram by David Baker + Partners.
- Fishman, Connie. "Hudson River Park: The Rebirth of the Waterfront." PowerPoint presentation, 3 February 2007. (RWP)
- "Golden Gate Park." Photograph. *Flickr.com: p3p510*. Available from Flickr: <http://www.flickr.com/photos/p3p510/267518634/>. Accessed 25 April 2008.
- "Ground Zero." Photograph. *Panoramio: maix*. Available from Panoramio: <http://www.panoramio.com/photo/262801>. Accessed 25 April 2008.
- "IMG\_4558." Photograph. *Panoramio: tomtom1989*. Available from Panoramio: <http://www.panoramio.com/photo/95911>. Accessed 25 April 2008.
- "John Heinz National Wildlife Refuge at Tinicum." Photograph. *User: Tmarinucci*. Available from Wikipedia:  
<http://upload.wikimedia.org/wikipedia/commons/5/5e/TinicumNWR.jpg>. Accessed 25 April 2008.
- Kreiger, Alex. "Philadelphia Waterfront Best Practices Session.", PowerPoint presentation, 3 February 2007. (RWP)
- "little rock river trail." Photograph. *yo kelley yo*. Available from Flickr: <http://www.flickr.com/photos/craftyasschick/520361445/>. Accessed 5 May 2008.
- "Louisville Waterfront Park." Photograph. The Waterfront Center: <http://www.waterfrontcenter.org/>. Accessed 1 June 2005.
- "Millennium Park." Photograph. Available from the GreenRoof Project Database: <http://www.greenroofs.com/projects/pview.php?id=459>. Accessed 1 October 2007.
- "New York from Heli, Manhattan, WTC." Photograph. *Kamil Macniak*. Available through Panoramio: <http://www.panoramio.com/photo/231595>. Accessed 1 October 2007.
- "Portland South Waterfront Urban Design." Photograph. *Kyle Gradinger*. Available from Flickr: <http://www.flickr.com/photos/kgradinger/2248100740/sizes/l/>. Accessed 21 February 2008. (RWP)
- "Portland Streetcar." Photograph. *iStockphoto: gocosmonaut*. Available from iStockphoto:  
[http://www.istockphoto.com/file\\_closeup/object/4946412\\_portland\\_streetcar.php?id=4946412](http://www.istockphoto.com/file_closeup/object/4946412_portland_streetcar.php?id=4946412). Accessed 20 April 2008. (RWP)
- "Riverwalk." Photograph. *Louisville Images*. Available from Flickr: <http://www.flickr.com/photos/louisvillemetro/2066305180/>. Accessed 5 May 2008.
- "Saint Paul Panorama." Photograph. *iStockphoto: chimpyk*. Available from iStockphoto:  
[http://www.istockphoto.com/file\\_closeup/nature/weather/clouds/3512174\\_saint\\_paul\\_panorama.php?id=3512174](http://www.istockphoto.com/file_closeup/nature/weather/clouds/3512174_saint_paul_panorama.php?id=3512174). Accessed 20 April 2008. (RWP)  
Waterfront Case Studies Photograph Collection. Andrew Goodman. (RWP)

RWP = Image reprinted with the permission of copyright holder or the photographer.

## Footnotes

<sup>1</sup> *St. Paul on the Mississippi Development Framework, Progress Report 1997–2003*, prepared by Saint Paul Riverfront Corporation. [http://www.riverfrontcorporation.com/Files/SPOMDF\\_Progress\\_Report\\_\(2003\).pdf](http://www.riverfrontcorporation.com/Files/SPOMDF_Progress_Report_(2003).pdf)

<sup>2</sup> *Knoxville South Waterfront Action Plan Report, 2006*. [http://www.ci.knoxville.tn.us/southwaterfront/draft\\_action\\_plan.pdf](http://www.ci.knoxville.tn.us/southwaterfront/draft_action_plan.pdf)

<sup>3</sup> Dickinson Narrows Civic Association, Fishtown Neighbors Association, Franklin Bridge North, Neighbors Allied for the Best Riverfront, New Kensington Community Development Corporation, Northern Liberties Neighbors Association, Old City Civic Association, Old Swede's Court Homeowners' Association, Pennsport Civic Association, Port Richmond on Patrol and Civic Association, Queen Village Neighbors Association, River's Edge Community Association, Society Hill Civic Association, Society Hill Towers Homeowners' Association and Whitman Council.

<sup>4</sup> "Amended and Restated By-Laws of Penn's Landing Corporation as of October 26, 1999," provided by Penn's Landing Corporation in pdf form on March 18, 2008.

<sup>5</sup> Christopher Swope, "The Phantom of New York," *Governing* (November 2004), <http://www.governing.com/textbook/auth.htm>; William J. Stern, "Questionable Authorities: State Controller Hevesi Needs to Clean up New York's Corrupt Public Authorities," *City Journal* (July 22, 2004), [http://www.city-journal.org/html/eon\\_07\\_22\\_04ws.html](http://www.city-journal.org/html/eon_07_22_04ws.html); "Public Authority Reform: Reining in New York's Secret Government," New York State Office of the State Controller, Alan G. Hevesi (February 2004). <http://www.osc.state.ny.us/press/releases/feb04/publicauthorityreform.pdf>

<sup>6</sup> The Regional Plan Association recently studied city agency-run waterfront organizations and found that their greatest weaknesses were their vulnerability to turf issues among departments, to politicians' conflicting agendas and to poor community engagement.

<sup>7</sup> Paul Levy, president of the Center City District, stated in testimony before City Council that "based on our preliminary review of Board of Revision of Taxes data, a waterfront special district from Pier 70 to Cumberland Street that assesses the commercial properties east of I-95 at a rate equal to a 10 percent surcharge of their real-estate property tax bill could generate approximately \$700,000 annually without the casinos and between \$1.7 and \$2.2 million annually if casinos come on line." "Managing the Central Delaware Waterfront," Testimony of Paul R. Levy, President, Center City District, City Council Rules Committee (February 25, 2008).

<sup>8</sup> For instance, in 2003, the nonprofit Waterfront Partnership of Baltimore was formed to maintain and improve Inner Harbor, a Baltimore attraction the city had been working on since the mid-1960's. In July 2007, the group became a BID (with the unanimous approval of eighty Inner Harbor property owners). Similarly, Milwaukee began its Riverwalk Development program in 1998 and established a BID to complete improvements along the river in March 2004.

<sup>9</sup> The articles of incorporation state explicitly that board composition and jurisdiction can be changed through amendment of the articles. "Restated Articles of Incorporation of Penn's Landing Corporation, Filed April 29, 1989," provided by Penn's Landing Corporation in pdf form on March 18, 2008.

<sup>10</sup> Representatives of Penn's Landing Corporation have stated that this requirement exists.

<sup>11</sup> Penn's Landing Corporation FY 2007 990 Form, provided by Penn's Landing Corporation in pdf form on March 18, 2008.

<sup>12</sup> New York State included many of the reforms listed below in legislation to reform its public authorities statewide. "Public Authority Reforms Strengthen Transparency and Accountability" (May 24, 2007), <http://www.ny.gov/governor/press/0524075.html>; "Senate Passes Legislation to Reform Public Authorities" (May 21, 2007), <http://www.senate.state.ny.us/pressreleases.nsf/2e0e86fa9105ed5a85256ec30061c0be/a4bf91ce97b72786852572e20070f34b?OpenDocument>

<sup>13</sup> *On the Verge: Caring for New York City's Emerging Waterfront Parks and Public Spaces*, Regional Plan Association (Spring 2007).

<sup>14</sup> *Delaware Waterfront Economic Feasibility Analysis*, Economic Research Associates, No. 17354 (September 25, 2007). [http://www.planphilly.com/files/Delaware%20Waterfront%20Economic%20Analysis\\_Final.pdf](http://www.planphilly.com/files/Delaware%20Waterfront%20Economic%20Analysis_Final.pdf)

<sup>15</sup> Open-space requirements are calculated as a percentage of lot size, and lot size has been interpreted as including the area of any riparian lease. As a result, land that is underwater and undeveloped is included as open space. As a result, some owners with riparian leases satisfy open-space requirements without adding any green space.

<sup>16</sup> *Sacramento Riverfront Master Plan* (July 2003), <http://www.sacramentoriverfront.org/master-plan.htm>

<sup>17</sup> Monon Greenway Description, Indiana Trails.org, [http://www.indianatrails.org/Monon\\_Carmel.htm](http://www.indianatrails.org/Monon_Carmel.htm); Bill Ruthhart and Cathy Kightlinger, "The Monon Trail Stays on the Move," *Indy Star* (May 21, 2005), [http://www.biketraffic.org/southland/cal-sag/monon\\_on\\_the\\_move\\_IndyStar.pdf](http://www.biketraffic.org/southland/cal-sag/monon_on_the_move_IndyStar.pdf); "Monon Trail Celebrates 10th Anniversary," *Indy Parks and Recreation* Press Release (June 24, 2006).

<sup>18</sup> Seattle real-estate agents found that properties near a 12-mile recreational trail sold faster and were priced 6 percent higher than similar properties farther away. "From Pollution to Parklands: Alternatives for a Waterfront Park on Hunters Point Shipyard," *Arc Ecology*, Chapter 7, <http://www.arceology.org/HuntersPointWaterfrontPark.shtml>

<sup>19</sup> A conservation easement is a written legal agreement between a landowner and a government entity or a nonprofit conservation organization that permanently restricts the use of a portion of a property to protect its conservation and recreational value. Easements "run with the land," binding the original owner and all subsequent owners to the easement's restrictions. There are no nonprofits in Philadelphia whose primary mission includes holding easements over land.



<sup>20</sup> An owner who donates a conservation easement is eligible for a federal income-tax deduction and estate-tax benefits. In 2006, the newly passed Pension Reform bill amended the conservation tax incentive that has been in place for twenty-six years by raising the maximum deduction a donor can take for donating a conservation easement from 30 percent of adjusted gross income (AGI) in any year to 50 percent, and to extend the carry-forward period for a donor to take tax deductions for a voluntary conservation agreement from five to fifteen years. In addition, the owner is eligible for a reduction in estate taxes.

<sup>21</sup> A recent Pennsylvania Superior Court case, *Stanton v. Lackawanna Energy, Ltd.*, 822 A.2d 707 (Pa. Super. 2003), extended liability protection to easement holders such as land trusts and municipalities. <http://www.dcnr.state.pa.us/brc/Easements.pdf>

<sup>22</sup> Telephone interview with Leonard Marszalek, chief operating officer, The Detroit Riverfront Conservancy (January 9, 2008). E-mail correspondence with Marc Nicol, director of planning and park development, Hartford Riverfront Recapture (January 10, 2008).

<sup>23</sup> A National Association of Home Builders survey in 2000 found that the top community amenity home buyers fifty-five and older look for is a walking or jogging trail. "Boomers on the Horizon: Housing Preferences of the 55+ Market" (Wylde, 2002).

<sup>24</sup> *Transformations: 2005 Annual Report*, Schuylkill River Development Corporation; *Realizations: 2006 Annual Report*, Schuylkill River Development Corporation; *Schuylkill Banks: Master Plan and Priority Projects 2004–2008*, Schuylkill River Development Corporation.

<sup>25</sup> *On the Verge: Caring for New York City's Emerging Waterfront Parks and Public Spaces*, Regional Plan Association (Spring 2007). The cost maintenance and security varies. However, the costs for the 102-acre Hudson River Park were \$111,000 in 2006.

<sup>26</sup> The legislation states that the fees will be paid to the Philadelphia Department of Commerce to implement the work of the Central Delaware Advisory Group.

<sup>27</sup> *Economic Impact Study for Millennium Park, Chicago*, released in April 2005.

<sup>28</sup> Edward K. Uhler, "The Millennium Park Effect: Creating a Cultural Venue with an Economic Impact," *Greater Philadelphia Regional Review* (Winter 2006).

<sup>29</sup> Wachter and Gillen, "Public Investment Strategies: How They Matter for Neighborhoods in Philadelphia—Identification and Analysis," The Wharton School, University of Pennsylvania (April 2006).

<sup>30</sup> In 2005, total retail sales for canoes and kayaks alone exceeded \$200 million. In 2001, thirty-four million American anglers, ages sixteen and older, spent \$36 billion on fishing, \$15 billion of which were spent on trip-related expenses. <http://www.nmma.org/facts/boatingstats/2005/files/market1.asp> <http://www.census.gov/prod/2002pubs/QFBRO.pdf>

<sup>31</sup> To achieve this marina and destination green space, the Penn's Landing Corporation would need to initiate a by-law change to allow land to be devoted to recreational space rather than only to the "highest and best economic use," as currently required.

<sup>32</sup> Estimates provided by Wallace, Roberts and Todd based on the cost to build parks that they have designed.

<sup>33</sup> Calculated using 2000 U.S. Census population data for Philadelphia census tracts 1, 10, 16, 17, 25, 26, 27, 42.01, 42.02, 43, 128, 129, 130, 142, 143, 158, 159, 160, 180 and 181. Exact population figure: 62,863. Does not include more recent population shifts, including the opening of Waterfront Square and the burgeoning neighborhood growth in areas such as Northern Liberties.

<sup>34</sup> Some developers may want to create two turn lanes to increase the volume of cars that can turn into their property on a single traffic signal. But unless there is a separate signal phase for turns and walking, pedestrians and cars are competing to travel during a single traffic-signal phase. Adding an additional signal phase would reduce the number of cars that could travel through the signal and largely offset the benefit of the second lane. Instead, we should increase the number of locations at which left turns from Delaware Boulevard are possible. Each new east-west street connection we create can accommodate one to two hundred more turns per hour. Multiple turn opportunities will create manageable crossings, allow more direct travel paths to different destinations and keep signal cycles relatively simple.

<sup>35</sup> At this point, the road is called Richmond Street.

<sup>35a</sup> The city has evaluated Walnut, Spruce, and Pine Streets as possible east/west streets that could be complete bicycle connections from river to river, though no bicycle lanes currently exist. Stretches of Chestnut and Market Streets were also evaluated.

<sup>36</sup> The city is soliciting proposals for such a plan, and it currently covers the central Delaware area, with the exception of the area from Frankford Avenue to Allegheny Avenue. The goal of the project is to create a comprehensive plan that identifies and helps prioritize strategies that will improve Philadelphians' ability to travel more safely and frequently on foot and bike. The project will be funded with a \$180,000 TCDI grant from the Delaware Valley Regional Planning Commission. The Pennsylvania Environmental Council has received a grant as well to study the "missing links" in the East Coast Greenway, an ambitious project to create a greenway from Maine to Florida. This study will include a detailed engineering study of east-west bicycle connections to the river, but it will not address north-south connections or pedestrian issues. The study is to be completed late in Summer 2008.

<sup>37</sup> Cost estimate is based on analysis from JzTI, a Philadelphia-based transportation and public-transit consultant.

<sup>38</sup> *Ibid.*

<sup>39</sup> Cost estimate is from the *Ridge Avenue Master Plan*, completed in September 2004 and adjusted for inflation, as well as from recent architectural projects by Kise Straw and Kolodner.

<sup>40</sup> Cost estimate is based on a recent local purchase of pedestrian streetlights.

<sup>41</sup> *New York City Comprehensive Waterfront Plan: Reclaiming the City's Edge* (Summer 1992).

## Footnotes, continued

<sup>42</sup> 2007–2008 Seattle Climate Action Plan, Progress Report, <http://www.seattle.gov/climate/docs/SeaCAP%20Progress%20Report2007.pdf>

<sup>43</sup> *Urban Planning Tools for Creating a Cooler, Greener Community: Implementation in the Community, Chicago Case Study* (July 2006).

<sup>44</sup> The average daily ridership on Bus Route 25 in 2006 was roughly 3,900 trips, up 12 percent from 2005.

<sup>45</sup> This estimate is based upon a large, articulated streetcar and a general traffic-lane estimate of eight hundred vehicles per hour per direction. We assume an average vehicle occupancy of 1.5 people. Transit capacity for a large, articulated streetcar is two hundred to 250 persons per vehicle, and achievable transit frequency is better than five minutes.

<sup>46</sup> Belt Line is a real-estate holding company whose main objective is to ensure non-discriminatory access to the Port of Philadelphia for any railroad. The Greater Philadelphia Chamber of Commerce controls 51 percent of the Belt Line.

<sup>47</sup> PATCO is controlled by the Delaware River Port Authority.

<sup>48</sup> “Southern New Jersey to Philadelphia Transit Study,” PATCO (October 2005).

<sup>49</sup> “Waivers to Allow Light Rail Trains to Share Track with Freight Trains Granted to San Diego, CA and Baltimore, MD,” *Railway Age* (February 2001), [http://findarticles.com/p/articles/mi\\_m1215/is\\_2\\_202/ai\\_71634644](http://findarticles.com/p/articles/mi_m1215/is_2_202/ai_71634644); “River Line,” *South New Jersey News* (August 11, 2004), <http://www.southjerseynews.com/lightrail/>

<sup>50</sup> The three transit route options that PATCO is considering are the following: (1). Old City to Pier 70 shopping center (with Home Depot and Wal-Mart): A streetcar or trolley route would run from the now-closed PATCO station at Franklin Square (at Sixth and Race Streets) to the riverfront along Florist Street, up Delaware Avenue to the proposed SugarHouse Casino and down Columbus Boulevard to the Pier 70 shopping center. Later extensions could be made to the stadium complex and to the Navy Yard. (2). A variation on that proposal would extend the existing SEPTA subway-surface trolley lines to Franklin Square through a tunnel under Arch and Cherry Streets before it would continue along the riverfront. Service would be provided every five minutes at peak and every twelve minutes in the off-peak, with travel times of five minutes from Franklin Square to Spring Garden Street and fifteen minutes from Franklin Square to Pier 70. (3). Juniper and Market to Pier 70: This would extend SEPTA’s subway surface trolley service under Market Street to Front Street, where it would cross I-95 and travel along the median of Columbus Boulevard, north to the proposed SugarHouse Casino and south to Pier 70. Later extensions could be made to the stadium complex and to the Navy Yard. PATCO is also investigating a surface rail alternative for this route. Paul Nussbaum, “Two Meetings Set on Waterfront Transit,” *Philadelphia Inquirer* (January 10, 2008).

<sup>51</sup> Chris O’Malley, “Desirable? Portland Makes It Work, But Viability Here Uncertain,” *Indianapolis Business Journal* (February 23, 2008).

<sup>52</sup> Based on analysis from JzTI, a Philadelphia-based transportation and public-transit consultant.

<sup>53</sup> Federal “New Starts” or “Small Starts” funding will be needed to finance the transit line. Historically, the federal government paid 80 percent of the total cost. Under President George W. Bush, the federal government has paid only 40 to 50 percent of the total cost of the line. It is unclear what the transit-grant policy of our next presidential administration will be.

<sup>54</sup> Alex Krieger, “On the Waterfront,” *Preservation Magazine* (February–March 2000).

<sup>55</sup> Paul Lonie, by e-mail and interview, Westrum Development shared typical road-construction costs based on road-building costs Westrum encountered in 2007.

<sup>56</sup> Telephone interview with Joe Myers, Cooper’s Ferry Development Association (November 29, 2007).

<sup>57</sup> Telephone interview with City Architect Michael Moore (December 6, 2007).

<sup>58</sup> South Waterfront Central District Project Development Agreement (August 22, 2003), [http://www.pdc.us/pdf/ura/north\\_macadam/project\\_development\\_agreement/project-development-agreement.pdf](http://www.pdc.us/pdf/ura/north_macadam/project_development_agreement/project-development-agreement.pdf). The cost estimates are from a specific exhibit of the agreement at [http://www.pdc.us/pdf/ura/north\\_macadam/8th-amendment-res\\_11-06/exhibit-i-1.pdf](http://www.pdc.us/pdf/ura/north_macadam/8th-amendment-res_11-06/exhibit-i-1.pdf) (downloaded March 11, 2008).

<sup>59</sup> Bill Kloos, “ITS and Sustainability: A System Operator’s Perspective,” Portland Office of Transportation (February 5, 2007), [http://egov.oregon.gov/ODOT/TD/TP\\_RES/docs/2008NWTC2008\\_presentations/1A\\_3\\_kloos.pdf](http://egov.oregon.gov/ODOT/TD/TP_RES/docs/2008NWTC2008_presentations/1A_3_kloos.pdf)

<sup>60</sup> Based on analysis from JzTI, a Philadelphia-based transportation and public-transit consultant.

<sup>61</sup> Thomas Barlas, “Bus Companies Ask SJTA to Withdraw New Route Plans,” <http://buses.org/files/PressofAtlanticCitystory.pdf>

<sup>62</sup> Rules and Regulations, Title 58. Recreation, Pennsylvania Gaming Control Board [58 PA. CODE CH. 439], Response to Public Comment, [http://www.pgcb.state.pa.us/Comments\\_Responses/junket/Junket\\_response.pdf](http://www.pgcb.state.pa.us/Comments_Responses/junket/Junket_response.pdf)

<sup>63</sup> Historic Streetcar Extension.org Frequently Asked Questions, National Park Service, <http://www.historicstreetcarextension.org/faq.htm> (downloaded March 19, 2008).

<sup>64</sup> A greenway is a corridor of undeveloped land set aside for recreational use, environmental preservation and nonmotorized transportation. A greenway can link parks, nature preserves, cultural features or historic sites. A greenway located along a river also can be termed a riparian buffer, which is a vegetated area adjacent to a water body that is fully or partially protected from human disturbance and therefore can protect the water body from pollution and restore habitat.

<sup>65</sup> *North Delaware Riverfront Greenway Master Plan* (2005). Completed by Pennsylvania Environmental Council, Econsult and Schelter and Associates. The plan also cites two National Park Service reports: “Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors” and “Rivers, Trails, and Conservation Assistance.”

<sup>66</sup> *North Delaware Riverfront Greenway Master Plan* (2005). Completed by Pennsylvania Environmental Council, Econsult, and Schelter and Associates.

<sup>67</sup> New York City Department of Environmental Protection Bureau of Water Supply, "City Efforts to Protect Riparian Buffer Areas" (July 31, 2004).

<sup>68</sup> Wenger, S., "A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation," University of Georgia, Office of Public Service and Outreach, Institute of Ecology (1999), p.12; "Riparian/Forested Buffer- Minimum Measure: Post-Construction Stormwater Management in New Development and Redevelopment," Environmental Protection Agency, [http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet\\_results&view=specific&bmp=82](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=82) (downloaded July 27, 2007).

<sup>69</sup> Ensuring a degree of flexibility in the required size of a greenway is important to ensure that we do not remove all or most of the value from a parcel. This can be addressed by building a system of "buffer averaging" into the zoning ordinance. This allows the buffer width to be reduced at certain points at which a small parcel cannot dedicate 100 feet of land at the water's edge for a buffer or greenway. Although buffer averaging will address many concerns, in some cases landowners will need to request a formal variance from the provisions of the greenway requirement.

<sup>70</sup> Seiber, 364 F.3d at 1368–69; Walcek, 303 F.3d at 1355–56; Machipongo, 799 A.2d at 769–70; *Mock v. Department of Environmental Resources*, 623 A.2d 940, 948–49 (Pa. Cmwlth. 1993), *aff'd* 653 A.2d 1234 (Pa. 1995), *cert. denied* 517 U.S. 1216 (1996) (holding that a regulation does not effect a taking simply because it deprives the property owner of the most valuable use of the property). See *Jones v. Zoning Hearing Board of the Town of McCandless*, 578 A.2d 1369, 1371 (Pa. Cmwlth. 1990) (reviewing ordinance that establishes restrictions on development to preserve woodlands, streams and steep slopes and finding no taking where landowner could not develop his property as intensively for residential purposes as he could prior to the ordinance, but nonetheless could still develop his land).

<sup>71</sup> "NJ 300-Foot Buffer Rule Upheld by Highest State Court" (October 11, 2006), <http://www.delawariverkeeper.org/newsresources/pressrelease.asp?ID=27>

<sup>72</sup> *Manhattan Waterfront Greenway Master Plan* (November 2004), [http://www.nyc.gov/html/dcp/pdf/transportation/mwg\\_full.pdf](http://www.nyc.gov/html/dcp/pdf/transportation/mwg_full.pdf) (downloaded March 13, 2008).

<sup>73</sup> Pennsylvania Statutes Annotated, title 68, sections 477-1 et seq.

<sup>74</sup> On the north Delaware and the Schuylkill Banks trail, this is done by providing ownership or a right-of-way to the Fairmount Park Commission.

<sup>75</sup> Alan Jaffe, "Buck Stops at the Infrastructure," Plan Philly (October 2007).

<sup>76</sup> Constructed wetlands are artificial versions of natural wetlands, using shallow bodies of standing water filled with reeds and other wetland vegetation to filter the water. Urban wetlands have been restored along the Chicago River and Denver's Platte River. As a part

of Chattanooga's 21st Century Waterfront project, the city built a 1.5-acre wetland, as well as a flooded forest and historical and recreational features, on a 23-acre downtown industrial brownfield site that contained drainage areas.

<sup>77</sup> Kreeger, D. "Signature Ecological Traits of the Delaware Estuary: Tidal Freshwater Wetlands," *Concepts in Delaware Estuary Science and Management* (No. 05-01, 2005), Partnership for the Delaware Estuary.

<sup>78</sup> Steve Lerner and William Poole, *The Economic Benefits of Parks and Open Space, The Trust for Public Land* (1999), p. 41, citing a study of a 3-mile stretch of Georgia's Alchey River. Studies have similarly attempted to value the habitat and flood-prevention functions of wetlands.

<sup>79</sup> Section 404 of the Clean Water Act, administered by the U.S. Army Corps of Engineers with oversight by the U.S. Environmental Protection Agency, gives owners who place fill in wetland areas the legal and financial responsibility to restore degraded wetlands not affected by the permitted fill or to create new wetlands.

<sup>80</sup> When Hurricane Isabel hit in 2003, the Anne Arundel County shoreline experienced significant damage along bulkheads, but where there was a natural shoreline with wetlands, very little damage occurred at the shoreline. Lara Lutz, "Shoring up Coasts Against Erosion: Living Shorelines Are the Latest Front in Battle to Control Sediment Loss, Preserve Habitat," *Alliance for the Chesapeake Bay Journal* (November 2005), <http://www.bayjournal.com/article.cfm?article=2651> (downloaded March 11, 2008).

<sup>81</sup> Interview with Elmer Boles, Boles Smyth Associates (March 13, 2008).

<sup>82</sup> Estimates based upon bulkhead replacement along the Schuylkill River by Elmer Boles, Boles Smyth Associates.

<sup>83</sup> John C. Kuehner, "Putting Curbs on the Cuyahoga River: 'Green' Bulkheads Are Planners' Vision," *Plain Dealer Reporter* (November 11, 2006), <http://www.cuyahogariverrap.org/newsgreenbulkhead.html>

<sup>84</sup> Bulkheads are being replaced with natural shoreline along the Harlem River. For details on the natural shoreline construction process, go to "Designing the Edge, Harlem River Park" (2006), <http://www.nyswaterfronts.com/downloads/pdfs/On%20The%20Edge%20News%20Final.pdf>

<sup>85</sup> "Results of the FHWA Domestic Scan of Successful Wetland Mitigation Programs," U.S. Department of Transportation, Federal Highway Administration, <http://www.fhwa.dot.gov/environment/wetland/scanrpt/pa.htm> (downloaded March 11, 2008).

<sup>86</sup> Costs provided by Dr. Marcha Johnson, landscape architect with New York City Department of Parks and Recreation and a project leader for Designing the Edge at the Harlem River Park.

<sup>87</sup> *Renovating Post-Industrial Landscapes—The North Delaware Riverfront, Philadelphia*. Study conducted for the Pennsylvania Environmental Council. Report written by Field Operations, Fall 2001. [http://www.pecpa.org/\\_final\\_pec/DelRivRepCh5Ch6.pdf](http://www.pecpa.org/_final_pec/DelRivRepCh5Ch6.pdf)

# Photo Citations

- "Battery Park." Photograph. *Panoramio: h2chu*. Available from Panoramio: <http://www.panoramio.com/photo/3480897>. Accessed 25 April 2008.  
Battery Park City Photo Collection. Steve Stainbrook. (RWP)
- "Bike Lane Built for Two." Photograph. *Kyle Grading*. Available from Flickr: <http://www.flickr.com/photos/kgrading/2367382978/>. Accessed 5 May 2008. (RWP)
- "Boston Skyline from Piers Park." Photograph. *Flickr.com: AntyDiluvian*. Available from Flickr: <http://www.flickr.com/photos/antydiluvian/771524517/>. Accessed 25 April 2008.  
Central Delaware Riverfront Photograph Collection. Andrew Goodman. (RWP)  
Central Delaware Riverfront Photograph Collection. Harris Steinberg. (RWP)  
Central Delaware Riverfront. Photograph. *PhillySkyline photos*. Available from Bradley Maule, PhillySkyline: [www.phillyskyline.com](http://www.phillyskyline.com). Accessed 1 January 2007. (RWP)  
Chattanooga Riverfront Photo Collection. *Mark S. Wurst Photography*. Available from <http://www.mswphoto.com/chatt.html>. Accessed 6 July 2007.
- "CIMG1593." Photograph. *dav\_eros*. Available from Flickr: <http://www.flickr.com/photos/daveros/214986520>. Accessed 5 May 2008.
- "Clayton Lane Retail." Photograph. Available from AmCap Properties, Inc.: <http://www.claytonlaneretail.com/>. 2006.  
Diagram by David Baker + Partners.
- Fishman, Connie. "Hudson River Park: The Rebirth of the Waterfront." PowerPoint presentation, 3 February 2007. (RWP)
- "Golden Gate Park." Photograph. *Flickr.com: p3p510*. Available from Flickr: <http://www.flickr.com/photos/p3p510/267518634/>. Accessed 25 April 2008.
- "Ground Zero." Photograph. *Panoramio: maix*. Available from Panoramio: <http://www.panoramio.com/photo/262801>. Accessed 25 April 2008.
- "IMG\_4558." Photograph. *Panoramio: tomtom1989*. Available from Panoramio: <http://www.panoramio.com/photo/95911>. Accessed 25 April 2008.
- "John Heinz National Wildlife Refuge at Tinicum." Photograph. *User: Tmarinucci*. Available from Wikipedia:  
<http://upload.wikimedia.org/wikipedia/commons/5/5e/TinicumNWR.jpg>. Accessed 25 April 2008.
- Kreiger, Alex. "Philadelphia Waterfront Best Practices Session.", PowerPoint presentation, 3 February 2007. (RWP)
- "little rock river trail." Photograph. *yo kelley yo*. Available from Flickr: <http://www.flickr.com/photos/craftyasschick/520361445/>. Accessed 5 May 2008.
- "Louisville Waterfront Park." Photograph. The Waterfront Center: <http://www.waterfrontcenter.org/>. Accessed 1 June 2005.
- "Millennium Park." Photograph. Available from the GreenRoof Project Database: <http://www.greenroofs.com/projects/pview.php?id=459>. Accessed 1 October 2007.
- "New York from Heli, Manhattan, WTC." Photograph. *Kamil Macniak*. Available through Panoramio: <http://www.panoramio.com/photo/231595>. Accessed 1 October 2007.
- "Portland South Waterfront Urban Design." Photograph. *Kyle Grading*. Available from Flickr: <http://www.flickr.com/photos/kgrading/2248100740/sizes/l/>. Accessed 21 February 2008. (RWP)
- "Portland Streetcar." Photograph. *iStockphoto: gocosmonaut*. Available from iStockphoto:  
[http://www.istockphoto.com/file\\_closeup/object/4946412\\_portland\\_streetcar.php?id=4946412](http://www.istockphoto.com/file_closeup/object/4946412_portland_streetcar.php?id=4946412). Accessed 20 April 2008. (RWP)
- "Riverwalk." Photograph. *Louisville Images*. Available from Flickr: <http://www.flickr.com/photos/louisvillemetro/2066305180/>. Accessed 5 May 2008.
- "Saint Paul Panorama." Photograph. *iStockphoto: chimpyk*. Available from iStockphoto:  
[http://www.istockphoto.com/file\\_closeup/nature/weather/clouds/3512174\\_saint\\_paul\\_panorama.php?id=3512174](http://www.istockphoto.com/file_closeup/nature/weather/clouds/3512174_saint_paul_panorama.php?id=3512174). Accessed 20 April 2008. (RWP)  
Waterfront Case Studies Photograph Collection. Andrew Goodman. (RWP)

RWP = Image reprinted with the permission of copyright holder or the photographer.