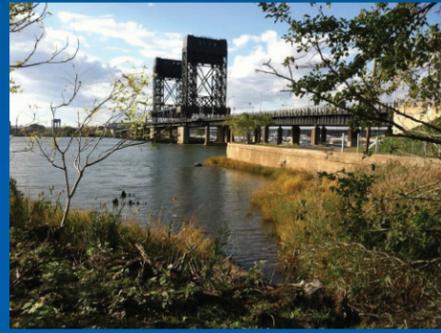




City of Jersey City



# MORRIS CANAL GREENWAY PLAN







City of Jersey City

Morris Canal Greenway Plan

Prepared for the City of Jersey City

Department of Housing, Economic Development and Commerce  
Division of City Planning

Prepared by The RBA Group



With assistance from:

- Heritage Strategies, Inc.



- AmerCom, Corp.



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Dear Friends,

I am pleased to present the Morris Canal Greenway Plan. While a greenway on the former Morris Canal right-of-way has been contemplated for many years, this report is the first comprehensive plan for a continuous greenway between the Hackensack and Hudson Rivers. Key products of this collaborative effort include short-term and long-term alignments, Design Guidelines, an Interpretive Development Plan, and recommendations for implementation.

The Morris Canal Greenway will be a linear park that provides much-needed space dedicated to bicyclists and pedestrians for circulation and recreation. The Morris Canal Greenway will build on the City’s network of local bicycle and pedestrian facilities and will provide connections to regional greenways, including the East Coast Greenway and the Hudson River Waterfront Walkway. It is envisioned that the Morris Canal Greenway in Jersey City will be part of a regional facility too, as the eastern terminus of a greenway on the former Morris Canal across northern New Jersey with a western terminus in Phillipsburg, NJ.

The Morris Canal Greenway will also preserve and celebrate the historic significance of the Morris Canal, which is listed on the State and National Registers of Historic Places and the Historic American Engineering Record. Built over 180 years ago to transport coal from Pennsylvania to New York City, the Morris Canal was an engineering marvel that served as a model for other canals around the world. The Morris Canal was infrastructure vital to Jersey City’s industrial past.

Today, we have an opportunity to re-use and transform the Morris Canal into infrastructure that supports 21<sup>st</sup> century goals of sustainability and “green” cities. Through interpretive signs and public art, the Morris Canal Greenway will tell the stories of the canal, the industries it supported, and the people who once lived and worked in our city. The Morris Canal Greenway will not only connect people to destinations around Jersey City but will connect residents and visitors alike to our vibrant history.

Robert D. Cotter, PP, FAICP  
Director



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## Introduction

### Project Purpose and Scope of Work

The City of Jersey City recognizes greenways as a way to provide open space, recreation and transportation opportunities. The 18½-mile Hudson River Waterfront Walkway is currently the only major off-street facility that can be used by bicyclists and pedestrians for long-distance travel, providing access to destinations along the eastern waterfront of Jersey City and beyond. The proposed Morris Canal Greenway would be a linear bicycling and walking route that can be used to access public destinations across the interior of the city and link the Hudson and Hackensack Rivers.

The purpose of this study is to prepare a plan for a bicycle and pedestrian greenway that is, to the greatest extent possible, on the six-mile former right-of-way of the historic Morris Canal in Jersey City.

Previous planning efforts that have contemplated a greenway on the Morris Canal alignment were piecemeal and a comprehensive approach was needed. Land uses and property ownership along the Morris Canal corridor have evolved and changed since 1836, when the canal section through Jersey City was first constructed. The alignment of the Morris Canal Greenway will be convenient to parks, schools,

and neighborhoods as well as to the waterfront, commercial areas, and workplaces. As Jersey City’s population is anticipated to grow dramatically in the coming years<sup>1</sup>, the addition of a greenway that spans the city would provide a valuable new transportation corridor and, like the Hudson River Waterfront Walkway, increase park, recreation and open space for residents and visitors. The *Circulation Element of the Jersey City Master Plan* references the Morris Canal Greenway as a facility that has the potential to address the need for improved circulation and recreational opportunities for bicycling and walking. A greenway on the Morris Canal is also consistent with the *City’s Recreation and Open Space Master Plan*.

The primary objective of this plan is to identify an alignment that will guide all parties critical to its implementation, including property owners, city government and others. Crossing many properties, the greenway will be a collaborative effort and its development will take place incrementally and over an extended timeframe. This document addresses the overall process, focusing on an alignment to be

“With its 15 square miles, estimated population of 260,712 residents and highly-developed, multi-modal transportation system, Jersey City is arguably New Jersey’s fastest-growing municipality and has one of the highest modal splits in the United States.”

*Circulation Element of the Jersey City Master Plan, Amended June 14, 2011*



Located at the Essex Station of the Hudson-Bergen Light Rail in Jersey City, this sculpture portrays a slave family escaping across New Jersey on a Morris Canal boat.

<sup>1</sup> NJTPA projects a 16% increase in Jersey City population, a 22.9% increase in households and a 19% increase in employment. Jersey City Master Plan Circulation Element, Amended June 14, 2011

achieved over the long-term.

The plan also addresses strategies for the short-term. Implementing a continuous Morris Canal Greenway route for bicycling and walking can make use of existing sidewalks and streets. The plan proposes a short-term alignment that follows the canal corridor closely. This will make it convenient to shift the route to the off-street segments as they are constructed.

### A Greenway through Jersey City – a Future Vision

Greenways are corridors of open space managed for conservation, recreation and transportation purposes. Greenways often follow natural land or water features, and link nature reserves, parks, cultural features, historic sites, and other public spaces with each other and with populated areas. The long-term vision for the Jersey City Morris Canal Greenway is an off-street facility to the greatest extent possible. However, sections of both the short-term and long-term greenway will include a combination of sidewalks, separated bikeways and shared-use paths to create one linear route that follows the historic canal alignment as closely as possible. Although the on-street sections will not be a ‘greenway’ in the traditional sense, for the purposes of this study, ‘greenway’ is used to describe both the on-street and off-street conditions.

The following vision describing the Morris Canal Greenway through Jersey City was developed by the project’s Steering Committee.

*Stretching 8.5 miles around the southern half of the city, the Morris Canal Greenway in Jersey City is a world-class bicycle and pedestrian destination. Built upon one of Jersey City’s greatest historic resources – the Morris Canal, the Greenway celebrates the City’s industrial past while providing safe access for residents and visitors to neighborhoods, parks, schools, businesses, attractions, and transit. The Morris Canal Greenway is both an educational tool for displaying Jersey City’s history and regional significance and a lasting source of community pride.*

### Plan Organization

The plan is presented in four parts:

Part 1, “Alignment” is a summary of two technical memorandums that were developed over the course of the project:

- Technical Memorandum 1: Data Findings, Opportunities and Constraints Mapping
- Technical Memorandum 2: Alignment Opportunities and Constraints

Part 1 covers the Morris Canal Greenway Vision and Goals that were crafted with the help of a project Steering Committee. A description of the public outreach efforts conducted throughout plan development is also included. Part 1 provides an overview of the methodology and route selection process, and presents both the proposed long-term and short-term alignments.

Part 2, “Design Guidelines,” suggest materials, furnishings and design treatments to consider as greenway development advances. These concepts are intended as a guide for those who design each greenway

segment. The greenway passes through a variety of land use contexts, e.g. residential, commercial, and industrial. There is not a “one size fits all” approach for design elements, although some elements can and should be applied consistently to reinforce the Morris Canal Greenway identity.

Part 3, “Interpretive Development Plan,” lays out an approach and recommendations for interpreting the history of the greenway to the public, that is, telling the story of the Morris Canal. A collaborative approach to interpretive planning is critical to achieving a primary objective of the Morris Canal Greenway – the display of Jersey City’s history and regional significance.

Part 4, “Implementation,” presents strategies and recommendations that support greenway development. The plan outlines potential partnerships, funding opportunities, and cost estimates. Specific recommendations regarding ways to incorporate the greenway into redevelopment plans, the City’s land development ordinance and master plans are also covered.

### The Morris Canal - A Waterway through the City

In operation between 1831 and 1924, the Morris Canal stretched 102 miles across New Jersey connecting the coalfields of northeastern Pennsylvania with northern New Jersey’s iron industry, major industrial cities, and the New York City markets. In 1831, the Morris Canal terminated in Newark at the Passaic River, but was extended through Jersey City in 1836. The Morris Canal in Jersey City traveled around the upland Palisades formation in the southern half of the city and linked the Hudson and Hackensack Rivers. This brought goods from Pennsylvania and northern New Jersey to the Hudson River Waterfront. It also brought new business and industries to Jersey City.

The Morris Canal was an engineering marvel of its time. Although flat through Jersey City, a system of 23 lift locks and 23 inclined planes enabled the Canal to overcome 1,674 feet of elevation change across northern New Jersey, more than any other transportation canal in the world. Its inclined planes served as a model for engineers from around the world. The Canal’s historic engineering artifacts have been captured in the Historic American Engineering Record, a program established by the National Park, the American Society of Civil Engineers, and the Library of Congress to document historic mechanical and engineering artifacts.

Competition from faster, more efficient railroads at the end of the 19th century led to the Canal’s decline, and eventually to its closing in the 1920s. The Morris Canal was crucial to the economy and development of northern New Jersey and is a significant historic feature of the State. In Jersey City, all sections of the Canal are listed on the State and National Registers of Historic Places.

### Regional Significance

The Morris Canal Greenway can connect bicycle and pedestrian facilities within Jersey City, such as the paths in Lincoln Park, the East Coast Greenway, the Liberty-Water Gap Trail, the Hudson River Waterfront Walkway, the City’s growing on-street bicycle network, and the planned park and walkway along the Hackensack River. Furthermore, there may be opportunities to connect the Morris Canal Greenway beyond Jersey City. There has been a long-standing effort to establish a contiguous greenway across the state of New Jersey along the 102 mile path of the historic Morris Canal. Various municipalities and counties across the state have created public spaces along the path of the Morris Canal.



The historic Morris Canal ROW across New Jersey. The section of the canal in Jersey City is shown in the black box.

Creating a greenway on the former Morris Canal will benefit residents and visitors alike. Greenways support healthy lifestyles and improve communities by providing not only recreation and transportation opportunities, but also by influencing economic and community development. The Morris Canal Greenway Steering Committee identified these benefits from developing the greenway:

- Improved public health from expanded recreational amenities and access to open space
- Growth in the number of residents walking and bicycling for recreation and transportation
- Greater awareness of existing attractions and the creation of a new destination
- Renewed connection between the community and its history
- Preservation of culturally and historically valuable sites
- Restoration and enhancement of the natural environment through green infrastructure
- Support the local economy by attracting visitors interested in heritage and ecotourism
- Connections within Jersey City and between the City and the surrounding communities

## Stakeholder and Public Outreach

Public participation was an important component throughout the development of this study. Community involvement for this project can be divided into two groups, stakeholder and public. Engaging stakeholders and the public involved a combination of coordinated strategies.

### Outreach Activities

- Steering Committee
- Stakeholder Interviews
- Focus Group Meetings
- Project Website
- Public Meetings

## Stakeholder Input

### Steering Committee

The first step in the outreach process was to establish a Steering Committee to guide the project and provide input and feedback throughout the project's duration. The Steering Committee included representatives from agencies whose involvement and support are necessary to advance the greenway including Jersey City Mayor's Office, Jersey City Division of City Planning, Jersey City Redevelopment Agency, Jersey City Division of Engineering, Jersey City Department of Business Administration, Jersey City Division of Architecture, NJDEP, NJDOT Office of Bicycle and Pedestrian Programs, NJDOT Capital Investment Planning, NJ TRANSIT, NJTPA, Port Authority of NY and NJ, Liberty State Park, Hudson County Division of Planning, Hudson County Division of Engineering, Hudson Transportation Management Agency (TMA), Town of Kearny, City of Bayonne, Canal Society of New Jersey, Jersey City Landmarks Conservancy, and Bike JC.



Steering Committee members identify opportunities and constraints along the Morris Canal Alignment

Responsibilities of the Steering Committee included:

- Developing, guiding and participating in community involvement activities.
- Providing relevant documents and data to the project team.
- Reviewing and providing feedback on draft and final project interim reports and documents throughout the study.

Four steering committee meetings were held during the project. The purpose of the first meeting was to establish a greenway vision, review the original Morris Canal alignment, identify route selection criteria, discuss opportunities and constraints that influence the greenway alignment, share data and information, and confirm a plan to engage the public and stakeholders in the greenway planning process.

The purpose of the second meeting was to review existing conditions, present the methodology used to develop potential alignments, get feedback on the preliminary proposed short-term and long-term alignments, discuss the purpose of design guidelines, and inform attendees of the first public workshop.

The purpose of the third meeting was to review and discuss the draft Design Guidelines, present an overview of the draft Interpretive Development Plan, explain the revised proposed short-term and long-term alignments, and talk about implementation strategies.

The purpose of the fourth and final steering committee meeting was to review the final draft plan and implementation strategies and prepare for the second public workshop. Meeting memoranda for all steering committee meetings are in the appendices of this report.

### Stakeholder Interviews

Interviews with key stakeholders were conducted during the development of the Interpretive Development Plan to obtain insights about interpretive resources and themes. Discussions were held with representatives from Liberty State Park, Canal Society of New Jersey, the New Jersey Room of the Jersey City Free Public Library New Jersey Room, Jersey City Economic Development Corporation, and the Jersey City Landmarks Conservancy. These conversations provided insight into historical context and related local activities and organizations.

### Focus Group Meetings

During a project, it is important to reach out to specific populations and agencies that may have special concerns and interests related to the project. Two targeted meetings/focus groups were held during the project's planning process with representatives of City offices and agencies. The purpose of the first focus group meeting was to finalize the long-term route, including refining the greenway alignments through redevelopment plan areas and city properties. Potential obstacles were identified and the status of redevelopment and city projects were discussed. The second focus group meeting was a discussion of potential appropriate actions, responsible parties, time frame, and phasing for implementation. The participants' input helped craft a feasible strategy for implementation that considers constraints and opportunities.

## Public Input

### Project Website ([www.jcmcgreenway.org](http://www.jcmcgreenway.org))

A project website was used to extend the reach of community involvement. The website served as a repository of information, a venue for discussion, and a place to get the latest project updates and news. Steering Committee meeting memos, public meeting notices, and draft work products were posted on the website. An interactive map permitted the public to identify specific locations and make notes and comments about that location to inform the plan. Another important feature of the website was the ability to subscribe to the website for automatic notification when new materials



The project website homepage

were posted. This served those outside of the Steering Committee who were interested in following the planning process beyond attending the two public workshops. Contact information was posted to allow comment throughout the process. Key sections of the site were in both Spanish and English.

### **Public Meetings**

Two public outreach meetings were held over the course of the project. The first public workshop was held on October 3, 2012, to introduce the project to the public and to provide an opportunity for public input on the alignment options, future design, and any other perspectives that might inform the development of the plan. The workshop was divided into three formats – open house, presentations, and interactive mapping exercise. The meeting formats gave opportunities for both one-on-one and group discussion. In addition, attendees were provided with comment sheets.



**Attendees participating in a mapping exercise during the first public meeting.**

A second public meeting was held on May 15, 2013, to review the draft final report, including the Design Guidelines and the implementation strategies. The emphasis of the meeting was on “getting the word out” and generating public enthusiasm for the Morris Canal Greenway and an understanding of how it will look, how it will be constructed, and ways to participate in the process. The format of the second public meeting was an open house with a formal presentation midway.

The meetings were advertised on the project website, the City’s website, and on the cultural calendar of the Jersey City Independent online newspaper. Display ads were published in *The Jersey Journal*. Steering Committee members distributed information and extended invitations to the organizations they represented. Flyers were prepared and distributed. The City issued press releases to announce the meetings.

Workshop materials were available in English and Spanish.

# PART I: ALIGNMENT



## Part 1: Alignment

### Existing Conditions along the Historic Morris Canal Alignment

From 1836 until 1924, the Morris Canal in Jersey City followed a 6-mile course around the southern half of the City, avoiding the steeper grades of the upland Palisade formation and linking the Hudson and Hackensack Rivers. Most of the right-of-way has been filled in, and the fairly consistent grade of the circuitous route makes a proposed greenway manageable and attractive for walking and bicycling. Opportunities and constraints were determined based on GIS mapping, input from the Steering Committee, and a review of related plans. The study used the New Jersey Department of Environmental Protection (NJDEP) New Jersey Canals geographic information system (GIS) layer as a guide to locate the original route of the Morris Canal in the City of Jersey City.

The focus of the data collection and analysis was on the canal corridor and the area within a quarter mile of the corridor. A quarter mile is the distance that is most likely to be considered walkable by the greatest number of pedestrians. Several general opportunity categories were identified that would support the implementation of bicycle and pedestrian facilities along the former path of the Morris Canal. The categories include proximity to schools and other community features, proximity to transit and connectivity to existing and planned facilities. An environmental screening of the corridor was also conducted.

### Connectivity to Recreation Facilities & Community Features

The former Morris Canal right-of-way passes near or through residential neighborhoods, schools, parks, recreational facilities, trails, retail areas, and community centers. A greenway connecting all of these areas would encourage people to walk and bicycle for recreation as well as transportation. The path of the former Morris Canal has the potential to connect schools, neighborhoods, parks, Hudson Bergen Light Rail (HBLR) stations and bus stops as well as other bicycle and pedestrian facilities including the East Coast Greenway, Hackensack River Waterfront Walkway, Hudson River Waterfront Walkway and park trails. See Map 1: Proposed Long-Term Alignment and Recreation Facilities and Community Features.

Within a quarter mile of the former alignment of the Morris Canal there are:

- 20 schools
  - 18 in Jersey City, 2 in Bayonne
  - 8 public, 9 private, 3 charter
  - 11 elementary schools, 4 elementary/middle schools, 1 middle school, 3 high schools, and 1 special elementary school for children with autism
- 1 college (New Jersey City University)
- 24 municipal, county and state parks totaling 1,489 acres
- 2 planned parks which will add an additional 50 acres
- 3 ballfields
- 2 recreation centers
- 24 houses of worship



- 6 neighborhoods as defined by the Jersey City Economic Development Corporation<sup>2</sup>
- 3 health centers and a hospital

**Transportation**

There are multiple opportunities to connect to public transit and alternative transportation options. See Map 2: Transportation Connections to the Long-Term Alignment. Within a quarter mile of the Morris Canal alignment there are:

- 5 Hudson-Bergen Light Rail stations
- 153 NJ TRANSIT bus stops for 10 different NJ TRANSIT bus lines
- 31% of the City’s existing signed bicycle network

**Historic Features, Properties & Districts**

Establishment of a greenway would not only increase the recreational space in the City, it would also help to preserve culturally and historically valuable areas. This study identified 20 historic features along the former alignment of the Morris Canal. Some of the noteworthy canal features in Jersey City include the tide lock (22 east), the Little Basin, the Tidewater Basin (Morris Canal Big Basin), the Mill Creek outlet lock, and the tide lock (21 East), the pump house, the basin, and associated features on the Hackensack River. There are remnants of physical structures visible in the field for 12 of the 20 identified features. These features offer an opportunity to “tell the story” of the Morris Canal. See Map 3: Historic Features, Properties and Districts.

In addition, within a quarter mile of the corridor there are:

- 509 listed, identified or eligible Historic Properties
- 10 listed, identified or eligible Historic Districts including the Morris Canal Historic District

Listed Historic Properties and Districts are included in the New Jersey or National Registers of Historic Places. Eligible Properties and Districts have been determined eligible for inclusion through federal or state processes as administered by the New Jersey Historic Preservation Office. Identified Properties and Districts have been identified through cultural resource survey or other documentation on file at the New Jersey Historic Preservation Office.

**Environmental Conditions**

Within a quarter mile of the Morris Canal alignment there are:

- 161 known contaminated sites
- 47 chromate sites
- 12 groundwater contamination locations
- 9 areas of NJDEP wetlands
- 4 areas of species-based habitat including:

- Rank 5 federal listed – shortnose sturgeon
- Rank 4 state endangered – peregrine falcon
- Rank 3 state threatened – black-crowned night-heron
- Rank 3 state threatened – cattle egret

The presence of environmentally-sensitive areas on or near the former Morris Canal right-of-way does not necessarily preclude a greenway; mitigation may be possible. Many transportation corridors are contaminated from years of industrial use. Greenway development can be an opportunity to return these hazardous sites to safe and productive use. Many trails and greenways have taken advantage of brownfield funding, including Rhode Island’s Woonasquatucket River Greenway Project, the Elkins Railyard redevelopment in West Virginia, and the Assabet River Rail Trail in Massachusetts.

Based upon a review of NJDEP GIS based environmental mapping and aerial photography, the project area minimally impacts wetlands and/or wetland transition area in two locations, one along Caven Point Road and one near the US 1&9 Bridge. Due to the NJDEP GIS-mapped presence of threatened/ endangered species/ habitats within the immediate vicinity of these two areas, there is the potential that these two wetland areas will be considered to be classified as exceptional resource value with an associated 150’ wide wetland transition area. Wetlands and/or waters impacted by proposed project improvements will require wetlands permits and/or transition area waivers from NJDEP in accordance with the New Jersey Freshwater Wetlands Protection Act. See Map 4: Environmental Conditions.

<sup>2</sup> The neighborhood map developed by the Jersey City Economic Development Corporation can be found in the appendices.

Map 1: Proposed Long-Term Alignment and Recreation Facilities & Community Features



## Jersey City Morris Canal Greenway Plan Proposed Long-Term Alignment and Recreation Facilities & Community Features



### Legend

- █ Proposed Long-Term Alignment
- █ Historic Morris Canal Alignment
- Schools
- Community Features
- █ Bikeway Network
- █ Trails
  - █ East Coast Grnwy
  - █ Improved
  - █ Proposed
  - █ Unimproved
- Parks**
  - Existing
  - Planned
  - Private

Schools Located within a 1/4 mi. of the Historic Morris Canal Right-of-Way

ID	SCHOOL	Type	Grades
0	Schomburg Charter School	Charter	Elementary School
1	Soaring Heights Charter School	Charter	Elementary / Middle School
2	University Academy Charter School	Charter	High School
3	Joseph School of Tomorrow	Private	Elementary School
4	Waterfront Montessori	Private	Elementary School
5	Marist High School	Private	High School
6	First Christian Pentecostal Academy	Private	Elementary / Middle School
7	I.E.F. Al-Ghazaly	Private	Elementary School
8	Our Lady Of Czestochowa	Private	Elementary / Middle School
9	Our Lady Of Mercy	Private	Elementary / Middle School
10	Resurrection School - Brunswick Campus	Private	Elementary School
11	St Peter's Prep	Private	High School
12	Number 22 Elementary School	Public	Elementary School
13	Woodrow Wilson No. 10 Elementary School	Public	Elementary School
14	Alexander D. Sullivan No. 30 Elementary School	Public	Elementary School
15	Cornelia F. Bradford No. 16 Elementary School	Public	Elementary School
16	Frank R. Conwell No. 3 Elementary School	Public	Elementary School
17	Fred W. Martin No. 41 Elementary School	Public	Elementary School
18	N.J. Regional Day School - Jersey City	Public	Special Elementary / Secondary School
19	Number 4 Middle School	Public	Middle School

Selected Community Features within a 1/4 mi. of the Historic Morris Canal Right-of-Way

Label	Usage	Name	Label	Usage	Name
0	Church	7th Day Adventist Church	18	Church	Mt. Olive Baptist Church
1	City Hall	City Hall	19	Church	Church of God in Christ Temple
2	Church	First Pentecostal Church of God	20	Health Center	Spectrum Health Care
3	Church	New Bethel Baptist Church	21	College	New Jersey City University
4	Hospital	JC MEDICAL CENTER	22	Church	Liberty Temple of Christ Inc.
5	Church	NY Dist. Adv. Bd. Church of the Nazarene	23	Synagogue	Congregation B'Nai Jacob
6	Rec. Center	St. Peter's Recreation Center	24	Church	St. Johns A.M.E. Church of J.C.
7	Church	Sts. Peter and Paul Russian Church	25	Fire House	Fire House Engine #10
8	Church	Church of Assumption/All Saints	26	Church	Church of the Covenant UIM
9	Church	Pentecostal Antioquia Iglesia	27	Church	Monumental Baptist Church
10	Church	St Peter's Preparatory School	28	Church	Monumental Baptist Church
11	Church	Church of Our Lady of Czestochowa	29	Church	Monumental Baptist Church
12	Comm. Center	C.A.S.E. Community Center	30	Church	St. Mary's Greek Catholic Church
13	Church	Orient Church of God	31	Church	Cornerstone Church of Christ
14	Boathouse	Liberty State Park Boathouse	32	Health Center	Jersey City Medical Center
15	Rec. Center	Boys & Girls Club of Hudson County	33	Church	St. Matthews Baptist Church
16	Health Center	Hogar Crea of N.J., INC.	34	Church	Cityline Church
17	Church	Mt. Sinai Gospel Church			

Data Sources: NJDEP - Morris Canal alignment, Parks; City of Jersey City - Civic Points/Community Features; Hudson County - Trails, Parks; NJOIT OGIS - Schools.



Map 2: Transportation Connections to the Long-Term Alignment



Jersey City  
Morris Canal Greenway Plan

Transportation  
Connections to the  
Long-Term Alignment



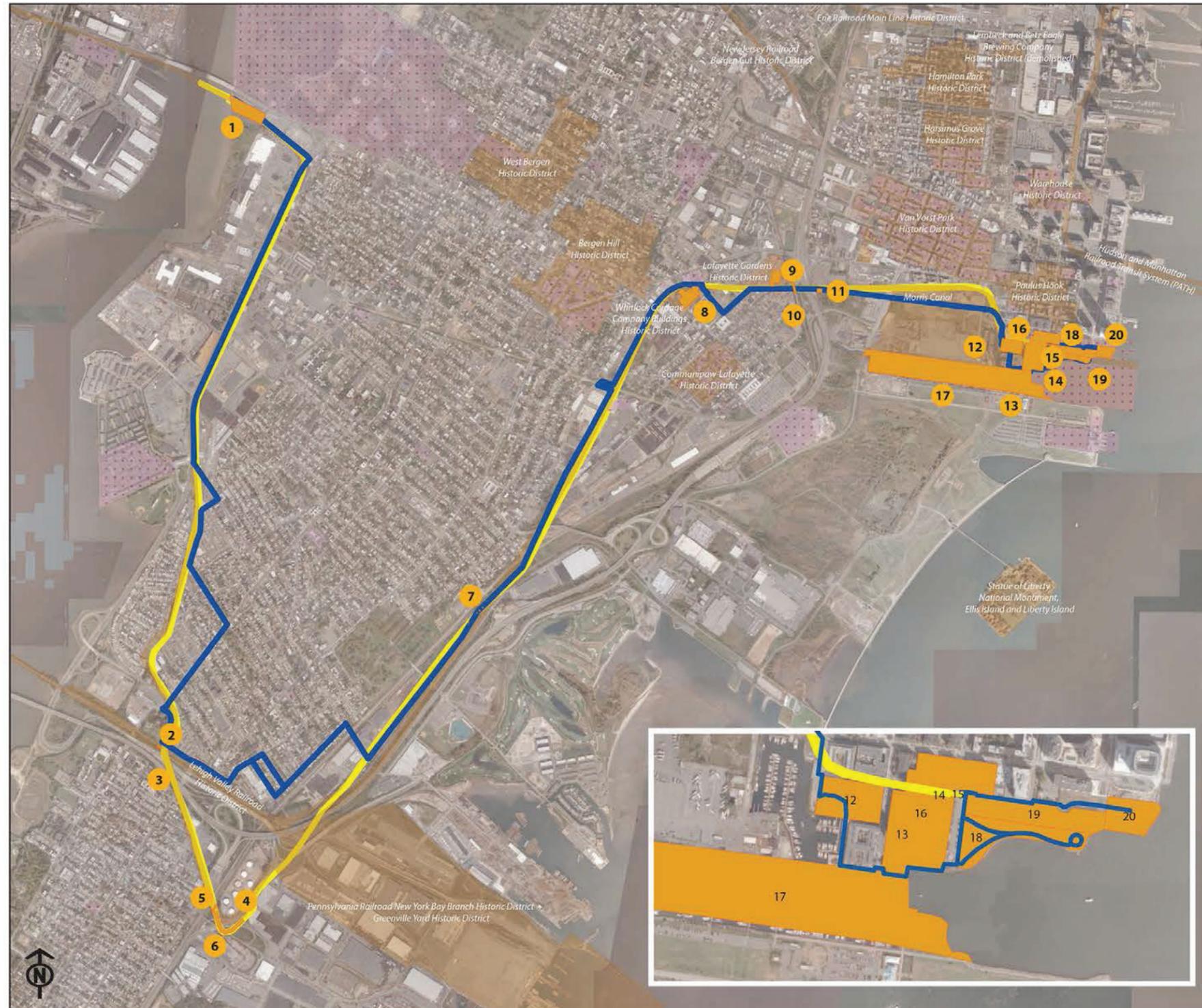
May 2013

Legend

- Proposed Long-Term Alignment
- Historic Morris Canal Alignment
- X Long-Term Alignment crosses active rail
- Long-Term Alignment crosses major roadway
- PATH Station
- HBLR Station
- NJ TRANSIT Bus Stop
- NJ TRANSIT Bus Route
- Signed Bikeway Network
- East Coast Greenway
- - - Trail - Existing
- - - Trail - Proposed
- +— Active Rail
- +— LPA for HBLR Extension
- - - Inactive/Abandoned Rail

Data Sources: NJDEP - Morris Canal alignment; NJTRANSIT - PATH stations, HBLR stations, NJ Transit Bus Routes; City of Jersey City - Bikeway Network, LPA for HBLR Extension; NJDOT - Rail lines.

Map 3: Historic Features, Properties & Districts



Data sources: NJDEP - Morris Canal Alignment, Historic Properties (listed & eligible), Historic Districts (listed & eligible); RBA Cultural Resource Unit - Historic Features

## Jersey City Morris Canal Greenway Plan Historic Features, Properties & Districts



May 2013

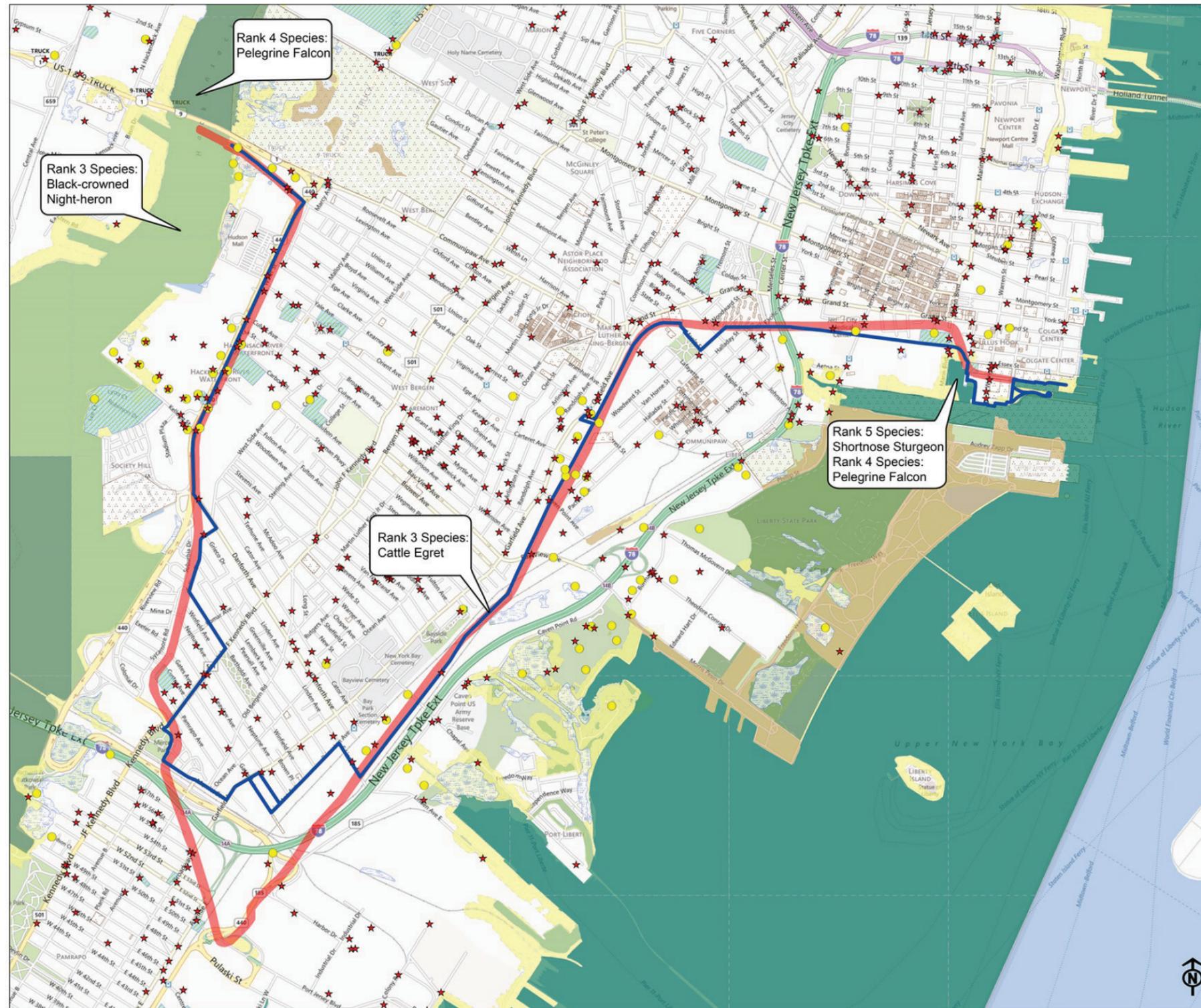
### Legend

- Proposed Long-Term Greenway Alignment
- Historic Features associated with the Morris Canal
- Historic Properties (Eligible; Identified; Listed)
- Historic Districts (Eligible; Identified; Listed)
- Historic Morris Canal Right-of-Way

### Historic Features associated with the Morris Canal identified by RBA Cultural Resources

- ★ 1 Morris Canal Lock 21 East Complex
  - ★ 2 Lehigh Valley Railroad / Morris Canal Bridge
  - ★ 3 Pennsylvania Railroad / Morris Canal Bridge
  - ★ 4 Central R.R. of NJ / Morris Canal Bridge Abutments
  - ★ 5 Standard Oil Co. Pipeline / Morris Canal Bridge
  - ★ 6 Morris Canal Fiddler's Elbow
  - ★ 7 Lehigh Valley R.R. / Morris Canal Bridge Abutments
  - ★ 8 Whitlock Cordage Company Complex
  - ★ 9 Morris Canal Halladay Street Basin
  - ★ 10 Natl. Docks R.R./Morris Canal - Pacific Ave Bridge
  - ★ 11 Mill Creek Aqueduct/Sluice Gate/Outlet Lock
  - ★ 12 Jersey City Steel Works
  - ★ 13 Adirondack Steel Works
  - ★ 14 Jersey City Glass Works
  - ★ 15 Morris Canal Tide Lock 22 East
  - ★ 16 American Sugar Refining Company Complex
  - ★ 17 Morris Canal Tidewater Basin
  - ★ 18 Morris Canal Packers Dock (South St Pier)
  - ★ 19 Morris Canal Little Basin
  - ★ 20 Morris Canal Scranton Dock (Hudson St Pier)
- ★ Physical structure visible in the field

Map 4: Environmental Conditions



## Jersey City Morris Canal Greenway Plan Environmental Conditions



May 2013

### Legend

- ★ Known Contaminated Sites
- Chromate Sites
- ✱ Head of Tide
- Proposed Long-Term Alignment
- Historic Morris Canal Alignment
- ▨ Groundwater Contamination-CEA
- ▨ NJDEP 2002 Wetlands

### Species-Based Habitat - Piedmont Plains

- Rank 1 - Habitat specific requirements
- Rank 2 - Special Concern
- Rank 3 - State Threatened
- Rank 4 - State Endangered
- Rank 5 - Federal Listed
- ▨ Historic Property

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by the NJDEP and is not State-authorized.



0 0.5 1 Miles

### Methodology and Route Selection Criteria

The former Morris Canal corridor was divided into eight segments for analysis based on area characteristics, logical termini, potential connections and relationship with other planning studies and projects.

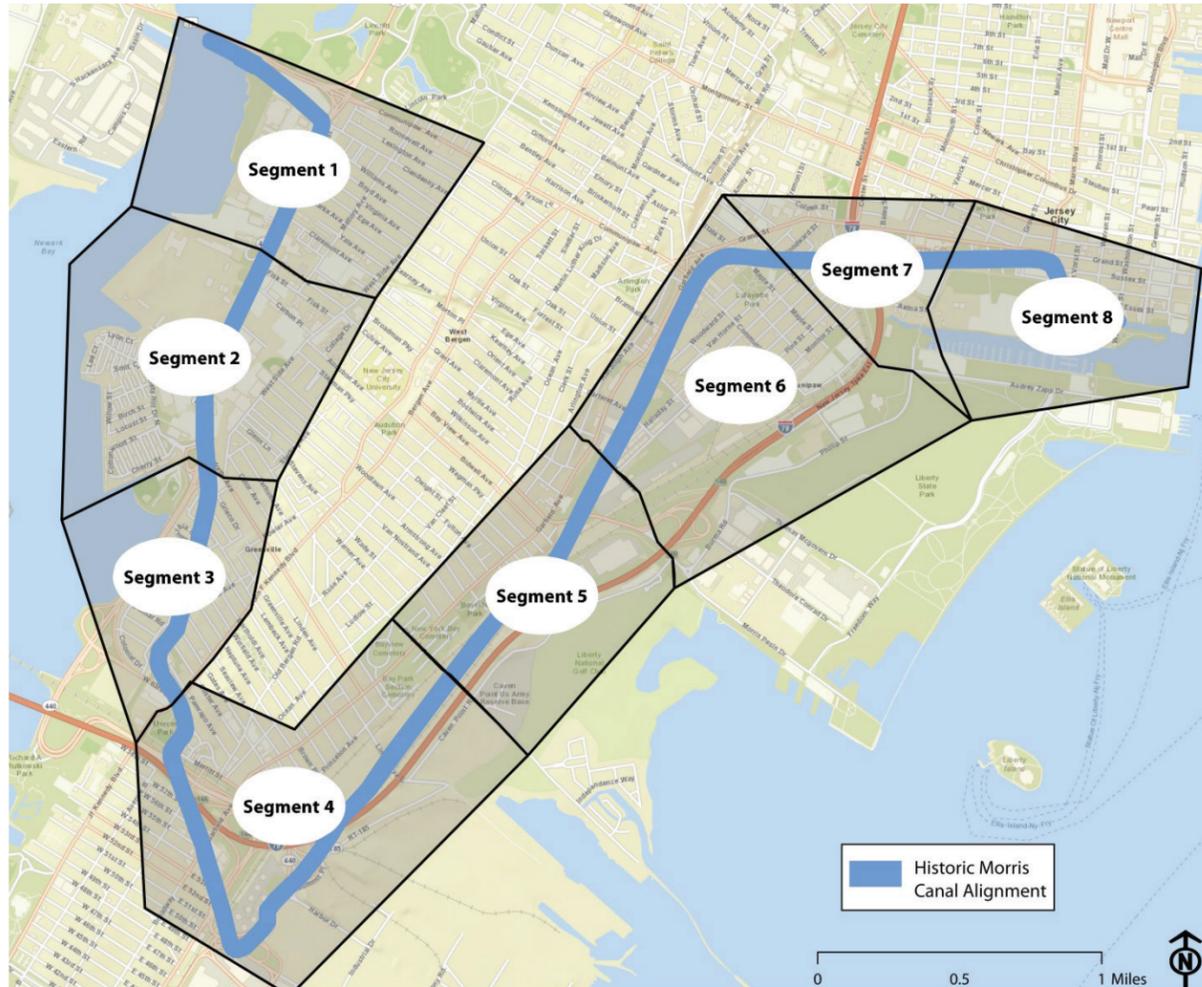


Figure1: The Morris Canal divided into eight segments

In addition to looking at the feasibility of routing the greenway on top of the historic Morris Canal path, alignments east and west (or north and south) of the canal were also evaluated. This resulted in three potential alignments for five of the eight segments, four potential alignments in two segments and only two viable alignments in one segment. However, the numbers of potential alignments as well as the routes were modified during the study based on input from the Steering Committee and the City. The map below shows the multiple routes evaluated for both the long-term and short-term greenway alignment.

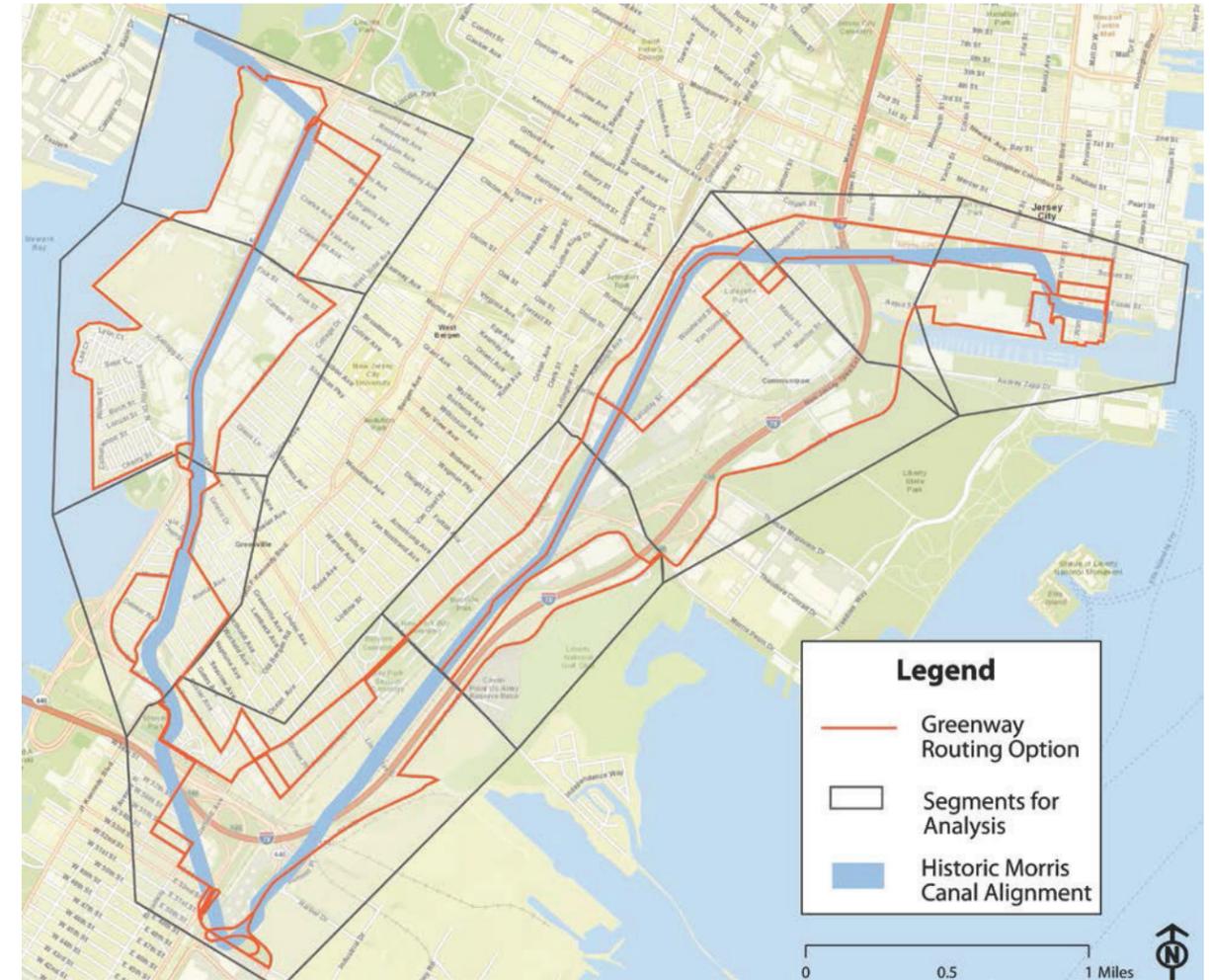


Figure 2: Routes evaluated for both the long-term and short-term greenway alignment

All potential route options within the historic canal corridor were reviewed and evaluated based on opportunities, constraints, and selection criteria listed below:

1. PRIMARY GREENWAY EXPERIENCE
  - a. Proximity to the historic Morris Canal alignment
  - b. Off-street versus on-street facility (preference for off-street facilities)
  - c. Potential for positive user experience (access to views, public art, enhanced sense of place)
2. TRAFFIC SAFETY
  - d. Traffic Volume
  - e. Traffic Speed
  - f. Intersection Safety (complexity or number of intersections crossed)
3. ORIGINS AND DESTINATIONS / CONNECTIVITY
  - g. Access to civic destinations (schools, houses of worship, hospitals, health centers, community centers and recreation centers)

- h. Access to parks and trails
  - i. Access to tourism sites
  - j. Proximity to designated bicycle routes
  - k. Proximity to transit and bus stops
  - l. Proximity to amenities and services (restaurants, bike shops, etc.)
4. IMPLEMENTATION FEASIBILITY / COST
- m. Implementation Feasibility
  - n. Order of magnitude Construction Cost Estimate

The greenway route was selected with the future user in mind. Ultimately, the success of any bicycle and pedestrian facility will hinge on how well it functions as a transportation corridor and recreational destination. In addition, because the Morris Canal has great historic significance both for the region and for Jersey City, the greenway has the potential to highlight that history through interpretive public art and the design of the greenway itself. The vision statement describing the future greenway includes these concepts, which are reflected by the goals as “Primary Greenway Experience” and “Connectivity.” Consequently, these goals were also used as the criteria for selecting potential alignments.

Following the original alignment of the Morris Canal was the primary consideration in selecting the short-term and long-term alignments, as the Morris Canal route is in itself at the core of the greenway vision. Following the canal contributes to an authentic experience for the future user while also providing opportunities for historic interpretation.

Other factors were also considered as they directly impact user experience. “Traffic Safety” is an important criterion qualifying the suitability of alignment options. Although some traffic safety issues could be addressed through physical improvements, elements such as roadway geometry and traffic congestion make some options less desirable, especially for the short-term alignment, which is necessarily on roads and sidewalks. The fourth criterion, “Implementation Cost/ Feasibility” was also considered in the selection of options. Issues related to implementation can present insurmountable obstacles and prevent achievement of the Morris Canal goals.

The quality of the future user’s experience is influenced by issues related to other factors as well, such as the design, interpretive elements, perception of safety, and the ease of access to nearby destinations. However, these elements can be addressed in future phases and conditions can be improved over time as implementation progresses and neighborhood contexts change. It should be noted that greenways have been successfully incorporated into a wide variety of contexts, from residential to industrial, which can contribute to an interesting and diverse experience.

## Proposed Long-Term Greenway Alignment

While staying on or near the former path of the Morris Canal is the top priority for the long-term alignment, there are constraints that make it impossible for the entire greenway to follow the historic canal path. However, 41% of the proposed long-term alignment can be located on the historic canal path and 67% of the facility could be off-street. Property ownership was evaluated as one of the possible constraints affecting the feasibility of maintaining an alignment along the Morris Canal. A right-of-way report was prepared as part of the planning process to assess ownership along the proposed alignment. These issues are explored in the Implementation Strategy of the plan.

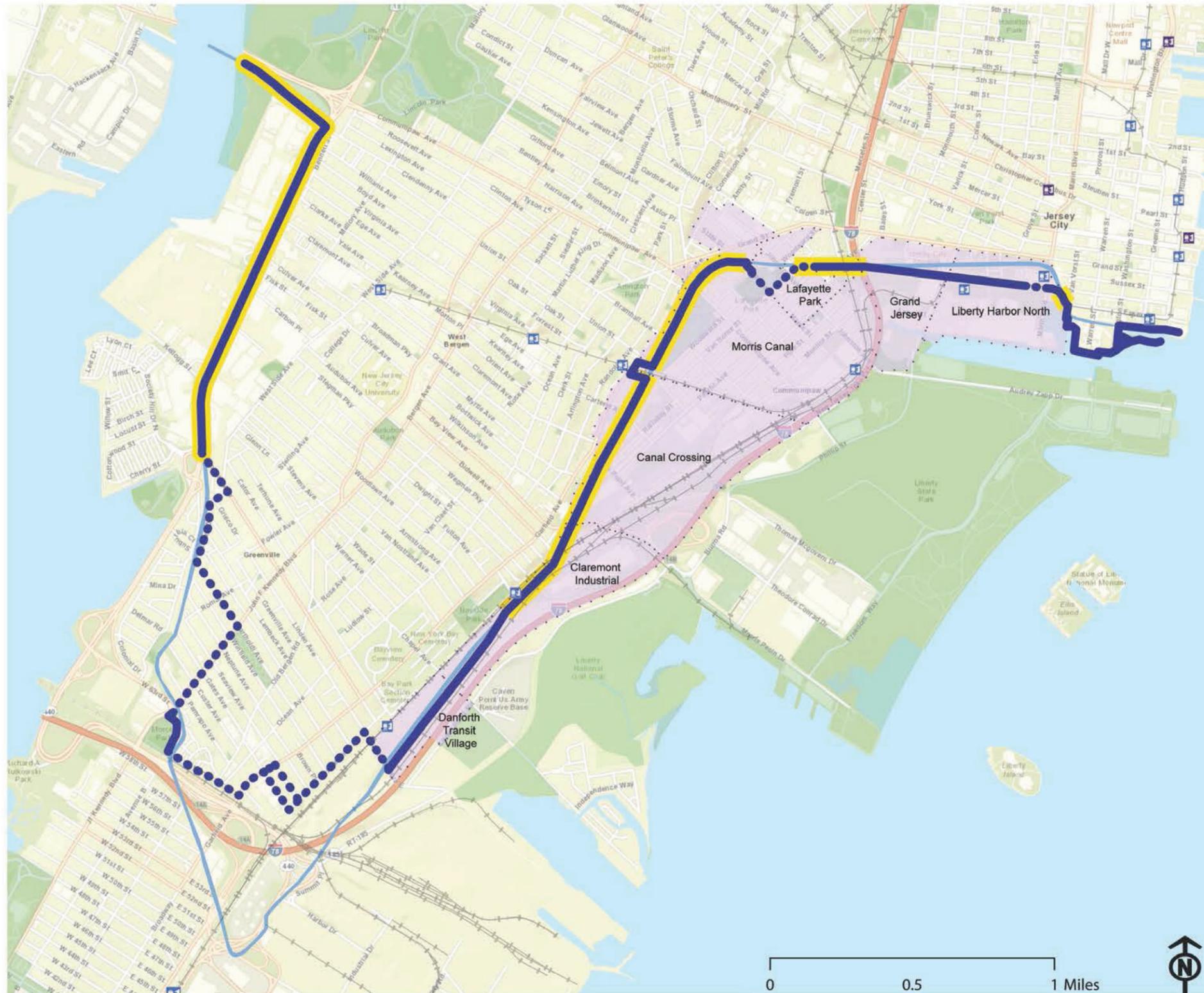
Unless otherwise specified, it has been assumed that an off-street facility can be accommodated through the redevelopment plan areas and proposed parks. The table below summarizes the proposed long-term alignment developed as part of this study. However, the alignment will change over time as development occurs and priorities change. The map on the following page provides an overview of the long-term alignment. Descriptions of the long-term alignment by segment appear after the map.

**Table 1: Characteristics of the Proposed Long-Term Alignment**

Segment	Total Length Miles	On Historic Canal ROW		Off-Street Facility*		On-Street Facility		Located in Redevelopment Plan Area	
		Mileage	% of greenway	Mileage	% of greenway	Mileage	% of greenway	Mileage	% of greenway
1	0.93	0.93	10.9%	0.93	10.9%	0	0	0	0
2	0.86	0.86	10.1%	0.86	10.1%	0	0	0	0
3	0.95	0	0	0	0	0.95	11.1%	0	0
4	1.86	0**	0	0.52	6.1%	1.34	15.8%	0.37	4.4
5	0.95	0.64**	7.5%	0.95	11.1%	0	0	0.95	11.2
6	1.00	0.67	7.9%	0.67	7.9%	0.33	3.9%	1.00	11.8
7	0.58	0.35	4.1%	0.48	5.6%	0.10	1.2%	0.30	3.5
8	1.40	0.06	0.7%	1.29	15.2%	0.11	1.3%	0.46	5.4
<b>Totals</b>	<b>8.5</b>	<b>3.4</b>	<b>41%</b>	<b>5.7</b>	<b>67%</b>	<b>2.8</b>	<b>33%</b>	<b>3.1</b>	<b>36%</b>

\*Off-street facility includes shared use paths and segments with sidewalks and separated bicycle facilities (cycle tracks)  
 \*\* Sections of both of these segments of the long-term alignment are located immediately adjacent to the historic canal alignment.

Map 5: Proposed Long-Term Alignment



## Jersey City Morris Canal Greenway Plan Proposed Long-Term Alignment



May 2013

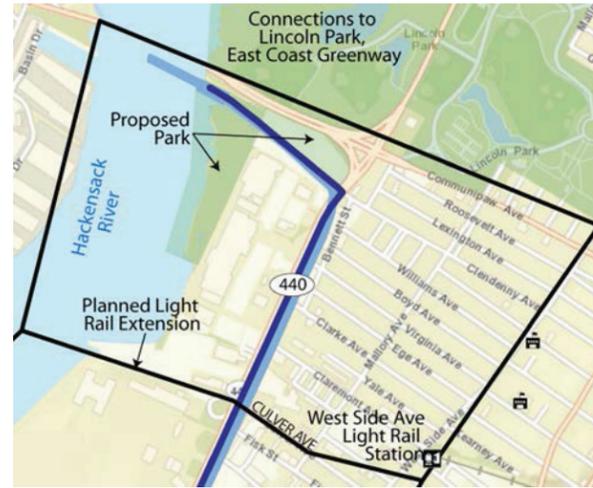
### Legend

- Alignment Off-Street
- Alignment On-Street
- Historic Morris Canal ROW
- Proposed Long-Term Alignment Located on Historic Canal ROW
- Redevelopment Plan Area
- Park/Open Space
- PATH Station
- HBLR Station
- Active Rail



### Segment 1: Hackensack River to Culver Avenue

The long-term greenway alignment through this section follows the historic canal path through a proposed County park and then along Route 440. Completed in 2011, *The Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study* identifies a locally preferred alternative (LPA) for Route 440 that includes 12' wide sidewalks and a buffered two-way bikeway (cycle track) in each direction of travel. The long-term greenway alignment will connect to the East Coast Greenway, Lincoln Park, the planned Hudson Bergen Light Rail extension as well as proposed residences and retail along the Route 440 corridor. It has been assumed that an off-street facility can be accommodated through the proposed park.



0.93 miles; 100% on historic canal ROW; 100% off-street

- Alignment Off-Street
- Alignment On-Street
- Historic Morris Canal Alignment

### Segment 2: Culver Avenue to Danforth Avenue

In the long-term, the proposed Morris Canal Greenway continues along the LPA identified for Route 440 that includes 12' wide sidewalks and a buffered two-way bikeway (cycle track) in each direction of travel. The greenway would connect to the planned New Jersey City University West Campus expansion as well as proposed development along the Route 440 corridor.

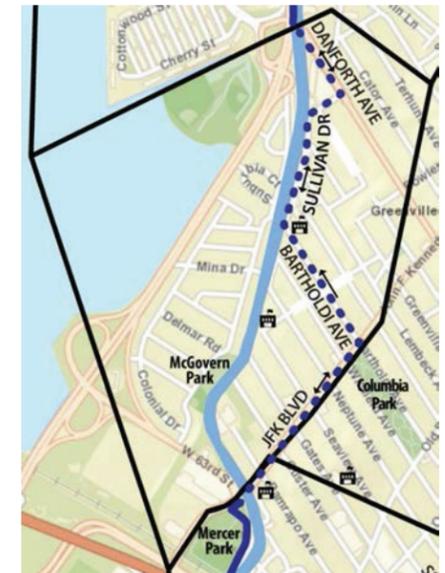


0.86 miles; 100% on historic canal ROW; 100% off-street

- Alignment Off-Street
- Alignment On-Street
- Historic Morris Canal Alignment

### Segment 3: Danforth Avenue to John F. Kennedy Boulevard

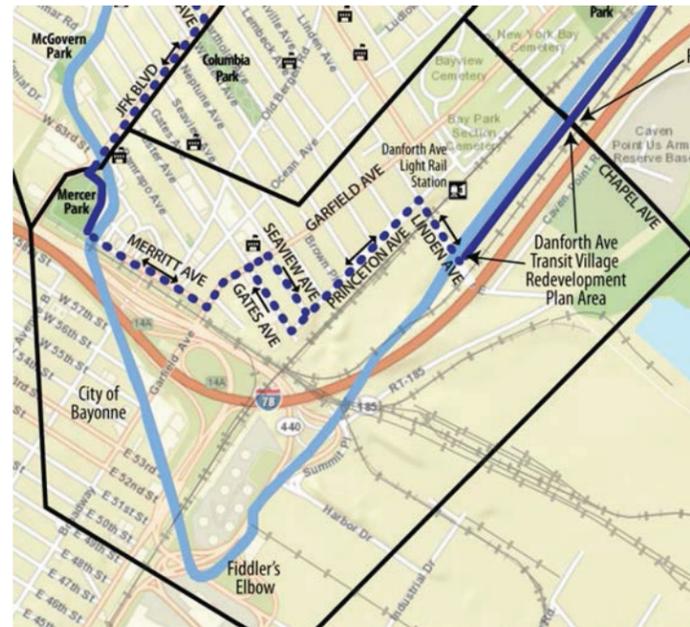
This section of the proposed alignment is the same for both the short-term and long-term. Located east of the historic canal alignment, the greenway will be 100% on-street. The alignment follows Sullivan Drive, Bartholdi Avenue and John F. Kennedy Blvd. Since Bartholdi Avenue is a one-way street westbound, a contraflow lane could accommodate eastbound bicycle traffic. Possible connections include Columbia Park, Our Lady-Mercy Catholic School, and bus stops along Kennedy Blvd. The historic Morris Canal alignment is located through the Country Village neighborhood through this segment. Routing the greenway on top of the historic canal alignment might be considered in the future pending public support.



0.95 miles; 0% on historic canal ROW; 0% off-street

- Alignment Off-Street
- Alignment On-Street
- Historic Morris Canal Alignment

## Segment 4: John F. Kennedy Boulevard to Chapel Avenue



1.86 miles; 0% on historic canal ROW; 28% off-street

- Alignment Off-Street
- Alignment On-Street
- Historic Morris Canal Alignment

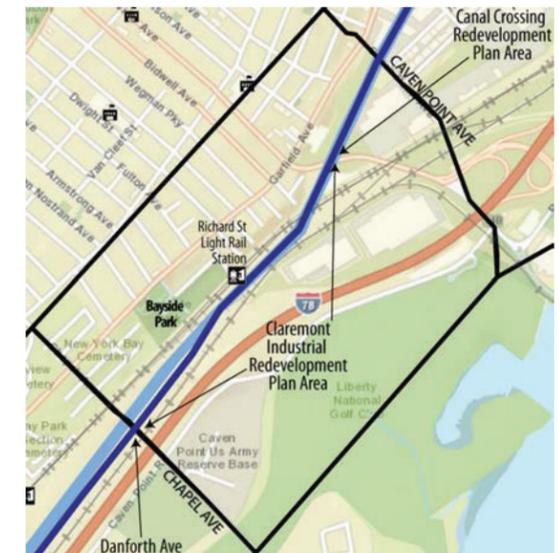
This segment of the proposed greenway travels alongside the historic canal along an existing off-street path through Hudson County’s Mercer Park. However, major roadways including the on- and off-ramps of Exit 14A of the New Jersey Turnpike present an insurmountable obstacle that cannot be easily crossed. Therefore, the segment of the historic canal that includes the bend at the southern end of the canal known as Fiddler’s Elbow as well as segments of the historic canal path through the City of Bayonne are not currently included in the proposed long-term greenway alignment. The safest and most accessible option available is to route the long-term greenway along the local street network utilizing Merritt Street, Gates Avenue, Seaview Avenue, Princeton Avenue, and Linden

Avenue before becoming an off-street facility through the Danforth Transit Village Redevelopment Plan Area.<sup>3</sup> The Morris Canal historic alignment is located in the center of this redevelopment plan area. Therefore, the greenway alignment has been moved one parcel east of the historic alignment in order to maintain development potential. The greenway through this segment will provide connections to the City of Bayonne, Mercer Park, and the Danforth Avenue Light Rail station. The City’s Department of Public Works (DPW) will move to a new facility just south of Linden Avenue. While there are no plans to permit public access through the site, it may be possible to include a spur from the greenway to the DPW complex. There are plans to reconstruct the NJ Turnpike 14A exit, and there may be an opportunity for these plans to include pedestrian and bicycle access to the former Morris Canal in this area.

<sup>3</sup> The maps in this section do not show the boundaries of the redevelopment plan areas. But rather, they indicate where the proposed long-term greenway alignment intersects the redevelopment plan area boundary. See Map 4: Proposed Long-Term Alignment for the boundaries of the redevelopment plan areas.

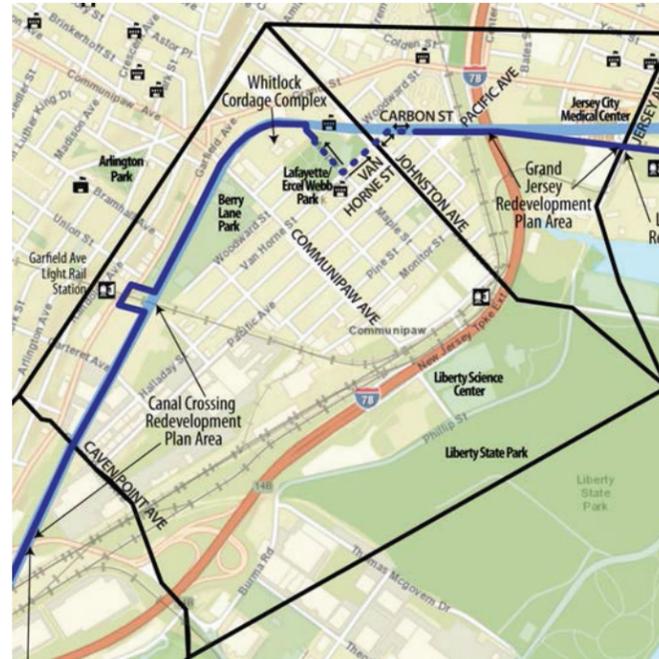
## Segment 5: Chapel Avenue to Caven Point Avenue

This segment of the proposed long-term route is located entirely within redevelopment plan areas and is proposed to be a completely off-street facility. Just like the Danforth Transit Village Redevelopment Plan Area, the historic canal alignment is located in the middle of the Claremont Industrial Redevelopment Plan Area. Therefore, the alignment through a third of this section has also been moved to east of the historic canal in order to maintain development potential. Two-thirds of the proposed alignment is on top of the historic canal alignment. Remnant concrete abutments and piers of the bridge built during the early 20<sup>th</sup> century to carry the Lehigh Valley Railroad’s National Docks Railway over the canal offer an opportunity for historic interpretation. A new crossing of the Hudson-Bergen Light Rail will be required.



- 0.95 miles; 67% on historic canal ROW; 100% off-street
- Alignment Off-Street
- Alignment On-Street
- Historic Morris Canal Alignment

## Segment 6: Caven Point Avenue to Johnston Avenue



1 mile; 67% on historic canal ROW; 67% off-street

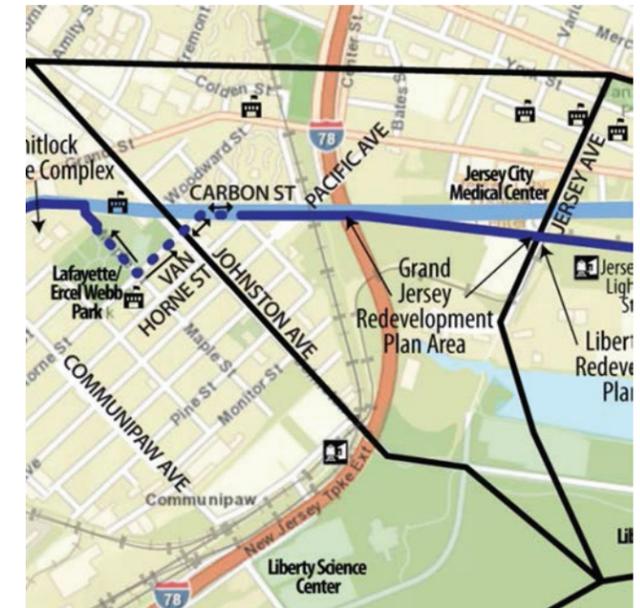
- Alignment Off-Street
- Alignment On-Street
- Historic Morris Canal Alignment

The long-term greenway alignment follows the historic canal path as an off-street facility through the Canal Crossing Redevelopment Plan Area, Berry Lane Park, and around the Whitlock Cordage Complex. The path leaves the historic canal alignment in order to get around the Hudson-Bergen Light Rail (HBLR) embankment between the Canal Crossing Redevelopment Area and Berry Lane Park. The light rail embankment includes a 54" water main that prevents the greenway from going through. Therefore, the greenway will need to be routed to Garfield Avenue to get around the embankment. It is proposed that the sidewalk along Garfield Avenue be at least 10', preferably 15' wide in order to accommodate both pedestrians and bicyclists. The long-term greenway alignment also deviates from the Morris Canal to avoid the Jersey City Regional Day

School, which is built on top of the historic canal alignment. In this segment, the greenway will connect to the Garfield Avenue HBLR Station, Berry Lane Park, Lafayette (Ercel Webb) Park, Elementary School 22, the Jersey City Regional Day School, and the Whitlock Cordage Company Buildings Historic District. Design work for the section of the Morris Canal Greenway through Berry Lane Park is currently underway.

## Segment 7: Johnston Avenue to Jersey Avenue

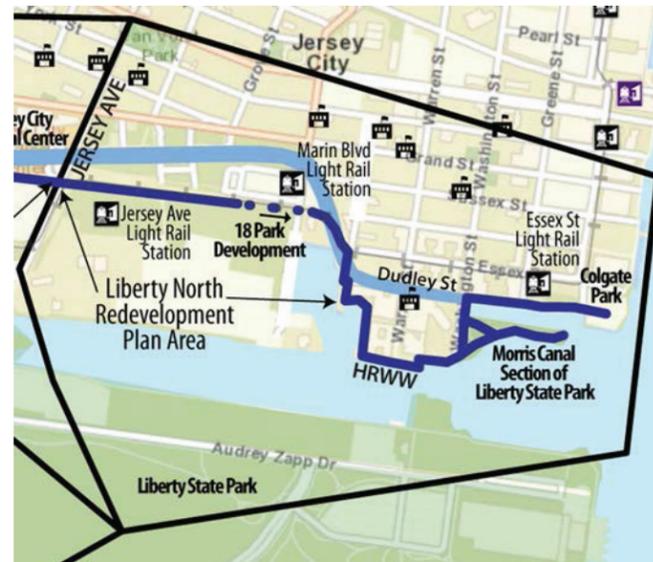
The long-term alignment through this section utilizes the existing sidewalk located on top of the former Morris Canal alignment through Lafayette Village. In order to accommodate both pedestrian and bicyclist traffic, the sidewalk would need to be widened to a preferred minimum of 10'. The path crosses Pacific Avenue near the National Docks Railway/Morris Canal and Pacific Avenue Bridge. This steel truss bridge was completed in 1909 to carry the Lehigh Valley Railroad's National Docks Railway over the Morris Canal and Pacific Avenue. The alignment continues through the Grand Jersey redevelopment plan area. The proposed alignment will follow the proposed street grid for the redevelopment plan area. It is recommended that the street grid include bicycle and pedestrian facilities separated from motor vehicle traffic. Destinations in this segment include the Jersey City Medical Center and Liberty State Park.



0.58 miles; 60% on historic canal ROW; 84% off-street

- Alignment Off-Street
- Alignment On-Street
- Historic Morris Canal Alignment

## Segment 8: Jersey Avenue to the Historic Morris Canal Section of Liberty State Park and Colgate Park



1.4 miles; 4% on historic canal ROW; 92% off-street

- Alignment Off-Street
- ⋯ Alignment On-Street
- Historic Morris Canal Alignment

After crossing Jersey Avenue, the greenway alignment enters the Liberty Harbor North Redevelopment Plan Area. Through this area, the long-term alignment will parallel the Hudson-Bergen Light Rail tracks to the south before joining the Hudson River Waterfront Walkway (HRWW) until the eastern terminus of the greenway. This section will require a new at-grade crossing of the light rail tracks at Jersey Avenue. While it is assumed that the path paralleling the light rail tracks will be off-street, the greenway will have to be routed on-street between the light rail tracks and the 18 Park development currently under construction at the corner of Marin Boulevard and the Marin Boulevard Light Rail Station. The streetscape plan for 18 Park includes a one-way eastbound street between the building and the light rail tracks and platform. There

is insufficient space between the planned street and the railroad tracks for an off-street bicycle and pedestrian facility in this area. Therefore, the greenway will need to be accommodated on-street. Because the street is one-way, westbound bicyclists would need to be accommodated with a contraflow bicycle lane. After leaving the Liberty Harbor North Redevelopment Plan Area, it is proposed that the Morris Canal Greenway utilize the completed HRWW until the Morris Canal Section of Liberty State Park. While the former Morris Canal path is located north of the proposed long-term alignment along Dudley Street, the HRWW was chosen as the preferred alternative, because it is an existing off-street facility. Based on input from the Steering Committee, it was determined that both Colgate Park and the Morris Canal Section of Liberty State Park should serve as the eastern termini of the Morris Canal Greenway in Jersey City. Adding Colgate Park as a terminus provides a stronger connection to the Hudson River Waterfront Walkway.

### Proposed Short-Term Greenway Alignment

In the short-term, the Morris Canal Greenway through Jersey City can be completed utilizing the City's street network and existing off-street shared use paths. While only 3% of the proposed 9.3 mile short-term alignment can be located on the historic canal path (excluding the Route 440 pedestrian alternative route), travelers along the short-term route can help to build support for the long-term Greenway, designed to be largely an off-street facility that will better meet the project's Vision.

Map 6: Proposed Short-Term Alignment

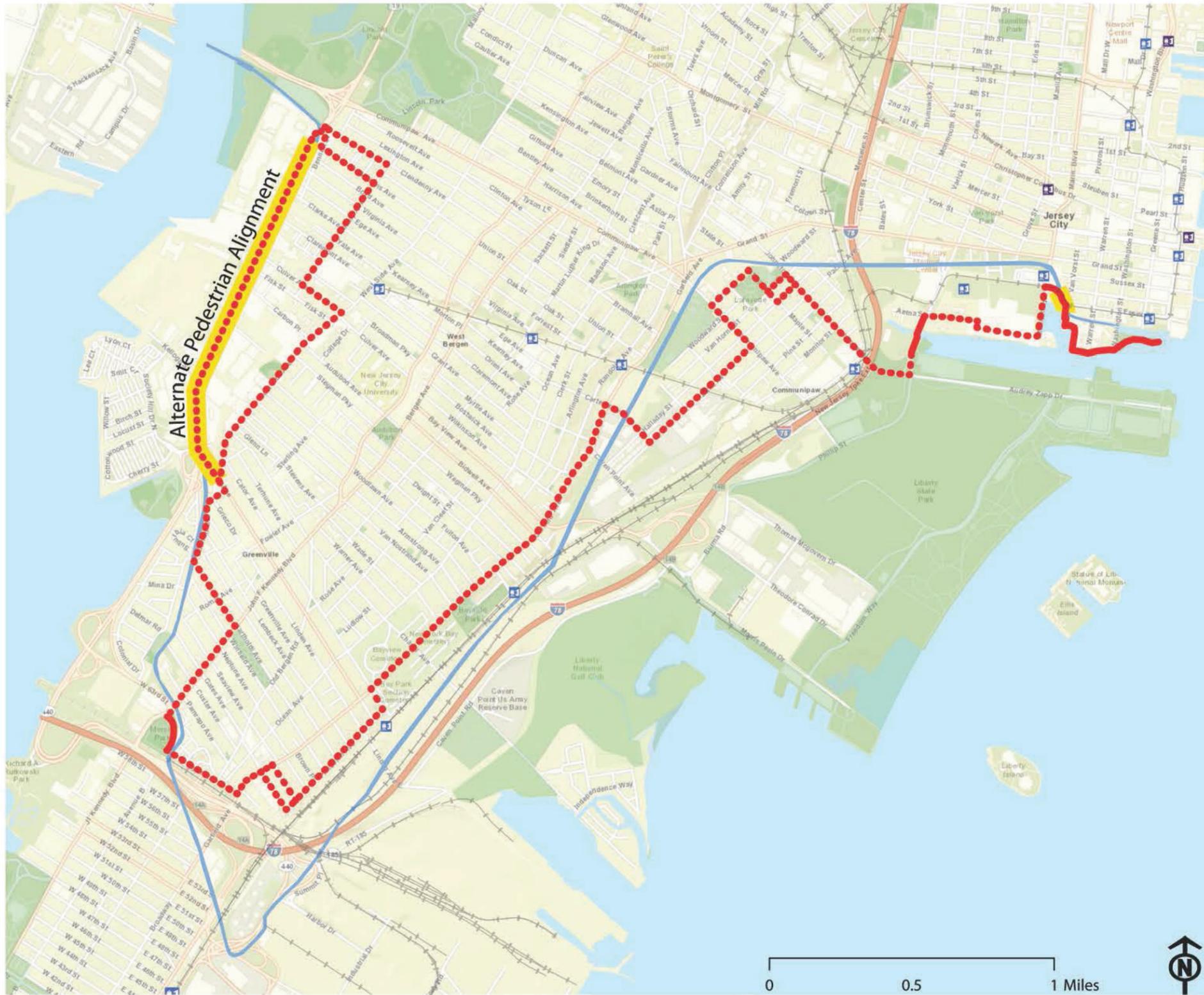
## Jersey City Morris Canal Greenway Plan Proposed Short-Term Alignment



May 2013

### Legend

- Alignment Off-Street
- Alignment On-Street
- Historic Morris Canal ROW
- Proposed Short-Term Alignment Located on Historic Canal ROW
- Park/Open Space
- PATH Station
- HBLR Station
- Active Rail



### Short-Term Route Roadway Characteristics

The table below follows the short-term proposed alignment from west to east. The speed limit in Jersey City is 25 mph for all streets, with the exception of sections of Garfield Avenue and Caven Point Road. Functional classification information came from Appendix of the *Circulation Element of the Jersey City Master Plan*.

**Table 2: Roadway Characteristics of the Proposed Short-Term Alignment**

Street Name	Functional Classification	Direction of Travel	Length of Greenway along Street	Notes
Clendenny Ave	Local Residential	One-Way East	1,335'	
Bennett St	Local Residential	Two-Way	350'	
Williams Ave	Local Residential	One-Way West	1,180'	
Mallory Ave	Local Residential	Two-Way	2,740'	
Culver Ave	Local Residential	Two-Way	890'	
West Side Ave (CR 627)	Local Residential/ Minor Collector	Two-Way	3,970'	
NJ 440	Urban Principal Arterial	Two-Way	6,500'	Pedestrian Alternate Route
Danforth Ave (CR 602)	Major Collector	Two-Way	200'	
Sullivan Dr (CR 709)	Local Residential	Two-Way	1,500'	
Bartholdi Ave	Local Residential		1,420'	
JFK Blvd (Rt. 501)	Major Collector	Two-Way	2,000'	County Road
Off-street through Mercer Park	Off-street		750'	Existing Path
Merritt St (CR 707)	Minor Collector	Two-Way	1,540'	Truck Route
Garfield Ave	Minor Collector	Two-Way	865'	
Gates Ave	Local Residential	One-Way West	850'	
Seaview Ave	Local Residential	One-Way East	780'	

Street Name	Functional Classification	Direction of Travel	Length of Greenway along Street	Notes
Princeton Ave	Local Residential	Two-Way	2,585'	
Danforth Ave (CR 602)	Major Collector	Two-Way	435'	
Garfield Ave	Minor Collector	Two-Way	6,930'	Partly a truck route
Carteret Ave	Local Residential	Two-Way	1,100'	Partly a truck route
Pacific Ave	Minor Collector	Two-Way	2,585'	Part of City's planned bicycle network
Communipaw Ave (CR 612)	Major / Minor Collector	Two-Way	1,055'	Truck Route
Manning Ave	Local Residential	Two-Way between Communipaw Ave and Lafayette St; One-Way South between Lafayette and Maple St	940'	
Maple St (CR 722)	Local Residential	One-Way West	785'	
Van Horne St	Local Residential	One-Way North	460'	
Halladay St	Local Residential	One-Way South	455'	
Johnston Ave (CR 614)	Local Residential / Minor Collector	Two-Way	3,065'	
Jersey Ave Bridge	Off-Street		1,130'	
Parking lot			2,240'	Private
Marin Blvd	Local Residential	Two-Way	920'	
Path alongside Light Rail	Off-Street		660'	
Van Vorst St	Local Residential	One-Way North	285'	
Hudson River Waterfront Walkway	Off-Street		1,600'	Existing path
Morris Canal Peninsula Park	Off-Street		900'	Existing path

# PART 2: DESIGN GUIDELINES





## Introduction

### A Regional Initiative

There has been a long-standing effort to establish a contiguous greenway across the state of New Jersey along the path of the historic Morris Canal. Along its 102 miles, the Morris Canal traverses 6 counties and 36 municipalities with many types of communities and landscapes, from urban to suburban to rural. Various municipalities and counties across the state have created public spaces along the path of the Morris Canal. It has been recognized that there is a long-term benefit of establishing a consistent and easily identifiable collection of markers and interpretive material along the length of the canal. A Morris Canal Greenway logo has been adopted and is being utilized at a number of locations including Warren and Passaic Counties.



Morris Canal Greenway Logo

The Design Guidelines for the Morris Canal Greenway in the City of Jersey City recommends that the City use this logo along its section of the Greenway.



The Morris Canal Crossed Six Counties in Northern New Jersey.

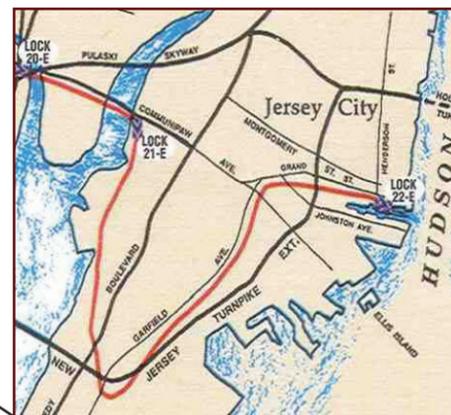
### Greenways

Greenways are corridors of open space managed for conservation, recreation and transportation purposes. Greenways often follow natural land or water features, and link nature reserves, parks, cultural features, historic sites, and other public spaces with each other and with populated areas.

The long-term plan for the Jersey City Morris Canal Greenway is an off-street facility to the greatest extent possible. However, sections of both the short- and long-term greenway will include a combination of sidewalks, on-street bicycle facilities, separated bikeways and shared-use paths to create one linear route that follows the historic canal alignment as closely as possible. Although the on-street sections will not be a 'greenway' in the traditional sense, for the purposes of this study, 'greenway' is used to describe both the on- and off-street conditions.

It is important for the on-street sections to maintain a consistent identity with the off-street sections of the greenway. This is consistent with the nomenclature used by other counties and municipalities that are developing on- and off-street sections of the Morris Canal Greenway.

There are a variety of methods that can be employed to let users know they are traveling on a greenway and not a typical street. This can include identification signs and integration of ecological features of a greenway into the on-street segments through landscaping and storm water management techniques. While these are discussed in the Design Guidelines, it is recognized that the on-street sections must adhere to national, state and local guidelines.



The Morris Canal Followed a Six-Mile Course Around the Southern Half of the City Linking the Hudson and Hackensack Rivers.

### Design Guidelines

The goal of the Design Guidelines is to identify recommended construction materials, site furnishings and design treatments that may be considered for use when developing final design plans and construction documents for the Morris Canal Greenway in the City of Jersey City. The underlying design intent is to construct a facility that is safe to use, ecologically sustainable, low maintenance, attractive and harmonious with the surrounding built environment.

The historic route of the Morris Canal through Jersey City is a dynamic urban landscape in the midst of change. There are many different styles of streets, land uses and building types along the potential greenway alignment. Due to the variety of context, it is important to allow flexibility in the design guidelines. The materials and furnishings displayed herein are examples of the types of elements that may be considered when preparing final design plans for construction of the Greenway. It is not the intention of these guidelines to limit or inhibit the creativity of the designers who will be called upon in the future to implement the Greenway. Therefore, the guidelines are intentionally broad, providing future designers with the flexibility to decide what is appropriate for the context.

The Greenway will be built in stages as a series of discrete capital projects. As each project is undertaken, designers will need to reference the unique context of the immediate surroundings while at the same time, creating a route that is visually cohesive end to end, across all neighborhoods. However, at all times, the Greenway should be designed to comply with ADA standards and design components specified as part of the final design process should ensure public safety, strive to be cost effective, optimize sustainability and minimize maintenance requirements.

Separate Design Guidelines were developed as part of the *Route 440/Routes 1&9T Multi-use Urban Boulevard and Through Truck Diversion Concept Development Study* and should be consulted for the portion of the greenway along Route 440.

### The Design Guidelines are divided into six categories:

1. Furnishings
2. Landscape Approach
3. Materials
4. Accommodating the Greenway on Streets
5. Accommodating the Greenway off Streets
6. Public Art

### Standard vs. Custom

It is anticipated that a majority of the proposed route is to be installed on land, either parks or streets, owned and maintained by the City of Jersey City. It is expected that the majority of the Greenway will be constructed with standard, or 'typical' building materials (asphalt surface, concrete curbs, etc.) as employed routinely by the applicable agencies. It would not be realistic or prudent to propose that the Greenway be designed and built using all non-standard materials and custom designed furnishings without identifying a maintenance entity. At certain locations, however, a design may call for a non-standard, or 'customized', design treatment.

The significance of the Standard vs. Custom distinction pertains largely to the issue of maintenance cost. To that end, these guidelines recommend the use of applicable standard/typical items as well as non-standard items. Non-standard or custom materials and design treatments should be used at specific locations or in specific areas where one or both of the following are true:

- The specific location or portion of the route possesses highly valuable and unique intrinsic character such that the additional expense associated with the installation of a non-standard item is warranted.
- A specific location or portion of the route where a responsible partner has requested such items and has agreed to accept maintenance responsibility.

It should be noted that nothing should be built if there isn't an identified agency or entity willing to assume responsibility for maintenance.

## Context

### Context

Both the proposed long-term and short-term Morris Canal Greenway alignments pass through multiple neighborhoods and go through residential, industrial, commercial and park uses. The design of the Greenway should respond to and reflect the context of each neighborhood while remaining coherent and recognizable as one continuous path.



Residential, Seaview Avenue



Park and Open Space, Hudson County's Mercer Park

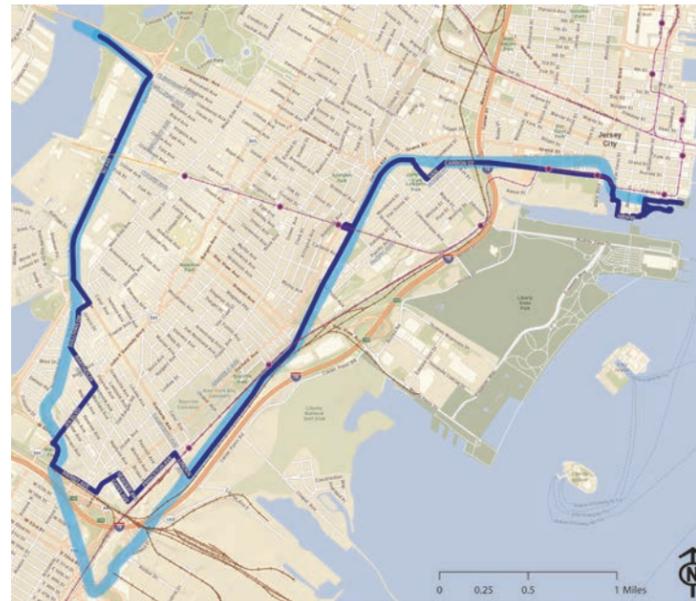


Industrial, Pacific Avenue

### Proposed Alignments

While staying on or near the former path of the Morris Canal is the top priority for the long-term alignment, there are constraints that make it impossible for the entire greenway to follow the historic canal path. However, 40% of the proposed long-term alignment can be located on the historic canal path and 64% of the facility could be off-street.

In the short-term, the Morris Canal Greenway through Jersey City can be completed utilizing the City's street network and existing off-street shared use paths.



Proposed Long-Term Alignment



Proposed Short-Term Alignment

### Screening

The narrower the greenway corridor, and the closer the greenway is to homes, the more likely some sort of privacy screening may be used to separate residential uses from the greenway.



A wall can double as a space for a mural



Fencing is Used to Separate the Trail from Residences



Greenscreen Wall

**Vision**

**Vision Statement**

Stretching six miles around the southern half of Jersey City, the Morris Canal Greenway is a world-class bicycle and pedestrian destination. Built upon one of the City's greatest historic resources, the Morris Canal, the Greenway celebrates the City's industrial past while providing safe and convenient access for residents and visitors to neighborhoods, parks, schools, businesses, attractions, and transit. The Morris Canal Greenway is both an educational tool for displaying Jersey City's history and regional significance and a lasting source of community pride.



A Concrete Path with Adjacent Gravel Path through a Multi-Family Housing Development along the Emeryville Greenway in Oakland, California



Example of Bicycle and Pedestrian Paths Separated by Landscaping and Furnishings that are also Physically Separated from Traffic; Cultural Trail in Indianapolis, Indiana



The Hudson River Waterfront Walkway in Hoboken, New Jersey is Another Example of Bicycle and Pedestrian Paths Separated by Landscaping



This Section of the Little Sugar Creek Greenway near Downtown Charlotte, North Carolina, is an Example of an Off-Street Shared-Use Path



Example of a Bicycle Facility that is Vertically Separated from Motor Vehicle Traffic with a Mountable Curb. The Bicycle Facility is set at an Intermediate Level Between the Roadway and Sidewalk to Segregate the Bicycle Facility from the Pedestrian Area. Carrall Street Greenway, Vancouver, British Columbia



Sidewalks and a Two-Way On-Street Bike Lane along Kent Avenue Serve as the Interim Treatment of the Brooklyn Waterfront Greenway, New York



This Section of the Southwest Corridor Park Trail in Boston is an Example of a Shared Use Path through a Park

# 1. Furnishings

The Greenway will be a linear public space. When the route is located on-street, the street should feel different than a typical city street. Streetscape elements that give the Greenway a sense of place and an identity as a public space should be used. The streetscape elements that follow are intended to enhance comfort, safety and aesthetic appeal along the Greenway.

Furnishings will also help identify the Greenway. This might best be achieved through the use color since the Greenway will be constructed over a length of time and some furnishings may differ. To complement the Greenway Logo which will be utilized throughout the trail, it is recommended that a color - metallic or other color complementary to the logo - be incorporated within a repetitive furnishing such as a light pole. Using this approach along with a contemporary style, the furnishings and signs can work together to strengthen the identity of the Greenway. Natural furnishings should also be incorporated where possible to complement the landscape approach as discussed later in Section 2. Natural stone bench seating is recommended where possible, which can also serve the dual role of barrier and/or use separation if desired.

## 1.1 Street Furniture

### Benches

Sitting environments allow people to gather, rest and 'take-in' their surroundings. Benches should be placed in areas of heavy pedestrian traffic, areas of special interest and along view corridors. The placement of benches should be convenient but not impede travel. Whether the benches should face the street or the buildings depends on the context and should be evaluated in terms of the user experience. The design and materials used should depend on the surrounding land uses, landscape, and users. A variety of seating should be offered. Both formal (proper benches and chairs) and informal (seat walls and steps) seating options should be provided. It is recommended that seating areas be provided at least every quarter mile along the Greenway.



Contemporary Bench Design, Brooklyn Bridge Park, New York



Large Stone Blocks can Serve as Barriers and Seating



Chairs in San Francisco



Historic Style Bench in Jersey City



Informal Seating Wall in Tanner Springs Park, Portland, Oregon

### Trash Receptacles

Trash receptacles should be placed on each street corner in high-traffic pedestrian areas and at intervals along the Greenway. The installation of recycling containers and self-compacting trash receptacles should be considered. Locate receptacles only where property owners have committed to maintaining them or where the City can access them for trash removal.



Examples of Contemporary Style Trash Receptacles



Solar Powered Self-Compacting Trash Receptacle



Traditional



Contemporary

Examples of Recycling Receptacles



Contemporary Bench and Trash Can, Greensboro, North Carolina

### Bicycle Parking

Providing safe and secure bicycle parking can help encourage cycling. Designated, well-designed parking promotes a more orderly streetscape and preserves the pedestrian right of way. It also prevents damage to trees and street furniture. Short-term parking racks should be convenient to the cyclist destination, located in a high-traffic area with passive surveillance or eyes on the street, and located along the "desire line" from adjacent bikeways; the path that cyclists are most likely to travel. When possible, short-term racks should also be weather-protected, by siting racks under existing structures or installing free-standing structures.

The *Bicycle Parking Guidelines* from the Association of Pedestrian and Bicycle Professionals recommends selecting a bicycle rack that: supports the bicycle in at least two places, preventing it from falling over; allows locking of the frame and one or both wheels with a U-lock; is securely anchored to ground; resists cutting, rusting and bending or deformation; and above all, bicycle racks must provide a way to lock the frame with a U-lock because cable locks and chains are easily cut. Non-standard racks can be installed by private property owners.



Post-and-Ring Bicycle Racks in Philadelphia



Inverted U Racks in Los Angeles



Bicycle Rack with Built-in Pump in Washington, DC

## 1.2 Signs

### Directional and Wayfinding Signs

Wayfinding signs/maps and information kiosks provide useful information about nearby destinations and public places including parks, historic, and cultural sites. Special care should be taken when designing wayfinding and interpretive signs to ensure that they are attractive, legible, appropriately sized for the user and blend well with the overall streetscape character.

Wayfinding sign design constructed as part of the Greenway should strive to achieve a contemporary style and/or include a blend of natural materials in a sturdy fashion similar to those indicated in this section. Further, the City should work to update their existing wayfinding signage system (example on this page) to include routing for the Morris Canal Greenway where appropriate.

Pavement markings can also be used to assist with wayfinding in some locations. Pavement markings can reinforce that users are on the Morris Canal Greenway. They can serve as a wayfinding tool as well as a subtle marketing tool. Pavement markings can be used on city sidewalks or to indicate turns along an on-street segment where signs may be difficult to see because of parked cars or vegetation.



The Freedom Trail is a Red (Mostly Brick) 2.5 Mile Path through Downtown Boston, Massachusetts, that Leads to Historic Sites.



Carson City, NV Marks its "Kit Carson Trail," with a Six-Inch Wide, Blue Skid-Resistant Surface Line. A Painted Line may be a Cost-effective Way to Implement the Morris Canal Greenway through Jersey City.



Example of a Contemporary Style Pedestrian-Scale Wayfinding Sign, Brooklyn, New York



Kiosk along Monon Trail Indianapolis, Indiana Combines Natural and Contemporary Elements



Wayfinding Sign, Jersey City, New Jersey

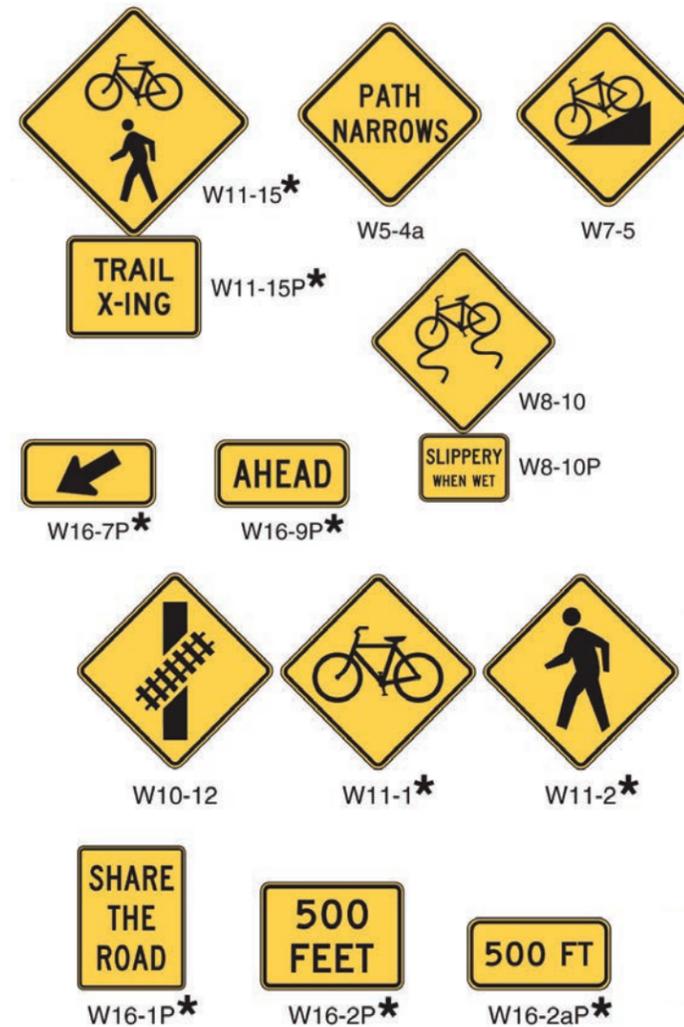
### Regulatory, Warning and Guide Signs

The design and use of signs must be consistent with the national standards of the MUTCD. The three MUTCD sign categories affecting motorists, pedestrians and bicyclists are: Regulatory, Warning and Guidance. Regulatory signs convey traffic laws or regulations that would not otherwise be apparent. Warning signs alert motorists or bicyclists of potentially hazardous conditions on or adjacent to the road or path. The use of warning signs should be limited to areas where the condition might not be apparent, to avoid overuse of a sign. Guidance signs provide bicyclists with information relating to route identification and direction.

### Examples of MUTCD Regulatory Signs



### Examples of MUTCD Warning Signs



### Examples of MUTCD Guide Signs

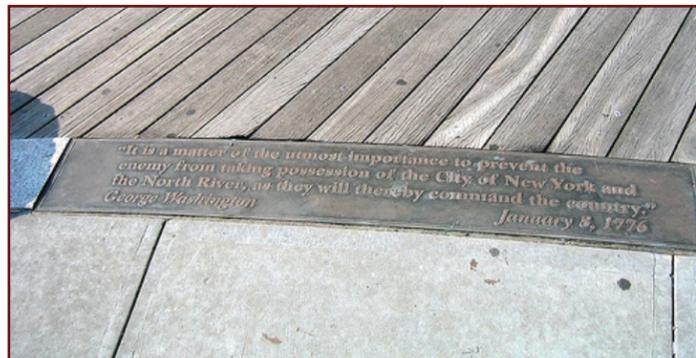


## Interpretive Signs

Interpretive signs can be part of a 'placemaking' strategy in addition to educating visitors about local history, ecology or architecture. They may be part of a greenway, identify a site where a particular event occurred or describe other attributes of the greenway or a neighborhood. With engaging content and when designed and located correctly, they can help encourage people to stop and linger a little longer than usual in a particular place. Interpretation is more effective when there is a comprehensive plan for it. One of this study's recommendations is the development of an interpretive plan.

Interpretation is vital to users' understanding that the Greenway follows the alignment of a nationally-significant historic resource. Markers and public art currently in place already commemorate the history of the Morris Canal in Jersey City. In addition, remnants of physical structures offer an opportunity to "tell the story" of the Morris Canal and should be preserved during the establishment of the Greenway.

Interpretive sign panels should utilize technologies that can withstand graffiti removal and have digital copy artwork available for future reproduction and replacement. Suggested materials include high pressure laminate and polycarbonate due to their durability, warranty (typically ten years) and use of recycled material. Panels may or may not be framed or they can be directly mounted to stone boulders in keeping with the use of natural materials. Designers should coordinate with Jersey City to review proposed interpretive sign locations and subject matter prior to development.



Inlaid Interpretive/Informational Historic Marker, Fulton Landing, Brooklyn, New York



Example of an Interpretive Sign mounted on a Stone Boulder in Alberta, Canada



Interpretive Sign along The Morris Canal Greenway in Wharton, New Jersey



Framed Interpretive Sign in Fairmount Park, Philadelphia, Pennsylvania



Example of a Frameless Interpretive Sign

## Logo/Branding

Establishing a unique Greenway brand is an integral part of the overall plan. To some extent, a recognizable brand has begun to be developed through the consistent use of a unique logo in existing portions of the Greenway in northern New Jersey. Where a segment of the Greenway has been developed, it is important for local residents to recognize the Greenway as a distinct feature and unique experience. Discreet but well placed logos should be the goal for each designer working on the Greenway. Each constructed segment should incorporate the logo in locations where users can readily identify it. It is preferred that these identifiers be combined with other integral elements of the Greenway to minimize individual sign posts, i.e.; attached to a proposed light pole or other existing post or set as a medallion in the pavement.



Morris Canal Greenway Logo and Trailblaze sign adopted by Warren and Passaic Counties



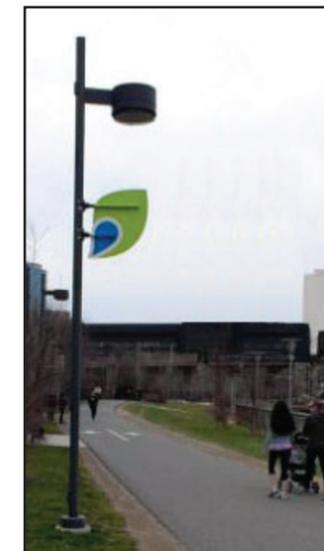
New York City Department of Parks and Recreations Standard Greenway Logo



The Street Sign Indicates that E. Mifflin Street is Part of the Bicycle Boulevard in Madison, Wisconsin



Pavement Marking in Sidewalk Identifying the Route of the Cultural Trail in Indianapolis, Indiana



The Logo for The Schuylkill Banks Trail is Incorporated into the Light Pole in Philadelphia, Pennsylvania



Logo and Location Map for the High Line Posted on a Support Holding Up the Park, Manhattan, New York City



Example of Incorporating Branding and Wayfinding Information to Existing Posts in Jersey City, New Jersey

### 1.3 Lighting

Lighting, along with landscaping, can be used to define travel corridors intended for different travel modes, distinguishing cartways designated for use by vehicles from those designated for pedestrians and cyclists. Street lighting should be provided to illuminate the road for vehicular travel and to brighten and define walkways and bikeways for pedestrians and cyclists. Pedestrian-scale light sources should be positioned 15-20 feet above sidewalks and should be designed in context with surrounding land uses. Light-emitting diode (LED) bulbs or solar powered lights can be used for energy conservation. Both street and pedestrian lighting can be solar powered. Lighting along the Greenway should provide a minimum 0.5 footcandle per square foot level of illumination, depending on surrounding uses and security concerns.

The following principles should guide the selection of forms and fixture types. These criteria have been used in the selection of images included here:

- The lighting system should be distinct and an unifying element along the entire length of the Greenway recognizable during both day or night. The elements of the system (luminaires, poles, arms, etc.) could be considered a kit of parts if variations are required to suit specific areas of the trail
- The appearance of the luminaires, poles and fittings should reflect the industrial heritage of the canal.
- Light sources should be LED to minimize required maintenance. Solar panels or miniature wind turbines should be considered as a means for a sustainable power supply.
- Major intersections should be treated as gateways to the city, perhaps with larger or taller lighting displays that could attract visitors from a distance.

The City of Jersey City maintains a service agreement with PSE&G for all of its light fixtures and poles. Designers of the Greenway should be cognizant of this when considering the signature pole and fixture type for the Greenway.



Contemporary Reflective Lighting, Queens, New York



Day and Night Photographs of the Wind/Solar Powered Street Lights Brooklyn Navy Yard



Historic Light Contemporary Light

Examples of Fixtures Available through the Existing Service Agreement between Jersey City and PSE&G



Historic Light with Pedestrian-scale Light Head and Banner, Route 9A Bikeway, Manhattan, New York



Solar Powered LED Plaza Lighting, Spain

## 2. Landscape Approach

The natural component of the Greenway is equally important as the physical path itself. The Greenway by design will provide a continuous path throughout the City and the landscape associated with this corridor can provide a natural link that connects larger open space parcels along the Greenway. The landscape approach for the Greenway should be site specific and respond to the environmental conditions it travels through. However, overall it should utilize native and low maintenance plants. Doing so will help to ensure a lasting impact that does not overburden City staff and resources. Also, the Greenway landscape should incorporate a continuous palette of native grasses and plants that serves to specifically identify the Greenway. This palette should be identified within the initial construction phase of the greenway and incorporated by future designers and developers of the Greenway as it is constructed.

The amount of landscaping will vary throughout the Greenway where sections are either on-street or constrained by existing conditions. In areas where additional width can be achieved and where bike and pedestrian facilities can be separated, landscaping should be increased and include larger groupings of trees for additional separation, habitat and shade. In areas where limited ROW exists or where small pockets of landscape can be provided, low maintenance landscaping with grasses and perennials is encouraged. The use of traditional turf grass along the Greenway should be discouraged due to increased maintenance and water requirements. Mowing maintenance along the Greenway should be limited to one seasonal mowing where necessary.

Greenway user visibility and site lines for safety should be considered at all intersections and at all locations where separated bike/pedestrian facilities merge. At these locations, the height of all landscape treatments should be limited to +/- 30" for the safety and visibility of the greenway users.



Raised Community Garden Beds along the Richmond Greenway, California



An Example of Low Maintenance, Native Planting Areas along a Greenway



An Example of a Low Maintenance Landscaped Edge Treatment



Parklets Convert Curb-side Parking Spaces into New Public Spaces for Seating, Greenery, and Places to Gather and Stop, San Francisco, California

### 2.1 Street Trees

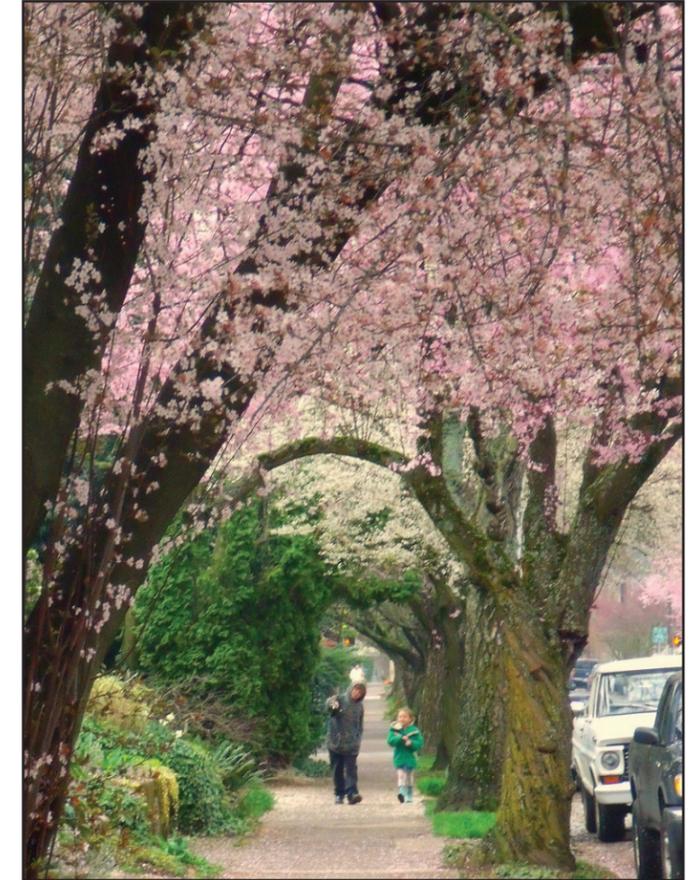
Street trees should be planted along the Greenway route at regular intervals in medians and on sidewalks.

Trees create a link to the natural environment, provide shade for Greenway users and reduce the urban heat island effect. They also function as a traffic calming measure by visually narrowing the roadway by providing a buffer between vehicular and pedestrian traffic. Tree canopies should be dense and continuous.

Trees can be planted at-grade in individual or connected tree pits, with or without pavers and grates, or they can be planted in raised planters.



Planting Groups of Trees Creates an Area with a Dense Tree Canopy, Manhattan, New York City



Flowering Street Trees along a Neighborhood Greenway in Portland, Oregon



Curb Extensions can often be Lengthened to Create Areas for Trees and Plantings as well as Public Spaces in Avalon, New Jersey

## 2.2 Promoting Tree Health

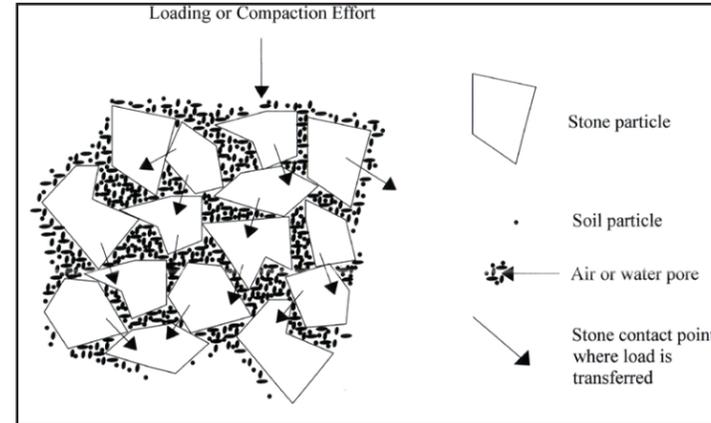
Urban trees are subjected to great stress and few reach maturity due to a variety of factors including soil compaction, lack of air, water and nutrients and exposure to polluted air, noise and salt splash. The scarcity of high quality soil and soil compaction impede drainage and inhibit access to nutrients and oxygen.

There are many ways to allow more water and air to reach roots including using porous pavers over root zones and expanding the size of the tree pit by using structural soil (mix of load-bearing rock and organic soil) under the pavement between tree pits. Connected tree pits give roots more space and should be used wherever possible to improve tree health and longevity. In areas with heavy pedestrian volumes, the trench of connected tree pits can be bridged by sidewalk slabs supported either by structural soil or a subsurface frame system. Grates should be used only where sidewalk width is limited and pedestrian traffic is high, such as at building entrances and in outdoor dining areas.

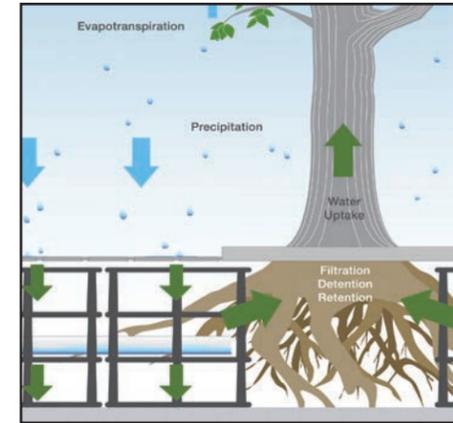
The Jersey City Environmental Commission recommends green infrastructure initiatives including the use of improved tree pit designs to increase the capacity amount of water captured by trees. The Morris Canal Greenway can become a model for demonstrating green infrastructure approaches.



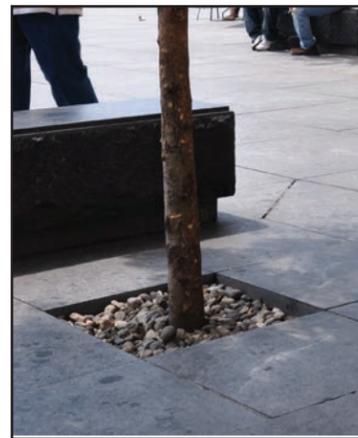
Root Barriers Prevent the Roots from Lifting the Sidewalk or Path but Curtail Growth



CU Structural Soil



Silva Cells Support the Surface Above While Leaving Space for Root Growth and Water Infiltration in the Root Zone



Paver Grate Suspension System with Pavers Installed



Paver Grate Suspension System Without Pavers Installed



CU Structural Soil



Continuous Tree Canopy Planted in Silva Cells, Lincoln Center, Manhattan



Tree Grate



Tree Pit with Concrete Curb and Flowers



Tree Guard with Bike Rack

### 2.3 Sustainable Stormwater Management

Conventional urban infrastructure routes stormwater through catch basins and pipes to a treatment facility, where particulate matter and toxins are removed before they are released back into natural water bodies. Sustainable stormwater management relies on natural absorption and filtration systems (vegetation, soil, and rock) to absorb and filter stormwater before it enters the sewage system, so that it does not need to be piped to treatment facilities.

Jersey City has a combined sewer system that often overflows into waterways, streets and buildings. The Jersey City Environmental Commission recommends minimizing the impact of storm water through the use of green infrastructure. One of the initiatives recommended by the Environmental Commission is to maximize the use of green space for stormwater capture and retention. Jersey City should implement a “Green Streets” program to increase the amount of water captured by trees.

While the cost of sustainable stormwater techniques varies, sustainable stormwater best management practices are typically less costly than conventional methods especially when one considers the ancillary benefits of stormwater management including:

- Greening and landscaping
- Beautifying the public realm
- Providing traffic calming
- Providing habitat for birds and insects



Rain Garden Tree Pit, Brooklyn, New York

#### Rain Gardens and Bioswales

Through design of the Greenway, opportunities should be sought to include large tree pits, amenity strips and planted buffer areas adjacent to the path. Locations where roadway geometry results in excess capacity should be documented and plans developed to convert this space, currently paved with asphalt and concrete, to large planting areas.

Rain gardens and bioswales are not the same as conventional planted areas. A cross-section through a properly designed rain-garden or bioswale shows a deep section filled with layers of sand and gravel and soil. This composition resists compaction and thus allows water to percolate easily. The spaces in the sand and gravel allow for retention of high volumes of water and the various densities of the different layers are extremely effective at filtering the water as it percolates to the aquifer below. Proper planning and design of rain gardens and bioswales dictates that soil borings must be taken to analyze existing soil composition and determine depth to ground water and/or bedrock. Species of vegetation planted in a rain garden or bioswale must be moisture tolerant, adaptable to the soil type used and resilient in the Jersey City environment.



Rain Garden Separates Trail from Roadway, Indianapolis, Indiana



An Example of a Bioswale Along a Residential Street in Seattle, Washington.



Storm Drain Outfall to Rain Garden

#### Porous Surfaces

When possible, porous surfaces should replace impervious surfaces to minimize stormwater runoff, there by increasing groundwater recharge and lessening the burden of stormwater on the sewage system. Porous pavement may be used on sidewalks and bicycle paths, low-volume travel lanes, parking areas, and other low-traffic areas.

Porous surfaces can be pavers, cement, or structural soil designed to allow water to infiltrate through the hard surface. Under the paving material, a stone base holds water during rain events, gradually allowing it to seep into the ground below and ultimately circulate back into the groundwater system without entering the combined sewer system.



Porous Paver Amenity Strip



Porous Pavers in Parking Lot

### 3. Materials

#### 3.1 Surfacing

As the Greenway is implemented, its form will vary based upon the constraints of each part of the route. The surface may also take on different materials depending on on-street or off-street locations and the ability to change the existing surfacing. The guidance for the Greenway is first and foremost to develop a distinct and continuous surface applicable to the user. For cost, constructability and maintenance purposes, asphalt is a logical selection which can be consistent to both on and off street segments. Where the Greenway utilizes an existing or proposed sidewalk network, concrete and/or decorative concrete and pavers should be utilized to distinguish the Greenway from the standard sidewalk network. Consistent, decorative pavement treatments should also be incorporated at locations of Greenway where the right-of-way allows and where amenities and intersections are located. In areas less constrained, separated pedestrian paths are encouraged. These segments can make use of a blended soil stabilizer surface or compacted aggregate surfacing for less impact on the user and to reduce impervious surfacing.

Sidewalks should be constructed with a firm and durable surface such as concrete or pavers. Tinted concrete sidewalks can be surfaced with colored pebble-sized aggregate to create a textured surface. High-albedo (light-colored) exposed-aggregate surfaces help reduce the urban heat island effect by increasing reflectivity. Poured concrete pavement can also be surfaced with silicon carbide to add sparkle and increase slip resistance. Excessive texturing such as deep imprinting to simulate unit pavers can be problematic and may impede ADA compliance.



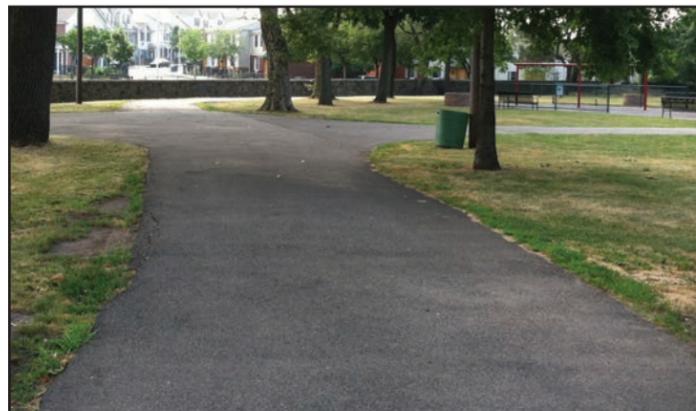
Decorative Pavement Materials (bluestone paving and square asphalt pavers on the sidewalk, extra wide granite curb and granite block in the road bed). Street Trees Utilize Paver Grate Suspension System.



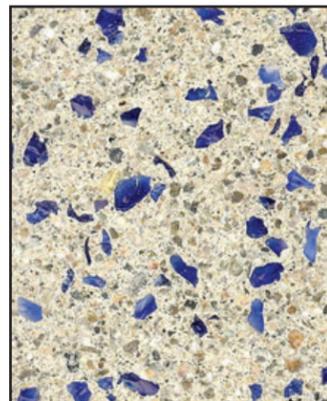
Patterned Concrete Unit Pavers



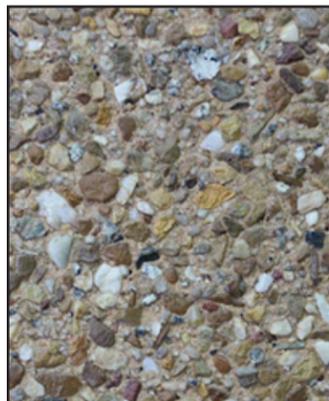
Tinted Concrete Pavement with Silica Carbide to Create Sparkle Effect



For Cost, Constructability and Maintenance Purposes, Asphalt is a Logical Selection



Concrete Pavement with Exposed Recycled Glass and Stone Aggregate Surface



#### 3.2 Edge Treatment

An edge treatment is recommended along the route to differentiate the Greenway and separate it when competing with adjacent sidewalk or other infrastructure. The edge material shall not create a trip hazard for users but shall assist to delineate the Greenway. This decorative pavement material should be complementary with or the same as the pavement material discussed as described in Section 3.1 Surfacing. Where the trail is off street and includes separated bike/pedestrian facilities for an extended length, this edge treatment is less warranted and strictly design driven. In this case, it may be considered to leave out this treatment in an effort to save cost and future maintenance if approved by Jersey City.



Paver Edge being Installed along Carrall Street Greenway, Vancouver



A painted concrete barrier is used along one edge and pavers form the other in this stretch of the Hudson River Greenway, NYC



Asphalt Shared Use Path with Concrete Edging, Seattle, Washington



Grass Pavers Form the Edge between the Roadway and Bikeway, Barcelona, Spain

#### 4. Accommodating the Greenway on Streets

The Greenway will be a linear public space. When the route is located on-street, the street should feel different than a typical city street. Streetscape elements that give the Greenway a sense of place and an identity as a public space should be used. The streetscape elements that follow are intended to enhance comfort, safety and aesthetic appeal along the Greenway.

##### 4.1 Bicycle Accommodations

The Greenway's bicycle facilities should be suitable for users of all ages and experience levels. When designing on-street bicycle accommodations, protected facilities should be considered when the right-of-way is available. Protected facilities are those with physical separation such as parked cars, striped buffers with flexible bollards, and landscaped areas.

On-street accommodations must adhere to local, state and national guidelines.



Contra-Flow Bike Lanes Allow Bicyclists to Ride in the opposite direction of motor vehicle traffic, Chicago, Illinois



A Mini Traffic Circle on the Guilford Avenue Bicycle Boulevard Reduces Speeds and User Conflict, Baltimore, Maryland



Parking Protected One-Way Bike Lane, Chicago, Illinois



Combined Bike Lane/Turn Lane, Eugene, Oregon



Bicycle Signals are Used to Provide Guidance for Bicyclists at Intersections Where They May Have Different Needs from Other Road Users (e.g., bicycle only movements, leading bicycle intervals), Salt Lake City, Utah



Two-Way Parking Protected Bike Lane, Brooklyn, New York



Two-Way Bike Lane on One-Way Street, Brooklyn, New York

## 4.2 Pedestrian Accommodations

The pedestrian component of the Greenway must be safe and comfortable to function well as an important public space. At a minimum, sidewalks along the Greenway route should be in good repair and provide at least five feet of unobstructed pedestrian space. Five feet of width allows the two people to walk comfortably side by side and meets ADA requirements. However, five foot sidewalks also make it difficult to provide important additional streetscape elements and pedestrian amenities. Therefore, the recommended sidewalk width along the Greenway is seven feet or greater. A wider sidewalk offers pedestrians space to walk at their chosen pace and to socialize. They also offer more space for landscaping and amenities, making the Greenway more useful and attractive.

When possible, distinctive treatments should be considered in order to provide enhanced visibility and priority to pedestrians alongside bicycle facilities, vehicular thoroughfares and industrial areas.



Wide Sidewalk along a Neighborhood Greenway in Seattle, Washington

### Crosswalks

Crosswalks make pedestrian actions more predictable for motorists and bicyclists by indicating accepted crossing locations. The design of crosswalks should be consistent throughout an area. Non-standard crosswalks should utilize materials, textures and colors that are compatible with the materials and furnishings included in the overall streetscape design.



Concrete is Used for the Crosswalk along a Neighborhood Greenway in Portland, Oregon



Specialty Pavement Markings at an Intersections along the Cultural Trail, Indianapolis, Indiana



This High-Visibility Ergonomic Crosswalk Follows Pedestrian Desire Lines in Montclair, New Jersey

### Refuge Islands

Refuge islands are protected spaces placed in the center of the street to facilitate bicycle and pedestrian crossings. Crossings of two-way streets are facilitated by allowing bicyclists and pedestrians to navigate only one direction of traffic at a time. A refuge island should be considered for relatively wide roadways with multiple lanes and few gaps in traffic and may be used at signalized or unsignalized crossings. In some locations, the plans for the Greenway may include medians, particularly on wider roads. Curb ramps or cut-throughs must be provided for ADA compliance.



An Example of a Mid-Block Crossing with a Pedestrian Refuge Island Pointing Pedestrians to Look at Oncoming Vehicles in Asheville, North Carolina



Pedestrian Refuge Island in West Windsor, New Jersey

### Hybrid Beacon

A hybrid beacon, also known as a HAWK (High-intensity Activated Crosswalk), is a combination of a flashing beacon and traffic signal used at marked crosswalks. It consists of a signal-head with two red lenses over a single yellow lens on the major street, and pedestrian and/or bicycle signal heads for the minor street. A hybrid/HAWK signal can be implemented where a conventional traffic signal is not desired due to the potential to increase traffic volumes on minor street approaches.

A hybrid/HAWK signal should be considered where the Greenway intersect major streets without existing signalized crossings and or at mid-block crossings of major roadways with high bicycle or pedestrian volumes.



Hybrid/HAWK Signal, Salt Lake City, Utah



HAWK Signal in Arlington, Virginia



Pedestrian Actuated Signal, Calgary, Canada



Colored Pavement and Variations in Materials are Used to Define Conflict Areas along the Carrall Street Greenway in Vancouver, British Columbia..

## 5. Accommodating the Greenway off Streets

Off-street paths located away from the street grid, primarily within parks and along the waterfront, have few intersections and as a result, are safer for bicyclists and pedestrians than bicycle and pedestrian facilities located alongside or on roadways.

Special attention must be paid, however, to accommodating both pedestrians and bikes when forcing them to mix and share the same space on two-way paths. Locations where pedestrians must cross dedicated bike paths to reach pedestrian only paths or sidewalks should be well marked. Adequate buffer space between modes should be provided, where possible to increase visibility and channelize conflicting or opposing streams of traffic.

The AASHTO *Guide for the Development of Bicycle Facilities* should be followed during planning, design, and construction projects to ensure that appropriate bicycle facilities are provided.

### Examples of Paths with Buffers Separating Uses



Bicycle and Pedestrian Paths Separated by Planting, Randall's Island, Manhattan, New York City



Off-street Multi-use Pathway with Planted and/or Fenced Separation Between Bicyclists and Pedestrians Along the West Side Highway in Manhattan, New York



Separate Bicycle and Pedestrian Paths at Unstructured Edges, Randall's Island, Manhattan, New York City

### Signs and Pavement Markings

Pavement markings and signs should be clear, making use of accepted symbology and designed in accordance with recognized design guidance.

High-visibility markings should be used on bicycle facilities when crossing pedestrian paths, driveways and intersections. Better visibility between modes provides a safer and more comfortable experience for Greenway users.



Signs Delineating Pedestrian and Bicycle User Separation



Striping and Pavement Markings are Used to Delineate Uses and Direction along The Orange Line Path, Los Angeles

### Off-Street Path Dimensions

The desired minimum width for a two-way, off-street shared-use path is 12' to accommodate two bicyclists and two pedestrian to pass side-by-side. However, there may be locations along the Greenway where the width may be less than desired. This 'pinch point' may only exist for a short segment such as a link between parks or to avoid a busy street. It is important that the development of the Greenway does not become stalled because locations are unable to accommodate a 12' wide path.



The Midtown Greenway in Minneapolis, Minnesota is an Example of a Path with a Width Greater than 12'



This Section of the Queens East River Greenway is Only Able to Accommodate an 8' Wide Shared-Use Path

## 6. Public Art

Public art should be considered to both anchor and highlight important nodes within public open spaces. Public art can include traditional sculpture or more playful designs. Attention should be paid to the use of art to enliven long stretches of the Greenway, using linear elements such as decorative fences, light pole banners and wall murals. When designed and installed by local talent, public art is also a good mechanism for engaging the immediate community and encouraging a sense of ownership of a particular segment of the route. Proposals should be reviewed and approved by an 'arts' committee as determined by the City of Jersey City.

Public art can also be used to tell the many rich stories of the Morris Canal Greenway and the growth of Jersey City. Murals, sculptures and other installations can create opportunities for public engagement and youth programming. Public art can also serve a dual purpose, as murals in urban trail corridors aid in the abatement of illegal graffiti.



Gateway to the North Willamette Greenway Trail in Portland, Oregon is Made from Sections of the Massive Sewer Pipe Running Under the Willamette River

### Public Art with Historic Themes



A Full-Size Replica of a Morris Canal Boat in Warren County, New Jersey



"Battle Pass" by Sasha Chavchavadze was Inspired by the Revolutionary "Liberty Poles" Erected by Revolutionaries as a Symbol of Their Resistance and is Located Where George Washington Watched the Battle of Brooklyn.



Mural along the Morgana Run Trail, Cleveland, Ohio



Urban Art Installation - Claes Oldenburg, Lenfest Plaza, Philadelphia



Visitors to the Riverfront Park in Trenton, New Jersey can Learn About the City's History through Interpretive Art.



Public Art Installation along the Little Sugar Creek Greenway in Charlotte, North Carolina



Public Art Installation along the Downtown Greenway in Greensboro, North Carolina, Commemorating Ashe Street, the First Organized African American Community in the City.

# PART 3: INTERPRETIVE DEVELOPMENT PLAN



### PART 3: Interpretive Development Plan

#### Morris Canal – An Historical Overview<sup>4</sup>

The Morris Canal and Banking Company was chartered by the State of New Jersey on December 31<sup>st</sup>, 1824 and granted the right to build a canal to link the anthracite coal fields of the Lehigh Valley in Pennsylvania with the industrial and domestic markets in northern New Jersey and New York City. Construction began in 1825, and the canal was put into full service between Phillipsburg on the west and the original eastern terminus at Newark in 1831. In 1828 the company was granted the right to extend the canal further to the east to reach the harbor of New York, and the extension of the canal was completed to Jersey City in 1836. This accomplishment was augmented in 1837 by the company's completion of the Pompton Feeder, which served to supplement Lake Hopatcong as the canal's primary source of water supply. Although a range of freight was handled during the canal's century-long term of operation, coal was the dominant commodity from the beginning and throughout its operational history.

In 1835 the canal's prism was generally described as being 32 feet wide at the water line, 20 feet wide at the bottom, and 4 feet in depth. The canal's most noteworthy physical component was the system of inclined planes utilized to handle the high elevations through which the waterway passed in northern New Jersey. A total of 23 inclined plans were built on the canal, and these impressive engineering features provided for the transport of canal boats between canal levels and handling elevation changes of up to 100 feet. Boats were loaded into plane cars that ran on iron rails that could be either pulled up or lowered down the incline by machinery powered by the gravity of water from the canal's upper level at the head of the plane. The canal also utilized more conventional locks to handle smaller changes in elevation, with a total of 34 used during the course of the canal's term of operation. All of these inclined planes and locks were altered, improved, and, in some cases, rebuilt during several programs of improvement at different times during the 19<sup>th</sup> century. The canal's prism was enlarged in 1841 and 1845 and again between 1847 and 1860 to increase operational efficiency.

The Morris Canal was leased by the Lehigh Valley Railroad in 1871. This agreement was part of the Lehigh Valley's plan (ultimately successful) to provide for the extension of their rail line across New Jersey to reach the harbor of New York. This acquisition and, more importantly, the rising dominance of the railroads as a more efficient carrier of coal, led to a gradual and continual decline in both the operations and profitability of the canal. The abandonment of the canal was strongly considered by the turn of the century, but various factors combined to result in a continuation of operations for a quarter-century. The Morris Canal was formally abandoned in 1924, and the actual dismantling of the canal was completed in 1929.

<sup>4</sup> The history of the Morris Canal has been extensively covered in both secondary sources and in various reports. For additional information see Vermeule 1929; Lane 1939, Kalata 1973; Lefferts and Peifer 1979; Kalata 1983, Lee 1983; Morrell 1983; Goller 1987, Simon 1992, Rutsch and Sandy 1995; and Macasek 1996.

#### Introduction

The Morris Canal Greenway would not be complete without the telling of the many rich stories associated with the canal and the growth of Jersey City. The greenway presents a major opportunity, moreover, for telling most if not all of Jersey City's stories as the leading edge of a comprehensive approach to an interpretive presentation for the city.

This section lays out an approach and recommendations for interpretive planning for the City of Jersey City and its interpretive partners. It features a collaborative approach to involving neighborhoods touched by the canal to encourage them to pursue community expression and placemaking through interpretation of the canal, industry, and neighborhood stories. While the greatest benefit in interpreting Jersey City would come from a planned and coordinated effort, recommendations here can and should be undertaken opportunistically. Demonstrating interpretive methods or taking advantage of places where an energetic neighborhood is willing to become engaged, for example, will go a long way toward encouraging greater public involvement and support.

The City of Jersey City should take advantage of all of its resources in the context of its entire history. Jersey City has long been blessed by citizens passionate about its history and architecture and civic leadership that enabled historic preservation through public and private initiative. It was one of the earliest American places to benefit from second-generation industrialization – not through water power, but through coal energy – as well as to experience the direct impacts of transportation innovations, first the canal and then railroads. Thus, Jersey City has an important national story to tell and the historic resources with which to tell that story in many intriguing ways. The Morris Canal Greenway presents a major opportunity for the city and its neighborhoods, residents, and organizations to provide coordinated and expanded interpretation – call it a “museum without walls” – but the full scale of this opportunity is city-wide and ranges from the city's earliest beginnings to its most recent history.

#### Benefits of Interpretation

Interpretation is a means through which residents and visitors can be engaged and become informed about the nature and character of Jersey City. Interpretation communicates the meaning and significance of places, people, and events to audiences who experience it. Through interpretation, residents and visitors learn about their community, how it has evolved over time, and why its people, landscapes, buildings, and resources are important.

Interpretation should be achieved creatively through the coordinated actions of a wide variety of partners and in as many ways as possible through outdoor interpretive exhibits, lectures and other kinds of performances, printed brochures and guides, and social media and digital applications.

Involving residents in creating these presentations is an educational and interpretive experience in its own right. Moreover, residents who are engaged and informed through interpretation are more likely to support and participate in local and regional initiatives for community revitalization and betterment.

Interpretive development of the Morris Canal Greenway in Jersey City has the potential for many benefits, as expressed through the vision and goals set for the project.

### Vision and Goals

The vision developed for the greenway identified with Steering Committee and stakeholder input at the beginning of this project clearly expresses ambitions that can be met through interpretation (emphasis added):

Stretching 8.5 miles around the southern half of Jersey City, the Morris Canal Greenway is a world-class bicycle and pedestrian destination. Built upon one of the city's greatest historic resources, the Morris Canal, the Greenway celebrates the City's industrial past while providing safe and convenient access for residents and visitors to neighborhoods, parks, schools, businesses, attractions, and transit. The Morris Canal Greenway is both an educational tool for displaying Jersey City's history and regional significance and a lasting source of community pride.

Goals set for the project provide more details for accomplishing the vision. The following goals are related to interpretation, with explanations about how interpretation will contribute:

- **Create an enhanced sense of place for the community**  
The creation of better connections can enhance neighborhoods' access to and understanding of the greenway, not simply through physical recreational connections, but also through story-telling and community expression. Greater use of the arts can express community attachment to local places, especially the canal. And interpretation can promote not only history, but also the promotion of **community understanding of local natural resources and the story of the environmental legacy** that accompanied industrial development spurred by the canal and, later, the railroads.
- **Greater awareness of existing attractions and the creation of a new destination**  
Interpreting the greenway provides an **opportunity for those interested in history and historic resources to rally** around a dynamic new means of preserving a major resource and telling a major story. The greenway has the potential to connect existing historic resources throughout Jersey City that are not directly associated with the Morris Canal.
- **Renewed connection between the community and its history**  
Interpretation along the Morris Canal Greenway can help it become, in the words of the vision cited above, "a lasting source of **community pride**" by enabling residents to learn about (1) the accomplishments and legacy of the past (in the words of the vision, "celebrates the City's industrial past"); and (2) Jersey City's contribution to New Jersey's and the New York City area's growth. Well-designed interpretive facilities can also comprise, again, in the words of the vision, "**an educational tool for displaying Jersey City's history and regional significance**," in particular for schoolchildren. Local-history education programs can create generations of residents who bond to Jersey City during childhood and can encourage students attending the local colleges and universities to stay in Jersey City after graduation. This can create a lasting supply of caring, interested residents who provide the leadership and local support needed by successful communities.

- **Preservation of culturally and historically valuable sites**  
**Historic canal structures can be preserved** during greenway construction, and public interest in further historic preservation can be stimulated by knowledge of **how nearby historic buildings act as touchstones** for Jersey City history and culture, knowledge that can be provided through interpretation.
- **Contribute to the local economy by attracting visitors interested in heritage and eco-tourism**  
**A Morris Canal Greenway "museum without walls" will provide opportunities for visitors to learn about Jersey City's history and environmental heritage** and enjoy its tourism assets.

### Measures for Success

Early in the planning process, the project's Steering Committee was asked how they would measure success of the greenway. Among their responses were the following, selected here as those that relate to the role of interpretation in completing the greenway:

- The Morris Canal Greenway is a **destination in and of itself**, a place people seek out;
- The Morris Canal's **historic significance is highlighted throughout** the alignment;
- [The primary greenway experience will] create **an enhanced sense of place** for the community;
- [The connectivity provided by the greenway will create] **greater awareness of existing attractions** and the **creation of a new destination**;
- [The connectivity provided by the greenway will create] **Renewed connection between the community and its history**; and
- [The connectivity provided by the greenway will stimulate] **Preservation of culturally and historically valuable sites**.

While these responses essentially repeat the vision and goals, they are listed here because they identify topics for which specific baseline measurements could be made and/or objective quantification of progress over time is possible.

### Rationalizing the Greenway's Sense of Place

Interpretation, moreover, is vital to users' understanding that the greenway follows the alignment of a nationally significant historic resource. (Note: The primary criterion for the proposed long-term greenway alignment is to follow the original canal alignment. For the most part the proposed greenway follows the historic canal alignment closely, with the exception of a few segments where the original alignment is inaccessible because of development.) With the passage of time – 2014 will see the 90<sup>th</sup> year after the canal ceased operation entirely – and much change to Jersey City since, there are few visible reminders of the Morris Canal. Indeed, some sections have become so changed over time that they are not to be routes for the greenway. Most notable among these is the colorfully named Fiddler's Elbow section, the sharp turn of the canal from south to north, which in the mid-20<sup>th</sup> century provided space for access to the extension of the New Jersey Turnpike into Jersey City. Interpretation can rationalize and enhance the experience of a useful recreational and transportation alignment by revealing its relationship to the places through which it passes.

### Background: The Morris Canal in Jersey City

The Morris Canal is listed in the National and New Jersey Registers for Historic Places, which will carry a certain amount of cachet for many visitors. In order to be listed on these registers, documents describing the canal’s significance were compiled in a nomination package. These documents are a resource for development of interpretive content.

The canal first delivered Pennsylvania’s high-energy, clean-burning (relatively speaking) anthracite coal to New York City in 1836, a substance that revolutionized transportation, industry, and even architecture over the 19<sup>th</sup> century. The canal “is historically significant as the first effective transportation route constructed between Pennsylvania and the New York Harbor for the movement of bulk goods. It was used to transport anthracite coal from the mines of Pennsylvania and iron, farm products, and raw materials from Pennsylvania and New Jersey. Running across New Jersey from Phillipsburg to Jersey City, it brought business and development opportunities to towns along its path.” (Liberty State Park, *Draft Interpretive Plan*, June 8, 2009, p. 17)

Although it operated until 1924, after the 1870s the canal faced stiff competition from the railroads, “which could carry cargo faster and cheaper and also operate during the cold winter months.” (Liberty State Park, *Draft Interpretive Plan*, June 8, 2009, p. 10)

The Morris Canal in Jersey City followed a six-mile course around the southern half of the city linking the Hudson and Hackensack Rivers. Its unique shape within the city’s geography traces the edges of the upland Palisade formation it had to avoid. Most of the right-of-way has been filled in, and the fairly consistent grade of the circuitous route makes a proposed greenway manageable and attractive for walking and bicycling. It also provides about half the “circuitry” that Jersey City could use to encourage visitors and residents to move around the city to learn about its history and enjoy the city’s attractions.

The proposed greenway will provide connections to the Hudson River Waterfront Walkway, East Coast Greenway, park trails, and the planned Hackensack River Waterfront Walkway. Moreover, it links many city assets. Within a quarter mile of the former alignment of the Morris Canal there are:

- 20 schools
  - 18 in Jersey City, 2 in Bayonne
  - 8 public, 9 private, 3 charter
  - 11 elementary schools, 4 elementary/middle schools, 1 middle school, 3 high schools, and 1 special elementary school for children with autism
- 1 college (New Jersey City University)
- 2 recreation centers
- 24 houses of worship
- 6 neighborhoods as defined by the Jersey City Economic Development Corporation (note: a more-detailed definition of neighborhoods has been employed for Table 3)
- 509 listed, identified, or eligible Historic Properties
- 10 listed, identified, or eligible Historic Districts including the Morris Canal Historic District
- 9 areas of NJDEP wetlands

- 4 areas of species-based habitat (for shortnose sturgeon; peregrine falcon; black-crowned night-heron; and cattle egret) and other habitat, primarily for birds and marine animals
- 5 Hudson Bergen Light Rail stations
- 153 NJ TRANSIT bus stops

The Morris Canal alignment *per se* generally links few historic and natural resources, but those that it does link offer significant interpretive opportunities. Table 3 suggests a way of organizing existing resources and neighborhoods to examine opportunities for early action and interpretive approaches. While not all resources are directly related to the Morris Canal, interpretation may describe the relationship or common story between the canal and the resource. This should be combined in the final Morris Canal Greenway plan’s implementation strategies with the planning for phased development, so that early phases of the greenway’s development can be accompanied by early interpretive initiatives. There are sure to be focal points where neighborhoods can be better connected with the greenway, on and near the route.

### Methodology for Interpretive Planning

A situation analysis was performed to determine the status quo, which pursued such questions as:

- Which organizations and programs are already interpreting the Morris Canal in Jersey City, and how?
- What interpretive themes are already in use in Jersey City relating to the city’s history, cultural landscape, and growth (all of which were influenced by the Morris Canal)?
- How do audiences use programs and sites? That is, what is the typical visitor experience?
- How do audiences currently learn about experiences to be pursued in Jersey City?
- How/when/why do interpreting organizations work together?
- How can organizations that are interpreting Jersey City support and benefit from the new Morris Canal greenway initiative?

Interviews with key stakeholders were conducted. Additional investigation was conducted during a tour of Jersey City and at the first public meeting for this effort on October 3, 2012, which followed an open house format. These activities informed the ideas documented in this memo.

### Situation Analysis

#### Existing Interpretation

Interpretive sites are summarized in Tables 3 and organizations are listed in Table 5. In general, while of interest individually, taken together, the collection of interpretive attractions (identified and described in enticing detail by Destination Jersey City, the official tourism website of Jersey City) do not come across as a unified whole, the experience of which would induce a visitor to spend time experiencing more than one or two.

A key conclusion from the situation analysis is that richer and more complete interpretation of the Morris Canal Greenway combined with a more cohesive, comprehensive approach to interpreting the city’s many

fine sites and their stories could create an outstanding experience. Churches were built by congregations whose members worked on the canal and in the industries alongside it, grand residences and simple neighborhoods alike are tied to the city’s growth that was triggered in large measure by the canal, theaters and museums bespeak the cultures and cultural traditions inherent in the city-building the canal spurred, and so on. If all were to be tied together with a single, introductory narrative that shapes and centers the stories they are already telling, the experience could be a powerful one.

In terms of existing institutional leadership, three city-based entities offer general historical interpretation about Jersey City as a whole. None of these, it should be noted, view their primary role as interpretive, yet they offer substantial leadership potential for improving the city’s interpretive presentation:

- The Jersey City Landmarks Conservancy, a historic preservation group, which offers lectures, walking tours, publications, and a website;
- The New Jersey Room of the Jersey City Free Library, an archive of materials about New Jersey with an emphasis upon Jersey City and Hudson County, including about 20,000 volumes, 13,000 images, and an extensive collection of historic maps; the director, Cynthia Harris, has recently compiled a popular book of images from Jersey City; and
- The City of Jersey City itself, which is in the process of establishing a small house museum display on the first floor of the Apple Tree House - Van Wagenen House, the city’s oldest structure. The Apple Tree House is located north of the area to be served by the greenway.

Premier among sites along the canal already offering interpretation is Liberty State Park, including the area known as Morris Canal Peninsula Park. Much of the state park’s current focus is interpreting natural resources, one of the themes discussed below. The state park also could offer assistance in presenting other interpretive themes city-wide, since it interprets the railroads and terminal.

Along with these “big four” interpreting institutions, the website entitled “Jersey City: Past and Present” is “a digital project of New Jersey City University (NJCU) that was designed to inform its viewers in words and images about Jersey City. The website exemplifies one of the ways that NJCU, Jersey City’s only public university, seeks to reach out to the surrounding communities.” (<http://www.njcu.edu/programs/jchistory/About.htm>). No discussion of existing interpretation of the Morris Canal in Jersey City would be complete without mention of the Canal Society of New Jersey. The society’s website and programs offer outstanding information about the history and resources of the canal, including occasional lectures and tours tailored to the Jersey City segment of the canal.



Interpretive panel and seating, Liberty State Park’s Morris Canal Peninsula Park

In terms of specific existing sites, the state park’s Morris Canal Peninsula Park is physically the largest existing effort. It is located between the canal’s Little Basin and Big Basin, associated with the terminus of the Morris Canal,

being a small peninsula of land between these two bodies of water. Part of Liberty State Park since the park’s establishment in 1976, the peninsula was developed into a public open space in 1996 with several outdoor interpretive panels explaining the canal.

In addition to the interpretation of the canal offered at the state park’s Peninsula Park, some interpretation exists at or near various stations of the Hudson-Bergen Light Rail. A modest sign about the existence of the canal parallel to the HBLR right-of-way is offered at both the Richard Street and Jersey Avenue HBLR stations. The light rail stations are more notably excellent examples of the use of public art as an interpretive element in landscape design. While the topic is not directly related to the canal, the Danforth Avenue station is an example of how public art can be used to illustrate a theme and bring the viewer’s imagination into the scene, with the artist playfully imagining and picturing “lost luggage” found through archeology (perhaps a reference to Ellis Island immigrants who used the rail line to embark on their new life in America). Artistic elements are also incorporated into the fencing at the Richard Street HBLR station. Both of these works were commissioned through NJ TRANSIT’s Transit Arts Program.



Sign indicating the location of the Morris Canal from the Richard Street Station



“Immigrant Remnants” at the Danforth Avenue Station



Wheels inserted into the fencing at the Richard Street Station

There are other interpretive efforts throughout the City related to the greenway alignment, e.g., some other signage and pavement markings. These are generally modest, good-hearted efforts that provide variety and interest already, but they lack the impact that could come from a greenway-wide presentation. They should be incorporated into an overall and/or neighborhood implementation plan, with determination on an individual basis according to careful evaluation to let stand, enlarge, enhance, or replace and upgrade as appropriate.

**Table 3: Neighborhoods, Historic Resources, and Interpretive Sites in Jersey City in Proximity to the Morris Canal**

Neighborhood <sup>1</sup>	Related Historic District <sup>2</sup>	Morris Canal Resource <sup>3</sup>	Interpretive Resource <sup>4</sup>
Lincoln Park (off canal alignment)			
McGinley Square (off canal alignment)			<ul style="list-style-type: none"> <li>• Temple Beth-El</li> <li>• New Jersey National Guard Armory</li> <li>• Old Bergen Reformed Church</li> <li>• St. Aedan’s Church</li> </ul>
West End	<ul style="list-style-type: none"> <li>• Lafayette Gardens Historic District</li> </ul>	<ul style="list-style-type: none"> <li>• Morris Canal Halladay Street Basin</li> <li>• Natl. Docks R.R./Morris Canal - Pacific Ave Bridge</li> <li>• Mill Creek Aqueduct/Sluice Gate/Outlet Lock</li> </ul>	
Van Vorst Park (off canal alignment)	<ul style="list-style-type: none"> <li>• Van Vorst Park Historic District</li> </ul>		
The Village (off canal alignment)			
Harsimus Cove (off canal alignment)	<ul style="list-style-type: none"> <li>• Harsimus Grove Historic District</li> </ul>		
Grove Street (off canal alignment)			<ul style="list-style-type: none"> <li>• Barrow Mansion</li> <li>• Harsimus Stem Embankment - Sixth Street</li> <li>• City Hall</li> <li>• Jersey City Public Library - Main Branch (with the New Jersey Room)</li> <li>• Saint Bridget's Church</li> <li>• St. Michael's Church</li> </ul>
Powerhouse Arts District (off canal alignment)	<ul style="list-style-type: none"> <li>• Warehouse Historic District</li> </ul>		<ul style="list-style-type: none"> <li>• The Hudson &amp; Manhattan RR Powerhouse</li> </ul>
Liberty Harbor		<ul style="list-style-type: none"> <li>• Jersey City Steel Works</li> <li>• Jersey City Glass Works (</li> <li>• Morris Canal Tide Lock 22 East</li> <li>• American Sugar Refining Company Complex</li> </ul>	
Paulus Hook	<ul style="list-style-type: none"> <li>• Paulus Hook Historic District</li> </ul>	<ul style="list-style-type: none"> <li>• Morris Canal Packers Dock (South St Pier)</li> <li>• Morris Canal Little Basin</li> <li>• Morris Canal Scranton Dock (Hudson St Pier)</li> </ul>	

<sup>1</sup> Clockwise from left (more or less). Neighborhoods are delineated at [http://wardensandroosters.blogspot.com/2011/02/jersey-city-neighborhood-map\\_14.html](http://wardensandroosters.blogspot.com/2011/02/jersey-city-neighborhood-map_14.html). The map can also be found in the appendices.

<sup>2</sup> Historic districts are shown on the Map 3: “Historic Features, Properties & Districts” in section 1 of this report.

<sup>3</sup> Descriptions and a map of historic features related to the Morris Canal can be found in the appendices.

<sup>4</sup> Interpretive resources are listed and described at <http://www.destinationjerseycity.com/things-to-do/history-heritage/>. New Jersey City University was added because of the university’s dedication to compiling historical information about the city.

Table 3: Neighborhoods, Historic Resources, and Interpretive Sites in Jersey City in Proximity to the Morris Canal

Neighborhood <sup>1</sup>	Related Historic District <sup>2</sup>	Morris Canal Resource <sup>3</sup>	Interpretive Resource <sup>4</sup>
Exchange Place			<ul style="list-style-type: none"> <li>• Colgate Clock</li> <li>• Museum of Russian Art (MoRA)</li> <li>• Our Lady of Czestochowa Catholic Church</li> <li>• Saints Peter and Paul Orthodox Church</li> <li>• U.S Post Office</li> <li>• (Note: The Underground Railroad is also listed as belonging to this district, although it generally is a story that belongs to the city as a whole)</li> </ul>
Liberty State Park		<ul style="list-style-type: none"> <li>• Adirondack Steel Works</li> <li>• Morris Canal Tidewater Basin</li> <li>• Numerous wetlands and much natural habitat for wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• Central Railroad of New Jersey Terminal</li> <li>• Liberty Science Center</li> <li>• (Note: Also in association with Liberty State Park, of course, are the Statue of Liberty National Monument, Ellis Island, and Liberty Island)</li> </ul>
Communipaw	<ul style="list-style-type: none"> <li>• Communipaw-Lafayette Historic District</li> <li>• Whitlock Cordage Company Buildings Historic District</li> </ul>	<ul style="list-style-type: none"> <li>• Whitlock Cordage Company Complex</li> </ul>	
Bergen-Lafayette	<ul style="list-style-type: none"> <li>• Bergen Hill Historic District</li> <li>• West Bergen Historic District</li> </ul>		<ul style="list-style-type: none"> <li>• Jersey City Public Library - Miller Branch</li> <li>• New Jersey City University (NJCU)</li> <li>• Old Bergen Church Cemetery</li> </ul>
Port Liberte		<ul style="list-style-type: none"> <li>• Lehigh Valley R.R. / Morris Canal Bridge Abutments (four)</li> </ul>	
Greenville		<ul style="list-style-type: none"> <li>• Lehigh Valley Railroad / Morris Canal Bridge</li> <li>• Pennsylvania Railroad / Morris Canal Bridge</li> <li>• Central R.R. of NJ / Morris Canal Bridge Abutments</li> <li>• Standard Oil Co. Pipeline / Morris Canal Bridge</li> <li>• Morris Canal Fiddler's Elbow</li> </ul>	<ul style="list-style-type: none"> <li>• Afro-American Historical Society Museum</li> <li>• Jersey City Public Library - Glenn D. Cunningham Branch</li> <li>• Saint Patrick's Church and School</li> </ul>
Greenville Yards	<ul style="list-style-type: none"> <li>• Pennsylvania Railroad New York Bay Branch Historic District</li> <li>• Greenville Yard Historic District</li> </ul>		
West Side		<ul style="list-style-type: none"> <li>• Morris Canal Lock 21 East Complex</li> </ul>	
Journal Square			<ul style="list-style-type: none"> <li>• The Apple Tree House - Van Wagenen House</li> <li>• Govinda Center</li> <li>• Jersey City &amp; Harsimus Cemetery</li> <li>• Jersey City Public Library - Five Corners Branch</li> <li>• The Landmark Loew's Theatre</li> <li>• Newkirk House</li> <li>• Stanley Theater</li> <li>• William J. Brennan Courthouse (Hudson County Courthouse)</li> <li>• William L. Dickinson High School</li> </ul>
The Heights (off canal alignment)			<ul style="list-style-type: none"> <li>• Jersey City Public Library – Heights Branch</li> </ul>
Newport (off canal alignment)			<ul style="list-style-type: none"> <li>• The Holland Tunnel</li> </ul>

**Table 4: Interpretive Themes Used by Liberty State Park**

Primary Interpretive Themes – Liberty State Park
Liberty State Park’s location along the shores of the Hudson River Estuary and the protection of this land is key to the survival of numerous species.
For centuries, people have interacted with the land that is now Liberty State Park.
Throughout history, the land that was Communipaw Cove and is now Liberty State Park served as a major transportation hub.
Secondary Interpretive Themes – Liberty State Park
<i>Black Tom Munitions Depot Explosion:</i> During World War I, the munitions depot at Black Tom, located in what is now the southern portion of Liberty State Park, was blown up in one of the “greatest acts of sabotage on American soil”.
<i>September 11, 2001:</i> Because of its proximity to the World Trade Center, Liberty State Park’s staff and visitors were witness to the September 11, 2001 terrorist attacks. The park was used as a destination point for people fleeing the city and a resource center for families following 9/11.

Source: Liberty State Park, *Draft Interpretive Plan*, June 8, 2009, pp. 30-31

**Existing Interpretive Themes, Audience, and Outreach**

Outside Liberty State Park, which has an outstanding draft interpretive plan, interpretive themes are not specifically employed to organize interpretive offerings. The current approach is to be guided by city resources and stories, loosely organized around what might be called a theme, the city’s establishment and growth over time. Two of Liberty Park’s three primary themes focus on nature and human-nature interaction over centuries (Table 4); the third, naturally enough, addresses the role of the site as a transportation hub.

**Existing Audiences**

Existing audiences for Jersey City interpretive activities appear to be limited in size and scope and largely comprise of residents. One stakeholder felt that more could be done to attract school students in particular, his pick for a major focus among audiences. However, the Morris Canal Greenway is a larger regional effort that extends across New Jersey. As the terminus of this statewide historical resource, Jersey City’s Morris Canal Greenway will have a regional and even national audience.

More than 5 million visitors use Liberty State Park each year, with 40 percent going directly to the Central Railroad of New Jersey Terminal building to take the ferries to the Statue of Liberty and Ellis Island. Local residents comprise 55 percent of visitors, many of whom make regular visits to the park, often daily. (As the deputy superintendent of the park noted in an interview, Liberty State Park is “truly an urban park,” the only urban state park in the northern New Jersey system.) Given its proximity to Liberty State Park, it may be possible to attract some of the park visitors to the Morris Canal Greenway.

**Existing Outreach**

Local audiences learn about interpretive offerings through the usual variety of marketing efforts made by nonprofit organizations, which might be characterized as occasional announcements with reliance on email and website communication and coverage by local media outlets.

Audiences intending to visit Jersey City have an excellent resource in Destination Jersey City ([www.destinationjerseycity.com](http://www.destinationjerseycity.com)), which offers a downloadable visitor guide and user-friendly, detailed information that includes “history & heritage” with 37 entries (including churches and public buildings). “Explore our History” is listed in the visitor guide as one of “Top Ten Things to Do and See in Jersey City.” The site won honorable mention at the 2011 Governor’s Conference on Tourism.

**Potential Interpretive Concepts and Actions**

In the Morris Canal Greenway, Jersey City has a major opportunity to rationalize and improve the interpretive and educational experiences currently available throughout the city. Each year, millions of people visit attractions in Jersey City, including Liberty State Park, the Statue of Liberty, and Ellis Island. Interpretation and recreation along the Morris Canal would create an interesting additional experience for visitors, which many would likely find worthy of more time or a return visit. Ultimately, Jersey City’s significant contribution to the nation’s industrialization is a message that can be spread through a coordinated interpretive presentation and marketing, leading audiences locally and from further afield to seek to experience the Morris Canal and the entire city.

Jersey City has a fascinating story, significant and emblematic of the nation’s industrial past, that is not being told in all that many places across the nation. Lowell National Historic Park in Massachusetts is an example of a place of similar size and interesting character that today offers one of the nation’s most visited national parks at the heart of the working landscape of an industrial city. As the National Park Service’s web site proclaims, “Lowell is a living monument to the dynamic human story of the Industrial Revolution” (<http://www.nps.gov/lowe/index.htm>). Jersey City’s story deserves greater visibility, and could quite readily be paired with the story of the earlier, water-powered industrialization now being told at Great Falls National Historical Park in Paterson. Jersey City’s representation as one of the first industrial sites freed from water power by the availability of coal would naturally extend the story of the American Industrial Revolution now being told at Great Falls, with the further logic that both sites are linked by the Morris Canal.

“Lowell’s water-powered textile mills catapulted the nation – including immigrant families and early female factory workers – into an uncertain new industrial era. Nearly 200 years later, the changes that began here still reverberate in our shifting global economy.”

<http://www.nps.gov/lowe/index.htm>

The following is a “first phase” interpretive plan that, if followed, will lead to conversations and partnerships to take Jersey City’s interpretive experience to a new, enhanced level. Ultimately, as the greenway grows, neighborhoods are recruited to help tell the story, existing interpretive attractions are united through interpretive themes, and everyone gains more experience in telling “the story” and

meeting visitors’ expectations, the city should develop a more ambitious interpretive plan to guide the necessarily broad collaboration needed for a widely successful program. In the meantime, this simple plan has the virtue of seeking enhancements to existing elements of the city’s current interpretive offering. Other than the resulting outdoor interpretive installations that should result along and near the greenway and the orientation exhibits suggested, little capital improvement funding is needed. Rather, this is a people-intensive activity, one that can be highly fulfilling in the building of partnerships, experience, and appreciation in the telling of the city’s stories.

Essentially, any interpretive plan identifies the themes to be followed and the stories to be told following those themes; looks at media in use and to be used to tell those stories (everything from a house museum to social media – it is a long list indeed); suggests a framework within which interpretive sites and programs can grow their interpretive presence, including circulation and orientation; identifies partners; and suggests steps for action. The thrust in this plan is to view the Morris Canal Greenway as a kind of “museum without walls,” and as a linking and placemaking mechanism as well as a story-telling one.

## Interpretive Topics and Recommendations

In terms of interpretation, the following topics should form the basis for theme statements that could guide overall interpretation not only along the Morris Canal Greenway, but throughout the city:

- Morris Canal as a whole and the place of the Jersey City stretch within the system
  - Engineering/building the canal
  - Decision to extend canal from the Passaic River to Jersey City and resulting technological innovations
  - Transportation in the 19<sup>th</sup> century (This could be interpreted using all those remnant abutments of railroad and road bridges; since this is a major theme at Liberty State Park, development of this topic should be done in conjunction with interpretation there.)
- Impact of the canal on Jersey City
  - City plan and size
  - Wealth-building (The city’s many historic districts, where the 19<sup>th</sup> century’s wealth is readily discerned, are related to the wealth that came from the canal as transport or as stimulus to industrialization.)
  - Relationship to NYC
- Industrialization of Jersey City
  - Economic impacts
  - Demographic impacts (The city’s truly remarkable ethnic heritage is due to the proximity of Ellis Island, of course, but the ready employment offered by Jersey City’s industrial powerhouse ensured that the city would enjoy steady growth from immigration – which of course worked both ways, for industries found a ready supply of employees by locating in the city.)

- Environmental impacts
- Environmental recovery
- Natural history (Since this is a major theme at Liberty State Park, development of this topic should be done in conjunction with interpretation there.)
  - Distinctive geology (E.g., forced Fiddler’s Elbow alignment)
  - Water features
  - Habitat & critters
  - Tidal flows, rivers
  - American Indian occupation

**RECOMMENDATIONS: Develop formal theme statements for review and ultimate endorsement by participating partners, sites, and interpretive programs. Understand current and potential linkages of existing interpretive sites and programs to these themes and identify ways to enhance them. Identify gaps and opportunities to fill them through interpretation along the Morris Canal Greenway with neighborhood participation.**

## Telling Neighborhood Stories

The stories told by the Morris Canal Greenway should be “owned” by the neighborhoods through which it passes and those nearby. Table 3 is organized to suggest “clusters” that combine specific neighborhoods (some of which may be large enough to subdivide further), historic districts, interpretive resources associated with the canal, and other nearby interpretive resources. This is the place to start in identifying potential community groups and other partners to identify stories, ways of telling them and, if outdoor interpretive installations are appropriate, where and how to tell them through information and artistic contributions. The intended outcome here is community participation as well as the story.

While there are many partners identified later in this document (Table 4) that have the potential for contributing to the content for the ultimate interpretive presentation, one caution is needed: professional guidance is strongly recommended for the final result. Creating interpretation is not the same as providing information. It must convey meaning and relevance to intended audiences, and its message(s) should be simple and well-directed. Folks steeped in their areas of interest – from professional historians to amateur birders, and everyone in between – often have trouble distinguishing the important from the interesting, and reducing what they want to convey to the level of powerful-yet-simple. The best result comes from combining the talents of professional interpreters with those of local experts who know and love the details and want to share their knowledge in a way that will build public appreciation and understanding with a light touch.

**RECOMMENDATIONS: Organize neighborhood groups and affinity organizations (churches, schools, interpretive sites, businesses, etc.) to explore stories to be told through the Morris Canal Greenway and develop appropriate, simple neighborhood plans for interpretive media, installations, education programs, and events. Seek rewarding short-term outcomes to build and continue momentum.**

## School-based Education Programs

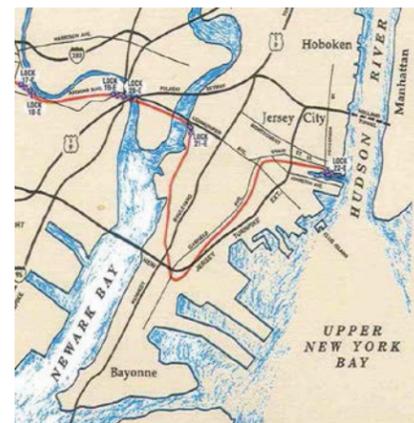
Neighborhoods are also the building blocks for developing educational programs for schoolchildren. A neighborhood's pride in developing interpretive facilities, programs, and events should also induce a determination to expose the neighborhood's and city's children to the learning opportunities inherent in those offerings.

**RECOMMENDATIONS:** *While organizing neighborhood groups and affinity organizations for interpretation along the Morris Canal Greenway, take these opportunities to assess needs and opportunities for school-based education programs. In addition, work with local public, private, and charter schools at all levels and institutions of higher learning with education programs to identify existing and needed programs in local history, civics, local environmental issues, and other topics that can be developed to support school curricula.*

## Circulation

The greenway promises to link many of the city's most prominent neighborhoods and sites, and many others can be connected to the greenway through wayfinding linkages. Intersecting trails and existing walking tours readily provide additional linkages, and circulation throughout the city would not be difficult to enhance. Beautiful and well-executed pedestrian signage is already available throughout Jersey City, leaving only wayfinding through print and digital media to be added and expanded, which is less costly to implement than the signage.

Visitors like choice – added walking tours, either self-guided or guided, would provide more choice. The perception of a rich network of opportunities for exploration and discovery is more likely to be appealing, and provides a “level playing field” for sites that might otherwise not be near enough to a circuit-style pattern to benefit. Ronald Rice, Map Archivist for the Canal Society of New Jersey, has developed a guidebook, including a walking tour guide, of the Morris Canal in Jersey City. The guidebook is currently being published and will be available to the public.



Other walking tours can highlight other interpretive sites throughout the City. The Apple Tree House - Van Wagenen House is a significant City-owned interpretive site and conceptually “the place where the story started,” an attraction in its own right. It should act as a destination or magnet in the circulation to be encouraged through interpretive tours of any kind, prominently displayed in write-ups, exhibits, orientation, etc. It is, moreover, located in an area thickly populated with interpretive attractions (see Table 3).

**RECOMMENDATIONS:** *Create a rich network of interpretive pathways and walking tours linking all city interpretive resources and providing guidance for visitors' exploration and discovery. Experiment with*

*multiple possibilities and monitor visitors' use and reaction to offerings in order to continue refining them. Improve pedestrian wayfinding signage to reinforce where and as needed.*

## Orientation

An important companion to circulation is orientation. There should be a few places where visitors might logically go first, where orientation information would provide that “you are here” experience and lay out the overall story and nearby opportunities for discovery. Recognizable and specially-designed kiosks for outdoor locations, and small exhibit panels for indoor locations would unify visitors' perception that they are securely within an intended framework for their experience and build their confidence for exploration. These exhibits should also signal to visitors that they can find other information if they need it – through personal visitor services, social media, or simply a rack of brochures that might be found somewhere nearby.

Potential locations for orientation include:

- The Colgate Clock
- Liberty State Park locations
  - Morris Canal Peninsula Park
  - Central Railroads of New Jersey Terminal
- Liberty Science Center
- The western terminus of the Morris Canal Greenway along Hackensack River
- Apple Tree House - Van Wagenen House

Additional locations might be identified over time, as the city and partners gain greater experience in offering a comprehensive interpretive presentation to visitors and monitor visitors' needs.

**RECOMMENDATIONS:** *Create a constellation of orientation sites, working with existing interpretive sites and other locations to intercept visitors, introduce them to the city's interpretive presentation, and provide them with guidance for exploring the city's attractions. Beyond the potential list of locations offered above, investigate additional possibilities and monitor visitors' use and reaction to existing locations in order to continue refining the suite of locations. Improve pedestrian wayfinding signage to reinforce where, as needed.*

## Leadership: Interpretive Partners

There is no single organization telling the story of Jersey City. Jersey City does, however, possess an impressive number of existing entities that could plan, execute, and maintain a city-wide interpretive presentation. Those potential partners and their possible roles are delineated in Table 5. It is assumed that the City of Jersey City, as sponsor of this plan, will take the lead in coordinating the first phase of its implementation and building a sustainable management approach that takes advantage of the potential contributions of all parties willing to become involved.

The Morris Canal Greenway has the potential to act as the city’s centerpiece for a wide range of partnerships, including businesses, schools, historic preservation organizations, government, and more. Pursuing the interpretation of Jersey City through the greenway is a major way to energize partnerships among many entities. Interpretation, when properly designed, has the virtue of being readily comprehensible for all involved. With sufficient shared vision and determination to follow through on making that vision happen, partnerships focusing on interpretation can also lead to relationships to accomplish other important initiatives, including neighborhood improvements, business and tourism growth, and city investments.

**RECOMMENDATIONS:** *Bring potential interpretive partners together to identify roles, enlist other partners, set priorities and phasing, and make commitments for undertaking various elements of the interpretive plan as identified elsewhere here. Create an ongoing forum for moving the process forward, monitoring progress, and making necessary public and private investments, such as providing interpretive venues and other user amenities.*

**Table 5: Potential Interpretive Partners and Roles for Leading Jersey City’s Interpretive Presentation**

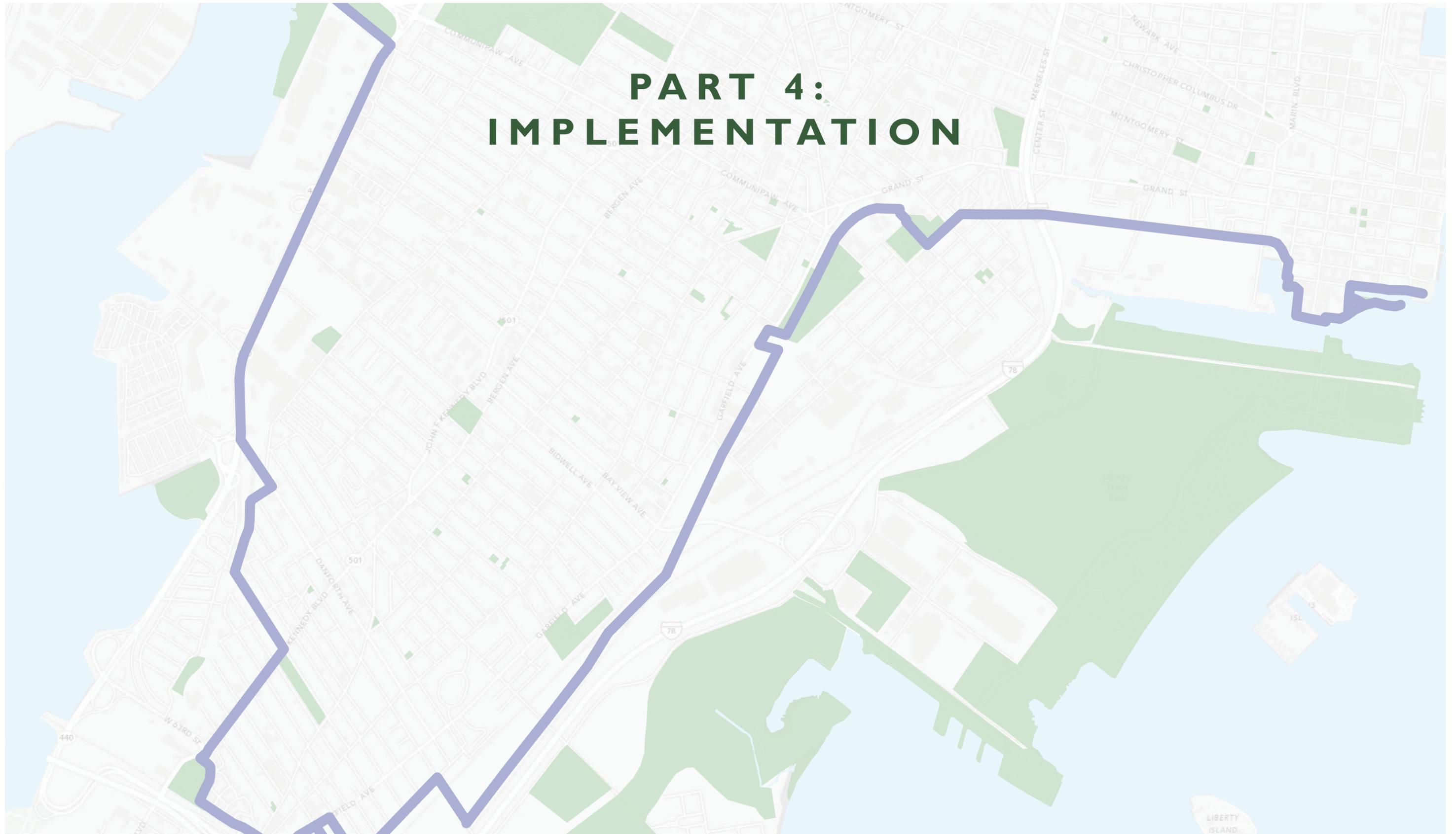
Potential Partner	Potential Role(s)
Jersey City Division of City Planning	<ul style="list-style-type: none"> <li>Outreach to neighborhood groups to support the process of planning and developing locally generated interpretive presentations and public art.</li> </ul>
Jersey City Economic Development Corporation	<ul style="list-style-type: none"> <li>Maintenance of the Destination Jersey City tourism program</li> <li>Provides visitor circulation and transit information</li> <li>Self-guided walking tour developer</li> <li>Guided walking tour leader/provider</li> <li>Outreach to neighborhood groups to support the process of planning and developing locally generated interpretive presentations and public art</li> <li>Outreach to interpretive sites to adopt city-wide interpretive themes and enhance their interpretive presentations</li> </ul>
Jersey City Office of Cultural Affairs	<ul style="list-style-type: none"> <li>Interpretive offering in the first floor of the Apple Tree House - Van Wagenen House (and occupant of the second floor)</li> <li>Orientation at Apple Tree House</li> <li>Outreach to neighborhood groups to support the process of planning and developing locally generated interpretive presentations and public art</li> <li>Outreach to interpretive sites to adopt city-wide interpretive themes and enhance their interpretive presentations</li> <li>Outreach to cultural organizations throughout the city whose talents might be added to an interpretive initiative</li> </ul>

**Table 5: Potential Interpretive Partners and Roles for Leading Jersey City’s Interpretive Presentation**

Potential Partner	Potential Role(s)
Jersey City Redevelopment Agency	<ul style="list-style-type: none"> <li>Outreach to neighborhood groups to support the process of planning and developing locally generated interpretive presentations and public art</li> <li>Funding for capital improvements related to interpretation</li> </ul>
Canal Society of New Jersey	<ul style="list-style-type: none"> <li>Content provider (research, images, writing)</li> <li>Tour provider</li> </ul>
Hudson County Genealogical & Historical Society	<ul style="list-style-type: none"> <li>Content provider (research, images, writing)</li> <li>Tour provider</li> </ul>
Jersey City Landmarks Conservancy	<ul style="list-style-type: none"> <li>Content provider (research, images, writing)</li> <li>Self-guided walking tour developer</li> <li>Guided walking tour leader/provider</li> <li>Advice to interpretive sites to improve their facilities for visitor use</li> </ul>
Liberty Science Center	<ul style="list-style-type: none"> <li>Orientation site</li> <li>Collaboration on certain interpretive themes, especially environmental impacts of industrialization and the story of environmental restoration</li> </ul>
Liberty State Park	<ul style="list-style-type: none"> <li>Orientation sites at the Central Railroad on New Jersey Terminal and Morris Canal Peninsula Park</li> <li>Collaboration on certain interpretive themes, especially natural resources and transportation</li> </ul>
New Jersey City University	<ul style="list-style-type: none"> <li>Content provider (research, images, writing)</li> <li>The education department might provide leadership in helping to create school-based education programming related to the greenway or city-wide interpretive offerings</li> </ul>
Jersey City Public Schools	<ul style="list-style-type: none"> <li>Help develop curricula and conduct canal tours for students</li> </ul>
New Jersey Room of the Jersey City Free Public Library	<ul style="list-style-type: none"> <li>Content provider (research, images, writing)</li> <li>In-depth interpretive experience for visitors wishing to gain a greater education about Jersey City, through conversations with archivist/librarians and their guidance to materials of interest to individual visitors</li> </ul>

Source: Heritage Strategies, LLC, for The RBA Group, March 2013

# PART 4: IMPLEMENTATION



## Part 4: Implementation

### Introduction

The purpose of the implementation plan is to begin identifying the actions necessary to move the greenway from feasibility to a successful off-street bicycle and pedestrian green corridor that follows the path of the historic Morris Canal and extends from the Hackensack River to the Hudson River. The plan proposes a phased approach and identifies discrete segments that would have immediate utility, with termini allowing access and egress to nearby destinations – bicycle-friendly streets, transit stops, parks and public places, businesses, and neighborhoods. As each segment of the greenway is constructed, it is critical to anticipate those connections, to develop visible and welcoming trailheads and wayfinding to nearby destinations. The success of the greenway will depend on how well it is connected to the places people want to go.

The city is a community of neighborhoods, each with its own character. The Morris Canal Greenway can contribute to the quality of each neighborhood it passes through. The greenway should be implemented in such a way as to provide connections to the community, become a neighborhood destination, and become a place of cultural and historical interest. With this approach, the project will begin to draw support from Jersey City’s many neighborhoods.

The implementation strategies proposed in this part of the plan provide order of magnitude cost estimates, an array of potential funding sources, and considerations for long-term management. Implementing the plan for the long-term alignment will be challenging because of the complexity and costs associated with assembling the rights-of-way across properties under different ownership. It will be an incremental process. Each segment will need to be designed, engineered, and constructed as an independent facility tailored to its specific context.

It is important that the implementation begin with putting into place the planning and regulatory tools that will support development of the greenway. This section of the plan proposes incorporating the greenway with as much detail as possible into the city’s Master Plan elements, ordinances, and the development review process.



The western terminus of the Morris Canal in Jersey City



The eastern terminus of both the Statewide Morris Canal as well as the Canal in Jersey City

In addition, the plan suggests strategies for the short-term with the support of a variety of community partners. Long-term projects require sustained leadership, partner participation, and public awareness and support. This requires taking actions that lead to visible accomplishments. Moving forward with the short-term alignment will be important to build the partnership base and keep the concept of the Morris Canal Greenway lively in the Jersey City community until the greenway is fully constructed.

### Updating Master Plans & Regulatory Tools

The Morris Canal Greenway is already referenced in Jersey City’s planning documents. An early action recommendation is to formally adopt this plan and to incorporate the proposed short-term and long-term alignments into the city’s Master Plan, referencing this as The Morris Canal Greenway Plan. It is important to update the Master Plan and present the greenway with as much detail as possible in relationship to related strategies and recommendations. Incorporating maps of the proposed alignments where appropriate is important. Current references to the Morris Canal Greenway are outlined below.

### Circulation Element of the Jersey City Master Plan, 2009

The Vision Statement maintains “The City’s transportation network will benefit residents, workers, and visitors alike by giving people a choice in how they travel to, from, and within Jersey City. The principal features of Jersey City’s transportation network will be a highly-functioning and efficient multi-modal public transit system, a roadway network that will not only accommodate vehicular traffic but will also provide safe and efficient accommodation for bicyclists and pedestrians, and a network of off-road bicycle and pedestrian paths that complement the City’s parks and open spaces” (emphasis added) (pg. 30).

The Morris Canal Greenway appears in the following action items:

“Action G4-7: Create a continuous greenway with pedestrian paths and bike lanes where the Morris Canal was filled in, where feasible” (pg. 47).

“Action G4-13: c) Constructing a greenway adjacent to the HBLR right-of-way with connection to the Morris Canal Greenway” (pg. 48).

“Action G5-3: Create a continuous greenway with pedestrian paths and bike lanes where the Morris Canal was filled in, where feasible” (pg. 52).

“4.2.5 Vicinity of NJ Turnpike Newark Bay Extension (Greenville)

The Morris Canal Greenway and preservation of the Lehigh Valley Railroad right-of-way should also provide improved pedestrian and bicycle circulation in this area” (pg. 117).

“4.4.4 Bike and Pedestrian

Many of the bike and pedestrian accommodations recommended in this plan utilize the existing rights-of-way, however there are several locations where right-of-way needs to be obtained or preserved for trails, walkways and pedestrian accommodations. These locations include:

- Morris Canal Greenway (#35 on Figure 4.4-1) - This is a greenway that is envisioned, where feasible, along the former Morris Canal.”

## Jersey City Recreation and Open Space Master Plan, 2008

A key recommendation of the Master Plan is to:

“6. Reconstruct a portion of the historic Morris Canal and delineate its former location. Historical preservation and reconstruction are important aspects of Jersey City’s heritage, including the former Morris Canal within Jersey City. Descriptive markers should be placed in strategic locations along its former route, and the western entry/exit portion of the canal should be reconstructed as part of the proposed Hackensack River Greenway Park there” (pg. i).”

“Other public greenways and trails have been planned which will benefit City residents in the future. These include the Liberty – Water Gap Trail and the East Coast Greenway Trail. The routes of these two trails cross the city in an east-west direction. The Morris Canal trail which traces the former Morris Canal route is another trail in the planning stage” (pg. 6).”

New recreation facilities are proposed for city, county and state parks located in Jersey City, as follows.

### I. “Increase City Park Facilities

#### A. New City Park Facilities

8. Proposed trails with segments constructed and under construction include the Liberty-Water Gap Trail, the Hudson River Waterfront Walkway, and the Hackensack River Greenway Trail. *A trail should be built to commemorate and delineate the location of the former Morris Canal, with interpretive signage.* Additional walking and bicycle trails are needed throughout the City, providing a network that could link City, Hudson County and Liberty State Park recreation facilities” (emphasis added) (pg. 20).

#### Greenways and Walkways

Key greenways and walkways proposed in Jersey City are the Hudson River Waterfront Walkway, the Hackensack River Greenway, and the Morris Canal trail.”

“*Morris Canal Trail.* The Morris Canal helped bring prosperity to Jersey City. The canal was constructed to bring coal from the Lehigh Valley of Pennsylvania to eastern markets. The original canal ran from Phillipsburg to Newark, and was completed in 1831. In 1836 a 12-mile extension was built at sea level from the eastern section of Newark through Kearny and Jersey City, with tide locks at both ends. During high tide, salt water was allowed to flow into the canal from the Hudson River, and was retained in the canal by the tide locks during low tide. As railroads rose in prominence, the usefulness of canal systems for shipping raw materials and finished goods declined. By 1915 there was no commercial traffic on the Morris Canal, and it was abandoned in 1924. Little remains of this once vital waterway in Jersey City.”

“The Morris Canal’s eastern end was near the present intersection of Washington and Dudley Streets, near the City’s undeveloped Veteran’s Park at Freedom Point. Today a statue commemorates the Morris Canal here. The canal route proceeded west, then south to the present border of Bayonne, and turned north and then west to the Hackensack River.

The V-shape of the canal route in Jersey City was determined by the rocky soil of the Palisade Ridge, which was difficult to dig.”

“This report recommends that the canal’s route through Jersey City be delineated by a bike and walking path, with distinctive markers along the way. Interpretive signs should be placed to show historic photographs, describe canal operations, and tell the stories of those people who built and worked on the Morris Canal. Additionally, the western edge of the canal should be reconstructed to replicate original conditions, at the proposed Hackensack River Greenway Park” (pg. 144).

## Land Use Element of the Jersey City Master Plan, 2000

A recommendation in the Parks/Open Space section of the Land Use Plan is to “provide improvements that increase access to existing parks and open space including enhanced mass transit to regional parks, pedestrian connections to neighborhood and community parks and *greenways that connect residential neighborhoods to major park and open space destinations.*”

## Development Regulations

There are other strategies that can be put in place to facilitate greenway development along the proposed alignment. This is particularly important with regards to preserving right-of-way, providing incentives for greenway development, requiring public easements, and mandating maintenance agreements. Zoning and other ordinances are tools the city has to regulate land use and development. Modifications to the site plan review process can also be made to support greenway development.

This plan recommends the following to mandate the preservation of the right-of-way for the greenway and to incentivize the construction of the greenway using the following tools:

- 1) **Creation of an overlay zone.** Similar to the existing overlay zones shown on the City’s Zoning Map, an overlay zone for the Morris Canal Greenway would create special regulations for parcels through which the Morris Canal Greenway traverses. An overlay zone would add an additional **checklist item as part of a development application.** The overlay zone would apply to all development on affected parcels, including those not subject to site plan review.
- 2) **Revise the General Development Application** to require the delineation of the original Morris Canal right-of-way and the proposed Greenway route (and alternate route, if applicable) on all site plan applications and drawings.
- 3) A **setback requirement** could be used to preserve the Greenway right-of-way. However, the effectiveness of a setback requirement may depend on the size of the parcel and the location of the greenway in relation to the parcel. This option would require establishing the greenway alignment by ordinance.
- 4) **Redevelopment plans can require open space preservation, require public easements, and mandate maintenance agreements with property owners.** A third of the route goes through designated redevelopment plan areas, which provides a good opportunity to implement the greenway through these areas. Redevelopment Plan areas include: Danforth Transit Village,

Claremont Industrial, Canal Crossing, Grand Jersey and Liberty Harbor North. The potential for designating a Morris Canal Greenway redevelopment area should be explored.

- 5) **Cluster development** (on-site Transfer of Development Rights) may be option for preserving the alignment.
- 6) **Increasing permitted density** is a method to incentivize the construction of the greenway itself and might also be necessary to preserve Greenway right-of-way in some cases.
- 7) **Establishing a Historic District** for the Morris Canal should be explored. The entire Morris Canal alignment through Jersey City is listed on the State and National Historic Registers. Though buried, the canal prism is still extant in at least some areas. It was clearly visible when the Jersey City Redevelopment Agency remediated Berry Lane Park.

### Phasing Greenway Development

Phasing of the long-term greenway alignment will be based upon funding opportunities and ownership. In the short-term, it is important to sign the on-street route. After the route is signed, more permanent on-street amenities such as striping, sidewalk widening, pedestrian countdown signals and curb cuts should be constructed where appropriate. For the long-term route, city and publicly-owned land should be prioritized. Greenway segments requiring easements or acquisition should be further evaluated.

The long-term alignment has been divided into fourteen segments for implementation. These segments are based on planned and proposed project boundaries, such as redevelopment area plans and *The Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study*. The ends of each segment are locations where public access is possible. Segments were selected to ensure that, when fully developed, each will have immediate utility.

The graphic that follows shows the fourteen segments of the long-term alignment. The numbering of the implementation segments is intended for identification only and do not represent a priority order for implementation. The appendices include aerial maps and photographs of the segments, along with records from recent fieldwork (May 2013) that describe current attributes and conditions.

Map 7: Long-Term Implementation Segments



## Jersey City Morris Canal Greenway Plan Long-Term Implementation Segments



May 2013

### Legend

- Long-Term Alignment Off-Street
- Long-Term Alignment On-Street
- Long-Term Implementation Segment
- 14** Implementation Segment Number

RBA

**Table 6: Implementation Segments of the Long-Term Alignment**

Segment Name	Length in Feet	
	On-street	Off-Street
1 Hackensack River to Route 440		1,920
2 Route 440 between Clendenny Avenue and Danforth Avenue		6,600
3 Route 440 and Danforth Avenue to JFK Boulevard and Mercer Park	5,850	
4 Hudson County's Mercer Park		760
5 Mercer Park and Merritt St to Danforth Transit Village Redevelopment Plan Area	6,900	
6 Danforth Transit Village Redevelopment Plan Area		1,980
7 Claremont Industrial Redevelopment Plan Area		3,439
8 Canal Crossing Redevelopment Plan Area		3,377
9 Berry Lane Park		2,090
10 Communipaw Avenue to Van Horne Street around Whitlock Cordage Complex	490	1,380
11 Van Horne Street and Maple Street to Grand Jersey Redevelopment Plan Area	1,075	291
12 Grand Jersey Redevelopment Plan Area		1,679
13 Liberty Harbor North Redevelopment Plan Area	650	2,405
14 HRWW to the Morris Canal Section of Liberty State Park and Colgate Park		4,000
<b>Total</b>	<b>14,965'</b> <b>or 2.8 mi.</b>	<b>29,921'</b> <b>or 5.7 mi.</b>
	<b>44,886' or 8.5 mi.</b>	

**Segment 1: Hackensack River to Route 440**

- The long-term greenway alignment through this section follows the historic canal path on top of Clendenny Avenue Extension, a paper street<sup>9</sup>.
- The City's 2008 *Recreation and Open Space Master Plan* identifies the parcels immediately to the north of the Clendenny Avenue Extension in the list of 'Acquisition Recommendations to Create New City Parks' (pg. 139).
- The Locally Preferred Alternative (LPA) identified in *The Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study* includes developing part of the Clendenny Avenue Extension into a street.



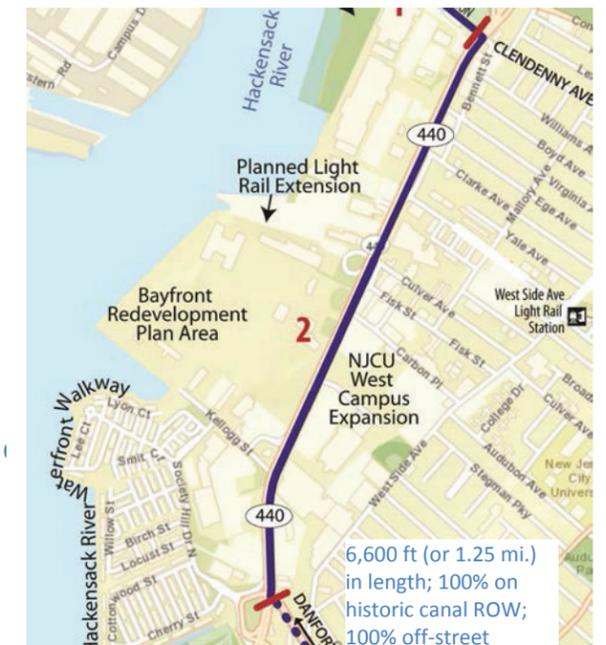
1,920 feet (0.36 mi.) in length; 100% on historic canal ROW; 100% off-street

**Implementation Notes:**

- Alignment goes partly through the future site of the Hackensack River Greenway Park.
- The City's 2008 *Recreation and Open Space Master Plan* recommends reconstructing the western entry/exit portion of the canal as part of the Hackensack River Greenway Park. In order to remain 100% off-street, the alignment may have to move north of the historic canal alignment through the area recommended as part of the Hackensack River Greenway Park Expansion.
- Environmental permitting will be required due to the presence of wetlands.

**Segment 2: Route 440 between Clendenny Avenue and Danforth Avenue**

- The proposed long-term alignment through this section follows the historic canal path on top of Route 440.
- *The Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study* identifies a LPA for this section of Route 440 that includes 12' wide sidewalks and a buffered two-way bikeway (cycle track) in each direction of travel.
- The greenway would connect to the planned New Jersey City University west campus expansion, the Bayfront Redevelopment Plan area, as well as other proposed development along the Route 440 corridor.



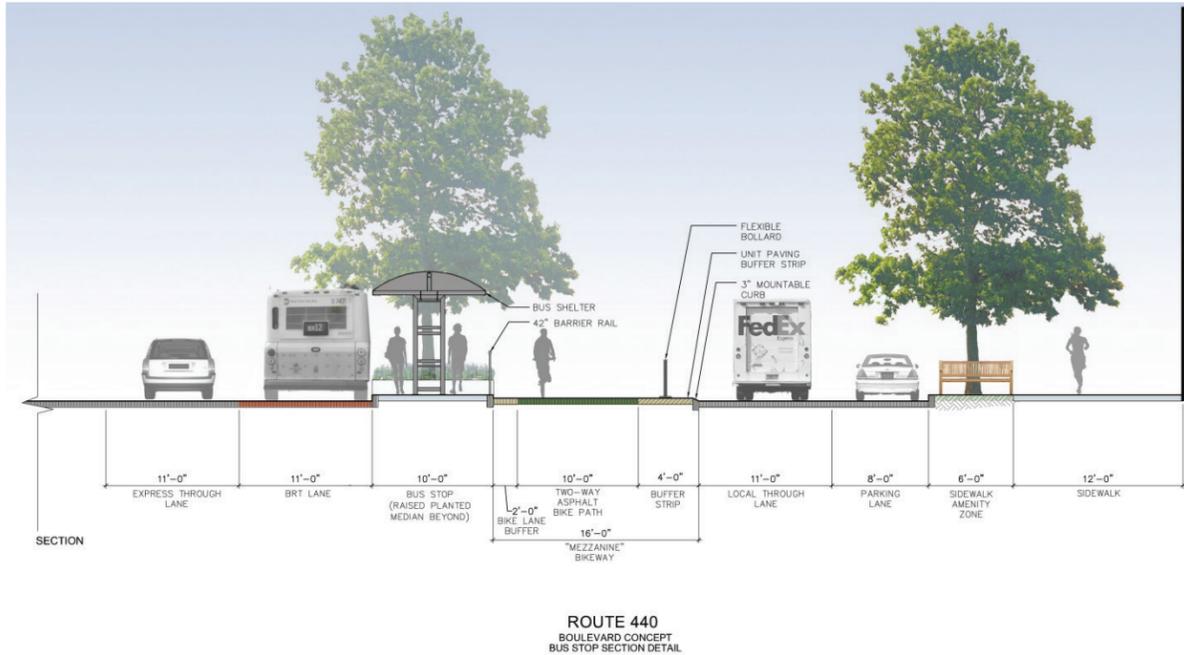
6,600 ft (or 1.25 mi.) in length; 100% on historic canal ROW; 100% off-street

<sup>9</sup> A paper street is a street that appears on maps but does not exist in reality. The Clendenny Avenue extension appears on the City's tax maps.

### Implementation Notes:

- This segment will be included as part of the future reconstruction of Route 440 as a multi-use urban boulevard. It is considered off-street based on the separated bicycle facility presented in the conceptual plan.

Route 440 Boulevard Concept Section Detail



### Segment 3: Intersection of Route 440 and Danforth Avenue to John F. Kennedy Boulevard and Mercer Park

- This section of the proposed alignment is the same for both the short-term and long-term.
- The alignment follows Danforth Avenue, Sullivan Drive, Bartholdi Avenue and JFK Blvd.
- Possible connections include Columbia Park, Our Lady-Mercy Catholic School, and bus stops along JFK Blvd.
- The historic Morris Canal alignment is located through the Country Village neighborhood through this segment. Routing the greenway off-street on top of the historic canal alignment might be considered in the future pending public support.

### Implementation Notes:

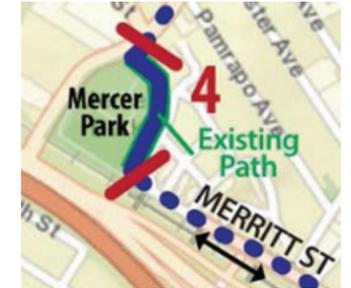
- A contraflow bicycle lane should be considered to accommodate eastbound bicycle traffic on Bartholdi Avenue, which is one way westbound between JFK Boulevard and Romar Avenue.



5,850 ft. (or 1.1 mi.) in length; 0% on historic canal ROW; 100% on-street

### Segment 4: Hudson County's Mercer Park

- This segment of the greenway is the same for the short- and long-term proposed alignments.
- This segment of the proposed greenway travels alongside, approximately 40' west of, the historic canal along an existing off-street path through Hudson County's Mercer Park.



760 ft. (or 0.14 mi.) in length; 0% on historic canal ROW; 100% off-street

### Implementation Notes:

- This park could be a candidate for an interpretive exhibit.

### Segment 5: Mercer Park and Merritt Street to Danforth Transit Village Redevelopment Plan Area

- This segment of the greenway is the same for the short-term and long-term proposed alignments.
- The route continues north of the historic canal ROW along the local street network utilizing Merritt Street, Gates Avenue, Seaview Avenue, Princeton Avenue, and Linden Avenue.



6,900 ft. (or 1.3 mi.) in length; 0% on historic canal ROW; 100% on-street

### Implementation Notes:

- Provides connections to the City of Bayonne, Mercer Park, and the Danforth Avenue Light Rail station.
- There are plans to reconstruct the NJ Turnpike 14A exit, which may be an opportunity to include pedestrian and bicycle access to the Fiddler's Elbow section of the original Morris Canal alignment in this area.
- A contraflow bicycle lane along the south side of Gates Avenue could be used to accommodate two-way bicycle travel as an alternate to routing the greenway along the one-way couplet of Gates and Seaview Avenues.

### Segment 6: Danforth Transit Village Redevelopment Plan Area (Linden Ave to Chapel Ave)

- The Morris Canal historic alignment is located in the center of the Danforth Transit Village Redevelopment Plan area. Therefore, the greenway alignment has been moved one parcel east of the historic alignment in order to maintain development potential.



1,980 ft. (or 0.38 mi.) in length; 0% on historic canal ROW; 100% off-street

### Segment 7: Claremont Industrial Redevelopment Plan Area (Chapel Avenue to Bayview Avenue)

- This segment of the proposed long-term route is located entirely within the Claremont Redevelopment Plan Area.
- Like the Danforth Transit Village Redevelopment Area, the historic canal alignment is located in the middle of the Claremont Industrial Redevelopment Area. Therefore, the alignment through a third of this section has also been moved to the east of the historic canal in order to maintain development potential.
- Remnant concrete abutments and piers of the bridge built during the early 20<sup>th</sup> century to carry the Lehigh Valley Railroad's National Docks Railway over the canal offer an opportunity for historic interpretation.



3,436 ft. (or 0.65 mi.) in length; 66% on historic canal ROW; 100% off-street

#### Implementation Notes:

- A new crossing of the Hudson-Bergen Light Rail is required. If the rail crossing cannot be created, a new alignment through this segment would have to be proposed.
- The remnant concrete abutments and piers of the bridge have potential as an interpretive site.

### Segment 8: Canal Crossing Redevelopment Plan Area (Bayview Avenue to the HBLR tracks)

- The long-term greenway alignment follows the historic canal path through this segment.
- The path leaves the historic canal alignment in order to get around the Hudson Bergen Light Rail embankment between the Canal Crossing Redevelopment Area and Berry Lane Park to the north. The light rail embankment includes a 54" water main that prevents the greenway from going through. Therefore, the greenway will need to be routed to Garfield Avenue for approximately 60 feet to get around the embankment. It is proposed that the sidewalk along Garfield Avenue be at least 10', preferably 15' wide in order to accommodate both pedestrians and bicyclists.



3,377 ft. (or 0.64 mi.) in length; 100% on historic canal ROW; 100% off-street

#### Implementation Notes:

- According to the Jersey City Redevelopment Agency website, "a prime open space feature of the Canal Crossing neighborhood will be the creation of 'Canal Way', an expansive green way built over the former bed of the Morris Canal. A site-wide infrastructure plan, including consideration of a new street grid (including Canal Way), open space, grading, stormwater management, and utilities is under development.

### Segment 9: Berry Lane Park (HBLR tracks to Communipaw Ave)

- The long-term greenway alignment follows the historic canal path closely through Berry Lane Park.

#### Implementation Notes:

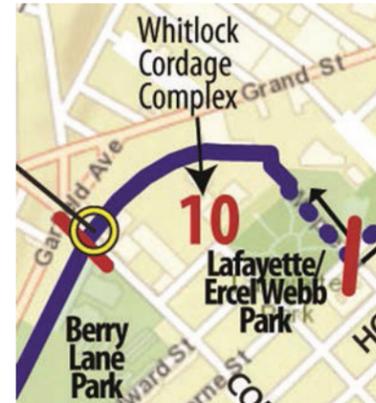
- Berry Lane Park is currently under construction. Design plans include an off-street greenway facility.



2,090 ft. (or 0.4 mi.) in length; 100% on historic canal ROW; 100% off-street

### Segment 10: Whitlock Cordage (Communipaw Ave. to Van Horne St.)

- After crossing Communipaw Avenue at an unsignalized location, the long-term alignment continues off-street on top of the historic canal ROW behind the Whitlock Cordage Complex. Then, the greenway continues along the northern edge of Lafayette (Ercel Webb) Park.
- The greenway must leave the historic canal ROW because the Jersey City Regional Day School is built on top of the historic canal ROW.



1,870 ft. (or 0.35 mi.) in length; 75% on historic canal ROW; 75% off-street

#### Implementation Notes:

- The alignment crosses Communipaw Avenue at an unsignalized location. When designing a crossing it is important to ensure that drivers are aware of the presence of greenway users and that greenway users are aware they are crossing a roadway. This can be accomplished with signage, striping, median refuges and/or signals. An engineering study is required before improvements to crossings are made.
- The Jersey City Redevelopment Agency (JCRA) has surveyed and planned the segment of the greenway that travels around the Whitlock Cordage Complex. The Whitlock Cordage Complex was developed on the canal in 1855 and could be a potential site for historic interpretation.
- Maple Street, along the northern edge of the park, is one-way westbound.

### Segment 11: Van Horne and Maple Streets to Grand Jersey Redevelopment Plan Area

- The long-term alignment through this section utilizes the existing sidewalk located on top of the former Morris Canal alignment through Lafayette Village, a Jersey City Housing Authority community.
- The path crosses Pacific Avenue at an unsignalized location near the National Docks Railway/Morris Canal and Pacific Avenue Bridge. This steel truss bridge was completed in 1909 to carry the Lehigh Valley Railroad's National Docks Railway over the Morris Canal and Pacific Avenue.



1,366 ft. (or 0.25 mi.) in length; 20% on historic canal ROW; 30% off-street

#### Implementation Notes:

- In order to accommodate both pedestrian and bicyclist traffic, the existing sidewalk through Lafayette Village should be widened to a preferred minimum width of 10'.
- The crossing at Pacific Avenue is unsignalized. An engineering study is required before improvements to crossings are made.
- The greenway travels under the Turnpike Extension.

### Segment 12: Grand Jersey Redevelopment Plan Area (Under the Turnpike Extension to Jersey Avenue)

- The proposed alignment will follow the proposed street grid for the Redevelopment Area.
- Destinations in this segment include the Jersey City Medical Center and Liberty State Park.

#### Implementation Notes:

- It is recommended that the street grid include bicycle and pedestrian facilities separated from motor vehicle traffic.



1,679 ft. (or 0.31 mi.) in length; 0% on historic canal ROW; 100% off-street

### Segment 13: Liberty North Redevelopment Plan Area (Jersey Avenue to the Hudson River Waterfront Walkway)

- After crossing Jersey Avenue at an unsignalized intersection, the greenway alignment enters the Liberty Harbor North Redevelopment Plan Area. Through this area, the long-term alignment will parallel the Hudson Bergen Light Rail tracks to the south before sharing an alignment with the Hudson River Waterfront Walkway (HRWW).
- While it is assumed that the path paralleling the light rail tracks will be off-street, the greenway will most likely have to be routed on-street along the 18 Park development currently under construction at the corner of Marin Boulevard and the Marin Boulevard Light Rail Station. The streetscape plan for 18 Park includes a one-way eastbound street, Morris Boulevard, between the building and the light rail tracks and platform.



3,055 ft. (or 0.58 mi.) in length; 16% on historic canal ROW; 78% off-street

#### Implementation Notes:

- This section will require a new at-grade crossing of the light rail tracks at Jersey Avenue.
- The existing path should be widened to a minimum of 10'.
- There is an existing outline of a full-size canal boat in the pavement along the harbor at the beginning of the HRWW. This interpretive site could be augmented.

## Segment 14: Hudson River Waterfront Walkway (HRWW) to the Morris Canal Section of Liberty State Park and Colgate Park

- It is proposed that the Morris Canal Greenway utilizes the completed HRWW before entering the Morris Canal Section of Liberty State Park.
- While the former Morris Canal path is located north of the proposed long-term alignment along Dudley Street, the HRWW was chosen as the preferred route because there is an existing off-street facility.
- Based on input from the Steering Committee, it was determined that both Colgate Park and the Morris Canal Section of Liberty State Park should serve as the eastern termini of the Morris Canal Greenway in Jersey City. Adding this terminus provides a stronger connection to the HRWW.



4,000 ft. (or 0.75 mi.) in length; 0% on historic canal ROW; 100% off-street

### Implementation Notes:

- The HRWW segment connecting Washington Street to Colgate Park is currently under construction.
- Dudley Street should be acknowledged as the historic canal ROW, possibly through an interpretive site or signage.
- The Morris Canal Section of Liberty State Park, as the terminus of the Morris Canal Greenway in Jersey City as well as the statewide Morris Canal ROW, should be improved and featured as a destination.

## Securing Right-of-Way

### Short-Term Alignment

The Morris Canal Greenway Plan proposes a short-term alignment that is almost entirely on public streets. The processes to establish bicycle and pedestrian facilities associated with the greenway can be developed in conjunction with implementation of the recommendations developed by the Jersey City Bike Infrastructure Working Group of September 2012. The Working Group was formed by the City to develop a comprehensive bike program, including 35 miles of bike lanes and 19 miles of shared lanes. Implementing the on-street alignment requires that the route be made as bicycle-friendly as possible, with separate facilities for bicycling and continuous sidewalks and pathways with pedestrian-friendly street crossings at intersections.

Because the short-term alignment does not require right-of-way (ROW), this phase can be established quickly and will help to raise public awareness of the long-term plans to develop the Morris Canal Greenway. The on-street alignment is an opportunity to begin “branding” the greenway, giving it a unique identity that is immediately recognizable. The plan’s Design Guidelines suggest some strategies to brand the Morris Canal Greenway, such as formally adopting a set of guidelines for a logo and distinctive design elements for both bicyclist and pedestrian wayfinding. The short-term alignment presents the opportunity to apply strategies for recognizing and interpreting Morris Canal history through exhibits, markers, and public art.

The short-term alignment also includes an off-road segment in Berry Lane Park. The Berry Lane Park property is already in public ownership; owned by the city, it is currently under construction. This is a tremendous opportunity to begin establishing the Morris Canal Greenway brand for off-street segments, showcasing the greenway and making the public aware of plans for a city-wide greenway.

### Long-Term Alignment

The Morris Canal Greenway Plan proposes a long-term alignment that is as close as possible to the canal’s original alignment while taking into account opportunities that would facilitate implementation (e.g., making use of parks and public right-of-ways) or constraints that would deter implementation (e.g., impacting wetlands, new railroad crossings). The entire length is approximately 8.5 miles, with 40% on the historic canal ROW; 67% off-street; and 36% in redevelopment plan areas.

The draft plan was prepared with the expectation that the proposed long-term greenway alignment would be adjusted over time as development occurs. There will need to be flexibility in the process. The location of the greenway will be finalized (and constructed) on a case-by-case basis over time, and the alignment may need to shift to a more practical location. The intent is to maintain a continuous alignment while minimizing the bifurcation of parcels into sites that are unattractive or impossible to develop.

### Development Process

Securing the right-of-way for each segment will require a physical survey of each development parcel. One recommendation described in the section “Updating the Master Plan & Regulatory Tools” is to revise the General Development Application to require the delineation of the original Morris Canal right-of-way (ROW) and Greenway route (and alternate route, if applicable) on all site plan application documents and drawings. This would require the applicant to use best available documentation to transfer the Morris Canal ROW and the Greenway ROW on to site plan application drawings.

Negotiation with the developer or property owner to finalize the Greenway alignment may be required. When a developer wishes to deviate from the proposed Greenway alignment, it will be incumbent on the developer to identify an acceptable alternate route with high-quality connectivity to adjacent sections of the Greenway.

The City should facilitate this process by further refining both the original canal right-of-way and proposed Greenway alignment and documenting them on detailed maps, which can be provided to developers and property owners for reference.

The original Morris Canal alignment should be included in all applicable maps and plans so that any alternative can be evaluated in relationship to both the original alignment and the proposed alignment. The overarching goal of the Morris Canal Greenway Plan is to follow the original path of the canal. However, a primary criterion for selecting the proposed alignment was to avoid constraints that might or would effectively eliminate the possibility of a continuous alignment. The preferred long-term route may deviate from the Morris Canal right-of-way to be consistent with existing lot lines to maintain development potential. However, it will be necessary to balance development proposals with ensuring that the greenway match lines are preserved.

### Private and Public Properties

Not all development requires site plan review. The ROW Report prepared for this study identified approximately 20 owners of parcels traversed by the proposed long-term route, of which as many as seven are public entities.

The City cannot compel a private property owner to construct the greenway. If a property owner refuses to preserve right-of-way to construct the greenway, the only recourse would be negotiating a purchase price. In some cases it may be possible to reroute the greenway to an adjacent property or along a public street or ROW. In other cases, traversing the property may be the only option for developing a continuous greenway.

### Prioritization

Development of discrete greenway segments should take advantage of opportunities as they arise. However, completing each phased segment in its entirety should be a priority to ensure that the partially constructed greenway has immediate utility.

One of the findings of this plan is that much of the Morris Canal alignment is already recognized in, is part of, or intersects with existing projects. Establishing priorities should be guided by two principles:

1. Prioritize ROW that will allow greenway development in the shortest time possible. Showing visible progress will raise public awareness and generate support.
2. Prioritize ROW at locations that are at the most risk of being developed or altered in a way that would compromise the proposed alignment.

### Priority - Other planned segments

Coordinate with agencies and organizations advancing projects along the alignment. Ensure that the greenway is included in projects and is designed to be compatible with the Morris Canal Greenway “brand” in design elements.

#### Redevelopment Plan Areas:

- Danforth Transit Village
- Claremont Industrial
- Canal Crossing
- Grand Jersey
- Liberty Harbor North

#### Planned Projects, Segments:

- Clendenny Avenue Extension Park Development (County, Jersey City)
- Route 440 Urban Boulevard
- Berry Lane Park
- Hudson River Waterfront Walkway
- East Coast Greenway
- Hackensack River Greenway
- Jersey City Bicycle Network

### Priority - Parks

Construct the greenway through existing parks. Include focal areas for historic interpretation, kiosks, exhibits, wayfinding maps, public art, seating, bike racks and other amenities for bicyclists and pedestrians. Prioritize greenway improvements in Peninsula Park. The Morris Canal section of Liberty State Park, is the eastern terminus of the statewide Morris Canal Greenway and intersection with the Hudson River Waterfront Walkway. Collaborate with Liberty State Park and the Friends of Liberty State Park to redesign and energize the park as a primary destination of the Morris Canal Greenway.

### Priority - Private, utility or transit properties.

Identify at-risk properties and begin negotiations and coordination. Ensure that the greenway is included in utility and transit planning.

### Priority - On-street segments

Incorporate the on-street alignment (short-term and long-term) into the City’s bicycle network. Focus on sidewalk and intersection improvement along the short- and long-term alignments.

## Environmental and Cultural Impacts

The process of qualifying and addressing environmental impacts and meeting state and federal regulatory requirements and permitting will be affected by the source of funding for implementation as well as by existing site conditions. Because implementation will take place over time in discrete segments; the alignment may shift depending on circumstances; physical conditions may change; the “independent utility” of project segments are not confirmed; and funding sources are unknown, environmental requirements and permitting can only be generally discussed. Compliance with environmental regulations is complex and should be investigated early and in coordination with right-of-way acquisition.

If more than \$1 million dollars in state money is spent on a project that is part of a discrete segment (and in the absence of federal money), an *Executive Order 215 Environmental Assessment or Environmental Impact Statement* may be required. If federal monies are used, either solely or in combination with state monies, then a *Federal National Environmental Policy Act (NEPA) Environmental Document (Categorical Exclusion-CED, Environmental Assessment-EA or Environmental Impact Statement-EIS)* must be prepared instead. In addition, a *Programmatic 4(f) Statement* would be anticipated to be required if federal monies are used. Based on the number of off-street and expanded on-street segments on the proposed alignment, it is anticipated that at least \$1 million or more would be required to construct the proposed improvements. If solely state money is being used, this would trigger the need for an *Executive Order-215 Environmental Document*.

From a wetlands/waters permit perspective, it is anticipated that impacts to freshwater wetlands or wetland transition areas would be minimal enough (less than ¼ acre cumulatively) to allow for issuance of a *NJDEP Statewide General Permit No. 17A* for the construction of a non-motorized, multiple use path. If the ¼ acre cumulative wetlands/wetland transition area impact is exceeded, then a *NJDEP Individual Freshwater Wetlands Permit* would be required. Unlike the *NJDEP Statewide General Permit No. 17A*, an *Individual Permit* will require compensatory wetland mitigation for project related impacts. In addition to the *NJDEP Permit*, should wetlands/waters associated with either the tidally flowed Hackensack River or the Hudson River be impacted, they will potentially require a *Corps of Engineer’s Nationwide Permit* as well. If the project ultimately uses federal funds and a *NEPA Categorical Exclusion Document* is submitted and approved, than a *Corps of Engineer’s Nationwide Permit No. 23 (Approved Categorical Exclusion)* would likely be required. If federal funds are not used, it is anticipated that a *Corps of Engineers Nationwide Permit No. 14 (Linear Transportation Projects), No. 24 (Indian Tribe or State Administered Section 404 Programs) or No. 42 (Recreational Facilities)* could all potentially be applicable. All *Corps of Engineer’s permits* will require compensatory wetland mitigation.

Given that both the Hackensack River and the Hudson River are tidal in the vicinity of the project area, there is the potential, based upon the final Morris Canal Greenway configuration in relation to the distance to the mean high tide line and intervening property lines, that an *NJDEP Waterfront Development Permit* may be required along with a *Tidelands Conveyance* from the NJDEP Bureau of

Tidelands. In addition, since a federal permit may also be required, a federal consistency determination (for consistency with applicable coastal zone management rules) may potentially be required as well.

From a Flood Hazard Area/Riparian Buffer Permit perspective, there is the potential that riparian corridors associated with the Hackensack and Hudson Rivers that would be impacted by the proposed Greenway would require an *NJDEP Flood Hazard Area Permit* for riparian impacts. Given that both the Hackensack River and the Hudson River are both tidal where they are adjacent to the project, only water quality and riparian corridor impacts would need to be addressed. Detailed technical floodplain modeling is not anticipated to be required. Should the proposed Greenway result in more than ¼ acre of new impervious surface, or more than one (1) acre of overall disturbance, both of which are anticipated, then the proposed improvements must comply with NJDEP’s stormwater management regulation.

From a Threatened and Endangered Species perspective, based upon a literature and GIS mapping review, it is not anticipated that there will be any impacts to federally listed rare species. Impacts to state listed species or their habitat, if any, will comply with anticipated timing restrictions that would be specified in the issued NJDEP and Corps of Engineer’s permits.

From a hazardous/contaminated materials perspective, given the substantial number of Known Contaminated Sites and Chromate Sites adjacent to the proposed greenway alignment, the proposed greenway improvements are anticipated to require coordination with/approval from NJDEP’s Site Remediation Group or an NJDEP Licensed Site Remediation Professional (LSRP).

From a Cultural Resources perspective, due to the proximity of the proposed greenway alignment to both listed and eligible resources (most notably the Morris Canal Historic District, listed on both the New Jersey and National Registers of Historic Places), it is anticipated that further cultural resource investigations will be required once the greenway plans are finalized and more detail regarding the level of impacts is available. In addition, the canal’s listing on the State Register will require compliance with the review procedures associated with the New Jersey Register of Historic Places Act.

The only time there would be no New Jersey Historic Preservation Office (NJHPO) review would be when the project involves private money on private property, with no form of state or federal involvement (permitting, wetlands, etc.). In this case, the city would need to provide for any compliance overview.

NJHPO review is necessary for any federal funding or permitting (NEPA – Section 106 and New Jersey Register of Historic Places Act) state funding or permitting (EO 215 – NJ Register Act) or the use of any public funding (including municipal and county), even on private property (NJ Register Act).

From an Open Space/Green Acres perspective, the proposed alignment goes through, is adjacent to or in the close vicinity of several parks, including Mercer Park, Berry Lane Park and Bayside Park. Should the final greenway design include connections to said parks, a Section 4(f) Statement may be required if the project becomes federally funded. In addition, coordination with NJDEP’s Green Acres Program will likely be required as well.

From an Air and Noise perspective, given the nature of the proposed greenway improvements, other than temporary air/noise impacts associated with construction, no permanent impacts are anticipated.

## Costs, Funding, Management and Maintenance

The costing information is intended to determine only a cost estimate for greenway development along the long-term alignment. Accurately estimating total costs for the 8.5 mile greenway is not feasible at this stage. Costs presented here are based on many assumptions and do not reflect findings from appraisals, surveys, variable designs and contexts, existing conditions or changes to costs over time. Rather, these cost estimates provide a basis for discussion and a starting point, which is necessary to anticipate future funding needs. It is important to keep in mind that the segments of the greenway will be developed in stages over an extended length of time; the funding necessary for each phase of development and for each segment will take place over many years and more accurate costs will be developed through the process of securing right-of-way and advancing design, engineering, and construction.

For planning purposes, construction cost estimates were developed based on typical labor and material costs for a greenway facility. The preliminary construction cost estimates account for installation of on-street and off-street, inclusive of labor and material. Appendix E includes a table, *Construction Cost Estimates*, showing costs per segment for on- and off-street construction respectively.

The preliminary estimates for the on-street improvement costs do not account for “soft costs,” such as planning, environmental documentation, right-of-way and easement acquisitions, necessary permits and final design. These are real costs which must be accounted for in future phases of planning and design. “Soft costs” vary by project but typically range between 25-33% of total construction cost.

Cost estimates for supplemental off-street greenway components are calculated separately in a table, *Additional Component Costs*, which is also included in Appendix E. The supplemental components refer to pedestrian light fixtures, trees, rest areas (which consist of two benches, two bike racks, one interpretive sign, and one trash receptacle), wayfinding signs, and pavement medallions.

In summary, accounting for the estimated costs of the on-street improvements, approximately \$1.5 million; plus the off-street path construction, approximately \$7 million; and the off-street supplemental components, approximately \$700,000; brings the total estimate to the range of approximately \$9 million for the entire length of the Morris Canal Greenway. This is in keeping with published costs of urban trails nationally.

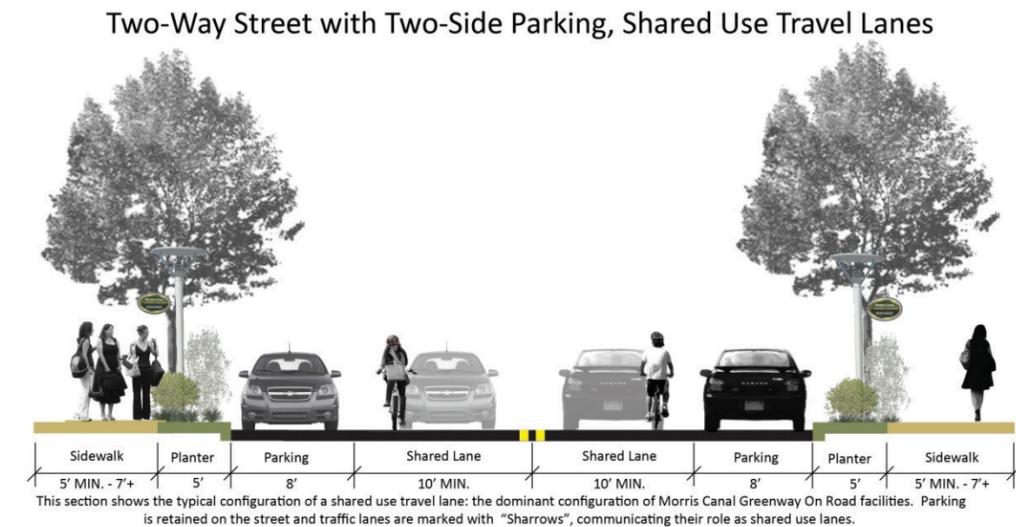
## Basis for On-Street Costs

Each street along the proposed long-term alignment was evaluated individually to assess existing conditions and potential treatments to improve bicycle and pedestrian accommodations. The on-street segments include the following components: on-street bicycle facilities marked with bike lanes or shared

uses markings (“sharrows”); pedestrian-scale lighting placed one every fifty feet on both sides of the street; bike route wayfinding signage installed at each change in direction; one pavement medallion installed at each curb ramp; one interpretive sign installed per segment. Estimated pricing for on-street components are found in the appendices.

## Typical On-Street Cross Section

The cross section below shows typical dimensions in compliance with accepted guidance documents for the design of on-street bicycle facilities and sidewalks.<sup>10</sup>



<sup>10</sup> AASHTO Guide for the Development of Bicycle Facilities, 2012; AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2004; AASHTO Guide for the Development of Bicycle Facilities 2009; are among the nationally accepted standards.

### Basis for Off-Street Costs

For the off-street components, path construction includes clearing, excavation, sub-base installation, and hot asphalt paving, plus topsoiling, sodding, deciduous shrub planting, and wildflower seeding, estimated with a cost per distance formula. These design treatments and materials will inevitably differ throughout the greenway corridor, so the costs are generalized and applied to all off-street segments. The off-road cost is initially estimated at \$325,000 per quarter mile. Costs include a 20% contingency. (Cost estimates for supplemental off-street greenway components are calculated separately. The supplemental components refer to pedestrian light fixtures, trees, rest areas, wayfinding signs, and pavement medallions.)

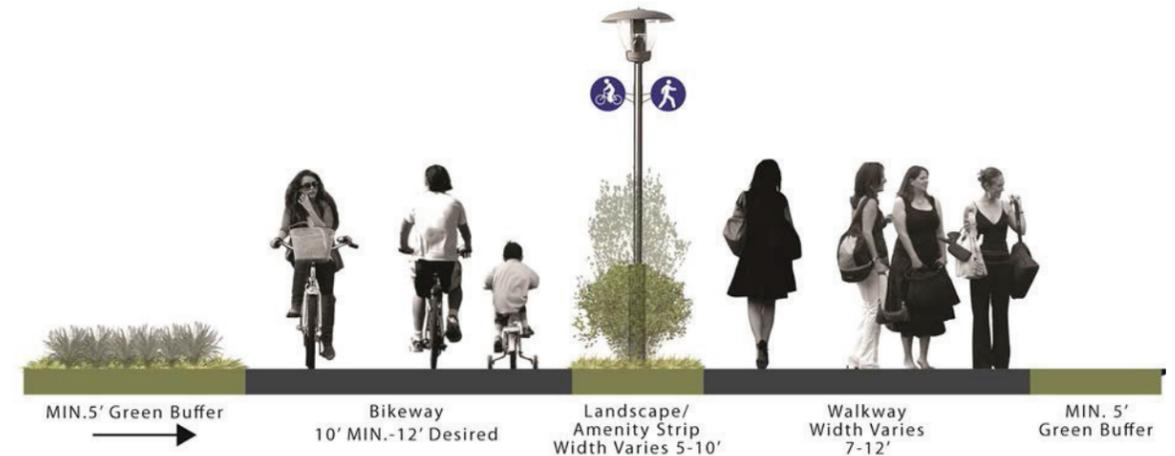
The cost assumptions are based on a thirty-foot wide section consisting of a sixteen-foot wide, two-way asphalt shared use path with a two-foot grass area and five-foot planting area on either side. For this estimate, the path will consist of an eight-inch sub base and four-inch surface course. The landscaping will consist of a two-foot grass shoulder and a five-foot planting area containing one shrub every ten feet with wildflower seeding in between. The proposed off-street sections will require site preparation involving of clearing and excavation, path construction consisting of sub base and surface course and landscaping which will include top soiling, sodding, and planting of shrubs. This cost estimate assumes no cut and fill is required.

All costs and items were taken from the *NJDOT Bid Price Report 2012* and were increased by five percent to adjust for inflation. The section of the long-term greenway that shares the alignment with the existing Hudson River Waterfront Walkway was not included in the cost estimate for path construction. Also, *The Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study* included cost estimates for the bicycle and pedestrian accommodations that are part of the locally-preferred alternative for the urban boulevard.

### Typical Off-Street Greenway Cross Sections

The cross sections below show typical dimensions in compliance with accepted guidance documents for the design of off-street paths. A separated path is recommended where possible, especially where heavy use is anticipated.

### Off-Street Separated Bicycle and Pedestrian Facilities



### Off-Street Shared Use Path



### Funding Greenway Development

Most trails and greenways are built through a combination of approaches and efforts. In the current economic climate, it is especially important for the City to explore all avenues of funding support. There are a variety of funding sources available for greenway development including: federal, state and local government, capital funding from the municipality, private support and grants, as well as potential revenue generated by the greenway.

The following is a compilation and brief description of sources of funding that have been, or could be used to fund pedestrian and bicycle improvements in New Jersey. The list is not exhaustive, but it identifies funding sources that can be utilized to fund bicycle and pedestrian planning, engineering, and project development activities, as well as construction. Some funding sources may also be used to fund programmatic activities. See the appendices for descriptions.

#### Federal

- Transportation Alternatives
- Recreational Trails Program (RTP)
- Highway Safety Improvement Program (HSIP)
- Congestion Mitigation and Air Quality Program (CMAQ)
- Associated Transit Improvements
- Community Development Block Grants (CDBGs)
- Land & Water Conservation Fund (LWCF)
- Environmental Contamination Cleanup Funding Sources
- Green Infrastructure and Stormwater Management Sources

#### State and Local

- NJDOT Bikeway Grant Program
- NJDOT Safe Streets to Transit (SSTT) Program
- NJDOT Centers of Place Grant Program
- NJDOT Municipal Aid
- NJDOT Bicycle and Pedestrian Local Transportation Planning Assistance Program (LTPA)
- New Jersey Historic Trust Funding Programs
- Association of New Jersey Environmental Commissions (ANJEC)
- Sustainable Land Use Planning Grants Program
- Foundations and Company Grants

#### Others to Consider

- Municipal Allocations
- Impact Fees
- Bond Referendums for Greenways
- Local Private-Sector Funding
- Adopt-A-Trail Programs
- Membership campaigns

### Long-Term Management and Maintenance Strategy

Prior to the development of individual greenway segments, the managing agency and/or organizations responsible for managing, maintaining and monitoring the greenway need to be defined. Different entities may be responsible for different sections or aspects of trail maintenance and management. For example, it is common for a trail or greenway to be owned by a government entity but maintained by volunteers.

It is assumed that Jersey City will take the lead in securing ROW and guiding the development of the greenway. In general, central ownership of the greenway is recommended to facilitate the development process and maintain control over greenway design and function. However, there may be locations where city ownership is not a viable or logical option. There are many precedents where legal agreements are put in place to distribute development, management and maintenance responsibilities as well as ownership and liability insurance among and between parties.

Clearly defined roles and responsibilities are critical in terms of liability. The greenway is a linear park and presents the same exposures and protections under law as other public park facilities. It is imperative that the Greenway be maintained and managed responsibly, which means that there must be documented policies and procedures in place that describe in detail how the trail will be managed and operated in a safe and responsible manner. There must be regular inspections, a means of reporting hazards and deficiencies, and parameters for addressing them in a timely manner. Regardless of who maintains ownership, it is essential that the responsible parties for operating the facility are identified and carry out their obligations in accordance with clearly defined policies and procedures.

A safety and security plan should be developed as part of the management strategy. The plan should address strategies that can be used to deal with safety issues such as partnerships with the police and community groups, creating greenway patrols, lighting, and increasing “eyes on the greenway.”

Maintenance costs are difficult to estimate as they can vary depending on the components included and conditions associated with the greenway. The Rails-to-Trails Conservancy report, *Rail Trail Maintenance and Operation*<sup>11</sup>, provides guidance on maintenance requirements and costs. In 2005, 100 trails were surveyed on primary management and design topics of liability, surfaces, drainage, amenities, signs, bridges and budgets. The report concluded that average annual maintenance costs are \$2,000 per mile for a government run trail, \$1,500 for an average trail, and \$700 per mile for a volunteer trail. Regardless of the costs, a revenue source needs to be identified in order to properly operate and maintain the greenway.

<sup>11</sup> <http://www.railstotrails.org/ourWork/trailBuilding/toolbox/informationSummaries/management-maintenance.html>

National trails and greenways organizations offer helpful resources for development, construction, management and maintenance. Prominent membership organizations include American Trails and the Rails-to-Trails Conservancy, both of which manage on-line listservs for peer-peer discussion and information sharing. The crime and safety strategies described below are excerpts from a Rails-to-Trails Conservancy publication.

Incorporate concepts of crime prevention through environmental design (CPTED) to address potential crime and safety issues.

CPTED is a way of developing or modifying the built environment to reduce the fear and occurrence of crime. Principles of CPTED include: natural surveillance, access control and territoriality<sup>5</sup>. To provide natural surveillance, design trails with clear sight lines and orient buildings so that windows face the trail, providing an “eyes on the trail” effect. Keeping urban trails well maintained will contribute to their attractiveness, which can be an important factor in increasing trail use<sup>6</sup>. Establishing a sense of ownership by installing signage, art or landscaping demonstrates that the trail is cared for, and keeping the trail well maintained reinforces that sense of ownership, creating an environment where “crime is uncomfortable.” Also, ensure the trail is in your city’s 911 emergency locator system. Since trails may not have a standard street classification and/or no associated physical addresses, emergency responses may be delayed.



Photo: Daquella Maner

**Dallas, Texas Katy Trail**

To improve emergency response to trail incidents, the city developed an innovative Emergency Locator System, using the Katy Trail as a pilot project. Signage markers with unique location identifiers are placed at every eighth of a mile; these are assigned geographic coordinates that allow emergency crews to easily determine the best route for reaching the emergency.

Contact: Friends of the Katy Trail, [www.katytraildallas.org](http://www.katytraildallas.org)

Source: *Rails-to-Trails Conservancy*

**Keeping it Lively: Early Action Strategies**

Greater use of the arts can express community attachment to local places, especially the canal. And interpretation can promote not only history, but also the promotion of community understanding of local natural resources and the story of the environmental legacy that accompanied industrial development spurred by the canal and, later, the railroads.

Interpretation along the Morris Canal Greenway can help it become, in the words of the Plan Vision, “a lasting source of community pride” by enabling residents to learn about (1) the accomplishments and legacy of the past (in the words of the vision, “celebrates the City’s industrial past”); and (2) Jersey City’s contribution to New Jersey’s and the New York City area’s growth. Well-designed interpretive facilities can also comprise, again, in the words of the vision, “an educational tool for displaying Jersey City’s history and regional significance,” in particular for schoolchildren. Local-history education programs for young students can lead to generations of residents who bond to the City’s historic places, stories and neighborhoods and take leadership roles in the City’s future.

Below are some of the proven strategies for promotion and programs that could help build public support for the Morris Canal Greenway<sup>12</sup>:

- Hosting trail events and activities, whether frequent or one-time, big or small, can extend the benefits of the trail into the nearby community.
- Whether the trail is in the planning phase or has been open for many years, conducting community outreach is essential to encouraging trail use among neighborhood residents.
- Involve local elected officials and community leaders in events. Elected officials can become champions of the trail and work as an ally to ensure the trail is developed, maintained and cared for by the city.
- Reach broadly for your audience and partner with schools, the faith-based community and neighborhood groups as you plan for events.
- Use the media and other online resources like listservs, Facebook and Twitter
- Showcase the trail, but demonstrate local connectivity by incorporating neighborhood destinations and involving local organizations, businesses and agencies.
- Use annual days of observation for trail activities and events. Many groups focus on community stewardship opportunities for National Trails Day or Earth Day.
- Example:
  - Through the Urban Pathways Initiative, Rails-to-Trails Conservancy brought additional resources for the 2011 Lafitte Corridor Hike. RTC helped develop a Greenway Ambassadors Program to educate community residents about the corridor’s history and the greenway planning process.

<sup>12</sup> From Rails-To-Trails Conservancy publications.

Below are some of potential partners that can collaborate to advance implementation, such as:

- City of Jersey City
- Jersey City Redevelopment Agency
- Jersey City Landmarks Conservancy
- Jersey City Economic Development Corporation
- Jersey City Free Public Library
- Liberty State Park
- Liberty Science Center
- Canal Society of NJ
- Neighborhood Groups and affinity organizations (churches, schools, businesses)
- New Jersey City University
- Bike JC

The recommendations and strategies listed below were generated from project research, as well as extensive discussion with Steering Committee members and Jersey City representatives, including the Division of City Planning, the Division of Engineering, and the Redevelopment Agency, among others. In addition to Steering Committee meetings, several focus groups were convened with Jersey City staff to closely review the proposed alignment and to discuss strategies for implementation.

**Table 7: Early Action Recommendations and Strategies**

1. Implementation / Planning	
<i>Strategies and Recommendations</i>	<i>Potential Participants</i>
a. Adopt the Morris Canal Greenway Plan as part of the City's Master Plan.	Jersey City Division of City Planning
b. Ensure that the Morris Canal Greenway is incorporated into the Redevelopment Plans the greenway traverses.	Jersey City Division of City Planning
c. Revise the development application to require the delineation of the Morris Canal ROW and proposed long-term greenway (and alternate route, if applicable). Make GIS mapping files of the Morris Canal ROW and proposed short-term and long-term greenway alignments available on the City's Website.	Jersey City Division of City Planning
d. Explore the creation of an overlay zone for the Morris Canal Greenway. This would create special regulations for parcels through which the Morris Canal Greenway traverses.	Jersey City Division of City Planning
e. Investigate creation of a Morris Canal Historic District.	Jersey City Division of City Planning, Historic Preservation Community
f. Establish a working group to periodically review progress and implementation.	Various City agencies (including the Division of City Planning, Division of Engineering, Division of Architecture, Department of Public Works, Mayor's Office, Jersey City Redevelopment Agency), Hudson County Division of Planning, Hudson County Division of Engineering, NJDEP, NJHPO, NJDOT, Community Groups, Advocacy Organizations, Arts Community, Historic Preservation Community
g. Participate in the statewide Morris Canal Working Group.	Various City agencies including the Division of City Planning, Division of Engineering, Jersey City Redevelopment Agency

2. Implementation / ROW	
Strategies and Recommendations	Potential Participants
a. Identify greenway "target areas" for protection (properties most at-risk for development, parcels that form critical connections) and investigate ways to protect and/or acquire these properties.	Jersey City Division of City Planning, Jersey City Redevelopment Agency
b. Negotiate the implementation of the greenway with public entities with property along the proposed long-term alignment.	Jersey City Division of City Planning, Jersey City Redevelopment Agency, Hudson County, Public Property Owners
c. Work with NJ TRANSIT on providing connections between the greenway and Hudson Bergen Light Rail Stations.	Jersey City Division of City Planning, Jersey City Division of Engineering, Jersey City Redevelopment Agency, NJ TRANSIT

3. Design and Engineering	
Strategies and Recommendations	Potential Participants
a. Design wayfinding signage and logo. The signs and logo should incorporate the Morris Canal Greenway logo being used in other parts of the state but should also reflect the character and uniqueness of the city's surrounding neighborhoods.	Various City agencies (including the Division of City Planning, Division of Engineering, Division of Architecture, Mayor's Office, Jersey City Redevelopment Agency), Arts Community, Community Organizations
b. Sign the short-term alignment, making the greenway as continuous as possible. This could be done through the installation of wayfinding signs, sidewalk medallions, banners, or painting a line on the sidewalk and/or street.	Jersey City Division of Engineering, Hudson County Engineering
c. Implement the plan for bike lanes and sharrows developed by the Jersey City Bike Infrastructure Working Group. Streets included in the Plan that are also part of the short-term proposed alignment include Mallory Avenue, West Side Avenue, Danforth Avenue, Carteret Avenue, Pacific Avenue, Johnston Avenue, and Pacific Avenue.	Jersey City Division of Engineering

3. Design and Engineering	
Strategies and Recommendations	Potential Participants
d. Adopt the proposed short-term greenway alignment as part of the City's planned bicycle network.	Jersey City Division of City Planning, Jersey City Division of Engineering
e. Assess design and engineering treatments for on-street greenway segments, both short-term and long-term (bike lanes sharrows, sidewalks, intersection crossings, curb cuts).	Jersey City Division of Engineering, Hudson County Engineering
f. Develop permanent long-term on-street segments (bike lanes, sharrows, sidewalk improvements, curb cuts, crosswalks, lighting, landscaping, etc.). This includes Danforth Avenue to JFK Blvd and Mercer Park (implementation segment 3) and Mercer Park to Linden Avenue/Danforth Transit Village Redevelopment Plan Area (implementation segment 4).	Jersey City Division of Engineering, Hudson County Engineering
g. Develop off-street segments that may be feasible in the shorter term. Possible segments include: Berry Lane Park, the segment behind the Whitlock Cordage complex, Canal Crossing Redevelopment Plan Area, Mercer Park, and the Hackensack River Greenway Park site.	City Various City agencies (including the Division of City Planning, Division of Engineering, Division of Architecture, Department of Public Works, Jersey City Redevelopment Agency), Hudson County Division of Parks
h. Develop plans in partnership with Liberty State Park and to improve Peninsula Park and feature the location as the terminus of the Morris Canal Greenway and a featured location along the Hudson River Waterfront Walkway.	Jersey City Division of City Planning, NJDEP

4. Interpretation	
<i>Strategies and Recommendations</i>	<i>Potential Participants</i>
a. Establish or designate a lead organization to advance interpretive strategies and installations along the greenway through partnerships with stakeholders.	Jersey City Division of City Planning, Jersey City Economic Development Corporation, Historic Community Groups, Historic Preservation Community
b. Develop a comprehensive interpretive plan and mapping with the participation of interested stakeholders, including educational institutions.	Jersey City Division of City Planning, Jersey City Economic Development Corporation, Historic Community Groups, Historic Preservation Community
c. Initiate an exhibit program to locate and develop interpretive kiosks, art installations, markers and other vehicles that display Morris Canal and Jersey City history.	Jersey City Division of City Planning, Jersey City Department of Public Works, Jersey City Economic Development Corporation, Historic Community Groups, Historic Preservation Community, Arts Community
d. Develop neighborhood plans for interpretive media, installations, education programs and events.	Jersey City Division of City Planning, Jersey City Economic Development Corporation, Historic Community Groups, Historic Preservation Community
e. Assess needs and opportunities for school-based education programs. Work with public, private, and charter schools, and institutions of higher learning to identify existing and needed programs in local history, civics, local environmental issues, and other topics that can be developed to support school curricula.	Jersey City Division of City Planning, Jersey City Economic Development Corporation, Historic Community Groups, Historic Preservation Community, Educational Institutions
f. Create a network of interpretive pathways and walking tours linking all city interpretive resources, with the southern "half" revolving around the Morris Canal Greenway.	Jersey City Division of City Planning, Jersey City Economic Development Corporation, Historic Community Groups, Historic Preservation Community, Educational Institutions
g. Create an ongoing forum for moving the interpretive process forward, monitoring progress, and making necessary public and private investments.	Jersey City Division of City Planning, Jersey City Economic Development Corporation, Historic Community Groups, Historic Preservation Community, Educational Institutions

5. Keeping it Lively: Marketing and Promotion	
<i>Strategies and Recommendations</i>	<i>Potential Participants</i>
a. Create a brochure/webpage/Facebook page for the Morris Canal Greenway through Jersey City in order to raise awareness within the community and generate excitement.	Jersey City Division of City Planning, Jersey City Mayor's Office, Jersey City Economic Development Corporation, County, State, Community Groups, Advocacy Organizations, Arts Community, Historic Preservation Community
b. Plan events and activities for the Morris Canal Greenway. Strive for one major signature event annually, such as a festival or walking tour. Plan for a celebration in 2024 of the 200th anniversary of the charter establishing the Morris Canal and Banking Company.	Jersey City Division of City Planning, Jersey City Division of Cultural Affairs, Jersey City Economic Development Corporation, County, State, Community Groups, Advocacy Organizations, Arts Community, Historic Preservation Community
c. Highlight the Morris Canal Section of Liberty State Park (Peninsula Park), the eastern terminus of the historic Morris Canal, to bring awareness to the greenway plan and build excitement. This could include development of an interpretive site or public art installation.	Jersey City Division of City Planning, Jersey City Mayor's Office, Jersey City Division of Cultural Affairs, Jersey City Economic Development Corporation, State, Community Organizations, Advocacy Groups, Arts Community
d. Reach out to the History Department at New Jersey City University (NJCU) to develop a walking tour for the Morris Canal in Jersey City.	Jersey City Division of City Planning, Community Groups, Advocacy Organizations, Arts Community, Historic Preservation Community
e. Coordinate and partner with the regional trail system - e.g., East Coast Greenway, Hudson River Waterfront Walkway, Hackensack River Waterfront Walkway, Liberty-Water Gap Trail	Jersey City Division of City Planning, Advocacy Groups
f. Identify groups that can take ownership of projects so there is a support system after it is installed.	Jersey City Division of City Planning, Community Organizations, Advocacy Groups



5. Keeping it Lively: Marketing and Promotion	
<i>Strategies and Recommendations</i>	<i>Potential Participants</i>
g. Install temporary artwork and host performance art along the proposed greenway to increase awareness and community involvement.	Jersey City Division of City Planning, Jersey City Mayor's Office, Jersey City Division of Cultural Affairs, Arts Community, Community Groups
h. Involve the schools and other youth programs in the design and selection of installations.	Jersey City Division of City Planning, Schools, Community Groups

# APPENDICES





**APPENDICES**

**A. Meeting Memos and Public Comments**

**B. Descriptions and Map of Historic Features associated with the Historic Morris Canal Right-of-Way**

**C. Proposed Long-Term Greenway Alignment on an Aerial Base Map**

**D. Field Data Sheets**

**E. Detailed Cost Estimate Tables**

**F. Funding Sources**

**G. Telling Neighborhood Stories with Public Art**

**H. Resources related to the Morris Canal available at the New Jersey Room of the Jersey City Free Public Library**

**I. Neighborhood Maps of Jersey City**

**Appendix A**  
**Meeting Memos and**  
**Public Comments**



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FROM: Annette Schultz, Project Manager
Elizabeth Cox, Project Planner
DATE: June 5, 2012
MEETING: Steering Committee Meeting #1
SUBJECT: The City of Jersey City Morris Canal Greenway Plan
RBA #J4552.00

Purpose

To introduce the project scope, schedule and outcomes; establish a greenway vision; review the original Morris Canal alignment; identify selection criteria, opportunities and constraints that will influence the greenway alignment; share data and information; and confirm a plan to engage the public and stakeholders in the greenway planning process.

Attendees

- 1. Mike Viscardi, NJ TRANSIT
2. John Lane, Hudson County Division of Engineering
3. Steve Jandoli, NJDEP/Green Acres
4. Brian Weller, Jersey City Division of Architecture
5. Joe Macasek, Canal Society of New Jersey
6. Jeff Wenger, Jersey City Division of City Planning
7. John Hallanan, Jersey City Landmarks Conservancy
8. Joe Powell, NJDOT/Bike Ped
9. Vinay Varadarajan, NJDOT/Capital Investment Planning
10. Jonathan Luk, Liberty State Park
11. Megan Kelly, North Jersey Transportation Planning Authority
12. Massiel Ferrara, Hudson County Division of Planning
13. Kevin O'Sullivan, Town of Kearny
14. Jay DiDomenico, Hudson TMA
15. Doug Greenfeld, Jersey City Mayor's Office
16. Kris Reiss, Bike JC

Project Team Members Present

- Annette Schultz, The RBA Group
Mike Dannemiller, The RBA Group
Liz Cox, The RBA Group
Naomi Hsu, Jersey City Division of City Planning

Materials Distributed to Steering Committee

- Agenda
Fact Sheet
Project Schedule
Data Sources
Maps



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Action Items/ Next Steps

- 1. RBA will refine the Vision for the Morris Canal Greenway, utilizing input and priorities gathered at the Steering Committee meeting.
2. RBA will refine routing options for the Morris Canal Greenway. It is contemplated that the Morris Canal right-of-way will be divided into six segments, potentially as presented to the Steering Committee. As many as two or three routing options will be developed for each segment.
3. RBA will schedule field assessments of the selected routing options, and can include up to two or three members from the Steering Committee during this field work.
4. RBA will work with Jersey City Division of City Planning to set the Public Outreach schedule.
5. Jersey City Division of City Planning will provide any additional resources deemed appropriate or insightful.

Mapping- Routing Exercise Summary

Western Half of the Morris Canal Right-of-Way (Maps 1-3)

- Most of the western portion of the historic Morris Canal alignment is alongside Route 440 and has been incorporated into the locally-preferred alternative identified by the Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study.
The Morris Canal Greenway alignment should connect to Lincoln Park, the East Coast Greenway, and the Hackensack River Waterfront Walkway.
There is an opportunity to reconstruct Lock 21, the western entry/exit portion of the canal, as part of the proposed Hackensack River Greenway Park.

Eastern Half of the Morris Canal Right-of-Way (Maps 4-6)

- There is excellent off-road routing potential along the eastern half of the Morris Canal Greenway.
Linking together the Big Basin, Jersey Ave, and numerous redevelopment plan areas has the opportunity to yield an almost seamless Canal Greenway alignment.

Meeting Summary

Introductions

Naomi Hsu, Senior Transportation Planner and Project Manager for the City of Jersey City, welcomed the attendees and introduced the project. She explained that the City has wanted to create a plan for a greenway on the right-of-way of the former Morris Canal alignment for some time and that a greenway is listed as an action in both the Circulation Element of the Master Plan as well as the Recreation and Open Space Master Plan.

She explained that creating a greenway along the Morris Canal is not only a local project but a regional initiative and that other jurisdictions in northern New Jersey are working on developing greenways along the Morris Canal in their respective jurisdictions.



Megan Kelly from NJTPA, the project’s funder, emphasized the regional importance of the Morris Canal Greenway. In addition to the Jersey City study, NJTPA is funding a study in Warren County to develop a 25 Year Action Plan and has formed a Morris Canal Working Group. The purpose of the Morris Canal Working Group is to facilitate coordination amongst key players involved in the various efforts throughout the state. Megan Kelly extended an invitation to all attendees to the next Working Group meeting scheduled for July 25<sup>th</sup>.

The attendees introduced themselves.

### Project Overview

Annette Schultz, Project Manager from the RBA Group, introduced the Consultant Team and provided an overview of the project approach.

She explained that implementation will be guided by a vision that is being developed as part of this project. She then presented images of greenways, historic interpretation, art, and bicycle and pedestrian amenities to inspire the attendees and displayed how other successful greenways have been constructed. She then asked the group what they hope the outcome of a greenway along the Morris Canal in Jersey City would be. The Steering Committee provided the following responses, which will help shape the vision for the greenway:

- Opportunity to combine recreation and history/education
- Provides open space in an urban area
- Opportunity to “tell the story” of the Morris Canal through historic interpretation
- Off-road facility where people can walk/bike safely and leisurely
- Reconnects the community with its history
- Provides connections to destinations and local landmarks on a facility dedicated to bicyclists and pedestrians
- Opportunity for green infrastructure
- Encourages people to walk/bike for recreation and transportation

The Steering Committee was then asked how they would measure success of the greenway. These were their responses:

- A lot of money is secured for construction
- The greenway attracts investment
- It has public support
- Provides a safe place for families to walk and bike
- The Morris Canal Greenway is a destination in and of itself, a place people seek out
- The Morris Canal’s historic significance is highlighted throughout the alignment
- A design guide (similar to the one for the Hudson River Waterfront Walkway) is developed
- Phased implementation plan is developed
- Long-term maintenance plan is developed
- Enhances existing services/increases awareness of existing facilities

- Capitalizes on existing facilities and supports tourism

Next, Mike Dannemiller from RBA presented types of on-road and off-road facilities. He explained that while the greenway will be off-road where feasible, there will be sections that will be on-road. Some of the challenges along the route will include intersections and roadway and rail crossings.

He then led a discussion on selection criteria and priorities. While the group agreed that it is a priority to stay on or near the alignment, it is also important to be practical. Doug Greenfeld from the Mayor’s Office suggested that contamination should not preclude re-use of the Morris Canal for the greenway, because remediation may be possible.

### Mapping Exercise

The attendees broke into two groups to identify destinations, opportunities and constraints along the alignment of the Morris Canal. One group looked at maps 1-3 while the other looked at maps 4-6 (see attached index map). After 15 minutes the groups switched. Following are the major discussion items from this mapping exercise.

#### Map 1

- The Hackensack Greenway River Park is planned at the western terminus of the Morris Canal.
  - Hudson County owns the eastern parcel, and the City owns the western parcel.
  - Morris Canal Lock 21 is located in the planned park.
- There needs to be connections between the Hackensack River Waterfront Walkway and Route 440 with the greenway.
- The Hackensack River Waterfront Walkway could be a possible alternative alignment. However, it is far from the historic canal alignment and access to the walkway from adjacent neighborhoods might be an issue.
- Doug Greenfeld suggested Route 440 as both the short and long term greenway alignment. Route 440 has new 5’-wide sidewalks. However, this would not accommodate two-way bicyclist travel in the short term.
- Environmental remediation of the Bayfront Redevelopment Plan area is underway on the old Honeywell site. As part of the development, the Hackensack River is being dredged/cleaned up.
- The Bayfront Redevelopment Plan includes a series of linear parks from Route 440 to the Hackensack River.
- New Jersey City University is expanding their campus. Part of the campus will front Route 440 – located across from Bayfront.

#### Map 2

- There is an old restaurant along Route 440 that might have historic value.
- Society Hill, a private gated community along the Hackensack River, has completed the walkway along their property.
- Tidelands Athletic Complex is for special use only – need a permit to use.
- The historic Roosevelt Stadium was located on the Society Hill property.
- Possible connection to Sycamore Street in Country Village via jughandle off Route 440. Look at the Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study for proposed connection.



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- In the Country Village development, there is resident opposition to using the Morris Canal alignment for the greenway.
  - The off-road alignment is deemed to be “off the table.”
  - There is less opposition to an on-road alignment on Sycamore Street.
- There are perceived safety issues with McGovern Park in Country Village.

Map 3

- There is potential for interpretive signs/art at Mercer Park.
- Development east of Mercer Park is a Jersey City Housing Authority Hope VI project. The canal may have been incorporated into the development.
- Cyclists often use Broadway to get from Bayonne to Jersey City.
- Avenue C might be another possibility for a connection to Bayonne.
- Turnpike Authority is making improvements to Exit 14A near a sharp bend in the Morris Canal known as Fiddler's Elbow
- The relocated Jersey City Department of Public Works facility is a possible routing for the greenway.
  - Public entrance to the site will be on the Morris Canal alignment at Linden Ave.
  - There is a small underpass under Conrail tracks at DPW site (follow Brown Street). Conrail was resistant to having trucks pass under but should be approached about pedestrians and bicyclists.

General Comments (Maps 1-3)

- Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study included plans for pedestrian crossings.
- Possible historic groups to reach out to include: Bayonne Historical Society, Lincoln Society, George Washington Society.
- There is an African American museum located along JFK Blvd.
- Schools are mostly located on the east side of the canal in this segment.
- Explore spurs to parks and schools.
- Label at-grade railroad crossings on map.
- Potential to include other historic places/sites along the route. For instance, the rail line adjacent to the Turnpike Extension carried supplies to the military pier in Bayonne during WWII.
- Contact Bayonne Planner, John Fussa, for destinations in Bayonne.
- Use public land as much as possible (for example, DPW site).

Map 4

- There are wooded areas adjacent to the rail corridors that run across this segment.
- There is one apparent parking lot encroachment along the historic canal alignment.
- Dirt bike use is evident along this segment.
- Caven Point Road has wide shoulders and perceived high motor vehicle travel speeds.
- Caven Point recreational facility is a major destination.
- The entire length of this segment appears to have off-road potential.

Map 5

- The Canal Crossing Redevelopment Plan and the future Berry Lane Park encompass the southern portion of this segment. They will accommodate the Morris Canal Greenway.



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- The exact alignment of the historic Canal needs to be refined on the mapping. The NJ DEP shape file does not have sufficient precision at 1' = 200' scale used for the maps.
- Lafayette Park offers major recreational and historic interpretation opportunities.

Map 6

- An alignment under the Turnpike Extension presents several interpretative and “covered” routing opportunities.
- The Jersey City Medical Center has an excellent full scale canal boat “lay by” interpretive area represented with bermed landscaping that portrays the canal alignment and function.
- Jersey Avenue is planned to be reconstructed. This is an excellent opportunity to enhance on-road accommodation, and provide links between potential off-road segments.
- There is a planned waterfront path/enhanced sidewalk along the north side of the Big Basin. This is part of the Morris Canal network, and may offer an excellent off-road alignment opportunity that is related to the historic canal, even though it is not along the exact historic canal alignment.
- There is a kayak launch site planned along the Little Basin.

Following the Mapping Exercise, the Steering Committee reconvened to briefly summarize the discussions.

Destination Priorities identified included

- Liberty State Park
- Basins
- Parks
- Historic Streets (New Amsterdam)

Potential connections identified included

- Hudson River Waterfront Walkway
- Hackensack River Waterfront Walkway
- Jersey Avenue
- Rail Corridors
- Spurs to schools

The consensus was that to the greatest extent possible, the greenway route should follow the right-of-way of the former Morris Canal as closely as possible. In order to achieve this, it was recognized that short-term and long-term routings will likely need to be developed.

Community Involvement Plan

Annette reviewed the public outreach component of the project. This will include:

1. a project website,
2. a greenways alternatives audit conducted by Steering Committee members and invited members of the public,
3. a community design workshop
4. a public meeting to present a draft of the plan
5. targeted stakeholder meetings





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- 6. group presentations – this might be to neighborhood associations, city agencies or local organizations

The first public meeting is anticipated to take place in Fall 2012.

John Hallanan noted that the greenway could be an opportunity to engage schoolchildren, as the current history curriculum of the Jersey City Public School system does not include any local history.



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**FROM:** Annette Schultz, Project Manager  
Elizabeth Cox, Project Planner

**DATE:** September 17, 2012

**MEETING:** Steering Committee Meeting #2  
September 6, 2012

**SUBJECT:** Meeting Memo  
Morris Canal Greenway Plan  
The City of Jersey City, RBA #J4552.00

**Purpose**

*The Steering Committee for the Morris Canal Greenway Plan met on September 6, 2012 at 1:30 PM at the offices of the Division of City Planning at 30 Montgomery Street in Jersey City, NJ.*

*The purpose of the meeting was to give a summary of existing conditions; go over the draft vision statement; present the methodology used to develop potential alignments; get feedback on the proposed short-term and long-term alignments; discuss the purpose of design guidelines; and inform attendees of the public workshop on October 3<sup>rd</sup>.*

**Attendees**

1. Doug Greenfeld, Jersey City Mayor’s Office
2. Ben Delisle, Jersey City Redevelopment Agency
3. Chuck Lee, Jersey City Division of Engineering
4. Lee Klein, Jersey City Division of Engineering
5. John Fussa, City of Bayonne, Division of Planning
6. Elizabeth Thompson, North Jersey Transportation Planning Authority
7. John Lane, Hudson County Division of Engineering
8. Megan Massey, Hudson County Division of Planning
9. Francesca Giarratana , Hudson County Division of Planning
10. Steve Jandoli, NJDEP/Green Acres
11. John Hallanan, Jersey City Landmarks Conservancy
12. Vinay Varadarajan, NJDOT/Capital Investment Planning

**Project Team Members Present**

Naomi Hsu, Jersey City Division of City Planning  
Annette Schultz, The RBA Group  
Liz Cox, The RBA Group

**Action Items/ Next Steps**

1. RBA will refine the Vision for the Morris Canal Greenway, emphasizing the historical aspect of the Canal.
2. RBA will prepare an amendment for Tech Memo 1 based on input from Jersey City Division of Engineering and NJTPA.
3. RBA will update Technical Memorandum 2 based on Steering Committee comments.

4. RBA will refine recommended short-term and long-term alignments for the Morris Canal Greenway.
5. As per the Scope of Work, RBA subconsultant (AmerCom) will identify overall right-of-way impacts of the recommended alignments as confirmed by Jersey City. Significant impediments will be identified such as private ownership of properties and impacts by utilities.
6. The City will publicize the October 3<sup>rd</sup> public workshop with support from the Project Team.
7. RBA will add planned street grids in redevelopment plan areas to maps of alignments.

#### General Discussion and Comments:

- The priority and implications of following the Morris Canal right-of-way were discussed. While most of the proposed long-term alignment for the greenway would follow the original Canal route, portions of the original alignment in its current condition may not be particularly bicycle or pedestrian friendly (due to safety concerns, lack of aesthetics, poor access to destinations, etc.).
- Historic markers could be located where the greenway crosses or is aligned with the Morris Canal right-of-way. If there are parts of the greenway that do not cross or are not aligned with the original Canal, then spurs could direct users to the original alignment. There could be interpretive exhibits at these locations.
- It was proposed that the greenway could include multiple routes, including the Morris Canal right-of-way (where feasible). There would be a wayfinding system to direct trail users to various routes, each with their own particular benefits and destinations.
- It was noted that, because the short-term alignment alternatives are largely on-road, the route is not technically a “greenway” but more of a biking and walking route.
- Timelines for developing the proposed short- and long-term alignments were discussed. General phasing and schedules will be addressed after the Public Workshop (October 3) and the preferred alignments have been identified. Timeframes for development should be better defined.
- It was agreed that the greenway could include signage to direct users to other nearby points of interest, including walkways, vistas, parks, and historic features.

#### Mapping Exercise

The segments and alternatives discussed below are described in detail in Technical Memorandum #2.

#### Segment 1 (western terminus to Culver Avenue)

- Route 440 (Alignment B) was proposed as both the short- and long-term alignments, because it follows the historic Canal alignment. It was suggested that existing sidewalks can serve both pedestrians and bicyclists. (Bicyclists in Jersey City are allowed to ride on sidewalks outside of business districts.)
- However, Route 440 as it exists today is auto-oriented and not particularly bicycle or pedestrian friendly. Therefore, alignment C (Clendenny Avenue, Williams Avenue, Mallory Avenue) is preferred for the short-term. Route 440, which will be re-constructed as an urban boulevard in the future, is the long-term recommended alignment.
- Attendees agreed that the greenway could incorporate both routes (Alignment C and Route 440). Those who would like to experience the route of the historic Canal can bike/walk on Route 440, and those who would like to bike/walk on streets that are quieter can use Alignment C.

#### Segment 2 (Culver Avenue to Danforth Avenue)

- Alignment C (Culver Avenue, West Side Avenue) is the recommended short-term alignment in this section. Route 440 (Alignment B) is the long-term recommended alignment.
- Like segment 1, signs could be installed in the short-term along Route 440 to indicate its significance as the historic Canal alignment.
- Wayfinding signs should also indicate other nearby destinations. For example, signage should direct people from the Morris Canal Greenway to the Hackensack River Waterfront Walkway, which has been constructed in this section.

#### Segment 3 (Danforth Avenue to JFK Boulevard)

- The City of Bayonne owns this segment of the Canal right-of-way as per the MODIV data. However, it was suggested that the parcel was sold and Bayonne retained an easement. RBA will be investigating property ownership along the preferred long-term route.
- The historic Canal alignment goes through the Country Village neighborhood in this segment. Although the route is unimproved, people were observed walking along the historic Canal alignment and the project team rode their bicycles on the alignment during fieldwork.
- However, there is opposition to a greenway on the Canal alignment. The short-term recommendation is Alignment C.

#### Segment 4 (JFK Blvd to Chapel Avenue)

- Doug Greenfeld identified a fourth alternative for this segment. The additional alternative alignment would cross the light rail tracks near Gates Avenue or Seaview Avenue (which would require the construction of a bridge/structure) and run on top of the historic Canal right-of-way through the future site of the City’s Department of Public Works (DPW) complex and the Danforth Transit Village Redevelopment Plan Area to Chapel Avenue. Currently, the site plan for the DPW complex does not include public pedestrian or bicycle accommodations. The Danforth Transit Village Redevelopment Plan calls for a linear park.
- As part of the planned improvements to Exit 14A, the Turnpike Authority may build a pedestrian bridge over Avenue E in Bayonne. The plans are still in development but will be forwarded to the Project Team if/when they become available. Depending on the location of the pedestrian bridge, there may be an opportunity for the greenway to follow the historic Canal alignment near Fiddler’s Elbow (Jersey City/Bayonne border) while avoiding the on and off ramps.
- Alignment B (Merritt Street, Princeton Avenue, Cator Avenue, Garfield Avenue) is the recommended short-term alignment.
- The Canal right-of-way currently traverses through privately-owned commercial property in this section. While the land is not built on, it may not be available for a greenway.

#### Segment 5 (Chapel Avenue to Caven Point Avenue or Morris Pesin Drive)

- The historic Canal alignment goes through the Claremont Industrial Redevelopment Plan Area. Ben Delisle noted that the designated developer for Claremont Industrial is interested in providing bike/ped access to the neighboring Canal Crossing Redevelopment Plan Area, potentially by extending the planned Canal Way (which will be constructed over the Morris Canal right-of-way) into Claremont Industrial.



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- There is a freight railway maintenance road slightly east of the Canal alignment. There needs to be coordination with Conrail to determine whether this alignment is a possibility. Ownership will be investigated as part of this study.
- Alignment D (Garfield Avenue) is the recommended short-term alignment.

#### Segment 6 (Caven Point Avenue or Morris Pesin Drive to Johnston Avenue)

- There is potential for the greenway through this segment to be entirely off-road in the long-term.
  - The Canal Crossing Redevelopment Plan includes plans for a greenway to be built on top of the Morris Canal historic alignment. The current plan calls for a 40-foot-wide greenway in the middle of Canal Way, a 110-foot-wide boulevard that traverses the redevelopment plan area. However, there is discussion to move the greenway to one side of the boulevard so that vehicular traffic is limited to one side of the greenway instead of flanking both sides of the greenway.
  - The plans for Berry Lane Park include dual pathways along either side of the historic canal alignment, within which active recreation sports courts are located.
  - However, it might be difficult to connect Canal Way to the path in Berry Lane Park because of the elevated light rail station at Garfield Avenue. It is believed that a 59-inch forcemain is located in the structure, and it was suggested that the “as-built” drawings be requested from Jersey City MUA. If it is not possible to punch through structure that supports the elevated station, the greenway would have to be routed to an existing at-grade crossing.
  - The Jersey City Redevelopment Agency owns a 25-foot-wide parcel that goes from Berry Lane Park, crossing Communipaw Avenue to the west side of the Whitlock Cordage complex. It was suggested that this was the tow path associated with the Morris Canal.
- In the short-term, the group felt it would be better to route the canal along Pacific Avenue and Halladay Street rather than Garfield Avenue through this section (Alignment B).

#### Segment 7 (Johnston Avenue to Jersey Avenue)

- The historic Canal alignment goes through the Grand Jersey Redevelopment Plan area. Further investigation is needed to determine the alignment through this area.
- The Jersey City Medical Center is building a parking structure on the existing surface parking lot near behind the main hospital building.
- PSE&G substation is located just north of the Canal. It is unlikely that this facility will be relocated.
- The short-term alignment through this section is along Johnston Avenue/Audrey Zapp Drive and over the Jersey Avenue bicycle and pedestrian bridge (Alternative A).

#### Segment 8 (Jersey Avenue to Little Basin (eastern terminus))

- The short-term recommended route (Alignment A) goes through a private parking lot for ferry service, a restaurant and an RV park as well as the existing Hudson River Waterfront Walkway
- The long-term recommendation (Alignment B) goes through the parking lot for the hospital and Jersey Avenue light rail station. The route continues along the light rail tracks and then travels on-road (Morris Street, Warren Street, Dudley Street).

#### Design Guidelines



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Annette Schultz provided a brief overview of the purpose of the Design Guidelines for the Morris Canal Greenway to be developed as part of the study and presented potential treatments that may be included in the Design Guidelines. The purpose of Design Guidelines is to ensure a cohesive look and feel to the Morris Canal Greenway, since the construction of the Greenway may take many years. The Design Guidelines will include examples and options for various elements of the Greenway, in particular those elements that could be used throughout the length of the Greenway that would create its identity (e.g., signage, street lights, furniture or paving patterns). The Design Guidelines will include typical cross sections but will not include engineering or technical drawings. Neighborhood context will be considered. However, since the Morris Canal Greenway is a regional effort, it was noted that blazes and signage previously developed for other sections will be incorporated into the concepts and guidelines.

Jackson Wandres of RBA is the task leader for developing the Design Guidelines. He will reach out to Ben Delisle to discuss guidelines for signage in Berry Lane Park.

Doug Greenfeld said that all examples and recommendations included in the Design Guidelines should be specific to Jersey City’s roadway types and characteristics. That is, guidelines should not include options that are not feasible or appropriate for Jersey City.

Also, he suggested a design competition be held to engage the public and solicit input for the Morris Canal Greenway in Jersey City.

#### Public Workshop

It was announced that the first public workshop will be held on Wednesday, October 3, 2012, 4-8 PM, at City Hall in Jersey City. The Steering Committee was asked to attend and participate in the public workshop, especially the Open House portion from 4 PM to 6 PM. This will be the opportunity for one-on-one conversations with the public. The project team will make a presentation that will include potential greenway alignments at 6 PM, which will be followed by a hands-on mapping activity until 8 PM.

#### Other Items

John Hallanan offered to distribute materials on the Morris Canal Greenway Plan at the Hamilton Park Farmers Market in October, where his organization will have a table.



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**FROM:** Annette Schultz, Project Manager  
Elizabeth Ward, Project Planner

**DATE:** March 5, 2013

**MEETING:** Steering Committee Meeting #3  
February 28, 2013

**SUBJECT:** Meeting Memo  
Morris Canal Greenway Plan  
The City of Jersey City, RBA #J4552.00

**Purpose**

The Steering Committee for the Morris Canal Greenway Plan met on February 28, 2013 at 1:30 PM at the offices of the Division of City Planning at 30 Montgomery Street in Jersey City, NJ.

The purpose of the meeting was to review and discuss the draft Design Guidelines; present an overview of the draft Interpretive Development Plan; explain the proposed short-term and long-term alignments; and talk about implementation strategies.

**Attendees**

1. Ben Delisle, Jersey City Redevelopment Agency
2. Chuck Lee, Jersey City Division of Engineering
3. Megan Kelly, North Jersey Transportation Planning Authority
4. John Hallanan, Jersey City Landmarks Conservancy
5. Vinay Varadarajan, NJDOT/Capital Investment Planning
6. Robert Barth, Canal Society
7. Jay DiDomenico, Hudson TMA
8. Gregory Corrado, Jersey City Department of Business Administration
9. Heather Kumer, Jersey City Redevelopment Agency
10. Jonathan Luk, Liberty State Park
11. Michael Timpanaro, Liberty State Park
12. Joseph Vuich, Neglia Engineering
13. Jeff Wenger, Jersey City Division of City Planning

**Project Team Members Present**

Naomi Hsu, Jersey City Division of City Planning  
Annette Schultz, The RBA Group  
Elizabeth Ward, The RBA Group  
Charlie Cunion, The RBA Group

**Action Items/ Next Steps**

1. RBA will update the Interpretive Development Plan based on comments from NJTPA and the City of Jersey City.
2. Naomi will send a copy of the updated Interpretive Development Plan to the Steering Committee for review and discussion.



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3. The Steering Committee members will have a week to review the Design Guidelines and Interpretive Development Plan and submit comments to the Project Team.
4. The Project Team will review the comments and make any necessary changes to the Design Guidelines and Interpretive Development Plan.
5. RBA will add a page to the Design Guidelines on incorporating historic elements to the greenway.
6. The Project Team will confirm and schedule the next two focus group meetings.
7. A date for the second public outreach meeting will be set and publicized.

**Greenway Alignment**

Elizabeth Ward presented the long-term route for the Morris Canal Greenway in Jersey City and noted changes that were incorporated following a meeting of City representatives on December 19, 2012.

**Interpretive Development Plan**

Annette Schultz provided a brief overview of the Interpretive Development Plan. The purpose of the Plan is to provide an approach for telling the story of the Morris Canal as well as the history of the City of Jersey City. The Morris Canal Greenway is an opportunity to showcase the City's history. Expanding the interpretive framework to include the entire history of the City will increase the base of support for the greenway. Some interpretive themes that could be developed include: engineering significance; industrialization; immigration/diversity; and the environment. The draft Plan will be sent to the Steering Committee members for review and comment.

**Design Guidelines**

Charlie Cunion provided an overview of the draft Design Guidelines for the Morris Canal Greenway. The goal of the Design Guidelines is to identify recommended materials, furnishings and design treatments that may be considered for the Greenway. It was noted that the Design Guidelines will not include construction details. Instead, the guidelines are intentionally broad in order to provide future designers with the flexibility to decide what is appropriate for the context. The Design Guidelines will include typical cross-sections for illustrative purposes.

Charlie walked the group through the six categories: furnishings, landscape approach, materials, accommodating the Greenway on streets, accommodating the Greenway off streets, and public art. It was suggested and agreed that a seventh category focusing on historic interpretation should be added.

*General Comments and Discussion on the Draft Design Guidelines*

- The logo utilized by Warren and Passaic Counties for their respective greenways on the former Morris Canal should be incorporated in the Greenway through Jersey City in order to ensure regional cohesiveness.
- During the discussion on signing and wayfinding, it was pointed out that visual clutter should be limited. Medallions in sidewalk pavement, for example, were a preferred design treatment.
- The City has had maintenance issues with its pedestrian wayfinding system. The existing signs are very costly to produce, because they are custom-made. When they have been knocked down, the City has chosen not to replace them. There might be difficulty adding the Morris Canal Greenway wayfinding to the existing signs. It was also suggested that the signs are more aesthetic in nature than useful, especially since smart phone use is on the rise.
- Due to cost constraints, the City will most likely want to use standard furnishings rather than custom designs. Therefore, the PSE&G styles of street lights will probably be preferred. It was





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noted that the City is currently looking into street lights that work with more energy efficient bulbs. Also, Chuck Lee noted that PSE&G may not be open to the installation of signage on their light poles.

- There have been issues with vandalism in the City. Tree grates were recently stolen from Christopher Columbus Drive. All recommended design elements should be resistant to vandalism. Rain gardens and pavers, for example, might be preferred over tree grates, because they are resistant to theft.
- Appropriate plantings need to be discussed with the City. The “Filterra” stormwater bio-retention filtration system is being considered for incorporation into the Canal Crossing redevelopment area in order to control run-off while providing adequate space for tree roots, a “green” strategy that could be applied along the Greenway. Recommended landscaping treatments should be low-maintenance.
- Heather Kumer suggested that the Project Team look into the LEED-ND standards to see if any elements could be incorporated into the Design Guidelines. For example, projects get points for using repurposed materials.
- Joseph Vuich asked how the Morris Canal Greenway would blend with other trails such as the Hudson River Waterfront Walkway and the East Coast Greenway. Wayfinding signs for both the East Coast Greenway and the Liberty Water Gap Trail are posted on one sign in Jersey City. A similar strategy may be used to sign the Morris Canal Greenway, where appropriate. Locations where the facilities intersect may be highlighted through the use of design elements.
- Natural paths were discussed as a possibility. If maintained properly, natural paths can meet ADA requirements.
- The Greenway will most likely be maintained and owned by different groups/people.
- Forming a Friends group was discussed as an entity that might assist with maintenance. In Jonathan Luk’s experience, Friends groups are really good at raising money and acting as watch dogs but are less reliable when it comes to continuous maintenance and operations.
- A suggestion was made to offer sponsorships to local businesses to maintain and possibly fund amenities such as interpretive elements.
- The Berry Lane Park design does not specify design elements associated with Morris Canal Greenway, although there is accommodation for the trail alignment. There is an opportunity to include the Greenway in the Park design, but guidance on design is needed soon. Ben Delisle said that the clean-up at the site is complete, and the baseball field is already under construction.
- The bicycle and pedestrian trail dimensions were discussed. It was noted that AASHTO guidelines for bicycle facilities suggest a minimum of 8’ for the cart way, although 10’ or 12’ is recommended, if high traffic volumes are anticipated. There was a question about projecting traffic volumes and a suggestion to address volumes in the Design Guidelines.
- Chuck Lee emphasized that any element to be maintained by the City must be low-maintenance. Also, he suggested that recommended elements minimize the risk of pedestrian trip-and-falls in their design.

#### Implementation Brainstorming

- The next phase of the City’s 440 boulevard study will begin soon. Chuck Lee noted that the design of the urban boulevard may change as a result of a “value engineering” analysis of the project.



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- There may be opportunities for funding the Greenway through mitigation. For example, rebuilding Exit 14A of the Turnpike may require mitigation based on environmental and cultural impacts. These types of opportunities will require regulatory investigation.
- Ben Delisle noted that the remediation of the Canal Crossing redevelopment plan area will be completed in 2014. Construction will start soon after.
- The incentive for developers to build the Greenway was discussed. Some developers will want to build it, although incentives and guidelines may be put into place to ensure that the Greenway is incorporated into development plans. This study will likely recommend that the City adopt the final plan as part of the City’s Master Plan. The City’s role as overall coordinator will be advantageous and ensure that the Greenway is developed in segments over the long term.
- The possibility of creating an overlay zone will need to be discussed, as well adding language to the design standards of the Land Development Ordinance.

#### Other Items

- John Hallanan mentioned that the County is hanging signs along Kennedy Boulevard to celebrate 100 years of the Lincoln Highway.
- Chuck Lee said that the City is considering the construction of seawalls on the waterfronts of the Hackensack River and Hudson River. Annette described the seawalls in Wilkes-Barre, PA, which were designed to accommodate recreational activities on top.



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**FROM:** Annette Schultz, Project Manager  
Elizabeth Ward, Project Planner

**DATE:** May 22, 2013

**MEETING:** Steering Committee Meeting #4  
May 6, 2013

**SUBJECT:** Meeting Memo  
Morris Canal Greenway Plan  
The City of Jersey City, RBA #J4552.00

**Purpose**

The Steering Committee for the Morris Canal Greenway Plan met on March 6, 2013 at 10:00 AM at the offices of the Division of City Planning at 30 Montgomery Street in Jersey City, NJ.

The purpose of the meeting was to review and discuss a feasible strategy for implementing the greenway. This included a discussion of potential property impacts, an overview of implementation segments for the long-term alignment, typical on-street and off-street cross sections, funding opportunities, and potential planning and regulatory tools that will support development of the greenway.

**Attendees**

1. Mike Viscardi, NJ TRANSIT
2. Ben Delisle, Jersey City Redevelopment Agency
3. Megan Kelly, North Jersey Transportation Planning Authority
4. John Hallanan, Jersey City Landmarks Conservancy
5. Robert Barth, Canal Society
6. Jonathan Luk, Liberty State Park
7. Michael Timpanaro, Liberty State Park
8. Joseph Vuich, Neglia Engineering
9. Lee Klein, Jersey City Division of Engineering

**Project Team Members Present**

Naomi Hsu, Jersey City Division of City Planning  
Annette Schultz, The RBA Group  
Elizabeth Ward, The RBA Group

**Action Items/ Next Steps**

1. The second and final public meeting will be held on Wednesday, May 15, 5 PM – 7:30 PM, at City Hall. The format will be an open house with a formal presentation at 6 PM. A public comment period will follow the second public meeting through Wednesday, May 22 during which written comments may be submitted via the study website, e-mail, or US mail.
2. Naomi will distribute a link to the draft final plan to the Steering Committee for review and comment.
3. The Project Team will review the comments and make any necessary changes to the plan. The final plan will be submitted by the end of May.



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**Right-of-Way Report**

Annette Schultz presented the findings from the right-of-way investigation completed by Amercom, a sub-consultant to the project. Many of the properties are owned by public entities. The City may be able to negotiate the implementation of the greenway with these public entities. There are a few private properties that would potentially be impacted by the proposed long-term alignment. A cost estimate for purchasing an easement through the properties (20-foot wide swath) was developed using the tax assessed value. Members of the Steering Committee cautioned that the assessed value is not always the same as the market value and the property cost could be significantly higher. The group was also reminded that the alignment was prepared with the expectation that the proposed long-term greenway alignment would be adjusted over time as development occurs and that the value of the properties will change.

**Typical Cross Sections**

Typical cross sections for the on-street and off-street greenway segments were presented. It is important that the greenway, both on-street and off-street, is green with landscaping and planting where possible. Signage and branding will also help the public recognize that the greenway is a continuous facility. It was noted that rough cost estimates were developed for the long-term alignment based on the amenities and general look of the cross sections.

**Implementation Segments**

Elizabeth Ward presented the long-term alignment, which has been divided into fourteen segments for implementation. These segments are based on planned and proposed project boundaries, such as the redevelopment area plans and *The Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study*. The ends of each segment are locations where public access is possible. Segments were selected to ensure that, when fully developed, they will have immediate utility. The Steering Committee suggested looking into whether the long-term alignment could remain west of the light rail tracks between Linden Avenue and Bayview Avenue (the Danforth Transit Village and Claremont Industrial Redevelopment Plan Area) in order to avoid an additional light rail crossing (Implementation Segment #6). Mike Viscardi said there are some grade issues to the west of the light rail tracks, but he is not sure if there is sufficient right-of-way. This possible alternate alignment will be noted in the final plan.

**Implementation Strategies**

Annette reviewed strategies that can be put in place to facilitate greenway development along the proposed alignment. This is particularly important with regards to preserving right-of-way and providing incentives for greenway development along the proposed alignment. Zoning and other ordinances are tools the city has to regulate land use and development. The concept of a Park Improvement District (PID), similar to Jersey City's Neighborhood Improvement Districts (NIDs), was raised. Although there are PIDs in other states, it is not clear whether there are New Jersey examples. Modifications to the site plan review process can also be made to support greenway development. It may be possible to mandate the preservation of the right-of-way for the greenway and to incentivize the construction of the greenway using the following tools:

- 1) **Creation of an overlay zone.** Similar to the existing Palisades Preservation Overlay District (PPOD), an overlay zone for the Morris Canal Greenway would create special regulations for parcels through which the Morris Canal Greenway traverses. An overlay zone would add an





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additional item to the checklist of the general development application. The overlay zone would apply to all development on affected parcels, including those not subject to site plan review.

- 2) **A setback requirement** could be used to set aside land for the greenway. However, the effectiveness of a setback requirement may depend on the size of the parcel and the location of the greenway in relation to the parcel. This option would require establishing the greenway alignment by ordinance.
- 3) The city can **require a certain amount of open space in redevelopment plan areas**. A third of the route goes through designated redevelopment plan areas, which provides a good opportunity to implement the greenway through these areas. Redevelopment plan areas include: Danforth Transit Village, Claremont Industrial, Canal Crossing, Grand Jersey, and Liberty Harbor North. The potential for designating a Morris Canal Greenway redevelopment area should be explored.
- 4) **Cluster development** (on-site Transfer of Development Rights) may be option for preserving the alignment.
- 5) **Increasing permitted density** was also discussed as an option to incentivize the preservation of the right-of-way for a greenway and/or construction of the greenway itself.
- 6) **Establishing a Historic District for the Morris Canal should be explored**. The entire Morris Canal alignment through Jersey City is listed on the State and National Historic Registers. Though buried, the canal prism is still extant in at least some areas. It was clearly visible when the Jersey City Redevelopment Agency remediated Berry Lane Park.

**Prioritization and Phasing**

In the short-term, it is important to sign the on-street route. Annette noted that signing can be tricky if the entire route is not completed at the same time. However, temporary directional signs can be used in the interim.

Community outreach and developing partnerships is a vital first step. The greenway needs public support in order to be implemented.

Other potential early action items include:

- Complete sidewalk network (upgrade signals, curb ramps, etc.)
- Install bicycle facilities
- Adopt strategy for wayfinding
- Develop Interpretive Plan and exhibits
- Planning strategies (e.g., amend Master Plan to incorporate final plan for Morris Canal Greenway)
- Identify at risk properties

Jonathan Luk recommended identifying an anchor site for the greenway as a way to engage the public and inform the community about the greenway. He suggested the Peninsula Park section of Liberty State Park as a possible anchor location and noted that its setting is appropriate for public art/additional interpretation. He said the park is looking for a local group to help them with maintenance of Peninsula Park.



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It was also recommended that reaching out to Tim White, a history professor at The New Jersey City University, should be an early action item. Prof. White has created walking tours of the City and then posted them to YouTube. He might be interested in developing something for the Morris Canal Greenway.



**MEMORANDUM OF MEETING**

**FROM:** Mike Dannemiller, RBA  
**TO:** Naomi Hsu, Jersey City Project Manager  
**DATE:** December 19, 2012  
**PROJECT:** Jersey City Morris Canal Greenway  
 Focus Group 1: Alignment through Redevelopment/ City Jurisdictions  
 RBA Project #J4552.00  
**ATTENDEES:** See attached sign-in sheet

*Purpose: To refine the greenway alignment through redevelopment and city properties; to identify potential obstacles; to determine the status of redevelopment & city projects; to discuss design guide considerations pertaining to the alignment.*

Mike Dannemiller gave an overview of the long- and short-term alignments. The group reviewed tax maps and aerial base maps showing the proposed alignment and discussed further refinement of the route. The group also provided information about the status of redevelopment and other city projects on property along or near the greenway alignment. The discussion included recommendations for the on-road segments, both short- and long-term.

The RBA Group will revise the alignment accordingly. The revised plans will be presented at a steering committee meeting to be held in January (date to be determined).

**DISCUSSION NOTES**

- 1) Revisions to a Jersey City Ordinance**
  - a) to allow sidewalk bike riding (include Route 440 for pedestrians) have been proposed; to be presented at a public meeting on 12/19/12
- 2) Country Village**
  - a) The original Morris Canal alignment through Country Village might be considered in the future pending public support
- 3) DPW – Public Services Development**
  - a) Add interpretive sign and a stub in DPW site
  - b) MUA (sewer)
- 4) Danforth Transit Village**
  - a) The plan is being revised
  - b) Morris Canal alignment is in center of parcel; move to east – owned by Conrail

- c) GXR (car lot staging) owns the parcel
- 5) North of Chapel Avenue**
  - a) shift to east to allow maximum development potential to west
- 6) Canal Crossing**
  - a) The turnpike will have a big boulevard/linear park treatment
  - b) Looks great along “Canal Way”
  - c) Wide sidewalk and striped bike lanes
- 7) HBLR Crossing**
  - a) 54” water main is in the embankment
  - b) Morris Canal crosses HBLR to west along Garfield, could be ±15’ or ±10’ wide sidewalk
- 8) Berry Lane Park**
  - a) On Canal – continuous active use recreation
- 9) Garfield**
  - a) Will be widened (12/12/8 parking) – may include surface treatments to ID exact canal alignment; will include 10’ path at eastern portion
- 10) North of Communipaw Avenue**
  - a) Local site access issues – major encroachment
- 11) North of Pacific Avenue**
  - a) Follow under NJ Turnpike and follow Grand Jersey Street grid
- 12) Jersey Avenue to Marin Boulevard**
  - a) Stay immediately south of HBLR – then follow waterfront
- 13) Bayonne / Fiddlers Elbow**
  - a) NJ Turnpike 14A will get reconstructed
  - b) May include pedestrian bridges and other improvements
- 14) Short-Term Pacific Avenue and Halliday Street**
  - a) Run Garfield Avenue 1 block further east then use 2-way portion of Pacific Avenue. Do not include Halliday Street



Morris Canal Greenway Plan



Morris Canal Greenway Plan  
City Staff Internal Meeting  
December 19, 2012 – 2 PM

Sign-in Sheet

Name	Organization	E-mail
Naomi Hsu	City Planning	<a href="mailto:hsun@jcnj.org">hsun@jcnj.org</a>
Jeff Wenger	City Planning	<a href="mailto:jeff@jcnj.org">jeff@jcnj.org</a>
Gregory Corrao	BA's office	<a href="mailto:greg@jcnj.org">greg@jcnj.org</a>
Doug Greenfeld	JC Mayor's Office	<a href="mailto:douglas@jcnj.org">douglas@jcnj.org</a>
Lee D. Klein	JC Engineering, Traffic & Transportation	<a href="mailto:kleinl@jcnj.org">kleinl@jcnj.org</a>
Jeffrey Reeves	JC Engineering	<a href="mailto:reevesj@jcnj.org">reevesj@jcnj.org</a>
Bob Cotter	JC Planning	<a href="mailto:bobbyc@jcnj.org">bobbyc@jcnj.org</a>
Ben Delisle	JCRA	<a href="mailto:delisleb@jcnj.org">delisleb@jcnj.org</a>
Mike Dannemiller	The RBA Group	<a href="mailto:mdannemiller@rbagroup.com">mdannemiller@rbagroup.com</a>



MEMORANDUM OF MEETING

**FROM:** Annette Schultz, RBA  
**TO:** Naomi Hsu, Jersey City Project Manager  
**DATE:** April 30, 2013  
**PROJECT:** Jersey City Morris Canal Greenway  
4/22 Focus Group 2: Implementation Strategy  
RBA Project #J4552.00  
**ATTENDEES:** See attached sign-in sheet

*Purpose:* To discuss a feasible strategy for implementation the Morris Canal Greenway through Jersey City that considers constraints and opportunities.

The Morris Canal Greenway Plan proposes a short-term alignment that is almost entirely on public streets. The processes to establish bicycle and pedestrian facilities associated with the greenway can be developed in conjunction with implementation of the recommendations of the Jersey City Bike Infrastructure Working Group. Branding, wayfinding, and designing can be developed to establish an identity for the Morris Canal Greenway.

The Morris Canal Greenway Plan proposes a long-term alignment that is as close as possible to the canal's original alignment while taking into account opportunities that would facilitate implementation (e.g., making use of parks and public right-of-ways) or constraints that would deter implementation (e.g., impacting wetlands, new railroad crossings). The draft plan was prepared with the expectation that the proposed long-term greenway alignment would be adjusted over time as development occurs. There will need to be flexibility in the process. The location of the greenway will be finalized (and constructed) on a case-by-case basis over time, and the alignment may need to shift to a more practical location. The intent is to maintain a continuous alignment while minimizing the bifurcation of parcels into sites that are unattractive or impossible to develop. The Danforth Transit Village Redevelopment Plan Area is an example where the alignment might need shift to another parcel to support development potential.

The final product will not include a survey of the Morris Canal right-of-way or the right-of-way needed for the long-term greenway route. Therefore, survey work will be needed prior to construction of the long-term greenway. Future developers will need guidance on where to locate the Morris Canal Greenway. It was suggested that the City identify a preferred alignment for the long-term greenway route and publish an alignment set (of plans) for developers. Some felt that the preferred long-term alignment for the greenway through private property should be the former Morris Canal right-of-way. It would then be incumbent on the developer to identify an alternate route, if the Morris Canal were not suitable, given that "developability" may best be determined by property owners. Others thought the preferred long-term route may deviate from the Morris Canal right-of-way to be consistent with existing



lot lines to ensure lots that are developable. There will be a need to balance development proposals by property owners and ensuring that the greenway match lines are preserved. An alignment set would help to ensure consistency among segments of the greenway constructed by different developers, which was raised as a concern. Developers can propose an alternate alignment as long as it meets the minimum width requirements and includes accessible access points that match the adjacent segments. It was suggested that the application process be revised to include the delineation of the Morris Canal ROW/greenway (and alternate route, if applicable) as items on the checklist associated with the General Development Application for site plan review, which would require the applicant to survey the Morris Canal ROW and the greenway ROW. However, not all development requires site plan review.

The ROW Report prepared for this study identified 19 owners of parcels traversed by the long-term route, of which seven are public entities. The City may be able to negotiate the implementation of the greenway with public entities.

The City cannot compel a private property owner to construct the greenway. If a property owner refuses to preserve right-of-way for or construct the greenway, the City will need to condemn the land and acquire the property.

However, it may be possible to mandate the preservation of the right-of-way for the greenway and to incentivize the construction of the greenway using the following tools:

- 1) **Creation of an overlay zone.** Similar to the existing Palisades Preservation Overlay District (PPOD), an overlay zone for the Morris Canal Greenway would create special regulations for parcels through which the Morris Canal Greenway traverses. An overlay zone would add an additional checklist item as part of a development application. The overlay zone would apply to all development on affected parcels, including those not subject to site plan review.
- 2) Jeff Wenger, City Planning, suggested that a **setback requirement** could be used to set aside land for the greenway. However, the effectiveness of a setback requirement may depend on the size of the parcel and the location of the greenway in relation to the parcel. This option would require establishing the greenway alignment by ordinance.
- 3) A third of the route goes through redevelopment plan areas, which may be a good opportunity to implement the greenway through these areas. The City can **require a certain amount of open space in redevelopment plan areas.**
- 4) Jeff Wenger also proposed **cluster development** (on-site Transfer of Development Rights) as an option for preserving the alignment.
- 5) **Increasing permitted density** was also discussed as an option for both the preservation of the right-of-way for a greenway and construction of the greenway itself.
- 6) The City might be able to **create a Historic District** for the Morris Canal. However, this might be difficult since there aren't many existing structures associated with the canal. Ben Delisle informed

the group that the canal prism was clearly visible when the JCRA remediated Berry Lane Park. The remediation also uncovered bottles, plates, train wheels and other related archeological materials.

Liability and maintenance were noted as additional concerns. Liability for greenways doesn't usually fall on the property owners. Jersey City is self-insured. Maintenance of the greenway will need to be decided.

### Next Steps

- 1) The Project Team will seek legal advice on some of the issues discussed during the meeting. Ben Delisle offered to pass questions along to the JCRA's legal counsel and suggested reaching out to the City's Risk Manager, Peter Soriero.
- 2) Research State Historic Preservation Office requirements for the development of the historic Morris Canal alignment.
- 3) Prioritize areas that might be "at risk" for development or are necessary for connectivity. For example, if the greenway is unable to cross the light rail tracks in the Claremont Redevelopment Area, an alternative needs to be identified.
- 4) RBA will look at the Route 440 plan to determine if the Clendenny Avenue Extension is part of the proposed street grid. If so, that segment would not be off-street.
- 5) RBA will reformat the maps and add block/lot/private or public ownership to the tables associated with Tech Memo 4: Implementation Strategies per the suggestion of the meeting attendees. The maps will also indicate where there are existing sections of the greenway.
- 6) RBA will verify the borders of the Canal Crossing Redevelopment Plan Area.



# Morris Canal Greenway Plan



Sign-In Sheet				
First Name	Last Name	Organization	Phone Number	Email
JEFF WENGER		JC PLANNING	201.547.5453	JEFF@JCNSJ.ORG
Lee	Klein	JC Engr Traffic & Transp.	201 547 4470	KleinL@jcnj.org
Douglas	Greenfeld	JC Mayor's office	201.547.4284	douglas@jcnj.org
JEFFREY	REEVES	JC ENGR. TRAFFIC & TRANS	201 547-5544	REEVESJ@JCNSJ.ORG
GREGORY	CORRADO	JC BAS OFFICE	201-547-5561	GREG@JCNTJ.ORG
Brian	Blazak	JC Planning	201.547.5011	bblazak@jcnj.org
Walter	Conte	Amer Com Corp	973-402-6111	WCONTE@AMERCOM.ORG
Megan	Kelly	NJTPA	973-639-8414	mkelly@njtpa.org
Elizabeth	Ward	RBA	973-946-9600	eward@rba.org
Naumi	HSU	JC Planning	201-547-5021	HSVNE@JCNTJ.ORG
Delisle	Ben	JCRA	201-761-0822	delisleb@jcnj.org
BRIAN	WELLER	JC ARCHITECTURE	201-547-5900	wellerb@JCNSJ.ORG

Monday, May 22th, 2013  
10:00am-12:00pm



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7 Campus Drive, Suite 300, Parsippany, NJ 07054

973-946-5600 FAX (973) 898-9472

**FROM:** Annette Schultz, Project Manager

**DATE:** October 22, 2012

**MEETING:** Public Workshop, October 3, 2012

**SUBJECT:** Workshop Memorandum  
Morris Canal Greenway Plan  
The City of Jersey City, RBA #J4552.00

**Workshop Overview**

A public workshop was held on October 3, 2012, to introduce the project to the public and to provide an opportunity for public input on the alignment options, future design, and any other perspectives that might inform the development of the plan.

The workshop included three formats to reach a broader audience:

- 4:00 to 6:00 - Open house with staffed exhibits displaying the project purpose, Morris Canal history, plan development, existing conditions, and alignment options;
- 6:00 to 7:00 - Presentations on the project, Morris Canal history, design guide development, and the proposed alignments;
- 7:00 to 8:00 - Interactive mapping exercise using detailed maps for facilitated small group review and comment.

Workshop materials were available in English and Spanish.

**Attendance**

The sign-in sheet is attached.

*Project Team Members Present*

- Naomi Hsu, Jersey City Division of City Planning
- Annette Schultz, The RBA Group
- Michael Dannemiller, The RBA Group
- Jackson Wandress, The RBA Group
- Neil Desai, The RBA Group
- Elizabeth Watson, Heritage Strategies

The meeting formats gave opportunities for both one-on-one and group discussion. In addition, attendees were provided with comment sheets (appended). Discussion centered on the project description, purpose and background and work completed to date. Suggestions and comments are summarized below.

**Resources**

- The Society of Industrial Archaeology might have helpful information and photographic materials, including photographs of the canal at "Fiddler's Elbow."
- Jim Amon may have some insights as he was the director of the D&R Canal Commission and very involved with the development of the D&R canal as a state park.



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- The Canal Society has many useful resources to inform the project.

**Alignment**

- The East Coast Greenway, Liberty-to-Water Gap, and the 911 Memorial trails all intersect the proposed alignments and should be highlighted on the maps. The relationship of the greenway and these trails should be emphasized.
- The Greenway should follow the Morris Canal alignment wherever possible. It should follow the historic rail line where the Morris Canal alignment is inaccessible.
- The short-term alignment should include Route 440 as well as Mallory Place.
- The greenway should provide access to local amenities, such as bike shops, museums, food stops, etc., which will be important to the success of the greenway.

**Historic Interpretation**

- Panoramic views should be interpreted and matched with historic photos.
- The few remaining canal artifacts should be interpreted. Historic buildings along the way should be interpreted as well.
- The history of the Morris Canal and the Greenway initiative should be presented to nearby schools and integrated into their curriculum.
- The history of the Little Basin should include the Greene Street Boat Club, which had been demolished in 1984. It was suggested that the commemoration include American flags and rose bushes and pussy willows, which were originally planted by the Greene Street Boat Club.

**Design**

- Dedicated on-road bicycle facilities are preferred over shared lane markings and should be used wherever possible.
- Bicyclists should be separated from motor vehicle traffic as much as possible.
- Where on-road, the greenway should follow the existing and planned Jersey City biking facility network.
- The greenway design should include artwork and access to nature (rivers, ponds, plants and animals).
- Greenway interpretation should integrate the history of Jersey City as well as the Morris Canal.

**General**

- Pauli skill has high residential turnover.
- The greenway will create safe and convenient places to walk and bike, and increase overall safety.
- The greenway should be family-friendly.
- Jersey City should have more bicycle facilities for a safer environment and to be more economically competitive.
- The short-term on-road alignment should be implemented as soon as possible.
- The greenway will be a part of a network that connects residential neighborhoods with public destinations.
- The greenway can serve as a safe route to school or to parks.
- The greenway will help to reduce air pollution by providing an alternative to cars.





## The City of Jersey City Morris Canal Greenway Plan - Public Workshop 1



Sign-In Sheet			
Name	Affiliation/Organization	Address (optional)	Email (optional)
Steve Krinsky	Learning Community Charter School	4395 Kennedy Blvd, JC	steve-krinsky@lccsnj.org
Maria Molfetta	" "	" "	MC Molfetta@verizon.net
John Beckman	JERSEY CITY PUBLIC LIBRARY		
Robert Luckritz	JERSEY CITY MEDICAL CENTER		Rluckritz@LIBERTYHCS.ORG
Daniel Levin	-	277 8th St #6 JC	daniellevin@sigmas.com
Carol Corrales	JC	88 Morgan St #2209	ccorrales@jc-nj.org
Joyce Reyes	JC Resident	245 Montgomery St. JC	reyesjoyce@gmail.com
Julie Daugherty	JC Resident	319 Whitman St	julieaug@aol.com
ANGUS VALE	" "	" "	MUSICBUSINESS@aol.com

Wednesday, October 3, 2012  
 Open House 4:00pm - 6:00pm  
 Presentation 6:00pm - 7:00pm







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7 Campus Drive, Suite 300, Parsippany, NJ 07054

973-946-5600 FAX (973) 898-9472

**FROM:** Annette Schultz, Project Manager

**DATE:** May 20, 2013

**MEETING:** Public Workshop, May 15, 2013

**SUBJECT:** Workshop Memorandum  
Morris Canal Greenway Plan  
The City of Jersey City, RBA #J4552.00

**Workshop Overview**

The second public workshop for the Morris Canal Greenway Plan was held 5 PM – 7:30 PM on Wednesday, May 15, 2013 in Council Chambers of City Hall, 280 Grove Street. The purpose of the workshop was to present the draft final plan to the public and receive comments on the proposed short-term and long-term routes, design guidelines, interpretive development plan, and proposed implementation strategies.

The workshop was held in an ‘open house’ format in order to facilitate one-on-one discussions between the public and the project team. Exhibits of key work products were on display for review by the public and to spur conversation. At 6 PM, the project team gave a presentation that outlined the contents of the draft final report, which was available for download from the study website ([www.jcmcgreenway.org](http://www.jcmcgreenway.org)).

Workshop materials were available in English and Spanish.

A public comment period was held until 5 PM on Wednesday, May 22, 2013. During the public comment period, written comments could be submitted through the study website, by e-mail, or by US mail.

**Attendance**

The sign-in sheet is attached. Note that not all attendees signed in.

*Project Team Members Present*

- Naomi Hsu, Jersey City Division of City Planning
- Annette Schultz, The RBA Group
- Michael Dannemiller, The RBA Group
- Elizabeth Ward, The RBA Group
- Neil Desai, The RBA Group

Discussion centered on the short-term and long-term alignments, proposed implementation strategies, and next steps. Suggestions and comments are summarized below. Attendees were provided with comment sheets.

- A resident informed the project team that she lives on Columbia Park and that area residents are trying to form a ‘friends group’ to help maintain the park. Both the short-term and long-term alignments travel along the edge of the park. This resident sees the Morris Canal Greenway as a way to connect the park and her neighborhood to other parts of the City.



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- Charlene Burke, Jersey City resident and employee of Hudson County Division of Parks, expressed interest in working with the City and County on establishing the Morris Canal Greenway in Mercer Park, which she felt could be a potential site for interpretation.
- There was a question regarding funding for the greenway. In response, the project team explained that, while there is no single source of funding that could potentially be secured for the development of the greenway, a list of potential funding sources is included in the plan. These cover a wide range of activities, including interpretive development.
- Several residents asked how the greenway ties in with the City’s current plan for a network of bicycle facilities (striped bike lanes and shared lane markings) citywide. The project team confirmed that about one-third of the short-term alignment follows existing signed bike routes, and those on-street segments (both short- and long-term) that do not overlap will complement and expand the planned network.
- Several of the attendees asked how they could get involved, if further meetings were planned, and if information would be available online.





## The City of Jersey City Morris Canal Greenway Plan - Public Open House



Sign-In Sheet			
Name	Affiliation/Organization	Address (optional)	Email (optional)
Neil Desai	RBA		
ANNETTE SCHULTZ	RBA		
Daniel Levin	Pike JC		on file
BRYAN JAICKS	RESIDENT	77 BENTLEY AVE 67304	BJAICKS@comcast.net
Verushka Brito	Valley National Bank		
MATT WARD	RESIDENT	6 DUNCAN CT	
Melanie Dun	self	139 Mallory ave	melaniejdunn335@gmail.com
Mike & Anne Krumer	ECBA	33 Parkerson Rd Edison NJ 08817	Kliner54@optonline.net
Joyce Reyes	RESIDENT	245 MONTGOMERY ST.	JOYCE_REYES@msn.com
Megan Kelly	NJTPA		mkelly@njtpa.org

Wednesday, May 15, 2013





The City of Jersey City  
Morris Canal Greenway Plan



COMMENT SHEET

We welcome your input. Your comments will be included in the appendices of the final report. Use back/additional pages as necessary. Please return this form to the comment box located at the sign-in table. Or, if you prefer, you may submit your comments via the project website, e-mail your responses after the meeting or mail this form to the Division of City Planning. (See contact information below). Please submit your responses by Wednesday, May 22, 2013.

Name (optional): Mike Krumer

E-mail (optional): kliner54@optonline.net

**Comments:** Glad you showed the connection to the East Coast Greenway!

The Economic Advantages of a greenway should be stressed!

Public Comments

Following today's meeting, you may submit comments via the project website, e-mail, or mail to:

Project Website  
<http://jcmgreenway.org/>

Naomi Hsu, AICP, PP  
Senior Transportation Planner  
Email: [hsun@cnj.org](mailto:hsun@cnj.org)

City of Jersey City  
Division of City Planning  
30 Montgomery St., Suite 1400  
Jersey City, NJ 07302





# The City of Jersey City Morris Canal Greenway Plan



## COMMENT SHEET

We welcome your input. Your comments will be included in the appendices of the final report. Use back/additional pages as necessary. Please return this form to the comment box located at the sign-in table. Or, if you prefer, you may submit your comments via the project website, e-mail your responses after the meeting or mail this form to the Division of City Planning. (See contact information below). Please submit your responses by Wednesday, May 22, 2013.

Name (optional): Pat Olsen

E-mail (optional): \_\_\_\_\_

**Comments:**

*Please Consider putting pussy willows  
& Rose bushes close to Greene Street.  
In honor of the Greene St. Boat Club  
that once was at the little basin,  
my Dad planted the Pussy Willows in  
1959.*

*Thanks.*

Following today's meeting, you may submit comments via the project website, e-mail, or mail to:

Project Website  
<http://jcmcgreenway.org/>

Naomi Hsu, AICP, PP  
Senior Transportation Planner  
Email: [hsun@jcnj.org](mailto:hsun@jcnj.org)

City of Jersey City  
Division of City Planning  
30 Montgomery St., Suite 1400  
Jersey City, NJ 07302



# The City of Jersey City Morris Canal Greenway Plan



## COMMENT SHEET

We welcome your input. Your comments will be included in the appendices of the final report. Use back/additional pages as necessary. Please return this form to the comment box located at the sign-in table. Or, if you prefer, you may submit your comments via the project website, e-mail your responses after the meeting or mail this form to the Division of City Planning. (See contact information below). Please submit your responses by Wednesday, May 22, 2013.

Name (optional): Patrick Shalhoub

E-mail (optional): pshalhoub@njcu.edu

**Comments:**

Overall I am very pleased with the plans. If implemented I think the greenway will be a wonderful asset to the city.

My main concern is where the greenway route shares existing streets with automobiles. I am probably in the minority on this point, but I believe this is a serious safety issue. Although I am in favor of promoting the use of bicycles in cities, I wonder how safe many of the proposed "shareway" designs will prove to be? Myself, I would only feel comfortable if pedestrian sidewalks were widened sufficiently to include bicycle lanes. A bicycle lane with moving traffic on one side and parked vehicles on the other seems to me to be doubling the hazard.

Following today's meeting, you may submit comments via the project website, e-mail, or mail to:

Project Website  
<http://jcmcgreenway.org/>

Naomi Hsu, AICP, PP  
Senior Transportation Planner  
Email: [hsun@jcnj.org](mailto:hsun@jcnj.org)

City of Jersey City  
Division of City Planning  
30 Montgomery St., Suite 1400  
Jersey City, NJ 07302





The City of Jersey City  
Morris Canal Greenway Plan



The City of Jersey City  
Morris Canal Greenway Plan



COMMENT SHEET

We welcome your input. Your comments will be included in the appendices of the final report. Use back/additional pages as necessary. Please return this form to the comment box located at the sign-in table. Or, if you prefer, you may submit your comments via the project website, e-mail your responses after the meeting or mail this form to the Division of City Planning. (See contact information below). Please submit your responses by Wednesday, May 22, 2013.

Name (optional): Stephanie Daniels

E-mail (optional): \_\_\_\_\_

**Comments:**

I am in support of The Morris Canal Greenway plan with one caveat: if the Peninsula Park segment is left for the last (14th) item on the list, there is a very real chance that due to erosion from ferries and storm events, that piece of land will not exist by the time it's gotten to. At very least a few things should occur in phase one:

- 1) an engineering study should be done of the land (paid for in part by Imperatore, since the ferries have in large part contributed to the Peninsula's erosion;
- 2) A "No Wake" sign should be reinstalled in the harbor and ferry and boat operators should be held to no-wake speeds prior to entering the big basin. The Coast Guard should enforce by imposing heavy fines.
- 3) Riprap (or whatever material/style is deemed most functional) should be installed at very least on the east and southern sides of the Peninsula, and grasses should be planted to help stem the erosion.
- 4) Liberty State Park should relinquish all claims to Peninsula Park, since it is not in a position to maintain it, and either the county or Jersey City should take it over. Even after Sandy, with FEMA funds available, no funding was given to Peninsula Park. I understand the problem - this little spit of land isn't an LSP proper - out of sight, out of mind. LSP has done and continues to do an incredible job developing the main part of the park; this piece of land is an orphan and needs oversight, maintenance and funding. I have had this discussion with others in Planning who agree, and later in the summer will begin the conversation again with Liberty State Park.
- 5) Washington Street from the Hudson River Tide Lock 22E at Dudley south to the Big Basin: currently the street is half owned by Liberty State Park, with the other half owned by Portside Towers. There are several complications with this part of Washington Street. The first is one

that can be remedied, the second will take thought and design; both have to do with pedestrian safety and traffic. Technically, cars are not permitted to enter beyond bollards at the entrance unless they want to park and visit The Korean War Memorial. That doesn't stop them from entering, and children on bicycles or playing are put at risk. A solution could be to move the memorial closer to Dudley Street, perhaps slightly on the park. Thus, the veterans and people with disabilities who need to park close to the monument can do so without entering beyond the bollards. The other issue is fire vehicle access for Portside, and that is something that would need assessment as to how many lanes are actually needed. The rest of the street could then be part of the Greenway, and used safely by bicyclists and pedestrians.

Thanks for hearing my input.

Stephanie  
(VP and Parks Chair, Historic Paulus Hook Association)

Following today's meeting, you may submit comments via the project website, e-mail, or mail to

Project Website  
<http://jcmcgreenway.org/>

Naomi Hsu, AICP, PP  
Senior Transportation Planner  
Email: [hsun@jcnj.org](mailto:hsun@jcnj.org)

City of Jersey City  
Division of City Planning  
30 Montgomery St., Suite 1400  
Jersey City, NJ 07302

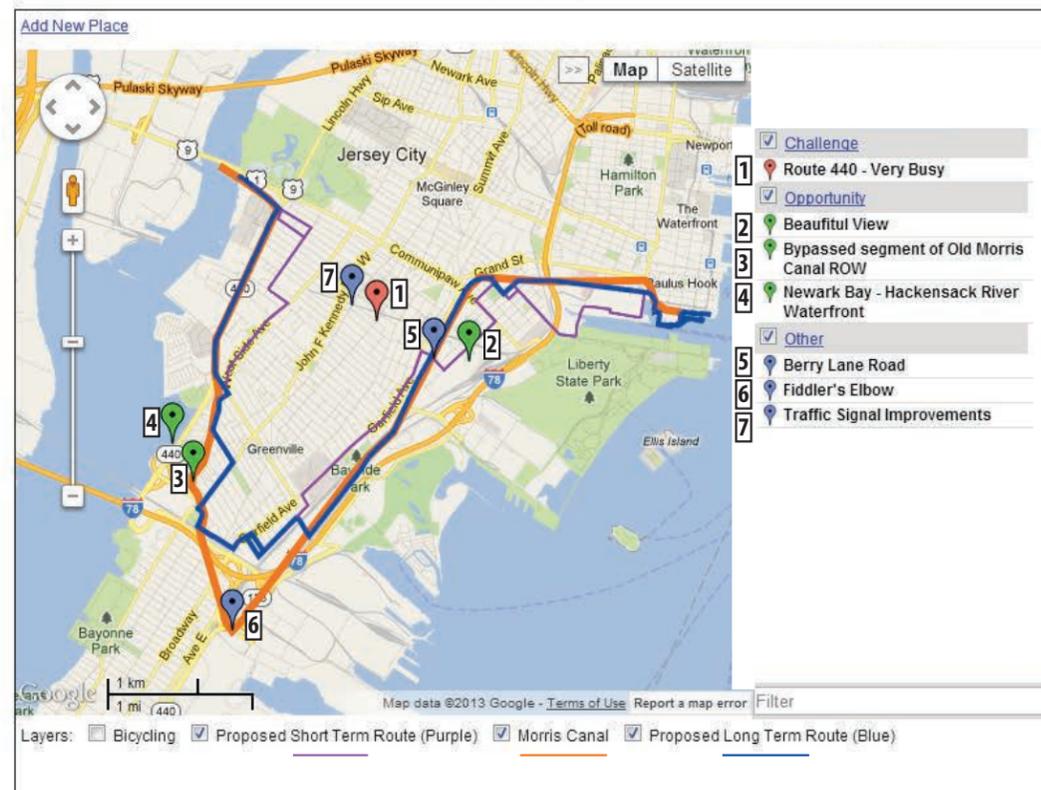




## The City of Jersey City Morris Canal Greenway Plan



Below are comments submitted via the Community Map for the Morris Canal Greenway Plan. The purpose of this web-based map tool was for residents and other stakeholders to identify issues and opportunities along the proposed routing of the trail.



### Appendix B Descriptions and Map of Historic Features associated with the Historic Morris Canal Right-of-Way

## DESCRIPTIONS OF HISTORIC FEATURES ASSOCIATED WITH THE HISTORIC MORRIS CANAL

The Morris Canal Historic District was listed on the New Jersey and National Registers of Historic Places in 1973 and 1974, respectively. RBA's Cultural Resource Unit (RBA/CRU) has identified interpretive and educational opportunities related to the canal and associated resources as part of the development of the Greenway. Twenty historic interpretation sites have been identified within the project area.

**1. Morris Canal Tide Lock 21 East Complex (included Lock, Locktender's House, Pump House, Basin, and several supporting buildings) (part of the Morris Canal Historic District (MCHD))\***

This lock served as the connection between the Jersey City segment of the canal and the Hackensack River and the remainder of the canal to the west. A locktender's house and several supporting buildings were also built here, as was a basin to provide docking facilities. This lock served to control the flow of the Hackensack's tidal waters, which were utilized to water this segment of the canal. The steam-powered pump house was built in 1859 to allow for the pumping of water from the Hackensack into the canal. This latter facility essentially eliminated any problems related to water supply for the Jersey City section of the canal.

**2. Lehigh Valley Terminal Railway/Morris Canal Bridge (part of the MCHD)\***

Early 20<sup>th</sup> century deck plate girder bridge that formerly carried the Lehigh Valley Railroad's Lehigh Valley Terminal Railway (now Conrail Shared Assets Operations (CSAO)) over the canal.

**3. New York Bay Railroad/Morris Canal Bridge (part of the MCHD)\***

Surviving span of a larger deck plate girder bridge built during the early 20<sup>th</sup> century that formerly carried the Pennsylvania Railroad's New York Bay Railroad (now CSAO) over the canal.

**4. National Docks Railway/Morris Canal Bridge Abutments (part of the MCHD)\***

Eastern portions of the stone abutments of the bridge built circa 1890 to carry the Lehigh Valley Railroad's National Docks Railway (now CSAO) over the canal.

**5. Standard Oil Company Pipeline/Morris Canal Bridge (part of the MCHD)\***

Iron lattice truss bridge constructed in 1914 to carry pipes owned by the Standard Oil Company over the canal.

**6. Morris Canal Fiddler's Elbow (Sluice Gate) (part of the MCHD)**

The significant bend at the far southern end of the Jersey City segment of the canal came to be known as Fiddler's Elbow. The canal company installed a sluice gate here that allowed for the watering of the canal by the tidal waters of New York Bay.

**7. National Docks Railway/Morris Canal Bridge Abutments and Piers (part of the MCHD)\***

Remnant concrete abutments and piers of the bridge built during the early 20<sup>th</sup> century to carry the Lehigh Valley Railroad's National Docks Railway (now CSAO) over the canal.

**8. Passaic Zinc Company/Whitlock Cordage Company Complex (part of the Whitlock Cordage Company Buildings Historic District)\***

Industrial complex initially developed on the canal by the Passaic Zinc Company for the manufacture of various zinc products in 1855. The plant was shut down in 1901 and acquired by the Whitlock Cordage Company in 1905. The facility remained active in the production of rope, twine, and related items until 1960.

**9. Morris Canal Halladay Street Basin (part of the MCHD)**

This basin also served as a mill pond for a large saw mill during the middle decades of the 19<sup>th</sup> century. The basin was abandoned and filled circa 1900.

**10. National Docks Railway/Morris Canal and Pacific Avenue Bridge (part of the MCHD)\***

Steel through truss bridge completed in 1909 to carry the Lehigh Valley Railroad's National Docks Railway (now CSAO) over the Morris Canal and Pacific Avenue.

**11. Morris Canal Mill Creek Culvert/Sluice Gate/Outlet Lock (part of the MCHD)**

This crossing of the canal over the creek was served by several culverts during the canal's term of operation. The canal company also installed a sluice gate here that allowed for the watering of the canal by the tidal waters of the creek. The company also built an outlet lock that allowed boats to move from the canal to the creek, but this appears to have been only briefly utilized.

**12. Jersey City Steel Works**

Crucible steel manufactory established on the canal by individuals formerly associated with the Adirondack Steel Works in 1862. This facility was later expanded, and it remained active up until the turn of the century. Steel has an important relationship to the Morris Canal.

**13. Adirondack Steel Works**

Crucible steel manufactory established on the canal in 1848. This was the first to successfully produce crucible steel in the United States. It remained active until 1885, with the property subsequently redeveloped as part of the sugar refinery that came to be controlled by the American Sugar Refining Company.

\* Indicates physical structure visible in the field.

\* Indicates physical structure visible in the field.

#### 14. Jersey City Glass Works

Cut glass manufactory established in 1826 as one of Jersey City's earliest industrial facilities. It became a shipper on the canal after the waterway's completion in 1838. Jersey City Glass Works was noted for the quality of its products and for the innovative nature of its operations. Glass production ended during the Civil War and the property was purchased and redeveloped by as part of the sugar refinery later controlled by the American Sugar Refining Company.

#### 15. Morris Canal Tide Lock 22 East (part of the MCHD)\*

This lock provided the connection between the canal, the Little Basin and New York harbor. It served to control the flow of the Hudson River's tidal waters within the Little Basin, which were utilized to water the Jersey City segment of the canal. The location of the eastern end of lock is now marked by the concrete closure structure in the western wall of the basin that was installed at the time of the canal's abandonment in 1924.

#### 16. American Sugar Refining Company Complex\*

Established in 1863, this large sugar refining complex occupied several city blocks. This facility was controlled by the American Sugar Refining Company after 1890. The Company was responsible for the construction of the large brick warehouse built at the turn of the century that was subsequently redeveloped as the Sugar House Condominiums. Refining operations here were terminated circa 1930.

#### 17. Morris Canal Tidewater Basin (part of the MCHD)\*

This large basin was developed by the canal company to provide additional harbor docking facilities to supplement those available in the Little Basin. Initially established in 1861, the basin was redefined substantially with the completion of the Central Railroad of New Jersey's terminal facility in 1864. The Basin served as an important component of the canal company's operations, and, subsequently, as the focus of the harbor freight operations of the Lehigh Valley Railroad.

#### 18. Morris Canal Packers Dock (South Street Pier) (part of the MCHD)

Completed in 1838, this large landfill pier served as the south side of the Little Basin and as the canal company's primary coal dock serving New York harbor. Coal-handling operations continued here up until the time of the canal's abandonment.

#### 19. Morris Canal Little Basin (part of the MCHD)\*

The Morris Canal Little Basin was built between 1835 and 1838 to serve as the canal's all-important outlet into and primary connection with the harbor of New York. The basin and

its surrounding piers provided for the handling of coal and other freight transported to and from the harbor by the canal.

#### 20. Morris Canal Scranton Dock (Hudson Street Pier) (part of the MCHD)

Landform created by landfilling project implemented by the canal company circa 1860 and developed as a new coal pier. The coal-handling facility located here remained active up until the time of the canal's abandonment.

Historic Features, Properties & Districts along the Morris Canal in Jersey City Map follows:

\* Indicates physical structure visible in the field.



## Jersey City Morris Canal Greenway Plan Historic Features, Properties & Districts along the Morris Canal in Jersey City, NJ



July 16, 2012

### Legend

- Morris Canal Alignment
- Historic Properties - Eligible; Identified; Listed
- Historic Features associated with the Morris Canal
- Historic Districts - Eligible; Identified; Listed

- ★ 1 Morris Canal Lock 21 East Complex
- ★ 2 Lehigh Valley Railroad / Morris Canal Bridge
- ★ 3 Pennsylvania Railroad / Morris Canal Bridge
- ★ 4 Central R.R. of NJ / Morris Canal Bridge Abutments
- ★ 5 Standard Oil Co. Pipeline / Morris Canal Bridge
- ★ 6 Morris Canal Fiddler's Elbow
- ★ 7 Lehigh Valley R.R. / Morris Canal Bridge Abutments
- ★ 8 Whitlock Cordage Company Complex
- ★ 9 Morris Canal Halladay Street Basin
- ★ 10 Natl. Docks R.R./Morris Canal - Pacific Ave Bridge
- ★ 11 Mill Creek Aqueduct/Sluice Gate/Outlet Lock
- ★ 12 Jersey City Steel Works
- ★ 13 Adirondack Steel Works
- ★ 14 Jersey City Glass Works
- ★ 15 Morris Canal Tide Lock 22 East
- ★ 16 American Sugar Refining Company Complex
- ★ 17 Morris Canal Tidewater Basin
- ★ 18 Morris Canal Packers Dock (South St Pier)
- ★ 19 Morris Canal Little Basin
- ★ 20 Morris Canal Scranton Dock (Hudson St Pier)

★ Physical structure visible in the field

Data source: NJDEP - Morris Canal Alignment, Historic Properties (listed & eligible), Historic Districts (listed & eligible); RBA Cultural Resource Unit - Historic Features



**Appendix C**  
**Proposed Long-Term Greenway Alignment**  
**on an Aerial Basemap**  
Prepared May 2013

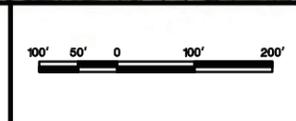


**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENT 1)



**LEGEND:**

- MORRIS CANAL GREENWAY - ON STREET TRAIL
- MORRIS CANAL GREENWAY - OFF STREET TRAIL
- # SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENT 2)



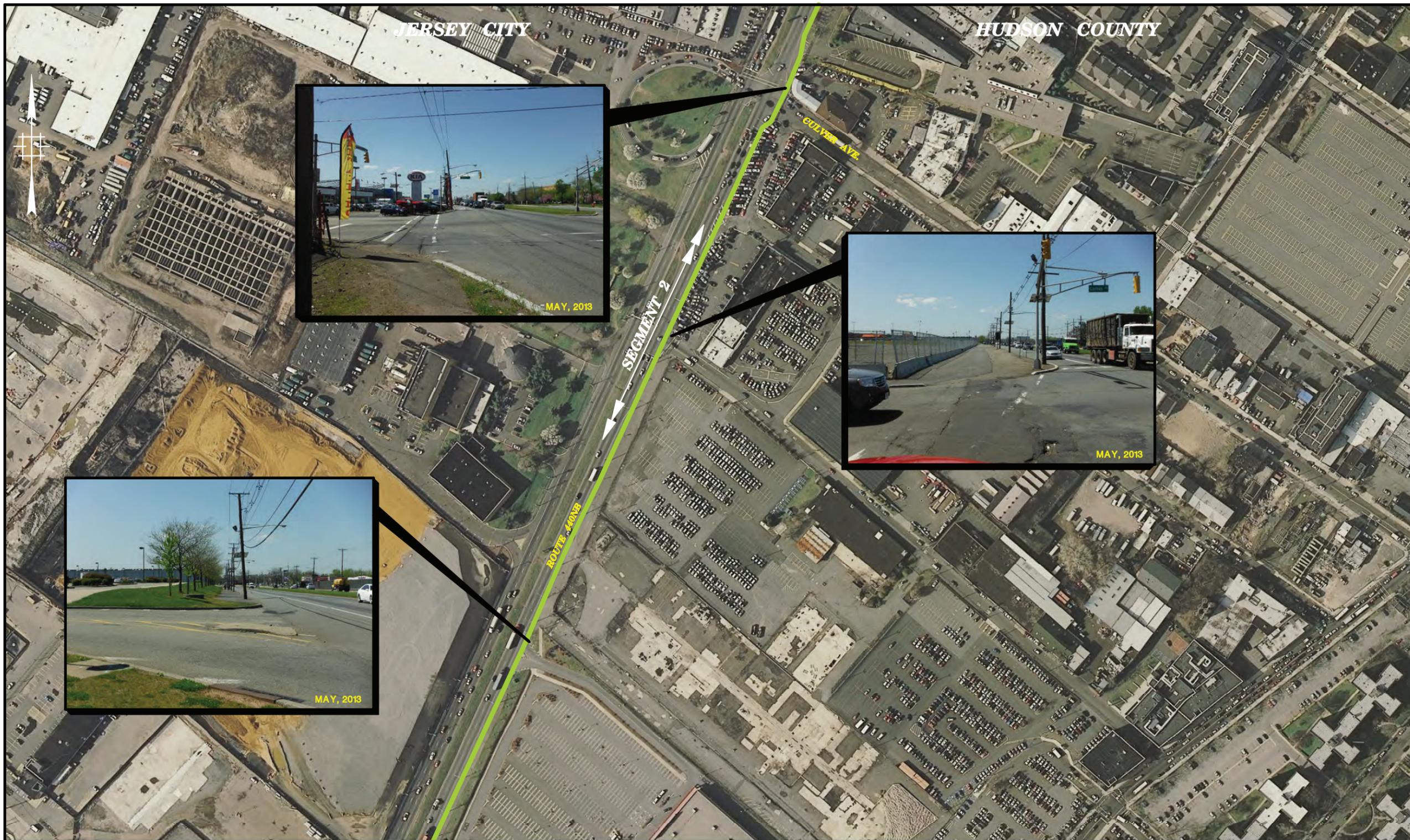
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	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



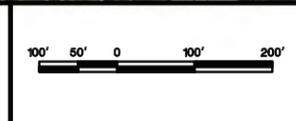


**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENT 2)



**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENT 2)



**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



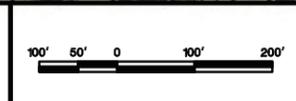


**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION (SEGMENT 3)**



**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENT 3)



**LEGEND:**

- MORRIS CANAL GREENWAY - ON STREET TRAIL
- MORRIS CANAL GREENWAY - OFF STREET TRAIL
- SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013

6

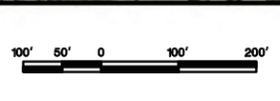


**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENT 4)



**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENT 5)



**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



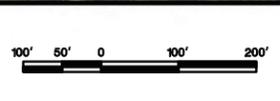


**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENTS 5 & 6)

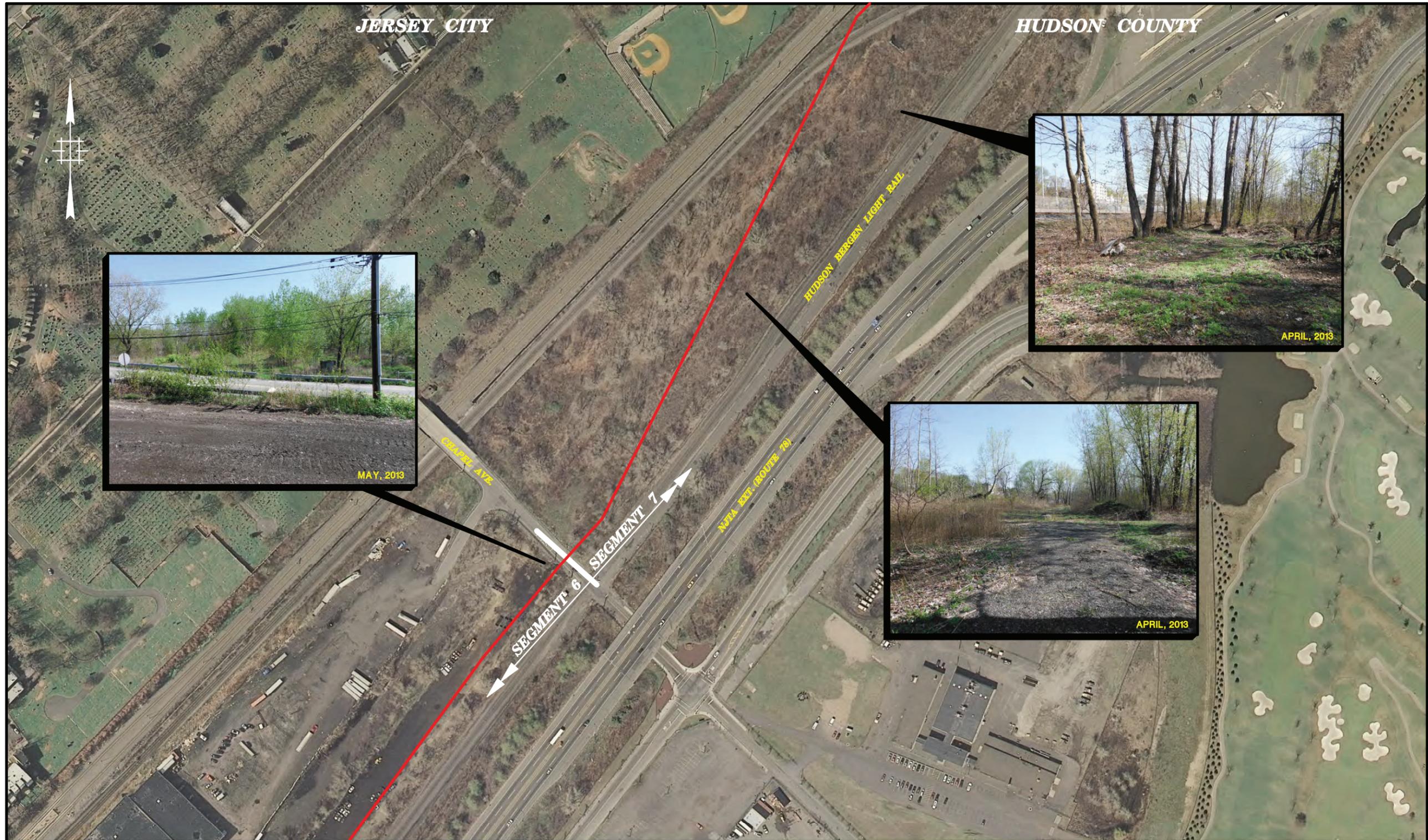


**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENTS 6 & 7)



**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013





**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENTS 7 & 8)



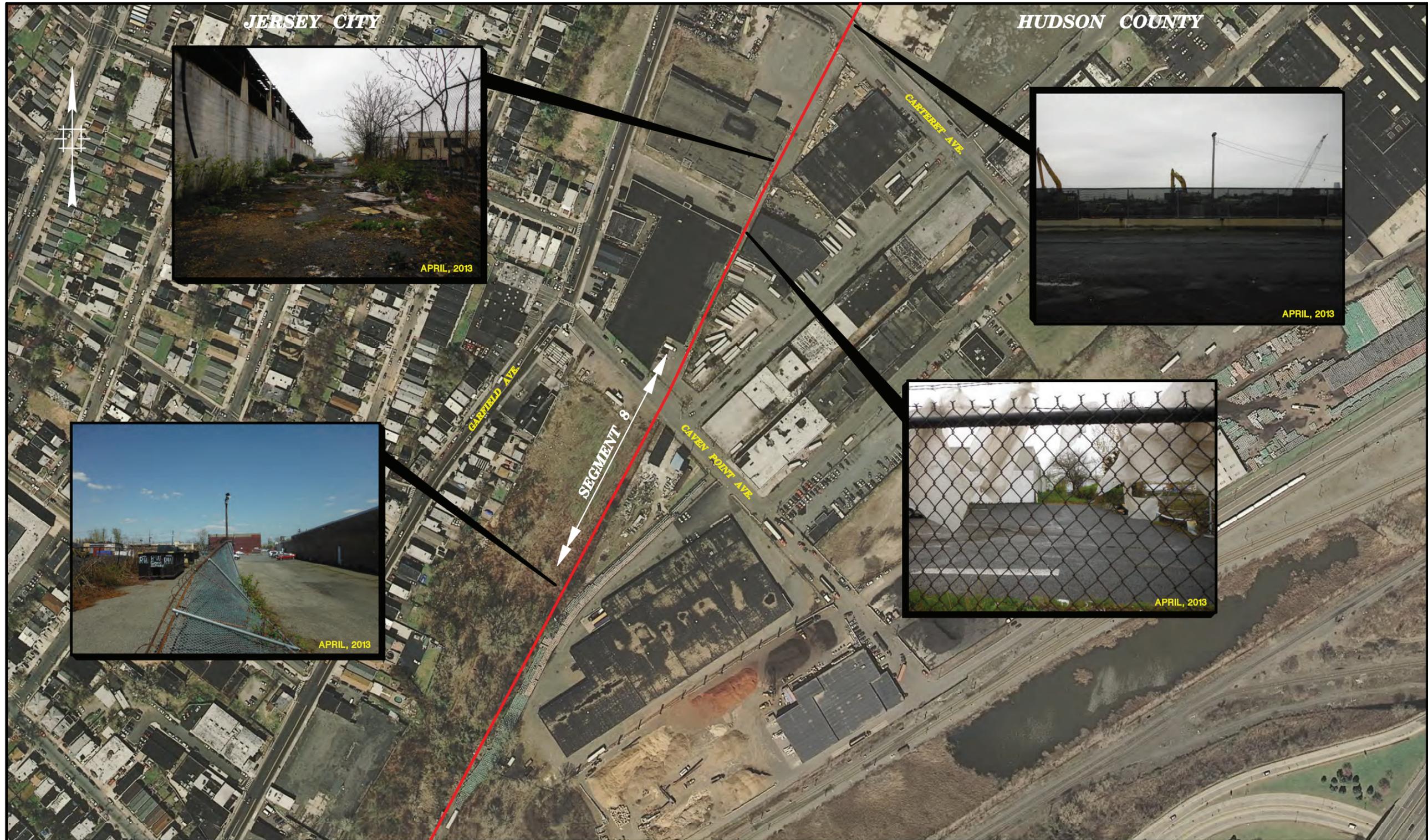
**LEGEND:**

- MORRIS CANAL GREENWAY - ON STREET TRAIL
- MORRIS CANAL GREENWAY - OFF STREET TRAIL
- SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



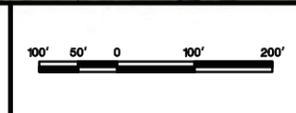


**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENT 8)

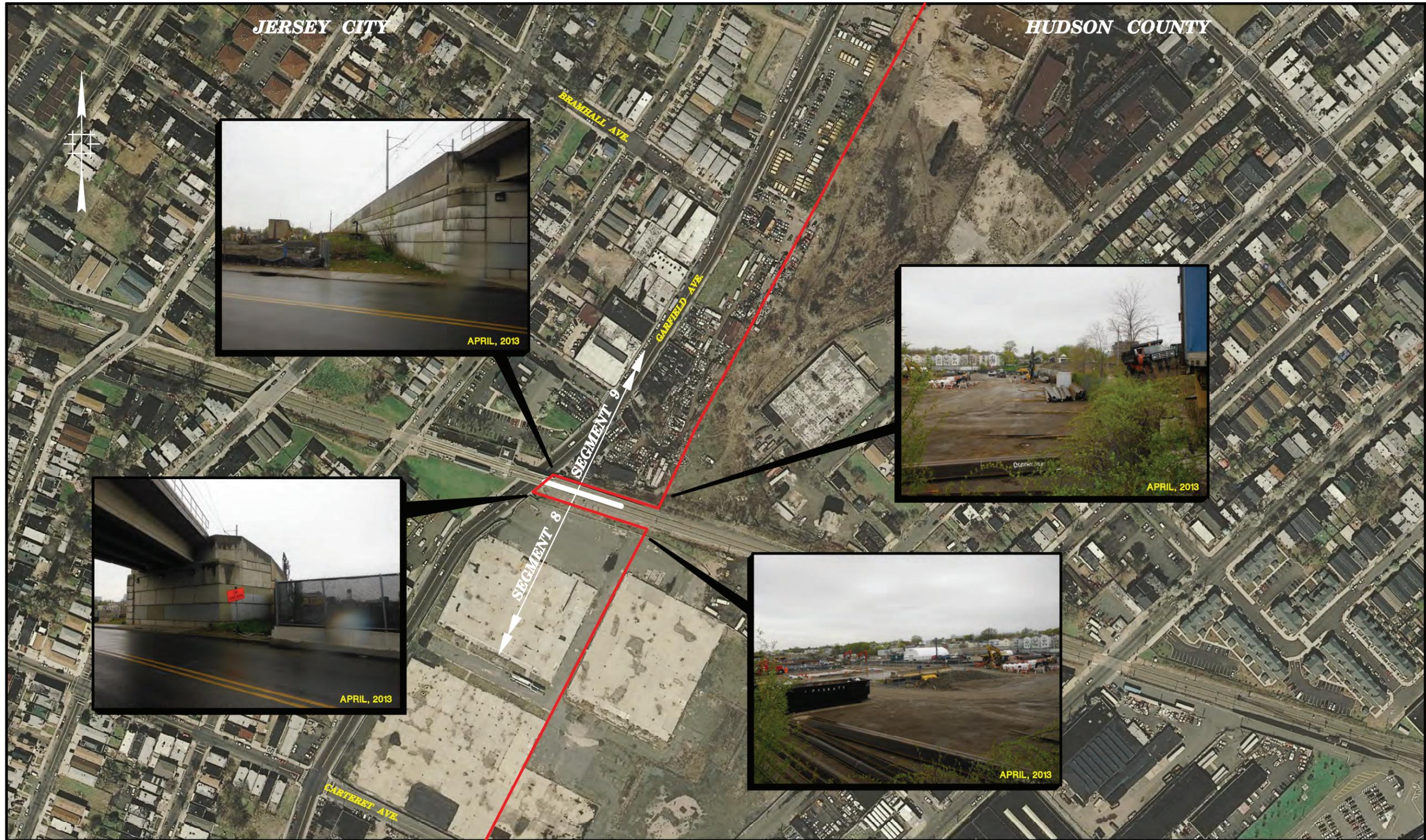


**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013

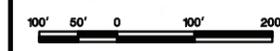


**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENTS 8 & 9)



**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013





**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENTS 9, 10 & 11)

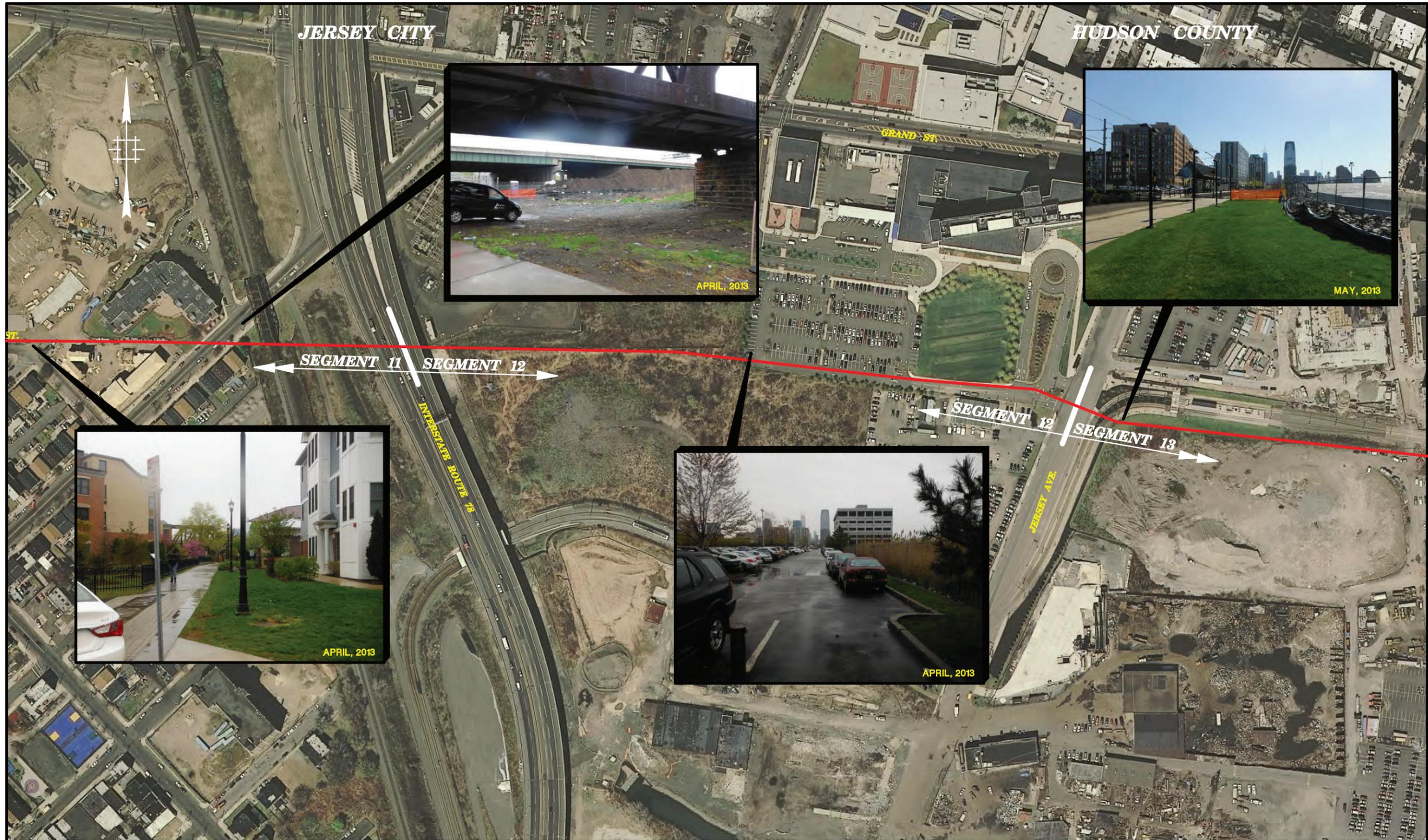


**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013

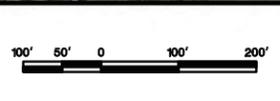


**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENTS 11, 12 & 13)



**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



**JERSEY CITY MORRIS CANAL GREENWAY PLAN - LONG TERM RECOMMENDATION**  
(SEGMENTS 13 & 14)



**LEGEND:**

	MORRIS CANAL GREENWAY - ON STREET TRAIL
	MORRIS CANAL GREENWAY - OFF STREET TRAIL
	SEGMENT DIVIDER



SCALE: 1"=200'  
DATE: MAY, 2013



JERSEY CITY MORRIS CANAL GREENWAY PLAN  
AmerCom Job No. 3213

Field Data – Segment 1

**Trail Segment Area:** Hackensack River to Route 440

**General Features:**

Utilities:	Overhead wires at Route 440
Wet Areas:	Canal/stream parallel to US 1-9 truck from Hackensack River
Obstacles:	Area fenced in - no trail access; contaminated soil within canal area

**Road Characteristics:**

Traffic (one-way, two-way):	None on trail/park section, two-way on 1&9
Number of Lanes:	No
Parking (one side, two sides):	N/A
Shoulders:	N/A
Bicycle Safe Grates:	N/A

**Sidewalks:**

Sidewalks:	No
Condition:	N/A
Vegetated/Grass Buffer:	Yes

**Comments:**

- There is a channel from river, but it is fenced in prohibiting access.
- The covered soil within fenced in area may be contaminated soil requiring remediation.
- Channel runs parallel to Route 1&9 until commercial building (hotel) at Route 440.
- Parcel to north of trail appears to be an abandoned parking lot and is also completely fenced in.

**Appendix D**  
**Field Data Sheets**

Prepared May 2013



JERSEY CITY MORRIS CANAL GREENWAY PLAN  
AmerCom Job No. 3213

**Field Data – Segment 2**

**Trail Segment Area:** 2 – Route 440 between Clendenny Avenue and Danforth Avenue

**General Features:**

Utilities: Overhead wires  
Wet Areas: None  
Obstacles: See Comments.

**Road Characteristics:**

Traffic (one-way, two-way): Two-way (divided)  
Number of Lanes: 2 – both ways  
Parking (one side, two sides): Off-street, parking lots  
Shoulders: Yes, both-sides with intermittent crossing gore areas  
Bicycle Safe Grates: Yes

**Sidewalks:**

Sidewalks: Yes, 4', on both sides of Route 440but not continuous  
Condition: Fair  
Vegetated/Grass Buffer: Yes

**Comments:**

- Route 440 is a typical urban cross section thru this segment.
- Trail turns southwesterly onto Route 440 NB at Dunkin Donuts/hotel location.
- Trail continues south along Route 440 NB so it is contra-flow.
- New Handicap curb ramps & sidewalk treatments required sporadically along parcel frontages.

JERSEY CITY MORRIS CANAL GREENWAY PLAN  
AmerCom Job No. 3213

**Field Data – Segment 3**

**Trail Segment Area:** 3 – Intersection of Route 440 & Danforth Avenue to JFK Blvd. & Mercer Park

**General Features:**

Utilities: Overhead Wires  
Wet Areas: None  
Obstacles: See Comments

**Road Characteristics:**

Traffic (one-way, two-way): Two-way (Danforth Avenue & Sullivan Drive), Bartholdi Avenue turns into one-way at Roman Avenue  
Number of Lanes: One each way (Danforth Avenue, Sullivan Drive, Bartholdi Avenue), 2-each way (JFK Blvd.)  
Parking (one side, two sides): Off-street private (Danforth Avenue), off-street (Sullivan Drive), one-side (Bartholdi Avenue), two sides (JFK Blvd)  
Shoulders: No  
Bicycle Safe Grates: Yes

**Sidewalks:**

Sidewalks: Yes, SW>4', both sides  
Condition: Fair  
Vegetated/Grass Buffer: No

**Comments:**

(Danforth Avenue)

- Typical urban cross-section (roadway-to-sidewalk-to-building or parking lot). Proposed trail cross section width may exceed existing requiring reconfiguring roadway/sidewalk to accommodate

(Sullivan Road)

- At intersection of Danforth Avenue & Sullivan Road, trail turns onto west side of Sullivan. (No sidewalk on west side of Sullivan)
- No HC curb ramp on south side of Sullivan Road & Lembeck Drive intersection.

(Bartholdi Avenue)

- Could cross onto Bartholdi at either side of Sullivan or JFK. Suggest crossing at Sullivan.
- Bartholdi turns to one-way WB at Roman Avenue (against traffic flow).

(JFK Boulevard)

- Typical urban cross section. Concrete sidewalk both sides, 2-lanes each direction, two-way undivided traffic.



JERSEY CITY MORRIS CANAL GREENWAY PLAN

AmerCom Job No. 3213

Field Data – Segment 4

Trail Segment Area: 4 – Hudson County’s Mercer Park

General Features:

Utilities: Light standards (Ruby Brown)
Wet Areas: None
Obstacles: See Comments.

Road Characteristics:

Traffic (one-way, two-way): One-way
Number of Lanes: 1 – one-way
Parking (one side, two sides): One side – Ruby Brown Terrace
Shoulders: No
Bicycle Safe Grates: Yes

Sidewalks:

Sidewalks: Yes, SW≥4’, one side
Condition: Good
Vegetated/Grass Buffer: No

Comments:

- No grade obstacles.
Park section has concrete sidewalk connecting JFK Blvd. To Ruby Brown Terrace.
Park also has existing walking path through it, but would require new cutout in stone wall.
Once on Ruby Brown Terrace trail can be located on either side.
More open space and grass on west side of Ruby Brown Terrace.
Suggest crossing trail over to west side of Ruby Brown Terrace (east of park) until reaching Merritt intersection.

JERSEY CITY MORRIS CANAL GREENWAY PLAN

AmerCom Job No. 3213

Field Data – Segment 5

Trail Segment Area: 5 – Merritt Avenue to Danforth Avenue Transit Village Redevelopment Area

General Features:

Utilities: Light poles & overhead wires (both sides)
Wet Areas: None
Obstacles: See Comments.

Road Characteristics:

Traffic (one-way, two-way): two-way
Number of Lanes: 1- each way
Parking (one side, two sides): One side (Merritt Street), both sides (Garfield Avenue)
Shoulders: No
Bicycle Safe Grates: Yes

Sidewalks:

Sidewalks: Yes, SW≥4’, both sides
Condition: Fair
Vegetated/Grass Buffer: No, fence lined along South side of Merritt Avenue

Comments:

- (Merritt Avenue)
Typical urban cross section. Suggest keeping trail on north side.
(Garfield Avenue)
Typical urban cross section. Suggest keeping trail on west side.
(Seaview Avenue)
Typical urban cross section. Trail on either side.
(Princeton Avenue)
Typical urban cross section. Trail on either side.
(Linden Avenue)
Bridge over railroad tracks, cross section is one lane each way with curb and sidewalk to Bridge. Bridge has sidewalk to parapet on both sides.



JERSEY CITY MORRIS CANAL GREENWAY PLAN  
AmerCom Job No. 3213

Field Data – Segment 6

**Trail Segment Area:** 6 – Danforth Street Transit Village Redevelopment Plan Area

**General Features:**

Utilities: Overhead Wires  
Wet Areas: Yes along NW property boundary  
Obstacles: See Comments.

**Road Characteristics:**

Traffic (one-way, two-way): N/A  
Number of Lanes: N/A  
Parking (one side, two sides): N/A  
Shoulders: No  
Bicycle Safe Grates: No

**Sidewalks:**

Sidewalks: No  
Condition:  
Vegetated/Grass Buffer:

**Comments:**

- Entrance to Redevelopment Area from Linden Avenue is fenced off.
- This section is in the back of trucking warehouse and is lined/fenced off by shipping containers.
- Opens up to junk yard/car storage, then ramp to Chapel Avenue.
- Re-grading will be necessary entering and exiting parcel as well as crossing Chapel Avenue.

JERSEY CITY MORRIS CANAL GREENWAY PLAN  
AmerCom Job No. 3213

Field Data – Segment 7

**Trail Segment Area:** 7 – Claremont Industrial Redevelopment Plan Area (Chapel Avenue to Bayview Avenue)

**General Features:**

Utilities: Overhead wires on Chapel Ave. crossing; Manhole’s along trail (sewer)  
Wet Areas: Yes  
Obstacles: See Comments.

**Road Characteristics:**

Traffic (one-way, two-way): Two-way (Chapel Avenue)  
Number of Lanes: One, each way (Chapel Avenue)  
Parking (one side, two sides): None  
Shoulders: No  
Bicycle Safe Grates: N/A

**Sidewalks:**

Sidewalks: No  
Condition: N/A  
Vegetated/Grass Buffer: N/A

**Comments:**

(Chapel Avenue)

- Ramp from private parking lot up to Chapel Avenue and across exhibits steep grade 2:1±.
- Trail path looks to be gravel running northerly up to Bayside Ballfields. Wooded beyond that point heading north to Richard St. Station.

(Richard Street Station)

- Trail still seems to follow line of sanitary manholes.
- Station also has culvert crossing into wet area. Any work near culvert will require grading.
- Channel runs parallel with rail bed embankment south of station.

(Railroad Crossover near Black Tom Road)

- From station to Wegman Ct., there is flat cross sectional area east of tracks. Very steep embankment on west side of tracks. Recommend trail to run on east side of tracks and track crossing to the west side near Bidwell Avenue or north of it. Obstacles include grading and track crossing.

JERSEY CITY MORRIS CANAL GREENWAY PLAN  
AmerCom Job No. 3213

(Route 78 Bridge)

- Past the bridge the trail path runs through container storage yard, then onto small strip of gravel roadway with containers stored there. Or there's a DEP wooded area to the east which is fenced in.
- It then leads out to Caven Point Road. Obstacles include access (fences), clearing, and minor grading throughout this section.

**Field Data – Segment 8**

**Trail Segment Area:** 8 – Canal Crossing Redevelopment Plan Area (Bayview Avenue to Hudson-Bergen Light Rail tracks)

**General Features:**

Utilities:	Overhead wires on Caven Point Avenue
Wet Areas:	None
Obstacles:	See Comments.

**Road Characteristics:**

Traffic (one-way, two-way):	Two-way (Caven Point, Carteret Avenue)
Number of Lanes:	One, each direction (Caven Point, Carteret Avenue)
Parking (one side, two sides):	No parking
Shoulders:	No
Bicycle Safe Grates:	N/A

**Sidewalks:**

Sidewalks:	N/A
Condition:	N/A
Vegetated/Grass Buffer:	N/A

**Comments:**

(Caven Point Avenue)

- Once on Caven Point Avenue, trail then turns west up Caven Point Avenue, and once again turning northerly at Block 21510, Lot 39 and continuing through lots 11 & 2.
- Fences are obstacles at all these parcels. Grades are ok.

(Carteret Avenue)

- Block 21510, Lot 2 unloads trail onto Carteret Avenue and across Block 21510, Lot 11.
- Temp Jersey Barrier (with fences) and ongoing construction from Carteret Avenue to Forest Avenue moving north. All buildings have been demolished and entire area is a construction zone.



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**Field Data – Segment 9**

**Trail Segment Area:** 9 – Berry Lane Park (Hudson-Bergen Light Rail tracks to Communipaw Avenue)

**General Features:**

Utilities: Overhead Wires  
Wet Areas: No  
Obstacles: See Comments.

**Road Characteristics: RECONSTRUCTION ZONE (UNDER CONSTRUCTION)**

Traffic (one-way, two-way): N/A  
Number of Lanes: N/A  
Parking (one side, two sides): N/A  
Shoulders: N/A  
Bicycle Safe Grates: N/A

**Sidewalks: RECONSTRUCTION ZONE (UNDER CONSTRUCTION)**

Sidewalks: N/A  
Condition: N/A  
Vegetated/Grass Buffer: N/A

**Comments:**

(Communipaw Avenue)  
— Trail runs along construction zone then unloads onto Berry Lane. Grade ok. Fence only obstacle.

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**Field Data – Segment 10**

**Trail Segment Area:** 10 – Whitlock Cordage (Communipaw Avenue to Van Horne Street)

**General Features:**

Utilities: Overhead wires  
Wet Areas: None  
Obstacles: See Comments.

**Road Characteristics:**

Traffic (one-way, two-way): Two-way (Commonpaw Avenue)  
Number of Lanes: One, each direction (Commonpaw Avenue)  
Parking (one side, two sides): Both sides (Commonpaw Avenue)  
Shoulders: No  
Bicycle Safe Grates: Yes

**Sidewalks:**

Sidewalks: Yes, SW>4', both sides  
Condition: Fair  
Vegetated/Grass Buffer: No

**Comments:**

(Commonpaw Avenue)  
— Block 17301, Lot 10 at Commonpaw fenced in. Grade ok.  
— Trail then winds around Whitlock Cardege complex.  
— Trail has some cross section issue just wrapping around complex as it meets Maple Avenue and fenced in.  
— Minor grading may be necessary around complex.



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**Field Data – Segment 11**

**Trail Segment Area:** 11 – Van Horne and Maple Streets to Grand Jersey Redevelopment Plan Area

**General Features:**

Utilities: Overhead wires  
Wet Areas: No  
Obstacles: See Comments.

**Road Characteristics:**

Traffic (one-way, two-way): Two-way (Van Horne Street)  
Number of Lanes: One, each way  
Parking (one side, two sides): Both sides  
Shoulders: No  
Bicycle Safe Grates: Yes

**Sidewalks:**

Sidewalks: Yes, SW>4', both sides  
Condition: Good  
Vegetated/Grass Buffer: Yes

**Comments:**

(Van Horne Street)

— From Johnston Avenue to Carbon Street, the west side is fenced in and has no sidewalk, so trail should crossover Van Horne to east side at Johnston and proceed to Carbon on east side of Van Horne Street.

(Carbon Street)

— Trail stays on east side sidewalk for one block to Halladay Street crossing back over west side of Carbon and turning right onto Lafayette Village Path, then across to Pacific Avenue. No obstacles.

**Field Data – Segment 12**

**Trail Segment Area:** 12 – Grand Jersey Redevelopment Plan Area (Under the Turnpike Extension to Jersey Avenue)

**General Features:**

Utilities: None  
Wet Areas: Yes, reed field south of power station yard.  
Obstacles: See Comments.

**Road Characteristics:**

Traffic (one-way, two-way): Two-way (Pacific Avenue), two-way (Jersey Avenue)  
Number of Lanes: One, each direction (Pacific & Jersey Avenues)  
Parking (one side, two sides): N/A  
Shoulders: No  
Bicycle Safe Grates: N/A

**Sidewalks:**

Sidewalks: No  
Condition: N/A  
Vegetated/Grass Buffer: N/A

**Comments:**

(Pacific Avenue)

- Trail crosses under railroad bridge and traverses construction access roadway to Turnpike construction.
- Obstacles include access road and construction.
- Large pile of soil on west side of I-78 overpass.
- Trail crosses I-78, then behind Power Yard then into Medical Center lot. Obstacles: fence.
- Trail runs along Medical Center parking lot westerly to Jersey Avenue.

(Jersey Avenue)

— Medical Center at Jersey Avenue needs HC ramps and sidewalk work, delineation, etc., to build trail.



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**Field Data – Segment 13**

**Trail Segment Area:** 13 – Liberty North Redevelopment Plan Area (Jersey Avenue to the Hudson River Waterfront Walkway)

**General Features:**

Utilities: Culvert pipe at Jersey Avenue  
Wet Areas: Detention Basin at Jersey Avenue Light Rail Station  
Obstacles: See Comments.

**Road Characteristics:**

Traffic (one-way, two-way): Two-way (Jersey Avenue)  
Number of Lanes: One, each direction (Jersey Avenue)  
Parking (one side, two sides): Both sides (Jersey Avenue)  
Shoulders: No  
Bicycle Safe Grates: Yes

**Sidewalks:**

Sidewalks: Yes, SW>4', both sides  
Condition: Good  
Vegetated/Grass Buffer: No

**Comments:**

(Jersey Avenue)

— Medical Center entrance & parking lot areas need Handicap curb ramps and existing parking stalls removed for trail crossing.

(Jersey Avenue Light Rail Station)

— Crossing of rails to south side of station will be required. So HC curb ramps, cross buck signs, gates, etc. An active railroad crossing to be built.  
— East of Light Rail Station trail cross section is entirely on slope of newly constructed parking lot. There is also a detention basin and culvert pipe parallel to track. Significant grading required.

(Martin Blvd Light Rail Station)

— South side of rail has massive spoil pile, excavated materials consisting of topsoil or subsoils that have been removed and stored during the construction activity, on trail location so substantial grading (cut) required.  
— Developer constructing new high-rise along trail at Morris Blvd.  
— Morris Blvd. has curbs, inlets and fire hydrants installed, but remains under construction.

— East of Morris Blvd. is a paved walkway, 4' wide, that is fence lined, but cross section drops off 3' - 4' to the south. Substantial grading (fill) required to accommodate trail. 12' ± between existing fence lines. Significant grading required.

(Van Vorst Street)

— Trail comes out to the corner, and remains on the sidewalk (fair condition) then winds around Van Vorst Street to a private parcel at the corner of Dudley Street and Marina which is the entrance to Hudson River Waterfront Walkway. No obstacles.



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**Field Data – Segment 14**

**Trail Segment Area:** 14 – Hudson River Waterfront Walkway (HRWW) to Morris Canal Section of Liberty State Park and Colgate Park

**General Features:**

Utilities:	Lighting along walkway
Wet Areas:	None
Obstacles:	See Comments.

**Road Characteristics:**

Traffic (one-way, two-way):	Two-way (Washington Street), one-way (Dudley Street)
Number of Lanes:	One, each direction (Washington Street), 1- one-way (Dudley & VanVorst Street)
Parking (one side, two sides):	One-side (Washington Street), two sides (Van Vorst & Dudley Street)
Shoulders:	No
Bicycle Safe Grates:	Yes

**Sidewalks:**

Sidewalks:	Yes, SW>4', both sides
Condition:	Good
Vegetated/Grass Buffer:	No/Yes

**Comments:**

(Hudson River Waterfront Walkway)

- Entrance from Dudley Street, 12' -15' ± building to fence. Making it a Public Access is only possible obstacle.
- Once on HRWW, Section is 15' ±, new pavers, with benches and walkway lighting. No obstacles.

(Washington Street)

- Entrance to Liberty State Park. Once in park, heading easterly, open area with older pavers, then gravel trail leads to end of Morris Canal Section. (both park entrances same conditions)
- Construction is ongoing at Colgate Park. No obstacles.

(Dudley Street Walkway to Colgate Park)

- Entire section is on timber boardwalk. Fenced off at Green Street. Obstacle is no access east of Green. Making it a Public Access is only possible obstacle.

## Appendix E

### Detailed Cost Estimate Tables

### Cost Estimate for Greenway Development<sup>1</sup>

Costs presented here are based on many assumptions and do not reflect findings from appraisals, surveys, variable designs and contexts, existing conditions or changes to costs over time. Rather, these cost estimates provide a basis for discussion and a starting point, which is necessary to anticipate future funding needs. For planning purposes, construction cost estimates were developed based on typical labor and material costs for a greenway facility. The preliminary construction cost estimates account for installation of on-street and off-street, inclusive of labor and material.

The per foot unit cost for installation of the on-street segments ranges between \$77- \$113. The per foot unit cost for installation of the off-street segment is \$113. The preliminary estimates for the on-street improvement costs do not account for “soft costs,” such as planning, environmental documentation, right-of-way and easement acquisitions, necessary permits and final design. These are real costs which must be accounted for in future phases of planning and design.

Please note the following, as assumed in this cost estimate:

#### For On Road Facilities:

- Each On Road facility is a dedicated bicycle facility marked with bike lanes or shared use markings.
- Assume new pedestrian-scale lighting and landscape elements placed on both sides of the street for all On Road segments.
- Assume new pedestrian-scale lighting every 50 feet.
- Assume Bike Route Wayfinding signage installed at each change in direction along all On Road segments.
- Assume one interpretive sign to be installed per On Road segment.
- Assume pavement medallion at every sidewalk cut.

#### For Off Road Facilities:

- Assume no cut and fill required.
- Assume trail excavation is to be executed at depth of 12 inches, accounting for an 8-inch base layer and 4-inch asphalt surface.
- Assume asphalt used in trail construction to have density of 140 pounds per cubic foot.
- Assume one planting (shrub) per ten linear feet of Off Road trail facility.
- Assume wildflower/tall grass coverage for entire length of buffer area.
- Assume pedestrian-scale lighting every 200 feet.
- Assume trees every 100 feet.
- Assume groundcover (10-foot width) for total length of Off Road facilities.
- Assume kiosk/rest area (inc. 2 benches, interpretive sign, 2 bike racks, trash receptacle) ever quarter mile.
- Assume wayfinding sign at each turn.
- Assume pavement medallion every 400 feet.

The table on the following page shows costs per segment for on- and off-street construction respectively.

Table 1: Construction Cost Estimate

Segment	Length in Feet		Installed Cost		Subtotal
	On-street (2.85 mi)	Off-street (5.5 mi)	On-street	Off-street	
1	0	1920	0	\$476,000	\$476,000
2 <sup>2</sup>	0	6600	0	\$1,636,000	\$1,636,000
3	5850	0	\$460,000 - \$646,000	0	\$460,000 - \$646,000
4	0	760	0	\$189,000	\$189,000
5	6900	0	\$525,000 - \$775,000	0	\$525,000 - \$775,000
6	0	1980	0	\$492,000	\$492,000
7	0	3439	0	\$852,000	\$852,000
8	0	3377	0	\$837,000	\$837,000
9	0	2090	0	\$518,000	\$518,000
10	490	1380	\$55,000 - \$80,000	\$342,000	\$397,000 - \$422,000
11	1075	291	\$121,000 - \$192,000	\$73,000	\$194,000 - \$265,000
12	0	1679	0	\$416,000	\$416,000
13	650	2405	\$2,500 - \$4,000	\$596,000	\$598,500 - \$600,000
14 <sup>3</sup>	0	4000	0	\$676,000	\$676,000
Subtotal			\$1,163,500 - \$1,697,000	\$7,103,000	
			<b>Total Installed Cost Estimate</b>		<b>\$8,267,000 - \$8,800,000</b>

<sup>1</sup> “Costs, Funding, Management and Maintenance” in Part 4 for a description of cost elements.

<sup>2</sup> It is anticipated that Segment 2 will be constructed as part of the redesign of Route 440 as an urban boulevard. *The Route 440 / Route 1&9T Multi-Use Urban Boulevard and Through truck Diversion Concept Development Study* included cost estimates for bicycle and pedestrian facilities along Route 440.

<sup>3</sup> Costs for the existing Hudson River Waterfront Walkway are not included in this estimate.

**Table 2: Additional Off-Street Component Costs**

Cost estimates for supplemental off-street greenway components are calculated in the table below.

Type of Treatment	Typical Treatment or Size	Quantity Installed	Unit Cost	Product Cost	Total Installed Cost (Product + Labor)
<b>Off-street Components</b>					
Pedestrian-scale lighting (solar-powered)	Every 200'	288	\$200	\$57,600	\$100,000
Trees	Every 100'	288	\$400	\$115,000	\$200,000
Rest Area (including (2) benches, (2) bike racks, (1) interpretive sign, (1) trash receptacle)	One per quarter-mile	22	\$8,000	\$176,000	\$250,000
Wayfinding Signs	Eight per quarter-mile	176	\$200	\$35,000	\$56,500
Medallions	Eight per quarter-mile	176	\$200	\$35,000	\$56,500
<b>Off-street Components Subtotal</b>					<b>\$663,000</b>

**Table 3: Detailed Construction Cost Estimate for On-Street Segments**

Type of Treatment	Typical Treatment or Size	Quantity Installed	Unit Cost	Product Cost	Total Installed Cost (Product + Labor)
<b>SECTION 3</b>					
Bike Route Wayfinding signage	each	15	\$200	\$3,000	\$4,500
Shared lane markings "Sharrows"	each	31	\$200	\$6,200	\$8,500
Street trees	each	35	\$400	\$14,000	\$22,000
Pedestrian Scale Lighting (12' tall, installed every 50')	each	173	\$1,500-2,250	\$269,000 - \$389,000	\$405,000 - \$585,000
Medallions	each	47	\$200	\$9,500	\$15,000
Interpretive Signage	each	1	\$1,500 - \$3,000	\$1,500 - \$3,000	\$2,500 - \$4,000
Contraflow Bike Lane Striping	per foot	600'	\$2 - 4	\$1,200 - \$2,400	\$1,600 - \$3,200
Buffer Gore Striping	per foot	600'	\$1 - 2	\$1,000 - \$2,500	\$1,500 - 3,500
				<b>Subtotal</b>	<b>\$460,000 - \$646,000</b>
<b>SECTION 5</b>					
Bike Route Wayfinding signage	each	15	\$200	\$3,000	\$4,500
Shared lane markings "Sharrows"	each	29	\$200	\$5,800	\$7,600
Street trees	each	14	\$400	\$5,600	\$9,500
Pedestrian Scale Lighting (12' tall, installed every 50')	each	217	\$1,500-2,250	\$325,000 - \$489,000	\$488,000 - \$735,000
Medallions	each	40	\$200	\$8,000	\$12,000
Interpretive Signage	each	1	\$1,500 - \$3,000	\$1,500 - \$3,000	\$2500 - \$4000
				<b>Subtotal</b>	<b>\$525,000 - \$775,000</b>



## Morris Canal Greenway Plan



Type of Treatment	Typical Treatment or Size	Quantity Installed	Unit Cost	Product Cost	Total Installed Cost (Product + Labor)
<b>SECTION 10</b>					
Bike Route Wayfinding signage	each	2	\$200	\$400	\$750
Shared lane markings "Sharrows"	each	4	\$200	\$800	\$1,200
Street trees	each	5	\$400	\$2,000	\$3,500
Pedestrian Scale Lighting (12' tall, installed every 50')	each	20	\$1,500-2,250	\$30,000 - \$45,000	\$45,000 - \$68,000
Medallions	each	4	\$200	\$800	\$1,500
Interpretive Signage	each	1	\$1,500 - \$3,000	\$1,500 - \$3,000	\$2500 - \$4000
			<b>Subtotal</b>		<b>\$55,000 - \$80,000</b>

<b>SECTION 11</b>					
Bike Route Wayfinding signage	each	7	\$200	\$800	\$1,200
Shared lane markings "Sharrows"	each	12	\$200	\$2,400	\$3,500
Street trees	each	5	\$400	\$2,000	\$3,500
Pedestrian Scale Lighting (12' tall, installed every 50')	each	47	\$1,500 - \$2,500	\$70,000 - \$117,000	\$105,000 - \$175,000
Medallions	each	16	\$200	\$3,200	\$4,800
Interpretive Signage	each	1	\$1,500 - \$3,000	\$1,500 - \$3,000	\$2,500 - \$4,000
			<b>Subtotal</b>		<b>\$121,000 - \$192,000</b>

Type of Treatment	Typical Treatment or Size	Quantity Installed	Unit Cost	Product Cost	Total Installed Cost (Product + Labor)
<b>SECTION 13</b>					
Bike Route Wayfinding signage	each	2	\$200	\$400	\$750
Shared lane markings "Sharrows"	each	4	\$200	\$800	\$1,200
Street trees	each	17	\$400	\$6,800	\$11,000
Pedestrian Scale Lighting (12' tall, installed every 50')	each	38	\$1,500 - \$2,500	\$57,000 - \$95,000	\$86,000 - \$143,000
Medallions	each	4	\$200	\$800	\$1,500
Interpretive Signage	each	1	\$1,500 - \$3,000	1,500 - \$3,000	\$2,500 - \$4,000
			<b>Subtotal</b>		<b>\$103,000 - \$162,000</b>
<b>Total Cost Estimate (On Road)</b>					<b>\$1,265,000 - \$1,855,000</b>

## Appendix F

### Funding Sources

#### Funding Greenway Development

The following is a compilation and brief description of sources of funding that have been, or could be used to fund pedestrian and bicycle improvements in New Jersey. The list is not exhaustive, but it identifies funding sources that can be utilized to fund bicycle and pedestrian planning and project development activities, as well as construction. Some funding sources may also be used to fund programmatic activities.

##### Federal

- Transportation Alternatives
- Recreational Trails Program (RTP)
- Highway Safety Improvement Program (HSIP)
- Congestion Mitigation and Air Quality Program (CMAQ)
- Associated Transit Improvements
- Community Development Block Grants (CDBGs)
- Land & Water Conservation Fund (LWCF)
- Environmental Contamination Cleanup Funding Sources
- Green Infrastructure and Stormwater Management Sources

##### State and Local

- NJDOT Bikeway Grant Program
- NJDOT Safe Streets to Transit (SSTT) Program
- NJDOT Centers of Place Grant Program
- NJDOT Municipal Aid
- NJDOT Bicycle and Pedestrian Local Transportation Planning Assistance Program (LTPA)
- NJ Historic Trust Funding Programs
- Association of New Jersey Environmental Commissions (ANJEC)
- Sustainable Land Use Planning Grants Program
- Foundations and Company Grants

##### Others to Consider

- Municipal Allocations
- Impact Fees
- Bond Referendums for Greenways
- Local Private-Sector Funding
- Adopt-A-Trail Programs
- Membership campaigns

## Federal Funding Opportunities

**Transportation Alternatives** is the largest federal source for trail and greenway funding under MAP-21, the most recent federal transportation funding law. Transportation Alternatives is a combination of two core active transportation programs from SAFETEA-LU—Transportation Enhancements and Safe Routes to Schools (SRTS). While Transportation Alternatives projects are federally funded, the funds are administered by the New Jersey Department of Transportation and the state's Metropolitan Planning Organizations (MPOs). Funding categories include:

- Bicycle and pedestrian facilities
- Safe routes for non-drivers
- Abandon railroad corridors for trails
- Turnouts, overlooks and viewing areas
- Environmental mitigation activity including stormwater mitigation
- Community improvement activities including vegetation management, historic preservation, archeological activities related to transportation projects, and boulevard construction

Project sponsors are generally responsible for 20 percent of the project's cost. Under MAP-21, half of the state apportionment, or \$8.1 million, is available to the Transportation Alternatives Program. For New Jersey, the 50% will be proportionately split between the three MPOs. The NJTPA will develop a competitive program for subregions to fund projects based on the above-named categories. For more information on the Transportation Enhancements program in New Jersey, visit [www.state.nj.us/transportation/business/localaid/enhancements.shtm](http://www.state.nj.us/transportation/business/localaid/enhancements.shtm). For more on the SRTS program in New Jersey, visit [www.state.nj.us/transportation/business/localaid/srts.shtm](http://www.state.nj.us/transportation/business/localaid/srts.shtm)

The **Recreational Trails Program (RTP)** is maintained as a distinct source of funding under MAP-21, although its funds are now drawn from the larger Transportation Alternatives funding pool.

The DEP's Green Acres Program administers the program in New Jersey. Maximum grant award for non-motorized trail project is \$24,000. Land on which trail facility is to be funded must be public land or private land with an easement for public recreational use. Projects are funded on an 80% federal share and 20% matching share basis. Funding in New Jersey is available to public agencies at the federal, state, county, and municipal level; nonprofit organizations qualifying under section 501(c)(3) of the Internal Revenue Service code; and Friends of a Park group recognized by a governmental agency as a volunteer organization.

Permissible uses include:

- Maintenance and restoration of existing recreational trails
- Development and rehabilitation of trailside and trailhead facilities and trail linkages for recreational trails
- Purchase and lease of recreational trail construction and maintenance equipment
- Construction of new recreational trails in existing parks or in new rights-of-way
- Planning studies, environmental assessments, engineering studies, and costs of permit applications are eligible expenses if they are part of a proposal that is primarily for trail construction or restoration, or development of trailside/trail head facilities. No more than 15% of the total project cost can be funded for planning and trail feasibility study expenses.

Trail feasibility studies alone are not permitted on a project. Projects that include improvements to roads, road shoulders, or sidewalks are also not eligible for funding. For more visit, [http://www.nj.gov/dep/parksandforests/natural/trail\\_grants.htm](http://www.nj.gov/dep/parksandforests/natural/trail_grants.htm)

The **Highway Safety Improvement Program (HSIP)** is administered by FHWA to fund any project on a public road, trail or path that is included in a state's Strategic Highway Safety Plan and corrects a safety problem such as an unsafe roadway element or fixes a hazardous location is eligible for HSIP funding. Eligible projects include, but are not limited to the following: intersection improvements, construction of shoulders, traffic calming, data collection, and improvements for bicyclists, pedestrians, and individuals with disabilities. For more information, visit <http://safety.fhwa.dot.gov/hsip/>

**Congestion Mitigation and Air Quality Program (CMAQ)** is jointly administered by FHWA and the Federal Transit Administration (FTA). The NJTPA has established the CMAQ Local Mobility Initiatives Program to promote a variety of initiatives to lessen the level of pollutants and greenhouse gases generated through the use of fossil fuels including ridesharing, transit usage, travel demand management and traffic mitigation projects. Proposals must implement strategies and policies in the Regional Transportation Plan, Plan 2035. Starting in FY 2013 all CMAQ projects will require a 20% local match, with the exception of carpool & vanpool projects, which will remain 100% Federal. Projects must be included in *Plan 2035: The Regional Transportation Plan for Northern New Jersey* and the transportation improvement program (TIP). In FY2013, NJTPA received \$2,000,000 in funding for the CMAQ Local Mobility Initiatives Program. For more visit, <http://www.njtpa.org/Project/Mobility/CMAQ/CMAQMobility.aspx>

**Transit Alternatives Program**, formerly known as **Transit Enhancements** is a program that requires at least one percent of transit expenditures for urbanized areas of more than 200,000 people (known as 5307 formula funds) go to projects that improve access to transit service. Many of these projects focus on cycling and walking. Eligible associated transit improvements that could relate to construction of the Morris Canal Greenway include landscaping and streetscaping, including benches, trash receptacles, and street lights; pedestrian access and walkways; bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on public transportation vehicles; and signage.

Under MAP-21, Congress struck "public art" and "transit connections to parks within the recipient's transit service area" from the list of eligible projects. While Federal transit funds are no longer available to support public art in transit facilities, art can be incorporated into facility design, landscaping, and historic preservation, for example through the use of floor or wall tiles that contain artistic designs or patterns, use of color, use of materials, lighting, and the overall design of a facility. In addition, eligible capital projects include incidental expenses related to acquisition or construction, including design costs. Therefore, the incidental costs of incorporating art into facilities and including an artist on a design team continue to be eligible expenses. The Draft FY 2014 State Transportation Improvement Program (STIP) includes \$490,000 of Section 5307-TAP funding for the Transit Enhancement Program for eligible projects in the NJTPA region.

**Community Development Block Grants (CDBGs)** are provided by the U.S. Housing and Urban Development (HUD) to communities for a wide range of community planning initiatives including neighborhood revitalization, economic development and improvement of community facilities and services, especially in low- and moderate-income areas. These grants require no match of funds or

services from the community. In New Jersey, HUD distributes the funds in two distinct ways: directly to the more populous municipalities and counties, and to the New Jersey Department of Community Affairs (NJCA) for distribution to projects in the less populous locales (towns with less than 50,000 people).

The **Land & Water Conservation Fund (LWCF)** provides matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities. The program is intended to create and maintain a nationwide legacy of high quality recreation areas and facilities and to stimulate non-federal investments in the protection and maintenance of recreation resources. The LWCF funds were used in the development of a promenade in Binghamton, New York. For more on the program, visit <http://www.nps.gov/lwcf/>.

**Environmental Contamination Cleanup Funding Sources.** Many transportation corridors are contaminated from years of industrial use. To remediate this environmental pollution, there are many federal and state funding sources from which trails can benefit. The Environmental Protection Agency (EPA) has devoted a section of its website to funding and financing for brownfields, which are former industrial sites where contaminants or pollutants may be present. Many trails have taken advantage of brownfield funding, including Rhode Island's Woonasquatucket River Greenway Project, the Elkins Railyard redevelopment in West Virginia, and the Assabet River Rail Trail in Massachusetts. For more on Woonasquatucket, see [www.woonasquatucket.org/gwyBrownfields.php](http://www.woonasquatucket.org/gwyBrownfields.php). For more on EPA Brownfields funding, see [www.epa.gov/brownfields/](http://www.epa.gov/brownfields/)

**Green Infrastructure and Stormwater Management Sources.** Greenway trail corridors create the opportunity to address stormwater management and pollution by incorporating green infrastructure. As a strategy for compliance with the Federal Clean Water Act, green infrastructure, including such strategies as bioretention, vegetated buffers, and infiltration swales, and urban forestry can serve the environmental, social, and economic missions of the city with low lifecycle costs. By incorporating Stormwater Best Management Practices (BMP's) along the length of a greenway trail corridor, the city can create an engaging environment that provides measurable benefits in stormwater management and pollution reduction. To view the application of green infrastructure to stormwater management practices, visit the Philadelphia Water Department website or the green infrastructure page of the New Jersey Department of Environmental Protection website.

Funding for the improvement of water quality through the use of green infrastructure is available from several sources. The federal Environmental Protection Agency awards funding for green infrastructure through a number of programs, including Urban Waters, the EPA Clean Water Act Nonpoint Source Grant, the EPA Clean Water State Revolving Fund, and the EPA Community Action for a Renewed Environment Grant. Additionally, because green infrastructure serves environmental purposes beyond stormwater management and may include the planting of trees as a management strategy, sources such as the U.S. Forest Service Urban and Community Forestry Challenge Cost Share grant program and the New Jersey Department of Environmental Protection Green Communities Grant may also be pursued as viable funding opportunities.

### State and Local Funding Opportunities

The **NJDOT Bikeway Grant Program** provides funds to counties and municipalities to promote bicycling as an alternate mode of transportation in New Jersey. A primary objective of the Bikeway Grant Program is to support the State's goal of constructing 1,000 new miles of dedicated bike paths (facilities that are physically separated from motorized vehicular traffic by an open space or barrier either within the highway right of way or within an independent right of way). In an effort to establish regionally connected bicycle networks, this program is available to every municipality and county throughout New Jersey. Although priority will be given to construction of new bike paths, the proposed construction or delineation of any new bicycle facility will be considered. Ineligible projects/activities include right-of-way purchases associated with any project, operating costs associated with any project, and planning activity costs. In order to be eligible, a project must place no restrictions upon hours of use by bicyclists (with the exception of dusk-to-dawn closings, as of some parks). Applicants must use the *AASHTO 2012 Guide for the Development of Bicycle Facilities*. In the 2013 program, three projects in New Jersey were awarded a total of \$1,000,000. For more information, visit [www.state.nj.us/transportation/business/localaid/bikewaysf.shtm](http://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm)

**NJDOT Safe Streets to Transit (SSTT)** program provides funding to counties and municipalities in improving access to transit facilities and all nodes of public transportation. The objectives of the SSTT program are:

- To improve the overall safety and accessibility for mass transit riders walking to transit facilities.
- To encourage mass transit users to walk to transit stations.
- To facilitate the implementation of projects and activities that will improve safety in the vicinity of transit facilities (approximately one-half mile for pedestrian improvements).

In 2013, the SSTT Program awarded \$1,000,000 to six projects. Projects include installation of a HAWK signal, pedestrian safety improvements, sidewalk improvements, and intersection improvements. For more information, visit [www.state.nj.us/transportation/business/localaid/safe.shtm](http://www.state.nj.us/transportation/business/localaid/safe.shtm)

**NJDOT Centers of Place Grant Program.** The funding from the Center of Place Grant program is meant to help communities in New Jersey make non-traditional transportation improvements that are meant to aid in managing growth. If a project is selected for funding, it must follow certain standards, including the *NJDOT Bicycle Compatible Roadways Planning and Design Guidelines* and the *AASHTO Guide for the Development of New Bicycle Facilities*. Many different kinds of projects that can be funded with Local Aid for Centers of Place would benefit pedestrians and bicyclists. These include traffic calming improvements, bicycle lanes or modifications to existing roadways to accommodate bicycles, bicycle lockers at transportation facilities, retail complexes and public buildings, mid-block connections/paths to ease bicycle and pedestrian circulation, and strategies which enable mixed use of a "Main Street" as both public space and a transportation link. Additionally, bicycle trails and pedestrian trails in abandoned railway corridors can also be funded through Local Aid for Centers of Place. Other possible projects that could benefit pedestrians or bicyclists and that can be funded through this program include signage for downtown circulation and street side landscaping.

The grants can be used for project-related activities including preliminary or final design and/or construction, including construction inspection and material testing according to the Transportation Trust Fund Authority Act. Several New Jersey communities have received funding from NJDOT through this program for local pedestrian- and bicycle-oriented projects. In 2011, Jersey City received \$300,000

for their Newark Avenue Streetscape project. For more on the program, visit [www.state.nj.us/transportation/business/localaid/centerplace.shtm](http://www.state.nj.us/transportation/business/localaid/centerplace.shtm)

Under **NJDOT Municipal Aid** grant program, each county is apportioned a share of the total funding based on population and the number of local centerline miles. Municipalities compete for portions of their county's share. NJDOT provides 75 percent of the grant amount when a town awards a contract and the remaining 25 percent upon completion of the project. For more information, visit [www.state.nj.us/transportation/business/localaid/municaid.shtm](http://www.state.nj.us/transportation/business/localaid/municaid.shtm)

#### **NJDOT Bicycle and Pedestrian Local Transportation Planning Assistance Program (LTPA)**

program provides professional transportation and land use planning consulting services to municipalities desiring to promote the Department's Smart Growth policy and NJ's State Development and Redevelopment Plan. Municipalities are able to develop or update local circulation elements, conduct downtown traffic calming and parking management studies, develop access management plans, and plan for improved bicycle, pedestrian and local transit services.

The **NJ Historic Trust Funding Programs** include the Garden State Historic Preservation Trust Fund, the Cultural Trust Capital Preservation Grant Program, matching grants from the 1772 Foundation, the Discover NJ History License Plate Fund for Heritage Tourism, the Revolving Loan Fund, and the Emergency Grant and Loan Fund. The purpose of the program is to provide matching grants or low-interest loans for preservation planning and capital projects to stabilize, repair, restore and rehabilitate historic property. For more information, visit <http://www.njht.org/dca/njht/programs/>

#### **Private and Non-profit Funding Sources**

The **Association of New Jersey Environmental Commissions** (ANJEC) provides matching grants to New Jersey municipalities through its Sustainable Land Use Planning Grants Program. The program provides funding to help towns develop capacity-based, sustainable land use plans and ordinances. It also strengthens municipal environmental commissions by providing opportunities for them to participate in the local land use planning process. Over the past nine years, ANJEC has awarded \$1.47 million in grants for 205 local planning projects involving 186 municipalities and counties. The *Passaic County Morris Canal Greenway Feasibility Study* was prepared with a grant from ANJEC and matching funds from the Passaic County Open Space Trust Fund. <http://anjec.org/SmartGrowthGrants.htm>

The **Geraldine R. Dodge Foundation** offers general operating or project-specific support to organizations that, according to their guidelines, "enhance the cultural health and richness of communities; inspire learning and understanding and contribute to New Jersey's creative economy." This includes use of the arts to revitalize public places and natural spaces. <http://www.grdodge.org/>

**Other Foundation and Company Grants.** Many foundations and companies provide grants for trail and greenway projects, open space preservation, community development and community health. Below are a few examples of grants from private sources that can be used for trail and greenway building:

- The *Bikes Belong* coalition makes grants to bike advocacy and facility-building projects.
- The *Conservation Fund's Kodak American Greenways Program* provides grants for greenway planning and design.

- The *American Hiking Society* awards grants from its National Trails Fund for the establishment, protection and maintenance of trails in the United States.
- Outdoor goods store *REI* invites nonprofits nominated by its employees to submit proposals for funding. The company offers grants to support efforts "to care for public lands, natural areas, trails and waterways."
- The *Conservation Alliance*, a group of more than 180 outdoor businesses including REI, Patagonia, The North Face, Kelty and Burt's Bees, disbursed \$1.3 million worth of grants in 2012, with a focus on habitat conservation and recreation.
- The *Walmart Foundation* provides grants to local communities and nonprofit organizations. These grants range from \$250 to \$5,000 and are awarded through each Walmart and Sam's Club store.

#### **Other Potential Funding Sources**

The following funding sources for greenways have been identified by Project for Public Spaces, Rails-to-Trails Conservancy and the National Trails Training Partnership.

**Municipal Allocations.** The most common sources of funding at the municipal and county level include allocations from a specific department, such as the park and recreation department, or a line item in a consolidated capital improvement program (CIP) budget. In some localities, a portion of an increase in the sales tax will be set aside for recreational trail or other conservation funding. Rarely, new taxes will be levied to exclusively support active transportation projects.

**Impact Fees.** Regulated by subdivision policies, impact fees require residential, industrial and commercial development project leaders to provide sites, improvements and/or funds to support public amenities such as open space and trails. Impact fees may be allocated to a particular trail or greenway from land development projects if the fund is a dedicated set-aside account established to help develop a county- or city-wide system of trail or greenway projects.

**Bond Referendums for Greenways.** Communities across the nation have successfully placed on local ballots propositions to support greenway development. The Charlotte-Mecklenburg County, NC area passed four consecutive referendums that generated more than \$3 million for greenways. In Cheyenne, Wyoming, a greenway bond referendum was used to fund the first three miles of local greenways.

**Local Private-Sector Funding.** Local industries and private businesses may agree to provide support for greenway development through one or more of the following methods:

- Donations of cash to a specific greenway segment
- Donations of services by large corporations to reduce the cost of greenway implementation, including equipment and labor to construct and install elements of a specific greenway
- Reductions in the cost of materials purchased from local businesses that support greenway implementation and can supply essential products for facility development

**Adopt-A-Trail Programs.** These are typically small grant programs that fund new construction, repair/renovation, maps, trail brochures, facilities (bike racks, picnic areas, birding equipment).

**Membership campaigns.** The return from this can be significant (The Pikes Peak Area Trails Coalition raises \$18,000 per year), but your effort must be repeated every year.

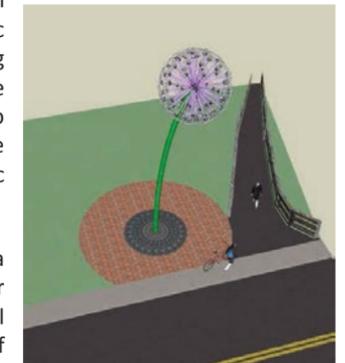
## Appendix G

### Telling Neighborhood Stories with Public Art

#### Telling Neighborhood Stories with Public Art

##### Trailhead Public Art, Cleveland, OH<sup>1</sup>

As part of the public art program for Slavic Village’s Morgana Run Trail, Cleveland’s first multi-purpose rails-to-trails project, LAND studio worked with a local nonprofit community development corporation, Slavic Village Development (SVD; <http://slavicvillage.org/aboutsvd>) to design this marker as a way of beautifying and calling attention to the Morgana Run Trail’s East 49th Street trailhead. LAND studio is a nonprofit public-service agency whose name is an acronym for “landscape art, neighborhoods, development” and which enjoys a history of more than 30 years of stimulating public art throughout Cleveland (<http://www.land-studio.org/about/overview>), both permanent and short-term. The 35-foot-tall flower sculpture by artist Jake Beckman, entitled “Rotaflora,” is composed of steel, bicycle wheels, and LED lighting and is an implementation project from a public-art master plan for the trail commissioned by SVD and LAND studio in 2007. For the trailhead, Slavic Village Development was looking for a marker that would be an inspiring piece of artwork while also serving to identify the entrance to the trail. The trailhead is in view of Interstate 77, which runs immediately parallel to 49th Street, providing yet another purpose for the artwork – it will call the attention of tens of thousands of daily passersby to the trail and Slavic Village.<sup>2</sup>



**Lesson for Jersey City:** Perhaps more “message” than “story,” this is a classic example of public art, but with the twist that it implements a larger plan, a process that might benefit all of Jersey City as the Morris Canal Greenway is implemented over the coming decades. Moreover, parts of the Morris Canal Greenway that are visible from major roadways and gateways to Jersey City may benefit from such large-scale installations to alert viewers from afar as to the location of “something interesting” nearby.

<sup>1</sup> IMAGES’ CREDIT: <http://www.land-studio.org/our-work/rotaflora>; used by permission, all rights reserved by LAND studio

<sup>2</sup> Source: Information adapted from <http://www.land-studio.org/our-work/rotaflora>

Public Art in a Pocket Park , Cleveland



Cleveland’s leading public art organization, LAND studio (see previous caption), the Buckeye Area Development Corporation (BADC), and the Greater Cleveland Regional Transit Authority collaborated to enhance a parking lot at the southwest corner of Buckeye Road and E. 118th Street, rechristened “Art & Soul of Buckeye Park.” It became a pocket park retaining public parking but also functions as festival space and waiting area for transit. Artist James Simon of Pittsburgh designed the park’s permanent centerpiece, a larger-than-life trumpet player being watched by a little dog (look below the musician’s left knee). The landscape design includes a concrete bench, chessboards, and hand-painted tiled seating areas decorated with mosaics. Also seen here are two temporary (two- to five-year) murals installed on building walls facing the park, both inspired by Buckeye neighborhood themes. In a video about Simon’s work (<http://www.youtube.com/watch?v=YzI3RR4fmqM>), BADC’s executive director John G. Hopkins says, “In 2008 our neighborhood was hit severely by the foreclosure crisis. So we see public art as showing there’s life and vitality in our neighborhood....One person said, ‘Why would you build this art park...when you have vacant homes down the street?’ And I said, ‘Well, even though we have a vacant home down the street, we still need to provide amenities that the community desires.’”<sup>4</sup>

**Lesson for Jersey City:** This project not only sparked renewed pride in the immediate neighborhood, but inspired neighborhoods across Cleveland to seek public spaces and art installations of similar quality and utility, and the park is now home to an annual jazz festival. Moreover, the murals here illustrate one of the tried-and-true ways to brighten neighborhoods and tell community stories. Such art would add to Jersey City streetscapes without necessarily requiring entire park spaces – although obviously, they benefit from the availability of spaces allowing enough room to allow viewers to appreciate them fully.

<sup>3</sup> IMAGE CREDIT: <http://www.youtube.com/watch?v=YzI3RR4fmqM>; used by permission, all rights reserved by James Simon [PERMISSION REQUESTED NOT YET GRANTED]

<sup>4</sup> [Text is adapted from <http://www.land-studio.org/our-work/art-and-soul-of-buckeye-park>, <http://www.simonsculpture.com/public-art/>, and <http://www.youtube.com/watch?v=YzI3RR4fmqM>]

Involving the Community, Pittsburgh



This eye-catching community welcome sign was created through the Braddock Youth Project (an Americorps project, <http://braddockyouth.org/>) for a historic industrial city upstream from Pittsburgh that has adopted the arts as a revitalization strategy ([http://braddockredux.org/?page\\_id=27](http://braddockredux.org/?page_id=27)). Pittsburgh-based artist James Simon helped to create the project. Says Mayor John Fetterman, “James Simon has been able to successfully integrate the history of a community with its present circumstances to create art that is relevant, relatable, and remarkable.”<sup>6</sup>

**Lesson for Jersey City:** This project offers a model for fulfilling Jersey City’s intention to involve community residents – especially but not limited to its youth – in projects to create art and stories that convey the spirit of neighborhoods along the Morris Canal Greenway, creating a modern legacy. The project required only a modest amount of space for installation.

<sup>5</sup> IMAGES’ CREDIT: <http://www.simonsculpture.com/public-art/welcome-to-braddock/>; used by permission, all rights reserved by James Simon [PERMISSION REQUESTED NOT YET GRANTED]

<sup>6</sup> Text adapted from <http://www.simonsculpture.com/public-art/welcome-to-braddock/>

Morris Canal – bibliography – New Jersey Room, Jersey City Free Public Library

**Appendix H**  
**Resources Related to the Morris Canal**  
**available at the NJ Room of the**  
**Jersey City Free Public Library**

**#1**

**N 626 M83R - 1914**

**Report of the Morris canal investigation committee appointed under joint resolution of April 12, 1912**

New Jersey. Morris Canal Investigation Committee.

Abandonment issues explored especially in regards financial aspect for state.

Report of Carrere & Hastings, advisory architects, suggestions for treatments of canal sites in contexts.

Jersey City Engineer's Report – F. Van Z. Lane

Appraisal of land values, Philipsburg to Jersey City

Cost of enlarged canal

**#2**

**N 974.974 MACJ - 1996**

**Guide to the Morris Canal in Morris County : a layman's walking guide to the elusive remains of one of New Jersey's fascinating historic canals**

Macasek, Joseph J.

**#3**

**N 386.48 MORB - 1983**

**Historic preservation survey of the Morris Canal in Warren County, New Jersey**

Morrell, Brian H.

NJ DEP Historic Site Surveys of canal sites throughout Warren County.

Extensive maps, schematics and photographs, historic and contemporary (1983).

**#4**

**N 386.480 HARR - 1914**

**Map and illustrations of the Morris Canal water parkway**

Morris Canal Parkway Association, Montclair, N.J.

1975 reprint of 1914 photo survey of canal up to Newark (not Hudson County).

Advocates recreational repurposing, noting that canal business traffic "has fallen to a minimum."

**#5**

**N 386.4 GOLM - 1999**

**The Morris Canal : across New Jersey by water and rail**

Goller, Robert R.

**#6**

**N 386 KALB - 1983**

**A hundred years, a hundred miles: New Jersey's Morris Canal**

Kalata, Barbara N.

**#7**

**N 917.49 L14M - 1913**

**Morris Canal abandonment problems : a plea for the abandonment of the Morris Canal and a plea for the preservation and dedication of Lake Hopatcong the beautiful as a public park and health resort for all the people**

Maxim, Hudson, 1853-

**#8**

**N 626 M83M - 1909**

**Bill to effect the abandonment of the Morris Canal in Jersey City, N.J**

Morris Canal Abandonment Association of Jersey City and Bayonne.

Includes description of canal circa 1909, three pictures, map of canal route in Jersey City.

prepared 2012-2013 John Beekman



Morris Canal – bibliography – New Jersey Room, Jersey City Free Public Library

**#9**  
**N 626 N46R - 1904**  
**Report of the commissioners appointed under concurrent resolution of March 31, 1903, to investigate and report upon the abandonment of navigation of the Morris Canal**  
 New Jersey. Morris Canal Commission.  
 Detailed study of rights asserted and assumed by variety of interested parties.  
 Draft bill for abandonment.

**#10**  
**N 626 N46RE - 1828**  
**Report of the Joint-Committee of Council and Assembly appointed to view the Morris Canal and inclined planes**  
 New Jersey. Legislature. Joint Committee on the Morris Canal.  
 "Travelogue" of early visit to canal sites.  
 Question and answer section with technical and quantitative information.

**#11**  
**N 974.9 LEE J - 1994**  
**Morris Canal : a photographic history 4th ed.**  
 Lee, James, 1917-

**#12**  
**N 386.4 L51T - 1991**  
**Tales the boatmen told**  
 Lee, James, 1917-

**#13 - 1979**  
**N 974.9 LEE J**  
**The Morris Canal : a photographic history Enl. rev. ed.**  
 Lee, James, 1917-

**#14**  
**N 386.48 THO - 1974**  
**A summer's adventure on the Morris Canal (Early 1900s)**  
 Thompson, Mary Wolfe.  
 Published by Roxbury Township Historical Society, from writings of a member.  
 Illustrated with glass-slide photos of canal sites from 1904-05.

**#15**  
**N 974.9 LEE J - 1973**  
**The Morris Canal; a photographic history**  
 Lee, James, 1917-

**#16**  
**N 626 N463M - 1923**  
**Memorandum regarding the Morris Canal: compiled from reports of various commissions for the use of the Committee appointed by Governor Silzer**  
 Kummel, Henry Barnard, 1867-  
 Summary of information regarding canal at time of 1923 turnover to state.  
 Most data taken from 1914 committee report.

prepared 2012-2013 John Beekman

Morris Canal – bibliography – New Jersey Room, Jersey City Free Public Library

**#17**  
**N 626 M83J - 1915**  
**Morris canal; with synopsis of report on proposed industrial development railroad**  
 Jersey City Chamber of Commerce.  
 Notes high percentage of value of canal property is within Jersey City section (64.4%)

**#18**  
**N 626 M 83 R - 1910**  
**A history of the Morris Canal**  
 Roeder, Adolph.  
 History of canal in light of abandonment issues. Value of assets. Draft bill of forfeiture.  
 Suggestions for future use of canalway.  
 Refers to Abandonment Assoc. of Jersey City & Bayonne (see 1909 bill).

**#19**  
**N 626 N464C - 1832**  
**Charter of the Morris Canal and Banking Company, and the several acts of the Legislature in relation thereto**  
 Morris Canal and Banking Company.

**#20**  
**N 386.46 - 1867**  
**Report of the president and directors**  
 Morris Canal and Banking Company.

**#21**  
**N 672 N 42 C**  
**Among the nail-makers : an 1859 visit to northern New Jersey's iron industry and the Morris Canal**

**#22**  
**N 628 N463L - 1829**  
**Law opinion, in the case of the Paterson Manufacturing Society, against the Morris Canal and Banking Company**  
 New Jersey. Court of Chancery.

**#23**  
**N 626 N46MO - 1911**  
**Message and report of the Commission to Confer with the Lehigh Valley R.R. Co. : together with memorandum of terms of settlement with regard to abandonment of the Morris and Essex Canal : to the Legislature--session of New Jersey. Commission to Confer with the Lehigh Valley Railroad Company.**

prepared 2012-2013 John Beekman

## Morris Canal Primary Source Pamphlets, 1828 - 1923

### **N 626 N46RE - 1828**

**Report of the Joint-Committee of Council and Assembly appointed to view the Morris Canal and inclined planes**

New Jersey. Legislature. Joint Committee on the Morris Canal.

### **N 626 N464C - 1832**

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### **N 626 M 83 R - 1910**

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New Jersey. Commission to Confer with the Lehigh Valley Railroad Company.

### **N 626 M83J - 1915**

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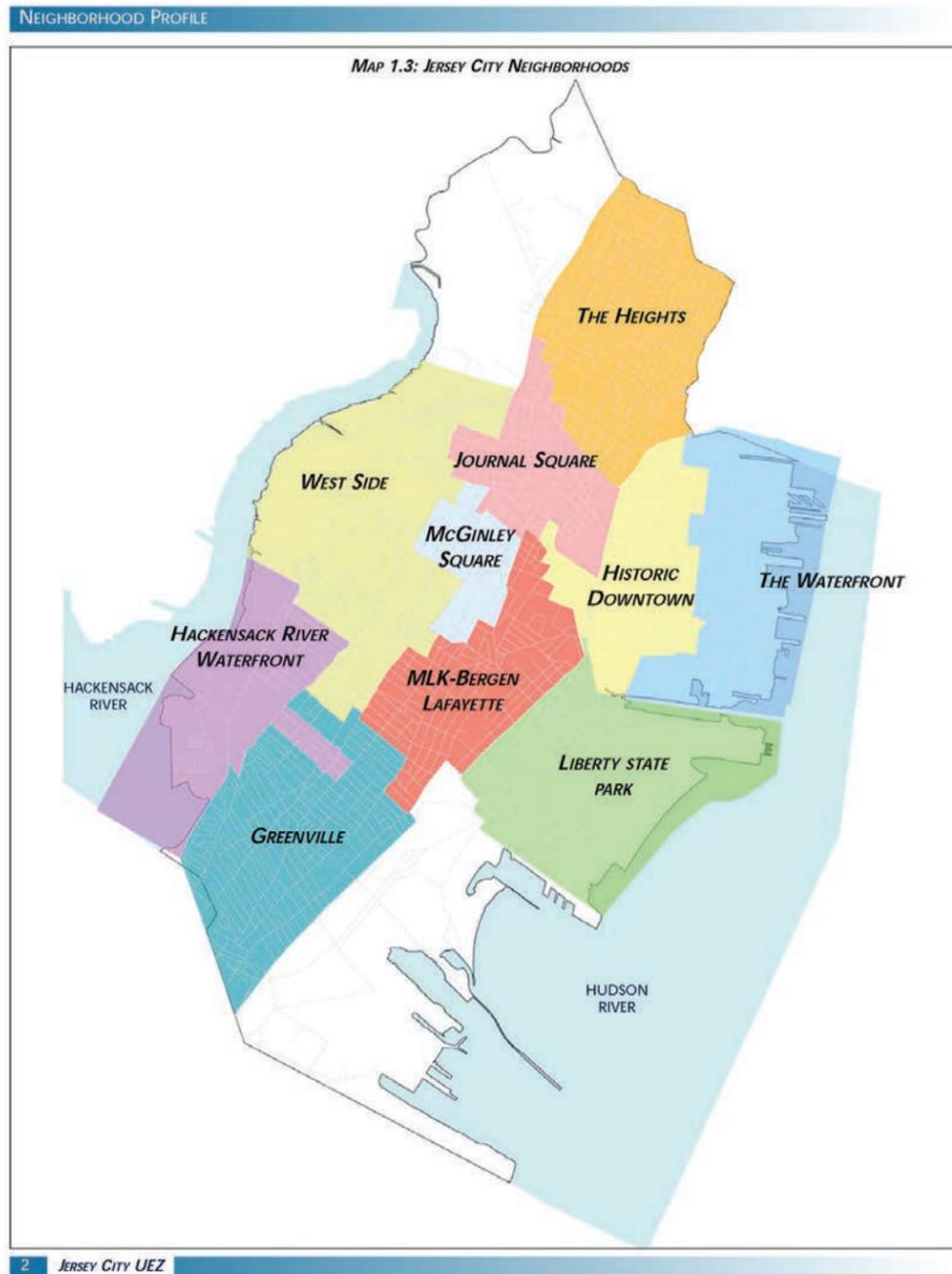
Kümmel, Henry Barnard, 1867-

Copied from originals in New Jersey Room collection – Jersey City Free Public Library

## Appendix I

## Neighborhoods Maps of Jersey City

Map Source: "Neighborhood Profiles." Jersey City Economic Development Corporation. Jersey City Economic Development Corporation. Web. <<http://www.jcedc.org/Pages/01-24neighborhoods.pdf>>.



Map Source: "Jersey City Neighborhood Map." Wardens & Roosters. Web. <[http://wardensandroosters.blogspot.com/2011/02/jersey-city-neighborhood-map\\_14.html](http://wardensandroosters.blogspot.com/2011/02/jersey-city-neighborhood-map_14.html)>.

