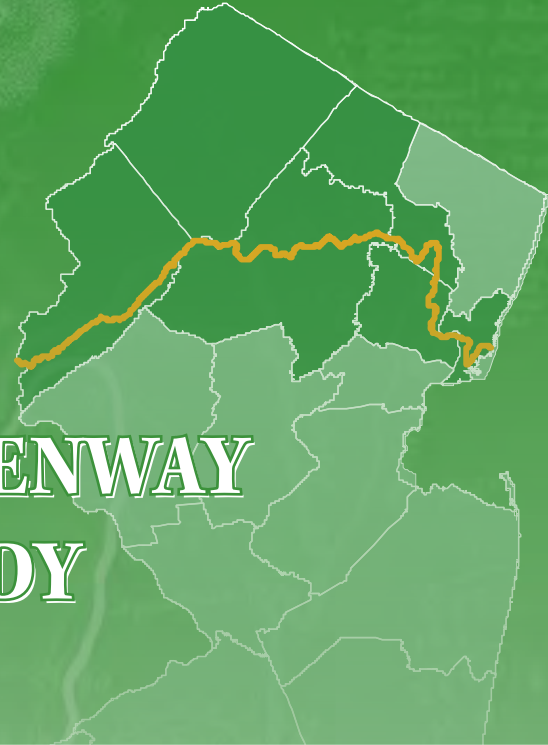
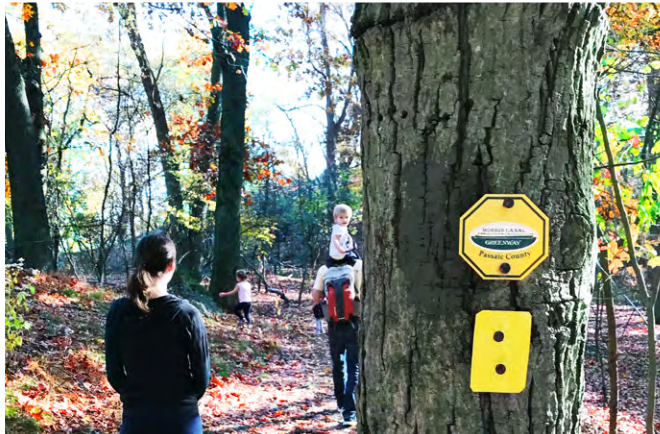


Site of the MORRIS CANAL



# MORRIS CANAL GREENWAY CORRIDOR STUDY

June 15, 2018



Submitted to



Submitted by



# MORRIS CANAL GREENWAY CORRIDOR STUDY

*Prepared for The North Jersey Transportation Planning Authority*



*Prepared by*



*With funding from*

The North Jersey Transportation Planning Authority

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Top row from left to right:

Waterloo Village, Sussex County; Hugh Force Canal Park, Wharton, Morris County; Berry Lane Park, Jersey City, Hudson County

Bottom row from left to right:

Bloomfield, Essex County; Garrett Mountain Reservation, Passaic County; Bread Lock Park, Warren County

# ACKNOWLEDGEMENTS

The NJTPA commissioned the Morris Canal Greenway Corridor Study with funding by the Federal Transit Administration and the Federal Highway Administration of the U.S. Department of Transportation. The project was supported by NV5 with assistance from Arterial, Heritage Strategies and Swell. We would like to thank the project technical advisory committee, members of the Morris Canal Working Group and the Canal Society of New Jersey as well as members of the public and stakeholders for providing valuable input throughout the study.

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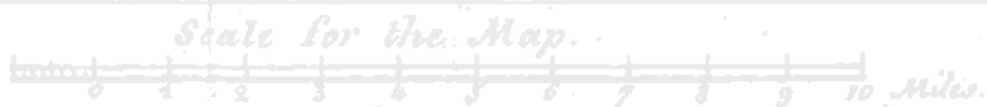
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# MORRIS CANAL GREENWAY CORRIDOR STUDY

## Table of Contents

<b>Executive Summary</b> -----	<b>7</b>	<b>Chapter 4</b>	
Study Overview	9	<b>Organizing for Success</b> -----	<b>80</b>
Twelve Strategies For Implementation	12	Introduction	80
Laying The Foundation For Partnerships And Promotion	14	Existing Structure	81
<b>Chapter 1</b>		Options for Organizing	83
<b>Overview</b> -----	<b>18</b>	Short- to Medium-Term Recommendations	86
Introduction	18	Longer Term Options	87
Morris Canal: Then & Now	20	Functions of a Supporting Lead Organization	88
Study Organization	24	Nonprofit Organization Partnership Model	90
Purpose	25	Organizational and Operational Components	92
Planning Process	26	<b>Chapter 5</b>	
Vision & Goals	29	<b>Branding &amp; Marketing the Greenway</b> -----	<b>96</b>
Key Facts and Findings	31	Introduction	96
<b>Chapter 2</b>		Audience	98
<b>Planning the Path: The Morris Canal</b>		Message	100
<b>Greenway Alignment</b> -----	<b>36</b>	Branding and Marketing Tools	101
Introduction	36	Branding and Marketing Plan	103
Data Collection and Analysis	37	<b>Chapter 6</b>	
Preliminary Routing Options	47	<b>Implementation Strategies &amp; Actions</b> ---	<b>108</b>
Preferred Greenway Alignment	49	Introduction	108
<b>Chapter 3</b>		Strategies and Actions	108
<b>Building the Greenway</b> -----	<b>60</b>	Roles & Responsibilities	118
Introduction	60	<b>Appendices</b>	
Facility Types	62	<i>Appendix A: Design Guidelines</i>	
Access	72	<i>Appendix B: Outreach Summary</i>	
Key Projects for Short- to Medium-Term Implementation	74	<i>Appendix C: Preferred Greenway Alignment Implementation Matrix / Maps</i>	
		<i>Appendix D: Funding Sources</i>	
		<i>Appendix E: List of Municipalities</i>	
		<i>Appendix F: Glossary</i>	
		<i>Appendix G: GIS Data Sources</i>	



## Figures

Figure E.1. The Morris Canal Greenway Study Area	8
Figure E.2. Preferred Alignment Segment Types	10
Figure E.3. Destinations within a Half-mile of Historic Morris Canal Route	11
Figure 1.1. The Morris Canal across New Jersey	18
Figure 1.2. Miles of Existing Greenway	31
Figure 1.3. Potential Development Timeframe of Preferred Greenway Alignment	31
Figure 1.4. Percent On-Road or Off-Road	32
Figure 2.1. Planning Process	36
Figure 2.2. Destinations within a Half-mile of Historic Morris Canal Route	40
Figure 2.3. Routing Example, Segment 10	47
Figure 2.4. Preferred Alignment Segment Types	49
Figure 3.1. Canal-Side Shared Use Path Cross Section	65
Figure 3.2. Off-Road Shared Use Path Cross Section	67
Figure 3.3. Road-Side Shared Use Path Cross Section	69
Figure 3.4. On-Road Facility Cross Section	71
Figure 3.5. Economic Benefits of Greenways	73
Figure 4.1. Steps for Growth	83
Figure 4.2. Nonprofit Organization Partnership Model	93

## Maps

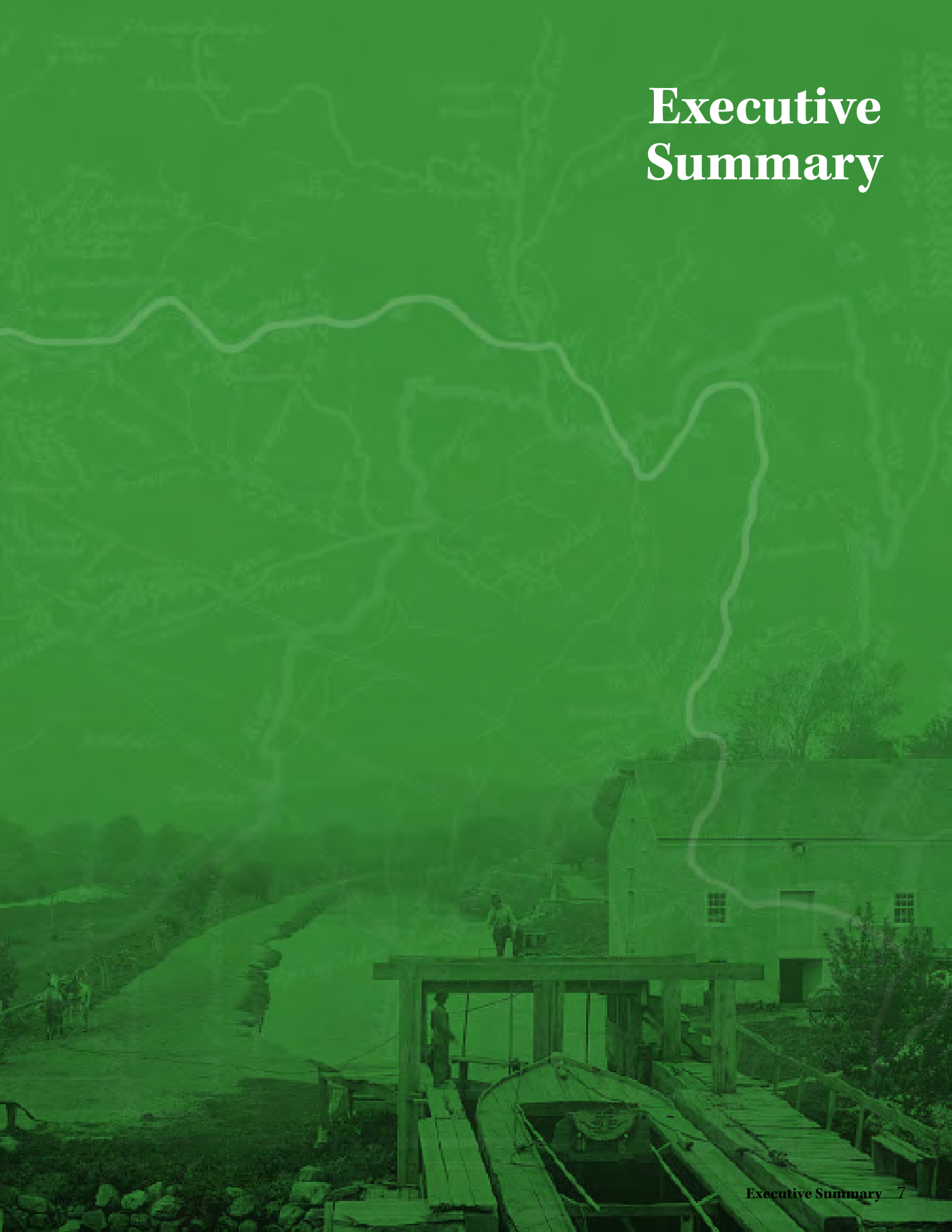
Map 1.1. Historic Canal Alignment & Features	20
Map 2.1. Greenway Plan	38
Map 2.2. Network of Regional Trails	41
Map 2.3. Preferred Greenway Alignment - Western Section	52
Map 2.4. Preferred Greenway Alignment - Central Section	54
Map 2.5. Preferred Greenway Alignment - Eastern Section	56
Map 3.1. Key Projects for Short-to-Medium Term Implementation	76

## Tables

Table E.1. Greenway Functions, Proposed Lead and Supporting Roles	15
Table 2.1. Miles of Existing Morris Canal Greenway by County	37
Table 2.2. Major Historic Canal Attractions and Destinations	43
Table 2.3. Examples of Barriers and Constraints by County	44
Table 2.4. Preferred Greenway Alignment - Short-to-Medium-Term and Long-Term Development Mileage Summary by County	50
Table 2.5. Preferred Greenway Alignment - Miles of Off-Road and On-Road/Road-Side Greenway by County	51
Table 3.1. Potential Trailheads by County	72
Table 3.2. Number of Existing Tourism-related Businesses and Jobs in the Morris Canal Greenway Corridor Study Area	73
Table 3.3. Key Projects for Short- to Medium-Term implementation	74
Table 4.1. Options for Organizing	84
Table 6.1. Greenway Functions, Proposed Lead and Supporting Roles	118



# Executive Summary



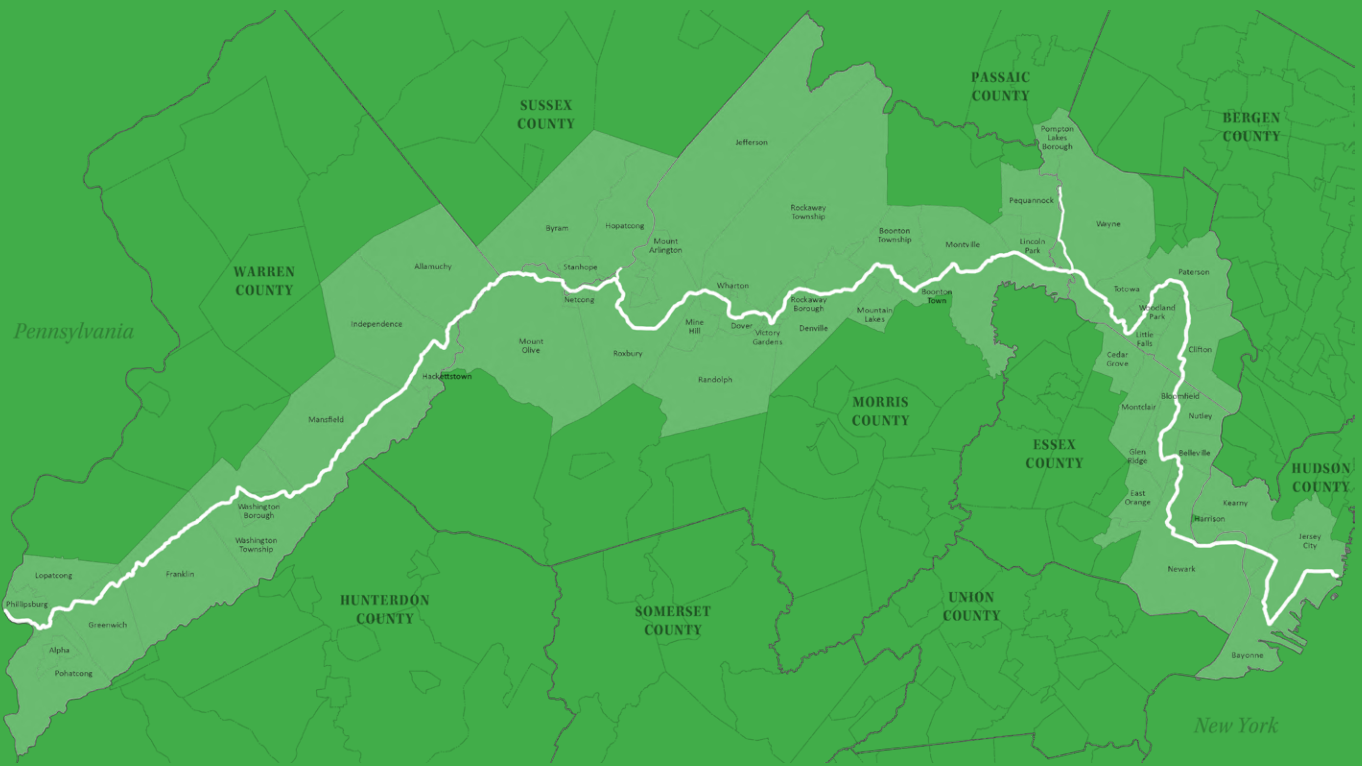


Figure E.1 The Morris Canal Greenway Study Area

## Vision

- TO PRESERVE AND ENHANCE the historic Morris Canal route,
- TO PRESERVE THE CANAL'S scenic, recreational, and historic resources,
- TO TELL THE STORY OF LIFE along the canal,
- TO HIGHLIGHT ITS DISTINCTIVE "mountain climbing" characteristics and inclined planes,
- TO PROVIDE CONVENIENT urban, suburban and rural access to a trail.

### Morris Canal Working Group



Morris Canal Greenway, Berry Lane Park, Jersey City



Plane 9 West, Stewartsville

Credit: Canal Society of New Jersey





# Study Overview

The Morris Canal Greenway is envisioned as a continuous pedestrian and bicycle route across the state of New Jersey, connecting people and places and giving new purpose to the state's first industrial transportation corridor. The greenway will follow the former path of the historic Morris Canal, stretching 102 miles across six counties from Phillipsburg in Warren County to Jersey City in Hudson County, see Figure E.1.

Completed in 1831, the Morris Canal promoted commerce and shaped the economy and landscape of the northern part of the state. Nearly a hundred years after its closure in 1924, the historic Morris Canal and its story have inspired municipalities and counties to transform it into a world-class greenway that connects communities, fosters pride, celebrates history, and brings economic, environmental, health, and social benefits to the region.

**Study Purpose** - The North Jersey Transportation Planning Authority (NJTPA) funded this study to evaluate the entire length of the historic Morris Canal. As the federally authorized Metropolitan Planning Organization for northern New Jersey, NJTPA has an interest in the creation of a significant asset that can serve as a recreation and transportation resource for people across the region. This study:

- analyzes the path of the historic Morris Canal,
- identifies a continuous greenway for walking and bicycling that follows the original route as closely as possible,
- identifies potential projects for short- to medium- and long-term implementation,
- outlines branding and marketing activities to build visibility for the Morris Canal Greenway,
- presents design guidelines to unify the greenway, and recommends an organizational structure that coordinates implementation, helps to maintain the greenway, and promotes its benefits.

**The Morris Canal Greenway is an idea with a history**, advanced by municipalities, counties, and other organizations. The Canal Society of New Jersey has been encouraging and assisting government and nonprofit organizations to plan and build the Morris Canal Greenway for decades. Approximately 38 miles of the Morris Canal Greenway are already developed and publicly accessible today, 28 miles of which are off-road.

## WHAT IS A GREENWAY?

A greenway is a corridor for transportation and recreational use that can run through urban, suburban and rural areas and incorporate diverse natural, cultural and scenic features. For the purposes of this study, a greenway includes all types of bicycle and pedestrian facilities.

**Outreach and Participation** - The study's recommendations reflect extensive input gathered through surveys and online mapping tools, during stakeholder and public meetings, and from interviews with representatives from government and nonprofit organizations, greenway champions, and participation in community events. The Morris Canal Working Group, an informal forum of over 150 stakeholders convened by NJTPA to promote collaboration, and a Technical Advisory Committee designated to oversee study development, were both critical in shaping the proposed alignment and developing recommendations for advancing the Morris Canal Greenway.

**Wide-ranging Benefits** - The Morris Canal Greenway can become an anchor trail connecting local trail networks, neighborhoods, and community destinations such as schools and shopping areas. It can attract residents and new businesses, transform derelict property into desirable destinations, and raise property values. It can encourage active living and improve public health. It will be up to the municipalities and counties to develop the greenway to achieve their own community development priorities.

Over time, through the combined efforts of government and nonprofit organizations, the greenway can increase in stature from a regional attraction for biking and walking to a nationally significant destination for heritage tourism.

## STUDY CHAPTERS

- I. Overview** - Background, history, vision & goals
- II. Planning the Greenway** - A continuous alignment
- III. Building the Greenway** - Key projects and design approaches
- IV. Organizing for Success** - An organizational structure to support collaboration
- V. Branding & Marketing** - A unifying branding and marketing strategy
- VI. Implementing Strategies & Actions** - An action plan and next steps

## Morris Canal - A Historic Opportunity

The Morris Canal connected the coalfields of northeastern Pennsylvania with New Jersey and New York markets, bringing to market a fuel source that helped power the Industrial Revolution. It was an engineering marvel in its time. It consisted of a narrow waterway and parallel towpath. In addition, a system of 23 locks and 23 inclined planes enabled the “Mountain Climbing Canal” to overcome 1,674 feet of elevation change, more than any other canal in the world.

*The Morris Canal Historic District was listed in the New Jersey Register of Historic Places in 1973, and in the National Register of Historic Places in 1974.*

Much of the historic waterway has been filled in, but many remnants remain. There are 265 historic properties within the Morris Canal Historic District and remnants of physical structures are visible throughout the corridor, according to the 1974 state and national historic register listing. These remaining physical historic resources give the greenway its unique character and offer an opportunity to tell the story of the Morris Canal.



*This wrought iron cable that once hauled canal boats up Plane 9 West gives visitors a tactile sense of the technology involved.*

## Experience History - Interpretation & Education

The Morris Canal Greenway offers even more through the preservation of historic resources, enhancing community character while providing new educational venues for learning about the canal’s role in shaping many communities through northern New Jersey. The greenway can become a significant heritage tourism destination.

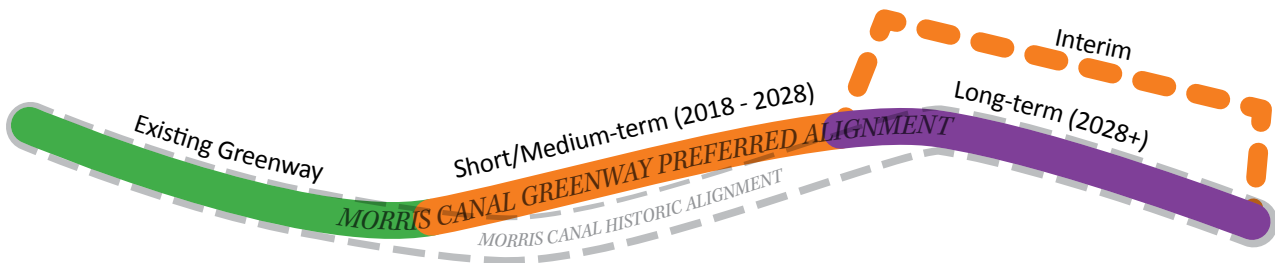


Figure E.2. Preferred Alignment Segment Types



*Ledgewood, Plane 2 East, Roxbury Township, Morris County*

*Credit: Library of Congress*

## Planning & Building the Greenway: Alignment

The study proposes a preferred Morris Canal Greenway alignment. Whenever possible the greenway should be an off-road shared use path as close to the historic canal alignment as feasible. Where trail sections are expected to take more than 10 years to construct because of high-cost and complex requirements (e.g. bridges, property acquisition) an interim short-term alternative is proposed, frequently along on-road segments. Figure E.2 shows a graphic representation of this phased implementation.

This study proposes a list of discrete projects along the length of the greenway for short- to medium-term implementation.

## MORRIS CANAL GREENWAY DESIGN GUIDELINES

Guidelines have been produced to define a set of signs, colors and fonts, paving treatments, furniture, and other elements meant to be used when designing and constructing portions of the greenway, trailheads, interpretive sites, and greenway amenities. The recommendations in the Design Guidelines will visually unify this 111-mile corridor through brand consistency.

The design guide illustrates bicycle and pedestrian facility types that will be used to create a continuous path. The built configuration of the Morris Canal Greenway will change throughout its length based on the condition of the canal, right-of-way, property ownership, environmental constraints, and other local conditions.



## Facts & Findings

- **It is feasible to construct a continuous bicycle and pedestrian facility that follows the historic alignment.** Where the canal alignment is not publicly accessible because of development or other property constraints, the greenway will be routed around, but near the historic canal alignment.
- **The Morris Canal Greenway can be constructed on or within 3/4 of a mile (a 15-minute walk) of the historic alignment for most of its length,** and within a 1/2 mile of many destinations, see Figure E.3.
- **About one-third of the greenway already exists.** There are 38 miles – about 34 percent of greenway in all six counties, with the most miles in Warren (13.5 miles) and Passaic Counties (9.5 miles).
- **This study calls for almost 70 miles of off-road trails and more than 41 miles of on-road or road-side shared use paths.**

## Morris Canal Greenway Goals

1. **Create a continuous greenway that preserves and enhances historic resources within the Morris Canal corridor.**  
Developing and maintaining a high-quality continuous walking and bicycling facility across the state will provide recreation and transportation opportunities to thousands of residents and visitors, connect parks and trails, and showcase the canal’s place in history.
2. **Leverage the Morris Canal Greenway to enhance communities.**  
Connecting trails to nearby downtowns, businesses, and local attractions can benefit the local economy, enhance community character and create a heritage tourism destination.
3. **Ensure long-term sustainability of the greenway.**  
An effective and inclusive platform for stakeholder coordination is critical to ensure a continuous facility that conveys a common identity from end-to-end. An overarching organizational structure will facilitate coordination among government, nonprofit and private partners.
4. **Build visibility of the Morris Canal Greenway.**  
Raising awareness of this unique historic and recreational resource will be an ongoing task, first to encourage jurisdictions and decision-makers to build the greenway, and then to attract visitors from near and far.

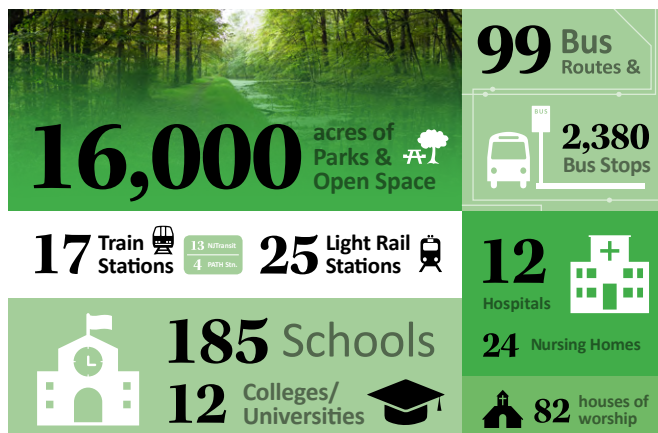


Figure E.3. Destinations within a Half-mile of Historic Morris Canal Route

# Twelve Strategies For Implementation

## GOAL 1

Create a continuous greenway that preserves and enhances historic resources within the Morris Canal corridor.

1

**Complete the greenway:** Plan, design, and construct bicycle and pedestrian facilities that extend and link existing greenway segments.

- 1) Develop and maintain a project list and phasing plan of the projects that will extend or enhance existing segments.
- 2) Include the greenway in land use, transportation, recreation, and historic preservation plans and guidance documents; include major projects in long-range planning documents.
- 3) Convene annually (at a minimum) to review Morris Canal greenway plans and progress with counties and municipalities to facilitate coordination of effort.

2

**Prioritize high-visibility projects:** Identify and prioritize the development of greenway segments that can be quickly achieved and attract attention to generate wider public interest and support.

- 1) Prioritize projects that can be completed in one to three years.
- 2) Develop and annually update a map showing progress in building the greenway and distribute it widely.
- 3) Hold public events to highlight the long-term concept of a continuous greenway to broaden public support.

3

**Cultivate and support champions:** Bring together influential advocates and organizations to collaborate and support greenway projects along every segment, and to assist local and county government in moving projects forward.

- 1) Establish a volunteer corps of champions to advocate for greenway development, secure formal resolutions of support for the greenway from all municipal and county jurisdictions, and conduct outreach to inform and secure the support of legislators and agencies.
- 2) Maintain a list of champions willing to offer volunteer assistance and support.

4

**Protect historic canal structures:** Identify, protect, and stabilize original canal-related structures that convey the canal's rich heritage, and prioritize those that can be used to interpret historic resources.

- 1) Update the Morris Canal's National Register documentation and mapping, including all associated historic resources and the canal towns along the route, with guidance from the New Jersey Office of Historic Preservation and the Canal Society of New Jersey.
- 2) Identify, inventory and prioritize structures in need of preservation studies and treatments.
- 3) Secure funding to undertake priority individual preservation projects according to the Secretary of the Interior's Guidelines.

5

**Tell the Morris Canal story:** Provide rich and well-coordinated historic and environmental interpretation along the entire length of the greenway through signs, exhibits, programs, and events.

- 1) Create a greenway-wide interpretive plan to address canal history as well as natural features and ecosystems.
- 2) Inventory all current and planned interpretive projects.
- 3) Carry out individual interpretive projects.

6

**Encourage a unifying and recognizable greenway design:** Apply the Morris Canal Greenway Design Guidelines consistently to ensure public recognition of the Morris Canal Greenway across a variety of conditions and contexts.

- 1) Use consistent signage and marking including use of standard fonts and color palette.
- 2) Promote the Design Guidelines to greenway planners and decision-makers.

## GOAL 2

Leverage the Morris Canal Greenway to enhance communities.

---

7

**Create a rich network of greenway destinations:** Connect the greenway to nearby parks, trails, lakes, water bodies, historic and interpretive sites, attractions, and business districts, to benefit local economies, support public health, and improve public spaces.

- 1) Plan and establish a network of bicycle and pedestrian facilities that connect historic sites and local destinations with the Morris Canal Greenway.
- 2) Encourage county-wide greenway planning to identify opportunities for creating the network.

8

**Highlight greenway economic benefits:** Estimate, track, and publicize financial benefits to municipal, county, and state government, and property owners along the alignment.

- 1) Develop and update a financial projection (every five years) of the anticipated revenue from retail sales, restaurants, hotels, and other service and recreation industry along the developed portions of the greenway.
- 2) Project increased residential and commercial property values and associated tax revenue for municipalities along the alignment.

## GOAL 3

Ensure long-term sustainability of the greenway.

---

9

**Organize for success:** Create an effective organizational structure to provide leadership responsible for specific functions needed to implement the greenway.

- 1) Form a task force to explore the mechanics of establishing an independent nonprofit organization to coordinate greenway implementation.
- 2) Continue to convene the Morris Canal Working Group until a dedicated organization is in place.
- 3) Consider establishing a temporary position or consulting contract to secure professional services focused on startup guidance.

10

**Develop a funding strategy:** Seek funding to support the long-term collaborative work needed for successful implementation of the greenway.

- 1) Develop a funding plan with the assistance of an ad hoc committee of the Morris Canal Working Group.
- 2) Conduct outreach to potential funders to make them aware of the Morris Canal Greenway and needs.

## GOAL 4

Build visibility of the Morris Canal Greenway.

---

11

**Spread the word:** Pursue a wide variety of initiatives to raise public awareness and government support for building and visiting the greenway.

- 1) Raise public awareness through public outreach, use of social media, and other tools to communicate with residents, potential users, and the public.
- 2) Attract and serve more recreational users by enriching and increasing the number of events available.
- 3) Build stakeholder support to construct the greenway.

12

**Assign a branding, marketing, and promotional lead:** Build long-range capacity for a marketing organization or partner organizations that could act as a central resource for branding, promoting, and communicating about the Morris Canal Greenway.

- 1) Identify and assign marketing and branding responsibility to an organization or vendor.
- 2) Implement a branding and marketing plan:  
**Phase 1:** Assemble resources.  
**Phase 2:** Rebrand the Morris Canal Greenway website.  
**Phase 3:** Establish and distribute marketing and storytelling materials.  
**Phase 4:** Create, distribute, and sustain Morris Canal Greenway communications and promotions.

# Laying The Foundation For Partnerships And Promotion

## Organizing for Success

As the Morris Canal Greenway development progresses, there is a growing need for an organizational structure with greater control over implementation and broader agency oversight. This study evaluates a range of options based on examples of other organizational models. Much can be accomplished under the current structure; however, it is a priority to begin incubating a stronger structure to lead overall coordination in the coming years.

This study recommends a new and dedicated nonprofit organization to oversee the development of the Morris Canal Greenway from end to end. This new organization should continue to collaborate with all stakeholders, encouraging active participation in accomplishing the full range of functions required to plan, design, build, interpret, promote and maintain the greenway.

### Next Steps:

1. Encourage multiple organizations to take leading roles according to their abilities and interests
2. Establish a single nonprofit lead

As an immediate next step, it is recommended that the NJTPA, the Canal Society of New Jersey, and members of the MCWG form a task force to explore the mechanics of establishing a nonprofit within the capabilities of cooperating organizations. The task force should lead conversations with stakeholders to build consensus about evolving leadership into a more centralized and focused structure that better supports partner organizations. Professional services may be secured to facilitate discussions or even manage the process of forming the nonprofit organization.

## Branding & Marketing

Building visibility for the Morris Canal Greenway is fundamental to successful implementation of this study's recommendations. Both those who will develop the Morris Canal Greenway and those who will visit and use the facility must be made aware of what it is and what experiences it offers. A branding and marketing plan and program aimed at raising public visibility and engagement will lay the groundwork for establishing and sustaining the Morris Canal Greenway.

The study proposes a coordinated set of actions to reach a broad audience, from those responsible for planning and building the greenway to those who will visit, walk, bike and experience a trail with a history.

### FOUR PILLARS OF THE MORRIS CANAL GREENWAY MESSAGE

1. **Connection:** An extensive and historic greenway that connects communities, economies and people via heritage and nature.
2. **Accessibility:** Accessible, fun, and full of great stories for people of all ages.
3. **Contribution:** Contributes to the health, wellness and general vibrancy of our communities via outdoor recreation opportunities and economic stimulus.
4. **Opportunity:** Is a catalyst for future opportunities to develop our trail networks, bicycling and pedestrian facilities, and overall recreation systems.

## Roles & Responsibilities

The **Morris Canal Working Group (MCWG)** will continue to provide a platform for discussion, problem-solving and collaboration among stakeholders. An important future function will be tracking progress on plan implementation, identifying needs, and sharing collective knowledge and technical assistance. A wide range of stakeholders with

supporting interests and abilities will be necessary to achieve the greenway vision, as displayed in Table E.1.

In time, **a new and dedicated nonprofit organization** can take responsibility for overall greenway development and coordination among partner and supporting organizations.

Table E.1. Greenway Functions, Proposed Lead and Supporting Roles

<i>Functions</i>	<i>Lead/Key Partners</i>	<i>Supporting</i>
<b>PLANNING, BUILDING &amp; MAINTAINING</b>		
Planning, Construction & Design	NJDOT, Counties & Municipalities	NJTPA, Canal Society of New Jersey
Preservation Treatments; National Register Listing Update; Survey & Mapping	Counties & Municipalities Canal Society of New Jersey	State & regional agencies & nonprofit preservation groups
Branding & Identity	Counties & Municipalities	NJTPA, Canal Society of New Jersey, Center for Creative Placemaking
Signage & Wayfinding	Counties & Municipalities	NJTPA, NJDOT, Canal Society of New Jersey
Maintaining	Counties & Municipalities Volunteer Organizations	NY/NJ Trails Conference, local trail groups & youth corps, Canal Society of New Jersey
<b>ACTIVATION</b>		
Marketing & Promotion	Destination Marketing Organizations (DMOs)	Canal Society of New Jersey, NJ Division of Travel & Tourism, regional & local tourism organizations
Historic Interpretation	Canal Society of New Jersey Counties & Municipalities	NJ Historical Commission, NJ Historical Trust, NJ Council for the Humanities, historical societies & museums
Events & Programming	Canal Society of New Jersey	Division of Travel & Tourism, educators & schools, state & local parks & recreation organizations, historical societies & museums
<b>OVERARCHING ADMINISTRATION &amp; COORDINATION</b>		
	Designated Lead Organization	Morris Canal Working Group stakeholders, Canal Society of New Jersey, NJTPA

## For More Information

You can participate in establishing the Morris Canal Greenway by supporting projects in your community and by contacting Sutapa Bandyopadhyay, NJTPA ([sband@njtpa.org](mailto:sband@njtpa.org)) for further information.

This Executive Summary is excerpted from the Morris Canal Greenway Study. A copy of the study can be downloaded from <http://njtpa.org/morriscanal>.

Related information about the Morris Canal and the Morris Canal Greenway initiative can be found on the Morris Canal Working Group website, <http://morriscanalgreenway.org>, NJTPA website, <http://njtpa.org>, and on the Canal Society of New Jersey website, <http://www.canalsocietynj.org>.





# CHAPTER 1

## Overview



## CHAPTER 1

# Overview

## Introduction

The Morris Canal Greenway is envisioned as a continuous pedestrian and bicycle route across the state of New Jersey, connecting people and places and giving new purpose to the state's first industrial transportation corridor. The greenway will follow the former path of the historic Morris Canal (Figure 1.1) to the greatest extent possible, stretching over 100 miles across six counties from Phillipsburg in Warren County to Jersey City in Hudson County.

Completed in 1831, the Morris Canal promoted commerce and shaped the economy and landscape of the northern part of the state. It connected the coalfields of northeastern Pennsylvania with New Jersey and New York markets, transporting a fuel source that helped power the Industrial Revolution.<sup>1</sup> The canal also moved farm products, manufactured goods, raw and construction materials, and contributed to the revival of the iron industry in North Jersey.

The Morris Canal was an engineering marvel in its time. A system of 23 locks and 23 inclined planes enabled the "Mountain Climbing Canal" to overcome 1,674 feet of elevation change, more



Figure 1.1. The Morris Canal across New Jersey

than any other canal in the world.<sup>2</sup> The advent of railroads rendered the canal obsolete and the Morris Canal officially closed in 1924. Canal parcels were then sold to municipalities and adjacent property owners.<sup>3</sup>

Nearly a hundred years after its closure, the historic Morris Canal and its story have inspired municipalities and counties to transform it into a world-class greenway that connects communities,

<sup>1</sup> "History," *CanalDay.org*, 2008, <http://www.canalday.org/history.html>

<sup>2</sup> "Morris Canal Locks and Planes: World's Greatest Canal Hill Climber," *Canal SocietyNJ.org*. Accessed February 2018, <http://canalsocietynj.org/mcdata.htm>

<sup>3</sup> Lee, James. "The Morris Canal: A Brief History," *Warren County Morris Canal Greenway website*. Accessed February 2018. <http://www.morriscanal.org/history.htm>

fosters pride, celebrates history, and brings economic, environmental, health, and social benefits to the region.

The Morris Canal Greenway will be over 100 miles long and will develop over time through the combined efforts of government, nonprofit and private organizations. With the completion of each new segment, the Morris Canal Greenway will increase in stature from a local attraction and transportation facility for residents to a regional trail for biking and walking enthusiasts, and ultimately become a nationally significant destination for heritage tourism.

According to information collected during the course of this study, almost 38 miles of the greenway

are already developed and publicly accessible today, including 28 miles that are off-road. Many interesting destinations have been restored or developed and events have been programmed. A visitor to the Morris Canal Greenway today can see and experience the innovation and ambition that made the canal, and begin to understand how it influenced the communities along its path.

This study provides recommendations for a preferred alignment, design guidelines, an organizational structure to facilitate and guide implementation, a marketing and branding strategy, and a list of projects for implementation in the short- to medium- and long-term.



*Morris Canal Greenway, Berry Lane Park, Jersey City*

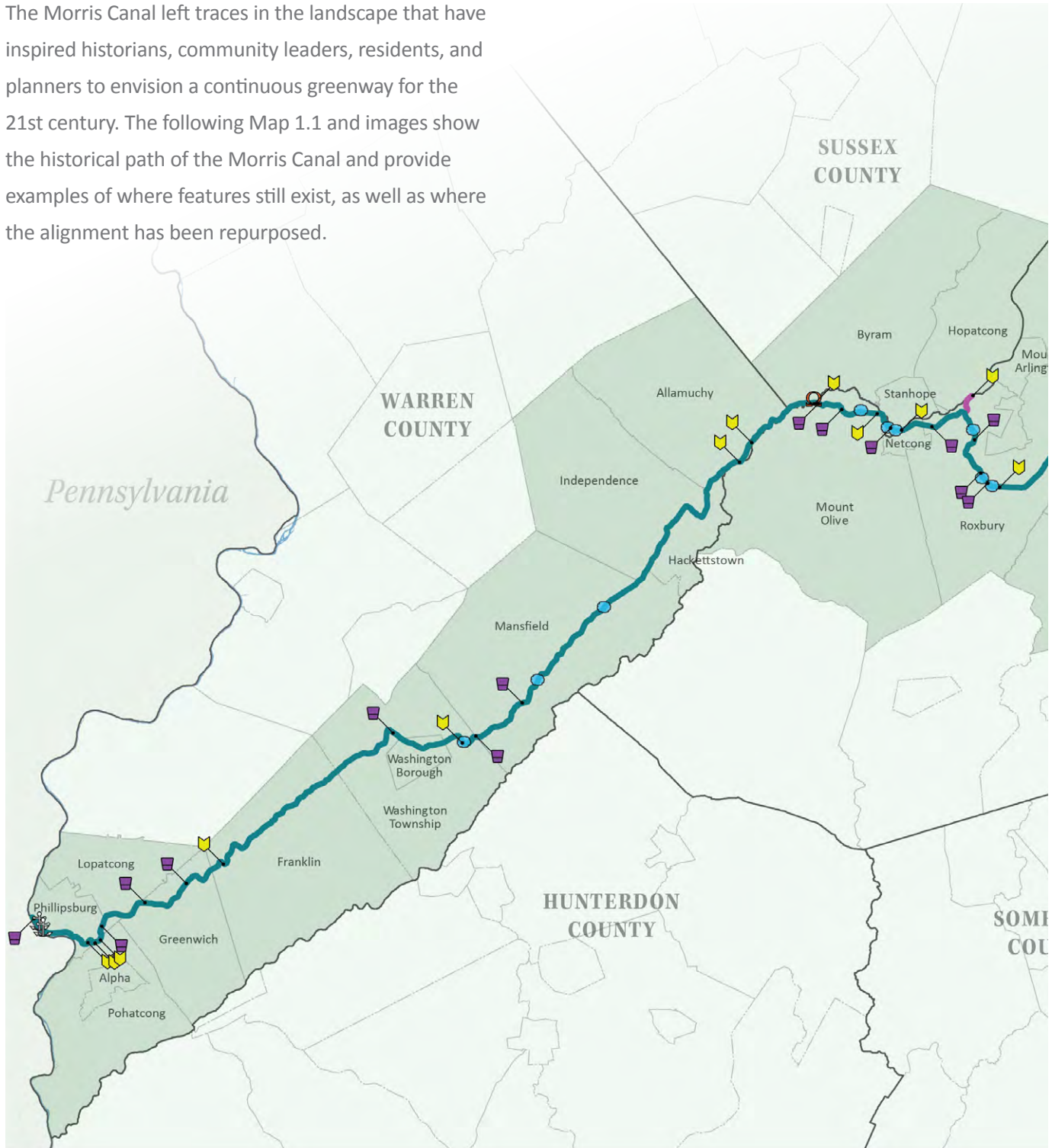


*Plane 9 West, Stewartville*

*Credit: Canal Society of New Jersey*

## Morris Canal: Then & Now

The Morris Canal left traces in the landscape that have inspired historians, community leaders, residents, and planners to envision a continuous greenway for the 21st century. The following Map 1.1 and images show the historical path of the Morris Canal and provide examples of where features still exist, as well as where the alignment has been repurposed.








Map 1.1. Historic Canal Alignment & Features

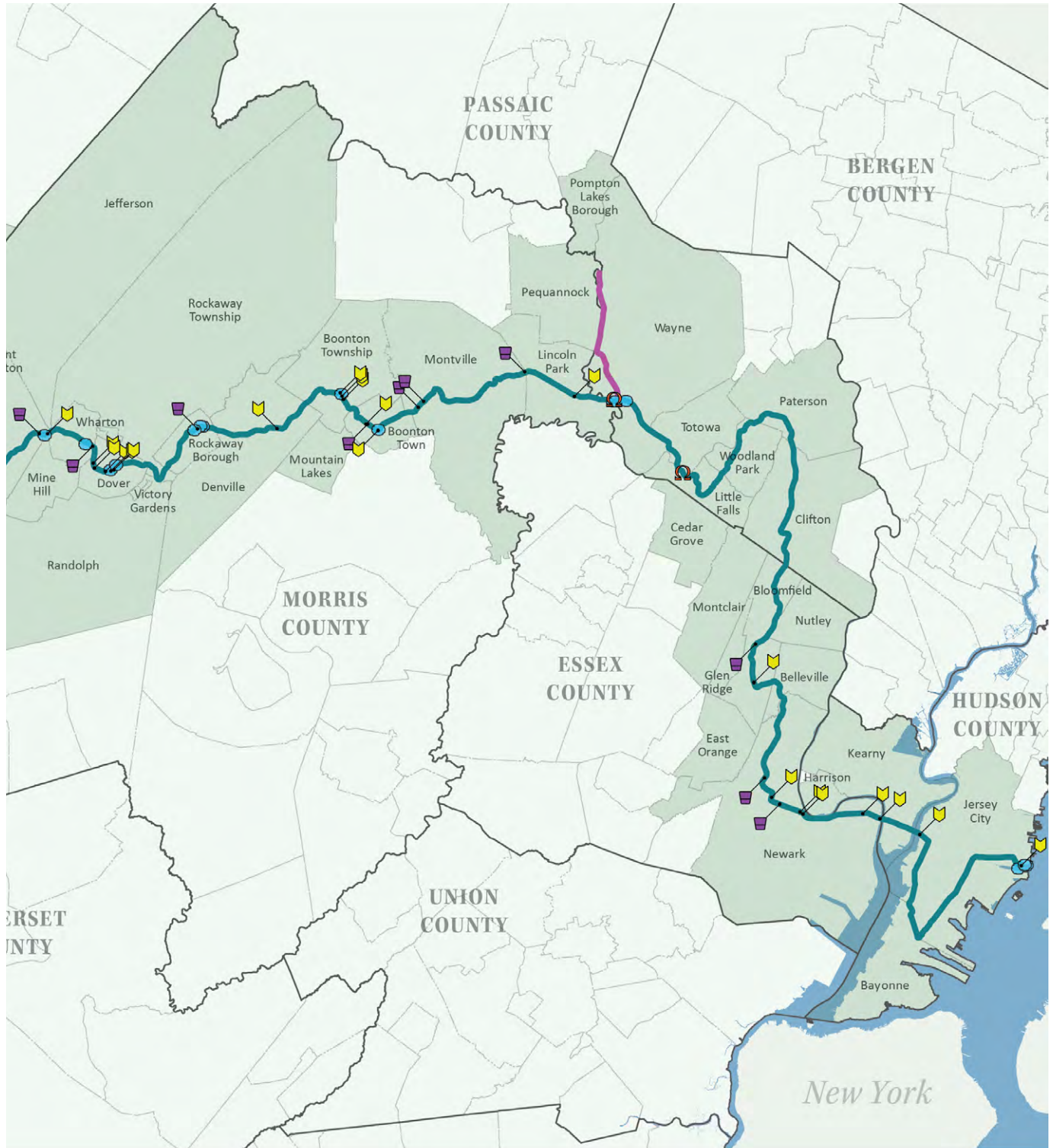
Map 1.1 continued

**Legend**

- Morris Canal (Historic ROW)
- Feeder Canal
- Study Area
- Counties
- Municipalities

**CANAL FEATURES**

 Aqueduct	 Canal Lock	 Port
 Basin	 Canal Plane	



*Note: Portions of the canal and some features do not exist today but are represented on the map for historical reference and planning purposes.*

# 1. Overview

## Morris Canal: Then & Now

Plane 11 East, Bloomfield Township, Essex County



Plane 7 East, Boonton Town, Morris County



Plane 2 East, Ledgewood, Roxbury Township, Morris County



Port Colden Basin, Washington Township, Warren County



Waterloo Smith Store and Boat, Byram Township, Sussex County



Bird's Eye View, Paterson City, Passaic County



All "Then" images courtesy of the Library of Congress  
All "Now" images courtesy of the Canal Society of New Jersey

## Study Organization

This study is a guide for the many people and organizations whose efforts are needed to complete the Morris Canal Greenway. While this chapter introduces the study and provides an overview of the vision, goals and key findings, the following chapters provide a strategic path toward greenway implementation, as follows:

- **Chapter 2** identifies a **continuous alignment** that follows the canal’s route as closely as possible.
- **Chapter 3** describes typical sections and presents some of the projects that can be implemented in the short- to medium-term.
- **Chapter 4** addresses the need for an **organizational structure** to facilitate the extensive and ongoing stakeholder coordination required to achieve a region-wide greenway.
- **Chapter 5** details activities for conveying a **unifying message and brand** to raise public awareness, generate enthusiasm and stakeholder support, and attract local and regional visitors.
- **Chapter 6** presents strategies, actions, benefits, and performance measures. Together, these **strategies and actions** represent a comprehensive approach to realizing the greenway vision and goals.

### What is a Greenway?

A greenway is a corridor for transportation and recreational use. Greenways vary from narrow green ribbons that run through urban, suburban and rural areas to wider corridors that incorporate diverse natural, cultural, and scenic features. For the purposes of this study, a greenway includes all types of bicycle and pedestrian facilities.

The Morris Canal Greenway will include off-road shared use paths, road-side shared use paths, and on-road facilities such as bicycle lanes and a sidewalk. The built configuration of the Morris Canal Greenway will change throughout its length based on the condition of the canal, right-of-way, property ownership, environmental constraints, and other local conditions.

Whenever possible the greenway should be an off-road shared use path as close to the historic canal alignment as feasible. Materials, including signage and markings, and furnishings will visually unify the greenway through brand consistency.

### DESIGN GUIDELINES

Appendix A – Design Guidelines – contains design recommendations for the entire greenway. It has been developed to:

1. Create a unified visual identity that accurately reflects the history, character, and contemporary role of the Morris Canal Greenway.
2. Preserve and protect the Morris Canal and its associated buildings and structures.
3. Assist greenway planners, volunteers, and decision-makers implementing this study’s recommendations.



## Purpose

This study creates the framework to advance greenway development and implement planning initiatives by helping coordinate efforts by governments, nonprofits, and the private sector.

This study:

- analyzes the path of the historic Morris Canal,
- identifies a continuous greenway for walking and bicycling that follows the original canal alignment as closely as possible,
- identifies potential projects for short- to medium- and long-term implementation,
- outlines branding and marketing activities to build visibility for the Morris Canal Greenway,
- prepares design guidelines to unify the greenway, and
- recommends an organizational structure, coordinates implementation, helps to maintain the greenway, and promotes its benefits.

While this document recommends potential projects for implementation, funding will ultimately determine which portions of the greenway will be completed first.

Recognizing the complexity of planning and building a bicycling and walking facility through multiple jurisdictions and across more than 100 miles of urban, suburban, and rural landscapes, the study proposes both short- and long-term alignments. The proposed alignments will require more fine-grained planning by jurisdictions advancing their pieces of the corridor. Because this is a historic greenway, the study also recognizes the important role of historic preservation and interpretation as part of the greenway development.



*Precedent greenway in Easton, PA*



*Waterloo Village*

## Planning Process

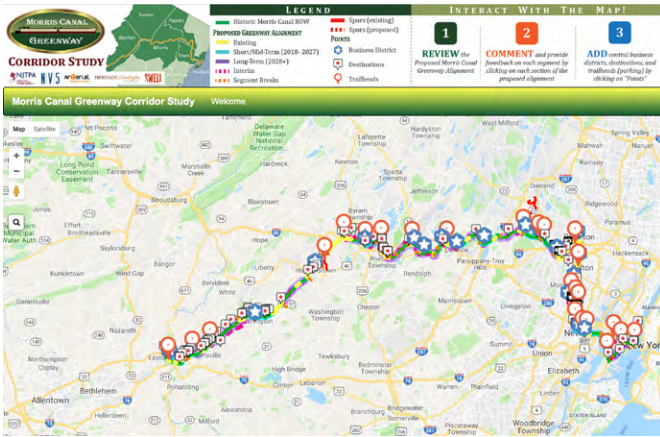
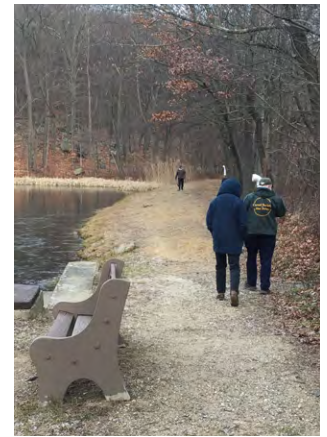
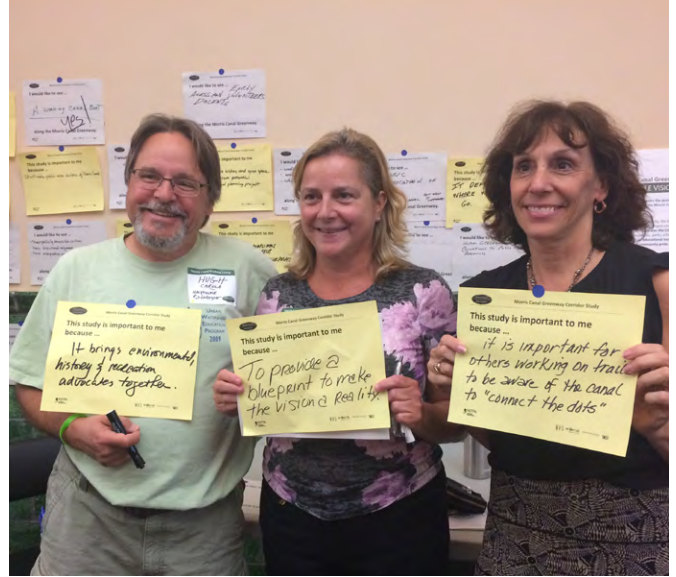
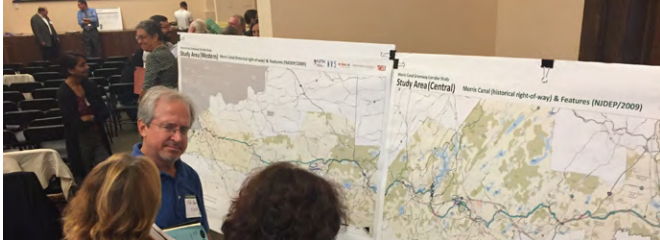
As the federally authorized Metropolitan Planning Organization for northern New Jersey, the North Jersey Transportation Planning Authority (NJTPA) has an interest in the creation of a significant asset that can serve as a recreation and transportation resource for people across the region. In recent years, the NJTPA funded Morris Canal Greenway plans for Warren County and Jersey City, and formed the region-wide Morris Canal Working Group (MCWG), made up of more than 150 local officials and stakeholders. Additionally, Passaic County completed and adopted a Morris Canal Greenway Feasibility Study in 2011. Recognizing the need for a comprehensive plan for the entire route across six counties, the NJTPA initiated this Morris Canal Greenway Corridor Study, which was conducted with consultant support.

**The Morris Canal Greenway is an idea with a history,** advanced by municipalities, counties, and other organizations. The Canal Society of New Jersey has been encouraging and assisting government and nonprofit organizations to plan and build the Morris Canal Greenway for decades. A nonprofit organization formed in 1969, the Canal Society of New Jersey is dedicated to the study, preservation, and restoration of New Jersey's two towpath canals (Morris Canal and Delaware & Raritan), and telling the story of canals through education and access to historic sites.

The planning process for this study used the most recent data available to build upon work already accomplished. The study was informed by insight and knowledge that was provided by MCWG members.

A range of outreach activities was used to engage stakeholders and the public (see Appendix B), including the following:

- Three regional municipal outreach meetings with local officials to share issues and community-specific needs. Meetings were held in the western, central and eastern regions of the canal alignment.
- Technical Advisory Committee (TAC) and Stakeholder Advisory Committee (SAC/MCWG) meetings.
- WikiMap, an interactive online map, allowed people to identify route opportunities and constraints, post comments, upload photos, and provide feedback on alignment options.
- Stakeholder interviews with representatives from state agencies, counties, and municipalities.
- Field visits guided by the Canal Society of New Jersey.
- Special events including Waterloo Canal Day and a discussion with students at an English as Second Language (ESL) class in Hackettstown.



Outreach Activities

### Prior Morris Canal Reports and Plans

Prior Morris Canal reports and plans include:

- **1973 & 1974 - NEW JERSEY AND NATIONAL REGISTER OF HISTORIC PLACES**
  - » The Morris Canal District is listed in both the New Jersey and National Register of Historic Places.
- **2005 – MORRIS CANAL GREENWAY IN MORRIS COUNTY STRATEGIC PRESERVATION PLAN**
  - » A collaborative effort by the Morris Land Conservancy and the Canal Society of New Jersey, the plan identifies and prioritizes land parcels located within the greenway for preservation. As part of the plan, nine of the twelve municipalities passed resolutions supporting the establishment of the Morris Canal Greenway.
- **2008 - HISTORIC SITE MASTER PLAN & FEASIBILITY STUDY, LOCK 2 EAST OF THE MORRIS CANAL**
  - » This Borough of Wharton study recommends the transformation of Hugh Force Park to a more active role as an outdoor museum.
- **2011 - WARREN COUNTY MORRIS CANAL 25-YEAR ACTION PLAN**
  - » This planning study funded through NJTPA's Subregional Studies Program outlines specific strategies, recommendations and projects intended to guide the next 25 years of development for the Morris Canal Greenway in Warren County.
- **2011 - PASSAIC COUNTY: MORRIS CANAL GREENWAY FEASIBILITY STUDY**
  - » This study was prepared with funding from the Association of New Jersey Environmental Commissions (ANJEC) and the Passaic County Open Space Trust Fund. The purpose of the study is to determine how areas of open space can be connected to create a contiguous trail along the historic route of the Morris Canal.
- **2013 – JERSEY CITY: MORRIS CANAL GREENWAY PLAN**
  - » This study prepared a plan for a bicycle and pedestrian path that follows much of the six-mile path of the former Morris Canal right-of-way through Jersey City. The project included the development of a design guide and an interpretive plan, and was funded through NJTPA's Subregional Studies Program.
- **2014 – MAPPING THE MORRIS CANAL IN ESSEX COUNTY**
  - » This study was completed to mitigate the adverse effect of replacing the Berkeley Avenue Bridge in Bloomfield. Prepared for Essex County, the study resulted in creation of a GIS file of the Morris Canal Historic District boundary in Essex County.
- **2014 – THE FIELD GUIDE TO THE MORRIS CANAL OF NEW JERSEY**
  - » The field guide by Jakob Franke, Bob Barth, Linda Barth, John Drennan, Ron Rice, and Gary Kleinedler locates the remaining features of the Morris Canal. It provides driving directions for a tour that follows the canal route as closely as possible. Walking tours are suggested where appropriate.

## Vision & Goals

In 2012, the MCWG drafted a vision for the greenway. This study adopts the group's vision.

### VISION STATEMENT

- TO PRESERVE AND ENHANCE the historic Morris Canal route, a national engineering and transportation treasure, and the cultural landscape through which it passes in a manner that interconnects communities and links heritage tourism points of interest by serving as a near continuous greenway of open space across the northern New Jersey region;
- TO PRESERVE THE CANAL's scenic, recreational, and historic resources, recognizing the role it plays in sustaining and improving the quality of life for New Jersey residents and attracting economic growth;
- TO TELL THE STORY OF LIFE along the canal, its influence on past events and its relevance to today's society to support education and foster community pride and preservation;
- TO HIGHLIGHT ITS DISTINCTIVE mountain climbing characteristics and the ingenious use of inclined planes; and
- TO PROVIDE CONVENIENT urban, suburban and rural access to a trail for non-motorized transportation.



### GOALS

This study through discussion with the MCWG identified broad goals that are specific to planning for implementation of the greenway, as follows:

1. **Create a continuous greenway that preserves and enhances historic resources within the Morris Canal corridor.**  
Developing and maintaining a high quality, continuous walking and bicycling facility across the state will provide recreation and transportation opportunities to thousands of residents and visitors. By connecting to parks, trails, and nearby recreation venues, the Morris Canal Greenway will form the spine of a regional network that supports active, healthy lifestyles and public health. The greenway will also be a venue for historic and natural interpretation and education that enhances trail user experience.

### Vision & Goals

#### 2. **Leverage the Morris Canal Greenway to enhance communities.**

The Morris Canal Greenway passes through or near many downtowns, business districts, and other attractions and public destinations. Connecting the greenway to these destinations can benefit the local economy. The Morris Canal Greenway will also provide many opportunities to preserve historic features that both tell the canal's stories and contribute to community character.

#### 3. **Ensure long-term sustainability of the greenway.**

Planning, building, and maintaining the bicycle and walking facility will require the coordinated efforts of local, county, regional, and state government. Historic preservation, an interpretive and educational program, community engagement, and greenway promotion are additional elements requiring stakeholder coordination. It will be critical to create an effective and inclusive platform for collaboration that builds on stakeholder strengths and capabilities.

#### 4. **Build visibility of the Morris Canal Greenway.**

Raising public awareness of this unique historic and recreational resource will be a critical objective and ongoing task both during and after greenway development. In the development stage, it's necessary to engage stakeholders to build the greenway. As more segments are connected, public outreach is needed to attract recreational users. Marketing and design features, including unified signage, will help raise public awareness.

## Key Facts and Findings

### 1. Building a Continuous Greenway

This study found that it is possible to build a continuous greenway for pedestrians and cyclists stretching from Phillipsburg on the Delaware River to Jersey City on the Hudson River. While there are obstacles along the way, there are solutions for each. Examples of obstacles include interstate highways, major river crossings such as the Passaic and Hackensack Rivers, schools and other buildings blocking access, preserved farmland use restrictions, and other property constraints. Significant gaps from obstacles that require extensive improvements such as bridges and major property acquisition are anticipated to require more than 10 years to complete.

Anywhere the continuous alignment is expected to take more than 10 years to construct, an interim alignment, frequently along on-road segments, has been identified.

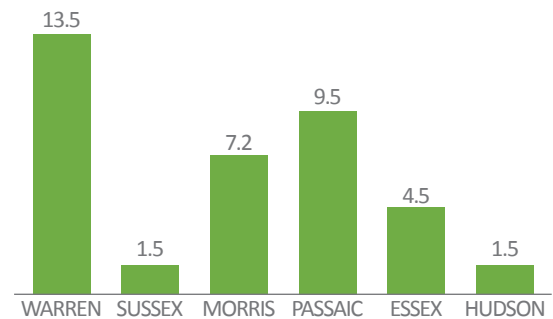
### 2. Following the Historic Canal

The greenway can be constructed on or within a 15-minute walk from the historic alignment for the majority of its length. Where it is not publicly accessible because of development or other property constraints, the greenway will be routed around the inaccessible stretches, but still near the historic canal alignment.

### 3. Existing Greenway

A third of the alignment, or 38 miles, of the Morris Canal Greenway is existing (Figure 1.2), including more than 27 miles that are off-road. There are existing segments in all six counties.

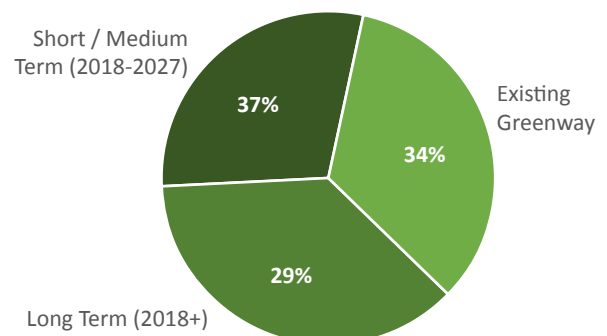
Figure 1.2. Miles of Existing Greenway



### 4. Greenway development over the next ten years

Another 41 miles – about 37 percent (Figure 1.3) – could be developed within 10 years assuming funding is available. It may take more than 10 years to develop approximately 29 percent of greenway because of the complexity and expense of these segments. Therefore, interim routes have been proposed.

Figure 1.3. Potential Development Timeframe of Preferred Greenway Alignment

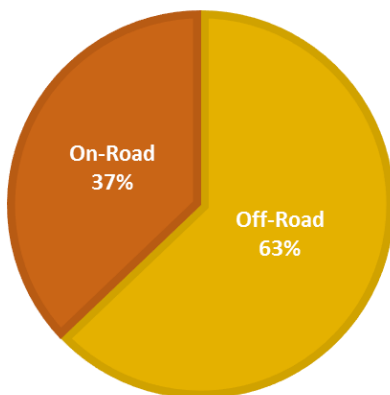


## Key Facts and Findings

### 5. **Creating Off-Road Trails**

An estimated 70 miles, or 63 percent (Figure 1.4), can eventually be along off- road corridors.

Figure 1.4. Percent On-Road or Off-Road



### 6. **Trail access points**

The greenway will be accessible at all road crossings and via trailheads. Greenway users can also connect from local business districts or nearby bus stops and rail stations. Trailheads and access point are also an opportunity to provide amenities such as parking, benches, bicycle ‘fix it’ stations, or wayfinding. Trailheads identify access to the local road network, and an entry point for emergency services if needed.

### 7. **Connections to other trails**

The Morris Canal Greenway has the potential to connect trails across the state and region, including the Liberty Water Gap Trail network, Lake Hopatcong Trail, Highlands Trail, East Coast Greenway, Hudson River Waterfront Walkway, and planned trails such as NYS&W path and

the Pompton Feeder Canal. There is potential to connect to Delaware Canal Trail and Lehigh Canal Trail in Easton, Pennsylvania.

### 8. **Attractions, visitor destinations, and downtowns along the greenway**

The growth and development of many northern New Jersey towns were influenced by the Morris Canal, including Phillipsburg, Washington, Wharton, Rockaway, Dover, Landing, and Boonton. Creating the Morris Canal Greenway will reconnect these downtowns, and provide non- motorized access to these areas for visitors and employees. Attractions and visitor destinations outside downtowns are either historically related to the canal, such as Waterloo Village, or are nearby enough to be connected by trail to the greenway in the future.

### 9. **Potential projects for development**

Potential projects that will connect the existing segments of the Morris Canal Greenway are detailed in Chapter 3, “Building the Greenway.” These have independent utility and are anticipated for short- to medium-term implementation.

### 10. **Design guidelines for greenway development**

The greenway will cross a wide variety of settings, each with unique design needs. Municipalities, counties, and other implementing jurisdictions should consult the



detailed Design Guidelines (Appendix A), which define a set of signs, colors and fonts, paving treatments, furniture, and other elements to be used when constructing greenway sections, trailheads, interpretive sites, and amenities.

#### 11. **Greenway users**

Nearby residents and local travelers will likely be the primary users. Regional residents are likely to be drawn to longer off-road segments where parking or transit service is available. There will be long distance through- travelers, but the majority of trips are expected to be shorter, local trips to community destinations or for exercise or recreation.

#### 12. **Greenway benefits to municipalities and counties**

The benefits are wide-ranging and open-ended. The Morris Canal Greenway can become an anchor trail connecting local trail networks, neighborhoods and community destinations such as schools and shopping areas. The greenway can attract residents and new businesses, transform derelict property into desirable destinations, and raise property values. It can encourage active living and improve public health.

However, the Morris Canal Greenway offers even more through the preservation of historic resources and could become a heritage tourism destination. Establishing new educational venues can provide opportunities to tell the

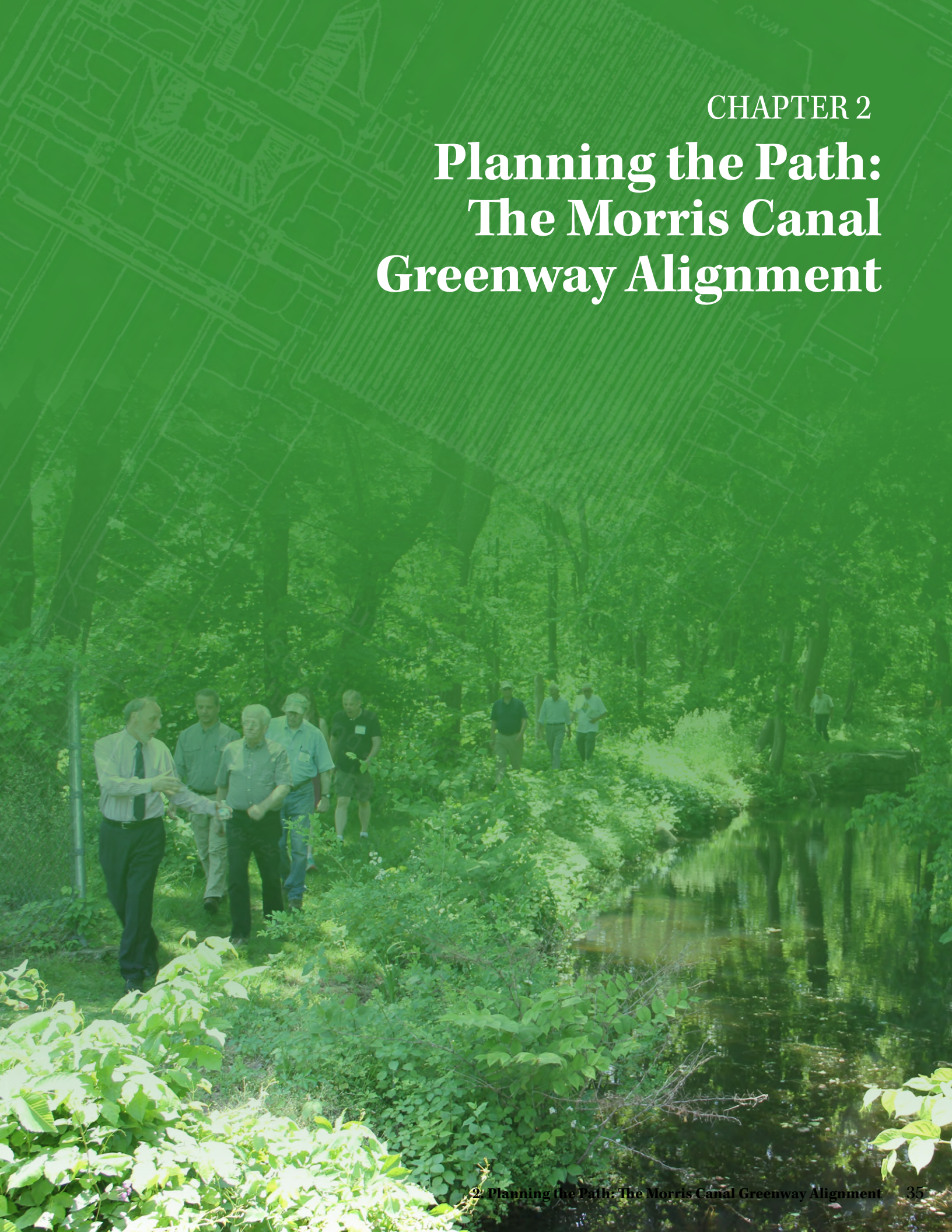
story of the Morris Canal and the communities along its path.

It will be up to the municipalities and counties to develop the greenway to achieve their own community development priorities.



CHAPTER 2

# Planning the Path: The Morris Canal Greenway Alignment



## CHAPTER 2

# Planning the Path: The Morris Canal Greenway Alignment

## Introduction

When completed, the Morris Canal Greenway will pass through six counties and tie together many different communities. It will traverse farms, rural downtowns and villages, suburban neighborhoods and commercial areas, urban mixed use, industrial areas, and parks and open space. The greenway will provide an opportunity for transportation and recreation to a large population, including New Jersey's three largest cities – Newark, Jersey City, and Paterson.<sup>1</sup>

<sup>1</sup> *Total Population, U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates*

## Key Strategies

- Complete the greenway
- Prioritize short-term, high-visibility projects
- Cultivate and support champions
- Create a rich network of greenway destinations
- Protect historic canal-related structures
- Tell the Morris Canal story

The development of the preferred alignment, or route, was determined through a collaborative process that included data collection and analysis, field investigations, and outreach (Figure 2.1) as described in Chapter 1: Overview. The information gathered during data collection provided an understanding of existing conditions, opportunities, and constraints, and was used to inform routing options. Options were evaluated on a wide range of criteria and a draft preferred alignment was selected. This draft alignment was then presented to the Technical Advisory Committee for review prior to finalization as the preferred Morris Canal Greenway alignment.

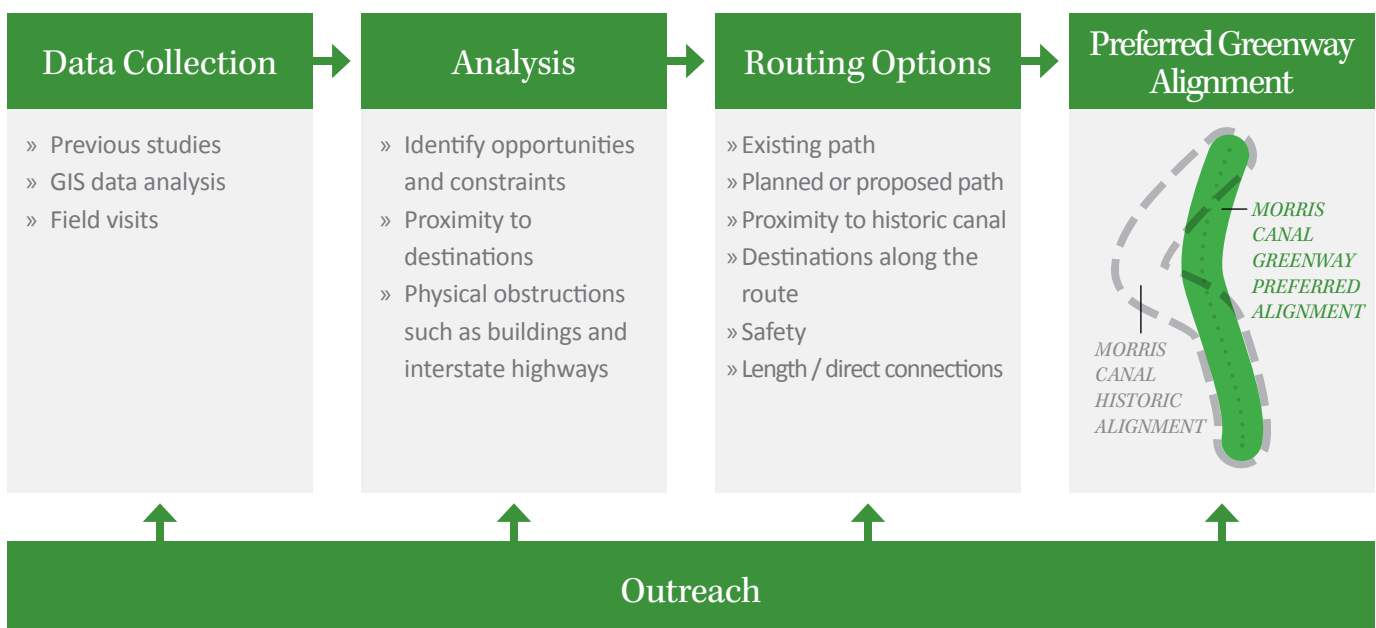


Figure 2.1. Planning Process

## Data Collection and Analysis

Data collection was conducted using available Geographic Information System (GIS) data, previous studies and plans, input from the Morris Canal Working Group, municipal and county representatives, and field observations. The focus of the data collection process was on the historic Morris Canal route and the area within a half-mile of the corridor. A half-mile walk is considered a reasonable distance for most people and includes all the municipalities in the project study area. The study used the NJDEP Canals and Water Raceways in New Jersey (2011) GIS<sup>2</sup> file and the Field Guide to the Morris Canal of New Jersey (a Greenway in the Making) (2014) to locate the historic canal and its features.

The analysis process primarily included identifying issues that could support or constrain implementation of bicycle and pedestrian facilities along the historic Morris Canal. It also included identification of opportunities to connect the greenway to nearby community attractions, schools,

parks, and public transportation, as well as historic features and interpretive sites. Potential physical and environmental constraints as well as land ownership were also considered.

### EXISTING AND PLANNED GREENWAY SEGMENTS

The investigation identified 38 miles of existing Morris Canal Greenway (Table 2.1). Of the existing greenway segments, about 28 miles are off-road and almost 10 miles are on-road. In addition, previous plans have proposed a continuous alignment for the Morris Canal Greenway in Warren County, Passaic County, and Jersey City.

Table 2.1. Miles of Existing Morris Canal Greenway by County

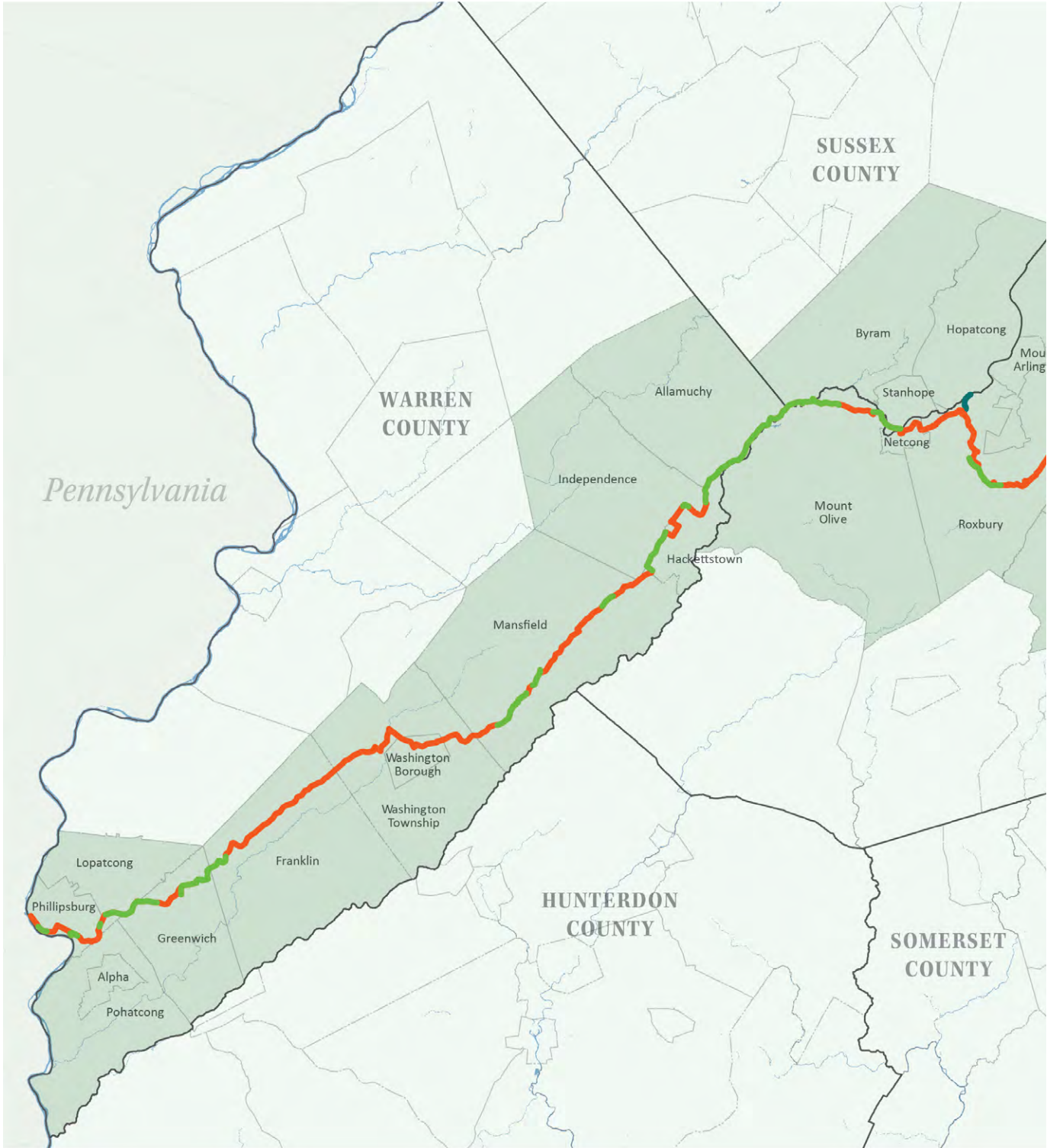
County	Miles of Existing Greenway	Existing Off-Road	Existing On-Road
Warren	13.5	13.5	0
Sussex	1.5	1.5	0
Morris	7.2	7.2	0
Passaic	9.5	1.8	7.7
Essex	4.5	2.4	2.1
Hudson	1.5	1.5	0
<b>TOTAL</b>	<b>37.7</b>	<b>27.9</b>	<b>9.8</b>

The following Map 2.1 displays existing segments of the Morris Canal Greenway.

<sup>2</sup> According to NJDEP, the GIS mapped location of the canal is approximate from historic maps and photographs and is not guaranteed to be accurate. Attribute accuracy was tested by overlaying Canals and Water Raceways in New Jersey over aerial photographs at a scale of 1:24,000. "Canals and Water Raceways of New Jersey," NJDEP, <http://www.state.nj.us/dep/njgs/geodata/dgs08-1md.htm>

2. Planning the Path: The Morris Canal Greenway Alignment

Map 2.1. Greenway Plan



**Legend**

- Existing Greenway
- Preferred Greenway Alignment
- Feeder Canal
- Study Area
- Counties
- Municipalities

Map 2.1 continued



Data Collection and Analysis

**DESTINATIONS**

There are a number of schools, parks, transit stops, trails, and other community assets along or near the Morris Canal historic canal route. Available GIS data<sup>3</sup> was used to identify the community destinations and features within a half-mile of the historic canal route. Figure 2.2 below highlights some of the findings.

**Business Districts**

The greenway is in close proximity to multiple downtowns and business districts. These destinations offer food, shopping, and other services. Many of these towns developed along the historic alignment of the Morris Canal. Business districts that are in within walking distance of the canal alignment include:

- » Phillipsburg, Warren County
- » Washington, Warren County
- » Hackettstown, Warren County
- » Netcong, Morris County

<sup>3</sup> Data Source: GIS information came from many individual sources, detailed in Appendix G.

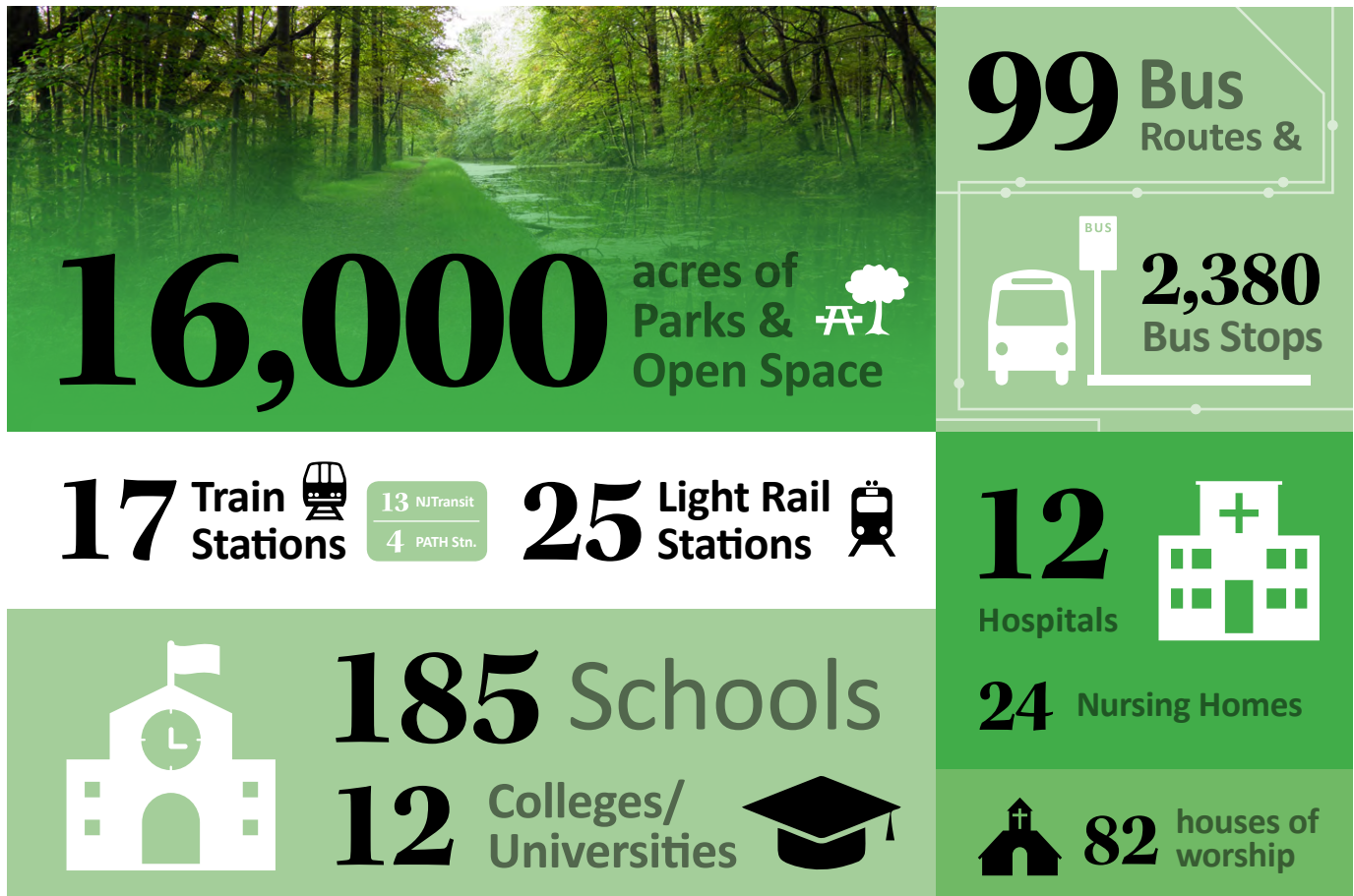


Figure 2.2. Destinations within a Half-mile of Historic Morris Canal Route

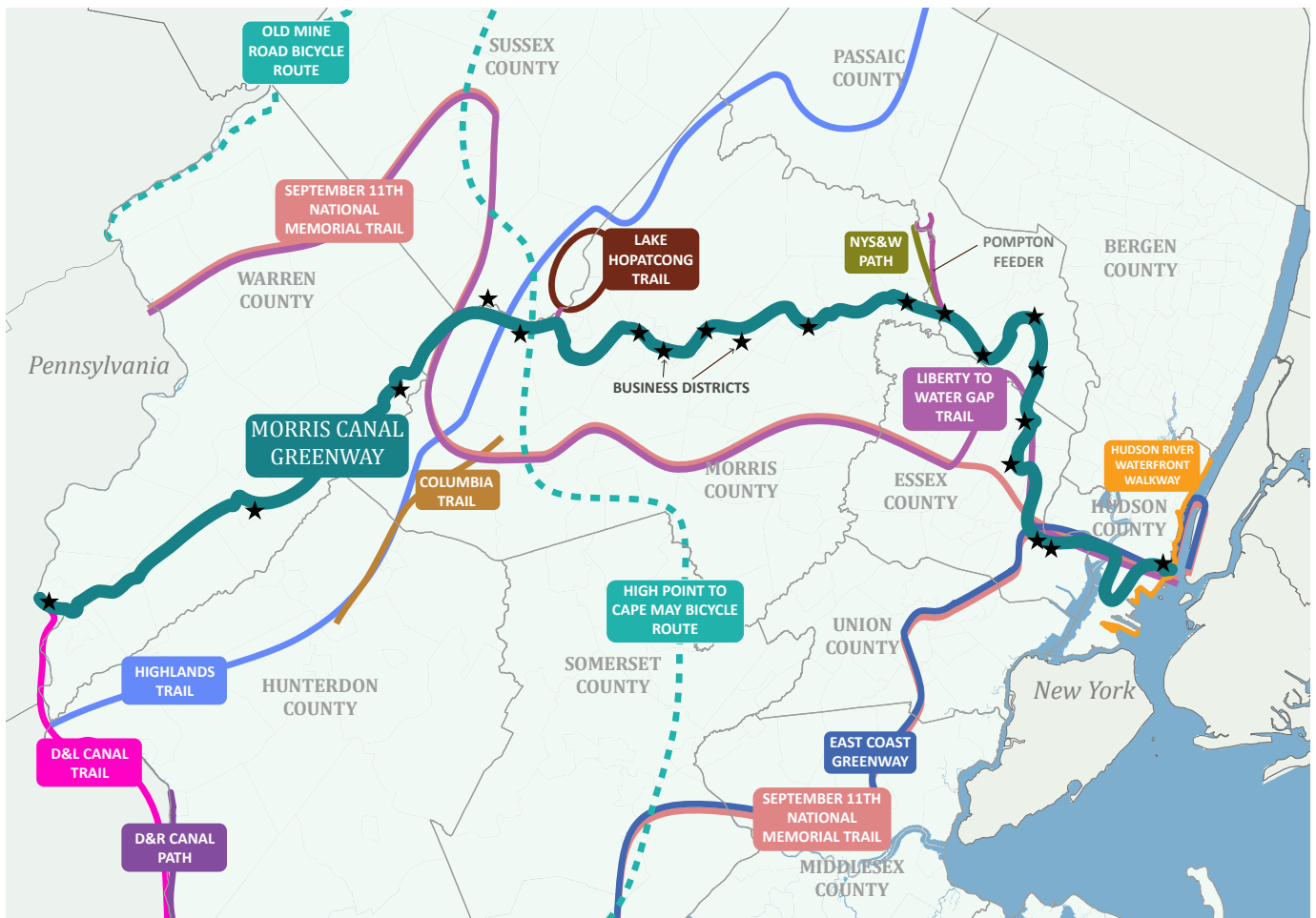


- » Wharton, Morris County
- » Dover, Morris County
- » Rockaway, Morris County
- » Denville, Morris County
- » Boonton, Morris County
- » Lincoln Park, Morris County
- » Landing, Morris County
- » Mountain View, Wayne, Passaic County
- » Little Falls, Passaic County
- » Paterson, Passaic County
- » Van Houten, Clifton, Passaic County

- » Bloomfield, Essex County
- » Newark, Essex County
- » Jersey City, Hudson County

### Connections to Other Trails

The Morris Canal Greenway has the potential to connect to existing and proposed trails such as the September 11th National Memorial Trail, Highlands Trail, East Coast Greenway, Hudson River Waterfront Walkway, Lenape Trail, Patriots' Path, Sussex Trail, Lake Hopatcong Trail, NYS&W Path, and the



Map 2.2. Network of Regional Trails

Data Source: NJDEP, NJDOT, NJTPA

## 2. Planning the Path: The Morris Canal Greenway Alignment

### Data Collection and Analysis

Pompton Feeder Trail, as well as local park trails. These connections, shown in Map 2.2 will form a network of trails that will provide access across northern New Jersey and the region.

#### **HISTORIC FEATURES, PROPERTIES & DISTRICTS**

The Morris Canal Historic District was listed in the New Jersey Register of Historic Places in 1973, and in the National Register of Historic Places in 1974, a relatively early date (the National register was established in 1966), indicating that those who sought New Jersey’s best-known historic resources for listing in the National register acknowledged the canal’s importance from the start.

There are 265 historic properties within the Morris Canal Historic District and remnants of physical structures are visible throughout the corridor, according to the state and national historic register listings. These remaining physical historic resources give the greenway much of its unique character and offer an opportunity to tell the story of the Morris Canal. Establishing a greenway can help to preserve culturally and historically valuable areas.

Major historic canal attractions and destinations identified by the Canal Society of New Jersey are listed in Table 2.2.



*Grooves in the stone along a lock beside the Musconetcong River were made by the ropes pulled by mules as they moved canal boats into position. Such authentic features evoke a deep sense of time and history.*



*Similarly, details such as the massive wrought iron cables that once hauled canal boats up Plane 9 West in ten minutes or so also give visitors a tactile sense of the technology involved.*

*Table 2.2. Major Historic Canal Attractions and Destinations*

1.	The Arch, Phillipsburg
2.	Plane 9 West, Jim and Mary Lee Museum, Stewartsville
3.	Bread Lock Park (Lock 7 West), Stewartsville
4.	Captain Campbell’s House, Washington Borough
5.	Port Colden
6.	Port Murray
7.	Waterloo Village
8.	Lock 2 West, Stanhope
9.	Lake Hopatcong Station
	a. Train Station
	b. Locktender's House, Lake Hopatcong Historical Museum
10.	Roxbury Township
	a. Lock 1 East, Riggs Canal Park
	b. Plane 2 East, Morris Canal Park
	c. Drakesville Historic Park
11.	Lock 2 East, Wharton
12.	Dover
	Rockaway
	a. Borough Downtown
13.	b. Circular Trail & Inclined Plane
14.	Denville Peers Store
15.	Powerville Hotel, Boonton (part of the Underground Railroad)
16.	Boonton Trails & Ironworks
17.	Pompton Feeder
18.	Little Falls Old Aqueduct
19.	Great Falls, Paterson
20.	Collins House, Bloomfield
21.	Branch Brook Park, Newark
22.	Liberty State Park, Jersey City

## 2. Planning the Path: The Morris Canal Greenway Alignment

### Data Collection and Analysis

#### PHYSICAL OBSTRUCTIONS

When the operation of the canal ended in 1924, legislation retained Lakes Hopatcong and Musconetcong, Cranberry Lake, Bear Pond, Saxton Falls, and Greenwood Lake for public use, and the remaining Morris Canal property was sold,<sup>4</sup> creating several barriers and constraints as pointed out in Table 2.3. Many sections were purchased and developed by municipalities, adjacent property

<sup>4</sup> *The Morris Canal – capsule history taken from the book “Morris Canal – A Photographic History” by James Lee, accessed from <http://www.morriscanal.org/history.htm>*

Table 2.3. Examples of Barriers and Constraints by County

County	Constraint
Warren	<ul style="list-style-type: none"> <li>Route 22 crossing, Phillipsburg</li> <li>Route 57 and other local roadways</li> </ul>
Sussex	<ul style="list-style-type: none"> <li>I-80, Byram</li> <li>Mule Bridge, Waterloo</li> </ul>
Morris	<ul style="list-style-type: none"> <li>I-287, Boonton</li> <li>Rockaway River, Denville</li> <li>I-80 and Route 46 crossing, Roxbury Township</li> </ul>
Passaic	<ul style="list-style-type: none"> <li>I-80 and Route 46 crossing, Totowa</li> <li>I-80, Paterson</li> </ul>
Essex	<ul style="list-style-type: none"> <li>Garden State Parkway, Bloomfield</li> <li>Light Rail, Newark</li> <li>NJ Turnpike and US 1&amp;9 ramps, Newark</li> </ul>
Hudson	<ul style="list-style-type: none"> <li>Passaic and Hackensack Rivers</li> <li>Route 440 and local roadways, Jersey City</li> <li>NJ Turnpike Newark Bay Extension and Interchange 14A, Bayonne and Jersey City</li> <li>National Docks Secondary freight rail line</li> </ul>

owners, and other public and private entities. Schools, residential subdivisions, industrial expansions, and redevelopment projects built along the original alignment create challenges for greenway routing. Encroachment by adjacent properties is also an issue along the corridor. Gardens and garages located on the historic canal right-of-way were observed during field investigations. Other segments of the historic Morris Canal have been repurposed for road and rail. Interstates I-80, I-287, and the Newark Subway all use sections of the historic canal alignment.



Rockaway River crossing, Denville. A reconstructed river crossing is needed. The abutment from the historic aqueduct can be seen in the center of the river.



Route 22 crossing, Phillipsburg/ Pohatcong – Existing Greenway segment to east and west of Route 22, but there is no crossing available.

## Preserved Farmland

The Morris Canal Greenway preferred alignment crosses a number of farms preserved through the Farmland Preservation Program administered by the State Agriculture Development Committee (SADC). Farms or development easements acquired through the Farmland Preservation Program are forever protected for agricultural use. While this landscape helps preserve the character of the historic canal, the encumbrance does not make farmland public property and the public has no right to access the farm without the owner's consent. However, there are procedures to allow public access across preserved farmland.

- **DEED OF EASEMENT** — a voluntary use agreement allowing for passive recreation while utilizing the farm in its existing condition.<sup>5</sup> The rights to the property are retained by the owner and access can be denied at any time. The lack of a permanent access arrangement and inability to make improvements to the facility under a deed of easement are an obstacle for planning a long-term greenway.

- **VOLUNTARY CONDEMNATION** — if a trail-building organization wishes to protect significant investment (such as surfacing the trail), a “taking” process might be appropriate. This is sometimes referred to as a “friendly condemnation” meaning both parties agree and use the formal condemnation process to ensure proper paperwork and permanent access. The same official procedure as used by other public-purpose projects that need to cross private land would be pursued, but with the property owner's consent and cooperation.<sup>6</sup>

- **EMINENT DOMAIN** — if the trail-building organization is a public body, then a notice of intent would need to be filed and reviewed by the County Agriculture Development Board (CADB) and SADC for project impact on the preserved farmland and for recommendation to the Governor. If the Governor declares that the use of eminent domain is necessary for public health, safety, and welfare and there is no feasible alternative, then a right of access can be formalized.<sup>7</sup>

- **EXCEPTION AREA** — for farmland under consideration for future preservation, an exception area for a future trail can be set aside when designating the agricultural deed of easement's boundaries. The Farmland Preservation Program does not pay for the exception area, and the landowner is free to negotiate with the trail builder without involvement of preservation agencies.<sup>8</sup>

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5 “*Interpreting the Provisions of the Deed of Easement, Report No. 1, General Guidance*,” by the State Agricultural Development Committee, *Deed of Easement Assessment Subcommittee* (2011), <http://www.nj.gov/agriculture/sadc/farmpreserve/postpres/reportgeneralguidance.pdf>

6 “*Landowner Guide to SADC Procedures for the Condemnation of Preserved Farmland*,” by the State Agricultural Development Committee (July 2015), <http://www.state.nj.us/agriculture/sadc/news/hottopics/Condemnation%20Procedural%20Guidelines%20for%20SADC%20Website%20FINAL%2007072015.pdf>

7 N.J.S.A. 4:1C-25. *Eminent domain; funding for construction of facilities to serve nonfarm structures*

8 “*Exception Areas*,” by the State Agricultural Development Committee (November 19, 2012), <http://www.nj.gov/agriculture/sadc/publications/exceptionsSign.pdf>

### Data Collection and Analysis

#### ENVIRONMENTAL CONDITIONS

There are environmental constraints along the historic canal alignment, including high-risk flood hazard areas, known contaminated sites, wetlands, brownfields, and classification exception areas. Based on preliminary regulatory analysis, it does not appear that there are any fatal flaws that would preclude implementation of the greenway. However, a very detailed regulatory analysis will be required in the future when the different segments enter into the design phase.

From an environmental constraints perspective, the approach that NJDEP typically requires is as follows:<sup>9</sup>

- **Wetlands, Waters and Wetland Transition Areas:** Project sponsors should try and avoid impacting these areas. If impacts are unavoidable, they should be minimized, with the impact primarily made to the wetland transition area rather than to the wetlands themselves. If permanent wetland impacts are unavoidable, they are required to be mitigated.
- **Brownfield Sites/Hazardous-Contaminated Material Sites:** Depending on the contaminant and risk, brownfield properties or any properties containing hazardous or contaminated materials would not necessarily preclude construction of the trail. Site remediation or use of engineering controls such as earth or macadam caps, fencing and signage may be incorporated to keep greenway users from accessing contaminated areas or being exposed to contaminated material.
- **Watercourses/Floodways, Floodplains & Flood Hazard Areas/Riparian Buffer Areas:** Project sponsors must comply with current NJDEP flood/riparian regulations if impacting state regulated areas. Construction can be allowed within a Flood Hazard Area provided there is a 0 percent No Net Loss in flood storage area.
- **Historic Properties (Archaeology, Historic Architecture):** Establishing a greenway would not only increase the recreational space throughout the corridor, it would also help to preserve culturally and historically valuable areas. In cases where the NJ State Historic Preservation Office (NJSHPO) determines that there may be an adverse impact to an historic property or structure, mitigation may be required. Mitigation can take a number of different forms, from data recovery and recordation, to signage, to providing historical research reports or more fully investigating the historic properties/sites history.

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<sup>9</sup> "The Permit Process," NJDEP, <http://www.nj.gov/dep/landuse/process.html>, (February 2018)

## Preliminary Routing Options

Alignment options for the greenway were developed based on stakeholder input, inventory and analysis, and prior studies. The Morris Canal corridor was divided into 45 segments for analysis based on area characteristics, logical termini, potential connections, and relationship to other planning studies and projects. In cases where the canal has been built upon or is no longer accessible, possible on- and off-road alternatives have been identified.

The example in Figure 2.3 illustrates potential routes for short-to-medium-term in orange (Segment 27c);

existing segments in green and long-term segments in purple (Segment 28a) in Totowa and Little Falls. The historic canal alignment is displayed as a dashed green line. The preferred long-term alignment (purple line) follows this closely. Since development of that alignment will require negotiation of access across several private properties and a new river crossing, it is anticipated to take several years. In the interim, an on-road interim route could be made that follows Union Avenue and Main Street (dashed orange line).

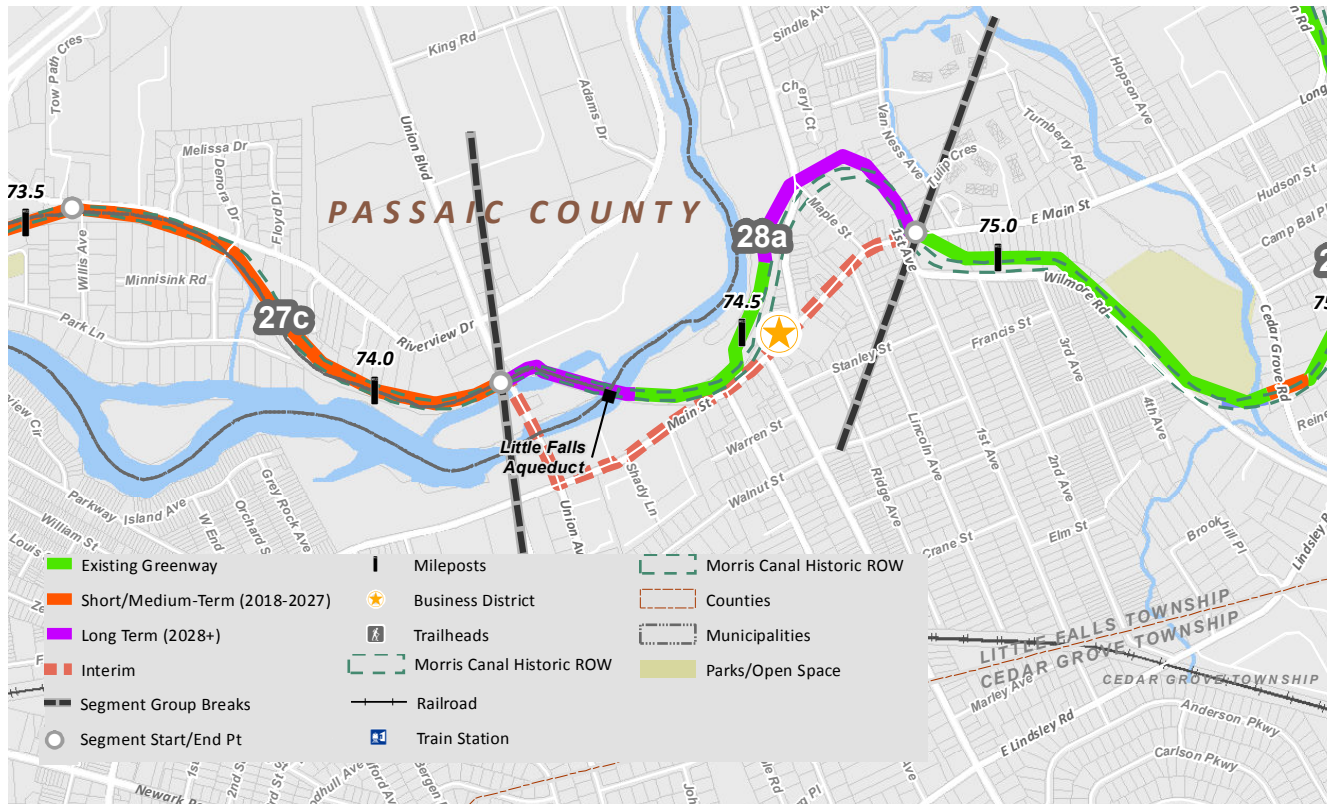


Figure 2.3. Routing Example, Segment 28a

### Data Collection and Analysis

#### **EVALUATION AND REVIEW**

The routing options were presented to the MCWG for review and added to the WikiMapping site for refinement and feedback. Alignment options were evaluated for each segment using the following criteria:

##### **I. Existing path**

A primary objective of developing routing options was based on connecting existing segments of the greenway.

##### **II. Planned or proposed path**

This study builds upon existing planning efforts and initiatives. Segments vetted through another planning study were refined where necessary.

##### **III. Proximity to historic canal**

Proximity to the historic canal route contributes to an authentic experience for the user while also providing opportunities for historic interpretation. If a significant structure or interstate highway was built on the historic alignment, the greenway should take an alternate route to avoid conflict.

##### **IV. Destinations along the route**

Access and linkages to parks and trails, historic sites and tourist attractions, schools, business districts, public transit, and amenities and services were prioritized.

##### **V. Safety**

Number of access points, minimizing conflict points (roadway and rail crossings), and separation from motor vehicle traffic (off-street versus on-street) were considered.

##### **VI. Length/ direct connections**

Circuitous routes away from the historic alignment were avoided to the extent possible.



## Preferred Greenway Alignment

After receiving feedback and input on the alignment options, a draft preferred alignment for the Morris Canal Greenway was identified. The draft preferred alignment was vetted with the TAC and reviewed by the Canal Society of New Jersey prior to finalization as the preferred Morris Canal Greenway alignment. The preferred alignment is shown in overview on Maps 2.3, 2.4 and 2.5. Detailed maps of the preferred alignment along with an implementation matrix of recommended improvements can be found in Appendix C.

The preferred Morris Canal Greenway alignment is characterized in this study as either **existing, short- to medium-term** (within 10 years), or **long-term** (expected completion after 10 years from now), Figure 2.4 shows a graphic representation of this phased implementation. The distinction in timeframe is based on the best information available at the time of this study.

- **Existing** segments are where the public can walk and bike along a path or designated on- road facility today.
- **Short- to Medium-term** segments are estimated to be completed within a 10-year timeframe (by 2028), contingent upon funding resources.

This includes projects that may only require sign installation, pavement striping, or minor surface enhancement and larger shared use path construction that will be typical along many segments of the greenway.

- **Long-term** projects are those where the identified greenway alignment traverses private property or where there is major construction anticipated. Solutions to property access can include securing easements from private property owners, subdividing parcels, and purchasing property for greenway development, all of which could potentially take extensive effort and time to implement. Major construction examples include crossing highway ramps, and building river crossings where historic bridges have long since been removed and reconstruction will likely involve detailed environmental permitting and phased planning, preliminary and final design.
- **Interim** routes were proposed as shorter-term temporary alternatives to segments that will be implemented in the long-term.

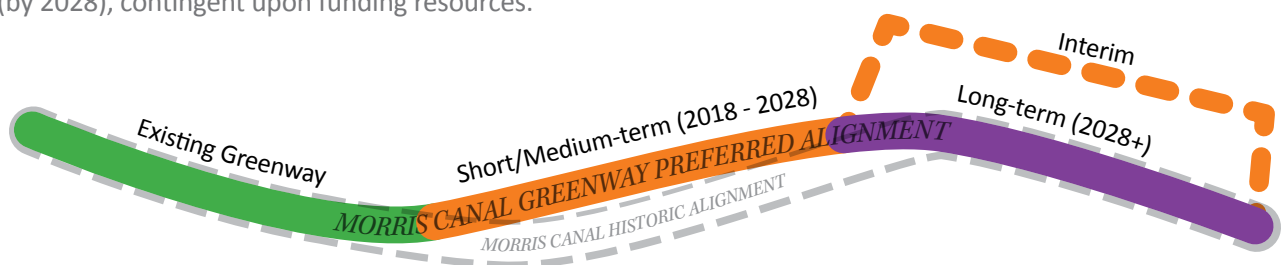


Figure 2.4. Preferred Alignment Segment Types

## 2. Planning the Path: The Morris Canal Greenway Alignment

### Preferred Greenway Alignment

Development of the greenway will take place incrementally over an extended period of time. The recommended alignment and interim routes identified through this study will continue to be refined to conform to circumstances such as modifications to mapping of the historic canal alignment, future conditions, and the needs of property owners and local jurisdictions.

The preferred greenway alignment is 111 miles, which is 9 miles longer than the historic Morris Canal. A little over a third of the greenway exists today, a third has potential to be completed in the short- to medium-term, contingent upon funding availability, and a third in the long-term. Two-

thirds, or 70 miles, of the preferred alignment can be off-road. The rest is on-road or a road-side path. Tables 2.4 and 2.5 summarize timeframes for implementation and list on-road and off-road miles of greenway by county. A glossary of term used in the maps and implementation matrix is included Appendix D. A list of potential funding sources is included in Appendix E. Municipalities along the greenway corridor are listed in Appendix F.

*Table 2.4. Preferred Greenway Alignment - Short-to-Medium-Term and Long-Term Development Mileage Summary by County*

<i>County</i>	<i>Existing</i>	<i>Short/Medium- Term</i>	<i>Long-Term</i>	<i>Total Miles</i>
Warren	13.5	9.6	11.6	34.7
Sussex	1.5	0	0	1.5
Morris	7.2	12.8	15.9	35.9
Passaic	9.5	4.7	0.7	14.9
Essex	4.5	10.2	0	14.7
Hudson	1.5	3.9	4.0	9.4
<b>TOTAL miles</b>	<b>37.7</b>	<b>41.2</b>	<b>32.2</b>	<b>111.1</b>
<b>TOTAL %</b>	<b>34%</b>	<b>37%</b>	<b>29%</b>	<b>100%</b>



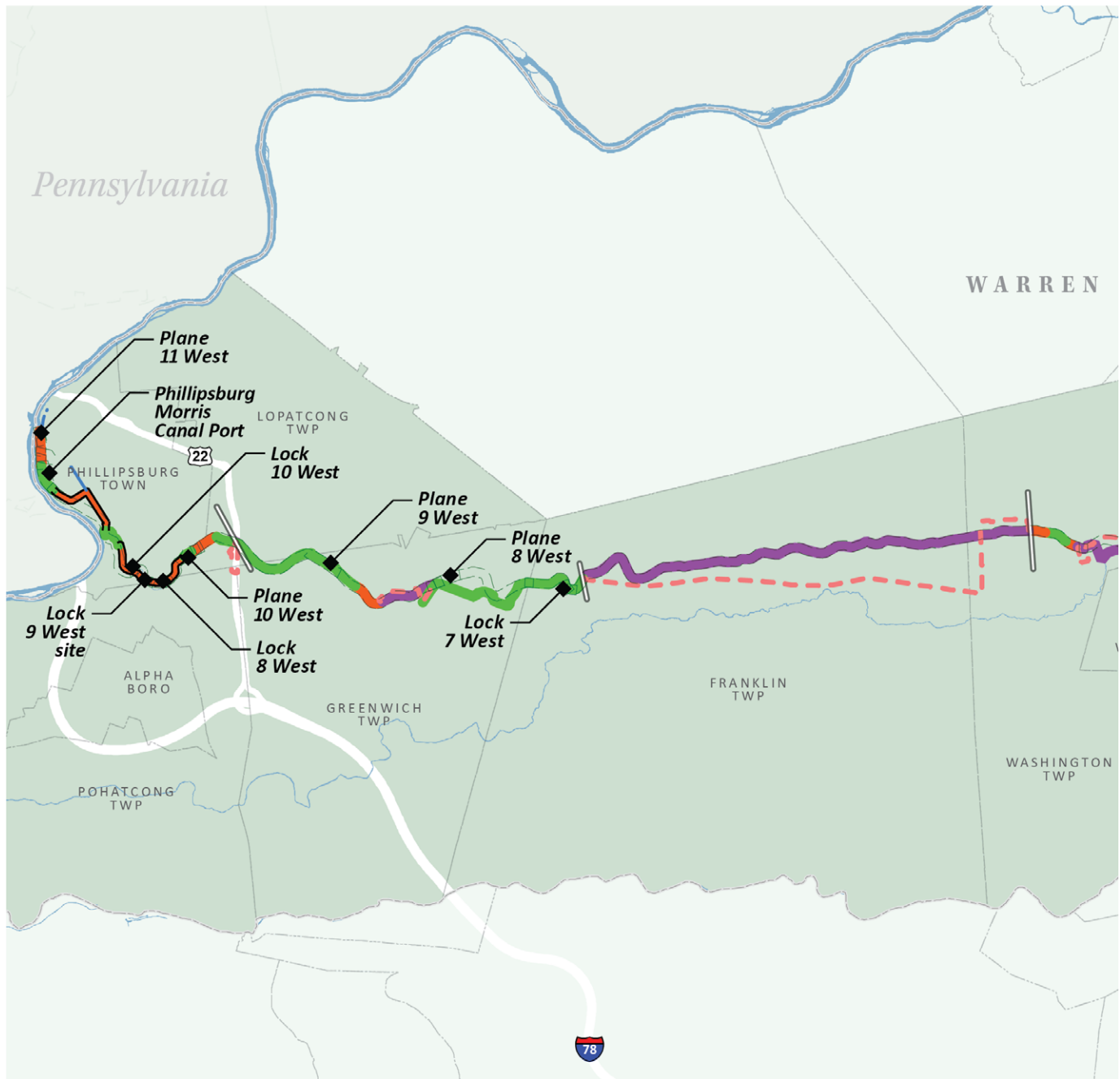
Morris Canal, Hudson County

Table 2.5. Preferred Greenway Alignment - Miles of Off-Road and On-Road/Road-Side Greenway by County

<i>County</i>	<i>Off-Road</i>	<i>On-Road or Road-side</i>	<i>Total Miles</i>
Warren	29.0	5.7	34.7
Sussex	1.5	0	1.5
Morris	23.3	12.6	35.9
Passaic	5.9	9.0	14.9
Essex	5.7	9.0	14.7
Hudson	4.5	4.9	9.4
<b>TOTAL miles</b>	<b>69.9</b>	<b>41.2</b>	<b>111.1</b>
<b>TOTAL %</b>	<b>63%</b>	<b>37%</b>	<b>100%</b>

## 2. Planning the Path: The Morris Canal Greenway Alignment

Map 2.3. Preferred Greenway Alignment - Western Section

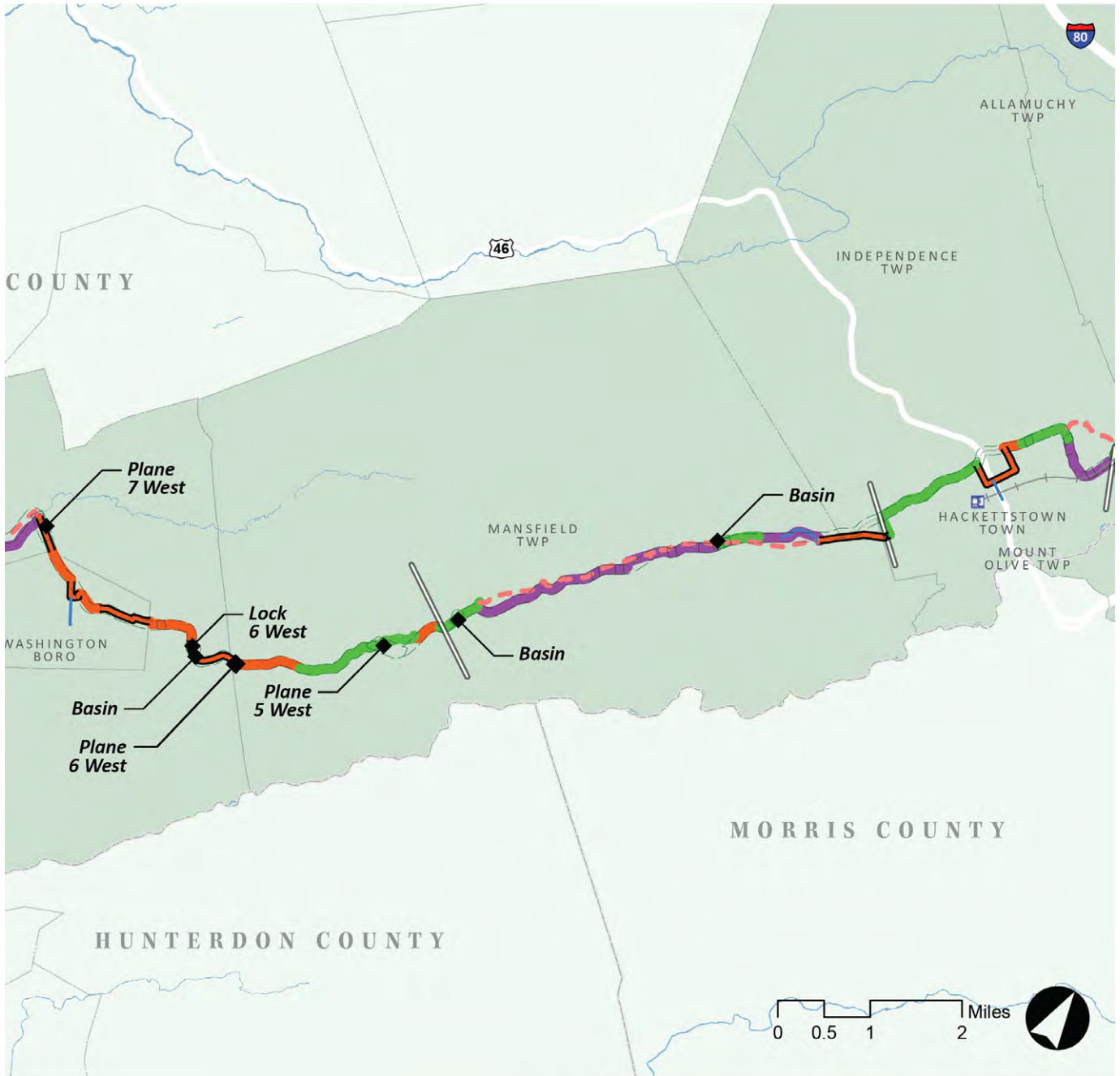


### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

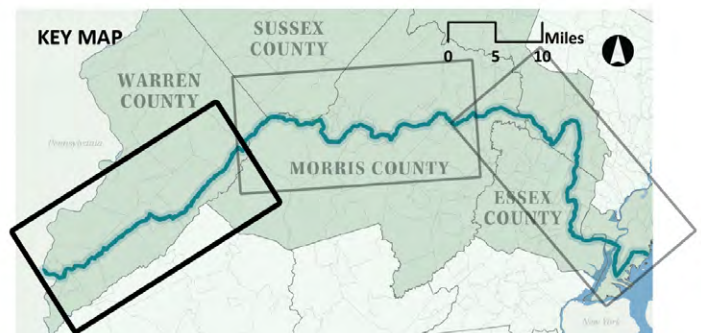
On-/Off-Rd			
Existing Greenway	Spurs/Connections	Morris Canal (Historic ROW)	Municipalities
Short/Mid-Term (2018-2027)	Spur (Proposed)	Feeder canal	Railroad
Long Term (2028+)	Segment Breaks	Study Area	Train Station
Interim		Counties	Canal Features

Map 2.3 continued



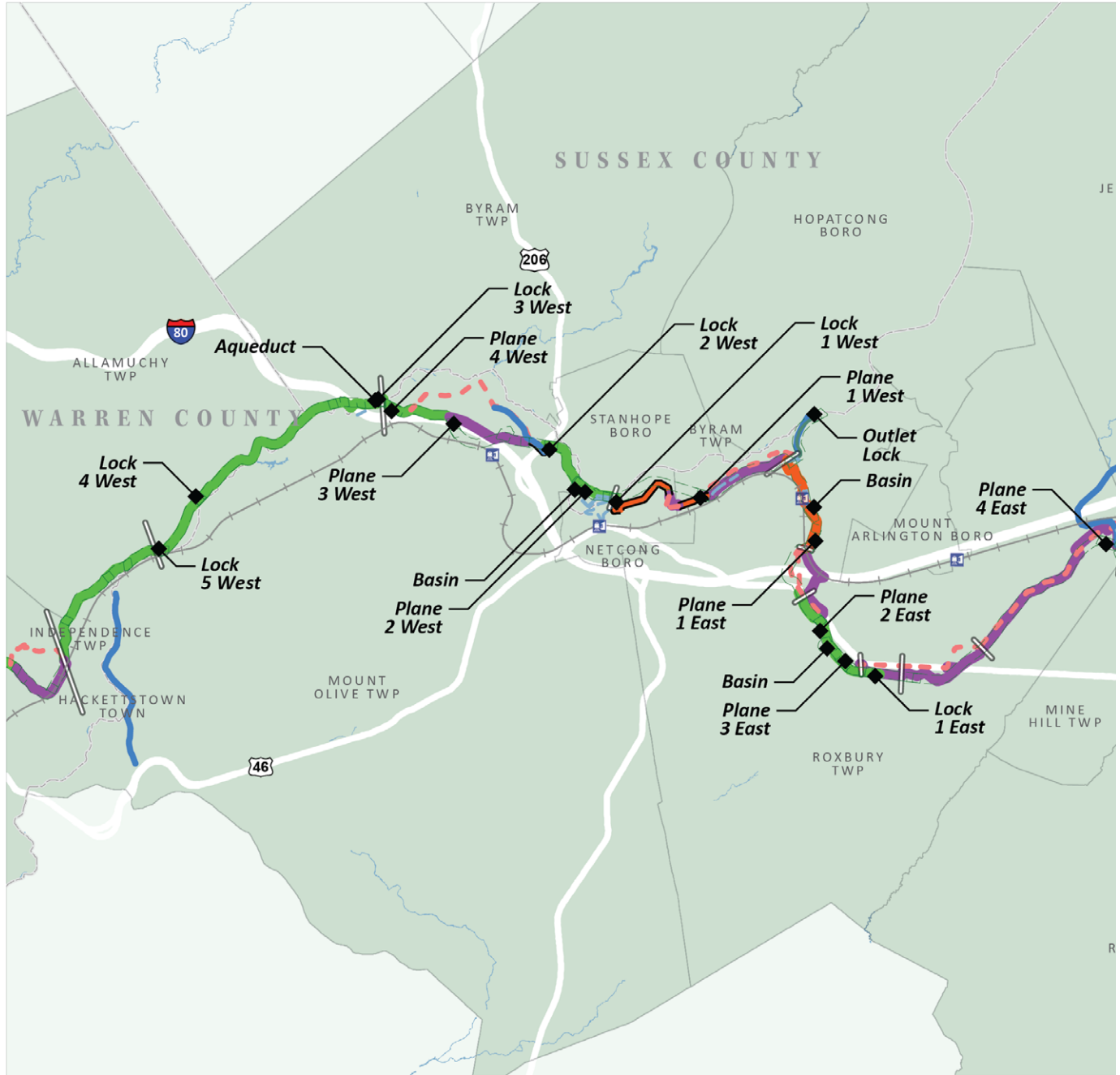
Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.

Source: MCGCS Study, *Morris Canal Greenway Preferred Alignment, Spurs*; NJDEP, *Morris Canal Historic ROW & Canal Features* (2008), NJOIT, *County & Municipal Borders* (2016), *Railroads & Train Stations* (2017) *Roads* (2017); for additional information refer to Appendix G: GIS Data Sources



## 2. Planning the Path: The Morris Canal Greenway Alignment

Map 2.4. Preferred Greenway Alignment - Central Section

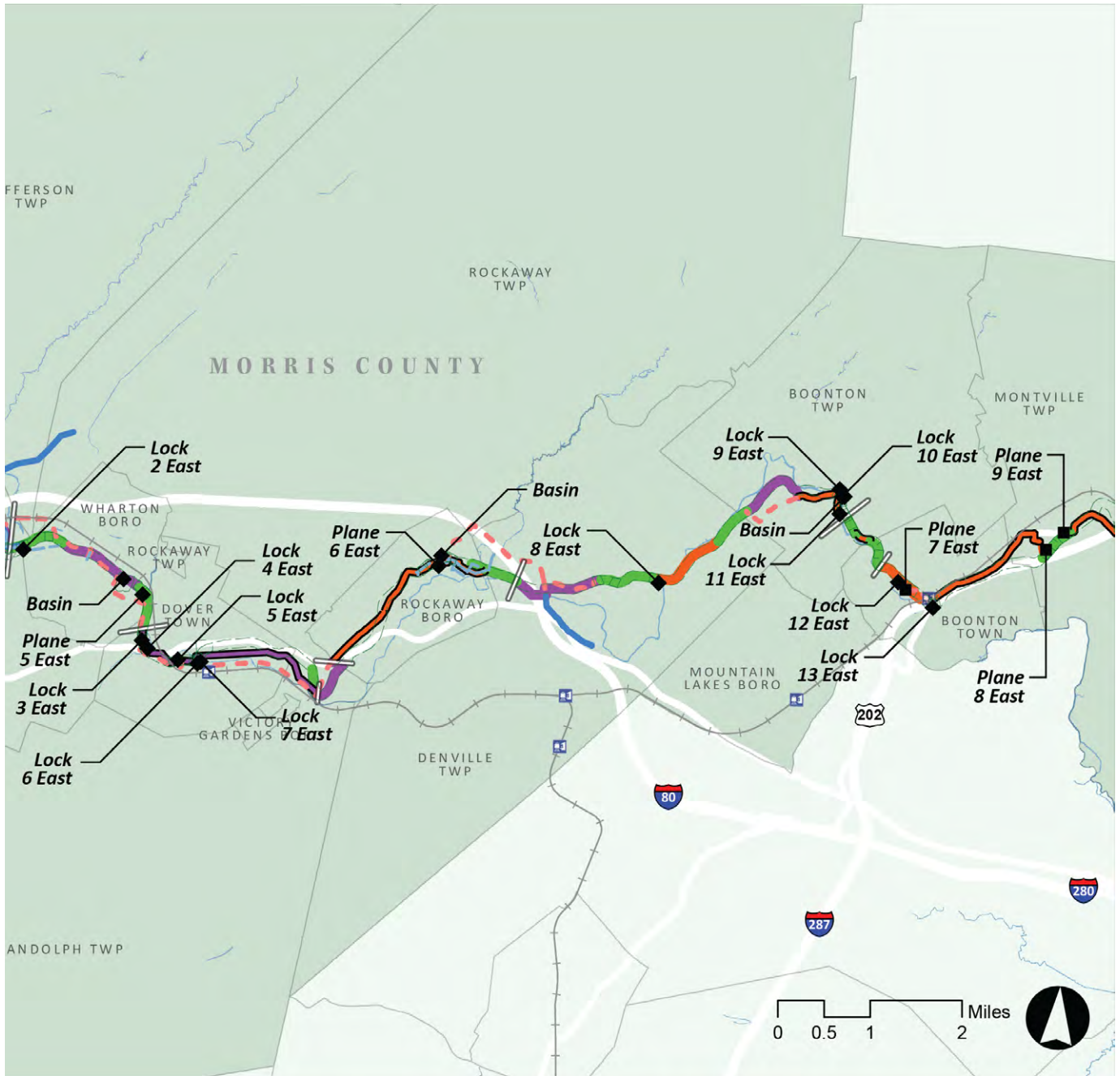


### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

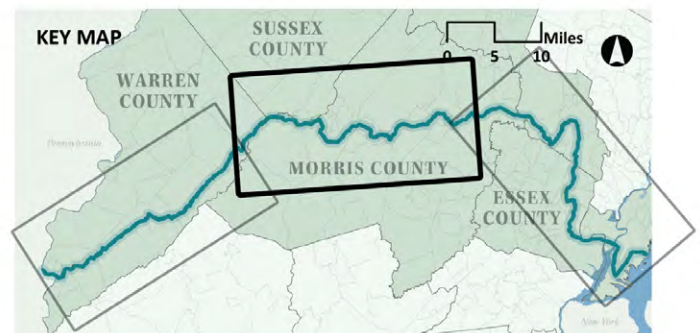
On-/Off-Rd			
Existing Greenway	Spurs/Connections	Morris Canal (Historic ROW)	Municipalities
Short/Mid-Term (2018-2027)	Spur (Proposed)	Feeder canal	Railroad
Long Term (2028+)	Segment Breaks	Study Area	Train Station
Interim		Counties	Canal Features

Map 2.4 continued



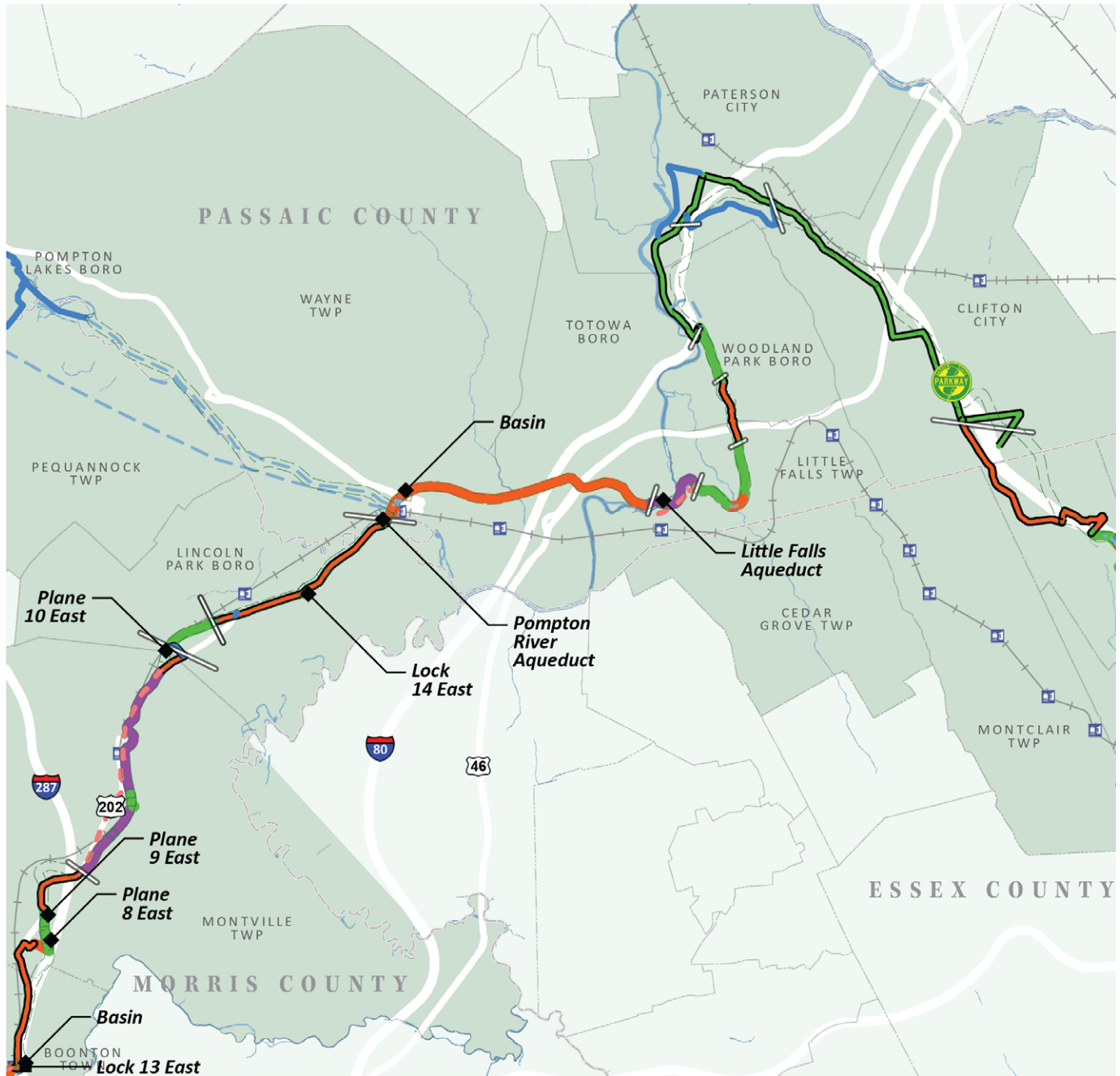
Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.

Source: MCGCS Study, *Morris Canal Greenway Preferred Alignment, Spurs; NJDEP, Morris Canal Historic ROW & Canal Features (2008), NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017) Roads (2017); for additional information refer to Appendix G: GIS Data Sources*



## 2. Planning the Path: The Morris Canal Greenway Alignment

Map 2.5. Preferred Greenway Alignment - Eastern Section



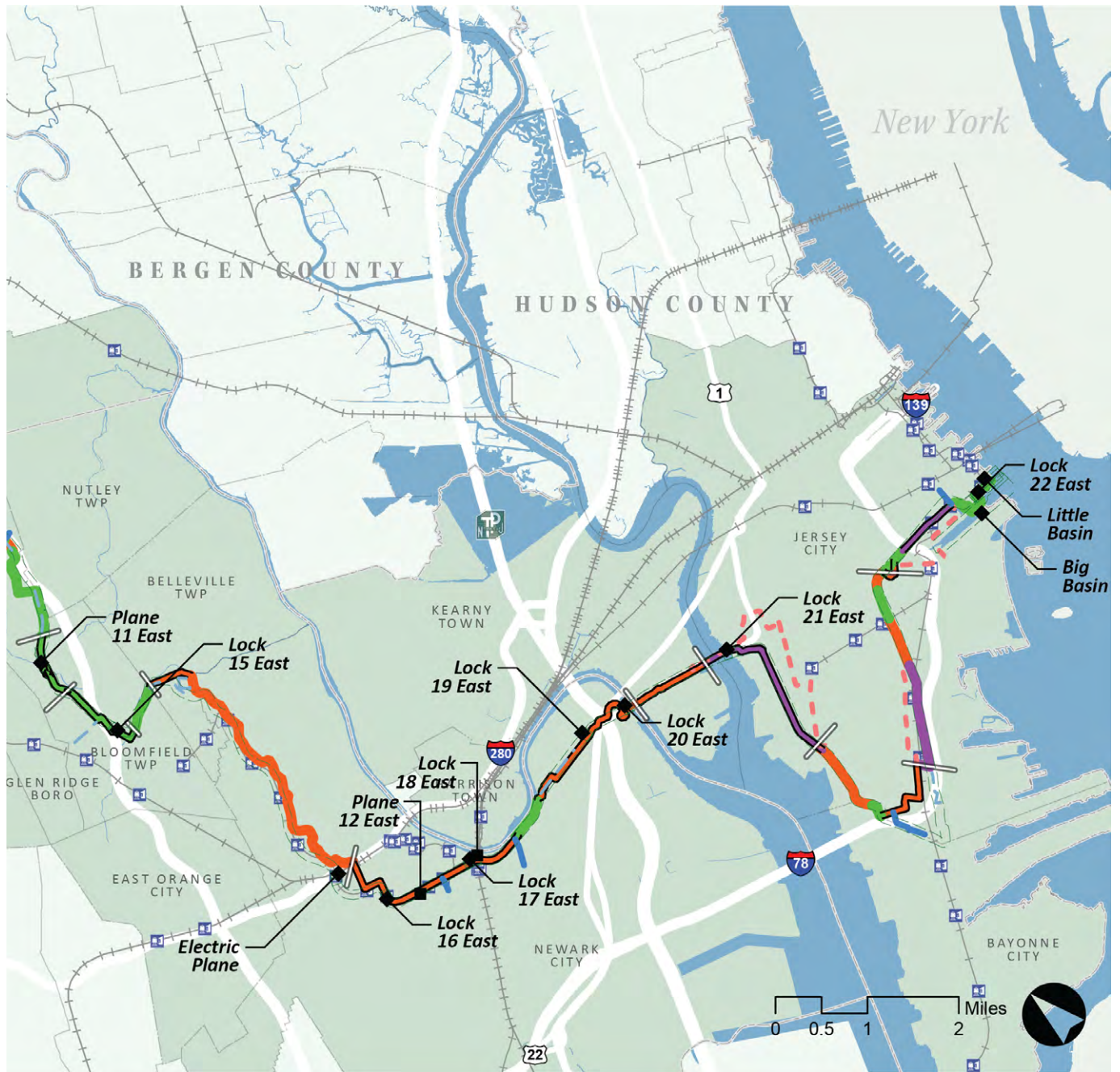
### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On-/Off-Rd			
Existing Greenway	Spurs/Connections	Morris Canal (Historic ROW)	Municipalities
Short/Mid-Term (2018-2027)	Spur (Proposed)	Feeder canal	Railroad
Long Term (2028+)	Segment Breaks	Study Area	Train Station
Interim		Counties	Canal Features

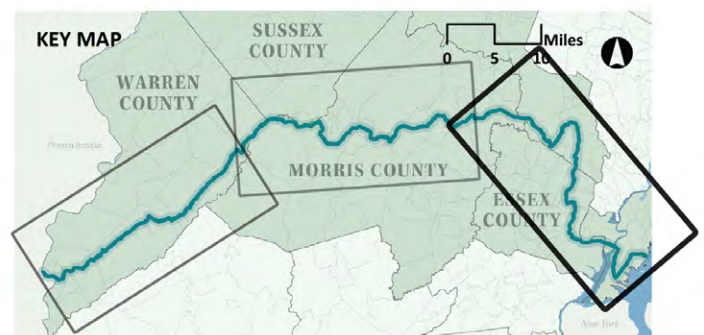


Map 2.5 continued



Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.

Source: MCGCS Study, Morris Canal Greenway Preferred Alignment, Spurs; NJDEP, Morris Canal Historic ROW & Canal Features (2008), NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017) Roads (2017); for additional information refer to Appendix G: GIS Data Sources





CHAPTER 3

# Building the Greenway

*Fig. 1.*



## CHAPTER 3

# Building the Greenway

### Introduction

The unique and varying conditions of the Morris Canal Greenway as it traverses urban, suburban, and rural contexts pose both design challenges and opportunities. The physical structure of the greenway will change throughout its length. This is based on the condition of the historic canal corridor and its right-of-way, property ownership, environmental constraints, and other local conditions. This chapter describes typical sections to illustrate the four anticipated configurations, or facility types, of the greenway. A separate appendix on design guidelines (Appendix A) provides details and guidance for selecting design elements and determining the general characteristics of the path. Final greenway design may deviate from the facility types described below, but should be guided by these typical sections to help create a consistent greenway treatment over the 111-mile corridor. The design features should inform the users about the uniqueness of the facility that embraces the history of the Morris Canal.

### Key Strategies

- Ensure a unifying and recognizable greenway design
- Highlight greenway economic benefits

It should be noted that wherever appropriate, the design treatments incorporate a Complete Streets approach to balance the needs of all users. All projects also incorporate features to comply with the current Americans with Disabilities Act (ADA) guidelines.

A continuous greenway across northern New Jersey should be built on the success of local greenway segments, and priority should be given to extending the existing segments rather than constructing new stand-alone segments. Examples of some such projects have been provided at the end of this chapter.

**URBAN** *Mixed Use, Park or Open Space, Industrial*



**SUBURBAN** *Residential, Park or Open Space, Commercial*



**RURAL** *Downtown and Village, Park or Open Space, Agriculture*



## Facility Types

Design recommendations for the anticipated physical configuration of the greenway can be categorized by four (4) facility types. Facility types range from shared use paths (canal-side, off-road or road-side) to on-road bicycle and pedestrian design treatments, such as bicycle lanes and sidewalks. Each facility type is characterized by varying widths, separation from motor vehicle traffic, surface treatments, pavement markings, and other physical design features.

Sketch level improvement recommendations for each facility type are provided later in this chapter. These include three-dimensional typical cross section views of the concept with a range of dimensions for all critical design features, and photos of similar existing segments along the Morris Canal Greenway. Whenever possible, the greenway should be separate from motor vehicle traffic and follow as closely as possible the historic canal alignment. As with any pedestrian facility, the surface should be firm, stable, and slip resistant in order to meet accessibility guidelines<sup>1</sup>. As the greenway is expanded, each separate project design should draw from these guidelines to ensure consistency and create a cohesive statewide facility that will be safe and enjoyable for trail users of all ages and abilities. The history and context of the Morris Canal creates a series of unique but important ways that greenway users will experience

or interact with the historic canal right-of-way. It is important that the historic integrity and quality of the canal is celebrated while also creating a safe, and enjoyable experience for the greenway travelers. Special consideration will be made in the planning and design of the greenway to ensure that the historic interpretive elements are appropriately identified, understood, and addressed.

In order of preference, the facility types are as follows:

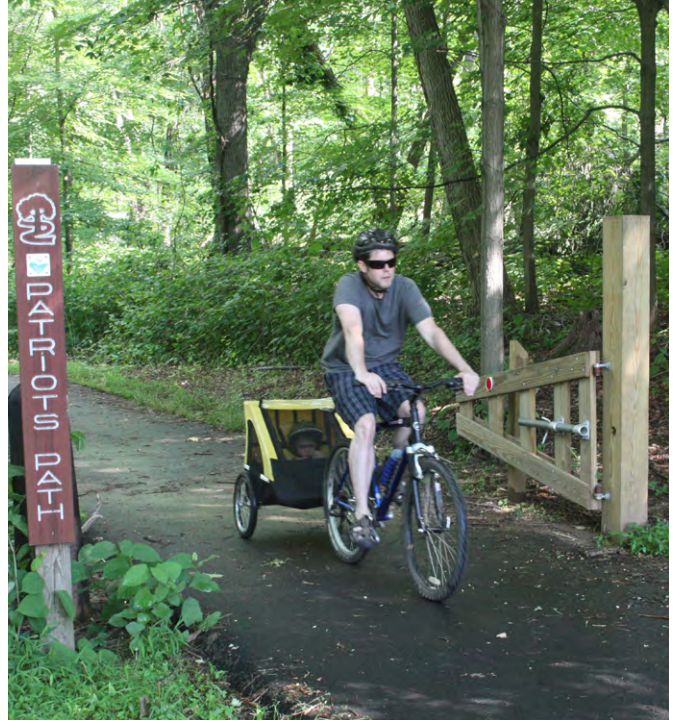
- **Canal-Side Shared Use Path:** A shared use path located on or adjacent to the historic towpath.
  - Examples: Wharton, Stanhope, Saxton Falls, and Lopatcong
- **Off-Road Shared Use Path:** A shared use path typically through a wooded area, open space or park that is not adjacent to a roadway.
  - Examples: Lincoln Park, Woodland Park, Little Falls, and Jersey City
- **Road-Side Shared Use Path:** A shared use path parallel to and separated from a roadway and within the roadway right-of-way.
  - Examples: Stewartville, Woodland Park, and Phillipsburg
- **On-Road Facility:** This typical section can take many forms, but is often a bicycle lane with an adjacent sidewalk.
  - Examples: Paterson, Roxbury, and Netcong

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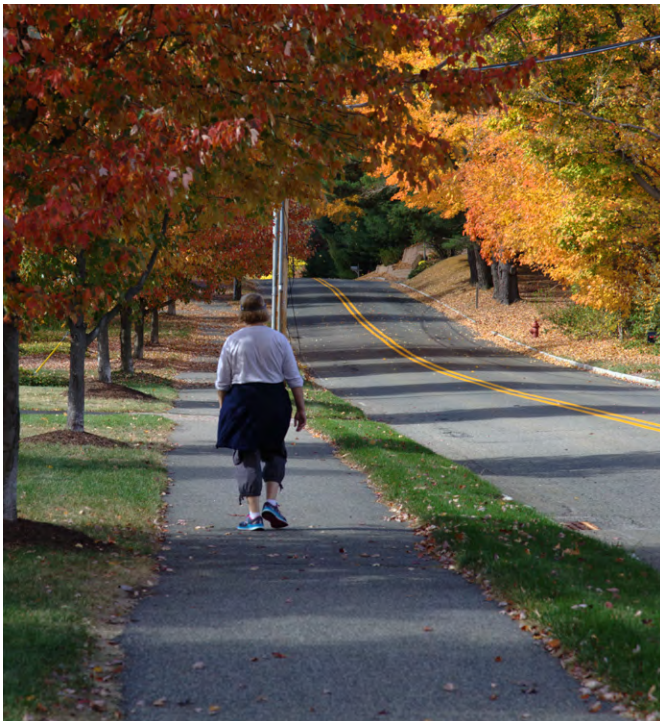
<sup>1</sup> US Access Board <https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines/chapter-r3-technical-requirements>



*Erie Canal Trail near Holley, NY*



*Patriots Path in Hanover, Morris County, NJ*



*Patriots Path in Randolph, Morris County, NJ*



*Connect Hanover Trail, Hanover, NJ*

### 3. Building the Greenway

#### Facility Types

##### **CANAL-SIDE SHARED USE PATH**

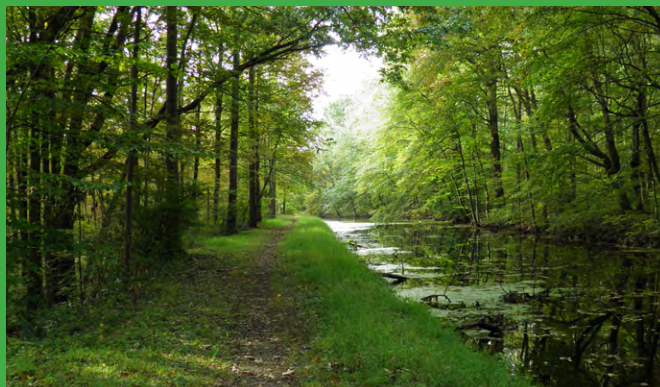
A canal-side shared use path enables trail users to feel most connected with the story of the canal. Located adjacent to the historic canal, these sections can vary in look and feel from following a watered or dry canal bed, an inclined plane with or without rails, and historic lock areas (Figure 3.1). Each of these embrace the history of the canal corridor. Traveling along the historic Morris Canal towpath or on a nearby path, becomes a life experience for users and visitors instead of a re-imagination. For this reason, creating a canal-side shared use path along as much of the corridor as is feasible is the ultimate goal of the Morris Canal Greenway effort.

From a functional standpoint, a path fully separated from motor vehicle traffic is the ideal facility configuration because it provides a safe trail experience for all ages and abilities.

#### Example Locations in the Corridor with a Canal-Side Shared Use Path



*Hugh Force Park, Wharton, Morris County*



*Stanhope, Sussex County*

*Credit: Charlie Fineran*

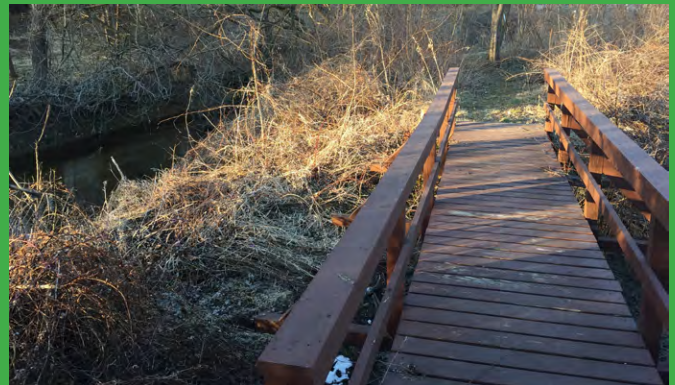




Figure 3.1. Canal-Side Shared Use Path Cross Section



Lock 9 West, Greenwich Township, Warren County



Stewartsville, Warren County

### 3. Building the Greenway

#### Facility Types

##### OFF-ROAD SHARED USE PATH

Off-road shared use paths are a variation of a shared use path that is located along an independent alignment, not adjacent to a roadway corridor or existing canal feature (Figure 3.2). These segments will be shared by pedestrians and bicyclists and serve as excellent connections between parks, or other destinations that may not have separate facilities for walking or bicycling. These paths will typically be 10 to 14 feet wide, with a minimum of 8 feet if they are to be shared for two-way bicycle travel.<sup>2</sup>

<sup>2</sup> AASHTO *Bicycle Design Guideline*

The historic surface treatment was earthen or crushed stone. To withstand potentially higher use, especially in wet or snowy weather, and to ensure compliance with ADA guidelines,<sup>3</sup> a more stable surface such as asphalt or concrete is recommended. Asphalt is an ideal surface for this facility type due to its durability, cost, and ease of maintenance. Concrete or pavers are also suitable for transitions at roadway crossings, rest areas or as accents to highlight points of interest.

<sup>3</sup> PROWAG <https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines>

#### Example Locations in the Corridor with an Off-Road Shared Use Path



*Lincoln Park, Morris County*



*Woodland Park, Passaic County*

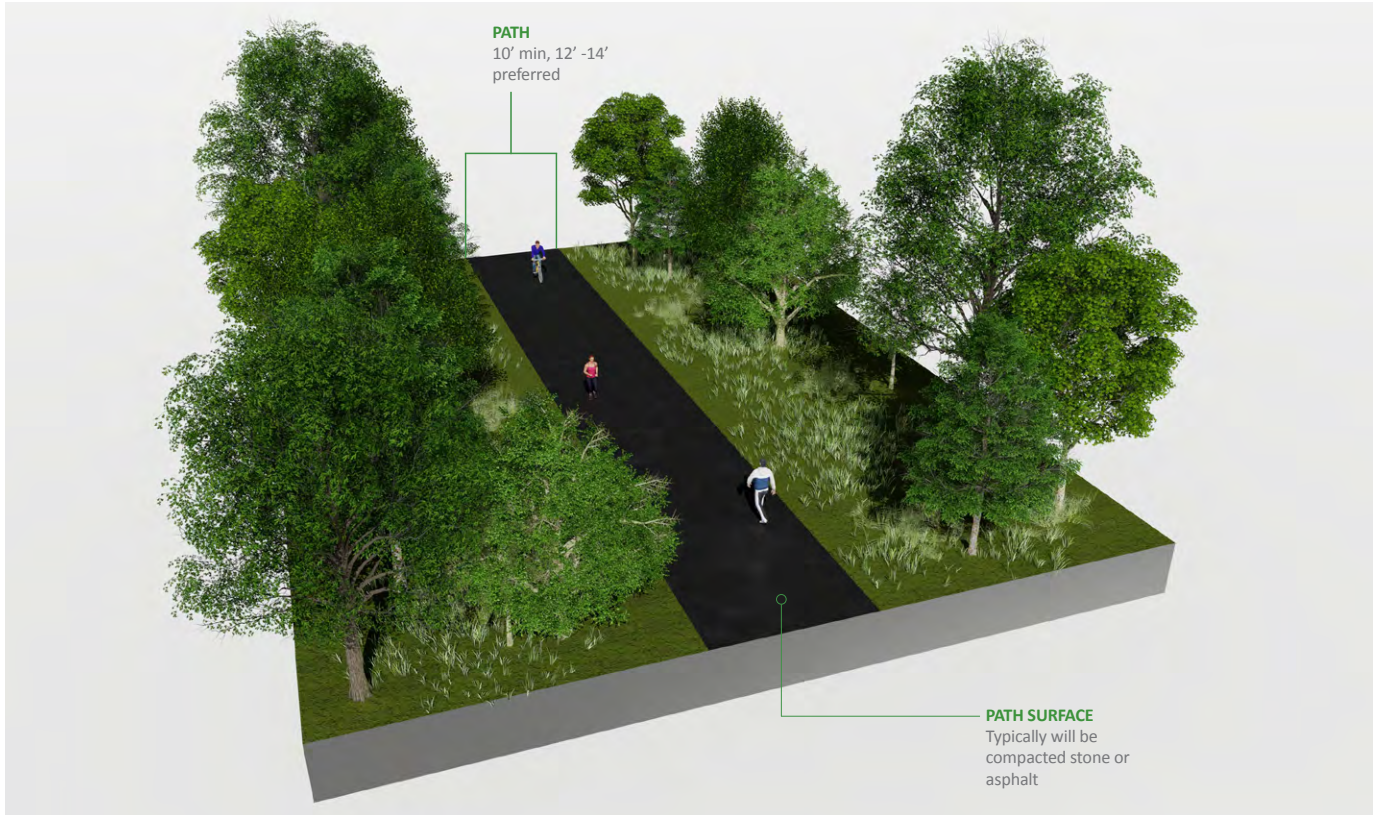


Figure 3.2. Off-Road Shared Use Path Cross Section



Little Falls, Passaic County



Jersey City, Hudson County

### 3. Building the Greenway

#### Facility Types

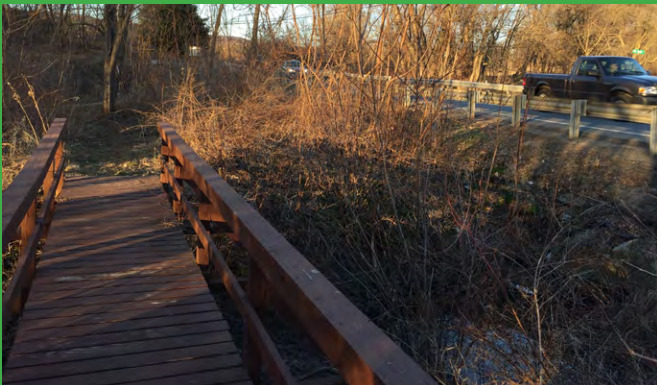
##### ROAD-SIDE SHARED USE PATH

Road-side shared use paths are a variation of a shared use path that is located along a roadway corridor, where the historic alignment of the canal is either inaccessible or where the road follows the historic canal alignment (Figure 3.3). Several segments of the Morris Canal Greenway are planned to be located along roadway corridors. Often the existing roadway right-of-way extends beyond the paved width of the roadway. Where there is right-of-way available or where adjacent property owners grant an easement or allow shared use of the space, a road-side shared use path can be easily incorporated.

Separation from adjacent motor vehicles is a major benefit of road-side shared use paths. Design considerations include how to manage conflicts for both motorists and greenway users at driveways and cross streets.

These paths provide a more appropriate facility for users of all ages and abilities than shoulders or mixed traffic facilities. Roads with moderate or high traffic intensity are good candidates for the road-side shared use path facility type. These facilities can be combined with vegetation to visually and physically separate the path from the roadway.

#### Example Locations in the Corridor with a Road-Side Shared Use Path



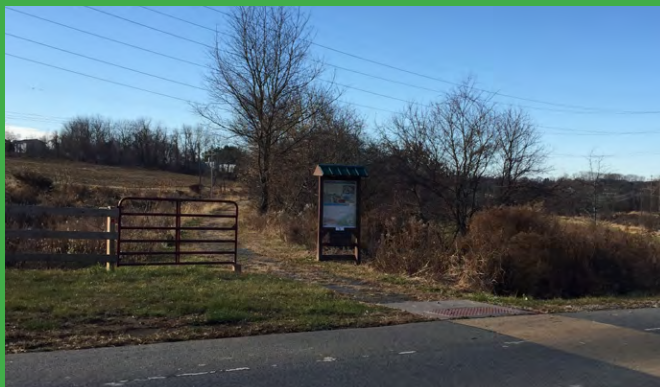
*Stewartsville, Warren County*



*Hoboken, Hudson County*



Figure 3.3. Road-Side Shared Use Path Cross Section



Stewartville, Warren County



Phillipsburg, Warren County

### 3. Building the Greenway

#### Facility Types

##### ON-ROAD FACILITY

On-road facilities take many forms and should be considered where the historic alignment is either inaccessible or where a road follows the historic canal alignment. The design treatments can vary from bicycle lanes and sidewalks to shared use of low speed, low volume roadways (Figure 3.4). Bicycle lanes can be striped along a roadway either adjacent to the travel lane behind a striped buffer, or adjacent to an area of parked cars, which serve as a buffer between the path and the motor vehicles. Buffered bicycle lanes can be designed as one-way facilities on each side of a road, or combined into a two-way facility on one side of a road to consolidate travel and any parking impacts. Sidewalks are typically constructed five feet wide to provide enough room for two people to walk side by side or for two wheelchair users to pass one another. In commercial

areas, sidewalks are often wider to provide space for street furniture and space for people to browse. Curb ramps that provide convenient access to and from the sidewalks are essential elements of a complete sidewalk network.

More information about on-road facilities is included in the NJDOT Complete Streets Design Guide, AASHTO Guide for the Development of Bicycle Facilities and the National Association of City Transportation Officials (NACTO) Urban Street Design Guide, and Urban Bikeway Design Guide.

On-road facility segments will prioritize dedicated bicycle facilities and sidewalks if located along busier roadways. Wayfinding signs are recommended to ensure that travelers can clearly see and anticipate where to turn to stay along the greenway alignment.

#### Example Locations in the Corridor with an On-Road Facility



Paterson, Passaic County (wayfinding signs)



Paterson, Passaic County (shared lane markings connect to adjacent bicycle lane segments)

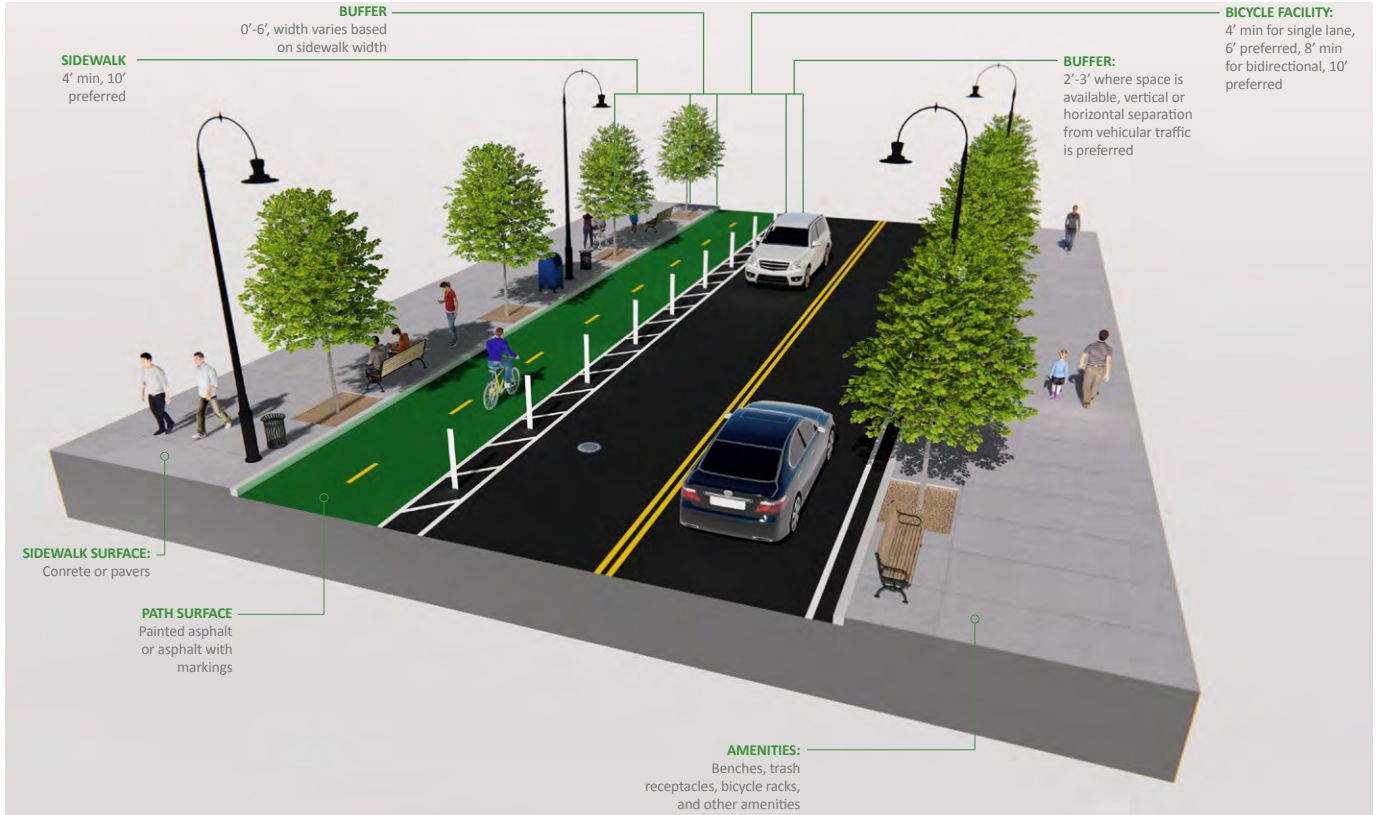


Figure 3.4. On-Road Facility Cross Section



Roxbury, Morris County (shared use of the roadway shoulder)



Netcong, Morris County (shared use roadway planned for striping treatments)

### 3. Building the Greenway

#### Access

The greenway will be accessible at all road crossings, local business districts, and via trailheads. Greenway users can use trailheads, on-street parking in the local business districts or nearby transit stations to park a motor vehicle when accessing the trail. Trailheads and access points are also an opportunity to provide amenities such as additional parking, benches, bicycle ‘fix it’ stations, wayfinding, and interpretive historic wayside exhibits. Trailheads identify access to the local road network, and an entry point for emergency services if needed. Examples of potential trailheads for the greenway were provided as part of the public outreach process and are included in Table 3.1.

Table 3.1. Potential Trailheads by County

<i>County</i>	<i>Potential Trailheads</i>
Warren	<ul style="list-style-type: none"><li>• Phillipsburg trailhead</li><li>• Plane 9 West trailhead</li><li>• Bread Lock Park museum</li></ul>
Sussex	<ul style="list-style-type: none"><li>• Waterloo Village trailhead</li><li>• Stanhope/ Netcong trailhead</li></ul>
Morris	<ul style="list-style-type: none"><li>• Lake Hopatcong trailhead</li><li>• Hugh Force Park trailhead</li><li>• Peers trailhead</li></ul>
Passaic	<ul style="list-style-type: none"><li>• PBA ballfields off Pal Drive</li><li>• Browertown Road</li></ul>
Essex	<ul style="list-style-type: none"><li>• Foley Field</li><li>• Wright’s Field</li><li>• Branch Brook Park</li><li>• Branch Brook Park south</li><li>• Passaic River Waterfront Park</li><li>• Newark Penn Station</li></ul>
Hudson	<ul style="list-style-type: none"><li>• Mercer Park</li><li>• Berry Lane Park</li><li>• Colgate Park</li><li>• Liberty State Park</li></ul>



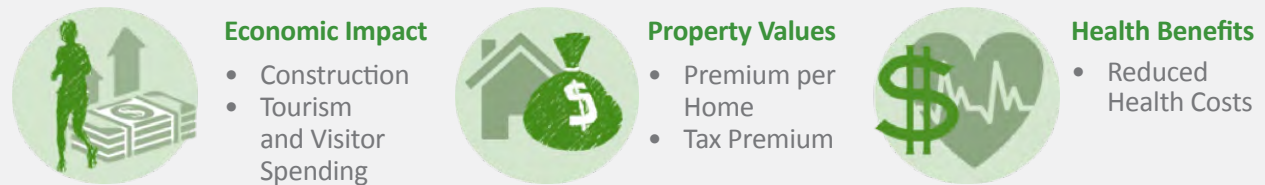
Potential Trailhead, Bloomfield, NJ



## Economic Benefits of Greenways

The Morris Canal Greenway has the potential to enhance and support the local economy in municipalities along the corridor by increasing tourism and property values, and reducing health costs (Figure 3.5). Trails and greenways can attract people not only from the surrounding areas but also from other parts of the tri-state region and significantly increase demand for goods, services, and accommodations.

Figure 3.5. Economic Benefits of Greenways



Tourism is an important part of New Jersey’s economy. It is the sixth largest employer in the state, providing 321,231 jobs and supporting nearly 517,559 of them via direct, indirect, and induced impacts. In 2016,<sup>1</sup>

- The tourism industry accounted for nearly 1-in-10 jobs in New Jersey.
- Tourism spending statewide was more than \$41 billion.
- Tourism generated almost \$5 billion in state and local tax revenues.
- Visits to New Jersey destinations grew 3.3% to 98 million visitors.

Following the trend, the Morris Canal Greenway Corridor Study Area also supports an enormous amount of tourism-related businesses and jobs as shown in Table 3.2.

Table 3.2. Number of Existing Tourism-related Businesses and Jobs in the Morris Canal Greenway Corridor Study Area

	Number of Businesses <sup>2</sup>	Number of Jobs <sup>3</sup>
Arts, Entertainment, and Recreation (NAICS Sector 71)	457	6,212
Accommodation and Food Services (NAICS Sector 72)	3,281	40,473

Tourist visits are expected to grow and so is the revenue generated. Completing the Morris Canal Greenway will provide an excellent economic development opportunity for nearby municipalities. Neighboring towns are being encouraged to promote tourism along the canal route with bed-and-breakfast inns, restaurants, transportation links as well as recreational opportunities and events.<sup>4</sup>

1 NJ Division of Travel and Tourism with Tourism Economics, “The Economic Impact of Tourism in New Jersey: Calendar Year 2016” <https://www.visitnj.org/sites/default/master/files/2016-nj-economic-impact.pdf>

2 U.S. Census Bureau, 2015 Zip Code Business Patterns

3 U.S. Census Bureau, 2015 LEHD Origin-Destination Employment Statistics (LODES) NJ, Workplace Area Characteristics (WAC) data, jobs by Census Block, Data Vintage: 20170919\_1133

4 Scharfenberger, Gerry. “Maximizing the Morris Canal,” New Jersey Municipalities, May 2014.

### 3. Building the Greenway

#### Key Projects for Short- to Medium-Term Implementation

The Morris Canal Working Group, local jurisdictions, and implementing agencies helped identify key projects for short-to-medium term implementation. These projects have independent utility and are likely to be competitive in funding applications. While local champions will determine the exact project limits and scope of work, the projects described herein are intended to serve as a starting point for detailed planning and design.

The project selection process emphasized the preference to extend existing facilities or advance development of greenway segments that already have dedicated funding. The anticipated development timeframe was also considered. The segments highlighted in Table 3.3 and Map 3.1 are a sampling of short- to medium-term projects that are not expected to have complicated property acquisition issues.

A complete table of projects and maps, can be found in Appendix C.

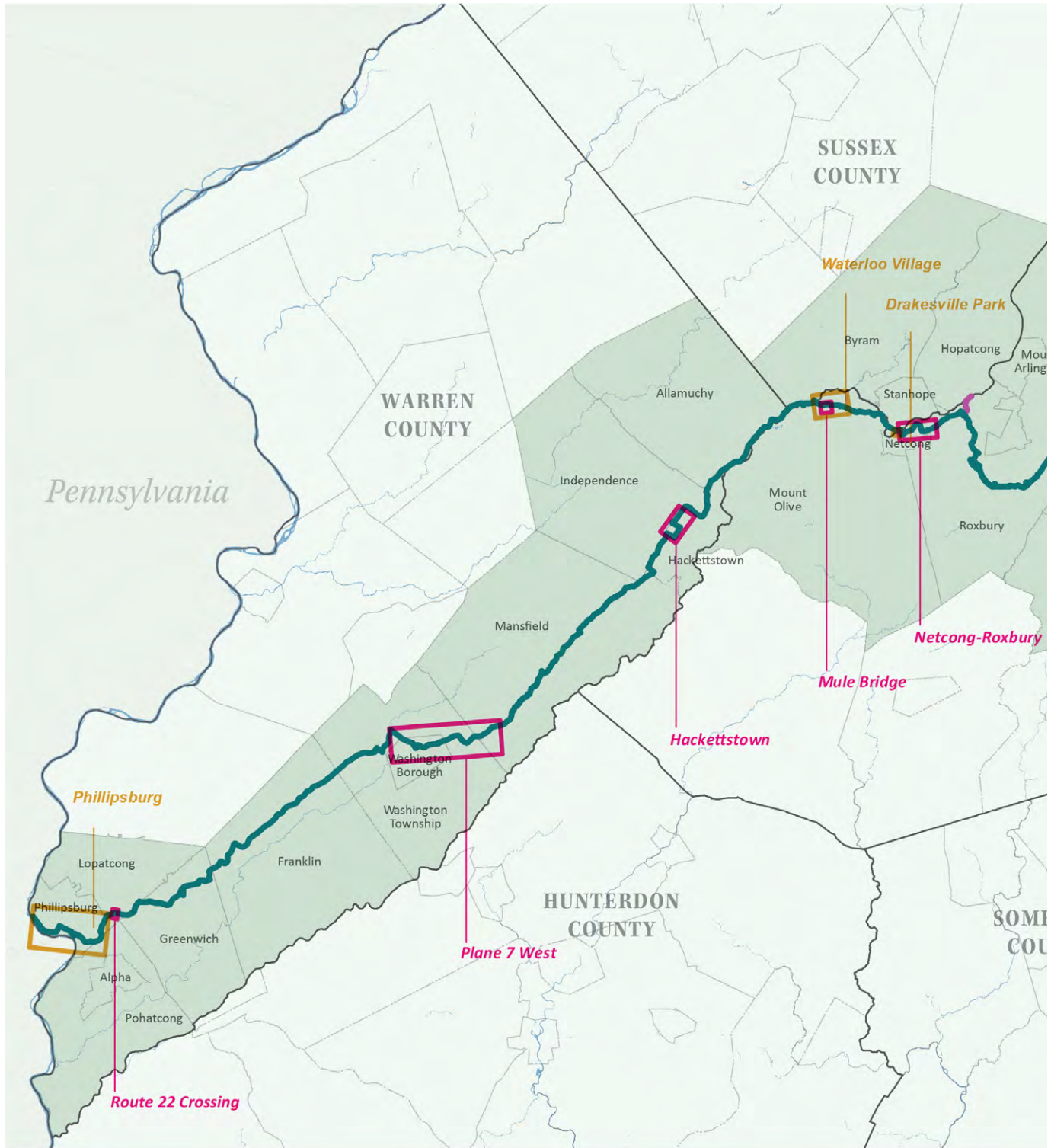
Table 3.3. Key Projects for Short- to Medium-Term implementation

<i>Project Type</i>	<b>WARREN COUNTY</b>
Morris Canal Greenway Corridor Study recommended project	<b>Route 22 crossing</b> - Construct a ~ 1,000 foot bridge or 200 foot underpass to connect existing path segments on each side of Route 22
	<b>Plane 7 West</b> - Shared Use Path along historic alignment connecting Bowerstown Road at Plane 7 West to the existing path in Mansfield Township
	<b>Hackettstown</b> - 0.8 mile on-road connection through Hackettstown to east of existing path between Roosevelt Avenue at Harvey Street, along Harvey Street, Prospect Street and 4th Street, and 0.6 mile off-road path along historic alignment to meet existing path near Old Alamuchy Road
Existing projects	<b>Phillipsburg</b> - combination of Shared Use Path and On-Road Facility starting at the arch continuing to Route 22 along historic alignment
<b>Total projects</b>	<b>4</b>

	SUSSEX COUNTY	MORRIS COUNTY	PASSAIC COUNTY	ESSEX COUNTY	HUDSON COUNTY
	<b>Waterloo Mule Bridge reconstruction</b>	<b>Netcong-Roxbury</b> - Construct an On-Road Facility connection through Netcong Boro and Roxbury Twp along Ledgewood Avenue, Allen Street, Dell Avenue, Koclas Drive, Center Street	<b>I-80 and Route 46</b> - Construct a new bridge over I-80 and Route 46 along the historic alignment to replace interim on-road alignment	<b>Bloomfield, Broad Street and Wachung Avenue</b> bicycle facility and sidewalk enhancements	<b>Route 1&amp;9 Truck</b> - Widen sidewalk to Shared Use Path through Kearny and enhance crossings
		<b>Rockaway Borough</b> - Construct Shared Use Path and Road-side Path along historic canal alignment	<b>Clifton, Broad Street</b> bicycle facility and sidewalk enhancements	<b>Belleville, Mill Street</b> , bicycle facility and sidewalk enhancements	
		<b>Denville Township</b> - Construct Shared Use Path, including a major crossing of the Rockaway River		<b>Newark</b> - Raymond Boulevard full corridor widen to Shared Use Path/ bicycle lanes and enhanced sidewalk (Passaic River to Branch Brook Park)	
		<b>Lincoln Park</b> , Route 202 sidewalk widening to Shared Use Path or road diet			
	<b>Waterloo Village trail and canal improvements</b>	<b>Drakesville Park, Ledgewood section.</b> Trail Establishment and Historic Restoration	<b>Pompton Feeder</b> - Morris Canal Phase 5	<b>Raymond Boulevard</b> Cycle Track, grade separated 3/4 mile two-way cycle-track, Brill Street - Somme Street	<b>Country Village</b> Shared Use Path, (property due diligence is underway)
	<b>Waterloo Village Building Restoration</b>	<b>Wharton</b> - Morris Canal Lock 2 East Site Restoration, Wharton Borough	<b>Wayne and Totowa</b> , Shared Use Path along historic alignment, Morris Canal Phase 4		<b>Mercer Park</b>
		<b>Wharton, Lock 2 East</b> - MCG paver footprint of canal boat, trailhead parking lot, Dry Canal Bed, MCG extension to Main Street, Phase 2A and 2B	<b>Peckman River Crossing</b>		<b>Canal Way</b> - Construct a Shared Use Path along proposed boulevard median
			<b>Browertown Road</b> - Little Falls and Woodland Park, construct Road-Side Path and On-Road Facility		<b>Berry Lane Park</b>
	<b>3</b>	<b>7</b>	<b>6</b>	<b>4</b>	<b>5</b>

### 3. Building the Greenway

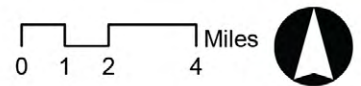
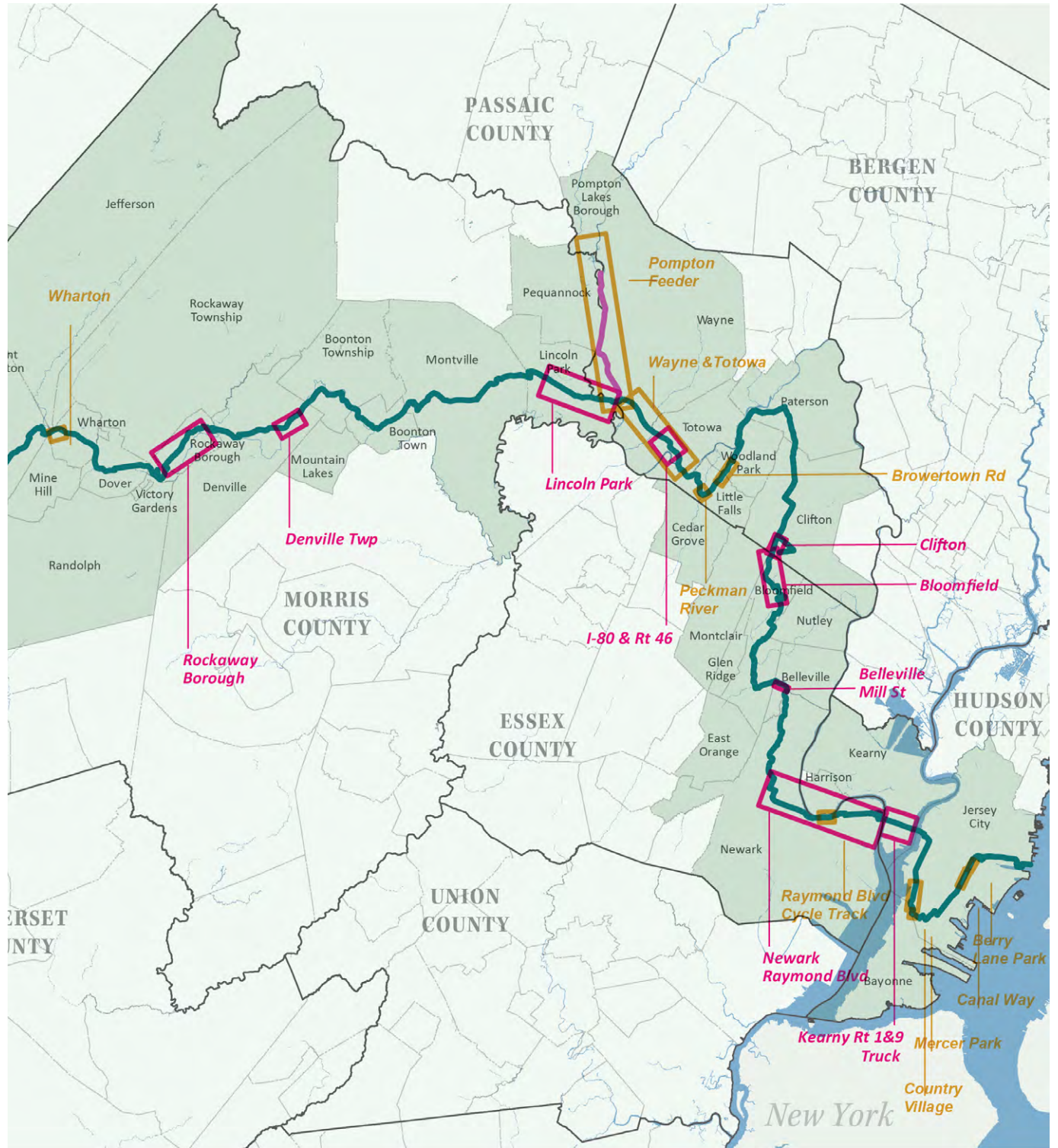
Map 3.1. Key Projects for Short-to-Medium Term Implementation



#### Legend

- MCGCS Recommended Project
- TAP / TE Funded Project
- Preferred Greenway Alignment
- Feeder Canal
- Study Area
- Counties
- Municipalities

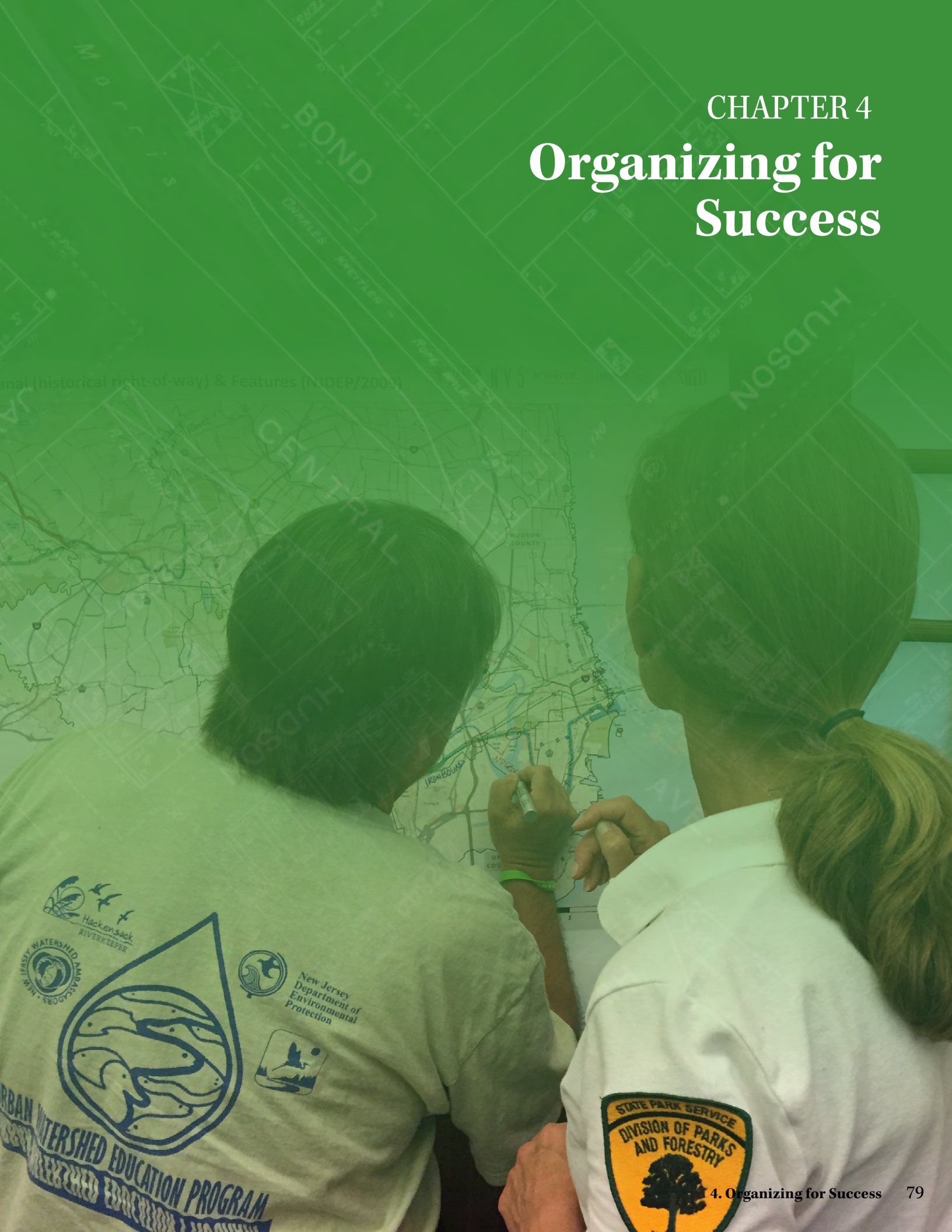
Map 3.1 continued





# CHAPTER 4

# Organizing for Success



## CHAPTER 4

# Organizing for Success

### Introduction

Building the greenway and implementing study recommendations will require collaboration among many government and nonprofit stakeholders. As the greenway evolves, additional coordination and regional thinking and action will be critical. Many stakeholders are dedicated only to specific areas of the Morris Canal, for example, local governments and historical societies. They know they have a stake in a regional approach, but have little authority to act beyond their immediate jurisdiction or geographic interest. Others may have a strong interest in only one aspect of the canal – recreational, environmental or historical.

The organizational structure to be developed needs to be regional and comprehensive, and fulfill two primary functions:

1. **Creation of a continuous greenway**, a physical, marked space (trail, signage, historic resources) and interpreted resource (environmental and cultural); and
2. **Activation of that space** through events and marketing to attract a growing audience of users and supporters, enhance community quality of life, promote economic vitality, and create educational opportunities in the communities along the alignment.

### Key Strategies

- Create an effective organizational structure to provide leadership responsible for specific functions needed to implement the greenway
- Create a nonprofit organization as the backbone of support for implementing government and nonprofit organizations
- Seek funding to support the long-term collaborative work needed for successful implementation of the greenway

The following analysis concludes that an independent nonprofit organization is the most desirable organizational structure to facilitate implementation. The current informal structure, a collaboration among the North Jersey Transportation Planning Authority (NJTPA), Canal Society of New Jersey, and the Morris Canal Working Group (MCWG), has been productive to date. Their collaboration led to this study, the first to evaluate the potential for a continuous Morris Canal Greenway across the state. It will be the responsibility of these partners to determine how best to establish an organization dedicated to advancing Morris Canal Greenway development and promotion across all jurisdictions.



*Morris Canal Greenway Conference on March 27, 2014*

*Credit: Stuart Ramson*



## Existing Structure

NJTPA, members of the MCWG, and the Canal Society of New Jersey have been leading the effort to develop the Morris Canal Greenway. The Canal Society of New Jersey has long been assisting county and local governments and other organizations represented on the MCWG that have or are in the process of developing sections of the greenway within their jurisdictions. The success and visibility of these groups' efforts have encouraged more local historical societies, park departments, and local governments to get involved. This informal organizational structure has been effective as a first phase and can support immediate priorities identified in this study.

### THE NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

NJTPA is the federally authorized Metropolitan Planning Organization (MPO) for the 6.7 million people in the 13-county northern New Jersey region. NJTPA conducts long-range transportation planning, oversees transportation investments, sponsors and conducts studies, assists member planning agencies, provides a forum for interagency cooperation and public input into funding decisions, and acts as a source of other technical assistance.<sup>1</sup>

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<sup>1</sup> "Who We Are," NJTPA, <http://www.njtpa.org/about-njtpa/who-we-are>, (February 2018)

NJTPA has provided grant funding for two Morris Canal studies conducted by its subregions, Warren County in 2011 and Jersey City in 2013. The MPO's Board of Trustees has also approved Transportation Alternatives Program funding to support Morris Canal Greenway projects. In 2012, NJTPA formed the MCWG to bring stakeholders together in an open



*Morris Canal Working Group walking tour in Stanhope*

forum to coordinate current activities and plans for this important transportation resource.

### THE MORRIS CANAL WORKING GROUP

The MCWG is an informal committee of more than 150 representatives of local, state, and federal governments, nonprofit organizations, and other interested parties working to preserve, to the greatest extent possible, the former Morris Canal

## 4. Organizing for Success

### Existing Structure

right-of-way for conversion into a public greenway.

Additional objectives of the MCWG include:

- Building stakeholder support across the state,
- Raising awareness of this historic resource,
- Creating a forum and resource for stakeholders, and
- Determining the interest level for preservation statewide.<sup>2</sup>

The MCWG has provided a much-needed forum for communication, sharing ideas and technical assistance, encouraging individual municipal participation, and crafting a vision statement that has been incorporated into this study. The MCWG has also allowed participants to highlight progress on individual projects.

#### THE CANAL SOCIETY OF NEW JERSEY

A nonprofit statewide historical society founded in 1969 to:

- Foster the study of the history of New Jersey's two towpath canals, Delaware & Raritan and the Morris Canal,
- Preserve and restore canal remains and artifacts,
- Educate the public about this history, and
- Provide enjoyment to its members by visiting canals and other historic sites.<sup>3</sup>

Activities and roles relevant to the Morris Canal Greenway include:

<sup>2</sup> "Morris Canal Working Group," NJTPA, <https://sites.google.com/site/morriscanalworkinggroup/about-the-MCWG>, (February 2018)

<sup>3</sup> "Purpose," Canal Society of New Jersey, <http://www.canalsocietynj.org/csnpjpurpose.html>, (February 2018)

- Publishing books and articles and recording oral histories about the Morris Canal and the experiences of canal boat captains and their families,
- Compiling a website of historical materials and images,
- Operating the Canal Museum at Waterloo Village,
- Seeking grants to help purchase canal-related parcels and preserve canal structures,
- Assisting and encouraging local governments and nonprofit organizations to take action in preservation projects,
- Translating local history into illustrated outdoor interpretive panels, and
- Participating in the development of a logo for the Morris Canal Greenway and encouraging its use in signage as local projects advance.



## Options for Organizing

### THE NEED FOR A REGION-WIDE ORGANIZATION

While the informal organization has helped advance some greenway projects, a dedicated nonprofit is needed to provide a consistent voice across the many jurisdictions, continuity of leadership, and funding for operations and projects. Activities benefiting from a region-wide approach include:

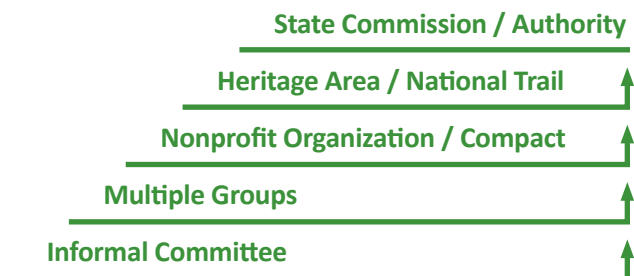
- Ongoing greenway branding and marketing,
- Greenway mapping/geo-database development,
- Updated National Register nomination,
- Preservation planning to set priorities for preservation treatment for canal structures,
- Greenway-wide events to gain greater visibility,
- Planning for and development of Greenway-wide K-12 education programming, and
- General interpretive and arts planning

There are many successful regional organizations that serve as examples of types of structures, each with differing characteristics. Most have evolved from an informal structure to a more formal one

that better serves the organizations' objectives and needs as they mature. At each stage in the Morris Canal Greenway's development, there will be different needs, experiences, and opportunities to act upon and manage. The needs will evolve as the greenway progresses from planning to construction, and ultimately to maintenance, protection, and operational oversight. As the needs change over time, the management capacity and powers granted to the organization must also evolve.

In the long term, the organization may modify its structure in response to future opportunities and needs. Figure 4.1 illustrates a hypothetical evolution, or steps for growth, together with a table summarizing options for organizing that includes pros, cons, and examples of successful implementation. It is not meant to suggest that the organization should become a state commission or authority but is intended to contrast and highlight differences among organizational structures and options for organizing. The options are not mutually exclusive. The organizational structure may eventually include a combination of options, summarized in Table 4.1.

Figure 4.1. Steps for Growth



Credit: Stuart Ramson

## 4. Organizing for Success

Table 4.1. Options for Organizing

<i>Organization</i>	<i>Who Establishes?</i>	<i>Pros</i>	<i>Cons</i>	<i>Examples</i>
<b>Informal Committee</b>	Exists now – MCWG, convened by NJTPA; Canal Society of New Jersey is one participant	Simple to manage; fluid participation can be a plus as it allows interested leaders to find one another; provides a critical forum to share issues, opportunities and experiences	Unfunded; long-term convener role is unclear; no clear lead for managing committees (extra meetings a burden for all concerned and a strain on NJTPA staff resources); meetings need focus and demonstrated accomplishments or it will not attract necessary leader participation	Many greenways, scenic byways, and heritage areas have begun this way, including New Jersey’s Millstone Valley National Scenic Byway
<b>Multiple Groups Dedicated to the Greenway</b>	Currently in nascent form for the greenway, given current collaboration among MCWG, NJTPA, and Canal Society of New Jersey; add others as appropriate; best conceived as an incubator structure that can lead to even more formal establishment of a nonprofit organization, in one or more of the forms described in the remainder of this summary	Each organization can focus on what it does best. This option builds on, unites local groups dedicated to their local level. A specific need may be to find or establish a land trust to support local planning and acquisition.	Extra work above and beyond current level of effort; the informal collaborations may be sufficient for now, and could grow over time	Appalachian Trail (trail clubs, AT Conservancy, NPS AT unit); New York-New Jersey Trails Conference (with 22 member clubs)
<b>Nonprofit Organization</b>	A nonprofit can be established by any organization or individuals with interest, capacity and the consensus and support of key stakeholders; paperwork is filed with the Division of Revenue in the New Jersey Department of Treasury; nonprofit status (501(c)3) is conferred by the federal Internal Revenue Service	Simple to organize once agreed-upon; could undertake tasks that require grants that MCWG and NJTPA are not eligible to receive; could have a limited agenda (e.g. marketing) or multiple tasks; the new organization would collaborate with, coordinate and support the efforts of partners already engaged in greenway development, such as the Canal Society of New Jersey	Requires a highly collaborative culture among all parties to sustain the needed collaboration, and to manage the large number of existing partners and functions	New Jersey Conservation Foundation; the Land Trust Alliance was founded (incorporated under state law) by four existing land trusts whose executives emerged as leaders during an informal meeting to investigate the need for such an organization
<b>Nonprofit Compact</b>	Counties and municipalities lay the framework for a nonprofit lead; may agree one by one to terms by vote of elected leaders (which confers greater authority on the new organization)	Localities agree to funding arrangements, cooperative and individual action; may be helpful in guiding existing state and regional support programs; may be able to persuade NJ legislature to provide additional funding with a strong show of support from counties and municipalities	Complicated to organize; holdouts among stakeholders could discourage this effort	Southeast Florida Regional Climate Change Compact <a href="http://www.southeastfloridaclimatecompact.org/about-us/what-is-the-compact/">http://www.southeastfloridaclimatecompact.org/about-us/what-is-the-compact/</a>

<i>Organization</i>	<i>Who Establishes?</i>	<i>Pros</i>	<i>Cons</i>	<i>Examples</i>
<b>National Historic Trail</b>	Lead organization(s) pursue this designation under protocol prescribed by federal law and the National Park Service; consult with the Rivers, Trails and Conservation Assistance Program and the Trails Program of the National Park Service; an alternate may be National Recreation Trail designation(s) for completed segments	National recognition and participation in the national system operated by the National Park Service would aid in marketing	Difficult to qualify; requires consent of Congress (beginning with passage of a study act, then after National Park Service study, final action by Congress; Recreation Trail standards are more readily met)	Appalachian Trail, Oregon Trail (both multi-state); the D&R Canal is a National Recreation Trail
<b>National Heritage Area</b>	US Congress	Provides federal match for local and state spending, including hard-to-find operational support; puts the greenway on National Park Service maps for marketing advantage; peer support (Alliance of National Heritage Areas) and National Park Service technical assistance	Difficult to get passed; consumes valuable time, energy, political capital. Nice to have, not necessary, and perhaps more likely to be achieved if the greenway is more complete in a few years	Crossroads of the American Revolution National Heritage Area (NJ)
<b>State-sanctioned Compact</b>	New Jersey legislature plus counties and municipalities (New Jersey provides framework, localities sign on)	Receives state appropriation, perhaps as a match to a funding formula for localities' contributions; may be able to buy land; can undertake overall activities and major projects (in partnership with localities); can create incentives for local participation and planning	Difficult to gain passage of the necessary legislation and appropriation, although an east-west greenway across northern NJ might be a powerful enough vision to build the necessary coalition of legislators, elected leaders, and organized advocates	Hudson River Greenway (NY State)
<b>Commission or Authority</b>	New Jersey legislature	Receives state appropriation; may be able to buy land	Difficult to gain passage of the necessary legislation and appropriation, although an east-west greenway across northern NJ might be a powerful enough vision to build the necessary coalition of legislators, elected leaders, and organized advocate	Delaware and Raritan Canal Commission (NJ)  Lackawanna Heritage Valley Authority (PA; operates Lackawanna Heritage Valley National and State Heritage Area)

### **Short- to Medium-Term Recommendations**

The existing MCWG organization would be considered an informal committee or multiple groups approach as detailed in Table 4.1. Advocates and stakeholders need to take the next step towards a more formal structure that defines roles and responsibilities, and provides overarching leadership by creating a nonprofit organization that oversees the large and growing partnership actively planning, building, and promoting the Morris Canal Greenway. The following describes the steps needed to move from the informal organization to a single nonprofit.

#### **MULTIPLE REGION-WIDE GROUPS DEDICATED TO THE GREENWAY**

Within the next few years, multiple organizations need to be encouraged to take leading roles according to their abilities and interests. These organizations would incorporate canal-related activities into their operational structures. The Appalachian Trail was built this way and continues to be a model for this approach. Supporters for the trail combined their strengths into a 13-state conference. In 2005, the conference evolved into the Appalachian Trail Conservancy, with partners including the National Park Service, U.S. Forest Service, dozens of state agencies, and many local trail-maintaining clubs.

Of the key partners, NJTPA's role is the most technical. As a transportation planning organization, it is experienced in developing plans and directing funding for construction projects. It offers significant authority conferred by virtue of its governmental position and is well-positioned to encourage

widespread communication and planning to support the greenway, demonstrated by NJTPA's success in convening the MCWG. It is also perhaps the best place to update and develop mapping or provide early hosting for a rebranded Morris Canal Greenway website.

The MCWG should continue to serve as a forum for communication and sharing of ideas and technical assistance, which encourages municipal participation and promotes a vision among stakeholders. It should meet as often as needed and enough to maintain momentum, but participating parties should discuss expectations with the understanding that NJTPA has limited staff resources to support the working group. Over time, if the working group proves useful to advancing implementation, the members should be encouraged to take a greater role in its organization and support.

As a partner, the Canal Society's role can be quite broad, as previously described. As a nonprofit, it is less constrained in pursuing a variety of interests. The Canal Society has a long history of working with various cooperators and is well-positioned to enable communications among stakeholders. It is recommended that the Canal Society of New Jersey house historic preservation activities such as National Register documentation and preservation planning.

## Longer-Term Options

The weakness in this arrangement is that none of these organizations is individually capable of undertaking the comprehensive branding and marketing activities detailed in Chapter 5: Branding & Marketing the Greenway. The NJTPA and a MCWG marketing subcommittee could take preliminary steps. Destination Management Organizations (DMOs) in the six counties the Morris Canal Greenway traverses may also be able to assist with marketing and branding because tourism and promotion is their core mission.

### A SINGLE NONPROFIT ORGANIZATION

Establishing a nonprofit organization can evolve out of the current arrangement. The details about how to form the organization and who will be involved will require further discussion. NJTPA, the Canal Society of New Jersey, and active members of the MCWG should form a task force to explore the mechanics of establishing a nonprofit within the capabilities of cooperating organizations. The task force should lead conversations with stakeholders to build consensus about evolving the leadership into a more centralized and focused structure that better supports partner organizations.

There are activities that can be undertaken within the current structure to initiate this evolution. All involved need to be aware that they can and should contribute to the process of growing stronger leadership and structure, adapting as they gain greater experience, consensus, and momentum. As the convener of the MCWG, NJTPA is well-positioned to facilitate discussion about structure

and enable further decisions during the earliest phase of implementation.

Another option is for a willing organization to facilitate the process by establishing a temporary position or securing a professional services contract should resources be available.

Long-term possibilities for organizational structuring include:

- Nonprofit compact,
- Designation by Congress (National Historic Trail, National Heritage Area), and
- State-sanctioned compact, commission, or authority.

The reason for establishing one or more of these added formal organizational structures and official designations would be to gain added financial support, public recognition, and authority or agreement for pursuing greater support and action from state, regional, and local government. Financial support may especially be needed in tackling the larger physical gaps, which no single jurisdiction should be expected to pursue individually (e.g., a crossing over US Route 22 or the Hackensack River). Pursuing any one or a combination of these options in the long term will require clear objectives, strong public support, and political capital. The impetus will come with time and successful implementation of earlier actions identified in this study.

Chapter 6: Implementation Strategies & Actions presents the strategies, actions, and performance measures to establish an independent nonprofit

### Longer-Term Options

organization to coordinate greenway implementation. As an immediate next step, it is recommended that the NJTPA, the Canal Society of New Jersey, and members of the MCWG engage in discussions on how best to design, lead, and fund a new nonprofit organization.

### **Functions of a Supporting Lead Organization**

Reasons to consider a more formal structure include the need for a consistent voice across many jurisdictions, continuity of leadership, funding for operations and other difficult-to-fund activities (including being eligible to receive grants), and an organization with a specific reach across the entire greenway region dedicated to this project alone.

The MCWG works to ensure that members and others implement the greenway plan, primarily municipalities and counties with assistance and leadership as appropriate from nonprofit organizations and volunteers. NJTPA has helped to create the critical existing organizational structure of the MCWG, a classic first exploratory step in organizing for regional projects like the Morris Canal Greenway. Over time, however, NJTPA cannot pursue some of the initiatives and functions identified in this exploratory phase and study. The MCWG should continue to act as a forum, where local governments and others with a strong interest (CSNJ, NJTPA, etc.) meet to report on and assess progress. With an overall vision and standards for construction and signage in hand, these stakeholders can focus their collaboration on implementing study recommendations.

However, newly identified greenway-wide projects will have a tough time getting traction under current conditions. Different means of addressing these needs exist. The following are region-wide projects identified during the planning process that require collaboration and partnerships, and therefore an effective region-wide collaboration leader



for each function (ideas for this are identified in parentheses):

- **Ongoing greenway-wide mapping/geo-database to show progress, to support visitation, and to support environmental reviews** (as planning leader during this plan, NJTPA can continue to maintain and over time improve GIS files available to all);
- **Updated National Register nomination to support environmental reviews, preservation planning, and interpretive planning** (CSNJ is pursuing this as an early action);
- **Ongoing greenway-wide branding and marketing** (the recommendation discussed in detail in a separate section of this plan is to pool funds for an annual contract with a private firm under CSNJ working with a revitalized MCWG Education and Marketing Committee – perhaps in the form of two or three discussion leaders to guide the MCWG meeting as a committee of the whole to avoid excessive meetings; and preferably in cooperation with the region’s Destination Marketing Organizations (DMOs));
- **Greenway-wide events** (a task that can be shared among MCWG members, perhaps with ad hoc committees as needed, preferably in cooperation with DMOs);
- **Planning for greenway-wide K-12 education** (led by CSNJ, in cooperation with one or more environmental education programs);
- **Preservation planning to set priorities for preservation treatment of canal structures, which will need another round of planning** (led by CSNJ through the aforementioned process for updating the National Register nomination); and
- **General interpretive and arts planning (also an educational/programming function) using this plan to set priorities, which will also need another round of planning** (led by CSNJ in cooperation with the Center for Creative Placemaking).

### **Nonprofit Organization Partnership Model**

Building the Morris Canal Greenway is a multi-discipline effort with many moving parts. The most effective organizational structure is determined by types and capacities of stakeholder organizations. Regardless of differences in policies and practices, all should be inclusive and empowering to partners with a diverse range of interests and capacities, whose participation and support are key.

The Partnership Model diagram (see Figure 4.2) illustrates one example of a partnership organization. The organizational structure of a partnership includes more than a dedicated nonprofit; it includes partners. The nonprofit provides a backbone of support to directly address those functions that add value to the work of the partners and provide services focused on end-to-end implementation.

The first step post-study is research and outreach to establish that there is adequate partner support for developing the greenway and for the concept of forming a nonprofit dedicated to end-to-end planning and coordination. If there is insufficient support, step back to an informal partnership, more structured and defined than the MCGWG but project-based with shared leadership and common goals. For example, stakeholder organizations may take on leadership responsibility for one or more projects as an extension of their current programs.

Next Steps:

- Identify a core group of champions who will take responsibility for defining the mission, form, and membership of the nonprofit. They will

become the first board members and oversee the procedures to establish the organization. They start as a committee of key and active partners.

- Secure formal resolutions of support and memoranda of agreements with all partners.
- Secure start-up money for the first staff member or a consultant to facilitate the process of establishing the nonprofit should funding be secured. The acting director would secure and manage a branding and marketing consultant and establish the workplan.

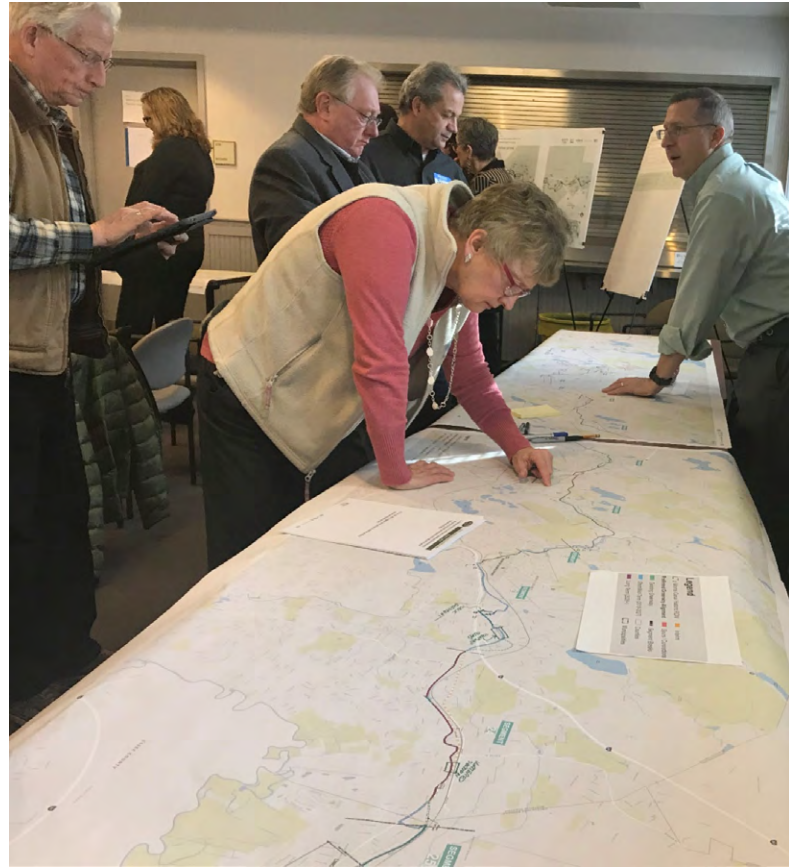
A primary benefit to partners and members is access: membership access to a body of decision makers and community shapers; partner access to state agencies, funding opportunities, and technical support.

Core characteristics of a partnership model for maximum impact:

- Common Agenda
- Shared Measurement System
- Mutually Reinforcing Activities
- Continuous Communication
- Backbone Support Organization
- Membership access to a body of decision makers and community shapers
- Partner access to state agencies, funding opportunities and technical support

Do's and don'ts for establishing a nonprofit:

- Do provide a service that adds value to the work of the partnership and provides a service that no other organization offers.
- Do structure the nonprofit to strengthen and facilitate the partnership.
- Do hire staff that can advance the nonprofit's work plan.
- Do use all partners to their strengths and abilities.
- Don't create a nonprofit that competes with partner funding sources or duplicates services.
- Don't expect the nonprofit to replace the work and responsibilities of the partners.
- Don't employ a large staff that requires an unsustainable budget and encourages over-reliance on staff in lieu of partner involvement.



*TAC Meeting, Lincoln Park*

### **Organizational and Operational Components**

The example **Partnership Model diagram**, Figure 4.2, illustrates the relationships among board, staff, supporting organizations, and stakeholders. Together they represent an overarching organizational structure.

The nonprofit **board of directors** is composed of representatives from organizations that can contribute to the nonprofit's primary functions that support all stakeholders. The board provides input, guidance, organizational support and oversight. A partnership board tends to be large to include a wide range of organizational types, and an executive committee may be tasked with operational oversight to allow for more project-focused discussion in general meetings of the full board.

The board members listed represent the government and nonprofit organizations central to greenway development and implementation. Standing members largely represent key greenway implementers and have permanent seats. Rotating members represent the interests of groups of stakeholders with common needs. Other models emphasize boards with skills in fundraising and promotion. Membership on a board could require financial participation, for example. As the nonprofit matures and the greenway is substantially complete, board composition and expectations may shift to facilitate other objectives.

The **staff** serves the interests of the partnership by managing contracts; tracking and reporting progress; and, convening and facilitating board and stakeholder collaboration. The nonprofit workplan

results in a branding and marketing plan, a funding plan, an updated website and annual report, and an inclusive platform for partnership and public collaboration.

**The Morris Canal Working Group** provides a forum for information exchange and peer support among advocates, champions and interested organizations. Because the Morris Canal Greenway requires a diverse set of disciplines to develop a bicycle and pedestrian facility that follows also a historic alignment, organizations will gravitate towards historic preservation, education and interpretation, or bicycle and pedestrian facility design and connectivity – the topics that align most with their missions and interests. It is important that interest in history and in greenway development are addressed in meetings and events.

Membership could be required of the board and the MCWG and should be open to the public. Membership in the nonprofit offers an opportunity to show support and participate without committing to attending meetings and assisting in implementation. For those with an interest in following or supporting the Morris Canal Greenway, membership in the nonprofit could serve as a source of information as well as a revenue stream. A membership program should be developed to offer benefits and opportunities for participation that are targeted to different audiences, such as history or bicycling. Nonprofits typically have a tiered level of membership to accommodate different abilities to contribute.

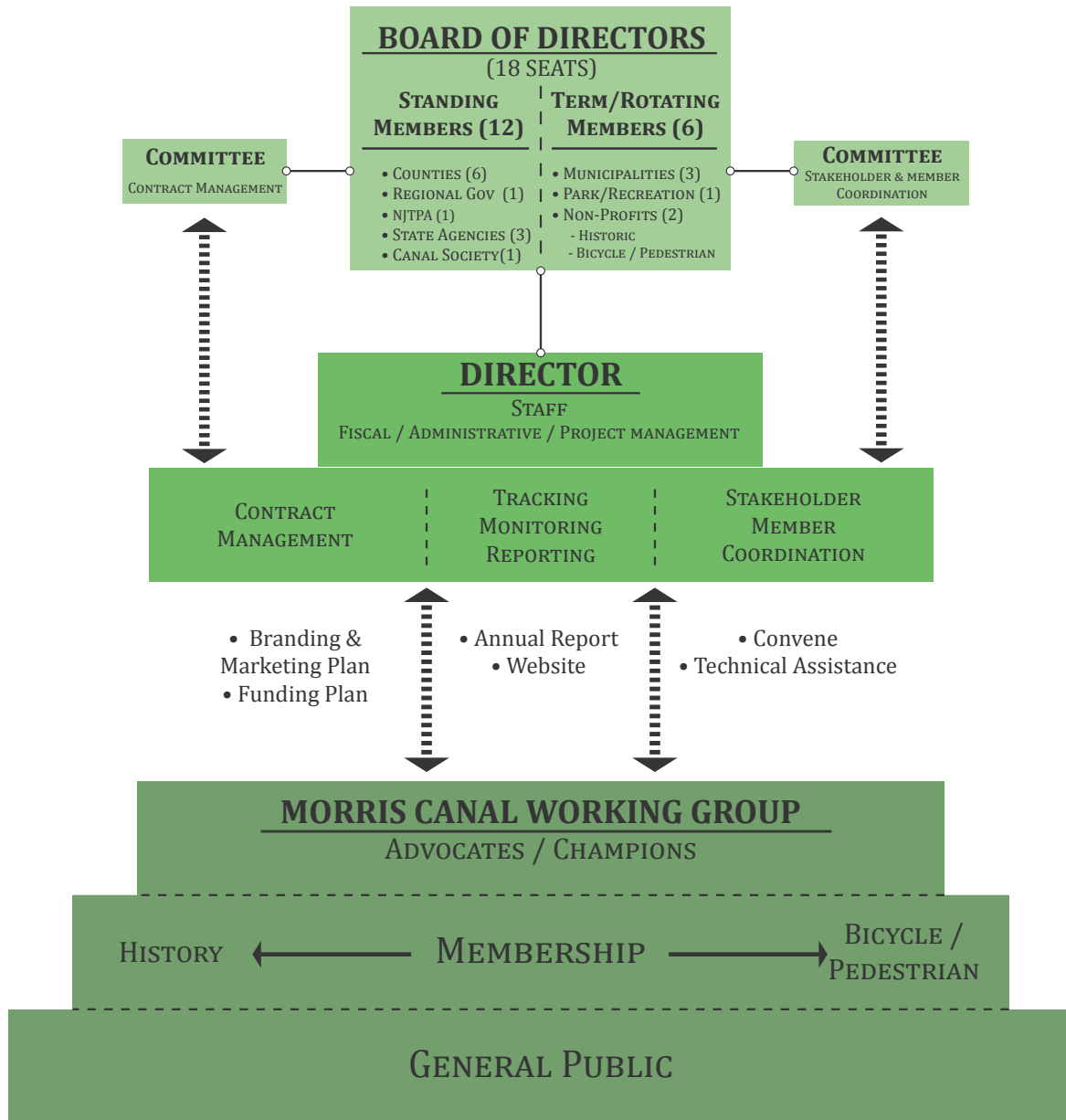


Figure 4.2. Nonprofit Organization Partnership Model

Funding startup organizations and their continued operation is challenging and unique to circumstance. The volunteers who helped to create the nonprofit often become the first board members and act as staff. The expenses may be covered through organizational donations of space and staff, or other services. Depending on the need, this arrangement may be adequate for the level of activity necessary

and continue indefinitely. Funding may be secured through arrangements with jurisdictions and partners, from foundations or private donations, and from grants. Fundraising is an ongoing process; in the diagram, staff is responsible for developing a funding plan with consultant report. This should provide a blueprint of funding sources and approaches.



CHAPTER 5

# Branding & Marketing the Greenway



## CHAPTER 5

# Branding & Marketing the Greenway

### KEY STRATEGIES

- Pursue a wide variety of initiatives to raise public awareness and government support
- Assign a branding, marketing, and promotional lead

## Introduction

Building visibility for the Morris Canal Greenway is fundamental to successful implementation of this study's recommendations. Both those who will develop the greenway and those who will visit and use the facility must be made aware of what it is and what experiences it offers. A branding and marketing plan and program aimed at raising public visibility and engagement will lay the groundwork for establishing and sustaining the Morris Canal Greenway. The strategies and actions build on input from the Morris Canal Working Group (MCWG) and stakeholder interviews held in September and December 2017, during which core audiences, messaging, and tools were discussed.

The activities outlined are intended to be led by a single organization — or closely aligned partnering organizations — on behalf of the entire Morris Canal Greenway on a sustained basis over many years. In many cases, the activities will need to be supported by outside marketing and communications vendors and professionals. It will take time to create a nonprofit to oversee the Morris Canal Greenway. The immediate strategy is to identify an existing partner or group of partnering organizations to act as a central resource for branding and promoting the Morris Canal Greenway in the interim.



For the short term, the MCWG can refine and build consensus for a common message, and establish the first communication pieces for digital or print distribution.

The phased branding and marketing program activities described in this chapter illustrate a comprehensive approach that makes use of a wide range of integrated communication tools. Substantial financial resources and a lead organization and/or contractor would be required to implement the full program in the time frames presented. However, in the interim a marketing

consultant could be hired to begin Phase 1 activities to the extent that funding is available. This plan may also be used as a scope of work to develop a marketing request for proposals (RFP) to hire a consultant.

Although elements of the proposed branding, marketing, and communications activities may be advanced independently, a strategic, coordinated and sustained effort is necessary to achieve significant and lasting impacts.

## THE MORRIS CANAL BRAND

The logo for the Morris Canal Greenway is already in use on signage, materials, and publications in various parts of the corridor.

Design elements may be adapted from this logo for specific applications that may have standards, requirements or differing objectives. The wayfinding and identification sign shown here retains design elements of the logo currently used. The logo

serves as inspiration for branding the greenway. The recommended logo, colors, and fonts are at once historical to fit with the legacy of the canal and flexible enough to be adapted to contemporary settings.

### Colors

#### Main Colors

<b>DARK GREEN</b> CMYK 86/38/81/33	
<b>WHITE</b>	<b>BLUE</b> CMYK 84/0/18/0

#### Supporting Colors

<b>DARK RED</b> CMYK 25/100/100/40
<b>TAN</b> CMYK 6/7/17/0
<b>GREEN</b> CMYK 82/15/100/2

### Fonts

*Algerian*  
LOGO FONT  
ABC ABC 123

*Goudy Old Style*  
RUNNING HEADS  
ABC abc 123

*Tiepolo*  
MAIN TITLE  
ABC abc 123

*Stempel Gramond*  
TEXT  
ABC abc 123

*Frutiger*  
CALL-OUTS  
ABC abc 123

### Logo



## Audience

To be effective, the branding and marketing program must be tailored to reach defined audiences whose support or participation is sought. The primary audiences for Morris Canal Greenway branding and marketing can be organized in two groups: Influencer Audiences and Activator Audiences.

### GROUP 1 - INFLUENCER AUDIENCES

These audiences are critical to ensuring that the Morris Canal Greenway is well supported as a significant historical, tourism, recreational, and transportation asset for communities along the corridor and for the State of New Jersey. Influencers include:



**Government officials and policymakers** at the municipal, county, and state level with concentration on transportation, education, economic and community development, history and heritage, and recreation leaders.



**Chambers of Commerce and related business leaders** with concentration on those that may provide material support, funding, or lend credibility to the need for greenway development, projects, and progress.



**Business community in general**, especially Main Street shops along the greenway that stand to benefit from increased activity or could play an integral role in its development.



**Tourism and economic development organizations** that can spur awareness of the Morris Canal Greenway among the general public and visitors to the area. They can also use the greenway to draw visitors, businesses and development to their municipality or county.



**Parks and recreation departments** that can provide places and opportunities for hosting events, promoting development and advocating for improvements on behalf of the Morris Canal Greenway that are relevant to alternative transportation, beautification, community greening, and wellness.



**Health and wellness organizations**, including major healthcare or health insurance providers in the region, who can directly support and advocate on behalf of the Morris Canal Greenway for health and wellness benefits for residents.



**Historical societies and other organizations** dedicated to raising awareness of local history. They can enrich user experience of the Morris Canal Greenway through interpretive strategies such as outdoor exhibits where remnants of the canal are visible on or near the greenway.

## GROUP 2 - ACTIVATOR AUDIENCES

These audiences are those individuals and groups that must be engaged to visit, use and spread the word about Morris Canal Greenway. Activators include:



**Recreation enthusiasts** including hikers, bicyclists, boaters, nature lovers, and others that may experience the Morris Canal Greenway based on their own outdoor and recreational passions.



**Educators**, including teachers, instructors, school administrators working with young people, people with special needs, and senior citizens that could experience the Morris Canal Greenway from a historical, cultural, or recreational perspective near their homes or school.



**The Locals**, specifically those that live in the towns along or near the Morris Canal Greenway, who can use and champion the greenway as members of their communities and contributors to the overall quality of life for residents.



**Historians and history enthusiasts**, who can use and promote the greenway as a venue for communicating local history and the significance of the Morris Canal Greenway to New Jersey's history and development.

*Icon Credits from Noun Project:  
Dinosoft Labs; Danishicon; Jordan Gurrier; Christopher Holm-Hansen;  
Luis Prado; Annie Wang; Krisada;  
Eric Milet; Andrew Doane*

## Message

The Morris Canal Greenway carries significant meaning and impact for the northern New Jersey communities and people benefiting from its existence and growth. There are four core pillars of the Morris Canal Greenway brand and message:

### CONNECTION

The Morris Canal Greenway is an extensive and historic greenway that connects communities, economies and people via heritage and nature.



Wharton Canal Day

Credit: John Manna Photography

### ACCESSIBILITY

The Morris Canal Greenway is accessible, fun, and full of great stories for people of all ages.



Wharton Canal Day

Credit: John Manna Photography

### CONTRIBUTION

The Morris Canal Greenway contributes to the health, wellness and general vibrancy of our communities via outdoor recreation opportunities and economic stimulus.



Chilton Medical Center provided grant funding for this segment of the greenway through Lincoln Park  
Credit: Sandy Stucki/NorthJersey.com

### OPPORTUNITY

The Morris Canal Greenway is a catalyst for future opportunities to develop our trail networks, bicycling and pedestrian facilities, and overall recreation systems.



Braille Trail Ribbon Cutting in Mount Olive

Credit: NJDEP

# Branding and Marketing Tools

There are two categories of tools that can be used to consistently communicate about and raise visibility for the Morris Canal Greenway: Direct Channels and Influencer Channels.

## DIRECT CHANNELS

These are tools that can be directly controlled by a marketing and communications lead organization(s) and entail:

- **Web and online communications**, including e-newsletters, social media, and content marketing (video, photography, social sharing, etc.).



Morris Canal Working Group website



Waterloo Event Flier

Credit: Canal Society of New Jersey

- **Advertising and promotions**, including print, web, broadcast, and public relations.
- **Events and programming**, including Morris Canal Greenway related symposiums, tours, presentations, fundraisers, and ribbon-cuttings, as well as co-sponsored events with municipalities and counties, community organizations, businesses and non-profits.



Warren County Bus Tour at Lock 5 West

Credit: Warren County



Warren County Bus Tour at Plane 9 West

Credit: Warren County

## 5. Branding & Marketing the Greenway

### Branding and Marketing Plan

#### INFLUENCER CHANNELS

These are relevant organizations or groups that can carry and share related materials and messaging with their audiences, and in doing so influence awareness, usage, and advocacy for the Morris Canal Greenway. They include:

- **Schools and libraries — including colleges and universities** — that offer a place and space to educate students, educators, residents, and visitors about the greenway.
- **Community groups**, such as historical associations, rotaries, neighborhood associations, Boy Scouts and Girl Scouts, recreation and sports clubs, social clubs, religious organizations, and youth groups.
- **Tourism marketing organizations** that seek new reasons for regional visitors to choose northern New Jersey as a travel destination.
- **Economic and community development marketing organizations**, including chambers of commerce, that seek new reasons for residents and businesses to live, locate, and grow in northern New Jersey.
- **Historical organizations**, such as municipal historical societies and museums that can encourage members to experience history firsthand by visiting the greenway and by highlighting Morris Canal history through educational programs and exhibits.



*Combined TAC & MCWG/SAC meeting, Waterloo Village*



*MWCG/SAC meeting, Liberty State Park*

## Branding and Marketing Plan

Below is a working list of integrated branding, marketing, and communications activities after completion of the study.

These would begin once a responsible party to lead branding and marketing activities has been identified. A possible timeframe is proposed for each of the four phases in the scenario below. Although presented as a sequential program, some elements may be advanced earlier or later depending on available resources and organizational capacity. However, it is the full range of coordinated actions that will make the branding and marketing program most effective.

### PHASE 1 - MONTHS 1 TO 3

Assembling resources to support ongoing branding, marketing, and communications related to the Morris Canal Greenway.

This begins with identifying, funding, and establishing a lead marketing organization that will be supported on a consistent basis by a marketing and communications service provider (contracted firm) that will be able to fulfill the following scope of work over at least a 24-month period:

- Marketing management and reporting
- Social media
- Website design, development and maintenance
- Graphic design and writing
- Photography and video production
- Public relations and media relations
- Events and programming coordination

### PHASE 2 - MONTHS 4 TO 10

Establishing and sustaining a robust and adaptable virtual destination for interested audiences via an updated Morris Canal Greenway website that focuses on the Greenway itself.

The Morris Canal Greenway website should feature and include:

- An open-source content management system (e.g. WordPress or similar) with mobile phone/tablet responsive design for ease of site management and user experience.
- A user-friendly, interactive and clickable map clearly outlining the Morris Canal Greenway with existing, in progress, and planned routes.
- An "About the Morris Canal" section with history and perspective on canal, including historical and contemporary photos, spotlight on partners and communities, and contact information for inquiries (name, phone, and email)
- A Morris Canal Greenway Communities section featuring the towns and specific attractions/historical assets that a visitor may experience with links to relevant websites.
- Recent News featuring at least three years of press coverage to start.
- Morris Canal Greenway Projects & Progress section with at least monthly updates on greenway development (photos, background, and contacts for gaining more local information).
- Events Calendar updated monthly and/or seasonally with local events and tours that

### Branding and Marketing Plan

benefit or drive usage/awareness of Morris Canal Greenway.

- Press Room with a media kit and Morris Canal Greenway brochure for easy download, along with a press contact (one person's name, email, and phone or a media@ email address that distributes to multiple contacts).
- Donate button on home page leading to section that explains how and where financial or in-kind contributions are made with contact information for fundraising lead (person).
- Blog section featuring updates and deeper perspective on the greenway, in coordination with a larger content marketing strategy as outlined below.
- Resources section that includes a downloadable toolkit for Morris Canal Greenway communities and stakeholders (described in next section).
- Other features:
  - » Social media feeds on homepage (i.e. recent posts, tweets, and images from Morris Canal Greenway social media channels).
  - » Click to follow social media buttons.
  - » Sign up button for e-newsletter subscription.

#### PHASE 3 - MONTHS 6 TO 12

Establishing and distributing marketing and storytelling materials that can be used in all communities and destinations along the Morris Canal Greenway.

The marketing materials should include:

- A Morris Canal Greenway brochure that includes an overview map and general information, to be updated and printed annually, along with a companion electronic version on the Morris Canal Greenway website.
- A toolkit available in print and online for communities and stakeholders to promote the Morris Canal Greenway, as well as resources (people, organizations and government agencies) that can be of help with greenway-related projects and marketing.
- Active Facebook, Twitter, and Instagram channels updated with posts, images, and announcements once or twice a week at a minimum.
- Active e-newsletter (monthly or quarterly) spotlighting recent Morris Canal Greenway projects/progress, news, events, and ways to get involved. The template should be consistent in terms of sections/content month-to-month or quarter-to-quarter.
- A media kit suitable for press and influencer audiences — such as local or state government officials and community leaders — that includes background information on Morris Canal Greenway, projects, progress spotlights, and look



ahead materials for the reader to understand potential opportunities and story angles.

- Morris Canal Greenway posters/signage and swag to be displayed and distributed at available community or destination outposts, including t-shirts, hats, buttons, and/or other premiums.

## COST PROJECTIONS

Based on the scope of the phased approach described above, it is estimated that individuals and organizations leading the branding and marketing of the Morris Canal Greenway should plan on up to 1,500 total person hours per year. The annual marketing services and material budget is estimated at \$100,000 to \$120,000 in the first 12 months with a sustaining budget of at least \$75,000 in years two through four.



*Icon Credits from Noun Project: joe pictos*

## PHASE 4 - MONTHS 13 TO 24

### Creating, distributing, and sustaining Morris Canal Greenway communications and promotions.

The communications and promotions plan should include:

- Search engine marketing (pay-per-click) to drive interested audiences to the Morris Canal Greenway website.
- Paid social media ads highlighting projects, progress, news, events, and community spotlights.
- Content marketing via the Morris Canal Greenway Blog, including frequent and diverse updates and perspective on Morris Canal Greenway projects and communities. Content would be published through the newsletter, social media, and stakeholder organizations.
- Grassroots marketing through community involvement, attendance at key meetings and events, and one-to-one distribution and presentation of Morris Canal Greenway marketing materials.
- Public and media relations including proactive pitches to local, state, regional, and national media outlets, as well as reactive press relations in the form of providing quotes, expertise, and acting as the voice of the Morris Canal Greenway.
- Morris Canal Greenway events, including cross-greenway coordinated seasonal events featuring a consistent theme and shared communication goals.



CHAPTER 6

# Implementation Strategies & Actions



## CHAPTER 6

# Implementation Strategies & Actions

### Introduction

In the previous chapters, this study proposes and describes the greenway's alignment and design, addresses the need for stakeholder coordination, and outlines an approach to marketing and branding. The purpose of this chapter is to expand upon key supporting strategies and actions related to earlier chapters that, together, will facilitate the development of the Morris Canal Greenway.

Strategies and actions can only be effective if an individual or organization takes responsibility for implementing them. In some cases, it is clear who would implement the strategy and actions, while in others, the responsible lead entity has not yet been identified. Chapter 4: Organizing for Success describes the need for a single overarching organization to address coordination of the entire greenway. This organization would eventually manage those strategies and actions and efficiently implement them.

Table 6.1 at the end of this chapter outlines the critical functions that must be addressed to build and maintain the greenway, engage the public to visit the greenway and enrich the greenway experience with programming and interpretation. The table suggests what organizations might lead or participate in each of the functions and should be used as a basis for further discussion and decision-making.

### Strategies and Actions

The following 12 strategies are associated with the four goals described in Chapter 1: Overview. For each of the strategies, there is a brief overview providing background and context. Summaries of the associated benefits, actions, and performance measures follow.

## GOAL 1

Create a continuous greenway that preserves and enhances historic resources within the Morris Canal corridor.

---

### STRATEGY 1: COMPLETE THE GREENWAY.

Jurisdictions should plan, design, and construct connecting bicycle and pedestrian facilities that extend and link existing greenway segments.

#### Overview

One third of the Morris Canal Greenway is built, a third is anticipated to be developed in the short-to medium-term, and the remaining third in the long-term. Advancing the development of missing segments to extend the existing sections is one of the most efficient steps towards completing the greenway. Linking segments that are complex and require major construction will take longer to complete, but planning must begin early.

#### Benefits

- Building out from existing segments has a greater impact – both improving an existing facility and creating a longer trail.
- Long trails attract visitors from a wider region who are more likely to visit area restaurants and attractions.

#### Actions

1. Develop and maintain a project list and phasing plan with potential funding sources of projects that will extend or enhance existing segments.

2. Include the greenway in land use, transportation, recreation, and historic preservation guidance documents; include major projects in long-range planning documents.
3. Convene annually (at a minimum) to review Morris Canal greenway plans and progress with counties and municipalities to ensure coordination of effort.

#### Performance Measures

- Number of new projects in planning and development stages that link to existing segments.
- Number of linking segments completed.

### STRATEGY 2: PRIORITIZE SHORT-TERM, HIGH-VISIBILITY PROJECTS.

Jurisdictions should identify and prioritize the development of greenway segments that can be achieved quickly and attract attention to generate wider public interest and support.

#### Overview

Many greenway segments do not require high-cost improvements and can be constructed quickly, especially those located on public property. For example, short-term alignments for on-road segments may only require bicycle facilities, sidewalk improvements, and signage.

## 6. Implementation Strategies & Actions

### GOAL 1

#### Benefits

- Early successes generate wider public interest and attract increased support for completing the greenway.
- Completed segments can serve as models for other jurisdictions.

#### Actions

1. Prioritize projects that can be completed in the short-term (one to three years).
2. Develop and annually update a map showing progress in building the greenway and distribute it widely.
3. Hold public events to highlight the long-term concept of a continuous greenway along the existing and developing segments to broaden public support.

#### Performance Measures

- Miles of planned short-term segments.
- Miles of segments funded for construction.
- Percentage of short- to medium-term and interim alignments completed.

### STRATEGY 3: CULTIVATE AND SUPPORT CHAMPIONS.

Bring together influential advocates and organizations to collaborate and support greenway projects, and to assist local and county government in moving projects forward.

#### Overview

Champions are typically at the forefront of every successful greenway project. They collaborate, advocate, organize, and can assist in pursuing resources.

Champions can represent government and non-profit organizations but may also be citizens with a passion for the Morris Canal Greenway. Today the Morris Canal Greenway has many champions, for example the members of the Canal Society of New Jersey. Champions should organize to reach out to municipalities and counties and encourage them to begin or continue to develop the greenway in their jurisdictions. Because trail development can be a long process, from securing funding to ribbon cutting, it is important to have influential advocates and lead organizations that are persistent in advancing projects.

#### Benefits

- Can positively influence decision-makers and shape public opinion.
- Raises public awareness and garners support.
- Facilitates outreach to counties and jurisdictions to advance the greenway.
- Provides a volunteer force to perform critical greenway development and maintenance functions.
- Assists implementing jurisdictions and partners.

#### Actions

1. Establish a volunteer corps of champions to advocate for greenway development, secure formal resolutions of support for the greenway from municipal and county jurisdictions, and conduct outreach to inform and secure the support of legislators and agencies.
2. Maintain a list of champions who can reach out to municipalities and counties to develop the greenway.

### Performance Measures

- Volunteer group formed.
- Number of resolutions of support and letters of support from government agencies and legislators.

## STRATEGY 4: PROTECT HISTORIC CANAL STRUCTURES.

Identify, protect, and stabilize canal-related structures that convey the canal's rich heritage, and prioritize those that can be used to interpret historic resources.

### Overview

Historic structures directly related to the canal convey the canal's rich heritage – locks and inclined planes, wrought-iron cables, the towpath and canal prism, feeder canals, aqueducts, weigh stations, lock tenders' houses, and canal side stores can all be spotted along the canal's alignment. Historic structures from the Morris Canal are intact in many places, especially in the more rural, western region.

The Morris Canal was listed in the National Register of Historic Places in 1973 and the nomination, including mapping, is outdated. This results in compromised regulatory protection and hampers access to public historic preservation grant funds. Without caring for these resources, it is not possible to claim world class status for the Morris Canal Greenway.

### Benefits

- Updating the National Register documentation will enable the designation to cover more resources and incorporate the latest historical research.

- The research can identify structures in need of preservation and guide canal-wide interpretation improvements.
- Updated mapping will benefit all by sharing data sources, and the greenway will more likely be acknowledged in development projects and environmental reviews.

### Actions

1. Update the Morris Canal's National Register documentation and digital mapping, including all associated historic resources and the canal towns along the route, with guidance from the New Jersey Office of Historic Preservation and the Canal Society of New Jersey.
2. Identify, inventory, and prioritize structures in need of preservation studies and treatments.
3. Secure funding to undertake priority individual preservation projects according to the Secretary of the Interior's Guidelines.

### Performance Measures

- Completion of updated National Register documentation.
- Completion of a list of canal-related structures and districts in need of preservation.
- Completion of a state-of-the-art mapping of the footprint of the historic canal and features.

## 6. Implementation Strategies & Actions

### GOAL 1

#### STRATEGY 5: TELL THE MORRIS CANAL STORY.

Provide rich and well-coordinated historic and environmental interpretation along the entire length of the greenway through signs, exhibits, programs, and events.

##### Overview

Just as the Morris Canal Greenway can only achieve world class status with a concerted effort to preserve canal-related structures and districts, it should also maximize the educational value of interpreting both the cultural and natural resources found along the greenway. Interpretation will convey the greenway's unique identity and importance to the public. Interpretive signage along the route is especially valuable in directly reaching users traversing long distances along trail segments. Websites and mobile applications provide educational opportunities, and support heritage tourism through promotion of festivals and events that draw visitors who will spend time and funds in the area.

##### Benefits

- Raises awareness and understanding of the Morris Canal's historic significance.
- Engages educators, students, and heritage tourists to visit the greenway and informs a broader and more diverse audience.
- Enriches the experience of trail users.

##### Actions

1. Inventory all current and planned interpretive projects.

2. Create a greenway-wide interpretive plan to address canal history as well as natural features and ecosystems.
3. Carry out individual interpretive projects.

##### Performance Measures

- Completed inventory of interpretive projects.
- Completed interpretive plan.
- Number of interpretive projects completed.

#### STRATEGY 6: ENSURE A UNIFYING AND RECOGNIZABLE GREENWAY DESIGN.

Apply the Morris Canal Greenway Design Guidelines consistently to ensure public recognition of the Morris Canal Greenway across a variety of conditions and contexts.

##### Overview

Visitors to the Morris Canal Greenway should recognize from the design that they are experiencing part of a major and historically significant trail stretching across New Jersey. This is conveyed by using consistent design elements for each type of walking and bicycling facility along the greenway, such as wayfinding and interpretive signs, benches and lighting. The Design Guidelines (Appendix A) were developed to guide anyone helping develop or construct trails and are flexible and appropriate to the context; rural and urban treatments will and should be different.

##### Benefits

- Provides guidance to jurisdictions to facilitate a consistent approach that reinforces the brand.
- Develops a stronger and more distinctive brand, recognizable to trail users and the visiting public.



- Enhances visitor experience and orients them through wayfinding and interpretive signs.

#### Actions

1. Use consistent signage and marking including use of standard fonts and color palette.
2. Promote the Design Guidelines to greenway planners and decision-makers.

#### Performance Measures

- Consistent quality and appropriate design of greenway segments from jurisdiction to jurisdiction.

## GOAL 2

Leverage the Morris Canal Greenway to enhance communities.

### STRATEGY 7: CREATE A RICH NETWORK OF GREENWAY DESTINATIONS.

Connect the greenway to nearby parks, trails, lakes, water bodies, historic and interpretive sites, attractions, and business districts to benefit local economies, support public health, and improve public spaces.

#### Overview

The Morris Canal Greenway can serve as a regional spine that connects local trails. Together these trails form an extensive network of pedestrian and bicycle facilities that residents and visitors can use to access historic and interpretive sites, community destinations and attractions including lakes and waterbodies. A larger network of trails is likely to cross jurisdictions and will require close collaboration among municipalities, counties, and non-profit organizations.

#### Benefits

- Residents will have access to the local destinations such as historic and interpretive sites, businesses, parks, schools, and neighborhoods via non-motorized modes of transportation.
- Opportunities for longer excursions attract visitors from a wider region and encourage use of local services and overnight stays.
- The local municipalities can economically benefit from this continuous bicycle and pedestrian facility.
- Creating a network of trails gives greater access to bicycling and pedestrian facilities that support active living and public health.

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## 6. Implementation Strategies & Actions

### GOAL 2

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#### Actions

1. Plan and establish a network of bicycle and pedestrian facilities that connect historic sites and local destinations with the Morris Canal Greenway.
2. Encourage county-wide greenway planning to identify opportunities for creating the network.

#### Performance Measures

- Number of new trails planned or under development to connect to local destinations.
- Number of new connecting trails.

### STRATEGY 8: HIGHLIGHT GREENWAY ECONOMIC BENEFITS.

Estimate, track, and publicize financial benefits to municipal, county, and state government, and to property owners along the alignment.

#### Overview

An important outcome and motivation for developing the Morris Canal Greenway is the potential for increased spending in local businesses. Establishing an economic baseline will allow tracking and measuring progress over time. Quantifiable information can be incorporated into messaging for jurisdictions, legislators and elected officials, property owners and others whose support is critical.

#### Benefits

- Serves as an incentive for greater support and participation in greenway development.
- Provides a method for measuring economic impacts over time.

#### Actions

1. Develop and update a financial projection (every five years) of the anticipated revenue from retail sales, restaurants, hotels, and other service and recreation industries along the developed portions of the greenway.
2. Project increased residential and commercial property values and associated tax revenue for municipalities along the alignment.

#### Performance Measure

- A completed financial benefit analysis.

## GOAL 3

### Ensure long-term sustainability of the greenway.

#### STRATEGY 9: ORGANIZE FOR SUCCESS.

Create an effective organizational structure to provide leadership responsible for specific functions needed to implement the greenway.

##### Overview

Building the greenway and implementing study recommendations will require collaboration among many government and nonprofit stakeholders. As the greenway evolves, additional coordination and regional thinking and action will be critical. The current informal structure, a collaboration among the NJTPA, Canal Society of New Jersey, and the MCWG, has been productive to date. Advocates and stakeholders need to take the next step towards a more formal structure that defines roles and responsibilities and provides overarching leadership – a nonprofit organization that oversees the large and growing partnership actively planning, building, and promoting the Morris Canal Greenway.

##### Benefits

- Provides direction and leadership for critical Morris Canal Greenway functions and activities along the entire greenway.
- Facilitates coordination among all stakeholders.
- Improves accountability by defining and formalizing roles and responsibilities.

##### Actions

1. Establish an independent nonprofit organization to coordinate greenway implementation; convene a task force to explore approaches and confirm that there is a sufficient base of support among

jurisdictions and organizations whose involvement is necessary or desired for implementation.

2. Continue to convene the Morris Canal Working Group until a dedicated organization is in place.
3. Consider establishing a temporary position or consulting contract to secure professional services focused on startup guidance.

##### Performance Measures

- Identification and commitment of lead organizations.
- Measurable progress in advancing critical functions.

#### STRATEGY 10: DEVELOP A FUNDING STRATEGY.

Seek funding to support the long-term collaborative work needed for successful implementation of the greenway.

##### Overview

Dedicated funding to launch and sustain greenway development by stakeholders will require vigorous and sustained effort. The Morris Canal Greenway's potential to benefit the region cannot be realized with volunteer efforts alone. Strategies for funding key functions can involve pooling resources from government and nonprofit stakeholders, grants from government and private foundations, grassroots fundraising and events, or even through concessions (a strategy common to recreational facilities).

##### Benefits

- Access to outside support in implementation activities for all stakeholders, including dedicated funding for a wide range of support functions, e.g., hands-on stakeholder support, grant writing, etc.
- Shortens the timeline for greenway development.

### GOAL 3

---

#### Actions

1. Develop a funding plan with the assistance of an ad hoc committee of the Morris Canal Working Group that addresses both short- and long-term needs, and anticipates potential revenue streams such as membership in the proposed nonprofit organization.
2. Conduct outreach to potential funders to make them aware of the Morris Canal Greenway and needs.

#### Performance Measures

- Funding plan.
- Number of potential funding sources interviewed annually.
- Dollars raised and awarded annually.

### GOAL 4

#### Build visibility of the Morris Canal Greenway.

---

#### STRATEGY 11: SPREAD THE WORD.

Pursue a wide variety of initiatives to raise public awareness and government support for building and visiting the greenway.

#### Overview

The Morris Canal Greenway has the potential to offer many excellent recreational and educational experiences. It may lack continuity for those interested in a long-distance experiences but for many users this close-to-home resource simply needs more public awareness, branding, and wayfinding.

#### Benefits

- Raising the visibility for the Morris Canal Greenway will help to build public recognition and support and sustain and facilitate momentum.
- More users will find their way to the existing trails and sites, and more communities will become interested in improving their segment of the proposed alignment.

#### Actions

1. Raise public awareness of this unique historic resource through public outreach, use of social media, and other tools for communicating with residents, users, and the public.
2. Attract and serve more recreational users by enriching and increasing the number of events available.
3. Build stakeholder support throughout the state to build the greenway.

#### Performance Measures

- Number of users as measured periodically.

- Number of website visitors.
- Funds raised privately including smaller donations.

### STRATEGY 12: ASSIGN A BRANDING, MARKETING, AND PROMOTIONAL LEAD.

Until a nonprofit organization is created to oversee the Morris Canal Greenway, existing partners should be identified to assume some marketing and branding tasks as outlined in Chapter 5. These efforts could be supplemented with a marketing and branding consultant, if funding is available.

#### Overview

Establishing a brand and conducting marketing activities requires consistency and coordination across the entire greenway. This can best be achieved with a designated lead. A single organization or closely aligned partnering organizations could assume this role on a sustained basis in the interim until the nonprofit organization is established. Once the new organization is created it would become the central resource for branding and promoting the Morris Canal Greenway. Outside marketing and communications consultants could be contracted to support the lead organization(s) until a long-term arrangement is in place. Regardless of the approach, a branding and marketing plan is necessary for a well-coordinated and sustained program.

#### Benefits

- Ensures a consistent brand and message across the greenway.
- Reinforces outreach activities planned locally along the greenway.

- Encourages and supports Morris Canal Greenway development efforts of government and nonprofit stakeholders.

#### Actions

1. Identify and assign marketing and branding responsibility to an organization or vendor that has the capacity to implement marketing and branding recommendations.
2. Implement a branding and marketing plan:
  - » Phase 1 - Assemble resources to support ongoing branding, marketing, and communications related to the Morris Canal Greenway.
  - » Phase 2 - Establish and sustain a robust and adaptable virtual destination for interested audiences via a new and dedicated Morris Canal Greenway website.
  - » Phase 3 - Establish and distribute marketing and storytelling materials that can be used in all communities and destinations along the Morris Canal Greenway.
  - » Phase 4 - Create, distribute, and sustain Morris Canal Greenway communications and promotions.

#### Performance Measures

- Formal commitments from one or more organizations to implement and oversee Morris Canal Greenway marketing and branding.
- Amount of funding and support secured for branding, marketing, and communications.
- A comprehensive branding and marketing plan in place.

## 6. Implementation Strategies & Actions

### Roles & Responsibilities

The Morris Canal Working Group will continue to provide a platform for discussion, problem solving, and collaboration among stakeholders. An important future function will be tracking progress on study implementation, identifying needs and sharing collective knowledge and technical assistance. A wide range of stakeholders with supporting interests and abilities will be necessary to achieve the greenway vision.

In time, a new and dedicated nonprofit organization can take responsibility for overall greenway development and coordination among partner and supporting organizations.

Table 6.1. Greenway Functions, Proposed Lead and Supporting Roles

<i>Functions</i>	<i>Lead/Key Partners</i>	<i>Supporting</i>
<b>PLANNING, BUILDING &amp; MAINTAINING</b>		
Planning, Construction & Design	NJDOT, Counties & Municipalities	NJTPA, Canal Society of New Jersey
Preservation Treatments; National Register Listing Update; Survey & Mapping	Counties & Municipalities Canal Society of New Jersey	State & regional agencies & nonprofit preservation groups
Branding & Identity	Counties & Municipalities	NJTPA, Canal Society of New Jersey, Center for Creative Placemaking
Signage & Wayfinding	Counties & Municipalities	NJTPA, NJDOT, Canal Society of New Jersey
Maintaining	Counties, Municipalities & Volunteer Organizations	NY/NJ Trails Conference, local trail groups & youth corps, Canal Society of New Jersey
<b>ACTIVATION</b>		
Marketing & Promotion	Destination Marketing Organizations (DMOs)	Canal Society of New Jersey, NJ Division of Travel & Tourism, regional & local tourism organizations
Historic Interpretation	Canal Society of New Jersey Counties & Municipalities	NJ Historical Commission, NJ Historical Trust, NJ Council for the Humanities, historical societies & museums
Events & Programming	Canal Society of New Jersey	Division of Travel & Tourism, educators & schools, state & local parks & recreation organizations, historical societies & museums
<b>OVERARCHING ADMINISTRATION &amp; COORDINATION</b>		
	Designated Lead Organization	Morris Canal Working Group stakeholders, Canal Society of New Jersey, NJTPA



*Morris Canal, Hudson County*



*Morris Canal, Liberty State Park*

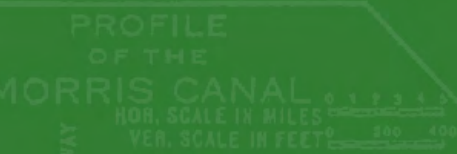




# APPENDICES

## Appendices

- Appendix A: Design Guidelines
- Appendix B: Outreach Summary
- Appendix C: Preferred Greenway Alignment /  
Implementation Matrix
- Appendix D: Funding Sources
- Appendix E: List of Municipalities
- Appendix F: Glossary
- Appendix G: GIS Data Sources





Submitted by



# APPENDICES

- Appendix A: Design Guidelines
- Appendix B: Outreach Summary
- Appendix C: Preferred Greenway Alignment  
Implementation Matrix / Maps
- Appendix D: Glossary
- Appendix E: Funding Sources
- Appendix F: List of Municipalities
- Appendix G: GIS Data Sources





# Appendix A: Design Guidelines





*Line  
of the*  
MORRIS CANAL

APPENDIX A:  
DESIGN GUIDELINES  
*for the*  
MORRIS CANAL GREENWAY

*Submitted on*  
June 28, 2018



*Submitted to*

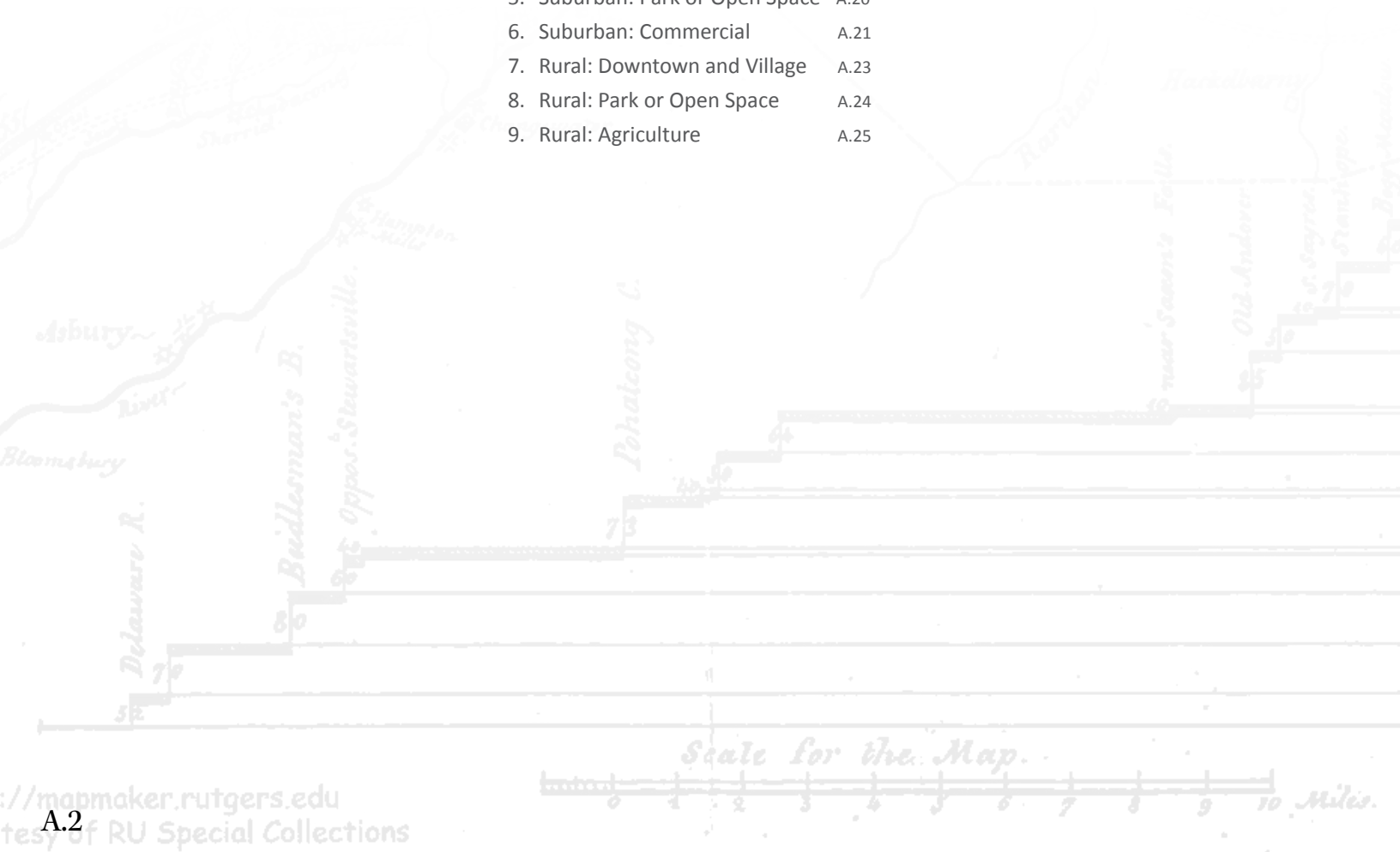


# MORRIS CANAL GREENWAY DESIGN GUIDELINES

## Table of Contents

		<u>STEP 1.</u>		<u>STEP 2.</u>	
<b>Overview</b>	-----	<b>Context</b>	-----	<b>Facility Type</b>	-----
	A.6		A.12		A.26

Introduction	A.8	1. Urban: Mixed-Use	A.15	1. Canal-Side Shared Use Path	A.28
How to Use These Guidelines	A.10	2. Urban: Park or Open Space	A.16	2. Off-Road Shared Use Path	A.30
		3. Urban: Industrial	A.17	3. Road-Side Shared Use Path	A.32
		4. Suburban: Residential	A.19	4. On-Road Facility	A.34
		5. Suburban: Park or Open Space	A.20		
		6. Suburban: Commercial	A.21		
		7. Rural: Downtown and Village	A.23		
		8. Rural: Park or Open Space	A.24		
		9. Rural: Agriculture	A.25		





**STEP 3.**

**Canal Features** ---- A.36

- 1. Aqueduct A.38
- 2. Basin A.39
- 3. Canal Prism A.40
- 4. Inclined Plane A.41
- 5. Lock A.42
- 6. Towpath A.43

**STEP 4.**

**Design Elements** -- A.46

- 1. Overview A.46
- 2. Graphic Standards A.50
- 3. Signage & Markings A.54
- 4. Benches & Seating A.66
- 5. Bicycle Amenities A.68
- 6. Trash & Recycling Receptacles A.70
- 7. Lighting A.71
- 8. Creative Roadway Crossings A.72
- 9. Pavement & Surfaces A.74
- 10. Art & Interpretive Elements A.76
- 11. Gathering Spaces A.78

**STEP 5.**

**Maintenance & Operations** ----- A.84

- 1. Maintenance Management & Coordination A.86
- 2. Routine Maintenance & Inspection A.88
- 3. Maintenance of Recommended Design Elements A.90

# MORRIS CANAL GREENWAY DESIGN GUIDELINES

## Table of Contents

### Overview ----- A.6

Fig.1. How to Use These Guidelines A.11

### STEP 1.

### Context ----- A.12

Map 1. Urban Contexts in Greenway Corridor A.14

Fig.2. Gates Avenue - Jersey City, Hudson County A.15

Fig.3. Raymond Boulevard - Newark, Essex County A.15

Fig.4. Berry Lane Park - Jersey City, Hudson County A.16

Fig.5. Branch Brook Park - Newark, Essex County A.16

Fig.6. Raymond Boulevard - Newark, Essex County A.17

Fig.7. Linden Avenue - Jersey City, Hudson County A.17

Map 2. Suburban Contexts in Greenway Corridor A.18

Fig.8. Broughton Avenue - Bloomfield, Essex County A.19

Fig.9. Nesser Lane - Woodland Park, Passaic County A.19

Fig.10. Wright's Field - Bloomfield, Essex County A.20

Fig.11. Morris Canal Park & Nature Preserve - Clifton, Passaic County A.20

Fig.12. Riverview Drive - Totowa, Passaic County A.21

Fig.13. Broad Street - Bloomfield, Essex County A.21

Map 3. Rural Contexts in Greenway Corridor A.22

Fig.14. Washington Avenue - Washington Borough, Warren County A.23

Fig.15. Main Street - Boonton, Morris County A.23

Fig.16. Bread Lock Park - Stewartsville, Warren County A.24

Fig.17. Delaware River Park - Phillipsburg, Warren County A.24

Fig.18. Looking east from Whites Road - Washington, Warren County A.25

Fig.19. Agricultural land near Whites Road - Washington, Warren County A.25

### STEP 2.

### Facility Type ----- A.26

Fig.20. Existing: Canal-side path in Stanhope, Sussex County A.28

Fig.21. Precedent: Erie Canalway Trail near Holley, NY A.28

Fig.22. Illustrative View of Canal-Side Shared Use Path A.29

Fig.23. Existing: Morris Canal Greenway in Little Falls, Passaic County A.30

Fig.24. Precedent: Patriots Path in Hanover, Morris County A.30

Fig.25. Illustrative View of Off-Road Shared Use Path A.31

Fig.26. Existing: Greenwich Street in Stewartsville, Warren County A.32

Fig.27. Precedent: Patriots Path in Randolph, Morris County A.32

Fig.28. Illustrative View of Road-Side Shared Use Path A.33

Fig.29. Precedent: Connect Hanover Trail, Hanover A.34

Fig.30. Existing: McBride Avenue, Woodland Park, Passaic Co. A.34

Fig.31. Precedent: Advisory Bike Lane, Cambridge, MA A.34

Fig.32. Precedent: Nassau Sharrows, Princeton A.34

Fig.33. Illustrative View of On-Road Facility A.35

### STEP 3.

### Canal Features ---- A.36

Fig.34. Pompton River Aqueduct near Lincoln Park-Wayne border A.38

Fig.35. Site of former aqueduct in Little Falls, Passaic County A.38

Fig.36. Rockaway River, Powerville Basin and Lock 10 East near Boonton, Morris County A.39

Fig.37. Extant basin in Rockport, Warren County A.39

Fig.38. Canal prism looking west toward Hackettstown A.40

Fig.39. Canal prism at Whites Road, Warren County A.40

Fig.40. Plane 6W at Port Colden, Warren County A.41

Fig.41. Extant inclined plane at Plane 9W, Warren County A.41

Fig.42. Lock 1 East, Ledgewood, Morris County A.42

Fig.43. Example location: Lock 5 West, Saxton Falls, Warren County A.42

Fig.44. Towpath near Phillipsburg, Warren County A.43

Fig.45. Hugh Force Canal Path, Wharton A.43

Fig.46. Lock tender's house at Lock 8 West A.45

Fig.47. Lock tender's house foundation, Bread Lock Park, Warren County A.45

## STEP 4.

### Design Elements -- A.46

<i>Table 1. Prioritizing Design Elements</i>	A.49
<i>Fig.48. Full-Color Logo</i>	A.54
<i>Fig.49. Single Color Logo</i>	A.54
<i>Fig.50. Single Color Logo with Place</i>	A.54
<i>Fig.51. Mono-Color Logo Design</i>	A.55
<i>Fig.52. Variations Based on Use</i>	A.55
<i>Fig.53. Full-Color Logo Design with Place</i>	A.55
<i>Fig.54. Example: Conceptual Morris Canal Greenway sign system utilizing contextually appropriate materials</i>	A.56
<i>Fig.55. Wooden Posts &amp; Galvanized Steel Hardware</i>	A.57
<i>Fig.56. Aluminum Panel</i>	A.57
<i>Fig.57. Cut Stone</i>	A.57
<i>Fig.58. Existing: Liberty State Park, Jersey City, Hudson County</i>	A.58
<i>Fig.59. Existing: Little Falls, Passaic County</i>	A.58
<i>Fig.60. Existing Gateway Signage: Artwork Panel Option</i>	A.59
<i>Fig.61. Sample Gateway Signage Design: Materials Only Options</i>	A.59
<i>Fig.62. Existing: Paterson, Passaic County</i>	A.60
<i>Fig.63. Standard Design for Wayfinding Signage Type 1 (Standard Version)</i>	A.61
<i>Fig.64. Standard Design for Wayfinding Signage Type 2 (Full Version)</i>	A.61
<i>Fig.65. Example: The information architecture applied on the Morris Canal Greenway directional sign in Bloomfield Township</i>	A.61
<i>Fig.66. Existing: Interpretive Sign at Phillipsburg, Warren County</i>	A.62
<i>Fig.67. Existing Sign Panel Design for Interpretive Signage located in Paterson</i>	A.63
<i>Fig.68. Sample Sign with Hardware for Interpretive Signage</i>	A.63
<i>Fig.69. Existing: Warren County Greenway Blaze</i>	A.64
<i>Fig.70. Existing: Greenwich Township, Sussex County</i>	A.64
<i>Fig.71. Standard Design for Trail Blazes Type 1 &amp; Type 2</i>	A.65
<i>Fig.72. Precedent: Centennial Trail in Spokane, WA</i>	A.66
<i>Fig.73. Standard Design for Pavement Markings</i>	A.67
<i>Fig.74. Historic "seating" along the Morris Canal</i>	A.69
<i>Fig.75. Bancal Bench from Landscape Forms</i>	A.69
<i>Fig.76. Bancal Bench from Landscape Forms</i>	A.69
<i>Fig.77. Rough &amp; Ready Bench from Street Life</i>	A.69
<i>Fig.78. Bancal Bench from Landscape Forms</i>	A.69
<i>Fig.79. Example: Branded Rough &amp; Ready Bench from Street Life</i>	A.69
<i>Fig.80. Dero Bike Rack</i>	A.71
<i>Fig.81. Bike Repair Station by Bike Fixation/ Saris</i>	A.71
<i>Fig.82. Bike Repair Station by Bike Fixation/ Saris</i>	A.71
<i>Fig.83. Bike Repair Station by Dero</i>	A.71
<i>Fig.84. Dero custom Bike Rack</i>	A.71
<i>Fig.85. Bike Locker by Dero</i>	A.71
<i>Fig.86. Precedent: Branded trash receptacle</i>	A.72
<i>Fig.87. MUTCD Standard Crossing Guidance</i>	A.74
<i>Fig.88. Precedent: Chinatown, Oakland, CA</i>	A.75
<i>Fig.89. Precedent: Montclair, NJ</i>	A.75
<i>Fig.90. Example: Branded Morris Canal Crosswalk with Boat Silhouette</i>	A.75
<i>Fig.91. Precedent: Cultural District, Pittsburgh, PA</i>	A.75
<i>Fig.92. Precedent: Montclair, NJ</i>	A.75
<i>Fig.93. Existing interpretive art at Phillipsburg</i>	A.78
<i>Fig.94. Precedent: Erie Canal Museum, Syracuse, NY</i>	A.79
<i>Fig.95. Precedent: Towpath Sculpture along the Regent's Canal, London</i>	A.79
<i>Fig.96. Precedent: Canal, Warwickshire, Scotland</i>	A.79
<i>Fig.97. Example: Canal-side Path Amenities Zone</i>	A.81
<i>Fig.98. Existing Transit Station Signage in Jersey City, Hudson County</i>	A.82

## STEP 5.

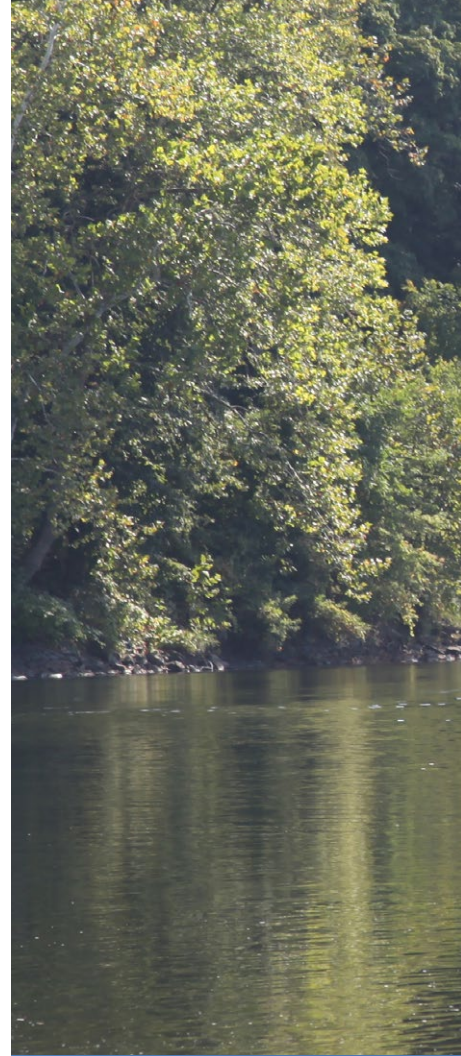
### Maintenance & Operations ----- A.84

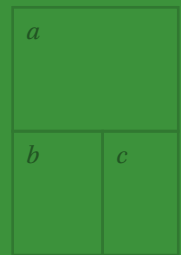
<i>Fig.99. Eagle Scouts along the Morris Canal Greenway in Bloomfield</i>	A.87
<i>Table 2. Routine Maintenance</i>	A.89

# Overview

The Morris Canal Greenway Design Guidelines were developed as part of the Morris Canal Greenway Corridor Study, completed in June 2018. The Study provides an analysis of the corridor and identifies a preferred greenway alignment that follows the historic Morris Canal right-of-way to the extent possible. The Design Guidelines support the study and provide specific design guidance to ensure consistency and visual continuity throughout the length of the greenway.

These Design Guidelines were developed with input from the Morris Canal Working Group (MCWG). The MCWG is a regional entity organized by the North Jersey Transportation Planning Authority (NJTPA) comprised of approximately 150 local, county, state, and federal government representatives, as well as stakeholders from the non-profit and private sectors.





- a. Entrance Arch, Phillipsburg, Warren County*
- b. Bread Lock Park, Warren County*
- c. Morris Canal Peninsula Park, Jersey City, Hudson County*

# Introduction

The proposed alignment of the Morris Canal Greenway spans 111 miles, passes through six counties and traverses many different communities ranging from rural to suburban to urban. The greenway promises to be a wonderful amenity for these communities, providing a facility for transportation, recreation, opportunities for education, and lessons in local history. These Design Guidelines seek to ensure that these goals can be accomplished at the local level while creating a unified look for the corridor.

## THE NEED FOR GUIDELINES

Segments of the Morris Canal Greenway have been studied, developed, and maintained by a number of volunteers, non-profits, government agencies and private enthusiasts. The variety of stakeholders has offered great benefits to the canal preservation and greenway development efforts. This includes a depth of resources and knowledge, a variety of user experiences from various regions of the state. At the same time, it has created a challenge. In the absence of unified design guidelines, each group has been left to develop their greenway segment as they see fit. While individually each segment is successful, holistically this fragmentation has led to a lack of visual continuity and consistency of greenway treatments.

The Morris Canal Working Group (MCWG) has identified the need to create a unified look and feel for the greenway. This will ensure that the visual identity of the greenway is accurately represented, elevate the visibility of the canal, simplify greenway maintenance and offer an improved overall experience for greenway users and canal enthusiasts alike.

### THE PURPOSE OF THESE DESIGN GUIDELINES

These guidelines were developed based on three primary goals:

1. To create a unified visual identity that accurately reflects the history, character and contemporary role of the Morris Canal.
2. To preserve and protect the Morris Canal and its associated buildings and structures.
3. To assist greenway planners, volunteers and decision-makers in implementing the recommendations of the Morris Canal Greenway Corridor Study.

### THE DESIGN PRINCIPLES

These guidelines were developed based on five key principles:

1. **Connection:** Create visual and physical connectivity between the six counties that the greenway traverses.
2. **Accessibility:** Design the trail to allow access for a wide range of users regardless of age or ability.
3. **Education:** Celebrate and preserve the history of the Morris Canal and its structures through signage, art and material that educate and engage a wide range of greenway users.
4. **Context:** Respond to and reflect the varying landscapes and communities that the greenway traverses.
5. **Sustainability:** The greenway should be designed and engineered to stand the test of time – much like the Morris Canal itself – while respecting the environment and ecosystems that it impacts.

These design principles directly relate to and support the larger Morris Canal Greenway branding & marketing message described in the Morris Canal Greenway Corridor Study.

# How to Use These Guidelines

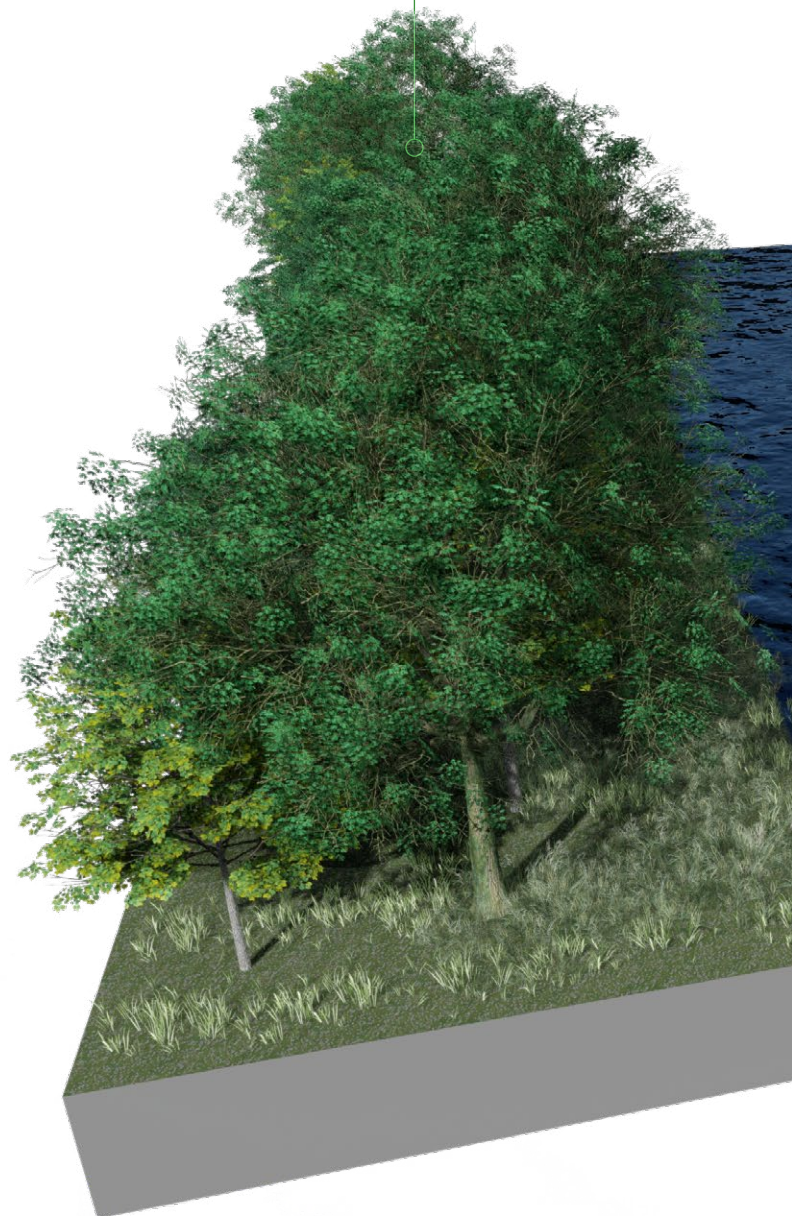
The Design Guidelines are organized into four steps to help you design or improve segments of the greenway (See Figure 1). If you are planning a segment of the path that is largely or entirely undeveloped, you should follow all four steps. If you are simply improving a segment that is partially or substantially complete, begin from the step that is most helpful and appropriate.

**Step 1: Context** - This first step will help you understand the landscape, development, and land-use considerations of the areas through which the greenway passes.

**Step 2: Facility Type** - During the second step, you will determine which type of path is most suitable for the segment.

**Step 3: Canal Features** - In the third step, you will identify any key canal features that may exist along the particular segment and provide the appropriate amenities.

**Step 4: Design Elements** - Finally, you will select the materials that comprise the greenway and its amenities.





**STEP 1:**

Identify the **Context**.

**STEP 2:**

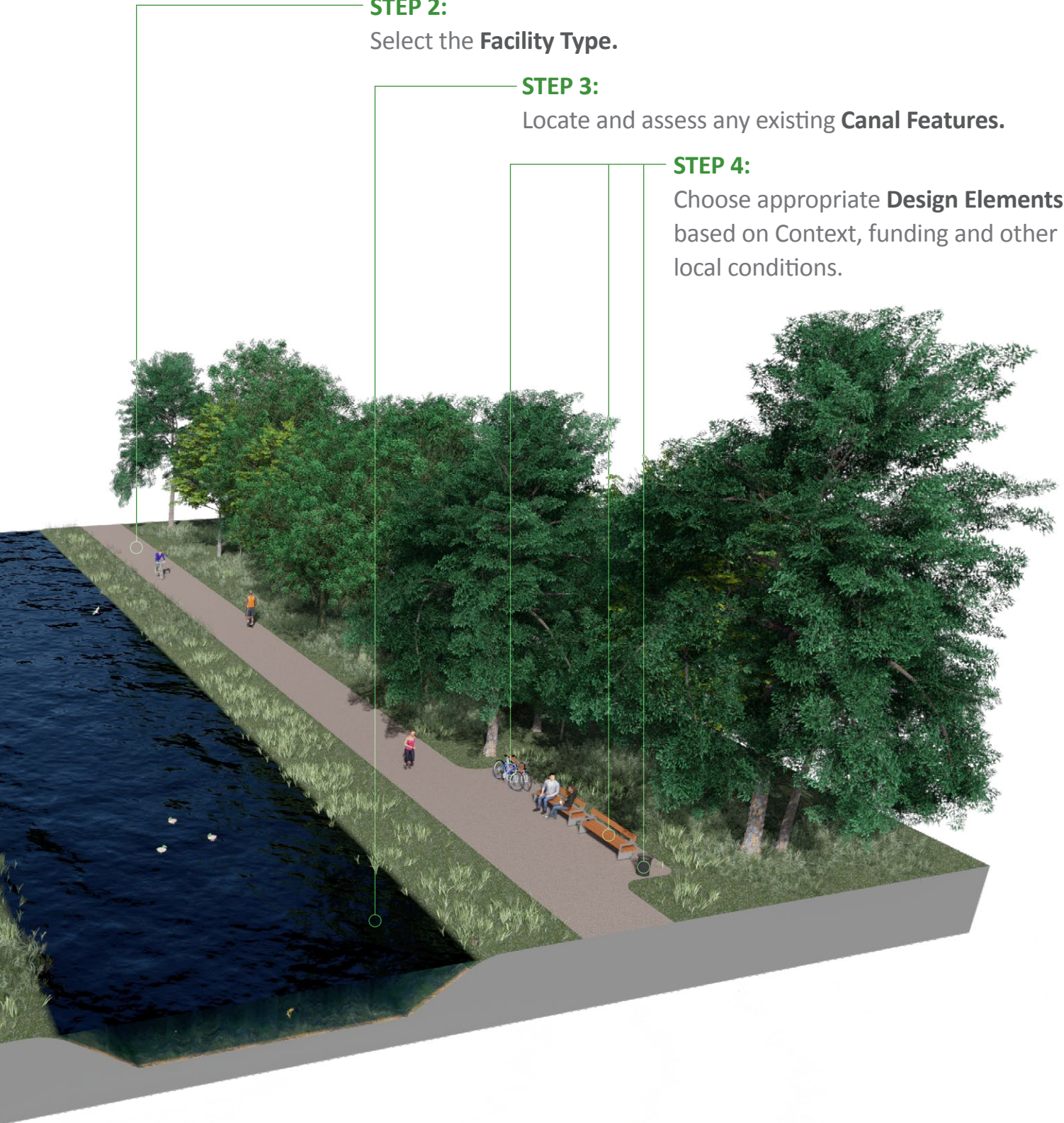
Select the **Facility Type**.

**STEP 3:**

Locate and assess any existing **Canal Features**.

**STEP 4:**

Choose appropriate **Design Elements** based on Context, funding and other local conditions.



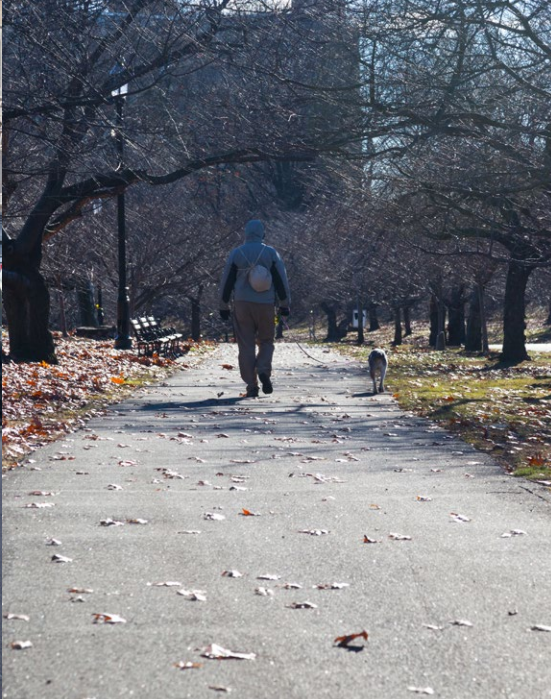
*Fig.1. How to Use These Guidelines*

# Step 1. Context

The first step in planning a greenway segment is to understand the context of the area through which it passes. Over its entire length, the Morris Canal Greenway traverses a variety of contexts wherein the jurisdiction, land use, and landscape provide different experiences for the user. Understanding the context will help determine the design elements that are recommended. For example, benches and seating are important in a rural downtown but may not be as useful in an urban industrial area.

These design guidelines have identified three broad contexts and nine sub-contexts representative of land-use, density, landscape, level of use/traffic volume, and visual character. These contexts were developed by tracing the proposed greenway alignment and identifying the context along each segment. Contexts were then grouped into nine categories, balancing the need to generalize with the need to capture as many different contexts as possible. Greenway planners should select which context(s) best describes the individual path segment and review the corresponding section(s).





# URBAN

*Mixed-Use  
Park or Open Space  
Industrial*

a	b	c
---	---	---

- a. Raymond Boulevard, Newark, Essex County
- b. Branch Brook Park, Newark, Essex County
- c. Raymond Boulevard, Newark, Essex County



# SUBURBAN

*Residential  
Park or Open Space  
Commercial*

d	e	f
---	---	---

- d. Broughton Ave, Bloomfield, Essex County
- e. Morris Canal Park, Clifton, Passaic County
- f. Riverview Drive, Totowa, Passaic County



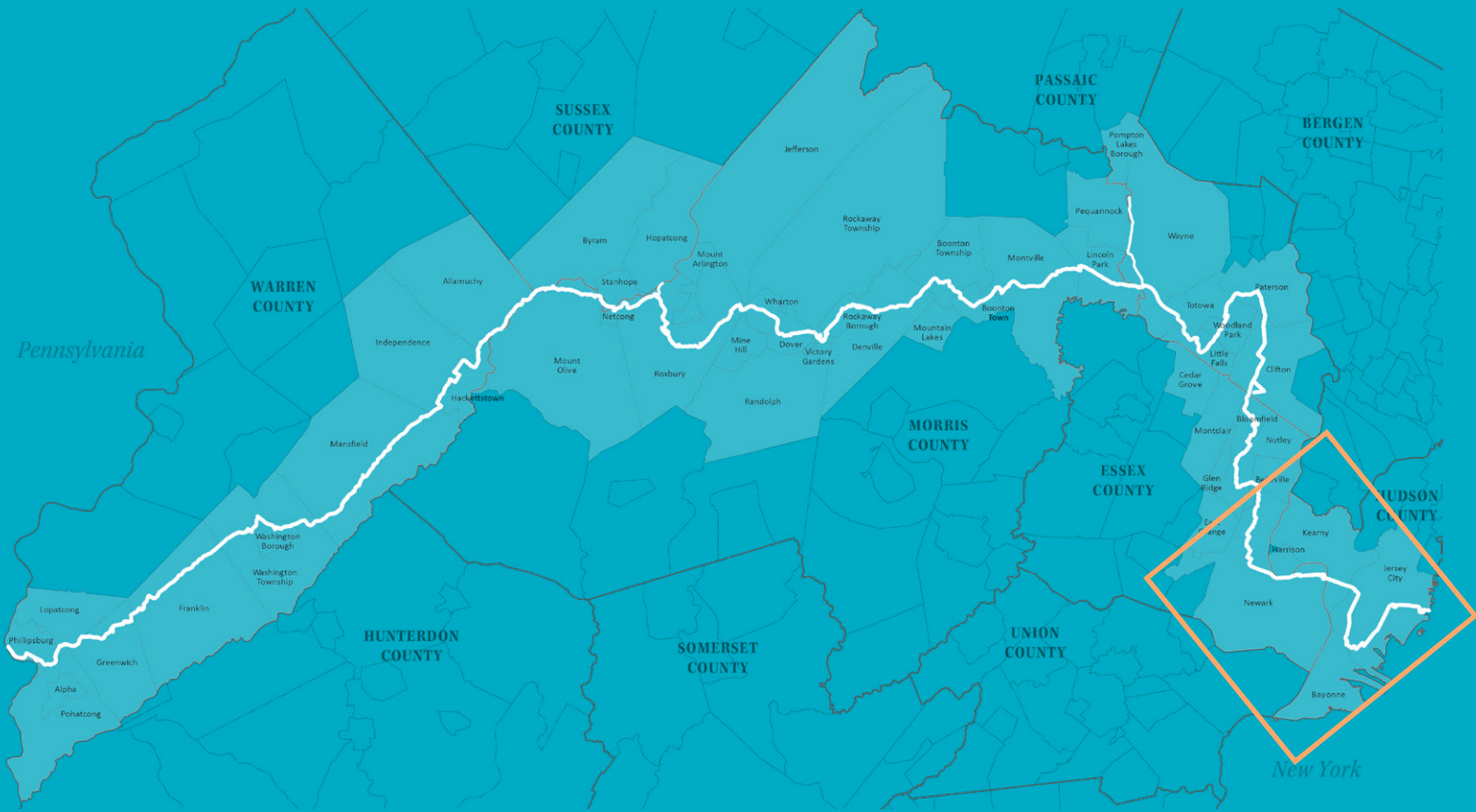
# RURAL

*Downtown and Village  
Park or Open Space  
Agriculture*

g	h	i
---	---	---

- g. Downtown Washington, Warren County
- h. Bread Lock Park, Warren County
- i. Whites Road, Warren County

# URBAN



Map 1. Urban Contexts in Greenway Corridor

The eastern portions of the proposed Morris Canal Greenway traverse some of New Jersey’s most urbanized areas. Repurposing of the historic canal and its right-of-way is more common in these urban areas, though portions of the historic right-of-way remain for available for greenway development. Visitors may experience a greenway in the historic alignment or a contemporary expression of the canal through the use of markers, public art, and signage.

Along with smaller segments of greenway in towns such as Paterson and Phillipsburg, urban segments are found primarily in:

- » Hudson County
- » Essex County (eastern portions)

# 1. Urban: Mixed-Use

Urban mixed-use corridors commingle commercial, residential, and institutional uses. For greenway planning purposes, this category also includes areas of single land uses like urban commercial and urban residential.

Urban mixed-use areas are usually bustling hubs of the community with cars, pedestrians, and transit vehicles filling the street. The street edge is lined with medium to high density buildings with retail or other types of businesses at the ground floor. Figures 2 and 3 show examples in Jersey City and Newark.



Fig.2. Gates Avenue - Jersey City, Hudson County

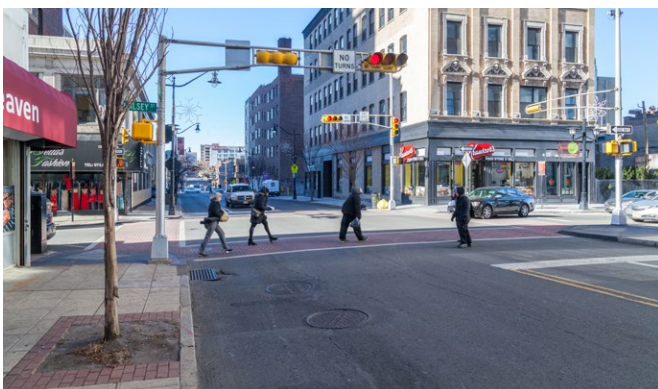


Fig.3. Raymond Boulevard - Newark, Essex County

## CONSIDERATIONS

- » An on-road greenway facility is most suitable for this context due to the existing sidewalks and limited right-of-way space. In some cases, an on-road facility such as a bike lane and sidewalk may already exist.
- » Implementing an on-road path where one does not already exist will require the reorganization of the road. If sufficient road width is not available, more robust interventions may be needed, including lane reductions, road diets, re-striping, or parking adjustments.
- » High volumes of vehicles, pedestrians, and cyclists increase the likelihood of conflicts. Special care should be taken to minimize conflicts when planning the facility.
- » Frequent bus and light rail stops offer great opportunities to educate people about the Morris Canal and the greenway. Consider locating wayfinding and informational signs in these areas.
- » Amenities including seating, lighting, trash receptacles, and wayfinding may already be present and branded to the district. Consider opportunities for co-branding these existing amenities.
- » Often, public/private partnerships, such as a Special Improvement District (SID), oversee the management of commercial areas. Identify if there is such an agency in place and, if so, coordinate any improvements in order to avoid conflicts and maximize the available resources.

## 2. Urban: Park or Open Space

Urban parks are public open spaces used by residents and visitors for active and passive recreation. Many urban parks and open spaces draw large numbers of users and offer a low-stress route for cyclists and pedestrians away from the hustle and bustle of nearby streets. Figures 4 and 5 show examples in Jersey City and Newark.



Fig.4. Berry Lane Park - Jersey City, Hudson County



Fig.5. Branch Brook Park - Newark, Essex County

### CONSIDERATIONS

- » An off-road shared use path is most common in this context and will be shared between trail and park users. In some cases, a shared use path may already exist that can be utilized by the greenway. In this case, the path simply needs to be co-branded with greenway elements such as signage.
- » Urban parks are heavily used and can sometimes be crowded with pedestrians of all ages. Special consideration should be given in order to avoid bicycle conflicts. Physical separation between bicycles and pedestrians may be necessary.
- » Seating areas and places where people gather offer great opportunities to educate people about the Morris Canal and the greenway. These places may be along or near the greenway path. Identify these areas and locate wayfinding and informational signs in these areas.
- » It is likely that amenities including seating, lighting, trash receptacles, and wayfinding are already present and branded to the park. Consider opportunities for co-branding these existing amenities.
- » Urban parks are usually managed by the municipal or county parks department or other governmental agencies. Identify these agencies and coordinate any proposed improvements in order to maximize resources.

### 3. Urban: Industrial

Urban industrial areas provide the space necessary for uses like warehousing, shipping, and manufacturing that require a larger building footprint. Despite the fact that these areas are often located adjacent to or within residential or mixed-use neighborhoods, pedestrian activity is almost non-existent. The streets are designed primarily for large trucks and vehicles resulting in an experience that is less suitable for pedestrians or cyclists. Figures 6 and 7 show examples in Jersey City and Newark.



Fig.6. Raymond Boulevard - Newark, Essex County

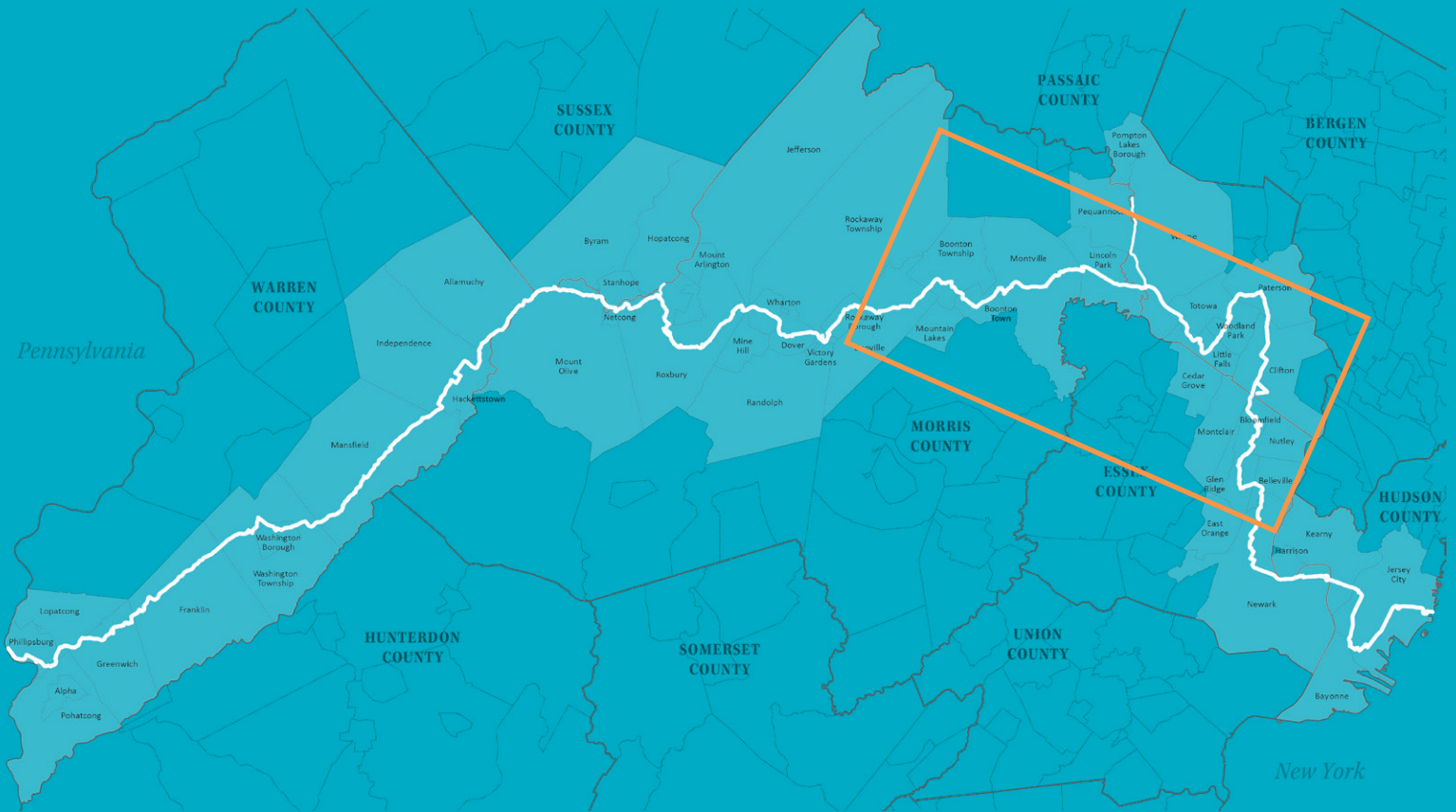


Fig.7. Linden Avenue - Jersey City, Hudson County

#### CONSIDERATIONS

- » A road-side shared use path is most preferable in this context in order to provide ample separation from trucks and large vehicles. However, in areas where there is continuous existing sidewalk or there is not sufficient space, an on-road facility is also suitable.
- » Where an on-road facility for the greenway is provided, a buffer should be provided between any bicycle lanes and the motor vehicle travel lanes due to the potential high-volume of truck traffic.
- » Due to the low volumes of pedestrians typically present in this context, there are generally fewer “eyes on the street” to make sure that things are properly maintained. For example, it is more common that leaves and debris are left collecting along curblines or potholes are left unfilled. Ensure that paved surfaces are clear and safe for cycling and walking.
- » Higher volumes of truck traffic require wider lanes and larger corner turning radii. Additional care should be taken when planning driveway or intersection crossings to ensure ample sight-lines and highly visible crossings.
- » Due to the low volumes of pedestrians and limited maintenance, furniture should be used sparingly in this context, if at all.
- » Signs play an important role in this context since there will be very few additional elements to reassure users that they are still on the greenway. Signs should be spaced so that greenway users can maintain visual contact with a sign at all times along this length.

# SUBURBAN



Map 2. Suburban Contexts in Greenway Corridor

The Morris Canal passes through many suburban communities as it exits the urban areas and travels west. Some remnants of the canal or its features are left intact and are visible from parks or nearby roads, while other areas are hidden behind residential homes or have been covered entirely.

Suburban segments are found primarily in:

- » Essex County (western portions)
- » Passaic County
- » Morris County (eastern portions)



## 4. Suburban: Residential

Suburban residential neighborhoods are characterized by wide, low traffic streets with single-family homes that are set back from the road. These are quiet areas where residents have a strong sense of ownership of the street. Figures 8 and 9 show examples in Bloomfield and Woodland Park.



Fig.8. Broughton Avenue - Bloomfield, Essex County



Fig.9. Nesser Lane - Woodland Park, Passaic County

### CONSIDERATIONS

- » On-road facilities are most suitable for this context due to the likelihood that there are existing sidewalks, and vehicular traffic volumes are generally lower.
- » In suburban residential neighborhoods, dedicated or buffered on-road paths may not be necessary due to the lower traffic volumes. Roads with under 2,000 vehicles per day do not require separated facilities. Shared lane markings (sharrows) and/or “Bicycles May Use Full Lane” signs may be sufficient.
- » Frequent driveways, often spaced less than 50 feet apart, are a common condition in this context. Motorists backing out of driveways create a potential conflict with pedestrians and cyclists. Special care should be taken to ensure clear sight lines and additional safety signage.
- » The people who live in this context may be concerned with how the greenway may impact their home, neighborhood, and quality of life. Before locating any elements within a residential neighborhood, the greenway planner should make an effort to contact and engage the residents on this street.
- » While it is acceptable for a trail user to pass through a residential neighborhood, gathering and socializing should not be encouraged. Seating, bicycle racks, trash receptacles, and furnishings should not be located in residential areas.
- » Wayfinding signs should be provided throughout this context, but should be discreet and located in a way that does not negatively impact the nearby homes.

## 5. Suburban: Park or Open Space

Suburban parks are public open spaces that are used by residents and visitors for active and passive recreation. They are primarily used for active recreation such as organized sports, jogging, and exercising. The greenway complements these uses well and provides users with a quiet, low-stress path or place of respite. Figures 10 and 11 show examples in Bloomfield and Clifton.



Fig.10. Wright's Field - Bloomfield, Essex County



Fig.11. Morris Canal Park & Nature Preserve - Clifton, Passaic County

### CONSIDERATIONS

- » Off-road shared use paths are most common in this context and will be shared between greenway and park users. In some cases, an off-road path may already exist through the park that can be utilized by the greenway. In this case, the path simply needs to be co-branded with greenway elements such as signage.
- » Seating areas and places where people gather offer great opportunities to educate people about the Morris Canal and the greenway. These places may be along or near the greenway path. Identify these areas and locate wayfinding and informational signs in these areas.
- » Suburban parks tend to be more expansive and have less residential or commercial density fronting on them. Steps should be taken to ensure that greenway users feel safe and comfortable when passing through the park. Additional signage and wayfinding, lighting, clear sight lines, and ample access in and out of the park are a few key principles that will help users feel safer. (Refer to “Crime Prevention Through Environmental Design (CPTED)”, p. A.88).
- » It is likely that amenities including seating, lighting, trash receptacles, and wayfinding are already present and branded to the park. Consider opportunities for co-branding these existing amenities.
- » Suburban parks are typically managed by the municipal or county parks department or other governmental agencies. Identify these agencies and coordinate any proposed improvements in order to maximize resources.

## 6. Suburban: Commercial

Suburban commercial areas are generally characterized by auto-centric, high traffic roads typically lined with large parking lots that service shopping centers, big box retailers, or strip development. These areas are designed primarily for vehicles and offer limited accommodations for pedestrian or bicyclists. Special consideration will be needed in these areas in order to make them comfortable and safe for greenway users. Figures 12 and 13 show examples in Totowa and Bloomfield.



Fig.12. Riverview Drive - Totowa, Passaic County

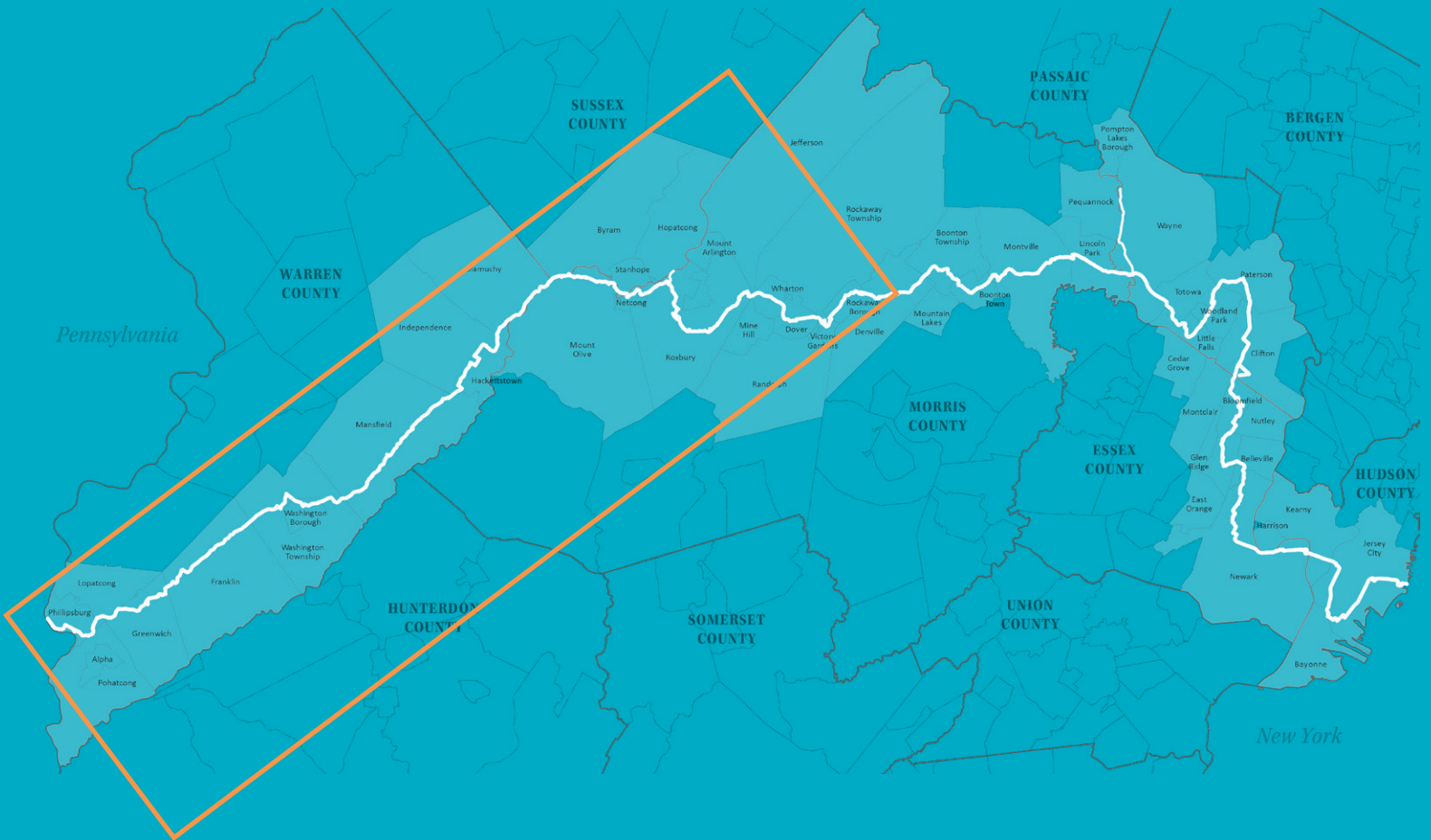


Fig.13. Broad Street - Bloomfield, Essex County

### CONSIDERATIONS

- » On-road facilities are likely to be the best alternative in this context due to the limited right-of-way space. Depending on the available right-of-way width, a road-side shared use path may also be suitable in this context.
- » Many suburban commercial corridors lack sufficient sidewalks and have larger driveways to access commercial parking lots. These conditions make the safe implementation of pedestrian and bicycle facilities a challenge.
- » These corridors are characterized by high volumes of vehicles and low volumes of pedestrians and cyclists. Special care should be taken to make the greenway and its users visible to drivers by providing ample sight-lines and high visibility crossings.
- » Frequent bus stops offer great opportunities to educate people about the Morris Canal and the greenway. Consider placing wayfinding and informational signs in these areas.
- » These commercial corridors may be devoid of furniture and pedestrian amenities. Providing Morris Canal Greenway branded furniture will help guide greenway users, create a more comfortable pedestrian environment, and make drivers aware that pedestrians and cyclists are present on this street.
- » Often, public/private partnerships, such as a Special Improvement District (SID), oversee the management of commercial areas. Identify if there is such an agency in place and, if so, coordinate any improvements in order to avoid conflicts and maximize the available resources.

# RURAL



Map 3. Rural Contexts in Greenway Corridor

The majority of the Morris Canal Greenway passes through rural communities. These natural landscapes are home to segments of the canal that are still largely intact. Visitors are afforded the opportunity to view the canal and experience it as it once was. Care should be taken in these areas not to “overdesign” the greenway in order to maintain the historic character.

Rural segments are found primarily in:

- » Morris County (western portion)
- » Warren County
- » Sussex County

## 7. Rural: Downtown and Village

Rural downtowns and villages are quaint, walkable main streets that tend to be the social hub of the community. They are destinations for residents and visitors that are typically accessed by car but are comfortable for pedestrians and bicyclists. These areas offer greenway users the opportunity to pause, visit local shops, and learn about the canal's impact on the history and growth of these communities. Figures 14 and 15 show examples in Washington Borough and Boonton.



Fig.14. Washington Avenue - Washington Borough, Warren County



Fig.15. Main Street - Boonton, Morris County

### CONSIDERATIONS

- » An on-road facility is most suitable for this context due to the existing sidewalks and limited right-of-way space. Implementing an on-road facility where one does not already exist will require the reorganization of the road. If sufficient road width is not available, more robust interventions may be needed including lane reductions, road diets, re-striping or parking adjustments. Due to the relatively low traffic volumes, solutions such as shared lane markings (sharrows) or “Bicycles May Use Full Lane” signs may be sufficient.
- » Bus stops offer great opportunities to educate people about the Morris Canal and the greenway. Consider placing wayfinding and informational signs in these areas.
- » It is likely that amenities including seating, lighting, trash receptacles, and wayfinding are already present and branded to the commercial district. Consider opportunities for co-branding these existing amenities.
- » Often, public/private partnerships, such as a Special Improvement District (SID), oversee the management of commercial areas. Identify if there is such an agency in place and, if so, coordinate any improvements in order to avoid conflicts and maximize the available resources.

## 8. Rural: Park or Open Space

Rural parks are public open spaces used by residents and visitors for active and passive recreation. Rural parks are largely passive, pastoral landscapes that may also accommodate active recreation such as sports. The Morris Canal is the centerpiece of many of the rural parks or open space offering visitors an up-close experience with the canal and its history. Figures 16 and 17 show examples in Stewartsville and Phillipsburg.



Fig.16. Bread Lock Park - Stewartsville, Warren County



Fig.17. Delaware River Park - Phillipsburg, Warren County

### CONSIDERATIONS

- » Off-road shared use paths or canal-side shared use paths are most common in this context. In some cases an off-road shared use path may already exist that can be utilized by the greenway. In this case, the path simply needs to be co-branded with greenway elements such as signage.
- » Where segments in this context follow the historic towpath, care should be taken to respect its historic integrity.
- » Seating areas and places where people gather offer great opportunities to educate people about the Morris Canal and the greenway. These places may be along or near the greenway path. Identify these areas and locate wayfinding and informational signs in these areas.
- » Rural parks tend to be large and have less residential or commercial density fronting on them. Steps should be taken to ensure that greenway users feel safe and comfortable. Additional signage and wayfinding, ample lighting, clear sight lines, and visible access in and out of the park are a few key principles that will help users feel safer (Refer to “Crime Prevention Through Environmental Design (CPTED)”, p. A.88).
- » Amenities including seating, lighting, trash receptacles, and wayfinding may or may not already exist. Capitalize on any existing amenities and consider opportunities for co-branding.
- » Rural parks are usually managed by the municipal or county parks department or other governmental or volunteer agencies. Identify these agencies and coordinate any proposed improvements in order to maximize resources.

## 9. Rural: Agriculture

Segments of the Morris Canal pass through preserved agricultural land that was once active farmland. These are picturesque landscapes that offer long views and vistas with many of the same opportunities as rural parks or open space. However, these lands may be challenging to access. Refer to the Farmland Preservation Program administered by the State Agriculture Development Committee to know more about this context. Figures 18 and 19 show examples along Whites Road in Washington.



Fig.18. Looking east from Whites Road - Washington, Warren County



Fig.19. Agricultural land near Whites Road - Washington, Warren County

### CONSIDERATIONS

- » Agricultural lands are subject to the same considerations as the previous category.
- » Where the greenway passes through agricultural land, there may be additional regulations that must be adhered to which will further constrain the furniture, paving, or other elements of the greenway. Limited amenities should be planned for these areas.
- » Topography and landscape allow for expansive, scenic views in these areas. In some cases, the views are of historic elements of the canal. Viewing platforms combined with selective clearing may enhance and highlight these views.

# Step 2.

## Facility Types

The second step in planning and designing your greenway segment is to determine which facility type can be accommodated based on a variety of factors, including the condition of the canal and its right-of-way, property ownership, environmental constraints, and other localized conditions. Whenever possible, the greenway should be an off-road, shared use path that follows as closely as possible to the historic canal alignment (refer to Chapter 3 of the study for alignment information). In order of preference, the facility types are:

- 1. Canal-Side Shared Use Path**  
A shared use path located on or adjacent to the historic towpath and canal-related features. This facility type provides the best experience for trail users.
- 2. Off-Road Shared Use Path**  
A shared use path, typically through a wooded area, open space, or park that is not adjacent to a roadway or canal feature.
- 3. Road-Side Shared Use Path**  
A shared use path parallel to and separated from a roadway, within the roadway right-of-way.
- 4. On-Road Facility**  
This facility type can take many forms, but is often a bicycle lane with a sidewalk, or shared travel lanes, cycle tracks, protected bicycle lanes or other dedicated facilities.







<i>a</i>	
<i>b</i>	<i>c</i>

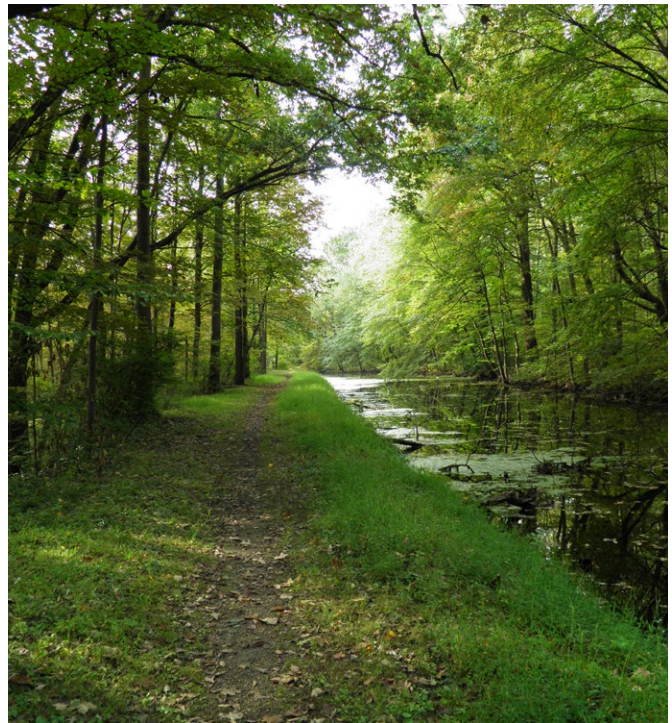
*a. Stanhope, Sussex County*  
*b. Stewartville, Warren County*  
*c. Hanover, NJ*

# 1. Canal-Side Shared Use Path

A canal-side shared use path is path that aligns with the historic canal towpath. This is the preferred facility type since it provides users with the most interactive experience with the canal. A canal-side shared use path may follow a watered section, a dry canal bed, or an inclined plane area (hill). The path is accurate to where the mules used to walk next to the canal boats. Figure 20 illustrates an example of existing conditions of a canal-side path. Figure 21 shows a typical canal-side trail along the Erie Canalway Trail in New York State. Figure 22 is an illustrative view of how a canal-side shared use path could be configured.

## THIS TYPE OF PATH CAN BE FOUND IN ...

- » Waterloo
- » Stewartsville
- » Phillipsburg



*Fig.20. Existing: Canal-side path in Stanhope, Sussex County*  
Credit: Charlie Fineran



*Fig.21. Precedent: Erie Canalway Trail near Holley, NY*



Fig.22. Illustrative View of Canal-Side Shared Use Path

### APPLICATION

- » Predominantly used in rural contexts.
- » Locations where the historic towpath and canal-related features are intact and accessible.

### CONSIDERATIONS

- » **Width:** In some areas, the existing towpath is only 3 feet wide and overgrown with vegetation. Where appropriate, these areas should be cleared and sufficiently widened and paved to allow for safe bicycle and pedestrian access, preferably a minimum of 8 feet or wider.
- » **Maintenance:** The edges of the greenway should be kept clear and stable to allow for small maintenance or emergency vehicle access.
- » **Crossings:** Special attention should be paid to areas where the greenway emerges from the wooded path and crosses a road. These areas are more

prone to crashes since the approaching bicycle is often times not visible and is unexpected to oncoming motor vehicle traffic.

### RELEVANT PUBLICATIONS

- » Small Town and Rural Multi-Modal Networks, FHWA (2016)
- » Guide for the Development of Bicycle Facilities, AASHTO (2012)
- » Manual of Uniform Traffic Control Devices, FHWA (2012)
- » A Policy on Geometric Design of Highways and Streets, AASHTO (2011)

### WATER TRAILS

In areas where the canal is navigable, it should be considered a recreational water route. Facilities such as docks and boat launch sites may be appropriate.

## 2. Off-Road Shared Use Path

An off-road shared use path is a 10- to 12-foot wide shared use path aligned through existing parks, wooded areas, open space, or agricultural land. Off-road shared use paths are not constructed within a road right-of-way and are instead through publicly-or privately-owned land. In some areas, they may be located along the canal right-of-way in places where the full historic width is not available.

Separated facilities are preferred since they accommodate the widest range of greenway users, of all ages and abilities. Where a canal-side path is not possible, an off-road shared use path is the ideal alternative. Figure 23 shows an existing off-road shared use greenway in Little Falls. Figure 24 is a precedent off-road trail in nearby Hanover. Figure 25 is an illustrative view of how an off-road shared use path could be configured.

### THIS TYPE OF PATH CAN BE FOUND IN ...

- » Little Falls
- » Stanhope
- » Phillipsburg



Fig.23. Existing: Morris Canal Greenway in Little Falls, Passaic County

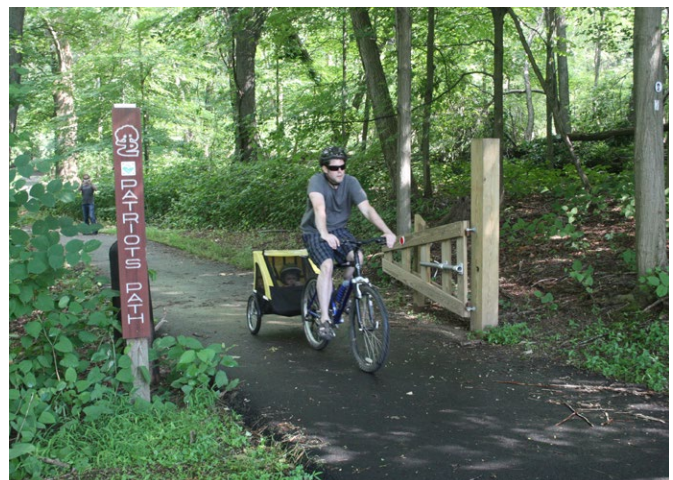


Fig.24. Precedent: Patriots Path in Hanover, Morris County



Fig.25. Illustrative View of Off-Road Shared Use Path

### APPLICATION

- » Most common in rural or suburban contexts since there is generally more open space in these areas.
- » Ideal in locations where there are existing public parks or open space near or along the canal right-of-way but the full historic width (tow path next to the canal) is not available.

### CONSIDERATIONS

- » **Width:** 10 to 12 feet is ideal. In areas of higher pedestrian traffic, additional width and/or physical separation between cyclists and pedestrians may be needed.

### OFF-ROAD CONFIGURATIONS

The Off-Road Shared Use Path may take a number of forms, depending on other infrastructure and environmental conditions. Built forms may include:

- Bridges
- Boardwalks

- » **Existing Paths:** In some cases, a suitable path may already exist through the park that can be co-aligned with the greenway. In this case, special care should be taken to ensure that bicycles are permitted and that cyclists will not conflict with the existing uses.
- » **Crossings:** Special attention should be paid to areas where off-road shared use paths cross roadways. Advance warning signs are typically placed along the roadway and path approaches to the intersection.
- » **Permits and Easements:** Easements or shared use agreements may be required.

### RELEVANT PUBLICATIONS

- » Small Town and Rural Multi-Modal Networks, FHWA (2016)
- » Guide for the Development of Bicycle Facilities, AASHTO (2012)
- » Manual of Uniform Traffic Control Devices, FHWA (2012)
- » A Policy on Geometric Design of Highways and Streets, AASHTO (2011)

### 3. Road-Side Shared Use Path

A road-side shared use path is a separate facility for exclusive use by bicyclists and pedestrians, aligned within a road right-of-way, not shared with the motor vehicle travel lane. Figure 26 shows an example of a road-side path in Stewartsville. Figure 27 is a precedent road-side path in Randolph. Figure 28 is an illustration of how a road-side shared use path could be configured.

**THIS TYPE OF PATH CAN BE FOUND IN ...**

» Stewartsville



*Fig.26. Existing: Greenwich Street in Stewartsville, Warren County*



*Fig.27. Precedent: Patriots Path in Randolph, Morris County*



Fig.28. Illustrative View of Road-Side Shared Use Path

### APPLICATION

- » Consider road-side paths where the historic alignment of the canal is either inaccessible or where the road follows the historic canal alignment.
- » Most appropriate as a long-term route where a road with a wide enough right-of-way can incorporate a shared use path.

### CONSIDERATIONS

- » **Width:** 10 to 12 feet is ideal. In areas of higher pedestrian traffic, additional width and/or physical separation between cyclists and pedestrians may be needed.
- » **Crossings:** Special attention should be paid to areas where the trail emerges from the wooded path and crosses a road. These areas are more prone to crashes since the approaching bicycle is often times not visible and is unexpected to oncoming motor vehicle traffic. Advance warning signs are typically placed along the roadway and path approaches to the intersection.

### RELEVANT PUBLICATIONS

- » Small Town and Rural Multi-Modal Networks, FHWA (2016)
- » Guide for the Development of Bicycle Facilities, AASHTO (2012)
- » Manual of Uniform Traffic Control Devices, FHWA (2012)
- » A Policy on Geometric Design of Highways and Streets, AASHTO (2011)
- » State of New Jersey Complete Streets Design Guide (2017)

## 4. On-Road Facility

An on-road facility can take many forms, ranging from shared travel lanes to protected bicycle lanes within the roadbed, and typically accommodate pedestrians on a sidewalk. Figure 33 illustrates how this facility could be configured. On-road bicycle facilities may be configured in a wide variety of designs, depending on road geometry, traffic volumes, and existing bicycle networks. Some example facilities, in order of preference for the greenway, include:

- Two-way cycle track (Figure 29)
- Protected bike lane (Figure 29)
- Conventional bike lane (Figure 30)
- Advisory bike lane (Figure 31)
- Shared lane markings (sharrows) (Figure 32)

### THIS TYPE OF PATH CAN BE FOUND IN ...

» Woodland Park



Fig.29. Precedent: Connect Hanover Trail, Hanover



Fig.30. Existing: McBride Avenue, Woodland Park, Passaic Co.

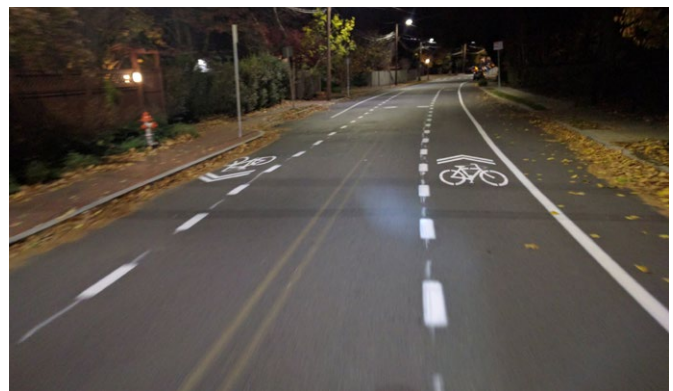


Fig.31. Precedent: Advisory Bike Lane, Cambridge, MA  
Credit: Conor Semler



Fig.32. Precedent: Nassau Sharrows, Princeton  
Credit: Greater Mercer TMA





Fig.33. Illustrative View of On-Road Facility

### APPLICATION

- » Consider on-road facilities where the historic alignment of the canal is either inaccessible or where the road follows the historic canal alignment.
- » Most appropriate in areas where right-of-way is constrained, typically in urban contexts.
- » Appropriate as an interim alignment.

### CONSIDERATIONS

- » **Width:** 6 feet is ideal for a single bike lane. Sidewalks should be a minimum of 5 feet, but 10 feet is recommended for areas with high pedestrian traffic.
- » **Configuration:** A bike lane with horizontal or vertical separation from the vehicle lanes is most desirable. Designated on-road routes with only signage are the least desirable since they provide no dedicated physical space for cyclists and little indication to drivers that cyclists are welcome on the road.

- » **Continuity:** Care must be taken to connect this facility type continuously to ensure ease of use, especially in urban contexts with a variety of surrounding activities and potential paths.

### RELEVANT PUBLICATIONS

- » Small Town and Rural Multi-Modal Networks, FHWA (2016)
- » Urban Bikeway Design Guidelines, NACTO (2014)
- » Urban Streets Design Guidelines, NACTO (2013)
- » Guide for the Development of Bicycle Facilities, AASHTO (2012)
- » Manual of Uniform Traffic Control Devices, FHWA (2012)
- » A Policy on Geometric Design of Highways and Streets, AASHTO (2011)
- » Guide for the Planning, Design & Operation of Pedestrian Facilities, AASHTO (2004)
- » State of New Jersey Complete Streets Design Guide (2017)

### ON-ROAD PATH CONDITIONS

The On-Road Path may exist in an array of conditions, including:

- Bridges
- Overpasses
- Rail Crossings
- Water Crossings

# Step 3.

## Canal Features

The Morris Canal Greenway corridor contains physical remnants of canal infrastructure that can offer an exciting and interesting peek into the canal's history. These features should be identified and assessed when planning any segment of the canal greenway. Historic canal features may require special design considerations, depending on their location and condition. For example, providing informational signs and additional seating at the sites of historic canal features will encourage greenway users to pause and learn about the history and engineering of the canal.

The canal features that may be found throughout the length of the greenway include:

1. Aqueduct
2. Basin
3. Canal Prism
4. Inclined Plane
5. Lock
6. Towpath





a	
b	c
	d

*a. Whites Road, Warren County*  
*b. Plane 9W, Warren County*  
*c. Saxton Falls, Warren County*  
*d. Phillipsburg, Warren County*

# 1. Aqueduct

Aqueducts carried the canal across other bodies of water. All were demolished, but some remnants remain. A historic photo of an aqueduct is shown in Figure 34. Figure 35 shows the site of a former aqueduct in Little Falls.

## CONSIDERATIONS

**Scenic Viewsheds:** If the greenway is passing near a former aqueduct, the path should be situated to frame views of the aqueduct remnants.

**Access:** Direct access to aqueducts should only be permitted if a structural assessment has found it to be sound.

**Vegetation Management:** In areas where vegetation is overgrown, selective clearing can create viewsheds and frame views of the historic structure.



*Fig.34. Pompton River Aqueduct near Lincoln Park-Wayne border*  
Credit: Library of Congress, Prints & Photographs Division, LC-DIG-det-4a07257v



*Fig.35. Site of former aqueduct in Little Falls, Passaic County*

## 2. Basin

Basins are a widened stretch of canal where boats could be loaded or unloaded, turned, docked, repaired, stored, or given access to canalside industries. Figure 36 shows a basin near Boonton. A basin that remains is pictured in Figure 37.

### CONSIDERATIONS

**Furniture:** Former basins may provide an opportunity for gathering areas. Furniture, bicycle parking, picnic tables, or other amenities should be considered.

**Interpretive Signs:** The vacated basins along the canal corridor look like large grass or vegetated areas, and some have been filled and built upon. Therefore, they may be difficult for visitors to recognize. Interpretive signs with historic photos or diagrams should be used to help visitors better understand the limits of the basin.



*Fig.36. Rockaway River, Powerville Basin and Lock 10 East near Boonton, Morris County*

Credit: New Jersey State Archives, Department of State.



*Fig.37. Extant basin in Rockport, Warren County*

## 3. Canal Prism

The canal prism is cut into the earth that created the canal, narrower at the base and wider at the surface, creating a “prism.” The prism is the most prevalent extant feature of the canal. Figure 38 is a historic photo of the canal; Figure 39 shows the form of the dry canal prism.

### CONSIDERATIONS

**Vegetation Management:** Where the prism has not been filled in or converted into another piece of linear transportation infrastructure, the prism should be cleared of vegetation to allow trail users to clearly identify the form.

**Scenic Viewsheds:** Views of the prism should be showcased at rest areas, curves in the greenway path, or other key opportunities.

**Interpretive Features:** Totems, signs, posts, or other elements can be used at key locations to mark the top and bottom of the canal so that visitors can fully identify its form.



*Fig.38. Canal prism looking west toward Hackettstown*

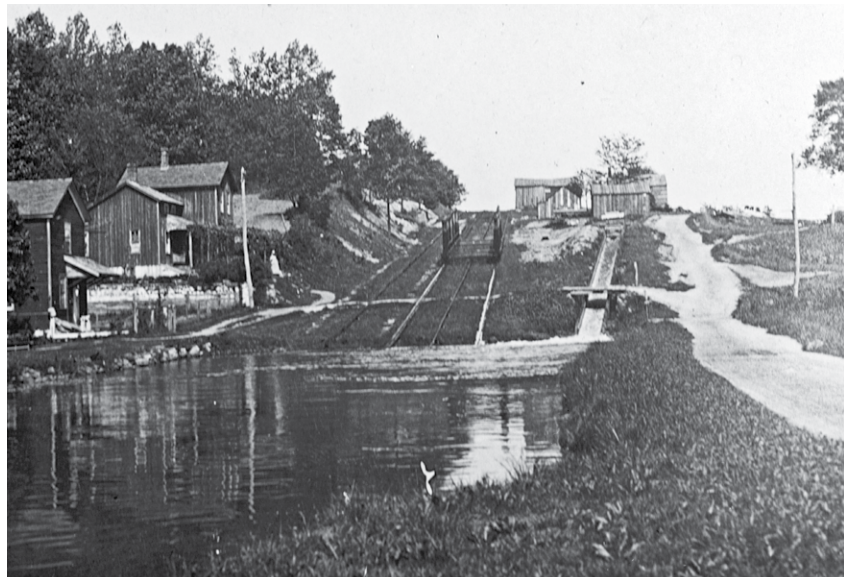
Credit: Library of Congress, Prints & Photographs Division, HAER NJ,21-PHIL,1--32



*Fig.39. Canal prism at Whites Road, Warren County*

## 4. Inclined Plane

Inclined planes carried the canal boats over the steep hills. The inclined plane is an important feature of the Morris Canal corridor, giving the canal its famous moniker, “The Mountain-Climbing Canal.” Totalling 23 across the state, the planes are still apparent as large hills in the landscape. A historic photo of Plane 6W is shown in Figure 40. The hill that remains from Plane 9W is shown in Figure 41.



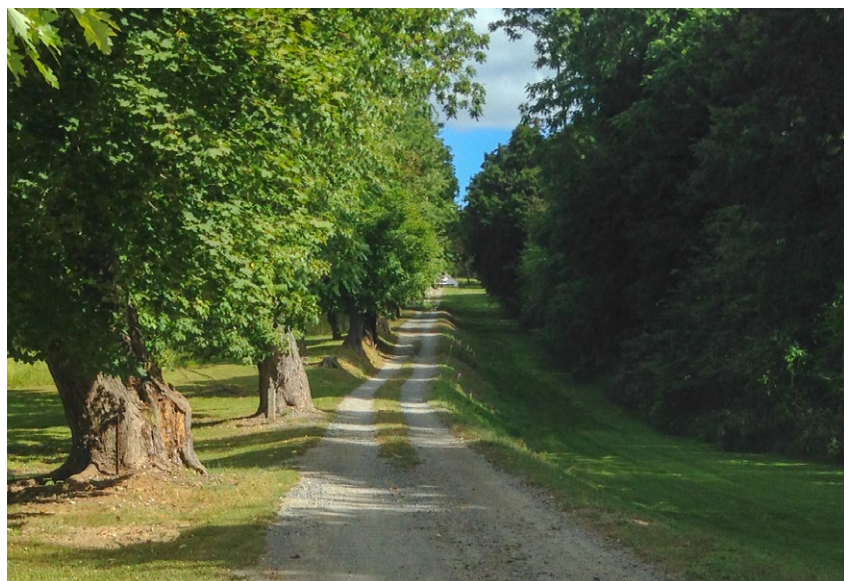
*Fig.40. Plane 6W at Port Colden, Warren County*

Credit: Library of Congress, Prints & Photographs Division, HAER NJ,21-PHIL,1--25

### CONSIDERATIONS

**Topography:** Inclined planes are steep and may be up to an 11 percent slope. The path along planes should provide landing areas to allow cyclists to slow down and offer a resting point for pedestrians.

**Interpretive Signs and Public Art:** Public art, signs, or pavement markers can be used creatively to denote the top and bottom of the inclined plane and the associated elevations. This will help tell the story of how canal boats traversed the “Mountain Climbing Canal.”



*Fig.41. Extant inclined plane at Plane 9W, Warren County*

## 5. Lock

Locks allowed the canal to traverse topography without requiring as much land as an inclined plane. Remnants of lock tender's home foundations and other structures can be found along the canal right-of-way. Figure 42 is a historic photo of working lock. Figure 43 is an example of an extant lock.

### CONSIDERATIONS

**Scenic Viewsheds:** The greenway should be designed to highlight vantage points.

**Furniture:** Lock structures and the remnants of lock tender homes are interesting landmarks for gathering or meeting points. Furniture, bicycle parking, picnic tables, or other amenities should be considered.

**Interpretive Signage:** Each lock and lock tender's home has its own history and unique story that should be told through interpretive signs with historic photos and information.

**Vegetation Management:** Selective clearing will create viewsheds to highlight historic structures.



*Fig.42. Lock 1 East, Ledgewood, Morris County*

Credit: Library of Congress, Prints & Photographs Division, HAER NJ,21-PHIL,1--61



*Fig.43. Example location: Lock 5 West, Saxton Falls, Warren County*



## 6. Towpath

The towpath is a graded pathway beside the canal prism where mules walked, pulling the canal boats with ropes. The towpath has been destroyed in many areas, but is one of the most visible extant features of the canal. Figure 44 is a historic photo of the towpath near Phillipsburg. Figure 45 is a photo of existing conditions along the towpath at Saxton Falls.

### CONSIDERATIONS

**Existing Towpath:** Wherever feasible, the towpath should be cleared and converted into the greenway path (see Step 2: “1. Canal-Side Shared Use Path”, p. A.28).



*Fig.44. Towpath near Phillipsburg, Warren County*

Credit: Library of Congress, Prints & Photographs Division, HAER NJ,21-PHIL,1--122



*Fig.45. Hugh Force Canal Path, Wharton*

## Buildings and Foundations

Canal stores, lock tender's houses and plane tender's houses were important buildings along the canal. Canal stores offered provisions for those working along the canal. Lock tenders and plane tenders lived in houses along the canal and kept the canal boats and their shipments moving. Foundations of some of these structures still exist, such as the store foundation at Florence Kuipers Memorial Park near Hackettstown and the lock tender's house at Bread Lock Park in Warren County (Figure 47).

Some full restorations of canal-related structures have taken place, including several buildings at Waterloo Village and the Collins House in Bloomfield. Programming, such as that at Waterloo Village, can bring these structures alive and create an immersive experience for visitors.



*Fig.46. Lock tender's house at Lock 8 West*

Credit: Library of Congress, Prints & Photographs Division, HAER NJ,21-PHIL,1--12



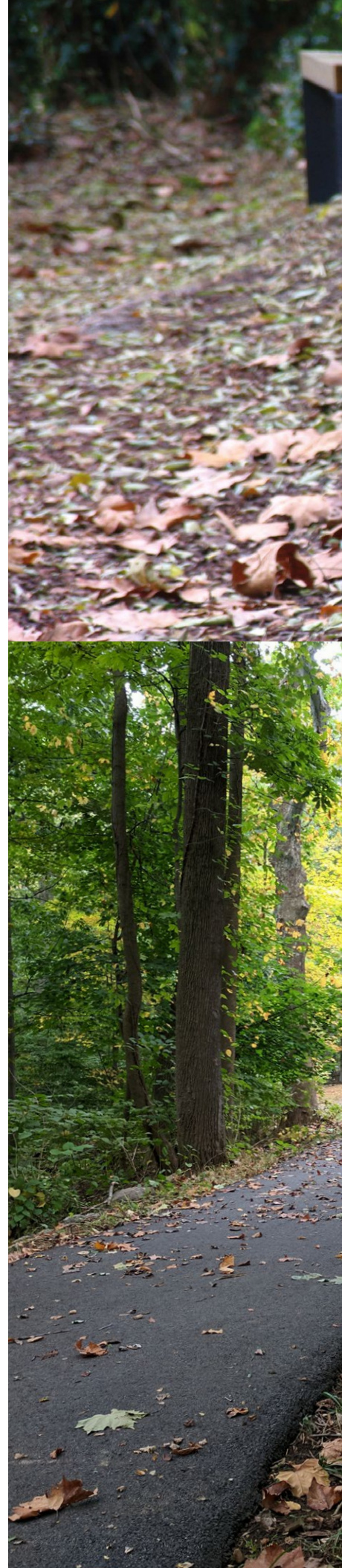
*Fig.47. Lock tender's house foundation, Bread Lock Park, Warren County*

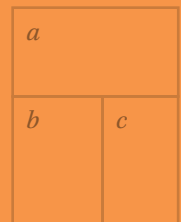
# Step 4. Design Elements

Once the context is identified, the facility type is selected, and any canal features have been assessed, the final step is to select the design elements.

The Morris Canal Greenway should be planned and designed as an interpretive landscape that celebrates the many stories of history, engineering, landscape, hydrology, and culture. An interpretive landscape or interpretive design is a subtle form of storytelling and education that utilizes design elements, materials, signage and other means to create a user experience that is unique to the Morris Canal.

The design elements and guidelines set forth in this section were carefully selected to help tell that story.





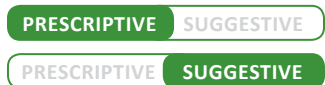
*a. The Bancal Bench by  
Landscape Forms*  
*b. Connect Hanover Trail,  
Hanover, NJ*  
*c. Waterloo Village, Sussex  
County*

# 1. Overview

The Morris Canal Greenway is and has been constructed, maintained, and operated by a wide variety of stakeholders ranging from volunteer organizations to municipal governments. The constraints, maintenance capacity and resources vary greatly between these groups.

In recognition of this, the Design Guidelines allow a certain level of flexibility while also striving to establish a consistent visual identity. Design elements have been categorized as either **prescriptive** or **suggestive** to indicate the level of flexibility.

## PRESCRIPTIVE VS. SUGGESTIVE



**Prescriptive:** These elements are key in communicating the visual identity of the corridor and should therefore be consistent throughout its length. Greenway designers should make every effort to use the exact element or standard prescribed.

**Suggestive:** These elements should communicate the visual identity of the corridor while also allowing flexibility to maintain the character of the surrounding community. Greenway designers should utilize the guidelines as a way to understand

the intent and general materials, but can adapt the recommendation to their particular circumstances.

## PRIORITIZING ELEMENTS

Improving and maintaining the greenway can be an expensive undertaking, and often times construction budgets are limited. It is important for greenway designers to prioritize improvements in order to get the most impact. Refer to Table 1 for a framework of prioritization.

Generally, providing a safe and suitable pavement surface is always a priority, followed closely by providing sufficient trail blazes. The combination of these two elements together form the foundation of the greenway. Any elements that address necessary safety improvements are also a high priority. This is usually related to pedestrian or bicycle crossings or pavement markings. In areas where higher pedestrian traffic is anticipated, amenities such as benches, trash receptacles, and wayfinding signs become a higher priority. In areas where gathering is not desired, such as residential neighborhoods or industrial areas, pedestrian amenities are either a lower priority or not recommended.

The Prioritizing Design Elements matrix on the opposite page can be used as a guide to help prioritize improvements and allocate funding.

## Prioritizing Design Elements

Contexts	Gateway Signs	Wayfinding Signs	Interpretive Signs	Trail Blazes	Pavement Markings	Benches & Seating	Bicycle Amenities	Trash & Recycling Receptacles	Lighting	Creative Roadway Crossings	Pavement & Surfaces	Art & Interpretive Elements	Gathering Spaces
<b>URBAN</b>													
<i>Mixed Use</i>	○	●	●	●	●	●	●	●	●	●	●	●	○
<i>Park or Open Space</i>	●	●	●	●	●	●	●	●	●	●	●	●	●
<i>Industrial</i>		●	●	●	●	○	○	●	○	●	●		
<b>SUBURBAN</b>													
<i>Residential</i>				●	○		○		○	●	●		
<i>Park or Open Space</i>	●	●	●	●	●	●	●	●	●	●	●	●	●
<i>Commercial</i>	●	●	●	●	●	●	●	○	●	●	●	●	●
<b>RURAL</b>													
<i>Downtown/Village</i>	●	●	●	●	●	●	●	○	●	●	●	●	●
<i>Park or Open Space</i>	●	●	●	●	●	●	●	●	●	●	●	●	●
<i>Agricultural Land</i>		○	○	●	○	○	○	○	○	●	●	○	

Table 1. Prioritizing Design Elements

- HIGHEST PRIORITY
- MEDIUM PRIORITY
- LOWEST PRIORITY

---

## Step 4. Design Elements

### The Morris Canal Aesthetic

PRESCRIPTIVE SUGGESTIVE

The Morris Canal Greenway and the associated amenities should have a uniform look and feel that represents the history and character of the canal.

#### HISTORY

The Morris Canal was a world-famous engineering marvel when it opened in 1831. For the next century, the canal was an important goods movement transportation resource for a wide swath of New Jersey.

**GUIDELINE:** Use authentic materials such as wood, stone, and metal. Design elements should be identifiable as greenway elements and should not be easily confused with historic elements of the canal.

#### INDUSTRY

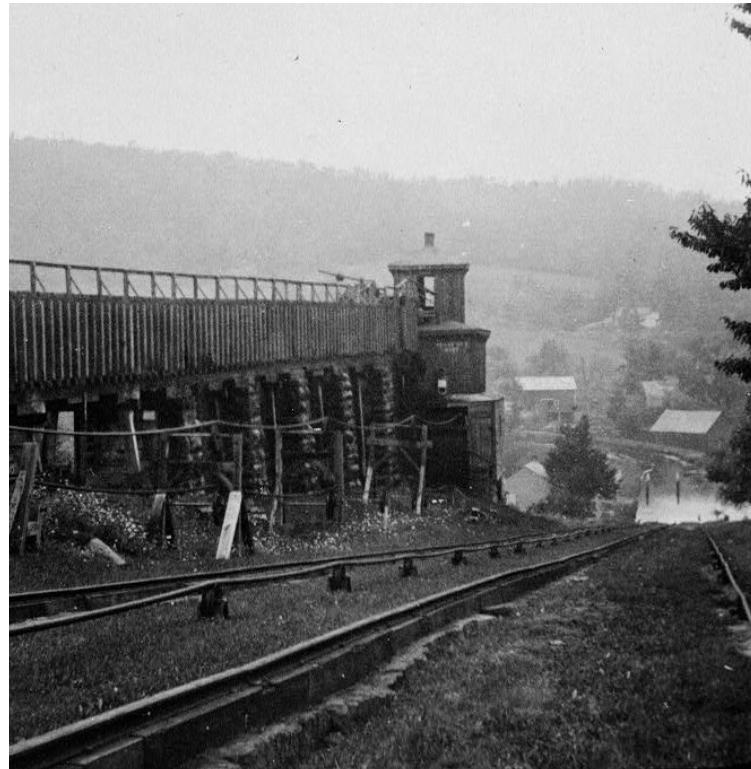
The Morris Canal was essential to the industrial growth of northern New Jersey and the region. Many of the relics of the canal that remain intact have an industrial aesthetic that is identifiable.

**GUIDELINE:** The materials used should have an industrial feel and include hewn wood, galvanized, or weathering steel and rectangular cut stone.

#### ECOLOGY

The Morris Canal passed through many ecologically and environmentally sensitive areas. Today, many areas of the greenway are ecologically rich creating habitat for local flora and fauna.

**GUIDELINE:** Materials and furnishings should be sustainably sourced and sited in a way that minimizes disturbance and enhances local habitat.



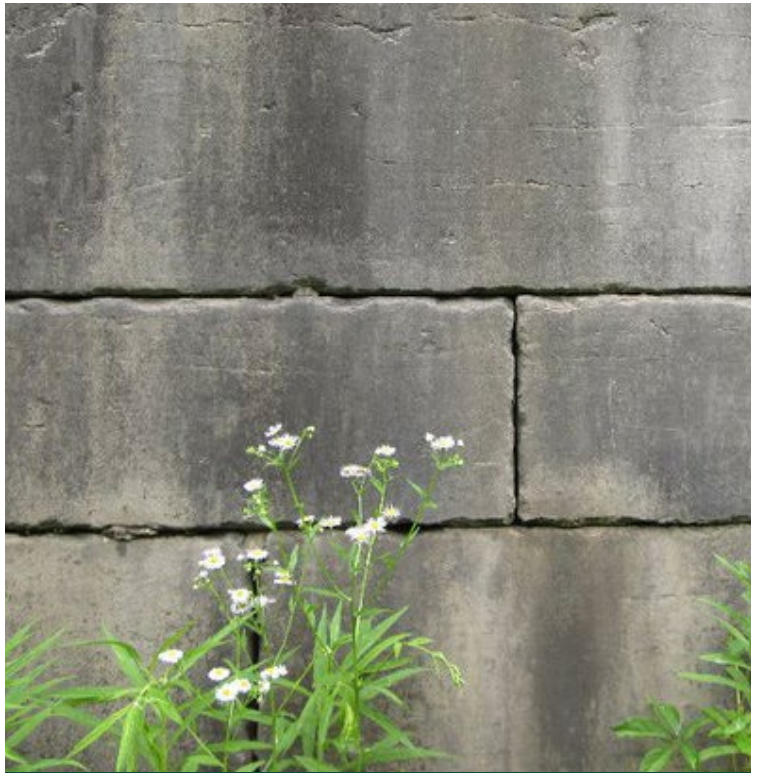
## HISTORY







# INDUSTRY



# ECOLOGY



## 2. Graphic Standards

### 2.1. Standard Fonts

PRESCRIPTIVE SUGGESTIVE

In an effort to create consistency across all signage used on the greenway, these standard fonts should be used for all signage and other design elements.

These fonts were derived from the fonts used in the existing Morris Canal Greenway logo and from signage used along the existing greenway.

#### EXISTING FONTS

*Algerian*

#### LOGO FONT

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
1234567890

*Goudy Old Style*

#### RUNNING HEADS

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890

*Tiepolo*

#### MAIN TITLE

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890

*Stempel Gramond*

#### TEXT

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890

*Frutiger*

#### CALL-OUTS

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890

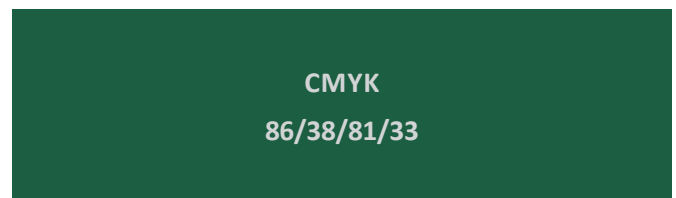
## 2.2. Standard Colors

PRESCRIPTIVE SUGGESTIVE

Similarly, a standard color palette will help unify the corridor. The standard colors, with associated CMYK codes, are shown at right. These colors were also derived from the existing logo. Blue is an addition to the color set used in the logo and represents the water of the canal. This blue offers a high-saturation highlight color to allow additional flexibility in design. Colorful designs were a recommendation from the public outreach process.

### UPDATED STANDARD

*Dark Green As Main Color*



*White*



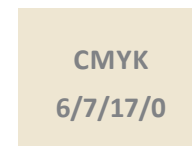
*Blue*



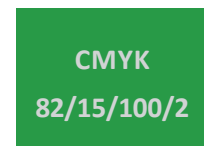
*Dark Red*



*Tan*



*Green*



## 2.3. Logo

PRESCRIPTIVE SUGGESTIVE

The Morris Canal Greenway logo is already in use on signage, materials, and publications to communicate the brand. Variations of this logo have been developed for individual segments. The greatest variation is the method by which the location is indicated. For example, along the Passaic County segment, the location is printed in green following the bottom edge of the logo.

These guidelines recommend standardizing the way in which the location is indicated. For example, a sign located in Passaic County may still include the county's name on the sign, but this guide offers recommendations on how it should appear. In addition, consideration should be given to establishing a logo that more easily responds to the context where the sign is located.

Rather than redesign an existing brand, the suite of signs and recommended design elements use this logo as a starting point.

### CURRENT LOGOS USED

The existing logo is used in a few different forms across the corridor. Below is the full color logo (Figure 48) as well as examples of existing logos (Figure 49 and 50).

Fig.48. Full-Color Logo



Fig.49. Single Color Logo



Jersey City Greenway Sign,  
Hudson County

Fig.50. Single Color Logo with  
Place



Passaic County Greenway Sign

## VARIATIONS

Below are examples of how the logo may be designed as a mono-color (Figure 51), to incorporate the place (Figure 53), and adapted to a variety of materials (Figure 52).

*Fig.51. Mono-Color Logo Design*

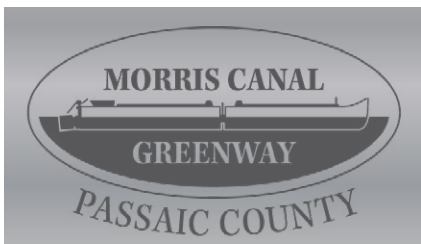


*Fig.53. Full-Color Logo Design with Place*

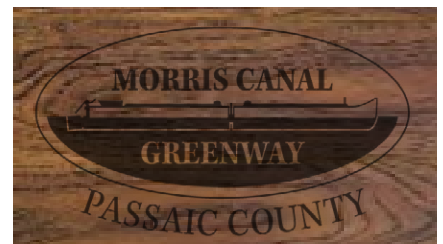


*With Colors*

*Fig.52. Variations Based on Use*



*Applied On Metal*



*Engraved On Wood*

### 3. Signage & Markings

Signage and markings are one of the most important elements of the greenway. They provide guidance and wayfinding, communicate the brand and share the history and information about the canal.

A variety of sign types and styles have been used throughout the various segments of the greenway. While the current signs are very effective for localized use, an effort should be made to unify the sign system, visually and functionally.

#### THE SYSTEM

The sign system consists of a variety of sign typologies, each with their own purpose (Figure 54). It is important that the system and its elements are visually consistent. This will make the greenway

easily identifiable to the users. Incorporating the same materials for all signs (Figures 55-57) will help unify the appearance of greenway signs.

These guidelines recognize that achieving 100 percent consistency on all signs throughout greenway may not be feasible. This is particularly challenging since a variety of signs and styles are already installed. For this reason, a certain amount of flexibility is recommended.

- » Gateway Signs and Trail Blazes: These should be prescriptive elements that are 100 percent consistent throughout the length of the greenway.
- » Wayfinding Signs and Interpretive Signs: These should be suggestive elements but should all be designed utilizing the materials, colors and fonts recommended in this guide.



Fig.54. Example: Conceptual Morris Canal Greenway sign system utilizing contextually appropriate materials

## SAMPLE DESIGNS

Sample sign concepts and current signs are presented throughout these guidelines as a way to illustrate the possibilities available for adaptation to different contexts. The implementing entity should collaborate to establish or agree upon a unified standard for all “prescriptive” signs such as gateways. For signs with “suggestive” guidelines, the greenway planner should either adopt one of the signs developed previously or work with a graphic designer to develop a design that utilizes the fonts, colors, content, and materials outlined in this document.

## MATERIALS

*Fig.55. Wooden Posts & Galvanized Steel Hardware*



*Fig.56. Aluminum Panel*



*Fig.57. Cut Stone*



## Step 4. Design Elements

### 3. Signage & Markings (Continued)

#### 3.1. Gateway Signage

PRESCRIPTIVE SUGGESTIVE

Gateway signage is used to introduce visitors to the greenway. In addition to providing wayfinding for people who are using the greenway, it is also a way of advertising the existence of the greenway to potential new users. A variety of gateway signage exists along the historic canal corridor today (Figures 58 and 59). Sample designs for creating more unity along the greenway are shown in Figure 61.

#### CONSIDERATIONS

- » These signs should be placed in areas where they are highly visible. The area around them should be well-maintained to attract and encourage people to use it.
- » Gateway signs can be paired with furniture to create gathering spaces.
- » Gateway signs should be uniform throughout the greenway corridor to reinforce the brand and help with wayfinding.

#### CURRENT SIGNS USED



Fig.58. Existing: Liberty State Park, Jersey City, Hudson County



Fig.59. Existing: Little Falls, Passaic County





Fig.60. Existing Gateway Signage: Artwork Panel Option

**SAMPLE DESIGNS**

*Open Areas*

*Constrained Areas*

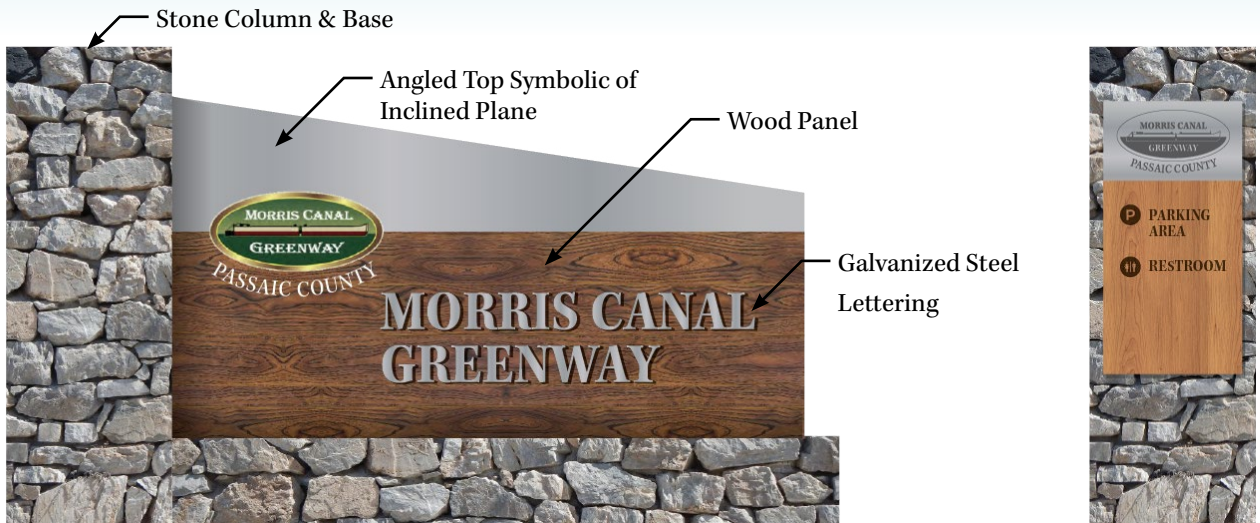


Fig.61. Sample Gateway Signage Design: Materials Only Options

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## Step 4. Design Elements

### 3. Signage & Markings (Continued)

#### 3.2. Wayfinding Signage

PRESCRIPTIVE SUGGESTIVE

Wayfinding signs are critical to creating a continuous greenway that is easy for users to follow. Wayfinding is especially critical in areas of higher density, multiple destinations nearby, and complex intersections. An example of existing wayfinding signage is shown in Figure 62. Suggested sample designs are shown in Figures 63 and 64.

#### CONSIDERATIONS

- » Signage should adhere to the common design framework, with standard colors, fonts, font size, and shape remaining uniform across all jurisdictions. Some elements of the layout and content may vary.
- » Wayfinding signage confirms the trail user's location, directs users to the path and provides information for local destinations.

#### CURRENT SIGNS USED



Fig.62. Existing: Paterson, Passaic County

## SAMPLE DESIGNS

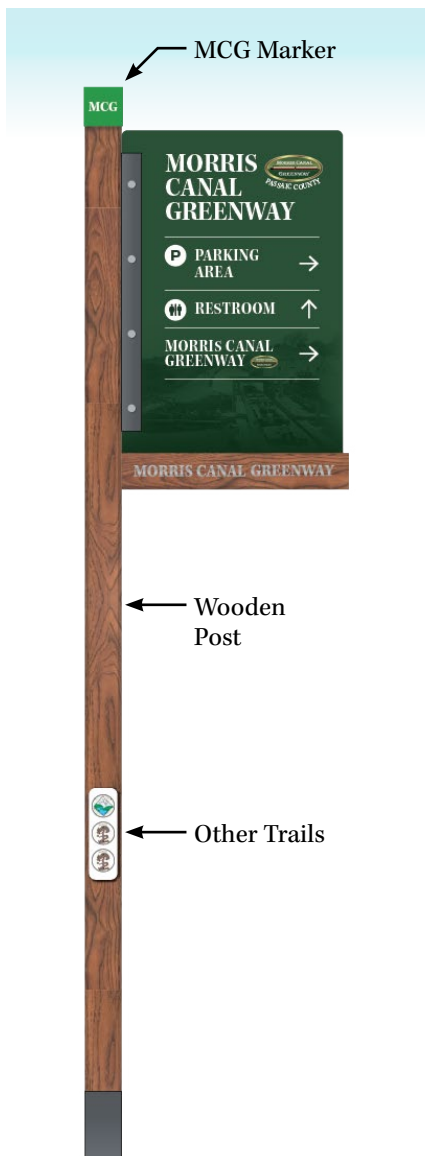


Fig. 63. Standard Design for Wayfinding Signage Type 1 (Standard Version)



Fig. 64. Standard Design for Wayfinding Signage Type 2 (Full Version)

## INFORMATION ARCHITECTURE

PRESCRIPTIVE SUGGESTIVE

Maintaining the information organized in the order below helps providing consistency of various sign designs throughout the greenways.

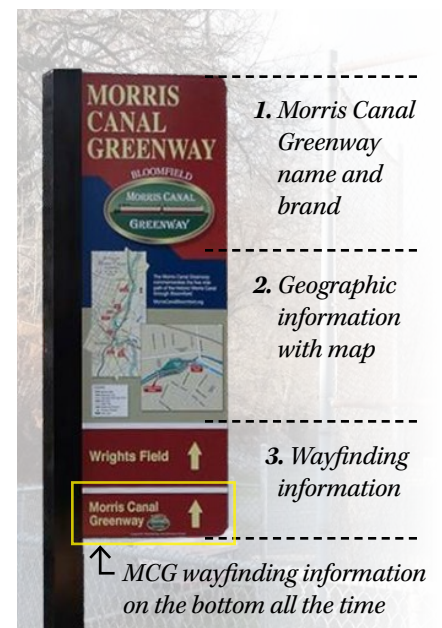


Fig. 65. Example: The information architecture applied on the Morris Canal Greenway directional sign in Bloomfield Township

## Step 4. Design Elements

### 3. Signage & Markings (Continued)

## 3.4. Interpretive Signage

PRESCRIPTIVE SUGGESTIVE

Interpretive signs provide a layer of education and historical data that tell the story of the canal and captivate visitors. Many interpretive signs have been installed along the canal and greenway that vary in size, design, and content. One example of an existing interpretive sign is shown in Figure 66.

Variation in the wayfinding signs is acceptable given the varying context, ownership, fabrication methods, and financial means. But as new interpretive signs are installed, they should adhere to the colors, fonts, and materials set forth in this guide. In addition, the content should be organized as suggested on the following page, with a map and images of varying size organized on a green panel as shown in Figure 68.

### CONSIDERATIONS

- » Greenway planners should review the content, style, and descriptions of other greenway interpretive signs to ensure that there are commonalities in writing style, descriptions of elements, data provided, and other key content.
- » Signage should adhere to these standard materials, colors, fonts, font size, and shape, remaining uniform across all jurisdictions.

### CURRENT SIGNS USED



Fig.66. Existing; Interpretive Sign at Phillipsburg, Warren County

### “MORRIS CANAL CROSSED HERE”

Signs indicating where the Morris Canal crossed a roadway exist throughout the corridor. These signs are important markers of the geography of the canal and serve an important role in educating the public about the canal. In order to create a unified design across the greenway, these signs should be adapted. Depending on the life-cycle of the existing signs, replacement may occur over time.



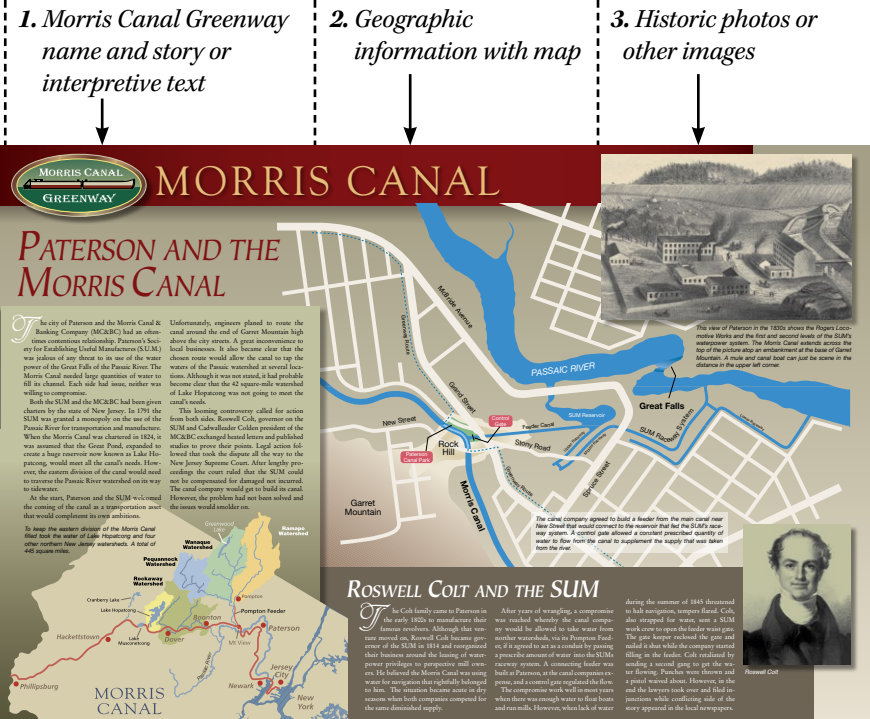


Fig 67. Existing Sign Panel Design for Interpretive Signage located in Paterson

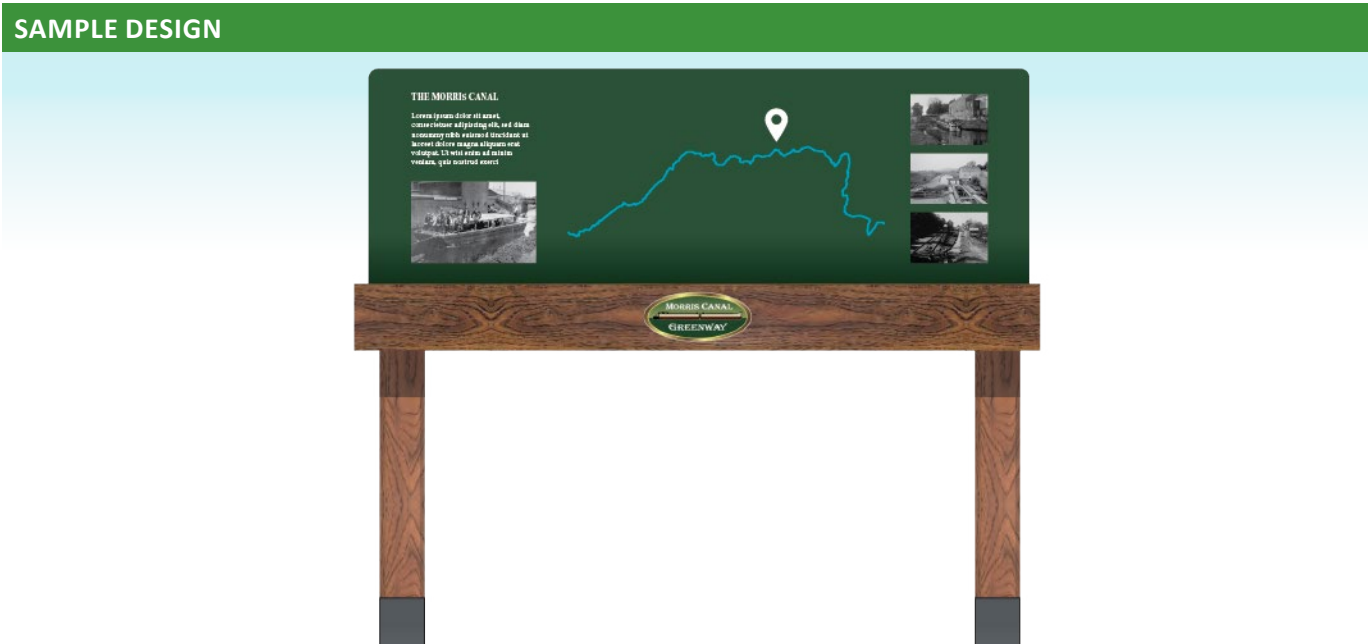


Fig 68. Sample Sign with Hardware for Interpretive Signage

## Step 4. Design Elements

### 3. Signage & Markings (Continued)

#### 3.5. Trail Blazes

PRESCRIPTIVE SUGGESTIVE

Trail blazes are a critical part of a trail wayfinding system. They provide confirmation that greenway users are on the greenway and can also indicate the presence of the greenway to greenway users who were previously unaware. Existing trail blazes with the octagonal shape are shown in Figures 69 and 70. A sample design of green trail blazes or mile markers are shown in Figure 71.

#### CONSIDERATIONS

- » Trail blazes will include the name of the municipality & county they are located in, as well as the Morris Canal Greenway logo.
- » Spacing of the trail blazes may vary depending on the context. A general rule of thumb is to place one every quarter mile. In some contexts, spacing as close as every tenth-mile may be appropriate.
- » Trail blazes should be placed after decision points such as turns or roadway crossings to immediately confirm that trail users are on the greenway.
- » Additional resources: NACTO Urban Bikeway Design Guide

#### CURRENT SIGNS USED



Fig.69. Existing: Warren County Greenway Blaze



Fig.70. Existing: Greenwich Township, Sussex County

## SAMPLE DESIGNS

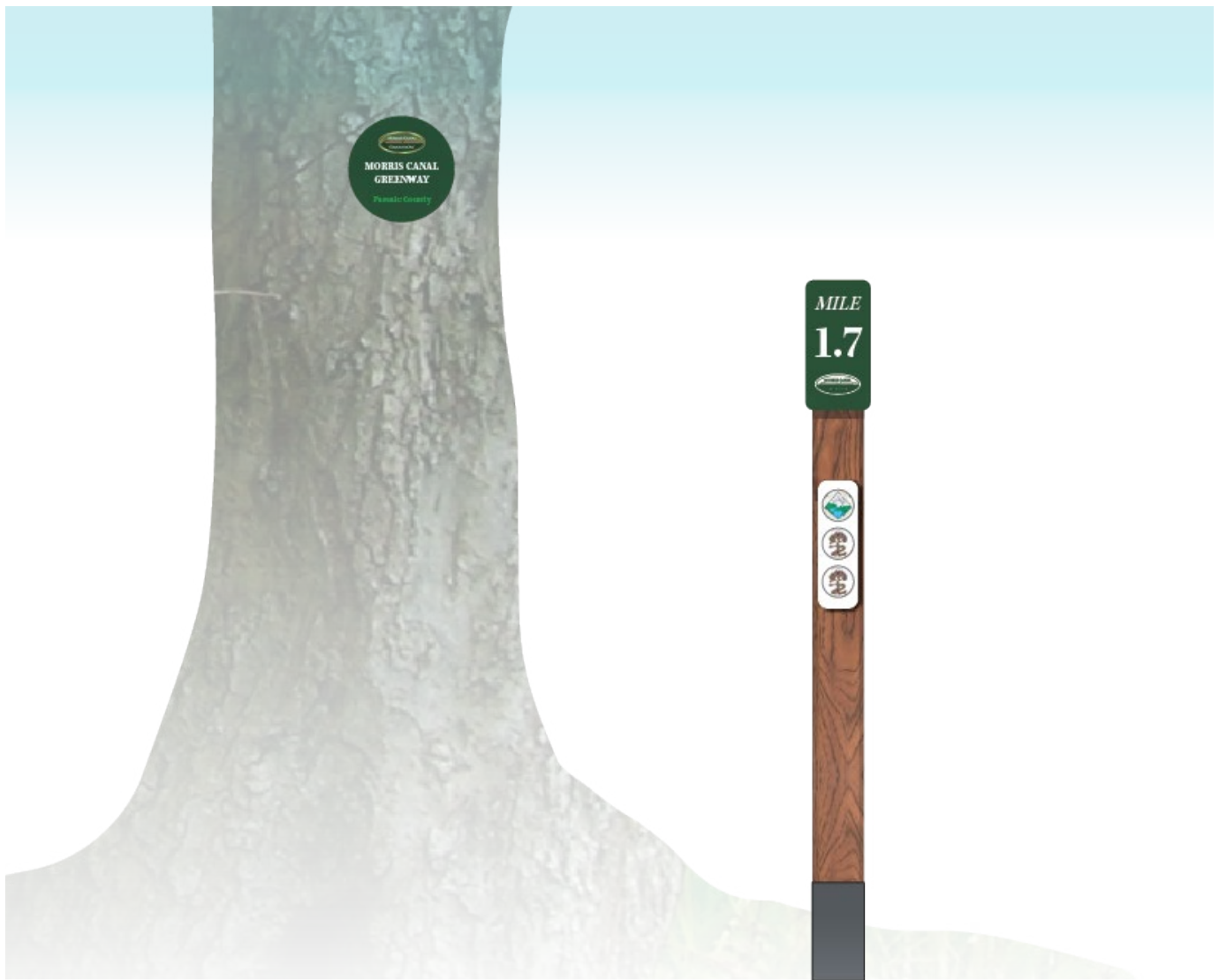


Fig.71. Standard Design for Trail Blazes Type 1 & Type 2

## Step 4. Design Elements

### 3. Signage & Markings (Continued)

#### 3.6. Pavement Markings

PRESCRIPTIVE SUGGESTIVE

Pavement markings can be used as supplemental guidance to provide confirmation that users are on the designated route of the greenway when it is on-road or following an interim alignment. Particularly in urban contexts where there can be excessive visual clutter, pavement markings can often be more visible and can help reinforce or supplement signage. An example of a trail pavement marking is shown in Figure 72. A sample design of a pavement marking for the Morris Canal Greenway is shown in Figure 73.

Currently, the only Manual on Uniform Traffic Control Devices (MUTCD) -approved pavement marking for this purpose is a shared lane marking. However, cities across the country have been experimenting with other options.

#### CONSIDERATIONS

- » For interim alignments, pavement markings may be the primary method of wayfinding for trail users. Especially where the interim alignment may follow an on-road facility with multiple turns, pavement markings allow trail users continuity of use, without having to stop and look at a map.
- » Markings can be thermoplastic or paint. Thermoplastic lasts longer but is more expensive initially.



Fig.72. Precedent: Centennial Trail in Spokane, WA

#### CO-ALIGNING WITH OTHER TRAILS

New Jersey has several other long-distance trails, including:

- East Coast Greenway
- 9/11 Memorial Trail
- Highlands Trail
- Hudson River Waterfront Walkway
- Lenape Trail
- Patriots Path
- Sussex Trail

Co-aligned trails can be indicated on the trail blaze posts. Logos of other trails can be combined into one additional panel to give hierarchy to the Morris Canal Greenway where appropriate.

Wayfinding signage can indicate approaching junctions with other regional trails.

Precedent: Connect Hanover in Hanover





SAMPLE DESIGNS

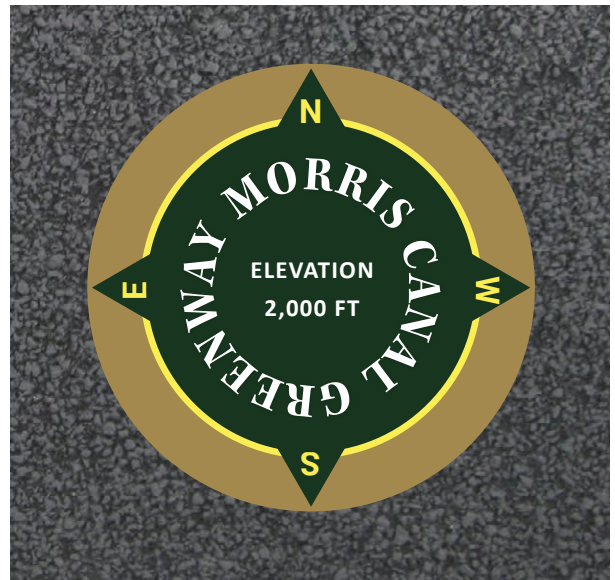


Fig.73. Standard Design for Pavement Markings

## 4. Benches & Seating

**PRESCRIPTIVE** SUGGESTIVE

Seating placed at regular intervals and in areas of high pedestrian traffic will provide users of all ages and abilities areas to congregate and rest. A consistent bench style will become familiar to greenway users and aid in branding and wayfinding.

The bench style should be an industrial style incorporating a heavy, rustic wood seat and a galvanized or weathering steel base. This style is durable, affordable and adapts well to a variety of contexts ranging from historic, rural areas of Waterloo Village to more urban, contemporary settings like Jersey City. Examples of appropriate benches are shown in Figures 75-78. A sample branded bench is shown in Figure 79.

The Morris Canal Working Group should select a preferred bench manufacturer and utilize the same manufacturer throughout the length of the greenway. Particular care should be taken to ensure availability, ease of maintenance, and long term durability. Manufacturers that offer a high quality but affordable bench that meets this criteria include:

- **Landscape Forms: Bancal Bench**  
<http://www.landscapeforms.com/en-US/productdata/Pages/bancal-bench.aspx>
- **Streetlife: Rough and Ready Bench**  
<https://www.streetlife.nl/us/products/roughready-6-benches>

### CONSIDERATIONS

- » Benches should be located at 1-mile intervals (maximum) along longer segments of the trail but should be spaced closer in areas with high pedestrian volumes such as parks or urban areas. Additional seating should be provided in gathering spaces, gateways, and intersections.
- » The wood face of the bench offers an opportunity for engraving the name and/or logo to reinforce the brand and assist with wayfinding.
- » Benches should be placed in shaded areas and oriented to take advantage of key Canal Features, scenic views or vistas.
- » Legs or base should be galvanized steel or weathering steel.
- » Seat should be untreated, sustainable hardwood such as ipe or jarra. Pressure-treated wood is not recommended.
- » Backless benches are preferred as they allow the most flexibility and minimize the opportunity for defacing (graffiti, etc.). Benches with backs are recommended in areas where older populations are to provide additional comfort.
- » Armrests or skateguards placed at regular intervals on the bench may be installed in areas that need to discourage skateboarders or loiterers.
- » Seating should be clustered and arranged to promote social interaction and should not be limited to a linear configuration.



Fig.74. Historic “seating” along the Morris Canal



Fig.75. Bancal Bench from Landscape Forms



Fig.76. Bancal Bench from Landscape Forms



Fig.78. Bancal Bench from Landscape Forms



Fig.77. Rough & Ready Bench from Street Life



Fig.79. Example: Branded Rough & Ready Bench from Street Life

## 5. Bicycle Amenities

PRESCRIPTIVE SUGGESTIVE

Bicycle amenities will provide cyclists with a comfortable, safe, and secure experience while riding the greenway. Proper bicycle amenities encourage cyclists to use the trail and let them know that they are welcome. Bicycle amenities include bicycle racks for short-term parking, lockers or storage areas for long-term parking, and repair stations for routine self-service repair.

Bicycle amenities should be stainless steel or powder coated dark green (see p. 53) and be kept simple, functional, and durable.

A preferred manufacturer for each of the amenities should be selected and utilized throughout the length of the greenway. Particular care should be taken to ensure availability, ease of maintenance and long-term durability. Examples of bike amenities from different manufacturers are shown in Figures 80-85.

Manufacturers that carry the full suite of amenities that meet these criteria include:

- **Dero: Fixit**  
<https://www.dero.com/>
- **BikeFixation by Saris**  
<https://www.bikefixation.com/>

### CONSIDERATIONS

- » Bike racks for short-term parking should be conveniently located in areas where bicyclists may want to stop, such as seating areas, destinations, or other amenities.
- » Long-term bicycle parking should be considered in areas where bicycles may be left for long periods, such as at transit stations.
- » Bicycle repair stations are small kiosks designed to offer a complete set of tools necessary for routine bicycle maintenance, small fixes along the path, or a quick check up. These should be provided at regular intervals at or near intersections, gathering areas, or primary greenway entry points.
- » Amenities should be branded with the Morris Canal Greenway name or logo.
- » Bicycle parking should meet the Association of Pedestrian & Bicycle Professionals Bicycle Parking Guidelines, 2nd Edition (2010)
- » Bike racks should be securely mounted, either embedded in concrete or surface mounted with tamper-proof hardware.
- » Racks should be either inverted U or post & ring racks, which provide two points of contact and allow a bicycle to be locked with a U-lock to the frame and one of the wheels. Artistic or ornate bicycle racks will need to meet these guidelines.



Fig.80. Dero Bike Rack



Fig.83. Bike Repair Station by Dero



Fig.81. Bike Repair Station by Bike Fixation/Saris



Fig.84. Dero custom Bike Rack



Fig.82. Bike Repair Station by Bike Fixation/Saris



Fig.85. Bike Locker by Dero

## 6. Trash & Recycling Receptacles

**PRESCRIPTIVE** SUGGESTIVE

Trash and recycling receptacles help preserve the appearance of and reduce litter along the greenway. They should be durable and highly functional with a chrome powder coat and branding incorporated along the rim.

A preferred manufacturer should be selected and utilized for trash receptacles throughout the length of the greenway. In addition, a logo/branding decal should be developed and applied to the rim of all trash receptacles as shown in Figure 86. Particular care should be taken to ensure availability, ease of maintenance and long term durability.

Manufacturers that carry trash receptacles that meet these criteria include:

- **Victor Stanley: Dynasty Collection**  
<http://www.victorstanley.com/product/dyn-sd-45/>

### CONSIDERATIONS

- » Trash receptacles should only be provided in areas where a consistent and reliable trash removal program is in place.
- » Trash receptacles should be considered at trailheads, gathering areas, and at or near concession stands or shops that may generate trash (i.e. delis, convenience stores, frozen yogurt etc).
- » Receptacles should be set back 3 feet from the edge of the path to provide proper clearance but allow for ease of use.



Fig.86. Precedent: Branded trash receptacle

## 7. Lighting

PRESCRIPTIVE SUGGESTIVE

Lighting can extend the usefulness of the greenway into the evening and early morning in areas where it may be used frequently by commuters or in densely populated areas with a large volume of pedestrian traffic. Generally, lighting is not recommended where the path has low use, in remote areas, or where there is little to no development.

### CONSIDERATIONS

- » Light fixture availability, maintenance, and style vary greatly from community to community. Therefore, these guidelines do not prescribe a specific light fixture. However, light fixtures should be selected in keeping with the Morris Canal Aesthetic and should complement the selected bench, trash receptacle, and other furniture.
- » Lighting is recommended where night or dusk usage of the path is expected, such as areas with high volumes of commuters. Additionally, lighting is recommended at underpasses or other areas where natural light may be limited.
- » In remote areas where electrical service is unavailable or cost prohibitive, solar powered lighting should be considered.
- » Light fixtures should be full cut-off, dark-sky friendly fixtures that limit light pollution.
- » Where lighting is provided, the light levels should be adequate to identify a face from 20 yards away.
- » Lighting should be equipped to accommodate Morris Canal Greenway banners and signage.

# 8. Creative Roadway Crossings

PRESCRIPTIVE SUGGESTIVE

Roadway crossings can be designed to reflect the brand of the greenway and offer an inexpensive opportunity for public art. Roadway crossings provide a fun opportunity to engage people walking or driving past the canal who would otherwise not recognize its presence. These custom features are in addition to the required signs and striping elements as detailed in the MUTCD (see Figure 87). Figures 88-89 and 91-92 show examples of creative roadway crossings in other places.

Figure 90 illustrates a potential design for a crosswalk that meets the standards set forth in the Federal Highway Administration’s Official Interpretation of Chapter 3G of MUTCD’s approved uses of colored pavement.

### CONSIDERATIONS

Creative roadway crossings can be developed using a variety of materials that range in cost, lifespan, and ease of installation. These include:

- » Paver Crossings: This is the most expensive option that, when properly installed, can last 10-15 years or more and has a large variety of design options.
- » Stamped Resin: This is an expensive application that has a lifespan of 7-10 years but offers a large variety of colors and logo options.
- » Thermoplastic: This is a low cost option that is expected to last 5-7 years. Color is limited to white.
- » Roadway Paint: This is the least expensive option and is easy to install but is only expected to last 1-3 years. Extensive variety of colors.

Figure 9B-7. Examples of Signing and Markings for Shared-Use Paths

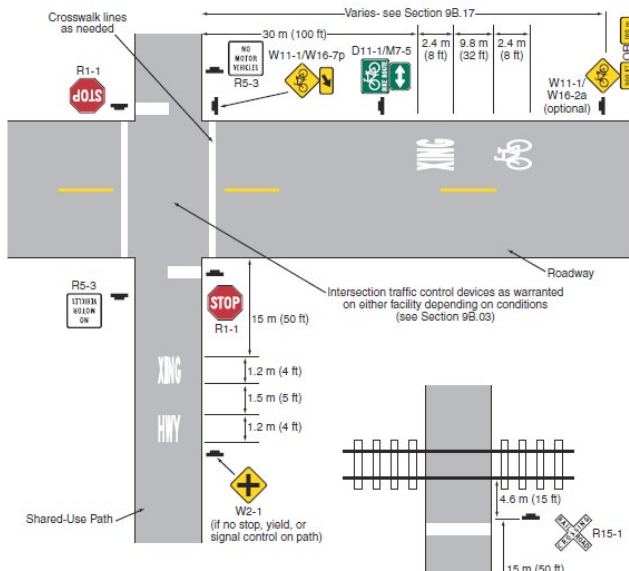


Fig.87. MUTCD Standard Crossing Guidance





Fig.88. Precedent: Chinatown, Oakland, CA



Fig.91. Precedent: Cultural District, Pittsburgh, PA



Fig.89. Precedent: Montclair, NJ



Fig.92. Precedent: Montclair, NJ  
Credit: Lisa Llorms, Bike & Walk Montclair

**SAMPLE DESIGN**

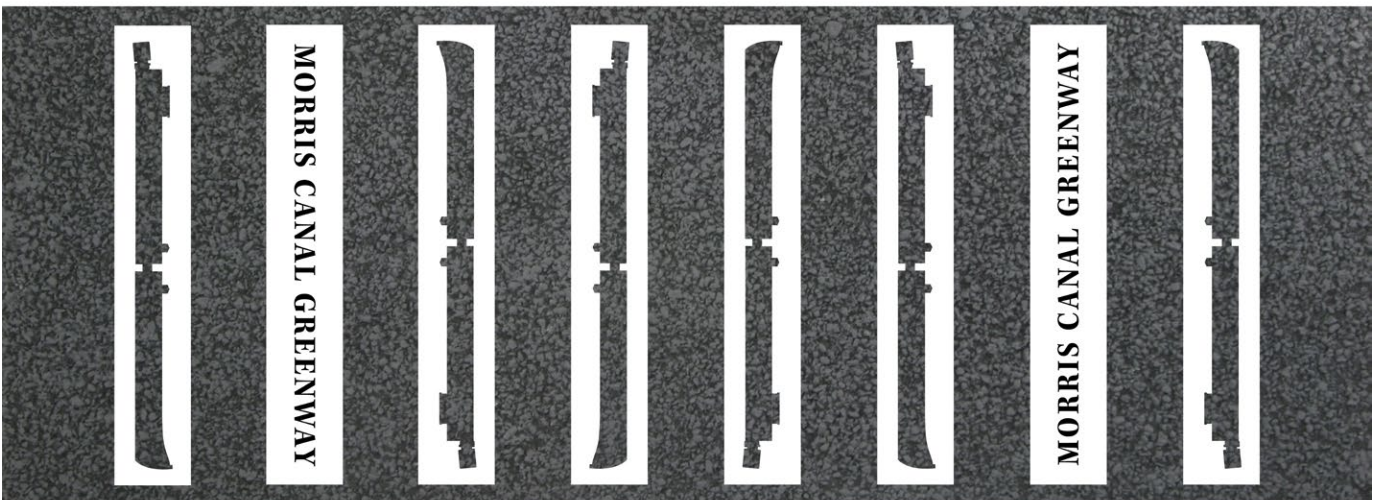


Fig.90. Example: Branded Morris Canal Crosswalk with Boat Silhouette

## 9. Pavement & Surfaces

PRESCRIPTIVE SUGGESTIVE

The trail surface plays an important role since it is the most fundamental element of the trail and provides a comfortable and safe surface for pedestrian and bicycle traffic. In addition, the trail surface also communicates the look and feel of the trail. For example, an earthen path communicates a more rustic feel while a concrete or paver path provides a more finished or polished feel.

There is a range of acceptable path surfaces depending on a number of factors such as trail usage, context, and maintenance. The path surfaces are identified on this page, and the proper surface should be carefully selected based on the application and considerations outlined.



### Earthen Path

#### CONSIDERATIONS

- » This treatment should be used along the historic towpath only.
- » This surface type should be limited to locations where the historic towpath is present and stable and there is a desire to keep it as such in order to maintain the historic character or minimize environmental impacts.
- » Earthen paths should not be constructed where one does not already exist.
- » Where an earthen path is to remain, the path should be analyzed and improved or compacted as needed to ensure safe, ADA compliant access for pedestrians and bicyclists.
- » ADA compliance may pose an issue where earthen paths are to remain.



### Compacted Stone

#### CONSIDERATIONS

- » This treatment is most suitable for a canal-side path, an off-road path, or environmentally sensitive areas.
- » Compacted crushed stone is a durable paving surface for use where asphalt would be cost prohibitive or where the path crosses environmentally sensitive areas.
- » Crushed stone provides an even cycling surface, though is less ideal for some types of tires, such as those typical on a road bike.
- » Compacted stone paths require maintenance, including weed removal, vegetation clearing and stone replenishment.
- » Compacted stone should not be used on steep slopes or in areas where excessive stormwater run-off or erosion is a concern.



**NOTE:** All paths, regardless of location or condition, must comply with the Americans with Disabilities Act (ADA) and Public Rights of Way Accessibility Guidelines (PROWAG) and should be constructed to meet the AASHTO Shared Use Path Standards. Compliance with these regulations is compulsory and ensures that individuals of all abilities can enjoy the greenway.



## Asphalt

### CONSIDERATIONS

- » This treatment is most suitable for an on-road path, a road-side path, or an off-road path.
- » Asphalt is a preferred trail paving surface for its affordability, flexibility, ease of repair, and low maintenance.
- » Asphalt provides a firm, smooth, and even surface for cycling, walking and jogging.
- » Maintenance requirements include pothole repair and patching.
- » Permeable asphalt is available for environmentally sensitive areas but requires additional maintenance.
- » General lifespan is 10 years, versus 25 years for concrete.



## Concrete

### CONSIDERATIONS

- » This treatment is most suitable for a road-side path or an off-road path.
- » A concrete path is a preferred option where aesthetics are a concern and asphalt is not visually appropriate. For example, concrete may be preferred along the road in a downtown area or through a park.
- » As a path surface, concrete is less flexible and is considered higher-impact for trail users walking and jogging.
- » Concrete is significantly more expensive than asphalt, but more durable, lasting more than twice as long and requiring less maintenance.



## Pavers

### CONSIDERATIONS

- » This treatment is most suitable for special areas such as amenity zones or gathering spaces, or as part of art and interpretive elements.
- » Pavers provide the most flexibility of color, pattern, texture and permeability of any of the paving surfaces and should be used as highlights long the greenway.
- » Pavers should be of a true material, not a representation of a different material (e.g., asphalt stamped to look like brick, faux granite cobbles, etc).
- » Pavers should not be used as the main trail surface since joints in the paver surface are uncomfortable for bicycling long distances.
- » Proper installation is critical to ensure a smooth walking surface.

## 10. Art & Interpretive Elements

PRESCRIPTIVE SUGGESTIVE

Art and interpretive elements engage greenway users and communicate the history and story of the canal in a fun and easily understandable way to them. Memorable installations also aid in wayfinding and become identifiable landmarks where people can meet. Existing interpretive art is shown in Figure 93. Other interpretive canal art is shown in Figures 94-96.



Fig.93. Existing interpretive art at Phillipsburg

### WHAT THE STAKEHOLDERS SAID ...

During the development of these guidelines, many members of the Morris Canal Working Group indicated that artwork and sculpture were should be used to add interest and color to the greenway. Furthermore, young members of the community who participated in outreach events indicated that vibrant colors and art should be included in the greenway designs.

### CONSIDERATIONS

- » Local artists and artisans can be given the opportunity to develop pieces for the canal. This can be accomplished through a competition or invitation.
- » Public art is a great way to engage the community in the development of the greenway. Public art projects can be developed by local school classes or community groups to foster stewardship at a young age.
- » A comprehensive arts program includes programming and events that enliven the corridor and bring new visitors.
- » Maintenance is an important consideration when installing public art. The location, visibility, and maintenance should guide the type and materiality of the installation. For example, a detailed sculpture is appropriate in an area with high visibility where it can be properly maintained, whereas an engraved granite paver is highly durable and may be appropriate in an area that is less traveled.



Fig.94. Precedent: Erie Canal Museum, Syracuse, NY  
Credit: Ronda Roaring



Fig.96. Precedent: Canal, Warwickshire, Scotland



Fig.95. Precedent: Towpath Sculpture along the Regent's Canal, London

# 11. Gathering Spaces

## 11.1 Amenity Zones

Amenity zones are areas for respite and refreshment while traveling along the greenway. Pedestrian and bicycle amenities are clustered in these areas so greenway users can meet, rest, and make any necessary bicycle tune-ups along their ride. These spaces can be placed at historic sites or canal features, or at trail heads or areas where there is sufficient right of way. Figure 97 illustrates a potential configuration of an amenity zone, including a paver surface, wayfinding signage, benches, trash receptacles, and bicycle amenities.

### CONSIDERATIONS

- » Amenity zones should be located near relatively active and desirable areas of the path, in an area with sufficient space to accommodate furniture. Areas for consideration include entrances/gateways, in parks and at canal features or scenic vistas.
- » These zones along the Morris Canal Greenway should all include the same set of amenities, but can be tailored to reflect the local context. This will provide greenway users with a sense of familiarity and consistency along their travels. Amenities should include wayfinding signage with maps, bench(es), trash receptacle(s), and bike racks and bicycle repair stations. Water should also be provided at these locations if feasible.
- » Expanded amenity zones may include lighting, restrooms, picnic areas, showers (for multi-day trail users), or other services.
- » Situate seating so that it takes advantage of available shade and cover.
- » Careful consideration should be given to visibility, safety, and maintenance of amenity zones.

**SAMPLE DESIGN**



*Fig.97. Example: Canal-side Path Amenity Zone*

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## Step 4. Design Elements

### 11. Gathering Spaces (Continued)

#### 11.2 Transit Stations

Transit stations, including rail stations, bus terminals, and bus stops, are key junctions between the greenway and other modes of transportation. Creating an easy and legible transition between the two modes can increase access to the greenway for transit-dependent users or those who choose transit over driving.

#### CONSIDERATIONS

- » Identify train stations or bus terminals along or near the greenway and provide wayfinding signs, transit/greenway maps and information at these locations.
- » Train stations and bus terminals often have sufficient space for amenities and wayfinding signage. Place amenity zones at rail stations and bus terminals where the greenway crosses. Include wayfinding signage and gateway signs where applicable. Along with transit maps, provide maps of the greenway corridor.
- » The greenway should build upon the amenities already in-place at the transit stops. For example, if a bus stop has a shelter, perhaps a greenway map could be incorporated into that structure. Where bus stops are only sign posts, a Trail Blaze can indicate the presence and direction of the greenway.
- » Coordination will be required with the local jurisdiction as well as NJ TRANSIT.



*Fig.98. Existing Transit Station Signage in Jersey City, Hudson County*





# Step 5. Maintenance & Operations

Steps 1-4 provide guidance and considerations for designing and constructing the Morris Canal Greenway. Maintenance and operations of the greenway should also be coordinated across the jurisdictions within the corridor.

Keeping the greenway in a state of good repair, free of litter and debris, and accessible for all users is key to creating a successful facility in the Morris Canal corridor. This chapter provides guidance in three areas:

1. Maintenance Management & Coordination
2. Routine Maintenance & Inspection
3. Maintenance of Recommended Design Elements





*Volunteers clearing  
the canal prism in  
Bloomfield*  
Credit: Bloomfield Morris  
Canal Greenway

# 1. Maintenance Management & Coordination

Coordinating maintenance across all greenway jurisdictions will be a challenge. The following guidelines for maintenance are offered as a starting point. Ideally, the implementing entity can coordinate a maintenance plan that will apply to all organizations and jurisdictions that serve as managers of the greenway.

## EXISTING MAINTENANCE ORGANIZATIONS

Existing maintenance structures vary among communities. Warren County, for example, coordinates maintenance of the Morris Canal Greenway through its Morris Canal Committee. The County's Land Preservation Department allocates maintenance funding and organizes volunteer efforts through the New Jersey Youth Corps of Phillipsburg and the Highlands Project, Inc. In Bloomfield in Essex County, maintenance also relies on volunteer efforts, but these are coordinated through the municipality. In other cases, however, county parks departments often take the lead for maintenance and operations activities, especially when the facility traverses multiple municipalities.

## COORDINATING MAINTENANCE

If the Morris Canal Greenway is eventually managed by a corridor-wide entity, a maintenance management plan for the greenway should be created. The plan would coordinate standards and schedules across the entire corridor. For an area as varied as the Morris Canal greenway, a maintenance management plan is an important document for ensuring that users have a consistent experience along the greenway.



*Fig.99. Eagle Scouts along the Morris Canal Greenway in Bloomfield*  
Credit: Bloomfield Morris Canal Greenway

## 2. Routine Maintenance & Inspection

Basic maintenance tasks are critical for upkeep of the greenway and maximizing the longevity of capital investments in the greenway. The matrix on the facing page provides an overview of greenway maintenance tasks and their approximate frequency and timing during the course of the year (Table 2). Greenway planners should use this as a base for creating a routine maintenance and inspections plan for segments of the greenway under their purview. The plan should also include timelines for addressing repairs and emergency maintenance issues. Inspections of all structures, bridges, and any other element not specifically discussed in the Design Elements section should be included in annual inspections.

Entities responsible for maintenance should conduct analyses or informal surveys to note which portions of the greenway receive the heaviest use. Maintenance and repairs should be planned accordingly.

### CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

CPTED is a multi-disciplinary approach to deterring criminal behavior through environmental design. One of the key CPTED principles is image. Well-maintained and managed corridors instill a sense of ownership and pride in the community. Conversely, if a space or path is not well-maintained, it may indicate that the city and community are not concerned about the neighborhood and may also overlook criminal or other unwanted activity. This is often called the “broken windows” theory. Overflowing trash cans, litter, and broken and cracked sidewalks are common issues that affect image.

**Routine Maintenance**

Task	January	February	March	April	May	June	July	August	September	October	November	December
<b>VEGETATION MANAGEMENT</b>												
<i>Planting</i>				●	●					●		
<i>Trimming &amp; Thinning</i>				●	●					●		
<i>Mowing</i>					●	●	●	●	●			
<i>Weeding</i>			●			●			●			
<b>LITTER REMOVAL</b>												
<i>Sweeping</i>		●		●	●	●	●	●	●	●		●
<i>Emptying Trash &amp; Recycling Receptacles</i>	●	●	●	●	●	●	●	●	●	●	●	●
<b>SEASONAL MAINTENANCE</b>												
<i>Leaf Removal</i>									●	●	●	
<i>Ice Removal</i>	●	●	●								●	●
<b>OTHER ROUTINE MAINTENANCE</b>												
<i>Inspection: Paths, Bridges, Structures, All Elements</i>				●						●		
<i>Pavement Repair</i>				●						●		
<i>Graffiti Removal</i>	●	●	●	●	●	●	●	●	●	●	●	●

Table 2. Routine Maintenance

### 3. Maintenance of Recommended Design Elements

Each design element described in Step 4 has recommended routine maintenance as well as a maintenance/replacement schedule as part of a larger capital plan.

#### LEVEL OF MAINTENANCE

- R** **Routine** indicates weekly or monthly maintenance requirements.
- P** **Periodic** indicates quarterly or annual maintenance.
- LT** **Long-term** indicates replacement cycles.

#### SIGNAGE

Signage content and type dictate the maintenance requirements.

##### Gateway & Interpretive Signs, Trail Blazes

- P** Inspect and replace as needed.

##### Wayfinding Signs

- P** Annual review of information and directional arrows. More frequent review may be necessary, depending on content.

#### PAVEMENT MARKINGS

- LT** Replace thermoplastic every 5 years. Replace roadway paint every 1-3 years.

#### BENCHES & SEATING

The selected benches are low maintenance, but require a few routine checks.

- R** Clean benches and keep free of litter.
- R** Remove graffiti as necessary.
- LT** Replace as necessary.

#### BICYCLE AMENITIES

Bicycle amenities require very little maintenance, but should be checked regularly for graffiti and damage.

- R** Clean bicycle amenities and keep free of litter.
- R** Remove graffiti as necessary.
- LT** Replace bike racks, bike repair stations, and bike lockers as necessary.

#### TRASH & RECYCLING RECEPTACLES

Trash and recycling removal require the most consistent maintenance of other elements along the greenway.

- R** Remove litter and sweep weekly or bi-weekly. Frequency depends on intensity of greenway usage. Segments of the greenway in more densely populated areas or areas of high recreational use will require litter removal more than once per week.
- LT** Replace trash and recycling receptacles as necessary.



## LIGHTING

Lighting fixtures may vary, and different models will have different maintenance requirements.

- P** Inspect bulbs regularly and replace as needed.
- LT** Replace light fixtures as needed, depending on the stated life of the model selected.

## CREATIVE ROADWAY CROSSINGS

These guidelines recommend four types of materials to use for creative roadway crossings.

### Thermoplastic

- LT** Replace every 5 years.

### Stamped Resin

- LT** Replace every 7-10 years.

### Concrete Pavers

- LT** Replace every 10-15 years.
- R** Weed regularly.

### Roadway Paint

- P** Replace every 1-3 years.

## PAVEMENT & SURFACES

The Design Guidelines review five types of paving or surface treatments for the greenway. All surfaces require regular sweeping and litter removal. Other maintenance guidelines are as follows:

### Earthen Path

- R** Weed regularly. Clear path of vegetation.

### Compacted Stone

- R** Weed regularly.
- LT** Replace every 7-10 years.

### Asphalt

- P** Annual checks for cracks and potholes.
- LT** Replace every 10 years.

### Concrete

- P** Annual checks for cracks.
- LT** Replace every 25 years.

### Pavers

- R** Weed regularly (depending on spacing and joint material).
- LT** Replace every 15 years.



Submitted by



# Appendix B: Outreach Summary



# Appendix B

## Outreach

### Summary

This section provides a summary of the outreach conducted for the Morris Canal Greenway Corridor Study. An outreach plan was developed that identified the methods and tools for stakeholder and public engagement as well as the target dates, format, and purpose for each meeting; however, it was intended to remain flexible to account for opportunities and changes that developed during the course of the study. A list of all meetings, locations and dates is attached.

The goal of the outreach activities was to:

- Actively seek stakeholder and public insights, opinions, and local knowledge.
- Conduct a varied, inclusive, effective, and meaningful outreach program to maximize input from individuals and groups regardless of race, ethnicity, age, disability, income, or primary language.
- Provide information to potentially affected and/or interested individuals, communities and organizations.
- Communicate accurate, understandable, and timely information throughout the project.

#### STUDY AREA

The study area for this project includes 53 municipalities in six counties. The characteristics of the communities surrounding the historic route of the former Morris Canal are diverse and unique in both land use and population. The study area covers urban, suburban, and rural communities. Varied outreach methods helped gather feedback from diverse groups throughout the study. The project team relied on the understanding and experience of the Technical Advisory Committee, Morris Canal Working Group, counties and

municipalities on how best to reach their communities and target audience.

#### OUTREACH METHODS AND TOOLS

A combination of traditional and digital outreach strategies were used throughout the study to engage stakeholders and the public, including the following. They are discussed in more detail below.

1. Technical Advisory Committee (TAC)
2. Morris Canal Working Group (MCWG)/ Stakeholder Advisory Committee (SAC)
3. Regional municipal outreach meetings
4. Discretionary meetings/special events
5. North Jersey Transportation Planning Authority (NJTPA) and MCWG websites
6. WikiMap
7. Questionnaire/survey
8. Stakeholder interviews
9. Social media
10. Project overview flyer (English and Spanish)

The meeting minutes, agendas and sign-in sheets for all the TAC, MCWG/SAC and special meetings are attached.

#### 1 - Technical Advisory Committee (TAC)

The TAC for this study comprised of almost 30 members representing state agencies, county departments, and representatives of the Morris Canal Working Group (MCWG). Members of the TAC provided support at community engagement, and review findings and deliverables.. The TAC met four times during study development and were encouraged to attend MCWG/SAC meetings.

#### 2 – Morris Canal Working Group (MCWG)/ Stakeholder Advisory Committee (SAC)

The NJTPA formed the MCWG in 2012 to bring stakeholders together in an open forum to discuss this important transportation resource. The MCWG has more than 150 members representing nonprofit organizations and federal, state, county, and local governments and offers a wealth of knowledge and insight for developing a greenway along the Morris Canal.

The MCWG/SAC includes members of the MCWG, municipal stakeholders, and any other interested parties, including the general public. The MCWG/SAC provides a forum to communicate and discuss local issues and ideas important to the study. Members of the MCWG/SAC were apprised of the study and were invited to provide input on deliverables.

There were four MCWG/SAC meetings that were open to the public and served as the public meetings for this study. In order to increase participation by the general public, meetings were advertised through the NJTPA Facebook and Twitter accounts.

When meeting purposes overlapped, the TAC and MCWG/SAC meetings were combined. The second meeting of the TAC and MCWG/SAC were held together.

### **3 – Regional Municipal Outreach Meetings**

Three municipal outreach meetings were held in August 2017 at the beginning of the study . Meetings were held in Washington Township (Western Region - Warren County), the Borough of Wharton (Central Region – Sussex, Morris and Passaic Counties) and in Bloomfield Township (Eastern Region – Essex and Hudson Counties). The purpose of these meetings was for municipal representatives to share their knowledge of local issues and community-specific needs and for the project team to request relevant reports, resources, and data.

Municipal representatives were encouraged to continue to participate in study development through the MCWG/SAC meetings. Input from the municipal outreach meeting was used to focus efforts throughout the study.

### **4 - Special Events**

In order to engage people who might be interested in the canal but might not be aware of the study, the project team attended Waterloo Canal Heritage Day on Saturday, October 14, 2017. An outdoor display consisting of poster size boards of the project overview, study area map and photographs

of potential design elements was setup at a key location in Waterloo Village. Members of the project team were present to provide an overview of the study and to engage event attendees. Visitors were invited to participate in a visual preference survey of the greenway design elements.

Another meeting was held on February 24, 2018 for the participants of the English as a Second Language class at the Trinity House in Hackettstown, NJ. The project team provided an overview of the Morris Canal history, and the vision for the Morris Canal Greenway, detailing what that would mean for residents of Hackettstown. This was an excellent opportunity to get direct input from local residents who are often under represented at traditional public meetings, or Morris Canal Working Group meetings.

### **5 – NJTPA and MCWG Websites**

A webpage for the project was hosted on both the NJTPA and the Morris Canal Working Group sites:

- NJTPA:  
[http://www.njtpa.org/planning/regional-studies/studies/morris-canal-greenway-study/morris-canal-greenway-corridor-study-\(2\)](http://www.njtpa.org/planning/regional-studies/studies/morris-canal-greenway-study/morris-canal-greenway-corridor-study-(2))
- MCWG:  
<https://sites.google.com/site/morriscanalworkinggroup/plans-and-studies/morris-canal-greenway-study>

Both of these websites are maintained by the NJTPA. Materials produced throughout the study was selected and posted to the websites. The NV5 Team provided content for the website updates, including materials presented at the MCWG/SAC meetings.

### **6 - WikiMap**

WikiMap is an online, public engagement tool that allows individuals to mark up a map, post comments, and upload photos. For this study a wikimap was developed and the link was posted to the MCWG website. Members of the public and stakeholders identified areas with potential for the greenway, sections already constructed, as well as destinations

and challenges along the route. Input on Wikimapping helped inform development of the short- and long-term alignment.

The WikiMap was also used at meetings to record input in real time.

### **7 – Questionnaire/Survey**

The project team developed a questionnaire to get feedback and to guide discussion at the first TAC meeting and the municipal outreach meetings. Over 100 survey responses were collected. Insights have been incorporated into the study.

### **8 – Stakeholder Interviews**

The project team conducted numerous targeted interviews with stakeholders to obtain a better understanding of specific topics such as routing, phasing, branding, marketing, and organizational structure. These included both in person and telephone interviews with representatives from the following groups:

- The Canal Society of New Jersey
- Morris Canal Working Group
- New Jersey Department of Environmental Protection – Green Acres Program
- Warren County Planning Department
- Morris County Division of Transportation Management
- Passaic County Planning Department
- City of Newark Traffic Department
- Essex County Planning Department
- Jersey City Planning Department
- Hudson County Planning Department

### **9 – Social Media**

Social media provides an opportunity to connect and communicate directly with the public. This study used NJTPA’s Morris Canal related social media accounts to promote the study. They include <https://www.facebook.com/MorrisCanalTrail/> and <https://www.instagram.com/MorrisCanal/>. In addition, Passaic County, Warren County, Canal Society of NJ, Bloomfield, and Waterloo Village all have Facebook pages where information was posted and shared with followers.

### **10 – Project Overview Flyer**

A project overview flyer was developed prior to the municipal outreach meetings in August 2017. The flyer incorporates the study goals and provides background information on the historical importance of the Morris Canal. A quarter of the study area population speaks Spanish. The flyer was translated into Spanish to expand project information accessibility.

This flyer was distributed at all municipal outreach and MCWG meetings. In addition, it was provided to meeting attendees to share with local groups and constituents not present at the meetings.

<b>Outreach Meeting List</b>					
<b>#</b>	<b>Meeting</b>	<b>Date</b>	<b>Purpose</b>	<b>Format</b>	<b>Number of Participants</b>
1	TAC Meeting #1 NJTPA, Newark	Aug. 3, 2017	Study overview, data collection	Presentation, group discussion	31
2	Municipal Outreach: Central (Wharton Borough)	Aug. 15, 2017	Local coordination, data collection	Presentation, group discussion and mapping exercise	24
3	Municipal Outreach: West (Washington Twp.)	Aug. 22, 2017	Local coordination, data collection	Presentation, group discussion and mapping exercise	17
4	Municipal Outreach: East (Bloomfield Twp.)	Aug. 23, 2017	Local coordination, data collection, partnerships	Presentation, group discussion and mapping exercise	24
5	MCWG/ SAC Meeting #1 Liberty State Park, Jersey City	Sep. 14, 2017	Study overview, vision and goals, outreach, branding, challenges and opportunities	Presentation, open house with facilitated stations	49
6	Waterloo Canal Heritage Day Waterloo Village, Stanhope	Oct. 14, 2017	Discretionary meeting to inform the public about the study, seek input	Table display with handouts including survey	78
7	Combined TAC & MCWG/ SAC Meeting #2 Waterloo Village, Stanhope	Oct. 26, 2017	Short- and long-term alignment review, design guide input	Presentation, break-out group discussion and exercises	32
8	Combined TAC & MCWG/ SAC Meeting #3 NJTPA, Newark	Dec. 5, 2017	Review matrix of recommendations, organizational structure, potential TE pilot projects	Presentation, open house with facilitated stations	37
9	TAC Meeting #4 Lincoln Park	Jan. 30, 2018	Review recommended improvements, organizational structure	Presentation, group discussion	23
10	English as Second Language Class Meeting Hackettstown	Feb. 24, 2018	Review of preferred greenway alignment	Presentation, group discussion	30
11	Presentation to the TAC / MCWG/ SAC Meeting #4 Wayne	Apr. 12, 2018	Combined TAC & MCWG/ SAC presentation of draft final plan	Presentation, open house with facilitated stations	42



## MEMORANDUM OF MEETING

**TO:** Megan Kelly  
**FROM:** Mike Dannemiller and Liz Ward  
**DATE:** 8/3/2017 at 1:30 pm at NJTPA Office  
**ATTENDEES:** See attached Sign-In Sheet  
**SUBJECT:** Morris Canal Greenway Corridor Study –Technical Advisory Committee (TAC) Meeting 1  
NV5, Inc. Project # J728616.0000199.00

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The purpose of the meeting was to introduce the study; discuss roles and responsibilities; review the scope, schedule, and deliverables; and solicit input on data collection, outreach, and study expectations. The following summarizes the major items of discussion from the meeting.

### Next Steps and Action Items

1. TAC members to return questionnaire to Elizabeth Ward, NV5 by August 10, 2017.
2. The Regional Municipal Outreach Meetings will be held:
  - August 15, 6:30pm at Wharton Borough Hall (Central)
  - August 22, 7:00pm at Washington Township Municipal Building (West)
  - August 23, 2:00pm at Bloomfield Civic Center (East)
3. The first Morris Canal Working Group (MCWG) / Stakeholder Advisory Committee (SAC) meeting will take place on September 14<sup>th</sup>. Time and location to be confirmed.
4. TAC member to send any related plans, studies, data, mapping, photos to Megan Kelly.

### Summary

#### I. Welcome and Introductions

- Megan Kelly, NJTPA welcomed the attendees and thanked them for their participation. She described the projects goals and objectives and explained that the study will capitalize on existing studies.
- As part of introductions, TAC members were asked to explain their favorite aspect of the Morris Canal or what makes it a special place. Some of the responses received were:
  - Merging of history and recreation
  - Wonderful people
  - Captures the imagination
  - Depth and meaning is still pertinent today
  - Mystery to it – figuring out where it used to be
  - A place to discover
  - Created and used by ordinary people
  - Connects people to the past
  - Connects neighborhoods and cities
  - Oasis of green and history in urban areas
  - Regional effort
  - It's in your backyard



- Engineering marvel
- Waterloo
- Wharton
- Big and Little Basin in Jersey City
- Opportunity to connect to other trails and spur revitalization
- Berry Lane Park in Jersey City

## II. Roles & Responsibilities (Goals, Objectives, and Expectations)

- Mike Dannemiller, NV5 provided an overview of the consultant team. NV5 is the prime consultant and is responsible for data collection, analysis, GIS mapping, the short- and long-term alignments, the final report and coordinating all consultant efforts. Arterial will be the lead for developing design guidelines. Heritage Strategies are specialists in organizational structure and economic development. Swell are experts in branding and outreach strategies.
- Megan Kelly provided an overview of the TAC and SAC, and the rationale behind having the two separate Advisory Committees. The MCWG/SAC is open to the public.
- Attendees were asked to explain their big picture expectations and how they thought this project can be a success. Responses included:
  - Unified identify/branding
  - Streamlining best practices (i.e. approach to SHPO requirements)
  - Use existing resources
  - Get all municipalities on board and add the Greenway as part of their master plan
  - Sell the project to the public – explain the benefits / why it's important
  - Identify acquirable properties
  - Bring all prior work together
  - Evoke the message of what the canal was / experience the canal
  - Identify very specific projects that are ready for construction

## III. Project Scope and Schedule

- Mike Dannemiller presented an overview of the tasks in the scope and explained that they would be described in more detail in the following slides.
- The study is scheduled to be completed early spring 2018. The TAC will meet 4 times during study development. The second TAC and MCWG/SAC meetings may be combined to allow for an additional public event such as setting up a table at one of the Waterloo Canal Heritage Days.
- Elizabeth Ward, NV5 explained that the study will expand detailed geographic outreach with a project specific Wikimap. A Wikimap is an online public engagement tool that allows people to identify concerns, issues, opportunities, and where they go and where they would like to go. After entering an email address anyone can add a comment, line, or destination. People can view comments made by others.

- A flyover video of the corridor will also be developed. The objective of sharing this video is to give the general public an idea of where the canal was located and some key landmarks along the way. This can be posted to the NJTPA and Morris Canal Working Group website. The video will complement the existing video on the Morris Canal Working Group website.
- The study will not have its own social media accounts but will use what already exists, and are being used successfully. NJTPA, Warren County, Passaic County, Canal Society, Bloomfield, and Waterloo Village all have related pages.
- Attendees were asked to suggest individuals and groups that should be included in the development of this study. Some ideas were to engage the local historic groups and committees. They hold a lot of information that could be useful. The local Recreation Departments are important because they use and maintain the trails. Make sure the Freeholders are included. Representatives from governing bodies are necessary for implementation because they control the budgets.
- The project team will use data from existing studies as a starting point and will be asking the municipalities for data at the August regional outreach meetings. There is a handout with a current list of resources. Attendees were asked to identify anything missing. All correspondence including data collection should go through Megan Kelly.
- Short- and long-term alignments will be identified in the study. Factors influencing feasibility will be analyzed such as connectivity, land use, destinations, environmental constraints, safety, and cost.
- Some issues and opportunities important to the project include that the Canal Society is working with five municipalities in Morris County on trailhead projects and Jersey City is applying for TAP funding for the sections of the greenway through Whitlock Cordage and Country Village. In addition, Jersey City finished a resiliency plan and identified elevating the canal along Route 440 as a possibility.
- Dave Lustberg, Arterial, gave an overview of design guideline. Creating a unified identity is a key goal of the project. The design guidelines will likely be a combination of prescriptive and guidance elements. To start we will look at the typologies within all 102 miles and categorize and prioritize. Wayfinding can be key to economic revitalization and may also serve as the common design element.
- Attendees were asked if there were particular trails or greenways that they would hope the Morris Canal Greenway could emulate. Responses included heritage areas for tourism branding, D&R canal for how the facility is simplistic and complements adjacent communities, the watered section in Wharton, the Delaware River Heritage Greenway, East Coast Greenway for branding, and the Ohio River Greenway in southwest Pennsylvania for the mix of urban and rural environments.

#### **IV. Other Comments**

- Andrea Proctor of Waterloo Village liked the tagline “not just where the mules walked” for a tour and campaign.
- Jason Simmons suggested adding GIS data from previous plans to the Wikimap.
- It is important to vet the design guidelines with SHPO.

**Attachments/ Meeting handouts and display materials:**

1. Meeting Agenda
2. Sign in Sheet
3. Questionnaire Responses
4. Data Sources
5. Study Area Map

**Meeting Photos**





# Morris Canal Greenway Corridor Study

## Technical Advisory Committee (TAC) KICKOFF MEETING AGENDA

Thursday, August 3, 2017 1:30-3:30PM  
NJTPA - 1 Newark Center, 17<sup>th</sup> Floor

- I. **Welcome & Introductions**
  - a. Project impetus, goals, and objectives (Megan Kelly, NJTPA)
  - b. *Discussion: What is your favorite aspect of the Morris Canal? What makes it a special place and experience?*
- II. **Roles & Responsibilities**
  - a. Project Team Roles and Experience (Mike Dannemiller, NV5)
  - b. TAC and MCWG/SAC Overview (Megan Kelly, NJTPA)
  - c. *Discussion: What are your big picture expectations? What is most important to the project's success?*
- III. **Scope of Work & Schedule** (Mike Dannemiller, NV5)
  - a. Outreach (Elizabeth Ward, NV5)
    - i. *Discussion: Can you suggest individuals and/or groups that should be included?*
  - b. Data Collection Needs (Elizabeth Ward, NV5)
    - i. *Discussion: Are you aware of any plans, studies, data, mapping, etc. missing from the "Data Sources" handout?*
  - c. Short-Term and Long-Term Alignments (Mike Dannemiller, NV5)
    - i. *Discussion: Are there issues or opportunities that you are aware of that are important for the project team to know?*
  - d. Organizational Structure (Mike Dannemiller, NV5)
    - i. *Discussion: What are the biggest challenges to implementation of this project at a local and regional level?*
  - e. Design Guidelines (Dave Lustberg, Arterial)
    - i. *Discussion: Is there a particular trail or greenway that you would hope the Morris Canal Greenway could emulate in some way?*
  - f. Final Report (Mike Dannemiller, NV5)
    - i. *Discussion: What do you think are the three things this study must address?*
- IV. **Next Steps** (Megan Kelly, NJTPA)
  - a. Municipal Outreach Meetings
  - b. MCWG/SAC Meeting #1

## MEMORANDUM OF MEETING

**TO:** Megan Kelly  
**FROM:** Mike Dannemiller and Liz Ward  
**DATES:** Central Region (Wharton) on August 15<sup>th</sup>  
 Western Region (Washington Twp.) on August 22<sup>nd</sup>  
 Eastern Region (Bloomfield) on August 23<sup>rd</sup>

**ATTENDEES:** See attached Sign-In Sheets

**SUBJECT:** Morris Canal Greenway Corridor Study –Municipal Outreach Meetings

The purpose of the three municipal outreach meetings was to determine the level of support and desired involvement, request data, and learn about any local issues, opportunities and needs. The following summarizes the major items of discussion from the meetings.

### Summary

- The agenda including presentations for all three municipal outreach meetings was the same (agendas and presentation slides attached).
- The welcome was given by local officials:
  - Mayor William Chegwidden in Wharton
  - Committeeman Michael Kovacs in Washington Township
  - Councilman Carlos Pomares in Bloomfield
- David Behrend, NJTPA, gave an overview of NJTPA and the history of the study and the Morris Canal Working Group.
- Megan Kelly, NJTPA, explained that the outcomes of the study include short- and long-term alignments, design guidelines and a recommended organizational structure.
- Mike Dannemiller, NV5, gave an overview of the sub-consultant team, scope, and schedule.
- Following the presentation, attendees participated in two activities:
  - A mapping exercise to identify existing and planned paths/trails, destinations and community assets, and barriers and challenges (mark-up maps and WikiMap comments attached).
  - A group discussion facilitated based on a questionnaire (attached).

### Mapping Exercise Summary

Findings from the mapping exercise include:

- Challenges
  - Passaic and Hackensack River Crossings
  - Clifton - Upper Montclair golf course
  - Bayonne – NJ Turnpike 14A; rail lines

- Garden State Parkway, Bloomfield - Existing canal prism with limited access due to proximity to State Police Barracks
- Clifton – canal pathway obstructed north of Clifton firehouse toward Grove Street due to private properties
- Roxbury Twp – Hercules Private property
- Washington Borough – crossing Route 31
- Greenwich Twp. – crossing Route 22 and Uniontown Road; erosion of canal from stress of creek
- Opportunities
  - Belleville - Roche Diagnostic property next to Clara Maass Hospital under development
  - Bayonne – Alley behind Hudson Lanes Bowling
  - Jersey City – sidewalk along Jersey City DPW facility
  - Newark - Newark Riverfront Park and Branch Brook Park; PSE&G headquarters along Raymond Blvd. for historic interpretation
  - Paterson/Clifton – Morris Canal Greenway on-road improvements completed on Broad Street, Allwood Road, Van Houten Avenue, Grove Street
  - Woodland Park
    - existing completed off-road section completed by municipality funded by the County
    - Goodwill Pond Park going to construction in Spring 2018
  - Rockaway Borough – a trail is proposed for a newly acquired parcel with access to the canal
  - Wharton – West Morris Greenway Hub; Master Plan for Lock 2E; vintage trollies planned through Hugh Force Park
  - Sussex Branch Trail head off Waterloo Road
  - Planned trail around Lake Musconetcong
  - Watered section in Boonton Township
  - Boonton – Canal trail in municipal (Grace Lord) park, trail washed out
  - Lincoln Park – trail constructed incline plane 10 east
- Destinations/assets
  - Bloomfield
    - Canal Park at Oak Tree Lane and existing path
    - Collins House and park
  - Paterson – Canal Park created via County’s Phase 1 project. Closed section of Barnes Street to cars. Great Falls
  - Wayne – Historic Mountain View Train Station
  - Boonton Ironworks
  - Phillipsburg – historic grist mill property

### Summary of the Discussion

Findings from the facilitated discussion include (questionnaire attached)

- **Question:** Imagine it is the year 2050, the Morris Canal Greenway is finished, and you are writing a note to yourself in 2017. What do you see? How is the Morris Canal Greenway part of your municipality and the northern New Jersey landscape? How is it used and valued?
- **Responses**
  - Tourist destination / Ecotourism
  - To experience history / Restored and interpreted historic sites
  - Regional / Local connectivity
  - Active and passive recreation
  - Well-maintained trail
  - Quality and consistent wayfinding
- **Question:** Is there a particular trail or greenway that you would hope the Morris Canal Greenway could emulate in some way? (i.e. wayfinding, education, historic preservation, tourism/marketing, etc.)
- **Responses**
  - Delaware & Raritan (3)
  - C&O (3)
  - Atlanta Beltline (2)
  - Delaware & Lehigh
  - Delaware & Hudson (NYS)
  - Erie Canal
  - Harlem Valley Rail Trail
  - High Line
  - Lenape Trail, Essex County
  - East Coast Greenway
  - Liberty Water Gap Trail
  - Delaware River Heritage Greenway
  - Ohio River Greenway
  - Middlesex Greenway
  - Cherry Creek Trail, Denver
  - Helderberg Hudson Rail Trail
  - Boston Historical Trails
  - Paul Riviere Ride
  - Morris Land Conservancy

- **Question:** Can you suggest individuals and/or groups that we should be including in this discussion? Are there any local champions
- **Responses**
  - St. Luke's Hospital
  - MetroTrails
  - County Health Departments
  - Warren County Mosquito Commission
  - NJ Fish & Game
  - Musconetcong Watershed Association
  - NYNJ Trails Conference
  - Highlands Trail Commission
  - Local Historical Societies
  - Ford Foundation
  - Neu Foundation
  - Potential Sponsors
  - Media
  - Passaic Valley Sewerage Commission
  - Jersey City Parks Coalition
  - Regional Plan Association
  - Delaware and Raritan Canal Commission
  - Netcong Community Partnership
  - Stanhope United Methodist Church
  - The Growing State Children's Theater of NJ
  - Musconetcong Foundrymen Historical Society
  - Lake Hopatcong Foundation

### **Next Steps**

1. The municipal and county representatives to provide any related plans, studies or documents to Megan Kelly at NJTPA
2. Continue to add input on the Wikimap
3. The next Morris Canal Working Group meeting is scheduled for September 14 at Liberty State Park, Jersey City

### **Attachments**

1. Sign-in sheets
2. Agendas
3. Presentation slides
4. Wikimap comments
5. Mark-up maps
6. Questionnaire





# Morris Canal Greenway Corridor Study

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## **Municipal Outreach Meeting Central Region Sussex, Morris and Passaic Counties**

**Wharton Borough Hall  
10 Roberts Street Wharton, NJ  
August 15, 6:30 – 8:00 pm**

### **Agenda**

1. Welcome & Introductions
2. Study Area
3. Study Goals & Products
4. Roles and Responsibilities
5. Scope of Work and Schedule
6. Mapping and demo of the WikiMap feedback
7. Break-out Groups
  - a. Mapping Exercise – mark-up the maps
  - b. Group Discussion – facilitated based on questionnaire
8. Next Steps



# Morris Canal Greenway Corridor Study

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## **Municipal Outreach Meeting Warren County**

**Washington Township Municipal Building  
211 Route 31 North, Washington, NJ  
August 22, 7:00 – 9:00 pm**

### **Agenda**

1. Welcome & Introductions
2. Study Area
3. Study Goals & Products
4. Roles and Responsibilities
5. Scope of Work and Schedule
6. Mapping and demo of the WikiMap feedback
7. Break-out Groups
  - a. Mapping Exercise – mark-up the maps
  - b. Group Discussion – facilitated based on questionnaire
8. Next Steps



# Morris Canal Greenway Corridor Study

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## **Municipal Outreach Meeting** **Essex and Hudson Counties**

**Bloomfield Township Civic Center**  
**84 Broad Street, Bloomfield, NJ**  
**August 23, 1:30 – 3:30 pm**

### **Agenda**

1. Welcome & Introductions
2. Study Area
3. Study Goals & Products
4. Roles and Responsibilities
5. Scope of Work and Schedule
6. Mapping and demo of the WikiMap feedback
7. Break-out Groups
  - a. Mapping Exercise – mark-up the maps
  - b. Group Discussion – facilitated based on questionnaire
8. Next Steps



# Morris Canal Greenway Corridor Study

## MEMORANDUM OF MEETING

TO: Megan Kelly  
FROM: Mike Dannemiller and Liz Ward  
DATES: September 14, 2017 at 2pm at Liberty State Park, CRRNJ Terminal in Jersey City  
ATTENDEES: See attached Sign-in Sheet  
SUBJECT: Morris Canal Greenway Corridor Study – Morris Canal Working Group (MCWG) / Stakeholder Advisory Committee (SAC) Meeting #1

The Morris Canal Greenway Corridor Study was a focus of the September 14th Morris Canal Working Group meeting (see attached agenda). A presentation gave an overview of the study, scope, and schedule and then the meeting participants rotated between stations staffed by members of the project team (PowerPoint slides attached). The stations were an opportunity for small group discussions. The following summarizes the major items of discussion from the stations and includes next steps.

### Vision & Goals Station

- There were three activities at this station to elicit ideas from participants about what they think should be included in the plan’s vision statement and goals.
- One activity was getting input on favorite aspect of the Morris Canal and what they would like to see in the future. These questions were asked at the TAC meeting and during municipal outreach. Attendees were asked to review responses and then add their own thoughts. Responses reflected the importance of the story of the Morris Canal including the people involved and the technology that made it work. In the future, many people see the Greenway as a tourist destination as well as a daily transportation link.
- MCWG members were also asked to vote for the ideas most important to them. Raising public awareness of this unique historic resource received the most votes. Below are the results.

Potential Goals and Topics for the Vision and Plan	# of Votes
Raise public awareness of this unique historic resource	19
Create a continuous trail	13
Provide opportunities for outdoor recreation	12
Build stakeholder support across the state	9
Enhance community economic vitality	9
Create a unified greenway identity and design	9
Attract and serve more recreational users	5
Create a forum and resource for stakeholders	4

- Attendees were also asked to complete two sentences (1) This study is important to me because ... (2) I would like to see ... along the Morris Canal Greenway.
  - Some of the reasons people felt the study is important include:
  - To celebrate and raise awareness of the uniqueness and historic significance of the Morris Canal



# Morris Canal Greenway Corridor Study

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- To provide a blueprint to move forward
- Unifies fragmented projects
- It brings environmental, history and recreation advocates together
- A few of the things people would like to see along the Morris Canal Greenway include:
  - Pocket parks and activity centers
  - As much water in the canal structures as possible
  - A working canal boat
  - Historic interpretation of the areas supported by the canal as well as connections to other non-canal sites
  - More visitors,
  - Consistent signage
- **Next Steps:** Draft a vision and goals for the study

## Branding & Design Station

The Branding & Outreach station explored questions and topics related to the audiences, messaging, and communications tools best suited for Morris Canal Greenway's public outreach.

### Branding

- Attendees were asked to answer three questions. Input will be used to create a united messaging platform and a working communications and outreach plan.
- **AUDIENCE: Who are the core people we must reach and engage about the MCG?**
  - *Influencer Groups*
    - Policymakers/Gov't Officials at municipal, county, and state levels
    - Tourism/Destination Marketing organizations
    - Economic & Community Development organizations
    - Chambers of Commerce
    - Neighborhood Associations
    - Cultural Affairs departments
    - Recreation departments
    - Transportation advocacy/planning groups
    - "Friends" groups
    - Environmental groups/commissions
  - *Activation Groups*
    - Recreation enthusiasts including biking, hiking, general nature, and boating
    - History & heritage enthusiasts
    - Historical Associations
    - Educators
    - School Leaders/Officials
    - Senior Citizen groups and associations
- **MESSAGE: What do we want them (audience) to know and share with others about the MCG?**



# Morris Canal Greenway Corridor Study

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- The MCG is an extensive greenway that connects communities, economies, and people via history, heritage, and nature.
- The MCG is accessible, fun, and full of great stories for people of all ages.
- The MCG contributes to the health and wellness of our communities via outdoor recreation opportunities.
- The MCG is a catalyst for future opportunities to develop our trailways and overall recreation systems.
- **TOOLS: How do we best inspire people and communities to appreciate and engage with the MCG? What tool do we use?**
  - *Direct Channels*
    - Community Pride (events, etc.)
    - Clean up events
    - Newspapers
    - Video (web/social media)
    - Content marketing: story
    - Farmers Markets
    - Cable networks (local/low fee/free)
    - "Canal Day(s)" events and programming
    - "Adopt a Canal" program
    - Block parties
    - Local and regional magazines
    - Local/town newsletters
    - eNewsletter (coordinated MCG newsletter)
    - eNewsletter advertising (communities and counties)
  - *Influencer Channels*
    - Schools
    - Rotaries
    - Speakers Bureaus
    - Libraries
    - Youth Groups
    - Scouts
    - Neighborhood Associations
    - Family Reunion planners
    - Travel planners
    - Chambers of Commerce
- **Next Steps:** Develop a united messaging platform that can be applied across all Greenway communities and stakeholders. With input and refinement, this messaging platform will influence the next step - developing a 24 month working communications & outreach working plan and calendar.



# Morris Canal Greenway Corridor Study

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## Design

- Attendees were presented images of art, signage, furniture, and paving in three different styles – Contemporary, Interpretive and Traditional. They were asked which style they thought was the best overall fit for the Morris Canal Greenway.
- Most participants favored combining two of the three styles presented. Contemporary, interpretive, and traditional styles all received strong support.
- Comments leaned toward interpretive style and elements as important, either as part of a contemporary design or as the overall style with traditional elements woven in.
- Responses reflect that the Morris Canal is laden with meaning to members of the working group, and they want the trail to illustrate that.
- Many comments reflected the critical nature of a unified design to connect the variety of communities along the canal.
- **Next Steps:** Create an outline for the Design Guide and develop a sample, collect images, and drill down on the style.

## Organizational Structure Station

- The purpose of this station was to get the Working Group’s ideas for organizing through a facilitated discussion.
- **Key challenges cited**
  - *Access & Impediments* - Difficulty accessing the MCG alignment because of physical encroachments, development and private property. There are also some major impediments along the alignment that will take significant investment to overcome, such as crossing Route 22 (Warren County), and the Hackensack River.
  - *Funding* - Although funding is always problematic, every county has open space funds that could be used, and the potential for use of transportation mitigation funds was mentioned.
  - *Lack of Interest* – There are municipalities that are not interested in the MCG because they perceive no benefit from its development.
- **Key opportunities cited**
  - *Parks & Recreation* – Many participants noted that remnants of the MCG can become opportunities for new venues for parks and trails, and cited existing parks that could be enhanced through MCG development.
  - *Engage Champions* – Organizations and community leaders who have been successfully advancing segments of the greenway could encourage and provide guidance to others.
- **Key needs cited:**
  - *Monitoring Progress & Status* – Tracking and reporting on the overall status and progress across the state is critical. A “Keeper of the Map” showing progress is needed.



# Morris Canal Greenway Corridor Study

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- *Messaging for Advocates* - An economic argument for development of the MCG would be helpful to all; messaging should address both the urban and rural communities, which have very different needs.
- *Guidance and Tools* – Design guidelines, workshops and training would help streamline development across the state.
- *National Historic Register Update* – Updating the National Register listing for the MCG would facilitate protecting the resource and securing historic preservation funding.
- **Next Steps:** Begin researching various structural possibilities.

## Challenges & Opportunities Station

- At this station attendees had an opportunity to mark existing and planned paths, destinations and community assets, and barriers and challenges on large maps or on the WikiMap site with tablets.
- Some of the opportunities include projects underway in Pohatcong through an EPA grant, existing trail in Mansfield and Hackettstown, pedestrian bridge in Waterloo, connection to Great Falls in Paterson, new trail in Lincoln Park.
- **Next Steps:** Utilize data and information collected through outreach to inform the drafting of short- and long-term alignment alternatives.

## Attachments

1. Sign-in sheets
2. Agenda
3. PowerPoint Slides
4. Meeting Materials
  - a. Vision & Goals
  - b. Design & Branding
  - c. Organization Structure
  - d. Challenges & Opportunities
  - e. General Comment Sheets
  - f. Where do you live and work? Study Area Map





**MORRIS CANAL WORKING GROUP  
UPDATED Meeting Agenda  
Thursday Sept 14, 2017  
2:00 p.m. – 4:00 p.m.  
Liberty State Park, CRRNJ Terminal  
Blue Comet Auditorium  
1 Audrey Zapp Drive  
Jersey City, NJ 07305**

- I. Welcome**  
Ted Ritter, NJTPA Central Staff, will open meeting and do brief introductions.
- II. Liberty State Park and the Morris Canal (10 minutes)**  
Jonathan Luk, AICP, Deputy Superintendent, Liberty State Park will conduct a brief presentation on Liberty State Park's relation to the Morris Canal.
- III. Update on Projects (10 minutes)**  
Joe Macasek, co-chairman of the MCWG's Education, Events, and Marketing Committee, will update the Group on current/ongoing/new Greenway projects.
- IV. Update on Programs (10 minutes)**  
Eve Chamberlain, NJTPA Capital Programming, will provide a short status report on current and future transportation program funding.
- V. Morris Canal Greenway Corridor Study (75 minutes)**
  - A. Megan Kelly, NJTPA, and Mike Dannemiller, NV5, will provide a study overview, including findings to date. Elizabeth Watson, Heritage Strategies, will outline the study's vision, goals, and organizational structure. Greg O'Loughlin, SWELL and Dave Lustberg, Arterial will review Greenway branding and design efforts.
  - B. Breakout Stations – Participants will visit four rotating stations:
    - Vision & Goals
    - Branding & Design
    - Working Partnerships & Organizational Structure
    - Challenges & Opportunities
  - C. Breakout Station Reports – After visiting the stations, there will be time for short summary reports back to the full Group by the facilitators.
- VI. Two-Minute Announcements/Reports from Working Group Members on Current/Ongoing/New Activities/Tasks (as time permits)**
- VII. Adjournment and self-guided tours of the Big Basin and NJ's 9/11 Memorial**

**Note:** Meeting takes place in the Blue Comet Auditorium, First Floor of the CRRNJ Terminal Building. Parking available in the 2-hour parking lot immediately adjacent to the 9/11 Memorial. No parking pass required if you park in the 2-hour lot located at the dead end of Audrey Zapp Dr. Do NOT park in paid lot. **Special thanks to Jonathan Luk**, Liberty State Park, for arranging meeting venue and logistics.

## MEMORANDUM OF MEETING

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**To:** Megan Kelly/Doug Greenfeld      **Date:** Saturday, October 14, 2017  
**From:** Bettina Zimny      **Time:** 10:30a–2:00p  
**Attendees:** B. Zimny, D. Greenfeld; L. Goldman  
**Subject:** Morris Canal Greenway Corridor Study–Discretionary Meeting at Waterloo Village

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The purpose of this discretionary event was to publicize and provide general information regarding the project to a broader group of people outside of a traditional public meeting forum; and to solicit feedback on design solutions, via a visual preference survey. The following provides an overview of the Saturday event, and includes photos, copies of display materials and a summary of the results of a visual preference survey for greenway design.

**SUMMARY:** An outdoor display consisting of poster-size boards of the project overview, study limit map and photographs of design elements (such as paving, signage, benches, and art along the proposed greenway), was set up at a key location in Waterloo Village. Project Team members staffed the display/information table and engaged visitors in conversations about the overall project. Visitors were invited to participate in a visual preference survey. Participants varied in terms of where they were from, but were primarily residents of local NJ municipalities, and were already somewhat familiar with the Morris Canal. Ages ranged from children, teenagers, adults and seniors.

The results of the visual preference survey are tabulated below. A total of 58 surveys were completed. Over 65% of the respondents indicated their preference for the “Traditional” design style. In addition to the survey forms, approximately 15-20 additional visitors stopped at the display table and picked up copies of the project information sheet. The event was staffed by members of the consultant team and NJTPA. Morris Canal Society volunteers provided assistance with the table set-up and facility logistics.

### Visual Preference Survey Results:

TOTAL RESPONSES: 58		
a. Contemporary	10	17%
b. Interpretive	9	16%
c. Traditional	39	67%

**Visual Preference Survey Results (comments):**

<b>a. CONTEMPORARY: 10</b>
Traditional style with colorful, sculptural elements. Hard pavement for bikes, alongside gravel path.
I like the overall style of contemporary, but I prefer the art of interpretive.
Looks fun (6-year-old kid).
Mostly traditional. Why? Because it fits with a little contemporary mixed in.
Colorful and cool. I want something to climb on or do along the path (8-year-old girl).
Contemporary signage/furniture/art, but a traditional walkway.
I like design and colors.
Reimagine use of canal. Make it relatable; more inviting; less boring. How can you use it? More interpretive/artistic.
Consider creating an interactive computer game for the Morris Canal (similar to game from the past called, "Oregon Trail").
<b>b. INTERPRETIVE: 9</b>
Traditional with perhaps a bit of interpretive mixed in, but not contemporary due to historic relevance.
Interpretive has a good balance of traditional and contemporary, but traditional fits the history of the canal.
It looks like a comfortable walkway for everyone.
I like interpretive for the art! However, I like traditional for the others as it keeps with the historical feel.
I like this style because it seems very traditional, but modern at the same time.
Interpretive is favored by styles consistent with the type of place. I like all of them, as it can reflect the transition from urban to rural.
Always interested in history.
<b>c. TRADITIONAL: 39</b>
Traditional style with colorful, sculptural elements. Hard pavement for bikes, alongside gravel path.
From Boonton originally; now we live in Byram.
Traditional looks classic.
Preserve history.
Enjoy nature.
Preserve the past and natural aspect.
It's the most natural/needs the least change. But, I think the contemporary signage is a lot more user-friendly.
I like the more natural look.
My family vacationed on the Erie Canal for many years. Traditional is best, in my opinion.
Like traditions.
Contemporary would be good because it's more like modern art, which is something more people are willing to pay to see.
Traditional would give more space for people to truly take in nature. There can be contemporary on here-and-there, but I'd like the main focus to be the nature.
Traditional fits more to the original time period.
I think people prefer an older, traditional style for something like this.

c. TRADITIONAL: 39	(continued)
These places hold such history – it’s important to truly mirror what these places meant for history.	
Bike riders interfere with pedestrians, and a traditional service is better for walking and discourages bikes. Mixed style is fun too.	
Mostly traditional. Why? Because it fits with a little contemporary mixed in.	
Feel more comfortable with that.	
More nature.	
Traditional, because it is not urban-like.	
Keep with the nature. ☺	
Look realistic.	
Traditional with perhaps a bit of interpretive mixed in, but not contemporary due to historic relevance.	
Contemporary signage/furniture/art, but a traditional walkway.	
Interpretive has a good balance of traditional and contemporary, but traditional fits the history of the canal.	
I like interpretive for the art! However, I like traditional for the others as it keeps with the historical feel.	
Blends in with nature better.	
More natural way, but also have a love for modern. Keeps with the surroundings.	
Looks more rustic.	
Always prefer traditional.	
Traditional gives the canal a natural beauty that doesn’t need to be glorified.	
Natural surroundings.	
A more natural environment.	
To preserve and inform about the historic significance of this aspect of NJ history.	
Delaware Canal is natural; it is a real towpath from near D&R canal.	
Experiencing nature; an experience you’ll remember; not something seen every day.	

**Attachments:**

1. Event Flyer
2. Map
3. Welcome/Information Board and Handout (a. English/b. Spanish)
4. Project Limits Map Board
5. Visual Preference Board
6. Voting Forms
7. Comment Form
8. Photos



# Morris Canal Greenway Corridor Study

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## MEMORANDUM OF MEETING

TO: Megan Kelly  
FROM: Liz Ward and Rachana Sheth  
DATES: October 26, 2017 at 2pm at the Mule Barn, Waterloo Village, Stanhope, NJ  
ATTENDEES: See attached Sign-in Sheet  
SUBJECT: Morris Canal Greenway Corridor Study – Morris Canal Working Group (MCWG) / Stakeholder Advisory Committee (SAC) Meeting #2

The Morris Canal Greenway Corridor Study was a focus of the October 26<sup>th</sup> Morris Canal Working Group meeting (see attached agenda).

Ted Ritter, NJTPA welcomed the group and provided a brief overview of the agenda. Andrea Proctor, NJDEP conducted a short presentation on the past, current and future projects of the Morris Canal. Dough Greenfeld, NJTPA provided an update of the Corridor Study followed by presentation by the project team. Liz Ward, NV5 explained the preliminary routing status and the approach adopted while selecting the alignments. Rachana Sheth, NV5 provided an overview of how routing was developed for select locations in the study area. An overview of the WikiMapping site was provided. The team conducted a break-out group exercise to further discuss the routing. Dave Lustberg, Arterial, provided a summary of the visual preference exercises at previous meetings and events and an overview of the design guidelines followed by a discussion.

### Preliminary Routing

- There were four groups for the break-out group exercise:
  - Group A – Warren County
  - Group B – Morris County
  - Group C – Passaic County
  - Group D – Essex & Hudson County
- The attendees were guided through the selected locations and asked to provide feedback on the potential routes developed, potential spurs, cultural/historic sites and other amenities.
- The attendees marked the maps provided with recommendations for routing modifications and other project updates.
- The attendees were encouraged to use the Wikimapping site after the meeting to identify any changes to the preliminary alignment, vote for their preferred alignment and identify other amenities.

**Next Steps:** Update the preliminary routing based on the feedback received at the meeting and on the Wikimapping site.



# Morris Canal Greenway Corridor Study

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## Design Guidelines

- The project team presented the design guide that included context types, functional typologies and design elements identified.
- Attendees were provided with comment sheets to provide feedback on context types, functional typologies and design elements (attached).
- The following summarizes the responses on the comment sheets:
  - Context Types
    - Add Natural / Open Space/ Farmland
    - Small villages
  - Functional Typologies
    - Address the watered sections
    - Bridges / underpasses
  - Design Elements
    - Signs and wayfinding should include town names and logo
    - QR codes can be used
    - Benches should be provided
    - ADA accessibility is important
    - Intersections can be highlighted with street quilts, canal-related art

**Next Steps:** Refine the Design Guide based on the feedback received at the meeting.

## Attachments

1. Sign-in sheets
2. Agenda
3. PowerPoint Slides
4. Meeting Materials
  - a. Select locations maps
  - b. Wikimapping update card
  - c. Breakout group exercise
  - d. Design Guidelines comment cards



**MORRIS CANAL WORKING GROUP**  
**Meeting Agenda**  
**Thursday October 26, 2017**  
**2:00 p.m. – 4:00 p.m.**  
**Mule Barn at Waterloo Village**  
**628 Waterloo Rd, Stanhope NJ 07874\***



- I. Welcome (5 minutes)**  
Ted Ritter, NJTPA Central Staff, will open meeting and do brief introductions
- II. Presentation: The Future Brightens at Waterloo (10 minutes)**  
Andrea Proctor, Resource Interpretative Specialist – Waterloo Village, NJDEP, will conduct this short presentation.
- III. Morris Canal Greenway Corridor Study (90 minutes)**  
Doug Greenfield, NJTPA, and Michael Dannemiller NV5, will update the MCWG on the corridor study and...
  - A. Preliminary Greenway Routing
  - B. Input on Greenway Design Guidelines
- IV. Two-Minute Announcements/Reports from Working Group Members on Current/Ongoing/New Activities/Tasks (as remaining time permits)**
- V. Next Steps and Adjournment**

**\*Note:** There is no parking specifically for the Mule Barn; please park in main lot, and NJDEP-Waterloo staff will direct you where to walk from there. The closest available street address for GPS is 628 Waterloo Rd., Stanhope NJ 07874, but GPS systems vary and it may be best to scope out your directions in advance and allow extra time to walk.

**Special thanks to Andrea Proctor**, NJDEP-Waterloo Village, for arranging meeting venue and presentation.



# Morris Canal Greenway Corridor Study

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## MEMORANDUM OF MEETING

TO: Tom Schulze  
FROM: Mike Dannemiller and Liz Ward  
DATES: December 5, 2017 at 10:00 am at NJTPA  
ATTENDEES: See attached Sign-in Sheet  
SUBJECT: Morris Canal Greenway Corridor Study – Morris Canal Working Group (MCWG) / Stakeholder Advisory Committee (SAC) Meeting #1

The Morris Canal Greenway Corridor Study was the focus of the December 5th Morris Canal Working Group meeting (see attached agenda).

Ted Ritter, NJTPA welcomed the group and provided a brief overview. Tom Schulze, NJTPA and Mike Dannemiller, NV5 provided a brief Corridor Study update including a summary of the previous meetings and about the alignment development process. Annette Schultz, NV5 described the purpose of the meeting and the overall agenda and feedback process for the meeting. Elizabeth Watson, Heritage Strategies presented various aspects of creating a successful organization to realize the goals of the Morris Canal Greenway Corridor Study followed by a group discussion. Greg O' Laughlin, SWELL, provided an overview of potential branding and messaging strategies including examples of other successful branding and marketing strategies.

The following summarizes the major items of discussion and includes next steps.

### Organization Structure

- The study should help define what needs to be done to achieve the goals of the Morris Canal Greenway Corridor Study.
- A recommendation was to limit the number of overall meetings conducted to keep the schedule sustainable. This is similar to Scenic Delaware and National Geographic where three meetings were conducted to define management and set plan for organization structure.
- Some examples of direct channels include the following:
  - Casa de DonPedro (local community group)
  - Speakers bureau
  - Radio (NPR)
  - Local Environmental Commission and Green Teams

### Branding & Messaging

- The next steps led by NJTPA should include utilizing money available now, develop planning and design documents, and include wayfinding and signs in current project.
- How do we expand audience / local outreach?





# Morris Canal Greenway Corridor Study

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- Elected Officials' participation required i.e., list top 5 municipalities that have large needs / gaps (Sustainable Jersey model)
- Each town can benefit from connections to their neighbors
- Merchants, towns with trails
- Board of education
  - School campus areas
  - Connect to local parks
  - Higher education and medical communities
- Influences Activators
  - Funding or Funders
    - Lake Hopatcong Community Center
  - Users
    - Neighbors to the trail
  - Local School as part of Archaeology Team "hands-on" involvement
- What message or theme comes away from the Bergen Record Article?
  - NJTPA can execute some of the ideas but someone else will have to take a lead on ALL of the great ideas
  - Sharing stories of the history and greenway can help sustain

## Attachments

1. Sign-in sheets
2. Agenda
3. PowerPoint Slides
4. Meeting Materials
  - a. Visioning Station Input from 9/14 MCWW Meeting
  - b. Organization Boards
  - c. General Comment Sheets



**MORRIS CANAL WORKING GROUP  
Meeting Agenda**



**Tuesday December 5, 2015  
10:00 a.m. – 12:00 p.m.  
NJTPA Board Room  
One Newark Center, 17<sup>th</sup> Floor\*  
Newark, NJ 07102**

- I. Welcome**  
Ted Ritter, NJTPA Central Staff, will open meeting and do brief welcome.
- II. Morris Canal Greenway Corridor Study Project Status (5 minutes)**  
Mike Dannemiller, NV5, and Tom Schulze, NJTPA will update the Group on the status of the NJTPA's ongoing Morris Canal Greenway Corridor Study.
- III. Meeting Purpose (5 minutes)**  
Annette Schultz, NV5, will prepare the Group for providing input on the Greenway's organizational structure, marketing, and branding.
- IV. Successful Organizing for a World Class Greenway (45 minutes)**  
Elizabeth Watson, Heritage Strategies, will conduct a PowerPoint presentation followed by a facilitated discussion.
- V. Branding & Messaging for the Morris Canal Greenway (45 minutes)**  
Greg O'Loughlin, SWELL, will conduct a PowerPoint presentation followed by a facilitated discussion.
- VI. Next Steps (5 minutes)**  
Mike Dannemiller, NV5.
- VII. Comments (as time permits) and Adjournment**

**\*Note:** The NJTPA's street address is 1085 Raymond Boulevard, Newark, NJ. The NJTPA's offices at One Newark Center are at the corner of Raymond Boulevard and McCarter Highway (Route 21) approximately one block from Newark Penn Station. See link below for more info and map.  
<http://www.njtpa.org/about-njtpa/directions> Paid parking is available behind the building and at several nearby parking lots.

## MEMORANDUM OF MEETING

**TO:** Sutapa Bandopadhyay  
**FROM:** Mike Dannemiller, Liz Ward & Rachana Sheth  
**DATE:** 1/30/2018 at 1:30 pm at Lincoln Park Borough Community Room  
**ATTENDEES:** See attached Sign-In Sheet  
**SUBJECT:** Morris Canal Greenway Corridor Study –Technical Advisory Committee (TAC) Meeting 4  
 NV5, Inc. Project # J728616.0000199.00

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The purpose of the meeting was to provide an overview of the project and the project status; provide a brief overview of the preferred alignment utilizing Wikimapping; explain the project phasing and potential projects selected; solicit input on the alignment and the potential projects phasing; and discuss next steps. The following summarizes the major items of discussion from the meeting.

### Discussion

#### I. Welcome and Introductions

- Sutapa Bandyopadhyay, NJTPA welcomed the attendees and thanked them for their participation. She described the project goals and objectives and explained the purpose of the meeting.

#### II. Meeting Purpose and Project Status

- Mike Dannemiller, NV5, provided an overview of the project and the process. He provided a brief overview of the agenda and the purpose of the meeting.

#### III. Alignment and Phasing

- Mike Dannemiller described the preferred greenway alignment utilizing WikiMapping and provided a brief summary of current status of the recommended alignment (percent on-road/off-road & percent existing/short-mid term/long-term).

#### IV. Project Grouping

Mike Dannemiller gave an overview of the potential projects in the NJTPA TAP and other sources list and accompanying map.

- He explained the purpose of the three breakout stations and asked the attendees to provide comments about implementable projects along the Morris Canal Greenway corridor.
- The three stations for feedback had large roll out maps at 1"=1,000' scale for review; the potential projects map and table. The stations were divided by county as follows:
  1. Warren and Sussex Counties

2. Morris County
  3. Passaic, Essex & Hudson Counties
- The attendees were then asked to provide feedback at the station of their choice by marking up maps and/or providing comments utilizing the comment form (attached), and were asked to rotate through each station.

## V. Summary

- The project team members – Mike Dannemiller, Liz Ward and Rachana Sheth facilitated a group review and documented comments received at each station

One general note is that Wayfinding to business districts and train stations should be emphasized as a future task for planning, design and installation along the entire Morris Canal Greenway.

1. Warren County
  - a. Crossing Route 22 is the highest priority for Warren County.
  - b. Segment 2 - Warren County obtained an easement for the greenway during a site plan review for a solar field in Greenwich Township. Elizabeth Roy can provide the alignment.
  - c. Segment 6, north of Hackettstown – Over the summer of 2017 Warren County completed a segment of greenway north of the canal prism through Mount Rascal Park; they were also able to obtain an easement from the apartment complex to connect back to the street grid. Follow-up with Elizabeth Roy for the developing greenway alignment.
  - d. There may be an opportunity to work with the Mars Chocolate to connect to their property. Mars is a major employer in the region.
2. Sussex County
  - a. The mule bridge crossing at Waterloo is not funded and should be a high priority project identified in this study.
  - b. The NJTPA TAP/TE Funded Project box, Waterloo Village 1 & 2, needs to be revised. See map for corrected location of projects and new trail location.
  - c. The Trade Zone property owners plan to donate the parcel along the historic alignment in the vicinity of Plane 3 West.
3. Morris County
  - a. In Mine Hill there is potential for a Rail with Trail treatment along the US Army owned railway north of Plane 4 East
  - b. There is an existing segment of trail adjacent to the basin west of Lock 4 East

- c. In downtown Wharton, the Long Term preferred alignment should follow the historic canal (need to extend this to include the segment west of Main Street)
  - d. Rockaway Township has an adjacent Loop Trail in progress
  - e. Boonton Township has an adjacent Loop Trail in progress, and a minor refinement to the Greenway alignment to follow a public easement is noted on the map
  - f. The concept for the Greenway along Route 513 in Rockaway Borough will be reviewed by Morris County Planning and Engineering.
- 4. Passaic County
    - a. There were no edits to Passaic County alignment or potential projects list
  - 5. Essex County
    - a. Developing the Raymond Blvd project was highlighted as an important project
    - b. Minor tweaks were recommended to phasing of segments that will be edited on the final maps
  - 6. Hudson County
    - a. Developing the Route 1&9 Truck was highlighted as an important project
    - b. Minor tweaks were recommended to phasing of segments in Jersey City near Lincoln Park/Route 440, Berry Lane Park and Glenview Townhouses that will be edited on the final maps
    - c. The NJTPA TAP project titled Canal way was correctly identified

**Next Steps and Action Items**

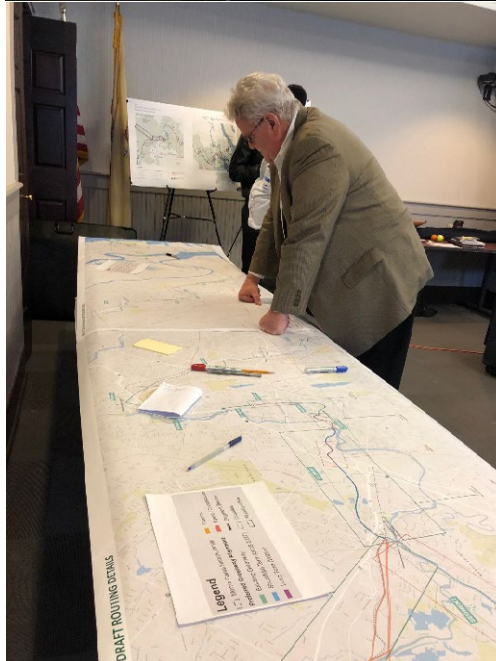
- 1. TAC members to utilize Wikimapping to add information on business districts, trailheads and destinations; and any comments to alignment
- 2. NJTPA to provide information from Capital Programming about additional projects to be added to the Potential Projects list
- 3. Environmental Justice focused outreach event is scheduled at an English as a Second Language class on February 24<sup>th</sup> in Hackettstown
- 4. Draft MCG Corridor Study will be shared with and presented to the combined full Morris Canal Working Group/ TAC in March. Details to follow

**Attachments/ Meeting handouts and display materials:**

- 1. Meeting Agenda
- 2. Sign in Sheet

- 3. Questionnaire Responses
- 4. NJTPA TAP Map and table

**Meeting Photos:**







# Morris Canal Greenway Corridor Study

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## MEMORANDUM OF MEETING

TO: Sutapa Bandyopadhyay  
FROM: Mike Dannemiller, Rachana Sheth and Ellen O. White  
DATE: February 24, 2018  
ATTENDEES: Participants of the English as a Second Language Classes and Discussion Group at the Trinity House, 212 East Moore Street, Hackettstown, NJ,  
SUBJECT: Morris Canal Greenway Corridor Study – Alignment and planning feedback

The Morris Canal Greenway Corridor Study was the focus of the discussion group portion of the meeting. This is a structured event for students participating in the English as a Second Language classes that occur before and after this meeting time at the Trinity House. Babysitting services were offered to allow easy participation for families with young children. This was an excellent opportunity to get direct input from local residents who are often under represented at traditional public meetings, or Morris Canal Working Group meetings.

Tammy Bormann of The TLB COLLECTIVE welcomed the group and introduced the project. Michael Dannemiller gave an overview of the Morris Canal history, and the vision for the Morris Canal Greenway, detailing what that would mean for residents in Hackettstown. Then the class was divided into three smaller discussion groups, each facilitated by project staff. The project staff led a discussion about the Morris Canal greenway project, and solicited feedback both through discussion and via written responses.

Conversations were guided by the following questions:

### *Questions*

1. Have you heard of the Morris Canal or the Morris Canal Greenway?
2. Have you ever taken a walk or bicycle ride on the Morris Canal Greenway?
3. Did you know there are 17 miles of existing greenway in Warren County?  
4.0 miles in Hackettstown?
4. Once completed, do you think you will use the Greenway for transportation or recreation?
5. Would your kids (or kids in your neighborhood) use the Greenway to get to school or to parks?
6. What would you like to see on the Morris Canal Greenway?

### *Responses*

1. We did not know about the Greenway, but have seen the Morris Canal signs around the area – did not know it went across New Jersey.
2. Amenities they would like to see along the Greenway:
  - a. seating for rest, every mile or so, with benches and flowers
  - b. signs with arrows (not maps), including signage to point you to public bathrooms





# Morris Canal Greenway Corridor Study

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- c. place to rent bicycles (there is a bike shop in town on Main Street at Plane St)
- d. vending machines
- e. public bathrooms
3. Trail should connect to parks and playgrounds in town for children, since many people with children want to use the trail
4. There should be lighting along the trail, that would make it feel more safe
5. The town needs more sidewalks to make walking easier. (local connectivity)
6. Access to bus routes, with nice bus stops, would make the Greenway more likely to be used by local families
7. "Is a good idea about this new tourism for families"
8. "I hope I can use it (the Greenway) someday"
9. We would like to visit the existing sections of the Greenway. Is there an easy way to find out where the existing sections of the Greenway are?

## ***Materials List***

1. Overview map of the Morris Canal Historic Alignment
2. Local map of the Morris Canal Preferred Greenway Alignment in the Hackettstown area
3. Then and Now photo board
4. Handout: Project flyer in English and Spanish
5. Comment Form



Photos of the project team facilitating group discussions about the Morris Canal Greenway Corridor Study.



# Morris Canal Greenway Corridor Study

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## MEMORANDUM OF MEETING

TO: Sutapa Bandyopadhyay  
FROM: Mike Dannemiller  
DATES: April 12, 2018 at 1:00 pm at Passaic County Community College  
ATTENDEES: See attached Sign-in Sheet  
SUBJECT: Morris Canal Greenway Corridor Study – Final Corridor Study Meeting #4

The focus of the final MCWG meeting was to present the key elements of the draft Morris Canal Greenway Corridor Study (see attached agenda). The meeting started with a project status and meeting purpose by Ted Ritter and Sutapa Bandyopadhyay, NJTPA followed by a presentation by the project team on the key elements and findings of the Corridor Study including an overview, preferred alignment recommendations, greenway design guidelines, organizational structure and branding/marketing the Greenway (PowerPoint slides attached).

A break-out session followed the presentation allowing attendees to review the Corridor Study findings in further detail. The four stations included the following:

- Station 1: Overview & Implementation Strategies (Liz Ward)
- Station 2: Planning the Path: Alignment (Mike Dannemiller & Rachana Sheth)
- Station 3: Building the Greenway (Dave Lustberg)
- Station 4: Organizing for Success & Branding (Annette Schultz & Elizabeth Watson)

The stations were an opportunity for small group discussions. Following the “break-out” session, the project team members reported back with a summary of the discussions at each station. The following are the major items of discussion from the stations.

### Station 1: Overview & Implementation Structure

- Attendees were interested in incorporating arts and culture into the project
- Implementation and coordination of the various projects (state, county and local) is key

### Station 2: Planning the Path: Alignment

- There was overall consensus regarding the preferred greenway alignment
- The following segments’ status was clarified by the attendees:
  1. Add proposed spur for waterfront trails in Phillipsburg
  2. Hackettstown, Segment 6: Edit existing and short-term segment lengths at Mount Rascal
  3. Roxbury Township, Segment 11: Recent acquisition by NJ Transit, change from long-term to short-term
  4. Boonton Town, Segment 23: Change from long-term to short-term
  5. Bloomfield Township, Segment 36/37: Change to from Long-term to existing (with a note explaining that there is no bicycle facility) as there will be signage



# Morris Canal Greenway Corridor Study

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and a phone application identifying the on-road segments with sidewalks as the Morris Canal Greenway.

## Station 3: Building the Greenway

- The design of Greenway segments should better reflect the context and character of the place
- How can milemarker changes be incorporated along the greenway?
- Clarify right-of-way availability for sidewalks & bicycle facilities in the road-side or on-road segments

## Station 4: Organizing for Success and Branding

- Current GIS mapping only shows the prism not the entire canal. Work with Rutgers to create an accurate geodatabase of the historic canal.

## Next Steps

Sutapa Bandyopadhyay, NJTPA provided a brief overview of the next steps for the study. She noted that the study was almost complete with minor revisions underway. She said a draft Corridor Study would be circulated electronically to MCWG for review within a month and the final report would be completed by June.

Ted Ritter, NJTPA, and Joe Macasek from the Canal Society of NJ provided status updates of other projects and upcoming events related to the canal. Bloomfield has a mobile application that will be available soon that will providing wayfinding and interpretive information along the canal alignment.

## Attachments

1. Sign-in sheets
2. Agenda
3. PowerPoint Slides
4. Meeting Materials
  - a. Station 1 – Overview & Implementation Strategies
    - i. Overview Map
    - ii. Key Facts and Findings
    - iii. Implementation Strategies
  - b. Station 2 – Planning the Path: Alignment
    - i. Preferred Greenway Alignment 3 map Spread
    - ii. Destination Info Graphic / Network of Regional Trails
  - c. Station 3 Building the Greenway
    - i. Facility Types
    - ii. Design Elements
  - d. Station 4 Organizing for Success and Branding
    - i. Branding - THE MORRIS CANAL BRAND
    - ii. 24-Month Phasing Plan for Branding and Marketing



# Morris Canal Greenway Corridor Study

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- iii. Organization Recommendation
- 5. Comments and feedback





**MORRIS CANAL WORKING GROUP  
Meeting Agenda**



**Thursday April 12, 2018  
1:00 – 3:00 p.m.**

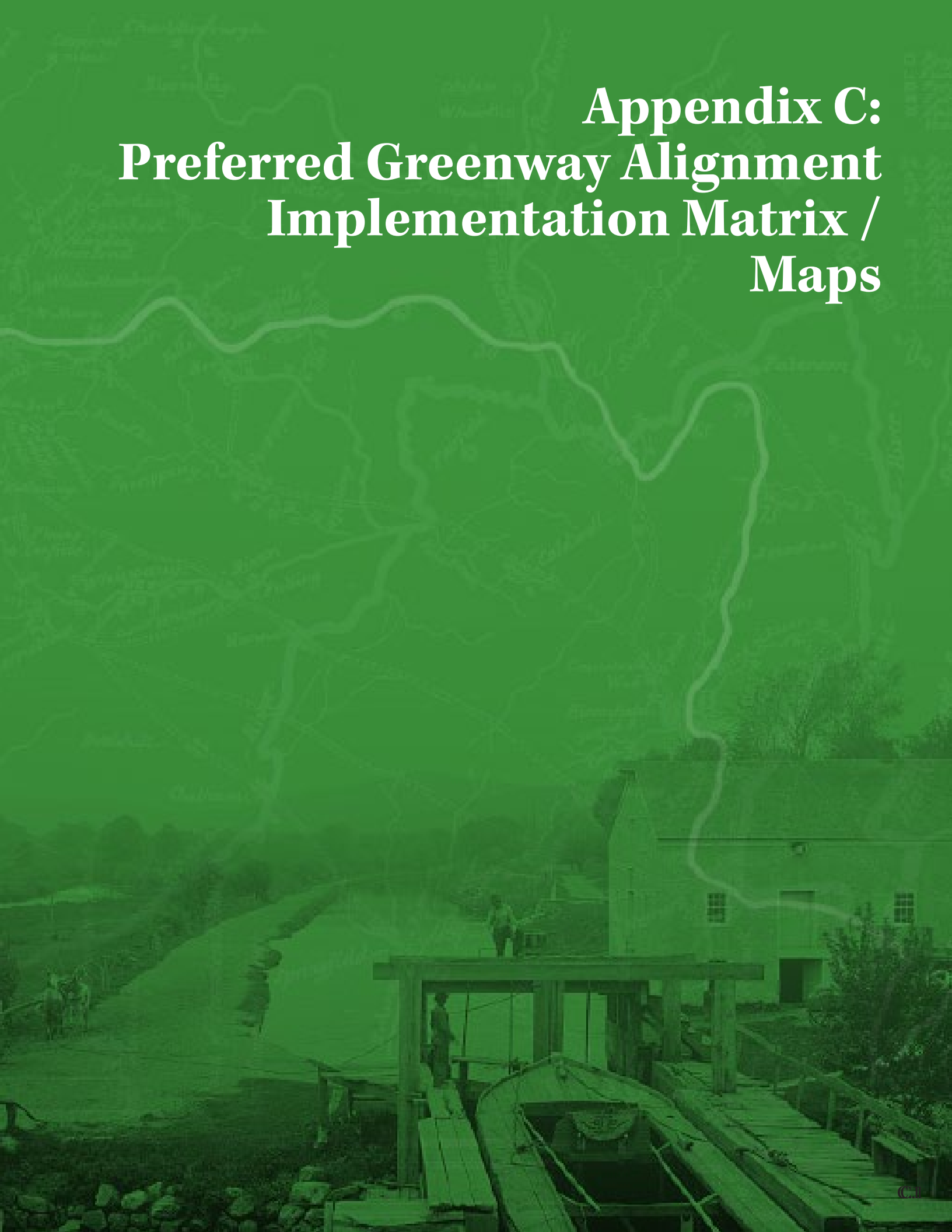
**Public Safety Academy Auditorium: Passaic County Community College\*  
300 Oldham Road  
Wayne, NJ 07470**

- I. Welcome & Introductions**  
Ted Ritter, NJTPA Central Staff
- II. Meeting Purpose & Morris Canal Greenway Corridor Study Status**  
Sutapa Bandyopadhyay, NJTPA Central Staff
- III. Morris Canal Greenway Corridor Study Overview & Executive Summary**  
Liz Ward, NV5
- IV. Planning the Path: Alignment**  
Mike Dannemiller & Rachana Sheth, NV5
- V. Building the Greenway**  
Dave Lustberg & Ellen White, Arterial
- VI. Organizing for Success**  
Elizabeth Watson, Heritage Strategies
- VII. Branding and Marketing the Greenway**  
Annette Schultz, NV5
- VIII. Implementation Strategies & Actions**  
Annette Schultz, NV5
- IX. Focused Discussions/Break-Out/Summary**
- X. Next Steps**  
Sutapa Bandyopadhyay, NJTPA Central Staff
- XI. MCWG Updates**  
Ted Ritter, NJTPA Central Staff

**\*Note:** Directions to the PCCC Public Safety Auditorium are at the following link:  
<http://www.pccc.edu/community/public-safety-academy/about-the-pccc-public-safety-academy/directions3>  
Ample free parking is available. Thanks to Passaic County staff and PCCC for hosting this meeting!



# Appendix C: Preferred Greenway Alignment Implementation Matrix / Maps



## Appendix C

### **Preferred Greenway Alignment Implementation Matrix / Maps**

#### Purpose of the Matrix:

The implementation matrix describes the preferred greenway alignment of the Morris Canal Greenway from west to east. The entire alignment is divided into discrete connecting segments that are either existing or identified for future development.

#### How the Matrix is to be used:

This matrix is intended to be used to identify projects and is to be updated over time to track the development status of the greenway. It will also include updates about funding opportunities. Updates to the matrix will help to plan and track the development of each segment.

#### Maps of the Preferred Greenway Alignment

Maps accompany this matrix, and correlate to this matrix by segment number. The maps progress from west (at the Delaware River) to east (at the Hudson River) through the 36 map sheets.

#### Segments and Project Groupings

The greenway alignment has been divided into segments that are either existing or anticipated to be constructed as individual projects. Portions of the alignment that are recommended to be constructed together but have varying design treatments (such as off-road and on-road treatments) have been grouped either by existing funding sources, or by a recommendation for connecting logical end points such as existing greenways, local attractions, or anticipated development timeline.

For example, map page 1 shows a grouping of several segments (1a - 1h) into one larger project based on the existing Regional TAP grant. This grant covers this group of segments along the existing and proposed greenway alignment.

#### The Matrix Contents

Segments are identified by segment number, county, municipality, map page number.

The location along the greenway alignment is listed by Morris Canal Greenway milepost start and end points. Note, this does not correspond to state or county roadway milepost delineation.

The length of each segment is listed in miles.

#### The development status (Existing, Short/Medium Term, Long-Term)

Existing is defined as segments where the public can walk and bike along a path or designated on-road facility today. The existing segments vary in features from narrow earthen hiking paths to paved shared use paths to shared roads, some with adjacent sidewalks.

Short/Medium Term segments are estimated to be completed within a 10-year timeframe (by 2028), contingent upon funding resources. This includes projects that may only require sign installation, pavement striping, or minor surface enhancement and larger shared use path construction that will be typical along many segments of the greenway.

Long-Term segments are those where the identified greenway alignment traverses private property or where there is major construction anticipated.

Interim segments are temporary, mostly on-road routes that are recommended for use until the adjacent Long-Term route opens.



Facility Type is the recommended design treatment for each segment. The location and design may be refined or verified as local champions advance individual projects. Refer to the Design Guidelines in Appendix A for detailed descriptions and guidance for the recommended facility types.

A description for each segment includes sufficient detail for a local champion to be able to understand what is envisioned to initiate the project.

#### Funding and Cost Estimates

Funding is identified for those projects that already have funding approved or have a pending funding application under the Regional TAP program. Funding is also identified where there is a recommendation for potential for key projects. (Refer to Appendix D for detailed references to other potential funding sources typically applicable for both on- and off-road facility types listed in the matrix).

Construction cost estimates have been provided for potential high visibility projects.

Design treatments along the entire alignment are recommended to include wayfinding signs, benches, and lighting where appropriate. These elements are consistent throughout the entire proposed greenway corridor, so they are excluded from the project descriptions, except where information regarding a need for upgraded wayfinding was noted.

## **Map Legend**

The following items included in the legend of the Maps and in the Matrix are defined as follows:

Existing is defined as segments where the public can walk and bike along a path or designated on- road facility today. The existing segments vary in features from narrow earthen hiking paths to paved shared use paths to shared roads, some with adjacent sidewalks.

Short/Medium Term segments are estimated to be completed within a 10-year timeframe (by 2028), contingent upon funding resources. This includes projects that may only require sign installation, pavement striping, or minor surface enhancement and larger shared use path construction that will be typical along many segments of the greenway.

Long-Term segments are those where the identified greenway alignment traverses private property or where there is major construction anticipated.

Interim segments are temporary, mostly on-road routes that are recommended for use until the adjacent Long-Term route opens.

On-Road/Off-Road - any existing, short/medium-term or long-term segments that have a black outline are mostly on-road. Segments that do not have the black outline are mostly off-road.

Key Projects - projects that will extend or connect to existing greenway segments that can be constructed within 10 years.

Segment group breaks - identify the 45 segment group breaks

Segment start/end points - these points show the start and end points for each segment

Spurs - major regional trail facilities that will compliment the greenway.

Mileposts - the distance from the Delaware River, as Morris Canal greenway travelers head east. Note: this does not coincide with state or county roadway mileposts

Business Districts - commercial areas identified through public outreach and local site investigations.

Trailheads - locations along or adjacent to the greenway alignment where there is space to park a motor vehicle or otherwise access the greenway.

*See the Glossary in Appendix F for a complete list of terms.*



## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
1a	Warren	Phillipsburg	1	0.0	0.4	0.4	Short/Medium	Off	Canal-Side Shared Use Path
1b	Warren	Phillipsburg	1	0.4	0.6	0.2	Existing	Off	Canal-Side Shared Use Path
1c	Warren	Phillipsburg	1	0.6	1.6	1.0	Short/Medium	On/Off	Canal-Side Shared Use Path and On-Road Facility
1d	Warren	Phillipsburg	1	1.6	1.8	0.2	Existing	Off	Off-Road Shared Use Path
1e	Warren	Phillipsburg	1	1.8	3.0	1.2	Short/Medium	On	On-road Facility
1f	Warren	Phillipsburg	1	3.0	3.1	0.1	Existing	Off	Canal-Side Shared Use Path
1g	Warren	Phillipsburg	1	3.1	3.4	0.3	Short/Medium	On	On-Road Facility
1h	Warren	Lopatcong	1	3.4	3.6	0.2	Existing	Off	Canal-Side Shared Use Path

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
<p>Construct a shared use path between the Delaware River and the existing asphalt path that follows the Morris Canal Historic ROW adjacent to a railway corridor.</p> <p>This group of project segments will link the commercial area along Route 22 and the nearby high density residential developments with the Delaware River and proposed connections to the D&amp;L Canal Tow pats and downtown Philipsburg and Easton, PA.</p> <p>Segments 1a - 1h are grouped into one proposed Regional TAP funding application.</p>		PROPOSED to Regional TAP Program*	\$1,600,000**	Warren County
<p>Provide wayfinding signs and benches along the existing asphalt shared use path through local park, following the Morris Canal Historic ROW.</p>		Grouped 1a-1g		
<p>Construct a shared use path along the Morris Canal Historic ROW for 0.3 miles. Install sidewalks to fill in gaps in the mostly complete sidewalk network along McKeen Street and Main Street. Evaluate is shared roadway use for bicycle and pedestrian traffic is appropriate along Morris Canal Way between Main Street and the water treatment plant.</p>		Grouped 1a-1g		
<p>Evaluate the potential to upgrade the existing grass and gravel trail to an asphalt surface. This segment includes an interpretive information at a kiosk along Main Street/ Route 122, and boat &amp; mule cut-outs.</p>		Grouped 1a-1g		
<p>Evaluate the on-road accommodation and consider installing sidewalks and/or widening the shoulders along Main Street/Route 122. Evaluate the on-road accommodation along Lock Street, that follows the Morris Canal Historic ROW. Provide wayfinding to ensure a smooth transition to the existing trail adjacent to Plane 10 West.</p>		Grouped 1a-1g		
<p>Evaluate the potential to upgrade the existing gravel trail adjacent to Plane 10 West.</p>		Grouped 1a-1g		
<p>Evaluate the on-road accommodation and consider installing sidewalks and/or widening the shoulders or constructing an adjacent Road-Side Path adjacent to Lock Street to connect to the existing shared use path approaching Rt. 22 (milepost 3.0).</p>		Grouped 1a-1g		
<p>Consider surface upgrades to the existing gravel trail.</p>				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
2a	Warren	Lopatcong	2	3.6	3.7	0.1	Long	Off	Canal-Side Shared Use Path bridge
2b	Warren	Lopatcong / Greenwich	2	3.7	5.2	1.5	Existing	Off	Canal-Side Shared Use Path
2c	Warren	Greenwich	2	5.2	5.6	0.4	Short/Medium	Off	Canal-Side Shared Use Path
2d	Warren	Greenwich	2	5.6	6.2	0.6	Long	Off	Canal-Side Shared Use Path
2e	Warren	Greenwich	3	6.2	6.9	0.7	Existing	Off	Off-Road Shared Use Path
2f	Warren	Greenwich	3	6.9	7.4	0.5	Existing	Off	Off-Road Shared Use Path
2g	Warren	Greenwich / Franklin Twp	3	7.4	8.2	0.8	Existing	Off	Canal-Side Shared Use Path
3a	Warren	Franklin Twp/ Washington Twp	3-5	8.2	13.5	5.3	Long	Off	Canal-Side Shared Use Path
4a	Warren	Washington Twp	5	13.5	14.0	0.5	Short/Medium	Off	Canal-Side Shared Use Path

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
<p>Construct a grade separated crossing across Route 22 (milepost 3.0) to connect existing path segments on each side of Route 22. The highway is approximately 15 feet higher than the adjacent paths.</p> <p>Recommended concept is for a shared use path bridge over Route 22, due to existing grades, this would be approximately 1,000 feet long.</p> <p>Alternate concept is to tunnel under the highway.</p> <p>At grade crossing of Route 22 is not recommended at this location. There is an existing traffic signal to the east across Route 22, but this intersection is approximately one third of a mile to the east and would require private property impacts and crossing several driveways.</p>		State sources (POTENTIAL NJDOT)	\$4,500,000**	NV5/ MCG Corridor Study
<p>Consider upgrading the earthen surface along the existing path, and constructing a Road-Side shared use path along the driveway to Plane 9 West.</p>				
<p>Construct a shared use path connecting the segment containing Plane 9 West to an adjacent agricultural property. This parcel was purchased through Farmland Preservation.</p>				
<p>Construct a shared use path following the Morris Canal Historic ROW , just south of a residential development, that have potential encroachment onto the Historic ROW. The interim route follows Thomas Stewart Way and N. Main Street to connect to existing path.</p>				
<p>Consider upgrading the earthen surface along the existing path.</p>				
<p>Consider upgrading the earthen surface along the existing path, connecting to the Morris Canal Historic ROW at each end.</p>				
<p>Enhance wayfinding to/from Bread Lock Park &amp; Museum at Lock 7 West. Enhance the Route 57 crossing (milepost 4.1)</p>				
<p>Investigate potential property acquisition that would be required to construct a shared use path along the Morris Canal Historic ROW.</p> <p>Provide signing and striping along the interim route that follows Route 57/ Washington Avenue (milepost 4.1 - 8.5) and Little Philadelphia Road.</p>				
<p>Construct a shared use path through local parks and along the Morris Canal Historic ROW.</p>				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
4b	Warren	Washington Twp	5-6	14.0	15.2	1.2	Long	Off	Off-Road Shared Use Path
4c	Warren	Washington Twp	6	15.2	15.6	0.4	Short/Medium	On	On-Road Facility
4d	Warren	Washington Boro	6	15.6	16.0	0.4	Short/Medium	Off	Canal-Side Shared Use Path
4e	Warren	Washington Boro	6	16.0	16.3	0.3	Short/Medium	On	On-Road Facility
4f	Warren	Washington Boro	6	16.3	16.6	0.3	Short/Medium	Off	Canal-Side Shared Use Path
4g	Warren	Washington Boro	6	16.6	17.2	0.6	Short/Medium	On	On-Road Facility
4h	Warren	Washington Twp	6-7	17.2	17.8	0.6	Short/Medium	Off	Canal-Side Shared Use Path
4i	Warren	Washington Twp	6-7	17.8	18.5	0.7	Short/Medium	On	On-Road Facility
4j	Warren	Mansfield Twp	7	18.5	19.2	0.7	Short/Medium	Off	Canal-Side Shared Use Path
4k	Warren	Mansfield Twp	7	19.2	20.6	1.4	Existing	Off	Canal-Side Shared Used Path
4l	Warren	Mansfield Twp	7	20.6	21.0	0.4	Short/Medium	Off	Canal-Side Shared Use Path



(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
Construct a Road-Side shared use path south of Bowerstown Road, between Bowerstown Road and Plane Hill Road. Investigate potential water crossings, as the route roughly follows the Pohatcong Creek. The Interim route following Bowerstown Road.				
Sign and stripe a shared use facility for bicycle and pedestrian travel on Plane Hill Road along the Morris Canal Historic ROW.		State sources (POTENTIAL FAST Act or NJDOT Local Aid)	\$8,000,000**	NV5/ MCG Corridor Study
Construct a shared use path between Kinnaman Ave and Belvidere Ave along the Morris Canal Historic ROW.		Grouped 4c-4j		
Sign and stripe a shared use facility using sidewalks and shared road treatments for bicycle travel along Belvidere Avenue and Warren Street, and for bicycle and pedestrian travel along Taylor Street.		Grouped 4c-4j		
Construct a shared use path between Taylor Street and Myrtle Avenue, including an at-grade crossing of Route 31 at the Cattelle Court/ Myrtle Avenue intersection. This includes a proposed at-grade rail crossing.		Grouped 4c-4j		
Sign and strip an On-road facility along the remainder of Myrtle Ave, and along Flower Ave and Harding Drive. Investigate potential to construct a Road-Side shared use path along Myrtle Avenue, if the property is available.		Grouped 4c-4j		
Construct a shared use path between Harding Drive and Lock Street along the Morris Canal Historic ROW.		Grouped 4c-4j		
Sign and stripe a shared use facility for bicycle and pedestrian travel along Lock Street.		Grouped 4c-4j		
Construct a shared use path between Lock Street and the existing segment in Mansfield Township along the Morris Canal Historic ROW.		Grouped 4c-4j		
Evaluate the existing gravel trail that mostly follows the Morris Canal Historic ROW with a parallel segment past Plane 5 West to Hoffman Road for potential surface upgrades.				
Sign and stripe a shared use path for bicycle and pedestrian travel along Hoffman Road and construct a shared use path between Hoffman Road and Main Street/ Tow Path Road.				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
5a	Warren	Mansfield Twp	8	21.0	21.4	0.4	Existing	Off	Canal-Side Shared Used Path
5b	Warren	Mansfield Twp	8-9	21.4	24.3	2.9	Long	Off	Canal-Side Shared Use Path
5c	Warren	Mansfield Twp	9	24.3	24.8	0.5	Existing	Off	Canal-Side Shared Use Path
5d	Warren	Mansfield Twp	9	24.8	25.5	0.7	Long	Off	Canal-Side Shared Use Path
5e	Warren	Mansfield Twp	9	25.5	26.2	0.7	Short/Medium	On	On-Road Facility
6a	Warren	Independence Twp/ Hackettstown	9-10	26.2	27.7	1.5	Existing	Off	Canal-Side Shared Used Path
6b	Warren	Hackettstown	10	27.7	28.5	0.8	Short/Medium	On	On-Road Facility
6c	Warren	Independence Twp/ Hackettstown	10	28.5	29.1	0.6	Short/Medium	Off	Canal-Side Shared Use Path
6d	Warren	Independence Twp/ Hackettstown	10	29.1	29.3	0.2	Existing	Off	Canal-Side Shared Use Path
6e	Warren	Independence Twp/ Hackettstown	10	29.3	30.2	0.9	Long	Off	Canal-Side Shared Use Path

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
Ensure the existing wayfinding clearly follows this existing segment that follows the full length of Tow Path Road and continues along a gravel path that generally follows the Morris Canal Historic ROW and then turns to follow a new off-road connection to Cherry Tree Bend Road.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW. The interim route follows an on-road treatment along Cherry Tree Bend Road and Rockport Road.				
Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW. The interim route uses an on-road treatment along Rockport Road				
Sign and stripe a shared use facility for bicycle and pedestrian travel along Rockport Road, and construct a short shared use path segment along a rail corridor.				
Consider upgrading the earthen surface along the existing path that follows the Morris Canal Historic ROW.				
Sign and stripe an on-road facility and wayfinding that clearly follows the sidewalks and shared on-road treatments and provides crosswalk treatments between Roosevelt Avenue at Harvey Street, along Harvey Street, Prospect Street and 4th Street.		State or municipal sources (POTENTIAL NJDOT, Hackettstown DPW/ Warren County DPW)	\$72,000**	NV5/ MCG Corridor Study
Construct a shared use path along the Morris Canal Historic ROW to meet the existing path near Old Allamuchy Road.		State sources (POTENTIAL FAST Act, NJDOT Local Aid)	\$1,200,000**	NV5/ MCG Corridor Study
Consider upgrading the earthen surface along the existing path that follows the Morris Canal Historic ROW.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW. The interim route uses an on-road treatment along Old Allamuchy Road, Allamuchy Road and Bilby Road.				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
7a	Warren	Allamuchy Twp	10-11	30.2	32.0	1.8	Existing	Off	Canal-Side Shared Use Path
8a	Warren/ Sussex	Allamuchy Twp/ Byram Twp	11-12	32.0	35.3	3.3	Existing	Off	Canal-Side Shared Use Path
9a	Morris	Mt. Olive	12	35.3	36.1	0.8	Existing	Off	Existing Canal-Side Shared Used Path
9b	Morris	Mt. Olive	12-13	36.1	37.0	0.9	Long	Off	Off-Road Shared Use Path
9c	Morris	Mt. Olive	13	37.0	37.3	0.3	Short/ Medium	On	On-Road Facility
9d	Morris / Sussex	Mt. Olive/ Stanhope Boro	13	37.3	38.3	1.0	Existing	Off	Canal-Side Shared Use Path

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
Consider upgrading the gravel and earthen surface along the existing path that follows the Morris Canal Historic ROW. Widening may be considered to make this segment bicycle compatible.				
Consider upgrading the gravel and earthen surface along the existing path that follows the Morris Canal Historic ROW. Widening may be considered around the culvert under I-80 and the surrounding walking path to make this segment bicycle compatible. There is current TAP funding for Waterloo Village trail and canal improvements, and Waterloo Village Building Restoration.  Waterloo Mule Bridge reconstruction	\$615,000 \$3,000,000	Regional TAP Program PROPOSED - TAP*  State sources (POTENTIAL NJDEP Recreational Trails Program)	\$840,000**	NJDEP NJDEP  NV5/ MCG Corridor Study
Consider upgrading the gravel and earthen surface along the existing path that follows the Morris Canal Historic ROW. Widening may be considered to make this segment bicycle compatible.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW and along the north side of I-80 corridor to avoid multiple highway crossings. The interim route uses an on-road treatment along a locally planned path alignment and Continental Drive North.				
Sign and stripe an on-road facility and wayfinding that clearly follows along Waterloo Valley Road and Continental Drive. This includes the existing on-road grade separated crossing over Route 206 (milepost 97.5). Investigate the potential to relocate the Route 206 crossing along this segment to a parallel off-road inactive rail bridge over Route 206.				
Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW. This includes a shared parking lot area in Stanhope, that may be better defined through striping or other surface treatments. There is current TAP funding for Drakesville Historic Park, Ledgewood section, Trail Establishment and Historic Restoration past Lock 2 West and Plane 2 West.	\$ 500,000	State sources (PROPOSED to Regional TAP Program)*		Roxbury Twp.

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
10a	Morris	Netcong	13	38.3	39.2	0.9	Short/Medium	On	On-Road Facility
10b	Morris	Netcong	13	39.2	39.4	0.2	Long	Off	Off-Road Shared Use Path
10c	Morris	Roxbury Twp	13	39.4	39.8	0.4	Short/Medium	On	On-Road Facility
10d	Morris	Roxbury Twp	14	39.8	40.8	1.0	Long	Off	Canal-Side Shared Use Path
11a	Morris	Roxbury Twp	14	40.8	40.9	0.1	Short/Medium	Off	Canal-Side Shared Use Path
11b	Morris	Roxbury Twp	14	40.9	41.3	0.4	Short/Medium	Off	Off-Road Shared Use Path
11c	Morris	Roxbury Twp	14	41.3	42.0	0.7	Short/Medium	Off	Canal-Side Shared Use Path

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
Sign and stripe an on-road facility and wayfinding that clearly follows along Ledgewood Avenue, Allen Street, Dell Avenue and Koclas Drive		State or municipal sources (POTENTIAL NJDOT Local Aid, Netcong DPW, or Morris County DPW)	\$100,000**	NV5/ MCG Corridor Study
Construct a shared use path as an upgrade to the existing gravel path through a local park and construct a new shared use path connection to Center Street.				
Sign and stripe an on-road facility and wayfinding along Center Street.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW to the west and east termini of Canal Street and along the south side of Canal Street The interim route uses an on-road treatment along Center Street.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW to southwest of commercial shopping center development. An interim route is needed for connectivity to adjacent segments, and uses an on-road treatment along Lakeside Boulevard.				
Construct a shared use path along the Morris Canal Historic ROW between the commercial shopping center development and the Lake Hopatcong Train Station parking lot.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW through the Lake Hopatcong Train Station parking lot and the corridor to the south. Development of this segment is under development by Roxbury Township.				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
12a	Morris	Roxbury Twp	15	42.0	42.6	0.6	Long	Off	Off-Road Shared Use Path
13a	Morris	Roxbury Twp	15	42.6	43.0	0.4	Long	Off	Road-Side Shared Use Path
13b	Morris	Roxbury Twp	15	43.0	43.5	0.5	Existing	Off	Canal-Side Shared Use Path
13c	Morris	Roxbury Twp	15	43.5	43.9	0.4	Existing	On	On-Road Facility
14a	Morris	Roxbury Twp	15	43.9	44.5	0.6	Long	Off	Canal-Side Shared Use Path
15a	Morris	Roxbury Twp	15-16	44.5	45.8	1.3	Long	Off	Off-Road Shared Use Path and Road-Side Shared Use Path
16a	Morris	Roxbury Twp	16	45.8	48.2	2.4	Long	Off	Road-Side Shared Use Path



(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
<p>Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW along or adjacent to a rail corridor to share the grade separated crossing under I-80 and portion along a local road. Also investigate potential conflict with freight rail traffic that is reported to travel this section on a weekly basis.</p> <p>The interim route uses an on-road treatment along Landing Road.</p>				
<p>Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW along or adjacent to and across the Route 46 corridor.</p> <p>The interim route uses an on-road treatment along Landing Road.</p> <p>Widening may be considered to make this segment bicycle compatible.</p> <p>Confirm shared on-road accommodations that follow the Morris Canal Historic ROW along Canal Street.</p>				
<p>Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW and to upgrade the gravel and earthen surface along the short existing path segment. Widening may be considered to make this segment bicycle compatible.</p> <p>The interim route uses an on-road treatment along Route 46 (milepost 33.8 - 34.3)</p>				
<p>Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW.</p> <p>Consider traffic signal upgrades along Route 46 at Hercules Road to ensure pedestrian crossing compatibility.</p> <p>The interim route uses an on-road treatment along Route 46 and Hercules Road.</p>				
<p>Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW adjacent to Berkshire Valley Road and nearby rail corridors.</p> <p>The interim route uses an on-road treatment along Berkshire Valley Road and W. Dewey Avenue.</p>				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
17a	Morris	Wharton	16-17	48.2	48.8	0.6	Existing	Off	Canal-Side Shared Use Path
17b	Morris	Wharton	17	48.8	49.8	1.0	Long	Off	Canal-Side Shared Use Path
17c	Morris	Wharton	17	49.8	50.3	0.5	Existing	Off	Canal-Side Shared Use Path
18a	Morris	Dover	17-18	50.3	52.8	2.5	Long	On/ Off	Off-Road Shared Use Path and On-Road Facility
19a	Morris	Rockaway	18	52.8	53.3	0.5	Long	Off	Canal-Side Shared Use Path
20a	Morris	Rockaway	18	53.3	54.1	0.8	Short/Medium	On	On-Road Facility
20b	Morris	Rockaway	19	54.1	55.7	1.6	Short/Medium	On	On-Road Facility
20c	Morris	Denville	19	55.7	56.0	0.3	Existing	Off	Canal-Side Shared Use Path

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
Consider upgrading the gravel and earthen surface along the existing path that follows the Morris Canal Historic ROW. Current funding for Wharton - Morris Canal Lock 2 East Site Restoration, Wharton Borough, Wharton, Lock 2 East - MCG paver footprint of canal boat, trailhead parking lot, Dry Canal Bed, MCG extension to Main Street, Phase 2A and 2B.	\$1,276,000  \$1,848,000	State sources (PROPOSED to Regional TAP Program)*  State sources (PROPOSED to Regional TAP Program)*	Planning phase  Design/ Construction	Wharton Boro  Wharton Boro
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW. The interim route uses an on-road treatment along Fern Avenue, Lafayette Street and Central Avenue.				
Consider upgrading the earthen surface along the existing path that follows the Morris Canal Historic ROW.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW, and potential On-Road treatments along Bassett Highway, Sussex Street and Richards Avenue. The interim route uses an on-road treatment along Princeton Avenue and Blackwell Street.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW. The interim route uses an on-road treatment along Dover Rockaway Road.				
Sign and stripe an on-road facility and wayfinding along W. Main Street. Consider Road-Side Path treatment if property is available.		State sources (POTENTIAL NJDOT Local Aid)	\$1,600,000**	NV5/ MCG Corridor Study
Sign and stripe an on-road facility and wayfinding along W. Main Street, Dock Street, Maple Ave, Drake Ave and Gill Ave.				
Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW.				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
21a	Morris	Denville	19	56.0	57.1	1.1	Long	Off	Canal-Side Shared Use Path
21b	Morris	Denville	20	57.1	57.7	0.6	Existing	Off	Canal-Side Shared Use Path
21c	Morris	Denville	20	57.7	58.6	0.9	Short/Medium	Off	Canal-Side Shared Use Path and On-Road Facility
21d	Morris	Denville	20	58.6	59.0	0.4	Existing	Off	Canal-Side Shared Use Path
21e	Morris	Boonton Twp	20	59.0	59.8	0.8	Long	Off	Canal-Side Shared Use Path and On-Road Facility
21f	Morris	Boonton Twp	21	59.8	60.6	0.8	Short/Medium	On	On-Road Facility
22a	Morris	Boonton Twp	21	60.6	60.8	0.2	Existing	Off	Road-Side Shared Use Path
22b	Morris	Boonton Twp	21	60.8	61.0	0.2	Short/Medium	On	On-Road Facility
22c	Morris	Boonton	21	61.0	61.3	0.3	Existing	Off	Road-Side Shared Use Path
23a	Morris	Boonton	21	61.3	62.0	0.5	Short/Medium	Off	Canal-Side Shared Use Path and Off-Road Shared Use Path

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
<p>Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW, and potential grade separated crossing under I-80 along the bank of the Rockaway River. The existing I-80 bridge was constructed with a longer span than the river watercourse, leaving potential for aligning a shared use path under the bridge, however this area may be within the floodway - to be investigated when this segment is advanced.</p> <p>The interim route uses an on-road treatment along Morris Ave to cross I-80.</p>				
<p>Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW.</p>				
<p>Construct a shared use path along the Morris Canal Historic ROW between Diamond Spring Road and Bush Road, including reconstructing a crossing of the Rockaway River. The abutments and a pier in the river still existing and may have potential for reuse.</p>		<p>State sources (POTENTIAL NJDOT Local Aid)</p>	<p>\$1,800,000**</p>	<p>NV5/ MCG Corridor Study</p>
<p>Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW.</p>				
<p>Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW. The interim route uses an on-road treatment along Old Denville Road.</p>				
<p>Construct an On-Road facility along Old Denville Road and Powerville Road.</p>				
<p>Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW.</p>				
<p>Construct an On-Road facility along Main Street.</p>				
<p>Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW.</p>				
<p>Construct a shared use path to the south of Main Street including a section behind an apartment building that will require a transition from lower elevation to the on-road intersection with Main Street.</p>				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
23b	Morris	Boonton/ Montville	21-22	62.0	63.7	1.7	Short/ Medium	On	On-Road Facility
23c	Morris	Montville	22	63.7	64.1	0.4	Existing	Off	Canal-Side Shared Use Path
23d	Morris	Montville	22	64.1	64.9	0.8	Short/ Medium	On	On-Road Facility
24a	Morris	Montville	22	64.9	65.8	0.9	Long	Off	Canal-Side Shared Use Path
24b	Morris	Montville	22	65.8	66.0	0.2	Existing	Off	Canal-Side Shared Use Path
24c	Morris	Montville	22-23	66.0	67.5	1.5	Long	Off	Canal-Side Shared Use Path
24d	Morris	Montville/ Lincoln Park	23	67.5	68.0	0.5	Short/ Medium	On	On-Road Facility
25a	Morris	Lincoln Park	23	68.0	68.6	0.6	Existing	Off	Canal Side Shared Use Path
26a	Morris	Lincoln Park	23-24	68.6	70.9	2.3	Short/ Medium	On	Road-Side Shared Use Path
27a	Passaic	Wayne	24	70.9	72.8	1.9	Short/ Medium	Off	Canal-Side Shared Use Path

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by																
Construct an On-Road facility and investigate if a Road-Side Shared Use Path along Route 202 and local roads can be installed.																				
Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW past Plane 8 East.																				
Construct an On-Road facility or Road-Side Shared Use Path along Route 202 (milepost 56.1 - 56.9).																				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW including a portion along Macculloch Drive. The interim route uses an on-road treatment along Route 202 (milepost 56.9 - 58.4).																				
Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW.																				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW including portions along Canal Road and Whitehall Road that should also be considered for possible Road-Side shared use path treatments. The interim route uses an on-road treatment along Route 202 (milepost 58.4 - 59.2).																				
Construct an On-Road facility or Road-Side Shared Use Path along Route 202 (milepost 59.2 - 59.7) and local roads.																				
Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW.																				
Construct an On-Road facility or Road-Side Shared Use Path along Route 202 (milepost 60.4 - 62.4), consider sidewalk widening to Shared Use Path or road diet treatments. This segment provides access between Lincoln Park business district and the Mountain View, Wayne NJ TRANSIT train station.																				
Construct a shared use path along the Canal Historic ROW between the Passaic River and I-80.	TBD	Regional TAP Program		Passaic Co																
Pompton Feeder - Morris Canal Phase 5 (Pompton Plains Cross Road to Little Falls)	\$3,000,000	PROPOSED to Regional TAP Program*		Passaic Co																

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
27b	Passaic	Wayne	25	72.8	73.6	0.8	Short/Medium	Off	Off-Road Shared Use Path bridge
27c	Passaic	Wayne	25	73.6	74.2	0.6	Short/Medium	Off	Road-Side Shared Use Path and Canal-Side Shared Use Path
28a	Passaic	Little Falls	25	74.2	74.8	0.6	Long	Off	Canal-Side Shared Use Path
29a	Passaic	Little Falls	25	74.8	76.1	1.3	Existing	Off	Canal-Side Shared Use Path
30a	Passaic	Woodland Park	26	76.1	76.9	0.8	Short/Medium	On	On-Road Facility
31a	Passaic	Woodland Park	26	76.9	77.5	0.6	Existing	Off	Canal-Side Shared Use Path
32a	Passaic	Paterson	26-27	77.5	79.2	1.7	Existing	On	On-Road Facility
33a	Passaic	Paterson	27	79.2	80.7	1.5	Existing	On	On-Road Facility
34a	Passaic	Clifton	27-28	80.7	84.2	3.5	Existing	On	On-Road Facility



(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW. Concept being investigated includes underpasses or new bridges to cross I-80 and Route 46 (milepost 56.9).		State or federal sources (POTENTIAL NJDOT)	\$6,600,000**	NV5/ MCG Corridor Study
Construct a shared use path along the Canal Historic ROW between Riverview Drive and Union Boulevard. Morris Canal Greenway Phase 4.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW between Union Boulevard and E. Main Street. The interim route uses an on-road treatment along Union Blvd and Main Street.				
Construct Peckman River Crossing. Ensure the existing wayfinding clearly follows this existing segment that follows the Morris Canal Historic ROW.	\$700,000	Regional TAP Program		Passaic Co
Construct an On-Road Facility and/or a Road-Side shared use path along Browertown Road, concept developed by Passaic County and received funding.	\$770,000	Regional TAP Program - NJDOT Local Aid		Passaic Co
Ensure the existing wayfinding clearly follows this existing segment along the Morris Canal Historic ROW.				
Ensure the existing wayfinding clearly follows this existing On-Road Facility segment that roughly parallels the Morris Canal Historic ROW.				
Ensure the existing wayfinding clearly follows this existing On-Road Facility segment that roughly parallels the Morris Canal Historic ROW.				
Ensure the existing wayfinding clearly follows this existing On-Road Facility segment that roughly parallels the Morris Canal Historic ROW.				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
35a	Passaic/ Essex	Clifton/ Bloomfield	29	84.2	86.7	2.5	Short/ Medium	On	On-Road Facility
35b	Essex	Bloomfield	29	86.7	86.9	0.2	Existing	Off	Canal-Side Shared Use Path
35c	Essex	Bloomfield	29	86.9	87.1	0.2	Short/ Medium	Off	Off-Road Shared Use Path
35d	Essex	Bloomfield	30	87.1	88.3	1.2	Existing	On	On-Road Facility
36a	Essex	Bloomfield	30	88.3	89.1	0.8	Existing	On	Road-Side Shared Use Path
37a	Essex	Bloomfield	30	89.1	90.1	1.0	Existing	On	On-Road Facility

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
<p>Construct an On-Road Facility and/or a Road-Side shared use path along, generally west of Garden State Parkway, including installing signing and striping bicycle facility and constructing sidewalk enhancements - wayfinding signs and crosswalks between Alwood Road and Watchung Avenue.</p> <p>Construct bicycle facility and sidewalk enhancements wayfinding signs and crosswalks Broad Street and Watchung Avenue, Bloomfield</p>		<p>State sources (POTENTIAL NJDOT Municipal Aid Program or Passaic County DPW)</p> <p>State sources (POTENTIAL NJDOT Municipal Aid Program or Essex County DPW)</p>	<p>\$24,000**</p> <p>\$60,000**</p>	<p>NV5/ MCG Corridor</p> <p>NV5/ MCG Corridor Study</p>
<p>Ensure the existing wayfinding clearly follows the Morris Canal Historic ROW.</p>				
<p>Construct a shared use path along the Canal Historic ROW.</p>				
<p>Ensure the existing wayfinding clearly follows this existing On-Road Facility segment that roughly parallels the Morris Canal Historic ROW, following local roads including Broughton Ave, Main Terrace and John F. Kennedy Drive N. Evaluate the shared On-Road bicycle accommodation, and potentially upgrade to dedicated bicycle facilities.</p>				
<p>Ensure the existing wayfinding clearly follows this existing On-Road Facility segment that parallels the Morris Canal Historic ROW, following John F. Kennedy Drive North. On-Road facility is recommended to be enhanced to improve bicycle accommodation. In the long term, a Road-Side Shared Use Path should be considered.</p>				
<p>Ensure the existing wayfinding clearly follows this existing On-Road Facility segment that parallels the Morris Canal Historic ROW, following John F. Kennedy Drive North, West Street and Newark Ave. On-Road facility is recommended to be enhanced to improve bicycle accommodation. In the long term, a Road-Side Shared Use Path should be considered.</p>				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
38a	Essex	Bloomfield	30	90.1	90.7	0.6	Existing	Off	Canal-Side Shared Use Path
39a	Essex	Belleville	30	90.7	91.2	0.5	Short/Medium	On	On-Road Facility
39b	Essex	Newark	31-32	91.2	94.3	3.1	Short/Medium	Off	Off-Road Shared Use Path
40a	Essex	Newark	32	94.3	96.7	2.4	Short/Medium	On	On-Road Facility
40b	Essex	Newark	32	96.7	97.1	0.4	Existing	Off	Canal-Side Shared Use Path
40c	Essex	Newark	33	97.1	99.1	2.0	Short/Medium	Off	Road-Side Shared Use Path
41a	Essex	Kearny	33	99.1	99.9	0.8	Short/Medium	Off	Road-Side Shared Use Path

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
Ensure the existing wayfinding clearly follows the Morris Canal Historic ROW.				
Construct an On-Road Facility and/or a Road-Side shared use path, including installing signing and striping a bicycle facility and constructing sidewalk enhancements. Install wayfinding signs connecting to the north end of Branch Brook Park.		State sources (POTENTIAL NJDOT Municipal Aid Program or Essex County DPW)	\$22,000**	NV5/ MCG Corridor Study
Route parallels Morris Canal Historic ROW using existing park paths and roadways. Current park policy prohibits bicycle use on paths. Consider revising this policy.				
Construct an On-Road Facility and/or a Road-Side shared use path, including installing signing and striping a bicycle facility and constructing sidewalk enhancements along Clifton Ave to cross over I-280 and following Norfolk Street, Central Ave, Lock Street and Raymond Boulevard.		State sources (POTENTIAL NJDOT Local Aid)	\$7,800,000**	NV5/ MCG Corridor Study
Ensure the existing wayfinding clearly follows the Morris Canal Historic ROW. Recent construction: Cycle Track, grade separated 3/4 mile two-way cycle-track, Brill Street - Somme Street	\$650,000	State sources (PROPOSED to Regional TAP Program)*		City of Newark
Construct an On-Road Facility and/or a Road-Side shared use path, including installing signing and striping a bicycle facility and constructing sidewalk enhancements along Raymond Boulevard, Doremus Ave and ramp to Route 1 Truck.				
Construct a Road-Side shared use path by widening the existing sidewalk and provide crossing enhancements.		Federal or State sources (POTENTIAL NJDOT)	\$1,300,000**	NV5/ MCG Corridor Study

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
42a	Hudson	Jersey City	34	99.9	101.8	1.9	Long	Off	Road-Side Shared Use Path
43a	Hudson	Jersey City	34	101.8	102.8	1.0	Short/Medium	Off	Canal-Side Shared Use Path
43b	Hudson	Jersey City	34	102.8	102.9	0.1	Existing	Off	Off-Road Shared Use Path
43c	Hudson	Jersey City	34	102.9	103.9	1.0	Short/Medium	On	On-Road Facility
44a	Hudson	Jersey City	35	103.9	105.2	1.3	Long	Off	Canal-Side Shared Use Path
44b	Hudson	Jersey City	35	105.2	105.7	0.5	Short/Medium	Off	Canal-Side Shared Use Path
44c	Hudson	Jersey City	36	105.7	106.1	0.4	Existing	Off	Canal-Side Shared Use Path
44d	Hudson	Jersey City	36	106.1	106.3	0.2	Short/Medium	Off	Canal-Side Shared Use Path
45a	Hudson	Jersey City	36	106.3	106.6	0.3	Short/Medium	On	On-Road Facility
45b	Hudson	Jersey City	36	106.6	106.8	0.2	Existing	Off	Canal-Side Shared Use Path

(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
Construct an On-Road Facility and/or a Road-Side shared use path, including installing signing and striping a bicycle facility and constructing sidewalk enhancements. Long term concept by Jersey City includes a major roadway reconstruction along Route 440 (milepost 24.5 - 26.1). Interim route follows Lincoln Park paths, roads and other nearby local roads.				
Construct a shared use path along the Canal Historic ROW. Note: property due diligence is underway by Jersey City/ Hudson County.	\$ 1,500,000	PROPOSED to Regional TAP Program*		City of Jersey City
Ensure the existing wayfinding clearly follows the Morris Canal Historic ROW through Mercer Park.	\$ 297,000	Regional TAP Program		NJDEP/ Hudson Co
Construct an On-Road Facility and/or a Road-Side shared use path, including installing signing and striping a bicycle facility and constructing sidewalk enhancements.				
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW, including the currently proposed boulevard median along Canal Way. The interim route uses an on-road treatment primarily along Garfield Avenue.	\$ 1,000,000	PROPOSED to Regional TAP Program*		City of Jersey City
Construct a shared use path along the Canal Historic ROW.				
Recent construction in Berry Lane Park - confirm all construction elements are complete.	\$ 2,063,000	PROPOSED to Regional TAP Program *		City of Jersey City
Construct a shared use path along the Canal Historic ROW.				
Construct an On-Road Facility and/or a Road-Side shared use path, including installing signing and striping a bicycle facility and constructing sidewalk enhancements including segment along VanHorn Street.				
Ensure the existing wayfinding clearly follows the Morris Canal Historic ROW.				

## Appendix C: Morris Canal Greenway - Preferred Alignment Implementation Matrix

Segment #	County	Municipality	Map_Pg #	Begin_MP	End_MP	Length (miles)	Dev_Status	On/Off_Road	Facility Type
45c	Hudson	Jersey City	36	106.8	107.5	0.7	Long	Off	Off-Road Shared Use Path
45d	Hudson	Jersey City	36	107.5	108.5	1.0	Existing	Off	Off-Road Shared Use Path

Note: Additional Funding Source options are included in Appendix D

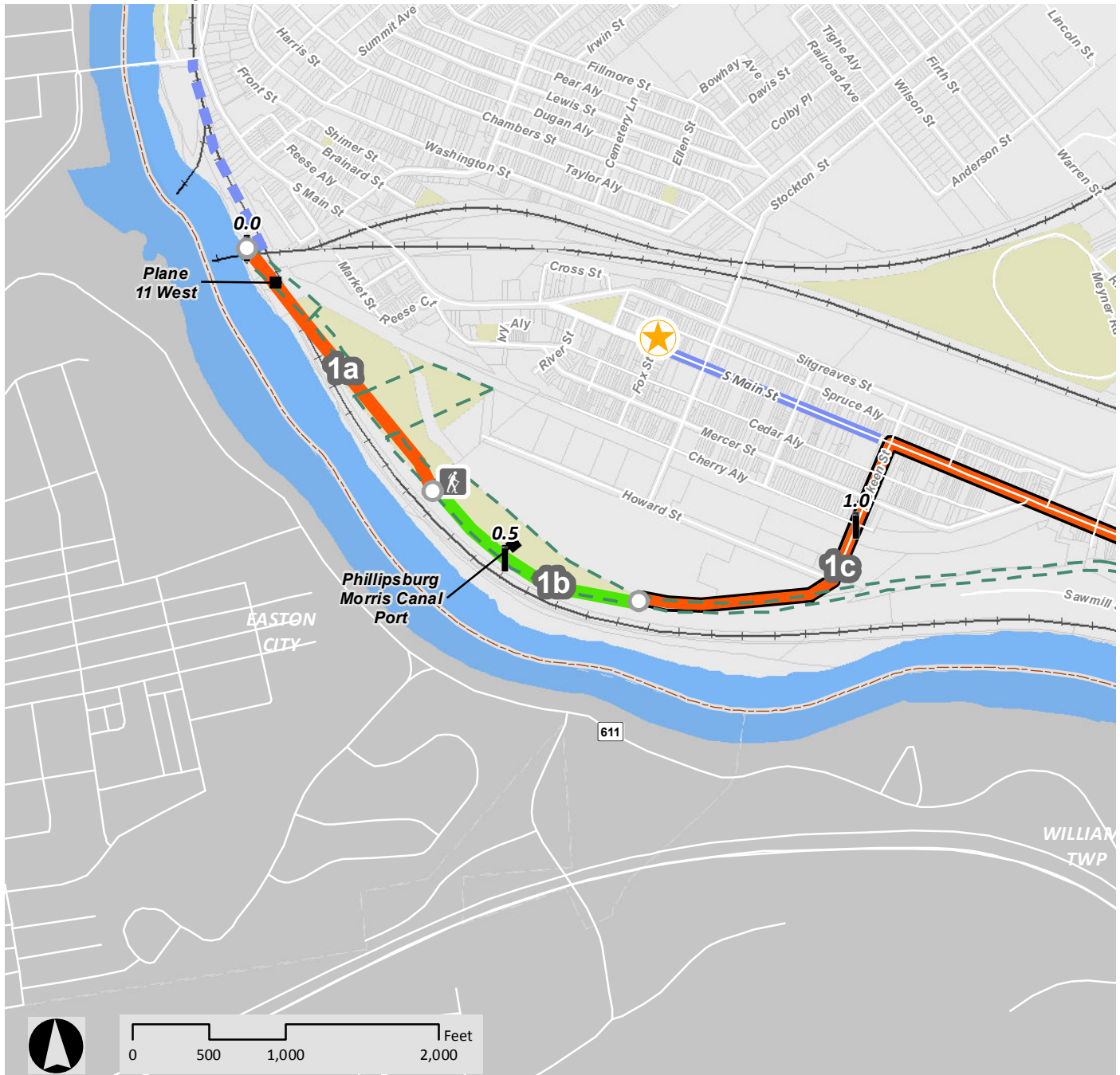


(continued)

Description	Current Funding	Current or Potential Funding Source *Funding application submitted, but not currently approved	Estimated Total Construction Cost **Only for potential key projects	Cost Estimated Developed or Provided by
Investigate if property acquisition will be required to construct a shared use path along the Morris Canal Historic ROW. The interim route uses an on-road treatment along local roadways.				
Ensure the existing wayfinding clearly leads travelers along the Morris Canal Historic ROW using nearby sections of the Hudson River Waterfront Walkway. This segment includes recent/ongoing greenway construction.	\$ 3,000,000	PROPOSED to Regional TAP Program*		JCRA/JC

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

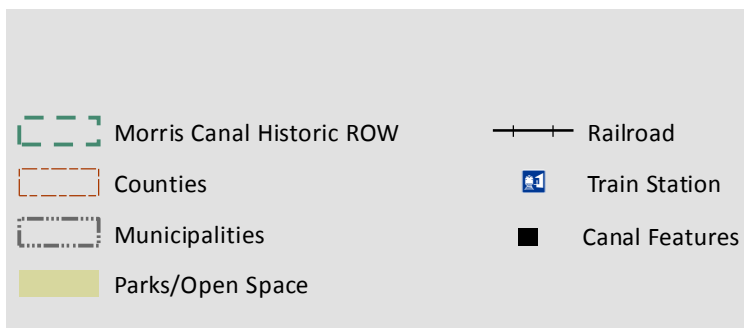
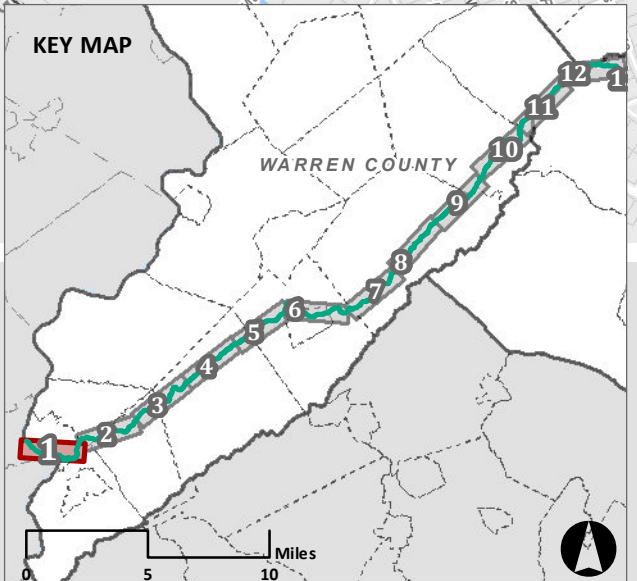
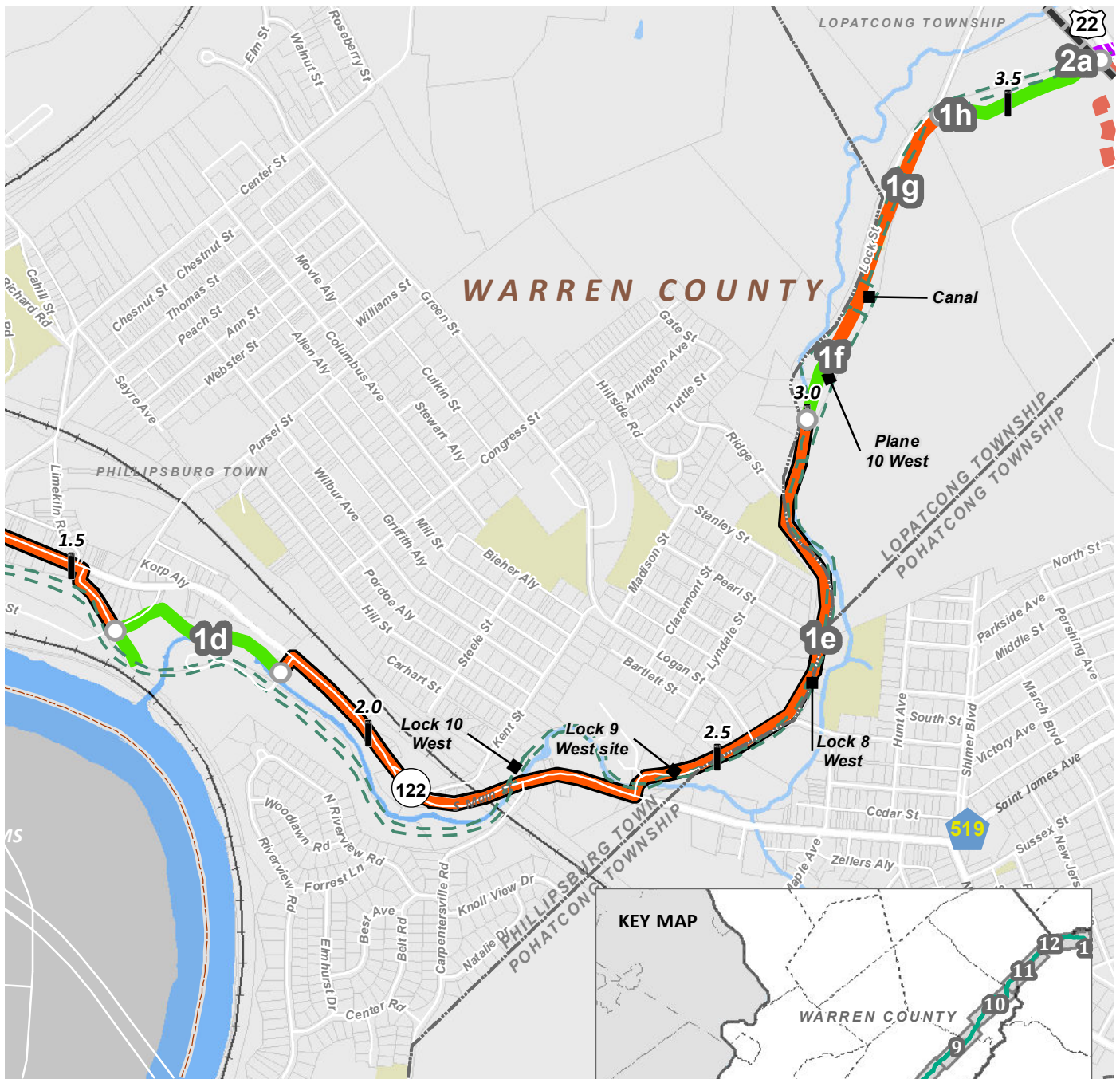
Mileposts

Business District

Trailheads

Segment Number

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

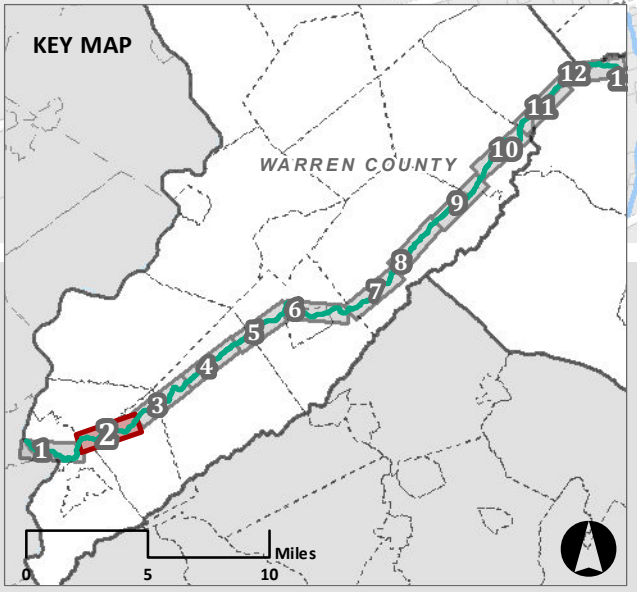
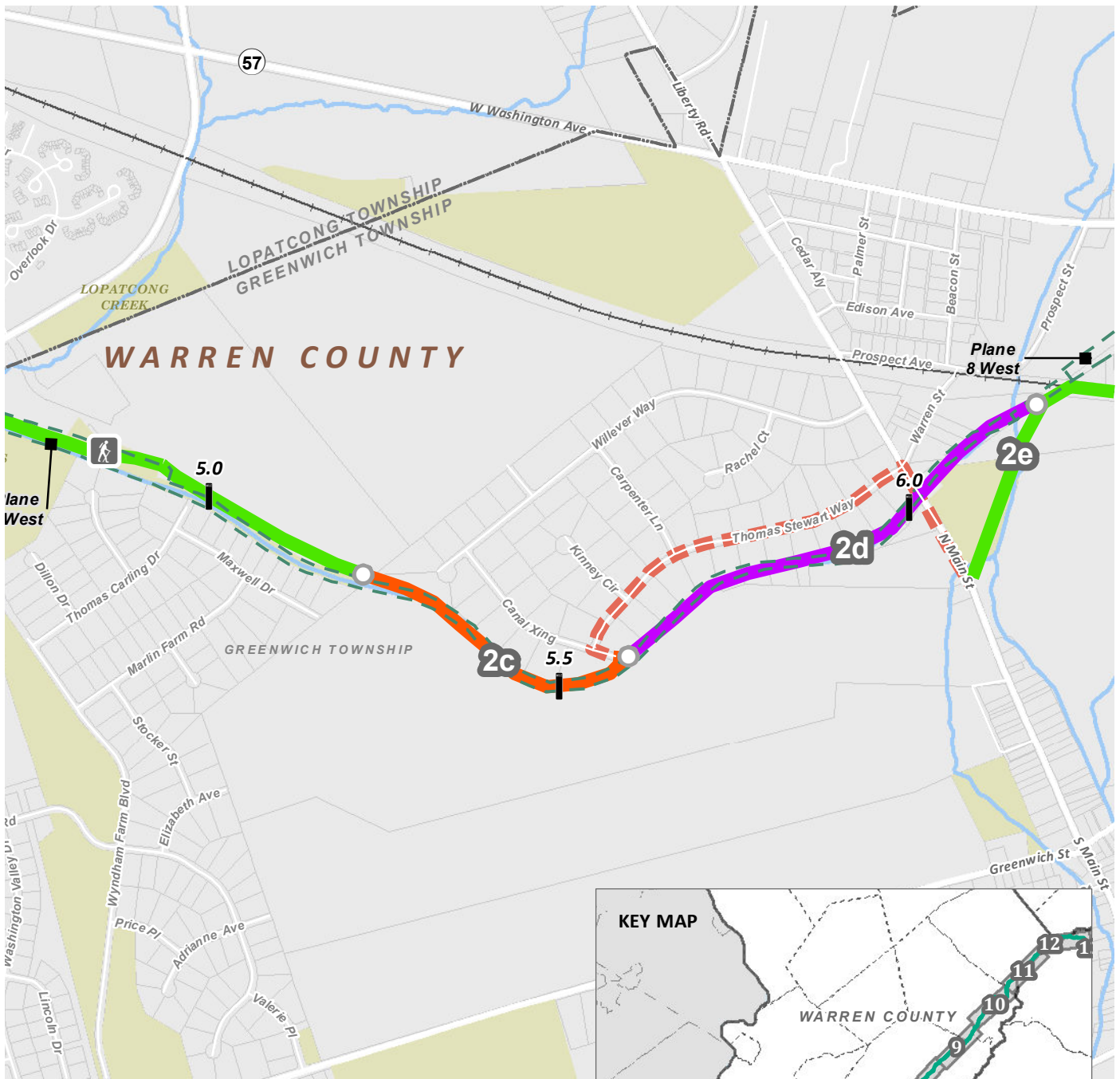
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




Business District

Trailheads

Segment Number

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 Morris Canal Historic ROW	 Railroad
 Counties	 Train Station
 Municipalities	 Canal Features
 Parks/Open Space	

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

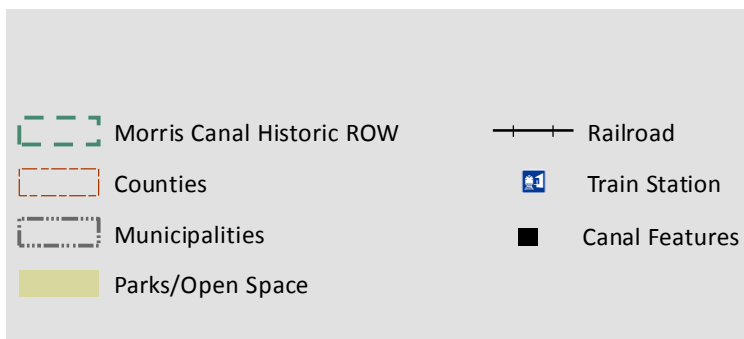
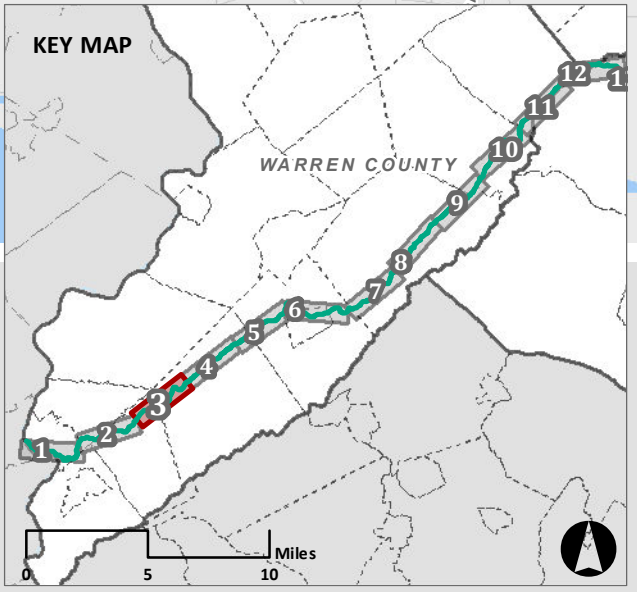
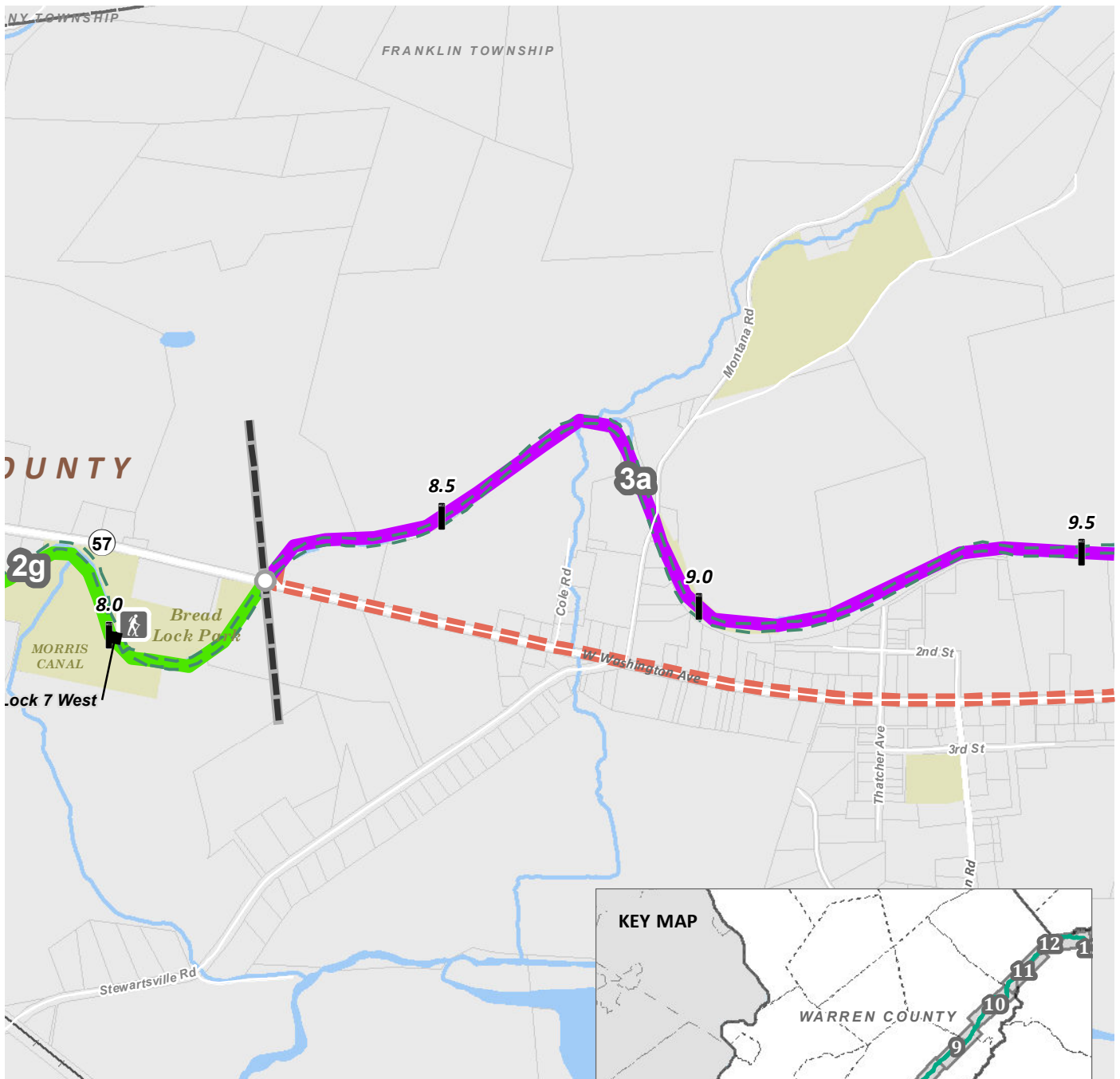
Mileposts

Business District

Trailheads

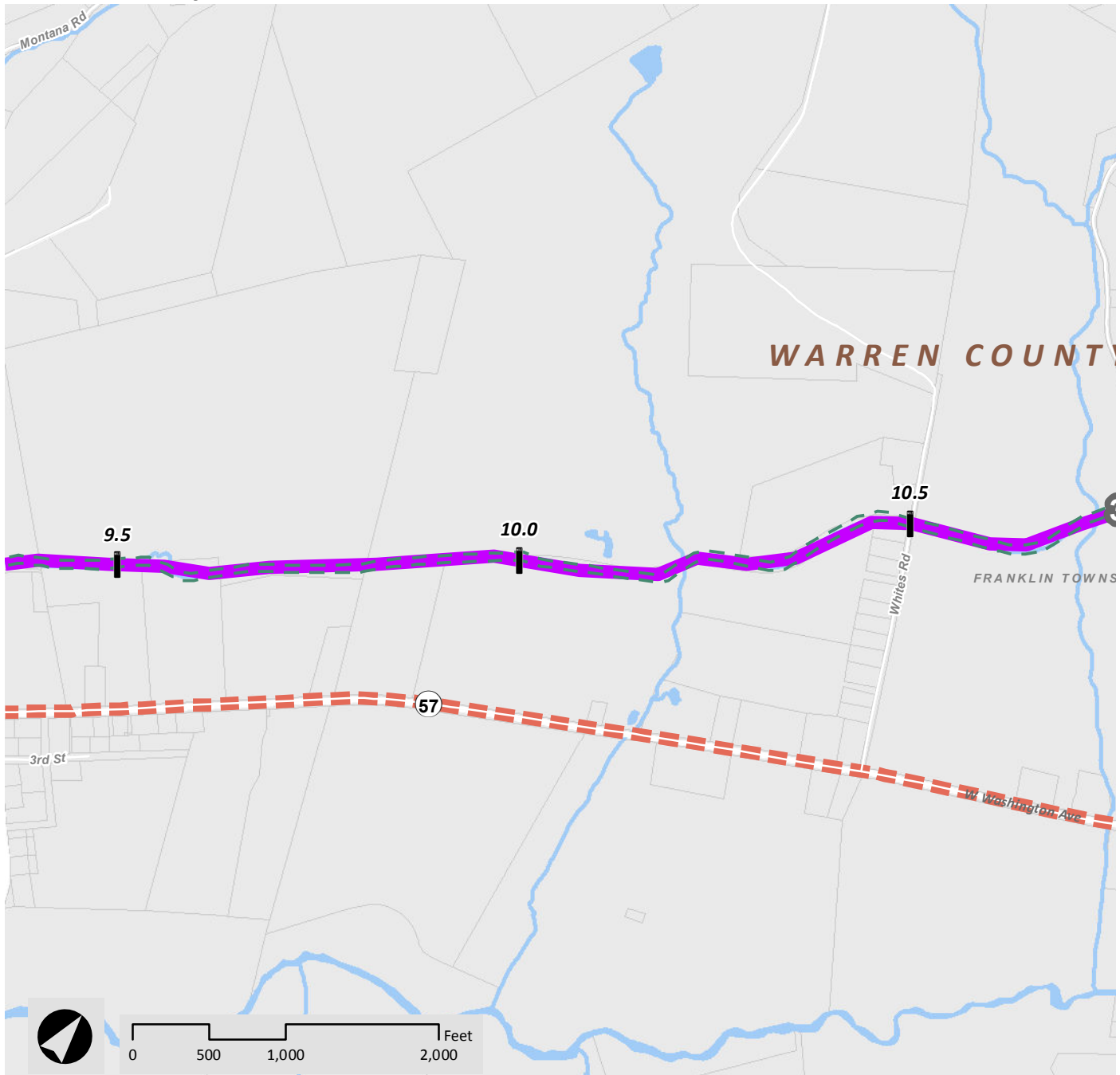
Segment Number

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County

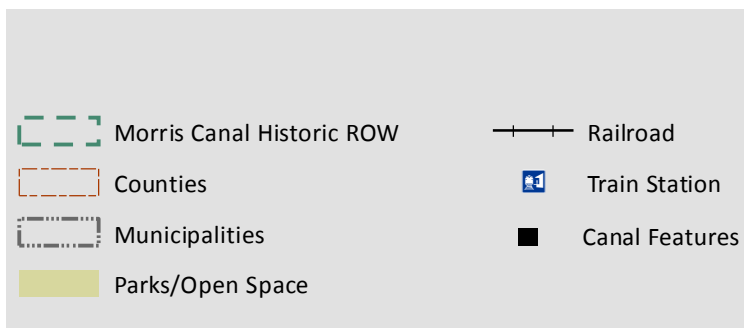
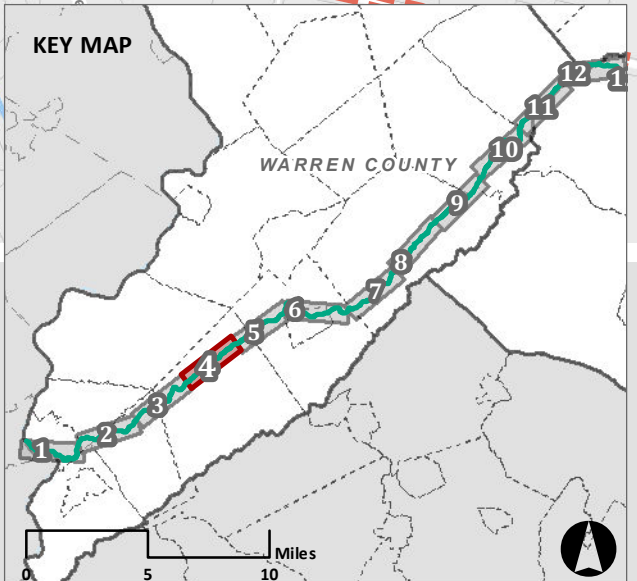
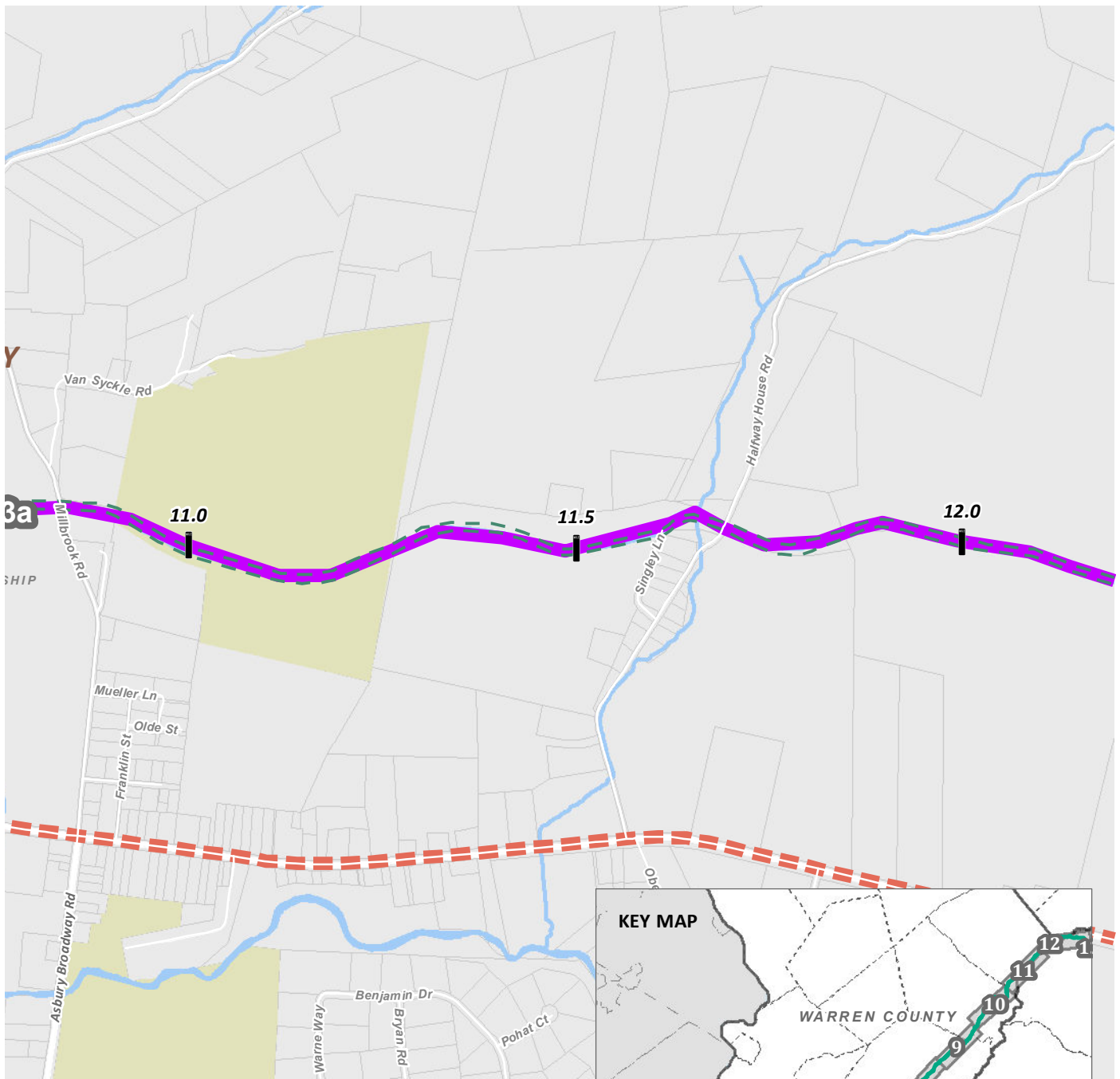


**Legend**  
**MORRIS CANAL GREENWAY CORRIDOR STUDY**

On Rd / Off Rd	Existing Greenway	Segment Group Breaks	Mileposts
Short/Medium-Term (2018-2027)	Long Term (2028+)	Segment Start/End Pt	Business District
Interim	Spur (existing)	Spur (proposed)	Trailheads
			Segment Number

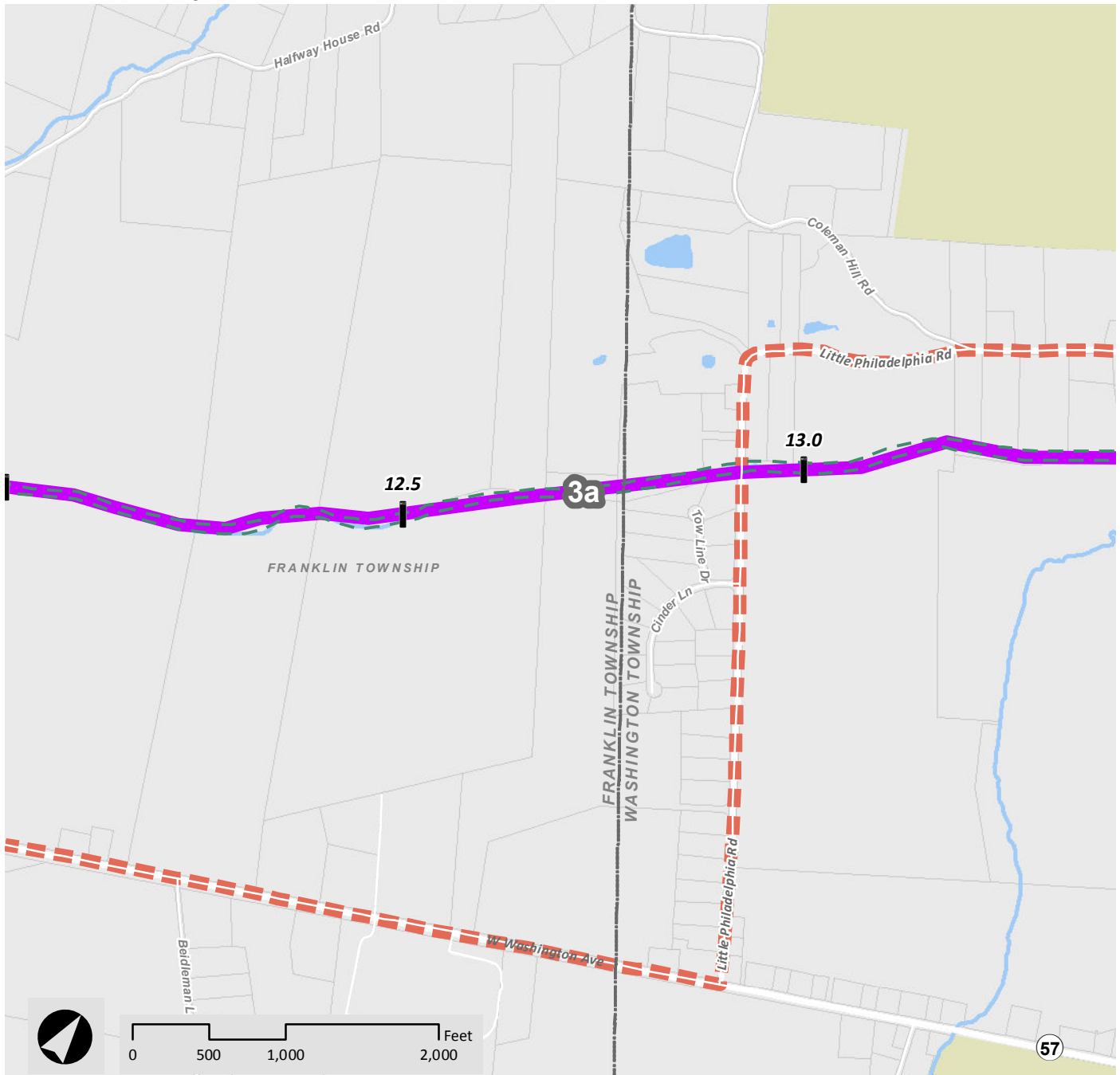
Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources





# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

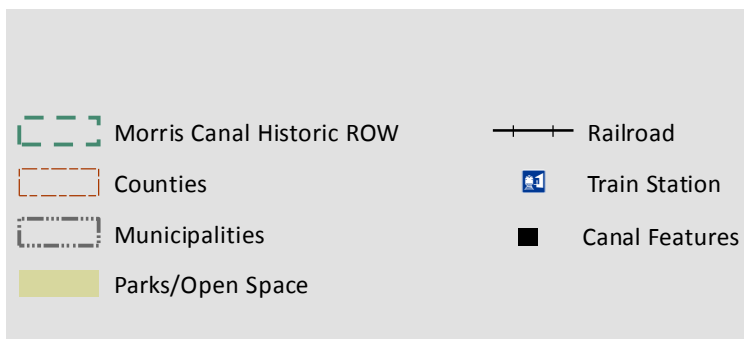
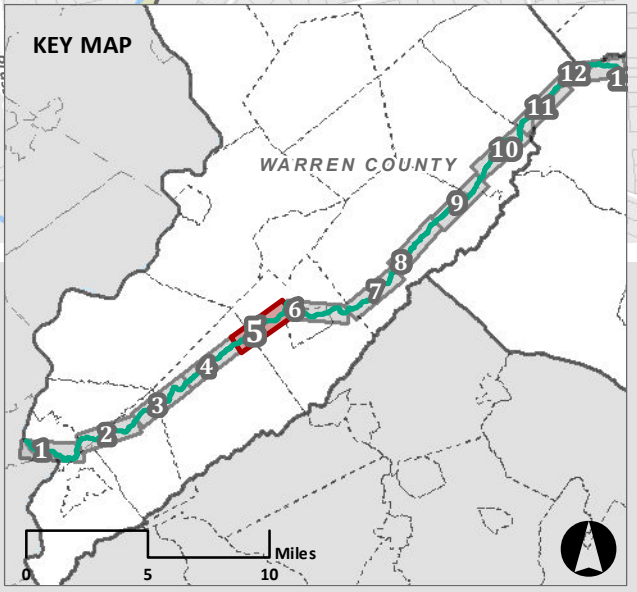
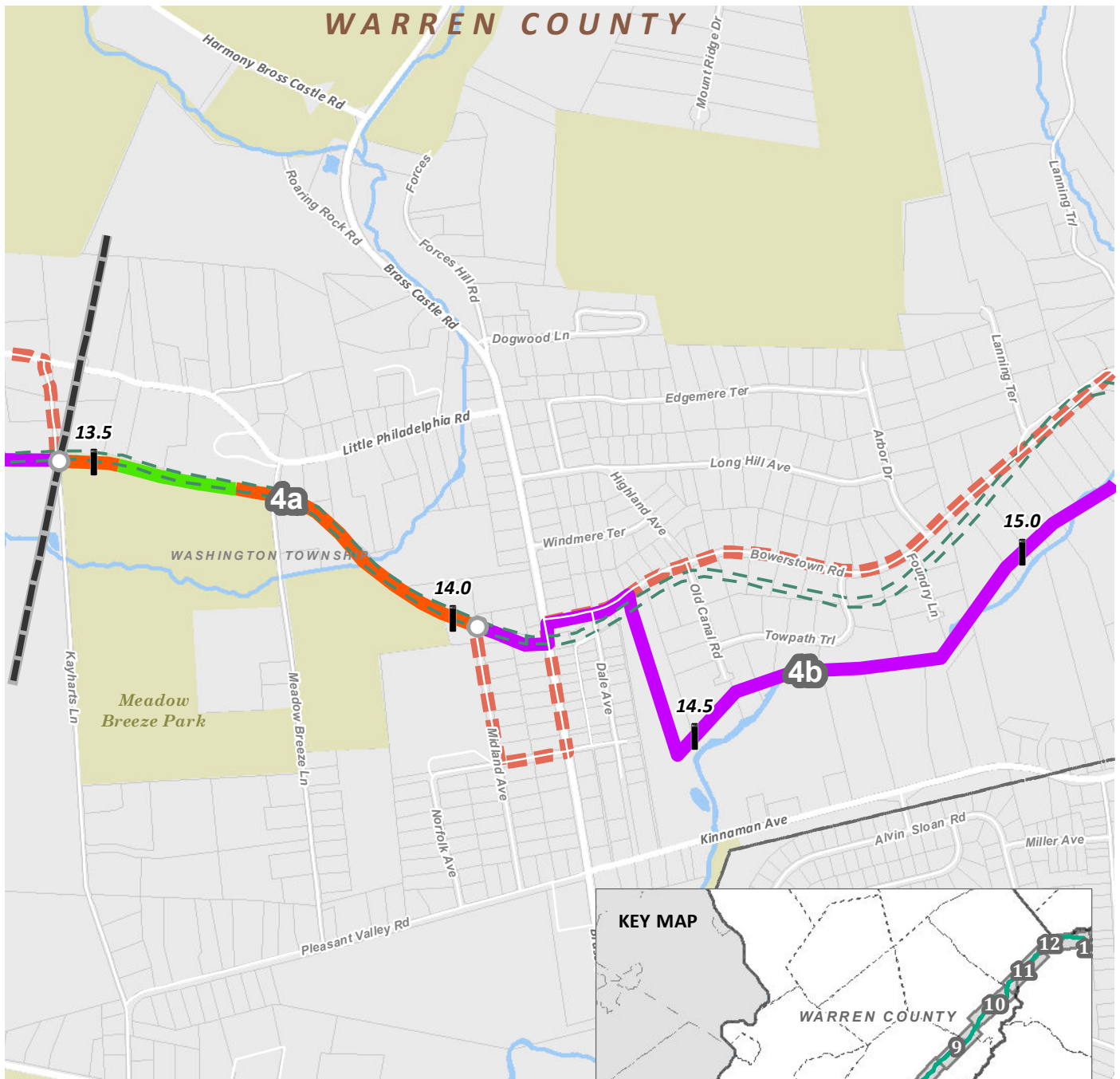
Mileposts

Business District

Trailheads

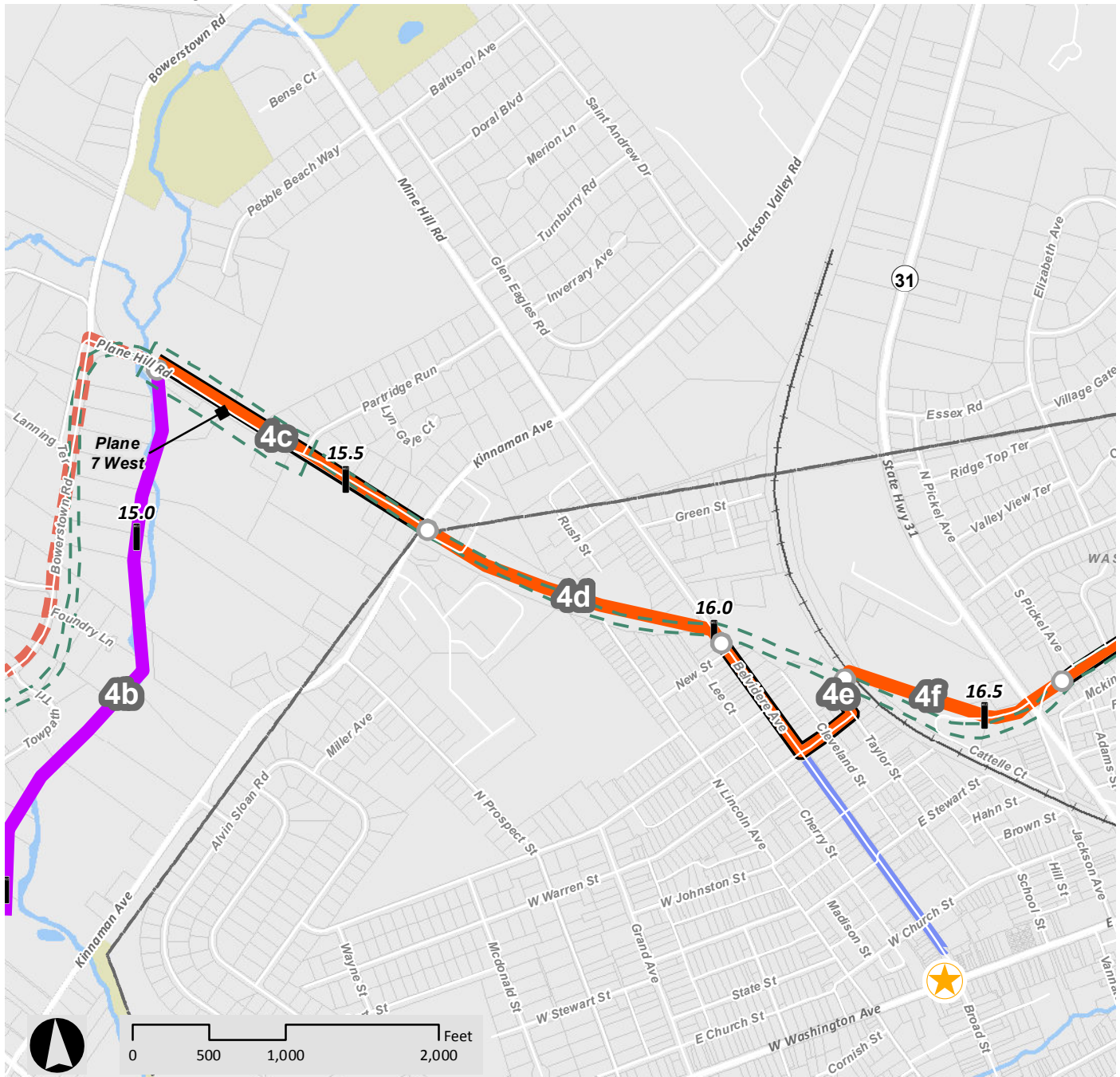
Segment Number

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes. Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County

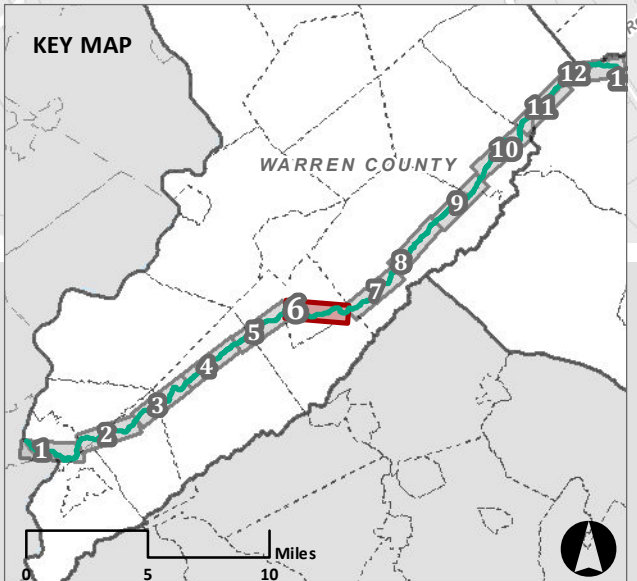
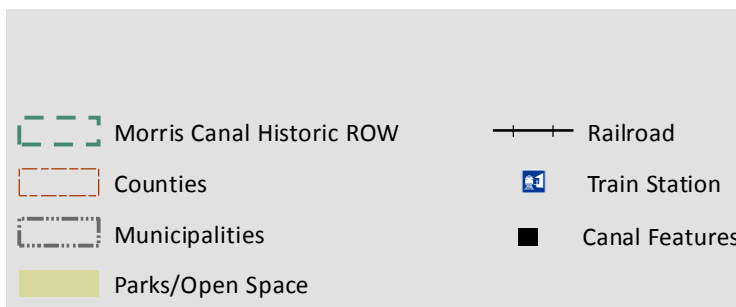
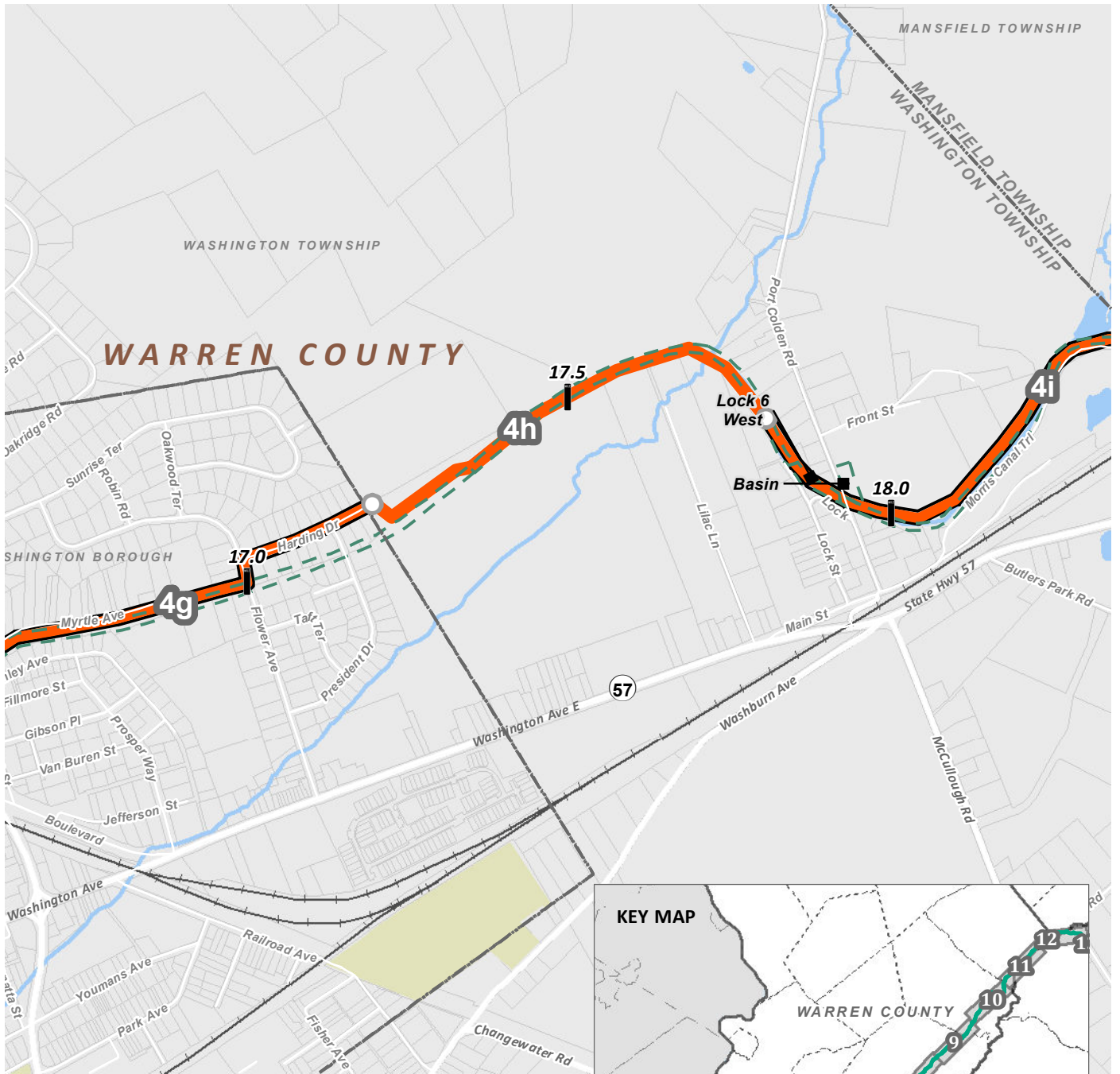


### Legend

**MORRIS CANAL GREENWAY CORRIDOR STUDY**

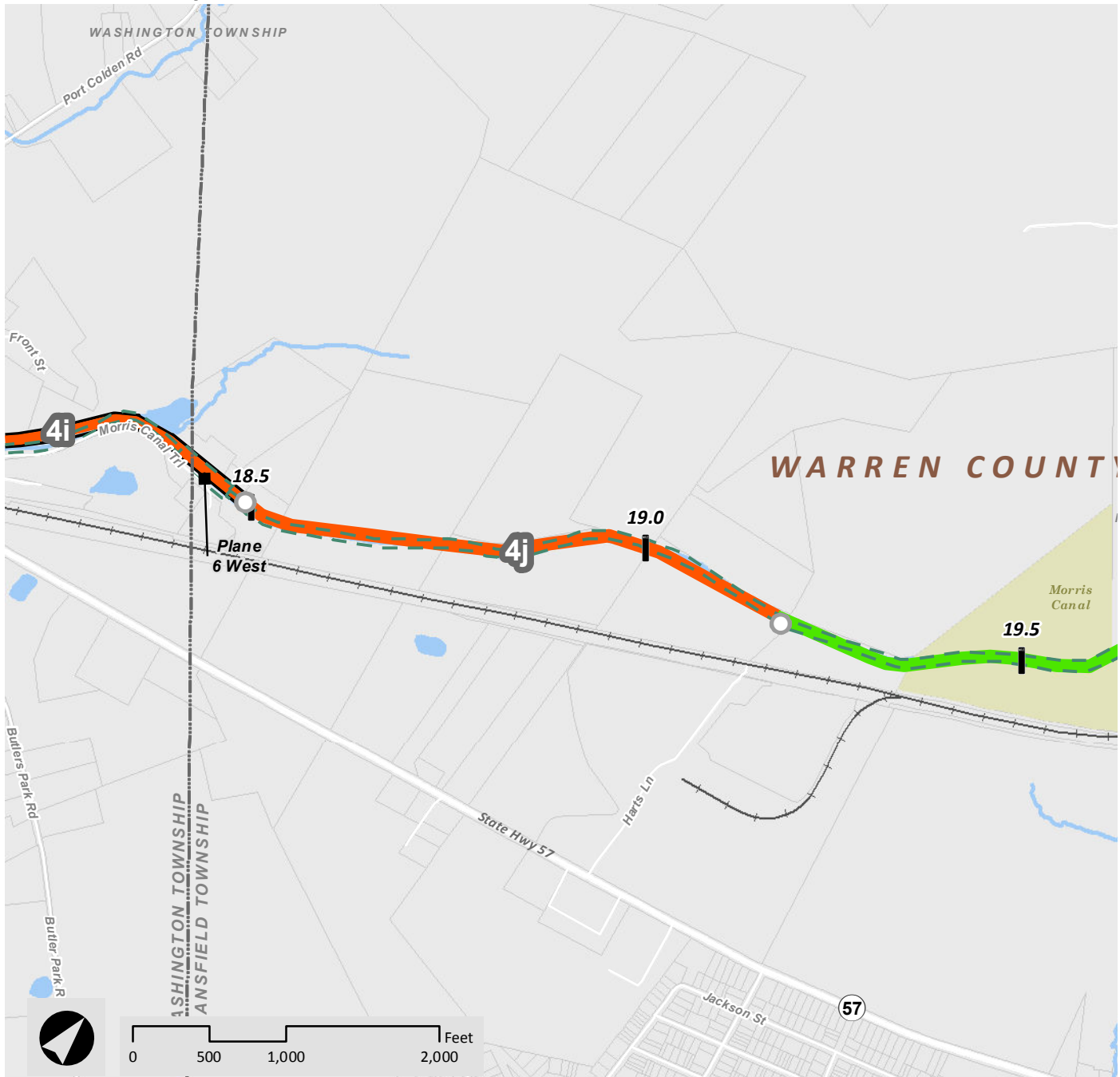
On Rd / Off Rd	Segment Group Breaks	Mileposts
Existing Greenway	Segment Start/End Pt	Business District
Short/Medium-Term (2018-2027)	Spur (existing)	Trailheads
Long Term (2028+)	Spur (proposed)	Segment Number
Interim		

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County



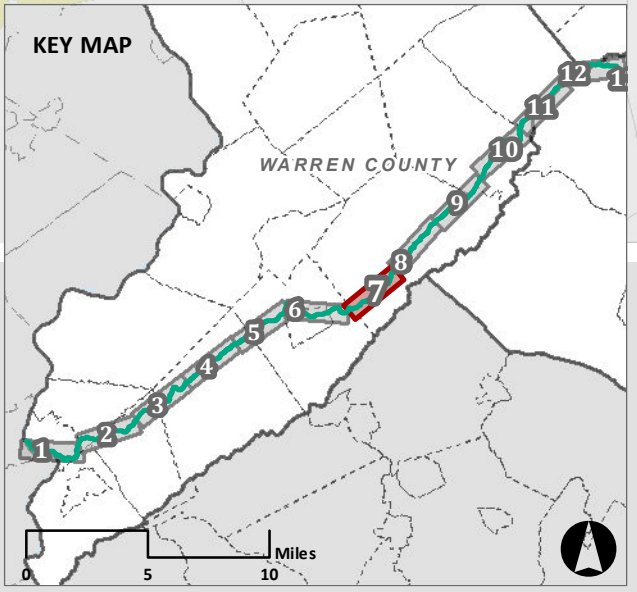
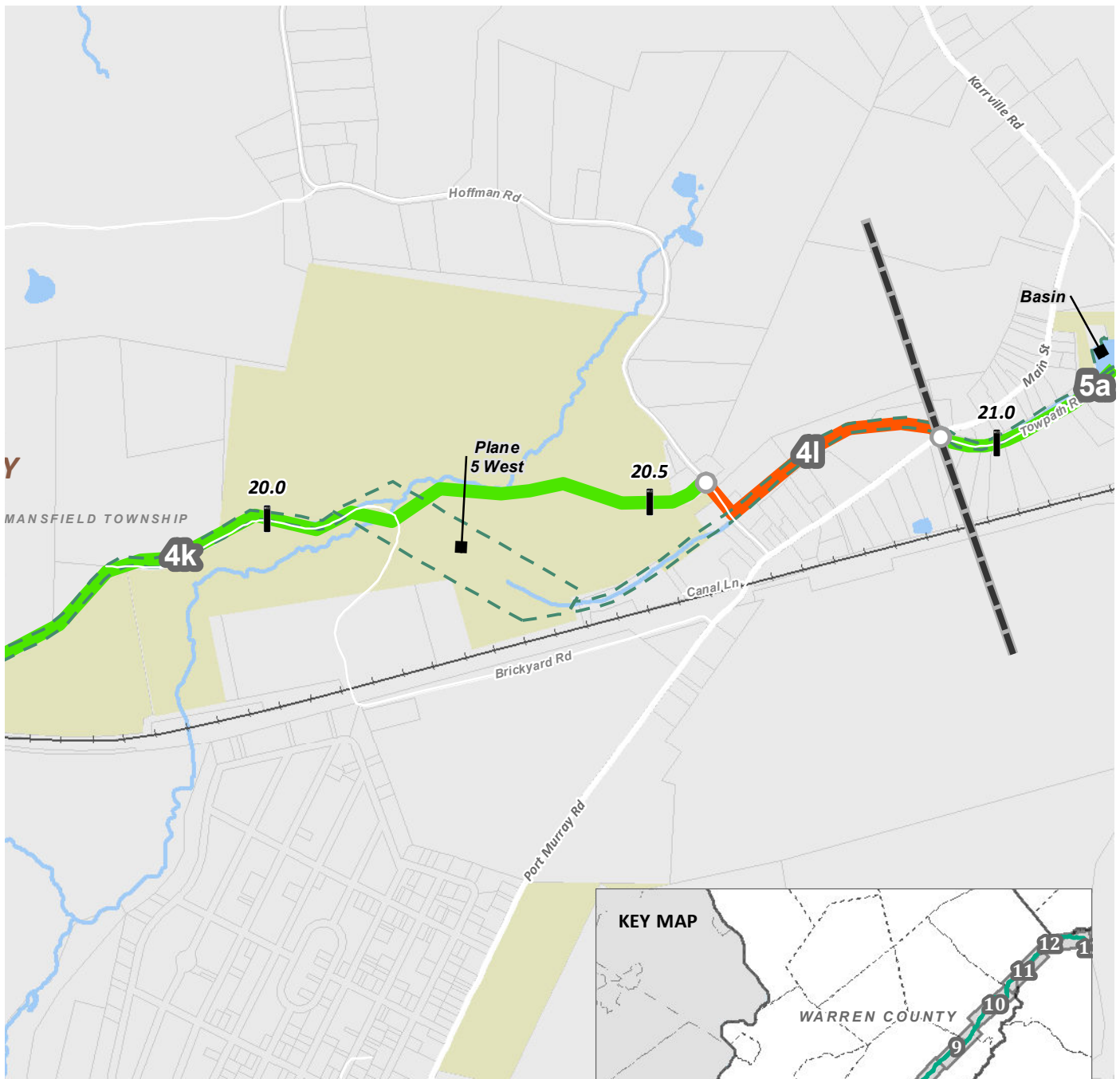
### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

- |                               |                      |                   |
|-------------------------------|----------------------|-------------------|
| Existing Greenway             | Segment Group Breaks | Mileposts         |
| Short/Medium-Term (2018-2027) | Segment Start/End Pt | Business District |
| Long Term (2028+)             | Spur (existing)      | Trailheads        |
| Interim                       | Spur (proposed)      | Segment Number    |

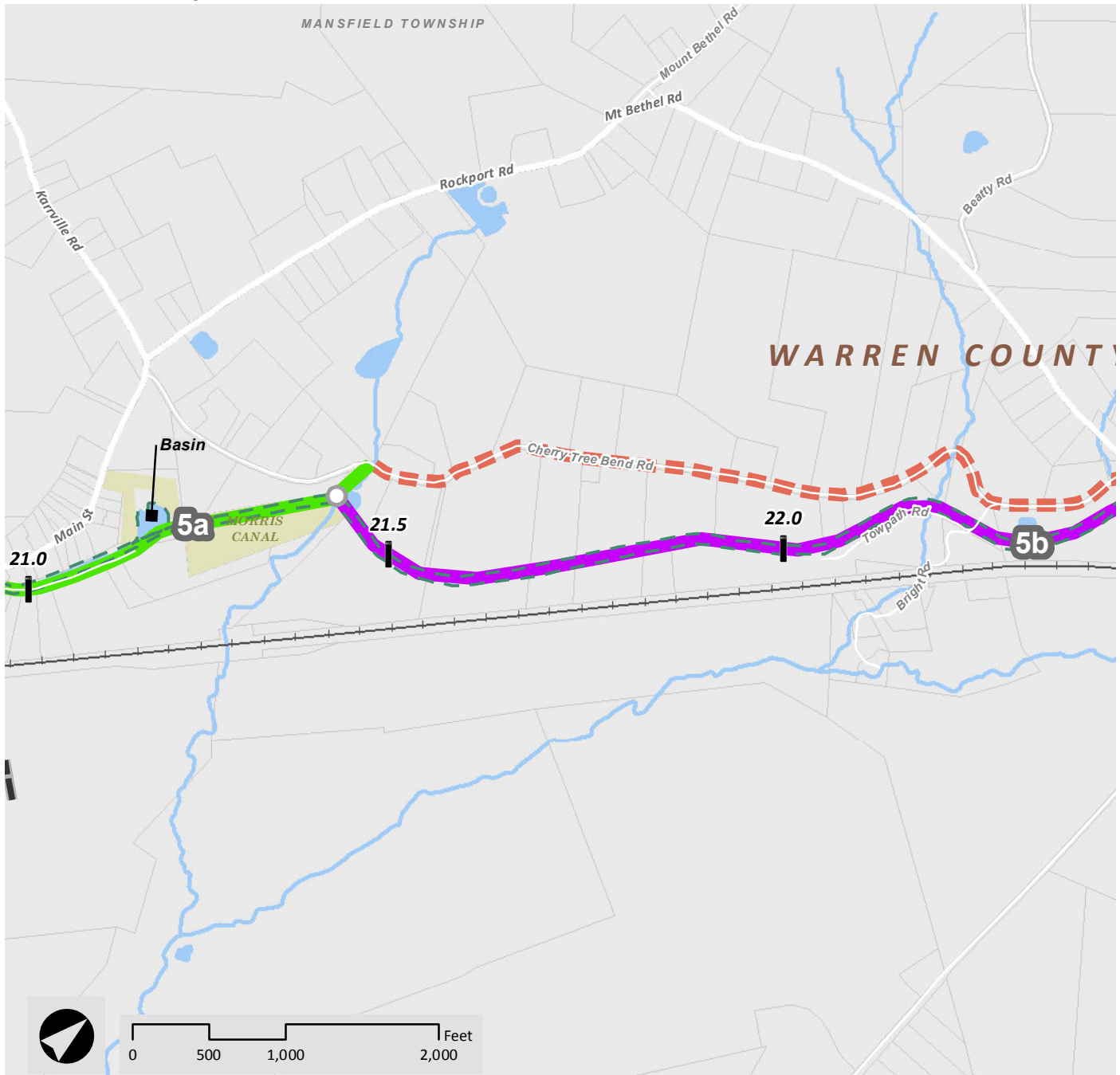
Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



- Morris Canal Historic ROW
- Counties
- Municipalities
- Parks/Open Space
- Railroad
- Train Station
- Canal Features

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

Mileposts

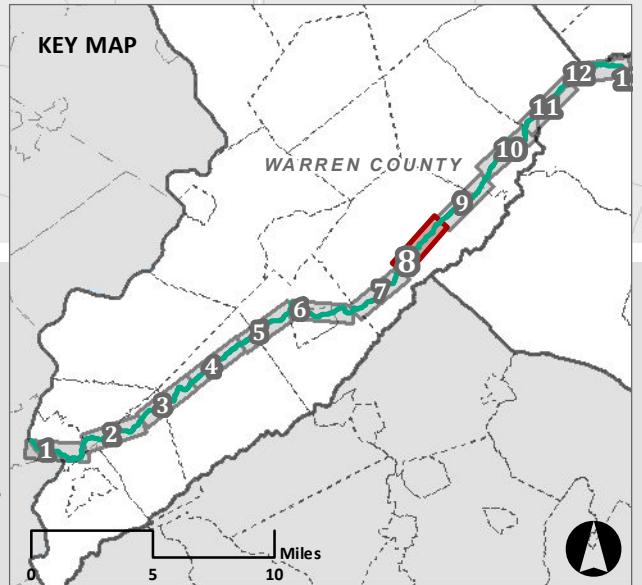
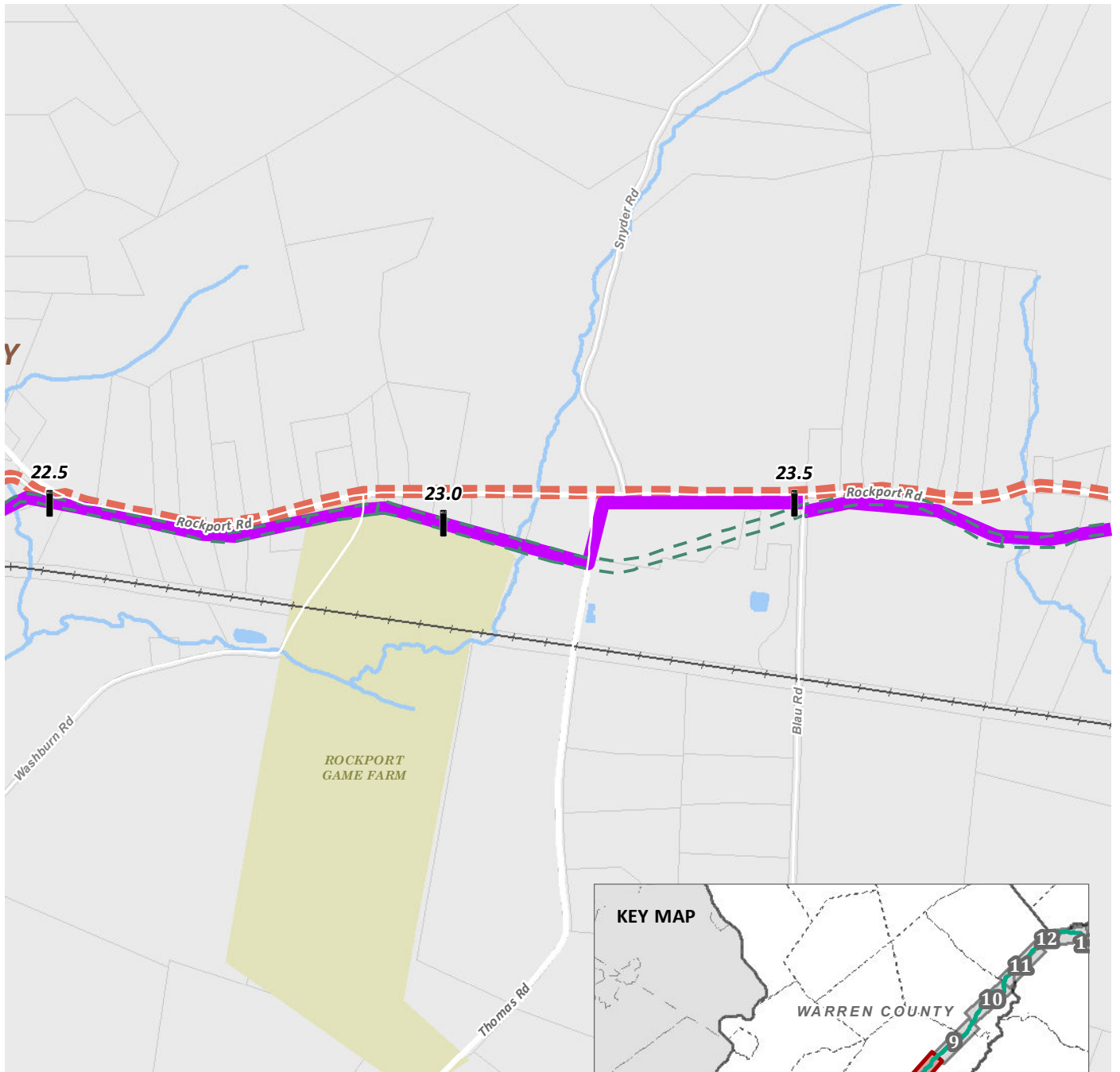
Business District








Trailheads

Segment Number

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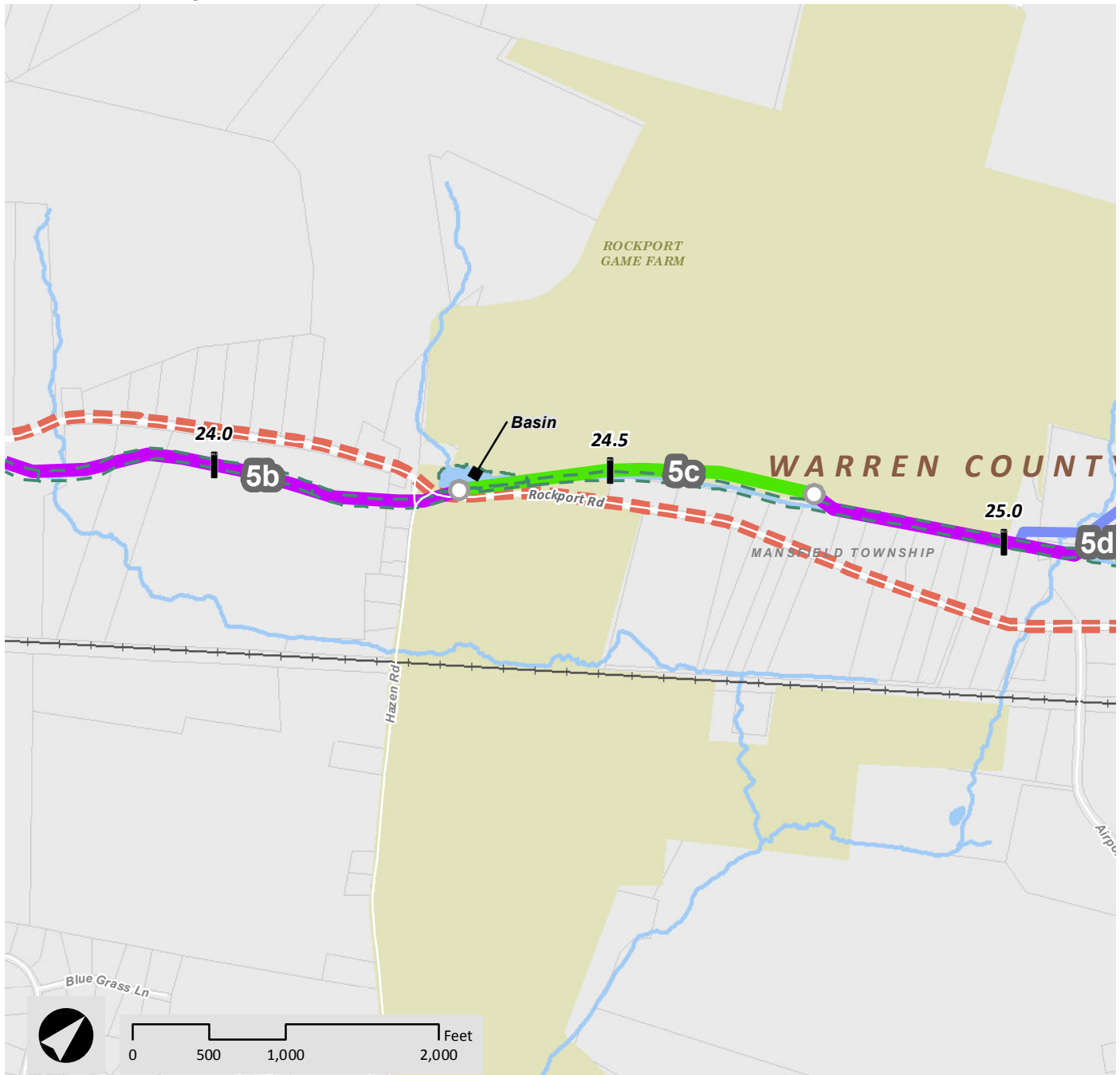




- |   |  |
|---|--|
|  Morris Canal Historic ROW |  Railroad       |
|  Counties                  |  Train Station  |
|  Municipalities            |  Canal Features |
|  Parks/Open Space          |  |

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

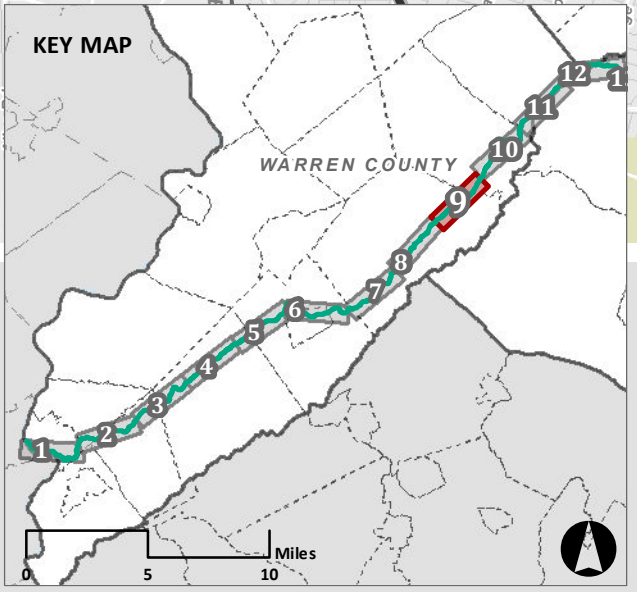
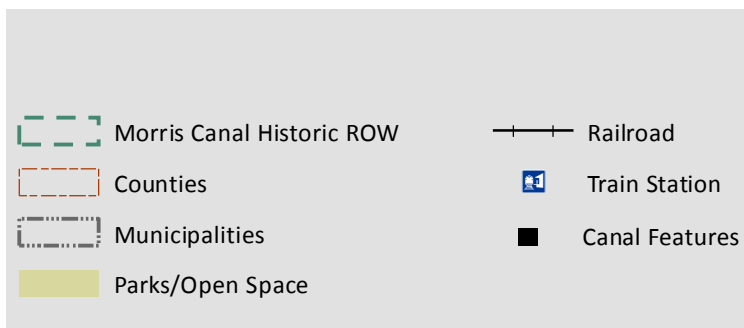
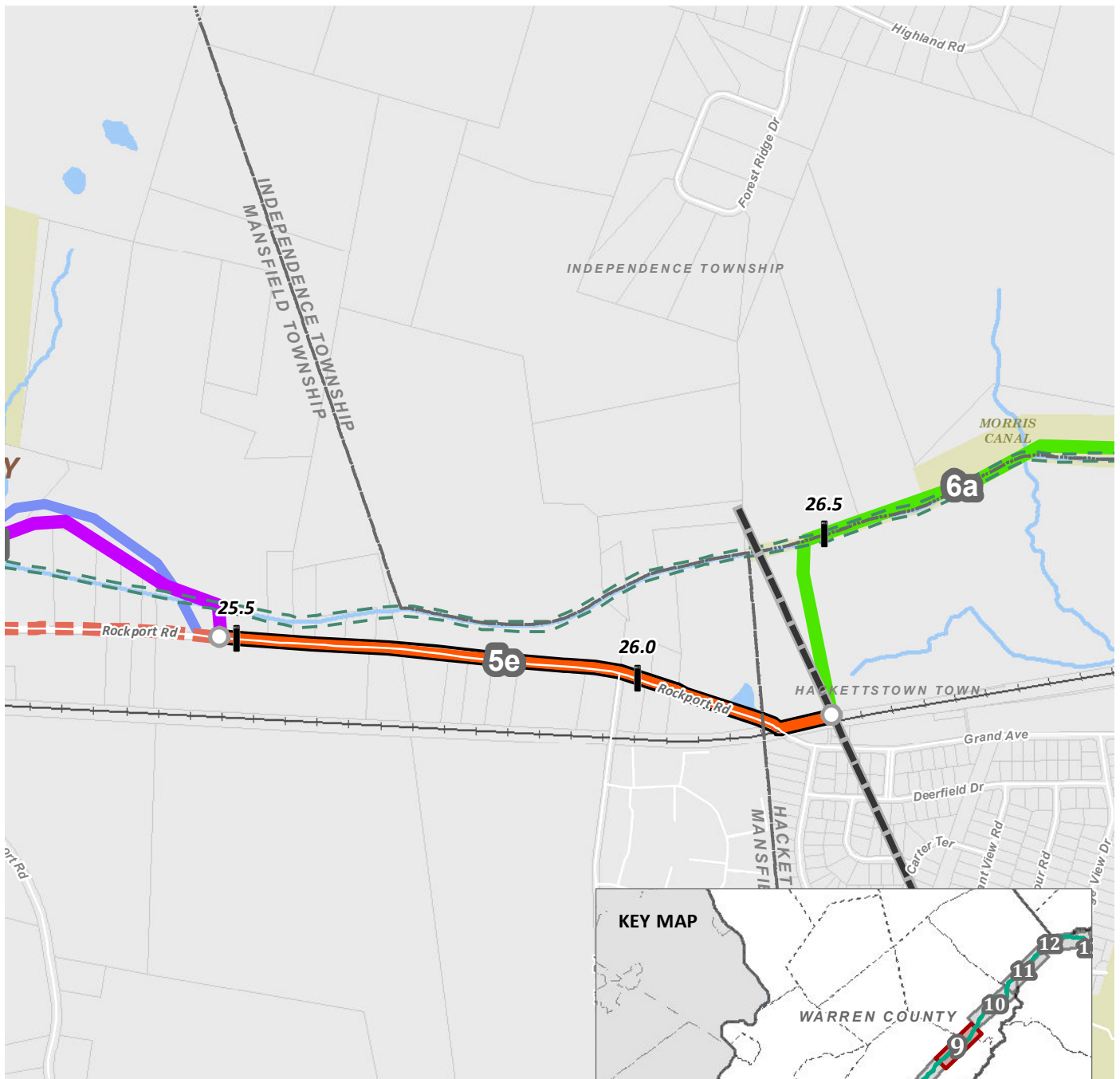
Mileposts

Business District

Trailheads

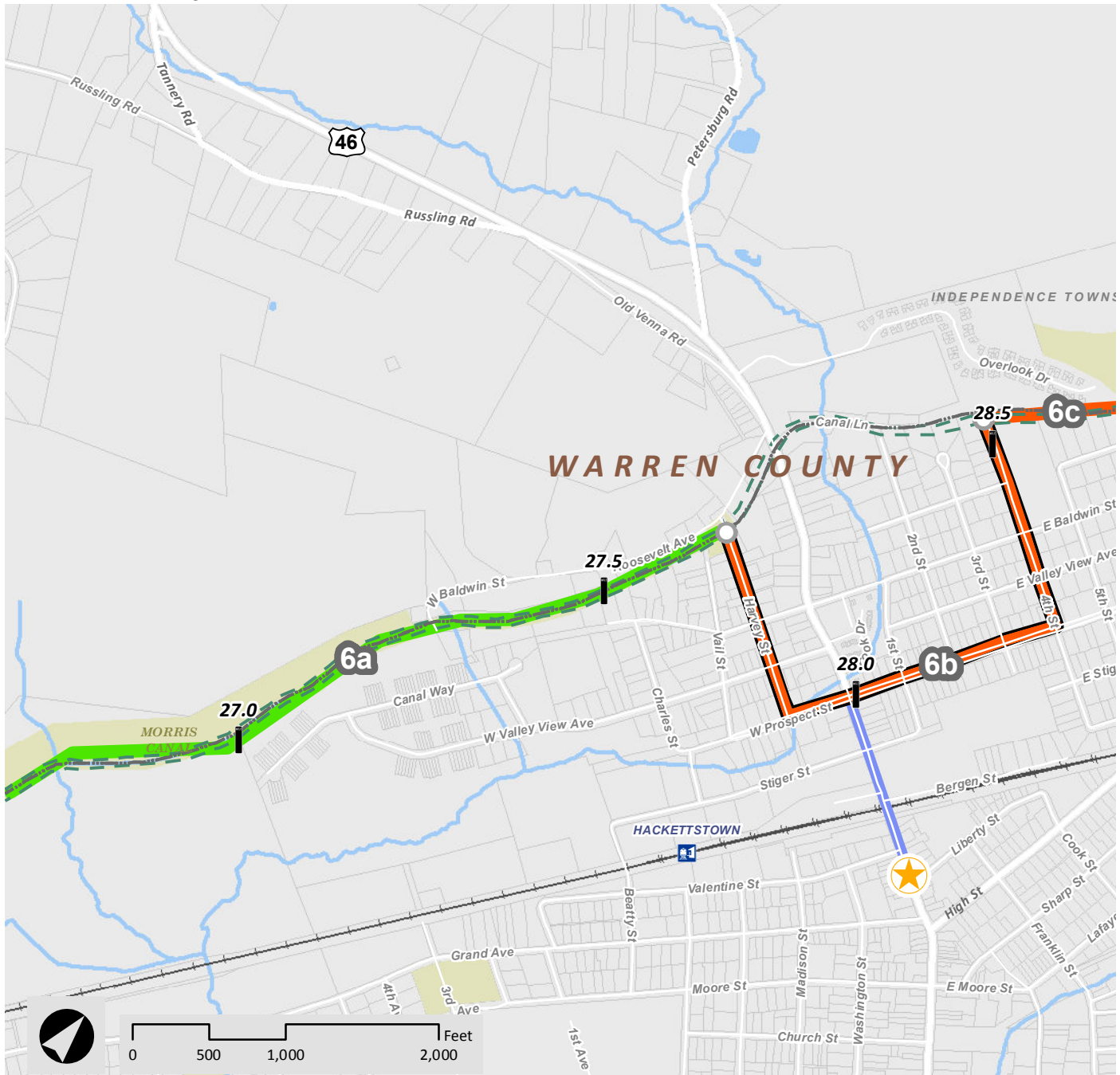
Segment Number

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# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

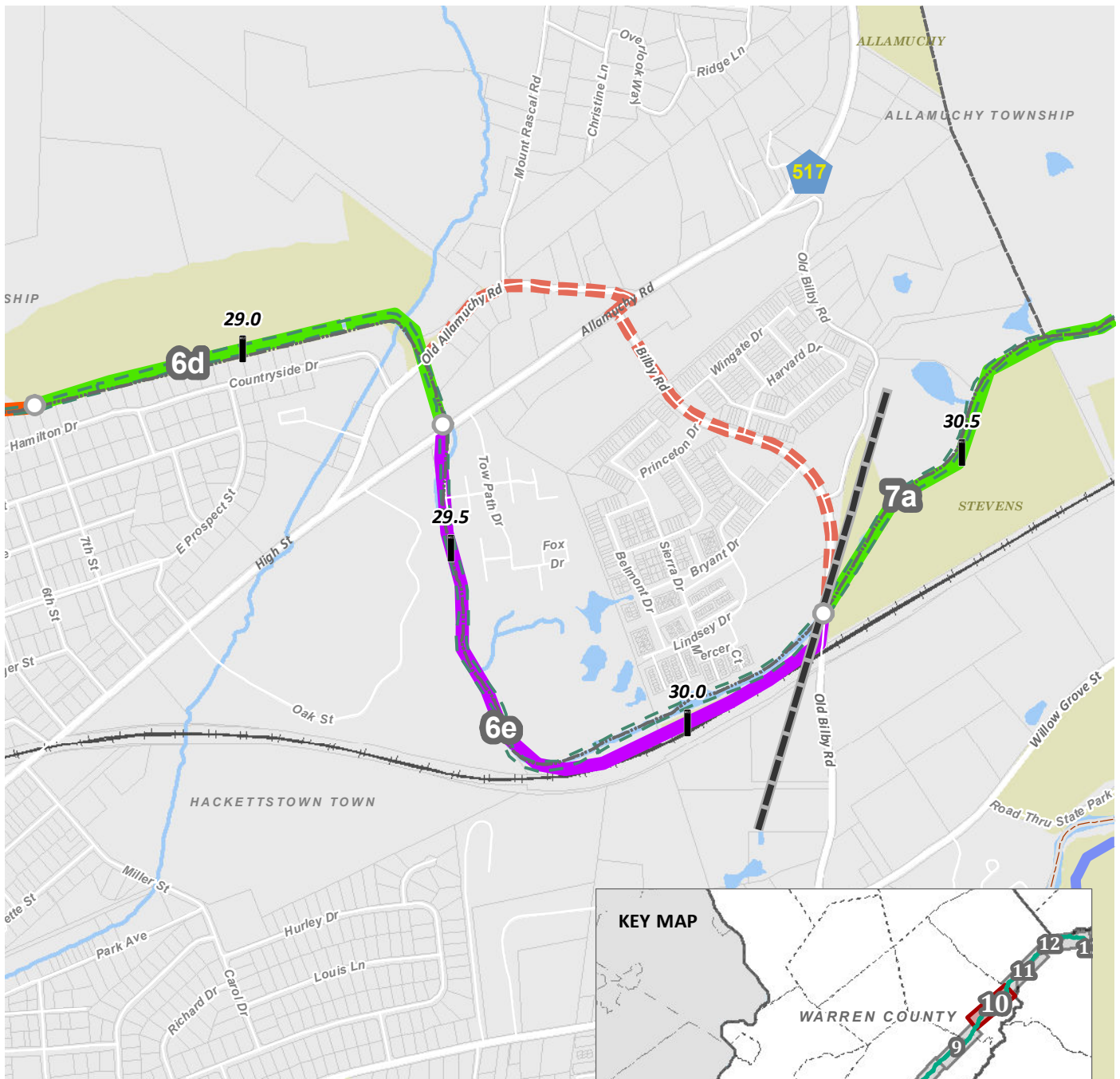
## Warren County





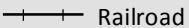




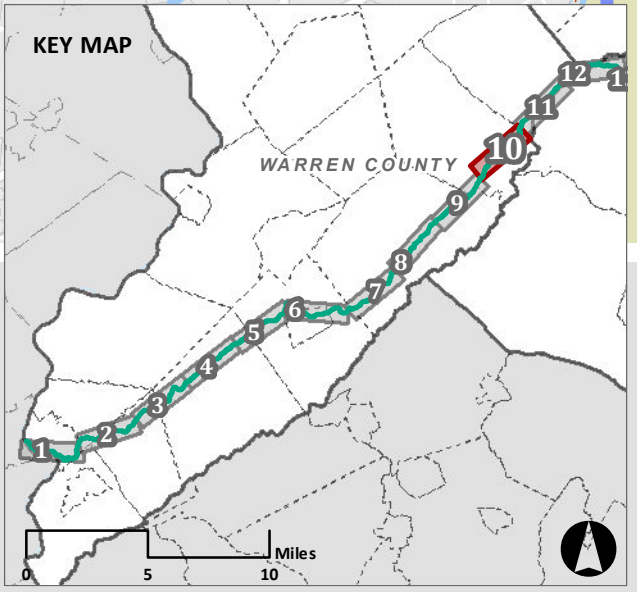
**Legend**  
**MORRIS CANAL GREENWAY CORRIDOR STUDY**

On Rd / Off Rd	Existing Greenway	Segment Group Breaks	Mileposts
Short/Medium-Term (2018-2027)	Long Term (2028+)	Segment Start/End Pt	Business District
Interim	Spur (existing)	Spur (proposed)	Trailheads
			Segment Number

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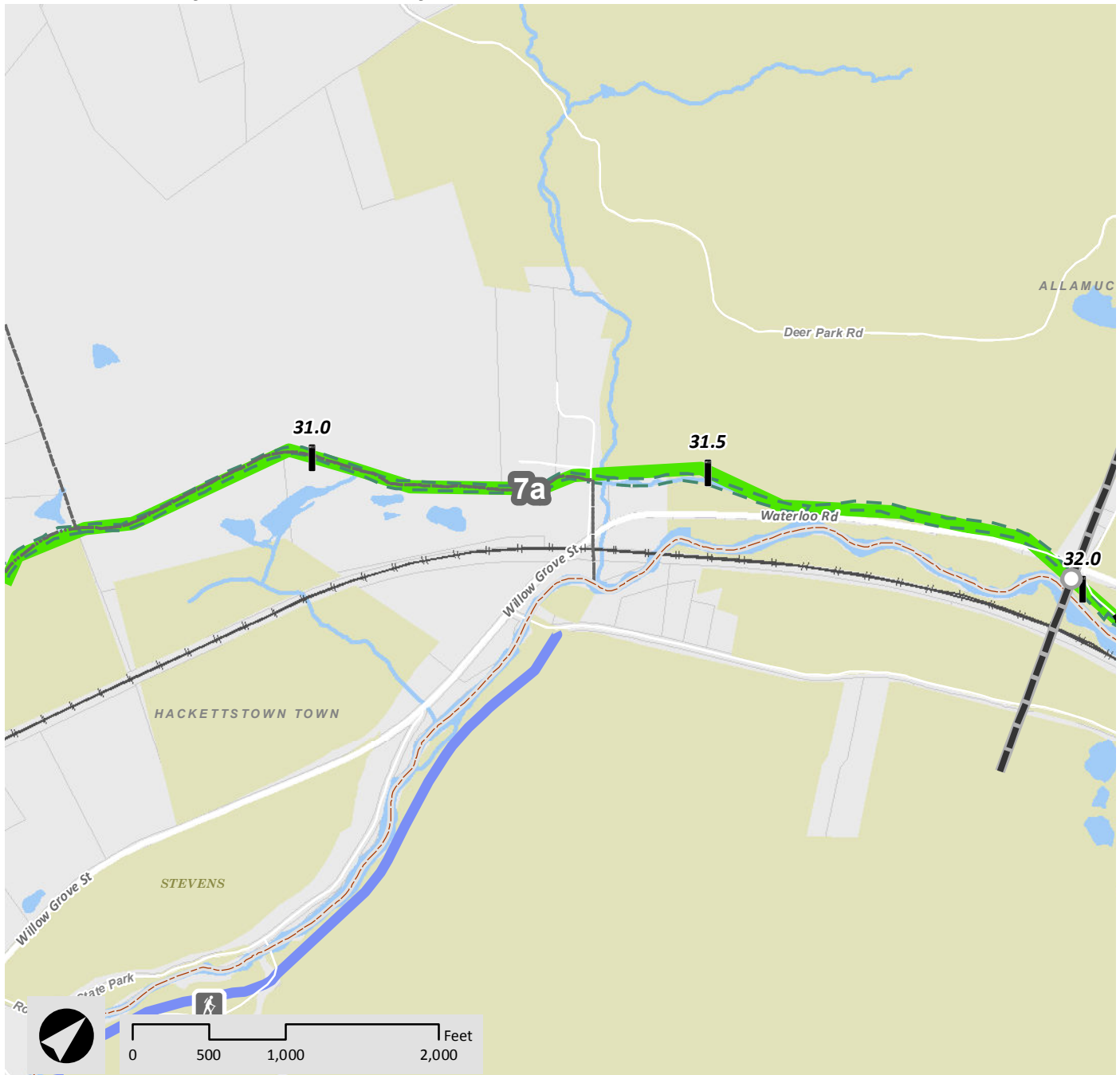


-  Morris Canal Historic ROW
-  Counties
-  Municipalities
-  Parks/Open Space
-  Railroad
-  Train Station
-  Canal Features



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County & Morris County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

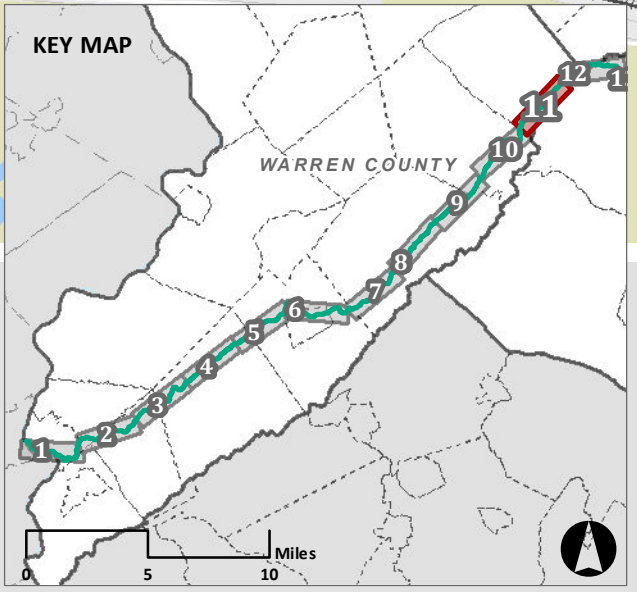
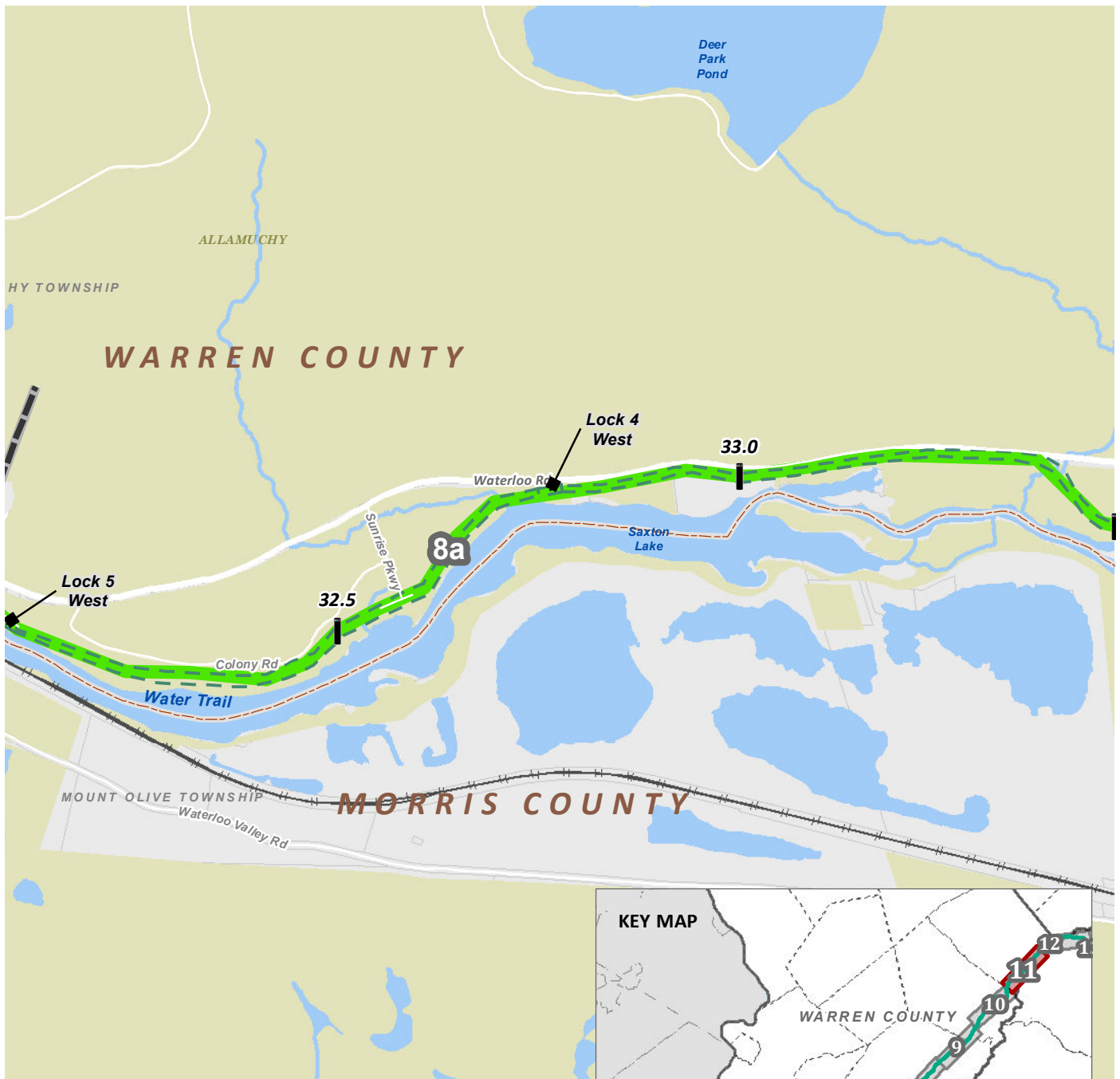
Mileposts





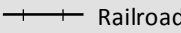


Business District

Trailheads

Segment Number

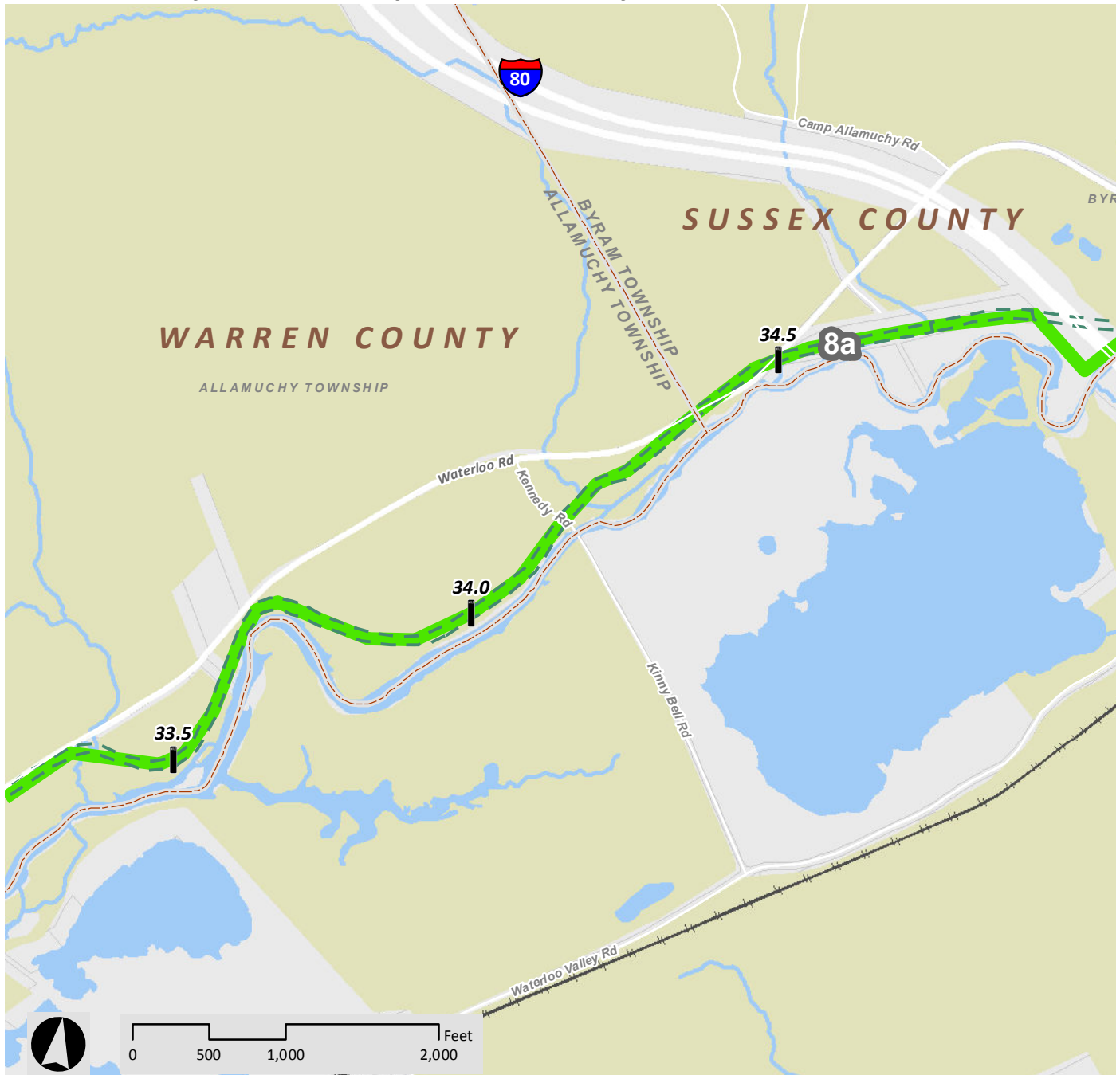
Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes. Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



-  Morris Canal Historic ROW
-  Counties
-  Municipalities
-  Parks/Open Space
-  Railroad
-  Train Station
-  Canal Features

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Warren County, Sussex County & Morris County

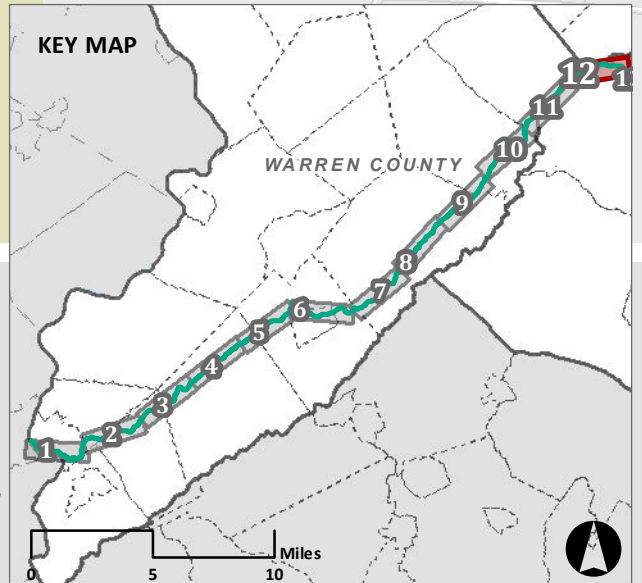
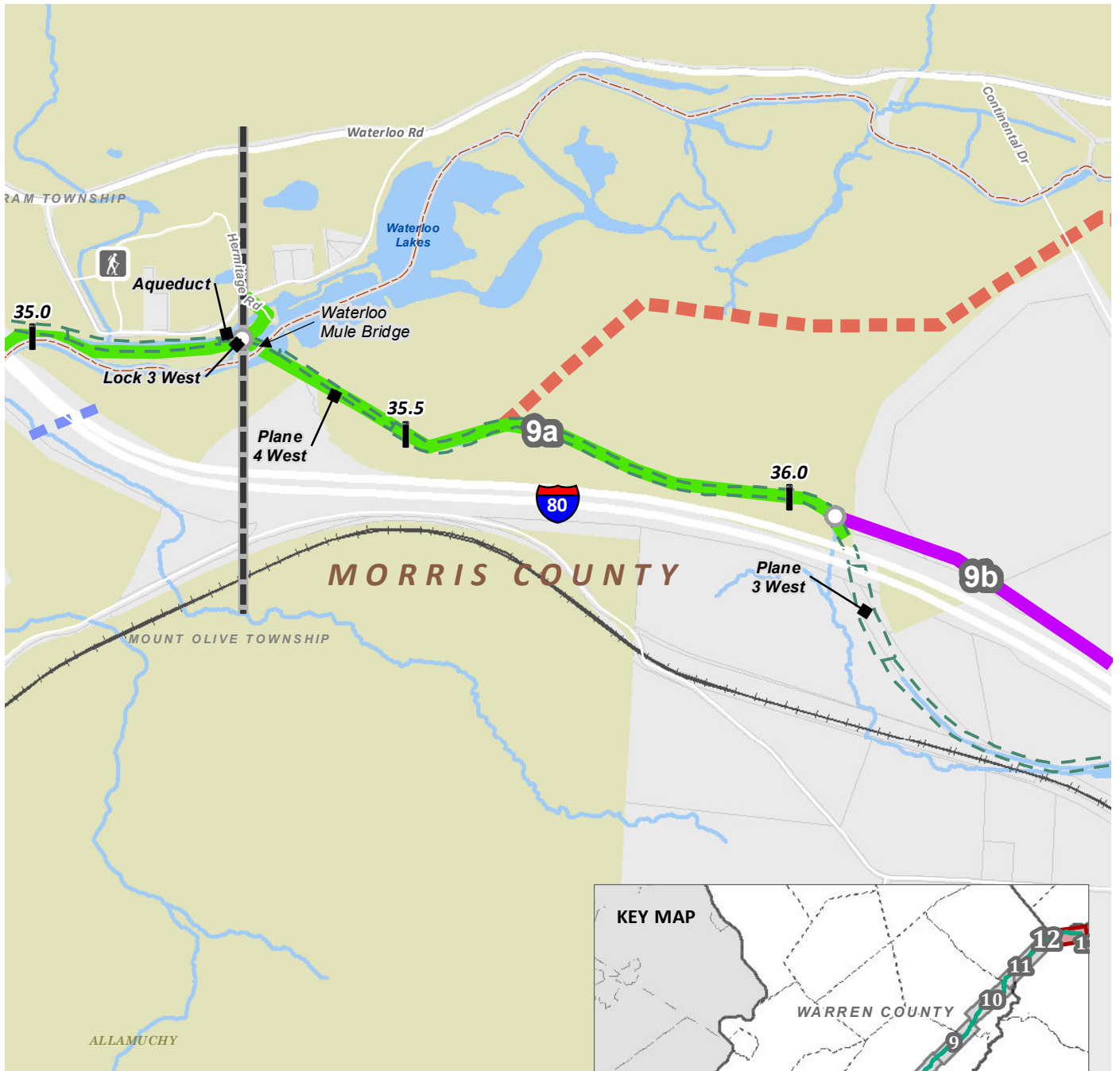


**Legend**  
**MORRIS CANAL GREENWAY CORRIDOR STUDY**

<b>On Rd / Off Rd</b>	Existing Greenway	Segment Group Breaks	Mileposts
Short/Medium-Term (2018-2027)	Long Term (2028+)	Segment Start/End Pt	Business District
Interim	Spur (existing)	Spur (proposed)	Trailheads
			Segment Number

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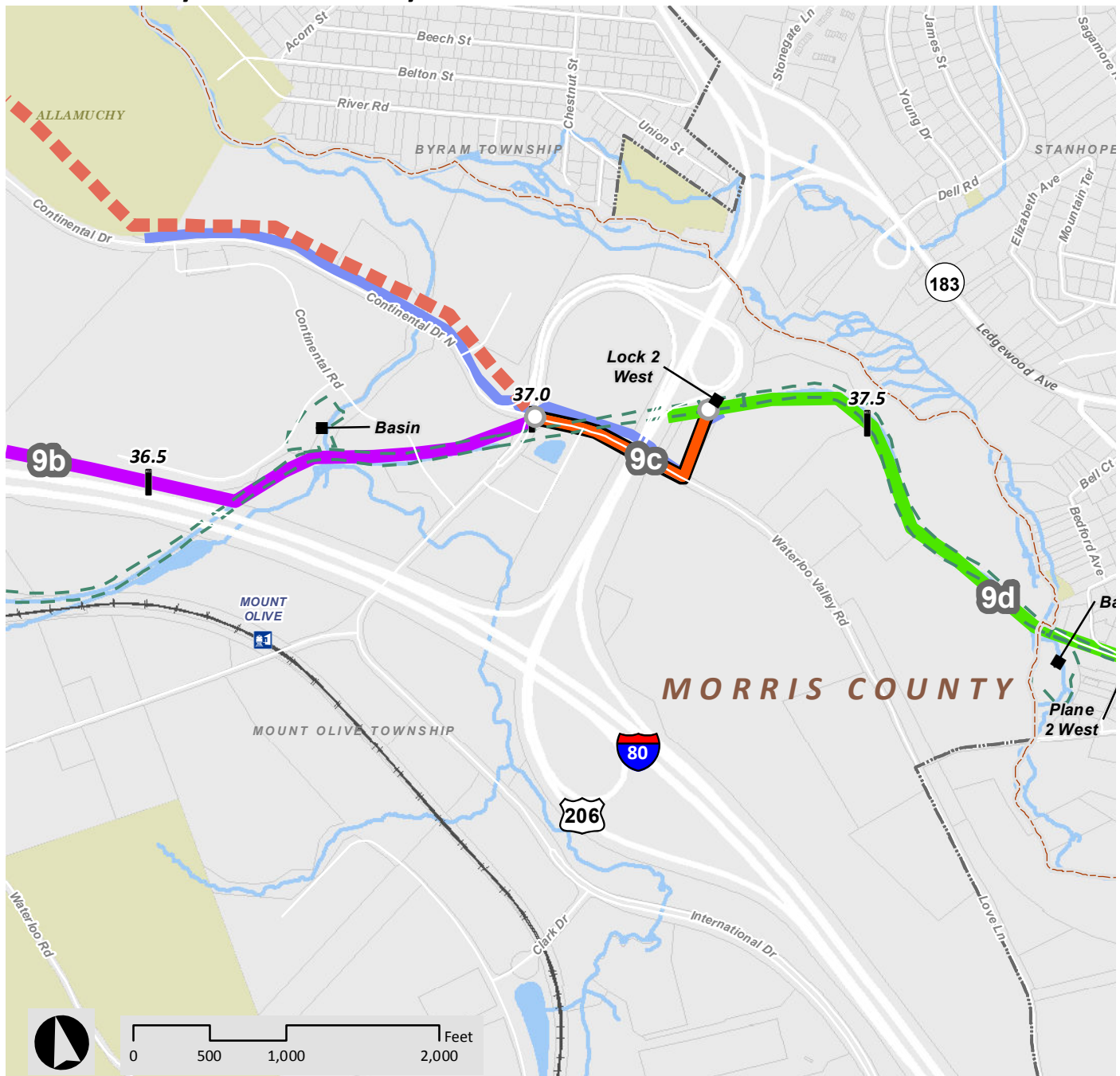
- Morris Canal Historic ROW
- Counties
- Municipalities
- Parks/Open Space
- Railroad
- Train Station
- Canal Features

May 2018

Map Pg. 12 of 36

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Sussex County & Morris County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

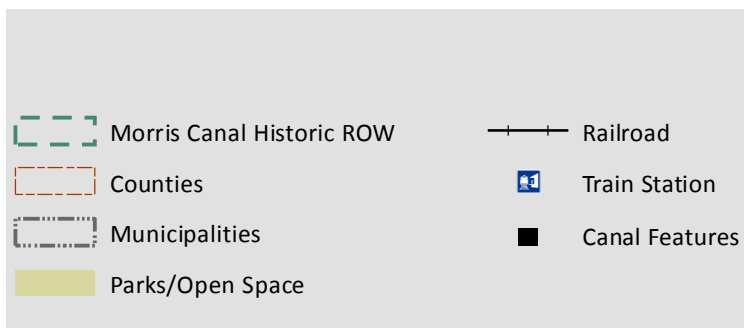
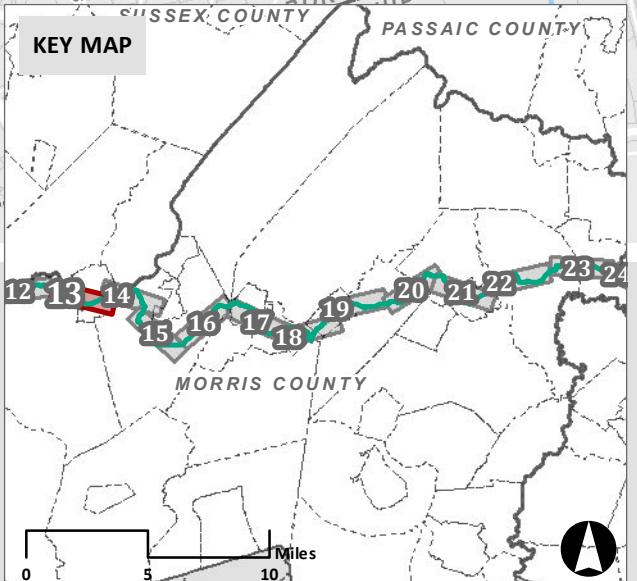
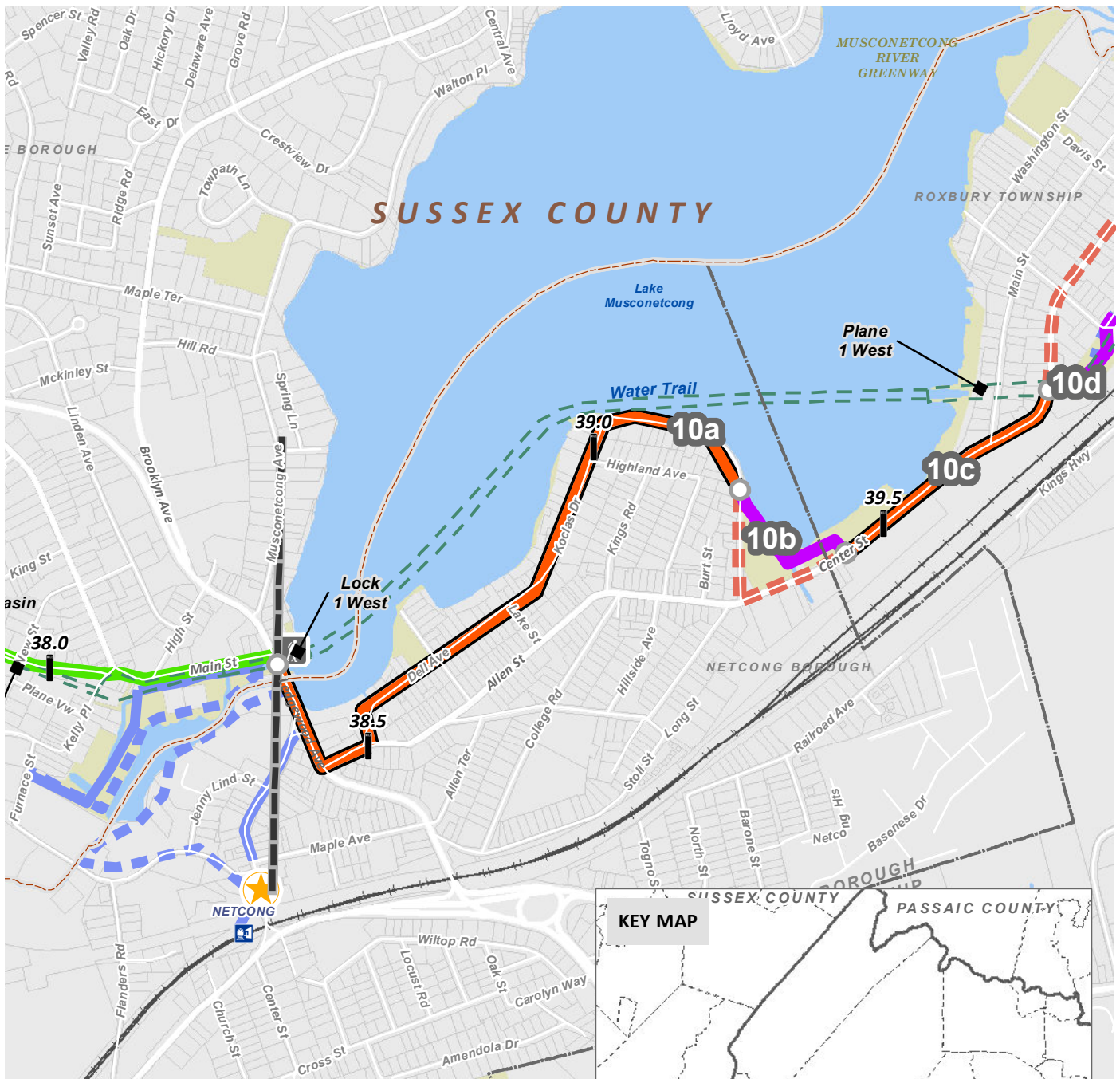
Mileposts

Business District

Trailheads

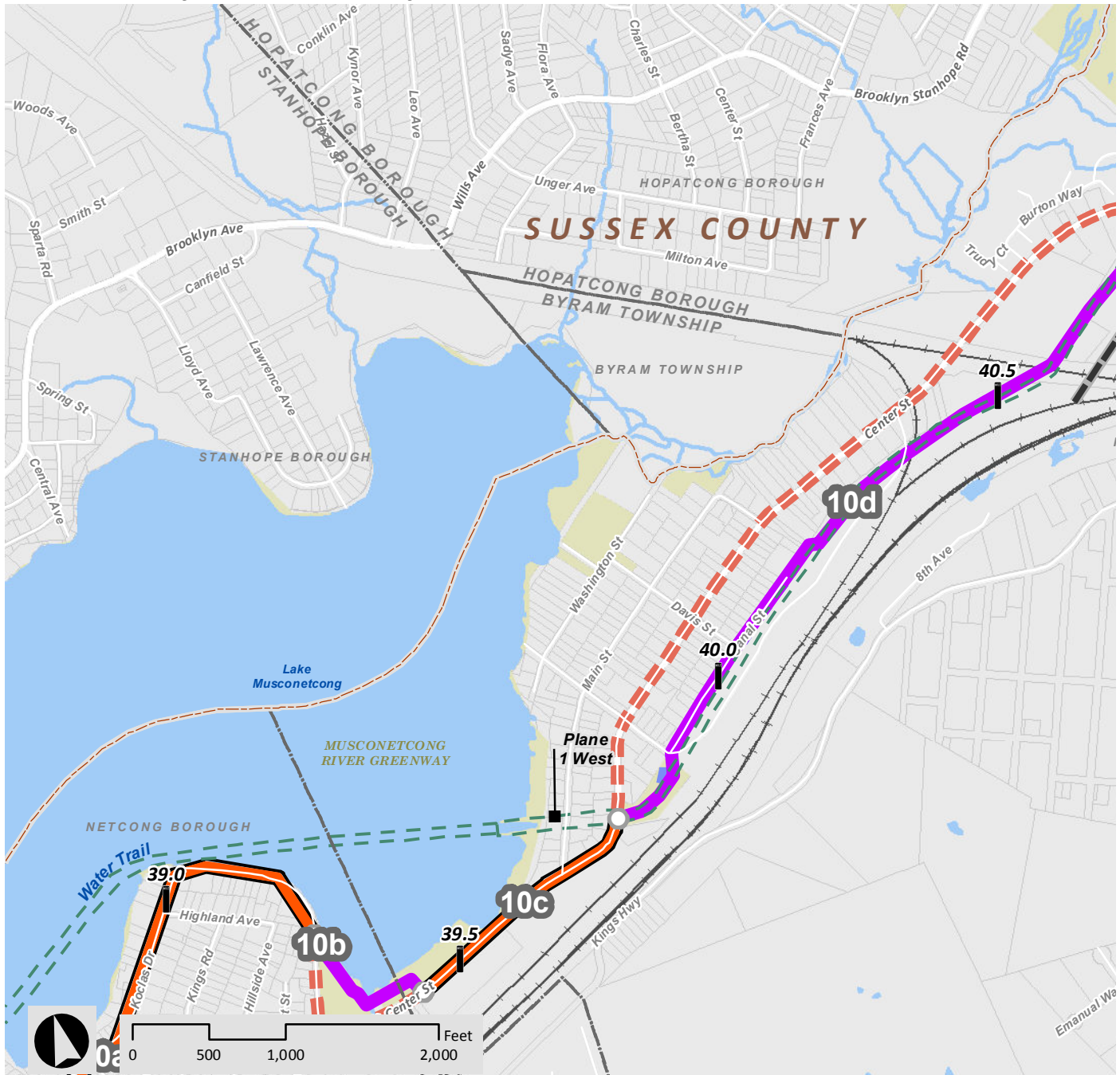
Segment Number

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# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

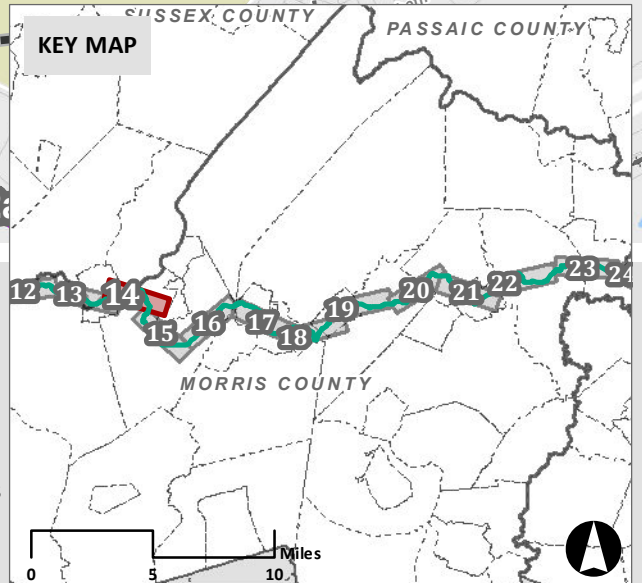
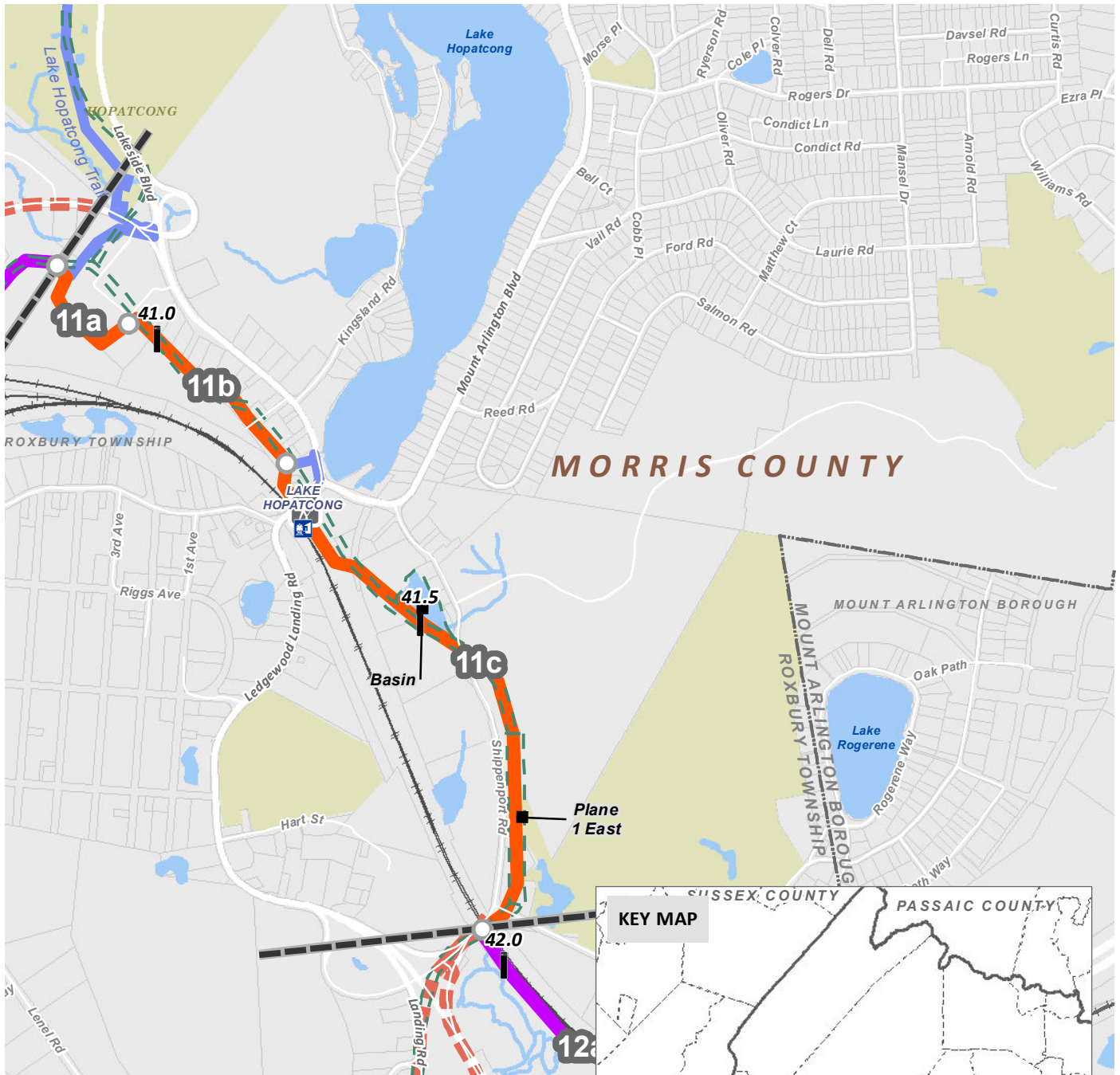
## Sussex County & Morris County



**Legend**  
**MORRIS CANAL GREENWAY CORRIDOR STUDY**

On Rd / Off Rd	Segment Group Breaks	Mileposts
Existing Greenway	Segment Start/End Pt	Business District
Short/Medium-Term (2018-2027)	Spur (existing)	Trailheads
Long Term (2028+)	Spur (proposed)	Segment Number
Interim		

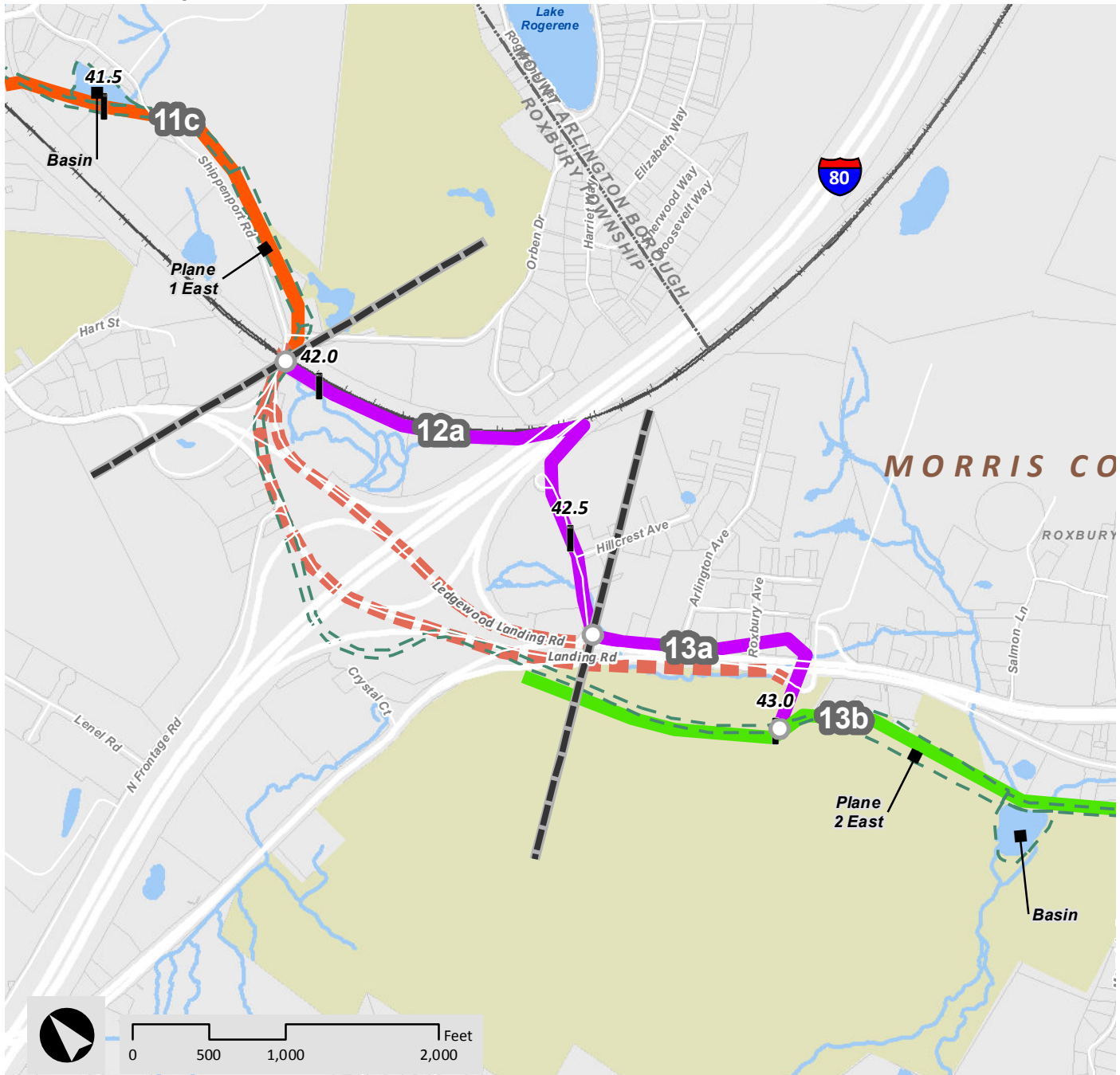
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- Morris Canal Historic ROW
- Counties
- Municipalities
- Parks/Open Space
- Railroad
- Train Station
- Canal Features

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Morris County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

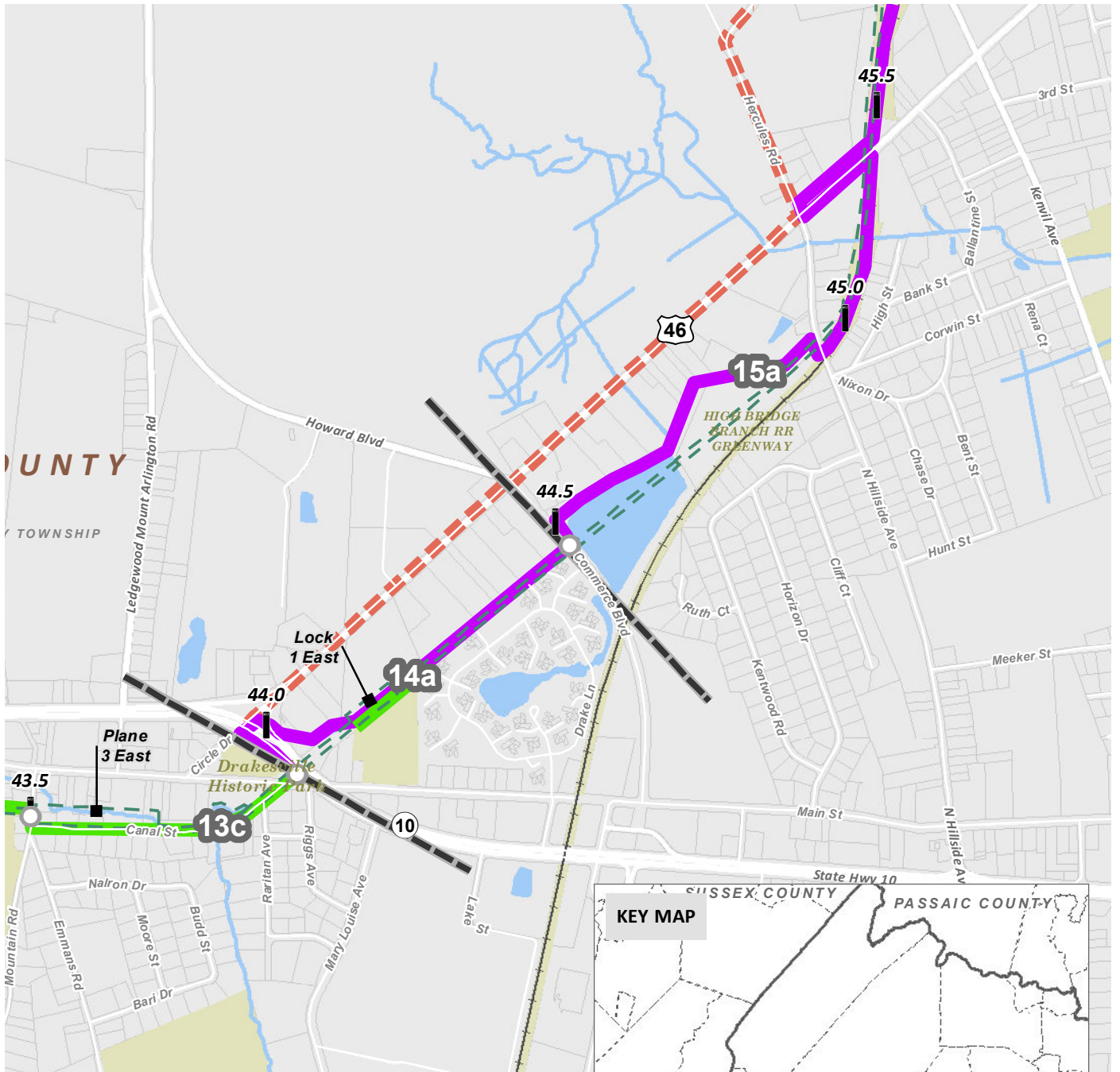
Mileposts

Business District

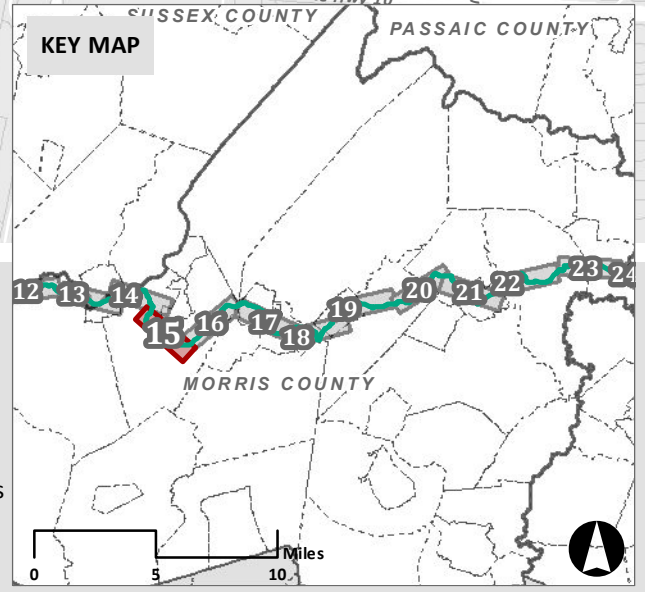
Trailheads

Segment Number

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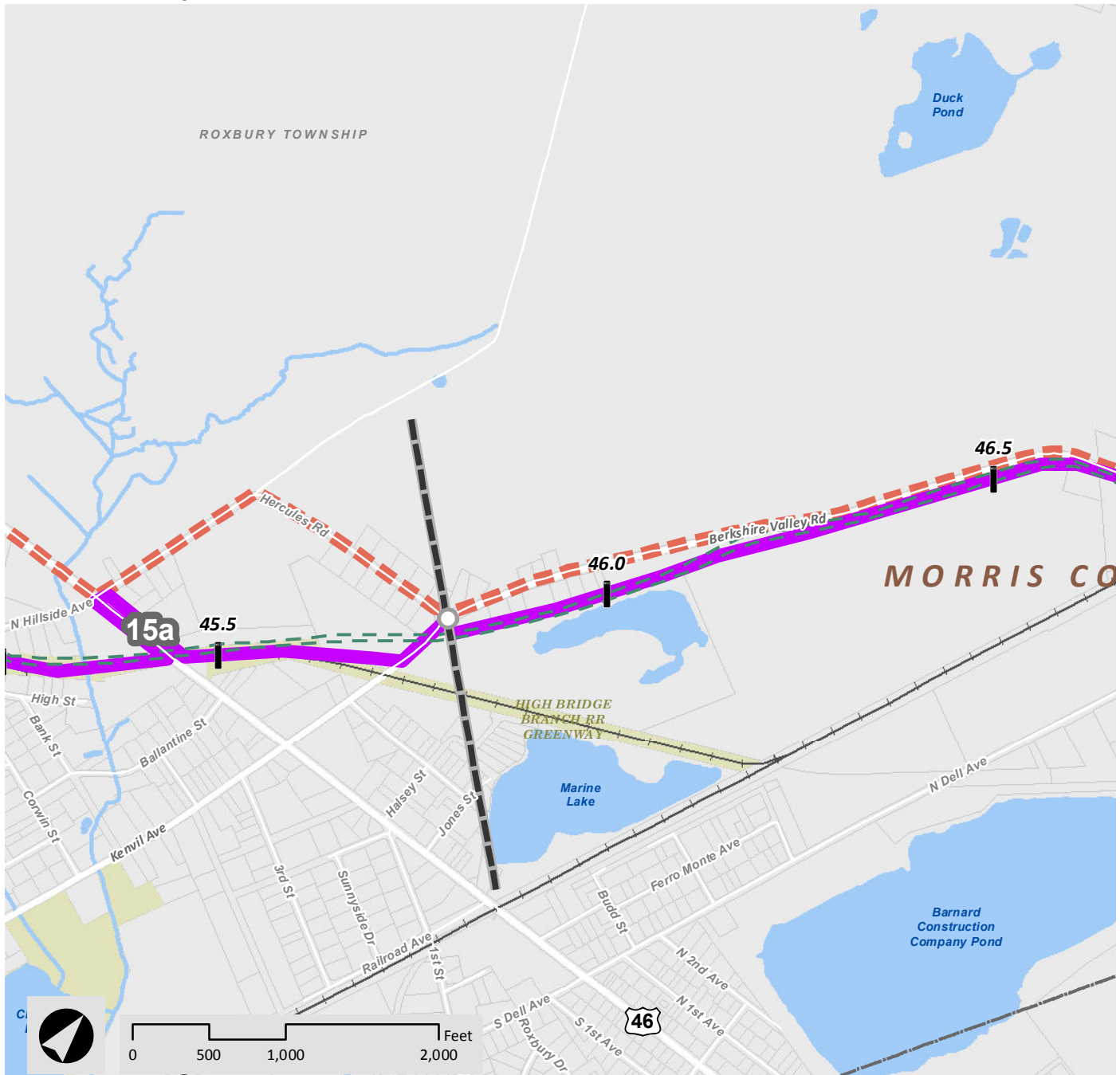


- Morris Canal Historic ROW
- Counties
- Municipalities
- Parks/Open Space
- Railroad
- Train Station
- Canal Features



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Morris County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

Mileposts

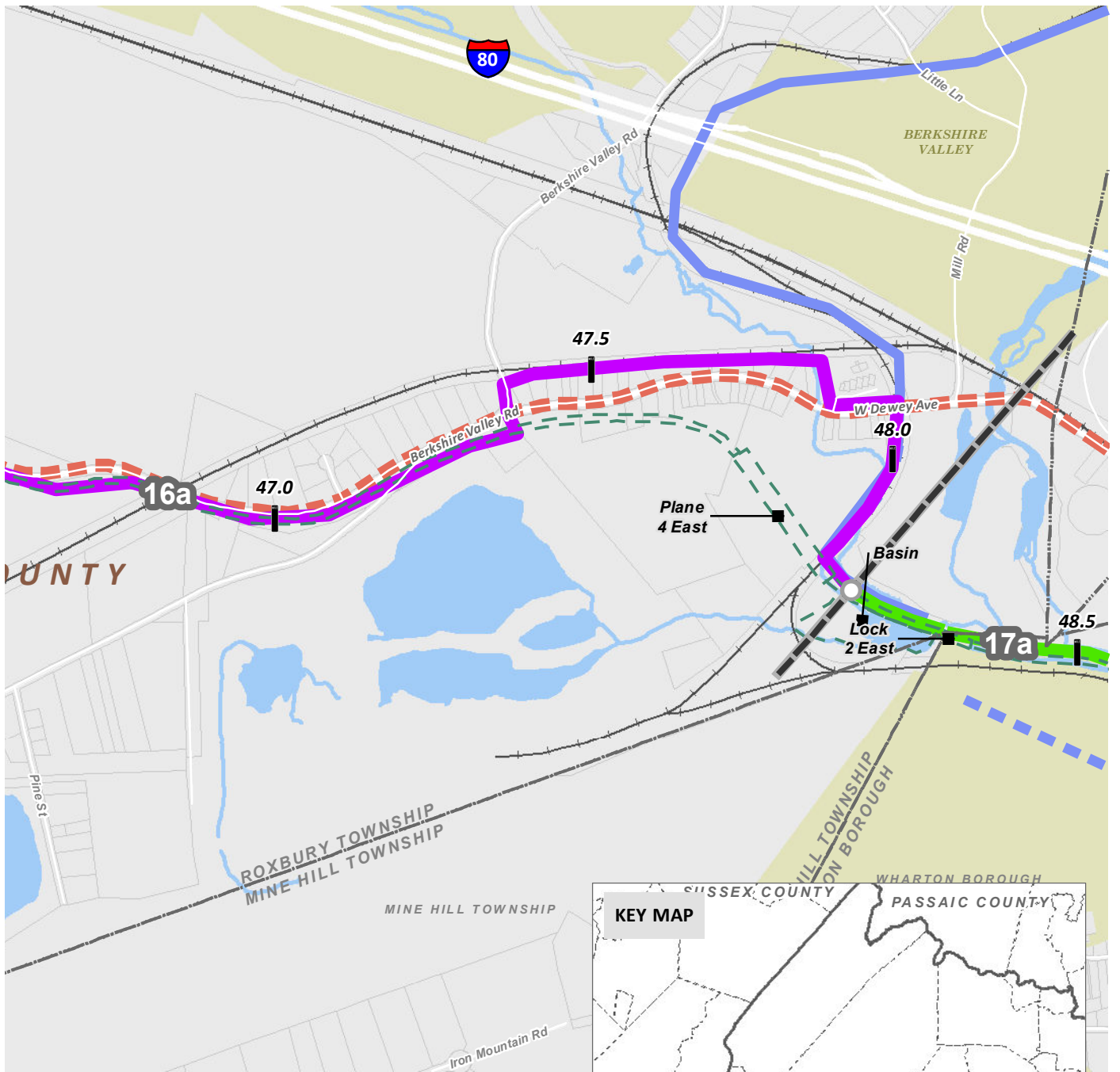
Business District

Trailheads

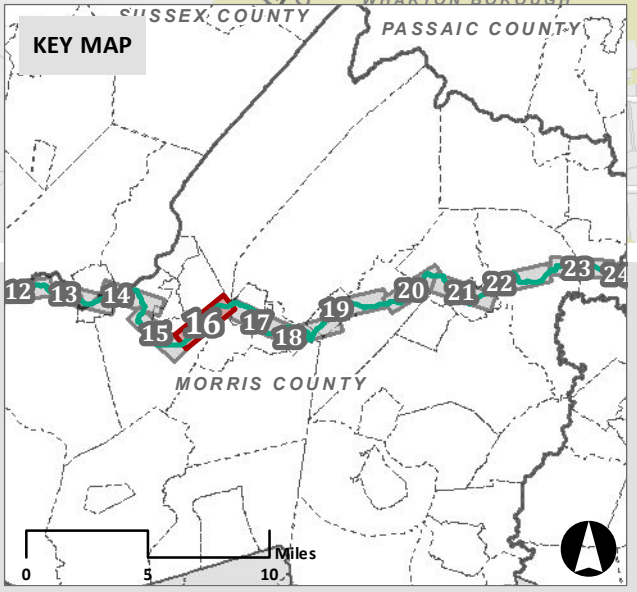
Segment Number

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- Morris Canal Historic ROW
- Counties
- Municipalities
- Parks/Open Space
- Railroad
- Train Station
- Canal Features

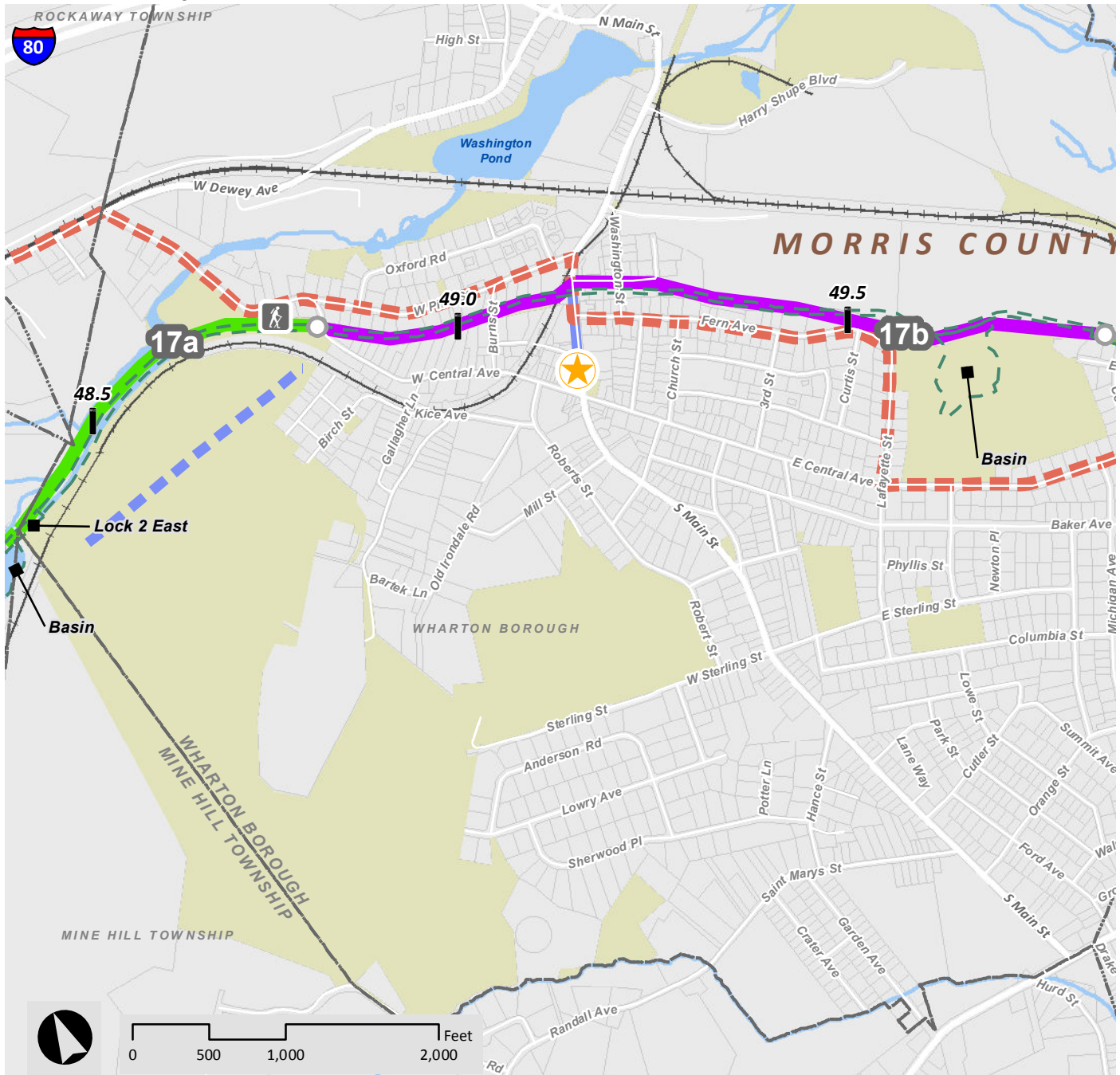


May 2018

Map Pg. 16 of 36

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Morris County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

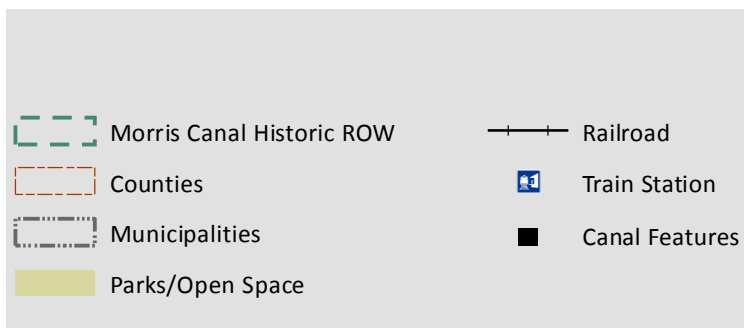
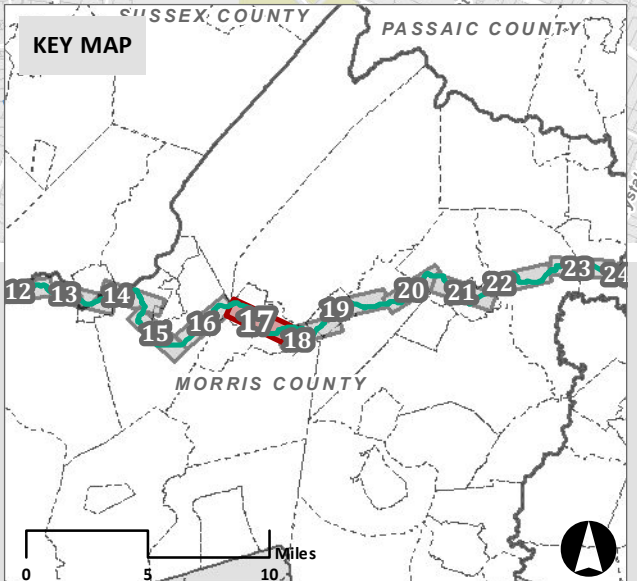
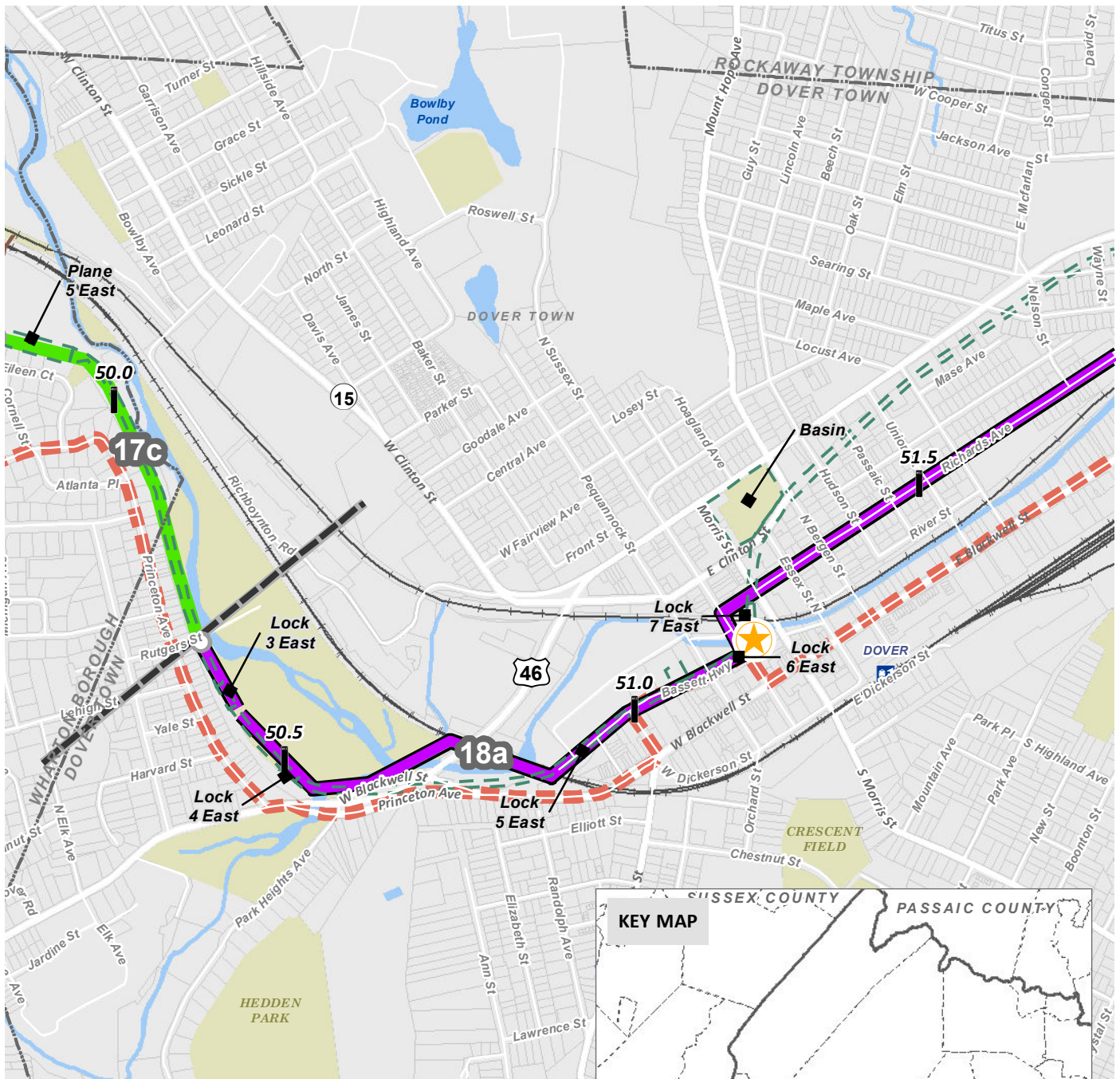
Mileposts

Business District

Trailheads

Segment Number

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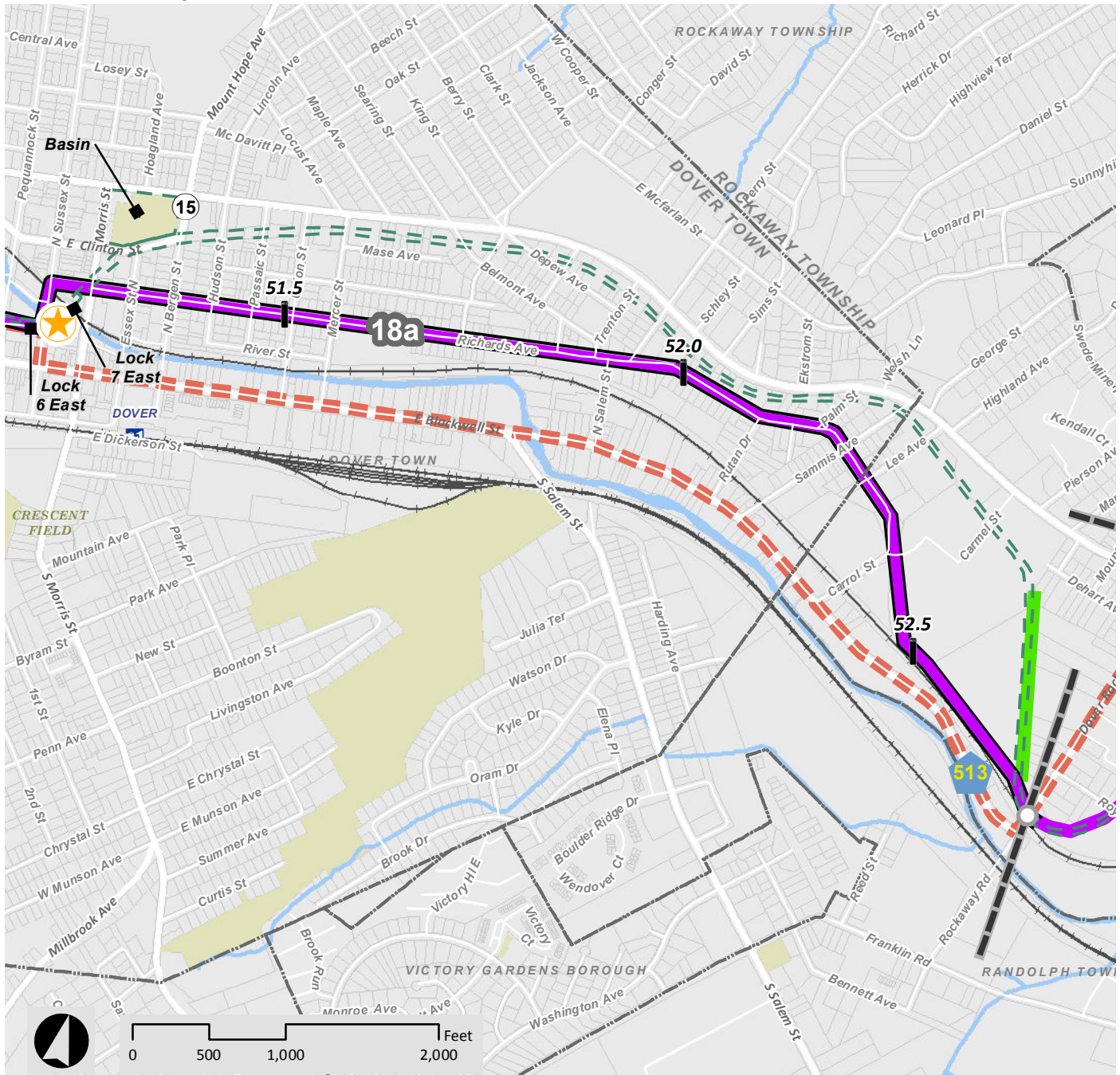


May 2018

Map Pg. 17 of 36

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Morris County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

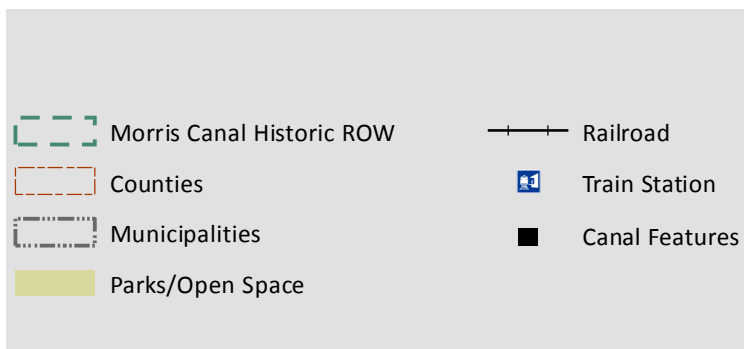
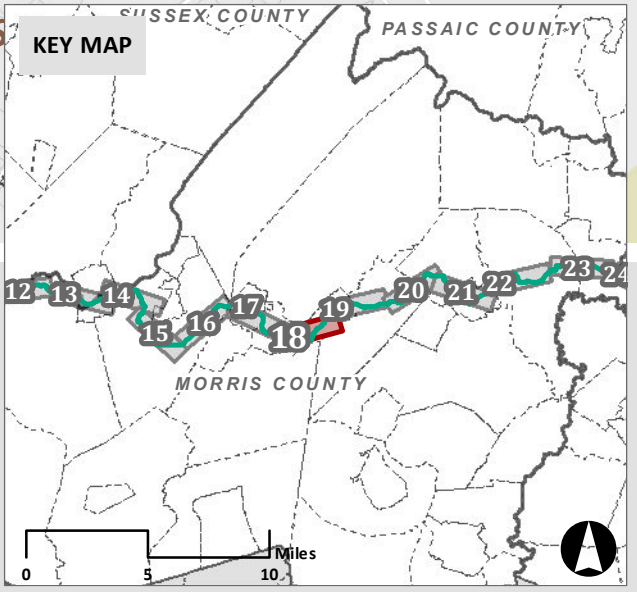
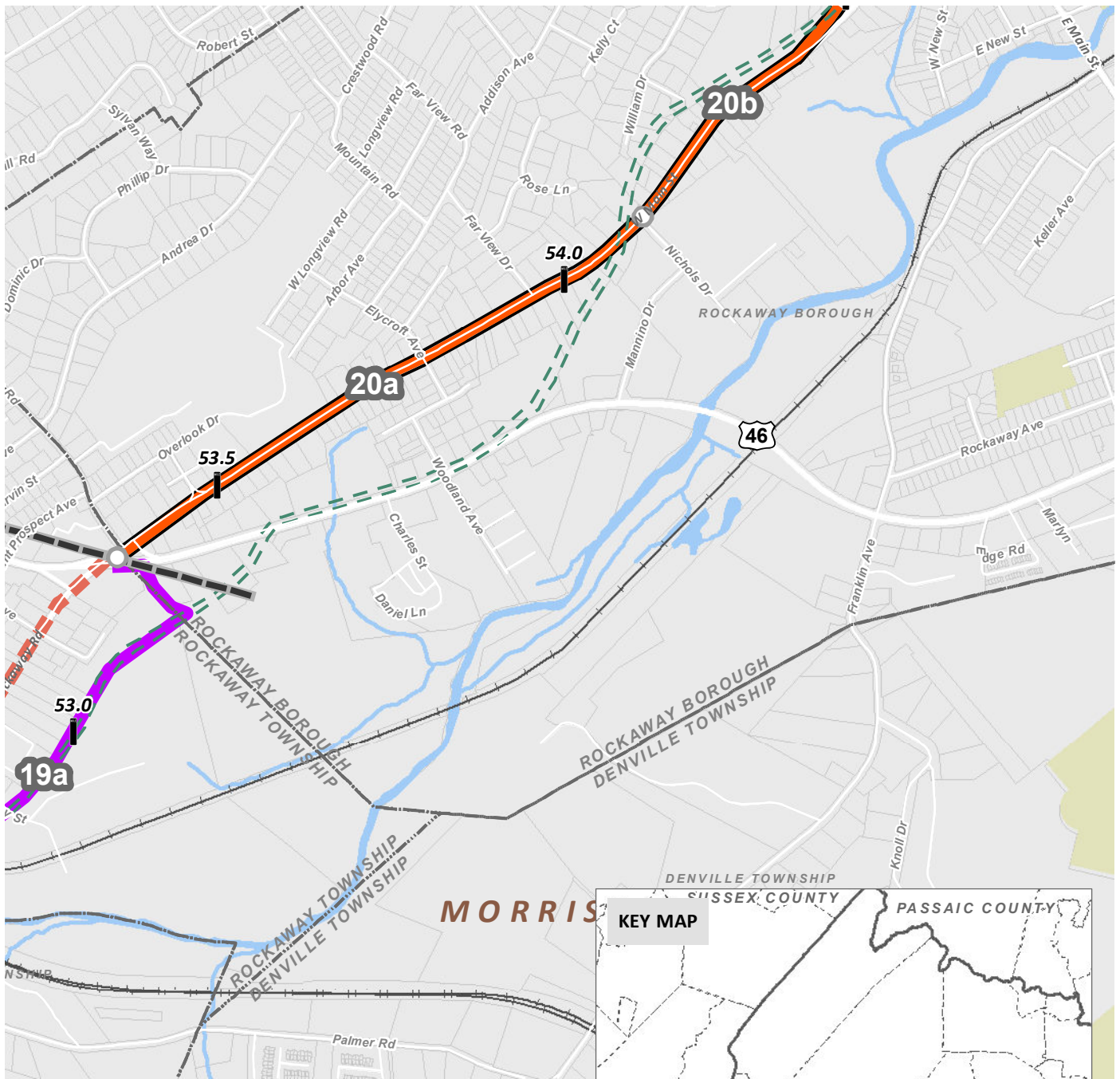
Mileposts

Business District

Trailheads

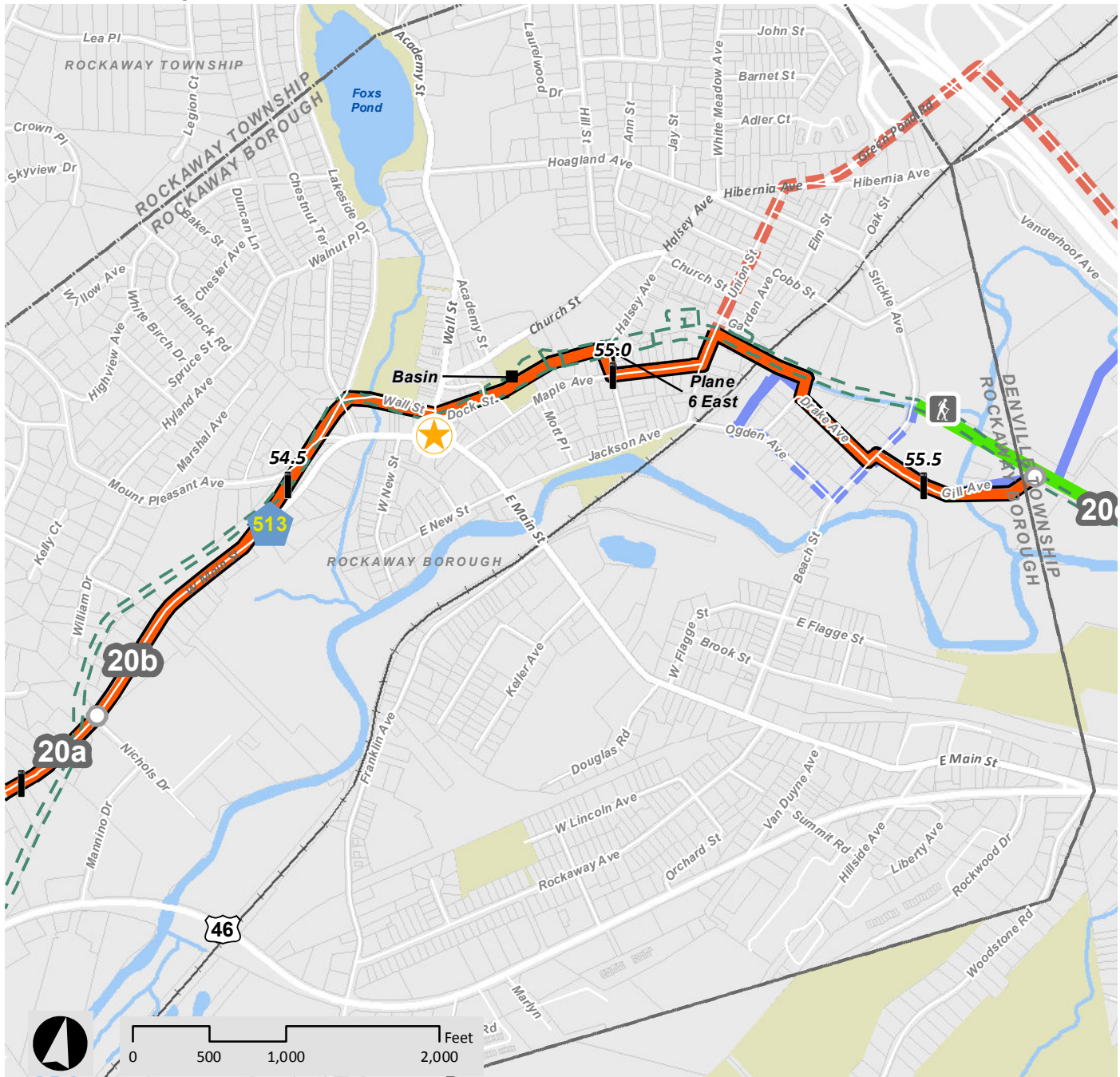
Segment Number

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# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Morris County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

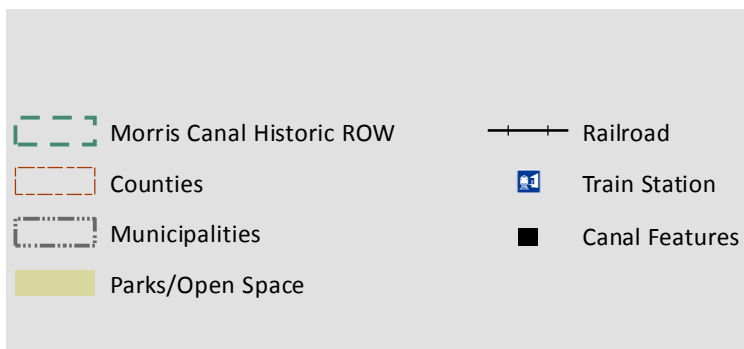
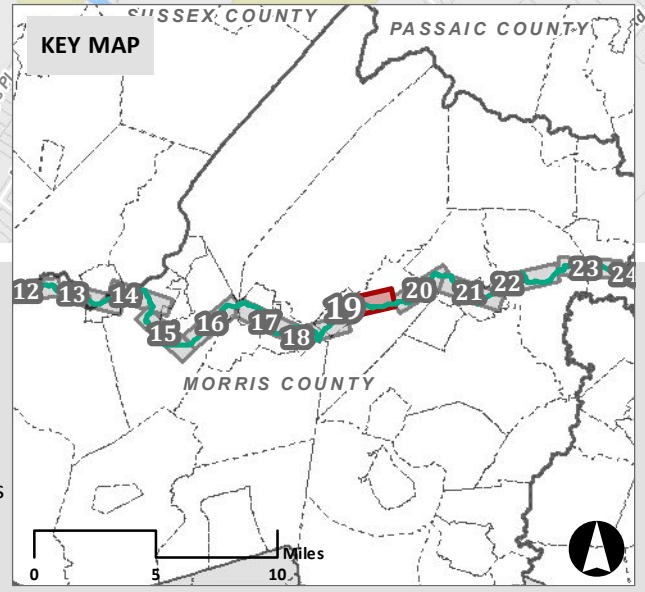
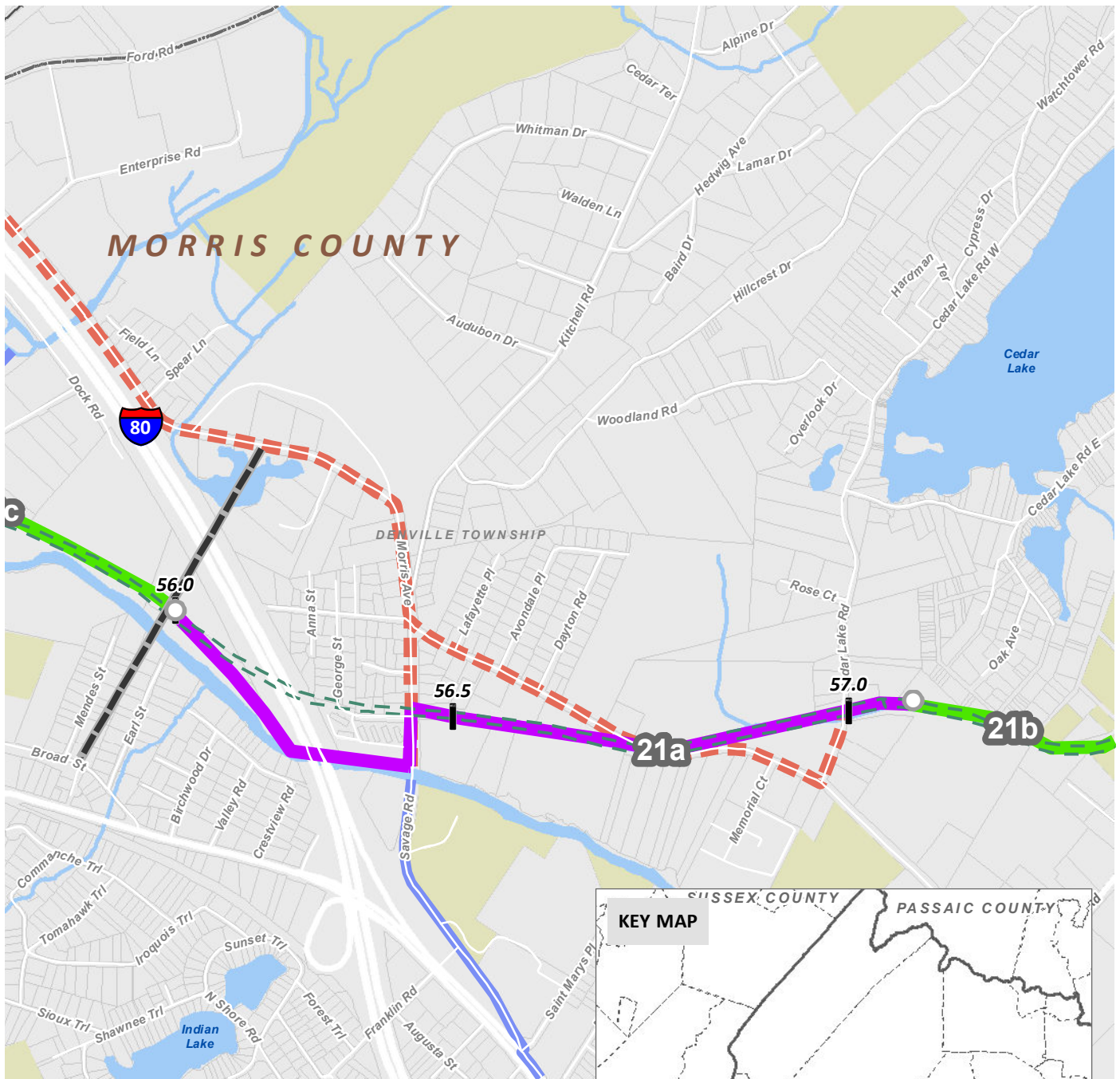
Mileposts

Business District

Trailheads

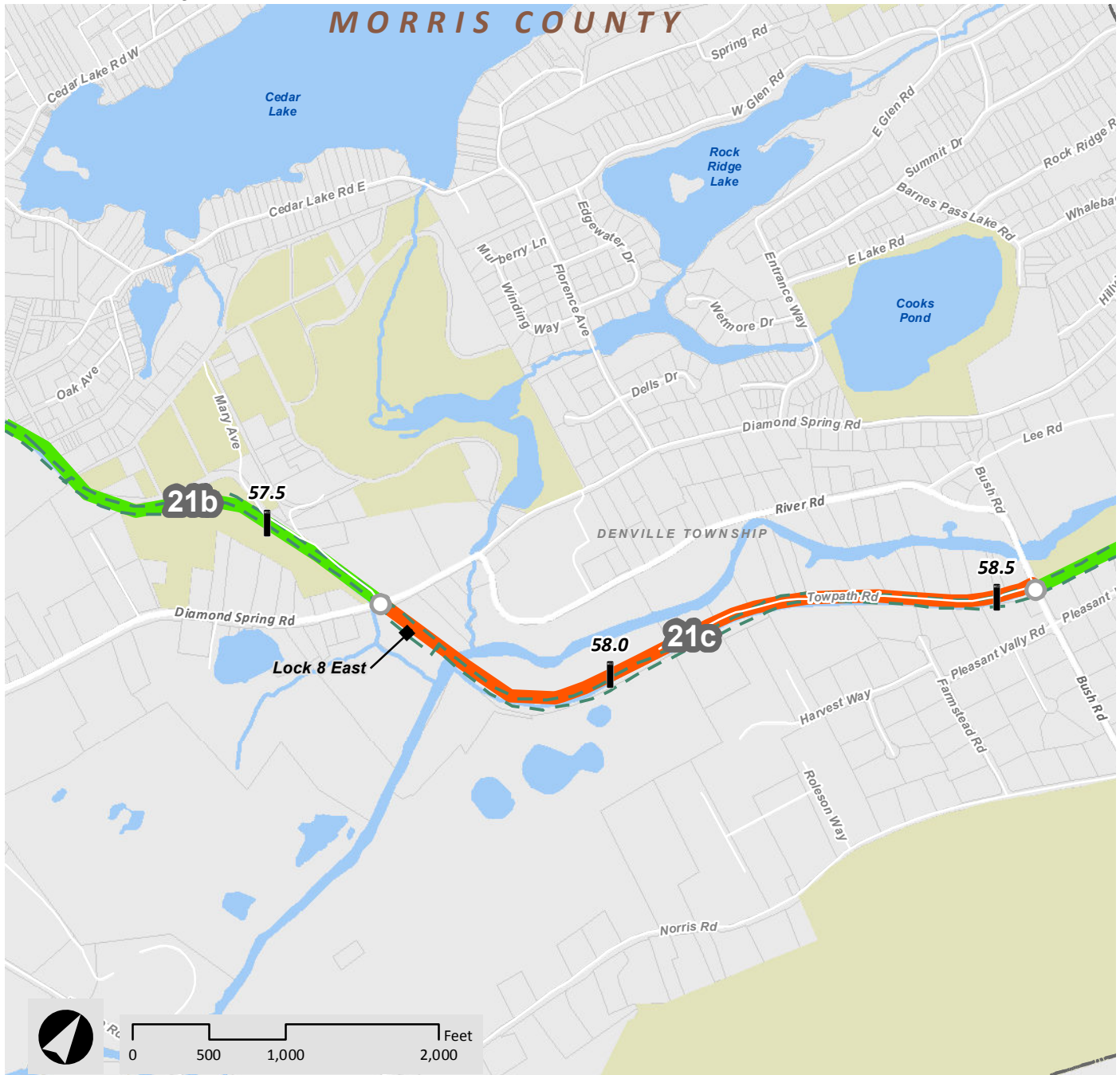
Segment Number

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# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Morris County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

Mileposts

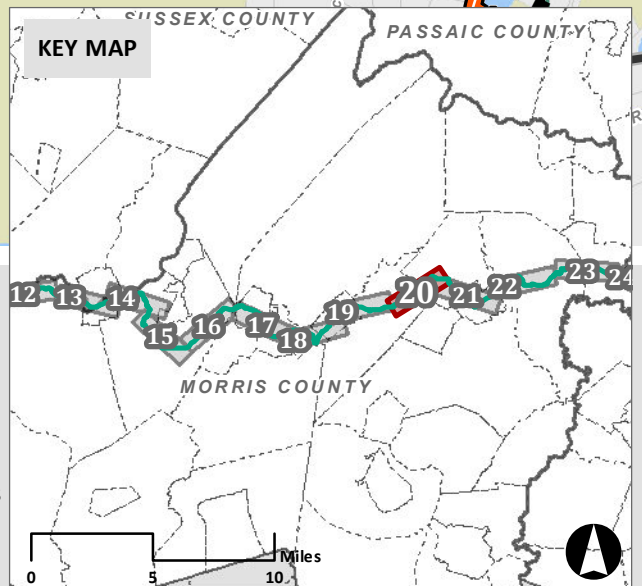
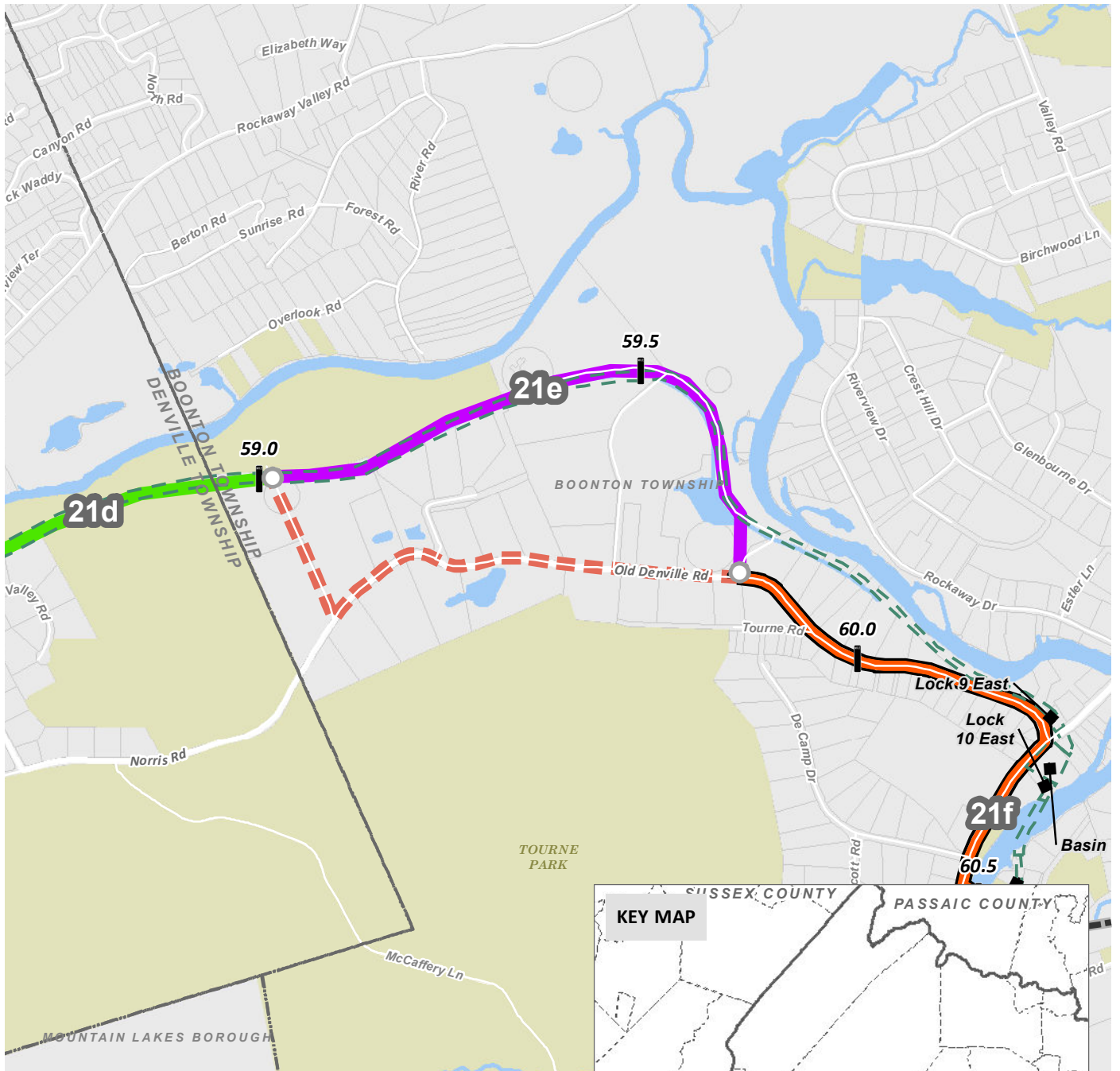
Business District

Trailheads

Segment Number

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources

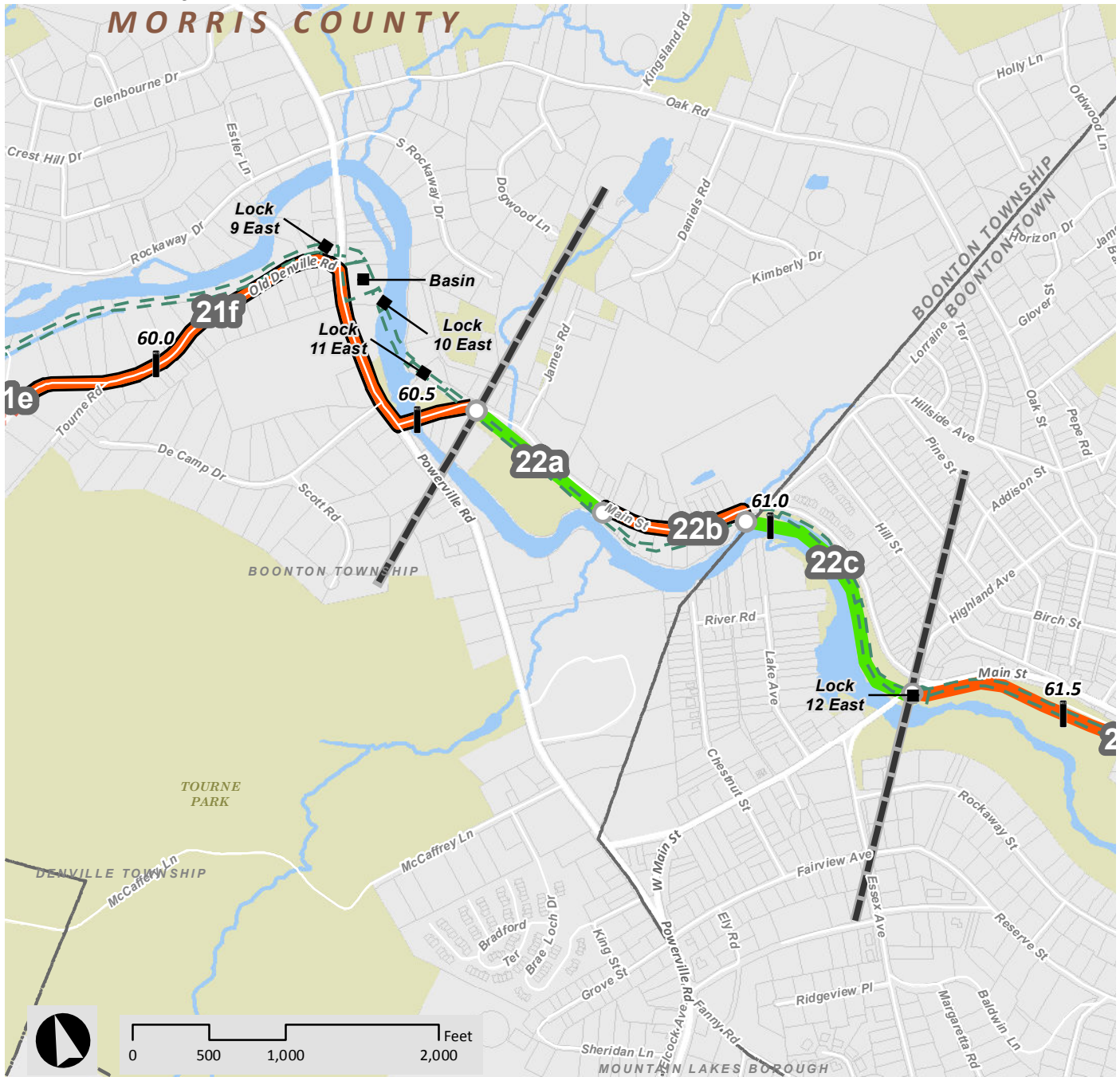




- Morris Canal Historic ROW
- Counties
- Municipalities
- Parks/Open Space
- Railroad
- Train Station
- Canal Features

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Morris County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

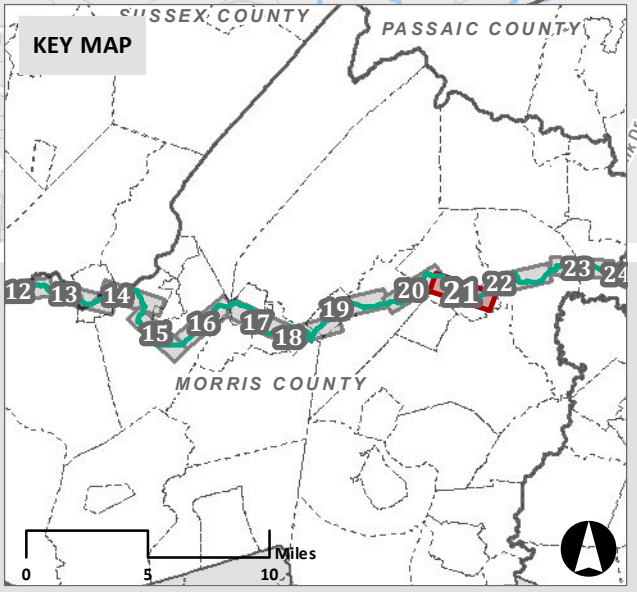
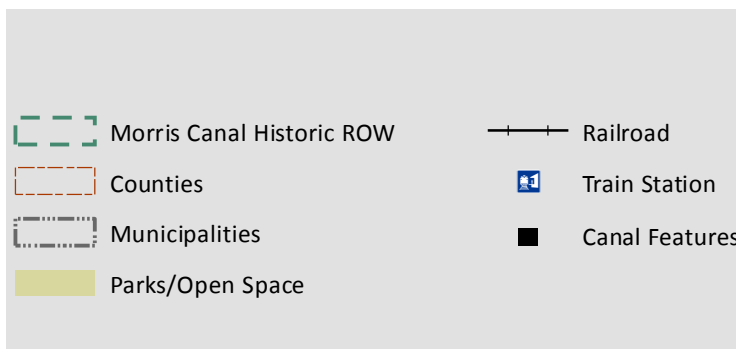
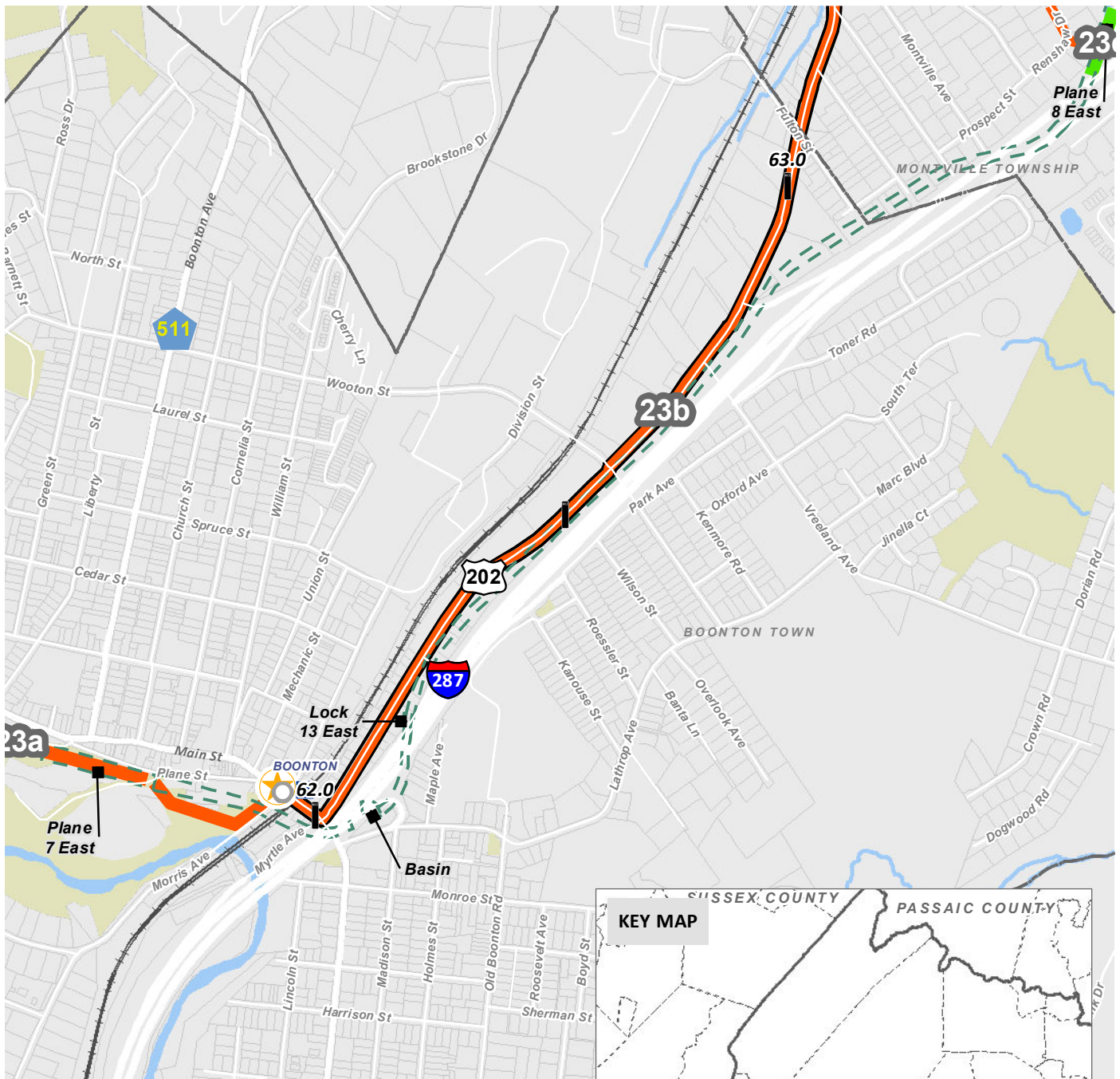
Mileposts

Business District

Trailheads

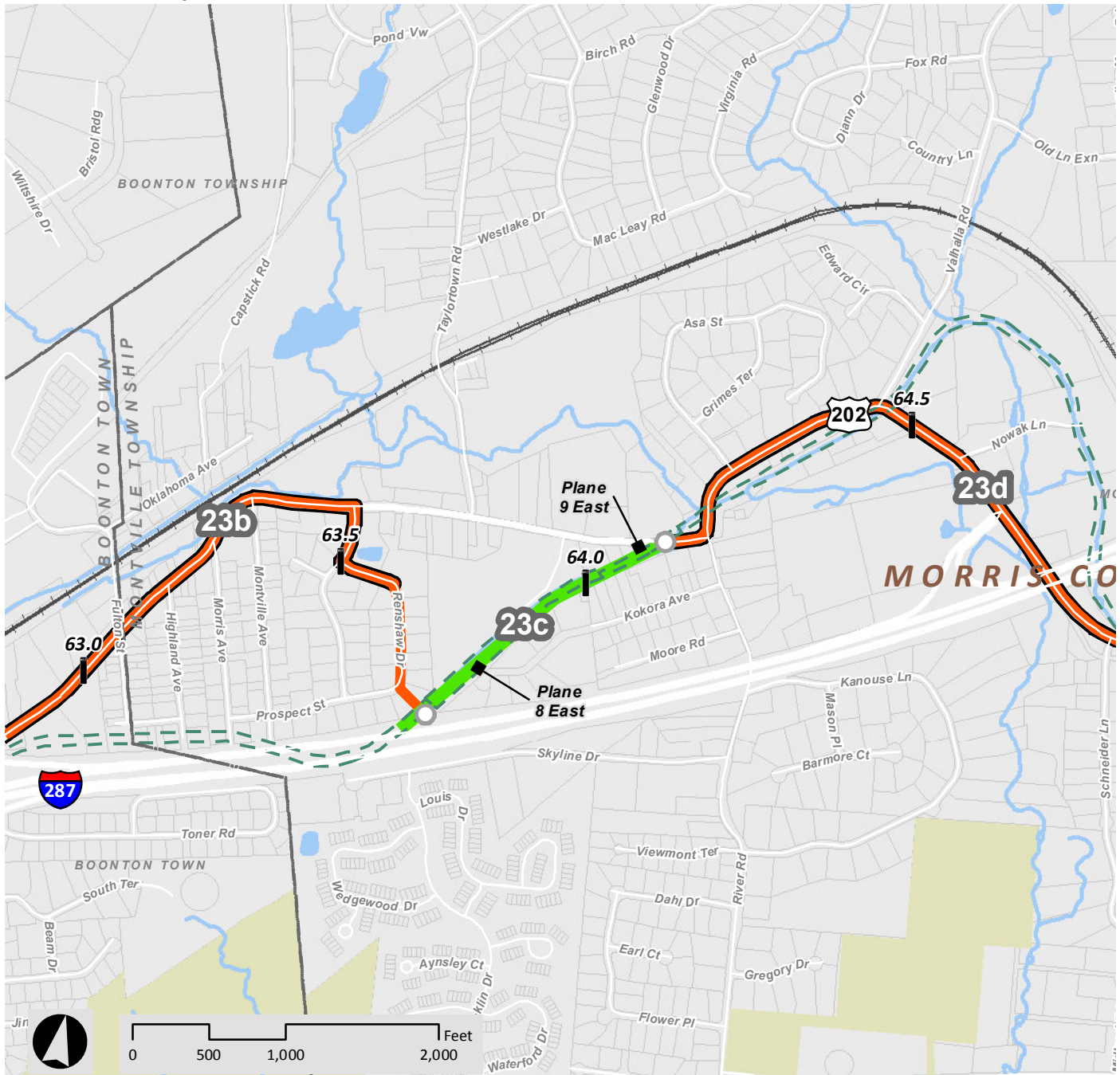
Segment Number

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

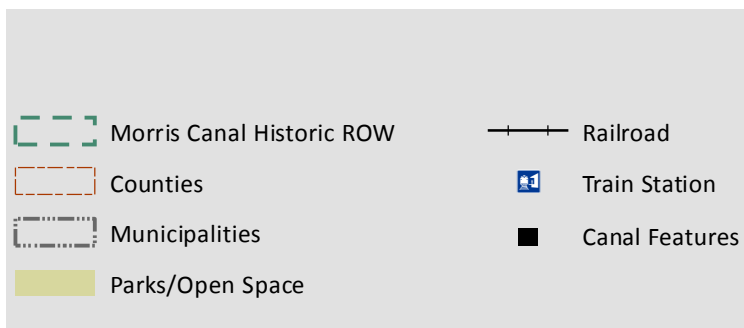
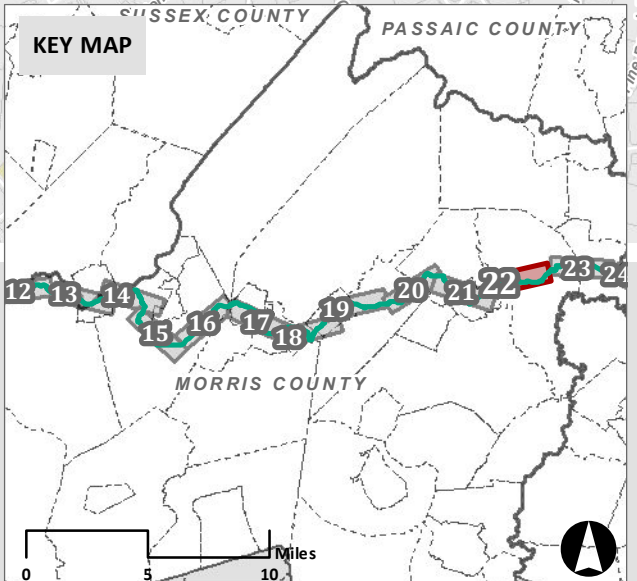
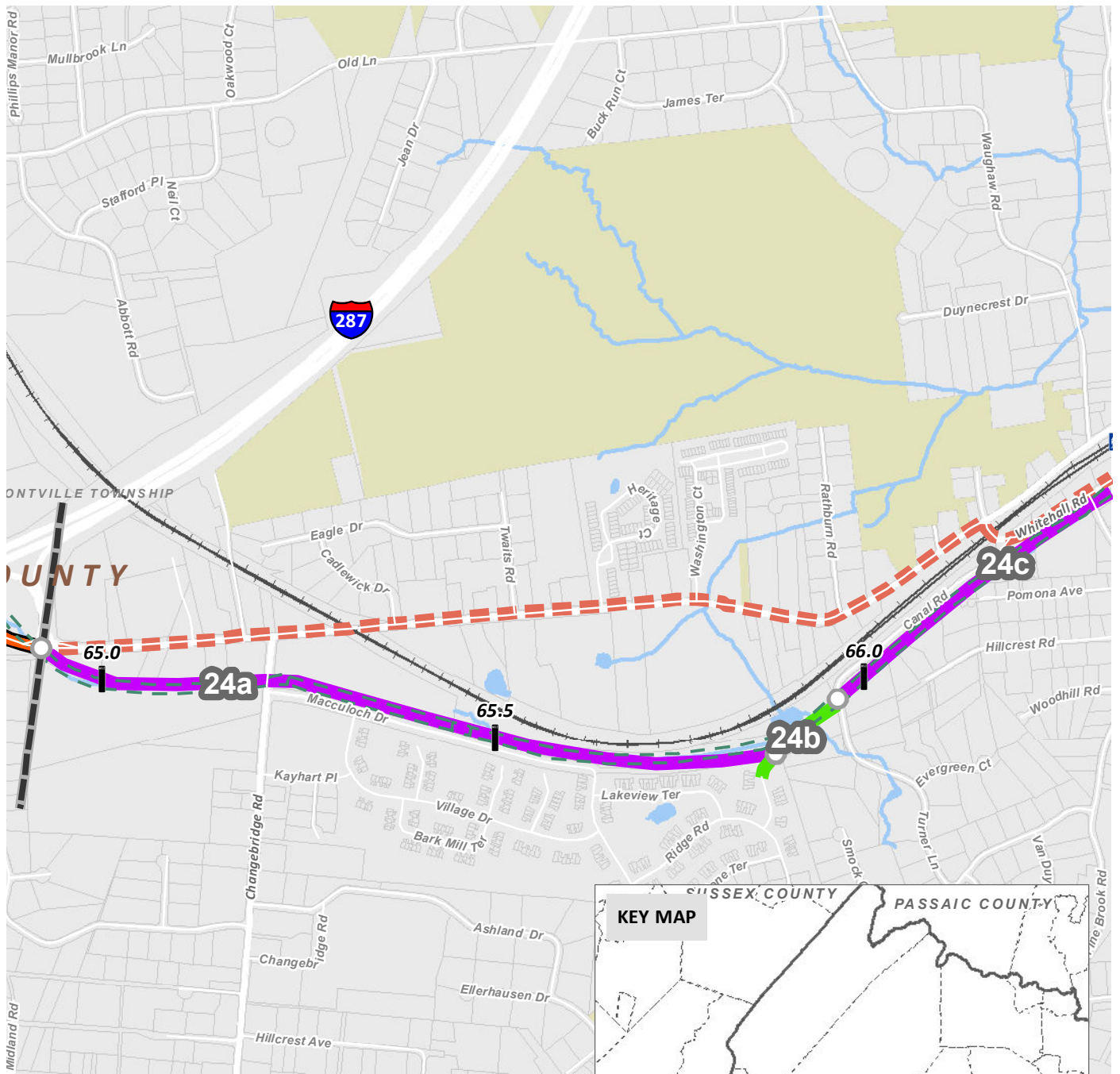
## Morris County



**Legend**  
**MORRIS CANAL GREENWAY CORRIDOR STUDY**

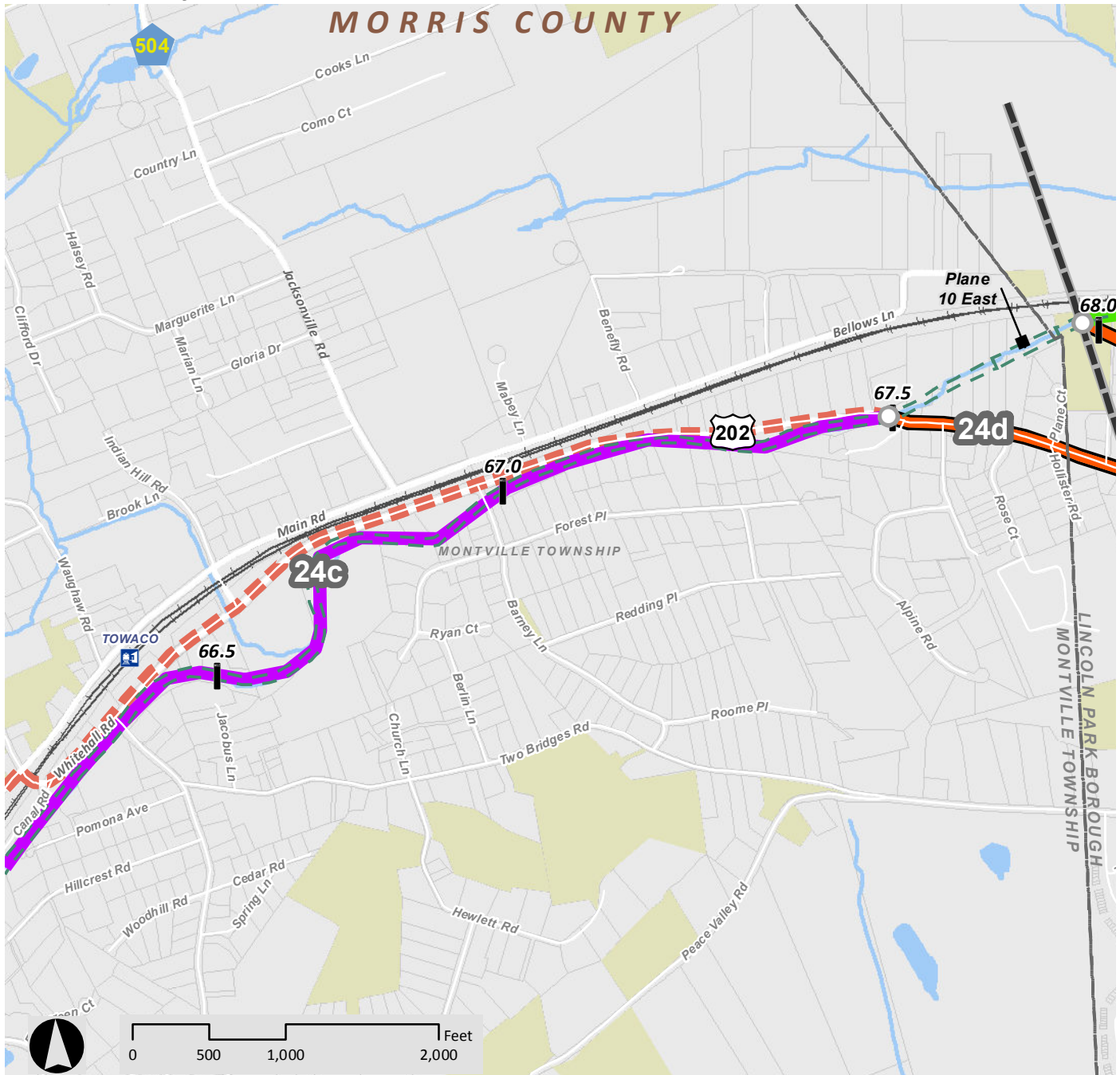
On Rd / Off Rd	Segment Group Breaks	Mileposts
Existing Greenway	Segment Start/End Pt	Business District
Short/Medium-Term (2018-2027)	Spur (existing)	Trailheads
Long Term (2028+)	Spur (proposed)	Segment Number
Interim		

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Morris County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

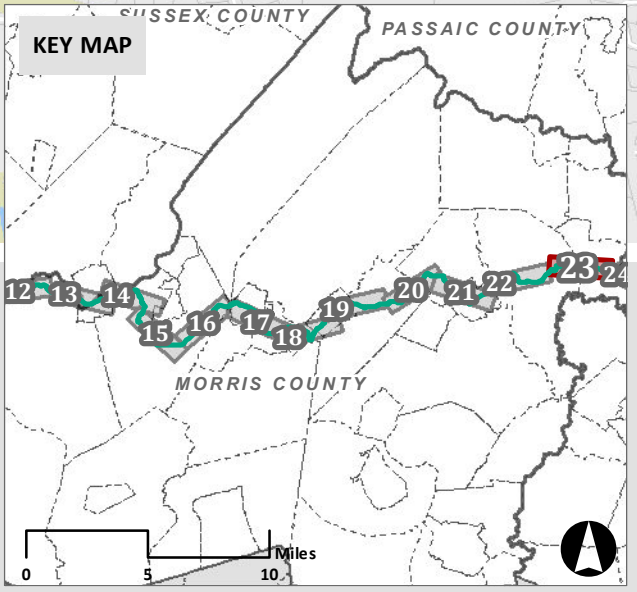
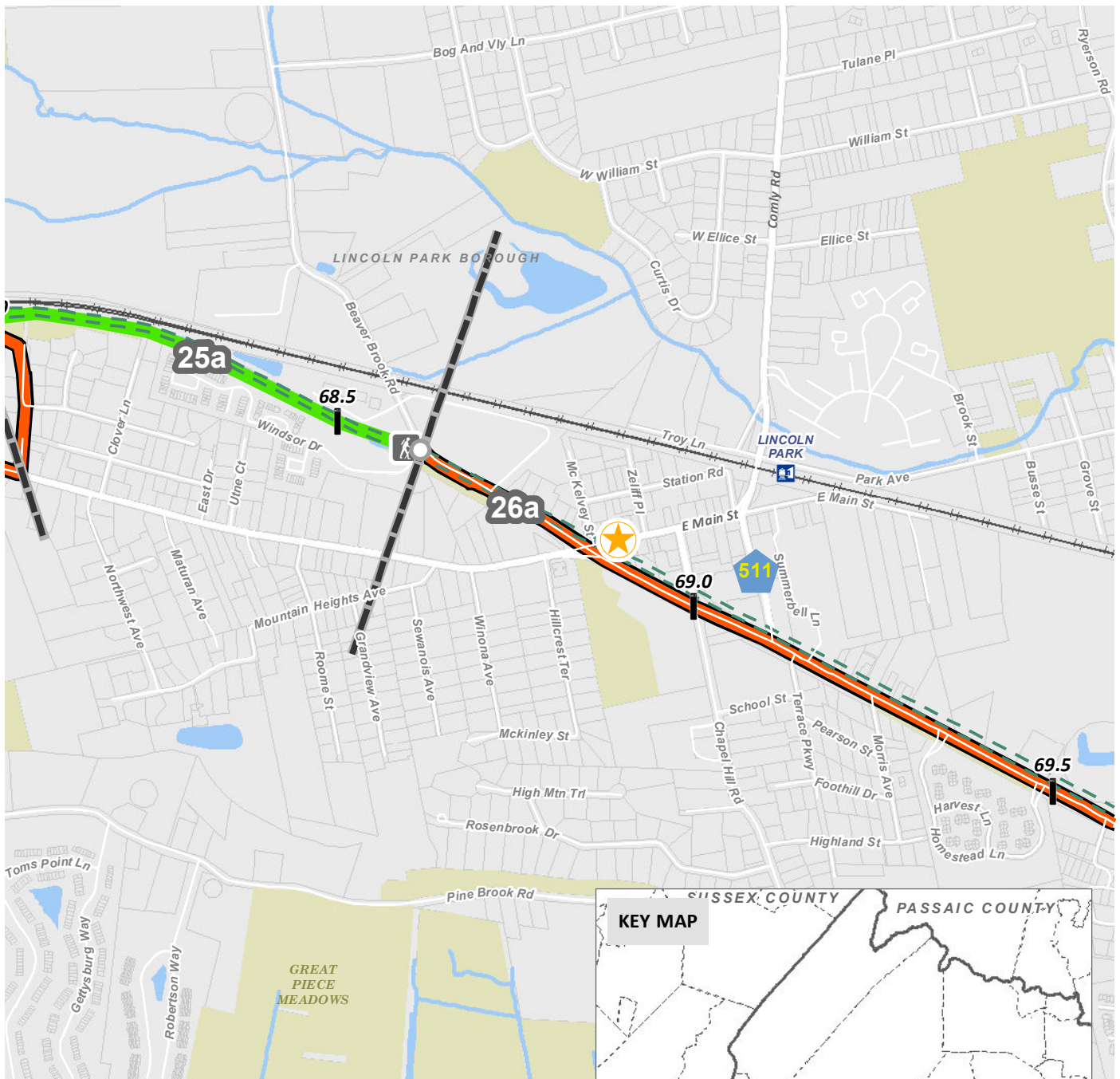
Mileposts

Business District

Trailheads

Segment Number

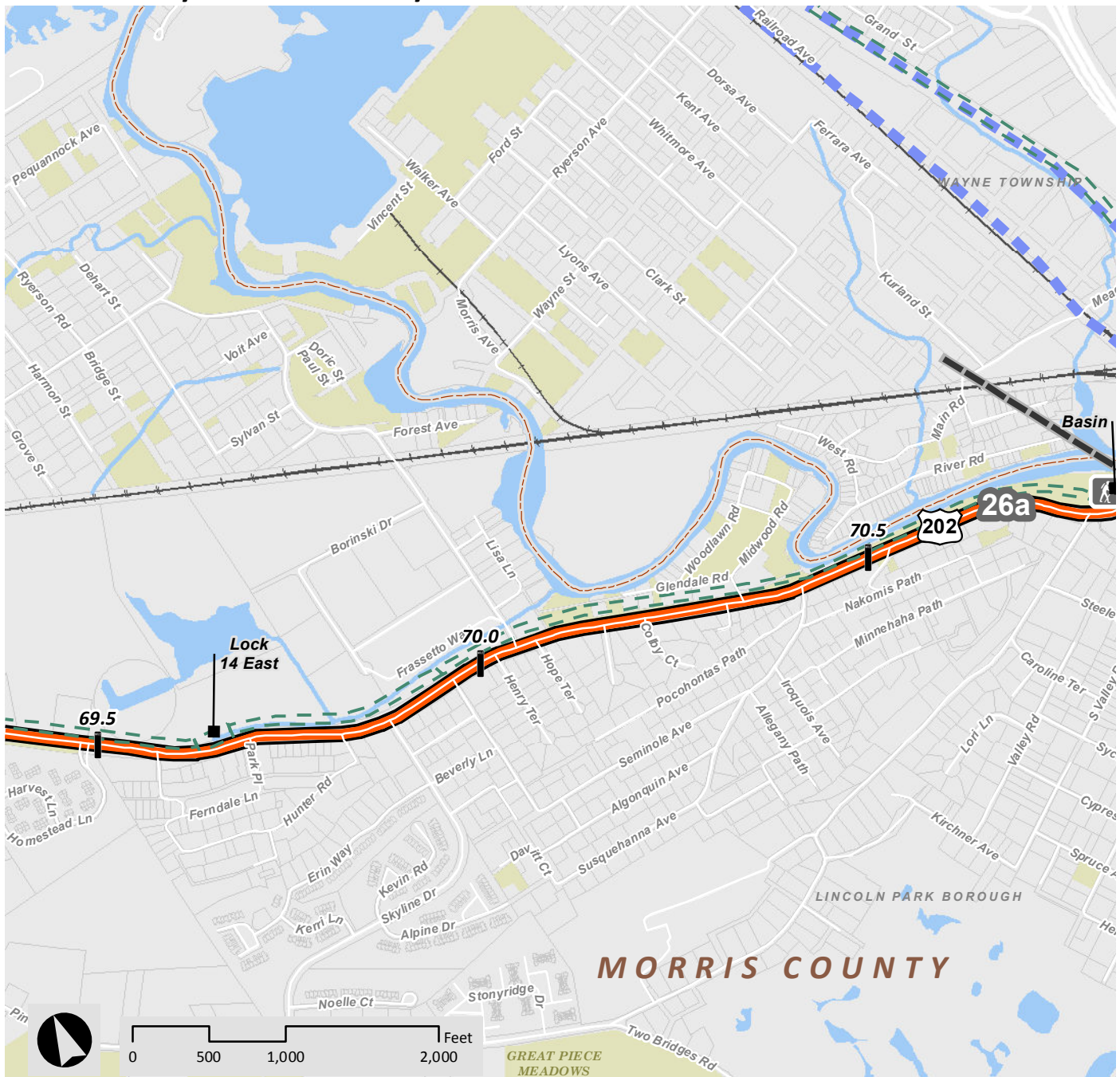
Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



	Morris Canal Historic ROW		Railroad
	Counties		Train Station
	Municipalities		Canal Features
	Parks/Open Space		

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Morris County & Passaic County



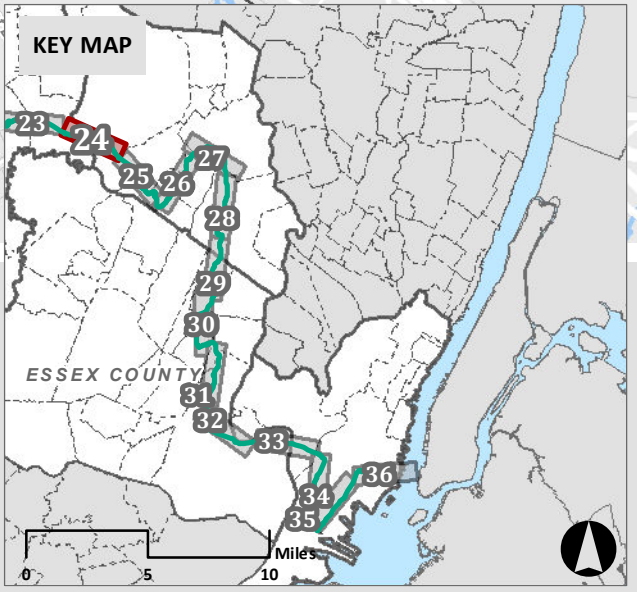
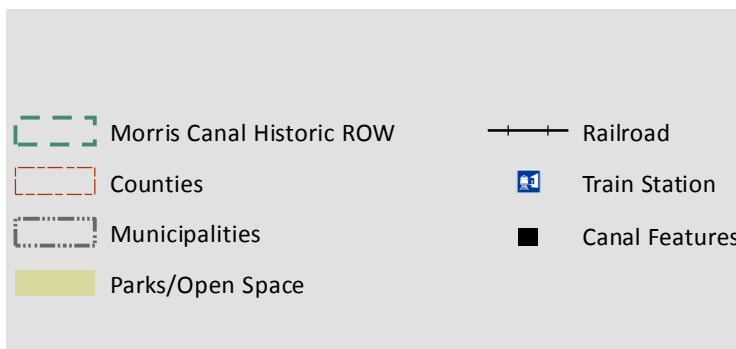
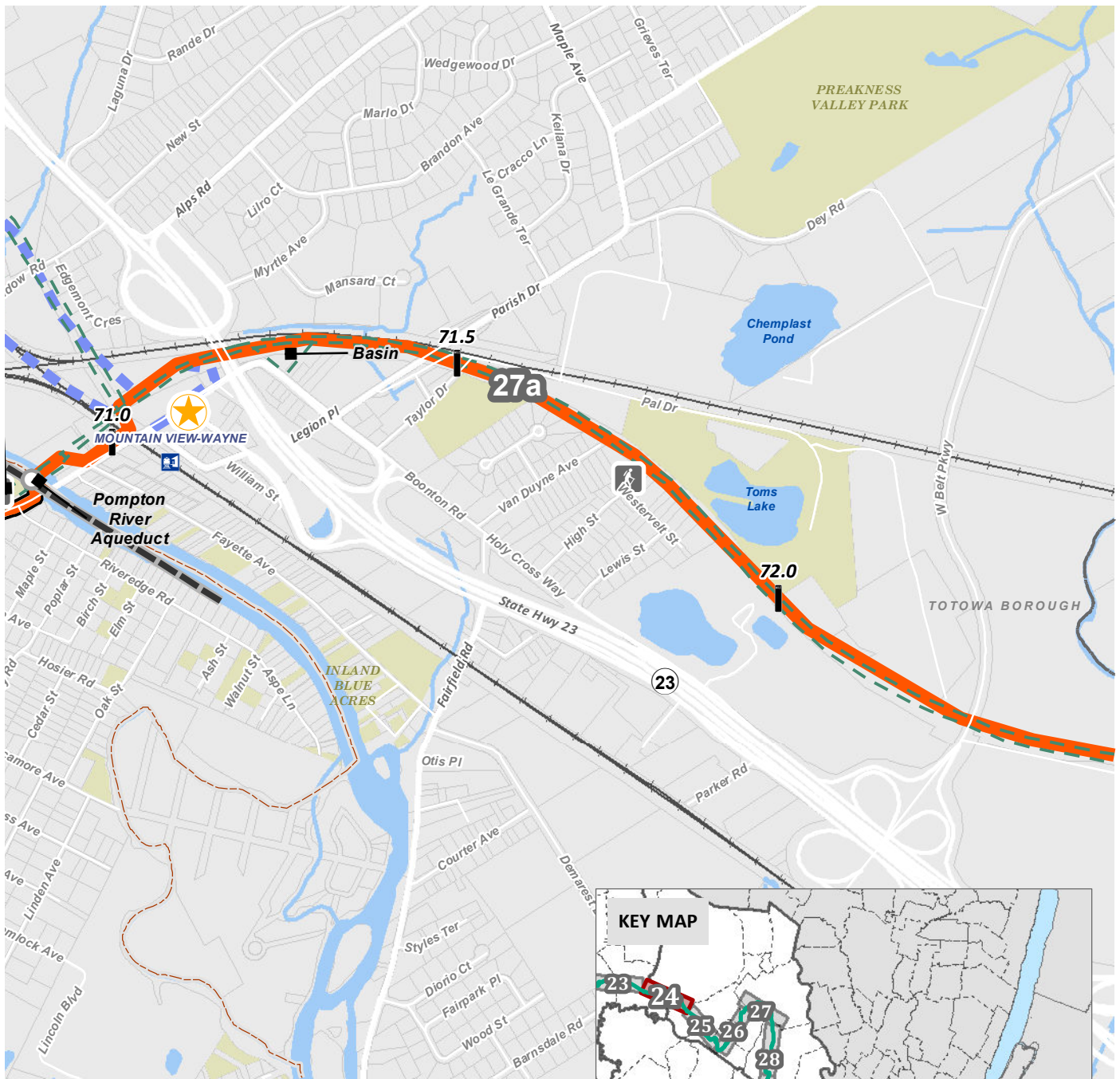
**Legend**

**MORRIS CANAL GREENWAY CORRIDOR STUDY**

On Rd / Off Rd	Segment Group Breaks	Mileposts
Existing Greenway	Segment Start/End Pt	Business District
Short/Medium-Term (2018-2027)	Spur (existing)	Trailheads
Long Term (2028+)	Spur (proposed)	Segment Number
Interim		

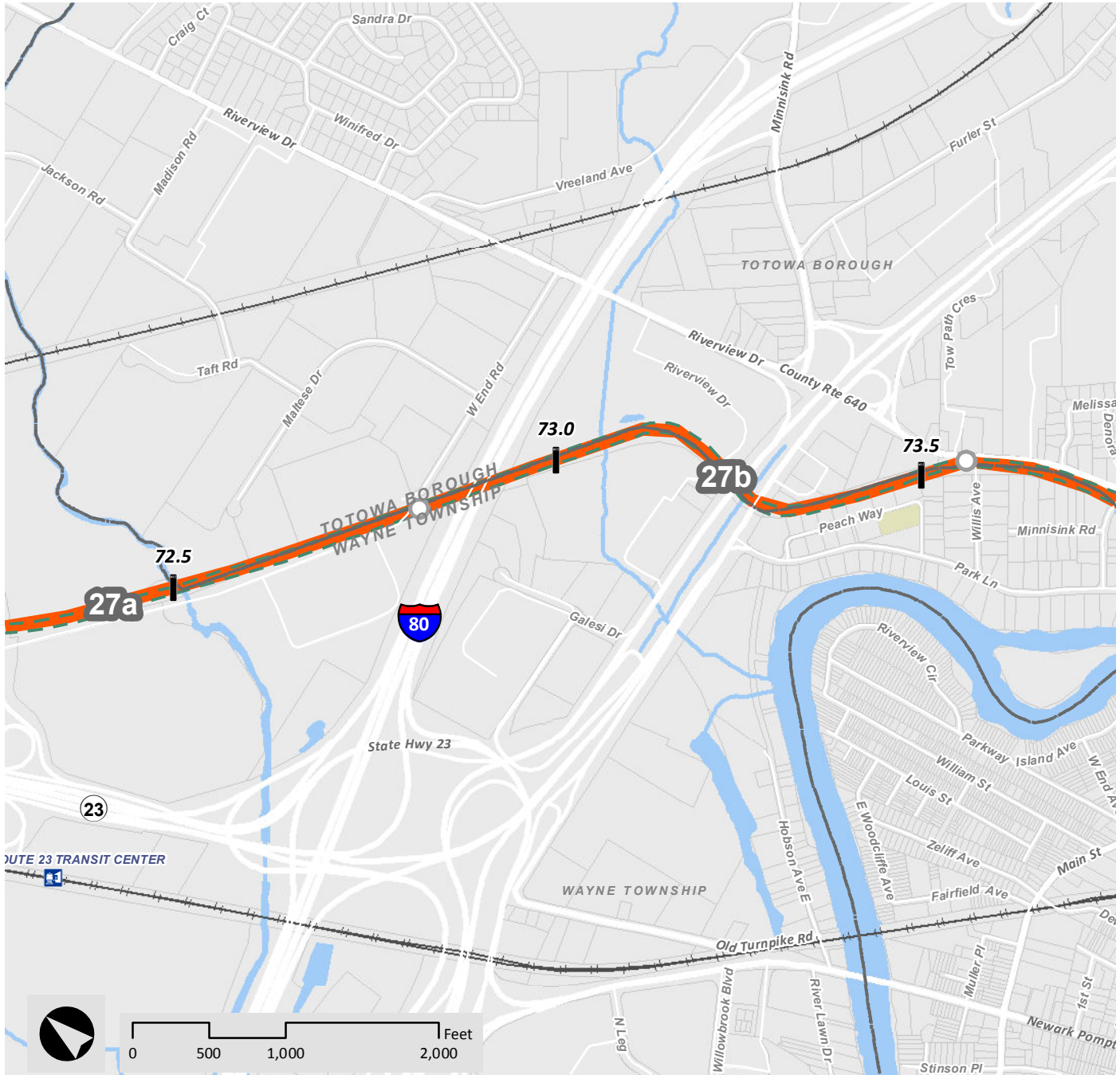
Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources





# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Passaic County



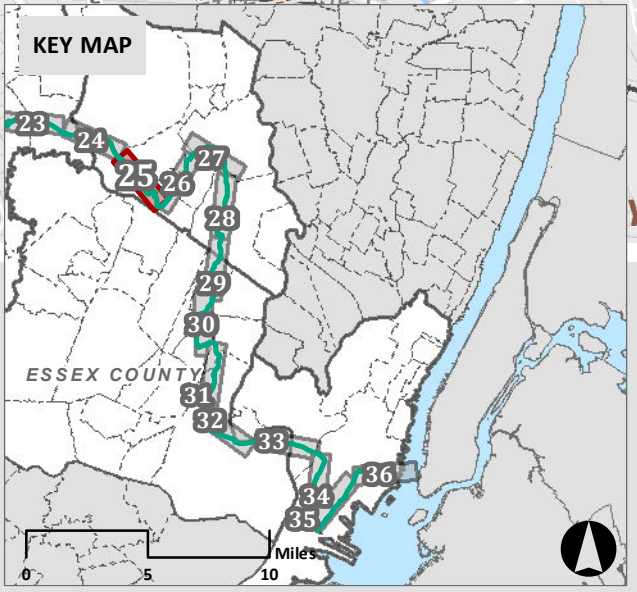
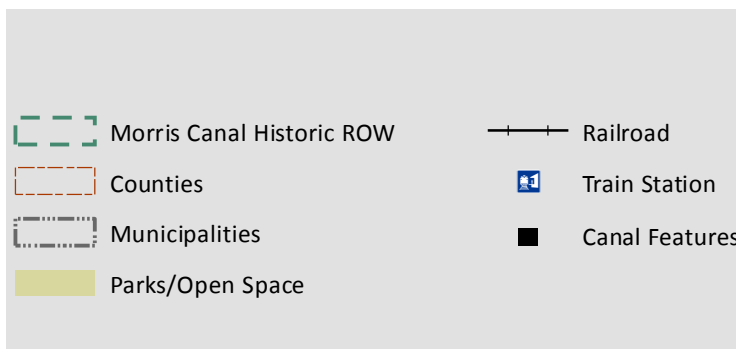
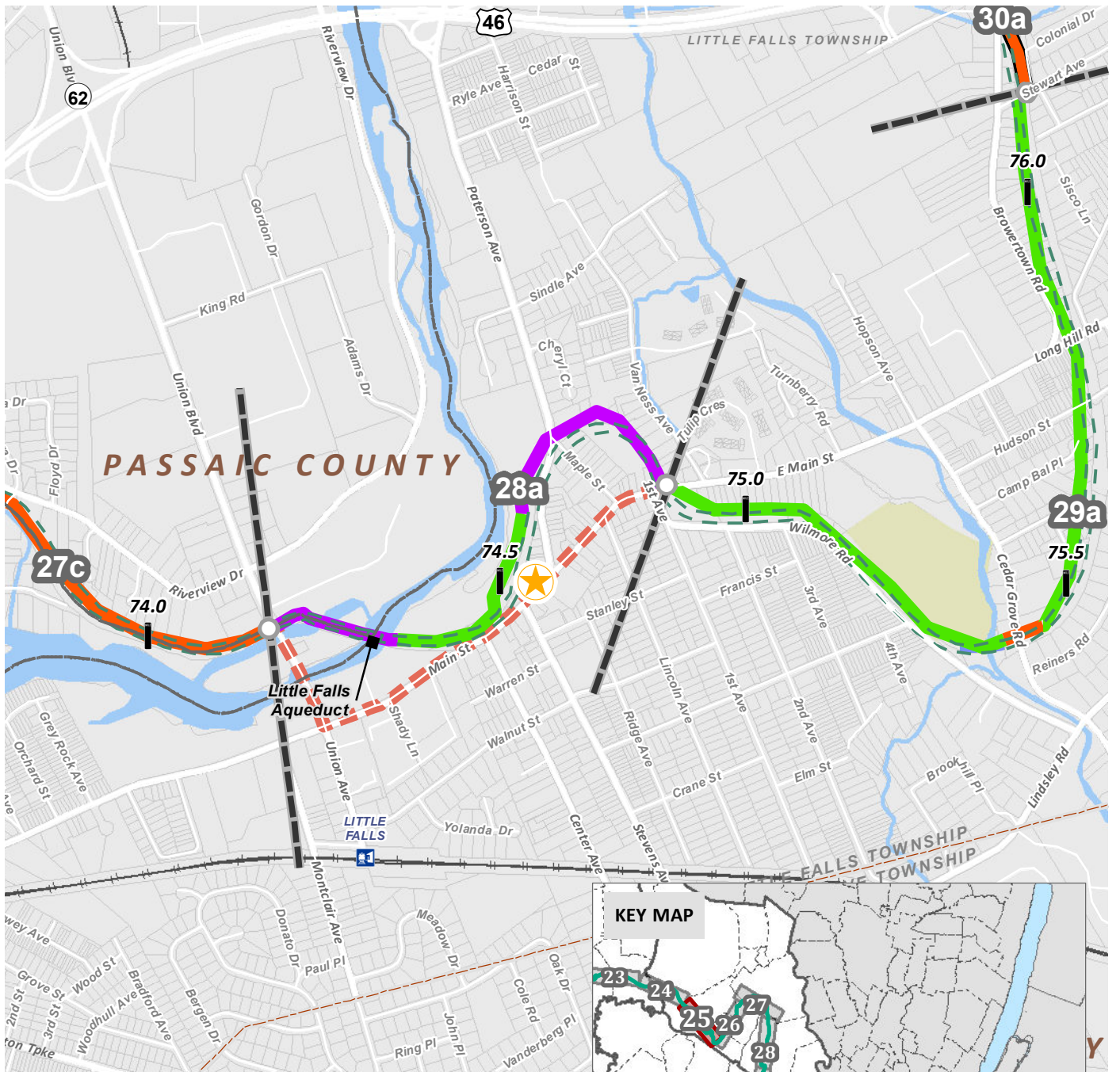
### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

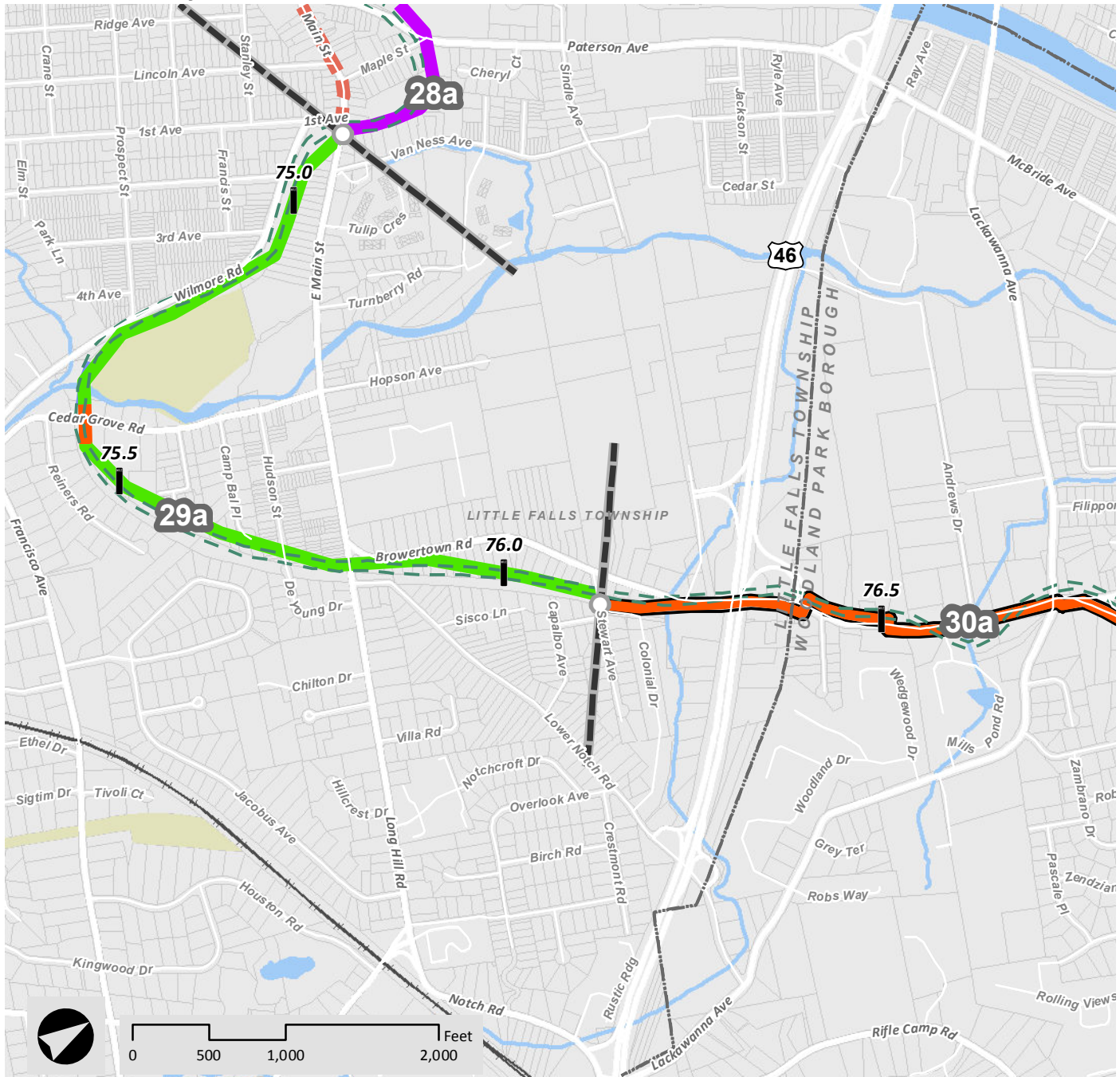
- |                               |                      |                   |
|-------------------------------|----------------------|-------------------|
| Existing Greenway             | Segment Group Breaks | Mileposts         |
| Short/Medium-Term (2018-2027) | Segment Start/End Pt | Business District |
| Long Term (2028+)             | Spur (existing)      | Trailheads        |
| Interim                       | Spur (proposed)      | Segment Number    |

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes. Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Passaic County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

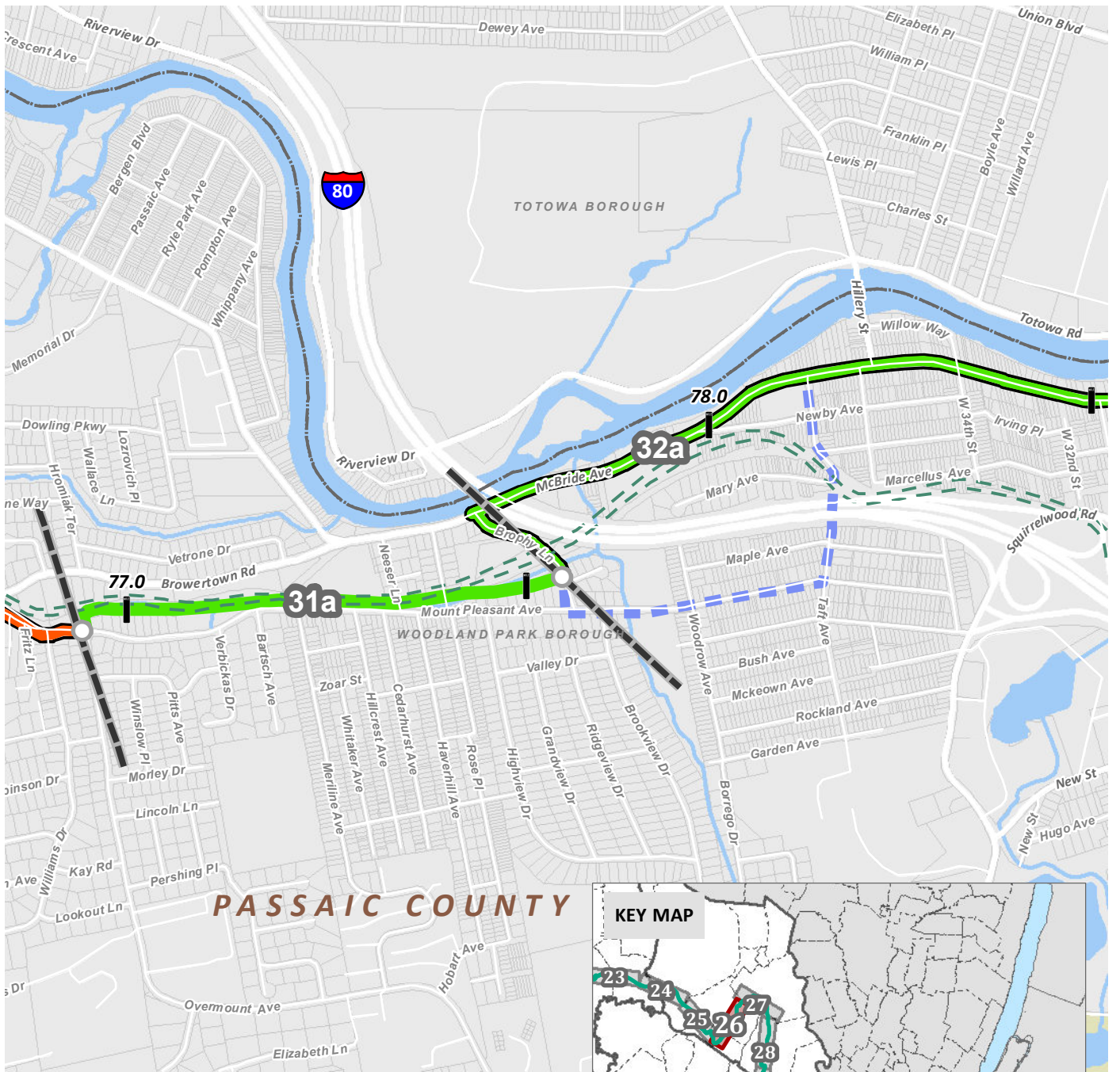
Mileposts

Business District

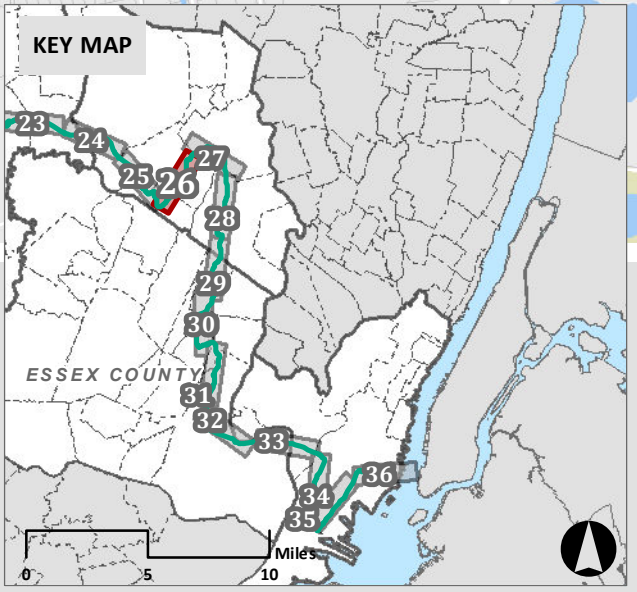
Trailheads

Segment Number

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes. Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



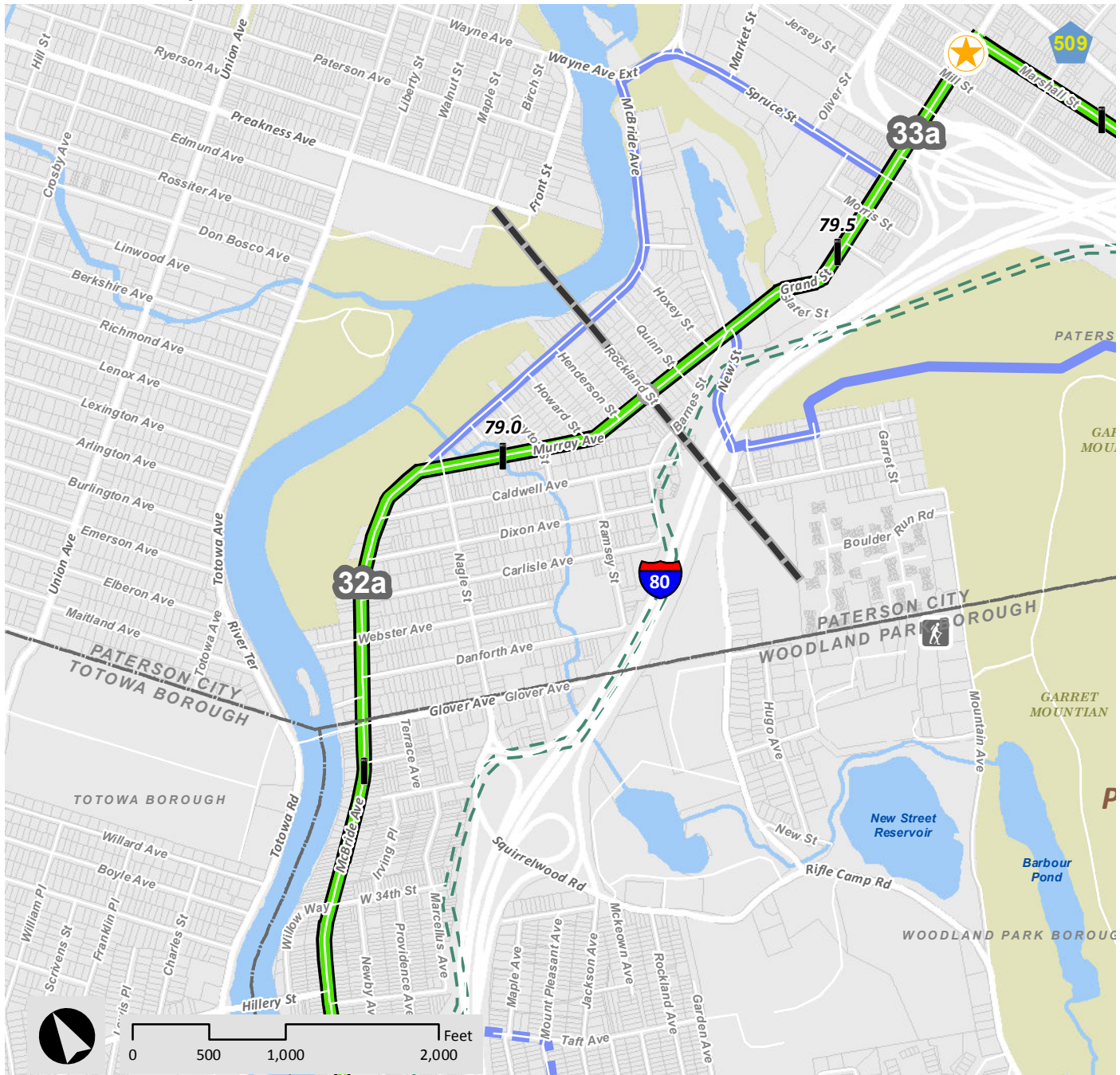
**PASSAIC COUNTY**



- Morris Canal Historic ROW
- Counties
- Municipalities
- Parks/Open Space
- Railroad
- Train Station
- Canal Features

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Passaic County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

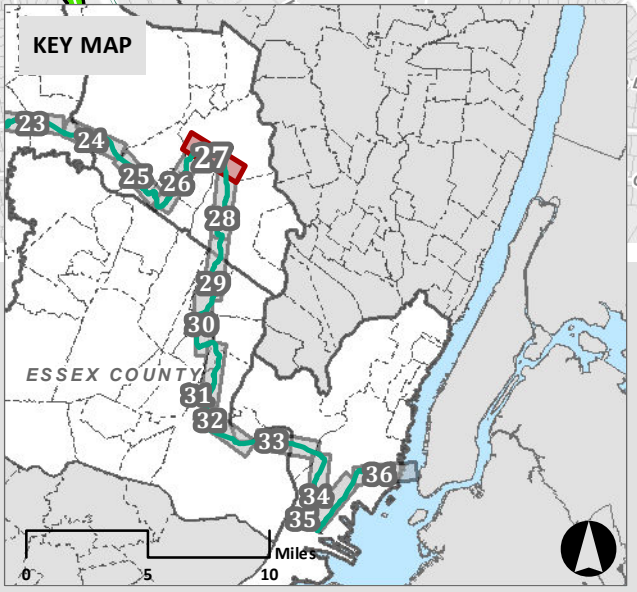
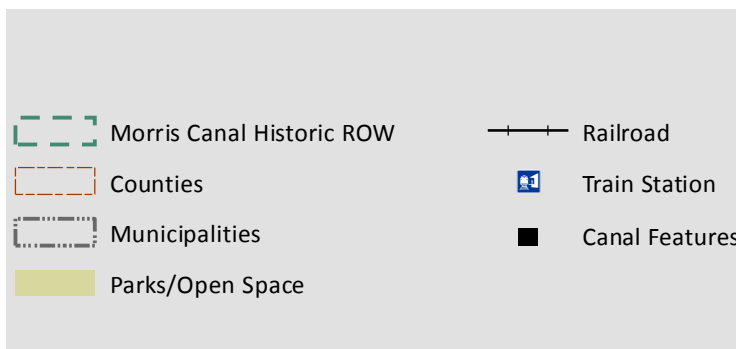
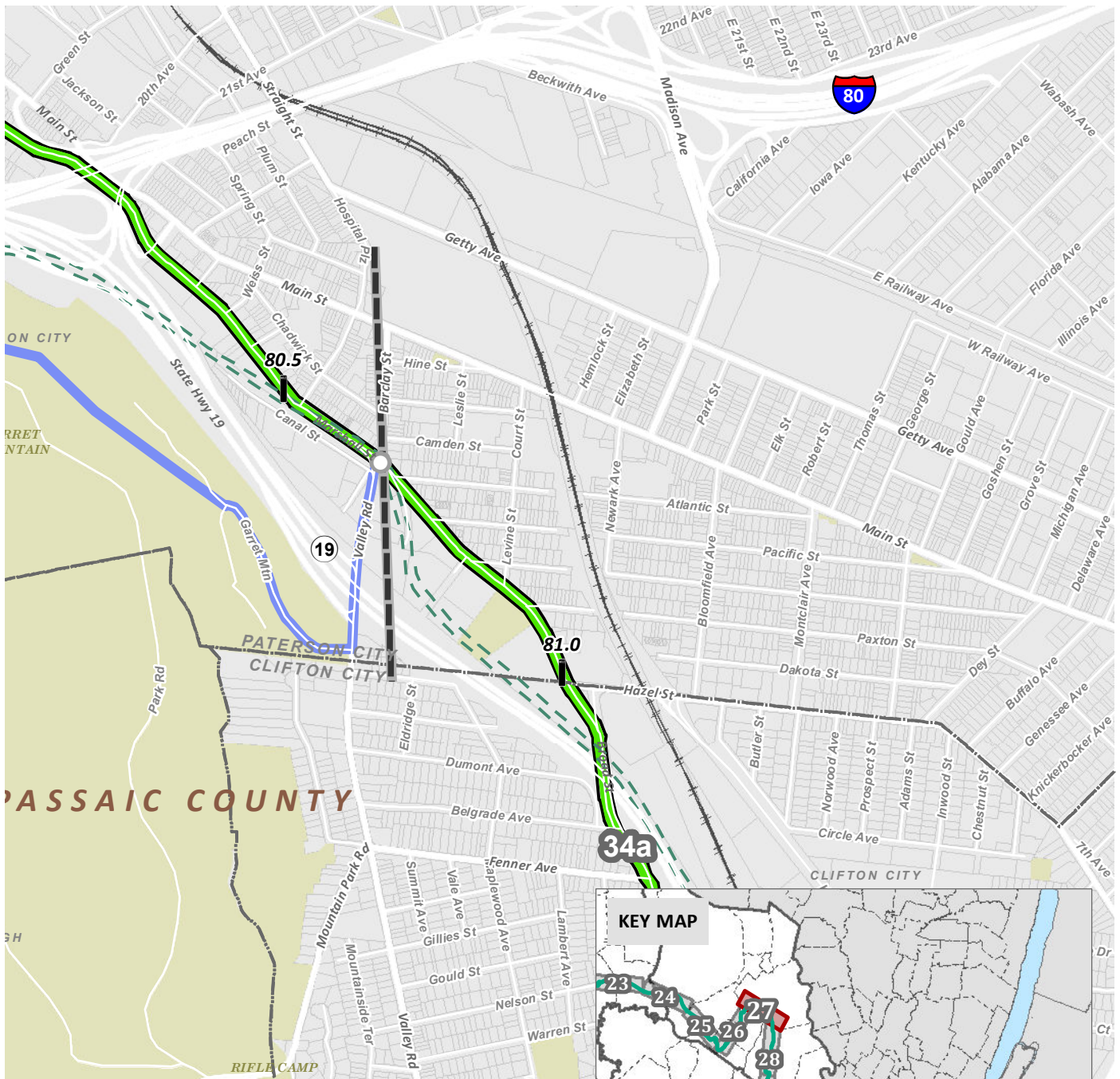
Mileposts

Business District

Trailheads

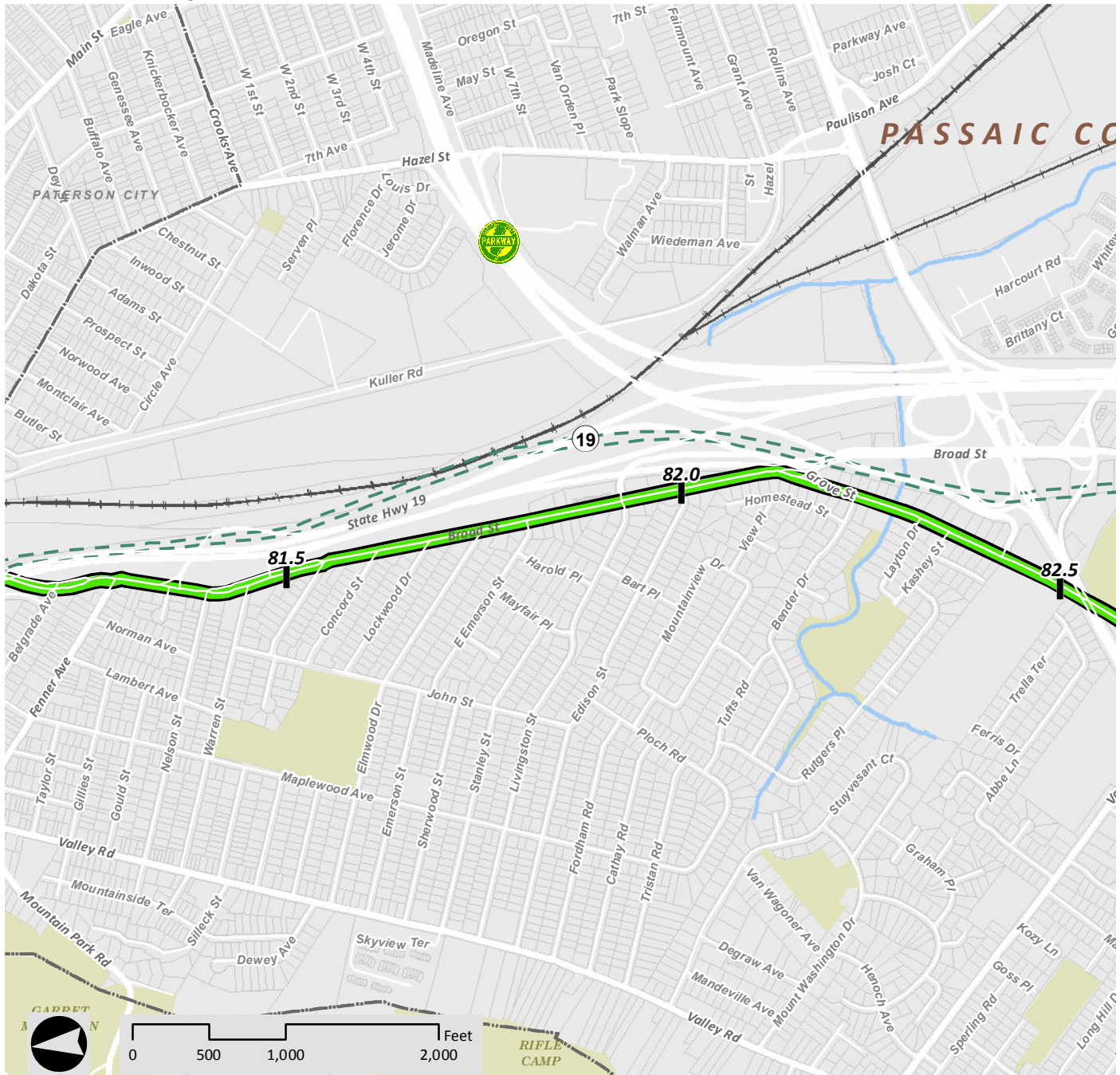
Segment Number

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 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Passaic County



### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

Mileposts

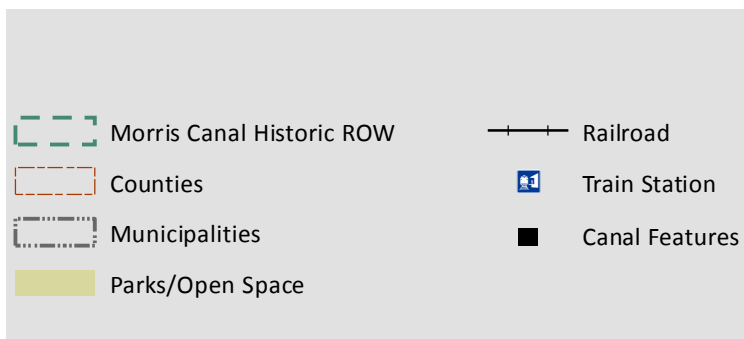
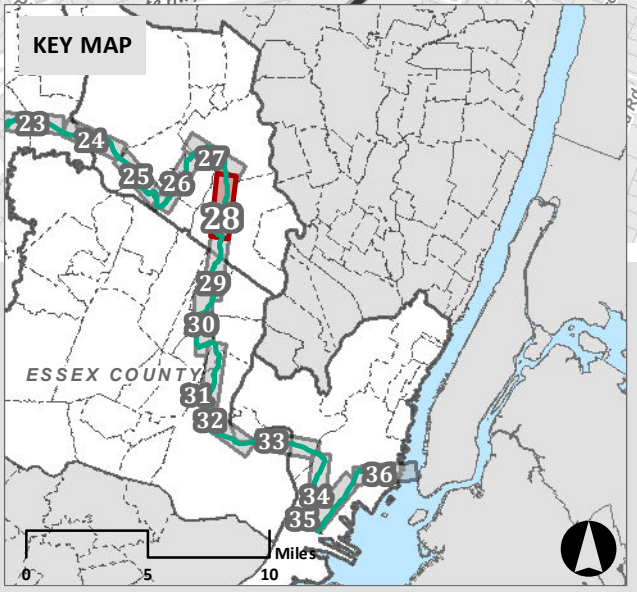
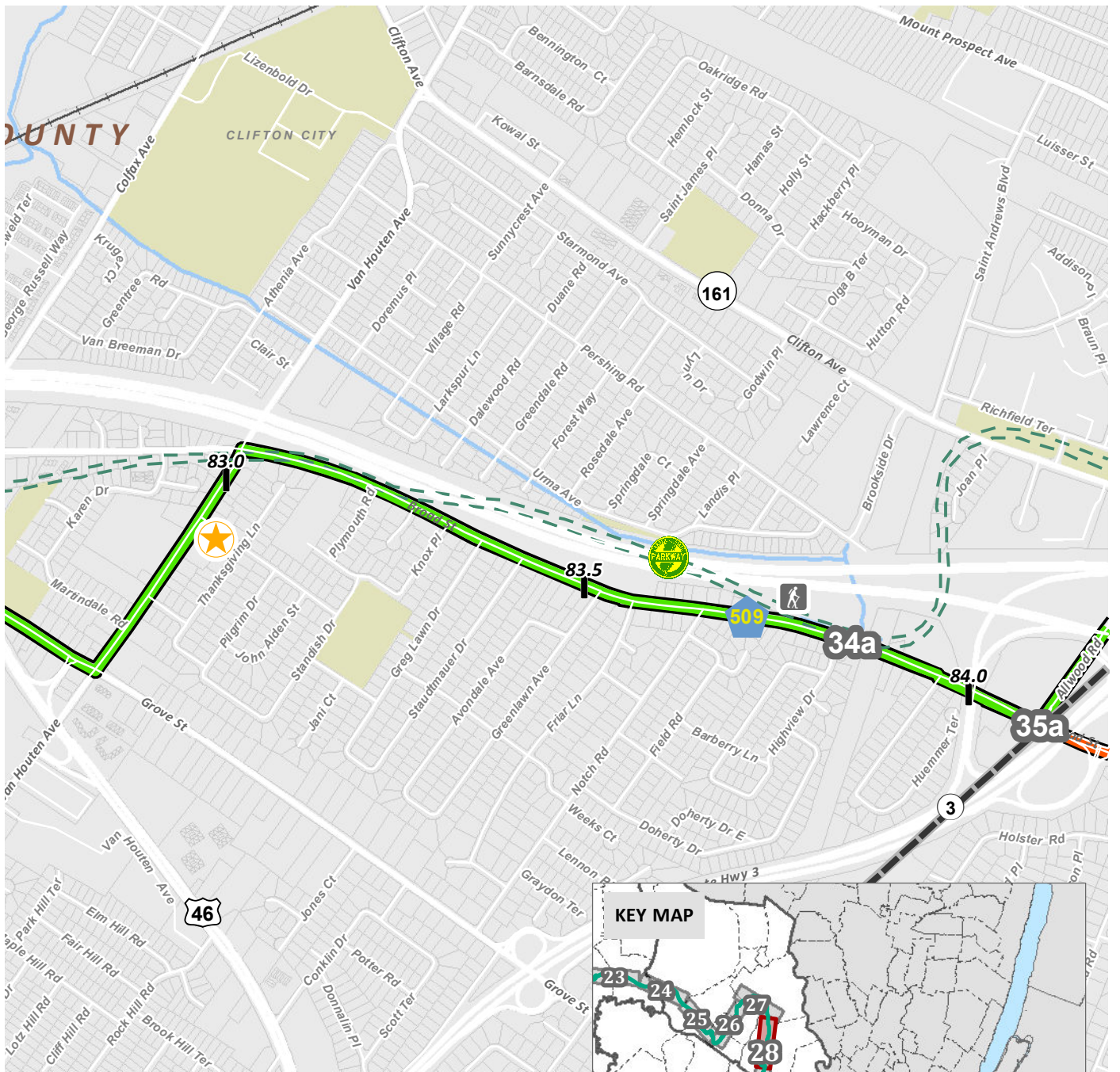
Business District

Trailheads

Segment Number

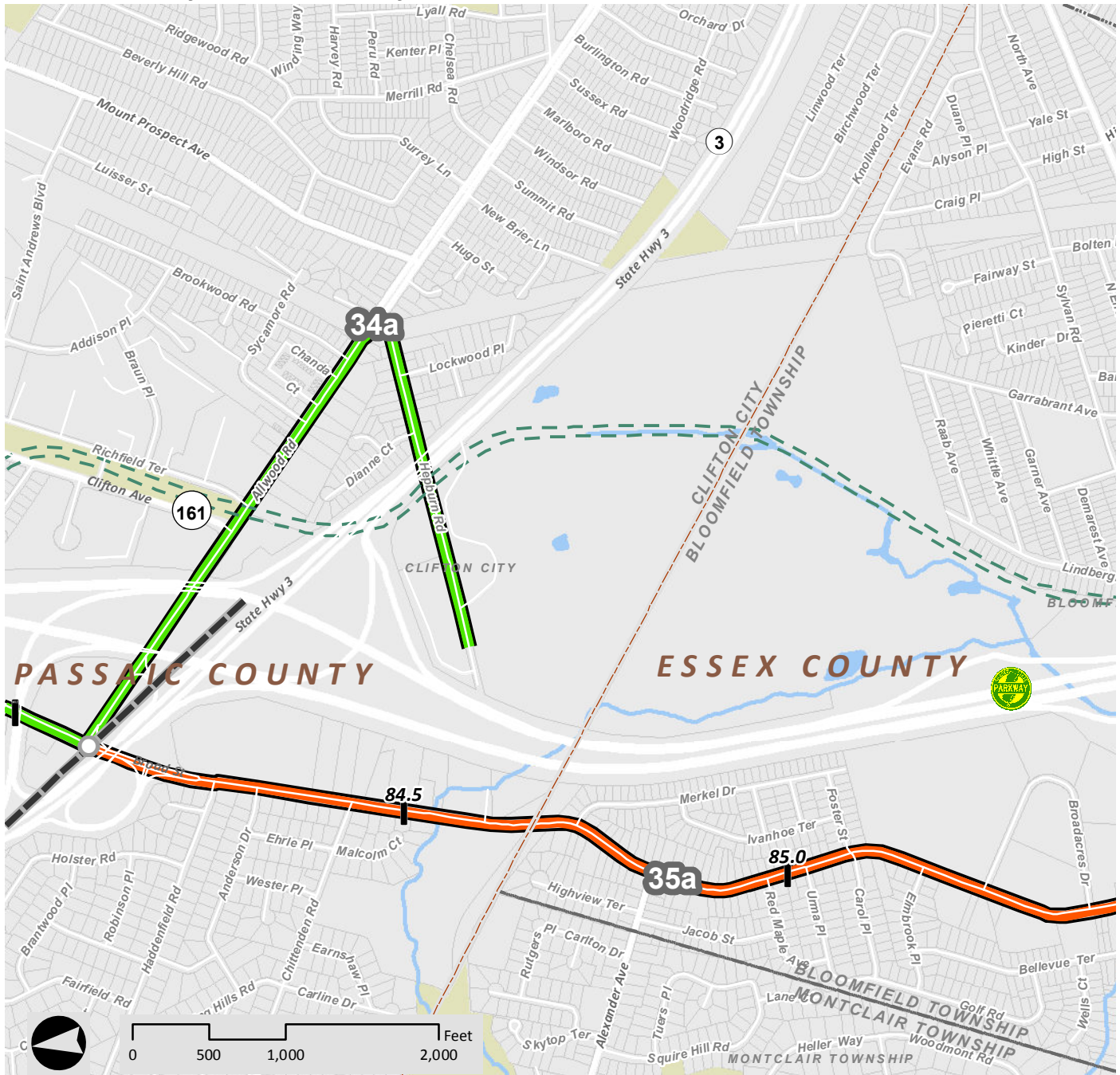
Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes. Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources





# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Passaic County & Essex County

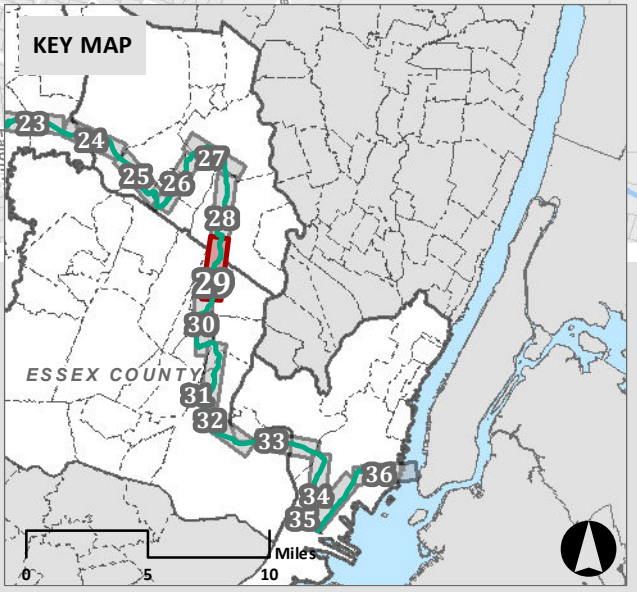
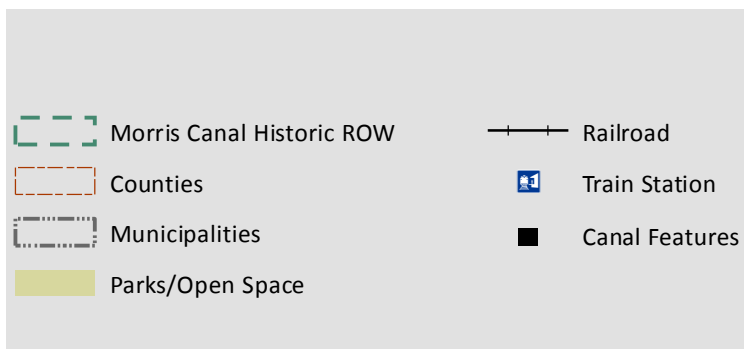
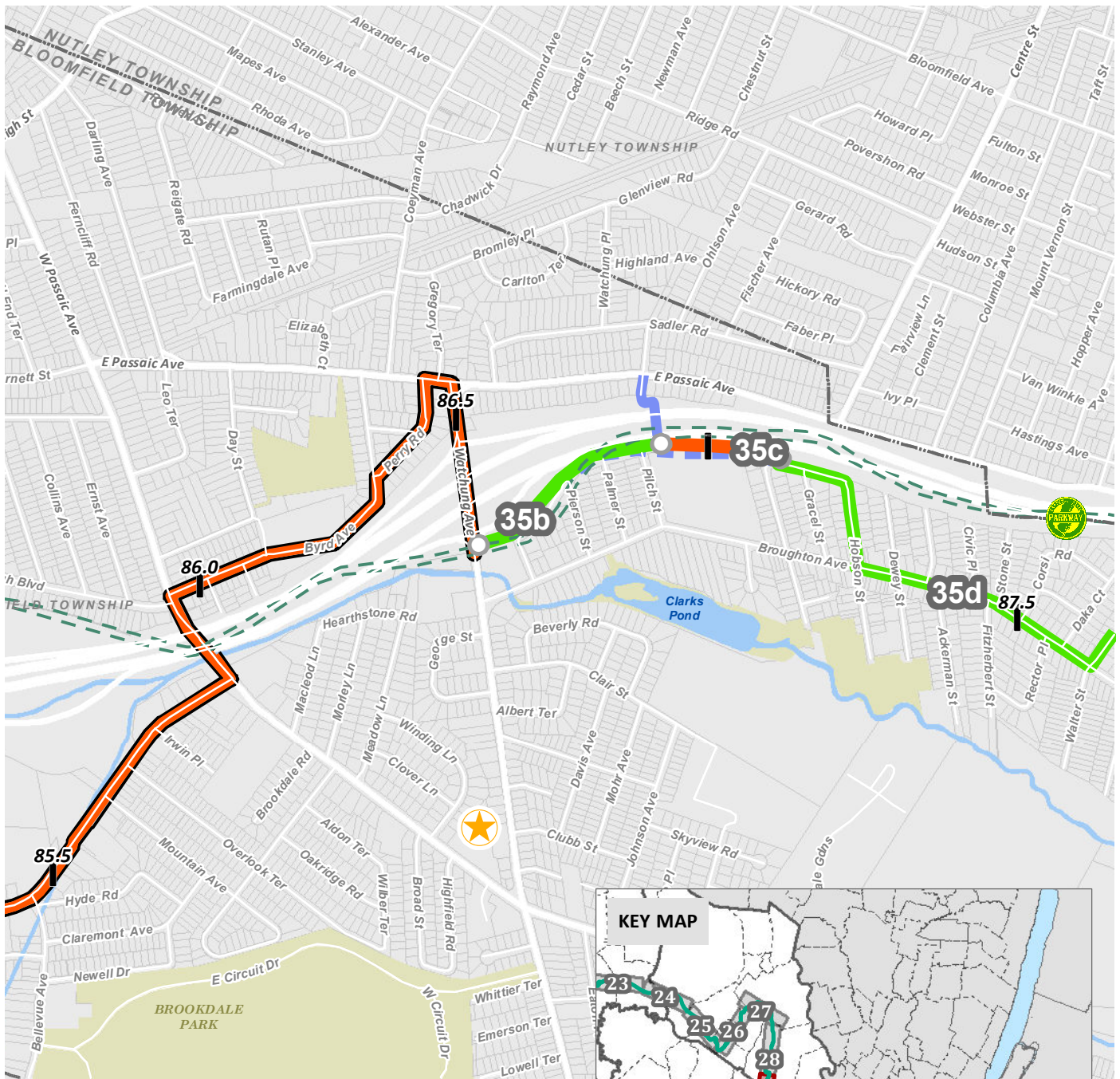


**Legend**

**MORRIS CANAL GREENWAY CORRIDOR STUDY**

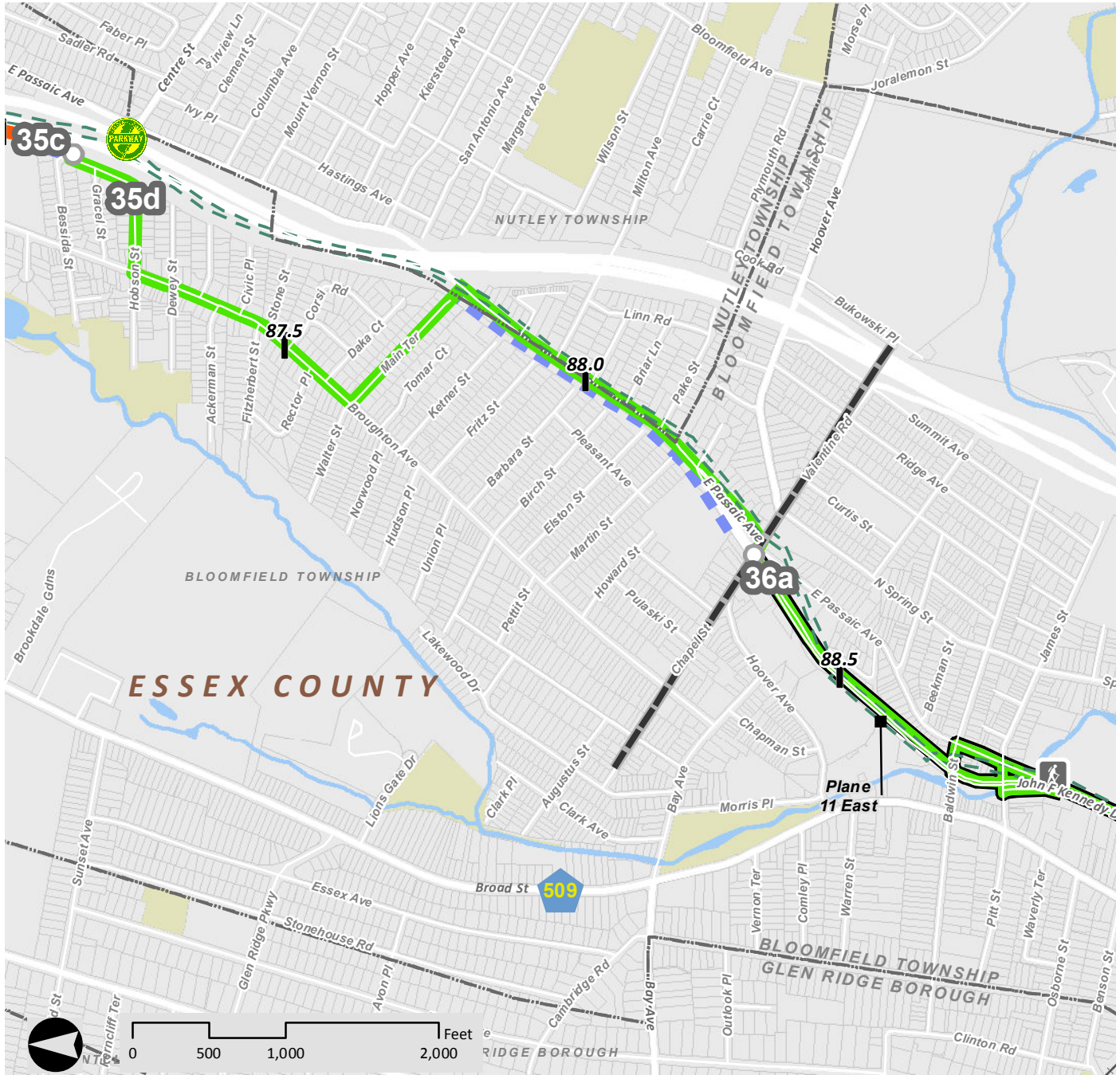
On Rd / Off Rd	Segment Group Breaks	Mileposts
Existing Greenway	Segment Start/End Pt	Business District
Short/Medium-Term (2018-2027)	Spur (existing)	Trailheads
Long Term (2028+)	Spur (proposed)	Segment Number
Interim		

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
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# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Essex County

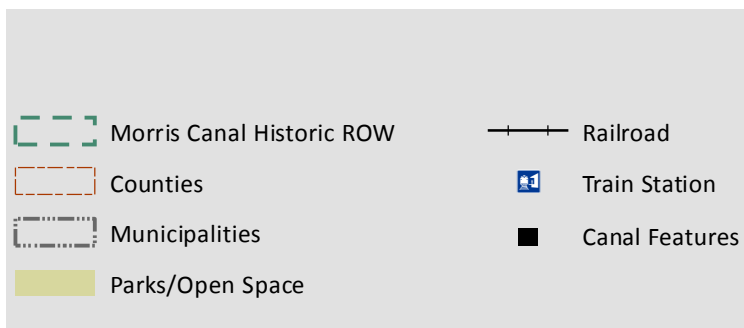
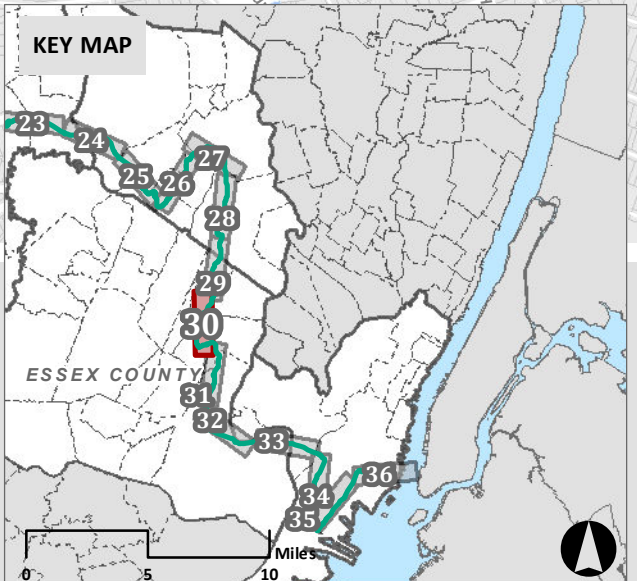
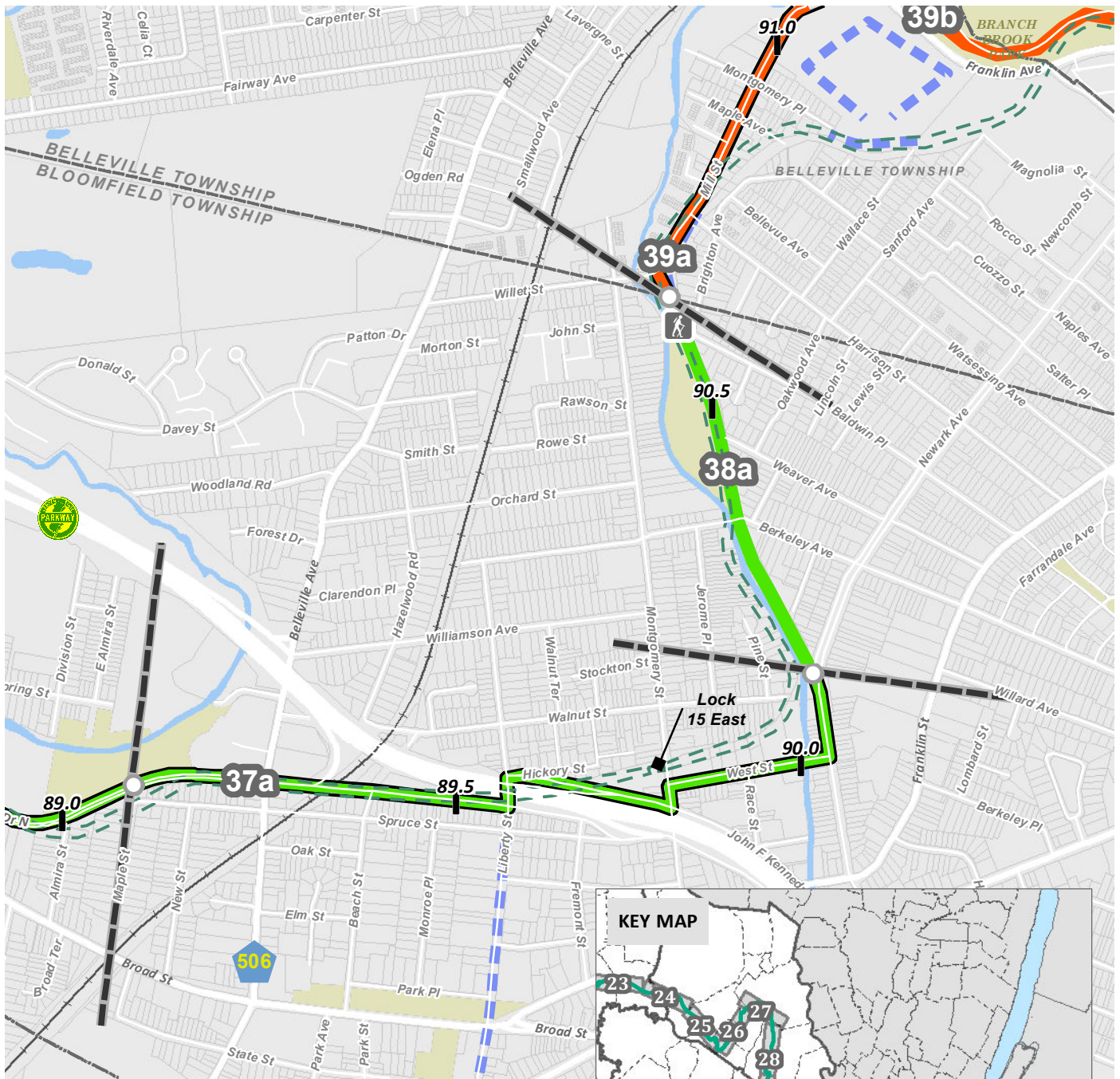


### Legend

**MORRIS CANAL GREENWAY CORRIDOR STUDY**

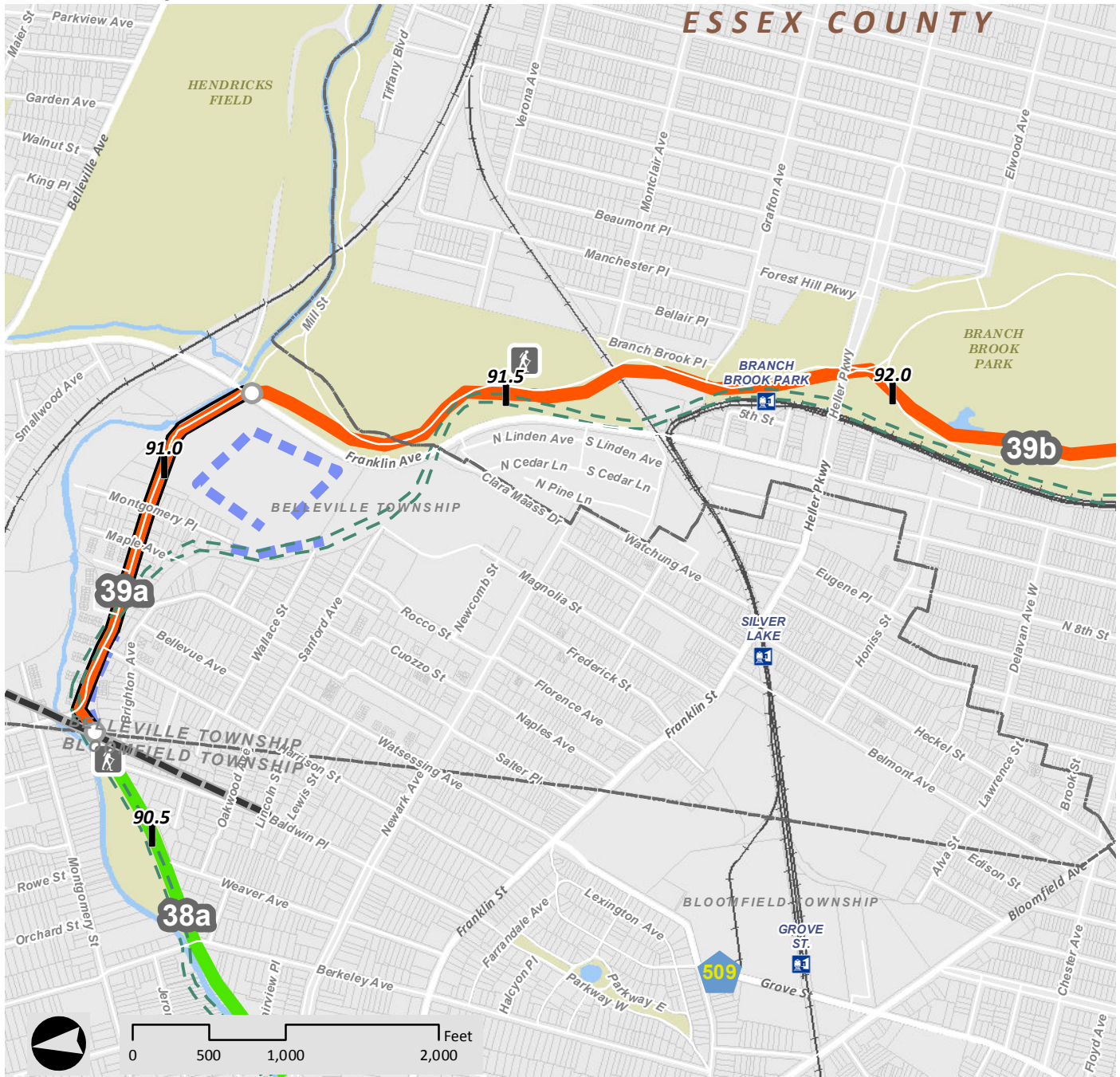
On Rd / Off Rd	Segment Group Breaks	Mileposts
Existing Greenway	Segment Start/End Pt	Business District
Short/Medium-Term (2018-2027)	Spur (existing)	Trailheads
Long Term (2028+)	Spur (proposed)	Segment Number
Interim		

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
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# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

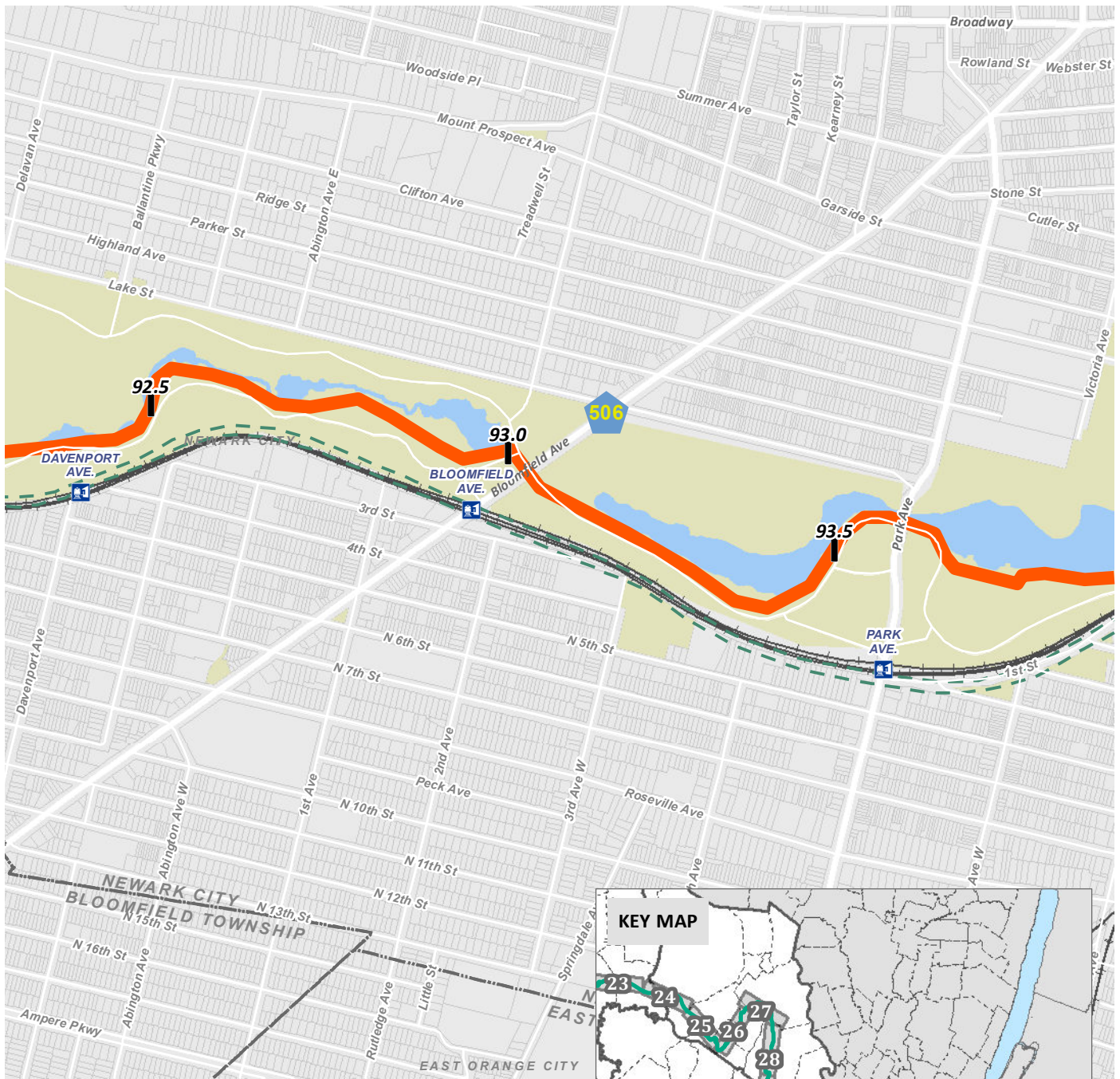
## Essex County



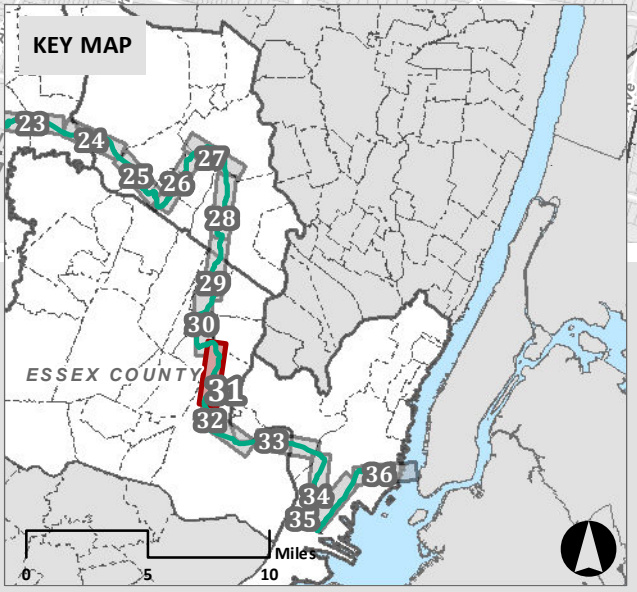
**Legend**  
**MORRIS CANAL GREENWAY CORRIDOR STUDY**

On Rd / Off Rd	Segment Group Breaks	Mileposts
Existing Greenway	Segment Start/End Pt	Business District
Short/Medium-Term (2018-2027)	Spur (existing)	Trailheads
Long Term (2028+)	Spur (proposed)	Segment Number
Interim		

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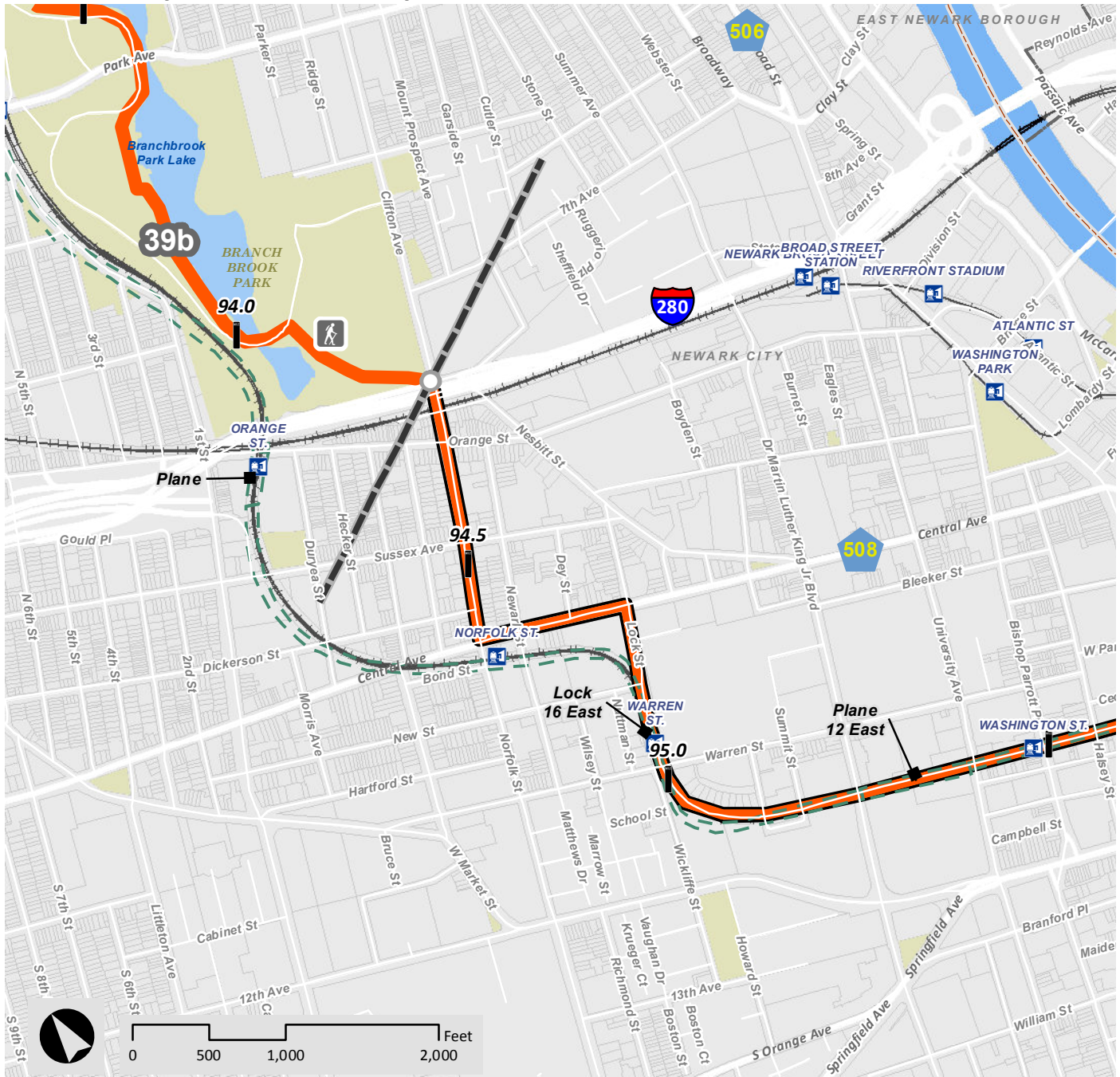


- Morris Canal Historic ROW
- Counties
- Municipalities
- Parks/Open Space
- Railroad
- Train Station
- Canal Features



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Essex County & Hudson County



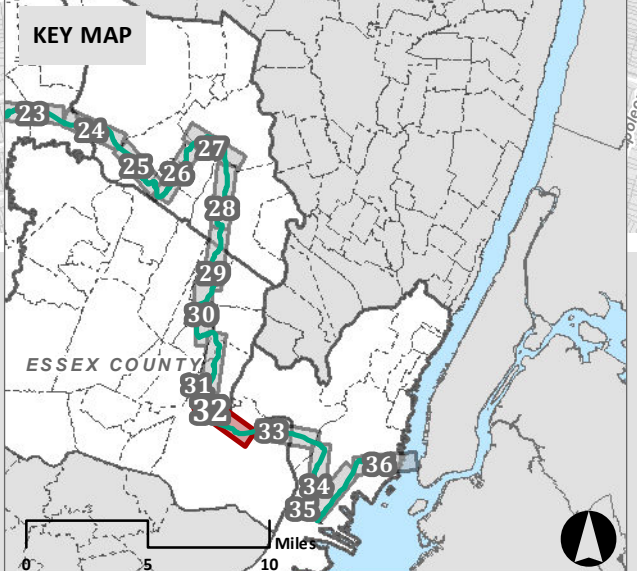
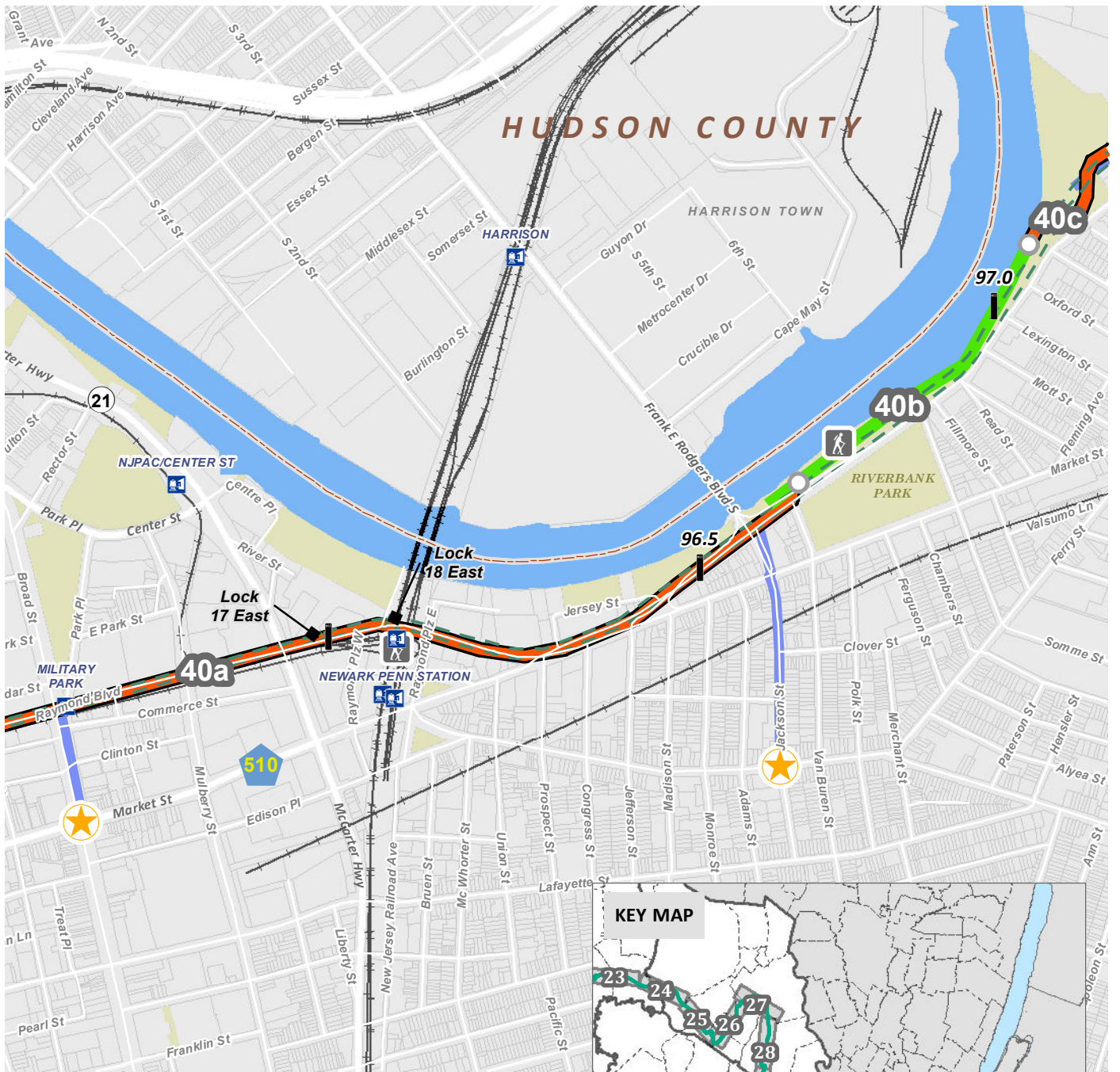
**Legend**

**MORRIS CANAL GREENWAY CORRIDOR STUDY**

On Rd / Off Rd	Segment Group Breaks	Mileposts
Existing Greenway	Segment Start/End Pt	Business District
Short/Medium-Term (2018-2027)	Spur (existing)	Trailheads
Long Term (2028+)	Spur (proposed)	Segment Number
Interim		

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
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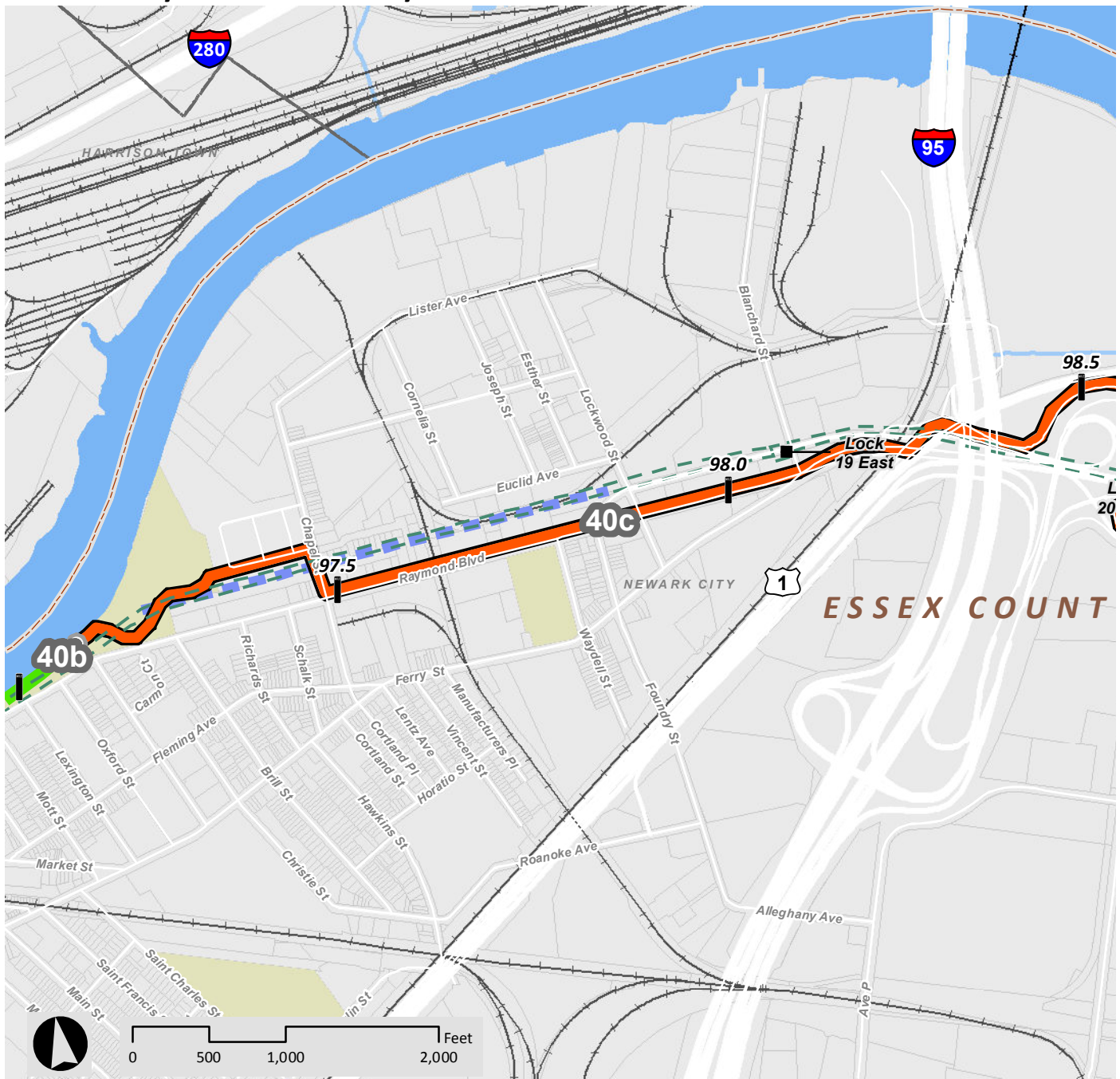




- Morris Canal Historic ROW
- Counties
- Municipalities
- Parks/Open Space
- Railroad
- Train Station
- Canal Features

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Essex County & Hudson County



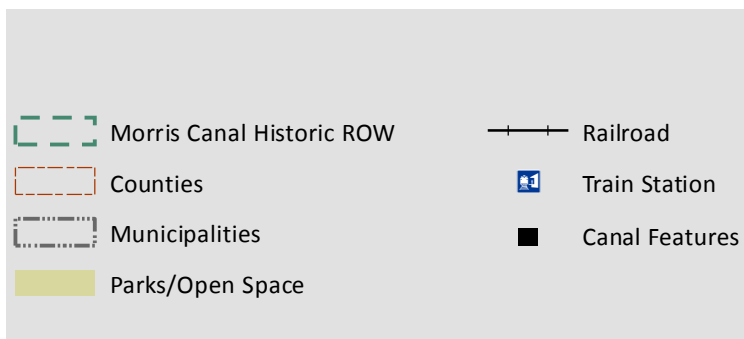
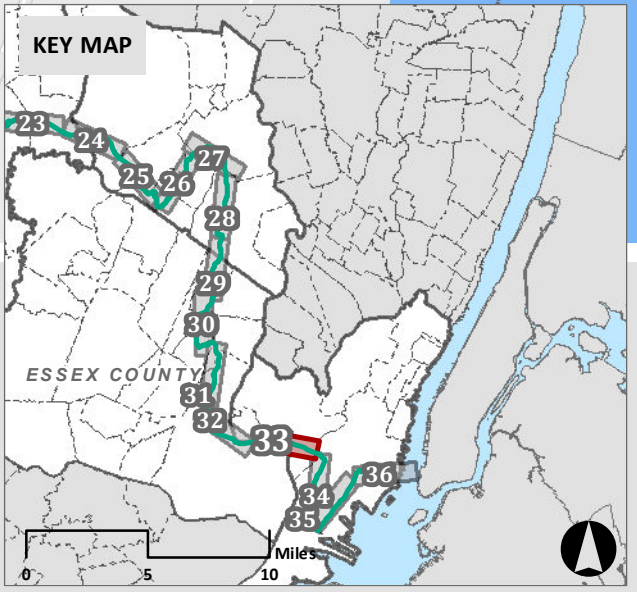
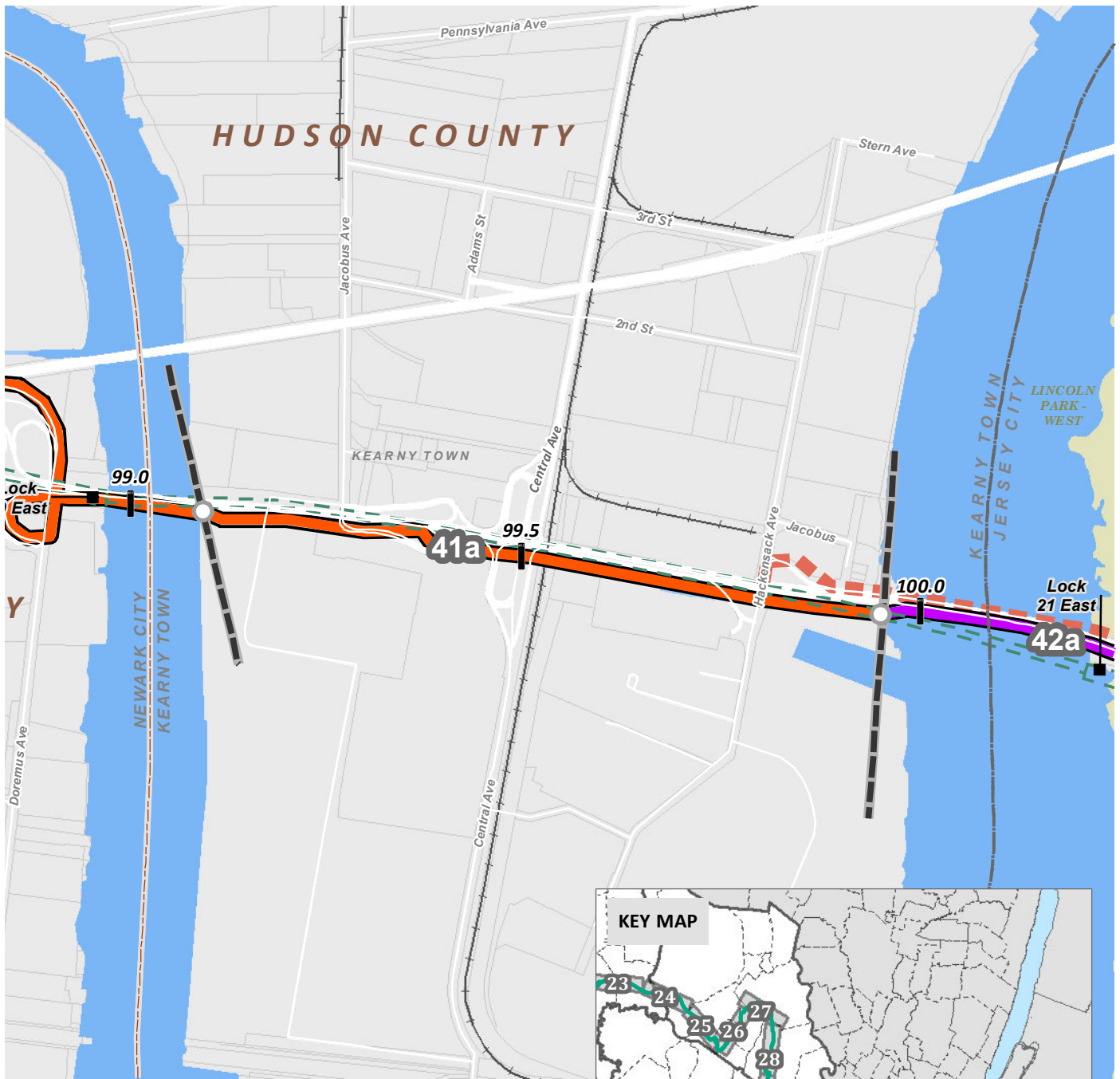
### Legend

#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

- |                               |                      |                   |
|-------------------------------|----------------------|-------------------|
| Existing Greenway             | Segment Group Breaks | Mileposts         |
| Short/Medium-Term (2018-2027) | Segment Start/End Pt | Business District |
| Long Term (2028+)             | Spur (existing)      | Trailheads        |
| Interim                       | Spur (proposed)      | Segment Number    |

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

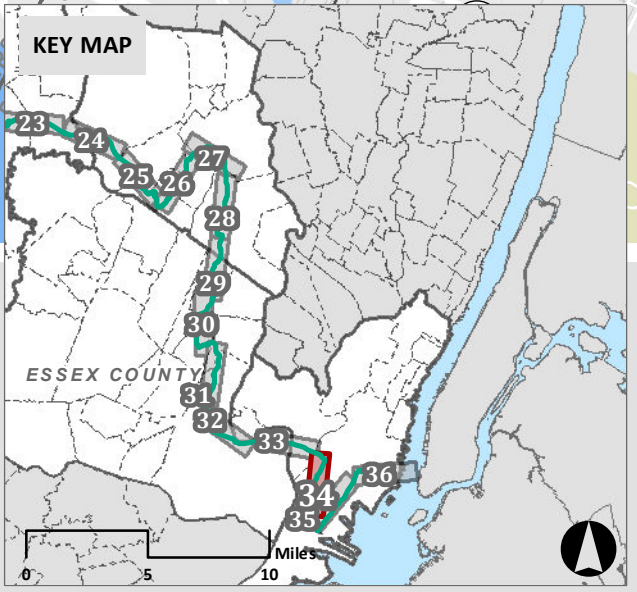
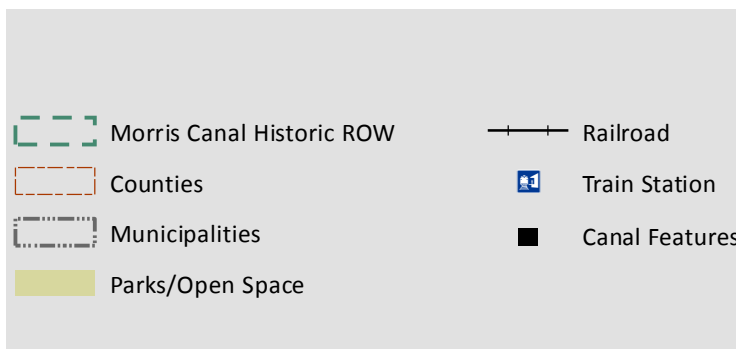
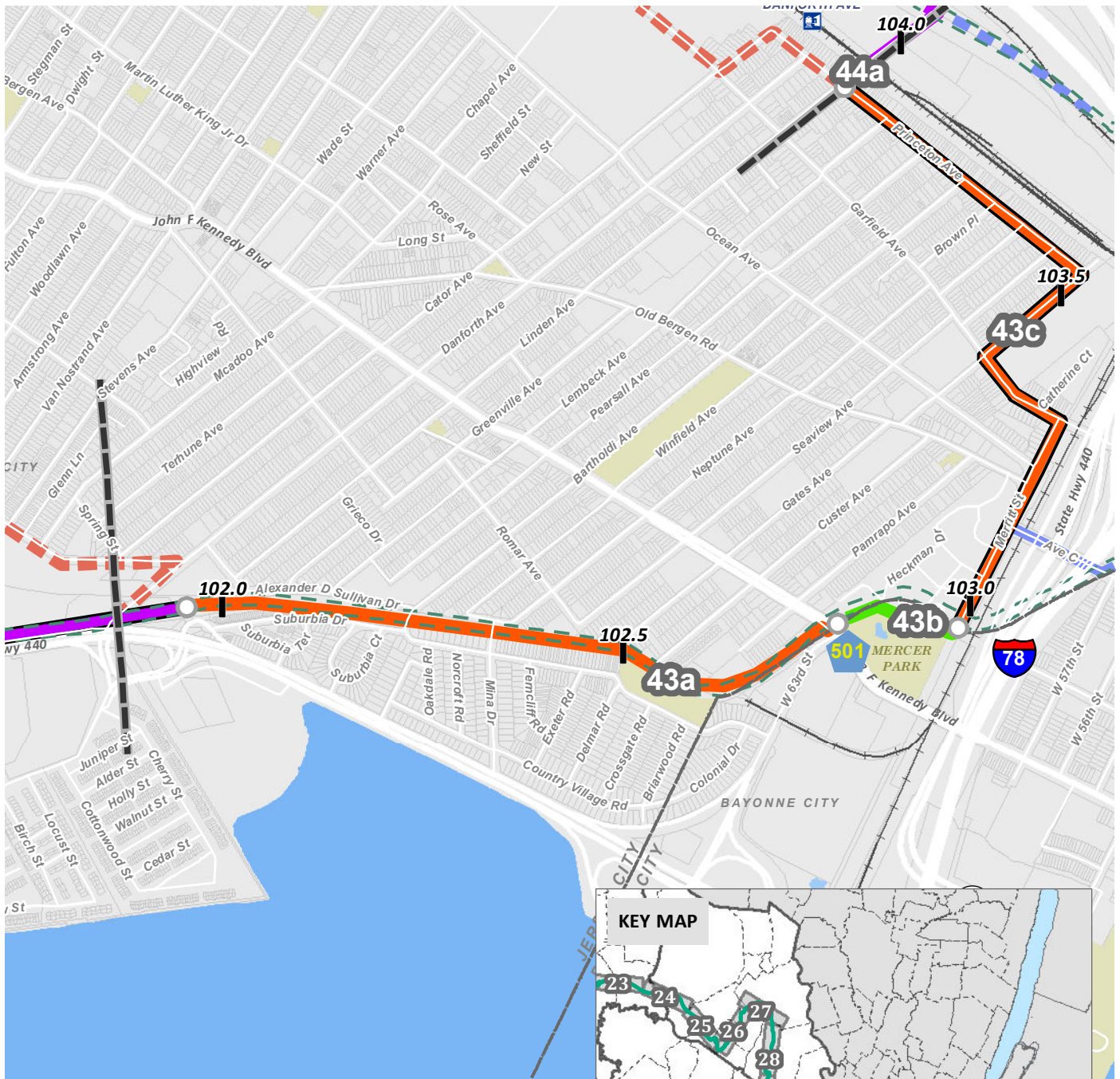
## Hudson County



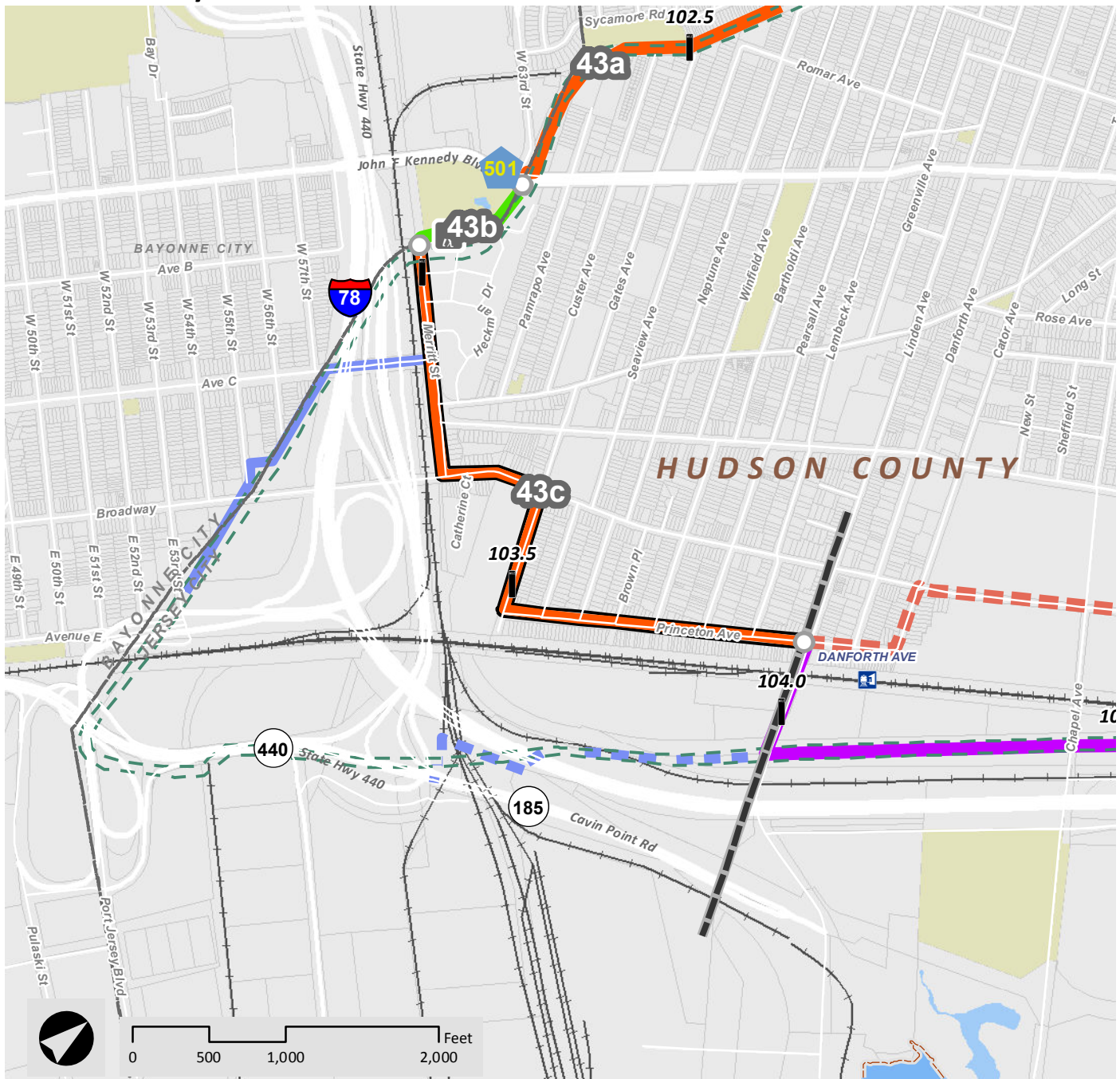
**Legend**  
**MORRIS CANAL GREENWAY CORRIDOR STUDY**

On Rd / Off Rd	Segment Group Breaks	Mileposts
Existing Greenway	Segment Start/End Pt	Business District
Short/Medium-Term (2018-2027)	Spur (existing)	Trailheads
Long Term (2028+)	Spur (proposed)	Segment Number
Interim		

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources



# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT Hudson County



## Legend

### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

Existing Greenway

Short/Medium-Term (2018-2027)

Long Term (2028+)

Interim

Segment Group Breaks

Segment Start/End Pt

Spur (existing)

Spur (proposed)

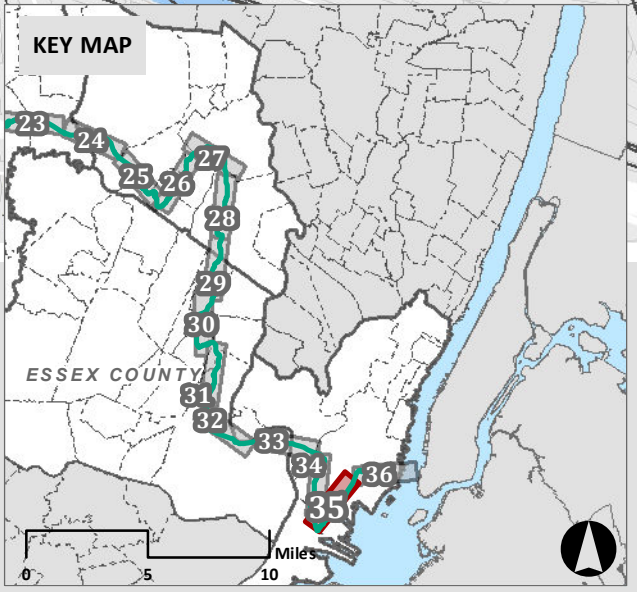
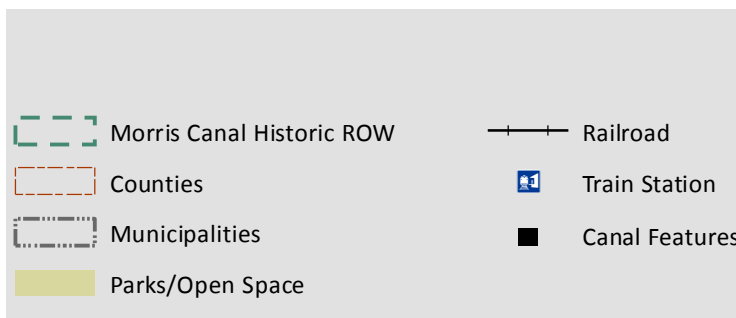
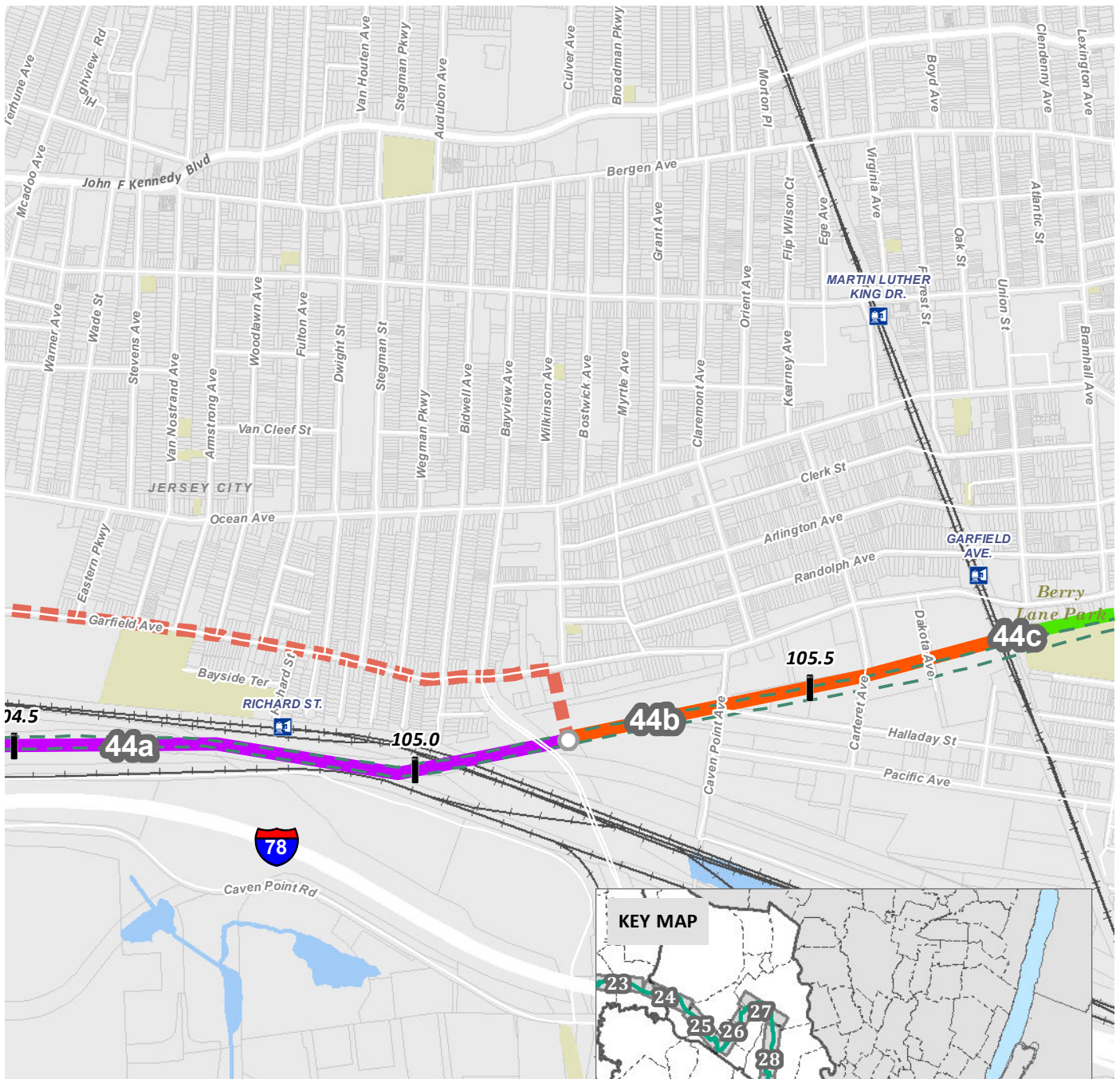
Mileposts

Business District

Trailheads

Segment Number

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources

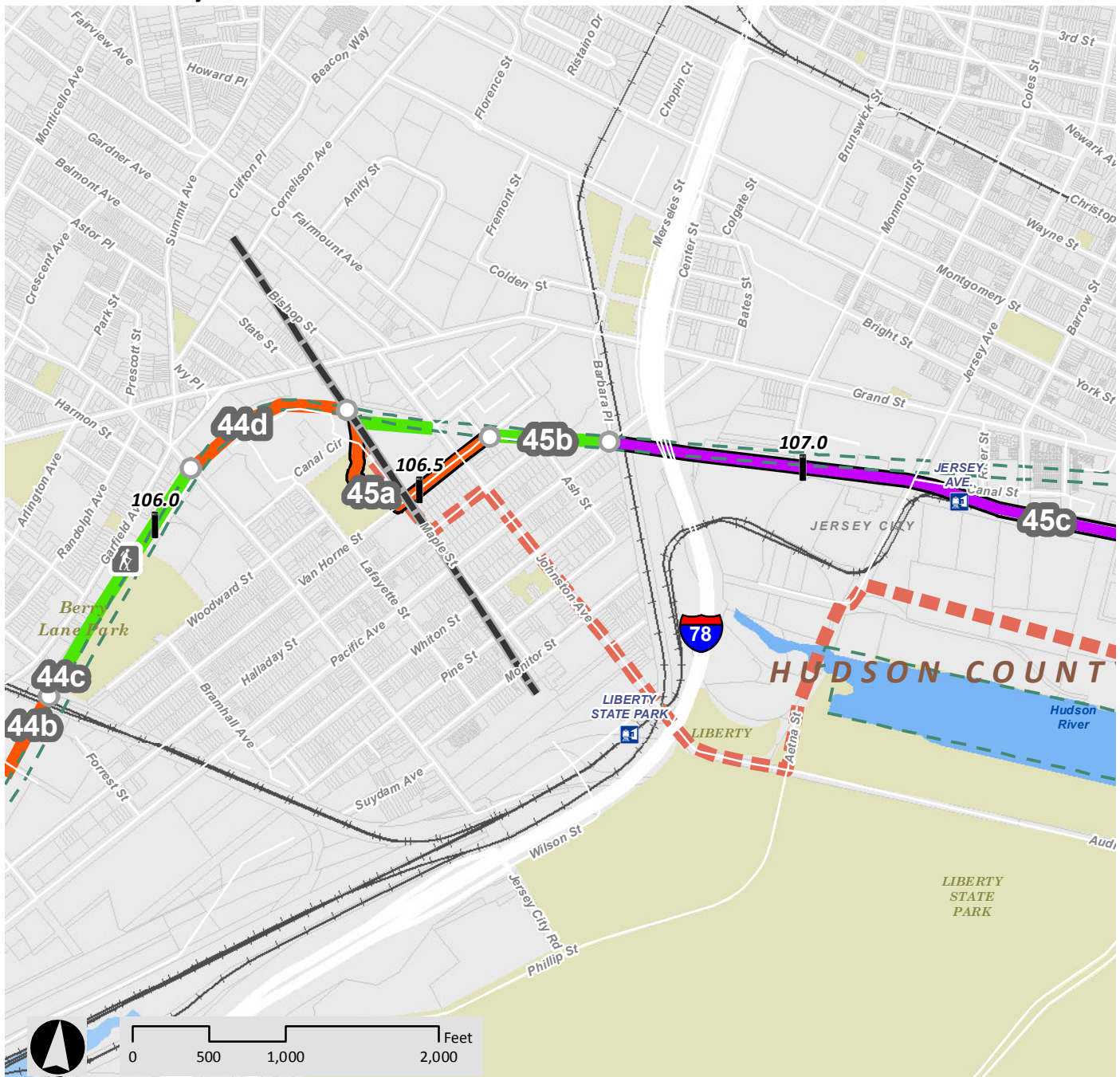


May 2018

Map Pg. 35 of 36

# MORRIS CANAL GREENWAY PREFERRED ALIGNMENT

## Hudson County



### Legend

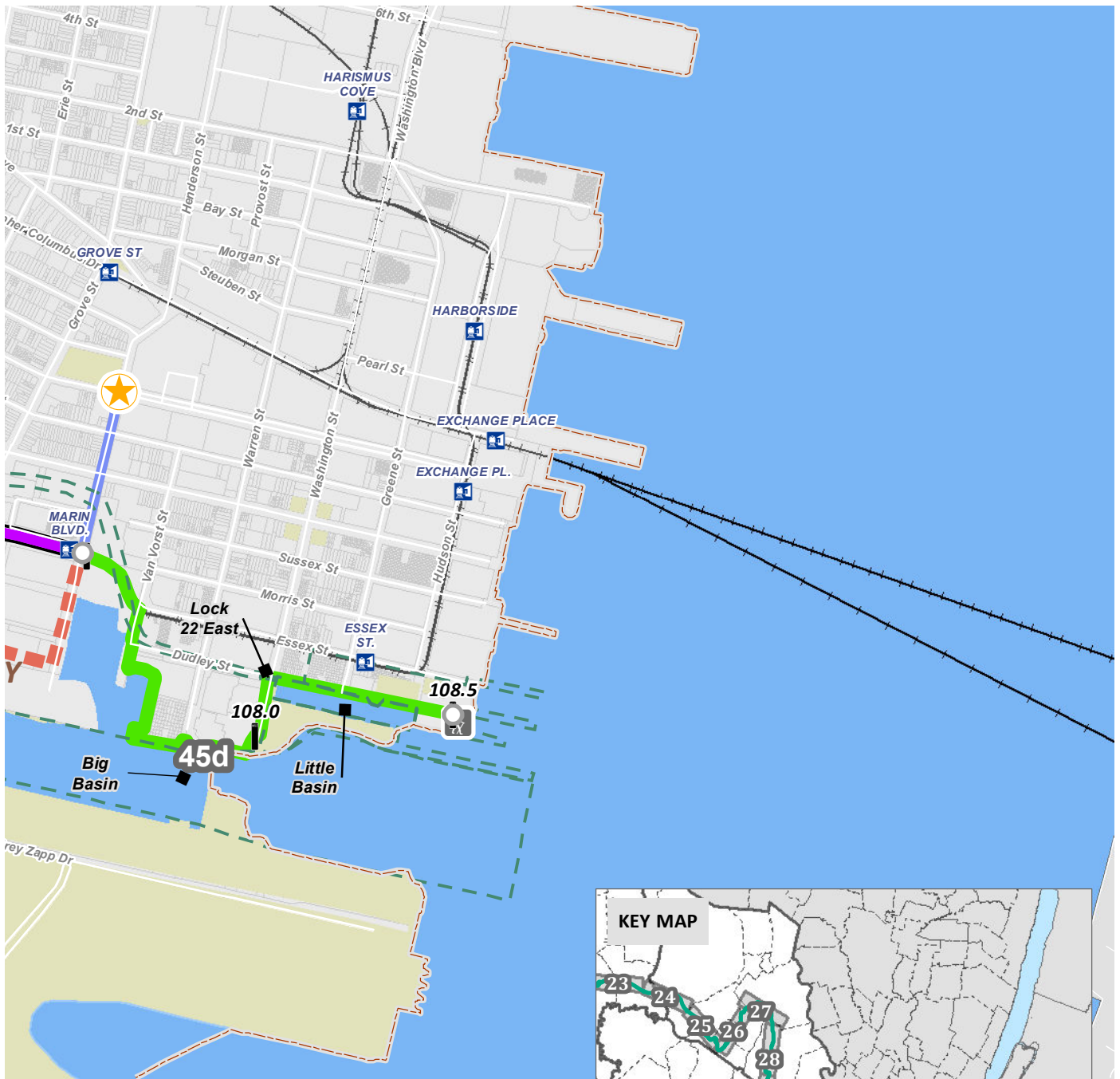
#### MORRIS CANAL GREENWAY CORRIDOR STUDY

On Rd / Off Rd

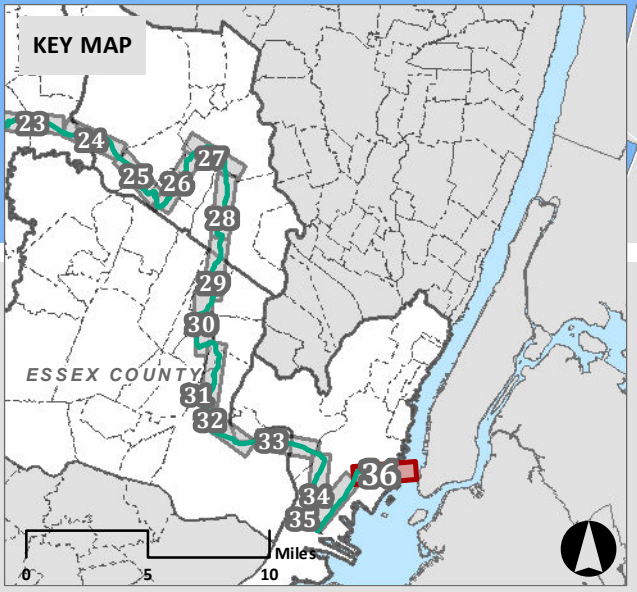
- |                               |                      |                   |
|-------------------------------|----------------------|-------------------|
| Existing Greenway             | Segment Group Breaks | Mileposts         |
| Short/Medium-Term (2018-2027) | Segment Start/End Pt | Business District |
| Long Term (2028+)             | Spur (existing)      | Trailheads        |
| Interim                       | Spur (proposed)      | Segment Number    |

Note: Portions of the historic canal and some features do not exist today but are represented on the map for historical reference and planning purposes.  
 Source: MCGCS, Morris Canal Greenway Preferred Alignment, Business Districts, Trailheads, Spurs; NJDEP, Morris Canal Historic ROW & Features (2008), Parks/Open Space (2016); NJOIT, County & Municipal Borders (2016), Railroads & Train Stations (2017), Roads (2017); for additional information refer to Appendix G: GIS Data Sources





- Morris Canal Historic ROW
- Counties
- Municipalities
- Parks/Open Space
- Railroad
- Train Station
- Canal Features





# Appendix D: Glossary



## Appendix D

# Glossary

**ADAAG** - Americans with Disabilities Act Accessibility Guidelines

[www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/background/adaag](http://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/background/adaag)

**Basins** – wide areas where the canal boats queued before crossing a lock or plane.

**Bicycle Lane** – A portion of roadway that has been designated for preferential or exclusive use by bicyclists by pavement markings and, if used, signs.

**Bicycle Route** – A roadway or bikeway designated by the jurisdiction having authority, either with a unique route designation or with Bike Route signs, along which bicycle guide signs may provide directional and distance information.

**Bikeway** – A generic term for any road, street, path or way which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

**Canal-Side Shared Use Path** - A shared-use path located on or adjacent to the historic towpath. This facility type provides the best experience for trail users. This facility type is defined specific to the Morris Canal Greenway.

**Highway** – A general term denoting a public way for purposes of vehicular travel, including the entire area within the right-of-way.

**Inclined plane** – a mechanism for raising and lowering canal boats where locks would be impractical. Plane cars, moving on rails and carrying boats on a slope, are moved by a cable wound around a large drum rotated by a water turbine, similar to a short, inclined railway.

**Independent Right-of-Way** – A general term denoting right-of-way outside the boundaries of the conventional highway.

**Locks** – A chamber in a canal, closable at each end with gates. It was used to raise or lower boats between two canal levels by filling or draining the water in its chamber.

**Off-Road Shared Use Path** - A shared-use path, typically through a wooded area, open space, or park that is not adjacent to a roadway. This facility type is defined specific to the Morris Canal Greenway.

**On-Road Facility**- This facility type can take many forms, but is often a painted bicycle lane with an adjacent sidewalk.

**Prism** – The area where the water of a canal is channeled, many sections of the Morris Canal prism are currently dry but clearly visible due to the physical characteristics of the land being flat along the canal and sloped along the sides that once held the canal water.

**PROWAG** - Public Rights-of-Way Accessibility Guidelines, for facilities located within the public right-of-way (except for structures).

**Rail-Trail** – A shared use path, either paved or unpaved, built within the right-of-way of a former railroad.

**Rail-with-Trail** - A shared use path, either paved or unpaved, built within the right-of-way of an active railroad.

**Right-of-Way** – A general term denoting land, property or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

**Road Diet** - A Road Diet is generally described as "removing travel lanes from a roadway and utilizing the space for other uses and travel modes."

**Roadway** – The portion of a highway, including shoulders, intended for vehicular use.

**Road-Side Shared Use Path** - A shared-use path directly adjacent to a roadway and within its right-of-way. This facility type is defined specific to the Morris Canal Greenway. Also known as a Sidepath.

**Shared lane** – A lane of travel that is open to both bicycle and motor vehicle travel.

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## Glossary

**Shared lane markings** – A pavement marking symbol that indicates an appropriate bicycle positioning in a shared lane.

**Shared Use Path** – A bikeway physically separated from motor vehicle traffic by an open space or a barrier and either within the highway right-of-way or within an independent right-of-way. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users. Most shared use paths are designated for two-way travel. For Morris Canal Greenway, see Canal-Side Path, Off-Road Path, and Road-Side Path.

**Shoulder** – The portion of the roadway contiguous to the traveled way that accommodates stopped vehicles, emergency use, and lateral support of subbase, base, and surface courses. Shoulders, where paved, are often used by bicyclists.

**Sidewalk** – That portion of a street or highway right-of-way, beyond the curb or edge of roadway pavement, which is intended for use by pedestrians.

**Sidepath** – A shared use path located immediately adjacent and parallel to a roadway. For Morris Canal Greenway, see Road-Side Path.

**Towpath** - is a graded pathway beside the canal prism where mules walked, pulling the canal boats with ropes

**Traveled Way** – The portion of the roadway intended for the movement of vehicles, exclusive of shoulders and any bike lane inside of the shoulder.

**Termini** - The termini of the Morris Canal are where it intersected with the two major regional waterways: the Delaware River in the west and New York Harbor in the east.

**Unpaved Path** – Path not surfaced with hard, durable surface such as asphalt or Portland cement concrete.

**Wayfinding** – A system of signs, maps, and other graphic or audible methods used to convey location and directions to travelers.

## Sources

- AASHTO Guide for the Development of Bicycle Facilities
- <https://www.merriam-webster.com/>
- NJDOT Complete Streets Design Guideline,
- AASHTO Guide for the Development of Bicycle Facilities
- NACTO - National Association of City Transportation Officials, Urban Street Design Guide, and Urban Bikeway Design Guide
- Franke, J, Barth,B., Barth,L., Drennan, J., Rice, R., & Kleinedler, G (2014), *Field Guide to the Morris Canal of New Jersey*,
- Rosales, J., *Road Diet Handbook: Setting Trends for Livable Streets*, Institute of Transportation Engineers, Washington, DC, 2006.



# Appendix E: Funding Sources



## Appendix E

# Funding Sources

This appendix is intended to guide those who must secure funding for the development of the Morris Canal Greenway. The scope of this collaborative effort is broad, encompassing planning, design, and construction of the bicycle and walking facilities, wayfinding and signing, historic preservation, and educational and interpretive programs. Jurisdictions implementing segments of the greenway will have short- and long- term funding needs that are specific to the context, type and scale of their greenway projects.

The proposed alignment represents a starting point for the implementing jurisdictions. They will confirm and refine the proposed alignment during planning, preliminary and final design, and construction. Funding requirements will be determined accordingly. This funding guide describes a number of funding programs that may be applicable to the development phases of each segment.

The following is a compilation and brief description of potential sources of funding that have been, or could be used to fund capital projects associated with both on-road and off-road bicycle and pedestrian related facilities for the Morris Canal Greenway as listed in the Implementation Matrix and described in Appendix A – Design Guidelines. The list focuses on funding sources that can be utilized to fund bicycle and pedestrian planning and project development activities, as well as construction.

Other sources used to fund programmatic activities related to the advancement of the greenway such as safety, enforcement, education, promotion, marketing, and land acquisition are also listed and eligible activities often overlap.

For each source, links are provided to individual websites that contain additional information related to:

- How to apply for funding
- Typical grant amounts
- Application deadlines; and
- Details on eligible activities

Both public and private funding sources typically change over time, and others not included here may become available. It is anticipated that implementing jurisdictions and supporting organizations will continue to research and identify funding opportunities appropriate to their refined alignment and specific needs.

For complex multijurisdictional projects like the Morris Canal Greenway, diverse funding sources are both common and necessary.

A list of potential funding sources is included in the following table of contents (with associated page numbers indicating where brief narrative descriptions and link to available websites can be found). A funding matrix is also provided and outlines the types of projects that each source described in this guide might fund.



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## Funding Sources

### FEDERAL FUNDING OPPORTUNITIES.....4

FIXING AMERICA’S SURFACE TRANSPORTATION (FAST) ACT.....4	4
<i>Congestion Mitigation and Air Quality Improvement (CMAQ) Program</i> .....4	4
<i>Transportation Alternatives Set-Aside</i> .....4	4
HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) .....4	4
LAND AND WATER CONSERVATION FUND (NATIONAL PARK SERVICE).....4	4
RIVERS, TRAILS, AND CONSERVATION ASSISTANCE PROGRAM (NATIONAL PARK SERVICE).....4	4
SAFE ROUTES TO SCHOOL (SRTS) PROGRAM.....5	5

### STATE FUNDING OPPORTUNITIES .....5

NJDOT – MUNICIPAL AID .....5	5
NJDOT – COUNTY AID .....5	5
NJDOT – BIKEWAY GRANT PROGRAM .....5	5
NJDOT – SAFE STREETS TO TRANSIT .....5	5
NJDOT – LOCAL BRIDGES, FUTURE NEEDS .....6	6
NJDOT TRANSIT VILLAGES.....6	6
NJ DIVISION OF HIGHWAY TRAFFIC SAFETY (HTS) GRANTS .....6	6
<i>Comprehensive Traffic Safety Program (CTSP)</i> .....6	6
<i>Pedestrian Safety</i> .....6	6
NJDEP – GREEN ACRES PROGRAM .....6	6
RECREATIONAL TRAILS PROGRAM (ADMINISTERED BY NJDEP) ..6	6

### PRIVATE OR NONPROFIT FUNDING SOURCES .....7

SUSTAINABLE JERSEY .....7	7
PEOPLEFORBIKES COMMUNITY GRANTS .....7	7
ASSOCIATION OF NEW JERSEY ENVIRONMENTAL COMMISSIONS (ANJEC) GRANT PROGRAM.....7	7
NEW JERSEY HEALTHY COMMUNITIES NETWORK.....7	7
NEW JERSEY PREVENTION NETWORK .....7	7
ROBERT WOOD JOHNSON FOUNDATION.....7	7
THE GERALDINE R. DODGE FOUNDATION.....7	7

### OTHER FUNDING SOURCES .....8

MUNICIPAL ALLOCATIONS .....8	8
MORRIS COUNTY OPEN SPACE & FARMLAND PRESERVATION TRUST FUND .....8	8
PASSAIC COUNTY OPEN SPACE, FARMLAND & HISTORIC PRESERVATION TRUST FUND.....8	8
NEW JERSEY HIGHLANDS COALITION .....8	8
IMPACT FEES .....8	8
LOCAL PRIVATE-SECTOR FUNDING .....8	8

## Funding Sources

### Sources of Funding for Greenway Development

<i>Funding Source</i>	<i>Types of Facilities or Activities</i>		
	Capital Projects		Programmatic
Federal Funding Opportunities	<i>On-Road</i>	<i>Off-Road</i>	
The FAST Act	●	●	●
Congestion Mitigation and Air Quality Improvement (CMAQ) Program	●		●
Transportation Alternatives Set-Aside	●	●	●
Highway Safety Improvement Program (HSIP)	●		●
Land and Water Conservation Fund (National Park Service)			●
Rivers, Trails, and Conservation Assistance Program (National Park Service)			●
Safe Routes to School Program (SRTS)	●	●	●
<b>State Funding Opportunities</b>			
NJDOT – Municipal Aid	●		
NJDOT – County Aid	●		
NJDOT – Bikeway Grant Program	●	●	
NJDOT – Safe Streets to Transit	●		
NJDOT – Local Bridges, Future Needs	●		
NJDOT Transit Villages	●		●
NJ Division of Highway Traffic Safety Grants (HTS Grants)			●
NJDEP - Green Acres Program			●
Recreational Trails Program (Administered by NJDEP)			●
<b>Private or NonProfit Funding Sources</b>			
Sustainable Jersey			●
PeopleforBikes Community Grants	●	●	●
Association of New Jersey Environmental Commissions (ANJEC) Grant Program			●
New Jersey Healthy Communities Network			●
New Jersey Prevention Network			●
Robert Wood Johnson Foundation			●
The Geraldine R. Dodge Foundation			●
<b>Other</b>			
Municipal Allocations	●	●	
Morris County Open Space & Farmland Preservation Trust Fund		●	●
Passaic County Open Space, Farmland & Historic Preservation Trust Fund		●	●
New Jersey Highlands Coalition			●
Impact Fees	●	●	
Local Private-Sector Funding	●	●	●

**Note:**

1. Capital Projects relate to on- or off-road facility design and construction activities. On/off-road facilities are detailed and described in Appendix A – Design Guidelines. Project elements associated with on-road typically include: striped bicycle lanes, signage, sidewalks, signals, and protected on-road bicycle lanes, etc. Project elements associated with off-road facilities typically include paved paths, signage, road crossings, bridges, boardwalks, wayside exhibits, etc.
2. Programmatic Activities relate to project elements such as technical assistance, education, enforcement, safety, Safe Routes to School, promotion, and marketing.

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## Funding Sources

### FEDERAL FUNDING OPPORTUNITIES

#### **Fixing America's Surface Transportation (FAST) Act**

[www.fhwa.dot.gov/fastact/](http://www.fhwa.dot.gov/fastact/)

Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94) provides federal transportation policy and funding for five years, authorizing \$226.3 billion in Federal funding for fiscal years 2016 through 2020 for road, bridge, bicycling, and walking improvements. Funding programs under the FAST Act are summarized below.

#### **Congestion Mitigation and Air Quality Improvement (CMAQ) Program**

<https://www.fhwa.dot.gov/fastact/factsheets/cmaqfs.cfm>

The Congestion Mitigation and Air Quality Improvement (CMAQ) program provides a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).

The construction of bicycle and pedestrian facilities that are not exclusively recreational (as they must reduce vehicle trips and therefore vehicle emissions), outreach promoting safe bicycle use, and other bicycle and pedestrian programs are eligible for funding. CMAQ eligibilities include public transit, bicycle and pedestrian facilities, travel demand management strategies, alternative fuel vehicles, and facilities serving electric or natural gas-fueled vehicles.

#### **Transportation Alternatives Set-Aside**

[https://www.fhwa.dot.gov/environment/transportation\\_alternatives/](https://www.fhwa.dot.gov/environment/transportation_alternatives/)

The Transportation Alternatives Set-Aside (TA Set-Aside, or TA) authorizes funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-

driver access to public transportation and enhanced mobility, community improvement activities such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity; recreational trail projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former divided highways.

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

<https://safety.fhwa.dot.gov/hsip/>

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on tribal land. This source may be used for the segments where the greenway will share public roadways, should the roadway segment meet crash analysis requirements.

#### **Land and Water Conservation Fund (National Park Service)**

<https://www.nps.gov/subjects/lwcf/index.htm>

The Land and Water Conservation Fund focuses on protecting natural areas, water resources and cultural heritage, and recreational opportunities to all Americans.

#### **Rivers, Trails, and Conservation Assistance Program (National Park Service)**

<https://www.nps.gov/orgs/rtca/apply.htm>

The National Park Service Rivers, Trails, and Conservation Assistance program supports community-led natural resource conservation and outdoor recreation. Funding is provided to design trails and parks, conserve and improve access to rivers, protect special places, and create recreational opportunities.

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## Funding Sources

### Safe Routes to School (SRTS) Program

<http://www.state.nj.us/transportation/business/localaid/srts.shtm>

<http://www.njtpa.org/project-programs/project-development/safe-routes-to-school.aspx>

The Safe Routes to School Program (SRTS) is a federally funded program administered by the New Jersey Department of Transportation (NJDOT), in partnership with the North Jersey Transportation Planning Authority (NJTPA).

Projects must be located within two miles of a school that serves students in grades K-8 and involve the school commute. Infrastructure projects may include the installation of sidewalks, crosswalks, bike lanes, multi-use paths, traffic calming measures, and other means to ensure the ease and safety of children walking or biking to school.

## STATE FUNDING OPPORTUNITIES

### NJDOT – Municipal Aid

<http://www.state.nj.us/transportation/business/localaid/municipaid.shtm>

The Municipal Aid program applies to municipalities in each county. municipalities MAY apply for funding related to road improvement projects such as resurfacing, rehabilitation or reconstruction and signalization.

### NJDOT – County Aid

<http://www.state.nj.us/transportation/business/localaid/countyaid.shtm>

Similar to the Municipal Aid Program, County Aid funds are appropriated by the Legislature for the improvement of public roads and bridges, public transportation, and other transportation related projects under county jurisdiction, as identified within the county's Annual Transportation Program (ATP)

### NJDOT – Bikeway Grant Program

<http://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm>

The New Jersey Department of Transportation's (NJDOT) Bikeway Grant Program provides funds to counties and municipalities to construct new miles of dedicated bike paths.

### NJDOT – Safe Streets to Transit

<http://www.state.nj.us/transportation/business/localaid/safe.shtm>

The Safe Streets to Transit (SSTT) program provides funding to counties and municipalities in improving access to transit facilities and all nodes of public transportation.

Projects and activities that will improve safety in the vicinity of transit facilities (approximately one-half mile for pedestrian improvements) qualify for funding.

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## Funding Sources

### **NJDOT – Local Bridges, Future Needs**

<http://www.state.nj.us/transportation/business/localaid/localbridges.shtm>

The New Jersey Department of Transportation (NJDOT), Local Bridges, Future Needs program provides funds for the improvement of county jurisdiction bridges. NJDOT is focusing on preventive maintenance, rehabilitation and selective replacement of bridges. This could include Morris Canal Greenway On-Road Facilities that utilize County bridges.

### **NJDOT Transit Villages**

<http://www.state.nj.us/transportation/business/localaid/transitvillagef.shtm>

The Division of Local Aid and Economic Development's Transit Village Grant program will award grants for non-traditional transportation-related projects to New Jersey municipalities designated as Transit Villages. Once designated, a municipality is eligible to plan for both bicycle and pedestrian improvements and programmatic activities such as events and place-making efforts. There are two (2) designated Transit Villages located along the Morris Canal Greenway, Netcong and Bloomfield.

### **NJ Division of Highway Traffic Safety (HTS) Grants**

[http://www.nj.gov/oag/hts/grants/index\\_south.html](http://www.nj.gov/oag/hts/grants/index_south.html)

The NJ Division of Highway Traffic Safety offers, on an annual basis, federal grant funding to agencies that wish to undertake programs designed to reduce motor vehicle crashes, injuries, and fatalities on the roads of New Jersey. Municipal, county, state government and law enforcement agencies, as well as non-profit organizations, are encouraged to apply for NJDHTS grant funding to address specific, local traffic safety issues. This could be used to fund safety enhancement along On-Road Facility segments such as traffic calming or other Complete Streets concepts.

### **Comprehensive Traffic Safety Program (CTSP)**

Comprehensive Traffic Safety Program grants address multiple traffic safety concerns within a

county or region. CTSP grants include numerous tasks and strategies involving enforcement, education and engineering.

### **Pedestrian Safety**

The grant includes funding for overtime enforcement at pedestrian safety hot spots in the community and educational outreach throughout the community. This supports pedestrian safety and can be prioritized along Morris Canal Greenway On-Road Facility segments.

### **NJDEP – Green Acres Program**

Green Acres provides low interest (2%) loans and grants to municipal and county governments to acquire open space and develop outdoor recreation facilities

Green Acres also provides matching grants to nonprofit organizations to acquire land for public recreation and conservation purposes. These funds may be considered particularly for MCG segments that may be long-term and require row acquisition.

### **Recreational Trails Program (Administered by NJDEP)**

<http://www.state.nj.us/dep/greenacres/trails/grants.html>

The Federal Highway Administration's Recreational Trails Program (RTP) provides financial assistance to states for developing and maintaining trails and trail facilities. The New Jersey Department of Environmental Protection Green Acres Program administers the program in New Jersey.

Permissible uses and projects include:

- Maintenance and restoration of existing trails;
- Development and rehabilitation of trailside and trailhead facilities and trail linkages for trails (e.g., parking, signage, shelters, sanitary facilities);
- Purchase and lease of trail construction and maintenance equipment;
- Construction of new trails in existing parks or in new right of way.

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## Funding Sources

### PRIVATE OR NONPROFIT FUNDING SOURCES

#### Sustainable Jersey

[www.sustainablejersey.com/grants-resources/](http://www.sustainablejersey.com/grants-resources/)

Sustainable Jersey is a nonprofit organization that provides tools, training and financial incentives for sustainable community initiatives.

Several Sustainable Jersey action items help provide sustainable transportation options. Safe Routes to School, Complete Streets Programs, Bicycle and/or Pedestrian Audits, and Bicycle and/or Pedestrian Plans can be funded. Sustainable Jersey for Schools actions related to active transportation include Pedestrian and Bicycle Safety Promotion Initiatives, Safe Routes to School District Policy, and School Travel Plan for Walking and Bicycling.

#### PeopleforBikes Community Grants

<https://peopleforbikes.org/grant-guidelines/>

The PeopleForBikes (formerly “Bikes Belong”) Community Grant Program provides funding for important and influential projects that leverage federal funding and build momentum for bicycling in communities across the U.S. These projects include bike paths and rail trails, as well as mountain bike trails, bike parks, BMX facilities, and large-scale bicycle advocacy initiatives.

#### Association of New Jersey Environmental Commissions (ANJEC) Grant Program

[www.anjec.org/index.htm](http://www.anjec.org/index.htm)

ANJEC is a statewide, nonprofit organization that provides leadership, education, grants and other support to environmental commissions and others to advocate for strong state and regional environmental policy. Grants are available for open space/greenways and trails assessments, including trail building, multitown efforts to link open spaces or trails, and programs to engage stakeholders.

#### New Jersey Healthy Communities Network

[www.njhcn.org/](http://www.njhcn.org/)

The New Jersey Healthy Communities Network (NJHCN) brings together local, regional and

statewide leaders to support communities in developing healthy environments for people to live, work, learn and play. Grants are provided to communities to enhance the built environment and advance policy to support healthy eating and active living. Grantees include health departments, nonprofit organizations, parks and recreation departments, school boards, and more.

#### New Jersey Prevention Network

<http://www.njpn.org/>

Through funding from the New Jersey Department of Health, New Jersey Prevention Network’s “GET ACTIVE NJ” program provides technical assistance, training and incentives to assist municipalities to find ways to educate stakeholders on different policies that can help promote walking and the many benefits that this can have on their communities.

#### Robert Wood Johnson Foundation

[www.rwjf.org/](http://www.rwjf.org/)

The Robert Wood Johnson Foundation (RWJF) invests in grantees (e.g., public agencies, universities, and public charities) that are working to improve the health of all Americans. Current or past projects in the topic area “walking and biking” include greenway plans, trail projects, advocacy initiatives, and policy development.

Municipalities and other eligible organizations along the Morris Canal Greenway may submit for funding related to a wide range of technical assistance and programmatic activities such as planning, educational programs, and coalition-building.

#### The Geraldine R. Dodge Foundation

<http://www.grdodge.org/what-we-fund/>

The Dodge Foundation funds Arts, Education, Environment and Informed Communities initiatives that are innovative and promote collaboration and community-driven decision making. Nonprofit, community, government, and business leaders are eligible to apply for funding assistance to advance programmatic activities associated with promoting the Morris Canal Greenway.

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## Funding Sources

### OTHER FUNDING SOURCES

#### Municipal Allocations

The most common sources of funding at the municipal and county level include allocations from a specific department, such as the parks and recreation department or public works department. Incorporating funding for maintenance of bicycle and pedestrian facilities into the annual budget guarantees funds are available to cover maintenance.

#### Morris County Open Space & Farmland Preservation Trust Fund

<https://planning.morriscountynj.gov/divisions/pretrust/>

The Preservation Trust Fund is divided into five program areas as follows:

- County Park Improvement Program
- Historic Preservation Program
- Morris County Agriculture Development Board
- Open Space Preservation
- Trail Construction Grant Program

#### Passaic County Open Space, Farmland & Historic Preservation Trust Fund

<http://www.passaiccountynj.org/openspace>

The Open Space, Farmland & Historic Preservation Trust Fund provides grant funding to preserve open space, historical sites, and farmland and improve the park system / facilities in Passaic County.

Any of Passaic County's sixteen municipalities and qualified charitable conservancies are eligible to submit applications to the Open Space Trust Fund.

#### New Jersey Highlands Coalition

<http://njhighlandscoalition.org/small-grants/>

Each year the New Jersey Highlands Coalition awards a number of grants to assist grassroots organizations working on projects located within the New Jersey Highlands or associated with protecting New Jersey Highlands resources.

Grants will be awarded up to a maximum of \$5,000 and projects may relate to protection of natural and cultural resources as well as capacity building, education, and strategic planning. Grassroots organizations are eligible to apply.

#### 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.

#### 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





# Appendix F: List of Municipalities



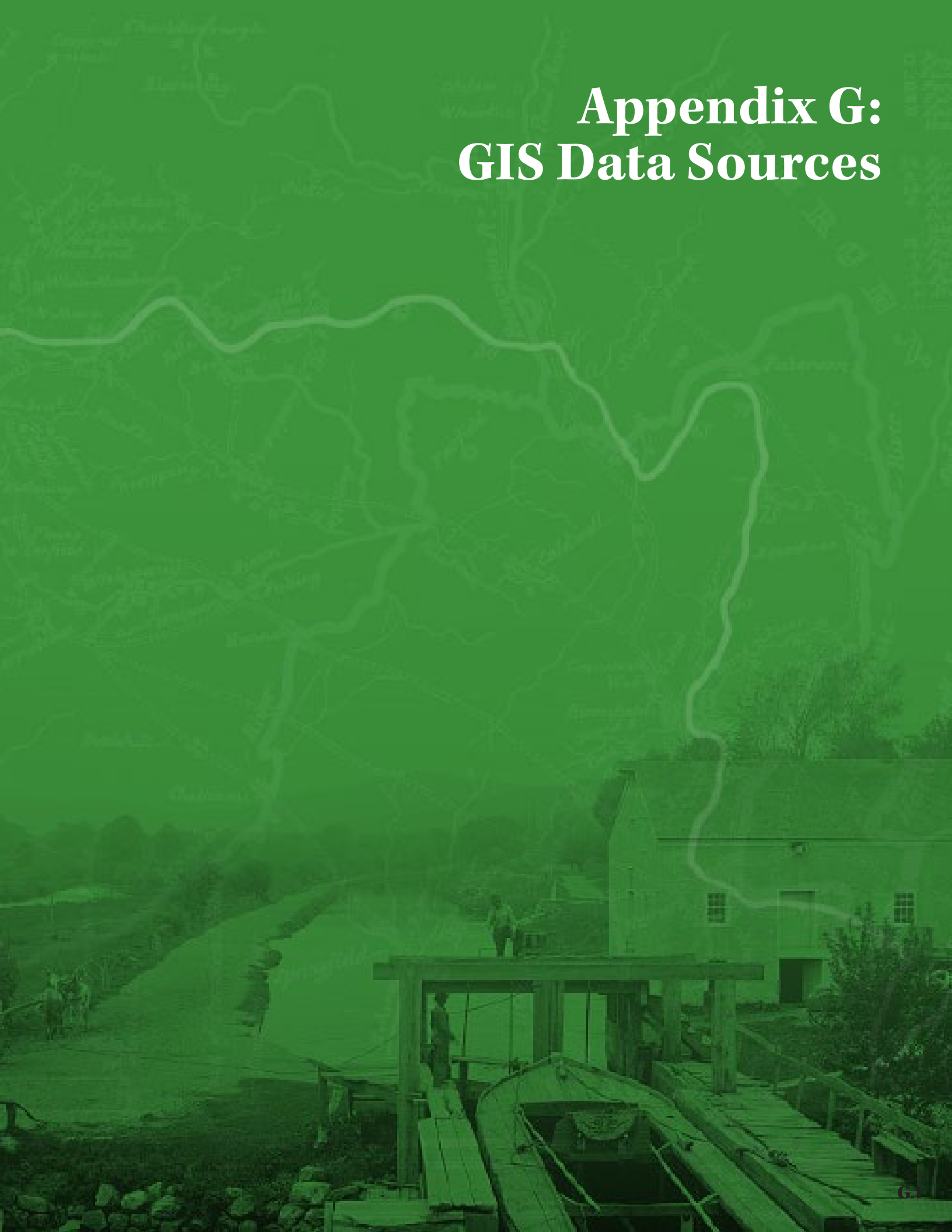
## Appendix F

# Index of Municipalities

County	Municipality	Map Page No.
WARREN	Allamuchy Township	10,11,12
WARREN	Franklin Township	3,4,5
WARREN	Greenwich Township	2,3
WARREN	Hackettstown Town	9,10,11
WARREN	Independence Township	9,10,11
WARREN	Lopatcong Township	1,2
WARREN	Mansfield Township	6,7,8,9
WARREN	Phillipsburg Town	1,2
WARREN	Pohatcong Township	1,2
WARREN	Washington Borough	5,6
WARREN	Washington Township	5,6,7
SUSSEX	Byram Township	12,14
SUSSEX	Hopatcong Borough	14
SUSSEX	Stanhope Borough	13,14
MORRIS	Boonton Town	21,22
MORRIS	Boonton Township	20,21,22
MORRIS	Denville Township	18,19,20
MORRIS	Dover Town	17,18
MORRIS	Jefferson Township	16,17
MORRIS	Lincoln Park Borough	23,24
MORRIS	Mine Hill Township	16,17
MORRIS	Montville Township	22,23
MORRIS	Mount Arlington Borough	14,15

County	Municipality	Map Page No.
MORRIS	Mount Olive Township	11,12,13
MORRIS	Netcong Borough	13,14
MORRIS	Randolph Township	18
MORRIS	Rockaway Borough	18,19
MORRIS	Rockaway Township	17,18,19
MORRIS	Roxbury Township	13,14,15,16,17
MORRIS	Victory Gardens Borough	18
MORRIS	Wharton Borough	16,17
PASSAIC	Clifton City	27,28,29
PASSAIC	Little Falls Township	25,26
PASSAIC	Paterson City	27,28
PASSAIC	Totowa Borough	25,26
PASSAIC	Wayne Township	24,25
PASSAIC	Woodland Park Borough	26,27
ESSEX	Belleville Township	30,31
ESSEX	Bloomfield Township	29,30,31
ESSEX	Newark City	31,32,33
ESSEX	Nutley Township	29,30
HUDSON	Bayonne City	34,35
HUDSON	Harrison Town	32,33
HUDSON	Jersey City	33,34,35,36
HUDSON	Kearny Town	33,34

# Appendix G: GIS Data Sources



## Appendix G

# GIS Data Sources

No.	Layer Name	Source	Data Last Updated	Link
1	Morris Canal Historic ROW	NJDEP	2008	<a href="http://www.state.nj.us/dep/njgs/geodata/dgs08-1md.htm">http://www.state.nj.us/dep/njgs/geodata/dgs08-1md.htm</a>
2	State Park Service Trails	NJDEP	2017	<a href="https://njogis-newjersey.opendata.arcgis.com/datasets/a36e0ae5cffb441abdb2adfd26356fb1_4">https://njogis-newjersey.opendata.arcgis.com/datasets/a36e0ae5cffb441abdb2adfd26356fb1_4</a>
3	NJ Bike & Trail Routes	NJTPA	2017	<a href="http://data-njtpa.opendata.arcgis.com/datasets/e8f091215f5b4a798e248682482e8f8c_10">http://data-njtpa.opendata.arcgis.com/datasets/e8f091215f5b4a798e248682482e8f8c_10</a>
4	State Parks/Open Space	NJDEP	2016	<a href="http://njogis-newjersey.opendata.arcgis.com/datasets/state-open-space">http://njogis-newjersey.opendata.arcgis.com/datasets/state-open-space</a>
5	County Parks/Open Space	NJDEP	2016	<a href="http://njogis-newjersey.opendata.arcgis.com/datasets/9603495beb394997b7bd441b7bcdbde_2">http://njogis-newjersey.opendata.arcgis.com/datasets/9603495beb394997b7bd441b7bcdbde_2</a>
6	Local Parks/Open Space	NJDEP	2017	<a href="http://www.nj.gov/dep/gis/newdata.html">http://www.nj.gov/dep/gis/newdata.html</a>
7	Brownfields	NJ State	2013	<a href="http://www.nj.gov/state/planning/spc-research-resources-gis.html">http://www.nj.gov/state/planning/spc-research-resources-gis.html</a>
8	Chromate Waste Sites	NJDEP	2006	<a href="http://www.nj.gov/dep/gis/digidownload/metadata/statewide/chromesites.htm">http://www.nj.gov/dep/gis/digidownload/metadata/statewide/chromesites.htm</a>
9	Known Contaminated Sites	NJOGIS	2006	<a href="https://njogis-newjersey.opendata.arcgis.com/datasets/ed5549b6bff140fda40e69d5dd251843_8">https://njogis-newjersey.opendata.arcgis.com/datasets/ed5549b6bff140fda40e69d5dd251843_8</a>
10	Classification Exception Areas	NJOGIS	2017	<a href="https://njogis-newjersey.opendata.arcgis.com/datasets/groundwater-contamination-classification-exception-areas">https://njogis-newjersey.opendata.arcgis.com/datasets/groundwater-contamination-classification-exception-areas</a>
11	Natural Heritage Program Priority Sites, Cross Acceptance	NJDEP	2001	<a href="http://www.nj.gov/dep/gis/crossaccept.html#prsite_ca">http://www.nj.gov/dep/gis/crossaccept.html#prsite_ca</a>
12	Wetlands	NJOGIS	2012	<a href="https://njogis-newjersey.opendata.arcgis.com/datasets/2012-land-useland-cover-wetlands">https://njogis-newjersey.opendata.arcgis.com/datasets/2012-land-useland-cover-wetlands</a>
13	High Risk Flood Hazard Areas	FEMA	2015	<a href="https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/freshwater/floodplains/Pages/default.aspx">https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/freshwater/floodplains/Pages/default.aspx</a>
14	Parcel Ownership	NJGIN	2016	<a href="https://njgin.state.nj.us/NJ_NJGINExplorer/index.jsp">https://njgin.state.nj.us/NJ_NJGINExplorer/index.jsp</a>
15	Electric Power Lines	HIFLD	2017	<a href="https://hifld-geoplatform.opendata.arcgis.com/datasets/electric-power-transmission-lines?geometry=-74.615%2C40.753%2C-74.182%2C40.844">https://hifld-geoplatform.opendata.arcgis.com/datasets/electric-power-transmission-lines?geometry=-74.615%2C40.753%2C-74.182%2C40.844</a>

No.	Layer Name	Source	Data Last Updated	Link
16	Natural Gas Pipelines	HIFLD	2012	<a href="https://hifld-geoplatform.opendata.arcgis.com/datasets/natural-gas-liquid-pipelines">https://hifld-geoplatform.opendata.arcgis.com/datasets/natural-gas-liquid-pipelines</a>
17	Park n Ride	NJOGIS	2016	<a href="https://njogis-newjersey.opendata.arcgis.com/datasets/nj-highlands-park-and-ride-locations">https://njogis-newjersey.opendata.arcgis.com/datasets/nj-highlands-park-and-ride-locations</a>
18	Hospitals	NJOGIS	2016	<a href="https://njogis-newjersey.opendata.arcgis.com/datasets/hospitals">https://njogis-newjersey.opendata.arcgis.com/datasets/hospitals</a>
19	Nursing Homes	NJGIN	2010	<a href="https://njgin.state.nj.us/NJ_NJGINExplorer/ShowMetadata.jsp?docId={CD638EE1-3917-11DF-B9B2-0003BA2C919E}">https://njgin.state.nj.us/NJ_NJGINExplorer/ShowMetadata.jsp?docId={CD638EE1-3917-11DF-B9B2-0003BA2C919E}</a>
20	Schools	NJOGIS	2017	<a href="https://njogis-newjersey.opendata.arcgis.com/datasets/new-jersey-schools-public-private-charter">https://njogis-newjersey.opendata.arcgis.com/datasets/new-jersey-schools-public-private-charter</a>
21	Colleges / Universities	NJ State	2017	<a href="http://www.nj.gov/state/planning/spc-research-resources-gis.html">http://www.nj.gov/state/planning/spc-research-resources-gis.html</a>
22	Places of Worship	HIFLD	2009	<a href="https://hifld-geoplatform.opendata.arcgis.com/datasets/all-places-of-worship">https://hifld-geoplatform.opendata.arcgis.com/datasets/all-places-of-worship</a>
23	Historic Properties	NJOGIS	2017	<a href="https://njogis-newjersey.opendata.arcgis.com/datasets/4d1c7b7379ce4de0816de81aeef293bb_7">https://njogis-newjersey.opendata.arcgis.com/datasets/4d1c7b7379ce4de0816de81aeef293bb_7</a>
24	Historic Districts	NJOGIS	2017	<a href="https://njogis-newjersey.opendata.arcgis.com/datasets/53861c4495914d2381794948adef58e0_9">https://njogis-newjersey.opendata.arcgis.com/datasets/53861c4495914d2381794948adef58e0_9</a>
25	Railroads	NJGIN	2017	<a href="https://njgin.state.nj.us/NJ_NJGINExplorer/ShowMetadata.jsp?docId=%7BA1707722-A426-4405-97A1-56386A5994C2%7D">https://njgin.state.nj.us/NJ_NJGINExplorer/ShowMetadata.jsp?docId=%7BA1707722-A426-4405-97A1-56386A5994C2%7D</a>
26	Ferry Terminals	NJGIN	2014	<a href="http://www.nj.gov/state/planning/spc-research-resources-gis.html">http://www.nj.gov/state/planning/spc-research-resources-gis.html</a>
27	County Borders	NJGIN	2016	<a href="https://njgin.state.nj.us/NJ_NJGINExplorer/DataDownloads.jsp">https://njgin.state.nj.us/NJ_NJGINExplorer/DataDownloads.jsp</a>
28	Municipal Borders	NJGIN	2016	<a href="https://njgin.state.nj.us/NJ_NJGINExplorer/DataDownloads.jsp">https://njgin.state.nj.us/NJ_NJGINExplorer/DataDownloads.jsp</a>

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