Executive Summary

What is the Morris Canal and Why is it Important?

In 1821, many of the then 24 U.S. states were separated from one another because of poor transportation arteries. Because roads were not always suitable for heavy transportation, hauling by wagon was expensive and slow. In place of roads, canals were able to provide a more viable means of transportation to fuel growth.

In New Jersey, Morristown businessman George P. McCulloch, brought together a group of citizens, to propose what would become the Morris Canal. By September 1825, 30 miles were under contract with 700 men digging the canal bed. Construction of the locks and inclined planes began later. Compared to other canals, the Morris Canal had to do quite a bit of climbing to go from the Delaware River to New York City. From Easton, the canal climbed step by step from one plateau to another and across lakes and rivers until it reached the Lake Hopatcong area, its summit level. From there, it descended to tide level at Newark. Locks overcame small changes in elevations, and inclined planes, used for the first time, overcame changes in elevation greater than 20 feet.

On November 4, 1831, the first trip from Newark to Phillipsburg on the 90-mile canal was completed in about five days. In 1836, an 11.75- mile extension to Jersey City was added, making the main line of the canal 102.15 miles long. When all the navigable waters, including other feeder canals controlled by the canal company were combined, the full waterway covered 109.26 miles. Within this distance were 23 inclined planes and 34 locks consisting of feeder, outlet, tide, guard, and lift locks.

Unfortunately, the canal became a victim of progress. While canals, including the Morris, enjoyed growth, railroads increasingly encroached on canal business. Even though the Morris Canal transferred east-bound shipments of coal from the Delaware, Lackawanna and Western Railroad between 1856 and 1870, the maximum of 146,359 tons in 1867 dropped to 80,977 tons the following year and disappeared altogether after 1870. The loss of coal business to the Delaware, Lackawanna and Western Railroad amounted to about 34.4% of the entire coal business transacted by the Morris Canal at that time.

It would take another 31 years, though, before the legislature would pass a resolution on March 31, 1903, to investigate and recommend legislation to abandon the canal. As expected, the



Photo of the canal near Brass Castle. Photo courtesy of New Jersey State Archives



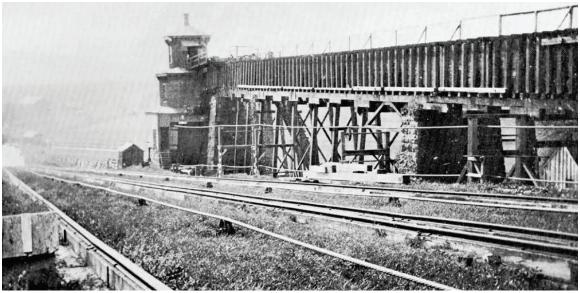
Photo of the Port Delaware. Photo courtesy of New Jersey State Archives

study commission reported there was no longer an economic reason to keep operating the canal and recommended abandoning it. On March 12, 1922, the legislature created a commission tasked with transferring the Morris Canal to the state. Eight months later, on November 29, 1922, the state of New Jersey acquired the canal with the exception of property within the town limits of Phillipsburg and Jersey City. In 1924, a bill provided that the Morris Canal and Banking Company continue as a corporation holding the property as trustee for the state, that members of the Board of Conservation and Development be made directors of the corporation. This meant that operation of the canal would end, that Lake Hopatcong, Lake Musconetcong, Cranberry Lake, Bear Pond, Saxton Falls, and Greenwood Lake be retained for public use, and that remaining property be sold.¹

The Morris Canal is among 41 places listed in the National Register of Historic Places in Warren County. Each of these places tell stories about the people who lived in and "grew" the county. These historic places tell stories about transportation, architecture, engineering, commerce, politics, community planning, industry, education, religion and more. They tell stories about what challenged and inspired people's lives. Today, they inspire newer generations of historians, artists, engineers, and others seeking to learn from and apply the past to the present by reading about and examining the artifacts we preserve.

Today, people who time their fast-paced lives by the minute would be vexed by the slow-moving Morris Canal. People don't know what it was like to live and work in the early 1800s, before trains were introduced, when waterways, including canals, were the transportation highways that helped build America. Today, canals, like other historic sites, are a reminder of that slower past. Boats left dock only when full and moved very slowly. It took five days to travel from Jersey City to Phillipsburg and during this journey; life was a constant struggle against the elements.

In addition to telling these stories of trial and tribulation, the Morris Canal represents a valuable historical record of canal engineering and the people who built it. Construction and maintenance were accomplished by men and animals following designs dating to Roman times. Canals were and still are complex engineering feats.



View looking northwest at the Plane 9 West Powerhouse. Photo courtesy James Lee, The Morris Canal: A Photographic History

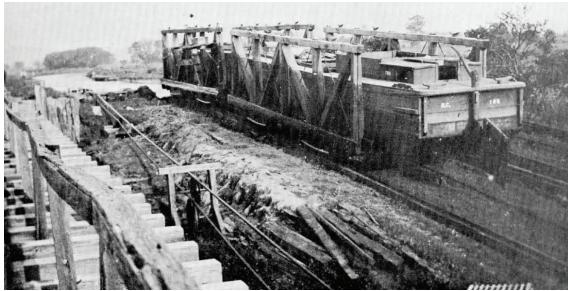
¹ Lee, James. "Morris Canal – A Brief History." I Dig The Morris Canal

What distinguished the Morris Canal from other canals such as the Delaware and Lehigh canals in Pennsylvania was the use of inclined planes, which were designed to overcome changes in elevation that could not be achieved efficiently by locks alone. Instead of using water to raise or lower a boat in a lock, boats were loaded onto wheeled cradles or "trucks" that were then winched (by cable) out of the water, up an inclined plane, and over the plane's crest before being lowered down a short incline into the next canal level. When boats travelled in the opposite direction, the process was reversed. At first, power for hauling and lowering boats was supplied by water wheels, but these were later replaced by water-powered turbines.²

The proximity of the Morris Canal to other historic resources in Warren County - such as Shippen Manor, the village of Hope, and the historic districts in Hackettstown - should be realized as a significant and unique resource for the heritage tourist. For many preservationists and heritage tourists, preserving artifacts and structures is justified in its own right, but many Warren County residents and the general public do not see the value of spending tax dollars on preservation of the canal. Despite best efforts to develop quantitative measures of preservation benefits, projects like the canal greenway are challenging to quantify in this way. Historic preservation involves much more than saving and restoring old buildings and historic sites; externalities such as economic, cultural, environmental, and educational benefits of historic preservation all play a significant role. Uncovering the potential positive impacts of the canal greenway can help develop public support ensuring that they remain a significant part of their community while satisfying one of the goals of this 25-year action plan.

Introduction

In 2007, building on the momentum and hard work of the Warren County Morris Canal Committee, the Warren County Board of Chosen Freeholders recognized the need to develop a vision for the future of the Morris Canal Greenway. Acknowledging this 33-mile historic and recreational resource within the county was the first step in its future development. To formalize this recognition, the board passed a resolution expressing its desire to develop a 25-Year Action Plan for the Morris Canal Greenway.³



View of boat at summit of Plane 9 West. Photo courtesy James Lee, The Morris Canal: A Photographic History

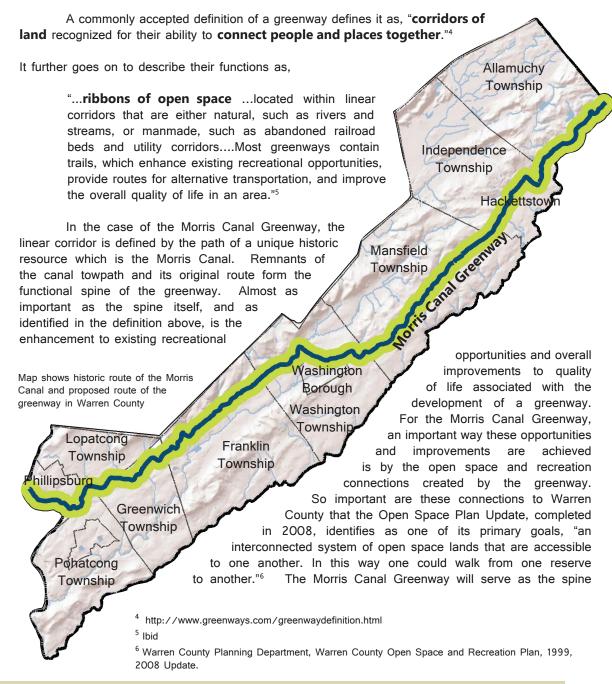
² http://www.catskillarchive.com/rrextra/abnjmc.Html

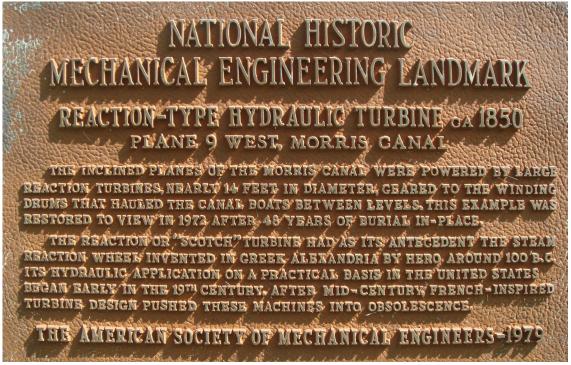
³ Warren County, Resolution 603-07: Resolution to Develop a Twenty-Five Year Action Plan for the Morris Canal

Additionally to provide guidance throughout the project, county representatives and members of the Warren County Morris Canal Committee developed the following four objectives:

- Respond to the county and municipalities' recognition of the need for a contiguous trail system or greenway;
- · Promote eco-tourism and strengthen local economy;
- · Connect people to the past through interpretation; and
- · Attain National Heritage Corridor Designation.

To understand the implication of this decision and the associated objectives, it is first important to understand what is meant by the terms 'greenway' and 'action plan.'





Plaque located at Plane 9W identifies its status as a National Historic Landmark

The second term critical to understanding the importance of this decision is 'action plan.' In this sense, action plan is really a synonym of 'master plan.' Master plan is defined by the American Heritage Dictionary as, "a plan giving comprehensive guidance or instruction." Similarly, it is defined by the Collins English Dictionary as, "a comprehensive long-term strategy." Considering these definitions, the 25-Year Action Plan attempts to capture the potential goals and ideas of the participants in the planning process and provide guidance and a strategy to implement ideas and achieve goals. It provides a potential roadmap to greenway creation. Unlike a traditional roadmap however, the recommendations of this plan do not need to be completed in a linear fashion. Rather, it outlines a menu of tasks to be completed as funding and resources allow. Completion of any combination of these tasks will contribute to the overall creation and success of the greenway in one of many ways.

It is not likely that all of these tasks can be completed in the 25-year horizon of this plan. Instead, it should be understood that the recommendations within are intended to be completed as opportunities and funding sources allow. The recommendations within are also not meant to be considered a complete list of projects, but a snapshot in time of the current opportunities and desires. It is important to recognize this and understand that this plan is meant to provide the basis as a living document to be continually revisited throughout the next 25 years.

Existing Features

The Morris Canal is the most important existing feature of the proposed greenway. Simply it determines the route of the greenway across Warren County. Looking deeper it has shaped the cultural and historic landscapes of the communities along its length. The 25-Year Action Plan considers the canal related historic and cultural resources located adjacent to the canal as well as those within close proximity to the greenway. Resources with the potential to contribute to the overall

⁷ The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved.

story of the canal or those which have potential to be an attraction on their own have been discussed and reviewed in greater depth. Some specific resources, such as Plane 9 West and Bread Lock Park, were also identified as critical keystones to the future of the greenway.

In addition to the historic resources in close proximity to the route of the greenway, the existing features study completed as part of the 25-Year Action Plan, included identification of potential community and recreation linkages. These types of linkages varied dependent on location, but generally they fell into one of a few key groups. The first group identified was based on economic development potential. These linkages were identified in cases where the greenway's proximity to a group of businesses, or even an entire business district, was ideally suited to share users. Examples of this type of linkage were can be seen in the proposed greenway/business district connections found in more densely developed areas, such as Phillipsburg, Washington Borough and Hackettstown. Other locations along the trail also presented opportunities for these types of linkages and a good example of this would be the potential connections to businesses located along Route 519, near Stryker's Road.



Businesses with potential to benifit from the greenway, like this one in Phillipsburg, were identified as part of the study.

The second type of linkage identified was based on the greenway's proximity other recreational resources. These resources ranged from active or passive recreation to destination based locations. Merrill Creek Reservoir. the Mansfield Township Sports Fields and the Charles O. Hayford (Hackettstown) State Fish Hatchery provide examples of the types of linkages considered here. The goal of identifying these locations was to increase open space and recreation linkages served by the greenway, promoting non-motorized, greenway-based access for a wide variety of user groups.

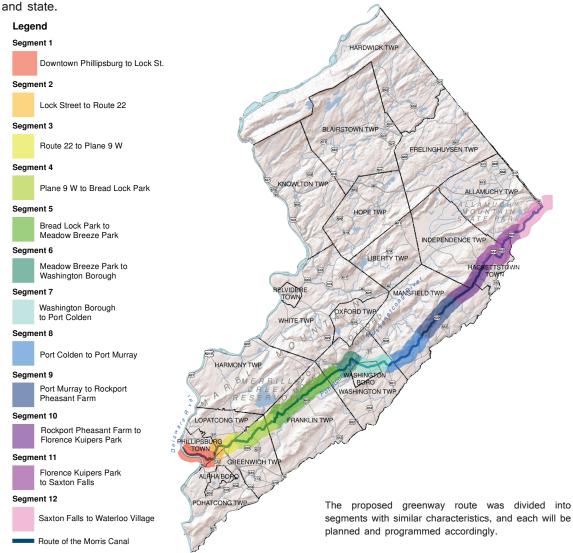
In strategies similar to identification of recreational opportunities, the plan also identifies potential linkages to schools, libraries and other educational facilities. Several schools, such as

Andover Morris Elementary in Phillipsburg, or Brass Castle Elementary in Washington Township, are located directly adjacent to the greenway, while others, such as the Warren County Community College in Washington Township or Centenary College in Hackettstown, can be connected to the greenway via a short side trail. The goal in providing these connections was multi-fold, allowing students to utilize the greenway as a method of traveling to and from school, as well as providing student access, via the greenway, to educational and interpretive opportunities located along its length.

The final type of linkages considered within this plan, are those which connect county residents to the greenway. In some cases, a large number of residents are located directly adjacent to the trail, while in others short connections allow access to all of the resources previously mentioned. Extensions of existing sidewalks would provide a greenway connection to the residents of the Overlook at Lopatcong, while a trail-based connection would achieve the same means for residents of the Oak Hill Apartments in Independence Township. These types of connections were determined to be important to the success of the greenway in that they quickly increase the potential user-base for the greenway.

Confirming existing resources, connections and greenway routing options, the 25-Year Action Plan included a comprehensive field view along its entire route. The field view documented existing conditions and identified other potential projects, such as pedestrian improvements or erosion issues, also addressed by the plan. One of the most important results of the field view was the division of the entire greenway into 12 individual segments. Extents of each segments was based on its ability to: provide a destination; create linkages; possess a unified character; ability to function on its own; and require similar strategies, along its length, for greenway establishment. The segments also help divide the 33-mile length of the greenway into manageable pieces for project implementation.

Supporting the plan's consideration of physical elements of the canal and greenway, the plan also considers its impacts on other planning efforts and land use decisions. In its simplest form, this focuses on identifying synergies with the goal of other planning documents. The best example of this would be the 25-Year Action Plan's support of connectivity goals found in the county's Open Space and Recreation Plan. It also identifies parallels within other more regional planning efforts, such as the State of New Jersey's Statewide Comprehensive Outdoor Recreation Plan or the New Jersey Statewide Bicycle and Pedestrian Master Plan. Overwhelmingly, the recurring theme most often shared between the 25-Year Action Plan and these other planning documents was the desire to provide or enhance non-motorized connections to recreational opportunities throughout the county



In addition to actual planning efforts, the plan also spends time considering a variety of land use topics surrounding the canal and greenway. Consideration focuses on implication of larger land use items, such as the impacts of the Highlands Planning Act on greenway strategies. It also studies more regionally based land use topics. A good portion of this is based on the existing Warren County Morris Canal Preservation Ordinance found in the County's Development Review Regulations which discuss ways in which local municipalities interact with the greenway and its associated resources. Finally the plan looks closer at locally based land use topics. Topics here were typically identified during the public forums and surveys. Security and liability concerns were typically the most commonly repeated themes. Addressing these items are some of the most critical to implementing much of the greenway.

The final portion of the existing conditions review of the plan considers the way in which the Morris Canal Greenway is currently managed and funded. This review was critical to understanding how projects are done on the Greenway currently. Without this understanding, the plan would not have the capability to provide options for other management and funding strategies.

The existing conditions portion of the 25-Year Action Plan evaluates a wide array of information and topics. All of these items contribute in some way to the overall experience and value of the greenway. They are important moving forward because they really build the foundation on which the rest of the plan is built.

Economic and Public Benefits

The 25-Year Action Plan for the Morris Canal Greenway specifically dedicates a section to the economic and public benefits potentially provided by the greenway. For the casual observer, these details represent the 'why' in the question of greenway creation. A clear understanding of these benefits is at the center of this plan. The quality-of-life improvements represented by the greenway are a key to retaining and attracting residents and businesses and can have a direct impact on the vitality of an area and associated property values.⁸

Generally, consideration of these benefits was broken into one of several categories:

- Ecosystem Benefits;
- · Cultural/Historic Benefits;
- · Educational Benefits;
- · Public Health Benefits;
- · Transportation Network Benefits;
- · Tourism and Leisure Industry Benefits;
- · Park and Open Space Benefits; and
- · Benefits to Property Values.

The plan reviews the potential impacts of the greenway on each topic in depth, but a few of the more thought-provoking points are:

⁸ Why America Needs More City Parks and Open Space: The Benefits of Parks. The Trust for Public Land. San Francisco, CA 2006.

- Results of a Community Preference Survey Conducted by the National Association of Realtors
 show that 77% of Americans polled considered access to sidewalks and places to take walks as important factors in their decisions on where to live.⁹
- Homes located within a quarter-mile of a trail or greenway in nearby Pennsylvania experienced an incremental increase in home value of approximately \$36,000 depending on location.
- An average trail visitor spends \$14.14 at local business on food and drink.¹¹
- Studies identified that a \$1.00 investment in local trails, reduced a community's health care burden by \$2.94.¹²

As well as looking at the potential benefits of the greenway, this portion of the plan also takes the opportunity to identify some ways in which similar areas built partnerships and leveraged recreational resources to enhance the greenway experience and stimulate local economic development. Examples provide a broad range of strategies, such as geo-caching, race fundraisers, increased interpretive tours, and online gift stores. This section also provides specific examples of opportunities for place-based economic development along the greenway at locations like Plane 9 West, Bread Lock Park or Saxton Falls.

Vision of the 25-Year Action Plan

The direction of the 25-Year Action Plan was guided by a Technical Advisory Committee (TAC), comprised of members of the Warren County Morris Canal Committee, County Planning Staff, key stakeholders and the general public via several open houses. This direction was further refined through the development of a formal vision statement as developed by the TAC. This statement consists of an introductory phrase with a series of supporting statements. The supporting statements each address a different aspect of the greenway identified during the process.

The vision guiding the 25-Year Action Plan for the Morris Canal Greenway became:

To preserve and enhance the historic Morris Canal, a national engineering treasure, and the cultural landscape through which it passes in a manner that

- ...highlights its distinctive characteristics and the ingenuity used in its construction to distinguish it from other historic resources and canals.
- ...tells the story of life along the canal, its influence on past events and its relevance to today's society to support public education and foster community pride.
- ...interconnects communities and links points of interest by serving as a continuous greenway of open space across the county.
- ...provides convenient access to a towpath trail for non-motorized passive recreation use

⁹ The Community Preference Survey: What Americans are looking for when deciding where to live. Beldon, Russonello & Stewart, LLC for the National Association of Realtors. Washington, D.C. March 2011

¹⁰ Delaware Valley Regional Planning Commission, Return on Environment – The Economic Value of Protected Open Space in Southeastern Pennsylvania, 2011.

¹¹ Rails-to-Trails Conservancy, Trail User Surveys and Economic Impact: A Comparison of Trail User Expenditures, 2009; 4ward Planning LLC, 2012.

¹² Kaczynski, et al. Association of Park Size, Distance, and Features with Physical Activity in Neighborhood Parks, Vol 98, No. 8, American Journal of Public Health.

...stimulates the local economy though heritage tourism.

...leverages the value of the canal to support sound land uses planning decisions.

...increases public and private support for and involvement in canal preservation efforts.

A large amount of consideration was given to the specific content and language of the vision statement. Equal weight was given to all aspects of the greenway and the canal as a historic resource. This was based on a few key beliefs by the TAC, the first being that preservation of the canal should be accompanied by opportunities for interpretation and enjoyment of its associated resources. Also critical was enhancing the way communities currently interact with the canal and the ways in which future land-use and preservation activities impacted this resource.

Opportunities and Constraints

Utilizing the vision statement for general guidance, the TAC outlined a series of key opportunities and constraints. Opportunities are items that if drawn on would contribute directly to fulfilling one or more portions of the vision statement. Examples of this ranged from physical improvements planned for the near future or those currently underway, such as creation of a riverfront trail in Phillipsburg. Other examples of opportunities were less location-based and focused on ideas like building partnerships with other heritage based tourism organizations in the county.

In addition to opportunities, the TAC also identified specific constraints associated with the individual portions of the vision. A constraint was identified as any item which potentially represented a hurdle to fulfillment of a single portion of the greenway vision. In a fashion similar to the opportunities, the constraints were also represented by both location- and non-location-based items. One of the larger location-based constraints associated with the 25-Year Action Plan is providing a safe greenway



Potential connections to adjacent recreation facilities, like these at Meadow Breeze Park, were identified as opportunities.

crossing of Route 22 in Lopatcong Township. Perhaps the greatest challenges to implementation of many portions of the greenway can be found in an example of a constraint common to many portions of the greenway. Local homeowners have concerns about security and potential liability issues associated with trail creation. Building partnerships with homeowners to address these types of concerns will help to foster public support of greenway projects.

The initial list of opportunities and constraints identified by the TAC was expanded based on feedback from the public and focus groups attained during outreach activities which included two stakeholder meetings, focus group sessions, land owner survey and two public information sessions completed as part of this project.

Once compiled the list of opportunities and constraints served as the basis for development of the individual recommendations found in this report. The recommendations were intended to utilize an opportunity to promote and identify methods of overcoming specific constraints or hurdles to the fulfillment of the vision statement.

Recommendations

The recommendations of the 25-Year Action Plan for the Morris Canal Greenway are really the reason for the document. They, more than any other portion of the document help to provide the direction for the greenway. Generally the recommendations are divided into two main categories: segment recommendations and greenway-wide recommendations.

Divided by the greenway segment in which they are located, segment recommendations are those which tend to be more location-based. Generally most of these recommendations focused on projects specifically related to creation of an actual greenway trail, but they also included projects intended to build stronger relationships with adjacent landowners and creation of synergistic relationships with local business.

Greenway-wide recommendations were those that had larger and more regionally comprehensive implications associated with the greenway. These recommendations were organized into one of several categories:

- · Resource Preservation Strategies;
- · School Education Strategies;
- Public Education Strategies; Economic Development and Funding Strategies;
- · Greenway Operation Strategies;
- · Land Use Policy Strategies;
- · Public Participation Strategies; and
- · Organizational Strategies.

Specific greenway-wide strategies of note included those intended to promote economic development in concert with greenway creation and strategies to improve local and regional collaborations of greenway related projects.

All of the recommendations within, except in a unique few cases, are meant to stand on their own. Meaning, completion of any one project will contribute to the overall goals of the greenway. Completion of a few key recommendations in most of the segments will provide trail-based linkages across this portion of the greenway. As more recommendations are completed, more of the vision will be addressed and the larger the impact of the greenway will be.

For either type of recommendation, segment-based or greenway-wide, specifics are provided, including: general descriptions; specific recommendations; time frames and milestones; estimated costs; potential funding sources and implementation agencies. Other than the general project descriptions and specific recommendations, the information provided with each recommendation is really meant to help in prioritizing and funding projects.

Provision of specific project costs was discussed at great length during the process of developing this report. The costs included within provide a conceptual estimate of the 2011/2012 costs associated with physical improvements, obligations of Warren County staff time or the monetary value of volunteer labor needed to complete a given project. Actual cash expenditures will be reduced greatly as donations of materials, volunteer time and labor are utilized in the implementation of many the projects. Since most projects are currently conceptual in nature and specific details are unknown at this time, a range of costs provides insight into the potential requirements for medium- and long-term budgeting efforts. These items are often critical in determining a project's eligibility for funding opportunities and will aid in further prioritizing projects.

Implementation agencies and potential funding sources are also provided for each recommendation. Implementation agencies are included to provide guidance as to potential partners in the completion of any one given project. The expansive nature of many of the recommendations contained within the plan requires that successful implementation be the result of a collaborative effort between many agencies. Greater collaborative efforts during the execution stage of any of these recommendations, will result directly in an increase of the chances for a project's success.

Potential funding sources have been provided for each recommendation in an attempt to provide general guidance as to the types of sources which typically fund a specific project type. In addition to the sources listed there are many other sources available to municipalities and organizations that take the effort to research and identify them. It is also likely that throughout the life of this plan, many of the funding sources identified within will be eliminated and new sources will come on line, so continual reassessment of available funding opportunities will be necessary.

The recommendations of the 25-Year Action Plan for the Morris Canal Greenway serve as the specific directions clarifying the route forward. Many portions of the greenway and goals of this plan can be completed with the successful implementation of a few projects, while others will require the synergy provided by completing a larger number of projects. The recommendations in this report should not be seen as an exclusive list of the tasks needed to create a flourishing greenway, but they are intended to provide a snapshot of the potential recommendations as identified during the planning process. It is likely that throughout the life of this report, opportunities and circumstances will evolve which dramatically change priorities, illuminate new possibilities and eliminate the need for some of these recommendations.

Introduction

Conclusion

The 25-Year Action Plan examines ways to provide safe pedestrian and bicycle access along the canal greenway while promoting historic awareness. The plan utilizes the historic route of the Morris Canal whenever possible, with alternative routes to bypass inaccessible sections or provide linkages to other trail systems, historic sites and other attractions. The plan lays out the initial roadmap for the next 25-years of greenway development. It is not meant to be an absolute but is intended to provide general oversight and guidance to those making the decisions. The ways in which the greenway actually develops, may be very different from what was expected during the writing of this plan. As such, its content, vision, goals and recommendations should be continually reevaluated to ensure it remains relevant. At the end of the next 25-years, this plan should serve as the foundation for setting the direction for the following 25-years for the Morris Canal Greenway.

