



## Greenway Implementation Strategies

1. Implement Greenway Demonstration Projects
2. Compile a Master Project List
3. Develop a Project Prioritization Process
4. Plan, Design, and Implement Greenway Projects
5. Provide Technical Assistance for Greenway Projects
6. Successfully Operate and Manage the Greenway

**T**his chapter describes implementation strategies for the Susquehanna Greenway. This chapter also provides valuable information about financial and technical assistance for troubleshooting the implementation process. Within this chapter, a series of implementation strategies have been defined, supplemented by a list of action steps necessary to achieve success.

### 4.0 Susquehanna Greenway – A Call to Action

The Susquehanna Greenway Partnership will provide the leadership and advocacy for continuous and sustained progress towards project planning, design and implementation, and successful operations and management of the Susquehanna Greenway. The implementation process involves both continued planning and design and development to guarantee continual greenway implementation. The following action strategies are described in a linear order of tasks to complete before moving on to the next step. Preliminary decisions may need to be re-examined along the way, as new data is collected and conditions change. Many action steps are ongoing processes. Therefore, they may need to be adjusted and amended to respond to new realities and circumstances. Overall, the implementation process needs to be flexible to keep project momentum and progress moving in the forward direction.

Implementation of the Susquehanna Greenway will be accomplished by completing the strategies and actions outlined on the following pages.



## 4.1 Strategy One: Implement the Susquehanna Greenway Demonstration Projects

Susquehanna Greenway demonstration projects have been selected to illustrate the diverse benefits of the greenway. The Susquehanna Greenway Partnership Planning Team and consultants collaborated to select demonstration projects, beginning with the approximately 200 projects identified during project inventory, community design workshops, and the concept design process. The initial screening of projects focused on selecting those that involved a physical implementation component, such as improving river access, conserving a valuable parcel of land, or restoring a degraded landscape. A second screening involved selecting projects from different geographic locations along the river, using the river “reach” designation as the geographic setting. A third screening involved selecting projects that satisfied one or more greenway benefit areas: community, economy, environment, education, and recreation. Each project had to satisfy at least one of these core values.

Utilizing these three initial “filters” the project list was culled to 27 potential projects. A selection committee, comprised of representatives from the consultant team and planning team, met to review each of the 27 short listed projects in a more thorough manner. The committee prepared selection criteria and used these criteria to further screen the short listed projects and define the eight demonstration projects that are featured in this Strategic Action Plan. The results of this work were presented to the entire planning team for review and comment. From this review, eight greenway demonstration projects were selected. The eight demonstration projects satisfy geographical, thematic, and core values that the planning team and consultants believe exemplify the most important qualities of the Susquehanna Greenway.

### Demonstration Projects:

- *Bakerton Acid Mine Drainage Treatment*
- *Blue Rock Heritage Center*
- *Duncannon Apple Tree Alley*
- *French Azilum River Access*
- *North Branch Canal Trail*
- *Steelton Redevelopment*
- *Sunbury Riverfront*
- *Williamsport Riverwalk*

Each of these projects is featured in greater detail in Appendix E of this report. The consultant team worked with representatives of each project to develop more detailed planning and design recommendations and project descriptions. The project display boards, featured in the appendix, provide a project program, goals, description of regional and local significance, list of greenway benefits that are satisfied, identification of lead agencies involved in project development, estimated costs, and a schedule for future development.



## 4.2 Strategy Two: Compile a Master Project List

The master project list is the Susquehanna Greenway Partnership’s “to do” list for implementing the key benefits of the greenway: economic development, community revitalization, environmental stewardship, recreation, and education. The master project list defines a minimum number of projects to be implemented each year. Therefore all potential projects should be included, regardless of scale, to coordinate with other on-going efforts, raise awareness and support for the greenway, and receive the maximum amount of financial and technical assistance available. The purpose of this list is simply to provide a collection point for new ideas. An example master project list, including a current list of greenway projects, is found in Appendix D.

### Actions:

- 1.) **Develop Regional Project Lists.** Before a master project list can be created, four regional project lists must be developed. Municipalities, counties, and individuals can nominate ideas and projects to the regional list during regularly scheduled regional committee meetings. Open communication and input from the local level will also add projects to the regional project list. The regional project lists will identify all potential greenway projects and whether they are likely to be achieved short-term (1-2 years), medium-term (3-5 years) or long-term (6-10 years).
- 2.) **Establish Regional Goals and Priorities.** Each regional committee will evaluate local and regional needs and establish goals and priorities that will assist in evaluating and prioritizing greenway project. This exercise will allow each region to decide which issues are the most pressing and should be addressed first. Regional focus may change over time and should be reassessed each year.
- 3.) **Prioritize Regional Greenway Projects.** Using the established goals and objectives, the Regional Committees will create a prioritized greenway project list. The prioritized regional project list should contain projects at all phases of development (concept development, feasibility study, final design and construction / program implementation) and with short, medium, and long-term implementation time frames. This will ensure a continual progression of greenway projects from ideas to reality.
- 4.) **Prioritized Regional Greenway Projects** will be nominated to the master project list and will be presented to the Susquehanna Greenway Partnership Board of Directors.
- 5.) **Create Master Project List.** The Regional Greenway Project Lists will be used to compile an overall Master Project List. The Master Project List will be used as a promotion tool for Susquehanna Greenway projects and will be shared with the local greenway project sponsors and potential funding partners to help advance the projects.



### 4.3 Strategy Three: Develop a Project Prioritization Process

This process has been developed to select projects from the master project list for implementation. Each project will have a unique set of circumstances and may not fit completely into this suggested process. However, a majority of the outlined objectives set forth by this process should be fulfilled by any project implemented at this early stage of greenway development. This process may be modified by the partnership to reflect new goals and objectives of the greenway.

#### **Actions:**

1.) **Prioritize Projects for Implementation.** Three filters are defined. The first filter identifies the significance of the project as a greenway component and the realities of evaluation.

- *Is there enough information to evaluate the project?*
- *Is this project consistent with the greenway vision? Does the project meet goals and objectives of greenway, such as community revitalization, economic development, environmental stewardship, conservation education, and increased outdoor recreation?*
- *Is the project a high priority on the regional or corridor list?*

The second filter identifies potential challenges in the implementation process and evaluates the feasibility of implementation.

- *Can the project be implemented in a timely manner or within a reasonable time frame?*
- *Is there a managing entity for long-term maintenance and operations?*
- *Are there any funding hurdles or challenges?*

The third filter discusses the overall response and impact of the Susquehanna River corridor.

- *Will the local response be positive (where the project will exist)?*
- *Will outcome positively affect all levels of greenway-local, regional, partnership?*
- *Is the project sustainable?*
- *Could this project be used as a model?*
- *Will this project facilitate greenway education or awareness?*
- *What is the scale of impact for this project?*
- *Does this project build connectivity between other greenway components?*

For projects that are urgent or needed to facilitate other efforts, such as a highly degraded acid mine drainage site designation, a significant historic structure in danger of destruction, or a plan or study needed to complete an on going project, special considerations should be taken to ensure those projects are given highest priority even if they do not meet all of the filter components.

**2.) Maintain Geographic Information Systems (GIS) Database.** GIS data can be used as a tool to set regional goals and priorities and to assist in project planning and design. GIS data can identify areas where greenway infrastructure is most lacking – assisting Regional Committees and the Susquehanna Greenway Partnership to prioritize projects where they are most needed. Continual updating and management of the GIS database will allow the Susquehanna Greenway Partnership to establish benchmarks and set measurable goals for implementation. The Partnership will be able to use the GIS database to accurately track progress in the miles of trails, river access, and land conservation as other greenway projects are entered and displayed.

**4.3.1 Regional GIS Data to Guide Regional Priorities, Establish Benchmarks and Set Measurable Goals for Implementation**

*North Branch*      *West Branch*      *Middle Susquehanna*      *Lower Susquehanna*      *Totals*

**RIVER STATISTICS**

Length of River	148	223	79	89	539	miles
Length of Shoreline	297	444	156	178	1,075	miles
in conservation	4	48	1	7	60	miles
Islands	153	208	346	594	1,301	quantity
Island Acreage	1,833	1,007	2,697	4,700	10,237	acres

**STEWARDSHIP LANDS**

State Parks	-	2	2	1	5	quantity
	-	59	128	240	427	acres
County/Local Parks	2	-	-	6	8	quantity
	39	-	-	849	888	acres
National Natural Landmark	-	-	-	1	1	quantity
	-	-	-	78	78	acres
State Forests	1	46	1	1	49	quantity
	251	36,254	533	34	37,072	acres
State Game Lands	16	7	14	42	79	quantity
	3,564	7,775	1,666	4,339	17,344	acres
Private Inholdings	2	7	-	1	10	quantity
	22	350	-	2	374	acres
<i>Total Quantities</i>	<i>21</i>	<i>62</i>	<i>17</i>	<i>52</i>	<i>152</i>	<i>quantity</i>
<i>Total Acres</i>	<i>3,876</i>	<i>44,438</i>	<i>2,327</i>	<i>5,542</i>	<i>56,183</i>	<i>acres</i>

**RECREATIONAL RESOURCES**

Milage of Trails	278	479	62	450	1,269	miles
River Access Points	31	36	31	57	155	quantity
Existing Waypoints	96	114	71	106	387	quantity
Historic Districts	22	62	30	35	149	quantity

**FACILITIES AND INFRASTRUCTURE**

Airports	4	4	5	4	17	quantity
Hospitals	11	7	7	6	31	quantity

#### 4.4 Strategy Four: Plan, Design and Implement Greenway Projects

The implementation process can be difficult to trouble shoot without a defined process to follow. The process needs to be a well planned effort so that development, planning, design, and construction of greenway components are sustainable and meet the Susquehanna Greenway's goals and objectives. After selecting a project from the master list, the following process defines actions, which will result in the successful implementation of a greenway component.

Because the Susquehanna Greenway system is made up of various components such as cultural and historic waypoints, water trail linkages, preserved open space, and conservation easements, these greenway projects will be implemented under different circumstances, requiring an effort be made to maintain the overall connectivity of the greenway system. Design standards should be defined and developed at three levels to provide consistent growth of the greenway and to ensure greenway components transition easily between organizational entities. Overall coordination needs to occur at the partnership level so that the value of the projects and the effort put forth in implementing the projects is maximized.

##### **Actions:**

##### **1.) Develop Susquehanna Greenway Design Standards and Guidelines.**

Design Standards and Guidelines will be established for the Susquehanna Greenway to achieve a consistent identity and character. The following items may be addressed:

- *Greenway Logo*
- *Signage* – recognizing regional context and identifying partners
- *Trail Design Manual* – promoting locally available materials, products and 'green' construction techniques

**2.) Determine the scale and complexity of the project.** Larger scale projects will require a great amount of time and resources to complete. Medium scale projects may be completed quickly, but may still require a large amount of work in a short time frame. Smaller scale projects may not require a large amount of time and may benefit from local connections.

**3.) Select a Project Manager.** Based on the scale and complexity of the project, assign a project manager that is qualified and able to commit to the project guiding it through completion.

**4.) Collect Background Data.** Background information for a project may include historical data, previous plans or studies, existing GIS maps and survey data, and relevant project examples.

**5.) Perform a Site Inventory and Analysis.** Describe all site features and characteristics including both assets and liabilities on an existing base map of the project study area.



6.) **Involve the Public in Project Development.** Involvement of stakeholders such as local residents and agencies, organizations, and individuals who have specific applied knowledge, will greatly benefit the project by contributing to public buy-in and understanding of the Susquehanna Greenway and its benefits. Interactive methods of public participation, such as community design workshops, should be used whenever possible.

7.) **Promote and Publicize the Project.** Keep municipal and county officials constantly updated, and encourage their participation in the planning process. Lay the ground work with potential funders as the project moves through the planning process.

8.) **Identify Funding Sources, Prepare Applications, and Obtain Funding.** There are a number of funding sources within the Commonwealth, and the Susquehanna Greenway will need to make use of multiple sources to fund project development. Susquehanna Greenway Partnership staff, Regional Lead Organizations and Coordinating Committee members may provide guidance in identifying appropriate funding sources for prioritized projects. A matrix of potential funding sources is located in Appendix D.

9.) **Select Qualified Designer or Contractor.** The selection of a designing, planning, construction, or contracting service should be facilitated by the project manager and approved by the partnership. These services should be selected on an individual project basis to ensure that the selected services are best suited for each unique project. Depending on the project scale, these services may be volunteer or cost reduced because of local pride and community service.

10.) **Celebrate Project Completion.** Every completed project, big or small, should be celebrated with a ribbon cutting or other special event. Media releases should be prepared, acknowledging the Susquehanna Greenway and the project sponsor, manager, and volunteers that made the project possible.

11.) **Start Again - Identify future projects.** As greenway projects are implemented, new plans and studies may be required to develop new project ideas and initiatives. Continue to advocate for state recommended plans and studies – such as county greenway plans for the Susquehanna Greenway corridor. Also, consider undertaking studies that will enhance the understanding, stewardship, and conservation of the Susquehanna. These studies could include:

- *Archeological Research*
- *Historic / Cultural Inventory*
- *Riparian Buffer Research*
- *Invasive Species Studies*
- *Environmental Assessments*
- *Environment and Public Health Research*

## 4.5 Strategy Five: Provide Technical Assistance to Greenway Projects

The purpose of the technical assistance program is to provide guidance to local communities, counties, non-profit organizations, and businesses with the planning, design, and development of specific greenway projects, activities, and programs. In the long term, this program could eventually grow to include financial assistance or grants programs; however, this will require the partnership to raise a significant amount of funding in excess of what is required to support core operations. For the time being, the technical assistance program will provide guidance and support for greenway planning, design, and development services.

The technical assistance program will be housed within the offices of the Susquehanna Greenway Partnership. The partnership staff, the executive director, development officer, and outreach officer, will provide the majority of assistance to communities. However, the partnership may work with consultants to provide technical assistance services. The Susquehanna Greenway Coordinating Committee may also be a resource, with individual members offering project specific advice.

### Actions:

- 1.) **Administer Requests.** To receive technical assistance, communities, counties, non-profit organizations, and businesses will need to fill out and submit a request to the Susquehanna Greenway Partnership. An example of a Technical Assistance Request is available in Appendix D.
- 2.) **Evaluate Requests.** Technical Assistance Requests will be evaluated based on: does the project fulfill the Susquehanna Greenway vision?; is it located within the greenway study area?; does the sponsor have a demonstrated need?; and is the sponsor dedicating local resources towards the effort?
- 3.) **Provide Technical Assistance.** The Susquehanna Greenway Partnership will seek, with available resources, to make the following types of technical assistance available:
  - *Public Involvement and Information* - facilitation of public meetings, or presentation of the Susquehanna Greenway concept, benefits, and updates on current projects.
  - *Feasibility Analysis* - examine the feasibility of specific nominated greenway projects.
  - *Training Workshops & Conferences* - conduct training workshops and conferences for client communities, counties, non-profit organizations, businesses, and the general public.
  - *Research Studies and Reports* - assist clients in preparing research studies and reports for specific greenway related subjects.



- *Concept Plans* - prepare conceptual development plans and strategies. This assistance may include GIS-base mapping, concept diagrams, written reports, and conceptual design sketches.
- *GIS Project Mapping* - provide assistance to clients for the preparation of GIS maps for their specific greenway projects.
- *Land Conservation Assistance* - define appropriate land conservation strategies for greenway projects. Solicit assistance of appropriate non-profit land trusts, and state or federal agencies to strategize land conservation options and procedures.
- *Trail and Land Management Strategies* – assist in developing specific trail and resource management strategies for maintenance, operations, safety, security, liability, and risk management.

## 4.6 Strategy Six: Develop a Successful and Coordinated System to Operate and Manage the Greenway

Well managed natural resources, waypoints, and linkages are a critical element to the long-term success of the Susquehanna Greenway. This includes both stewardship and operations and management. The concept of stewardship is defined in this plan as the oversight of resources. Stewardship goals focus on the preservation, protection, maintenance, and restoration of the Susquehanna's resources. Operations and management refers to both the routine and long-term remedial maintenance and management considerations including specific procedures and projected costs to operate and manage a greenway system.

The Susquehanna Greenway Partnership will develop a menu of options for land conservation. There is not one solution for implementing a greenway system. Careful thought must be placed in determining the appropriate strategy for each individual project. Conservation methods are used to protect resources and acquire property rights allowing free movement of users along a connected system of land and water-based trails. This solution is not always the best answer for all parties involved. Property owners and developers may be more amendable to practicing land conservation techniques and maintaining ownership rather than selling or donating property. Alternative methods such as changing zoning ordinances or participating in a US Department of Agriculture conservation program may be acceptable compromises. Actions must be taken on a case-by-case basis. The partnership should work with non-profit land protection agencies, land trusts, or environmental organizations to develop a full array of land conservation options. These entities often have a great deal of experience selling the greenway benefits of conservation. Because these types of organizations do not have the power to condemn land or the power to tax, they often have excellent personal and professional relations with local landowners.

Operations and maintenance refers to the specific day-to-day tasks and programs to ensure resources and facilities are kept in good usable condition. This begins with sound design, durable components, and a comprehensive management plan. Once a network has been designed and initial protection activities have commenced, tasks to maintain and enhance the greenway infrastructure need to be defined.

### Actions:

1.) **Conservation Tool Kit.** Numerous conservation 'tool kits' have been developed by different organizations. Research these existing tool kits and adopt the conservation elements that fit the unique needs of the Susquehanna Greenway. Develop a land conservation prioritization tool, working in partnership with regional conservancies and land trusts, employing the data in the Susquehanna Greenway Scenic Assessment and existing county inventory data.



2.) **Consult Existing GIS Database for Parcel Information.** Parcel information is available by county and defines the boundaries and ownership of land plots. Depending on each project's circumstances, a parcel map may be a beneficial resource to research land ownership within a project's boundaries.

3.) **Select Project Management Entity.** A project manager should be selected on an individual project basis. The Susquehanna Greenway Board and/or Regional Committee should feel confident that this person is able to carry out these responsibilities. Roles and Responsibilities:

- *Define the Project*
- *Contact and Involve all Stakeholders*
- *Serve as Project Contact Person*
- *Determine Project Feasibility*
- *Develop Project Scope*
- *Facilitate Inter-Regional Coordination*
- *Facilitate Concept Development and Design Workshop*
- *Determine Project Tasks and Time Line*
- *Research and Secure Funding*
- *Secure Professional Planning, Designing or Contracting Services*
- *Manage Contractors and Project Volunteers*

4.) **Identify and Select a Long-Term Management Entity.** The long-term management entity oversees the basic maintenance and operation of the greenway project after construction. Organizations such as the Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, Bureau of Forestry, Bureau of Parks, and the National Park Service may be potential candidates to oversee larger greenway components. For smaller scale greenway components, a number of local organizations may be willing to maintain and manage a trail or an access point as part of a community service or outreach program. All organizations must be familiar with and abide by the operations and management plan and the partnership must approve the decision. The following programs may facilitate the involvement of unrelated organizations to the Susquehanna Greenway.

*Adopt-a-Greenway* – This program recognizes a dedicated group of volunteers as the caretakers of a designated greenway. This program may be very beneficial to the Susquehanna Greenway as a way to reduce maintenance costs and involve local people in the “ownership” of a greenway component. Guidelines for this program should be developed by the partnership and each group of participants should develop a greenway charter. This type of program is meant to coordinate with and not replace an overall maintenance and management plan for greenway facilities. These services may be used as a local in-kind service match for funding

or technical assistance. A statewide adopt-a-greenway program already exists in Pennsylvania. More information is available at [www.pacleanways.org](http://www.pacleanways.org)

*Memorandum of Agreement and Land Management Agreements*  
- Individuals may be able to manage conserved and protected land through formalized agreements. These agreements address the issues of use and access to the site, as well as maintenance requirements, policies, and acceptable practices. The partnership should develop guidelines for this type of formal agreement.

**5.) Develop a Sustainable Plan for the Operation and Maintenance of Greenway Lands and Facilities.** A sustainable management plan should be embraced by the responsible entities at the beginning of the implementation process. Programs and protocols should be instituted including training of field and supervisory personnel. In addition, community groups, residents, business owners, developers, and other stakeholders should be engaged in the long-term stewardship of the resources preserved and enhanced by this management plan. Decisions that are made effect the overall greenway system and the people who live within the Susquehanna corridor. Therefore, the consequential outcome of any decision should be explored before action is taken.

**6.) Establish an Operations and Management Committee.** The Susquehanna Greenway system includes a variety of both public and privately owned greenway components. Each component will have a unique set of goals based on preservation, protection, restoration, or enhancement of the resource or facility. Because each stake holder has a varying interest in the implementation and operations and management process, a balance of those opinions will need to be represented by participating agencies, participating stakeholders, and the board of directors, as well as field crews, existing maintenance and management staff, police, fire, and rescue personnel in order to successfully draft a sustainable operations and management plan for the Susquehanna Greenway.

**7.) Identify Operations and Management Goals and Strategies.** The operations and management committee is responsible for identifying realistic goals and strategies, similar to the organization of Chapter's 3, 4, and 5, that may be achieved through careful execution of an operations and maintenance plan. Goals and strategies should not only reflect natural resource protection and recreation, but also integrate the local economy, community development, and education and outreach. Goals should be stated in measurable terms, in order to assess the successfulness of the operations and management plan. An evaluation of these goals should be conducted, if the partnership believes the plan is not effectively maintaining the operations and management component of the greenway system. Strategies should be presented with corresponding action steps defining ways the partnership can achieve each goal.



8.) **Develop an Operations and Management Plan.** The plan should be reviewed and updated annually and include tasks, operations, policies, standards, and routine and remedial maintenance goals. The plan should identify all greenway components, such as water trail, riparian buffer, scenic view waypoint, historic waypoint, and wildlife corridors. Each greenway component should define the maintenance, expected use, access, and potential risks as follows:

- *Routine and Remedial Maintenance* - Routine maintenance refers to the day-to-day regimen of litter pick-up, trash and debris removal, weed and dust control, trail sweeping, sign replacement, tree and shrub trimming, and other regularly scheduled activities. Routine maintenance also includes minor repairs and replacements such as fixing cracks and potholes or repairing a broken hand railing. Routine activities also include crime prevention, law and regulation enforcement, search and rescue, and user education.
- *Remedial Maintenance* - refers to correcting significant defects as well as repairing, replacing, or restoring major components that have been destroyed, damaged, or have significant deterioration during the life of the project. Some items may occur on a five-year to ten-year cycle such as repainting, seal coating asphalt pavement, or replacing signage. Major reconstruction items will occur over a longer period or after an event such as a flood. Examples of major reconstruction remedial maintenance include stabilization of a severely eroded hillside, repaving a trail surface or a street used for biking, or replacing a footbridge. Remedial maintenance should be part of a long-term capital improvement plan.
- *User Safety and Security* - To provide a standard of care that offers reasonable and ordinary safety measures, local governments should work with the regions to cooperatively develop and implement a safety and security program for the operations and management plan. This program should consist of well-defined safety and security policies; identification of trail management, law enforcement, emergency, and fire protection agencies; proper posting, notification, and education of the trail user policies; and a system that offers timely response to the public for problems that are related to safety and security.

- *Emergency Response* - To effectively patrol the greenway system and respond to the potential for fire, floods, and other natural or human caused disasters, an emergency response program should be adopted under the operations and management plan. This program should define a cooperative law enforcement strategy for the greenway, based on services required and services that are typically provided by police, fire, and EMS agencies. The emergency response program should define the particular agencies that should respond to 911 calls. Specifically, all trails should be provided with an address system that denotes specific locations along the length of the trail corridor. A site plan that illustrates points and access to each trail corridor should be produced and provided to each agency to keep on file. Each trail should be designed to permit access for law enforcement, fire, and EMS agencies. A system of cellular type emergency phones with access to the Susquehanna Valley's 911 system could be a potential security feature for remote and isolated sections of the greenway.
- *Risk Management* - The purpose of a risk management plan is to increase safety for the users of the system and reduce the potential for accidents within the system or on lands adjacent to the system. While it is impossible to guarantee that all risk will be eliminated by such a plan, implementation of a plan will reduce liability and improve safety. See Appendix D for liability information. A risk management plan establishes a methodology for greenway management that is based on current tort liability and case law in the United States related to the development, operations, and management of public use greenway lands and facilities. The risk management plan should identify the risk and determine where the risk is, evaluate the risk, and treat the risk. Risk treatment may include avoidance, prohibiting use of a risk area; reduction, limiting use of the area and repairing the risk immediately; retention, obtaining waivers from all potential users of the risk area; or transfer, transferring the property to an agency better suited to manage the area.

#### **9.) Define Long-Term Management Strategies for Greenway Facilities.**

Identifying funding sources, creating funding sources, and sustaining reliable funding over the long term is critical to the overall success of operations and maintenance and, ultimately, the success and growth of the Susquehanna Greenway.

10.) **Secure an Annual Operations and Management Funding Source.** Several types of funding sources can be identified and it is likely that a combination of these might offer the best solution to funding operations and management activities. Following are likely potential sources:

- *Local governments* - These are funds coming directly from existing agency and department programs as part of annual budget contributions. Typically this is the base revenue source for operations and management.
- *Multi-Objective Partnerships* - Most greenways serve multiple public and private benefits including access for flood way management, utility access, street maintenance, and enhancement of adjacent private properties. This may pose a number of opportunities for task sharing and cost sharing among the various beneficiaries, particularly with respect to storm drainage management along the river corridor.
- *Greenway Trust Fund* - It may be possible to create a regional or corridor-wide Susquehanna Greenway Trust Fund. The fund can obtain money from a variety of public and private sources. The idea would be to create a principal balance and then use annual revenues derived from the fund to offset annual maintenance costs. At 4 percent annual interest, an endowment of \$100 Million would yield \$4 million per year for operations and maintenance.
- *Coordinated In-Kind Services* - Services from volunteers, youth and student labor, and seniors or donations of material and equipment may be provided in-kind to offset operation and management costs. Other programs, such as adopt-a-trail, would also aid in reduced maintenance costs and allow service clubs, scouts, school groups, businesses, and others to be involved in the care of the greenway system. Adopt-a-greenway programs should include credit signage and written agreements with the adopting group.

11.) **Define the Organization and Management System for the Susquehanna Greenway GIS database.** One of the more challenging tasks of implementing the Susquehanna Greenway may be the organization and upkeep of the GIS database. The GIS database will continue to be housed at SEDA-COG and managed by SEDA-COG's dedicated GIS staff. The GIS staff will be responsible for maintaining, creating, receiving, and distributing GIS information for the greenway. They will also be responsible for collecting newly updated information as it becomes available such as soil surveys and new aerial photography. Regional committees or local level efforts are responsible for contacting the GIS department with updates. As new plans and studies are completed, those responsible for coordinating the effort must submit a compatible file of the results to the GIS database. The GIS staff will also provide services as part of the greenway's technical assistance program. A greenway specific e-mail address will be created to request information or to notify the staff of recent updates. Other functions to be performed in the maintenance of the GIS database include:

- *Compile MetaData for GIS Layers* - To determine the accuracy and consistency of the available GIS layers, a word document should be created that includes the following information: a layer description, list of attributes such as existing/proposed, how the layer was created, when the layer was created, when the layer was updated, how often the layer should be updated, who created the layer, contact information for the party responsible for holding and distributing the layer, file format, and map projection information.
- *List All GIS Contacts* - This list will be useful when updating GIS information and will also provide a resource of services to the partnership for mapping purposes.
- *Create a Dedicated FTP site for the Susquehanna Greenway* - To easily facilitate file transactions, the GIS staff should create a FTP site for the greenway to distribute requested information and to receive new or updated layers as they become available.
- *Work with PASDA to Provide Greenway Information Online* - PASDA is the main source to acquire GIS information in Pennsylvania. PASDA may assist the GIS staff in distributing valuable information to the public, as well as facilitate interactive mapping of the watershed.

