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Section A > Vision & Goals

The Turtle Creek Greenway encompasses a stream valley, floodplains, forested steep slopes, open space, public parks, private property, and an active railroad through two counties and four municipalities. The Regional Trail Corporation, with support from the Turtle Creek Watershed Association, undertook the development of a Greenway Plan in order to identify management strategies designed to preserve and enhance the integrity of the natural, recreational, and cultural resources within the Turtle Creek Greenway, while protecting landowners' interests. The project has served to garner public support for the preservation of the Greenway as a regional asset for all residents and visitors to enjoy.




The goal of this planning process is to encourage the consideration of all the recreation and conservation opportunities by the local residents and the community leaders and finally to develop an action-oriented plan that will assist them to achieve their wishes.

Assets, Opportunities, and Threats

Through a combination of field views and public involvement efforts, the following assets were identified as unique to the Turtle Creek Greenway:

-  The "Turtle Creek Gorge" - encompassed within the Greenway, the Gorge offers a wilderness feeling; an escape from its suburban surroundings
-  Scenic Beauty—Turtle Creek stream valley, plants, trees, birds, wildlife, etc.
-  Natural Area—greenway accessible from nearby residential and commercial development
-  Quiet—rustic, peaceful, remote setting
-  Biodiversity—Simpson Run BDA, geological formations

In order to build upon the assets, potential opportunities were identified within the Greenway in terms of recreation and conservation:

-  Trail Development—the Greenway could offer a biking/hiking/walking trail that long-term, could connect to the Westmoreland Heritage Trail.
-  Connections to Parks—the Greenway offers a natural connection between many local parks and recreation areas, including B-Y Park in Trafford, a number of Monroeville Parks, and Duff Park/Pleasant Valley Park in Murrysville.
-  Flood Control/Stormwater Management—the Greenway encompasses natural floodplains, riparian buffers, and wetlands and there may be opportunities to install

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stormwater collection areas, infiltration zones, etc. that could assist in flood control measures.

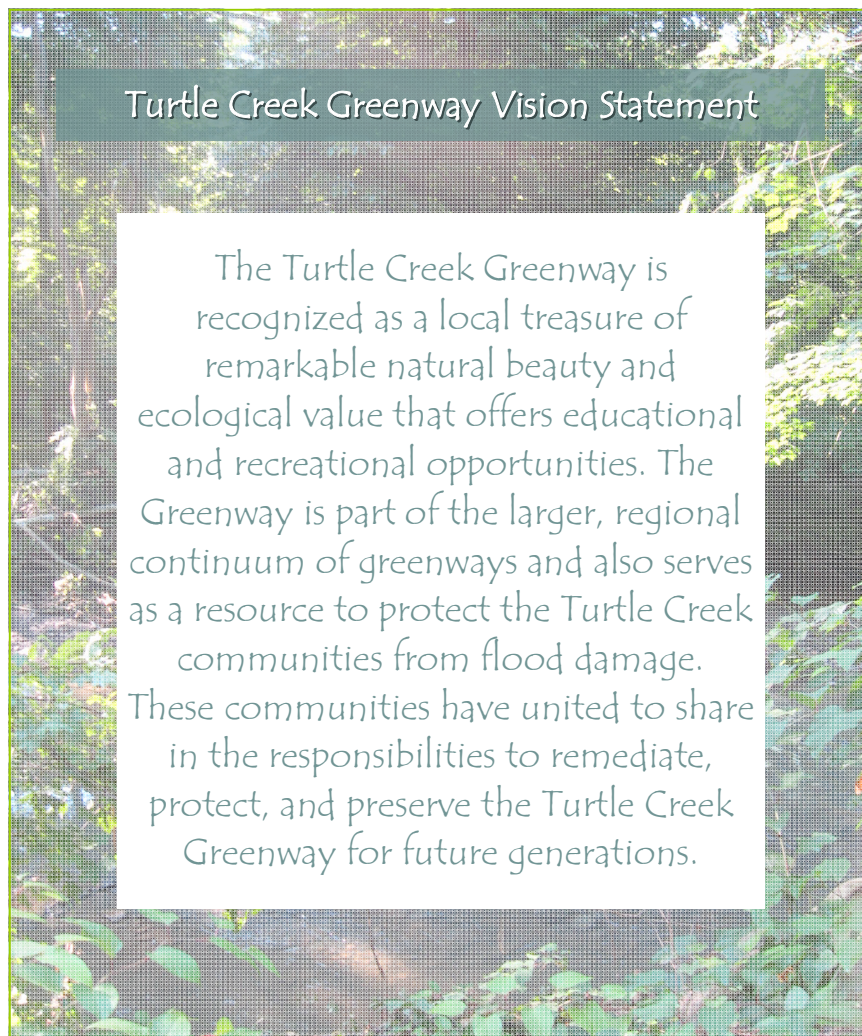
- 🌲 Streambank Stabilization—many of the streambanks within the Greenway are eroding and there could be an opportunity to rehabilitate these areas.
- 🌲 Passive Recreation—in addition to a potential trail, the Greenway could offer picnic areas and enhanced fishing access sites.
- 🌲 Environmental Education—the location of the Greenway, which spans three school districts, offers an opportunity to serve as an outdoor classroom, observation of nature, interpretive signing, etc.
- 🌲 Economic Benefit—the Greenway offers the local communities economic benefit through preservation of open space and reduced stormwater management costs, increased tourism, increased property values, etc.

Finally, threats were identified that could potentially limit the development and/or enhancement of the Greenway's assets and opportunities:

- 🌲 Lack of Public Access—while there are a few areas that are open to the public within the Greenway, currently, most of it is privately owned which limits the opportunities for recreation and conservation.
- 🌲 Flooding/Erosion/Stormwater Management—many areas in the Greenway are continually damaged from storms, runoff, and erosion causing major destruction to the railroad, streambank, hillsides, etc. Excess stormwater runoff carries land-based pollutants and eroded soil materials that also threaten Turtle Creek's fishery status and recreational value as well as local safety.
- 🌲 Invasive Species—much of the Greenway is overrun by Japanese knotweed, which chokes out native plants and contributes to the erosion of the streambanks.
- 🌲 Water Quality—abandoned mine drainage (AMD) and other pollutants continue to threaten the viability of Turtle Creek as a trout stocked fishery and its recreational value.
- 🌲 Funding—with municipal budgets tight, federal/state grant funds shrinking, and nonprofit organizations spread thin, it will be difficult to undertake many of the recommended improvements to the Greenway.
- 🌲 Administration—spanning four municipalities and two counties, there is no organization at this time that can take on the responsibility of overseeing implementation.

Vision Statement

The primary goal of a vision statement is to provide a focus for the future of the Turtle Creek Greenway. A vision statement offers a glimpse of what the Greenway will be in 10 or 20 years from now and reflects the most important values. It is a result of the assets, opportunities, and threats that were identified through the public involvement process, during which the Project Steering Committee, Stakeholders, and the general public had a chance to discuss and identify the most important features they would like to see preserved as a part of the Turtle Creek Greenway.



Turtle Creek Greenway Plan

Goals

Once the Vision Statement was created, Project Goals were developed to implement the Vision. These Project Goals represent the specific areas of focus for the Turtle Creek Greenway Plan.

1. Preserve the integrity of the natural, recreational, and cultural resources of the Turtle Creek Greenway.
2. Manage adverse impacts within the Greenway and its ecosystem as a result of stormwater damage from nearby development.
3. Raise public awareness and encourage stewardship of the valuable natural resources present within the Turtle Creek Greenway.
4. Enhance the Turtle Creek Greenway by offering additional recreational opportunities.
5. Develop a prioritized plan to secure land within the Greenway through fee simple, conservation easements, and/or donations to be used for trail development and the protection of green space and natural resources.
6. Utilize the Greenway as an educational resource for school children and the general public alike.
7. Promote the Greenway as a destination within and throughout the region to help the local communities realize economic benefits through ecotourism.

Section B › Benefits of Preservation

The benefits of greenways and trails are often only seen as recreational or environmental. However, in truth, trails and greenways can offer communities benefits related to public health, environmental, economic, and transportation. “When seen as a whole, the evidence about the far-reaching benefits of trails and greenways is compelling, especially given the minimal public investment involved compared to other undertakings with the same community goals,” (Rails to Trails Conservancy, 2010).

Benefit #1: Protection of Natural Habitats and Species

Greenways provide important opportunities to protect and manage wildlife habitats, forest systems, and local ecology and hydrology. Greenways can become vital corridors connecting natural areas – making possible a wider variety of plant life and wildlife species by providing food and water along an accessible “route” (PA DCNR & Greenways Partnership Commission, 2000, Benefits of Greenways: A Pennsylvania Study). Greenways can improve air quality, as well, as tree preservation produces greater oxygen. Greenways also absorb noise and thermal pollution as a rich plant life can absorb heat and sound (PA DCNR & Greenways Partnership Commission, 2000).

Benefit #2: Waterways Protection

Perhaps the most important protection that comes with greenways is that of waterways. Greenways protect water resources by buffering non-point sources of pollution (PA DCNR & Greenways Partnership Commission, 2000). Vegetative buffers not only help curb excessive runoff but also provide improved visual appeal and recreational amenities in communities. Greenways also provide important recharge areas for local groundwater aquifers (PA DCNR & Greenways Partnership Commission, 2000).

Benefit #3: Conservation of Historic and Cultural Resources

In many cases, greenways can be combined with an existing historic feature, which allows an opportunity to experience a moment in history – such as an historic site – and enjoy nature (PA DCNR & Greenways Partnership Commission, 2000). They can serve as connections to local heritage not only by preserving historic places but also by providing access to them. Greenways can also provide a sense of place and understanding of past events by drawing focus and public attention to historic locations and events (http://www.railstotrails.org/resources/documents/resource_docs/tgc_historic.pdf). These sites and locations can include battlegrounds, bridges, buildings, and canals that would

otherwise be difficult to access or interpret. By recognizing, honoring, and connecting these features, the combined results serve to enhance cultural awareness and community identity, potentially attracting tourism (http://www.railstotrails.org/resources/documents/resource_docs/tgc_historic.pdf).

Benefit #4: Public Recreation, Health, and Fitness

Greenways provide recreation opportunities for families and individuals of all ages and abilities and are a core component of strategies to foster health and wellness - especially with regard to aging populations (PA DCNR & Greenways Partnership Commission, 2000). Fitness opportunities are afforded in the context of safe, accessible, attractive, and low or no cost places to bike, walk, run, and hike.

According to the Centers for Disease Control and Prevention (CDC), “Physical inactivity causes numerous physical and mental health problems, is responsible for an estimated 200,000 deaths per year, and contributes to the obesity epidemic” (U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 1996, Physical Activity and Health: A Report of the Surgeon General). In identifying a solution, the CDC determined that by creating and improving places in our communities to be physically active, there could be a 25 percent increase in the percentage of people who exercise at least three times a week (U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2002, Guide to Community Preventive Services). This is significant considering that for people who are inactive, even small increases in physical activity can bring measurable health benefits (Rails-to-Trails Conservancy, 2006, Health and Wellness Benefits). Additionally, as people become more physically active outdoors, they make connections with their neighbors that contribute to the health of their community. Many public agencies are teaming up with foundations, universities, and private companies to launch a new kind of health campaign that focuses on improving people’s options instead of reforming their behavior. A 2005 Newsweek Magazine feature, *Designing Heart-Healthy Communities*, cites the goals of such programs (italics added): “The goals range from updating restaurant menus to restoring mass transit, but the most visible efforts focus on making the built environment more conducive to walking and cycling.” (Newsweek Magazine, 10/3/2005, *Designing Heart-Healthy Communities*). Clearly, the connection between health and trails is becoming common knowledge.

Benefit #5: Educational Opportunities

Greenways present educational opportunities as they bring the general public into direct contact with the natural environment and cultural and historical places. Providing trail or greenway signage can help inform users about historical events or water quality issues particular to a watershed (PA DCNR & Greenways Partnership Commission, 2000). Such

signs could also include tips on how to improve water quality. Similarly, a greenway can serve as a hands-on environmental classroom for people of all ages to experience natural landscapes, furthering environmental awareness.

Benefit #6: Encouragement of Sound Land Use Practices

Many communities face threats to their quality of life and the character of their built environment in the form of unplanned or poorly planned development such as suburban sprawl. Greenways present a significant opportunity to guide land use and help ensure that as communities continue to grow, protected green space and recreational opportunities are built into the future (PA DCNR & Greenways Partnership Commission, 2000). Greenways can also act as a redevelopment tool to help “green” brownfields and urbanized areas (PA DCNR & Greenways Partnership Commission, 2000).

Benefit #7: Alternate Means of Transportation

Greenways can create links and connections in places that would otherwise be reached only through automobile use (PA DCNR & Greenways Partnership Commission, 2000). Creating a system of links between residential areas, open green spaces, parks, and even commercial areas can help communities create a sophisticated system that reduces traffic congestion and encourages alternative means of transportation such as walking, bicycling, or running. Greenways can also be used as a way of harmonizing various means of transportation and interweaving the interaction of pedestrians and automobiles (PA DCNR & Greenways Partnership Commission, 2000).

Benefit #8: Increased Inter-Municipal Cooperation

Greenways enhance the sense of place in a community or region. Greenways have many stakeholders and beneficiaries. The planning and development of greenways naturally lead to the formation of broad-based partnerships, bringing together civic groups, regional planners, community leaders, educators, business owners and others (PA DCNR & Greenways Partnership Commission, 2000). The partnership approach not only provides resources but also builds public support or “community capital” and consensus for more greenways investment (PA DCNR & Greenways Partnership Commission, 2000).

Benefit #9: Economic Benefits

Increased Property Values

There are many examples, both nationally and locally, that affirm the positive connection between greenways and property values.

🌿 Residential properties will realize a greater gain in value the closer they are located to trails and greenways. According to a 2002 survey of recent homebuyers by the National Association of Home Realtors and the National Association of Home Builders, trails ranked as the second most important community amenity out of a list of 18 choices. Additionally, the study found that ‘trail availability’ outranked 16 other options including security, ball fields, golf courses, parks, and access to shopping or business centers. (National Association of Realtors and National Association of Home Builders, 2002, Consumer’s Survey on Smart Choices for Home Buyers).

🌿 Findings from the Trust for Public Land’s Economic Benefits of Parks and Open Space, and the Rails-to-Trails Conservancy’s Economic Benefits of Trails and Greenways illustrate how this value is realized in property value across the country (Rails to Trails Conservancy, 2005, Economic Benefits of Trails and Greenways):

- ⇒ Apex, NC: The Sheppard’s Vineyard housing development added \$5,000 to the price of 40 homes adjacent to the regional greenway – and those homes were still the first to sell.
- ⇒ Front Royal, VA: A developer who donated a 50-foot-wide, seven-mile-long easement along a popular trail sold all 50 parcels bordering the trail in only four months.
- ⇒ Salem, OR: land adjacent to a greenbelt was found to be worth about \$1,200 and acre more than land only 1000 feet away.
- ⇒ Oakland, CA: A three-mile greenbelt around Lake Merritt, near the city center, was found to add \$41 million to surrounding property values.
- ⇒ Dayton, OH: Five percent of the selling price of homes near the Cox Arboretum and park was attributable to the proximity of that open space.

Trail Tourism

🌿 The Outer Banks, NC: Bicycling is estimated to have an annual economic impact of \$60 million and 1,407 jobs supported from the 40,800 visitors for whom bicycling was an important reason for choosing to vacation in the area. The annual return on bicycle facility development in the Outer Banks is approximately nine times higher than the initial investment (NCDOT and ITRE., 2006, Bikeways to Prosperity: Assessing the Economic Impact of Bicycle

Facilities).

- 🌲 Damascus, VA: At the Virginia Creeper Trail, a 34-mile trail in southwestern Virginia, locals and non-locals spend approximately \$2.5 million annually related to their recreation visits. Of this amount, non-local visitors spend about \$1.2 million directly in the Washington and Grayson County economies (Virginia Department of Conservation, 2004, *The Virginia Creeper Trail: An Assessment of User Demographics, Preferences, and Economics*).
- 🌲 Morgantown, WV: The 45-mile Mon River trail system is credited by the Convention and Visitors Bureau for revitalizing an entire district of the city, with a reported \$200 million in private investment as a direct result of the trail (Rails to Trails, Danzer, 2006, *Trails and Tourism*).
- 🌲 Tallahassee, FL: The Florida Department of Environmental Protection Office of Greenways & Trails estimate an economic benefit of \$2.2 million annually from the 16-mile St. Marks Trail (Rails to Trails, Danzer, 2006, *Trails and Tourism*).
- 🌲 San Antonio, TX: Riverwalk Park, created for \$425,000, has surpassed the Alamo as the most popular attraction for the city's \$3.5-billion tourism industry (American Planning Association, 2002, *How Cities Use Parks for Economic Development*).

Expenditures by Residents

Spending by local residents on greenway related activities supports recreation oriented businesses and employment as well as other businesses that are patronized by greenway and trail users.

- 🌲 A 2004 Study of the 45- mile long Washington & Old Dominion Trail (W & OD), a transportation and recreation corridor running from Arlington to Purcellville, VA, finds that an estimated 1.7 million adult W&OD users put about \$7 million directly in the northern Virginia economy (Rory Robinson, National Park Service - Rivers, Trails and Conservation Assistance – May 2007).
 - ⇒ The estimated 1.6 million local visits accounted for about \$5.3 million of spending directly related to the use of the W&OD.
- 🌲 According to a Fall 2006 publication by the Outdoor Industry Foundation (Rory Robinson, National Park Service - Rivers, Trails, and Conservation Assistance – May 2007):
 - ⇒ The Active Outdoor Recreation Economy is a \$730 Billion annual contribution to the U. S. Economy.
 - ⇒ In sales comparisons, active outdoor recreation retail sales are second only to the telecommunications industry.
 - ⇒ Active outdoor recreation supports nearly 6.5 million jobs across the U. S.

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Participation by numbers: Bicycling (paved, road and off-road)—60 million; paddling—24 million; trail (running on unpaved trail, day hiking, backpacking and rock climbing)—56 million; wildlife viewing—66 million.

⇒ In Los Angeles County hikers supported a \$300 million hiking equipment industry.

Public Cost Reduction

According to the American Planning Association, “perhaps one of the greatest values of an interconnected green space system is the financial benefit that may be gained through the reduction of the need for the built environment.” In fact, the National Park Service found that the public costs for greenways is far less than other infrastructure (Rory Robinson, National Park Service - Rivers, Trails, and Conservation Assistance – May 2007):

- ✦ The least cost substitute for the water quality services provided the wetlands of Congaree Bottomland Hardwood Swamp in South Carolina would be a water treatment plant costing \$5 million.
- ✦ American Forests estimates that the 187,767 acres of tree canopy in the Washington, D. C. metro region provides 949 million cubic feet in avoided storage of water - value \$4.7 billion.
- ✦ The tree canopy in Charlotte, North Carolina, covers 53% of the county’s land area. This urban forest removes 17.5 million pounds of pollutants from the air each year; a benefit American Forests estimates is worth \$43.8 million each year.
- ✦ According to U.S. Rep. James Oberstar (D-MN), constructing one mile of urban freeway costs an average of \$46,000,000 a mile (Rory Robinson, National Park Service - Rivers, Trails, and Conservation Assistance – May 2007). Comparatively, costs for: 12-foot shared paths = \$128,000/mile; 5-foot bicycle lanes = \$189,000/mile; 5-foot paved shoulders on rural roads = \$102,000/mile.
- ✦ As far back as 1993, Maryland's Northern Central Rail-Trail found that while the trail's management and maintenance cost to the public was \$191,893, the trail-related tax income to the state totaled \$303,750.
- ✦ The annual economic impact of cyclists at the North Carolina Outer Banks is 9 times the one-time cost of building the facilities.

Section C > Management Strategies

As part of the Turtle Creek Greenway Plan, management strategies were developed for each of the goals. The strategies are designed to assist implementing organizations and project partners in their recreation and conservation efforts. **Table 4.1: Management Strategies** contains the recommendations for each of the project goals. Typically, a plan would identify responsible parties, project partners, and priority levels for each of the strategies. However, it became apparent that the Turtle Creek Greenway Plan is unique for a few reasons.

Issue #1: Implementing Party

The first issue is that there is no overarching organization who can take on implementation. The Greenway spans two counties, four municipalities, and several different interests. The Steering Committee discussed and agreed upon the need for a lead organization, who would ultimately be in charge of overseeing the Greenway, applying for funding, planning projects, setting up partnerships, etc. The following organizations were discussed as potential candidates:

There is no existing organization that has the capacity, time, resources, etc. to dedicate towards implementation of the Turtle Creek Greenway Plan. Who will be responsible for implementation?

- 🌿 **Regional Trail Corporation**—as the lead entity for the Turtle Creek Greenway Plan, the RTC was considered as the implementing party. However, the biggest issue is that at this time, there is no trail within the Greenway and is therefore, outside of the RTC’s mission.
- 🌿 **Turtle Creek Watershed Association**—as one of the only organizations whose mission covers the entire project area, the TCWA was a leading candidate. However, the TCWA has no paid staff and has been an all-volunteer organization since 2008. This situation is not expected to change until the local and state economies improve substantially. With such a large watershed to oversee, the TCWA lacks the capacity to dedicate its resources to implementing the Turtle Creek Greenway Plan. The TCWA does however have interest in partnering with other organizations regarding implementation, particularly in organizing events to generate publicity and interest in the Greenway. If the TCWA could find the money to support paid staff position(s), the TCWA would be willing to take the lead.
- 🌿 **Penn’s Corner**—Penn’s Corner Resource Conservation and Development Council (RC&D) is western Pennsylvania’s RC&D. Members are drawn from the conservation districts and county planning commissions of eight (8) western

Pennsylvania counties, including Allegheny and Westmoreland Counties. One advantage of Penn's Corner is that it is a multi-county organization, and as such is able to provide coordination on multi-county projects. If there are no other non-profit organizations who are able or willing to oversee implementation, but there is a group of interested citizens/volunteers (for example, like the Friends of the Murrysville Parks), Penn's Corner could assist by serving as a grant applicant and providing technical assistance.


- 🌲 **Westmoreland Land Trust**—the WLT is charged with acquiring and preserving open space and natural areas within Westmoreland County. While many of the projects recommended for the Greenway fall outside of this mission, the WLT will be an important role player in acquiring property within the Greenway for either recreation or preservation. Currently, the WLT is working with Westmoreland County on the potential Duff Park expansion project.
- 🌲 **Allegheny Land Trust**—similar to the WLT, the ALT has the same mission in Allegheny County. Again, many of the projects fall outside the realm of the ALT, but they will be an important role player in the future.
- 🌲 **Municipalities**—all four municipalities were involved in the Greenway Plan to the extent that they chose to participate. While all support the project and the overall goals, none of the municipalities at this time has the capacity or resources available to dedicate to the implementation of the Greenway Plan. Also, with four municipalities, it is important for an outside organization to take the lead and then involve the municipalities as needed. Some of the strategies will need to have municipal support in order to implement, such as ordinance updates, and therefore they will be important partners moving forward.
- 🌲 **Counties**—both Allegheny County and Westmoreland County have been very involved in and support the development of the Turtle Creek Greenway Plan, which is an implementation project of the counties' greenways plans. The Counties are willing to partner and play a role in implementation; however, again will need to rely on an outside organization to help with overall coordination and management.

Issue #2: Public Access

The second, and perhaps larger issue at hand, is that the Turtle Creek Greenway lacks public access to the majority of areas. Many of the management strategies are dependent on having public access. Currently, public access areas exist only at the public parks and at the RTC property on Saunders Station Road. The rest of the Greenway is privately owned. The Steering Committee agreed that a trail is needed in the Greenway to provide public access as well as unite the various organizations to begin implementing the management strategies. The Committee felt that without a trail, the likelihood of implementation is slim.


The Turtle Creek Industrial Railroad (TCIRR) owns the railroad corridor throughout the Greenway. The 2001 Saltsburg to Trafford Feasibility Study found that due to the narrowness of the corridor and the presence of the creek, floodplains and steep slopes, there is no room for a rail-with-trail.

The TCIRR has been contacted from time to time since that study to see if there is potential to one day, convert the railroad into a trail. Through personal correspondence, the owners have stated that at this time, they are interested in maintaining ownership of the ROW, but are willing to discuss possibilities to share the corridor. The following possibilities should be discussed with the TCIRR further:


 **Rail-with-Trail**—while the Feasibility Study found this to not be a viable option for the length of the corridor, it may be possible in smaller sections within the Greenway.

- **Benefits** the TCIRR would retain ownership and operation of the railroad; a trail would be developed alongside the rail line
- **Obstacles** the narrowness of the corridor in some areas presents a safety and liability concern to the railroad; lack of public access via roadways may present a hazard; need separation from the active rail line for safety; funding would be needed to acquire, design, and construct the trail

One of the biggest issues facing implementation is that there is a lack of public access to the Greenway. The development of a trail would provide the access needed as well as a reason for the municipalities, counties, and local organizations to work together on implementation.

 **Share the Corridor**—another possibility discussed was to share the corridor and alternate times of use as a railroad and a trail. For example, the railroad could operate at night or on certain days of the week, leaving the trail open for use during the day or during the days where the railroad is not operating.

- **Benefits** the TCIRR would retain ownership and operation of the railroad; a trail would be open for use during the “off” hours
- **Obstacles** potential liability concerns; the railroad bridges would need to be replaced to be suitable for pedestrian use

 **Rail-to-Trail**—the TCIRR has not been in operation for approximately a year, partly due to damage to the rail line during the June 2009 storm and subsequent storms. Erosion and stormwater runoff necessitate constant and expensive repairs, reducing the viability of the corridor as a rail line. While the TCIRR has maintained a desire to continue operating the line, there may come a time where this is no longer financially feasible or viable. At that time, the rail line could be purchased and converted into a rail-to-trail, which would provide the needed public access to the Greenway and spur implementation of other recreation and conservation efforts.

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- **Benefits** the Greenway would feature a rail-to-trail, which could be extended to connect to the Westmoreland Heritage Trail; public access would be provided to the Greenway, making many of the management strategies viable projects
- **Obstacles** the TCIRR is not interested in this option at this time; funding would be needed to acquire, design, and construct the trail

The Steering Committee agreed that these two issues go hand in hand and that once a trail is developed, the trail organization (possibly RTC, the Westmoreland Heritage Chapter, or another subsidiary) would become the implementing organization for the Turtle Creek Greenway. Once formed, the trail chapter could form subgroups to focus on the different areas of the plan—recreation, conservation, education, etc.

A listing of local, regional, state and federal agencies and their mission is included in **Appendix L: Organizations**. Once the trail organization is formed, they can begin contacting each organization to partner on specific projects as needed. In addition, potential funding sources are included in **Appendix M: Funding Sources**.

Issue #3: Stormwater and Drainage

One of the biggest threats to the Turtle Creek Greenway both now and to its future is stormwater. Flooding and erosion have plagued the Greenway and will continue to do so unless addressed at a regional, watershed-wide level.



Stormwater is a daunting problem facing all communities, particularly in Southwestern Pennsylvania. Before addressing the concerns within the Turtle Creek Greenway, it is important to understand not only what stormwater is, but why it is such a big issue.

To start with, stormwater is defined as “water that accumulates on land as a result of storms, and can include runoff from urban areas such as roads and roofs” (<http://www.water-technology.net/glossary/stormwater.html>). In addition to contributing to flooding and erosion concerns, stormwater runoff is the most common cause of water pollution as it carries untreated pollutants directly into rivers and streams. As little as 1/10” of rain can cause sewage overflow, while an average Pittsburgh rainfall is 1/4” (3 Rivers Wet Weather, 2010).

The evidence of the stormwater issues were apparent in the Turtle Creek Greenway after the June 2009 storm. The railroad corridor was rife with wash out areas under the tracks, downed trees, streambank erosion, and drainage pools. Much of this would have to be addressed during trail

construction in order to have the trail last longer than the first big rain. Money will be needed to be spent on ditching and cross drains, much more than on regular trail construction. The trail chapter will need to have equipment such as a backhoe, that can be used to keep ditches and pipes open after each storm. While under normal circumstances \$200,000 per mile would cover the cost for trail construction, this corridor may need \$250,000 to \$300,000 per mile to allow for additional work relative to these issues. The Turtle Creek Greenway will be a very expensive corridor to construct and difficult to maintain until some of these runoff problems are solved.

There are many reasons to address the stormwater issues, ranging from flood prevention, water quality, and quality of life; but one of the most sensible reasons is financial. Preventing flood damage is more cost effective than repairs. Additional financial benefits of managing stormwater include (StormwaterPA, 2010):

- 🌳 Stormwater management techniques that effectively control soil erosion will reduce the amount of downstream sedimentation. This reduces the cost of dredging and water treatment, while increasing recreational opportunities and business and residential property values. Sedimentation also fills stream channels, reducing the amount of water they can carry, thus increasing future flood potential;
- 🌳 Taking a site planning approach that maintains or restores wetlands rather than removing them controls and treats wastes, reduces flooding, and improves habitat for wildlife and aquatic species;
- 🌳 Minimizing stormwater runoff can prevent costly investment in sewage treatment infrastructure to deal with excessive flows reaching combined sewers. The resulting effective treatment of human and industrial waste protects rivers, beaches, and human health;
- 🌳 Innovative stormwater management techniques help developers save money by replacing pipes, basins, and other infrastructure with less costly BMPs, by minimizing land clearing and grading costs, and by using less land area for stormwater management than required by traditional basins;
- 🌳 Low impact development (LID) is often less expensive than conventional development because “clustering” can reduce the cost of maintenance and

“Pennsylvania abounds in natural beauty, its landscape entwined with 83,161 miles of streams and more than 3,900 lakes, reservoirs, and ponds. Water is the lifeblood of the Commonwealth, supporting vast forests, abundant fish and wildlife, and a wide array of human uses that draw more than four billion gallons of ground and surface water per day. This wealth of water is a blessing, but population growth has radically altered the natural systems that manage rainfall through transpiration, infiltration, and gradual runoff into surface waters—leading to everything from poor water quality to flooding, severe erosion, and droughts. The solution lies in comprehensive stormwater management, which offers tremendous rewards to local economies, the environment, and quality of life.”

—StormwaterPA
2010

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municipal services such as sewer and water, trash removal, lighting, and street maintenance;

- 🌳 LID can also increase property values and marketability because of natural landscaping, open space, wetlands, and waterways.
- 🌳 Trees reduce energy costs, clean air and water, and help protect human health. Over a 50 year period, it is estimated that the average tree provides \$30,000 worth of oxygen, \$35,000 worth of clean water, and \$60,000 worth of air pollution removal.
- 🌳 Researchers at the University of California at Davis have estimated that for every 1,000 deciduous trees in California’s Central Valley, annual stormwater runoff is reduced nearly 1 million gallons—a value of almost \$7,000.
- 🌳 Conserving forested land on sites increases property values by an average of 6 to 15% and increases the rate at which units are sold.
- 🌳 A subdivision in Bucks County, PA that preserved 23% of its land as open space became the fastest selling subdivision in its price range, despite lot sizes that were significantly smaller than those found in competing development.
- 🌳 Studies in Maryland and Illinois have shown that new residential developments using “green infrastructure” stormwater management techniques saved \$3,500 to \$4,500 per quarter- to half-acre lot when compared to developments using conventional methods.
- 🌳 Porous paving can save up to 38% compared to a detention basin.
- 🌳 Air Pegasus Airport in Maryland saved \$25,000 in infrastructure costs by retrofitting an existing sand filter to include a bio-retention area that captured additional runoff and provided added water quality benefits.

“With researchers estimating that population growth in the U.S. will add more than one million new single family homes and some 10,000 miles of new roadways to the landscape every year over the coming decade, the potential savings and value added by proper stormwater management is hard to ignore,”

—StormwaterPA, 2010

Preserving the Turtle Creek Greenway can help to reduce stormwater and contribute to the solution, rather than the problem.

Table 4.1: Management Strategies

<p>Goal #1: Preserve the integrity of the natural, recreational and cultural resources of the Turtle Creek Greenway.</p>	
<p><i>Objective #1.1: Improve the ecological value of the Greenway and Turtle Creek</i></p>	
#1.1A	Continue to work with the volunteers and Turtle Creek Watershed Association (TCWA) to monitor the water quality of Turtle Creek and its tributaries.
#1.1B	Hold annual water monitoring training for interested residents, establish a watershed monitoring program, and organize weekend workshops to conduct monitoring. Use the program with the EASI group as a model.
#1.1C	Coordinate with PFBC to conduct water quality and fish studies on the tributaries to Turtle Creek to utilize as baseline data for pollution prevention and stormwater management plans.
#1.1D	Conduct a Wetland Identification and Delineation study to verify wetland locations and determine functionality of these areas.
#1.1E	Update the Natural Heritage Inventory for Allegheny County (1994) to verify accuracy of previous findings as well as identify any new biologically significant areas that may exist within the greenway.
#1.1F	<p>Enhance the Simpson Run BDA</p> <ul style="list-style-type: none"> 🌲 Establish signs at entrance points along Greenway (noted on Map 4.1) – do not disturb nature 🌲 Develop as an educational resource <ul style="list-style-type: none"> ⇒ Coordinate with the WPC to establish parameters of public access and use ⇒ Add low impact trails/picnic tables 🌲 Add interpretive signing marking unique features within the BDA
#1.1G	<p>Enhance wildlife habitat areas</p> <ul style="list-style-type: none"> 🌲 Enhancements may consist of bird boxes, snags, etc. 🌲 Potential locations noted on Map 4.1
#1.1H	Coordinate with the Amphibian and Reptile Technical Committee for the PA Herpetological Atlas program to conduct studies on amphibian and reptile species within the greenway to determine if any there are any species of concern or at risk populations.
#1.1I	Lobby federal and state agencies (Army Corps, DEP, etc.) to complete a restoration project along Turtle Creek, similar to the Nine Mile Run Project in Pittsburgh.

Turtle Creek Greenway Plan

Goal #1: Preserve the integrity of the natural, recreational and cultural resources of the Turtle Creek Greenway. (cont.)

Objective #1.1: Improve the ecological value of the Greenway and Turtle Creek (cont)

Create a forest management plan and vegetation management plan to eradicate the invasive species, allowing native vegetation to grow and thrive to protect the banks from erosion. Use Duff Park/Friends of Murrysville Parks GIS mapping as model for removal.

- #1.1J
 - 🌲 Japanese knotweed
 - ⇒ Found in B-Y Park; along both sides of corridor to Saunders Station Road
 - ⇒ High priority areas for eradication:
 - Sections every 100/200 yards or so for views of creek between B-Y Park and Saunders Station Road
 - Within the Simpson Run BDA
 - Near Cavitt Road in Murrysville to stop spreading east
 - Near MSA in Murrysville
 - Other small areas noted on Map 4.1
 - 🌲 Japanese Stiltgrass
 - 🌲 Garlic Mustard
 - ⇒ Found in small patches; one section near Cavitt Road
 - ⇒ Priority: eradicate before it spreads
 - 🌲 Tree of Heaven
 - ⇒ Found near residential wall at Forbes Road in Trafford
 - ⇒ Priority: eradicate to stop spreading

Coordinate with Allegheny CleanWays and Westmoreland CleanWays to clean-up identified illegal dumpsites within the greenway.

- #1.1K
 - 🌲 Site off Selnick Lane in Monroeville
 - 🌲 Truck near Cavitt Road in Monroeville
 - 🌲 Truck in Turtle Creek

#1.1L Organize a semi-annual “Litter Walk” to clean debris within the Greenway






Implement beautification projects within the Greenway.

- #1.1M
 - 🌲 Public access areas (i.e. Saunders Station Road parking lot)
 - 🌲 Urban areas – screening via fencing, trees, plantings, etc.
 - ⇒ Along corridor near industrial business in Trafford
 - ⇒ Murrysville along Railroad Street, near Braun Avenue, along corridor between Community Building and School Road
 - 🌲 Local parks (B-Y Park, Duff Park, etc.)
 - 🌲 Interpretive sites as noted on Map 4.1



Goal #1: Preserve the integrity of the natural, recreational and cultural resources of the Turtle Creek Greenway. (cont.)

Objective #1.2: Enhance existing recreational areas






- Improve signing at public parks

 - #1.2A  Provide higher visibility signs for Duff Park from US 22 and at entrance on School Road South
 - sign should be oriented to vehicles traveling along the road
 - #1.2A  Provide higher visibility signs for B-Y Park from Forbes Road and US 130 and at entrance
 - sign should be oriented to vehicles traveling along the road
 - #1.2A  Interpretive signing could be added within both parks to identify trees, plants, wildlife, etc. and used for educational purposes
- #1.2B Maintain the water quality of Turtle Creek as a Trout Stocked Fishery.
- #1.2C Improve areas of Turtle Creek to maintain or expand fisheries and fishing opportunities
 -  Enhancements may include rock deflectors, log vains, fish ladders, riparian plantings/ improvements, etc.
 -  Develop informal trails from Saunders Station Parking Lot that avoid wetland areas
- #1.2D Establish an Audubon Society of Western Pennsylvania (ASWP) Christmas Bird Count within the greenway to identify bird species that frequent the area.

Objective #1.3: Enhance cultural areas

- #1.3A Include interpretive signage at the historic brickyard in Monroeville and promote this area as a local historical site through Monroeville’s website and public education materials on existing local historical/cultural resources.
 -  This area is on the opposite side of the creek from the RR
 -  Site along the RR near old bridge abutments
 - ⇒ Clear the landing for a small picnic area
 - ⇒ Interpretive signs—history of brickyard
 - ⇒ Beautification—plant wildflowers, etc.
 - ⇒ Viewshed of creek

Objective #1.4: Update local codes and ordinances to preserve the Greenway










- #1.4A Develop an Environmental Advisory Council (EAC) in communities that do not have one
 -  Municipality of Monroeville
 -  Trafford Borough
 -  Penn Township (this has been discussed for many years but not supported)
- #1.4B Update Monroeville’s subdivision and land development ordinance to include a mandatory recreation/fee-in-lieu of provision
- #1.4C Adopt an Official Map in each municipality to identify the greenway as future parkland/open space preservation.
 -  Murrysville is working on one
 -  Monroeville, Penn Township and Trafford should consider similar

Turtle Creek Greenway Plan

Goal #1: Preserve the integrity of the natural, recreational and cultural resources of the Turtle Creek Greenway. (cont.)

Objective #1.4: Update local codes and ordinances to preserve the Greenway (cont.)

Update local zoning and subdivision and land development ordinances to address the following (see [Appendix N: Recommended Updates to Municipal Land Use Ordinances](#) for more municipal-specific recommendations):


- #1.4D  Require a minimum 100-foot buffer surrounding wetland habitats for birds and wildlife.
-  Create design guidelines that encourage "green" techniques in new developments (e.g. low-impact development, sustainable practices, smart growth principles, conservation subdivision) for upland areas surrounding the greenway to protect greenway from stormwater runoff.
-  Restrict development on red bed soils and steep slopes to prevent landslides and erosion.
-  Restrict development of steep slopes, stream headwaters, wetlands, floodplains, woodlands, wildlife corridors, and other natural areas.
-  Require a minimum 150-foot riparian buffer along streams.
-  Require a 150-foot buffer around headwater areas within the Turtle Creek Watershed.
-  Require the replacement of timbered areas with native species to protect forested areas.
-  Include a list of native plant species to use for landscaping within the ordinances and distribute to landowners, developers, etc.
-  Offer incentives (such as density bonuses, relaxed parking requirements, etc.) to use permeable surfaces for sidewalks, driveways, etc.

Goal #2: Manage adverse impacts within the Greenway and its ecosystem as a result of stormwater damage from nearby development.

#2.1 As a cooperative Allegheny and Westmoreland County effort to protect homes and businesses, update the Turtle Creek Watershed Stormwater Management Plan (Act 167) every 5 years, as required by state law.

#2.2 Update/enforce stormwater management Best Management Practices (BMPs), particularly storage– or infiltration-based practices, as outlined in DEP’s Pennsylvania Stormwater BMPs Manual, especially for new construction to reduce stormwater volumes and improve water quality at the discharge point.

#2.3 Implement fluvial geomorphic-based restoration approaches such as Natural Stream Design, where appropriate, to achieve channel and streambank stability, restore sediment transport, reduce erosion and sedimentation, and improve water quality and aquatic habitats.

-  Pilot project – parcels Penn_7 and Penn_8
-  Additional locations between Saunders Station Road and Duff Park (noted on Map 4.1)

#2.4 Restore the Simpson Run stream channel to Turtle Creek by removing sediment

Goal #2: Manage adverse impacts within the Greenway and its ecosystem as a result of stormwater damage from nearby development.

- #2.5 Develop a multi-municipal protocol for removing downed trees and/or potential obstructions and debris from streams to alleviate flooding.
 - 🌲 Every spring municipal public works crews should check problem areas (bridges and culverts that get jammed with debris) and ensure these areas are cleared.
- #2.6 Partner with the Westmoreland County Conservation District to implement a rain barrel and rain garden program (see [Appendix O](#) for more information on rain gardens).
 - 🌲 Potential Pilot Project: Murrysville Neighborhood near Meadowbrook Road/Clawson Drive (noted on Map 4.1)
 - 🌲 Have the homeowners sign a contract whereby the rain barrels are installed and field checked.
 - 🌲 Rain barrel pricing could be as follows: free to homeowners in study area, \$100 within watershed, \$275 outside watershed
 - 🌲 Audubon Society of Western Pennsylvania – Native Plants Garden Series “Rain Gardens for Homeowners” workshops teach homeowners how to size, design and install a rain garden and provides participants with \$200 certificate for rain garden plants.
- #2.7 Work with homeowners within/adjacent to the greenway to take advantage of GreenLink’s TreeVitalize, a tree planting program, to reduce erosion.
- #2.8 Utilize the Urban Eco Steward Program for volunteers to assist in improvement projects within the greenway.




Goal #3: Raise public awareness and encourage stewardship of the valuable natural resources present within the Turtle Creek Greenway.

- #3.1 Publicize the PA Resource Council educational programs on watersheds and the importance in protecting streamside areas such as riparian buffers, wetlands, and floodplains.
 - 🌲 Encourage municipal officials/public to attend
 - 🌲 Educational flyers can be posted on municipal, TCWA, and the Turtle Creek Greenway websites
- #3.2 Develop more educational programs tailored toward connecting local residents with the outdoors, especially kids, within Duff Park to improve the park’s chances of receiving the Green Park Award. The Audubon Society of Western PA has kid’s education programs that can be used as a model.
- #3.3 Publicize Audubon Society of Western Pennsylvania – Native Plants Garden Series and/or host similar program.
 - 🌲 Encourage participants to register their rain garden for free with Three Rivers Rain Garden Alliance (<http://raingardenalliance.org/garden>) to track and report performance
 - 🌲 Publicize the rain barrel/rain garden programs through email blasts, neighborhood canvassing, newsletters, postcards, flyers, etc.
- #3.4 Develop/distribute educational materials (municipal websites) to landowners within/ adjacent to the Greenway on conservation practices, such as rain gardens, freedom lawns (no chemical treatments), rain barrels, compost bins, invasive species management, etc.

Turtle Creek Greenway Plan




Goal #3: Raise public awareness and encourage stewardship of the valuable natural resources present within the Turtle Creek Greenway.

Develop an educational program to teach users how to be good land stewards while utilizing the greenway system.




- #3.5  Encourage a "carry-in, carry-out" ethic to discourage littering.
- #3.5  Educate users on the "Leave No Trace Principles of Outdoor Ethics" (<http://www.lnt.org/index.php>).
- #3.5  Post signs requiring dog owners to use leashes on their pets at all times and to pick up and properly dispose of pet wastes.

- #3.6 Encourage landowners to develop a backyard wildlife habitat program, such as the National Wildlife Federation and Audubon Society of Western PA programs.

Work with local water treatment facilities and water suppliers to educate community residents about common point and non-point sources of pollution within the greenway and associated threats to the public water supply, how to report point source violations, and how to research permit information.

- #3.7  Educational flyers can be created and included with monthly bills.
- #3.7  Establish partnerships between the TCWA and water suppliers/treatment facilities to offer educational programs.
- #3.7  Provide an interpretative sign along the trail (once developed) outside the location of the treatment plants within the project area.

Hold semi-annual Greenway events to encourage community involvement that incorporate volunteer activities with social networking.

- #3.8  Potential events can include:
 - ⇒ Trail maintenance events in local parks/trail systems
 - ⇒ Litter clean-up
 - ⇒ Tree/plant plantings
 - ⇒ Invasive species removal
 - ⇒ Hikes/walks that educate participants about conservation activities
 - ⇒ Turtle Creek Greenway Fun Run/Walk
- #3.8  Promote these events through the Turtle Creek Watershed website and Turtle Creek Greenway website, if created.
- #3.8  Utilize Pittsburgh Cyclist Group as a model to engage the public and obtain volunteers for events by incorporating social events in addition to volunteer activities.

- #3.9 Partner with local school districts to offer service projects within the Greenway that help students fulfill their Community Service graduation requirement.

- #3.10 Develop a Turtle Creek Greenway Newsletter that is published on a semi-annual basis (can be an online newsletter).

- #3.11 Update the Turtle Creek Watershed Association website.

- #3.12 Create and maintain a database of community organizations and volunteers to use as a list-serve for upcoming events, clean-ups, projects, etc. related to the Greenway.

Goal #4: Enhance the Turtle Creek Greenway by offering additional recreational opportunities.

	<p>Organize a Committee to formally meet with the TCIRR to discuss trail options and negotiate acquisition of the railroad corridor and develop a walking/biking trail that connects to the Westmoreland Heritage Trail.</p> <ul style="list-style-type: none"> 🌲 Trail signs needed at all road crossings <ul style="list-style-type: none"> ⇒ Dangerous sight distance at Murray/Trafford Road crossing
#4.1	<ul style="list-style-type: none"> 🌲 Replace decking on railroad bridges 🌲 Develop trailheads <ul style="list-style-type: none"> ⇒ B-Y Park ⇒ Duff Park ⇒ Murrysville Community Building or at Lillian Avenue ⇒ Saunders Station Road
#4.2	<p>If a Rails-to-Trails is not an option, partner with the TCIRR to develop a Rail-with-Trail in areas where feasible.</p> <ul style="list-style-type: none"> 🌲 Highest potential is between B-Y Park and Saunders Station Road <ul style="list-style-type: none"> ⇒ Pinch points (noted on Map 4.1)
#4.3	<p>Work with the PA Fish & Boat Commission to designate fishing areas and create habitat enhancement structures along Turtle Creek within the greenway.</p> <ul style="list-style-type: none"> 🌲 Potential areas noted on Map 4.1
#4.4	<p>Implement the Monroeville Inter-Park Trail System.</p> <ul style="list-style-type: none"> 🌲 Connects local parks to the Greenway
#4.5	<p>Complete the Murrysville Trail Network Mapping and adopt it as an amendment to the comprehensive plan.</p>
#4.6	<p>Formalize the trail connection from the Duff Park Trail Network to the Greenway</p> <ul style="list-style-type: none"> 🌲 Informal trail connects near Elite business on US 22
#4.7	<p>Expand the trail system in Duff Park to connect to the trails within Pleasant Valley Park.</p>
#4.8	<p>Develop a network of hiking trails within the Greenway in locations noted on Map 4.1</p> <ul style="list-style-type: none"> 🌲 Within public property 🌲 Through agreements with property owners (i.e. parcel TB_5, Mon_5, etc.) 🌲 Connect to residential neighborhoods <ul style="list-style-type: none"> ⇒ One potential area near the Brickyard (noted on Map 4.1) in Penn Township
#4.9	<p>Establish passive recreation areas, including picnic areas and benches, within the Greenway.</p> <ul style="list-style-type: none"> 🌲 Potential locations noted on Map 4.1

Turtle Creek Greenway Plan

Goal #5: Develop a prioritized plan to secure land within the Greenway through fee simple, conservation easements, and/or donations to be used for trail development and the protection of green space and natural resources.

	Maintain an updated database of landowners within the Greenway.
#5.1	<ul style="list-style-type: none"> Include information such as owner name, contact information, existing land use, future development plans (if any), land value, etc.
	Prioritize the list on an annual or semi-annual basis.
#5.2	<ul style="list-style-type: none"> Utilize the criteria established in the Turtle Creek Greenways Plan. Conduct field views regularly to update information at the parcel level. Coordinate with Allegheny Land Trust and Westmoreland Land Trust to ensure consistency with their high priority areas, such as the high priority areas identified in the ALT's GREENPRINT
#5.3	Partner with Allegheny Land Trust and Westmoreland Land Trust to raise money and acquire high priority properties, as noted on Maps 3.3A, Map 3.3B, Map 3.3C, and Map 3.3D.
#5.4	Acquire the parcels adjacent to Duff Park to expand the park and provide a continuous greenway to Pleasant Valley Park, as shown on Map 4.2.
#5.5	Preserve the land within the identified Simpson Run BDA by coordinating with the landowners and encouraging conservation easements, land donations, and conservation-based land management practices (i.e. sustainable timbering, freedom lawns, wildlife enhancements, etc.)
#5.6	Publicize programs such as Clean and Green and Agricultural Security Areas (ASA) to encourage landowners to preserve their land.
#5.7	Encourage ASA participants to preserve their farmland permanently through an agricultural conservation easement.
#5.8	Establish a municipal-level conservation fund supported through a dedicated percent from the annual local real estate revenues to purchase land for conservation.
#5.9	<p>Contact the landowners on an annual/semi-annual basis to determine interest in land donations and/or conservation easements to permanently protect riparian areas, forested slopes, and land within the greenway.</p> <ul style="list-style-type: none"> Include information on the benefits of donation, conservation easements, etc.
#5.10	<p>Seek grant funding for the acquisition of high priority lands.</p> <ul style="list-style-type: none"> Utilize the value of donated lands as a match for new acquisition.
#5.11	<p>Organize an annual fund drive to secure donations to purchase high priority lands.</p> <ul style="list-style-type: none"> If no other organization exists, develop a "Friends of the Turtle Creek Greenway" 501(c)3 nonprofit organization to accept donations on behalf of the greenway.
#5.12	<p>Develop agreements with property owners who wish to retain ownership that outlines a management plan for resource conservation.</p> <ul style="list-style-type: none"> Agreement should establish a "management" entity, activities to be permitted, etc.

Goal #6: Utilize the Greenway as an educational resource for school children and the general public alike.

#6.1	<p>Develop partnerships between schools and local environmental groups to utilize the greenway as environmental education opportunity.</p> <ul style="list-style-type: none"> 🌲 i.e. PRC, TCWA, WPC, Penn State Cooperative Extension, and Penn Trafford School District, Gateway School District, and Franklin Regional School District
#6.2	<p>Continue to work with Franklin Regional to utilize Duff Park as an “outdoor classroom.”</p>
#6.3	<p>Develop partnerships with Penn Trafford to use B-Y Park and the Greenway as an “outdoor classroom.”</p>
#6.4	<p>Develop partnerships with Gateway School District to utilize the Greenway and Monroeville’s parks as an “outdoor classroom.”</p>
#6.5	<p>Place interpretive signs throughout the Greenway. Potential locations are noted on Map 4.1.</p> <ul style="list-style-type: none"> 🌲 Historic/Cultural sites <ul style="list-style-type: none"> ⇒ Brickyard in Monroeville ⇒ History of TCIRR 🌲 Erosion Control/Streambank Restoration <ul style="list-style-type: none"> ⇒ Areas in need of restoration ⇒ Locations where restoration activities have occurred 🌲 Invasive Species <ul style="list-style-type: none"> ⇒ Duff Park: highlight as success story of eradication of invasive species ⇒ Areas of successful eradication in the Greenway ⇒ Areas of high importance to stop the spreading 🌲 Geology <ul style="list-style-type: none"> ⇒ Rock outcrops 🌲 Biology <ul style="list-style-type: none"> ⇒ Wetland areas ⇒ Simpson Run BDA ⇒ Locations of unique plant/animal species 🌲 Entrances to the “gorge”
#6.6	<p>Promote the greenway as an environmental resource to educate the general public about local conservation and environmental issues specific to the Turtle Creek Watershed and Greenway. Site can also be utilized by local school districts.</p>
#6.7	<p>Hold an annual wildflower walk with a botanist or naturalist in Duff Park in the spring time.</p> <ul style="list-style-type: none"> 🌲 Partner with local organizations to find a qualified botanist/naturalist 🌲 Designate a section of the park as a Wildflower Reserve <ul style="list-style-type: none"> ⇒ Utilize Raccoon Creek State Park’s Wildflower reserve and activities/programs as a model
#6.8	<p>Partner with Westmoreland Conservancy and Friends of Murrysville Parks to promote the use of local parks and the Greenway for photography, wildlife watching, hiking, and other outdoor leisure activities.</p>

Turtle Creek Greenway Plan

Goal #7: Promote the Greenway as a destination within and throughout the region to help the local communities realize economic benefits through ecotourism.


- | | |
|------|---|
| #7.1 | Develop a logo for the Turtle Creek Greenway and use on all signage, publications, and advertisements. |
| #7.2 | Develop wayfinding signs that direct visitors to public access areas along the Turtle Creek Greenway. |
| #7.3 | Develop a pamphlet promoting the Turtle Creek Greenway. <ul style="list-style-type: none">🌲 Get local businesses to sponsor/advertise🌲 Distribute through municipalities, tourism organizations, etc. |
| #7.4 | Develop a website for the Turtle Creek Greenway that contains trail mapping, user information, and recreational guidance for the area (i.e. fishing, kayaking, hunting, picnicking, trails, lodging, restaurants, etc.). <ul style="list-style-type: none">🌲 Utilize the Turtle Creek Gorge Facebook site |
| #7.5 | Include either a link to the Greenway's website or include information on municipal websites for the Turtle Creek Greenway. |
| #7.6 | Update municipal websites to include more information about the local parks and the amenities and recreational opportunities they provide. |

Section D > Action Plan

Table 4.2: High Priority Management Strategies contains the high priority strategies that once implemented, will provide public access, conserve additional land, and/or address immediate environmental concerns. Where possible, responsible parties, organizations to involve, and opinions of probable cost are identified to assist in implementation.

Map 4.1: Implementation Plan depicts locations of high priority projects and potential opportunities for recreation and conservation enhancement projects. Many projects identified are on private property or are dependent upon a trail being constructed through the Greenway. This map is intended to serve as a long-term plan for potential implementation projects once a trail is developed. Private landowners will need to be contacted as needed to determine their interest in implementing these projects.

Table 4.2: High Priority Management Strategies

<p>Strategy #1: Organize a Committee to formally meet with the TCIRR to discuss trail options and negotiate acquisition.</p> <p><i>The majority of management strategies recommended for the Turtle Creek Greenway are dependent on public access being provided. If the railroad corridor can be acquired, a pedestrian/bicycle trail can be developed, with additional recreation enhancements as shown on Map 4.1. Long-term, there is potential for the trail to connect to the Westmoreland Heritage Trail.</i></p>	
	
<i>Responsible Party</i>	Westmoreland County Department of Parks and Recreation
<i>Organizations to Involve</i>	Allegheny and Westmoreland County Economic Development organizations; Allegheny County Parks and Recreation Department; Municipalities, RTC
<i>Opinion of Probable Cost</i>	<p>Acquisition of Railroad: approx. \$900,000;</p> <p>Design: approx. \$60,000—\$100,000</p> <p>Construction: approx. \$250,000—\$300,000 per mile plus \$250,000—\$300,000 per structure (lower if prefabricated bridges are used). Note: the cost per mile is higher than the average \$200,000 per mile due to the extensive drainage issues and stormwater problems in the Corridor.</p>

Strategy #2: Begin negotiations with the property owners in the Greenway who indicated an interest in either a donation or conservation easement.

A number of landowners noted interest in either donating their land or a conservation easement during the Greenway Plan, as shown on Map 4.1. In particular, funding for the proposed Duff Park expansion should be pursued. DCNR provides funding for 50% of acquisition costs for parks and open space preservation.

Key Properties	Penn_4, Penn_5, Penn_6, Penn_7 Mon_7, Mon_9, Mon_12, Mon_21, Murry_6, Murry_9, Murry_18, Murry_24, Murry_29, Murry_31, Murry_32
Responsible Party	Westmoreland Land Trust, Allegheny Land Trust
Organizations to Involve	Municipalities, RTC, TCWA
Opinion of Probable Cost	Properties and/or conservation easements should be pursued as donations. Associated costs may include assessment fees.

Strategy #3: Maintain a database of community organizations and volunteers to use as a list-serve for future projects.

Many people expressed interest in the Greenway during the planning process. A database should be maintained and as future projects arise, these people can be contacted to volunteer and/or attend events.

Responsible Party	Unknown—possibly RTC, TCWA,
Organizations to Involve	All local organizations, TCGP stakeholders, public meeting attendees, landowners, volunteers
Opinion of Probable Cost	No cost; volunteer time required to maintain updated database

Strategy #4: Conduct water quality and fish studies on the tributaries to Turtle Creek to utilize as baseline data for pollution prevention and stormwater management plans.

With recent spills in Turtle Creek, water quality and fish studies need to be conducted immediately.

Responsible Party	TCWA
Organizations to Involve	PFBC, Volunteers
Opinion of Probable Cost	\$5,000—\$10,000



Strategy #5: Conduct a wetland identification and delineation study to verify wetland locations and determine functionality of these areas.

Map 4.1 notes locations of potential wetlands; however, these should be verified through an official identification and delineation study.



Responsible Party TCWA

Organizations to Involve Volunteers

Opinion of Probable Cost \$10,000

Strategy #6: Lobby federal and state agencies to complete a restoration project along Turtle Creek, similar to the Nine Mile Run project in Pittsburgh.

Many communities in the Turtle Creek Watershed, including those outside of this plan, experience heavy flooding. The TCWA has been lobbying for a stream restoration project; however, to date funding has not been available.

Responsible Party TCWA

Organizations to Involve Army Corps of Engineers, PA DEP, Municipalities, legislators

Opinion of Probable Cost Unknown—the Nine Mile Run Project was estimated at \$7-8 million.

Strategy #7: Implement fluvial geomorphic-based restoration approaches such as Natural Stream Design along Turtle Creek.

This project needs to consider the future stream channel, not the existing one, in order to achieve channel and streambank stability, restore sediment transport, reduce erosion and sedimentation, and improve water quality and aquatic habitat. High priority areas are noted on Map 4.1; coordination with landowners would be needed.

Responsible Party Westmoreland County Conservation District, Property Owners

Organizations to Involve TCWA, Municipalities

Opinion of Probable Cost Unknown—dependent on project scope



Strategy #8: Update the Turtle Creek Watershed Stormwater Management Plan (Act 167) and municipal stormwater management ordinances to be in compliance.

Stormwater was identified as one of the biggest issues facing the Turtle Creek Greenway. The Turtle Creek Watershed’s Stormwater Management Plan was last completed in 1991. Although the municipalities have incorporated PA DEP’s best management practices (BMP) in their stormwater management ordinances, it is recommended that once Allegheny County and Westmoreland County complete Phase II of their Act 167 plans, the municipalities need to update their ordinances accordingly.



<i>Responsible Party</i>	Allegheny County, Westmoreland County
<i>Organizations to Involve</i>	TCWA, PA DEP, Westmoreland Conservation District, Allegheny County Conservation District
<i>Opinion of Probable Cost</i>	\$10,000—\$20,000 per municipality

Strategy #9: Implement a rain garden and rain barrel program that targets nearby residential neighborhoods to help address stormwater issues within the Greenway.

A potential target area is identified on Map 4.1 in Murrysville near Meadowbrook Road/Clawson Drive.

<i>Responsible Party</i>	Westmoreland County Conservation District
<i>Organizations to Involve</i>	TCWA, Municipalities, Homeowners, Three Rivers Rain Garden Alliance, Audubon Society of Western Pennsylvania



Opinion of Probable Cost Rain gardens range from \$3 to \$5 per square foot. Rain barrels could be provided free to homeowners in study area, \$100 within the Watershed and \$275 outside the Watershed.

<http://www.ninemilerun.org/rain-barrel-initiative/>



Strategy #10: Protect and enhance the Simpson Run BDA.

Much of the Simpson Run BDA is under private ownership, as shown on Map 4.1, and coordination with the landowners would be needed. Potential enhancements could include interpretive signage, low impact trails, picnic areas, etc.



Responsible Party County Conservation Districts, Land Trusts

Organizations to Involve TCWA, Municipalities, Landowners

Opinion of Probable Cost Conservation easements or partnership agreements should be worked out with the landowners. Projects vary in scope and cost but could be done mostly by volunteers and/or local nonprofit organizations.

Strategy #11: Implement a forest management plan and vegetation management plan to eradicate invasive plant species and allow native vegetation to grow and thrive.

Friends of Murrysville Parks has a plan in place that should be used as a model for invasive plant species management. While Japanese knotweed is found throughout much of the Greenway, high priority areas to target eradication are shown on Map 4.1.



Responsible Party Municipalities (on public lands), Long-term: if a trail is developed, the trail organization should take responsibility throughout the Greenway

Organizations to Involve Conservation Districts, Landowners

Opinion of Probable Cost Cornerstone (EPA 42750-60-1381) active ingredient glyphosate 41% (2.5 gallons, approx. \$45); Round up Concentrate Plus (EPA 71995-29) active ingredient glyphosate 18% (16 oz, approx. \$20); Volunteers can provide labor

Turtle Creek Greenway Plan

Strategy #12: Organize semi-annual clean-ups along the Turtle Creek Greenway to address areas of litter and illegal dumping.

As much of the Greenway is under private ownership, coordination with landowners would be needed. High priority areas to target clean-ups are shown on Map 4.1.



<i>Responsible Party</i>	TCWA, Municipalities, Landowners
<i>Organizations to Involve</i>	Local Sportsmen’s Associations, Conservation Districts, PA CleanWays Affiliates (Allegheny CleanWays & Westmoreland Cleanways)
<i>Opinion of Probable Cost</i>	The approximate removal cost per ton of trash is between \$800 and \$1,000. Volunteer time required to organize/coordinate clean-ups

Section E > What If We Do Nothing?

—By Diane Selvaggio, Executive Director of the Turtle Creek Watershed Association

“Greenways and trails across Pennsylvania and other states have repeatedly demonstrated a variety of advantages for their communities. The same holds true for our area. We’ve seen the potential for the Turtle Creek Greenway to become a beautiful place for people to enjoy outdoor recreation close to home – very important as national attention is centered on health and fitness.



We’ve seen the potential boost to the local economy for small local businesses from an expanded patron base. We’ve seen the potential for local communities to become more appealing places to live and work, bringing increased property values for land near the greenway.



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Consequently, many people will find the idea of a greenway along Turtle Creek a very good one. Some won't have any interest one way or another. And others will feel it is a complete waste of money and effort – after all, we in this region have heard for decades the mantra: "It's either the economy or the environment, but not both," often never questioning its validity.

Because of that underlying attitude, anything "green" is seen as rather frivolous by many regional decision-makers – a waste of money or resources. Wasting money in this time of economic hardship is something few of us can abide, so there may be adequate support to consider halting this project.

The question then becomes, "What if we do nothing?"

For anyone who has walked along the proposed greenway path, or for anyone living near any of our local streams, several answers to that question are starkly apparent. In addition to losing the proven benefits to local communities and the local economy that a greenway brings, the Turtle Creek valley shows that we are already spending a lot of tax dollars and private dollars to very ineffectively cope with our present, and rapidly growing, stormwater runoff problems.

This is an issue fundamentally about the money.

This is about how the greenway can serve as a community focal point to solve some very expensive problems that a few of us pay for directly, but all of us pay for with our tax dollars, our utility bills, and our insurance premiums.



Conventional practices focus upon rainfall as a waste product that needs to be removed from a developed site as fast as possible. Little consideration is given to what happens downstream when all that water hits a stream. When only a small percentage of land is developed this way, the problems are small. But as more land is developed, the problems grow – becoming chronic and severe.

Small storms now cause damage where none occurred historically. Someone pays for that. Damage from every large storm demands that hundreds of thousands of local, county, and state tax dollars come out of already burdened government budgets. These are our tax dollars.

While flooding is a natural process, there are also natural systems that mitigate any damaging effects. Conventional development and stormwater management practices damage these mitigating systems, referred to as “natural infrastructure,” thus forcing destructive flooding events. Progressive practices recognize the low cost/high performance capabilities of natural infrastructure and put that to good use to reduce flood potential. By valuing these low-impact practices and the improvements they could make in every



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community across the Turtle Creek watershed, we can implement and retro-fit them to reduce the damage we sustain. We can adopt them all the way from the backyard level up to the regional level.



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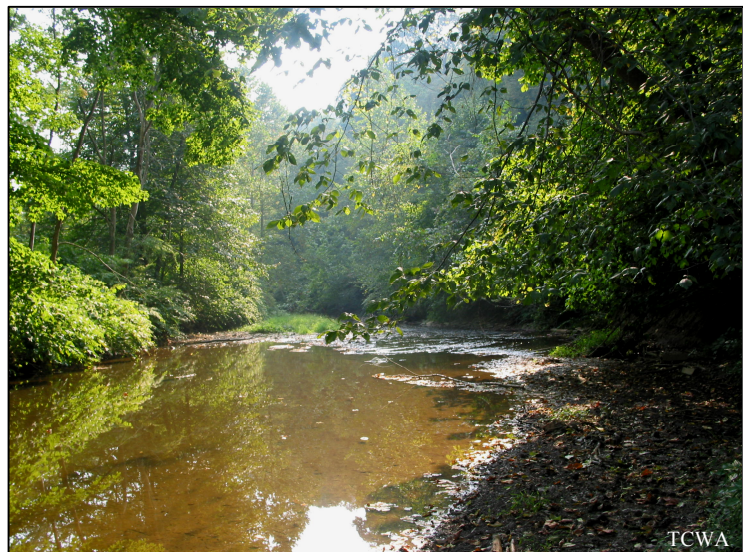
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Whether we do that to reduce tax dollar and private dollar expenses, to protect the quality of our water supplies, or to preserve the Turtle Creek Greenway as a community asset, all of us will see the benefits.

So, if we do nothing, the damages and their associated costs will continue to climb. But, if we pursue this project, then we will achieve a great deal more than just a greenway. Not a bad bargain!"



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