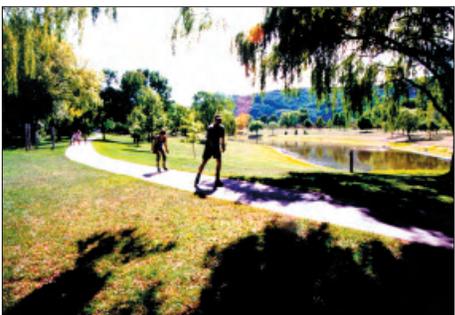


Binghamton Metropolitan Greenway Study



*Trail Master Plans, Design
Guidelines and Implementation
Strategies for Riverbank
Trail Development*

December 6, 1999



Prepared for:
Binghamton Metropolitan
Transportation Study

Submitted by:
Trowbridge & Wolf Landscape Architects
Stantec Consulting LTD
Bicycle Federation of America

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Members of the Binghamton Metropolitan Transportation Study’s Policy and Planning Committees were instrumental in providing valuable information and insightful review of the Greenway Study. Committee members are as follows:

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- John Brizzell
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- Harold Brown
Federal Highway Administration
- Peter White
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- Letitia Thompson
Federal Transit Administration

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NYSDOT Region 6 Planning & Program Manager

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Broome County Aviation Commissioner
- Robert Augenstern
Director, STERPDB
- Robert Moppert
Empire State Development
- Clara Douglas
Federal Transit Administration

Binghamton Metropolitan Transportation Study Staff

Steven Gayle, Executive Director

Scott Reigle, Transportation Planner and Greenway Study Project Manager

Consultant Team

Trowbridge & Wolf Landscape Architects and Planners

Peter Trowbridge, Principal

Richard Manning, Project Manager

Lisa Conner, Project Planner

Michele Wurm, Project Assistant

Margot Chiuten, Project Assistant

Stantec Consulting LTD

Norma Moores, Project Transportation Engineer

Bicycle Federation of America

Bruce Burgess, Technical Consultant

Executive Summary

“Many people equate walking and biking trails with quality of life.”

- Richard Lutovsky, President
Broome County Chamber of Commerce

There is a renewed interest in improving public access to the Susquehanna and Chenango Rivers the enhance quality of life. The development of riverbank trails is one of the best ways to improve river access. Successful projects, like the trails in Otsiningo Park, have demonstrated their popularity.

The purpose of the Binghamton Metropolitan Greenway Study is to determine the feasibility of developing a network of riverbank trails. Thirteen trail master plans are identified in the study. The trail master plans are comprised primarily of off-road trails, supplemented with on-road bikeways and sidewalk linkages where required. The Binghamtom Metropolitan Bicycle Route System provides regional connections between individual trails. Information on trail route selection and design, construction cost, implementation strategies, operations and management are provided.

Implementing the greenway plan will require a sustained effort for the next ten to twenty years - a partnership between BMTS, local government organizations, the private sector, and the public. Fortunately, funding opportunities for trail construction have never been better. Grant applications for Transportation Enhancement Funds (TEP) to construct the Otsiningo Park Trail Extension and the Vestal Rail have been submitted and officials are confident that these projects will be constructed during the next two years.

Other proposed trail projects should be prioritized for future funding programs. New York State funding programs request grant applications on an annual basis, typically in late summer. The next round for federal Transportation Enhancement Program grants will likely be in 2-3 years. Preparation for the next funding cycles can include acquiring or negotiating easements for trail corridors, developing more detailed design and engineering studies, revising cost estimates, and, finally, the preparation of grant applications.

The Binghamton Metropolitan Greenway Study represents the beginning of the comprehensive riverbank planning required to improve public access to the Susquehanna and Chenango Rivers. Broome County should consider preparing a Local Waterfront Revitalization Plan (LWRP), like the plan recently completed in Tioga County. The LWRP will broaden the scope of riverbank planning to include such issues as trail development, boating and fishing, water quality, and waterfront development. Funds for the preparation of an LWRP are available from the Department of State.

Private sector involvement in advocating and fundraising for riverbank trail development should be encouraged. A ‘friends of riverbank trails’ organization could be developed to coordinate private sector and community involvement in the process, based on the Allegany River Valley Trail Blazer model described in Chapter

Chapter One

Introduction

Background

“The Susquehanna and Chenango Rivers are emerging as an essential quality of life resource after a century of industrialization, arteries that run to the heart of the local economy. Officials, business people, naturalists, hikers and cyclists agree the rivers are a nexus of recreation, entrepreneurship and community life.”

- From Press and Sun Bulletin
“*Rediscovering Our Rivers*”
August 29, 1999

View of the Susquehanna River looking east from Front Street in Owego. The Susquehanna and Chenango River corridors are the focus of BMTS' Greenway Study.



The Susquehanna and Chenango Rivers are the Binghamton region’s most important natural resource, giving the region its unique sense of place. The rivers attracted Native Americans and early European settlers to the area, providing important transportation routes and energy to fuel industrial development. The main regional population centers are located in the Susquehanna and Chenango River valleys. The rivers were important settings for recreation during the 19th and early 20th centuries. However, visual and physical access to the rivers has been, to a large degree, severed by industrial development, an extensive network of flood control walls and levees, and the construction of interstate highway and roads.

The community’s relationship with its rivers has come full circle in the 20th century. In 1911, noted urban planner Charles Mulford Robinson prepared *Better Binghamton* for the Binghamton Mercantile Association. He recommended the development of a riverwalk along the Susquehanna, among other improvements to the city’s streets, parks and public spaces, to make Binghamton more attractive to business and residents. ¹

However, the community’s relationship to its rivers would change dramatically after the drastic floods of 1935 and 1936. Fifty people died and millions of dollars in property damage occurred. President Franklin D. Roosevelt toured the area in 1936. The public demanded protection from the rivers and construction of flood control walls and levees was completed by the early 1940’s. With the river effectively walled off from the community and increased industrial development along its banks, water quality deteriorated dramatically through the 1960’s. The Federal Government’s Clean Water Act, passed in 1972, began a slow but

View of Memorial Park on the south bank of the Susquehanna River in Binghamton. Flood walls block the view of the river from the park and street.



1. Press and Sun Bulletin, *Rediscovering Our Rivers: Road to Ruin and Salvation*, August 29, 1999, p. 7a.

steady improvement in river water quality. During the 1970's, improved water quality and a heightened interest in the environment brought renewed interest in the rivers for recreation. Many plans and some notable projects were completed during the 1970's and 1980's towards this end:

- The "Recreation, Open Spaces and Riverbanks Plan", prepared as part of the 1972 Southern Tier East Regional Plan, identified numerous opportunities for riverbank recreational development and planted the seeds for a comprehensive approach to riverbank recreation and trail development.
- Otsiningo Park, constructed in 1976, has more than two miles of multi-use trails.
- The Promenade was constructed on the east bank of the Chenango River bringing a riverfront walkway and hotel development to downtown Binghamton.
- A bikeway study completed in 1979 for BMTS, the "Binghamton Metropolitan Bikeway System: A Plan and Program", identified the riverbanks as a location for a continuous network of bike paths.
- The City of Binghamton commissioned the Chenango River West Bank Project which developed detailed plans and cost estimates for a series of terraced walkways and overlooks on the river between the Visitors' Center and Clinton Street.

In the 1990's there has been renewed interest in improving river access to enhance community development and quality of life. Successful projects such as Otsiningo Park and the Chugnut Trail have shown that riverbank trails are a valued and heavily-used recreational amenity. Proposals to extend the Otsiningo Trail north to the Town of Chenango's Riverfront Park and to construct the Vestal Rail Trail demonstrate an interest in extending riverbank trail development.

Trails in Otsiningo Park are heavily used by residents and visitors to the regions.



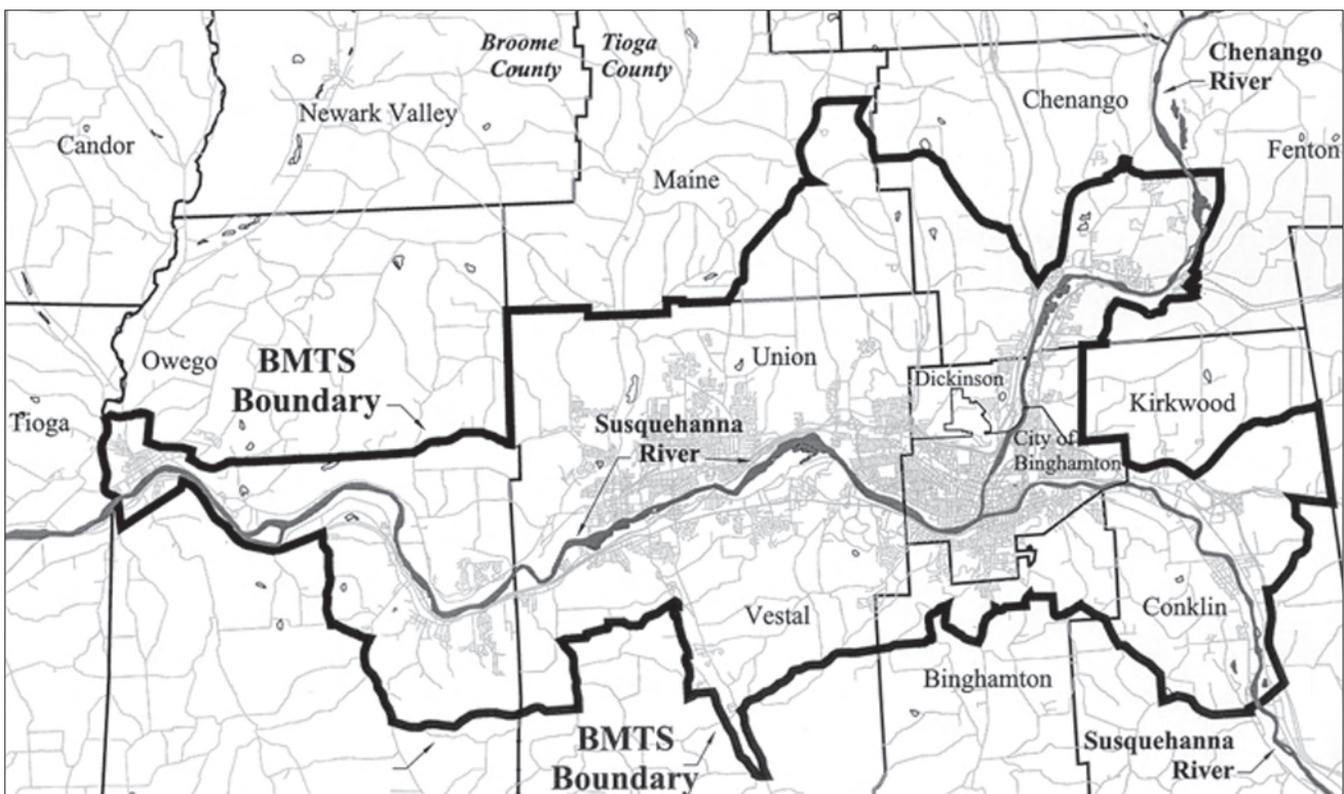
Funding opportunities for constructing trails have never been better. Passage of the federal Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 mandated that bicycle and pedestrian transportation be included in the development of metropolitan transportation plans and provided increased funding opportunities for trail construction. The Transportation Equity Act for the 21st Century (TEA 21) extends this mandate and provides increased funding opportunities.

In 1996, BMTS adopted the Pedestrian and Bicycle Plan. The plan described a ‘core system of bicycle routes’, a continuous network of on-road routes linking important destinations in the region. The Binghamton Metropolitan Bicycle Route System was signed in 1998. Follow-up improvements to signed routes, such as striping, geometric modifications and enhanced maintenance, will be implemented over time as road resurfacing and reconstruction projects occur. Chapter 7: Action Plan and Implementation Activities identified the preparation of a ‘plan for a network of riverbank/greenway trails’ as a medium priority/mid-range action. The preparation of the plan was included in the approved 1998-99 Unified Planning Work Program. BMTS prepared a request for proposals, conducted interviews and selected the consultant team in November, 1998. The team was comprised of Trowbridge & Wolf Landscape Architects, the Stantec Consulting, LTD. and the Bicycle Federation of America.

The Greenways Study focuses on the riverbanks along more than 20 miles of the Susquehanna and Chenango Rivers.

Greenway Study Goals and Process

The purpose of the greenway study is to determine the feasibility of constructing a greenway system of pedestrian and multi-use trails along the banks of the



Herb Griffith, Broome County Chamber of Commerce, Bruce Burgess, Bicycle Federation of America, and Steven Gayle, BMTS Executive Director at Port Dickin-son Park stop on the van tour.



Chenango and Susquehanna Rivers within the Binghamton metropolitan area. Where riverbank trail development is deemed feasible, recommendations are provided for trail route selection and design. In addition, recommendations for implementation, funding, and operating the trail network are provided. The study process was conducted in four phases:

Phase I: Inventory and Feasibility of Trail Development

The project began with consultant review of previous and existing greenway plans and municipal comprehensive plans for the study area. A two day van tour was then conducted with the consultant team, and BMTS staff and members of BMTS’ planning and policy committees who represent municipalities in the project area. The purpose of the tour was to provide the consultant team an overview of the study area, including existing riverfront recreation facilities and trail development obstacles and opportunities.

The consultant team then prepared a riverbank inventory, documenting park and recreation resources, natural areas, boating facilities, and cultural, historic and tourism resources (See Chapter 2 and Appendix 1). To begin the inventory phase, a series of information gathering meetings were conducted at participating municipalities to review and collect relevant information and discuss trail development opportunities and obstacles. Follow up field work was then conducted to visit and photo document the riverbank resources within the study area.

Summary of Inventory Phase

The results of the inventory phase were presented to the BMTS Planning and Policy Committee on April 15, 1999.

The following draft inventory plans were presented:

- Parks and Recreation Resources
- Natural Resources
- Boating Opportunities
- Cultural, Historic and Tourism Resources

The following principles to guide trail development were outlined:

- Build on and extend the success and momentum of existing or planned multi-use and pedestrian trails.
- Link village centers and residential areas to parks and existing/proposed trail networks.
- Develop walking and multi-use trail loops in existing large riverfront parks and publicly-owned lands.
- Explore the use of abandoned gravel mines for trail development.
- Explore the use of flood control levees and land in NYSDEC flood control easements for trail development (Currently, they are an obstacle due to NYSDEC's restrictive policies regarding their use for trail development).

The following are significant obstacles that limit the potential for trail development in certain riverbank areas:

Privately-owned, residential land contiguous to the river.

Areas where this condition limits the potential for off-road trail development are:

- City of Binghamton – between Boland Park and the Chenango River.
- Town of Owego – Marshland Road area and many areas on the north bank of the Susquehanna River.
- Towns of Kirkwood and Conklin – Many riverside residential and cottage developments.
- Town of Chenango – River Road area

Highway or roadway in close proximity to edge of the river.

The presence of highways and associated access roads is a common feature within the study area. In some cases, highways close to the riverbank may limit the potential for trail development. These include:

- Interstate 88 in Town of Fenton between Chenango Valley High School and Port Crane.
- NY Route 17 (future I-86) between Route 96 Bridge in Owego and the Marshland Road Boat Launch.
- NY Route 434 (Vestal Parkway) between Binghamton University and Washington Street Bridge.
- NY Route 17C (George F. Highway) between River Road and Home Depot.

Individual trail corridors were identified for more detailed study in the next phase

of the project.

Phase 2: Preliminary Greenway Master Plan

The study team conducted extensive field work throughout the study area and prepared preliminary trail master plans for presentation and review at a joint meeting of BMTS' Planning and Policy Committees on June 17, 1999. In addition, Trowbridge & Wolf flew the study area on June 12 to take aerial photographs for analyzing proposed trail corridors and for presentation purposes.

An overall Preliminary Greenway Master Plan and ten trail master plans were presented for discussion at the meeting. Following are the trail master plans that were presented and discussed:

- Village of Owego to The Hickories Trail (4 miles +/-)
- NY Route 17/I-86 Multi-Use Trail (7 miles +/-)
- Town of Union Trails (10 miles +/-)
- Town of Vestal Trails (10 miles +/-)
- Vestal Parkway Trail (3.5 miles +/-)
- City of Binghamton Trails – East Bank and West Bank of the Chenango River and North Bank and South Bank of the Susquehanna River
- Otsiningo Park Trail Network (3 miles +/-)
- Chenango Bridge Trail (2 miles +/-)
- Port Dickinson Park Trail Network (10 miles +/-)
- Schnurbush Park Trail Network (1.5 miles +/-) and Veterans River Park Trail (1 mile +/-)

Phase 3: Final Greenway Master Plan, Cost Estimate and Implementation

The study team conducted follow-up meetings with BMTS Planning Committee members to review and refine preliminary trail plans. This was supplemented with additional field work and analysis to develop the final plans and cost estimates. The presentation of the final greenway master plan, cost estimate, phasing concepts and potential funding sources was conducted on September 2, 1999. See Chapter 3: Greenway Master Plan for maps and detailed descriptions of proposed trails and Chapter 5: Implementation for a description of phasing plans, cost estimates and potential funding sources for trail planning and construction.

Benefits of Developing Riverbank Trails

Riverbank trails are already a valued recreation resource within the study area. Creating a more comprehensive trail network will provide the community with more high-quality recreation opportunities and increased transportation options. Below is an overview of some of the benefits for the community:

Health Benefits

Jan Chytilo of the Broome County Health Department is an advocate for trail development. “We are looking to create an environment that makes it easier to stay healthy. It is easier to become more physically active if you live in an area where everybody else is walking or jogging. It is socially accepted, and it’s easy to do.”

Increasing levels of physical activity and modifying dietary habits are the most effective methods for reducing risk for these chronic diseases. However, research demonstrates that targeting individual behavior is ineffective in reducing the prevalence of cardiovascular disease and obesity. Public health interventions must transform the environment in which disease takes place. The development of trails is a physical change in the environment that can have a positive impact on public health. (See Appendix 5 for more information on the health benefits of trail development in Broome County).

Recreation Benefits

Numerous public facilities, including parks, trails, boat launches, nature areas, and fishing access sites have been developed along the rivers in the study area. Where trails have been developed, in existing park facilities, most notably in Otsego and Port Dickinson Parks, they have proven to be among the parks’ most valued resources. Trails are the most inclusive and social of all park features. They invite a broad range of users of all ages, interests and abilities including families with baby carriages and strollers, kids on tricycles or small bikes, pre-teens and teens on skateboards and in-line skates, wheelchair and other mobility-impaired users, joggers, power walkers, birders, and senior citizen walkers.

Park visitors take an afternoon walk on the trail in Otsego Park.



Transportation Benefits

Most of the region's population lives in close proximity to the rivers. Likewise, many significant recreation, cultural and educational facilities are within walking and biking distance of the rivers. This concentration of destinations and residential development along the rivers makes a comprehensive, riverbank trail network a viable transportation choice for residents of the region. For those residents under the age of sixteen, a safe trail and bikeway network can be their only option for independent transportation to school and recreation activities. For those who can drive, a well-designed system of trails can provide a safe, pleasant and environmentally-friendly transportation option to motor vehicle use.

Environmental Benefits

Encouraging greater use of non-motorized travel can decrease traffic congestion and associated automotive emissions. Trail development that increases public access to the riverbanks will stimulate clean-up and increase stewardship of the river environment. Opportunities for enhancing the river corridor environment and for public education will be increased as we turn to the river.

Quality of Life

One person who attended a public meeting regarding the trail commented, "We don't have great theater and five-star restaurants, but we have great terrain. I think the greenway would take advantage of what this community has to offer. We have an attractive landscape, trees and rivers." Many would argue that Binghamton does indeed have great cultural attractions, including a very good opera company, performing arts center and institutes of higher learning. However, few would argue that the region's natural landscape setting, focused around the Susquehanna and Chenango Rivers, is among the area's most important and underutilized assets.

This notion of 'quality of life' is becoming increasingly important to a regions' economic viability. Retaining existing and attracting new business is a challenge for the Binghamton region. Skilled employees have many options in today's job market and have come to expect amenities, such as trails and excellent recreation facilities, as critical in selecting where to live and work. Steven Gayle, BMTS Executive Director, commented after a series of public meetings on the greenway study that "A lot of people have come to us and said, 'This is what our community needs. We have seen this in other communities, and it adds to the quality of life.'"

Chapter Two

Inventory

View of the Susquehanna River from the Chugnut Trail.



Introduction

The first and most important step in planning a regional trail network is to learn about the region. What are the region's most valued natural resources? Where are the preserves and nature education areas where the public can experience and learn about the natural environment? How do fisherman, boaters, and hunters use the river corridors? What attracted settlers to the region and what historic artifacts - buildings, structures, and landscapes - remain that tell the story? What recreation facilities are located in the river corridor?

Two broad themes emerged as the consultant team conducted its inventory re-

search:

1. ***The development of a riverbank trail network may be the best opportunity to once again make the rivers the driving force in the region's economy and quality of life.***

It was the rivers that originally attracted Native American and white settlers to the region. In the 19th and early 20th centuries they were the region's most important asset for both industrial development and recreation. The community's connection to the river was largely severed during the 1940's, 1950's and 1960's. Since the 1970's the rivers have been slowly rediscovered and made accessible to the public. This could change dramatically with the implementation of a few key projects during the next 5 years (See Cornerstone Projects in Chapter 5).

2. ***No city or region in the United States has a stronger historic tradition of providing quality of life amenities to its workforce and the community.***

The idea that an extraordinary quality of life will produce extraordinary workers, as embodied in George Johnson's Square Deal, is far from an out-dated concept. Today communities market their quality of life amenities to attract and retain businesses and their skilled employees. This region can draw on and reinvigorate this unique tradition in its efforts to reinvent itself. Trails and recreation facilities are now recognized as critical components of the quality of life amenities that business and employees expect in their community.

Riverbank Inventory

Inventory maps and information for Parks and Recreation Resources, Natural Resources, Boating Opportunities and Cultural, Historic, and Tourism Resources are included in Appendix 1.

Parks and Recreation Resources

Local and county governments in the study area have developed many attractive and heavily-used park and recreation facilities on the Chenango and Susquehanna Rivers. They form a well spaced array of destinations that can be linked through the development of a riverbank trail network. Park facilities, including parking areas and restrooms, are critical elements of trail infrastructure and often will be the best locations for trail directories and other trailhead facilities.

Existing large park and public facilities in the river corridors include:

- The Hickories (Owego)
- Village of Endicott Recreation Complex (Union)
- Grippen Park (Union)
- Union-Endicott High School (Union)
- Chugnut Trail (Union)
- William Hill Park (Union)

- Harold Moore Park (Vestal)
- Boland Park (Johnson City)
- Otsiningo Park (Dickinson)
- Port Dickinson Park (Dickinson)
- Riverfront Park (Chenango)
- Chenango Valley State Park (outside of study area, but an important regional destination)
- Schnurbush Park (Conklin)
- Veterans River Park (Kirkwood)

Descriptions of these facilities and how they relate to the development of a riverbank trail network are provided in Chapter 3: Trail Master Plans.

Natural Resources

The riverbanks have been heavily impacted by the construction of highways, flood control works, industry and residential neighborhoods throughout the study area. However there are significant remnants of woodland, wetland, swamp forest and floodplain agricultural land that provide important habitat for waterfowl and wildlife. Many of these areas could be made more accessible to residents through the development of a riverbank trail network.

Protected natural areas are primarily located in the Town of Owego. The Waterman Conservation Center overlooks the Susquehanna River and owns hundreds of acres of land including the Brick Pond and Appalachian Marshes and Hiawatha Island. With an active group of volunteers, they take care of many pedestrian nature trails that provide controlled access to these natural areas for birding, education and relaxation. Waterfowl hunting is also very popular in the non-posted, rural sections of the river where there are numerous state-designated wetlands, woodlands and farmland.

Shore fishing, boat fishing and ice fishing are very popular along the Susquehanna and Chenango Rivers. Smallmouth bass and walleye are among the most popular and desirable species. Other fish commonly found in the rivers are northern pike, muskellunge, tiger muskellunge, channel catfish, rockbass, crappie, yellow perch, bullheads, and sunfish. A few fishing hot spots include the mouth of Chenango River, Murphy's Island, Grippen Park, Hiawatha Island, Rock Bottom Dam, Goudey Station Dam, and the mouth of Owego Creek.

Boating Opportunities

There are several boat and cartop launches in the Binghamton Metropolitan Area for motorboats, canoes and kayaks. In Owego, existing boat launches are found at The Hickories and at the south end of Marshland Road. A new boat launch is also planned at the proposed I-86 bridge in Appalachian. The Binghamton University Boathouse is adjacent to the Marshland Road Boat Launch. Crew practice occurs in this section of the Susquehanna. Use of personal watercraft is popular between The Hickories and Hiawatha Island.

A tour boat operates from Marshland Road Boat Launch in the summer, taking visitors to Hiawatha Island and on a tour of the Susquehanna River. The Town of Owego is planning to construct a tourboat landing at the east end of the proposed River Row walkway.

The Town of Union has one boat launch at Grippen Park and two cartop launches. Vestal has a boat launch at Harold Moore Park. Binghamton has boat launches at Rock Bottom Dam and Sandy Beach. Dickinson and Chenango have developed cartop launch facilities for canoes and kayaks. Kirkwood has a boat launch at Veterans River Park.

The navigability of the rivers vary according to season and location. Some areas of the Susquehanna, for example, have lowhead dams that are extremely hazardous to boaters. In other areas, riffles limit boat access to certain areas of the river. The Broome County Department of Parks and Recreation has prepared a map entitled “Your Guide to Broome County Rivers” that locates riffles, dams and launch facilities and is the best guide for boating and river access.

Cultural, Historic and Tourism Resources

The first human settlement in the region was likely between 8,000 and 10,000 years ago. Several Native American settlements were located in the study area including Otsiningo, one of the Iroquois Confederacy’s southern main outposts, Roundtop, and ‘Ah-wa-ga’, near the site of present day Owego. The Chugnut Trail is named after the tribe that settled in the area in the mid-1750’s until the 1779 when it was destroyed by a Sullivan-Clinton campaign. General Clinton marched down the Susquehanna after the village was destroyed and met up with General Spoor’s army. The Town of Union was named to commemorate the joining of these two armies on their march through the Southern Tier.

After the American Revolution, European settlers began to move into the area. William Bingham and Joshua Whitney were among the first settlers in the region and they planned a village at the confluence of the rivers. Washingtonian Hall, on River Road in the Town of Union, was built for an early settler, Amos Patterson, in 1800 and is the oldest existing home in the Town of Union.

The Chenango Canal, completed in 1834, connected Binghamton to the Erie Canal and paved the way for rapid industrial growth. However the Canal’s success was short-lived due to the construction of the railroads in the 1850’s. The canal was closed in 1865. Today, numerous Chenango Canal remnants can be found throughout the region. Their potential for use in trail development is limited, as most of the intact remnants are in private ownership.

The region is still serviced by freight railroad service - the Norfolk Southern Railroad (formerly Conrail). The main line runs from west to east on the north bank of the Susquehanna River through the study area and presents a significant barrier to river access in many areas. Opportunities for development of trails on abandoned railroad rights-of-way are limited primarily to an abandoned rail

bed in Vestal, a portion of which is planned as the Vestal Rail Trail. The Tioga Central RR Station in Owego is still active and offers scenic rides for tourists heading north out of Owego.

The Susquehanna Heritage Area is one of fifteen sites in the New York State Heritage Area System. It includes the historic districts and landmarks of the City of Binghamton and the Villages of Johnson City and Endicott. The regional office is in the Roberson Museum and Science Center at 30 Front Street, which also houses the Binghamton Visitor Center. The Endicott Visitor Center is located in Old Colonial Hall on Lincoln Avenue. Industrial development, progressive labor policies and immigration of workers from Eastern Europe during the late 19th and early 20th centuries are the thematic focus of the Susquehanna Heritage Area.

During this period, Binghamton was an international center for cigar production involving one quarter of the region's work force and generating significant wealth for the region. The founder of the Endicott-Johnson Shoe Company, George F. Johnson, created the 'Square Deal', a partnership between labor and management that provided many benefits to employees and the community. Between 1919 and 1934, Mr. Johnson and his family donated six Allan Herschell carousels to public parks in Binghamton, Union, Johnson City and Endicott with the agreement that they would be free of cost for the public. All six carousels are on the National Register of Historic Places.²

In 1924, Thomas J. Watson, Sr. renamed his time-clock manufacturing company International Business Machines (IBM) and began the rise of this storied international corporation. IBM, like the Endicott-Johnson Shoe Company, was a leader in corporate philanthropy and providing 'quality of life' amenities for its employees and their community. Numerous gold-domed churches found throughout the tri-cities area are reminders of the heavy influx of eastern European immigrants who came to work in the area's booming industrial economy.

The Village of Owego has a very attractive historic district on Front Street along the north banks of the Susquehanna River. The Tioga County Historical Society has its offices on Front Street, west of the village green. Another historic attraction in the Town of Owego is Hiawatha Island in the Susquehanna River. First settled by Native Americans, the Island was a popular, late 19th century resort for the affluent of New York City. Today, the once prominent resort buildings have become ruins and the island is largely revegetated. Accessible only by boat, the island is maintained by the Waterman Conservation Center as a natural area.

Other significant destinations include the region's major educational institutions, Broome Community College and Binghamton University.

Flood Control Levees and Walls

An extensive network of flood control works was constructed after the floods of 1935 and 1936. This network has been supplemented with the construction of

additional structures during the past 50 years. Flood control works include levees, floodwalls, channel improvements, ponding areas, pumping stations, drainage structures, reservoirs, and dams. These works are owned and maintained by the New York State Department of Environmental Conservation (NYSDEC). In some instances, NYSDEC owns the land that is occupied by the flood control works. However, it is more common that NYSDEC has acquired a flood control easement from private or public property holders. According to Section 501.3 of the Official Compilation of Codes, Rules and Regulations of the State of New York, ‘no person shall undertake any regulated activity on flood control lands without having first obtained a permit’. A regulated activity includes “any activity which results in destruction of trees, shrubs and other vegetation, changing any feature of the existing landscape, addition of gutters, sidewalks, driveways, parking lots or spaces...”. Permits for Use of State Maintained Flood Control Land are not granted in New York State for trail development on the top of flood control levees. Town of Union has approached NYSDEC regarding the use of flood control land to extend the Chugnut Trail along the Susquehanna River Flood Control Project. They received permission to construct trails only on the protected side of the levee, where the trail user has no view of the river.

The top of a levee is often ideal for trail development. In the Binghamton area, the top of the levee is typically an eight foot wide grass surface. They sit above the surrounding landscape and offer excellent views of the river. When levees are situated close to residential areas they are frequently used as informal walking trails.

The use of levees for trail development is not unusual in the United States. Town of Union officials and regional NYSDEC staff have toured flood control levee trails in Williamsport, Pennsylvania where asphalt trails were constructed on

Asphalt, multi-use trail on flood control levee in Williamsport, Pennsylvania.



The New York Power Authority has developed a series of dike trails along the St. Lawrence River as part of the Seaway Valley Recreationway.



top of the levees. Trowbridge & Wolf prepared construction documents for a network of dike trails along the St. Lawrence River for the New York Power Authority's Hydro-Electric Power Project. The stone dust trails were constructed in 1997 and are currently in use. The Army Corps of Engineers has cooperated with local and state governments all over the country to develop trails on flood control dikes.

Recommendations in this study have, in some instances, included the use of flood control land for trail development. Trails have been proposed at the toe of the slopes on the protected and unprotected side of levees and walls and, in one instance, on top of a levee (along proposed Chenango River East Bank Trail, west of the Binghamton Plaza and Cheri Lindsey Park).

The Local Flood Damage Ordinance of 1989 was adopted by the municipalities within the study area. It was based on a NYSDEC model ordinance to ensure that local decisions were consistent with FEMA guidelines. Trail, walkways and park facilities are commonly located in the 100 year flood fringe, where water flow is at a much lower velocity than in the 100 year 'floodway'. Permission for use of these 'areas of special flood hazard' must be granted by the local municipality. Filling within the flood fringe to elevate the trail surface above flood levels is allowable, if it can be demonstrated that the flood hazard is not being relocated to another area.

Gravel Mines

Two large gravel operations, one active and one abandoned, are located in the study area. The active mine is located in the Town of Vestal, east of Harold

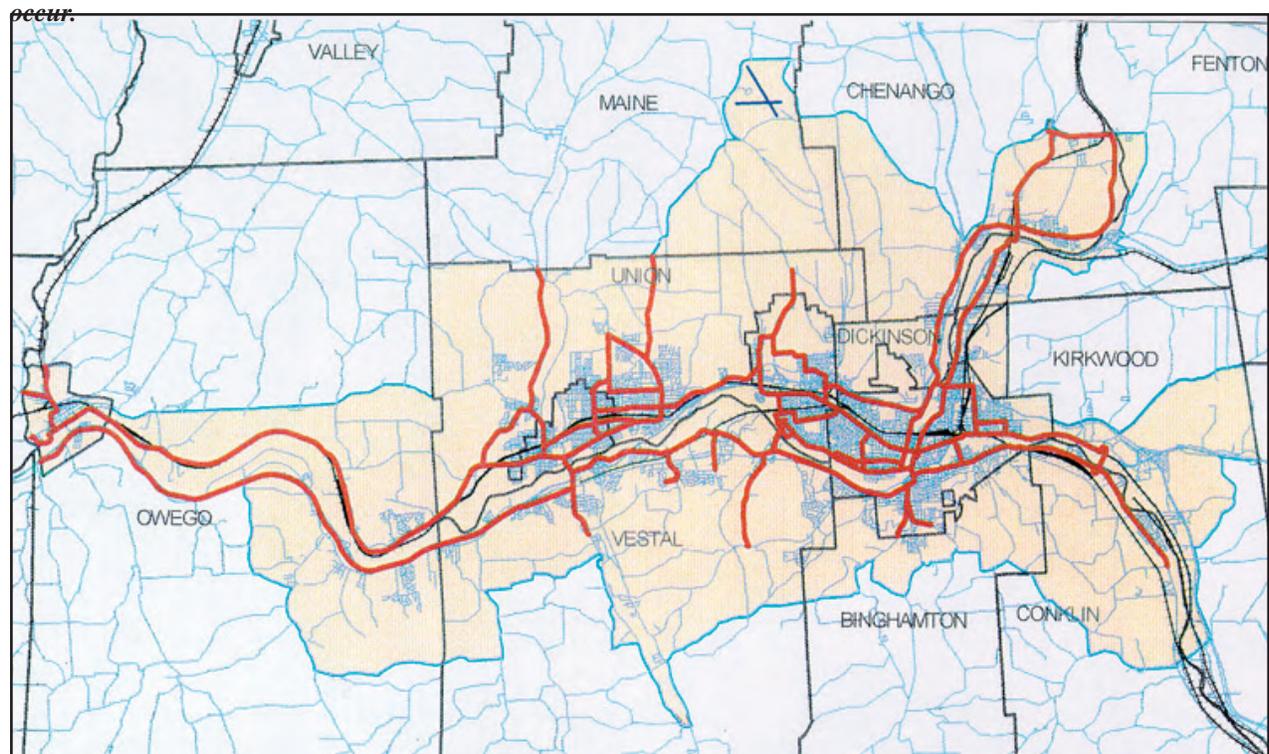
Moore Park. The abandoned mine is north of Port Dickinson Park in the Town of Fenton. Like the flood control works, they present opportunities for trail development, but their use is complicated by state regulatory controls and by being under private ownership. NYSDEC provides permits to landowners for the operation of gravel mines. Included in the permit application is a plan for the reclamation and after use of the property. Enforcement of the reclamation and after use of gravel operations is often a problem for NYSDEC, the local government organization and neighboring property owners.

Long-term strategies for increasing opportunities for trail development on gravel mining sites include strengthening local site plan review processes to encourage active and in-active gravel operations to allow public access to the riverbank. The state, in its permitting process, could encourage or require that operators respond to local, regional and state plans that include riverbank trail development.

Binghamton Metropolitan Bicycle Route System

The Binghamton Metropolitan Bicycle Route System is a signed network of bicycle routes linking key origins and destinations in the BMTS region. The network was outlined in BMTS' 1996 Bicycle and Pedestrian Plan and signing of the system was completed in 1998. Follow-up improvements to signed routes, such as striping, geometric modifications and enhanced maintenance, will be implemented over time as road resurfacing and reconstruction projects occur. The bicycle route system will become an integral component of the proposed greenway system.

Plan of the Binghamton Metropolitan Bicycle Route System. The network of on-road bike routes was signed in 1998. Improvements to the network will be implemented as road resurfacing and reconstruction projects



Chapter Three

Trail Master Plans

The inventory phase of the study identified trail development opportunities and obstacles to the development of riverbank trails. Thirteen individual trail systems are described and mapped. Individual trails are comprised of off-road, multi-use trails and, where necessary, sections of on-road bikeways and pedestrian trails/sidewalks. On-road routes, when included in a trail system, are considered safe and comfortable for inexperienced adult and young bicyclists. The Binghamton Metropolitan Bicycle Route System provides regional connections between the individual trail sections described in this chapter.

The thirteen individual trail systems described in this chapter are:

- Village of Owego to The Hickories Trail
- Route I-86 Trail
- Town of Union Trails
- Town of Vestal Trails
- Vestal Parkway Trail
- City of Binghamton
 - Chenango River West Bank Trail
 - Chenango River East Bank Trail
 - Susquehanna River Trails
- Otsiningo Park Trail Network
- Chenango Bridge Trail
- Port Dickinson Park Trail Network
- Schnurbush Park Trail Network
- Veterans River Park Trail

Village of Owego to The Hickories Trail

Introduction

Owego is a vibrant, historic village with many beautiful buildings in and around the village center. The Hickories is the Town of Owego’s most heavily-used and important recreation facility. Improving bicycle and pedestrian connections between the village center and The Hickories will link village historic resources and retail services to the recreational opportunities at The Hickories. Creating a multi-use trail loop in The Hickories with a linkage along the Susquehanna River to the Treadway Inn and EconoLodge, would extend the recreational opportunities for residents and link visitors to accommodations and restaurants.

The Village of Owego is a charming, historic village. Front Street is BMTS Bike Route 1 and NYSDOT Rike Route 17.



The Hickories is the Town of Owego’s premier park facility, with ballfields, bandshell, camping facilities and picnic pavilions in a scenic location on the Susquehanna River. Creating safe and comfortable trails would be a valued addition to the park.



Route Description

Following are detailed descriptions of trail sections from west to east:

Canal Street/River Street/William Street

Trail follows BMTS Bike Route 1 beginning at the intersection of Main Street (NY Route 17C) and following Canal Street, River Street, and William Street to the intersection of West Front Street. Streets are predominantly quiet residential streets with low traffic volume and attractive views of the Susquehanna River and Owego Creek.

Proposed Improvements

No improvements other than signage are proposed.

Related Opportunities and Enhancements

Tioga County's Local Waterfront Revitalization Plan (LWRP) proposes an Early Settlement Interpretive Display at the intersection Canal and River Streets overlooking the confluence of the Owego Creek and the Susquehanna River.

West Front Street (West of the County Courthouse and Village Green)

West Front Street passes through the Village's historic district passing many fine residences, the Tioga County Historical Society, and Draper Park. Existing sidewalks accommodate pedestrians and relatively low traffic volumes make bicycling safe and comfortable.

Proposed Treatment

No improvements other than signage are proposed.

Related Opportunities and Enhancements

A pedestrian walkway is recommended for Draper Park to pass under the Court Street bridge and tie into the proposed Promenade at Riverow Landing (See East Front Street). Provide trail directory in park.

Court Street Bridge (NY Route 96 over the Susquehanna River) is scheduled to be reconstructed within the next five years. It is a critical linkage in the BMTS Bike Route Network, linking Bike Route 1 and 2. It should be designed with bike lanes and sidewalks. Views of the Village and the aesthetic/historic quality of the bridge are very important to the Village character and should be considered in the design of the bridge.

East Front Street (Courthouse/Village Green to Church Street)

Front Street in the business district is 45' wide with two 10' wide parking lanes and two travel lanes, 12' and 13' wide, and generous sidewalks on both sides.

Proposed Treatment

Front Street could be re-stripped to provide two 8' wide parking lanes, two 4.5' wide bike lanes and two 10' wide travel lanes.

Riverow Landing is a network of terraced walkways on the Susquehanna behind Front Street commercial district. (Sketch courtesy of Haas Landscape Architects).



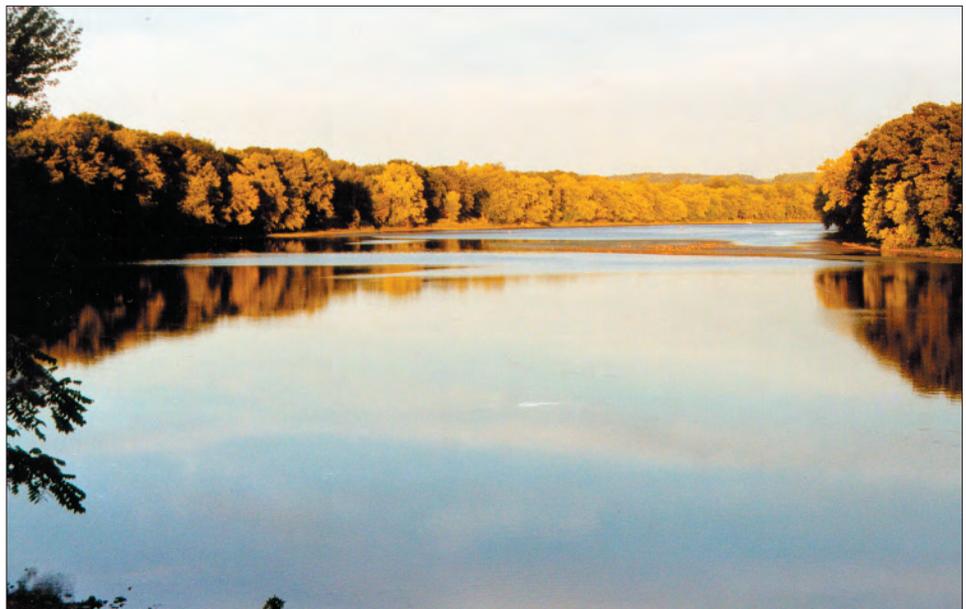
Related Opportunities and Enhancements

The Promenade at Riverow Landing is a proposed pedestrian promenade on the river side of the buildings which face Front Street in the village center. It begins in Draper Park and passes under the Court Street Bridge, behind Front Street buildings, ending at the proposed riverboat landing at the foot of Mayor’s Park. See Tioga County’s Local Waterfront Revitalization Plan for more details.

East Front Street (Church Street to John Street)

Front Street is 35’ wide and curbed with a 3’ paved shoulder on the north side, two 11’ wide travel lanes and a 10’ wide parking lane on the south side. Sidewalk is continuous on the north side and discontinuous on the south.

View of the Susquehanna River looking east from East Front Street.



Proposed Treatment

Front Street could be re-striped to provide a 3.5' wide shoulder on the north, a 10' westbound travel lane, a 13.5' wide eastbound travel lane and an 8' wide parking lane. Gaps in the south sidewalk should be completed. Raise drainage grates to flush with road surface and eventually replace with curb inlets or narrower grates.

Related Opportunities and Enhancements

Create a link to the Brick Pond Marsh parking area and trail network. Eastbound cyclists turn left on John Street, right onto Main Street to Marsh parking area. Westbound cyclists turn right from Front Street onto Fulton Street and right on Main Street to Marsh parking area.

East Front Street/Route 17C (John Street to Exit 65 On-Ramp)

Front Street is 32' wide and curbed with two 3' paved shoulders and two 13' wide travel lanes. There is a 5' wide tree lawn on the south side with a 3.5' wide sidewalk which ends at the village line. On the north side, the roadway is separated from the railroad line by a 22' wide lawn area.

Proposed Treatment

Street should be restriped with two 5' bike lanes and 11' travel lanes. Drainage grates should be raised to flush with pavement and eventually replaced with curb inlets or narrower grates. Continue sidewalk (at 5' width if space allows) east from village line. Extend bike lanes/striped shoulders and sidewalks into 5 lane section of roadway in strip commercial district to The Hickories entry road.

Related Opportunities and Enhancements

Extending the traditional streetscape elements (lighting, planting, furnishings and sidewalks) of the downtown east through the commercial district in the vicinity of Exit 65 will create visual continuity and improve connectivity between the Village center and the commercial district to the east.

Linkage Between Rte. 17C Strip Commercial District and The Hickories

Developing a pedestrian trail from the motels on NY Route 17C to the Hickories would be a valuable amenity for visitors and provide economic benefit to existing services.



Signalized intersections are at the entrance to the Treadway Inn and to the east at the entrance road to The Hickories. Bike Route 1 and State Bike Route 17 continue east on Route 17C on bridge over railroad tracks.

Proposed Treatment

Create trail linkage from signalized intersection through Treadway parking lot to proposed trail to The Hickories between the Susquehanna River and the Treadway and Econolodge. Trail to be extended into the park or tied into The Hickories access road near the bend in the road.

Related Opportunities and Enhancements

River trail should be extended to the west from the Treadway as new commercial development occurs.

The Hickories

The Hickories is a heavily-used Town park on the north bank of the Susquehanna River with camping facilities, bandshell, playing fields and numerous picnic pavilions. Currently park users walk on the existing loop road creating unsafe and potentially dangerous conflicts between motor vehicles and non-motorized users (pedestrians, bicyclists and in-line skaters).

Proposed Treatment

Park users currently walk, cycle and skate on the park's road network. Proposals to modify the road network and create an off-road trail network, like trails in Otsiningo Park, would enhance park safety and increase use.

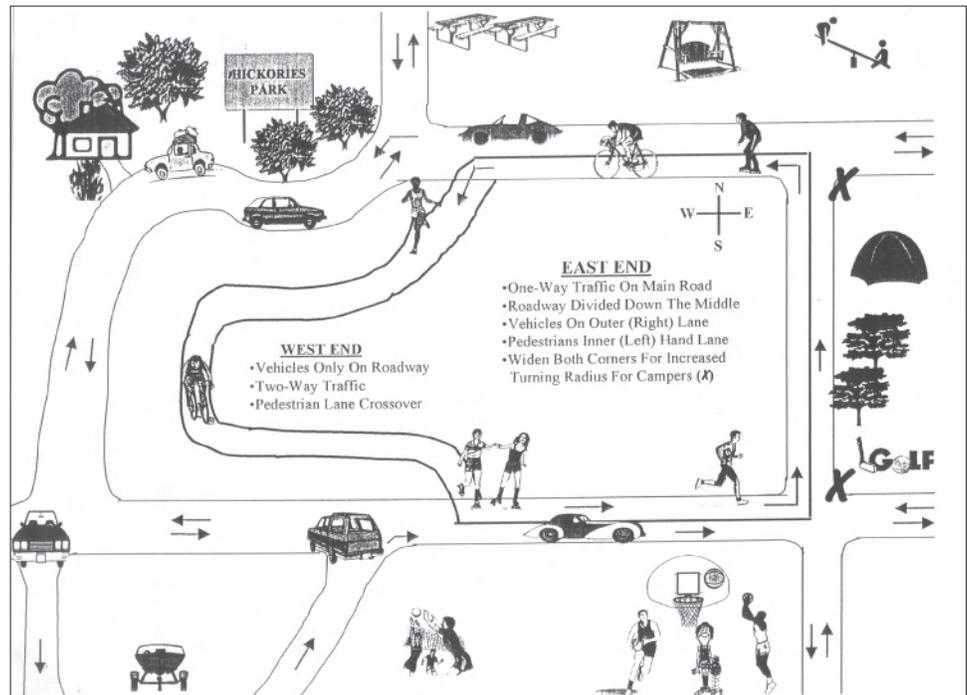


In the short term the roadway should be adapted as shown below to create a one-way traffic pattern and a striped, on-road trail for bicyclists, pedestrians and skaters. The Town received a grant from the Community H.E.A.R.T. Coalition

mini-grant program to make the changes shown in the sketch. In the long term, the Town should consider the development of separated, off-road multi-use trail that would circle the park, linking key use areas and destinations based on the Otsiningo Park trail model. A trail connection should be made to Bike Route 1/NY Bike Route 17 (NY Route 17C) at the existing railroad line underpass in the northeast corner of the park.

Related Opportunities and Enhancements

Sketch of proposal revisions to the Hickories road network to enhance safety (Courtesy of BMTS).



The Local Waterfront Revitalization Plan proposes that The Hickories be expanded through the purchase of neighboring agricultural land to the east of the existing park.

Linkages to Other Bikeways and Trails

The Village of Owego to The Hickories Trail is connected to other proposed greenways by Bike Route 1/17 on the north side of the Susquehanna River and Bike Route 2 on the south side of the River. Bike Route 1/NY Bike Route 17 is on NY Route 17C, a rural, two-lane wide roadway with paved shoulders. Shoulders vary in width from 4 – 6’ in Tioga County to 8’ in Broome County. Shoulders should be widened to at least 6’ when road resurfacing or reconstruction occurs. Bike Route 2 is on Route 434, a rural, two lane roadway with generally poor road conditions. At time of road resurfacing, shoulders should be reconstructed at 6’ minimum width.

Water ferry connections between the Village of Owego, the Hickories, Hiawatha Island and the Marshland Road Boat Launch are being explored by Tioga County in the preparation of their Local Waterfront Revitalization Plan in detail.

Route I-86 Trail

The Village and Town of Owego in Tioga County are at the west end of the Binghamton Metropolitan Region. The New York State Department of Transportation owns property between Route 17 and the Susquehanna River to the north. Plans are under development to convert Route 17 to Interstate Highway I-86. This affords a unique opportunity to create an off-road trail connection between the proposed trail network in Vestal and Hiawatha Island/Marshland Road Boat Launch area in the Town of Owego.

NYSDOT owns most of the land between NY Route 17 (future I-86) and the Susquehanna River. This presents an excellent long-term opportunity for trail development.



Proposed Treatment

When Route 17 is upgraded to Interstate 86, a fence will be required along the full length of the highway to restrict access to the highway travel lanes. In preliminary discussions, NYSDOT regional officials are amenable to offsetting the proposed fence to the south of the property line to accommodate the trail on their property.

The proposed trail is approximately 6.5 miles in length. Recommended trail surface is limestone dust. Two drainageway crossings are required. Proposed new I-86 interchange at Appalachin will have a parking area with cartop launch. The proposed trail will pass under the new bridge and link to cartop launch parking area on the south bank of the river.

Town of Union Trails

Introduction

The Town of Union, Village of Endicott and Johnson City have numerous park and recreational facilities in or near the Susquehanna River corridor. These include (from west to east) the Village of Endicott Recreation Complex at the Tri-Cities Airport, Enjoie Golf Course, Grippen Park, Roundtop Park, Mersereau Park, the Chugnut Trail, Union Endicott High School, William Hill Park and Boland Park. The Chugnut Trail is a 1 mile pedestrian trail constructed in 1994 through the efforts of a private citizen, James Leonard, and the Endicott Rotary Club. The trail is now a Town of Union park. The Town of Union Parks and Recreation Department, with the cooperation of the Village of Endicott Public Works Department and the Johnson City Planning Department, has been studying the feasibility of extending the Chugnut trail west to Grippen Park and east to William Hill and Boland Parks.

Route Description

Following are detailed descriptions of trail sections from west to east:

Tri-Cities Airport

The Tri-Cities Airport is owned by the Village of Endicott and leased to a small private air carrier and flying club. The Village has developed a recreation complex in the northwest corner of the property with playing fields, driving range and mini-putt. The property has 1.5 miles of beautiful river frontage, some of the most scenic publicly-owned river frontage in the study area. A municipal wastewater treatment plant is located at the southeast corner of the property. A former municipal landfill, located between the airport runway and the wastewater treatment plant, was a Superfund cleanup site. Industrial Park Road, the access

The Tri-Cities Airport, with more than a mile of scenic river frontage, has great potential for trail development around its perimeter.



road to the airport and recreation complex is frequently used by residents for walking and biking. An existing underpass for the Norfolk Southern railroad line at the driving range parking lot could be an important pedestrian and bike access route to abutting residential neighborhoods. Access to the underpass is restricted by unregulated dumping of left over asphalt by a paving contractor with offices and a storage yard at the end of Airport Road.

Residents often use Industrial Park Road for walking, jogging and bicycling. An off-road trail loop would enhance safety while providing access to the site's beautiful river frontage.



Proposed Treatment

A 3.5 mile loop trail is proposed to provide access to the riverfront and create linkages to existing recreation facilities. The proposed trail would be parallel to and south of Industrial Park Road with a trail directory at the driving range parking lot. It would follow existing gravel roads that follow the edge of the river and loop the airport runway. The trail will have to be carefully sited around the old landfill and wastewater treatment sites. It will then parallel Anson Road to the intersection of Industrial Park Road.

The existing railroad underpass is an important pedestrian and bicycle resource that should be opened to non-motorized traffic. Negotiations should be conducted with adjacent landowner responsible for filling the north side of the underpass to ensure that access is restored. A ramp (5% slope or less) should be created to provide a safe and accessible route under the Norfolk Southern line.

Related Opportunities and Enhancements

As stated earlier, the Airport's riverfront land is very attractive and suitable for the development of picnic facilities and other passive park amenities in association with the trail.

Creating a trail network from the proposed Airport Trail to Town Park facilities located along Glendale Park and Nanticoke Creek is a major opportunity for the Village of Endicott and the Town of Union. Proposed routes are shown on Trail Master Plan drawings. The existing railroad underpass at the Airport and the new NY Route 17C bridge allow grade separated crossings of the railroad and NY Route 17C, the two major obstacles separating the airport property and the parks and residential neighborhoods to the north.

Golf Course/Grippen Park to Davis Avenue

The Village and the County Parks Department own all of the riverfront land in this area with the exception of one privately-owned lot and residence at the southwest corner of Davis Avenue and River Terrace intersection. Nanticoke

Aerial view looking north across the Susquehanna to Union Endicott. Public riverfront holdings along the airport, golf course and park offer a tremendous opportunity for trail development.



Creek presents an obstacle for trail development. Grippen Park facilities include a boat launch, ball fields and a skating rink. A large existing parking lot can function as trailhead parking.

Proposed Treatment

The trail is proposed to branch off of the Airport loop at the southeast corner of the Airport property, cross Nanticoke Creek and hug the edge of the En Joie Golf Course, south of the fence. A bridge crossing the creek will be required. The trail continues east into Grippen Park crossing the boat launch access road south

of the ice skating rink. Between the skating rink and Davis Road the trail follows a municipal sanitary sewer line above the retaining wall passing next to three raised concrete manhole structures.

The owner of the residence at the intersection of Davis Avenue and River Terrace has not granted permission for the trail to cross their property. The Town should try to acquire the property to secure public access for neighboring residents to the proposed trail network. Alternatively, the feasibility of constructing a board-walk/ramp structure to provide access around the parcel should be studied.

River Terrace/Mersereau Park/Edward Street

This section of the proposed trail network will link Grippen Park to the west end of the Chugnut Trail. River Terrace is a 30' wide, quiet residential street with low traffic volume. A flood wall varying in height from 8' to 4' forms the south boundary of the road. A grass terrace on the river (south) side of the flood wall is formed by the sanitary sewer line.

Mersereau Park is a neighborhood park with a playground, playing fields and basketball courts. It is bounded on the south by a flood control levee which limits views to the river. The top of the dike is informally used for walking and jogging.

Edward Street is a busy, two lane road which intersects with Vestal Avenue just north of the Vestal Avenue Bridge. There is an existing sidewalk on the north side which ends a few hundred feet east of Mersereau Park. The intersection of Edward Street and Vestal Avenue has high traffic volumes and poor visibility, particularly for motorists in northbound travel lanes, north of the bridge. East of the intersection, River Terrace is a quiet residential street with a sidewalk on the north side and grass shoulder and flood control levee on the south. The west end of Chugnut Trail is approximately 100 yards east of Vestal Avenue.

The Vestal Avenue Bridge is an important link between Union-Endicott and Vestal for motorists and trail users. The bridge has sidewalks on both sides with two 15' travel lanes.

Proposed Treatment

An 8' wide, asphalt pedestrian trail is proposed to be constructed on the river (south) side of the flood control wall along River Terrace between Davis Avenue and Mersereau Park. Connecting to the proposed loop trail in Mersereau Park will require a culvert crossing a storm sewer drainageway and ramping up and over the flood control levee. Bicyclists can be accommodated on River Terrace with no improvements other than signage.

An asphalt loop trail is proposed in Mersereau Park to accommodate walkers, bicyclists and other users. It is proposed at the northern foot of the levee between Liberty Avenue and the east border of the park. The trail turns north along the east edge of the park to the northeast corner at Edward Street. The loop trail will

turn left and roughly follow the northern and western edges of the park until it reaches the toe of the levee at the southeast.

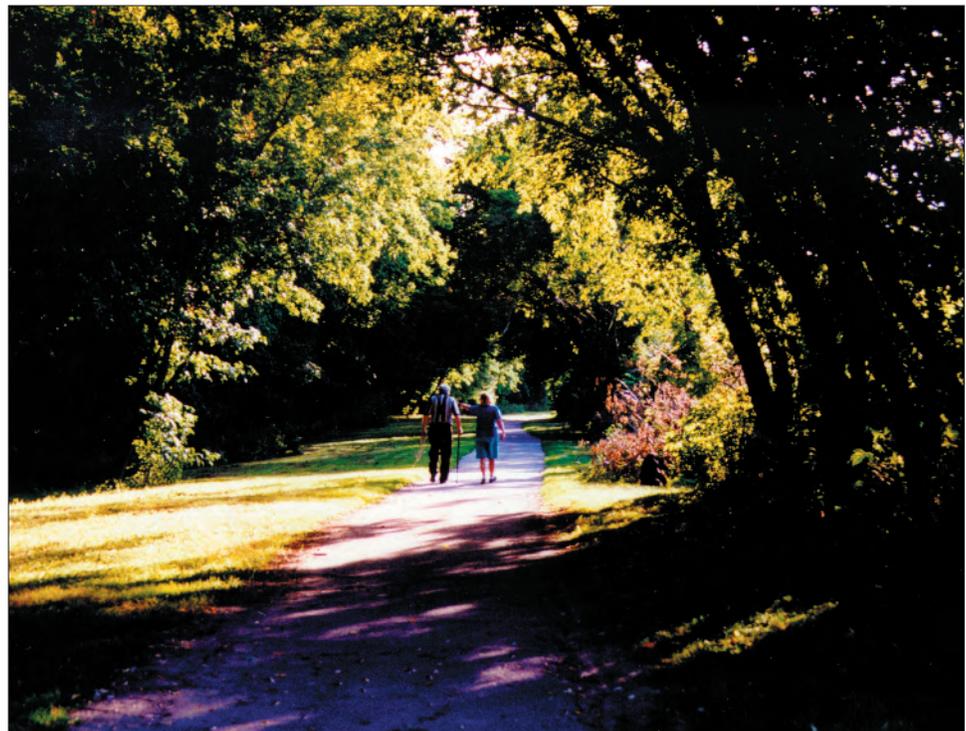
The eastbound main trail will turn right on Edward Street at the bend in the road. Bicyclists will be on Edwards Street across Bridge Street and pedestrians will cross onto a proposed sidewalk extension of the existing Edward Street sidewalk. Pedestrians can also choose to continue along the flood control levee in an easterly direction, cross the levee and pass under the Bridge Street Bridge and up to the west end of the Chugnut Trail. Significant ramps with handrailing will be required to make this grade separated connection under the Bridge Street Bridge.

Bicyclists cross at the intersection of Edward Street and Bridge Street. This intersection is very heavily used, with a complex traffic pattern. Possible safety improvements include the installation of a traffic signal with pedestrian-actuated signals and bicycle detector loops and/or the construction of a median refuge in Vestal Avenue, north of the intersection in place of the infrequently used southbound left hand turning lane. A study should be conducted to develop recommended intersection improvements. 5' bicycle lanes with 10' travel lanes are recommended for the Bridge Street Bridge.

Chugnut Trail

The Chugnut Trail is a one mile, 8' wide, asphalt trail along the north bank of the Susquehanna River. Trailhead parking is at the east end of the trail, off of River-view Drive, east of the Route 26 overpass. Union-Endicott High School and the Boys and Girls Club are located on the trail, just west of Route 26.

Construction of the Chugnut Trail was an Endicott Rotary Club initiative. It provides access to one mile of riverfront land near the Union-Endicott High School.



Current regulations allow only pedestrians to use the trail. This is due to its relatively narrow width and its proximity to flood walls and steep river embankments.

Proposed Treatment

The consultant team recommends that the trail eventually be widened to at least a 10' width to allow for use by bicyclists, in-line skaters and other users. Given its proximity to the school, it is inevitable that the trail will be used by a variety of users. Indeed, many young cyclists already use the trail, in violation of the existing regulations.

A trail directory is proposed in the existing trailhead parking area.

Riverview Drive/Riverhurst Cemetery (Chugnut Trail to Argonne Ave)

Riverview Drive is a wide tree-lined residential street with low traffic volumes and sidewalks. Verbal permission has been acquired from the Riverhurst Cemetery Association for the trail to use their property south of the cemetery along the river. The Town of Union owns river frontage east of the cemetery for Public Works Department storage. An existing elevated sewer line bridges a small drainageway and is informally used as a bridge. It appears capable of supporting a bicycle/pedestrian bridge structure. Between the cemetery and Argonne Avenue the proposed trail is located in the Floodway Fringe, within the 100 year flood plain.

Proposed Treatment

The trail is proposed in the linear park south of Riverview Drive between the Chugnut Trail parking area and Massachusetts Avenue. It can be constructed as a 10' wide sidewalk between the curb and the row of Maple trees. On Riverview Drive, between Massachusetts Avenue and the Cemetery, the trail will be on-road for bicyclists and on the existing sidewalk network for pedestrians. No road improvements are proposed, with the exception of signage.

The trail will turn right at the Cemetery and follow the Louisiana Avenue right-of-way south to the riverbank. The existing gate at the Riverview/Louisiana intersection will have to be replaced with bollards to provide access to the trail for non-motorized users. The trail will turn east at the river and passing south of the cemetery and the Public Works facility. Due to its location in the 100 year flood plain, the trail will have to be reviewed with NYSDEC and the appropriate permits required.

The existing raised sewer line and bridge structure over Brixius Creek should be evaluated by a structural engineer to ensure it is capable of supporting the required decking and ramping. If feasible, 8 - 10' wide wood decking and 42" high railing should be constructed with accessible approach ramps at both ends. The trail will become an on-road trail with sidewalks at parking area at west end of Argonne Avenue (at the community gardens site). Traffic control, bollards with a half gate should be provided at the west end of Argonne Avenue.

Argonne Avenue/Pelican Avenue/River Road

The existing cul-de-sac at the west end of Argonne Avenue is used by community gardeners and is suitable for accessing the proposed trail. Argonne Avenue is a quiet residential street with low traffic volume and no curbs. Sidewalks are in poor condition and not continuous. Pelican Avenue is a short, one-way street (westbound) with a town materials storage yard located at the east end, near the intersection with River Road. River Road is two-way, dead-end street with little traffic and excellent views of the Susquehanna.

A large peninsula of undeveloped, heavily wooded, and attractive land is located between the river and the highway, south of the Argonne Avenue corridor. Most of the land is above river flood levels and is used by BMX bikers, as evidenced by an existing, informal dirt trail network. Two access points under NY Route

Aerial view shows large wooded area between NY Route 17 and the river used by BMX bikers and joggers. With improved access, this could be an attractive area for trail development in the future.



17 are existing. One, located at the south end of Davis Road, is a metal culvert which is the primary access route used by bicyclists, pedestrians and occasional municipal maintenance vehicles (to access municipal well in the area). The second, a large NY Route 17 drainage underpass for Patterson Creek at the east end of the storage yard, is suitable for a pedestrian access to this area with some modifications.

Proposed Treatment

No road improvements, other than signage, are proposed due to the low volume of existing traffic. One exception is a contra-flow bike lane proposed in the eastbound direction on Pelican Avenue. Striping and appropriate signage will be required. Sidewalks should be repaired and gaps constructed in the residential neighborhoods on Argonne Avenue.

The development of a multi-use trail on the land between NY Route 17 and the river should be considered in the long term. The area is scenic, with nice views of the river and relatively undisturbed woodlands. Trail surface should be asphalt. A small bridge is needed over Patterson Creek. However safety concerns and emergency access issues should be considered due to the area’s relative isolation due to the NY Route 17 embankment. The Davis Road underpass is suitable for trail use. The Patterson Creek underpass off Pelican Avenue, should be modified by creating a concrete sidewalk attach off of the west abutment.

River Road Parking Area to Home Depot

A cul-de-sac at the east end of River Road is frequently used by fisherman to access the river. Between River Road and the Home Depot Plaza, a narrow floodplain forest is directly south of NY Route 17C embankment . A 10’ high flood control levee forms the west and south borders of the Home Depot. The top of the levee is used by walkers and joggers - the views of the river are very nice from this high vantage point. Land on the riverside of the levee is attractive and higher in elevation than the swamp forest bottomland to the west. William Hill Park is located on the river east of the Home Depot.

Proposed Treatment

Trailhead parking is proposed in the existing parking area at the east end of River Road. Traffic control between River Road and the proposed off-road trail will

The trail is proposed on the river side of the levee at Home Depot on the north bank of the river. Views of the river corridor from the Home Depot levee and Willam Hill Park are very scenic.



be required. The trail is proposed at the foot of the NY Route 17C embankment, raised to a suitable elevation above flood levels. This will require a large quantity of structurally stable fill material. NYSDEC review and permitting will be required due to the trails location in the 100 year flood zone. Concerns regarding safety and emergency access should be considered when designing this section of the trail. A culvert crossing will be required near the foot of the levee at the

west edge of the Home Depot. The trail is proposed on the riverside of the levee to take advantage of the river scenery and provide the most direct connection to William Hill Park. A ramp over the levee to Home Depot, if desired, should be located at northwest corner of property.

William Hill Park/NYSEG/Boland Park

William Hill Park is a Town of Union facility with ballfields, restroom facilities and parking located directly on the Susquehanna River. East of the park, river-front land is in public ownership (Wastewater Pumping Station) to Little Chocunut Creek. East of the Creek, the NYSEG Power Plant has developed walking trails along the river to provide access to this popular fishing area on the river. The paths pass under the railroad bridge to Boland Park. Boland Park is a Johnson City facility with ballfields, restroom and parking facilities.

A pedestrian trail for fishing access is located along the river at NYSEG's Goudey Station. Existing railroad bridge abutments have sufficient width for the development of bike/pedestrian bridge facility parallel to active railroad line.



Proposed Treatment

The proposed trail is located along the river on the south border of William Hill Park with a spur to the existing parking area. Provide trail directory in William Hill parking area. It passes the wastewater facility and crosses Little Choconut Creek on a proposed 50' long bike/pedestrian bridge. The trail will follow the existing path network through the NYSEG facility. Surfacing, signing and some fence relocation to improve visibility and turning radii will be required in this location. Trail will be on existing dirt access road under railroad bridge to Boland Park. Provide trail directory at Boland Park parking area.

Linkages to Other Trails and Bikeways

Trail will follow NY Bike Route 17, on Riverside Drive, to City of Binghamton. The feasibility of developing a bike/pedestrian bridge on the railroad bridge abutments can be explored at some time in the future, when Union and Vestal Trails are more fully developed. Connecting the proposed Union and Vestal Trails

across the river at Goudey Station would be a valuable, long-term regional connection.

Town of Vestal Trails

Introduction

The Town of Vestal has developed plans and submitted grant proposals to construct the Vestal Rail Trail, a 2.1 mile multi-use trail on an abandoned, east-west railroad corridor. The Vestal Rail Trail links residential neighborhoods on the west end of the town to Harold Moore Park and commercial development in the vicinity of Town Square Mall. While the rail trail corridor is not directly on the Susquehanna River, it links proposed river corridor trails to the east and west and provides a critical regional trail linkage.

The Vestal Rail Trail is the centerpiece of a proposed comprehensive trail network in Vestal. The next phase of trail development should focus on making a trail connection to Castle Gardens. The proposed 1.5 mile trail connection is predominantly off-road with only one major creek crossing (Choconut Creek). West of Castle Gardens, trail development would most likely be associated with the development of the I-86 trail. Linkages from the Vestal Rail Trail to the east are complicated by private riverfront landholdings that include hundreds of acres of sand and gravel mines. The continued use of the abandoned railroad corridor to the east beyond the proposed Vestal Rail Trail should be explored as an alternative to use of privately-owned riverfront land between the Vestal Rail Trail and Binghamton University.

Route Descriptions

Following are detailed descriptions of Vestal Trail proposals from west to east:

Tracey Creek Peninsula to Castle Gardens

Tracy Creek flows north, under Route 17, through a large point of land owned by NYSDOT (part of the NY Route 17 right of way) and bordered on the west by the Town/County line. This parcel is very scenic and its elevation is above flood level making it valuable for recreational development. However the lack of vehicular access limits its development potential. It is currently heavily used by mountain bikers, as evidenced by a network of dirt trails.

The NY Route 17 right-of-way narrows moving east towards Castle Gardens, however there is sufficient space for trail development. A residence with well maintained horse paddocks fenced to the foot of the NY Route 17 embankment at the west end of Castle Gardens Road creates an obstacle to the trail. Castle Gardens is a residential neighborhood comprised primarily of single family homes with a senior citizen housing and continuing care facility. Castle Gardens Road is a quiet, residential street with low traffic volume and no sidewalks. At the east end of the development road turns to the right under Route 17 to the intersection of NY Route 434/Bike Route 2.

Castle Gardens is a large, riverfront neighborhood that would benefit by a trail connection to the proposed Vestal Rail Trail.



The majority of this section of the trail between the County/Town line and Castle Gardens is proposed to be an off-road, multi-use trail. The recommended trail surface is limestone dust. Negotiations should be conducted with the residence at the west end of Castle Gardens to provide space for the trail or the trail will have to be constructed into the side of the highway embankment. In Castle Gardens, the trail system is proposed to be on-road utilizing Castle Gardens Road with no bikeway improvements recommended other than signage. Sidewalks are proposed for pedestrian use.

Comments Regarding Trail Implementation and Phasing

This section of the trail, west of Castle Gardens, is viewed as a long term project that is viable only after linkages are made between Castle Gardens and the Vestal Rail Trail.

Castle Gardens to Vestal Rail Trail

Where Castle Gardens Road turns right under NY Route 17, a dirt road continues to the east past the Friehofer's Bakery. This road passes through floodplain swamp forest owned by NYSDOT. (Part of the NY Route 17 right-of-way). Choconut Creek flows under Route 17 and across NYSDOT property, forming an obstacle to trail development. The creek is nearly 100' wide and has dramatic seasonal variations in its flow, from very high, fast moving water during spring thaw to completely dry in other seasons.

The Fire Training Site is east of Choconut Creek. Access to this site is on a gravel road that crosses the flood control levee passing a large grass field between NY Route 17 and the levee. The field frequently is used as an informal driving and chipping range. The access road turns right on Pumphouse Road passing the historic Le Chalet Inn and the Roundhouse, both located at the intersection of Main Street. The west end of the proposed Vestal Rail Trail is approximately

600' south of the Pumphouse Road intersection. The Bridge Street Bridge over the Susquehanna River to Union-Endicott is 1000' to the north.

Proposed Treatments

The proposed trail is located on the existing dirt road between Castle Gardens Road and Choconut Creek. A bridge over Choconut Creek will be required. The feasibility and cost savings of developing a 'low-water bridge' over the creek should be explored. A low water bridge is closed when the creek flow is heavy, but can be used at most other times of the year. The trail will be on the gravel access road between the Fire Training Site and Pumphouse Road. Proposed trail surface between Castle Gardens Road and Pumphouse Road is asphalt.

No improvements, other than signage, are recommended for Pumphouse Road. The proposed trail between Pumphouse Road and the Vestal Rail Trail is on the west sidewalk of Main Street under the Route 17 bridge to the signalized intersection at Commercial Avenue. The sidewalk should be signed as a 'shared sidewalk' and bicyclists should be advised to dismount. A pedestrian button should be installed at the existing traffic signal. Main Street is Bike Route 2 between NY Route 434 and Old Vestal Road. Trail users can follow Bike Route 2 to the Vestal Avenue Bridge to make connections to Union-Endicott. As stated above, the Bridge Avenue Bridge has existing sidewalks on both sides and adequate travel lane width (two 15' lanes) to accommodate 5' bike lanes in both directions.

Related Opportunities and Enhancements

Le Chalet and the Roundhouse are two of Vestal's most important historic sites. Appropriate interpretive signage should be provided. The Bridge Street Bridge is very heavily traveled and a critical north-south regional connection. Design strategies for improving bicycle and pedestrian safety should be developed for this important corridor between NY Route 434 to NY Route 17C.

Vestal Rail Trail

The Vestal Rail Trail is a proposed 2.1 mile multi-use trail located on a Town-owned abandoned rail corridor. It connects Main Street commercial and historic resources to Harold Moore Park and the Town Square Mall. The Town recently submitted a proposal for TEA 21 Enhancement Funds to construct the trail.

Proposed Treatment

The proposed submitted for TEA 21 funding calls for the construction of a 12' multi-use asphalt trail with a parallel 8' pedestrian trail surfaced with limestone dust. Trailhead parking is to be located off of Commercial Avenue on the west end and in Harold Moore Park on the east end of the proposed trail.

Possible Opportunities and Enhancements

In the long term, the Town should look at the development of riverbank trails north of the proposed Vestal Rail Trail. Flood control levees have been con-

View looking east along proposed Vestal Rail Trail parallel to Commercial Avenue.



structed between residential streets north of Old Vestal Road and the river. The riverfront land is wooded and very scenic. Trails in this area could form a loop with the proposed Vestal Rail Trail.

Harold Moore Park to Binghamton University (SUNY)

Harold Moore Park, located north of Old Vestal Road/Bike Route 2/17 has ballfields, basketball courts, restroom facilities, an emergency boat launch and a large parking lot. The park is in the flood zone and flood heights to the top of the restroom doors have been observed by the Parks Superintendent. East of the

Aerial view looking south at Harold Moore Park, the east trailhead for the Vestal Rail Trail. Abandoned rail corridor continues east (left) behind shopping plaza.



park, between Old Vestal Road and the river, is hundreds of acres of active sand and gravel mines. Large ponds, former and active extraction pits, are surrounded by a network of access roads. There is great potential for attractive redevelopment of the site with riverfront trails.

The abandoned railroad corridor east of the proposed rail trail is in private ownership to the Old Vestal Road railroad bridge overpass. This overpass creates a hazardous traffic condition for motorists on Old Vestal Road, due to tight turning radii and poor sight lines. According to town officials, removal of this overpass will occur in the near future. East of the bridge the rail line is an active spur to the Commerce Road Industrial Park. The line continues east bridging the Susquehanna to the NYSEG facility. As stated previously, the railroad bridge abutments are wide enough for two railroad tracks.

From the railroad bridge to the east, the proposed route follows the riverbank on the towpath of the remnant of the Chenango Canal. The towpath continues

Active sand and gravel mine on the south bank of the Susquehanna River in Vestal, across from the Home Depot and William Hill Park.



on a dirt road under the Route 201 bridge to Old Mill Road. East of Route 201, NYSEG has a large office, maintenance and storage facility between Old Vestal Road and the riverbank. The storage yard is asphalt pavement to the top of the riverbank and surrounded by chainlink fencing.

East of NYSEG is a Binghamton/Johnson City Wastewater Treatment Facility. Like NYSEG, the facility takes up all of the land between Old Vestal Road and the river. With the exception of two treatment tanks, there appears to be adequate space to easily accommodate a trail on the riverside of the facility. Both NYSEG and the Municipal Wastewater Treatment Facility, are set back considerably from the north edge of Old Vestal Road, making it technically feasible to develop an off-road trail along the north edge of the road.

Murray Hill Road forms the east border of Binghamton University. Bike Route 2, in the eastbound direction, turns right from Old Vestal Road, onto Murray Hill Road and then left onto the Vestal Parkway.

Proposed Treatment

Developing an off-road trail between the proposed Vestal Rail Trail and Binghamton University is important due to the potentially large number of bicycle and pedestrian trips between Town Square Mall and Binghamton University. However, implementing this trail section will require negotiations with numerous private landowners. Recommended surface treatment is asphalt to encourage the widest range of anticipated users.

The most desirable location for the trail is on the riverbank of the Susquehanna, through the privately-owned sand and gravel pits. Opportunities should be pursued through direct negotiations with the landowner, through NYSDEC's mine reclamation permitting process and through the town site plan approval process to secure the required rights-of-way at the time of site redevelopment. However, the mining operation is still active so it appears that this corridor is, at best, a long term option.

An alternative to the riverbank route is to use the in-active railroad corridor between the east end of the proposed Vestal Rail Trail and the active rail spur at the Commerce Road Industrial Park. The right-of-way is currently privately owned, thus negotiations for purchase or use of the land would be required. Routing the trail through the Industrial park, parallel to the active spur ('rail with trail') could provide a direct linkage to the riverbank at the north end of Gates Road. If the east extension of the Vestal Rail Trail is considered a viable option, the town should request that an accommodation for the trail crossing be included in the Old Vestal Road/railroad bridge abutment demolition and road reconfiguration project (near the Shippers Road intersection).

Negotiations will also have to be conducted with a small number (5+/-) of landowners between the railroad bridge and the Route 201 bridge on the Chenango Canal towpath. The proposed trail passes under the Route 201 bridge to Old Mill Road.

From Old Mill Road to Binghamton University, there are two route options. First is to follow the riverbank behind NYSEG and the Wastewater Treatment Plant. NYSEG should be approached to explore the feasibility of relocating the chainlink fence at the river edge of the property 15' off of the river edge to allow for the trail. The trail can be constructed on the river side of the treatment plant, however terracing or decking around the two treatment tanks at the edge of the river will be required. East of the treatment plant, the trail turns south along the east edge of the property to the intersection of Murray Hill Road and Old Vestal Road.

The second route option from the Route 201 bridge underpass is to turn right on

to Old Mill Road and left at Old Vestal Road. Between NYSEG and the treatment the trail could be located in the wide shoulder on the north edge of Old Vestal Road. Negotiations with NYSEG and the treatment plant would be required to secure the rights-of-way. Trail crossings at entrances to both NYSEG and the treatment plant would have to be carefully designed to minimize conflicts between the trail and facility entries.

Both route options would cross Old Vestal Road at Murray Hill Road. The proposed trail in this location is an 8 or 10' sidewalk located in the east shoulder of Murray Hill Road, between Old Vestal Road and the Vestal Parkway. The trail to Binghamton University crosses the Vestal Parkway at the traffic signal, then turns west across Murray Hill Road. The campus trail and walkway network can be extended to meet the trail at this location.

Route Alternatives

Bike Route 2 on Old Vestal Road is an existing facility that may prove to be the only viable bikeway connection given the numerous negotiations required with private landowners. Improved pavement conditions, including road widening to accommodate 5' bike lanes, would be an important enhancement to the safety and utility of this important on-road linkage.

Vestal Parkway Trail

Binghamton University's large student population generates a substantial number of bicycle and pedestrian trips to downtown Binghamton. If facilities were improved, the number of trips would likely increase. Thus, the development of a trail connection between the University and downtown is an important objective in the study. However, due to private land ownership and space constrictions, it may prove to be a difficult and expensive task.

East of the Wastewater Treatment Plant is a 3000' long remnant of the Chenango Canal. The canal remnant ends west of Talbot's Riverpark Center at the intersection of the Vestal Parkway and Clubhouse Road. The canal and towpath is owned by more than 40 residential landowners and some commercial properties all with addresses on the Vestal Parkway. This appears to be the most intact canal remnant in the study area.

The Vestal Parkway, between Murray Hill Road and Clubhouse Road, is developed with commercial shopping plazas on the south and commercial/residential uses on the north. The Parkway in this vicinity has four travel lanes with wide paved shoulders, and turning lanes at signalized intersections. The turning lanes narrow the width of paved shoulders making the road more hazardous for bicycle use. Sidewalks are not continuous on the south side of the parkway in this vicinity.

East of Clubhouse Road, the Vestal Parkway is four lanes with a narrow and steep embankment at its north edge along the river. The south edge of the parkway is bounded by a steep wooded slope. North of MacArthur Park, the riverbank north of the parkway widens with adequate space to accommodate the trail to the Washington Street Bridge.

Bike Route 2 branches off of the Vestal Parkway east of Clubhouse Road and follows Vestal Avenue to the intersection of Washington Street.

Proposed Treatment

The best trail route would be to continue the off-road, riverbank trail along the towpath of the former Chenango Canal, east of the Wastewater Treatment Plan. However, trail development is not considered feasible at present, given the large number of private landowners. The alternative is improve the Vestal Parkway/Bike Route 2 between Murray Hill and Clubhouse Roads by providing a continuous sidewalk on the south side and on-road bikeway improvements.

A feasibility study regarding the development of a multi-use trail on the north side of the Vestal Parkway, between Clubhouse Road and the Washington Street Bridge, should be conducted when scoping the reconstruction of the Vestal Parkway. The trail will require approximately 15' of space to accommodate a 10-12' trail and the required clearances from the westbound travel lanes and guide rails.

Route Alternatives

The City of Binghamton is considering a 3 year program to rebuild Vestal Avenue/Bike Route 2 between Rush Avenue and the western city line and may be able to incorporate improved bike and pedestrian facilities into the project. This would make a strong connection to MacArthur Park, which is currently used by many walkers and joggers, but is cut off from the riverbank by Route 434/Vestal Parkway. An existing culvert between MacArthur Park and the Susquehanna is used by fisherman and could be upgraded and incorporated into the trail network. The proposed Vestal Avenue improvements could be the first phase strengthening the SUNY to City connection, or could be the best alternative if the riverbank trail north of the Vestal Parkway is not technically feasible.

City of Binghamton: Chenango River West Bank Trail

Introduction

The Memorial Bridge spans the Chenango River, linking the Washington Street Bridge to Front Street. Front Street is one of Binghamton's most historically significant streets. The Roberson Museum and the Binghamton Visitors' Center are in the same building at the south end of the street. Many fine historic homes are still existing south of Court Street. Some remain single family homes while others have been converted to offices and/or multi-family residences. Front Street has two travel lanes, two parking lanes and sidewalks on both sides of the street. The Front Street commercial district is between Court and Clinton Streets. North of Clinton Street the uses are mixed with commercial development, particularly on the west side and residential on the east side.

The West Bank of the Chenango River was the subject of a study commissioned

View north of the Chenango River. The west bank of the river is a steep wooded embankment. Creating pedestrian access on the river bank between the Memorial and Clinton Street Bridges is technically feasible, but costly.



by the City of Binghamton in the mid 1980's to create a terraced riverbank walkway network from Riverside Drive to the Clinton Street Bridge. Detailed plans and cost estimates were developed, however the plan was never formally adopted or implemented. The increased popularity of Otsiningo Park and its trail network has created an important destination on the west bank for bicyclists and pedestrians. A trail on the west bank could dramatically improve bicycle and pedestrian travel between the Roberson Museum/Visitors' Center and Otsiningo Park.

The residential district ends at MacDonald Avenue, a one-way loop north of Clinton Street between Front Street and the river. The City of Binghamton is investing community development funds to upgrade many of the existing multi-story residences on this street. The Trout Brook Flood Control Project begins

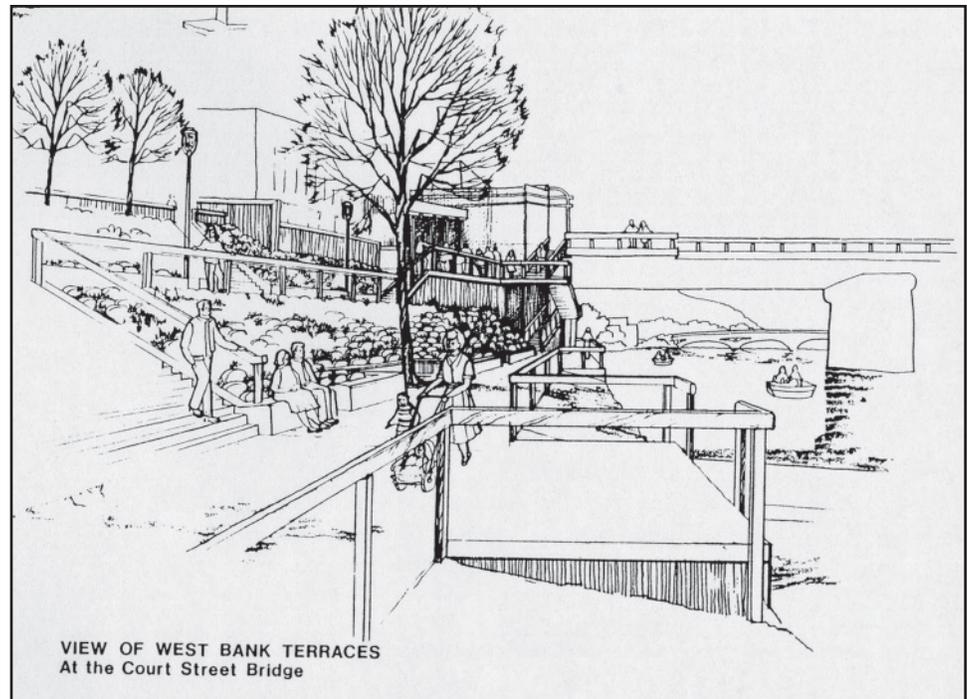
at the northeast corner of MacDonald Avenue where a gate restricts access to a gravel access road located on the west side of the flood control levee. The levee becomes a flood wall a few hundred yards north of MacDonald Avenue until it runs into the NY Route 17 east embankment at the foot of Prospect Street (the NY Route 11 off-ramp). This embankment condition continues under the I-81/ NY Route 17 bridges and the Bevier Street Bridge to Otsiningo Park. Existing footpaths used by fishermen and children are found on terraces along the embankment slope between MacDonald Avenue and Otsiningo Park.

Proposed Treatment

The Memorial Bridge is scheduled to be rebuilt within the next five years. Bridge reconstruction should include appropriate pedestrian and bicycle accommodations. Project planners should consider constructing a stairway or ramp structure off of the north sidewalk of the bridge, to create a direct connection between the bridge and the Visitors' Center parking lot and riverfront mini-park.

The Chenango River West Bank Project proposed a complex and expensive network of pathways, terraces and stairways to make the riverbank accessible from

View of river bank terraces near the Court Street Bridge from the Chenango River West Bank Project (Sketch from Young Associates' West Bank Project Report).



Front Street and to provide a north-south off-road pathway between the Visitor's Center and the Clinton Avenue Bridge. The study team supports the general concepts outlined in the project, however due to their expense and complexity, west bank development between the Memorial Bridge and MacDonald Avenue is considered viable only in the long-term.

Pedestrian and bicycle accommodations should be improved on Front Street. Chainlink fencing at the entry to the Trout Brook Flood Control Project should be

View north on river side of flood wall. Proposed trail is on grass terrace shown and will ramp up to terraces found at a higher elevation to the north of the flood wall.



replaced with bollards. The proposed trail to Otsiningo Park follows the existing dirt road, crosses the top of the embankment and ramps down to the foot of the flood wall. A large quantity of imported fill and earthwork will be required to create an acceptable gradient on ramps. The trail will follow along at the foot of the wall and ramp up to existing dirt paths on the embankment terraces. NYS-DEC review and permitting will be required in the area, when within the 100 year flood zone. Earthwork and some barrier railing will be required along the NY Route 17 embankment. Vertical clearances under the NY Route 17/I-81 and Bevier Street Bridges are adequate. Proposed trail surface is asphalt for structural stability, longevity and to maximize trail use.

Alternative Routes

Front Street/Route 11 is Bike Route 3 and State Bike Route 17. Bike lanes have been included in the reconstruction of Route 11 in the vicinity of Broome Community College and will be included as other sections of Route 11 are reconstructed.

City of Binghamton: Chenango River East Bank Trail

The proposed East Bank Trail links the Washington Street Bridge, the Promenade, Binghamton Plaza, and Cheri A. Lindsey Park to Otsiningo Park. Because of the concentration of existing facilities and the availability of suitable right-of-way, it is viewed as the best opportunity for trail development in the City of Binghamton.

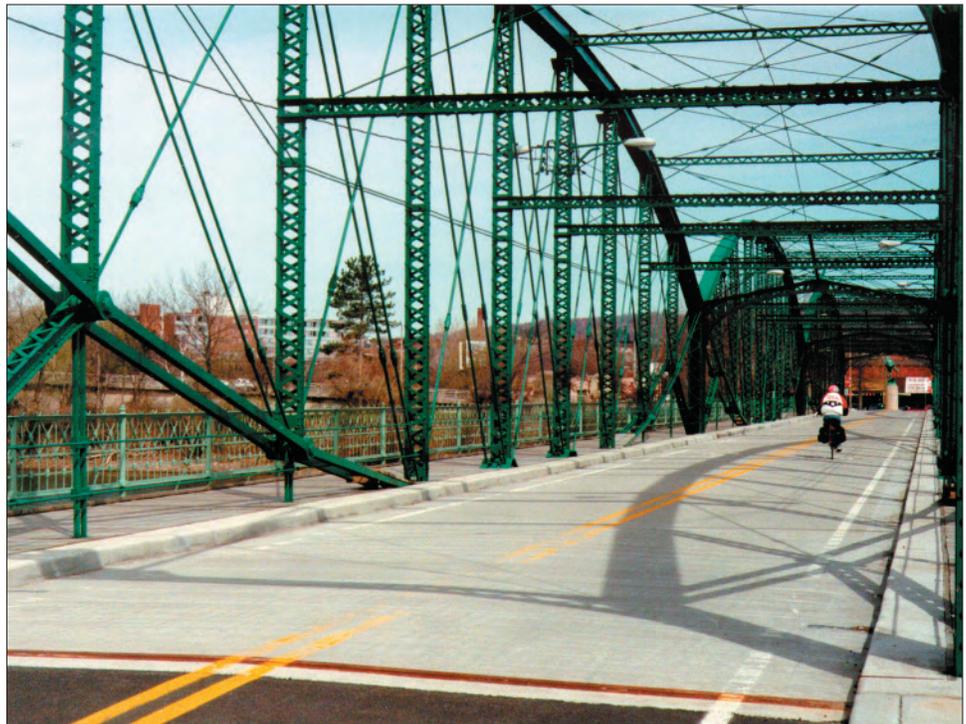
Following are descriptions of trail sections from south to north:

Washington Street Bridge to Promenade

The Washington Street Bridge is located at the confluence of the Susquehanna and Chenango Rivers and is the nexus of the proposed regional trail network. The triple span lenticular (or parabolic truss) bridge was constructed by the Berlin Iron Bridge Company of E. Berlin, Connecticut in 1886. The bridge was closed for repairs to trusses and decking in 1969 and never reopened to vehicular traffic. The renovated bridge was opened for the exclusive use of bicyclists, pedestrians and non-motorized users in the fall of 1997 at a cost of \$2,377,000. It is one of the finest and most historic bicycle/pedestrian facilities in the northeast. The bridge connects the South Bridge neighborhood business district to the downtown government and central business district.

The proposed trail crosses Route 363/North Shore Drive and follows Water Street

The Washington Street Bridge was opened for non-motorized use in 1997. Former travel lanes are for the exclusive use of bicyclists and in-line skaters. Sidewalks are for pedestrian use.



north past Susquehanna Street to the south end of the promenade. Water Street is a two-lane road with a parking lane on the river side of the road and no sidewalks. A 3' high flood control wall is at the west edge of the road.

The Promenade is at the west edge of the Binghamton's city center between

The Water Street sidewalk should be extended past Susquehanna Street to the south end of the Promenade.



Susquehanna Street and Clinton Street. The City has invested millions of dollars and considerable effort constructing the Promenade and associated flood walls on the Chenango River in the central business district. The Promenade has never lived up to its promise as a lively, popular riverfront destination and is now showing signs of considerable deterioration.

The Promenade is a riverfront walkway that never lived up to its promise as a lively riverfront destination. Providing bicycle and pedestrian linkages to other east bank destinations may help to increase the use of the facility.



Proposed Improvements

No improvements are recommended on the Washington Street Bridge. Pathway linkages to Confluence Park at the northwest corner of the bridge should be improved, specifically creating an accessible route over the low floodwall that borders the west sidewalk.

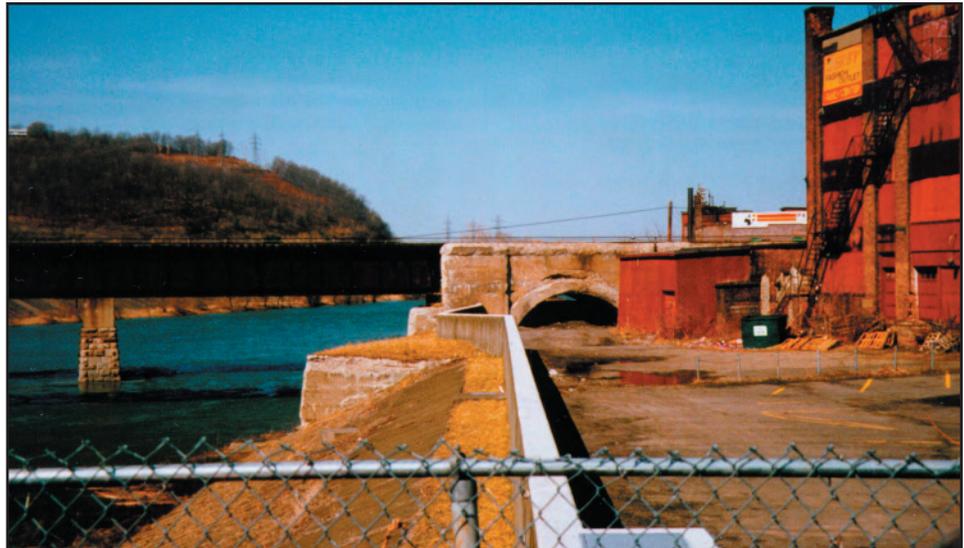
An 8' wide shared sidewalk is proposed along the west side of Water Street to the south end of the Promenade. On-street parking will have to be removed to provide space for sidewalk construction.

Recommendations for upgrading the Promenade are currently being developed by the City Planning Department. The design of safe and accessible crossings at Court and Clinton Streets should be carefully considered when Promenade recommendations are being developed.

Promenade to Bevier Street/Otsiningo Park

Flood walls continue north of the Promenade, bordering the river between Clinton Street and the south edge of the Binghamton Plaza. The proposed trail is located inside (east of) the wall behind existing commercial/industrial establishments between Clinton and Eldridge Streets. Some businesses, such as Ray's Automotive and Parts Plus, are active and their current operations would appear to be in conflict with the operation of a trail. The Norfolk Southern railroad bridge north of Clinton Street has arched underpasses that provide acceptable vertical clearance. The flood wall turns to the east, north of Eldridge Street, tying into the river embankment that continues north along the Binghamton Plaza and Sheri Lindsay Park. A gravel access road on top of the embankment is suitable for trail development. The access road passes under NY Route 17/I-81 Bridge where a gate restricts vehicular access from the north. Easements will have to be negotiated with landowners and NYSDEC regarding the use of this land for trail development.

View north from Clinton Street to railroad bridge. Trail is proposed along landside of flood wall and under third bridge arch (not shown).



North of the gate, the proposed trail route is in the Olmstead Street west right-of-way, then passing DeForest and Lockwood Streets. At the northwest end of Green Street, a residence blocks access to the Bevier Street Bridge along the top of the riverbank. Green Street is a dead end, two lane residential street with a sidewalk that intersects Chenango Street approximately 100' south of Bevier Street.

North of Bevier Street, private residences with frontage on Chenango Street own property to the top of the riverbank, limiting opportunities for riverbank trail development in this area.

The Bevier Street Bridge has four 10' travel lanes and a substandard sidewalk on the north side. The entrance to Otsiningo Park is just west of the bridge and east of the Bevier Street/Route 11 intersection. West of Route 11, a bike/pedestrian bridge over Interstate 81 links residential neighborhoods and Broome Community College with Route 11 and Otsiningo Park.

Proposed Improvements

The Promenade ends at Clinton Street. Two existing businesses along the riverbank, north of Clinton Street limit the short term likelihood of continuing the trail northbound on the riverbank. Thus trail will turn right on the Clinton Street sidewalk to the signalized intersection at Water Street, where it will turn left and cross in the northbound direction. After the Parts Plus Distribution Center, the trail can return to the riverbank and continue north along the flood wall.

In the long term, the trail should cross Clinton Street at the Promenade and continue through Ray's Automotive Service storage yard. A ramp will have to be constructed to get down to pavement level in the parking area to the north. The trail can follow the alley between the floodwall and the brick industrial buildings that front onto Water Street, passing under the railroad bridge arch and behind the Parts Plus Center.

The proposed trail continues to the end of the floodwall, ramping up and over the 4' high wall to the gravel road on top of the river embankment. Access from the trail to Binghamton Plaza and Cheri A. Lindsey Memorial Park should be developed while traffic control measures need to be provided to restrict motor vehicle access to the trail from adjacent parking areas and roads.

The trail should be surfaced in asphalt between Clinton and Green Streets to maximize use and durability. At Green Street the trail will be on the road and sidewalk to Chenango Street. Trail users should stay on the west sidewalk of Chenango Street to the signalized intersection at Bevier Street. Bicyclists heading north on Bike Route 4/Chenango Street and west on Bevier Street can cross the intersection with the assistance of a traffic signal.

Preliminary discussions with NYSDOT Region 9 staff have indicated that they

View north along Wall Street. Adequate space exists for trail development on Wall Street's paved shoulder, east of the flood wall shown at the left.



would explore the feasibility of converting the Bevier Street Bridge into a two lane bridge with bicycle lanes and a standard sidewalk. Traffic levels do not warrant having 2 lanes in either directions and traffic lane widths are substandard (10'). However turning lanes will be required at the Route 11 and Chenango Street intersections and at Otsiningo Park's main entry. Modification of the striping on the bridge and providing a standard sidewalk would create an important trail linkage between Otsiningo Park and east side residential neighborhoods.

City of Binghamton: Susquehanna River Trails

Flood walls, completed in 1941, have flawlessly protected the downtown and South Bridge districts from the river's flood events for more than fifty years. But this protection has come with a cost - the visual and physical separation of the river from its urban surroundings.

This area is not viewed as having great potential for the development of multi-use

Aerial view east of the Susquehanna River shows the Exchange Street Bridge, Rock Bottom Dam, Rock Bottom Bridge (closed to traffic) and the Tompkins Street Bridge at the top of the image. Pedestrian trails are proposed on the north bank between the Washington Street Bridge and the Rock Bottom Dam. On the south bank, pedestrian trails are proposed between Memorial Park and the Tompkins Street Bridge.



trails due to a combination of the following factors: proliferation of flood walls and levees, complex edge condition, proximity of highways and private ownership of riverfront land. However some development of walkways is recommended to serve fishermen and pedestrians

Following are descriptions of proposed trail sections on the north and south banks of the Susquehanna River, from west to east:

Susquehanna River – North Bank: Confluence Park to Rock Bottom Dam

Confluence Park has great historical significance for the City. The site, at the confluence of the Susquehanna and Chenango Rivers, was important to the Native Americans who settled in this area. It is one of the few sites in the downtown area where the physical relationship to the river has not been severed with flood control walls and levees. The City has recognized the importance of this lovely site and is developing plans to stabilize the slopes to ensure that riverbank erosion will be stopped. Archeological surveys are to be conducted before site plans are prepared.

A low flood wall between the park and the Washington Street Bridge does not provide an accessible route between facilities. East of the bridge the flood wall is much higher stepping 4-6' down to the grass embankment on the river side of the flood wall. The high flood wall makes this space feel uncomfortable for many users, however there is adequate clearance under the Route 434 and Exchange Street Bridges to accommodate a walkway.

East of the Rock Bottom Bridge the riverbank is too narrow for trail development. On the land side the flood wall is well above eye level and close to the edge of North Shore Drive providing no suitable space for a walkway/sidewalk.

Proposed Treatment

Because of its historical significance, site development at Confluence Park will be minimal, limited to construction of a pathway, some seating, interpretation and an accessible route over the flood wall. East of the Washington Street Bridge, a stair or ramp should be constructed off of the eastern sidewalk over the flood wall. This will link to a riverbank walkway, south of the flood wall/levee passes under the bridges and ends at the Rock Bottom Dam, a popular fishing area. Path to be constructed with asphalt or stone dust at a 5' width.

Susquehanna South Bank: Washington Street Bridge to Tompkins Street Bridge
Memorial Park, east of the bridge is a linear park north of Conklin Avenue with a tree lawn and street trees, sidewalk, numerous mature trees, lawn and a high flood wall that blocks the view of the river. East of Memorial Park the river turns to the north and riverfront uses become primarily industrial north of Conklin Avenue. A series of terraces and walls down the riverbank lead to a long flood control levee that extends almost to the Tompkins Street Bridge. The levee is an attractive area with some mature trees along the river. Residents currently use the top of the levee as an informal walkway. East of Tompkins Street, private ownership of land will make trail development difficult.

No trail improvements are proposed in Memorial Park. Sidewalks and on-road facilities were deemed as sufficient for bicycle and pedestrian use.



Proposed Treatment

The study team considered many alternatives for improving views of the river in Memorial Park, including the construction of an earthen embankment against the wall to raise the trail user's eye level above the top of the wall. Ultimately, no changes to the park are proposed. Trail development on the south bank of the river is intended for pedestrian use only and the existing sidewalk serves this function adequately. Adding more pavement and earthwork to this narrow, linear park only compromised its existing character.

The walkway can be extended to the east behind industries at John, Hall and Belden Streets to the levee, but at considerable expense, given the changes in grade, walls and terraces that will have to be traversed. Trail development in this area is not viewed as a high-priority project.

Otsiningo Park Trail Network

The existing 8' wide trail at Otsiningo Park is heavily used in all seasons.



In the mid-1960's, New York State purchased right-of-way to the river to construct I-81. After construction of the highway was completed, NYSDOT constructed Otsiningo Park a network of multi-use trails. The park was turned over to Broome County in 1976. A rest area, contiguous to the park was closed in 1995 when a new rest area was constructed on I-81 between the Pennsylvania line and Exit 1. Former rest area land was added to the park. Facilities including restrooms, ballfields and play structures have been added during the past twenty

Otsiningo Park has more than 2 miles of multi-use trails, with a proposed 1.3 mile northern extension to the Town of Chenango's Riverfront Park.



years. Currently the park has more than 1 million visitors per year. The existing 8' wide asphalt trail is 2.1 miles long. Park crews plow the trail during the winter season making it a year round recreation amenity.

Proposed Improvements

The County plans to extend the trail 1.3 miles to the north creating a linkage to Riverfront Park in the Town of Chenango. Riverfront Park facilities include restrooms, ballfields and a parking area that can serve as a trailhead for town residents. The park is on the river side of the Northgate Plaza and Front Street, thus the trail will provide access to these commercial destinations. County plans call for 16' wide asphalt trail to accommodate the anticipated heavy demand. Proposals have been submitted for the FHWA Transportation Enhancement Program and to NYSOPRHP's Environmental Protection Fund for trail construction funds. The County plans to construct the trail in the year 2000.

The County should consider widening the existing Otsiningo Park trail network to a 10' or 12' width to increase the safety and comfort of the trail. In the short term, the trail loop could be designated for one way travel.

Chenango Bridge Trail Network

Introduction

The logical follow-up to the Otsiningo Park Trail Extension to Riverfront Park is to extend the trail further north to the park and ride lot west of the Route 12A Bridge across the Chenango River. This lot would be an excellent access point to the riverbank trail network for residents of Chenango Bridge and the Town of Chenango.

Route Description

The following are detailed descriptions of proposed trail sections beginning at the south end of the corridor:

Riverfront Park to Chenango Plaza

North of Riverfront Park, the Northgate Plaza and a municipal sewage treatment plant are at the top of a high riverbank terrace. Sufficient space exists at the top of the bank to accommodate the trail, with some fence relocation at the perimeter of the wastewater treatment facility. Castle Creek is directly north of the plaza and treatment plant, and is a significant barrier due to its width and depth. North of Castle Creek, is the Chenango Plaza an older shopping plaza which currently has many vacancies. It is important that town officials are aware of the trail development potential of the riverbank so plaza redevelopment plans can be required to accommodate the trail.

Riverfront Park is at the north end of the proposed extension to the Otsiningo Park Trail. The proposed Chenango Bridge Trail continues to the north.



Proposed Improvements

Adequate space exists for the development of a 10' wide asphalt multi-use trail at the top of the riverbank in this area. The only significant obstacle is in crossing

Castle Creek, where 90 to 100' bridge bike/pedestrian bridge will be required.

Chenango Plaza to the Park and Ride Lot

A neighborhood of single family residences borders the Chenango Plaza to the north with many privately-owned lots occupying the land to the river edge. Streets are two lane, quiet streets suitable for safe use by inexperienced and child cyclists. At the north end of the neighborhood, Carmichael Road comes to a deadend at the edge of a large, abandoned field. Thomas Creek crosses the route of the proposed trail corridor. East of the creek is the R-Tee Driving Range and a small commercial development. A raised embankment and bridge abutment for an active railroad line forms the east border of the industrial area. The park and ride lot is on the other side of the railroad embankment, off of Chenango Bridge Road/Bike Route 3 and on the bank of the river.

Proposed Improvements

A steep embankment separates the Chenango Plaza from the residential neighborhood to the north. Trail ramp will have to be graded into the slope to meet the south end of Carmichael Road. Traffic control will be required at the top of the bank to limit motor vehicle use of the ramp to the plaza. The proposed on-road route will be northbound on Carmichael and right in an eastbound direction on Merrill to the intersection of Jacobs Highway. Trail turns left on Jacobs Highway, then right onto Carmichael to the dead end at its northernmost extent. Traffic control will be required at this point to restrict motor vehicle access to the proposed northbound trail. With the exception of signage, no on-road improvements are proposed in this section.

Negotiations with landowners will be required to construct the northeastern section of off-road trail past the driving range and commercial development. A small bridge over Thomas Creek will be required. An underpass through the railroad bridge embankment will be required to make the connection to the park and ride lot. The feasibility of including construction of this section of the trail in the Route 12A reconstruction project should be explored. Trailhead facilities should be developed in the park and ride lot, including a directory, telephone,

Port Dickinson Park Trail Network

Port Dickinson Park Trail is an 8' asphalt trail with excellent views of the river.



Port Dickinson Park is owned by the Village with facilities including ballfields, picnic pavilions, restrooms, basketball courts, and a parking area off of Chenango Street/Bike Route 4. The park has an 8' wide, asphalt loop trail very similar to the Otsiningo Park trail. The park passes under the I- 88 bridge that crosses the Chenango River. North of the park is a very large abandoned sand and gravel operation. The site has a series of large watered pits with dirt access roads that wind through the property. The Town of Fenton is currently negotiating with mine operators regarding the implementation of reclamation plans for the site. At the north end the mine access road intersects with the West Service Road of I-88 just south of the Chenango Street/BR 4 intersection. Chenango Valley High School is to the northeast, close to the proposed trail route.

Proposed Improvements

The Village of Port Dickinson and the Town of Fenton should explore the feasibility of extending the existing trail network from Port Dickinson Park to the north into the abandoned sand and gravel area. Vegetation is beginning to regenerate in the area and it is potentially a very scenic corridor. The proposed trail could be surfaced in asphalt or limestone dust, depending on anticipated volume and type of users. Developing a trailhead parking facility off of the West Service Road could serve users living in neighborhoods at the north end of the proposed trail.

View of Port Dickinson Park, I-88 bridge, Chenango River and, across the river, the proposed site of the Otsiningo Park Trail Extension.



When the trail needs resurfacing, the Village should consider widening the existing trail network in Port Dickinson Park to a 10' width to increase the safety and comfort for users.

Trails are proposed through abandoned gravel pits north of Port Dickinson Park.



Schnurbush Park Trail Network

Schnurbush Park is the Town of Conklin’s major riverfront park with a swim-

Aerial view looking west with Schnurbush Park on the left and Conklin’s largest residential neighborhood on the right. An undeveloped wooded parcel suitable for trail development is located between the park and the residential area.



ming pool, ballfields, picnic areas, restrooms and parking facilities. The Town has expressed interest in developing a loop trail based on the Otsiningo/Port Dickinson Park model to encourage walking, jogging, skating and biking in the park. A trail directory should be provided to inform park users about the local and regional trail network.

In addition, Conklin is interested in creating a one half mile multi-use trail to link the park and its largest residential neighborhood located a mile to the northwest of the park. Woodcrest Way, the major collector street in the development, comes to a dead end on the neighborhood’s southeast border. Bollards and gates could be installed at this end of Woodcrest Way to restrict motor vehicle access. A small trail directory should also be provided. The proposed asphalt multi-use trail follows an existing dirt road that passes through an undeveloped wooded site between the neighborhood and the park.

Veterans River Park Trail Network

The Town of Kirkwood has developed an attractive riverfront park at the south-

Aerial view looking east of Veterans River Park. This riverfront park is suited to the development of a perimeter trail similar to the trail proposed in Schnurbush Park in Conklin..



eastern edge of the study area, north of the Conklin-Kirkwood Bridge over the Susquehanna. Veterans River Park has a small boat launch, ballfields, picnic pavilions, restroom and parking facilities.

A walking and biking trail around the park perimeter is proposed. Their popularity and success in other large parks in the region indicate that it would be a valued addition to the park's facilities. If successful, the Town may begin exploring trail linkages between the park and abutting residential neighborhoods and destinations.

Chapter Four

Trail Design Standards



Trail identification sign showing permitted trail users at the Parc Linéaire - Le P'tit Train du Nord, a multi-use trail in the Laurentian Mountains of Canada, north of Montreal.

Bicycling on a well-designed multi-use trail is a an activity that can be shared by people of all ages and abilities.

Trail Users and Trail Surfaces

Multi-use trails are designed for the safety and comfort of the permitted users. The trails being planned in the Binghamton Metropolitan Greenways Study are intended for non-motorized users, including walkers, hikers, joggers, bicyclists of varying skill levels, wheelchair users, in-line skaters, families with strollers and cross county skiers.

Following is a series of photos that illustrate some of individuals who will utilize a trail network and the impact of the trail surface on those users.



A trail can be an important transportation route for those who are unable to drive a car. This can include senior citizens and children.



“Super Mom” works out with two children in tow. Trails are excellent facilities for recreation and exercise.



Trails with asphalt surfacing are durable and can accommodate a wide variety of users. Asphalt is the most common surface for heavily used urban and suburban trails. It is the surface that is recommended for most of the trails in Union, Vestal, and the Binghamton. It also recommended for use in large parks, where in-line skating is popular and trail use is very concentrated.



Asphalt trails are the most accessible of all trail surfaces and are valued by the severely mobility impaired users who need a stable, smooth surface.



Limestone dust trails are frequently used in rural areas where anticipated use of the trail is less heavy. The installation cost is significantly lower than asphalt, but their maintenance requirements are greater. 10' wide limestone dust trails are the standard surface for the Canalway Trail along the Erie Canal.



Limestone dust trail surfaces, if constructed properly and adequately maintained are considered handicap accessible according to the Americans with Disabilities Act.



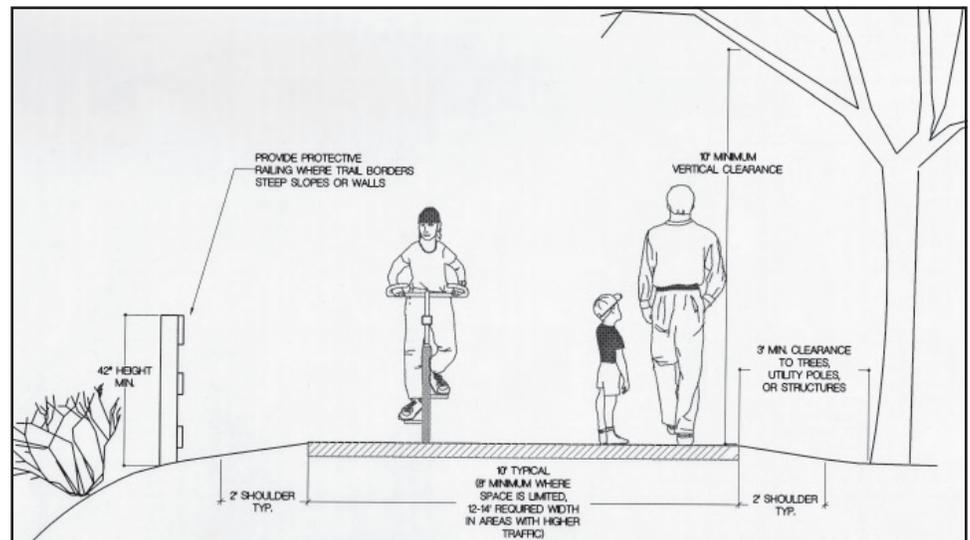
Trails also provide opportunities for winter recreation. In rural sections of the proposed greenway network, cross country skiing will be a popular winter activity. In urban and suburban parks that are surfaced in asphalt, winter plowing could allow for year round walking and jogging. Trails in Otsiningo Park, for instance, are plowed during the winter months by the Broome County Parks Department.



Off Road Trails

Multi-Use Trails: Multi-use trails typically are 8’ to 12’ wide, the standard width being 10’. Two trail surfaces are most commonly used. Asphalt surfacing is recommended in urban/suburban areas where anticipated use is heavy and where the widest possible diversity of users is to be encouraged, including in-line skaters. Limestone dust is recommended in rural areas where a smooth surface is desired, but where the anticipated use is not so intensive and where cost may be-

Typical multi-use trail cross section.



Decorative pavers are used at a Canadian trail-head plaza to represent the trail route through the river valley corridor. Bronze plaques represent the location of villages along the corridor.

come a factor due to the larger distances between destinations. Concrete or unit pavements, such as bricks or concrete pavers, can be used at trailhead facilities, crosswalks and other special areas along the trail.

Footpaths: A footpath is typically 4 - 6' wide and surfaced with natural materi-



als such as wood chips, limestone dust or mown grass. Footpaths are intended for the exclusive use of pedestrians and are often provided in natural or sensitive areas where the intensive use associated with a multi-use trail is inappropriate. They can also be constructed parallel to a multi-use trail to provide a softer surface for joggers and walkers and to minimize the conflicts between high-speed and low-speed trail users.

Asphalt multi-use trail with parallel stone dust trail for walkers and joggers who prefer a less rigid surface than asphalt.



Sidewalks: Sidewalks are an important part of the transportation infrastructure in the cities and villages within the study area. More recently constructed suburban residential strip commercial developments often do not have sidewalk networks making pedestrian travel unsafe and inconvenient. Typically sidewalks are 5' wide. Sidewalks intended as short connecting links in an off-road trail network can be widened to 8' or more safely accommodate users.

On-Road Trails



BMTS bike route signs are a highly visible feature of the road signage system in the study area.

Signed Bike Routes: BMTS has developed an extensive network of seven numbered and signed bike routes that link critical population centers and destinations in the study area. In addition, State Bike Route 17 passes through the study area on its way across the state. Signs are used to assist users in selecting the most convenient, safe and comfortable routes. ‘Share the Road’ signs are placed in narrow sections of the road to alert motorists that bicyclists may be in the travel lane and that overtaking a cyclist should be done with care. The designated bike routes provide an incentive for the state, county, town or city to improve roadway conditions for bicycles at such time as road resurfacing or reconstruction occurs.

Bike Lanes: Bike lanes on urban roads delineate an area reserved for the use of



Bike lanes were provided when NYRoute 17C was reconstructed in Union-Endicott during 1999.

bicyclists and in-line skaters. When placed on a curbed street the lane should be 5’ minimum width, with an additional 1’ added in areas with high traffic volumes, high speeds and/or a significant amount of truck traffic. When parking lanes exist, place bike lane between the parking and motor vehicle travel lane. On rural roads with no curbs, bike lanes or paved shoulders should be at least 4’ wide, although widths of 6-8’ are very common on New York State Highways. Appropriate signage and pavement markings should be applied to clearly indicate their intended use for bicycles. Refer to AASHTO’s Guide for the Development of Bicycle Facilities and NYSDOT’s Pedestrian and Bicycle Facility Scoping Guide for more detailed information.

Trailhead Facilities

Trailheads are points where the trail is easily accessible and visible to users. Of-

ten these are associated with existing recreation or public facilities - parks, fishing access sites, boat launches, schools, etc. One of the most important functions of a trailhead is to provide information about the trail and facilities on or near the trail. Typical trailhead features include the following: motor vehicle parking with handicap accessible spaces, trail directory, restrooms, furnishings (benches, trash and recycling receptacles, lighting, picnic tables), bicycle parking, drinking fountains, decorative pavements and landscaping, and traffic control devices (to limit motor vehicle access to the trail).

Special entry points to the trail can be treated with special materials. A trailhead at a converted railroad station in Canada incorporated decorative pavers and bollards to create a raised pedestrian crossing between the parking area and the trailhead services. Bricks and pavers can provide opportunities for a ‘buy-a-brick’ fundraising campaign (See Chapter 5).



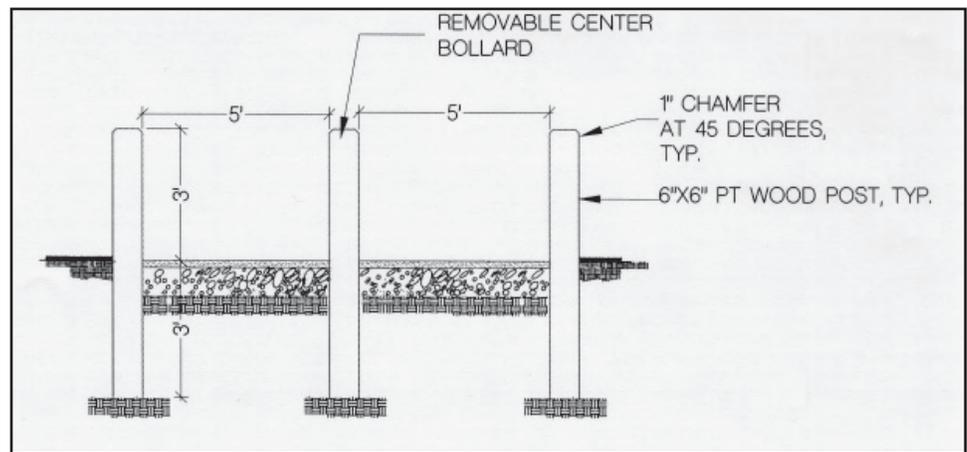
An arched gateway was used to announce the entry of the trail off of the main trailhead plaza.



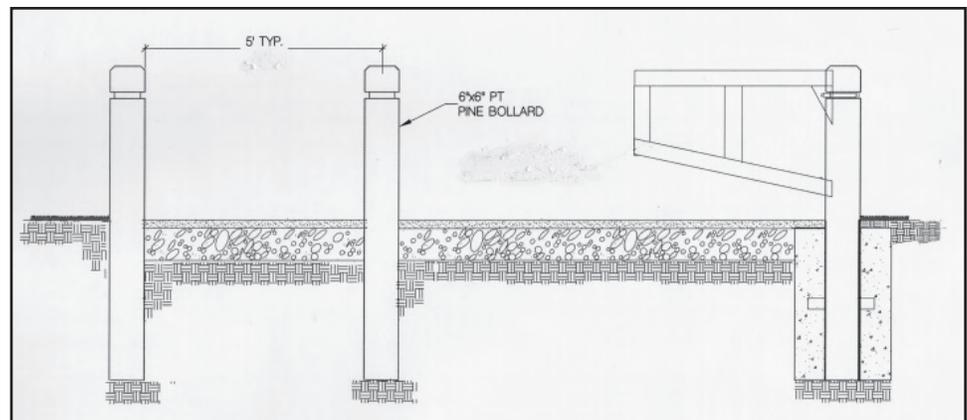
Trail Access Control

Limiting motor vehicle access to the trail from parking areas and intersecting roadways is a critical design feature. This is most commonly done with a row of bollards or with the combination of bollards and a half gate. Emergency and maintenance vehicle access is provided by the installation of a removable bollard or a half gate that swings 90 degrees. Both the removable bollard and the half gate are lockable with keys or combinations provided to maintenance and emergency crews. Where there is adequate space, the half gate is preferred over the removable bollard, because of the ease of opening. Both systems provide 5' wide lanes suitable for bicyclists, skaters, wheelchairs, strollers or pedestrians.

Typical bollard configuration at intersection.



Typical half-gate/bollard configuration at intersection



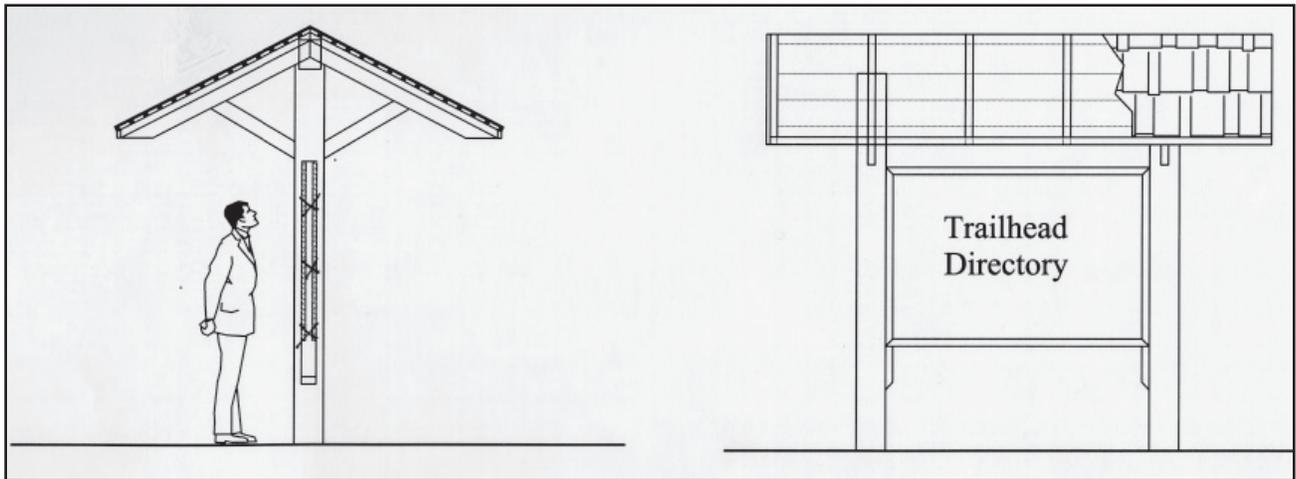
Trail Signage

Signage serves many critical functions in the design of a trail system. A signage system can help create a trail’s identity and public image. The development of a logo that repeats throughout trail signs, brochures, and maps will provide continuity among different sign types. The material and color palette of sign panels and support structures contribute to a trail’s unique character. Following are the types of signs commonly found in a comprehensive trail signage system:

Informational Signs

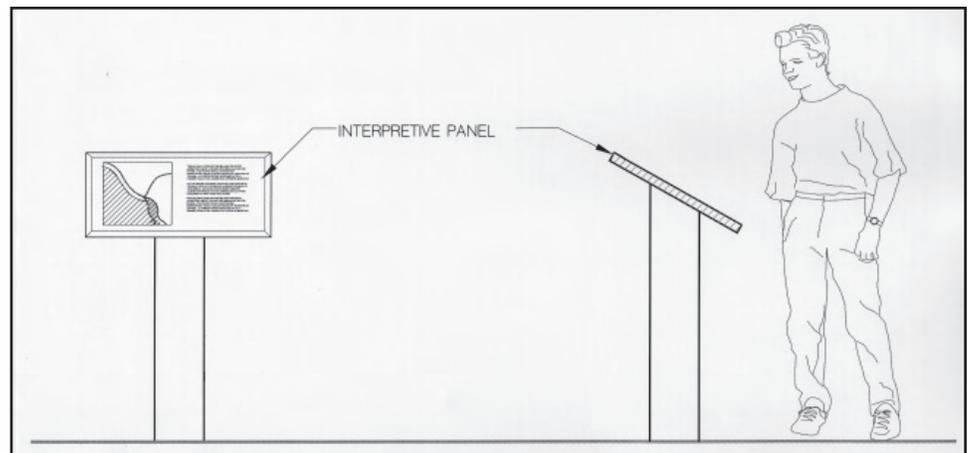
Trail Directories: Directories can be two, three, or four-sided structures in a visible location with a trail map, trail background, rules and regulations, information on services and destinations on the trail, and interpretive information on special features in the corridor.

Two-sided, wood trail directory with wood shingled pitched roof overhang and heavy timber framing

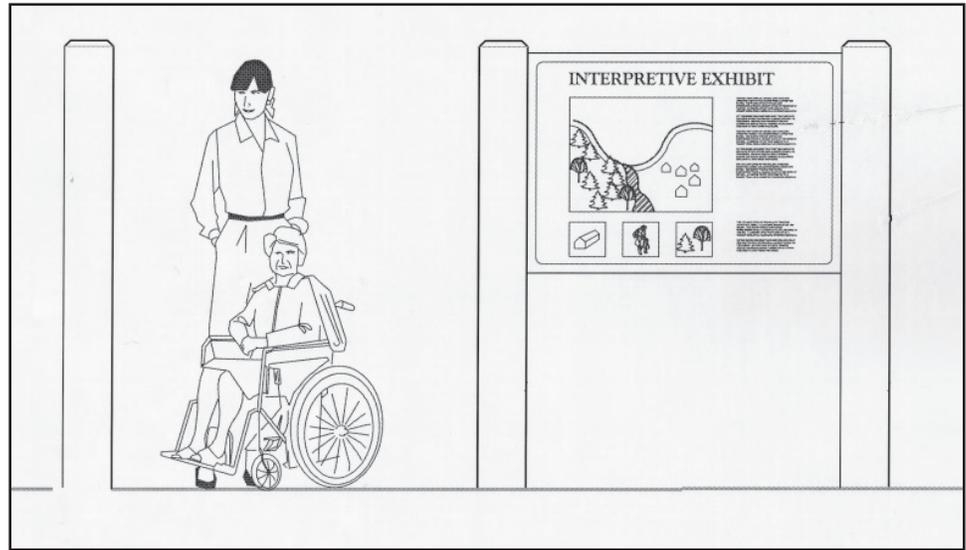


Interpretive Signs: Interpretive signs are located at viewpoints or special features along the trail. Panels can be vertical and at eye level or they can be low profile wayside exhibits which provide information without blocking critical views. Fiberglass embedded and porcelain enamels can incorporate graphics and text into dynamic panels.

Low-profile wayside exhibit

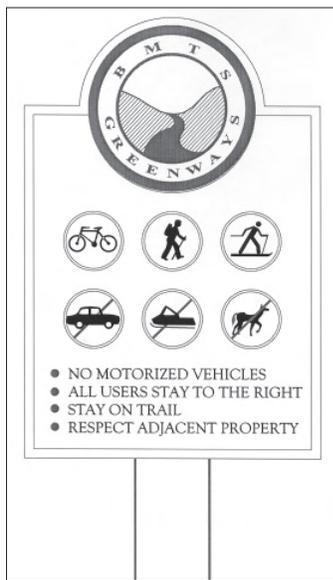


Upright interpretive panels - front and side view.



Identification Signs

Identification signs include the trail name and logo. They typically occur at the trail access points and often incorporate trail rules and regulations.



Left: Trail identification signs can indicate permitted users, rules and regulations, trail owner/sponsor.



Middle: Trail markers direct users at decision points along the route.



Directional/Outdoor Wayfinding Signs

Auto Wayfinding Signs: Direct motorists to trailhead parking facilities and are often associated with warning signs at trail intersections with the road network. These signs can help build awareness of the trail in the community and can often help direct visitors to the trail.

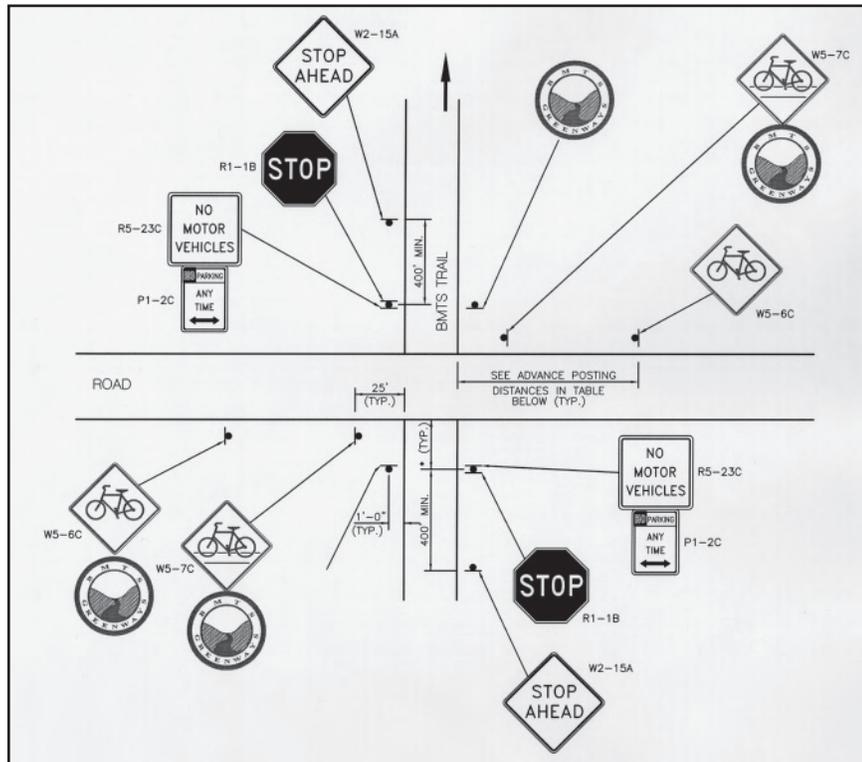
Trail Markers: Signs incorporate trail logo and directional arrows and sometimes mileage to key destinations along the trail.

Trail Services: Sign tabs can be purchased by local businesses to indicate their direction and distance from the trail.

Warning and Regulatory Signs

Warning signs are typically diamond shaped metal with black lettering on a yellow background. They advise cyclists and motorists when caution is advised. Regulatory signs are white metal signs with black or red letters which tell motorists and cyclists what is allowed and not allowed. The following is a typical signage configuration at a major trail/road intersection.

Typical regulatory and warning sign configuration at major trail and road intersection.



Trail intersections with rural roads require signage on the trail and on the road and traffic control devices to limit access to the trail by motor vehicles.



Trail intersections with busy urban/suburban roads can require signage and pedestrian-actuated traffic signals.

Bicycle and Pedestrian Bridges

Bicycle and pedestrian bridges are a critical component of the trail infrastructure. Bridges can be custom designed and built or purchased as prefabricated structures. See appendices for product information on prefabricated bridges.



Bicycle and pedestrian bridges can, in certain instances, be suspended from highway bridge columns to span major river crossings.



Trail Furnishings and Amenities

Barrier rails are required in areas where there is a sharp drop off in terrain close to the trail edge, The 1999 AASHTO Guide to Bicycle Facilities has lowered the required height of rails from 54" to 42".



Bicycle parking should be located at trailheads and destinations along the trail. The 'inverted U' rack shown here is a common and inexpensive rack.



Riverbank trails can provide access to community boating and boat rental facilities along the waterway. Non-motorized trail users and muscle-powered boaters are very compatible, each contribute to a serene, yet active river experience.



Environmental art can be incorporated in parks or at special areas along the trail to enhance the experience of trail users.



Emergency Call Boxes

Emergency call boxes should be incorporated at regular intervals and at key locations along the trail. Call boxes are a component of an emergency response plan that should be developed in cooperation with local police and emergency response officials.



Chapter Five

Implementation

This chapter describes phasing, construction costs and funding strategies for development of the proposed riverbank trail network.

A Phasing Approach for Greenway Development

Implementing the entire greenway plan, at an estimated cost of \$15 million, will require the ongoing effort of BMTS, its member municipalities, the private sector and the public. Construction of the proposed trail network could take between 15-20 years, although this time frame could be shortened with a high level of community support for the proposal. Already the region has begun piecing together the trail network puzzle by constructing trails in Otsiningo Park, Port Dickinson Park Trails, the Chugnut Trail, and BMTS' Metropolitan Bike Route Network. It is critical that BMTS, through its Planning and Policy Committee structure, continue to play a role in establishing priorities and coordinating the implementation of projects that will contribute to the overall development of a comprehensive, regional greenway network.

Projects must be implemented in a rational, well-planned sequence to build on

Otsiningo Park, shown here, and Port Dickinson Park along with Chugnut Trail in Union Endicott, form a successful foundation of a comprehensive trail network.



the existing successes in the region and to ensure continued, long-term success. The following describes a phasing approach and specific project recommendations. Principles 1 and 2 are viewed as being equally important. Projects listed under these headings are considered high priority projects that should be completed before projects listed under Principle 3 are begun:

1. Build on Existing Trail Successes

Where existing trail facilities are in place and successful or currently planned, consideration should be given to extending the ‘reach’ of these facilities to nearby destinations, such as parks, schools, residential neighborhoods or critical districts. The following are the best opportunities for trail extensions:

- The most popular trail in the region is **Otsiningo Park’s** 2.1 mile trail network. Broome County has developed plans and submitted funding applications for the Otsiningo Park Extension to extend the trail more than 1 mile north to the Town of Chenango’s Riverfront Park. Trail extensions south, the Chenango River East Bank Trail, will provide important linkages to Cheri Lindsay Park, the Promenade and the Washington Street Bridge.
- The **Vestal Rail Trail** is a proposed 2 mile multi-use trail linking Main Street to Harold Moore Park and the Town Square Mall. While not yet constructed, the Town has submitted funding applications for trail construction. Once in place, opportunities for extending the trail west to Castle Gardens should be explored.
- **Port Dickinson Park** has a trail loop that is heavily used by Village and Town of Fenton residents. Opportunities for extending the trail north through the abandoned gravel mines in the Town should be explored. The area has been inactive for years and regeneration of native vegetation has begun. There are many scenic ponds with dirt access roads suitable for trail construction.
- Planners in the Town of Union and Village of Endicott are actively exploring route options for the **Chugnut Trail - West Extension**. Despite significant obstacles to trail development, the trail extension will eventually create linkages to Mersereau Park, Grippen Park, the En Joie Golf Course and the Tri-Cities Airport/Village of Endicott Recreation Area.
- The Washington Street Bridge is a fantastic bike/pedestrian and historic resource for the region. Developing the **Chenango River East Bank Trail** will improve bicycle and pedestrian connections between the bridge, the Promenade and Otsiningo Park.

2. Develop New Park Loop Trails

Multi-use trails can be a valued and heavily-used component of a large public park or open space. The success of the trail network in Otsiningo Park, for instance, demonstrates that a park with sufficient size, attractive scenery and support facilities is suitable for trail development. Following are the best opportuni-

ties for developing new trail facilities in existing parks and public spaces:

- **Tri-Cities Airport Loop Trail** - The Village of Endicott owns the airport and has developed a recreation center on the northwest corner of the site with ballfields, a driving range, miniature golf and parking facilities. This parcel has some of the most scenic and quiet publicly-owned riverfront land in the study area. Existing gravel access roads already encircle most of the airport. Trail route selection would have to be carefully studied in the vicinity of the old landfill site (a Superfund site) and the municipal waste treatment and composting facility. Potential trail linkages are east to Grippen Park and the Chugnut Trail and north to Glendale Park.
- **The Hickories Loop Trail** - The Hickories is a Town of Owego Park very

The Hickories is a popular park in the Town of Owego. Currently the road network is used by cyclists, pedestrians and in-line skaters. The development of an off-road, multi-use trail would be a valuable addition to the park.



popular with residents and visitors due to its beautiful riverfront setting and many facilities, including camping, ballfields, picnic pavilions, playgrounds, and bandstand. The Town is aware of the heavy use of the park loop road by pedestrians, in-line skaters and young cyclists and has developed a plan to make the road one-way with parallel motor vehicle travel lane and multi-use trail. The development of an off-road, multi-use trail in the park would be a valuable addition to the park's facilities.

- **Schnurbush Park** - The Town of Conklin has seen the success of trails in Otsiningo and Port Dickinson Park and would like to develop a similar multi-use loop trail in Schnurbush Park. The Park, located on the west bank of the Susquehanna River, has a swimming pool, ball fields, picnic pavilions, and restroom facilities. A multi-use trail would be a fine complement to these ex-

isting facilities. In addition the Town has expressed interested in developing a multi-use trail linkage to its largest residential neighborhood about a half mile north of the park. This could be developed at the same time as the park trail or as a follow-up to park trail construction.

- **Mersereau Park** - Mersereau Park is a small neighborhood park in Endicott with ball fields, a playground and basketball courts located west of Vestal Avenue and north of the river. A loop trail is proposed on the perimeter of the park.
- **Veterans River Park** - The Town of Kirkwood's riverfront park is an attractive, well maintained facility with ballfields, picnic pavilions and restrooms. A walking path around the perimeter of the park would complement existing park facilities.

3. Develop Additional New Trail Linkages

New trails should be developed to create linkages between parks, existing trails, natural areas, city and village centers, schools, residential neighborhoods, and other significant public facilities. As stated previously, projects listed under Principles 1 and 2 are considered a higher priority than the trail linkage projects listed below. These should be undertaken after the projects described above are completed. Following are the best opportunities for developing new trail linkages (Detailed descriptions of these trail sections are provided in Chapter 3: Trail Master Plans):

- **Vestal Parkway Trail**
- **Chugnut Trail – East Extension**
- **I-86 Trail**
- **Chenango Bridge Trail**
- **Binghamton – Chenango River West Bank Trail**

4. Develop New or Improve Existing Bicycle and Pedestrian River Crossings

The Susquehanna and Chenango Rivers are the focus of trail development for the study. They can also present significant obstacles to creating a continuous regional network of trails that link communities and neighborhoods in the study area. Adapting existing bridges for safe bicycle and pedestrian use is the most practical and economical approach and often can be completed in the short-term. New bicycle/pedestrian bridges may be necessary at some locations as trail facilities develop and trail use increases. Construction of new bicycle/pedestrian bridges is considered a long term project. Following is a list of the most critical existing crossings with suggested improvements and of proposed new bridge crossings:

Existing Bridges

- The **Bridge Street Bridge** provides an important linkage between Vestal and Endicott and between the proposed trail networks on the north and south side of the river. The bridge has sidewalks on both sides, and two 15' travel lanes, and heavy motor vehicle traffic. 5' wide bike lanes should be provided in both directions.

- The **Bevier Street Bridge** can provide an important linkage between Otsiningo Park and the proposed Chenango River East Bank Trail. Currently it has four narrow travel lanes and a substandard sidewalk on the north side. NYS-DOT has indicated that two travel lanes (1 eastbound and 1 westbound) with turning lanes at Route 11 (Front Street) and Chenango Street intersections and the Otsiningo Park entry would be sufficient. The elimination of travel lanes would provide sufficient space for bike lanes and sidewalk improvements.
- The **Court Street Bridge** in Owego is scheduled to be reconstructed in 2001. Accommodations for pedestrians and bicyclists should be included in the redesign of the bridge to provide a linkage between Bike Route 2 and Bike Route 1/17.
- The **Memorial Bridge** (Riverside Drive) in Binghamton provides an important connection between the east and west banks of the Chenango River in the vicinity of Washington Street Bridge, Confluence Park, and the Roberson Museum/Visitors' Center. The bridge has sidewalks in both directions. It is scheduled for renovations in the near future and consideration should be given to developing bicycle facilities.
- Bike lanes are scheduled to be striped on the **Tompkins Street Bridge** to improve bikeway linkages between Bike Route 1 and 2.
- The proposed bridge at the new **I-86 Appalachian Interchange** will link NY Route 434 (Bike Route 2) to NY Route 17C (NY Bike Route 17) over I-86 and the Susquehanna River. Shoulders of the proposed bridges are 8' wide, suitable for bicycle and pedestrian use. A fishing access site is being constructed on the south bank of the river, west of the bridge. The proposed I-86 Trail will go under the bridge on the south bank of the river. The parking area at the fishing access site can be used for trailhead parking.

Proposed New Bicycle/Pedestrian Bridges

North of the Bevier Street Bridge there are few Chenango River crossings that accommodate bicyclists and pedestrians. New bridge connections may become important when trail development occurs north of Otsiningo and Port Dickinson Parks. However, new bicycle and pedestrian bridges of sufficient length to cross the Chenango River are very expensive, thus are considered viable only in the long-term. Following is a summary of the most important opportunities for new bicycle/pedestrian river crossings:

- **I-88 Bicycle/Pedestrian Bridge** – The feasibility of suspending a bicycle/pedestrian bridge off of the I-88 bridge supports needs to be studied. This would provide a direct, off-road connection between the Otsiningo Park and Port Dickinson Park Trail networks.
- **Chenango Valley State Park Bicycle/Pedestrian Bridge** – There are no bridges across the Chenango River between the NY Route 12A bridge at Chenango Bridge and NY Route 79 at Chenango Forks, approximately 7 miles to the north. A bicycle/pedestrian bridge would provide a connection between the proposed trails, bikeways and the residential neighborhoods of Chenango Bridge west of the river to the State Park on the east bank. Two

possible locations for the bridge have been identified. First is at Port Crane, linking River Road to NY Route 369 near the intersection of Ballyhack Road (CR 193), just north of Route I-88. The second will connect the point where River Road (CR 96) turns to the west and becomes Old River Road across the Susquehanna River to the southwest corner of the State Park.

- **Vestal Rail Spur Bicycle/Pedestrian Bridge** – There is an existing railroad spur bridge across the Susquehanna River from NYSEG’s Goudey Station into Vestal’s Commerce Road Industrial Park. This bridge has stone abutments of sufficient width for two railroad lines, but only one remains. The feasibility of developing a bicycle/pedestrian bridge on the unused section of the existing stone abutments should be explored. When trails are fully developed in the Towns of Union and Vestal, a bridge across the Susquehanna would provide an important regional linkage.

Strategies for Phasing and Building Community Support

Following is a list the most important projects with proposed phasing over the next twenty years. The initiative of local jurisdictions will determine the actual implementation schedule of projects.

Phase One: Short Term - (Years 1 - 2)

- Otsiningo Park Trail Extension
- Vestal Rail Trail

Phase Two: Mid Term - (Years 3 - 10)

- The Hickories Trail Loop
- Owego to The Hickories Trail
- Tri-Cities Airport Trail Loop
- Union Trail Extension from Proposed Airport Loop Trail to Glendale Park
- Chugnut Trail West Extension
- Vestal Trail West Extension
- Vestal Trail East Extension
- City of Binghamton – Chenango River East Bank Trail
- Bevier Street Bridge Restriping
- Port Dickinson Park Trail Extension
- Chenango Bridge Trail
- Schnurbush Park Trail Loop and Trail Extension to Woodcrest Way
- Veterans River Park Trail Loop

Phase Three: Long Term - (Years 11 - 20)

- I-86 Trail
- Union Trail – River Road to Boland Park
- Vestal Trail West Extension – Castle Gardens to County Line/I-86 Trail
- Vestal Parkway Trail – Route 201 Bridge to Washington Street Bridge
- City of Binghamton – Chenango River West Bank Trail
- City of Binghamton – Susquehanna River Trails

Cornerstone Projects

The following are short and mid-term projects that the study team feels have regional significance. Their implementation is critical to the development of a comprehensive riverbank trail network:

- Otsiningo Park Trail Extension
- Vestal Rail Trail
- Tri-Cities Airport Trail Loop
- The Hickories Trail Loop
- Chenango River East Bank Trail
- Port Dickinson Park Trail Extension

Summary of Estimated Cost of Trail Construction

The following is a summary of the estimated cost of trail construction for the trail

plans. A detailed cost estimate is provided in Appendix 2.

Owego to The Hickories Trails :	\$ 775,000
Town of Union Trails:	\$ 2,800,000
I-86 Trail:	\$ 890,000
Vestal Trails:	\$ 2,200,00
Vestal Parkway Trail:	\$ 710,000
City of Binghamton Trail - West Bank of Chenango River (includes \$2,000,000 for Chenango River West Bank Project)	\$ 2,900,000
City of Binghamton Trail - East Bank of Chenango River	\$ 300,000
City of Binghamton Trail - North and South Banks of Susquehanna River	\$ 210,000
Otsinengo Park Trail Network	\$ 400,000
Chenango Bridge Trail	\$ 700,000
Port Dickinson Park Trail Network	\$ 300,000
Schnurbush Park Trail Network	\$ 270,000
Veterans River Park Trail	\$ 160,000
Susquehanna River Crossings	\$ 700,000
Chenango River Crossings	\$ 2,410,000
Total Estimated Cost of Construction	\$ 15,725,000

Potential Funding Sources for Trail Construction

Following are potential funding sources for implementing the Greenways Master Plan:

New York State Sources

Local Waterfront Revitalization Program

The NYS Department of State encourages local waterfront communities to participate in the Local Waterfront Revitalization Program (LWRP). Currently Tioga County is preparing an LWRP for the Susquehanna River Corridor, including the Town of Owego. The preparation of a Local Waterfront Revitalization Plan for Broome County is an important next step for riverfront trail development in the region. Preparing an LWRP provides a community with the opportunity to evaluate its waterfront resources and develop a plan for their best use. One component of an LWRP is the identification of specific waterfront projects that can be implemented over the short term. The Department of State provides Implementation Grants for waterfront projects identified in the LWRP (50/50 state and local matching grants). Many of the trail projects identified in this study could be easily incorporated into an LWRP.

Environmental Bond Act/Environmental Protection Fund

New York State seeks grant applications on an annual basis for funds from the Environmental Bond Act and the Environmental Protection Fund. Like the LWRP Implementation Grants, Bond Act and EPF grants are a 50/50 matching grant program. Most funds for trail development are applied for through the NYS Office of Parks, Recreation and Historic Preservation. Information for the program is available through OPRHP's regional grant administrator.

State Legislature 'Member Items'

Members of the state legislature have access to significant funding for projects they deem as important in their local districts. The study team has seen cases where unsuccessful EPF grant applications have been funded with member item funds. State legislators should be kept informed about the community's vision and funding needs for the riverbank trail network.

Federal Funding Sources: TEA-21

In 1991, the U.S. Congress passed the Intermodal Surface Transportation Efficiency Act (ISTEA) requiring that bicycle and pedestrian transportation projects be included in metropolitan transportation plans. ISTEA significantly increased funding for such projects. The Transportation Equity Act for the 21st Century (TEA-21) increases funding for bicycle and pedestrian transportation projects beyond those provided in ISTEA. Most federal funding programs provide 80% of the total amount for trail development and require 20% local matching funds. Following are TEA-21's most important funding programs:

Transportation Enhancement Program

The Transportation Enhancements Program (TEP) has been and continues to be the most common funding source for bicycle and pedestrian projects. This program requires states to utilize 10% of their Federal Surface Transportation Program allocation for enhancing the transportation system. TEA-21 spells out eligible purposes, which include bicycle and pedestrian facilities, as well as

historic preservation, scenic beautification and others. Grant awards for the first round of TEP funding are scheduled to be announced at the end of 1999. It is anticipated that there will be another round of TEP funding within 2 - 3 years. Unique among federal transportation programs, the TEP permits the non-federal match to be in-kind contributions; all other programs require cash match.

Hazard Elimination Program

The purpose of the Hazard Elimination Program is to identify and correct locations that may constitute a danger to motorists, bicyclists and pedestrians. These funds can be used for trail development, where it is documented that use of the roadways has resulted in a significant number of accidents involving cycling and/or pedestrians.

Surface Transportation Program

This program typically focuses on road construction, reconstruction and repair. However, a permitted use of STP funds is the development of bicycle transportation facilities in conjunction with road improvements. STP funds can also be used for maps, brochures and public service announcements.

National Highway System Funds

NHS funds can be used to develop multi-use trails and shoulder improvements in highway corridors, including interstate highways.

Recreational Trails Program

The Recreational Trails Program can be used for the development of multi-use trails, trailhead facilities and education programs. Grants are typically small in size.

Local Government

County and local government will be required to provide matching funds and/or in-kind contributions for all state (50% match) and federal grants (20% match). They can, of course, choose to take on trail construction with their own funding, if unsuccessful with state and federal funding applications. Local funds may be required to construct trails within local park facilities.

Broome County Parks Department

Broome County has an extensive parks system and has developed a successful trail network in Otsiningo Park. Staff has developed plans and submitted a grant application for enhancement program funds to extend the trail north to Riverfront Park.

Municipal Parks/Transportation/Public Works Departments

Town, city, and village staff members, along with elected and appointed officials, must build local interest in trail development projects and develop funding proposals. Staff time will often provide in-kind contributions toward the local matching funds required.

Business and Non-Profit Agency Involvement

A successful, long-term trail implementation effort is often the result of partnerships between government, the business community and the non-profit sector.

Private and Non-Profit Sector Involvement

Building partnerships with members of the local business community and the non-profit is critical to long-term successful trail development efforts. Leaders of the business community are key volunteers and leaders in the non-profit sector. The leadership of business representatives will strengthen grant applications and sometimes provide a source of matching funds for the local portion of state and federal grants. Fundraising efforts can contribute significant funds towards local matching funds. Efforts such as ‘Adopt a Trail’, ‘Buy a Brick’, ‘Trailblazers’ and ‘Friends of the Trail’ are excellent ways to build enthusiasm for the trail and to raise funding required to plan and construct the trail.

A Model for Private Fundraising - The Allegany River Valley Trail

Following are some materials used to promote and raise funding for the Allegany River Valley Trail in Olean, New York. The trail was the brainchild of Joe Higgins, a bicycling enthusiast and the Owner of Abbot Welding Supply Company in Olean. Trowbridge & Wolf was on the design team for the construction of the trail, a 6 mile, multi-use trail constructed in 1998. The Trail Blazer campaign raised the 20% matching grant for a \$500,000 ISTEA Enhancement Grant for trail construction.

Trail Blazer button for the Allegany River Valley Trail (formerly known as the Olean Allegany Portville Recreation Trail)





Trail Blazer bumper sticker for trail supporters

LEAVE AN ENDURING LEGACY FOR FUTURE GENERATIONS

Here's your chance to immortalize yourself, your family, a loved one or your business on the Allegany-Olean Recreational Trail. The trail will allow people of all ages to enjoy the majesty of nature that surrounds our area while walking, jogging, bicycling or just strolling the path, which will wind throughout Olean and Allegany. (see map at right)

This project has been in the development stage for several years and is now close to a reality. We have received funding already from several sources—totalling close to a half-million dollars. The final piece of the financial pie is designed to be a grass roots fund raising effort.

ALLEGANY-OLEAN TRAIL

\$35 Brick

12x18 STONE MONUMENT

12x12 STONE MONUMENT

12x20 STONE MONUMENT

MAP OF PROPOSED RECREATIONAL TRAIL

Because this is a community project, we are asking citizens and businesses of the area to support The Allegany-Olean Recreational Trail by buying one (or several) bricks or a monument. These memorials, carved with an imprint of your choice, will then become quite literally part of the trail itself. Placed at various points along the 6 miles of the trail, the bricks will be a lasting testament to your support of this important project for generations to come.

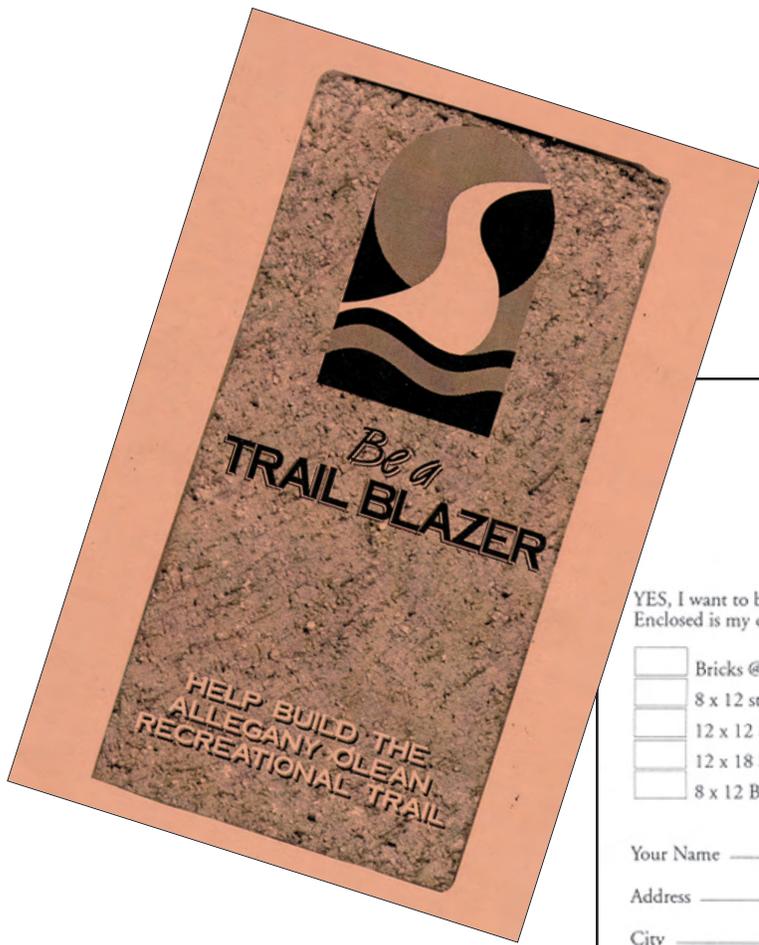
Here's a guideline to help you decide your level of support for the Trail:

\$5,000 & up	8"x12" Bronze Plaque
\$1000 - \$4,999	12"x20" Stone Monument
\$500 - \$999	12"x12" Stone Monument
\$250 - \$499	8"x12" Stone Monument
\$35	Brick

For information call 716. 372. 4433

Please fill out form inside now, to reserve your spot on the trail!

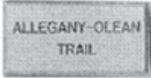
Brochure outlining the Trail Blazer fundraising strategy. Donors can contribute at a variety of levels: \$5,000 or more will buy a bronze plaque to be placed at a trailhead \$250 to \$4,999 will buy stone monuments of different sizes to be set in the trailhead pavement and \$35 will buy an inscribed brick to be set in a trailhead plaza.



Brochure cover and mail in donation form.



**Allegany-Olean
Recreational Trail**



YES, I want to be a part of the Allegany- Olean Recreational Trail.
Enclosed is my check for \$ _____ for the following memorials:

<input type="checkbox"/>	Bricks @ \$35 each
<input type="checkbox"/>	8 x 12 stone Monument @ \$250 each
<input type="checkbox"/>	12 x 12 Stone Monument @ \$500 each
<input type="checkbox"/>	12 x 18 Stone Monument @ \$1,000 each
<input type="checkbox"/>	8 x 12 Bronze Plaque @ \$5,000 each

*Please make checks payable to:
Greater Olean
Community Foundation.*

*Remember -- Your contribution is
tax deductible!
Please mail Checks and information to:*

*Greater Olean, Inc.
120 North Union Street
Olean, NY 14760
716. 372. 4433*

Or...
*You may want to drop off the form and
your payment at these locations:*

Please specify the information you'd like on the monument:
(Maximum of 3 lines, 15 spaces /characters on each line)

1. _____

2. _____

3. _____

1. _____

2. _____

3. _____

1. _____

2. _____

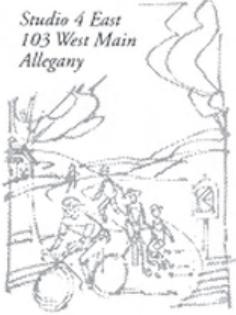
3. _____

*Greater Olean, Inc.
120 North Union Street
Olean*

*Abbott Welding Supply
509 North 1st Street
Olean*

*House of Wheels
213 North Union Street
Olean*

*Studio 4 East
103 West Main
Allegany*



Chapter Six

Operations and Management

BMTS will facilitate the development of riverbank trails with its member government organizations. BMTS' role can include the following activities:

- ❑ Coordinate a comprehensive, regional approach to riverbank trail development.
- ❑ Provide technical assistance and review in the development of trail plans and projects to ensure that projects meet accepted state and national standards and are consistent with regional standards and plans.
- ❑ Assist their constituent organizations in securing funding for trail construction projects.
- ❑ Ensuring that trail and bikeway issues are considered in the scoping of all regional transportation projects.

Ownership of Trail Facilities

Existing trail facilities in the BMTS study area are owned, operated and maintained by county, city, town or village government, typically a department of parks and recreation or public works. Future trail development projects described in this study will likely follow this arrangement. It is possible, indeed desirable, that private organizations will be instrumental in initiating and implementing trail projects, like the Endicott Rotary Club's involvement in the development of the Chugnut Trail. However, trail ownership will often revert to the local municipality for purposes of maintenance and liability. If a continuous trail system is eventually achieved, consideration should be given to having County government (Broome and Tioga respectively) take over trail jurisdiction from individual municipalities. This would provide for uniformity in operations, maintenance, and security.

Trail Rules and Regulations

Trails will often have the same rules and regulations as other public park and recreation facilities. Facilities are typically open during daylight hours. They may open at dawn and close at dusk, or 9-10p.m. Rules and regulations specific to the trail will have to be developed to manage the potential conflicts around anticipated trail user groups. Rules and regulations should be developed and posted prominently at trailheads, information signs along the trail and in trail brochures and maps. Following are a menu of common rules and regulations for a multi-use trail:



Rules and regulations for New York Power Authority dike trails at the Seaway Valley Recreationway on the St. Lawrence River.

- ❑ Keep to the right, except when you need to pass another trail user. Pass on the left and give an audible signal when passing.
- ❑ Be courteous. Respect the rights of other trail users. Respect the privacy of adjacent landowners and stay on the trail.
- ❑ Be predictable.
- ❑ Yield when entering or crossing a trail.
- ❑ If pets are allowed, keep them on a leash. Clean up litter, including animal wastes.
- ❑ No motorized vehicles are allowed with the exception of maintenance and emergency vehicles.

Trail Maintenance Activities

Trail maintenance will most often be the responsibility of the government that owns and operates the trail. Maintenance can be supplemented by the efforts of voluntary and civic organizations, including Rotary Clubs, Boy Scouts, Earth Day or Make a Difference Day groups. Public involvement in trail maintenance can minimize costs and build community support for the trail. ‘Adopt-a-Trail’ programs, based on the successful ‘Adopt a Highway’ programs common in New York, can be used to delegate trail maintenance tasks, such as litter control, mowing or pruning to voluntary and business organizations. Summer youth training programs, such as B.O.C.E.S., have been successfully used in other New York State communities for trail construction and maintenance. Maintenance activities include the following:

Asphalt Trails

Conduct annual inspection of trail surface and repair failing areas. Rough edges, bumps and depressions and cracked or uneven pavement should be removed and replaced to maintain the trail surface as a continuous, even and clean surface. Trail surface will likely have to be resurfaced with ten to fifteen years.

Limestone Dust Trails

Conduct monthly inspections of trail surface and repair problem areas. Trail should be groomed on an annual basis and will likely need resurfacing within 5 to 10 years.

Mowing and Vegetation Trimming

Mow grass shoulders on a schedule compatible with the surroundings. In a park setting, shoulders should be mown on the same schedule as the park. In a more natural setting, mowing can occur on a monthly basis in the 2 – 3 foot shoulder to provide a safe refuge space for trail users. Vegetation should be cleared to at least 3 feet from the trail edge and more at intersections or curves where increased visibility is required. Selective vegetation clearing is recommended within 3 – 10 feet of the trail to improve visibility and security.

Drainage



If dogs are allowed to use the trail, provision of ‘doggie bags’ is a courtesy for trail users.

Regular inspections and cleaning of drainage swales and structures is important to ensure they are free of debris and will not cause puddling on the trail surface during storm events. Repair structures as required.

Cleaning of Trail Surface

Maintain the trail surface free of debris and litter. This is particularly important in areas where seasonal flooding is likely. Removal of river silt deposits can be very difficult and time consuming, requiring the use of heavy equipment or high pressure hoses.

Pavement Striping

Pavement striping at road intersections, along road shoulders or on a multi-use trail, should be inspected annually and repainted as required.

Signage

Conduct annual inspection of signs and repair as required.

Winter Maintenance

The trail network in Otsiningo Park is plowed by the Broome County Parks Department during the winter months and is heavily used throughout the year. Individual municipalities will have to assess their maintenance capabilities and the potential demand for winter use to determine whether trails will be maintained during the winter. Trails located in large, regional parks, like Otsiningo Park, will likely receive significant year-round use if plowed. Other trail sections may serve an important transportation function if, for instance, located near a school or university with large populations of pedestrians and bicyclists.

Liability Concerns

Liability in the event of an injury on or near the trail is a common concern for sponsoring communities, landowners and abutting property owners. A local government's standard liability insurance is sufficient to provide coverage for multi-use trail projects. The Rails to Trails Conservancy has not documented any cases where a municipality's insurance premium has increased after the development of a trail.

Landowners who grant public and non-profit agencies permission to develop a trail on their land or who own property that abuts a trail are protected under the New York Recreational Use Statute (General Obligations Law, Section 9-103). Under this statute, the landowner is liable only if willful and malicious conduct to create a dangerous condition, use or structure can be demonstrated, or if a fee is charged for the use of the land. The New York Recreational Use Statute was upheld in a New York State Court of Appeals Case (Farnham vs. Kittinger, 83 N.Y. 2d 520 (1994)).

Security and Emergency Response System

It is recommended that agreements be made between the trail owner/sponsoring agency and local police, fire and paramedical departments. The agreement should outline a cooperative law enforcement strategy for the trail based on jurisdictional

considerations, capabilities of different agencies and services typically needed for such a facility. The agreement should describe points of access to the trail and design details for making these access points safe, secure and accessible to law enforcement officials. A system of emergency call boxes using traditional telephone or cellular telephone technology should be implemented. Call box location is determined in consultation with police and fire authorities. Typical spacing is recommended at 1/2 to 1 mile intervals. An emergency response system using the 911 system should provide clear routing plans and trail access for emergency vehicles. Trail surface and bridge structures should be designed, where possible, to accommodate emergency vehicles.

Where police departments have created bicycle police patrols, they should regularly patrol the trail, particularly where safety concerns are an issue. Government agencies should explore the creation of a youth or citizen bike patrols. Citizens can be trained and given authority to police the trail on a routine basis to ensure that trail rules are followed and to provide enhanced security for trail users. For instance, state and local parks departments in New York state have trained seasonal park rangers to assist in enforcement of park regulations and in educating park users about park resources and facilities.

Smith, Gerald, *The Valley of Opportunity*, Broome County Historical Society.

Egner & Neiderkorn Associates, *Southern Tier East Regional Plan for Broome and Tioga Counties. Volume 3 - Recreation, Open Spaces, Riverbanks*. Southern Tier East Regional Planning Agency. 1972.

Konski Associates, P.C. *Binghamton Metropolitan Bikeway System: A Plan and Program*. Binghamton Metropolitan Transportation Study. 1979.

Bikeways System Report. Binghamton Metropolitan Transportation Study. 1979.

Pedestrian and Bicycle Plan. Binghamton Metropolitan Transportation Study. June 1996.

2000 - 2004 Transportation Improvement Program. Binghamton Metropolitan Transportation Study. June 1999.

Appendix One

Inventory Maps and Data

Parks and Recreation Resources

Information shown was provided by municipalities. Where information regarding acreage and facilities/amenities is not shown, it was not provided to the study team the municipal representatives.

TOWN OF OWEGO

Name/Location	Acreage	Facilities/Amenities
Brick Pond Marsh		
Campville Commons:	40.69	Playground Baseball/Softball field Pavilions Restrooms Open recreational fields
County Forest		
Draper Park		
Eric Alzate Park		
Hiawatha Island:	100	Lookout tower Trails Historic remnants
Hickories Park:		Boat launch Playground Volleyball Basketball courts Open recreational fields Bandstand Camping facilities Baseball/Softball field Pitch'n putt golf Horseshoes 6 Pavilions Restrooms
IBM Recreation		
Livingston Park		
Marshland Road	2.54	Boat launch
Muth Park: Apalachin	9.99	Playground Baseball/Softball field Pavilions
Oakley Corners State Forest:		
Plaza Park		

Terrace Park: 3 Playground
Baseball/Softball field
Basketball court
Tennis court

Tioga Blvd.

Tracey Creek State Forest:

Woodside Park: 1 Playground
Basketball courts

Woodwinds Park: 3.15 Playground

Additional Public Recreation Facilities:
School Facilities

Waterman Conservation Center

Apalachin Marsh Bird Sanctuary

Additional Private Recreation Facilities:
Lockhead Martin Facilities

9-Hole golf course, South Apalachin

Links Golf Course:
on Marshland Road at Hiawatha Landing

TOWN OF UNION

Name/Location	Acreage	Facilities/Amenities
17C Park		
Boland Park, Village Park		
Brixius Creek Park		
C.F. Johnson Park		
Endwell Greens Golf Course		
Enjoie Golf Course		
Enjoie Park		
Finch Hollow Nature Center		
G.W.J. Park		
Glendale Park		
Grippen Park		
Highland Park		
Merseread Park		
Northside Park		
Roundtop Park		
Struble Park		
William Hill Park		

TOWN OF VESTAL

Name/Location	Acreage	Facilities/Amenities
Arnold Park Andrews Road and Pierce Hill Road	96	One Baseball field Two Softball fields Two Football fields Two Ice skating rinks One sand volleyball court Two Paved half basketball courts Four picnic pavilions Children's play area Fitness course Batting cage Nature trail Restrooms Concession building Storage building
African Road Park African Road	4.5	Combination tennis and Basketball court Picnic pavilion Children's play area
Barlow Park Main Street	2	Picnic pavilion Children's pavilion
Castle Gardens Park Garden Lane and North Road	3.21	Softball field Half basketball court Children's play area
David Avenue Park David Avenue	1.19	Tennis court One and one half basketball courts Children's play area Picnic pavilion
Ethel Place Park Ethel Place	1.2	One paved basketball/kickball court Children's play area Picnic pavilion
Four Corners Park Vestal Memorial Park Front Sstreet and Main Street	less than 1	One Gazebo

Flood Plain Park Main Street	12	Three (7/8 size soccer field One Little League baseball practice area
Fuller Hollow Park Marietta Drive	20.86	One unmarked baseball field Children's Play area Picnic pavilion
Harold Moore Park Old Vestal Road	10.21	Two Basketball courts with lights Four Softball fields Four Soccer fields Children's play equipment Picnic pavilion Restroom Concession building Boat ramp
Jones Park State Line Road	304.14	Hiking trails Natural areas
Magnolia Drive Park Magnolia Drive	5.42	Small ballfield Children's Play area Pavilion
Middendorf Park Juneberry Road	2.8	Little League baseball/softball practice field Half basketball court Children's play area Pavilion
Vestal Memorial Pool Vestal Little League Baseball Field Clayton Avenue	4.68	Outdoor swimming pool and wading pool Little League baseball field Little League batting cage
Richards Avenue Park Richards Avenue	2	Children's play area One Pavilion and picnic area

Ross Corners Park Old Owego Road	7.7	Three tennis courts Two soccer fields Baseball field Childrens play area Pavilion Outdoor ice skating rink
Stair Park Murray Hill Road	16.6	Tennis/basketball court Children's play area Pavilion and picnic area
Stratford Park Stratford Drive	1	One half basketball court Children's play area One pavilion
Twin Orchards Park Myrtle Street	4	One little league baseball practice area One small soccer field One tennis court One basketball court One ice skating pond Children's play area One pavilion
Vestal Center Park Coleman Street	7.87	One softball field Two tennis courts One half basketball court One ice skating pond Children's play area
Willow Point Park Gates Road	9.63	Three softball fields One piece of childrens play equipment One pavilion
River Park Castle Gardens Road	62	Undeveloped
Recreation Office 516 Front Street		Indoor space for crafts and similar activities

Additional Public Recreation Facilities:

African Road Elementary School South Benita Boulevard	4±	One little league baseball field One soccer field overlapping the little league field One volleyball court Two areas of childrens play equipment Gymnasium
African Road Junior High School South Benita Boulevard	5±	Three soccer fields Two little league baseball fields Four tennis courts Gymnasium
Clayton Avenue Elemenetary School Clayton Avenue	2±	Two little league baseball practice fields
Glenwood School Field Glenwood Road and Jones Road	5±	Three little league baseball/softball practice fields One field hockey/football/soccer field Three half outdoor basketball courts Gymnasium
Ross Corners School Field Old Owego Road	2±	See Ross Corners Park
Sammon Field Clayton Avenue	4±	Three little league baseball practice fields Two lacrosse fields One football practice field
Vestal High School Clayton Avenue	15±	Varsity football stadium with track and bleachers Baseball field Soccer field Two softball fields Two little league baseball practice fields Four tennis courts Indoor swimming pool Two gymnasiums Wrestling room Training room
Vestal Hills Elementary School Country Club Road	2±	Two softball/little league baseball practice fields Two basketball courts Gymnasium
Vestal Central Schools Administration Building Main Street		Senior citizens center Gymnasium

CITY OF BINGHAMTON

Name/Location	Acreage	Facilities/Amenities
Confluence Park		
Ely Golf Course		
Lindsey Park		
McArthur Park		
Rec. Park		
Ross Park Zoo		
Sandy Beach Park		

TOWN OF DICKINSON

Name/Location	Acreage	Facilities/Amenities
Otsiningo Park		
Port Dickinson Park		

TOWN OF CHENANGO

Name/Location	Acreage	Facilities/Amenities
Broad-Acres Mini-Park:		
		Swings
Between Route 12 and the Chenango River		Basketball hoop
Hider Park:		
Southern end of Town, off of Front Street		3 Ballfields Playground Picnic shelter Basketball court
Kathleen Manor Neighborhood Park:		
Near Port and Warner Rds.		Playground Small field Basketball hoop
Wolfe Park	169.4	Trail Ravine and waterfall

Additional Public Recreation Facilities:

Castle Creek Civic Association	3 Fields Pole barn Playground Clubhouse
Chenango Bridge Civic Association	Civic fields Storage
Chenango Bridge Elementary Fields	
Chenango Forks School Facilities	
Fields behind Northgate Plaza:	Softball fields Soccer fields
Kattelville Athletic Association	Softball fields Soccer fields Clubhouse

Additional Private Recreation Facilities:

Behind Route 12A	Golf course
Dimmock Hill Golf Club	
Mt. Trail Bowhunters Association Dimmock Hill and West Chenango Road	

TOWN OF FENTON

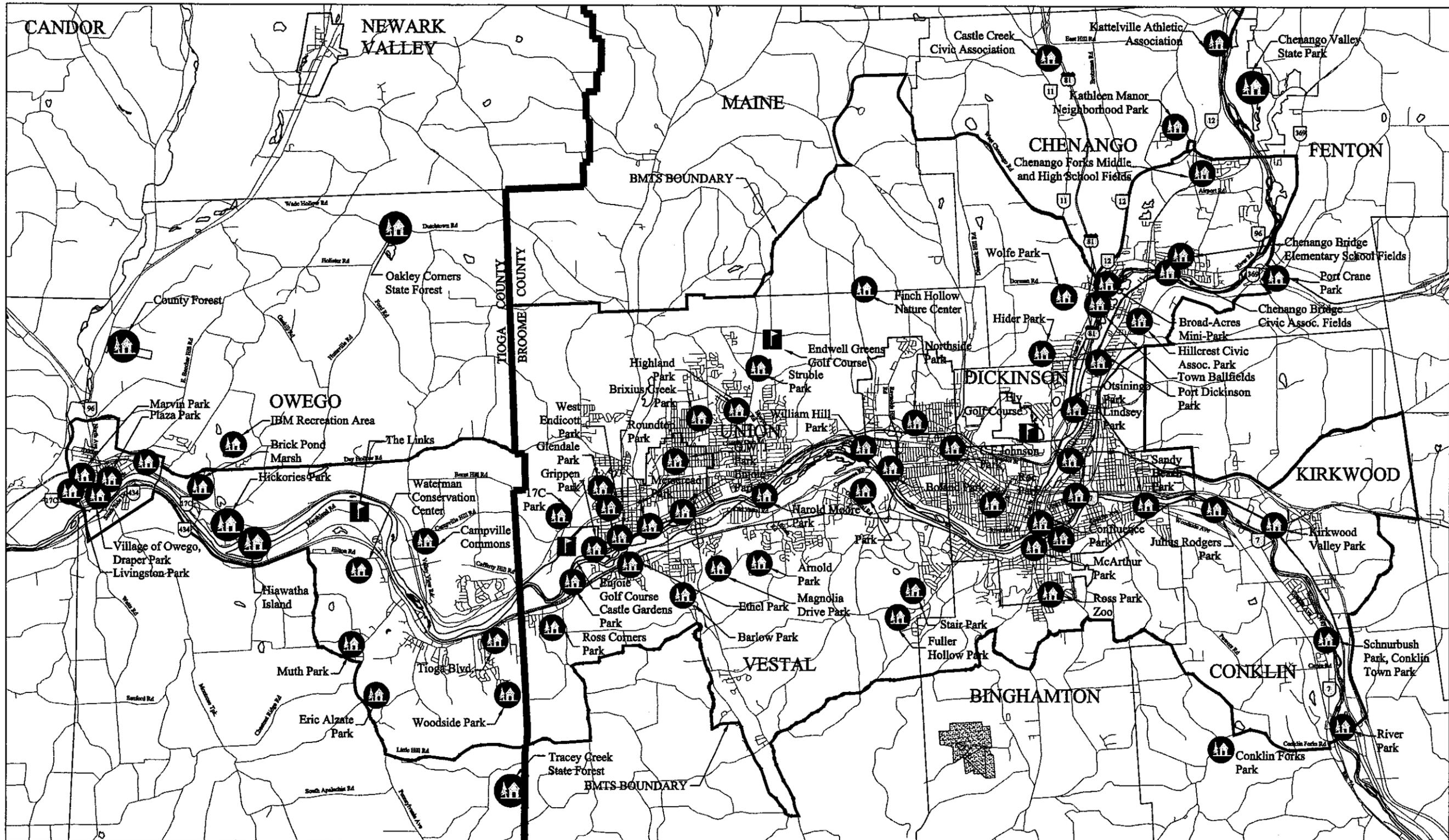
Name/Location	Acreage	Facilities/Amenities
Chenango Valley State Park		
Hillcrest Civic Association Park		
Port Crane Park		

TOWN OF KIRKWOOD

Name/Location	Acreage	Facilities/Amenities
Kirkwood Valley Park		
River Park		

TOWN OF CONKLIN

Name/Location	Acreage	Facilities/Amenities
Conklin Forks Park:		
	10.9	Softball/Baseball field (1.5 acres) Basketball court (0.10 acres) Handball court (0.05 acres) Picnic pavilion (0.10 acres picnic area) Playground (0.10 acres)
Julius Rodgers Park:		
Off of Route 7, in the northern end of town	1.8	2 Tennis courts (0.25 acres) Basketball court (0.10 acres) Softball/Baseball field (1.5 acres) Playground (0.10 acres)
Schnurbush Park:		
1 1/2 miles northeast of Carlin Road between the Susquehanna River and Route 7	21.4	Outdoor swimming pool/bath house Picnic pavilion (0.25 acres picnic area) Playground (2.5 acres) Handball court (0.05 acres) Basketball court (0.10 acres) 3 Softball/Baseball fields (total 4.5 acres)
Additional Public Recreation Facilities:		
1271 Conklin Road, behind the Town Hall	1.5	Softball/Baseball field
Donelly Elementary School Facilities	3.0	Softball/baseball field (1.5 acres) Soccer field (1.0 acres) Playground (0.50 acres)
Susquehanna Valley Junior-Senior Highschool, Conklin Road	15.8	5 Tennis courts (0.75 acres) Football/track field (4.0 acres) 2 Softball/baseball fields (4.0 acres) Soccer field (2.0 acres) Basketball court (0.05 acres) Open, golf range (0.5 acres)
Additional Private Recreation Facilities:		
Route 7, near Schnurbush Park	1.5	Miniature golf facility
Conklin Road	31.0	19-Hole miniature golf course (0.5 acres) Driving range (30 acres) 4 Indoor batting cages 2 Half-court basketball courts (0.10 acres)



TROWBRIDGE & WOLF
Landscape Architects
Planners
1345 Mecklenburg Road
Ithaca, New York 14850
607-277-1400
Fax 607-277-6092

STANTEC CONSULTING
1400 Rymal Road East
Hamilton, Ontario
Canada L8W3N8
905-385-3234
Fax 905-385-3534

BICYCLE FEDERATION OF AMERICA
1506 21st Street
Washington, DC 20038
802-388-2453
Fax 802-388-3299

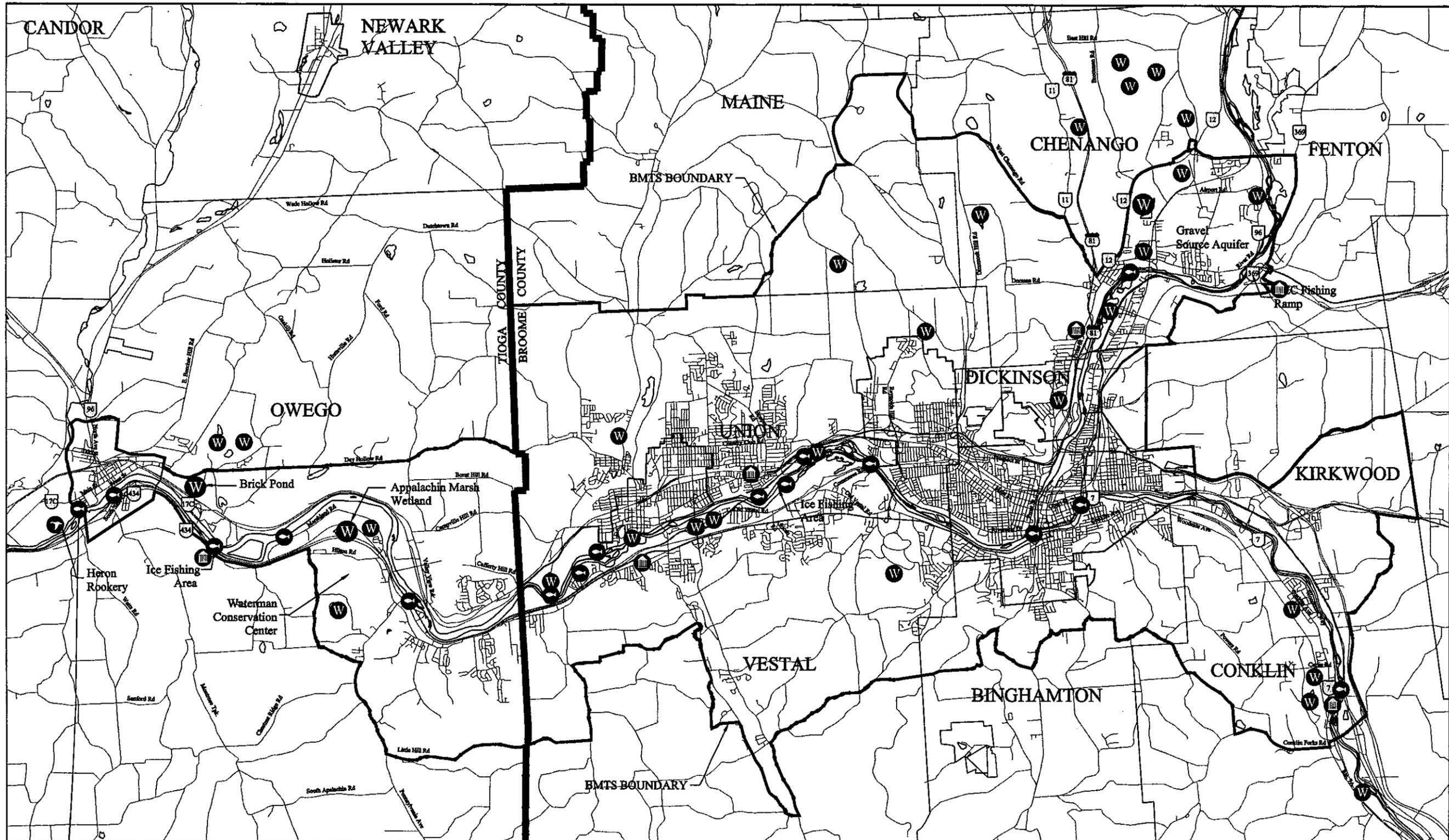
**Binghamton Metropolitan Greenway Study
Parks and Recreation Resources**

Not to Scale

December 6, 1999

SUMMARY OF TRAIL PARKS AND RECREATION RESOURCES:

Owego: County Forest Oakley Corners St. Forest Marvin Park Plaza Park Livingston Park	Draper Park IBM Recreation Brick Pond Marsh Hickories Park The Links Hickories Park Campville Commons	Hiawatha Island Eric Alzate Park Waterman Conserv. Cent. Tioga Blvd. Woodside Park	Tracey Creek State Forest Union: 17C Park Enjoie Golfcourse Grippen Park Glendale Park	Roundtop Park Merseread Park Enjoie Park G.W.J. Park William Hill Park Brixius Creek Park	Highland Park Endwell Greens Golf Course Struble Park Finch Hollow Nature Center Northside Park Village Park, Boland Park	C.F. Johnson Park Vestal: Ross Corners Park Castle Gardens Park Magnolia Drive Park Arnold Park	Harold Moore Park Stair Park Fuller Hollow Park Rec. Park Ely Golf Course	Lindsey Park Confuence Park McArthur Park Sandy Beach Park Rosa Park Zoo	Dickinson: Otsiningo Park Port Dickinson Park Chenango: Wolfe Park	Broad-Acres Mini-Park Town Ballfields Ch. Bridge Elem. Fields Ch. Bridge Civic Assoc. Fields Ch. Forks Middle School Fields Kathleen Manor Neighborhood Park	Castle Creek Civic Assoc. Kattelville Athletic Assoc. Fenton: Chenango Valley State Park Hillcrest Civic Association Park Port Crane Park	Kirkwood: Kirkwood Valley Park River Park Conklin: Conklin Forks Park Town Park, Schnurbush Park	Julius Rodgers Park
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KEY FOR NATURAL RESOURCES:

-  New York State Regulated Wetland
-  Fishing Opportunity
-  Wildlife Resources


TROWBRIDGE & WOLF
 Landscape Architects
 Planners
 1345 Mecklenburg Road
 Ithaca, New York 14850
 607-277-1400
 Fax 607-277-8092

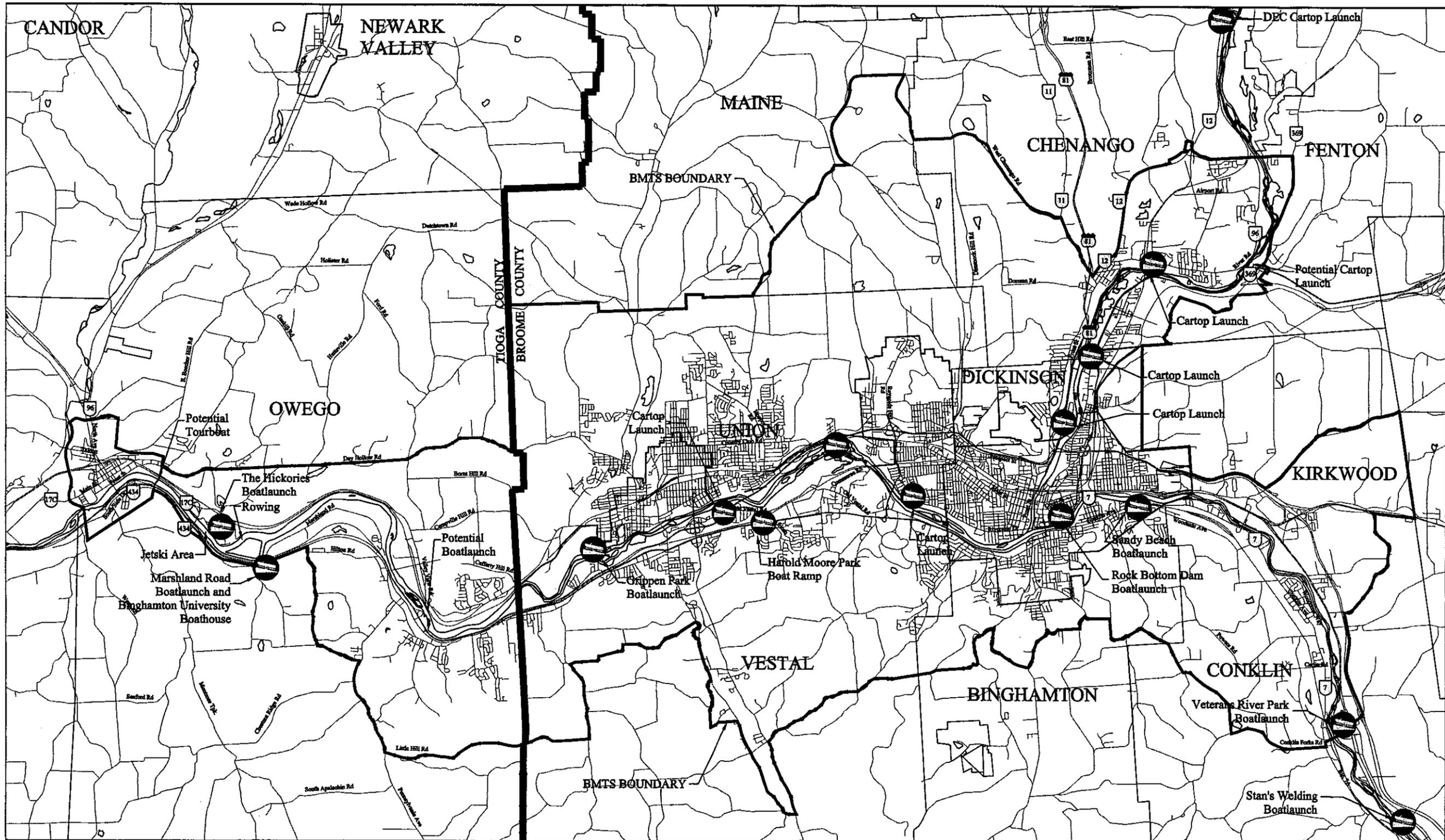
STANTEC CONSULTING
 1400 Rymal Road East
 Hamilton, Ontario
 Canada L8W3N8
 905-385-3234
 Fax 905-385-3534

BICYCLE FEDERATION OF AMERICA
 1506 21st Street
 Washington, DC 20036
 802-388-2453
 Fax 802-388-3299

Binghamton Metropolitan Greenway Study
Natural Resources

Not to Scale

December 6, 1999



TROWBRIDGE & WOLF
Landscape Architects
Planners
1345 Mecklenburg Road
Ithaca, New York 14850
607-277-1400
Fax 607-277-6092

STANTEC CONSULTING
1400 Rymal Road East
Hamilton, Ontario
Canada L8W3N9
905-385-3234
Fax 905-385-3534

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OF AMERICA**
1506 21st Street
Washington, DC 20038
802-388-2453
Fax 802-388-3299

**Binghamton Metropolitan Greenway Study
Boating Opportunities**

Not to Scale

December 6, 1999

SUMMARY OF BOATING OPPORTUNITIES:

<u>Owego:</u> Potential Tourboat The Hickories Boatlaunch Rowing Area Jetski Area	<u>Marshall Road Boatlaunch</u> Binghamton University Boathouse Potential Boatlaunch at the Proposed Bridge <u>Union:</u> Grippen Park Boatlaunch	<u>Motor Boat Activity</u> 2 Cartop Boatlaunches <u>Vestal:</u> Harold Moore Boatlaunch <u>Binghamton:</u> Rock Bottom Dam Boatlaunch	<u>Sandy Beach Boatlaunch</u> <u>Dickinson:</u> 2 Cartop Boatlaunches <u>Chenango:</u> DEC Cartop Launch Cartop/Informal Launch	<u>Fenton:</u> Potential Cartop Boatlaunch <u>Kirkwood:</u> Kirkwood Park Boatlaunch Stans Welding
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Appendix Two

Estimated Cost of Trail Construction

Summary of Estimated Cost of Construction

Owego Trails: not including The Hickories Trail	\$ 597,000
The Hickories Trail	\$ 163,000
Union Trails: Existing Chugnut Trail with proposed extensions west to Tri-Cities Airport and east to William Hill Park, not including the Tri-Cities Airport Loop	\$ 2,349,000
Tri-Cities Airport Loop	\$ 451,000
I-86 Trail: Marshland Road Boat Launch to Castle Gardens	\$ 890,000
Vestal Trails: Extensions to the Vestal Rail Trail west to Castle Gardens and east to Railway Bridge at Commerce Road	\$ 1,830,000
Vestal Rail-Trail	\$ 340,000
Vestal Parkway Trail (Commerce Road to Washington Street Bridge)	\$ 710,000
City Center Trail - West Bank of Chenango River: Visitors' Center to Otsinengo Park, not including the Chenango River West Bank Trail	\$ 860,000
Chenango River West Bank Trail (Estimates by Young Assoc. inflated to 1999 \$)	\$ 2,000,000
City Center Trail - East Bank of Chenango River (Washington Street Bridge to Bevier Street Bridge)	\$ 290,000
City Center Trail - South Bank of Susquehanna River (Washington Street Bridge to Tompkins Street - Route 7 - Bridge)	\$ 210,000
Otsinengo Park Trail Network (Existing Otsinengo Park Trails and Proposed Extension to Riverfront Park)	\$ 390,000
Chenango BridgeTrail (Riverfront Park to Chenango Bridge Park n' Ride Lot)	\$ 690,000
Port Dickinson Park Trail Network (Existing Port Dickinson Park Trails with Proposed Extension through abandoned Gravel Pits to Route 4 Bikeway at Chenango Street)	\$ 290,000
Schnurbush Park Trail Network (Proposed Trail Loop in Park and Extension to Woodward Way)	\$ 270,000
Kirkwood Town Park Trail (Proposed Trail Loop in Park)	\$ 160,000
Susquehanna River Crossings	\$ 700,000
Chenango River Crossings	\$ 2,410,000
TOTAL ESTIMATED COST OF CONSTRUCTION (1999 Dollars)	\$ 14,840,000

Unit Costs of Construction

<i>Item</i>	<i>Unit</i>	<i>1999 Dollars</i>	<i>per linear mile</i>
<i>On-road bikeways</i>			
Strip Bike Lanes	per linear ft	\$ 2	\$ 10,000
Widen for Bike Lanes (Includes Curb and Gutter)	per linear ft	\$ 80	\$ 420,000
Pave Shoulders	per linear ft	\$ 20	\$ 110,000
Construct Paved Shoulders	per linear ft	\$ 40	\$ 210,000
<i>Trails</i>			
12 ft. Asphalt	per linear ft	\$ 30	\$ 160,000
12 ft. Stonedust	per linear ft	\$ 23	\$ 120,000
10 ft. Asphalt	per linear ft	\$ 25	\$ 130,000
10 ft. Stonedust	per linear ft	\$ 19	\$ 100,000
8 ft. Asphalt	per linear ft	\$ 20	\$ 110,000
8 ft. Stonedust	per linear ft	\$ 15	\$ 80,000
5 ft. Concrete Sidewalk	per linear ft	\$ 20	\$ 110,000
<i>Individual Items</i>			
Trailhead Sign	each	\$ 3,000	
Light-duty Bridge	per linear ft	\$ 200	
Heavy-duty Bridge	per linear ft	\$ 3,400	
Small Culvert	each	\$ 4,000	
Large Culvert	each	\$ 10,000	
Route Signs	each	\$ 200	
Bike Racks	each	\$ 500	

Owego Trails

Trail Section	Trail Type												Major Items					Subtotal				
	Trail (linear ft.)							On-road Bikeway (linear ft.)					Trailhead Sign (no.)	Light-duty Bridge (linear ft.)	Heavy-duty Bridge (linear ft.)	Small Culvert (no.)	Large Culvert (no.)		Route Signs (no.)	Bike Racks (no.)	Miscellaneous (Lump Sum)	
	12 ft. Asphalt	12 ft. Stonedust	10 ft. Asphalt	10 ft. Stonedust	8 ft. Asphalt	8 ft. Stonedust	5 ft. Concrete Sidewalk	Strip Bike Lanes	Widen for Bike Lanes	Pave Shoulders	Construct Paved Shoulders											
A River Street (3500 LF - On-Road Bikeway)																		4			400	\$ 1,000
B East Front Street to Fulton Street (5800 LF On-Road Bikeway and 2,000 LF Ped. Walk in Draper Park)						2,000							1					4	10			\$ 39,000
C River Row																					(By Others)	
D Brick Pond Loops (5400 LF On-Road)																		8	5			\$ 4,000
E Route 17C to Village Line (2800 LF)									2,800													\$ 224,000
F Route 17C from Village Line to Hickories Park Road (3300 LF On-Road/Sidewalk)						3,300			3,300									4				\$ 133,000
G Treadway Trail (1000 LF in Parking Lot and Off-Road Trail)					600			400										4	5			\$ 16,000
H The Hickories Trail (5600 LF Off-Road)			5,600											100						5		\$ 163,000
I Improvements to Railroad Underpass													1								5,000	\$ 8,000
Design and Engineering (15%)																					\$ 88,000	
Contingency (15%)																					\$ 88,000	
Total Estimated Cost of Construction																					\$ 760,000	

I-86 Trail (Marshland Road Boat Launch to Castle Gardens)

Trail Section	Trail Type												Major Items					Subtotal				
	Trail (linear ft.)							On-road Bikeway (linear ft.)					Trailhead Directory (no.)	Light-duty Bridge (linear ft.)	Heavy-duty Bridge (linear ft.)	Small Culvert (no.)	Large Culvert (no.)		Route Signs (no.)	Bike Racks (no.)	Miscellaneous (Lump Sum)	
	12 ft. Asphalt	12 ft. Stonedust	10 ft. Asphalt	10 ft. Stonedust	8 ft. Asphalt	8 ft. Stonedust	5 ft. Concrete Sidewalk	Strip Bike Lanes	Widen for Bike Lanes	Pave Shoulders	Construct Paved Shoulders											
A 10' Stone Dust Trail				34,500									1					2	8	4		\$ 682,000
Design and Engineering (15%)																					\$ 102,000	
Contingency (15%)																					\$ 102,000	
Total Estimated Cost of Construction																					\$ 890,000	

Union Trails (Existing Chugnut Trail with proposed extensions west to Tri-Cities Airport and east to William Hill Park)

Trail Sections (Estimate does not include spur trail to Glendale Park shown on Master Plan drawing)	Trail Type											Single Items							Subtotal	
	Trail (linear ft.)							On-road Bikeway (linear ft.)				railhead Sign (no.)	light-duty Bridge (linear ft.)	heavy-duty Bridge (linear ft.)	Small Culvert (no.)	Large Culvert (no.)	Route Signs (no.)	Bike Racks (no.)		miscellaneous Lump Sum)
	12 ft. Asphalt	12 ft. Stonedust	10 ft. Asphalt	10 ft. Stonedust	8 ft. Asphalt	8 ft. Stonedust	ft. Concrete sidewalk	Strip Bike Lanes	idem for Bike lanes	Pave Shoulders	Construct Paved shoulders									
A Airport Loop - 10' Asphalt Trail			17,000									1				2	4	5		\$ 451,000
B Bridge over Nanticoke Creek													120				2			\$ 408,000
C Golf Course/Round Top - 10' Asph. Trail			7,000									1					4	4		\$ 181,000
D Acquire Davis Road Property																				\$ -
E River Terrace - On-Road Bikeway Signs					1,800												3			\$ 37,000
F River Terrace - 8' Asphalt Pedestrian Trail					1,800													1		\$ 37,000
G Culvert Over Drainageway (Liberty Ave)														1						\$ 4,000
H Ramp Over Levee at Liberty (Lump Sum)																			5,000	\$ 5,000
I Merseread Park Loop Trail - 10' Asphalt			2,800																	\$ 70,000
J River Terrace - Park to Ex. Chugnut Tr.						300	1,000										4			\$ 9,000
K Bridge Street Crossing Improvements - Options include the creation of a median refuge in the southbound, left-turn lane or the installation of traffic signals (Lump Sum)																			20,000	\$ 20,000
L Existing Chugnut Trail (3500 LF) - Widen to 10' and topcoat trail (Lump Sum)												1							52,500	\$ 56,000
M Riverview Dr. - 10' Asphalt Trail			2,000																	\$ 50,000
N Riverview Dr. - On-Road Bikeway Signs																	4			\$ 1,000
O Cemetery Trail to Argonne Ave.			2,400																	\$ 60,000
P Renovate Existing Bridge/San. Sew. Struct.													135							\$ 27,000
Q Argonne Avenue - On-Road Bikeway Signs																	8			\$ 2,000
R Argonne Avenue - Construct 5' Sidewalks						1,900														\$ 38,000
S 10' Asphalt Trail - Davis Rd. to River Rd.			3,200															4		\$ 81,000
T Creek Crossing west of River Road.													50							\$ 10,000
U River Road - On-Road Bikeway Signs																	4			\$ 1,000
V 10' Asphalt Trail - River Rd. to Boland Park			11,000																	\$ 275,000
W Fill Required to Raise Trail between River Road and Home Depot (5200' x 10' x 4' ht. = 8000 CY)																			80,000	\$ 80,000
X Culvert Over Drainageway (West of Home Depot)															1					\$ 10,000
Y Bridge Over Little Chocanut Creek													70				2			\$ 238,000
Design and Engineering (15%)																			\$ 323,000	
Contingency (15%)																			\$ 323,000	
Total Estimated Cost of Construction																			\$ 2,800,000	

Vestal Trails (Planned Vestal Rail-Trail with Extensions west to Castle Gardens and east to Railway Bridge at Commerce Road)

Trail Section	Trail Type											Trail Construction Items						Subtotal				
	Trail (linear ft.)							On-road Bikeway (linear ft.)				Trailhead Directory (no.)	Light-duty Bridge (linear ft.)	Heavy-duty Bridge (linear ft.)	Small Culvert (no.)	Large Culvert (no.)	Route Signs (no.)		Bike Racks (no.)	Miscellaneous (Lump Sum)		
	12 ft. Asphalt	12 ft. Stonedust	10 ft. Asphalt	10 ft. Stonedust	8 ft. Asphalt	8 ft. Stonedust	5 ft. Concrete Sidewalk	Strip Bike Lanes	Widen for Bike Lanes	Pave Shoulders	Construct Paved Shoulders											
A Trail - Tioga Co. Line to Castle Gardens				6,700													4					\$ 128,000
B Tracy Creek Crossing																						\$ 306,000
C Tracy Creek Point Loop Trail				5,200																		\$ 100,000
D 2nd Tracy Creek Crossing (Seasonal)													90									\$ 18,000
E Castle Gardens Road Bikeway																		6				\$ 1,000
F Asphalt Trail - Castle Gardens to Le Chalet at Main Street	7,700																					\$ 232,000
G Choconut Creek Bridge Crossing																						\$ 408,000
H Trail Route Signing on Main Street																						\$ 1,000
I Vestal Rail-Trail (See below for estimate by Town of Vestal) - 12,000 LF +/-																						\$ -
J Trail Facilities at H. Moore Park																					4	\$ 6,000
K Trail - H. Moore Park to Rt. 201 Br.	15,500												1									\$ 465,000
Design and Engineering (15%)																					\$ 250,000	
Contingency (15%)																					\$ 250,000	
Vestal Rail - Trail (Estimate is from TEA-21 TEP Application - August, 1999)																					\$ 340,000	
Total Estimated Cost of Construction																					\$ 2,170,000	

Vestal Parkway Trail (Route 201 to Washington Street Bridge)

Trail Section	Trail Type											Major Items						Subtotal				
	Trail (linear ft.)							On-road Bikeway (linear ft.)				Trailhead Sign (no.)	Light-duty Bridge (linear ft.)	Heavy-duty Bridge (linear ft.)	Small Culvert (no.)	Large Culvert (no.)	Route Signs (no.)		Bike Racks (no.)	Miscellaneous (Lump Sum)		
	12 ft. Asphalt	12 ft. Stonedust	10 ft. Asphalt	10 ft. Stonedust	8 ft. Asphalt	8 ft. Stonedust	5 ft. Concrete Sidewalk	Strip Bike Lanes	Widen for Bike Lanes	Pave Shoulders	Construct Paved Shoulders											
A Chenango Canal - Rte 201 to NYSEG			1,000																			\$ 25,000
B NYSEG - Add Fence and Stripe Pavement								1,500														\$ 90,000
C Trail North of Sewage Treatment Plant (will require extensive and slope stabilization around two filtration tanks)			1,000																			\$ 40,000
D Vestal Parkway Improvements - SUNY to Traffic Light at Clubhouse Rd./Talbot's Plaza								4,200	4,200													\$ 92,000
E Vestal Parkway Trail (Clubhouse Rd. to Washington Street Bridge)	10,000																					\$ 300,000
Design and Engineering (15%)																					\$ 82,000	
Contingency (15%)																					\$ 82,000	
Total Estimated Cost of Construction																					\$ 710,000	

City Center Trail - East Bank of Chenango River (Washington Street Bridge to Bevier Street Bridge)

Trail Section	Trail Type												Major Items						Subtotal		
	Trail (linear ft.)							On-road Bikeway (linear ft.)					Trailhead Directory (no.)	Light-duty Bridge (linear ft.)	Heavy-duty Bridge (linear ft.)	Small Culvert (no.)	Large Culvert (no.)	Route Signs (no.)		Bike Racks (no.)	Miscellaneous (lump sum)
	12 ft. Asphalt	12 ft. Stonedust	10 ft. Asphalt	10 ft. Stonedust	8 ft. Asphalt	8 ft. Stonedust	5 ft. Concrete Sidewalk	Strip Bike Lanes	Widen for Bike Lanes	Pave Shoulders	Construct Paved Shoulders										
A Washington St Bridge to South End of Promenade							800					1						6	10		\$ 25,000
B Promenade Improvements (Susque. St to Clinton Br.) by Others																					\$ -
C 10' Asphalt Trail - Clinton Street to Green Street			6,200																		\$ 155,000
D Construct Ramp north of Ray's Automotive (LS)																				20,000	\$ 20,000
E Construct Ramp Over Flood Wall South of Binghamtom Plaza																				20,000	\$ 20,000
G Signs at Green St/Chenango St/Bevier Br.																		6			\$ 1,000
											Design and Engineering (15%)						\$ 33,000				
											Contingency (15%)						\$ 33,000				
											Total Estimated Cost of Construction						\$ 290,000				

Chenango Bridge Trail (Riverfront Park to Chenango Bridge Park n' Ride Lot)

Trail Section	Trail Type											Individual Construction Items						Subtotal		
	Trail (linear ft.)							On-road Bikeway (linear ft.)				Trailhead Directory (no.)	Light-duty Bridge (linear ft.)	Heavy-duty Bridge (linear ft.)	Small Culvert (no.)	Large Culvert (no.)	Route Signs (no.)		Bike Racks (no.)	Miscellaneous (lump sum)
	12 ft. Asphalt	12 ft. Stonedust	10 ft. Asphalt	10 ft. Stonedust	8 ft. Asphalt	8 ft. Stonedust	5 ft. Concrete Sidewalk	Strip Bike Lanes	Widen for Bike Lanes	Pave Shoulders	Construct Paved Shoulders									
A Trail - Riverfront Park to Carmichael Rd.	3,700											1					4			\$ 115,000
B Bridge Crossing Castle Creek													90							\$ 306,000
C On-Road Bikeway Route (Carmichael, Merrill, Jacobs Hwy, Matthews)																	12			\$ 2,000
D Trail - Carmichael to Park 'n Ride Lot	3,000																4			\$ 91,000
E Culvert Crossing at Thomas Creek																1				\$ 10,000
F Trailhead at Park 'n Ride Lot												1						5		\$ 6,000
Design and Engineering (15%)																			\$ 80,000	
Contingency (15%)																			\$ 80,000	
Total Estimated Cost of Construction																			\$ 690,000	

Schnurbush Park Trail Network (Proposed Trail Loop in Park and extension to Woodward Way)

Trail Section	Trail Type											Major Items						Subtotal			
	Trail (linear ft.)							On-road Bikeway (linear ft.)				Trailhead Directory (no.)	Light-duty Bridge (linear ft.)	Heavy-duty Bridge (linear ft.)	Small Culvert (no.)	Large Culvert (no.)	Route Signs (no.)		Bike Racks (no.)	Miscellaneous (lump sum)	
	12 ft. Asphalt	12 ft. Stonedust	10 ft. Asphalt	10 ft. Stonedust	8 ft. Asphalt	8 ft. Stonedust	5 ft. Concrete Sidewalk	Strip Bike Lanes	Widen for Bike Lanes	Pave Shoulders	Construct Paved Shoulders										
Schnurbush Park Trail Loop			5,000									1					8				\$ 130,000
Trail Extension to Woodward Way			3,000																		\$ 75,000
Design and Engineering (15%)																				\$ 31,000	
Contingency (15%)																				\$ 31,000	
Total Estimated Cost of Construction																				\$ 270,000	

Kirkwood Town Park Trail (Proposed Trail Loop in Park)

Trail Section	Trail Type											Major Items						Subtotal			
	Trail (linear ft.)							On-road Bikeway (linear ft.)				Trailhead Directory (no.)	Light-duty Bridge (linear ft.)	Heavy-duty Bridge (linear ft.)	Small Culvert (no.)	Large Culvert (no.)	Route Signs (no.)		Bike Racks (no.)	Miscellaneous (lump sum)	
	12 ft. Asphalt	12 ft. Stonedust	10 ft. Asphalt	10 ft. Stonedust	8 ft. Asphalt	8 ft. Stonedust	5 ft. Concrete Sidewalk	Strip Bike Lanes	Widen for Bike Lanes	Pave Shoulders	Construct Paved Shoulders										
10' Asphalt Loop Trail			4,600									1						6			\$ 121,000
Design and Engineering (15%)																				\$ 18,000	
Contingency (15%)																				\$ 18,000	
Total Estimated Cost of Construction																				\$ 160,000	

River Crossings

	Name	Length (ft.)	Treatment	Unit Cost	Estimated Cost of Construction
Susquehanna River Crossings					
1	Clinton Street Bridge (Exit 64)	800	bike lane stripping and sidewalk		By Others
2	Route 17 Bridge (Exit 63)	1100			no improvements recommended
3	New Appalachin I-86 Bridge	1500			By Others
4	Vestal Avenue Bridge	800	bike lane stripping	\$ 6	\$ 4,800
5	Railway Bridge at NYSEG	800	new ped/bike bridge on existing piers (13 ft. wide)	\$ 850	\$ 700,000
6	Fred Johnson Memorial Bridge (Route 201)		bike lanes and walkway		Complete
7	Washington Street Bridge		bike lanes and walkway		Complete
8	Exchange Street Bridge				no improvements recommended
9	Tompkins Street Bridge	400	bike lane stripping		By Others
				Subtotal	\$ 700,000
Chenango River Crossings					
10	Memorial Bridge		bike lanes and walkway		By Others
11	Court Street Bridge		bike lane stripping		By Others
12	Clinton Street Bridge		bike lane stripping		By Others
13	Bevier Street Bridge	700	bike lane stripping	\$ 8	\$ 5,600
14	Route 88 Bridge	1000	new ped/bike bridge hung below existing bridge (13 ft. wide) - structurally may not be feasible	\$ 1,300	\$ 1,300,000
15	Chenango State Park Bridge (located at Port Crane or at south boundary of State Park)	800	new ped/bike bridge (13 ft. wide)	\$ 1,300	\$ 1,100,000
				Subtotal	\$ 2,410,000

Appendix Three

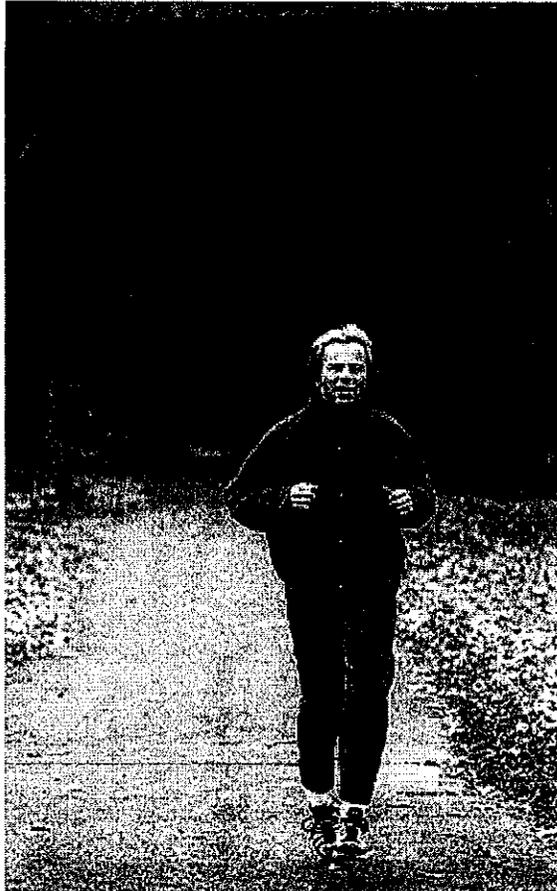
Selected Newspaper Coverage

Press & Sun-Bulletin

Sunday, November 14, 1999

Advocates say river trail project will be gateway to Tier's beauty

By TOM WILBER
Staff Writer



BETH KAPLAN staff photographer
Rob Garrett's jogging path behind Union-Endicott High School is part of a river trail plan.

Care to hike the riverbanks from Owego to Chenango Bridge? OK, how about a half-hour gambol with the kids at a scenic spot in between?

Proponents of a \$15 million pedestrian and cycling trail meandering through the Southern Tier's river valleys say the plan will make life nicer for everybody, not just cycling enthusiasts or walking fanatics. The proposal for trails linking Owego to Binghamton and Binghamton to Chenango Bridge has gained a measure of public support after officials solicited opinions on the project this fall. More than 45 of the 50 respondents who contacted the Binghamton Metropolitan Transportation Study office said they liked the idea.

"We don't have great theater and five-star restaurants. But we have great terrain," said Ralph Miller, a Vestal resident and supporter of the plan. "I think the greenway would take advantage of what this community has to offer.

We have an attractive landscape, trees and rivers, and we should work on those."

The proposal, several dozen pages of maps and charts officially known as the Metropolitan Greenway Study, would link existing trails, roads and parks along the Susquehanna and Chenango rivers. It would include foot bridges and paved trails to make some 60 miles of river accessible to sightseers, recreationists or anybody seeking a dose of nature's offerings.

No more than about five miles of riverfront are now accessible through the Triple Cities.

Gauging support

Residents will have a chance to review the project and voice opinions during two open houses this week. Before officials pursue funding, they want to make sure there is public support to justify the project.

"We don't want to be an advocate at this point. We want the public's opinion, whether for or against it," said Scott Reigle, a transportation planner for the BMTS. The BMTS is a board of planners and officials that oversees the use and distribution of public transportation money.

Depending on the response, officials will pursue funding for all or part of the plan from a mix of state, federal and private money.

Although the response so far has been overwhelmingly positive, not everybody is enthusiastic.

"Maybe instead of connecting all the parks, they could spend a little to get some benches and tables in this park," said Lyn Hokrein, unwrapping a turkey sandwich as she sat in her car at Harold Moore Park in Vestal. She plans to attend one of the meetings this week to learn more about the plan.

Hokrein, an employee of a Vestal retail business, uses the park on the banks of the Susquehanna regularly as a lunchtime sanctuary. She worried plans for extensive walkways along the river are too ambitious and would not be appreciated by enough people to make them worthwhile. More could be spent to improve existing parks, she said, including Harold Moore, which includes a parking lot, a narrow boat launch and some playing fields.

How necessary?

For every person opposed to the plan, nine people are in favor, based on the preliminary response received by the BMTS, which commissioned the greenway study.

Reigle said the 50 responses so far are a good start. Another 100 or more at the two meetings this week would provide enough of a sample to gauge the community's feelings. "We don't want to pursue a project that doesn't have public support."

Some parts of the plan are likely to get more support than others, and they offer a logical starting point for a project that may take decades.

Other communities have benefited from efforts to feature their waterfronts as recreational attractions. But it takes time. Development of trails linking parks and natural features along the Genesee River and Erie Canal in the Rochester area, for example, is best described as a work in progress, said Steve Beauvais, a transportation planner with the state Department of Transportation.

During the past four decades, 70 to 80 miles of trails have been developed or upgraded along the Erie Canal from Lockport to Elmira. Along the Genesee River, which runs through Rochester north to Lake Ontario, another 11 miles of riverfront has been made accessible to the public. Plans are under way to complete another three miles, and develop a port for a ferry that would run from Rochester to Toronto.

Beauvais said that with proper planning, the trails should be well used by the local population as well as an attraction for visitors.

"If they connect activity centers, schools, parks, business centers and residential areas, there is no reason they would be underused," he said.

Building process

The proposal for the Binghamton region is actually a compilation of nine separate plans that connect sections of the rivers, where planners are trying to capitalize on existing features.

The plans typically involve more than a simple pathway along riverbanks, depending on the demands and existing features of each area. Although the study looks at the developments collectively on paper, in reality they would most likely be developed piece by piece as funding and support allowed.

In the Town of Union, for example, the trail would connect existing neighborhood parks. Playing fields at 17C Park and Glendale Park would be joined by a pedestrian bridge over Nanticoke Creek. That trail would connect a levee that runs a mile or so along the creek, which is already a popular walkway. Planners intend to join those features

with a loop around the Tri-Cities Airport.

"The magic of the path is not for the gonzo dedicated biker. It's for the families," said Herb Griffith, an Endicott resident and supporter of the plan.

"People who don't necessarily ride or hike a lot like a place where they can park the cars and take their bikes out, maybe with the kids," Griffith said. The trails that offer loops and connect to other features are ideally suited for this.

Tough going

Unless you are equipped with rugged hiking boots, strong ankles and a spirit of adventure, you will have trouble walking along the rivers of the Southern Tier. Obstacles include slippery banks, discouraging heaps of deadfall and impassable thickets.

The trails would change that. They are naturally perceived as a bonanza for joggers, cyclists and power walkers. But parents with strollers, toddlers and people who are limited by age or disability would also have access to some of the region's most stunning natural features.

Or if they go unused, as some fear, they could simply be a waste of public money that could be better spent elsewhere.

"I think it's money well spent," said Dave Litchko, as he donned hip boots and reached into the back of his truck for a fishing rod. He was gearing up for a spell of angling in the Susquehanna in Vestal before the sun set.

He talked about the effort and planning that went into constructing Chenango Valley State Park, a Depression-era product of the Civilian Conservation Corps. "I see all of the people still reaping the benefits. Yes, it was quite an effort, but it certainly is a wonderful thing." On the other hand, he said, he is concerned that some parks, such as Whitney Point, are underused at certain times of the year.

He would have liked to talk more, but the sun was getting low and the river was calling. He hurried down to the slippery bank, and carefully picked his way along deadfall and underbrush to the water's edge.

Vestal considers less costly bike trail plan

Land acquisition, grant essential to project

By **SERGIO G. NON**
Staff Writer

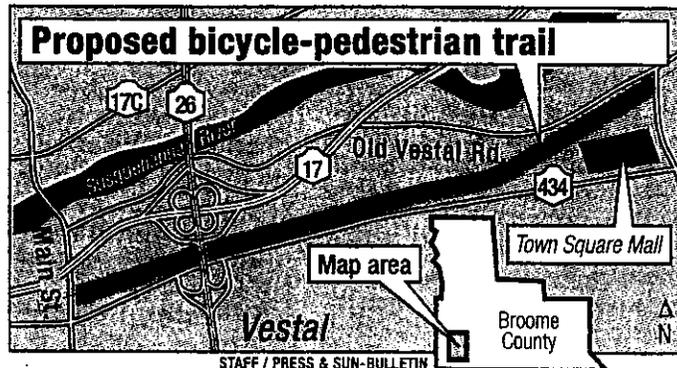
The idea looked dead earlier this year, but a proposal to convert Vestal rails to bicycle and pedestrian trails is back on track.

"I think it's going to be a great recreational facility as well as being an alternate transportation route," said Grant Livermore, a town consultant. "Just for recreation and exercise. I think it will be worth it."

Vestal officials have scaled back a plan to turn an abandoned railbed into a bicycle and pedestrian trail. The trail, which runs parallel to Old Vestal Road, would include a paved bicycle path and a gravel walkway for pedestrians. It has an estimated cost of \$300,000 to \$500,000, depending on the final length, town Engineer Gary Campo said. "We haven't really firmed up how far we're going," he said, adding that the path would stretch between 2.2 and 3.3 miles.

The idea for a Vestal bicycle trail first surfaced last year, with members of the Broome County Environmental Management Council. That plan had an estimated cost of more than \$2 million — too high for officials from the town, which would have to cover 20 percent of that, or about \$400,000. "That was a little grandiose," said town Councilman Michael Corson, chairman of the Recreation Committee. "The current plan is scaled down a lot from the first one."

Plans call for a 35-foot-wide trail parallel to Old Vestal



Road, from Sycamore Road to Main Street, with parking lots behind Town Square Mall and at Stage Road. The paths would be fenced and screened for the 30 or so property owners abutting the railbed.

The bicycle and pedestrian trail is supposed to be part of a series of bicycle routes in a long-range plan being developed by Binghamton Metropolitan Transportation Study, and town officials hope it will ease bicycle and pedestrian traffic on Route 434 and Old Vestal Road, especially because the path would have direct access to Town Square Mall.

"It's going to be for the casual rider, for little kids, for walkers like senior citizens, who want to get away from the traffic," Campo said.

For the project to become a reality, two things have to happen, town officials said. First, the town needs to get an easement for a two-mile strip currently owned by Conrail Corp. Second, Vestal has to qualify for a grant under the federal Intermodal Surface Transportation Efficiency Act, which has \$10 million set aside for New York alternative transportation projects, mainly bicycle and pedestrian paths.

Federal money would pay

for 80 percent of the estimated cost, while the town's 20 percent contribution would come in the form of donated services, town officials said. If the town has to spend any money for material or land acquisition costs, the project is dead. "It's our intent to put that in in labor and services like that," Campo said. "There's no way the town's going to put in \$100,000. We don't have that kind of money."

The biggest obstacle, officials said, is getting the land. "Well, we're still working on that," Campo said. "If we get it, we keep going. If we don't get it, we pull the grant application."

The New York Department of Transportation owns about one mile of the railbed, and is willing to lease it to the town for \$1 a year. Conrail may sell its two miles of land to a local developer, who has agreed to give the town an easement. Municipal officials declined to identify the potential buyer, but noted if the sale fails, the town would have to negotiate directly with Conrail. And it could be difficult to persuade a large rail company to give up land for free, town Supervisor Robert J. Nasiatka said.

Conrail officials could not be reached.

Vestal takes different path

The Vestal bicycle path plan, it turns out, is rolling along. Or, at least, it's rolling better than it appeared to be a few months ago — which is to say, not at all.

The original plan was estimated to cost about \$2 million, with the town having to pick up 20 percent of the total, or about \$400,000.

But Vestal officials have scaled back the plan to a total cost of no more than \$500,000 with the town contributing its 20 percent in the form of labor and other services.

The path would extend 2.2 to 3.3 miles, along an abandoned railbed between Sycamore Road on the east to Main Street on the west. To succeed, the town needs to get an easement for a two-mile strip of land owned by Conrail Corp. and must qualify for a federal

grant.

We applaud Vestal's determined run at this project. Our lean economic times demand more inventive ways of accomplishing goals. Rather than abandon a good idea for using resources now going to waste, the town took a second look at the project and found

Our lean economic times demand more inventive ways of accomplishing goals.

new ways to begin.

A path will help to provide an alternative way to travel along an increasingly busy

stretch of highway, and make the town more attractive. If the project succeeds, other municipalities may find similar ways to exploit existing resources in a cost-conscious way.

We hope Vestal is able to make this plan work. If nothing else, it will provide an example to others how to make do with what's available.

State rejects Vestal's request for bicycle trail grant

Newman may contribute funds

By KIM BREEN
Staff Writer

Vestal's plan to turn old train tracks into a bicycle and pedestrian path has taken another blow, following notification that another grant has been turned down — but the idea is far from dead, said a town developer involved in the project.

The town applied to the state in May for a \$35,000 matching grant to build a two-mile path along train tracks from Main Street to African Road. Town Supervisor Robert J. Nasiatka received a rejection letter from the state office of Parks, Recreation, and Historic Preservation, which acts as the agent for the National Recreational Trails Program.

The rejection letter didn't come as a surprise, said Nasiatka and Town Engineer Gary Campo, who is also serving as co-chairman of the Vestal Rail/Trail Committee.

Statewide, \$1.7 million was requested for 67 projects, according to the rejection letter. Only 16

projects were recommended for funding from the available \$426,408.

Marc Newman of the Newman Development Group said the rejection doesn't mean the end of the project.

"We are going to close on the property shortly," said Newman, whose company is planning to buy from Conrail a portion of the land to be used for the trail. The rest of the land needed is owned by the state and will be donated for the new use. Though Newman said he had to talk to town leaders about the next steps for the trail project, he said his company may contribute funds for the trail, which would stretch to the Town Square Mall, a

Newman development. "I just think it's a good community project," Newman said.

Campo said plans for the trail have been on his agenda until Newman bought the land.

The idea for a Vestal bicycle trail first surfaced in 1994 with members of the Broome County Environmental Management Council. The plan has an estimated cost of more than \$2 million, which town officials would get 100 percent given the town's necessary 20 percent, or \$400,000, contribution. The issue came up again in 1995 when the town applied for a \$23,400 federal grant, which was denied.

Press & Sun Bulletin

(Friday, November 19, 1999 Page 1A)

RIVER TRAILS PROJECT GETS KEY BOOSTERS: THE PUBLIC

By TOM WILBER
Staff Writer

Plans to develop pedestrian and cycling trails connecting Owego, Binghamton and Chenango Bridge gained strong public support from more than 100 people who attended public meetings this week.

The response "wowed us," said Steve Gayle, executive director of the Binghamton Metropolitan Transportation Study, a group of public officials that allocates federal funds to local transportation projects.

Only three of 70 people or couples who attended an open house Tuesday in Vestal expressed concerns about the plan, Gayle said. Their concerns were satisfied when they learned the project would be routed along public streets to bypass private property and residential areas.

Dozens of people who attended another open house Thursday on Upper Front Street also favored the plan.

"I'd love to see it happen," said Janet Denman, an Endwell resident and cyclist. Denman cited the success of similar trails in Albuquerque, N.M., and other places she and her husband have visited.

Denman's observation shared a theme expressed by many people, Gayle said. "A lot of people have come to us and said 'This is what our community needs. We have seen these in other communities, and it adds to the quality of life.'"

In addition to two public meetings this week, transportation planners have received about 50 responses by mail, phone or computer, almost all of them in favor of the plan. Meetings on transportation projects typically do not draw such numbers, Gayle said. Sometimes less than a dozen people will show.

Two clear themes have emerged at the public meetings:

- The trails will help make the area more desirable. "If you want to attract and retain businesses and people who work at businesses, you have to have an attractive community," Gayle said, characterizing public comments.
- Many people have said they want this for their families. "They feel the roads are unsafe, and they want places to go with their kids," Gayle said.

Jan Chytilo, a public health educator for the Broome County Health Department, is advocating the trails for health reasons.

"People know what they are supposed to do, but they don't do it. We're looking to offer an environment that makes it easier" to stay healthy. "It is easier to become more physically active if you live in an area where everybody else is walking or jogging. It's socially accepted, and it's easy to do."

Gayle told community members the next step is to develop a plan that shows how funding for the trail system would fit into the region's overall transportation plans.

"We have to see ... how does spending money on trails fit with not spending it on another transportation project, maybe a road project or buses."

The trails collectively would cost about \$15 million, but they will be approached and funded as separate projects, beginning with communities that express the most interest and show the most potential.

"There is this notion that a specific piece of trail will benefit a certain community. But a regional system can be built out of these pieces," Gayle said.

Plans are already in place to extend trails from the popular Otsiningo Park in the Town of Dickinson and to convert an abandoned rail line in the Town of Vestal. Those projects have already applied for funding, and construction could begin next summer.

COMMUNITY

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To Bard, or not to Bard.../4B
\$13M anti-smoking war set/4

Press & Sun-Bulletin Monday, December 16, 1996

Questions? Call Metro Editor Dennis Anderson at 798-1

Riverwalk connects past, present

12/16/96, Monday

Additional work envisioned along Endicott riverbank

MICHAEL GOTTLIEB
Staff Writer

When Endwell resident James E. Leonard, 45, looked down the north bank of the Susquehanna River behind Union-Endicott High School in 1991 he had a vision of a path for walking.

Today, a one-mile paved path called the Chugnut Riverwalk exists for the recreation of area walkers. It has also brought to life important pieces of Southern Tier history.

"It just looked like a natural walkway," Leonard said. Before it was so thick and overgrown you couldn't walk through there if you wanted. Now it's nice and open," Leonard said.

Leonard enlisted the help of the Endicott Rotary Club and received donations from

more than 100 area businesses and residents to pay the entire cost of \$30,000 project. The Rotary Club regularly maintains the area, except during winter when it can be used by cross-country skiers, he said.

The paved path, designated as a Town of Union park, runs from Terrace Street in Endicott to the Boys and Girls Club of Western Broome County. The paving was completed in November 1994, but work continues on the path.

Next year, Leonard hopes to install between three and six benches, and plant perennial flowers along the path.

"We're constantly trying to improve it," he said.

A path through history

According to the history collected by Leonard, the Chugnut Riverwalk was



PHOTO COURTESY OF GEORGE F. JOHNSON MEMORIAL LIBRARY

The Chugnut Riverwalk runs through the former casino building in the what once was En-Joie Park. The building was one of the major landmarks in the Village of Endicott for many years. Roller skating, dancing and parties were held here until the casino building was destroyed by fire in 1948.

named after the tribe of American Indians who first made the riverside area their home around 1755. The community was made up of two villages on each side of the river. The

village existed until Aug. 18, 1779, when General Spoor's brigade of 900 men, under the command of General Sullivan, destroyed it because of the Indian's support of the British.



MICHAEL GOTTLIEB/PRESS & SUN-BULLETIN

Endwell resident James E. Leonard and his daughter, Cecilia, stroll down the Chugnut Riverwalk. The one-mile path along a historic portion of the Susquehanna River was created through the efforts of Leonard, the Endicott Rotary Club and more than 100 area businesses and residents.

The next day General Clinton's army of 1,500 men marched down the river and met up with Poor's army, from which the name "Union" was created to mark the event. At

the same time the Chugnut village was smoldering. Dolores Elliott, who organizes the annual Otsis

See RIVERWALK/Page 2B

Walk follows American Indian trail

Continued from Page 1B

Pow Wow, suggested the Chugnut name to Leonard.

"Chugnut is one of the many spellings of the name for the 18th century settlement there. It must have dozens of different variations because of the different people who came through the area hearing it differently," Elliott said.

The new path follows in the footsteps of the paths the American Indians used to travel.

"In some of the early maps, there

was a major footpath along the north side of the river. It was like following a path that was used for centuries and most likely for thousands of years," she said.

Since the village's destruction the area lay mostly fallow until it was turned into the Casino Park, a private recreational center, with walking paths and a roller skating rink for paying visitors, said Gerald R. Smith, Broome County historian.

"It was originally conceived as a river walk," Smith said.

It was later purchased by Johnson. Some of the land was used for recreation.

The track that went through the school track. The walk was begun in the late 1960s and has been in use until Leonard's death. Community to create a walking

"One of the things that really struck me is just how many people like to walk," he said.

Smith thought it was fitting that an area where so much history has occurred has been turned into a river walk.

"It's a sort of run full circle," Smith said. "It means we haven't lost touch with what the river meant to this community."

<http://www.binghamtonpress.com/binghamtonnews/local/Sunews1.html>

GOING WITH THE FLOW

Tier joins other communities looking to waterfronts for revival

By WYN HORNBUCKLE

Staff Writer

After decades with our backs to the river, behind flood walls that made us feel safe but shielded us from the life flowing by, the two rivers that meet in the heart of Binghamton could be the community's salvation. Community leaders and dreamers are urging us to turn and take a second look at the confluence.

The Susquehanna and Chenango are emerging as an essential quality of life resource after a century of industrialization, arteries that run to the heart of the local economy. Officials, business people, naturalists, hikers and cyclists agree the rivers are a nexus of recreation, entrepreneurship and community life.

"You have to dream big," said Michelle Briere, who with her husband Rich started the Ahwaga Canoe Club four years ago, expecting to attract a few people. "Our first meeting was packed. We've been jamming ever since," she said.

The Brieres, like a growing number of locals, believe that waterways form one of the community's greatest assets and that they have been largely ignored. Rivers form a community's life-blood in many places. Citizens look to them with pride, familiarity and look forward to spending time with them.

Pittsburgh, San Antonio and Chattanooga, Tenn. - all cities that faced economic devastation - have made waterfronts vehicles for revitalization, spending millions of dollars on projects that wouldn't pay off right away.

While Binghamton has not the size nor the deep pockets of a city like Pittsburgh, that city is a scale model of this one, complete with economic woes, the river confluence and a vision that a vibrant riverfront community can attract and hold onto young people, businesses and tourists.

Three plans could mark the reemergence of a "riverfront community" in the Binghamton area:

<Picture> Transportation officials will soon release the Binghamton Metropolitan Greenway Study, a plan for a trail from Owego to Binghamton, connecting area parks.

<Picture> The Tioga County Tourism Office will present its plan for recreational and tourism opportunities along the Susquehanna and Chemung rivers next month before sending it to the state for approval.

<Picture> Binghamton Mayor Richard A. Bucci's plan for a park at the confluence of the Susquehanna and Chenango rivers may provide a focal point for a riverfront community. The plan mirrors what has been done in other communities to bring "dead" areas back to life.

History of neglect

Early in the 20th century, rivers were the dumping ground for America's waste. Binghamton was no exception. Environmental laws and changes in attitudes that began in the 1960s are today producing results. Rivers are cleaner now than they have been in 100 years, including the Susquehanna.

The collapse of manufacturing industries in the United States has spawned revolutionary changes in urban economies. In the Northeast, many industries that dotted the horizon with smokestacks and polluted the ground are no longer viable. In their wake are cities whose populations have shriveled. Wage-earners have led an exodus to points South and West. In Broome County, population and job losses have been staggering.

The Binghamton Metropolitan Area has lost 16,000 jobs since the late 1980s, according to the state Department of Labor. Broome County's population dropped 7.4 percent from 1990 to 1998, putting it in the bottom 5 percent in the nation and second to last in the state for population growth.

But the 21st century is dawning with river success stories. Cities no longer view the river as just a place to reside - but an environment in which to live, walk, bike, eat, drink and romance.

In the Southern Tier, seeds of river redevelopment have been sown: old rail lines have been converted to trails, entrepreneurs see possibilities on the riverbanks, and city planners find the economic future may lie along the river.

Quality of life

In today's economy, companies wishing to lure workers to an area must offer more than a paycheck. Quality of life features often cinch the deal - Baltimore's Inner Harbor, San Antonio's River Walk - to name two.

In an increasingly global economy, location matters less. Life matters more. And Binghamton gets mixed reviews abroad.

In 1996, MacMillan's Places Rated Almanac ranked Binghamton 296th out of 351 metropolitan areas in the United States and Canada. Money ranked Binghamton 16th of medium-sized cities in the Northeast in 1998. The city gets high marks for its low crime rates.

"The more attractive I can make this area sound, the easier my job is," said Ed Crimmins, a recruiting specialist at Enesco Inc., an engineering consulting business in Endicott. Enesco has worked with a number of companies in a recruiting consortium to sell the region to potential hires, many of whom are recent college graduates looking for outdoor recreation.

"If we can attract young people into this area, whether you're Enesco, Lockheed Martin, Raytheon, IBM, or any of the chamber members, the better off we all will be. We're improving the knowledge base," Crimmins said.

The stakes are high. Even in a robust economy, competition for industry remains stiff. Companies and workers look as closely at quality of life - outdoor recreation, schools, and museums - as they look at costs, taxes and utilities.

"It's part of an entire package," Richard Lutovsky, president of the Broome County Chamber of Commerce, said of the Binghamton Metropolitan Greenway plan. "Many people equate walking and biking trails with quality of life. We need to do what we can to expand what we have."

But that means going against the grain of history, which has put low currency on public use of the river. Cooperation between public and private agencies is essential in overcoming private interests and obstacles like the flood walls erected to prevent further devastation like that of floods in 1935 and 1936.

"Development has taken place away from the waterfront," Lutovsky said. "It becomes difficult to initiate change. But we have to work with the hand that we've been dealt. We have opportunities. Very few communities are at the confluence of two rivers."

Successes

Pittsburgh, built where the Allegheny and Monongahela rivers form the Ohio, has a telling story of transformation. The city suffered dramatic economic and population losses in the 1980s as the steel industry collapsed. Urban blight, vacant factories and boarded up buildings marred its landscape. A similar fate found Binghamton in the early 1990s.

In Pittsburgh, workers recently collapsed four stacks and a coal bunker at LTV Corp.'s coke plant along the Monongahela River. In June, the city hosted the International Trails and Greenways Conference.

The transformation did not come easily. The vacuum left in Pittsburgh by the fall of industry spurred activists to see something different in the ruin - opportunity.

"This was a grass roots movement," said Franklin Toker, professor of fine arts at the University of Pittsburgh, whose work, *Pittsburgh: An Urban Portrait*, built a framework for revitalizing the city.

During the 1980s, Pittsburgh hit rock bottom. "The steel mills just died," Toker said. But Pittsburgh rose from the butt end of jokes describing America's nastiest cities, to become a vibrant metropolis.

"The city has not played into despair. Quite the contrary. It's just become a more focused population," Toker said.

One of the groups to help provide that focus has been Friends of the Riverfront, which took the initiative to reclaim the river from the rust. The group helped create the Three Rivers Heritage Trail. The 35-mile stretch of riverfront bike and pedestrian trails - many of them along former rail lines and property dominated by decaying mills - was just a dream 10 years ago. Today, the city uses its greenways to draw citizens and high-tech businesses. The population has begun a slow and spotty reversal, but the city is doubtless a more attractive environment.

Greenways

It is just a thin strip of earth beneath a canopy of green along the bank of the Susquehanna. For solitary souls, it is a place for a romp on a bike or a peaceful walk.

For Herb Griffith, it is a trail that leads to the future.

"Nobody can get to it. No one can appreciate it now," said the retired telecommunications executive, who spends a lot of time exploring the country on two wheels. But this paradise, at 9 a.m. when the sun hits river rushes and the wild flowers, where the air is scented with mint and void of sound except the chirping of birds, is home. It's Endicott.

Griffith is leading his own crusade to bring a continuous bike trail to Broome and Tioga counties, stretching 30 miles along the rivers. His is just one voice in a growing chorus of state, municipal and business leaders who agree such a trail would help draw residents to the water's edge, and make the area more attractive to new residents, companies and tourists.

"The chamber is 1,000 percent behind this," Griffith said. He should know. In addition to being a bicycle enthusiast, Griffith has been a serious businessman all his life. He retired last year as chief executive officer and owner of ITS Communications Corp. in Endicott. Since his retirement (and the completion of a cross-country bike trip from Oregon to Virginia), Griffith keeps watch over the Greenways plan for the chamber of commerce.

The chamber views Greenways as a major step toward improving - and selling - quality of life in the Southern Tier.

"There has been a realization in this community and in others that it's time to reverse the trend of turning our back on the river," said Steven Gayle, director of the Binghamton Metropolitan Transportation Study. "The river is being viewed as an asset."

The BMTS will go public this fall with blueprints for the Binghamton Metropolitan Greenway, a system of bike and pedestrian trails that would stretch from Owego to Binghamton.

"It's a concept that's been around for 20 years," Gayle said. A virtually identical plan in the 1970s ran aground over the costs, which were estimated at \$12 million, and for lack of support, Gayle said. The costs of the current project should be known at the final presentation of the feasibility study Sept. 2. After that, BMTS' policy committee will seek public comment on the project, which will most likely happen in stages.

Unlike its tepid reception in the 1970s, the Greenways study today has come of age, Gayle said. It has found support among federal lawmakers, whose transportation legislation in the early 1990s put money behind ideas for alternative modes of transportation, such as bike trails.

Today's generation of leaders are more likely to own a mountain bike or enjoy outdoor recreation. A 1998 survey by Simmons found 13.3 percent of the Binghamton Metropolitan Area go bicycling, 11.6 percent are joggers, and 5.3 percent go downhill skiing. Chamber President Lutovsky is himself a mountain biker and a long-distance runner.

But perhaps most importantly, greenways have made a difference in other cities. Profound economic and social changes in America's post-industrial cities have set the stage for greenways success stories.

"All the good trails around the country accommodate everyone, from horses to roller-bladers to walkers," Griffith said. In a process that feeds on itself, communities have become involved in outdoor life because local governments make it easier for them to do so.

Tioga's river plans

A model for making riverside communities more user friendly is taking shape in Owego, Nichols and other towns that line the Susquehanna and Chemung rivers. In September, the public will get a chance to review the final array of projects in Tioga County's waterfront revitalization plan, a state-sponsored program to encourage communities to find ways to increase recreation and tourism.

Doyle Gibbs, Tioga County tourism director, said since the tourism agency was created five years ago, residents have repeatedly called for doing something more with the waterfront.

"There was feeling of 'Let's get out and do something with the river. It's scenic. It's clean. It's a wonderful fishery. Let's make it more available for residents and visitors,' " he said.

The public will be able to discuss proposals at meetings in September in Barton, Nichols and Owego.

"We're all putting a premium on a plan that's implementable, that can be put into action and not onto the shelf," Gibbs said. After the meeting, the plan will go to the state for approval, after which municipalities will be able to apply for state funding, Gibbs said.

'A dynamic spot'

Proponents of greenways and riverfront revitalization say its greatest influence can be felt in the least obvious environments - the city. In Binghamton, officials hope a small, inexpensive project will begin to break down the barrier between urban and aquatic life.

In February, during his State of the City Address, Bucci outlined his vision for a park at the confluence of the two rivers. The plans are modest. They include a small strip of land, an observation deck, four benches, three tables, six cherry trees and some planters. The price: \$35,000. It will be completed next spring.

"It's a small piece of land, but a real dynamic spot, a beautiful piece of land," Bucci said. The mayor hopes the park will complement the Washington Street pedestrian bridge, and add a link to future commercial venues along the riverfront.

Ramadhan Abdussaabur often rides his bike up the Martin Luther King Jr. promenade on Binghamton's Water Street, across the Washington Street Bridge near the future park, often behind flood walls.

"There are a lot of barriers to seeing the river," said the 29-year-old engineer, who lives on Binghamton's East Side. A park at the confluence and bike trails that run north to Otsiningo Park and west to Owego? That would be a vast improvement. "I think it would give people something to do, a way to enjoy the changing seasons here."

The limit of the park's scale demonstrates how the rest of the city was built - with little regard for the river's aesthetic value. The few benches that line the confluence sit with their backs to the river.

But the park's symbolic value - that something introduce the two rivers and anyone who might visit them - does portend a change in mindset. The city has also written to the U.S. Army Corps of Engineers about building a dam to raise the water level in the Chenango, bringing outdoor recreation closer to the city without risk of flooding.

Even if the plans echo earlier failed efforts to bring the city closer to the river's edge, the ideas mark a stretch of imagination that has made other cities great places.

"It always comes down to two things," said canoeist Rich Briere, standing on the Susquehanna riverbank at Grippen Park. "People who want to do things with what we have, and those who want to resist it. If you don't start with something, nothing will happen."

ROAD TO RUIN AND SALVATION

Drawing power of the valleys was also one of its greatest foes

By WYN HORNBUCKLE

Staff Writer

Urban planner Charles Mulford Robinson recommended that Binghamton construct a riverwalk along the Susquehanna, an obvious improvement he said would make the city more beautiful and attractive to residents and businesses.

He also recommended removing the latrines from the courthouse lawn.

Robinson's report, *Better Binghamton*, written in 1911, prompted local officials to do the latter, at least.

As Broome County Historian Gerald R. Smith is quick to point out, the idea of making better use of the rivers in Binghamton is not new. Officials have been devising plans for much of the past century hoping to reignite our love for the rivers. These efforts have been doused by prohibitive costs, at times wiped away by catastrophic floods or extinguished by simple disinterest.

The latest rediscovery of the rivers follows a history that is evenly woven with the ebb and flow of the Susquehanna River, a story that at times has pulled us close to, or other times repelled us from, its banks.

A river's history

Since American Indian villages like Otsiningo and Chugnut popped up along the riverbanks, and the earliest settlers built mills and floated timber down the Susquehanna, the local waterways have been the source of health and livelihood and a locus of leisure time.

Life in the 19th century came and went with the breaking and harvesting of the ice in the river. Business boomed in the warm months. Logs harvested in Broome and Tioga counties would find their way to the Chesapeake Bay and on to Europe. Plaster, potatoes and whiskey were sent on rafts.

With the entry of the Erie Railroad in 1849, the nature of travel and commerce gradually moved to the rails. But rails brought people and visitors to the area to enjoy the bucolic quality of life. The steamboat Owego launched from Church Street, offered tours of the Susquehanna. So many people wanted to go on the trip, they began towing a barge, and eventually built a four-deck, 120-foot boat that could carry more than 300 people. Lawmakers ordered the Susquehanna River dredged so steamboats could dock in Binghamton.

On Independence Day 1876, hundreds attended the grand opening of the Hiawatha House, a resort hotel on what was then called Big Island in present-day Apalachin.

"And it was a mighty, wonderful, big celebration," said Emma M. Sedore, Town of Owego historian and author of *Hiawatha Island: Jewel of the Susquehanna*. It was the seminal moment in the history of Hiawatha Island, now a quiet natural hideout for birds and hikers that almost became a gravel pit in the late 1980s before citizens rescued and donated it to the Waterman Conservation Education Center.

"When people found enjoyment, it was with each other. How wonderful it must have been," Sedore said of the island's hey-day.

But it also marked the zenith of recreational life on the river - and the beginning of its long decline. By 1884, a hotel ledger shows the island had entertained visitors from 26 states and nine nations. The Big Island was purchased in 1887 by Jonas and Andral Kilmer, and a year later closed to the general public for the next 100 years.

People continued to use the river. Speed boat races and row boats were popular in Binghamton during the first two decades of the 20th century. But as industry grew, and more people worked in factories, the river became an even larger industrial and residential sewer, and interest in river recreation died.

Then came 1935. If there was any love left, the floods of 1935-36 killed it.

"Walton, Chenango Forks, Lisle - all towns that were built along the rivers - got wiped off the face of the earth," Smith said. The floods devastated the area. Houses collapsed into the raging Chenango and slammed into bridges. Two years of flooding killed 50 people, and caused millions of dollars in property damage.

"The floods of 1935-36 changed forever the view of the river in the eyes of the public. It became a treacherous thing," Smith said. President Franklin D. Roosevelt toured the area in 1936. As legend has it, he pointed to a valley in Whitney Point and said that was where he wanted a dam built.

"There was a huge outcry from the public for some protection," Smith said, which led to the construction of the present flood walls on the Chenango in 1937 and later on the Susquehanna, and finally to the construction of the Whitney Point Dam in 1947 on the Otselic River. Communities built parks, swimming pools and eventually shopping malls as other places to spend time.

By the 1960s, the people took another look at their rivers. And so did environmental officials. They didn't like what they saw. Mercury had risen to toxic levels in fish. Factories and homes up and down the rivers flushed raw sewage and industrial waste into streams. It took federal legislation, the Clean Water Act, to begin the reversal of a century of damage. Communities have finally begun to see the results.

By the 1970s, a new wave of interest in the rivers peaked. Developers built hotels with promenades that faced the river, parts of which still lurk behind tall floodwalls.

But perhaps the most successful and finally disastrous rediscovery of the river occurred with the Yegatta Regatta, when thousands floated on rafts down the Chenango River from Chenango Bridge to the heart of downtown Binghamton. In 1975, the regatta began eight seasons as a premier social event in the community. It ended in 1983 after a Binghamton man drowned and his family filed a \$44 million lawsuit against the regatta's organizers. Its main sponsor, the American Cancer Society, withdrew participation.

Later in the 1980s, Binghamton Mayor Juanita Crabb had ideas for a riverwalk on the Chenango and an inflatable dam that would raise the water level. "People thought she was crazy," Smith said.

By the early 1990s, the Holiday Inn Arena's LeBar had a Party on the Patio. Chase Manhattan Bank sponsored Pops on the River, an outdoor concert that drew up to 20,000 people to the banks of the Chenango each summer. It too went the way of the dodo in 1995 after problems with the musicians' raft, volunteer and funding issues.

The Party on the Patio stayed, only to come into conflict with residents over noise. The song YMCA by the Village People can still be heard wafting across the ripples of the Chenango on Friday nights.

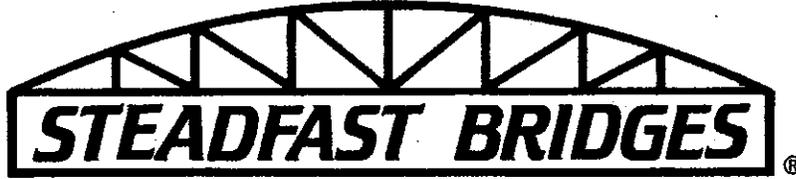
Which brings us almost to the present. Smith is not sure why many of the ideas - from Robinson's Better Binghamton to Crabb's riverwalk to a parade of bound reports that wound up on the shelf - haven't stuck. Some of them have been ill-conceived, no doubt. But it boils down to politics, most likely, he said. A project that costs money now but won't bear fruit for many years just is not a high priority for a lot of politicians.

"We don't see that what we do now is going to affect a generation 30 or 40 years from now," Smith said. History's enduring things, like President Theodore Roosevelt's National Park system, often became realities against the tide of popular will, Smith said.

"Somebody had some vision - and thank God they did - not because it was necessary. But because it was good."

Appendix Four

Prefabricated Bridge Manufacturers



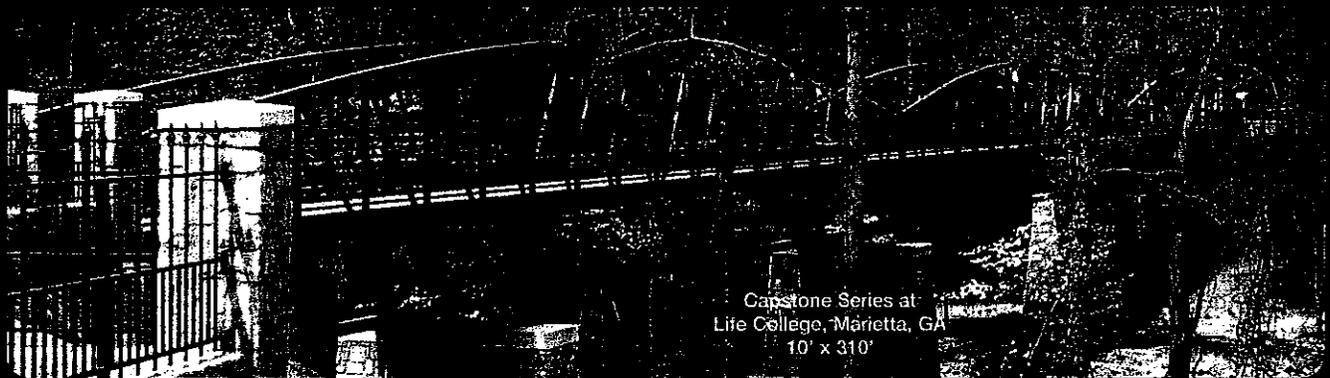
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CROSSING THE NATION WITH BRIDGES YOU CAN DEPEND ON



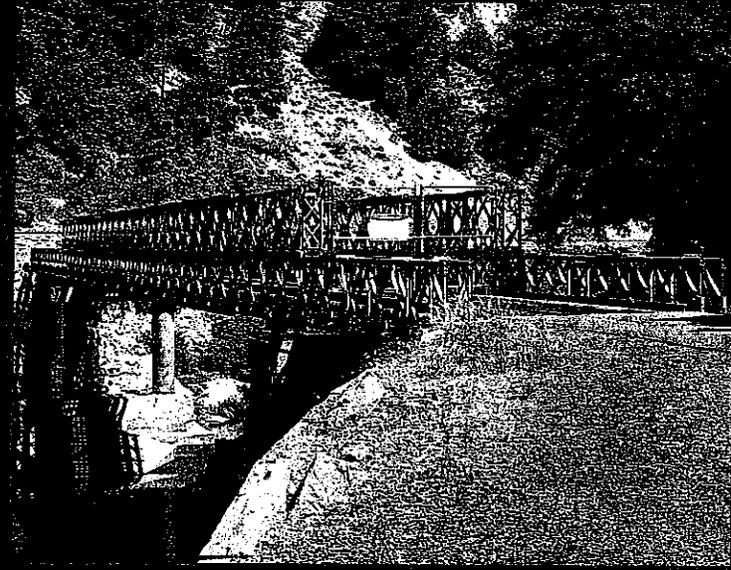
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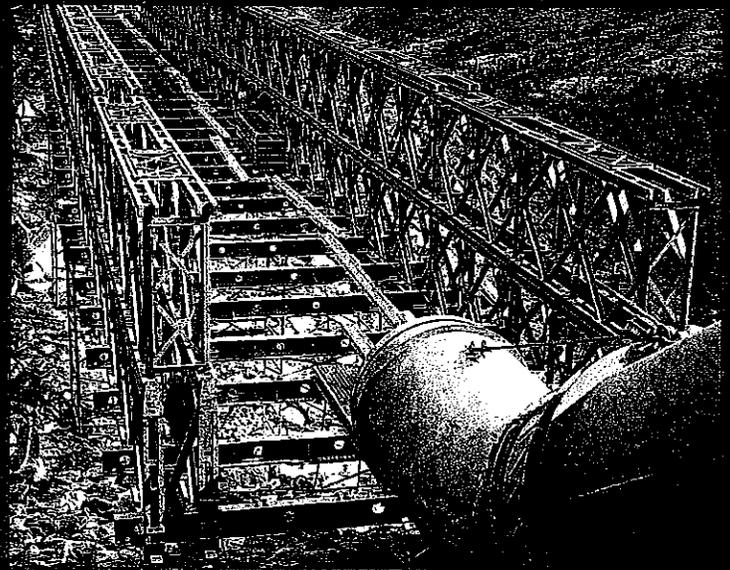


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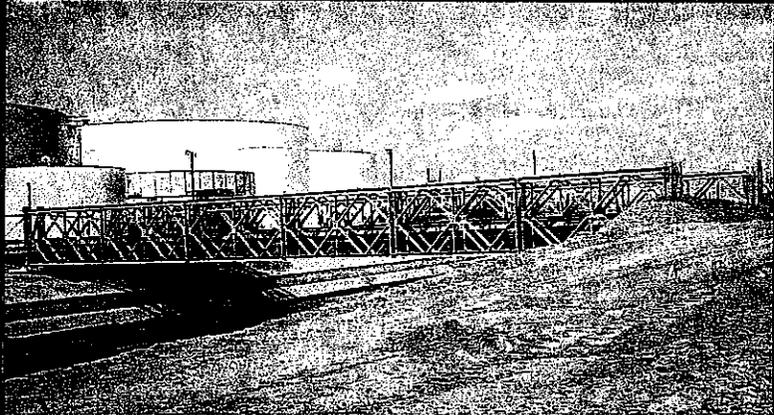


Above: Pacific Gas & Electric Co. 215 ft access bridge with 2 intermediate piers, over the Feather River at Buck's Creek Powerhouse, California.

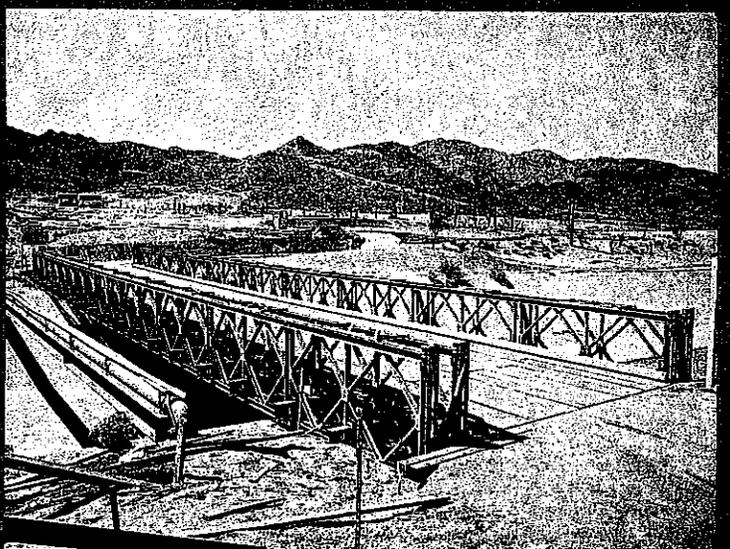


Above: Montana Power Company, Mystic Power Plant, 160 ft DDR Bailey carries 54" waterpipe. Bridge components transported to remote site by helicopter.

Center: 60 ft DS Bailey, Witco Chemical Co., Golden Bear Refinery, California.

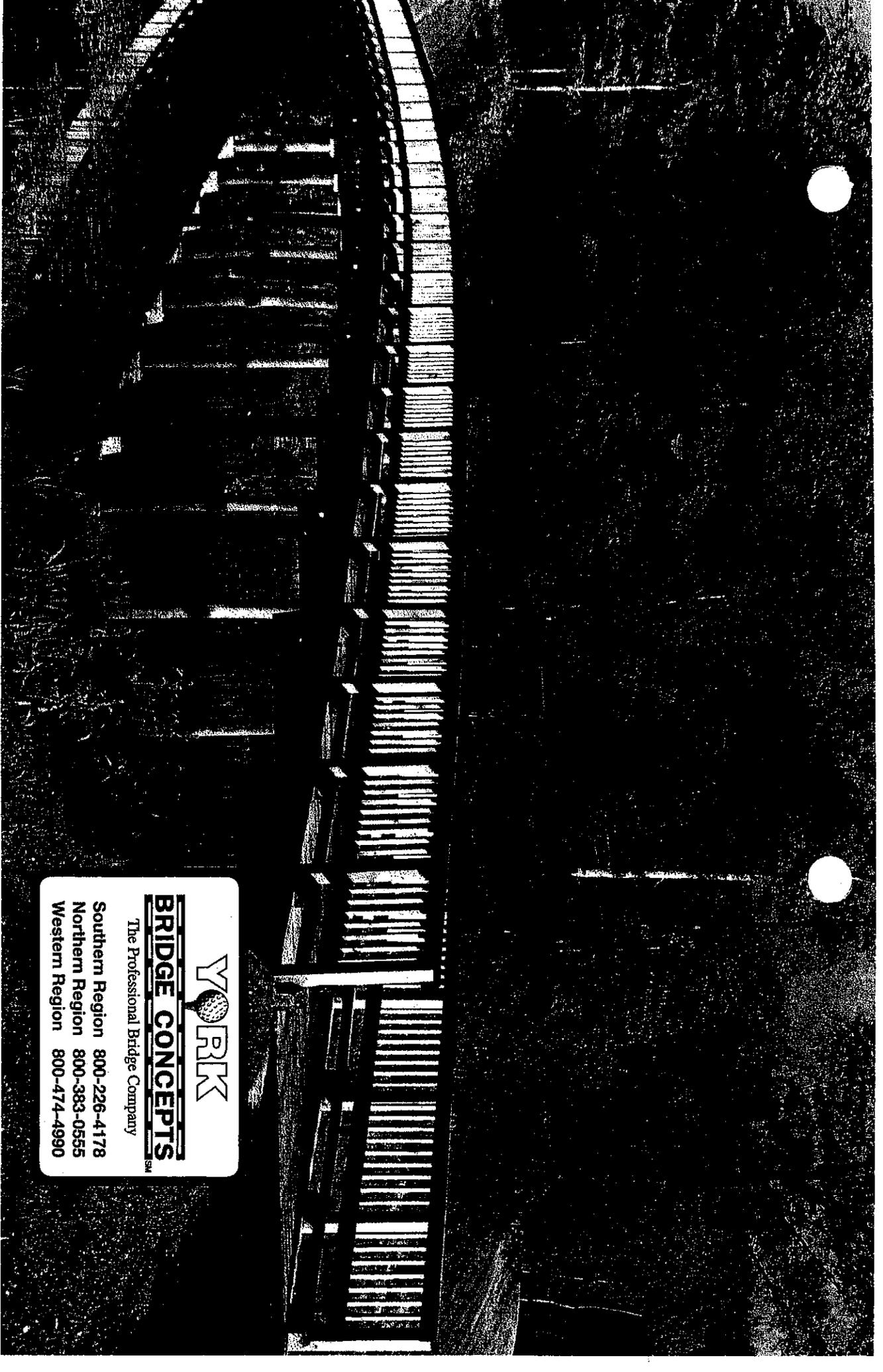


Below: Temporary 90 ft DS-M2 Bailey bridge for access during construction of Big Horn Golf Course by Westinghouse Communities, Palm Desert, California.



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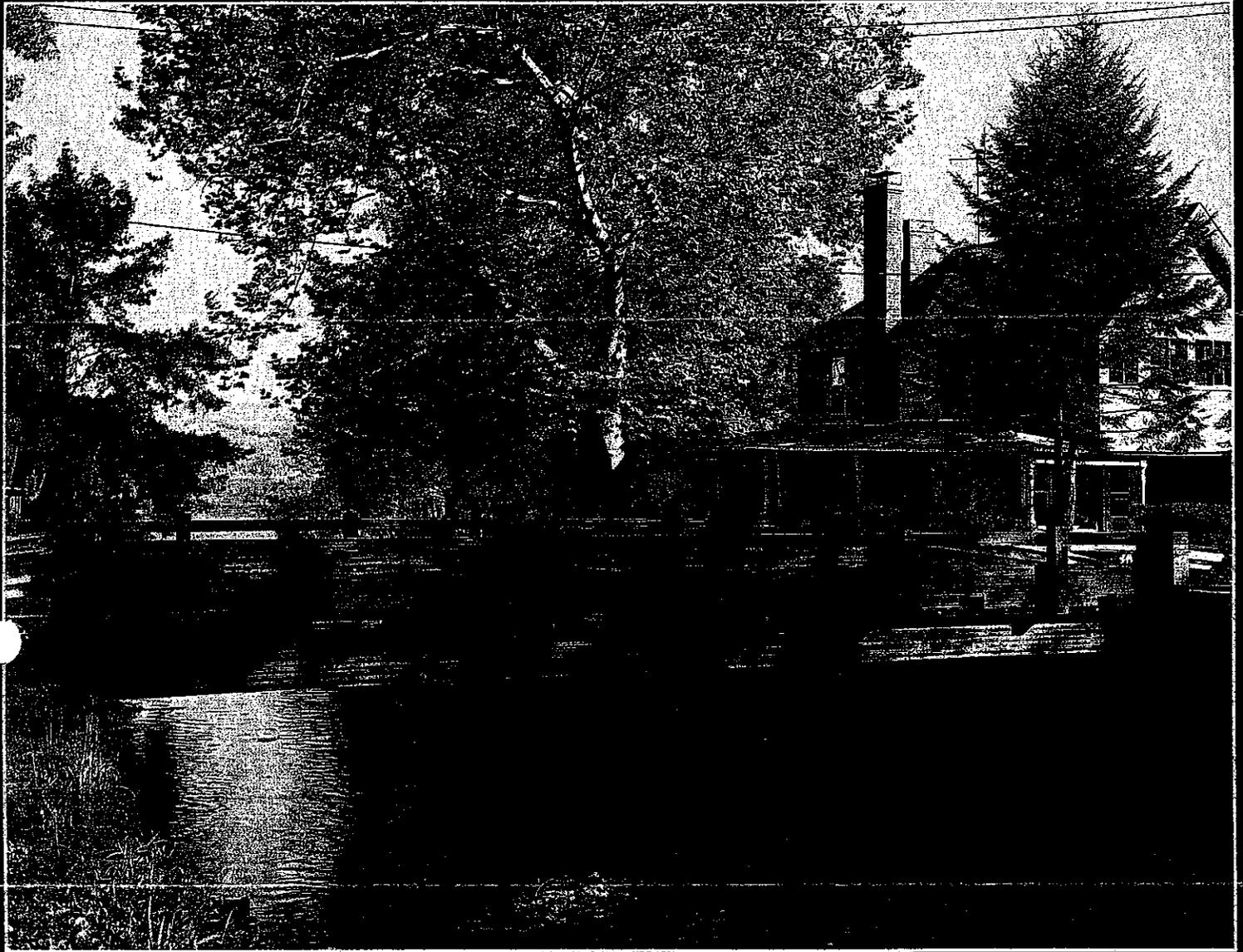
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(Photo shows 50' Span; HS-20 Loading).



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Best wishes for the new year.

Sincerely,

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Timber Bridges
Steel Bridges
Park Shelters
Visual Barriers

Appendix Five

Health Benefits of Trails

Making the case for increased opportunities for physical activity in Broome and Tioga Counties

Disease of the heart – 1996 death rates per 100,000 population
Broome – #757 rate 353.1
Tioga – #151 rate 279.6
Rest of state – #35,195 rate 321.0

Reports and editorials in the New England Journal of Medicine and other clinical journals during the past year have centered around the issue of obesity (Kassirer & Angell, N Engl J Med, 1998, 338; Stevens et. al., N Engl J Med, 1998, 338; Calle et. al., N Engl J Med, 1999, 341; Flegal, et. al., Int J Obes, 1998, 22; Willett et. al., N Engl J Med, 1999, 341.) Evidence from these reports indicate that men and women with a body-mass index (an indicator of how much body weight is body fat) of 30 or more had a 50 to 100 percent higher mortality than those with a body-mass index below 25. Approximately, one fifth of U.S. adults have a body-mass index of 30 or higher. A high level of body fat puts individuals at risk for chronic conditions such as heart disease, diabetes and some cancers.

Heart disease is the leading cause of death in both Broome and Tioga counties with the Broome rate 32 points higher than the rate for all of upstate New York (per 100,000 population, not adjusted for age or sex). The Broome and Tioga County death rate per 100,000 population for Malignant Neoplasm (cancers) is significantly higher than the Federal Government's Healthy People 2000 target rate. The death rate for Diabetes Mellitus is greater than the Upstate New York rate in both Broome and Tioga counties (New York State Department of Health, Bureau of Biometrics, Vital Statistics of New York State 1996; U.S. Department of Health and Human Services Public Health Services, Healthy People 2000: National Health Promotion and Disease Prevention Objectives).

In an editorial responding to the recent obesity related research reported in the New England Journal of Medicine, Williamson suggests that "...as our effectiveness in treating heart disease has improved, our effectiveness in preventing the occurrence of diseases related to obesity may have declined" (N Engl J Med, 341). Williamson cites the Canadian Task Force on Preventive Health Care recommendation that priority be placed on the development of primary prevention methodology related to obesity. The greatest impact in preventing health problems is gained by intervening in the causes of poor health, rather than focusing on the health problems themselves. Increasing levels of physical activity and modifying dietary habits are the most effective methods for reducing risk for these chronic diseases. However, the previously cited research demonstrates that targeting individual behavior is ineffective in reducing the prevalence of cardiovascular disease and obesity (Williamson, N Engl J Med, 341).

Public health interventions must transform the environment in which disease takes place. The public is aware of the need to change activity and dietary habits, but many societal and environmental factors make it difficult to modify long-standing behaviors. The development of Greenways and pedestrian friendly environments are clear examples of these types of environmental changes. This is the time to establish a dialogue between many partners: municipalities, health care organizations, employers, transportation agencies, planners and developers, among others, who can have a key role in shaping and supporting environmental policies that will have an impact on the health of county residents.

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PHYSICAL ACTIVITY IN NEW YORK STATE

Fact Sheet

- Physical inactivity, together with poor dietary habits, are accountable for 14% of deaths in this country, second only to tobacco use (which accounts for 19%) and far more than alcohol (which ranked 3rd, being the underlying cause of only 5% of deaths.).¹
- Physical inactivity is an underlying cause of 25,000 deaths annually in New York State.²
- Being active saves money. A recent national survey of more than 16,000 people found that those who were active saved over \$300 annually in direct medical costs. Direct medical costs for the country could be reduced by \$50 billion (in 1998 dollars) if the population were physically active.³
- New York has the highest death rate in the country from ischemic heart disease. Heart disease is the leading cause of death, disability and health care expenditures in New York. Physical inactivity is one of the leading causes of heart disease.²
- In 1995, \$5.05 billion was spent in NYS on hospitalization alone for heart disease.²
- About 80% of adults in NYS do NOT meet the current recommendations of 30 minutes of activity 5 or more times per week.⁴
- Overweight among adults has increased about 30% in the past decade.⁴
- 34% of 2nd and 5th graders in NYC were overweight in 1990, and 28% in the rest of the state.²
- The Department of Health's goal is to increase the percentage of adults who are active from the current 20% to 30% by 2006. This means getting an additional 1 million adults to be more active.³

Data Sources

1. McGinnis & Foege, *JAMA*, 270:18, 1993
2. *Communities Working Together*
3. M. Pratt, et al, CDC, Oral Presentation, 1998
4. Behavioral Risk Factor Surveillance System