

Erie Canal - Glenwood Lake Connector Trail Feasibility Study



TOWN OF RIDGEWAY and VILLAGE OF MEDINA, NEW YORK December 2009

IN ASSOCIATION WITH:

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GENESEE TRANSPORTATION COUNCIL

The Metropolitan Planning Organization for the Genesee-Finger Lakes Region

I. EXECUTIVE SUMMARY

Overview

The Erie Canal - Glenwood Lake Connector Trail Feasibility Study is part of the 2007-2008 Priority Trails Advancement (PTA) Program administered by the Genesee Transportation Council (GTC). This feasibility study recommends the construction of a multi-use trail that will connect the Erie Canalway Trail in the Village of Medina with a recently developed waterfront park along Glenwood Lake in the Town of Ridgeway. Glenwood Lake, the northern terminus of the proposed trail, is only a few blocks from Downtown Medina, yet residents have limited visibility and access to this scenic area. The Erie Canalway Trail, the trail's southern terminus, is an important east-west recreational corridor within New York State, connecting Albany and Buffalo. The portion of Canalway Trail through Medina links the village with Lockport, Albion, Holley, Brockport and the City of Rochester. Approximately three-quarters of a mile in length, the study area traverses residential neighborhoods, active and former industrial sites, and forested land along Glenwood Lake. The greatest physical challenge to overcome within the study area is traversing the steep banks of the lake's shoreline and the small coves on the western edge of the lake.

To increase the probability that the Erie Canal - Glenwood Lake Connector Trail (hereafter "Glenwood Lake Trail") comes to fruition, this Executive Summary is intended to provide potential funding applicants with a framework for utilization in future grant and funding applications. This section generally relates to the criteria required for federal Transportation Enhancements Program (TEP) funding. While by no means a complete application, the Executive Summary should provide guidance on the main points to highlight in future funding acquisition attempts by community leaders and project champions.

Community Support & Participation

In 2008, the Glenwood Lake Commission, a non-profit group seeking the establishment of a greenway system along the Oak Orchard River, partnered with the Town of Ridgeway to create a Steering Committee to oversee the development of a Feasibility Study for the Glenwood Lake Trail. The steering committee included Village, Town, and State representatives as well as other local stakeholders and interested residents. The level of community support provided by these individuals and the organizations they represent will assist in the development of this and future trails by leveraging construction funding with the donation of materials, labor, and sweat-equity.

The project planning consultants hired to assist with trail planning, trail design, and public participation components of the project devoted significant time and resources to involving the public in the decision-making and information exchange process. This included two public meetings, several steering committee meetings, and several informal conversations with landowners and stakeholders.

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Close coordination between the steering committee and the public resulted in the selection of a preferred alternative that had the highest levels of feasibility and consensus among project participants. It should be noted that two private landowners adjacent to the preferred trail alignment expressed significant concerns about the location of the trail along Glenwood Lake. Should the community proceed with the project, the final design should strive to mitigate those concerns.

Enhancement of the Environment

Trail alignment alternatives were identified and evaluated according to several criteria, including: types of trail users, connectivity, safety, physical constraints, and potential impacts to surroundings. The preferred trail alignment selected, as shown on Map 5, balances these criteria along with consideration of cost-effectiveness, direct routing, sensitivity to neighbors, and timely completion. The preferred alignment provides access for trail users to portions of Glenwood Lake that currently lack convenient access, including Village-owned lands along the shoreline. To minimize shoreline and landowner impacts in one particular area, the trail will cross a cove of Glenwood Lake via a pedestrian bridge. This will provide trail users with the opportunity to be surrounded by water and experience Glenwood Lake as never before. By improving public access to the lake and other important natural resources, it is likely that an increased level of conservation, preservation, education, and participation will ensue to protect these valuable community assets. Furthermore, by improving Village residents' appreciation for their community and surroundings, the trail can potentially foster an increased sense of pride that can be leveraged for continued community revitalization initiatives.

The connection of Downtown Medina with Glenwood Lake Town Park will serve as an important enhancement to the quality of life enjoyed by residents, visitors, and those employed in the area. It is anticipated that moderate economic development potential exists, resulting from increased visitation by canal boaters and Canalway Trail users from the surrounding region that will stop to explore Glenwood Lake and Medina. Furthermore, the connection of Lions Park, Gulf Street Park, and Glenwood Lake Town Park via a bicycle/pedestrian safe route will enhance the safety and marketability of Medina and Ridgeway as family-friendly communities that value recreation and sustainable transportation choices.

Enhancement of the Transportation System

The preferred alignment for the Glenwood Lake Connector Trail consists of the A1 and B1 alternative segments, as shown on Map 4 and consolidated on Map 5. Although initial analysis of the Study Area broke the trail into two distinct segments, it is recommended that construction take place in a single phase. The first segment, from Lions Park on the Erie Canal to Gulf Street Park, is considered extremely feasible from a cost, landowner, and physical constraints perspective. The second segment, beginning at Gulf Street Park and connecting to Glenwood Lake Town Park, is likely to come at an increased cost due to the recommended construction of a pedestrian bridge.

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The Erie Canalway Trail is a highly traveled corridor and center of walking, bicycling and boating activity in the area. Glenwood Lake Town Park is one of the few opportunities for public access to Glenwood Lake due to the landholdings of Brookfield Power that circumnavigate the man-made body of water. Currently, this park is only accessible via on-road walking/bicycling or by automobile. A potential trail connection between activity centers at the Erie Canal and the Village of Medina to Glenwood Lake will increase non-motorized recreational options for residents. Although the preferred alignment is just under one mile in length, it represents a significant opportunity to link the community's primary destinations.

Relationship to Existing Plans & Smart Growth

The development of the Glenwood Lake Connector Trail is consistent with the local comprehensive plan which calls for improved connectivity along the Oak Orchard River corridor and the expansion of recreational and non-motorized transportation opportunities. The Erie Canal Recreationway Plan and the National Park Service Erie Canalway National Heritage Corridor support enhancing the linkage and connectivity of the canal to corridor communities such as Medina and Ridgeway. Additionally, development of this Study has been spearheaded by community members in an effort to improve connectivity and promote the development of a walkable and family-friendly recreational corridor along the Oak Orchard River and through the Village of Medina.

Projected Cost

The construction of the preferred alignment of the Glenwood Lake Trail includes the addition of 1,800 linear feet of stone dust trail, four trailheads with parking and kiosks, various signage along the trail, and a 220-foot long pedestrian bridge. Approximately 1,900 linear feet of the trail will be placed onto the existing street and sidewalk system, leveraging existing infrastructure investments where possible. The planning-level engineer's estimate of probable cost for these elements in 2009 dollars is \$2.2 million, which includes increases for contingency (25 percent), engineering (25 percent), and construction management (15 percent) fees. It is estimated that the pedestrian bridge accounts for \$880,000 of this total. The overall cost could be lower with the donation of time, materials and sweat-equity labor by area residents and project champions. More accurate estimates of cost would be developed when the project moves into detailed design.

Conclusion

The Glenwood Lake Connector Trail represents a significant opportunity for the residents of Ridgeway and Medina to improve their non-motorized transportation alternatives and provide an enhanced level of choice in their recreational activities. The preferred alternative provides the greatest level of connectivity, improved safety, and quality of life enhancements at the lowest cost to residents. Moving forward, project success will hinge upon the continued cooperation of the Town of Ridgeway and Village of Medina, and the involvement of project stalwarts that are determined and committed to seeing this project to its fruition.

II. INTRODUCTION

A. Project Overview

The Erie Canal - Glenwood Lake Connector Trail Feasibility Study is part of the 2007-2008 Priority Trails Advancement (PTA) Program administered by the Genesee Transportation Council (GTC). The project has been funded with federal transportation planning funds and local funds. In order to improve access to Glenwood Lake, the Town of Ridgeway recently developed a public park on the west side of the lake. To further meet this objective, the Town has been exploring the concept of a lakeside trail connecting the new park south to the Village of Medina. This Feasibility Study explores the viability of a trail through this corridor (see Figure 1) with consideration given to location alternatives and phasing strategies.

The Study Area for the Erie Canal - Glenwood Lake Connector Trail (hereafter the "Glenwood Lake Trail") is approximately 3/4 of a mile in length and contains an abundance of publicly and semipublicly owned land. One of the objectives of the trail is to create a link between Glenwood Lake Town Park, Gulf Street Park, and Lions Park, which is traversed by the Erie Canalway Trail. These parks, along with Boxwood Cemetery and several other municipally owned properties, constitute a majority of the lands within the Study Area corridor. In addition to the lands owned by the Town and Village, Brookfield Renewable Power (Brookfield Power), a public utility that specializes in hydroelectric power generation, owns all of the land around Glenwood Lake, with their right-of-way varying in width from the water's edge.

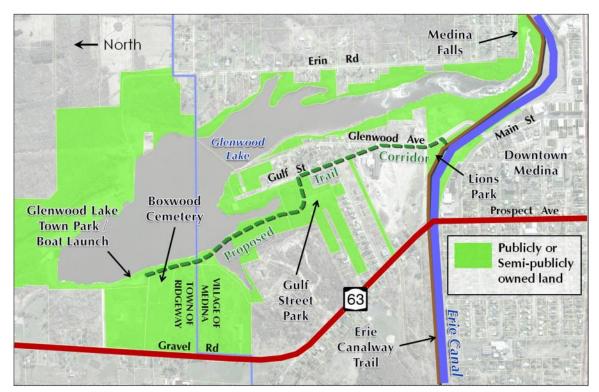


Figure 1: Study Area

B. Local and Regional Significance

Glenwood Lake is a 93-acre man-made lake situated on the Oak Orchard River, immediately north of the Erie Canal. The river provides numerous points of waterpower generation, and the creation of Glenwood Lake in 1903 further expanded the amount of power being generated in the area. The Glenwood Lake Trail would provide additional access to this waterbody for residents of the Village and surrounding areas. The lake is a popular spot for fishing, offering opportunities to catch walleye, largemouth bass, smallmouth bass, and northern pike. A public boat launch is available in Glenwood Lake Town Park, and Boxwood Cemetery offers a small access point to the lake that is frequented by fishermen. The cemetery itself is an important historic and scenic asset for Medina and surrounding communities.





Glenwood Lake Glenwood Lake Town Park

The lake is also known for its bird watching. Great blue herons grace the shoreline, and several bald eagles have been spotted around the lake. Despite its scenic beauty, thriving ecosystem, and close proximity to the center of Medina, its lack of access and visibility have limited residents' enjoyment of this natural treasure. The Town and Village hope that the Glenwood Lake Trail, along with the growing use of Glenwood Lake Town Park, will address this issue.

Beyond Medina and Ridgeway, the trail would be part of a larger network of trails within the Rochester and Buffalo regions. The objective is for the trail's southern terminus to be the Erie Canalway Trail, the primary east-west recreation corridor in New York State. The Canalway Trail is a major recreation and tourism draw for communities in Orleans and surrounding counties. The Village of Medina has a Canal Loop Trail that traces the edge of the waterway in the Downtown area (see Map 3), which would complement the Glenwood Lake Trail.



Medina Canal Loop Trail

The canal's ever-increasing popularity is further enhanced by the development of spur trails running perpendicular to the corridor. These spur trails, such as the Genesee Riverway Trail in Rochester, expand accessibility to the Canalway Trail from adjacent areas. Conversely, they offer attractive side excursions for boaters, hikers, and bikers that frequent the Erie Canal corridor. Spur trails can help connect the Canalway Trail to nearby cities and villages or they can provide brief scenic departures from the Canal, such as the Thomas Creek Wetland Walk in Fairport. In the case of the Glenwood Lake Trail, it would offer quick access to a scenic and seemingly remote lake, a canal trail experience unique to Medina.

C. The Planning Process

In 2008, the Glenwood Lake Commission, a non-profit group seeking the establishment of a greenway system along the Oak Orchard River, partnered with the Town of Ridgeway to create a Steering Committee to oversee the development of a Feasibility Study for the Glenwood Lake Trail. Members of the Committee, whose names are listed after the Table of Contents, included representatives from the Town, Village, and residents at large. The committee also benefited from representation by the New York State Department of Transportation.



Downtown Medina

With coordination provided by GTC, Bergmann Associates and Trowbridge and Wolf were hired as consultants to assist with trail planning, trail design, and public participation components of the project. The planning process consisted of the following steps:

- Examine the goals and objectives for the trail
- Inventory and analyze existing conditions in the Study Area
- Tour the Study Area to observe and document conditions (July 14, 2008)
- Identify trail location alternatives and key opportunities/challenges
- Gather initial feedback from interested citizens at a Public Open House (November 19, 2008)
- Refine alternatives and identify a preferred trail alignment
- Develop an implementation plan
- Develop design guidelines, planning-level cost estimates, and potential funding sources
- Gather additional feedback on the Draft Feasibility Study at a Public Meeting (October 20, 2009)
- Finalize the Feasibility Study

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Based upon guidance from the Steering Committee and input from the general public, several location alternatives were identified. While evaluating these options, several goals were considered:

- The trail should not be designed purely as a recreational facility, but also as an integral part of the Town, Village, and region's non-motorized transportation system
- The trail should link together Lions Park, Gulf Street Park, and Glenwood Lake Town Park, and should enhance the experience in these public spaces
- From a broader perspective, the trail should connect the Village of Medina to Glenwood Lake and contribute to the establishment of a greenway system along Oak Orchard River
- The trail should remain as close to the water as is physically feasible
- The trail should serve all types of users including short and long distance recreational trips, day-to-day errands, and neighborhood connections
- The trail should be located off-road whenever possible
- The trail should minimize impacts to surrounding residences, but still provide easy access to neighborhoods
- From Glenwood Lake Town Park, to the woods adjacent to Glenwood Lake, to the neighborhoods along Glenwood Avenue, the trail should complement and respect its surroundings

A preferred trail alignment was identified (see Section V) which has a balanced consideration of cost-effectiveness, direct routing, sensitivity to neighbors, and timely completion. Complementary connections were then identified (see page 25) that are intended to increase accessibility to the trail and extend to other destinations, such as Medina Falls and the east side of the lake.



A heron glides over Glenwood Lake

III. STUDY AREA OVERVIEW

A. Segment Descriptions

The Glenwood Lake Trail corridor is located in the Village of Medina and the Town of Ridgeway in Orleans County, about 40 miles west of Rochester and 35 miles east of Niagara Falls, New York. The Study Area includes a mix of early 20th century neighborhoods, inactive industrial sites, public parks, and undeveloped open space. From the northern terminus at Glenwood Lake Town Park to the southern terminus at the Erie Canalway Trail, the corridor is approximately 3/4 of a mile in length. For the purposes of this Study, the trail corridor has been divided into two distinct segments.

- Segment A Lions Park on the Erie Canal to Gulf Street Park
- Segment B Gulf Street Park to Glenwood Lake Town Park

<u>Segment A— Lions Park on the Erie Canal to Gulf Street Park</u>

This segment begins in Lions Park on the Erie Canal, just west of the Glenwood Avenue bridge over the Canal. The Village has plans to develop a small pavilion and amphitheatre next to the large apple sculpture in the park. Heading north, the segment traverses the neighborhoods along Glenwood Avenue and Gulf Street, with considerations given to on-street and off-street locations for the trail.



Erie Canalway Trail traveling through Lions Park, with Glenwood Avenue bridge in the background

Homes on the east side of Glenwood Avenue have rear views of Glenwood Lake, although their properties do not extend to the shoreline. Brookfield Power owns the lands that trace the shoreline of the lake, which have extremely steep slopes and are heavily wooded. The collection of residential streets in this area have low traffic volumes, as they do not connect to other primary roadways on the north end of the neighborhood.

In addition to the mostly single-family residences, this segment contains a concrete plant that is rarely active and a former foundry and sandstone quarry between Ryan and Stork Streets. The quarry, one of the primary sources of the famed Medina Sandstone, opened in 1837 but has since been filled in.

<u>Segment B— Gulf Street Park to Glenwood Lake Town Park</u>

This segment begins in Gulf Street Park, a small public park with access from Gulf Street and Stork Street. The park has a large mowed lawn section featuring a cluster of playground equipment. The remainder of the Village property that contains the park is heavily wooded and undeveloped. Heading north, the segment traverses the properties along the western shore of the lake, including two large village-owned parcels and a few large residential properties. Slopes along the lake are

considerably less in this area than behind the homes on Glenwood Avenue, making access to the lake easier to achieve. The lake also features two small coves in this segment of the Study Area, which form points that are often used for fishing. One of these points contains a waste treatment facility for the Village and Town. North of the western cove is the Village's DPW site, followed by the historic Boxwood Cemetery (owned by the Village) and Glenwood Lake Town Park.

B. Land Use and Ownership (Map 1)

Examining land use patterns in and around a proposed multi-use trail corridor is an important part of the planning process. Different types of land uses and their location relative to one another can influence the specific siting of a trail as well as how it will be used. Data provided by Orleans County was used to examine land uses in the area, using the classification system established by the New York State Office of Real Property Services.

Much of the land immediately adjacent to the proposed trail corridor is classified as being used for public services, which primarily consists of the land around the lake owned by Brookfield Power (see Map 1). A small pocket of residential uses is located at the approximate midpoint of the trail. Located

not far from the southern terminus is the downtown core of the village, comprising a mix of residential and commercial uses.



Boxwood Cemetery, owned and operated by the Village

Finally, there are three public parks in the Study Area: Lions Park, Gulf Street Park, and Glenwood Lake Town Park. This has



Playground in Gulf Street Park

important implications for trail use, as residential and commercial uses as well as parks, create origins and destinations for potential trail users. Residents living along the proposed corridor will be able to access the trail either solely for recreational purposes, or for accessing local parks and trips into the center of the village.

In terms of land ownership, much of the proposed trail corridor is located on lands owned by either the Village of Medina or Brookfield Power, both of which have indicated their support for the trail. Areas shown in green in Figure 1 on page 1 demonstrate the abundance of publicly or semi-publicly owned land in the Study Area. There are two locations, however, where private property considerations must be taken into account. The first area is on the east side of Glenwood Avenue where the proposed corridor traverses a small strip of land between Glenwood Lake and several private residences. Although this strip is owned by Brookfield Power, some residents have cleared trees and even built small structures onto Brookfield Power property. A trail through this location would be visible and in close proximity to these homes. The second location can be found towards the northern terminus where a few large residential properties are adjacent to one of the coves on the lake. Although much of this area is owned by either the Village of Medina or Brookfield Power, a small section of land is held in private ownership.

C. Natural Features (Map 2)

Wooded Areas

The proposed trail corridor passes through several wooded areas as it winds around the western edge of Glenwood Lake (see Map 2). The largest concentration of wooded areas occurs north of Stork Street and west of Gulf Street. The west shore of Glenwood Lake behind Glenwood Avenue is also heavily wooded along its steep slopes. As the proposed trail winds through these areas, potential trail users will be provided the opportunity to view the various wildlife that inhabit the forested areas.



Informal footpath through woods north of Gulf Street Park

Wetlands

There are no NYSDEC or NWI wetlands within the project Study Area.

Floodplains

At this time, digital floodplain maps are not available for the Town of Ridgeway or the Village of Medina. A review of hard-copy Flood Insurance Rate Maps (FIRMs), however, indicates that a 100-year floodplain forms an approximate 50-foot buffer around Glenwood Lake. Given the corridor's location, it is likely that sections of this floodplain will be traversed by the proposed trail.





Photographs illustrating the heavily-wooded steep slopes along the west side of Glenwood Lake

Potential Soil Erosion Hazards

One of the primary issues concerning trail design is the prevention and minimization of soil erosion. In addition to impacting water quality and the aesthetic value of the trail, soil erosion can pose user safety issues and require a high level of maintenance investment. The potential soil erosion hazards for the proposed Glenwood Lake trail corridor are depicted in Map 2. A brief description of the potential soil erosion hazard classifications is provided below:

- Slight erosion is unlikely under ordinary climatic conditions.
- Moderate some erosion is likely and that erosion-control measures may be needed.
- Severe erosion is very likely and that erosion-control measures, including re-vegetation of bare areas, are advised.

Based on an analysis of soil data provided by the Natural Resource Conservation Service (NRCS), much of the corridor is located in areas that pose a slight or moderate risk of erosion.

Steep Slopes

Also depicted on Map 2 are 10-foot elevation contours, which indicate those areas where steep slopes could potentially impact trail design and construction. Most areas comprising steep slopes occur directly adjacent to Glenwood Lake, with the steepest areas occurring behind the homes on Glenwood Avenue. Combined with a moderate potential for erosion (see above), these areas will require careful examination during the design phase of this project, should that location be selected.

D. Transportation Network (Map 3)

The streets in the Study Area are primarily local residential streets that are small, two-lane roads with posted speed limits of 25 miles per hour. New York State Route 63 traces the edge of the Study Area, but it is not expected that the proposed trail would need to travel along or across that roadway. While the New York State Department of Transportation does not provide average annual daily traffic (AADT) information for the local streets in the area, given their location it is likely that they are used primarily by residents living in the neighborhood and do not serve as through-streets. It can thus be expected that these roadways experience relatively low traffic volumes. General field observations were consistent with this assumption, and were confirmed by Steering Committee members. Therefore, any on-street sections of the trail should be able to safely accommodate bicyclists.

As noted above, the proposed Glenwood Lake trail corridor begins at the Erie Canalway Trail, which travels the majority of the canal connecting cities and villages along the way. Using the existing sidewalks on the Glenwood Avenue Bridge over the Erie Canal, potential trail users will have a direct



Sidewalk along Gulf Street



Prospect Avenue (Route 63) lift bridge over the Erie Canal

connection to the Village of Medina. This connection is enhanced by the presence of the Medina Canal Loop Trail, which traces the edge of the canal in the downtown area. There is a partial sidewalk network in the Glenwood Avenue and Gulf Street neighborhoods, as shown on Map 3. In terms of water-based transportation, the Study Area contains a boat launch at Glenwood Lake Town Park, offering access to the water for both motorized and non-motorized crafts.

IV. TRAIL ALIGNMENT ALTERNATIVES

As a result of the site visit, existing conditions analysis, Steering Committee discussions, and public input, several alternatives were explored for locating the trail in the corridor. The following is a summary of these alternatives, as presented at the November 19th 2008 Public Meeting (see Map 4). The assumption is that, regardless of the alternative chosen, the trail would begin at the Erie Canalway Trail and end at Glenwood Lake Town Park. Each of the alternatives were examined and a preferred alternative was identified, as described in Section V, Preferred Trail Alignment and Implementation.



Glenwood Avenue looking south towards the village

A. Segment A — Lions Park on the Erie Canal to Gulf Street Park (Map 4)

<u>A1 — Gulf Street alternative</u>

This option would begin at the proposed new pavilion in Lions Park and travel north along Glenwood Avenue. At the fork in the road, the trail would bear left onto Gulf Street, then proceed two blocks to the Oak Street intersection. As this would be an on-street trail segment, experienced bicyclists would ride in the street while other trail users would utilize the sidewalks. Along this course, sidewalks currently exist on the west side of Glenwood Avenue and the

east side of Gulf Street. Sidewalk conditions vary, with some sections requiring replacement or rehabilitation. Crosswalks would need to be installed on Gulf Street at the intersections with Glenwood Avenue and Oak Street. The crosswalk at Oak Street would lead the trail into Gulf Street Park, the terminus of Segment A. Choosing this alternative would be a cost-effective choice, requiring some sidewalk work, signage, and crosswalk installation. However, it would be more of an urban trail than a nature trail, possibly offering less attraction than an off-street option.



Steep slopes behind homes on Glenwood Avenue

<u>A2 — Lakeside alternative</u>

This option would head north from the Erie Canalway Trail on the east side of the Glenwood Avenue bridge. It would enter the woods behind the cement factory and begin a steep descent to the shore of Glenwood Lake. Continuing north past the homes on Glenwood Avenue, the trail would enter properties owned by the Village of Medina, then cross over to Gulf Street on the south side of the waste treatment facility. It would then proceed south along Gulf Street as an off-street segment parallel to the street, and enter Gulf Street Park.

Although a large portion of this alternative would technically be located on Brookfield Power property, there are some private property issues. Most homeowners are likely accustomed to the uninterrupted access to the lake, albeit extremely steep and not part of their property. If a trail were to be built through this area, proper screening would be necessary to mitigate any privacy issues.

The sloping banks behind the cement factory and the homes along Glenwood Avenue are extremely steep and likely too cost-prohibitive to accommodate a trail. If the trail were to utilize this option, it would likely be in the form of an elevated boardwalk tracing the shore, or an elaborate structure cut into the base of the slope, immediately above the shoreline. In any case, it would be challenging to design and construct, and likely the most expensive part of the trail. At the same time, it would achieve the goal of keeping the trail as close to the water as possible, and would offer spectacular views of the lake as it narrows and bends towards Medina Falls.

A3 — *Peninsula alternative*

The A3 alternative is a slight variation of A2. The difference is that rather than crossing over to Gulf Street on the south side of the waste treatment plant, A3 would continue along the shore and trace the edge of the peninsula. The trail would continue around the peninsula, returning to the A2 alignment at the point where A2 crosses to the west side of Gulf Street. This alternative offers a more scenic view of the lake, but this advantage may be negated by noise and odors from the plant. Although a feasible alternative, it received very little public support throughout the process.



Waste treatment plant on peninsula at the end of Gulf Street

<u>A4 — Stork Street alternative</u>

This option would begin at the Erie Canalway Trail east of the Prospect Avenue (NYS Route 63) bridge over the canal. Crossing Ryan Street, it would enter the site of the former foundry and sandstone quarry, which has been filled in, and travel north to the utility right-of-way that parallels Stork Street. Following the utility right-of-way, the trail would pass behind four homes on the south side of Stork Street. Prior to reaching Gulf Street, it would turn north, pass through a small vacant property, cross Stork Street, and then enter Gulf Street Park.

The precise alignment of this option is not determined at this time, as it should be coordinated with any potential redevelopment of the former sandstone quarry and foundry site, should funding and an investor arise. Although not a waterfront trail segment, it offers another off-street alternative to reach Gulf Street Park that would be less expensive than routing the trail along the lake. However, it may require extensive environmental assessment and remediation given the history of the site.

B. Segment B − Gulf Street Park to Glenwood Lake Town Park (Map 4)

<u>B1 — Bridge alternative</u>

This segment would begin on the eastern edge of Gulf Street Park. Following the tree line on the north side of the park, the trail would go down the slope that leads to the playground equipment and head towards the northwestern corner of the mowed area of the park. From there it would enter the woods and travel north along one of the lake's coves, all within lands owned by the Village of Medina. An informal trail has been developed through this section (apparently used by ATVs), and could be utilized as the foundation for a more formal multi-use trail. It would then arrive at a small peninsula overlooking Glenwood Lake's western cove. A new pedestrian bridge, approximately 220 feet in length, would carry the trail over the mouth of the cove, arriving at the small parking area that is currently utilized by fishermen that frequent this part of the lake. The bridge concept is described in more detail in Section V.

From the north end of the new pedestrian bridge, the trail would continue north to the existing cemetery road that parallels the edge of the lake. The trail would utilize this roadway, which is part gravel and part asphalt, requiring only signage to incorporate it into the overall trail. A small segment of trail would need to be constructed to connect the cemetery road to Glenwood Lake Town Park at the boat launch.

B2 — *Cove alternative*

This alternative is a slight variation of B1. Rather than crossing the cove using a pedestrian bridge, the B2 alternative would trace the edge of the cove. While this option may be less expensive than B1 (approximately 15 percent of the cost of the bridge), there are some steep slopes along the banks of the cove and two residences would be in close proximity to the trail. One of those residential properties



Cove on Glenwood Lake adjacent to historic Boxwood Cemetery

comes within 10 feet of the shoreline, with the remaining sliver owned by Brookfield Power. From a design perspective, the best location for a trail through this section would require an easement on private property, as the Brookfield Power property is too narrow and too steep at that point. The current owner of the nearby residence is not amenable to this option at this time.

In contrast, the B1 option can be constructed entirely on property owned by the Village and by Brookfield Power, and would be much shorter in length. This factor must be weighed against the significant cost difference.

C. General Design Considerations

Trail Dimensions and Surface

Per state and national trail design guidance, including recommendations from the American Association of State Highway and Transportation Officials (AASHTO), 10 feet plus two foot clear buffers on each side is the minimum desired width for a two-directional trail accommodating bicyclists and pedestrians. In constrained areas, a narrower trail (eight feet minimum plus two foot clear buffers on each side) would be acceptable but these sections should be minimized. If additional users are allowed (e.g. equestrians) and/or higher usage is expected, a wider trail (12 feet minimum plus 2 foot clear buffers on each side) should be considered.

Some funding sources require the higher level trail construction standards. Vertical clearance from overhanging trees or other objects should be a minimum of eight feet, although 10 feet is preferred. It is expected that a 10-foot wide trail plus two-foot clear buffers will be sufficient for the majority of the Glenwood Lake Trail.

Asphalt vs. Stone Dust Surface

Choosing a surface type is an important step in the planning and design of a trail. The surface material used should be determined by considering the desired users of the facility, the context of the trail, and the municipality's available resources (budget, maintenance staff). Most multi-use trails use either an asphalt surface or an improved natural surface such as stone dust.

Below is an overview of using one material versus another. This Feasibility Study recommends the use of stone dust, given the natural setting, but substantial cost differences between stone dust and asphalt are not expected, given the relatively short length of trail. During the more detailed design phase of the project, the Village and Town should examine these factors carefully and determine which surface is appropriate for the Glenwood Lake Trail.

	Asphalt	Stone Dust
Installation Cost	\$5.20 - \$5.50 / SF	\$1.80 - \$2.00 / SF
Users	wide range of users, best for long-range biking (commuters), strollers, in- line skaters, wheelchairs	limited range of users, would exclude in-line skaters
Permeability	impermeable*	allows some infiltration
Durability	may require minimal maintenance every 7-10 or more years	may require resurfacing, edge cleanup every 2-5 years, susceptible to erosion from regular use, runoff from adjacent development
Other	designed for higher speeds, better for urban/suburban areas	easier on joints, better for rural/undeveloped areas

^{*}porous asphalt materials are now available, although for a higher cost

An improved natural surface such as stone dust is recommended for off-street segments of the trail, as they will largely be in a natural setting. Stone dust is permeable and is less expensive to install than asphalt, although it can require higher maintenance costs over time. Since the off-street segments are relatively short, the short-term versus long-term costs may balance out, and the natural setting factor would be the primary determinant.

Another factor in determining the appropriate surface material is expected trail user types. Since the segment between Gulf Street Park and the cove is already used by ATVs from a neighboring property, the community should examine if these motorized vehicles will be appropriate for the Glenwood Lake

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Trail. ATVs can quickly deteriorate stone dust trails. If ATV or other motorized vehicle use is deemed inappropriate for the overall purpose and vision of the trail, a stone dust surface should be protected by the use of bollards or other physical barriers that prevent access to unauthorized motorized vehicles. Bollards should also be used for asphalt segments to restrict access, although motorized vehicles would have less of an impact on the asphalt trail surface.

Policing and Enforcement

Members of the community have expressed some concerns about policing the use of a new trail. Concerns include trail use by ATVs (if deemed undesired) and inappropriate or illegal behavior occurring in more secluded sections, such as in the wooded area near the cove. While there are no guarantees that these issues will completely desist, trail design and policy can reduce these activities, potentially to lower levels than may be currently occurring in the absence of a trail.

As mentioned above, bollards or other physical barriers can be installed to prevent unauthorized motorized vehicle access, as can regulatory signs. However, this design should be periodically reviewed for its effectiveness. The Village and Town should work closely with the local police force and the Orleans County Sherriff's Office to develop a plan for monitoring the trail and enforcing usage restrictions.

Although the trail will provide easier access to semi-secluded areas along the lake, the presence of an official and highly-visible community facility can actually deter people from inappropriate or illegal activities. An improved trail as part of a larger system solidifies the perception that a hiker or biker could pass by at any given time, which can deter these unwanted activities. As the trail grows in popularity, it can in effect become self-policing. Other communities in the area, such as Victor and Mendon, as well as nationally, have reported this phenomenon, citing that people who typically choose to use the trail are the ones that care most about its preservation. While they may have the occasional problem, the overwhelming response to the trail from the communities has been positive.

Accessibility

Handicapped and wheelchair accessibility should be provided where possible throughout the length of the proposed trail. It is recommended that handicapped parking be provided where possible at each trailhead parking lot along with a trail connection that meets the standards of the Americans with Disabilities Act, also known as ADA compliant. Such standards also limit the grade of a trail to a maximum of five percent, although a maximum of eight percent is allowable with two railings, provided that level landings are present for every 30 inches of vertical rise.

Bicycle Use of the Trail

The Glenwood Lake Trail will likely contain short segments that run concurrently with existing streets. In these cases, experienced bicyclists are encouraged to ride in the roadway in the same direction as vehicular traffic. When riding in the road, bicyclists should obey the same laws that apply to motorists, while taking extra safety precautions. These include hand signals, the use of highly visible clothing and/or



lights, and allowing vehicles to pass when adequate space is available. Bicyclists riding off-street should dismount when crossing the street at a designated crosswalk. These standards for bicycle use are consistent with New York State Vehicle and Traffic Law as well as the professional judgment of numerous bicycle advocacy groups.

Inexperienced bicyclists, including children or other slower riders, may choose to ride on sidewalks. This policy or practice would in effect designate such sidewalks as shared-use paths. Federal and State authorities recommend that shared-use paths should be 10-feet wide for two-directional travel and those paths should be located on exclusive right-of-way and with minimal cross flow by motor vehicles. However, since the potential on-street segments of the Glenwood Lake Trail are local residential streets with very low traffic volumes, it is expected that the majority of bicyclists would feel comfortable riding in the street. Therefore, the investment in widening the sidewalks from five feet to 10 feet in this area will not be necessary.



Example of a stone dust trail through a wooded area

However, if the community decided to pursue wider sidewalks, there is sufficient space in the right-of -way to accommodate them, as well as the recommended minimum five-foot wide landscaped strip between the sidewalk and street. This recommended separation reduces the potential confusion or conflicts caused by a bicyclist riding against vehicular traffic.

<u>Trail Ownership and Maintenance</u>

The utilization of some public funding sources for trail development, including most state and federal sources, typically expect public ownership of proposed trail corridors. Alternatively, a corridor easement or lease agreement may be acceptable but would need to be established in a manner that would limit any agreement conditions that could negatively impact the investment of public dollars in the trail. The former is most desirable because the landowner holds all rights to the property.

Although there is an abundance of publicly and semi-publicly-owned land in the Study Area (see Map 1 and Figure 1), there are some private land issues in the corridor. The following segments would require some form of acquisition or easement, with some pieces dependant on the trail alignment chosen:

• From the Erie Canalway Trail to Stork Street (A4 alternative), which includes land owned by Prawel's Auto Service, Orleans Construction Company (former sandstone quarry and foundry), and Orleans Real Property, LLC.

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 Along one of the coves in Glenwood Lake (B2 alternative), a private residence owned by William Bieliski.

One of the most common methods of acquiring full rights and title to a parcel of land is *fee simple acquisition*, where the landowner holds all rights to the property without restriction or reservation. Another potential option is a *bargain sale*, in which the current landowner agrees to sell the property below the market value with the difference being treated as a charitable tax deduction. Similarly, a *full donation of all or part of the property* could be considered, which may make the donor eligible for some property tax relief and/or charitable donation tax deductions.

In lieu of full acquisition of the corridor, the Town could consider establishing a long-term easement or lease with the property owners. Property easements or leases are acceptable when using public funding for trail development but generally should meet the following terms to protect the public's investment:

- An easement or license should be irrevocable;
- Facilities, installations, and improvements should not be required to be automatically removed at the end of the easement or lease agreement;
- Use or conveyance of the space above or below ground should be a term for negotiation. The intent here is not to restrict the corridor owner's rights to allow other parallel uses but to ensure these uses do not negatively impact the trail facility installed, including the use of the trail and the aesthetics of the trail corridor;
- The corridor owner should not expect the trail operator to remove or relocate all or part of the trail facility, installation, or improvement at the operator's expense within either a short time frame and/or with no joint determination of the need to do so;
- An easement or lease agreement should be granted for a minimum of 20 years, which is considered by NYSDOT as a "reasonable duration of intended use and access" for a trail project funded with public dollars.

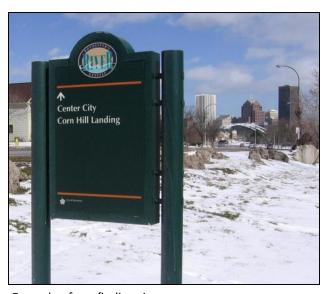
The premature removal of a publicly-funded trail or portion thereof may result not only in a local community having to remove or relocate the trail at its expense but also pay back some state and/or federal funding used for trail improvements. Both the NYSDOT and the Federal Highway Administration, another major funder of trail projects, find this situation unacceptable. Thus, the Village, Town or another public agency should consider acquiring portions of privately-owned properties, or to agree to a long-term easement or lease with few, if any, conditions that would impact the public's investment. Some public funding sources can be used for right-of-way acquisition costs in addition to trail design and construction costs, including several federal transportation funding sources (see Section VII).

In general, it is important that private landowners are committed to the trail project, regardless of how future development plans evolve. If such plans do not materialize, or change substantially, they should not jeopardize the development of the trail. The Town should be proactive with the land owners and developers to achieve this objective.

Regarding the potential pedestrian bridge over the cove in Glenwood Lake, or the potential elevated boardwalk along the lakeshore, the Village or Town should be prepared to take the responsibility of owning and maintaining the structure(s), including detailed inspection every five years, per FHWA guidelines, and routine maintenance.

Signage

It is recommended that a uniform standard (or logo) be developed and utilized for the identification of the Glenwood Lake Trail that is consistent throughout its length. Informational signage or wayfinding signage that orients users to their position within the trail corridor and that provides an overview of the system should be provided at all trailheads/parking areas, intersections with other trail systems (i.e., the Canalway Trail), and within Medina's downtown area. Signage indicating accessible routes should also be included.



Example of wayfinding signage

Regulatory signs describe the general rules and regulations that apply to the trail, such as permitted uses or hours of operation. Area-specific signage should also be included, such as 'STAY ON TRAIL' or 'RESPECT NATURE' signage for portions that pass through or adjacent to ecologically sensitive areas.

Additionally, warning signs are recommended to caution about various hazards such as steep adjacent slopes, roadway crossings, merges, pedestrian crossing signs (for motorists), etc. Utilization of consistent barrier gates or bollards to control access to the trail will also identify the trail system and communicate a consistent application of rules and regulations for all portions of the trail.

Interpretive signage opportunities exist for the Glenwood Lake Trail including Medina Falls, the Village's historic relationship with the Erie Canal, the unique habitats found in and around the lake, and the important role that the sandstone quarry played in Medina and beyond.

D. Steering Committee and Public Input Recommendations

The following general list is based on comments from the Steering Committee and the public at-large, and represents the common concerns, questions, and suggestions that were raised regarding the alignment, design, and construction of the proposed trail. Complete meeting notes are included in the Appendix.

- The trail would be a great asset for the community, offering better access to the lake.
- Need to emphasize the link to segment of Erie Canalway Trail that overlooks Medina Falls, including a clearing with signage for an overlook.



Heavily wooded slopes of Glenwood Lake

- Potential for long-term concept of bridge crossing in front of the falls for an overlook, using existing abutments.
- Concern about Brookfield's long term plans how certain is their support?
- Consider trail option on east side of the lake fewer property owner issues, slopes not as steep (could be a long-term option to complement the west side trail).
- A trailhead at Lions Park would benefit the Glenwood Lake Trail as well as the Erie Canalway
 Trail. It would encourage boaters and trail users to stop and explore Medina.
- If the on-street segment is selected, the kiosk at Lions Park should clearly indicate the destination of the trail, including a map and pictures of Glenwood Lake. This will be a key feature of the trailhead as hikers/bikers will only see signs along a sidewalk at this point, and may not know of Glenwood Lake as the destination.
- There are various pros and cons to consider for alternative alignments (see notes from the November 2008 Public Meeting in the Appendix). Major points include:
 - ♦ The Gulf Street alternative (A1), while not as much of a trail experience, would be cost-effective, direct, and has no private property issues.
 - ♦ The lakeside alternative (A2) would be a fantastic attraction, with spectacular views of the lake, but has significant issues related to cost, design, privacy, and environmental impacts.
 - ♦ The peninsula alternative (A3) is generally undesirable because of noise and odors from the waste treatment plant.
 - ♦ The Stork Street alternative (A4) should remain a viable option, even if only as a future complementary link, that should be considered if and when redevelopment scenarios are proposed for that site.
 - ♦ The bridge alternative (B1) would be an attraction in and of itself, not just a means to cross the cove. This option could enhance the fishing experience and provide great views of the lake.
 - ♦ There is strong opposition to the cove alternative (B2) because of private property issues and lack of space for a trail within the Brookfield Power property.

V. Preferred Trail Alignment and Implementation

After careful review of the various alternatives for locating the Glenwood Lake Trail, a preferred alignment was selected. This process involved presenting the alternatives to residents at a Public Meeting in November 2008, as well as numerous discussions with the Steering Committee weighing the pros and cons of each alternative. As is demonstrated in the previous section, the public provided valuable input that drove the process of selecting the appropriate option for moving forward.

The preferred alignment for the Glenwood Lake Trail (Map 5) consists of the A1 and B1 alternatives, as outlined in the previous section. The specific steps necessary to create a trail along this alignment are described in this section. It should be noted however that A4 (Stork Street alternative) remains a viable alternative. This alternative is discussed later on in this section under "Complementary Connections." Although this Study analyzes the trail in two distinct segments, the actual development of the trail is recommended to be completed in a single phase. Additional links and complementary connections can be considered follow-on phases or separate projects.

A. Implementation Plan for Segment A (Lions Park on the Erie Canal to Gulf Street Park)

The A1 alternative, as outlined in Section IV and shown on Map 4, was selected as the preferred option for connecting Lions Park at the Erie Canalway Trail with Gulf Street Park. This alternative utilizes existing infrastructure for this short segment in order to focus investment on the bridge over the cove in Segment B. Although the lakeside alternative (A2) was seen as the more appealing option from a trail user perspective, the impacts to the environment, both natural and man made, were considered too costly. It is expected that an elevated boardwalk or other elaborate structure at the base of the steep slope would be an order of magnitude more expensive than any other alternative.

Additionally, the project team observed that a trail on the east side of the lake appears more physically feasible, and should be considered as a future trail option that further enhances lake access. This east side option was not examined in any detail in this Study as the direct connection between Lions Park and Glenwood Lake Town Park was the stated objective when funding for the Study was secured.

It should be noted that the A3 alternative remains feasible from a cost, landowner, and physical constraints perspective. This alignment, which traces the edge of the lake around the waste treatment facility, is completely on Village-owned land and thus has the flexibility to avoid any steep slopes, which are largely diminished closer to the end of the point. Although some concerns were expressed about potential noise and odor nuisances next to the plant, it was also noted that the plant presents educational opportunities that would complement the trail. Ultimately, this alternative was not selected because it was dependent on the selection of A2 as the primary route extending north from Lions Park. The Village could consider developing a spur trail north from the A1 alternative along the A3 alignment, which would provide more access to the lake and allow for any interpretive or educational signage at the plant.

The A1 alternative requires the following improvements:

- Install a trailhead in Lions Park along the Erie Canal. The trailhead would consist of a kiosk, directional signage, pedestrian-scaled lighting, a bike rack, and benches. The kiosk should clearly illustrate Glenwood Lake as the ultimate destination of the trail, as the only visible portion of the trail from this point would be sidewalks. These amenities should be coordinated with the improvements planned for Lions Park, including the new pavilion.
- Repair/replace sidewalk segments as needed along the west side of Glenwood Avenue between Lions Park and Gulf Street.

 Sidewalks should be a minimum five feet wide. These sidewalks will not be considered shared-use facilities, which are typically at least 10 feet wide, as bicyclists should be encouraged to ride in the street in this section. Directional signage should be installed to direct northbound trail users to Gulf Street Park and southbound trail users to Lions Park and the Erie Canalway Trail. See Section IV regarding bicycle use of the trail.
- **Install a crosswalk** on the west side of Glenwood Avenue at the Gulf Street intersection.
- Repair/replace sidewalk segments as needed along the east side of Gulf Street between Glenwood Avenue and Oak Street. Sidewalks should be a minimum five feet wide.
- **Install a crosswalk** on the east side of Gulf Street at the Oak Street intersection.



Location of potential trailhead in Lions Park



Deteriorating sidewalks along Glenwood Avenue and Gulf Street



Looking west into Gulf Street Park from Gulf Street

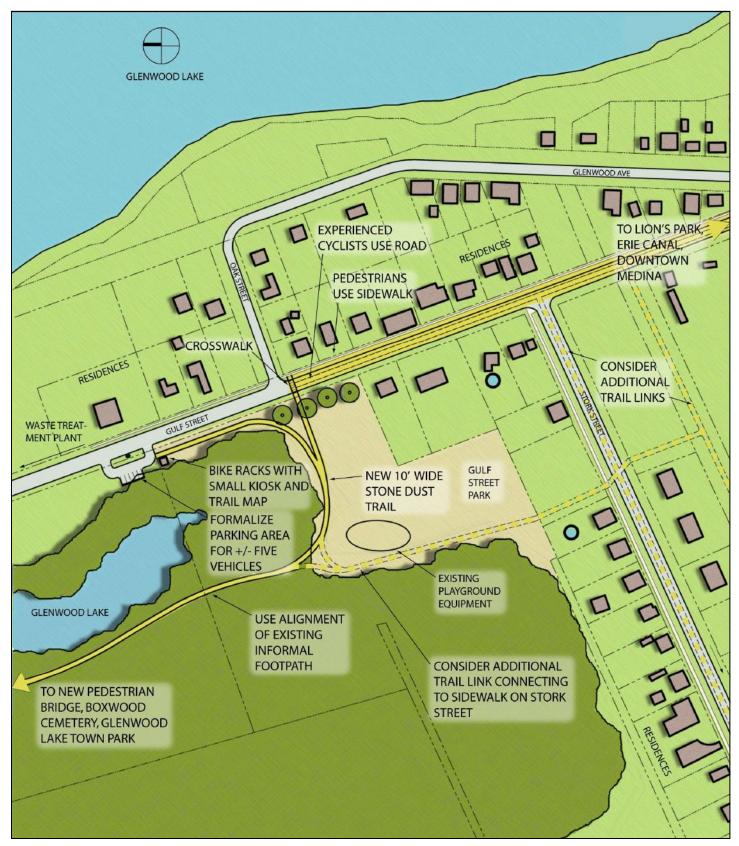


Figure 2: Plan view of conceptual trail through Gulf Street Park and surrounding neighborhood

B. Implementation Plan for Segment B (Gulf Street Park to Glenwood Lake Town Park)

The B1 alternative, as outlined in Section IV and shown on Map 4, was selected as the preferred option for connecting Gulf Street Park with Glenwood Lake Town Park. This alternative utilizes a bridge over the cove rather than a trail tracing the edge of the cove. It keeps the trail entirely on public and semi-public land, and includes a bridge which is expected to be the primary attraction of the trail. Not only will it enhance the fishing experience on the lake, but it will offer spectacular views of the open waters. Ultimately, this portion of the trail will provide non-motorized access to Glenwood Lake from the Village, a trip that currently requires driving out Route 63 to the cemetery or Town Park.

It should be noted that the B2 alternative, which follows the edge of Glenwood Lake's western cove, is physically feasible and would be significantly less expensive than B1. However, the planning process yielded notable public opposition to this option due to private property concerns. Should the Town and Village decide to pursue this option, an agreement would need to be reached with the property owner for an easement or acquisition of a small strip of land along the lake.

The B1 alternative requires the following improvements:

- **Install a 10-foot wide stone dust trail** from the crosswalk into Gulf Street Park, tracing the northern tree line and entering the woods in the northwest corner of the mowed portion of the park (see Figure 2). The trail may need to meander slightly down the hill from Gulf Street, in order to meet ADA standards for maximum slope.
- Install a trailhead on the west side of Gulf Street at the existing turnaround near the entrance to the waste treatment plant (see Figure 2). The trailhead would consist of a kiosk, parking for four or five cars, directional signage, a bike rack, and bollards to restrict motor vehicle access to the trail.
- Install a 10-foot wide stone dust trail from the trailhead south to connect to the aforementioned trail that enters Gulf Street Park (see Figure 2).



Turnaround on Gulf Street that could be converted to a trailhead

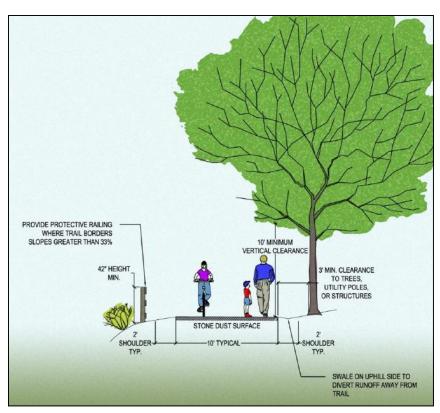


Figure 3: Typical cross section of the trail through a wooded area



View of Glenwood Lake from existing footpath near the western cove

- Utilizing the existing informal footpath, install a 10-foot wide stone dust trail into the woods from Gulf Street Park north to the point overlooking the western cove of Glenwood Lake (see Figure 3). Consideration should be given to installing a fence or other physical barrier on the west side of the trail to protect adjacent private property.
- Install directional and interpretive signage along this wooded trail that follows the edge of Glenwood Lake. Interpretive signage related to local wildlife and the origins of the man-made lake may be appropriate.
- Construct a 10-foot wide pedestrian bridge over the western cove of Glenwood Lake (see Figure 4). The bottom of the 220-foot long bridge should be 10 feet above the surface of the water to allow for small boats to comfortably pass underneath. The design should be coordinated with Brookfield Power's operational and safety interests. Additionally, the final design should explore visual screening options along the south shore of the cove in order to protect the privacy of adjacent homes.
- Install a trailhead at the location of the informal parking area adjacent to the cove. The trailhead would consist of a kiosk, directional signage, a bike rack, and bollards to restrict motorized vehicle access to

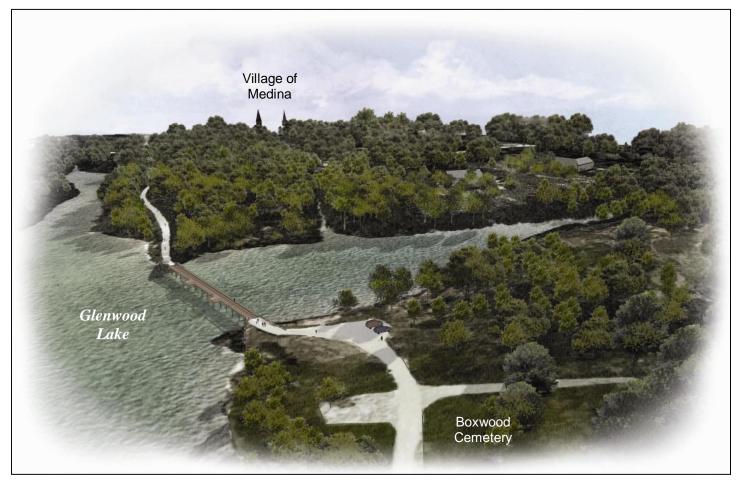


Figure 4: Bird's eye perspective of conceptual pedestrian bridge over Glenwood Lake's western cove, looking south

the trail. The existing informal parking area should be re-graded and formalized to accommodate four or five cars.

- Install a 10-foot wide stone dust trail from the northern approach of the pedestrian bridge, along the eastern side of the existing gravel roadway, connecting to the asphalt road in Boxwood Cemetery.
- **Install signage** on the existing cemetery road that parallels the shore of Glenwood Lake, directing trail users to Glenwood Lake Town Park and encouraging them to explore historic Boxwood Cemetery.
- **Install a ten-foot wide stone dust trail** north from the cemetery road into Glenwood Lake Town Park near the boat launch parking area.
- **Install a trailhead** adjacent to the boat launch parking area. The trailhead would consist of a kiosk, directional signage, a bike rack, and bollards to restrict motor vehicle access to the trail.

C. Complementary Connections*

<u>A4 Alternative</u> (see Map 5)

This alternative should be retained as a viable option in the future, depending on how plans develop for the former quarry and foundry site. Should it be redeveloped, consideration should be given to incorporating a trail link between Stork Street and Ryan Street at Gravel Road. This link would enhance access to the core of Medina via the Prospect Avenue bridge (NYS Route 63) and could be a unique design element for the redevelopment of the site.

The A4 alternative would require the following improvements:



Former foundry site along Glenwood Avenue

- **Install a crosswalk** on the east side of Gravel Road at the Ryan Street intersection.
- **Install a 10-foot wide stone dust trail** from the crosswalk north through the former quarry and foundry site and ultimately to Stork Street. As shown on Map 5, the utility easement that parallel's Stork Street could be utilized through this section if the design of the redeveloped site limits the trail's footprint.
- **Install directional and interpretive signage** along the trail, including historical markers pertinent to the quarry and foundry operations.
- **Install a crosswalk** on Stork Street west of the Gulf Street intersection, in line with an access point to the south end of Gulf Street Park.
- **Install a 10-foot wide stone dust trail** from the crosswalk north through the Village-owned property on the north side of Stork Street, entering into Gulf Street Park, and ultimately connecting with the Glenwood Lake trail adjacent to the existing playground equipment.

Stork Street and Other Neighborhood Connections (see Map 5)

Additional trail or neighborhood links could be developed around Stork Street to complement the preferred trail alignment and the potential trail through the former quarry and foundry property. A trail linkage could also be developed along the utility right-of-way west from Gulf Street, either connecting to the potential trail on the former quarry and foundry property or connecting north across Stork Street into Gulf Street Park. These additional linkages would provide alternative access points and expand the bicycle and pedestrian network in this area.

*Not included in the cost estimate for this study.

Medina Falls Viewing Area (see Map 5 and Figure 5)

Medina Falls, a spectacular cascade of the Oak Orchard River, can be seen from the Erie Canalway Trail as the canal passes over the river on an aqueduct. This intersection of two waterbodies, coupled with the dramatic waterfall, is a rather unique scene in western New York. Although it is currently visible from the Canalway Trail, the view is from a sharp angle and is inhibited by trees. Consideration should be given to an extension of the canal wall structure in the form of a viewing platform. For funding and feasibility purposes, the development of this concept may need to be coordinated with future rehabilitation projects on the canal wall, which currently has some leaks and apparent surface deterioration. The design could potentially include steps descending closer to the water's edge to provide enhanced views of the falls and better access for fishing.

During the development of this Study, consideration was given to alternative routes for enhancing views of the falls. These included a trail descending form the Glenwood Avenue bridge running parallel to the river and a pedestrian bridge crossing over the river in front of the falls. Ultimately, the viewing platform concept was determined the most feasible and least intrusive from an environmental and scenic perspective.

The Medina Falls Viewing Area would require the following improvements:

- Extend the canal wall structure to the north, allowing for enhanced views of Medina Falls. The viewing platform should include interpretive signage highlighting the historic, natural, and structural significance of this site. A more detailed examination of the existing slopes, soil conditions, and the structural integrity of the existing wall would be necessary to determine the feasibility of such a structure.
- Install steps descending to the Oak Orchard River.



Medina Falls

East Lake Trail (see Map 5 and Figure 5)

Site visits as part of this Study indicated that a trail on the east side of Glenwood Lake may potentially face fewer challenges than a lakeside trail on the west side. Much of the eastern shore slopes are not as steep, and many do not rise to the same elevation as the west side. Several sections would still require creative and perhaps costly structures, but may prove a worthy investment given the attraction of the trail and the potential for a complete loop around the lake. There would also be several private property issues, as some homeowners have developed access to the lake.

The East Lake Trail option was not examined in any detail in this Study as the direct connection between Lions Park and Glenwood Lake Town Park was the stated objective when funding for the Study was secured.

The East Lake Trail would require the following improvements:

• Install a 10-foot wide stone dust trail from the existing Erie Canalway Trail trailhead on Laurel Street, tracing the entire eastern edge of Glenwood Lake, and circling back to Glenwood Lake Town Park on the west side. Consideration would have to be given to appropriate crossings at the dam and water intake sites along the northeastern shore of the lake.

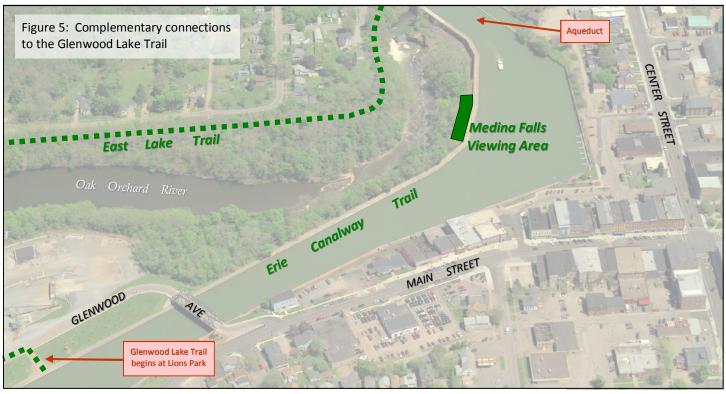


Figure 5: Complementary connections along Erie Canal and Oak Orchard River

VI. COST ESTIMATE

The following cost estimate is presented for planning purposes, to allow the Town and Village to gauge the approximate cost for developing a multi-use trail as presented in this Study. The actual location and design of the trail may change once the project reaches the design stage. As well, construction costs are subject to change. Dollar figures included are from 2009; escalation due to inflation or other factors is not included. Note that trail linkages listed under "Complementary Connections" (pages 25-27) are not included in this cost estimate.

To assist with design and construction, funding opportunities are available from a variety of sources, and are outlined in the next section.

A1 and B1 Alternatives

DESCRIPTION OF WORK	TOTAL COST
Trail Construction *	\$205,000
Trail Amenities (e.g. Benches, Kiosks, Bollards, Landscaping, etc)	\$114,000
Signage and Striping	\$11,000
Bridge over Cove	\$880,000
SUBTOTAL	\$1,210,000
Maintenance & Protection of Traffic	\$29,000
Incidentals (Survey, Mobilization)	\$69,000
TOTAL	\$1,308,000
PROJECT SUBTOTAL:	\$1,308,000
25% CONTINGENCY:	\$327,000
25% ENGINEERING:	\$327,000
15% CONSTRUCTION MANAGEMENT:	\$196,000
	0.
TOTAL CONSTRUCTION COST:	\$2,158,000

^{*} Includes sidewalk replacement and rehabilitation along Glenwood Avenue and Gulf Street

It is estimated that annual maintenance costs will be about \$12,000, with maintenance required for the pedestrian bridge accounting for approximately 20 percent of that total. This is an annualized estimate, so some years will require more investment and some will require less. The following assumptions were used when calculating the maintenance costs:

- Apply one inch top dressing of stone dust trail every seven years
- Replace/repair half the quantity of signs and posts every 10 years
- Mow edges of trail two times every year
- Remove trash once every two weeks
- Perform spot repairs/maintenance to the trail once every year
- Perform bridge inspection every five years
- Perform spot repairs/maintenance of the bridge every ten years

VII. FUNDING SOURCES

The most likely means of implementing some or all of the trail improvement recommendations identified in this feasibility study is through the application of multiple funding sources. Most trails are developed using either a combination of public funding from various governmental levels, a combination of public and private funding, and/or a combination of local public forces and volunteer assistance. This section provides an overview of the potential funding sources for development of the Glenwood Lake Trail.

A. Federal Sources

The Federal Government provides funding for transportation projects through various funding programs contained within multi-year federal transportation legislation, with the current appropriations bill referred to as SAFETEA-LU, or Safe Accountable Flexible Efficient Transportation Equity Act: a Legacy for Users. SAFETEA-LU is a six-year federal transportation act that will expire in September 2009. It is expected that funding for multi-use trails will continue to be provided from the federal government in a newer version of this transportation legislation, likely to be approved by January 2010.

The information provided below describes several existing federal transportation funding sources that provide funding for multi-use trail projects like the Glenwood Lake Trail based on the current SAFETEA-LU legislation. Federal transportation funding programs included in the new federal legislation may be different from the information provided below. For current federal funding program information, please contact the administering agency listed or the Genesee Transportation Council.

Local officials may also be able to acquire some trail project funding assistance by working with their federal representatives to acquire special funding appropriations through appropriations bills, transportation and other related legislative actions, and other special appropriations.

Surface Transportation Program (STP)

All federal funds for transportation projects in Rochester's seven-county region are allocated through the Genesee Transportation Council (GTC), the area's Metropolitan Planning Organization (MPO). Surface Transportation Program funded projects must be selected for inclusion in the bi-annually created Transportation Improvement Program (TIP). The GTC TIP was last updated for 2007-2012, with additions made in February 2009 to meet the obligations of the federal American Recovery and Reinvestment Act (ARRA), or stimulus plan. While it is not likely that the TIP for the Genesee Region will be further updated in 2009 as a result ARRA projects, it is anticipated that a complete update may take place in 2010.

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Regular amendments are made to the TIP to include projects of significant community need, and municipal officials should stay abreast of funding notifications and calls for projects from the GTC to ensure inclusion in future funding programs. Federal funding sources provide up to 80 percent of project costs and require a 20 percent local match. 'Soft' match provisions (e.g., force account labor) are allowed, including soft matches from public agencies.

Transportation Enhancements Program (TEP)

Transportation Enhancements Program (TEP) funds are administered directly by the New York State Department of Transportation (NYSDOT), and not the GTC. In order to maximize the use of the available TEP funding, this program provides innovative financing alternatives for local matching requirements of 20 percent. There are 12 categories for eligible enhancement activities that can be funded under TEP. The proposed trail is potentially eligible for TEP funding under two categories:

- Provision of facilities for bicyclists and pedestrians
- Acquisition of scenic easements or scenic historic sites

It is not fully understood how the pending reauthorization of transportation funding for 2010 may impact this program. However, it is anticipated that funding for bicycle and pedestrian facilities enhancements will continue as a significant component of new legislation, in keeping with TEA-21 and SAFETEA-LU.

Section 61 of the State Finance Law requires the following of any project constructed with federal funds for NYSDOT:

- Funds used to construct/reconstruct highways, streets, and other transportation infrastructure projects require a 20-year project life;
- Funds used to acquire land for recreation projects require a 20-year easement/guarantee of ownership or permit to use.

Safe Routes to School Program (SRTS)

The Safe Routes to Schools Program is also funded under the federal SAFETEA-LU bill, with the goal to enable and encourage children, including those with disabilities, to walk and bicycle to school; to make walking and bicycling to school safe and more appealing; and to facilitate the planning, development and implementation of projects that will improve safety, and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Portions of trail projects that connect to schools and are within approximately 2 miles of a school building may be eligible for funding. Similar to the Transportation Enhancements Funding, SRTS funding is administered by the State, with \$27.5 million available for 2009-2014; calls for projects to be funded for 2009 under this program have passed as of the writing of this document. However, municipal officials and interested parties should remain in touch with GTC and their regional NYSDOT office for further funding opportunities.

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Recreational Trails Program (RTP)

As a funding source through the Federal Highway Administration (FHWA), a total of \$85 million nationally in contract authority was apportioned for fiscal year 2009 to provide and maintain recreational trails, with \$2.9 million distributed to New York. States must establish a State Recreational Trails Advisory Committee that represents both motorized and non-motorized recreational trail users to distribute funds. Of funds distributed to a state, 30 percent must be used for motorized trails, 30 percent must be used for non-motorized trails, and the remaining 40 percent can be used for either type of trail. A typical RTP award is \$50,000 to \$100,000.

The Federal funding portion for projects is 80 percent, and Federal agency project sponsors or other Federal programs may provide additional Federal share up to 95 percent. Soft match provisions are allowed, including soft matches from public agencies. New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) administers this program in New York State. Upon approval, planning and environmental assessment costs incurred prior to project approval may be credited toward the non-Federal share cost of the project, limited to costs incurred not more than 18 months prior to project approval.

Congestion Mitigation and Air Quality Program (CMAQ)

The CMAQ program provides funding for surface transportation and other related projects that contribute to air quality improvements and reduce congestion in areas that are designated as non-attainment or in maintenance per the National Ambient Air Quality Standards. Selection of CMAQ projects is made at the State and local level but is subject to broad Federal project eligibility guidelines. Eligible project categories include:

- Transit and public transportation programs
- Traffic flow improvements
- Travel Demand Management (TDM) strategies
- Ridesharing programs
- Bicycle and pedestrian projects
- Education and outreach programs
- Inspection and maintenance programs
- Alternative clean fuels

Upon passage of the new federal surface transportation bill, CMAQ funding may become available in this region for transportation projects that improve air quality and enhance mobility.

B. State Sources

Clean Air / Clean Water Bond Act and the Environmental Protection Fund

The 1996 Clean Air / Clean Water Bond Act approved \$1.75 billion in bond funding for environmental protection and enhancement projects, including projects that protect and enhance air quality, such as multi-use trails. The 1993 Environmental Protection Act approved the creation of the Environmental

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Protection Fund, which established a dedicated funding mechanism to provide critical funding for the Department of Environmental Conservation, the Office of Parks, Recreation and Historic Preservation, and grants to local governments and non-profit organizations. EPF funding helps to implement a variety of environmental programs to protect public health and ensure communities have access to clean water, land, and air. Municipal officials and interested parties should contact NYSDEC and NYSOPRHP offices for further information regarding available funding for trail implementation.

State Multi-Modal Program

The State Multi-Modal Program provides funding for authorized port, airport and local highway and bridge projects. State Multi-Modal funds can be used to finance project costs for the construction, reconstruction, improvement, reconditioning and preservation of county, town, city and village roads, highways, parkways and bridges. All Multi-Modal projects must have a ten year "bondable" service life and must be for public transportation or freight transportation purposes. Multi-Modal funding cannot be used for the mandated share of a federally funded project. This program is a reimbursement program. While trails are not an eligible project type, related improvements in a highway right-of-way, such as new sidewalks, paved shoulders, and bicycle lanes, may be eligible for State Multi-Modal Program funding.

Another possible avenue for funding or other material support for trail projects may be state and county public health departments. Some public health officials and programs are targeting opportunities to provide active living environments – communities and neighborhoods that can support physical activity through its normal infrastructure of sidewalks, bicycle-friendly streets, trails, easily accessible parks, etc. Public health departments may be good sources for assistance with programs or projects that encourage the use of trails through maps, signage, and promotions. Additionally, private foundations with health-oriented missions are also more receptive to supporting trails as a means of encouraging healthy lifestyles (e.g., the Robert Wood Johnson Foundation's Active Living Program).

C. Local Sources

Limited federal and state funding opportunities for trail development have led many communities to allocate more local funding for these types of projects. The most common sources of funds at the municipal level include allocations from specific departments (e.g., public works or parks) or a line item in a community's annual budget and /or Capital Improvement Program (CIP). Local revenues for trail development have also been raised in some communities through property tax, sales tax, or bond measures. Additionally, development impact fees levied by a municipality may also be allocated to capital trail improvements per local body.

Local communities have also developed trails through the allocation of staff time, also known as force account work, to build trails or provide certain trail building or maintenance activities that are then augmented by paid services from private contractors and/or unpaid volunteers.

D. Private and Community Foundations

Community foundations provide charitable contributions which may be a potential source of funding. They operate much like a private foundation, but their funds are derived from many donors rather than a single source. Furthermore, community foundations are usually classified under the tax code as public charities and therefore are subject to different rules and regulations than those which govern private foundations. Private and community foundation grants can be combined to leverage federal funding by providing a portion of the local match requirement for federal transportation funding. Several potential foundations include:

Genesee Region Trails Coalition (GRTC)

The GRTC is an organization whose mission is to help local communities develop and maintain a regional system of multi-use trails in the ten-county Rochester-Genesee-Finger Lakes region. They have a small annual grant program to support small trail development and improvement projects within their region.

Bikes Belong Coalition

This is a membership organization founded by bicycle industry leaders with the mission of "putting more people on bikes more often." Bikes Belong Coalition pursues this goal by distributing grants for bicycle facility, education, and capacity projects. Bikes Belong Coalition Grants are small funding sources that assist communities and agencies in the development of bicycle trails and pathways. This grant source is often used to help fund a portion of the required match to access federal transportation funds. More information on this organization can be found at their website at www.bikebelong.org.

Other Sources

The Eastman Kodak Company, The Conservation Fund, and the National Geographic Society provide small grants to stimulate the planning and design of greenways in communities throughout America through the Kodak American Greenways Awards Program. The annual grants program was instituted in response to the President's Commission on Americans Outdoors recommendation to establish a national network of greenways. Made possible by a generous grant from Eastman Kodak, the program also honors groups and individuals whose ingenuity and creativity foster the creation of greenways. For more information about the American Greenways program, please refer to its web site at www.conservationfund.org. The 2009 deadline for grant funding has passed. Municipal officials and interested parties should continue to visit the website for future funding opportunities.

E. Private Funding

Some trails have been partially or substantially developed utilizing private funds from private donations by individuals and businesses, corporate sponsorships, and various fundraising efforts. Examples of fundraising efforts range from trail-related events, merchandise sales, and even the sale

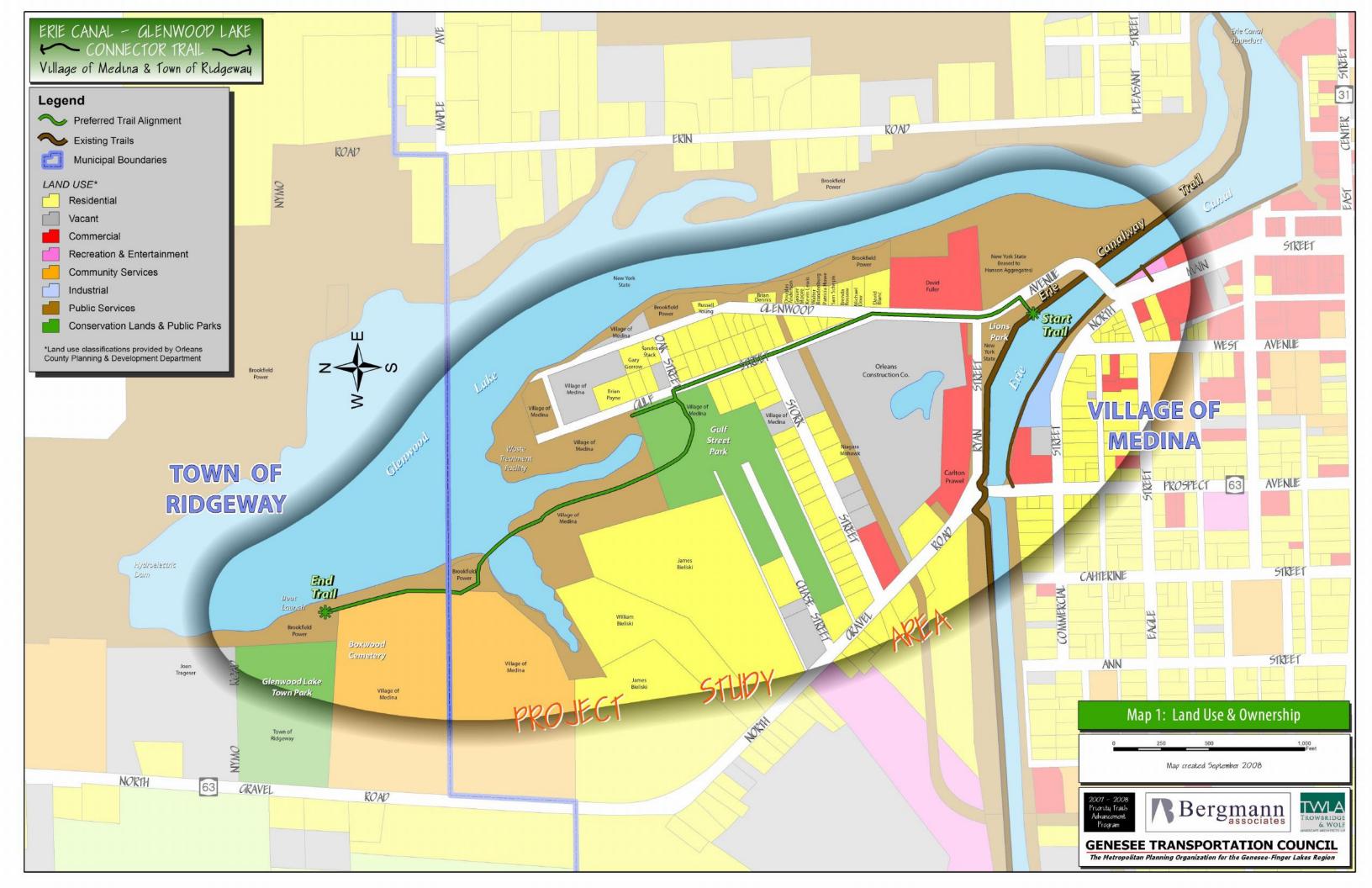
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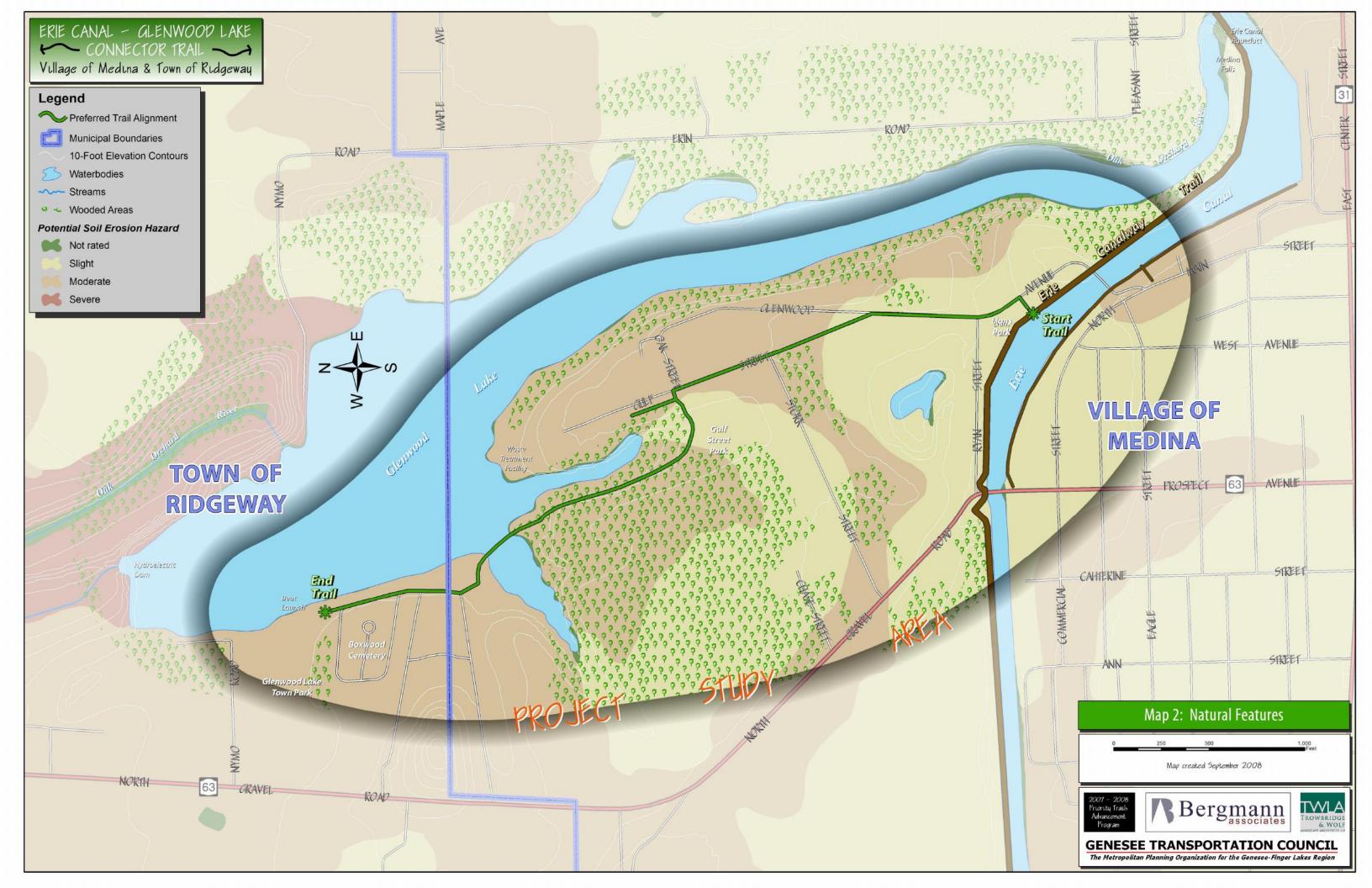
of trail sections or trail amenities like benches, information kiosks, etc. An excellent New York State example of local private fundraising efforts is the Cayuga Waterfront Trail in Ithaca. For more information about the trail, please visit http://cayugawaterfronttrail.com. The Town and Village should consider Brookfield Power as a potential funding partner in this project. In a similar instance, the City of Rochester partnered with Rochester Gas and Electric to develop a trail over the Middle Falls Dam as part of the larger Genesee Riverway Trail.

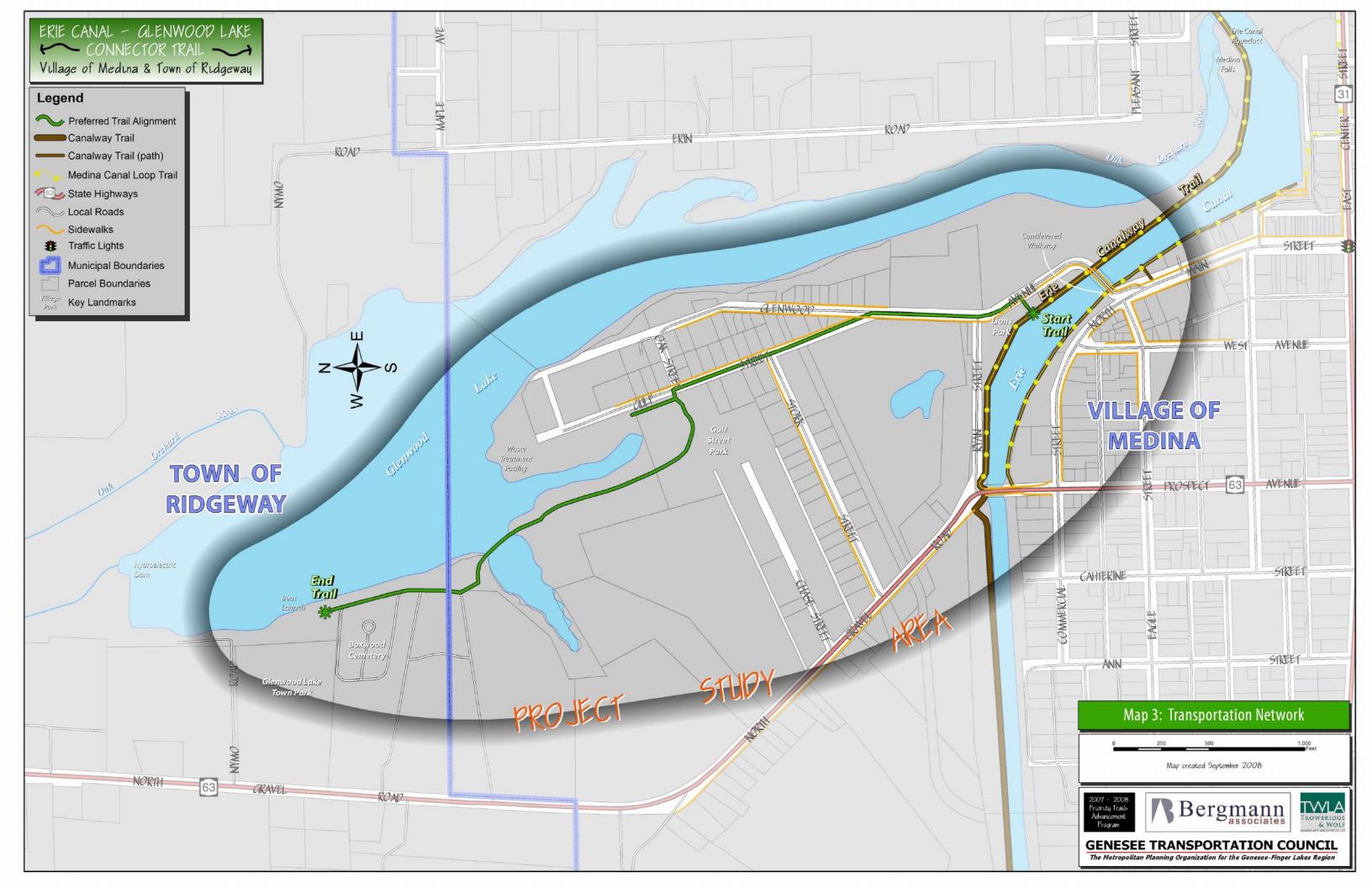
Finally, a significant number of trails have been developed and maintained, particularly in the Rochester-Genesee-Finger Lakes Region, through the volunteer efforts of private individuals, Friends of the Trails groups, local civic organizations (Chamber of Commerce, Scout groups), and corporate volunteerism. Likewise, in some cases, specialized services (materials and equipment donation, trail construction work, trail design) have been donated by generous businesses and professionals.

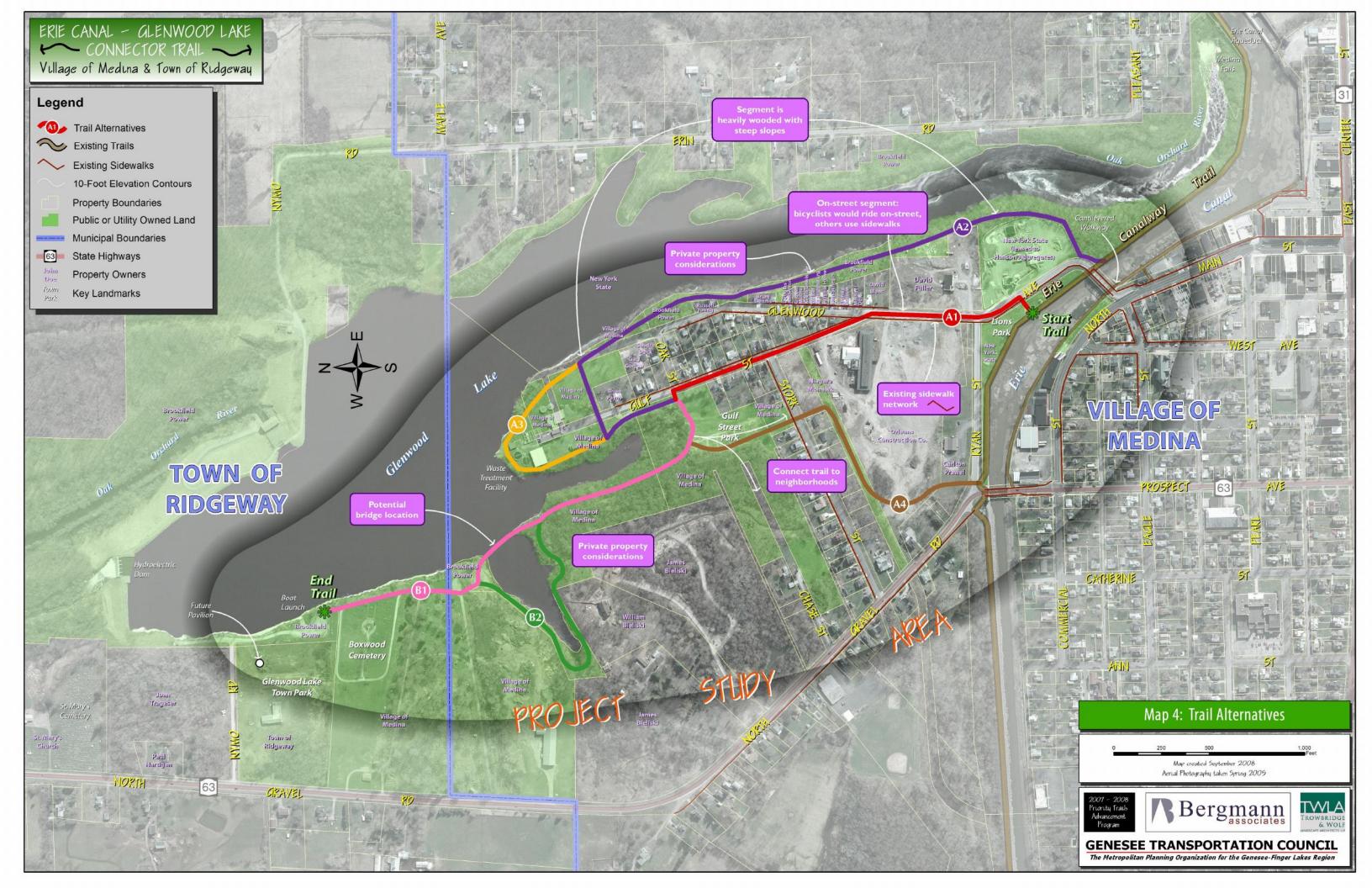
F. Funding Conclusions

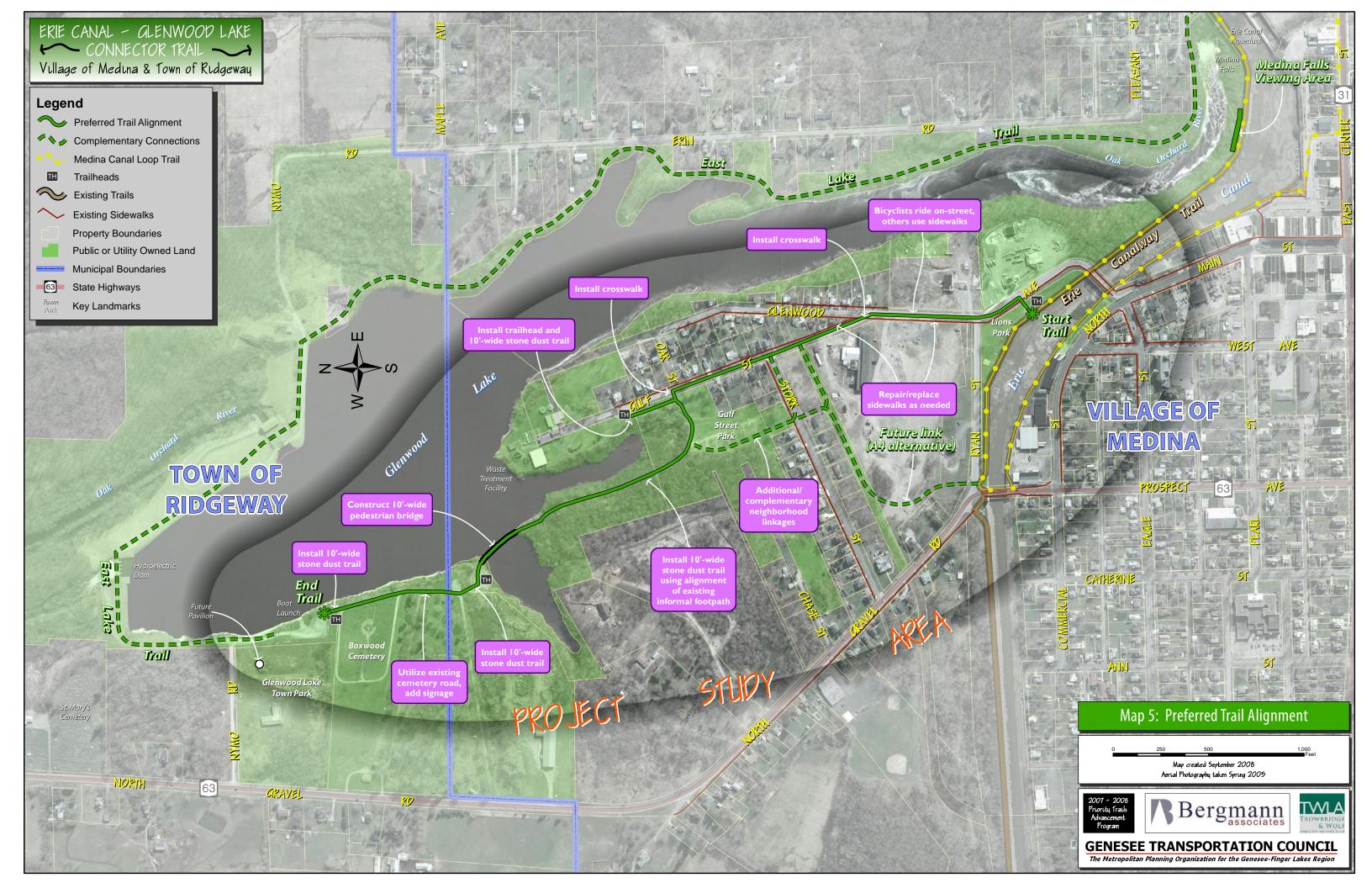
There are numerous opportunities for implementation funding for trail initiatives. It is likely that most trails will need funding from multiple sources at the federal, state, local, and private levels. A small amount of local or private funding, in conjunction with volunteerism and donated time and materials, can leverage state and federal funding to make the Glenwood Lake Trail a reality. This local investment could be focused on portions of the project that the Town or Village has adequate equipment and experience, such as installation or rehabilitation of sidewalks. For example, if a grant funding source requires a 20 percent local match required, that local investment could go towards sidewalk improvements along Glenwood Avenue and Gulf Street, while the remainder of the grant would be focused on construction of the bridge, which accounts for roughly two-thirds of the project's cost.











APPENDIX

Meeting Notes

Erie Canal—Glenwood Lake Connector Trail Feasibility Study Public Meeting November 19, 2008



MEETING NOTES

General Comments from the Public

- Trail would be a nice asset for the community
- Liked idea of better access to the lake
- Emphasize the link to segment of Erie Canalway Trail that overlooks Medina Falls, including a clearing with signage for an overlook
- Some interested in long-term idea of bridge crossing in front of the falls for an overlook, using existing abutments
- Concern about Brookfield's long term plans can we be certain of their support?
- Consider trail option on east side of the lake fewer property owner issues, slopes not as steep (could be a long-term option to complement a west side trail)

'A' Alternatives - Lions Park (Erie Canal) to Gulf Street Park

- A1 (sidewalks along Gulf Street)
 - ⇒ no major issues, most seemed to support this alternative
 - ⇒ could potentially turn the trail down Stork Street or at the utility easement and enter the park from the south rather than along Gulf Street
- A2 (western edge of the lake)
 - ⇒ amazing views, would be a great draw for trail users
 - ⇒ substantial property owner issues—privacy, existing stairs/docks/other improvements
 - ⇒ perhaps a boardwalk along the shoreline would address most of these issues
 - \Rightarrow concern about cost
 - ⇒ concern about clearing necessary for a trail built into the hill
- A3 (around treatment plan)
 - ⇒ generally not desirable because of odors, views
 - ⇒ not worth going all the way around the plant would be better to cross to Gulf Street Park south of the plant
- A4 (through industrial property)
 - ⇒ could be viable, depends on future of the property

'B' Alternatives - Gulf Street Park to Glenwood Lake Town Park

- B1 (bridge over the cove)
 - ⇒ generally supported, small bridge would be a neat attraction
 - ⇒ already an existing trail leading to the potential bridge location
 - ⇒ need for appropriate visual/sound buffers for existing homes
- B2 (trail around the cove)
 - ⇒ strong opposition due to privacy issues and a lack of adequate space for the trail

Glenwood Lake Commission

A Joint Ridgeway/Medina Effort to Enhance Public and Recreational Use of Glenwood Lake and Oak Orchard River

Ridgeway Town Hall, 410 West Avenue, Medina, N.Y. 14103 ---phone; 585 798-0730 Medina City Hall, 600 Main Street, Medina, N.Y. 14103 ---phone; 585 798-0710

Minutes, Meeting of 02/04/09

The meeting was called to order at 2 p.m. at Ridgeway Town Hall by Chairman James Watson. Members present Robert Waters, Wilson Southworth, Vice Chairman, Councilman David Wells, Gary Blackburn Ridgeway Highway Superintendent, Donna Mruczek Sec.

Guests at the meeting:

Arthur Mruczek Sr. Lions Park Commission Chairman Robert Torzynski Genesee Transportation Council Kevin Kelly Planning Consultant Bergmann Associates Steve Beauvais NYSDOT

Chairman Watson gave a review of the public meeting that was held on 11/19/08 A Feasibility Study of Erie Canal-Glenwood Lake Connector Trail. It was indicated the meeting was well attended by more than two dozen interested residents. Many community residents voiced positive input. That included residents from neighborhoods where the trail will likely pass.

The purpose of today's meeting is to further discuss the creation of a one mile hiking/biking trail from the Erie Canal in Medina to Glenwood Lake Park. The current Feasibility Study was made possible by a planning grant awarded to Ridgeway one year ago by the Genesee Transportation Council. The discussion was focused on routing hikers and bikers from Lions Park thru the neighborhoods of Glenwood St. Stork St. and Gulf St. Park to Boxwood Cemetery with the final destination Glenwood Lake Park.

Kevin Kelly used a large scale detailed map of the area to highlight several possible paths with the intent to identify the best possible access for a trail. He indicated the use of Village streets as well as the use of sidewalks; this would require some sidewalk repair work. He indicated how important including neighborhoods would be to the project. Kevin had identified five main points of interest (as per attached sheet) the main point of interest being a bridge over the cove at Glenwood Lake connecting the project together. Wilson stated the bridge would give dramatic views of the lake. The entire Commission felt the bridge would be the Showpiece of the Trail.

Dr. Mruczek updated the Commission on the Medina Lions proposed project of a picnic shelter. They are in the final stage of bidding; the shelter will be on the corner of Ryan and Gulf streets. Bob Waters indicated the shelter in Glenwood Lake Park and Lions Park would denote the beginning and the end of the proposed Hiking Trail. The grants for the shelters have been made

possible by support from State Sen. George Maziarz. Other support has been provided by Ridgeway and the Village Of Medina.

Gary Blackburn Highway Superintendent and Park Supervisor of Ridgeway asked about the width and the type of material to be used. It was indicated by Steve NYSDOT the suggested width is 10' and recommended topping on the rural section would be crushed stone. Kevin led a discussion on the possibility of a phase #2 that being a link with Medina Falls and a trail on the East side of Glenwood Lake Connected by another bridge in the future.

Bergmann Associates will present their report on the yearlong study of this project, with estimated costs at a spring public information meeting in April or May.

Bob Waters indicated hundreds of professional man hours have been spent touring and mapping neighborhoods on the north side of Medina and the rural areas surrounding Glenwood Lake. Chairman Watson stated there is great interest in this project, it may take time but there is reason to believe we can get this accomplished.

Meeting was adjourned at 4:15

Submitted Donna Mruczek Sec.