

I-590 Bicycle / Pedestrian Bypass Feasibility Study



TOWN OF BRIGHTON, NEW YORK
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IN ASSOCIATION WITH:
Trowbridge and Wolf Landscape Architects, LLP

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We also wish to thank Sandra Frankel and the Town of Brighton for their support of this project.



Steering Committee site visit on Farash Corporation property



GENESEE TRANSPORTATION COUNCIL

The Metropolitan Planning Organization for the Genesee-Finger Lakes Region

I. EXECUTIVE SUMMARY

Overview

The I-590 Bicycle/Pedestrian Bypass 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 Town Hall Complex on Elmwood Avenue with the Erie Canalway Trail in Meridian Centre Park. The trail would also link to Buckland Park on Westfall Road. 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 Brighton links the town with Pittsford, Fairport, Greece and the City of Rochester. Approximately 1.75 miles in length, the study area traverses residential neighborhoods, parks, and undeveloped land. The greatest physical challenge to overcome within the study area is I-590, which bisects the trail corridor adjacent to Meridian Centre Park.

To increase the probability that the I-590 Bicycle/Pedestrian Bypass Trail (hereafter "I-590 Bypass 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 its 2000 Comprehensive Plan, the Town of Brighton identified a concept for a trail connecting the Town Hall Complex on Elmwood Ave to the Erie Canal at Meridian Centre Park. In 2008 the Town assembled a Steering Committee to oversee the development of a Feasibility Study for the I-590 Bypass Trail. The steering committee included Town, County, 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. 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.

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 6, 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 a large, undeveloped property between Elmwood Avenue and Westfall Road. This property contains scenic wooded and wetland areas, which provide opportunities for environmental education and fostering a greater appreciation for these types of areas. The trail would also improve access to Meridian Centre Park, connecting it with Buckland Park on the opposite side of I-590. This scenic park has nature trails through meadows and wooded areas, and is a popular bird-watching site.

By improving public access to these areas, it is likely that an increased level of conservation, preservation, education, and participation will ensue to protect these valuable community assets. Furthermore, by improving area residents' appreciation for their community and surroundings, the trail can potentially foster an increased sense of pride that can be leveraged for further investment in parks, trails, and open space.

Enhancement of the Transportation System

The preferred alignment for the I-590 Bypass Trail consists of the A4 and B1 alternative segments, as shown on Map 5 and consolidated on Map 6. If necessary, construction could take place in two phases, as shown on Map 6. The first phase, from Town Hall on Elmwood Avenue to the south end of Buckland Park, is considered extremely feasible from a cost, landowner, and physical constraints perspective. The second phase, beginning adjacent to the lodge in Buckland Park and connecting to Meridian Centre Park, is likely to come at an increased cost due to the recommended construction of a pedestrian bridge over I-590.

The I-590 Bypass Trail would be part of a larger network of trails within the Town of Brighton and would connect to trails of regional significance within the Rochester area, such as the Erie Canalway Trail and Genesee Riverway Trail. From a local perspective, the trail would connect to the recreational trails in Buckland Park and the nature trails in Meridian Centre Park, with potential connections to Brighton Town Park and the Highland Park Canalway Connector Trail. In addition to these parks and trails, the trail would be easily accessible by neighborhoods north of Elmwood Ave and between Elmwood Avenue and Westfall Road.

From a regional perspective, the I-590 Bypass Trail connection to the Erie Canalway Trail would serve bicycle commuters in the Rochester region, connecting major suburban population centers with the southern edge of the City of Rochester. The Erie Canalway Trail and Genesee Riverway Trail serve commuters traveling east and northeast into Downtown Rochester. However, no trail currently exists

to serve those traveling west and northwest into the City, a corridor that would connect Fairport, East Rochester, and Pittsford to Downtown. The I-590 Bypass Trail would partially address this gap in the regional trail network, providing a connection from the Canalway north to the edge of the City.

Relationship to Existing Plans & Smart Growth

The development of the I-590 Bypass Trail is consistent with the Town's Comprehensive Plan which recommends the expansion of recreational and non-motorized transportation opportunities. A trail concept in this corridor is specifically identified in that Plan. The trail concept was also identified in GTC's Regional Trails Initiative as an important link the overall network for the Rochester area. As well, 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 Brighton. 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 through the center of Brighton.

Projected Cost

The construction of the preferred alignment of the I-590 Bypass Trail includes the addition of 800 linear feet of asphalt trail, 6,250 linear feet of stone dust trail, four trailheads with parking and kiosks, various signage along the trail, two small pedestrian bridges over creeks, and an 860-foot long pedestrian bridge over I-590. The planning-level engineer's estimate of probable cost for these elements in 2009 dollars is \$6.6 million (\$1.7 million for Phase I and \$4.9 million for Phase II) 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 \$2.2 million of this total. This is a planning-level cost estimate. 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 I-590 Bypass Trail represents a significant opportunity for the residents of Brighton 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. Moving forward, project success will hinge upon the continued cooperation of the Town of Brighton with State and County officials as well as local developers, and the involvement of project stalwarts that are determined and committed to seeing this project to its fruition.

II. INTRODUCTION

A. Project Overview

The I-590 Bicycle/Pedestrian Bypass 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 its 2000 Comprehensive Plan, the Town of Brighton identified a concept for a trail connecting the Town Hall Complex on Elmwood Ave to the Erie Canal at Meridian Centre Park. As part of the Open Space and Recreation Plan, the trail idea was broken into four smaller segments, with each identified as a viable facility independent of the other segments, should any of them not be built. This Feasibility Study explores the viability of the whole corridor (see Figure 1) of the I-590 Bicycle/Pedestrian Bypass Trail (hereafter the "I-590 Bypass Trail"), with consideration given to location alternatives and phasing strategies.

Despite being an inner ring suburb, the Town of Brighton is fortunate to have several large undeveloped properties within its borders. In recent years, the Town has been very proactive in



Figure 1: Study Area

preserving open space and enhancing these properties with trail networks. This particular trail would take advantage of a large undeveloped parcel between Elmwood and Westfall, which contains scenic wetlands, and connect Buckland Park and Meridian Centre Park. Both of these parks have been developed in recent years as a result of the Town's goal of expanding recreation and greenspace for its citizens. In order to connect these two parks as part of this trail, the Town would have to overcome the barrier of I-590, likely the most challenging element of the project.

B. Local and Regional Significance

The I-590 Bypass Trail would be part of a larger network of trails within the Town of Brighton and would connect to trails of regional significance within the Rochester area. From a local perspective, the trail would connect to the recreational trails in Buckland Park and the nature trails in Meridian Centre Park, with potential connections to Brighton Town Park and the Highland Park Canalway Connector Trail (see Section V). There are also plans to develop a trail running parallel to the West Branch of Allen Creek, which would bisect the I-590 Bypass Trail. This connection would link the Town's recreational facility at the former Brookside School with the larger trail network.

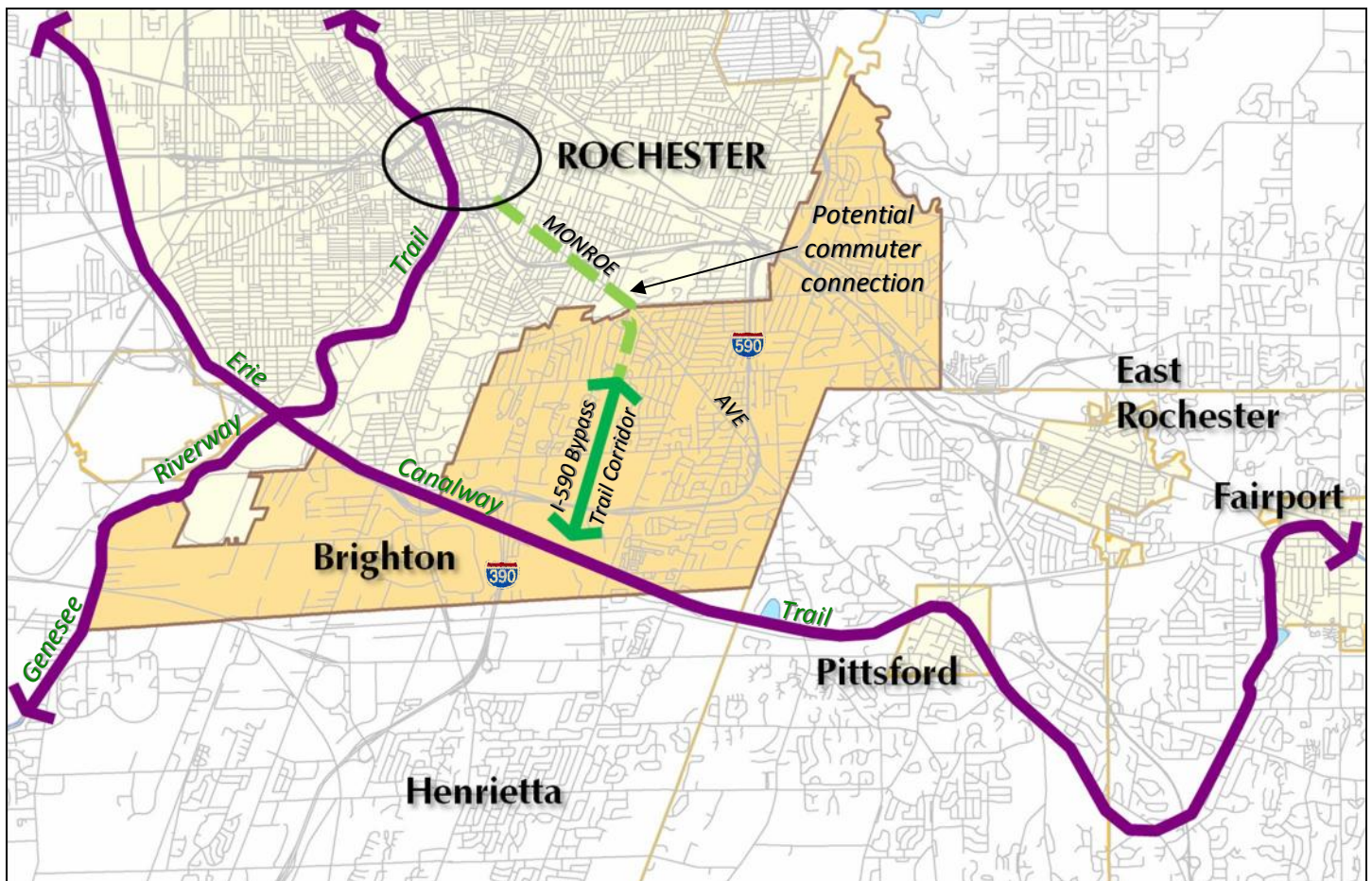


Figure 2: Regional Context

In addition to these parks and trails, the trail would be easily accessible by neighborhoods north of Elmwood Ave and between Elmwood and Westfall Road (see Figure 1). The trail corridor also passes through lands proposed for development, potentially consisting of residential units south of I-590 and commercial/mixed-use properties north of the interstate. Once Senator Keating Boulevard is completed, the I-590 Bypass Trail will provide transportation and recreation access to a significant concentration of medical and office buildings to the west, as well as future development along the new boulevard.

From a regional perspective, the trail's southern terminus would be at the Erie Canalway Trail, the primary east-west recreation corridor in New York State (see Figure 2). The Canalway Trail is a major recreation and tourism draw for communities in Monroe County. According to "Who's on the Trail?", a trail usage study prepared by Parks and Trails New York, thousands of trail users, including bicyclists, joggers, and inline skaters travel the trail throughout the year. In 2008, counts were taken at Genesee Valley Park and Lock 33, which are on the west and east sides of the potential I-590 Bypass Trail, respectively. From these counts it is estimated that somewhere between 15,000 and 27,000 trail users pass this location during August, the peak summer month.

The Canalway Trail also serves bicycle commuters in the Rochester region, connecting major suburban population centers with the southern edge of the City of Rochester. The Canalway Trail and Genesee Riverway Trail serve commuters traveling east and northeast into Downtown Rochester. However, no trail currently exists to serve those traveling west and northwest into the City, a corridor that would connect Fairport, East Rochester, and Pittsford to Downtown. The I-590 Bypass Trail would partially address this gap in the regional trail network, providing a connection from the Canalway north to the edge of the City. From the northern terminus of the trail, there is the potential to further accommodate this commuter corridor using on-street bicycle treatments along Eastland Ave, Southern Parkway, and ultimately Monroe Avenue as it connects to Downtown Rochester.

C. The Planning Process

In 2008, the Town appointed a Steering Committee to oversee the development of a Feasibility Study for the I-590 Bypass Trail. The Committee, whose members are listed after the Table of Contents, included representatives from:

- Town Department of Public Works
- Town Recreation, Parks and Community Services Department
- Town Board
- Monroe County Department of Transportation
- New York State Department of Transportation
- Local trail advocates and users

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 (August 13, 2008)
- Identify trail location alternatives and key opportunities/challenges
- Gather initial feedback from interested citizens at a Public Open House (December 15, 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 (July 27, 2009)
- Finalize the Feasibility Study

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 an integral part of the Town and region's non-motorized transportation system
- The trail should serve all types of users including short and long distance recreational trips, commuters, and neighborhood connections
- The trail should be located off-road whenever possible
- Safe crossings at Elmwood Ave and Westfall Road are a major priority
- The trail should minimize impacts to surrounding residences, but still provide easy access to neighborhoods
- From the wetlands south of Elmwood, to the bustling athletic fields at Buckland Park, to the peaceful nature walks at Meridian Centre, 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 30) that are intended to connect to other destinations and coordinate with other projects in the Town (e.g. Senator Keating Boulevard Extension, The Reserve, Corporate Center, Winton Road Interchange Improvements, etc.).

III. STUDY AREA OVERVIEW

A. Segment Descriptions

The I-590 Bypass Trail corridor is located in the Town of Brighton, just south of Rochester, New York. The Study Area includes a mix of early 20th century neighborhoods, modern subdivisions, parks, and undeveloped open space. From the northern terminus at the Town Hall Complex to the southern terminus at the Erie Canalway Trail, the corridor is approximately 1.75 miles in length. For the purposes of this Study, the trail corridor has been divided into two distinct segments.

- Segment A — Elmwood Ave (Town Hall Complex) to Buckland Park (southern end of park)
- Segment B — Buckland Park to Erie Canalway Trail in Meridian Centre Park

Segment A— Elmwood Ave to Buckland Park

This segment begins at the Town Hall Complex at 2300 Elmwood Avenue. Crossing the trail at Elmwood presents design challenges, as it is a four-lane road with heavy traffic volumes (1,823 peak hour two-way traffic) and no shoulders. Heading south, the segment traverses a large undeveloped property that stretches from Elmwood Ave to Westfall Road. The property is owned by the Farash Corporation, a residential and commercial developer, and contains a mix of thick woods, open fields, and wetland areas. It is flanked to the east and west by well-established neighborhoods as well as two houses of worship — Temple Brith Kodesh and an LDS Church.

The segment continues past Westfall Road, whose crossing also presents design challenges. Westfall is a two-lane road with six-foot shoulders. Traffic volumes (1,357 peak hour two-way traffic) are not as heavy as Elmwood Ave, but have been increasing in recent years. The proposed extension of Senator Keating Boulevard between Clinton Ave South and Winton Road South is expected to carry some of that volume when completed.

Continuing south, Segment A enters Buckland Park. This park was developed in 2006 and includes several athletic fields and courts, playgrounds, a lodge, a pavilion, and a perimeter trail system. Portions of the existing trail are expected to be incorporated into the I-590 Bypass Trail, as they are asphalt paths with a width of eight to ten feet. The park enjoys heavy usage from town residents and youth sports leagues. Its terrain is relatively flat and, being a new park facility, has limited mature vegetation amidst large expanses of open lawn. In the northeast corner of the park is the Historic Buckland Farmhouse, featuring local history displays and elaborate gardens.

Segment B— Buckland Park to Erie Canalway Trail in Meridian Centre Park

This segment begins at the south end of Buckland Park near the lodge. The park property ends approximately at the West Branch of Allen Creek, which runs east-west and parallel to Senator Keating Boulevard and its proposed extension. Once that roadway is complete, the Town plans to move Buckland Park's primary entrance from Westfall Road to S. K. Boulevard. South of the creek and future roadway is a vacant property that slopes up to I-590. The property is owned by Anthony J. Costello & Son Development, as are several consecutive parcels between Clinton and Winton south of S. K. Boulevard. The property primarily contains open fields with tall grasses.

In order for the proposed trail to continue south from this point, it would have to overcome the barrier that is I-590. Alternatives considered as part of this Study include either a bridge, tunnel, or the utilization of the bridges at Winton Ave and/or Clinton Ave. I-590 in this location consists of six lanes and has a right-of-way approximately 325 feet in width.

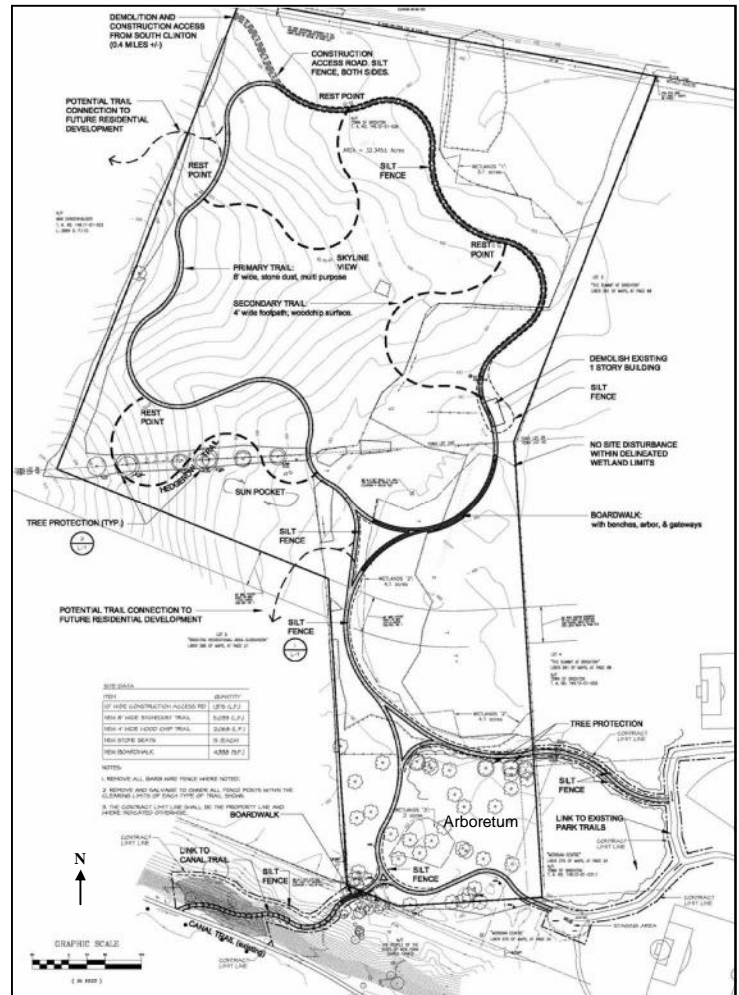


Figure 3: Nature paths in Meridian Centre Park Phase II

Continuing south, this segment includes Phase II of Meridian Centre Park. Phase I of this park, off of Winton Road, contains primarily ballfields. The Phase II expansion consists of a network of nature paths in wooded and open field settings (see Figure 3). This network of trails ultimately connects to the Erie Canalway Trail on the north side of the waterway. The nature paths and arboretum in the western part of the park will be the most affected by the I-590 Bypass Trail, as a bridge or tunnel would likely traverse the expressway at that location. These paths contain plantings and boardwalks with wooden arches and are a popular destination for bird watchers.

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. The northern portion (Segment A) of the I-590 Bypass Trail corridor is dominated by residential uses. This has important implications for trail use as residential 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 for recreational purposes as well as for accessing some of the more commercially-related uses just outside of the general Study Area. As discussed in the previous section, Segment A also contains lands classified as community services (the Town Hall Complex, church, and temple) and vacant (the Farash Corporation property).



Homes adjacent to the Farash Corporation property near Westfall Road

Much of the land immediately adjacent to the southern portions (Segment B) of the Study Area is classified as being used for community services, conservation and parks, or is vacant. It should be noted, however, that a large residential development (The Reserve) is currently planned for vacant lands located adjacent to the proposed trail corridor and the Erie Canal.

In terms of land ownership, much of the proposed trail corridor is located on lands owned by the Town of Brighton – Town Hall Complex, Meridian Centre Park and Buckland

Park. The largest privately-owned parcel of land in the Study Area is the Farash Corporation's undeveloped lot located between Elmwood Ave and Westfall Road. Other private property owners include the Jewish Health Care System, the Congregation Brith Kodesh, Church of LDS, and Anthony J. Costello & Son Development.

C. Natural Features (Maps 2 and 3)

Wetlands

As is depicted in Map 2, the proposed trail corridor is located adjacent to, and traverses, one 39.3-acre Class 1 wetland as mapped by the New York State Department of Environmental Conservation (NYSDEC) and identified as BR-9. This wetland is located between Elmwood Ave and Westfall Road and is bounded to the east and west by residential neighborhoods. There are additional wetlands, as identified by the National Wetlands Inventory (NWI, or federal), surrounding BR-9. NWI wetlands are also present in the northeast corner of Meridian Centre Park Phase II, alongside the expressway.

Floodplains

The proposed trail corridor traverses 100-year floodplains of both Buckland Creek and the West Branch of Allen Creek as depicted on Map 2. From south to north, the proposed corridor first crosses

the West Branch of Allen Creek floodplain just north of I-590, in the vicinity of the proposed extension of Senator Keating Boulevard. The Buckland Creek floodplain is located just south of Elmwood Avenue and is collocated with the NYSDEC wetland identified above.

Wooded Areas

The proposed trail corridor passes through several wooded areas as it winds its way from the Brighton Town Hall to the Erie Canal (see Map 3). The majority of these wooded areas occur between Elmwood Ave and Westfall Road on the Farash property. There are also some heavily wooded areas in Meridian Centre Park at the arboretum and along the Erie Canalway Trail. As the trail winds through wooded areas, trail users will be provided the opportunity to view the various wildlife that inhabit forested areas.

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 I-590 Bypass Trail are depicted in Map 3. A brief description of the potential soil erosion hazard classifications is provided below:



Buckland Creek in the woods behind Temple Brith Kodesh

- Slight – erosion is unlikely under ordinary climatic conditions.
- Moderate – some erosion is likely and erosion-control measures may be needed.
- Severe – erosion is very likely and erosion-control measures, including re-vegetation of bare areas, are advised.
- Very Severe – significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

An elevated boardwalk treatment can mitigate many of the challenges of an at-grade trail in conditions with very severe erosion hazards. 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, although one section poses a very severe risk of erosion (in the vicinity of the NYSDEC wetland, BR-9, between Elmwood Ave and Westfall Road).

Steep Slopes

Also depicted on Map 3 are 10-foot elevation contours, which indicate those areas where steep slopes could potentially impact trail design and construction. As is depicted, the general Study Area is characterized by gently rolling to relatively flat lands, with the exception of a few steeper areas immediately adjacent to the Erie Canal.

D. Transportation Network (Map 4)

Starting at the southern terminus, adjacent to the Erie Canal, the I-590 Bypass Trail corridor traverses three major roadways as it winds its way north towards the Brighton Town Hall – I-590, Westfall Road, and Elmwood Avenue. As I-590 is a limited access interstate highway, the proposed corridor cannot directly interact with flowing traffic. Instead, the trail will utilize one of the alternatives explored in this Study (bridge, tunnel, or existing bridges at Winton Road and/or Clinton Ave).

Where the proposed trail crosses Westfall Road, the roadway is characterized by two 11-foot lanes, six-foot shoulders with granite curbs, and a 35-miles per hour (mph) speed limit. Elmwood Avenue, at its point of crossing, comprises four 11-foot lanes with granite curbs, no shoulders, and a speed limit of 35 mph. Both of these roadways experience relatively high traffic volumes (1,823 peak hour two-way traffic on Elmwood, 1,357 on Westfall), and are not considered safe for pedestrian crossing outside of signalized intersections with crosswalks.

Both Westfall Road and Elmwood Avenue are also characterized by sidewalks at their respective points of crossing. Linking the proposed trail corridor to these existing sidewalks would expand the pedestrian transportation network, providing potential trails with additional access points. The trail could also be the impetus for further expanding the sidewalk network, particularly along Winton, Clinton, and Elmwood. The Town is currently pursuing the installation of sidewalks on the south side of Westfall Road, between Lac De Ville Boulevard and the sidewalk in front of Buckland Park.

Additionally, as noted above, the southern terminus of the proposed I-590 Bypass Trail corridor is located at the Erie Canalway Trail and Erie Canal. The proposed trail would also connect to almost two miles of hiking trails associated with Meridian Centre Park, which is located immediately north of the Erie Canalway Trail.

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 December 15th Public Meeting (see Map 5). The assumption is that, regardless of the alternative chosen, the trail would begin at the Town Hall Complex and end at the Erie Canalway Trail. Each of the alternatives were examined and a preferred alternative was identified, as described in Section V, Preferred Trail Alignment and Implementation.

A. Segment A — Elmwood Ave to Buckland Park (Map 5)

A1 — East side alternative

This option would cross Elmwood Ave at the western entrance to the Town Hall Complex and follow the eastern edge of the Farash Corporation's property. It would pass numerous homes, utilizing a vegetative buffer to preserve privacy. Neighborhood connections would be made available at Roby Court and Stanford Drive. The trail would continue south past the neighborhoods to the Church of LDS property, tracing their western boundary and arriving at Westfall Road. A mid-block crossing would be necessary to carry the trail across into the Town of Brighton property in front of the Buckland House. At that point, this alternative would utilize the existing trail that connects the Buckland House to Buckland Park.

A2 — West side alternative

This option would begin as an on-street segment, utilizing the sidewalks and travel lanes on Elmwood Ave to travel from the Town Hall Complex parking lot west entrance to the traffic signal at Eastland Ave. The existing crosswalk at this signal would allow users to cross to the northeast corner of the temple's property. From this point, the trail would trace the edge of the woods, heading south past the temple's parking lot, then into the woods and wetlands on that property, then onto the Farash Corporation's property.

This alternative would then follow the western edge of the Farash property, traveling behind the homes on Ashley Drive and Barclay Square Drive and using a vegetative buffer to preserve privacy. Arriving at Westfall Road, the trail would need to use the existing sidewalk and travel lanes of the roadway to direct trail users west to the traffic signal at Barclay Square Drive. The crosswalk at this signal leads to one of the primary pedestrian entrances to Buckland Park, a ten-foot wide asphalt path that would be sufficient to carry the I-590 Bypass Trail into and through the park. A short segment of new trail would need to be constructed to connect this entry path east to another path that would take the trail around the parking lot. Heading south from this point, all of the 'A' alternatives would share the same existing path that leads to the lodge at the south end of the park.

A3 — Barclay Square alternative

The A3 alternative is a slight variation of A2. The difference is that A3 would depart the Farash property at the small Town-owned property at the northeast corner of the Barclay Square neighborhood. From there the trail would utilize the narrow easement between homes on Barclay

Square Drive, then travel along the street to arrive at the existing traffic signal. This alternative was quickly dismissed as part of the public input process, as it was determined that the alternative lacks the public support and the physical space to make it a reality.

A4 — Wetlands alternative

As a result of input received at the Public Meeting, as well as follow-on discussions with the Steering Committee, a fourth alternative for Segment A was developed. This alternative involves a combination of A1 and A2, using the best elements from each. For safety reasons, the trail would utilize the traffic signal and crosswalks at either end of the Farash property. On the property itself, the trail would start in the north along the A2 alignment, following the tree line adjacent to the temple's parking lot. From the southeast corner of the parking lot, the trail would travel almost due south over to the east side of the Farash property, using a boardwalk or other treatment to mitigate impacts to the wetland and enhance the user experience. The A1 alignment would then be used heading south towards the LDS church, which preserves a sizable buffer between the trail and most of

the homes along Avalon Drive. This option emerged because it minimizes the number of private residences within a short distance of the trail, it allows for a greater experience in the wetland portion of the property, and it takes advantage of the existing safe crossings of Elmwood and Westfall.

Overcoming the I-590 Barrier: Bridge vs. Tunnel Options

A trail crossing under I-590 could consist of a precast concrete box culvert or three-sided structure. Such a system would offer reduced long-term maintenance costs as compared to the bridge option, but would present additional project challenges and requirements including:

- user safety (long tunnels often cause trail users to perceive a greater risk to their personal safety)
- the need for tunnel lighting
- drainage issues
- a depressed approach cut, with or without retaining walls
- a detailed construction staging sequence
- a plan for maintaining traffic on I-590 during construction

The method of construction would require NYSDOT approval and greatly influences construction costs and the amount of disruption to the traveling public. Although the tunnel option was considered at the beginning of the project, input from the Steering Committee and residents, as well as the expressed desires of the Town, indicated that a bridge is the more appropriate option for connecting the two parks. In addition, a bridge will be more visible than a tunnel, in effect serving as a promotional tool for the rest of trail.



B. Segment B — Buckland Park to Erie Canalway Trail in Meridian Centre Park (Map 5)

B1 — Direct link to Meridian Centre Park alternative

This alternative entails connecting Buckland Park directly to Meridian Centre Park, with either a pedestrian bridge or tunnel structure necessary to overcome I-590 (see sidebar at left). Heading south from the lodge at Buckland Park, the trail would link to the proposed extension of Senator Keating Boulevard. It would run parallel

to the new roadway, on either the north or south side, as a shared-use facility to head west and then south to the point where the I-590 pedestrian bridge or tunnel approach would begin. This brief east-west segment would be part of a larger multi-use trail running the length of S. K. Boulevard, which is proposed as part of the Clinton Crossings development. As an alternate or complementary connection, the trail could cross the West Branch of Allen Creek in the southwestern corner of Buckland Park, behind the baseball diamond, and cross S. K. Boulevard immediately north of the bridge approach. The creek at this point is not a significant waterbody and would only require a small culvert to cross.

Once on the south side of the expressway, the trail would connect to the existing nature paths in Phase II of Meridian Centre Park. These trails eventually lead to the Erie Canalway Trail, although an improved connection would be necessary to meet maximum slope requirements of the Americans with Disability Act. More detail is provided on this issue in Section V, Preferred Trail Alignment.

B2 — Winton Road alternative

The B2 and B3 alternatives were considered knowing that a pedestrian bridge or tunnel traversing I-590 would be a costly facility. Both options would utilize the same starting point as B1 — a new trail connecting the lodge in Buckland Park with the proposed extension of S. K. Boulevard. From that point, the B2 alternative would travel east as a multi-use facility parallel to S. K. Boulevard, at points meandering along the West Branch of Allen Creek, until its terminus at the intersection of Winton Road and S. K. Boulevard. It is recommended that this segment be buffered from S. K. Boulevard by a tree lawn with a minimum width of five feet. The south side of S. K. Boulevard would have a five-foot wide sidewalk to support pedestrian traffic between the mix of uses in Clinton Crossings.

The trail would then follow Winton Road to the south, again using the sidewalks and travel lanes. Some sidewalks would need to be constructed through this segment. As well, improvements to the roadway and shoulders would be necessary to accommodate experienced bicyclists. More detail on these improvements is provided in Section V.



Winton Road southbound near I-590 interchange



Clinton Ave northbound near I-590 overpass/underpass

The NYS DOT is exploring options for redesigning the Winton Road interchange with I-590 (Exit 1). This project will likely result in replacement and extension of sidewalks in the area, filling in gaps in the pedestrian network.

The B2 alternative would connect to the Erie Canalway Trail via the existing pathway located on the west side of Winton Road, just south of the entrance to Meridian Centre Boulevard. Although not necessarily part of the trail, existing sidewalks in the Meridian Centre complex would connect this alternative with the existing trail network in the park. Bicyclists heading north from the Canalway Trail would need to cross at the Meridian Centre Boulevard crosswalk to the east side of Winton Road in order to ride in the street.

B3 — Clinton Ave alternative

This alternative is a similar option to B2, using Clinton Ave rather than Winton Road. It would utilize the proposed extension and existing segment of S. K. Boulevard heading west, eventually connecting to Clinton Ave. From this point, the trail would use the sidewalks and travel lanes of Clinton Ave to connect to the existing access points for the Erie Canalway Trail. These paths are located on both sides of Clinton Ave, just south of the expressway ramp underpass.

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

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.

The Town of Brighton should examine these factors carefully and determine which surface is appropriate for the I-590 Bypass Trail. The Town may consider using a combination of trail surface materials, depending on the context of a given segment. However, changing back and forth from asphalt to stone dust may reduce trail usage by "through" traffic, such as commuting bicyclists.

	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

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 I-590 Bypass Trail. Consideration could be given to a wider footprint adjacent to the Erie Canalway Trail and approaching the bridge over the expressway, as these locations will likely see higher speeds and potentially higher usage.

Steering Committee and public input regarding trail surface was mixed. The Committee entertained a compromise approach in which the surface type is determined by the surrounding environment. For example, connections to and within Buckland Park should be consistent with the existing asphalt trails, whereas a path through the undeveloped Farash property should be a natural surface. Such an approach may result in the following surface types by segment (north to south):

- | | |
|--|---------------------------|
| • From Town Hall Complex parking lot to Elmwood Ave sidewalk | <i>asphalt</i> |
| • First 30 feet south of Elmwood Ave crosswalk (15-feet wide, designed to alert northbound trail users to the approaching road crossing) | <i>concrete</i> |
| • From concrete apron to northern edge of wetlands on Farash property | <i>stone dust</i> |
| • Through wetlands on Farash property (see page 23) | <i>elevated boardwalk</i> |
| • From southern edge of wetlands to Westfall Road sidewalk | <i>stone dust</i> |
| • From existing entry path in Buckland Park to existing perimeter trail (along north side of the parking lot) | <i>asphalt</i> |
| • From Buckland Park lodge parking lot to Meridian Centre Park, including both approaches for the pedestrian bridge | <i>asphalt</i> |
| • Pedestrian bridge over I-590 | <i>concrete</i> |
| • From southern approach to pedestrian bridge over I-590 to Erie Canalway Trail | <i>stone dust</i> |

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 between Elmwood Avenue and Westfall Road. 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 Town should work closely with the local police force and the Monroe County Sheriff'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, 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

Accessibility for people with disabilities, including wheelchair users, should be provided whenever possible throughout the length of the proposed trail. It is recommended that handicapped parking be provided where possible at each trail head 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 exceptions are permitted provided that level landings are present at intervals defined within the standards.

Bicycle Use of the Trail

The I-590 Bypass Trail will likely contain short segments that parallel or run concurrently with existing roadways. 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. 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 the pathway parallel to the road. It is recommended that all segments of the trail that run parallel to a road be a minimum of 10 feet in width to be considered an adequate shared-use facility. Finally, such parallel paths are recommended to be spaced at least five feet from the roadway curb, buffered by a landscaped strip. This additional separation reduces the potential confusion or conflicts caused by a bicyclist riding against vehicular traffic. If there is not sufficient space for this buffer, consideration should be given to the installation of a guide rail. Bicyclists riding off-street should dismount when crossing the street at a designated crosswalk.



Bicyclist at Eastland and Elmwood



Costello and Son's property south of I-590

Trail Ownership and Maintenance

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-owned land in the Study Area (see Map 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 Elmwood Ave to Westfall Road, including the Farash property and a potential sliver of land on the temple's property
- From the southern edge of Buckland Park to the I-590 right-of-way, which is owned by a private developer, Costello and Son
- A potential sliver of land along the eastern edge of Meridian Centre Park Phase II, owned by Jewish Health Care System (dependant on location of the pedestrian bridge over I-590)

Of these segments, the Farash and Costello properties represent the largest pieces of land. The Farash Corporation has expressed an openness to an offer from the Town of Brighton to purchase the undevelopable wetlands portion in the center of their property. Costello & Sons has expressed support for the concept of a pedestrian bridge, as it will link their commercial and residential developments together, as well as to the two parks. Estimated right-of-way acquisition costs on these properties are found in Section VI.

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. A pedestrian bridge structure as part of a multi-use trail should be designed for a service life of at least 50 years.

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 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 pedestrian bridge over I-590, NYS DOT has expressed that they are not interested in owning, maintaining, or inspecting the bridge. The Town should be prepared to take that responsibility, including detailed inspection every five years, per FHWA guidelines, and routine maintenance. The Town should also be prepared to handle the maintenance of the rest of the trail. According to a nationwide survey of 39 communities with trails, conducted by the Rails-to-Trails Conservancy, average annual maintenance costs amount to about \$1,500 per mile. Given the length of the proposed trail, that would amount to about \$2,850 per year, not including regular inspection and maintenance of the bridge. Some of these costs can be offset by utilizing volunteer labor through community groups such as Eagle Scouts, Color Brighton Green, or the annual "Green Day" cleanup day.



Example of wayfinding signage

Signage

It is recommended that a uniform standard (or logo) be developed and utilized for the identification of the I-590 Bypass Trail that is consistent throughout its length. As the project moves from a feasibility study to the design phase, it is also recommended that a more adequate name, reflective of the purpose and location of the trail, be considered.

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 at major roadway crossings which function as trail access points. Signage indicating accessible routes should also be included.

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, blind intersections, 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 I-590 Bypass Trail including the Town's historic relationship with the Erie Canal, the unique habitats found on the Farash property wetlands and in Meridian Centre Park, and the history of the Buckland House on Westfall Road.

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 Appendix A.

- It is important to consider the impact of the trail on the natural habitat and species living in the corridor, especially on the Farash property and in Meridian Centre Park.

- There are mixed opinions about impact of trail on adjacent landowners – some are concerned about vandalism and loss of privacy, while others believe that crime will actually decrease because of the increased pedestrian/bicycle traffic.
- There are various pros and cons to consider for alternative alignments (see notes from the December 2008 Public Meeting in Appendix A). Major points include:
 - ◊ A combination of the ‘A’ alternatives should be considered for traversing the Farash property. Impacts to adjacent residential uses should be minimized, and the wetlands should be seen as an asset to the trail rather than an obstacle.
 - ◊ A more detailed examination of the A3 alternative revealed that there is in fact insufficient space between the homes to accommodate the trail. It has since been discarded as a viable option.
 - ◊ Strong support exists for the pedestrian bridge option versus on-street options along Clinton Ave or Winton Road, although many recognized the bridge would have a significant cost.
 - ◊ For both the Elmwood Ave and Westfall Road crossings, the safest and most desirable option would be to utilize the existing traffic signal and crosswalk.
 - ◊ Need to discourage trail users from crossing Westfall Road east of the existing crosswalk, as a “short-cut” into Buckland Park will be visible.
- Elmwood Ave is currently designated as State Bike Route 5. The State and County should consider moving that designation to Westfall Road through this portion of Brighton, as it has better shoulders for bicyclists.
- Consider the planned Highland Park/Canalway Connector trail to the west, and how these two trails will complement each other and expand biking/hiking and non-motorized transportation options for residents.
- The extension of Senator Keating Boulevard, to be developed as part of Costello’s projects between Clinton Ave and Winton Road, should be a well-designed link for the trail, including accommodations for bicycles and pedestrian traffic.
- The location and orientation of the pedestrian bridge needs to be coordinated with Costello and Son’s plans for “The Reserve” and “Corporate Center”, which are proposed developments on the south and north side, respectively, of I-590. The developer has expressed interest in utilizing the pedestrian bridge to connect their future developments.
- A utilitarian design of a pedestrian bridge should be sufficient, as there is not a substantial built environment with a distinct character in the immediate surroundings.
- NYSDOT is not likely to own/maintain/inspect the pedestrian bridge, the Town should consider taking that role.
- A pedestrian bridge over I-590 may obstruct views of an overhead sign on the expressway. The sign is oriented to I-590 southbound traffic, indicating the upcoming split for I-390 north and south. Depending on the location of the pedestrian bridge, consideration could be given to moving the sign to be mounted on the pedestrian bridge or to a location east of the bridge.
- The meadow at Meridian Centre Park is a certified bluebird habitat.

V. PREFERRED TRAIL ALIGNMENT AND IMPLEMENTATION

After careful review of the various alternatives for locating the I-590 Bypass Trail, a preferred alignment was selected. This process involved presenting the alternatives to residents at a Public Meeting in December 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 I-590 Bypass Trail (Map 6) consists of the A4 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 B2 (Winton Road) and B3 (Clinton Ave) remain viable alternatives. These alternatives are discussed later on in this section under “Complementary Connections.” This Study recommends a two-phase approach to the development of the trail. As Phase II is considered a long-term objective, the Town should pursue the development of Phase I as an independent facility. On its own, Phase I has logical endpoints and connects important destinations.

A. Phase I Implementation Plan (Segment A)

The A4 alternative, as outlined in Section IV and shown on Map 5, was selected as the preferred option for connecting the Town Hall Complex with Buckland Park. This alternative utilizes the existing traffic signals and crosswalks on Elmwood and Westfall in order to provide safe crossing of these major roadways. It also provides an alignment through the Farash Corporation property that minimizes impacts to surrounding residential neighborhoods while still providing access points along the way. Finally, the A4 alternative provides greater opportunity for users to experience the unique wetlands habitat on the Farash property.

The A4 alternative requires the following improvements:

- **Install a trailhead** in the southwest corner of the Town Hall Complex parking lot. The trailhead would consist of a kiosk, parking signage, directional signage, pedestrian-scaled lighting, a bike rack, benches, and bollards to restrict motor vehicle access to the trail (see Figure 4).
- **Expand the existing sidewalk** in front of the Town Hall Complex from five feet to a ten-foot wide shared use facility, providing sufficient space for pedestrians and inexperienced bicyclists. As an alternative, a new ten-foot wide shared-use path winding from the parking lot to the southwest corner of the Town’s property could be constructed. This option would provide an additional buffer between trail users and the traffic on Elmwood Ave (see Figure 4). See sidebar on page 22 for more information on the segment of shared-use facility located between the Town’s property and the traffic signal at Eastland Ave, as limited space exists to widen this facility. See also Section IV regarding bicycle use of the trail.

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Figure 4: Plan view of Elmwood Ave crossing at the Town Hall Complex

- **Install signage** directing southbound trail users to cross Elmwood Ave at the Eastland Ave crosswalk. Experienced bicyclists are encouraged to ride with traffic in the street, obeying all traffic laws. See Section IV regarding bicycle use of the trail. Signage at this intersection should also indicate that bicyclists can connect to Monroe Avenue, and ultimately Downtown Rochester, via Eastland Avenue northbound. Additional signs should direct trail users onto the temple property to the south.
- **Install a 30-foot long, 15-foot wide concrete apron** for the trail approach to Elmwood Ave on the south side of the road. Install bollards at the trail entrance to prevent motor vehicle access (emergency vehicle access would be through the temple's parking lot). This design treatment will heighten the trail user's awareness of an approaching road crossing.
- **Install a ten-foot wide stone dust trail** from the concrete apron heading south, tracing the tree line adjacent to the temple parking lot. The trail would enter the wooded area on the temple and Farash Corporation properties near the southeast corner of the parking lot. Consideration should be given to connecting the new trail with the existing nature paths to the west. These informal trails are accessed from the temple's parking lot, and include a small footbridge over Buckland Creek.

Justification for a Non-Standard Shared-use Facility on Elmwood Ave

Elmwood Ave does not have shoulders, creating a situation where inexperienced bicyclists may feel safer riding off-road on the same path as pedestrians. Therefore, the sidewalk between the Town Hall Complex and Eastland Ave would be considered a shared-use facility. AASHTO recommends that such facilities be a minimum of ten feet in width. Because there is not sufficient space in the Elmwood Ave right-of-way to widen the five-foot sidewalk in front of the residence at 186 Eastland Ave, that 200-foot long segment of trail would be considered a non-standard facility. However, consideration could be given to acquiring a portion of that property in order to widen the sidewalk.

In order to justify the use of this non-standard facility, a gap study was performed for the A1 alternative, which contains a mid-block crossing of Elmwood Ave across from the Town Hall Complex (see Appendix B). The gap study concluded that there are not sufficient gaps in vehicular traffic for pedestrians to safely cross at this location. In contrast, the traffic signal and crosswalk at Eastland Ave provide for a safe crossing, which led to the selection of that crossing as the preferred alternative. In addition, the 200-foot long non-standard facility is a relatively short stretch, and it does not cross any streets or driveways. Consideration should be given to installing a guide rail for this section to protect trail users.



Elmwood Ave looking west toward Eastland Ave intersection



Parking lot and woods on temple property

- **Install an access point** to the trail from the rear of the temple parking lot. Consider a gated treatment that would limit motor vehicles but allow for emergency vehicle access when necessary. Consider designating parking space for trail access. During the planning process, members of the project team met with a representative from the temple. They expressed strong interest in accommodating the trail, including allowing for some form of a trail head in the rear of their parking lot, provided adequate safety measures are taken along side the parking lot.
- **Install a ten-foot wide bridge** over Buckland Creek as the trail extends from the temple parking lot into the woods on the Farash property. The geometry of the existing footbridge to the west does not meet current trail standards. As this is in a wetland a floodplain, a hydraulic analysis of this crossing should be performed in preliminary design.

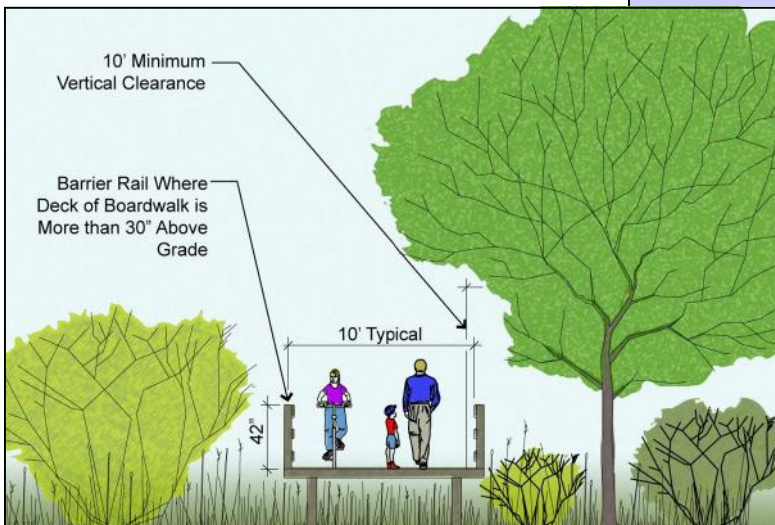


Figure 5: Typical cross section of a boardwalk trail through a wetland area.



Thomas Creek Wetland Walk, an example of a boardwalk trail through a wetland area.

- **Construct an elevated boardwalk** through the wetlands, heading southward to reach the eastern boundary of the Farash property (see Figure 5). To enhance the trail user experience, consideration should be given to developing a network of nature trails through the wetlands and other portions of this property. *Note: these additional trails are not included in the cost estimates found in Section VI.*
- **Install a 10-foot wide stone dust trail** from the end of the wetlands boardwalk, heading south to Westfall Road along the eastern edge of the Farash property.
- **Install an access point** to the trail from the rear of the Church of LDS parking lot. Consider a gated treatment that would limit motor vehicles but allow for emergency vehicle access when necessary. Consider designating parking space for trail access.
- **Install directional and interpretive signage** throughout the Farash property.
- **Expand the existing sidewalk** on the north side of Westfall Road from five feet to a ten-foot wide shared use facility, providing sufficient space for pedestrians and inexperienced bicyclists. As an alternative, a ten-foot wide shared-use path running parallel to the existing sidewalk could be constructed on the Farash property. This option would provide an additional buffer between trail users and the traffic on Westfall Road (see Figures 6 and 7). West of the Farash property, a parallel shared-use path would need to merge into the existing sidewalk due to right-of-way limitations. For that 300-foot long segment, the existing sidewalk should be expanded to a ten-foot wide shared-use facility.
- **Install signage** directing trail users to cross Westfall Road at the Barclay Square crosswalk. All bicyclists should ride on the shared-use facility, as there would not be a mid-block access point for them to enter the trail on the north or south sides of Westfall Road.
- **Consider removing the existing curb cut** on the north side of Westfall Road. Emergency vehicle access would be through the Church of LDS parking lot. The curb cut can be reinstalled once development plans for the Farash property materialize.
- If a shared-use facility is constructed parallel to the existing sidewalk, **install a visual and physical buffer** along Westfall Road, including vegetation and large boulders. This treatment should be designed to discourage trail users from recognizing the 'short-cut' across Westfall Road at this point to connect to the trail in Buckland Park (see Figure 7).
- **Install a ten-foot wide asphalt trail** along the northern edge of the Buckland Park parking lot, connecting the existing entry path with the existing perimeter trail near the playground (see Figure 7).

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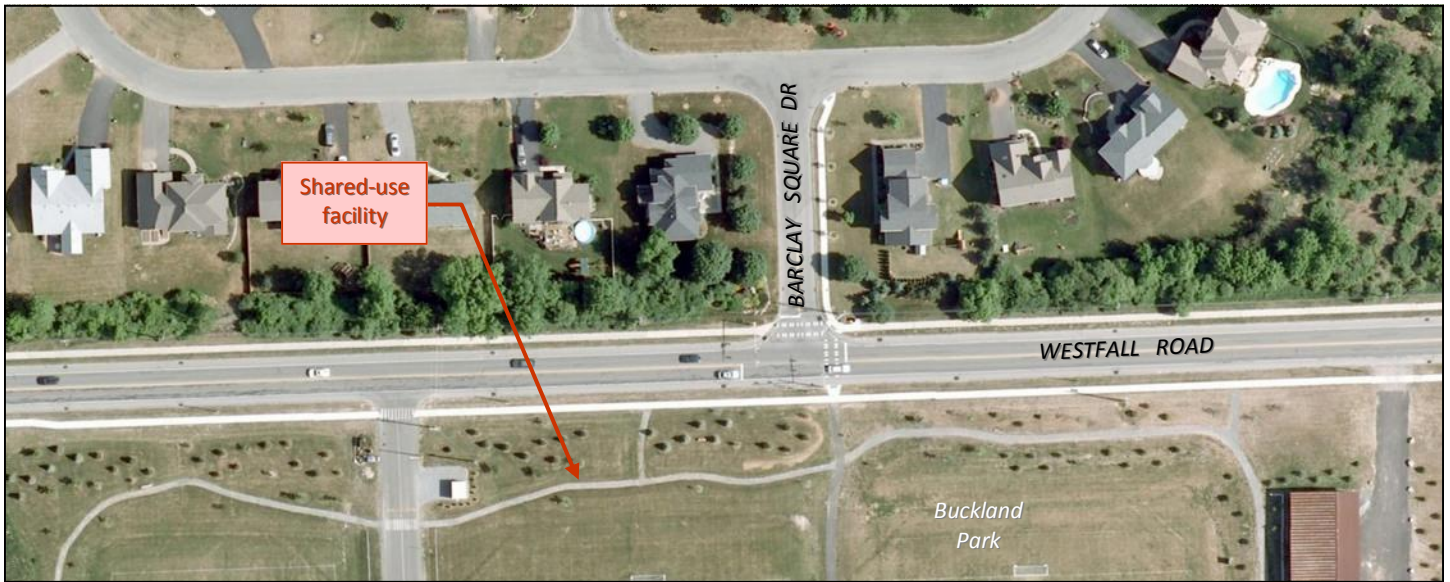


Figure 6: Example of a shared-use facility installed parallel to an existing sidewalk



Figure 7: Plan view of conceptual Westfall Road crossing at Buckland Park

- **Install a trailhead** in the northeast corner of the Buckland Park parking lot. The trailhead would consist of a kiosk, parking signage, directional signage, a bike rack, benches, and bollards to restrict motor vehicle access to the trail.
- **Install signage** on the existing paths in Buckland Park directing trail users to the I-590 Bypass Trail.
- **Install a ten-foot wide asphalt trail** southward from the Buckland Park lodge's parking lot to the intersection of the extended S. K. Boulevard and the new southern entrance to Buckland Park. Ensure that the bridge or culvert over the West Branch of Allen Creek designed for the new entrance is wide enough to include the trail. It is recommended that the I-590 Bypass Trail be maintained as a separate parallel facility through this section, as opposed to transitioning to a combination of sidewalk and roadway shoulder use (see Figure 8). In any case, the trail crossing of the extended S. K. Boulevard should be installed in the form of a highly-visible crosswalk.

B. Phase II Implementation Plan (Segment B)

The B1 alternative, as outlined in Section IV and shown on Map 5, was selected as the preferred option for connecting Buckland Park with the Erie Canalway Trail in Meridian Centre Park. This alternative represents the most direct connection between the two parks and will contain a highly-visible pedestrian bridge that will help promote usage of the trail.

While the other alternatives in Segment B (Winton Road and Clinton Ave) remain viable alternatives for connecting non-motorized traffic to the Erie Canal, they are exclusively on-street designs amidst



View of I-590 from Buckland Park looking south



View of I-590 from Meridian Centre Park looking north

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Figure 8: Plan view of conceptual I-590 crossing from Buckland Park to Meridian Centre Park

heavy traffic volumes. Such an environment lacks the visual and natural characteristics typical of popular multi-use trails. However, as mentioned earlier, the Winton Road and Clinton Ave alternatives will likely be completed as a result of other projects, and should therefore have signs directing Erie Canalway Trail users to the new I-590 Bypass Trail, and vice versa. In contrast, the B1 alternative would traverse natural settings on both sides of the expressway.

The B1 alternative requires the following improvements:

- **Install a ten-foot wide asphalt trail** on the north side of the extension of S. K. Boulevard, from the new Buckland Park entrance westward to a point directly north of the I-590 pedestrian bridge approach. This should be coordinated with the plans in the Clinton Crossing development for a multi-use trail to run the length of the completed S. K. Boulevard. As an alternative, the trail could travel west from the Buckland Park lodge along the existing pathway behind the baseball fields, and then cross Allen Creek to connect with S. K. Boulevard (see Figure 8).
- **Install a highly-visible crosswalk** across the S. K. Boulevard extension, followed by a **10-foot wide asphalt trail** heading south to the pedestrian bridge approach. Depending on the expected traffic volumes of the new roadway, it may be more appropriate to locate the trail crossing at the intersection of the new Buckland Park entrance, in order to avoid a mid-block crossing. Under the latter scenario, the short east-west segment in this step would be on the south side of S. K. Boulevard.
- **Construct a pedestrian bridge over I-590.** The proposed pedestrian bridge would consist of two distinct segments: the main span over I-590 (approximately 300 feet long, made up of two spans and a median support pier) and approach spans (each approximately 430 feet long) north and south of the highway (see Figure 8). The configuration and design is constrained by the minimum required vertical clearance over I-590 (17 feet 6 inches), the maximum allowable slope per ADA regulations (five percent without railings), keeping the bridge substructures outside the clear zone of the expressway, and providing minimum AASHTO capacity (pedestrian or 10-ton maintenance vehicle).

Several structure types were considered and many are technically feasible, however due to the speed of construction, a prefabricated steel truss superstructure with cast-in-place concrete deck is the recommended alternative. Any disruption of traffic on I-590 during construction will require costly maintenance and protection of traffic, as well as indirect costs associated with user delays. A

prefabricated truss superstructure permits construction of piers away from active traffic, and installation of the prefabricated superstructure can be accomplished very quickly during off-peak hours (overnight, weekend) thereby minimizing disruptions to traffic. It is also recommended that the span be an enclosed



Example of pedestrian bridge over an expressway, with an approach running parallel to the expressway on one side

structure, as fencing on the sides and top will reduce the risk of interference with expressway traffic. Although a 12-foot wide deck was considered given the confined space, a 10-foot wide deck is recommended due to the cost savings, as the bridge will be the most expensive component of the trail per linear feet. This precedent has been applied to several trail bridges in the region.

For the northern approach spans, a switchback configuration oriented parallel to I-590 is recommended to minimize encroachment into the future "Corporate Center" development. The southern approach structure could also take on a switchback configuration in order to minimize substructure construction, and thus reducing the cost. However, a straight approach may increase use of the trail as it would reduce travel distance and eliminate the need to maneuver tight curves.

The location of the pedestrian bridge should be closely coordinated with NYSDOT to ensure that sight distance to the existing overhead sign structure is not compromised. The sign is oriented to I-590 southbound traffic, indicating the upcoming split for I-390 north and south. Should sight distance become an issue, possible mitigation measures may include relocating the overhead sign structure and/or the pedestrian bridge.

- **Install a ten-foot wide stone dust trail** from the southern approach of the new pedestrian bridge, extending southward into Meridian Centre Park. The Park currently contains a network of ten-foot wide stone dust nature paths, including short segments of decorative boardwalks on the east side. The I-590 Bypass Trail should utilize this existing network, although consideration should be given to straightening out excessively meandering sections. Direct rather than meandering connections are recommended whenever possible, as this trail will sometimes be used for long-distance biking.
- **Install a ten-foot wide stone dust trail** connecting the existing trail in Meridian Centre Park south east to the Erie Canalway Trail. The current connection to the Canalway Trail is oriented to the west. A similar connection oriented to the east would be beneficial for bicycle commuter traffic from the eastern suburbs.
- The existing footbridge at the bottom of the existing Canalway Trail connection is too narrow for the anticipated trail usage and current design standards. This **bridge should be removed and replaced with a 10-foot wide footbridge**, consistent with the heavier trail usage expected once the pedestrian bridge over I-590 is constructed. The Town should consider reusing the materials from the existing footbridge, including the wooden archway, to enhance the boardwalk system in the northern portion of the park.

- **Install a trailhead** in the southwest corner of the Meridian Centre parking lot, behind the westernmost building. The trailhead would consist of a kiosk, parking signage, directional signage, a bike rack, benches, and bollards to restrict motor vehicle access to the trail. An easement or other formal agreement may be required to secure the installation of such a facility.

C. Complementary Connections

B2 and B3 Alternatives

The consultant team and Steering Committee determined that the infrastructure improvements necessary for the B2 and B3 alternatives are likely to be completed regardless of the I-590 Bypass Trail project. Specifically, the B2 alternative requires the following improvements:

- **Extension of Senator Keating Boulevard**
eastward to Winton Road, including eight-foot wide shoulders, a five-foot wide sidewalk on the south side of the road, and a 10-foot wide asphalt or stone dust trail on the north side.

It is recommended that the trail on the north side predominately follow S. K. Boulevard rather than the West Branch of Allen Creek. The creek has limited flow and is not particularly scenic in this location. It also meanders north onto the Faith Village property, arriving at Winton Road near the entrance to the Town's recreational facility at the former Brookside School, requiring a mid-block crossing on a heavily-traveled roadway. In contrast, if the trail roughly paralleled S. K. Boulevard, it would arrive at Winton Road at a new traffic signal with appropriate crosswalks. Should this trail be developed, the Town should consider extending sidewalks on both sides of Winton Road north to Westfall, or at least north to the entrance to the former Brookside School.



Senator Keating Boulevard, proposed to be extended east to Winton Road

- **Winton Road Interchange Improvements**, which would include new sidewalks on both sides of Winton Road and improved roadway shoulders. (Note: if the interchange improvement project does not proceed, or if improved sidewalks are not included in the project, the Town should still consider improving existing sidewalks and installing new sidewalks, as shown with dashed lines on Map 4).

The B3 alternative requires, or would benefit from, the following improvements:

- **Extension of Senator Keating Boulevard**, including eight-foot wide shoulders, a five-foot wide sidewalk on the south side of the road, and a 10-foot wide asphalt or stone dust trail on the north side. Consideration should be given to painting a shoulder stripe or bike lane on the existing S. K. Boulevard in order to delineate a space for on-street bikers. Whatever treatment is selected should be continued onto the extension of S. K. Boulevard.
- **Reduction of Clinton Ave from four lanes to three**, creating more room for bicycles, including improved shoulders (currently anticipated to be completed as part of “The Reserve” residential development).
- **Improved trailhead parking** for the Erie Canalway Trail on the west side of Clinton Ave (currently anticipated to be completed as part of “The Reserve” residential development).

It is therefore recommended that the Town of Brighton remain heavily involved in each of the above projects in order to ensure that accommodating bicyclists and pedestrians is a top priority in the specific design of each facility. Once completed, these facilities will not necessarily be designated as part of the I-590 Bypass Trail, but will provide non-motorized transportation alternatives for residents to safely travel from the Erie Canalway Trail to points north. As a bridge over I-590 could potentially take longer to complete than the above facilities, the B2 and B3 alternatives can serve as interim connections to meet the goals of the original I-590 Bypass Trail concept.

It is recommended that trail signage be installed along these routes to direct users to the start of the I-590 Bypass Trail in Buckland Park. However, this signage should not designate these routes as part of the trail per se, but rather as connections to access the trail from the Erie Canal.

Brighton Town Park Connection

The Town should consider an additional connection to the Erie Canalway Trail, utilizing the existing access in Brighton Town Park on Westfall Road (see Figure 9). This park, whose entrance is west of Clinton Ave and west of the I-590 Bypass Trail study area, contains a lodge, pavilions, a ballfield, wooded nature paths, and a 12-acre pond. It also features an eight-foot wide asphalt trail which traces the northern edge of the pond and eventually connects to the Erie Canalway Trail.

I-590 Bicycle/Pedestrian Bypass
Feasibility Study
Town of Brighton

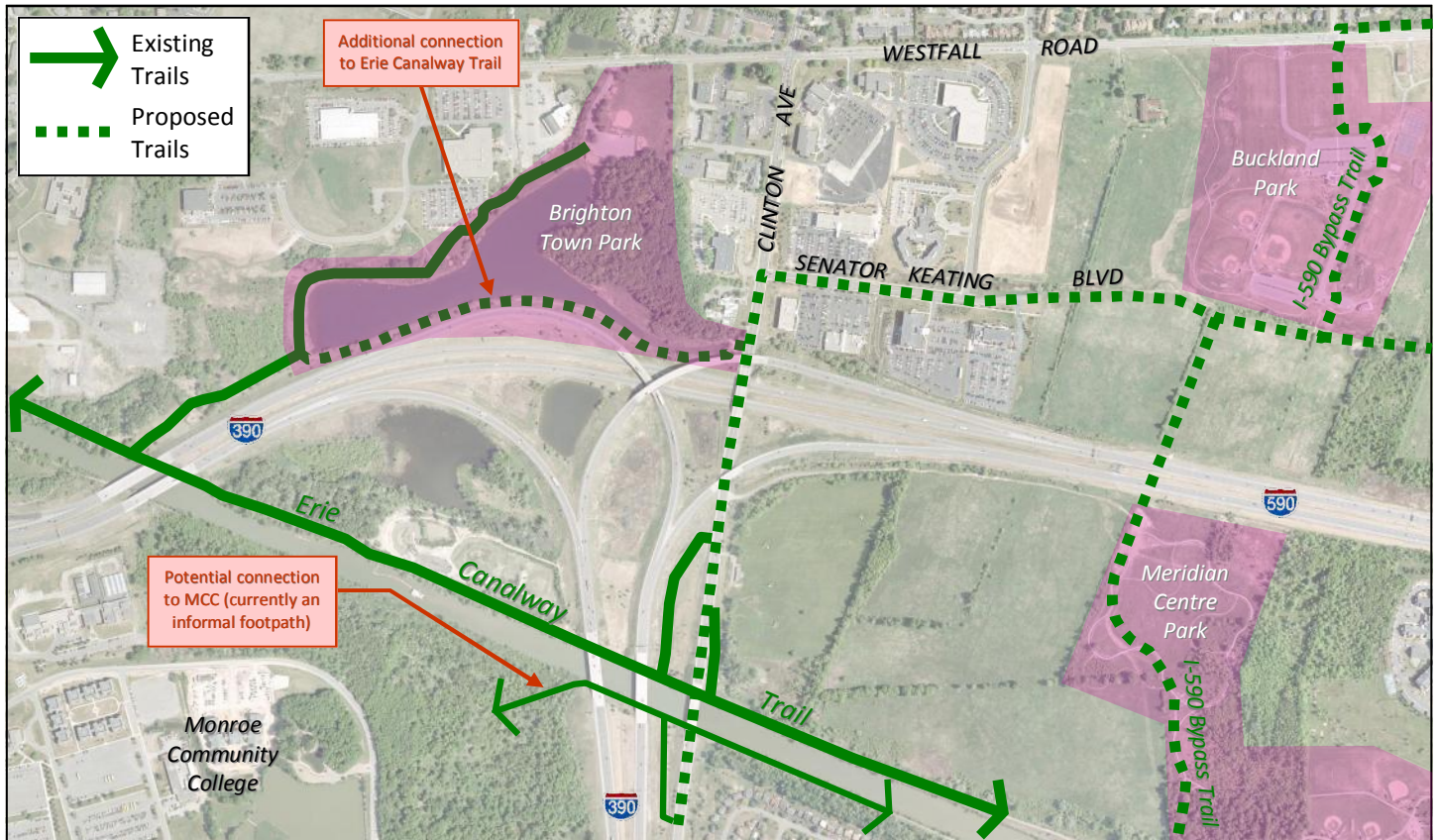


Figure 9: Complementary connections to MCC via Clinton Ave and to the Erie Canalway Trail via Brighton Town Park

A small, informal footpath connects Clinton Ave on the eastern edge of the park with the larger asphalt trail, tracing the southern edge of the pond. This presents an opportunity to link Buckland Park with the Erie Canalway Trail via Clinton Ave and an improved trail in Brighton Town Park.

The following improvements would be necessary to make this connection:

- **Improvements listed for the B3 alternative**, as listed above
- **Install bollards or a restrictive gate** (allowing for emergency vehicle access) at the trail's eastern terminus on Clinton Ave, just north of the I-390 on-ramp overpass
- **Install a ten-foot wide asphalt trail** from the Clinton Ave access point westward, along the southern edge of the pond, to the existing asphalt trail at the southwest corner of the pond, following the existing informal footpath alignment
- **Install directional and interpretive signage** at both ends of the new trail as well as along the pond

Connection to Monroe Community College

The Town should coordinate with Monroe Community College (MCC) to improve and promote the trail connections between the campus and the trail network in Brighton (see Figure 9). In particular, the existing network of wooded trails located in northeast corner of the MCC property can easily connect to the trail system north of the Erie Canal. From the campus, trail users can travel under the I-390 bridge over the canal and then connect to Clinton Ave. Trail users could then travel east or west along the Erie Canalway Trail, or north to Brighton Town Park, Buckland Park, and eventually the Town Hall Complex on Elmwood Ave.

The Town is in a unique position to expand its extensive trail network. There are many neighborhoods, employment centers, parks, and other destinations in relatively close proximity to one another. Through the development of a series of trail linkages, and through the utilization of existing trail facilities, the Town could link together these many assets and overcome the barriers presented by the interstate highway system and other arterial roadways. As an example, MCC and Buckland Park are just over one mile apart “as the crow flies.” However, one would have to drive over three miles by car to get from the campus to the park. If the trail linkages described in this Study were completed, that trip would consist of a two-mile hike or bike ride.

Roby Drive and Ashley Drive

The Farash property, which runs between Elmwood Ave and Westfall Road, is bounded by residential neighborhoods to the east and west. If the I-590 Bypass Trail were constructed through this property as outlined in this Study, consideration should be given to spur trails that provide access to these neighborhoods. On the east side, Roby Drive and its surrounding streets are connected to the Farash property by a small stub street known as Stanford Drive. A trail connection could be developed from this access point to link with the mainline of the trail as it traverses the wetlands. Similarly, on the west side, Ashley Drive and its surrounding streets are connected to the Farash property via a small stub street east of the intersection with Fairfield Drive. Installing a trail connection at one or both of these locations would allow for these neighborhoods to have direct access to the trail and its various destinations, rather than having to first go out to Elmwood Ave or Westfall Road.

VI. COST ESTIMATE

The following cost estimate is presented for planning purposes, to allow the Town 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” (page 30) are not included in this cost estimate, as some of those improvements are integrated into separate projects such as the redesign of the Winton Road interchange with I-590.

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

DESCRIPTION OF WORK	TOTAL COST
PHASE I (SEGMENT A)	
Trail Construction	\$279,000
Trail Amenities (e.g. Benches, Kiosks, Bollards, Landscaping, etc)	\$35,000
Boardwalks	\$494,000
Signage	\$5,000
Lighting	\$12,000
Bridge over Buckland Creek	\$6,000
SUBTOTAL	\$831,000
Right of Way Allowance ¹	\$133,000
Maintenance & Protection of Traffic	\$40,000
Incidentals (Survey, Mobilization)	\$47,000
PHASE I SUBTOTAL:	\$1,051,000
25% CONTINGENCY:	\$263,000
25% ENGINEERING:	\$263,000
15% CONSTRUCTION MANAGEMENT:	\$158,000
PHASE I TOTAL	\$1,735,000
PHASE II (SEGMENT B)	
Trail Construction	\$309,000
Trail Amenities (e.g. Benches, Kiosks, Bollards, Landscaping, etc)	\$18,000
Signage	\$4,000
Lighting	\$12,000
Bridge over I-590 ²	\$2,200,000
Overhead Sign Structure Allowance	\$100,000
Bridge over Creek	\$10,000
SUBTOTAL	\$2,653,000
Right of Way Allowance ¹	\$14,000
Maintenance & Protection of Traffic	\$126,000
Incidentals (Survey, Mobilization)	\$152,000
PHASE II SUBTOTAL:	\$2,945,000
25% CONTINGENCY:	\$736,000
25% ENGINEERING:	\$736,000
15% CONSTRUCTION MANAGEMENT:	\$442,000
PHASE II TOTAL	\$4,859,000
TOTAL CONSTRUCTION COST:	\$6,594,000

¹ Based on assessed value of individual properties requiring ROW acquisitions. Cost savings can be realized by pursuing easement agreements rather than full acquisition of properties.

² Bridge figure includes planning-level cost estimates for:

- Two 150' prefabricated steel truss spans over I-590, including fencing
- Three 110' prefabricated steel truss spans at each approach (six total)
- One cast in place concrete median pier
- Four cast in place concrete piers at each approach (eight total)
- Ramps on grade at each approach, including excavation and site grading

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 I-590 Bypass 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 I-590 Bypass 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.

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 the category that addresses the provision of facilities for bicyclists and pedestrians.

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.

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 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:

Rochester Area Community Foundation (RACF)

RACF is the local community foundation in Monroe County. The Rochester Area Community Foundation (RACF) manages more than 500 funds that provide grants for a wide variety of arts, education, social services, and other civic purposes in the Genesee Valley region of upstate New York. More information can be found at RACF's web site at www.racf.org.

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.

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 is June 30.

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.

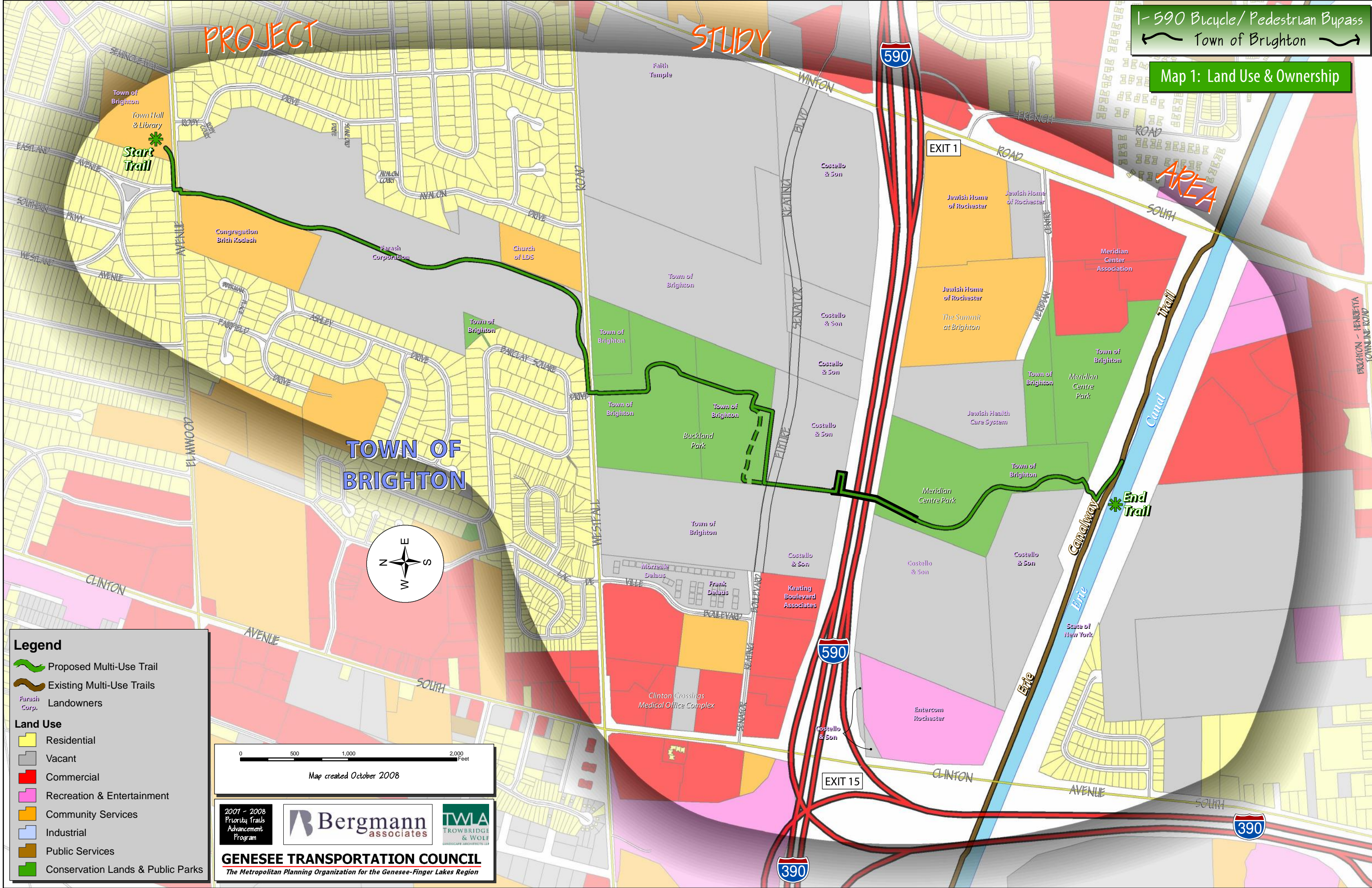
E. Private Funding

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 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>. For the I-590 Bypass Trail, the Town should consider a financial partnership with private landowners and/or developers, such as Costello & Son and the Farash Corporation, as they would directly benefit from the 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 I-590 Bicycle/Pedestrian Bypass Trail a reality.



PROJECT

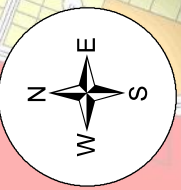
STUDY

I-590 Bicycle/ Pedestrian Bypass
Town of Brighton

Map 1: Land Use & Ownership

AREA

TOWN OF BRIGHTON



Legend

- Proposed Multi-Use Trail
- Existing Multi-Use Trails
- Landowners

Land Use

- Residential
- Vacant
- Commercial
- Recreation & Entertainment
- Community Services
- Industrial
- Public Services
- Conservation Lands & Public Parks

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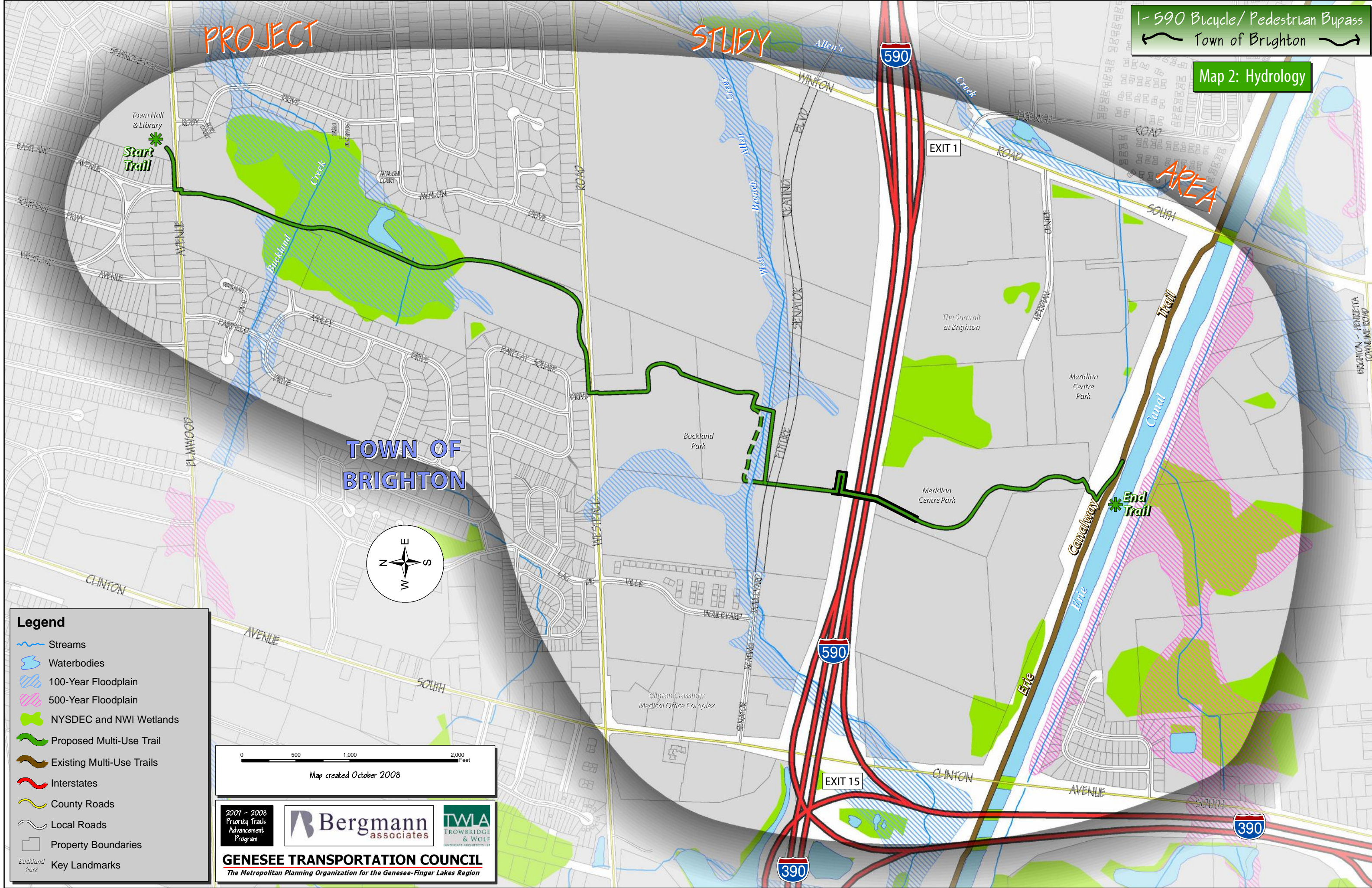
Map created October 2008

2007 - 2008
Priority Trails
Advancement
Program

Bergmann
associates

TWMA
TROWBRIDGE
& WOLF
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I-590 Bicycle/Pedestrian Bypass
Town of Brighton

Map 2: Hydrology

- Legend**
- Streams
 - Waterbodies
 - 100-Year Floodplain
 - 500-Year Floodplain
 - NYSDEC and NWI Wetlands
 - Proposed Multi-Use Trail
 - Existing Multi-Use Trails
 - Interstates
 - County Roads
 - Local Roads
 - Property Boundaries
 - Key Landmarks

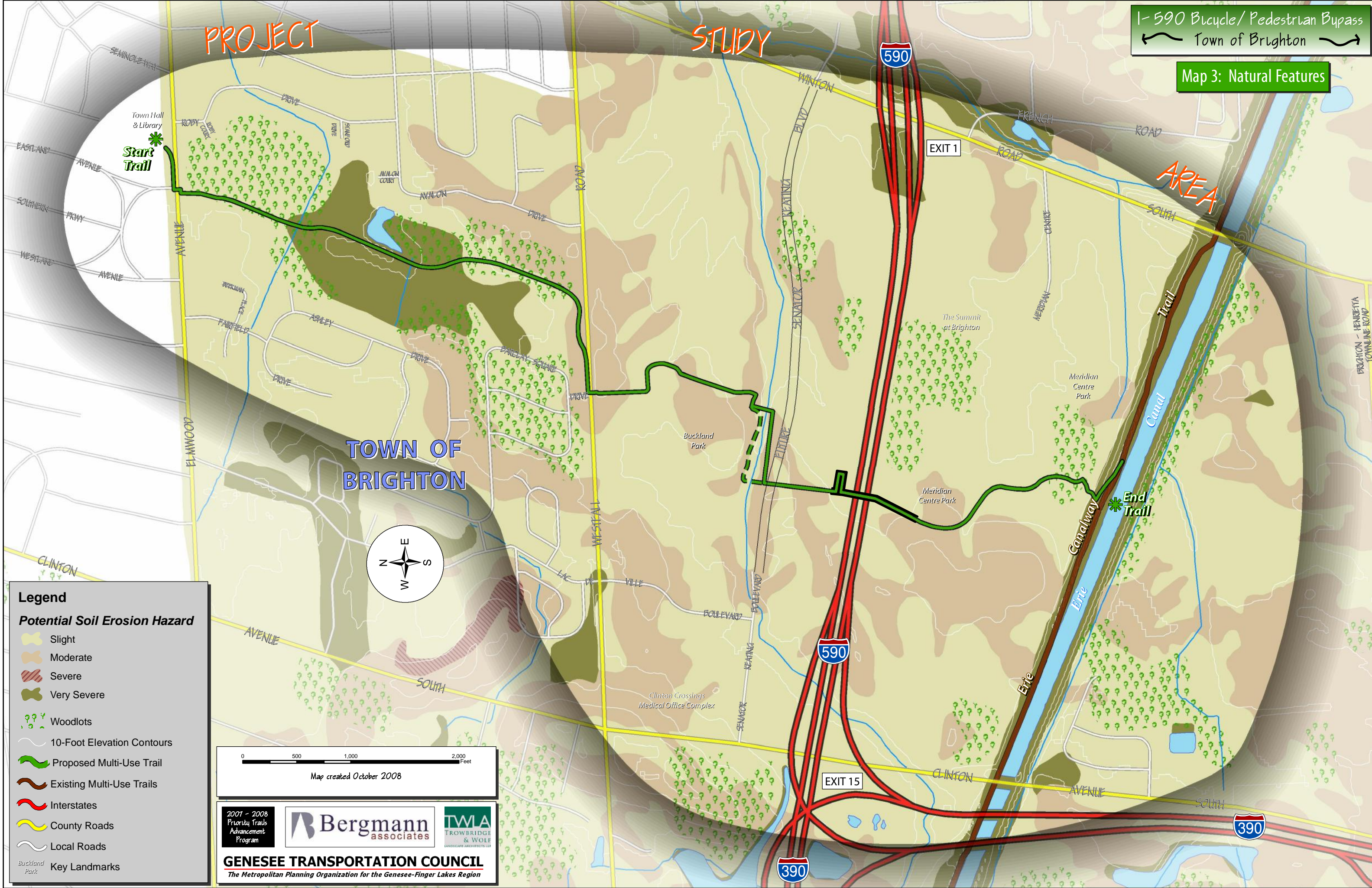
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I-590 Bicycle/ Pedestrian Bypass
Town of Brighton

Map 3: Natural Features

Legend

Potential Soil Erosion Hazard

- Slight
- Moderate
- Severe
- Very Severe
- Woodlots
- 10-Foot Elevation Contours
- Proposed Multi-Use Trail
- Existing Multi-Use Trails
- Interstates
- County Roads
- Local Roads
- Key Landmarks



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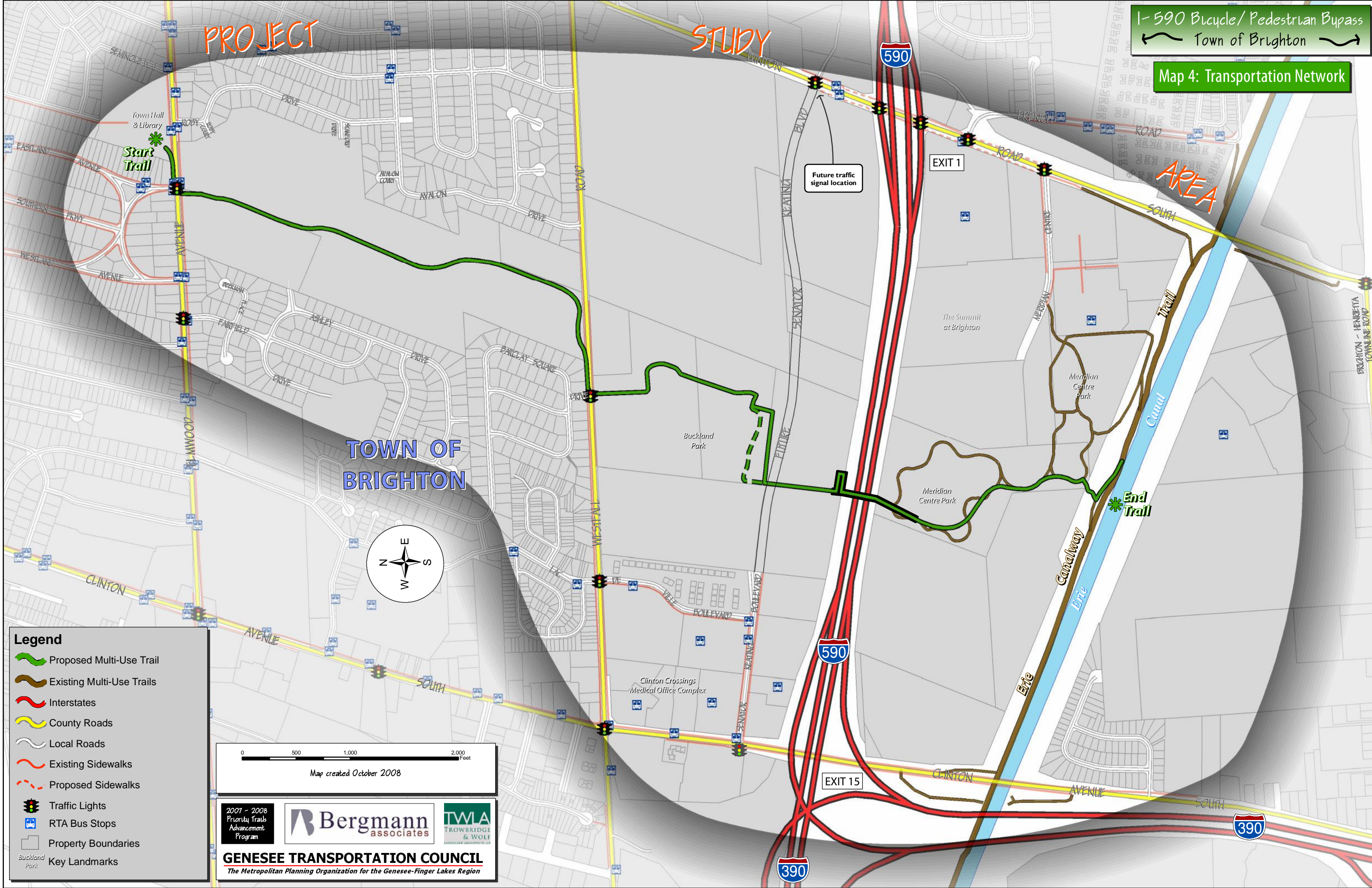
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Advancement
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The Metropolitan Planning Organization for the Genesee-Finger Lakes Region



PROJECT

STUDY

I-590 Bicycle/ Pedestrian Bypass
Town of Brighton

Map 4: Transportation Network

AREA

TOWN OF BRIGHTON



Legend

- Proposed Multi-Use Trail
- Existing Multi-Use Trails
- Interstates
- County Roads
- Local Roads
- Existing Sidewalks
- Proposed Sidewalks
- Traffic Lights
- RTA Bus Stops
- Property Boundaries
- Key Landmarks

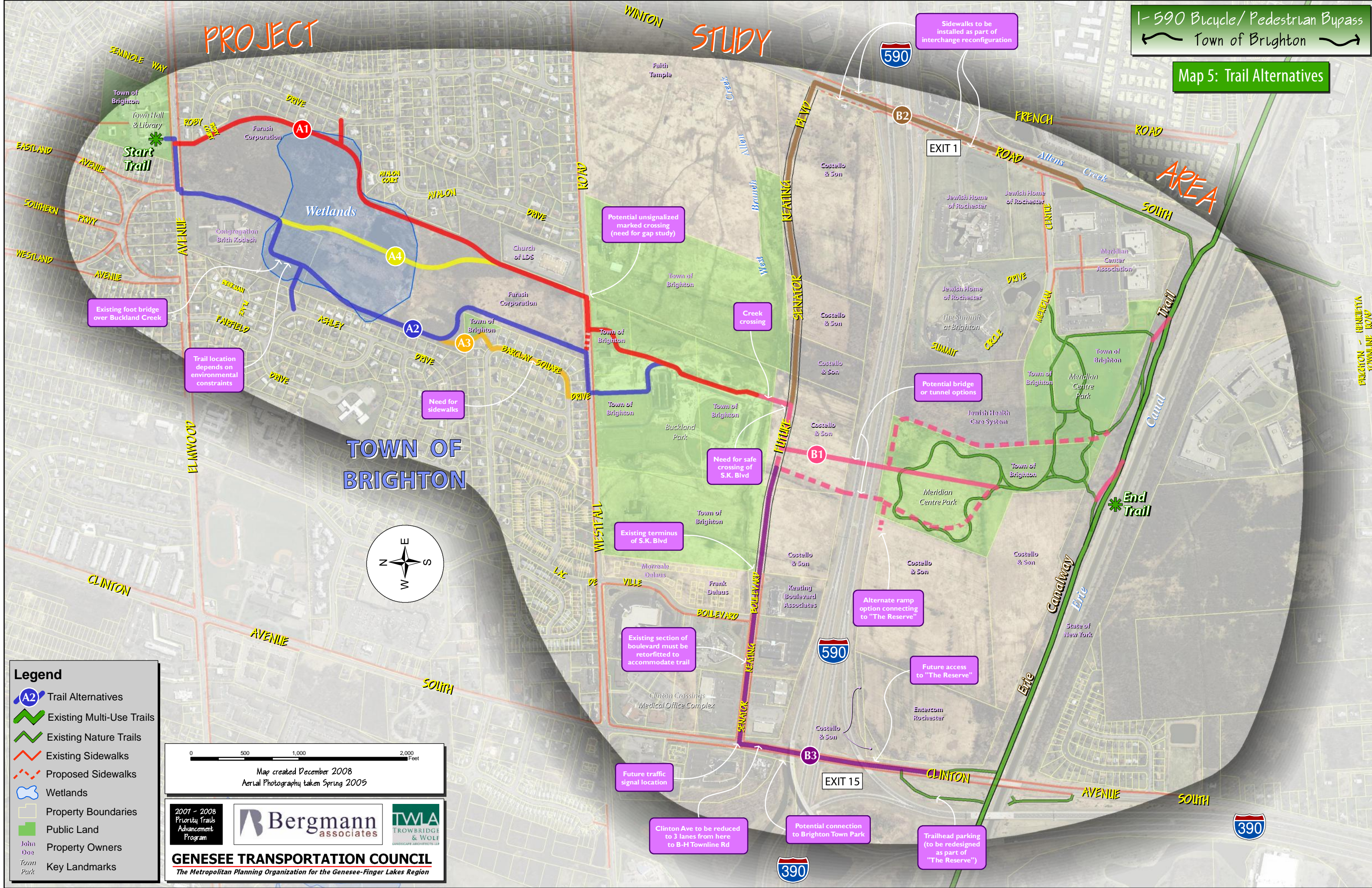
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Map created October 2008

2007 - 2008
Priority Trails
Advancement
Program

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LANDSCAPE ARCHITECTS LLP

GENESEE TRANSPORTATION COUNCIL
The Metropolitan Planning Organization for the Genesee-Finger Lakes Region



APPENDICES

Appendix A — Meeting Notes

Appendix B — Gap Studies

**I-590 Bicycle/Pedestrian Bypass
Feasibility Study
Steering Committee Meeting
October 17, 2008**



Attendants:

Steve Beauvais, NYSDOT
Bob Torzynski, GTC
Scott Leathersich, MCDOT
Coleridge Gill, Brighton Rec
David Fader, Trail Task Force
Matt Beeman, Brighton Rec
Tom Low, DPW
Kevin Kelley, Bergmann Associates

MEETING NOTES

- AASHTO has table for slope requirements on a trail (see Lyndon Rd as an example that maxed out those limits)
- Matt Oravec (NYSDOT Traffic Safety) - contact for sight line issue related to 590 signs
- Meadow at Meridian Centre Park is a certified bluebird habitat
- When on private property, have conceptual cost estimates for property acquisition (assuming they don't donate an easement) - assessed value per acre for ROW only, include typical increase in land value in recent years
- Important that easements be designed to be a long duration and cover the reasonable life of the trail
- Costello's plan for The Reserve — room for a connection into Meridian Centre Park along buffer in Costello's property, or along street network leading to the canal on his property? Gauge public's opinion on this issue. Costello could build that trail as an incentive.
- Send trail alternatives to Terry Slaybaugh— make sure they incorporate into DEIS for Corporate Center and FGEIS for The Reserve
- Bridge material — consider salt impact from expressway
- Town will have to own/maintain the bridge (DOT not likely to own/maintain)
- Paul Schenkel — contact about experience with trail in Town of Pittsford
- Include Canal Corp in the invitations

**I-590 Bicycle/Pedestrian Bypass
Feasibility Study
Public Meeting
December 15, 2008**



MEETING NOTES

General Comments

- Mixed opinions about impact of trail on adjacent landowners – some concerned about vandalism and loss of privacy, while others believe that crime will actually decrease because of the increased pedestrian/bicycle traffic
- Consider the planned Highland Park/Canalway Connector trail to the west, and how these two trails will complement each other and expand biking/hiking and non-motorized transportation options for residents
- A few comments in support of an asphalt path rather than a stone dust path

'A' Alternatives – Town Hall to Buckland Park

- Consider other combinations/variations of A1 (along west side of Farash property) and A2 (along east side), such as:
 - ◊ a new crosswalk at Elmwood & Roby Dr (directly across from Town Hall), with the trail entering the Farash property via the stub off of Roby.
 - ◊ enter the Farash property using A1 (rear of Roby Drive homes), but then travel parallel to Elmwood over to the rear of the synagogue parking lot, then travel behind Ashley Drive homes. This avoids putting the trail on Elmwood, which has limited space for bike lanes or a wider sidewalk.
 - ◊ use A1 for the northern half of the Farash property, then cross over to A2 for the southern half. Or vice versa.
 - ◊ in any case, ensure adequate screening behind homes that border the Farash property
- Using either the northern or southern leg of A1 will create safety issues because it will be a mid-block crossing
- Several residents opposed to the A3 option, which went from the Farash property, around the small pond on town property, and into the Barclay Square neighborhood, then proceeding along Barclay Square Drive to Westfall. Opposition stems from privacy issues, lack of adequate space between the houses to accommodate the link to Barclay, and opposition to sidewalks along Barclay.

'B' Alternatives –Buckland Park to Erie Canalway Trail

- Strongest support for B1 option (bridge over 590), although many recognized the challenge of cost
- Some felt B2 or B3 are not worth pursuing at all, due to high traffic volumes, an environment that is not ped or bike friendly, and general lack of a trail appeal
- Open to reworking existing hiking trail network in Meridian Centre Park in order to accommodate bridge landing

(over)

- Not a consensus about alignment of trail once it crosses 590, whether it goes through MC Park or around it to the east or west
- Support for connecting it to The Reserve in some fashion
- While B2 (Winton Rd option) is better for bicycle commuters from the east, it has higher volumes and is less appealing than B3 (Clinton Ave option)
- Clinton Ave right-of-way has sufficient space to accommodate an on-street segment of trail, or a trail parallel to the roadway (an option not typically recommended, but there are limited curb cuts along this segment)

**I-590 Bicycle/Pedestrian Bypass
Feasibility Study
Gap Study Meeting
February 13, 2009**



Attendants:

Scott Leathersich, MCDOT

Steve Beauvais, NYSDOT

Kevin Kelley, Bergmann Associates

MEETING NOTES

Elmwood Ave Crossing

- Reviewed options for crossing Elmwood Ave (crossing at the signal vs. an unsignalized crossing at the library driveway or at Roby Dr.)
- Gap study is highly unlikely to reveal sufficient pedestrian crossing gaps along Elmwood
- County would not endorse reducing Elmwood Ave from 4 lanes to 3 for a segment around Town Hall — the volumes are too high to justify this change
- Safest crossing is at the signal, and this is the Steering Committee's preference. However, need to accommodate bicyclists through this segment, as Elmwood has high traffic volumes and no shoulders.
- It was agreed that a 5'-6' wide sidewalk east of the Eastland traffic signal would be an acceptable shared-use facility, as physical constraints do not allow for the minimum 10' wide facility. This way, experienced bicyclists can ride in the street, and others can ride on the sidewalks from the Town Complex to the traffic signal.
- This will be a non-standard or non-conforming facility, but it can be justified because of site limitations, a limited length (~200'), and the desire for the safer crossing at the Eastland traffic signal
- Entrance to trail on south side of Elmwood should be designed to accommodate bikers traveling westbound and turning south. Bikers have the option of dismounting and using the crosswalks at the signal, but the design should accommodate a continuous movement while riding in the street
- If the trail is stone dust, there should at least be a concrete/asphalt apron on the approach to the south side of Elmwood — minimum 10' long paved approach, but 20' - 30' is recommended
- Steve noted that Elmwood Ave is State Bike Route 5, discussed the possibility of moving that designation to Westfall Road once that County project is completed — Westfall has better shoulders for bicyclists

Westfall Road Crossing

- Recommend that southbound trail users are directed west to the Barclay traffic signal to utilize signal and crosswalk
- Westfall has sufficient shoulders for bikers, but the sidewalk in this section should be widened to a minimum 10' wide shared-use facility
- In the Feasibility Study, present options for the crossing at Westfall (visual barriers and physical barriers) to encourage trail users to cross at the Barclay traffic signal rather than at an unofficial mid-block crossing — discourage the “short-cut”
- Gap study may not be necessary at this location, as the non-signalized crossing alternative is not the preferred alternative and the signalized crossing is very feasible

Other Notes

- In the Feasibility Study, note the importance of having developers committed to the trail, so that if their development plans change, they don't jeopardize the entire trail project
- A pedestrian bridge over 590 should have a minimum 15.5' vertical clearance from the highway to underside of the bridge
- Discuss moving the overhead sign on 590 to be mounted on the pedestrian bridge, or have a second set of signs — need to address sight distance for 590 south travelers approaching the 390 split (discuss with Dave Goehring at NYSDOT)
- Restriping project on South Clinton would not include sidewalk improvements — any physical improvements necessary for the trail would need to come from a different funding source (unless its not too late to negotiate this with Costello)
- Current sidewalks on South Clinton have adequate materials and width, but need some weeding, patching, and other repairs in places
- Recommended approach to Phasing the trail project:
 - ⇒ Phase I — Town Complex (trailhead in southwest corner of library parking lot) to Buckland Park (shelter at south end)
 - ⇒ Phase II — Buckland Park to Erie Canalway Trail (Meridian Centre Park entrance) — phase includes bridge over 590
 - ⇒ Town Park Connector [not discussed at this meeting] — trail connecting Clinton Ave to Brighton Town Park (along south side of the pond) — this will provide indirect access to the canal until Phase II is completed. It will require the extension of Senator Keating Blvd in order to connect Buckland Park to Clinton Ave. This trail will be discussed in the report, and perhaps be considered a separate phase, such as Ia or IIa. As it is outside the scope of work for this project, it will not be given the detailed treatment found in the remainder of the study area (i.e. analysis of natural features, physical constraints, landowner issues, trail cost estimates, etc.).
 - ⇒ Alternatives along Winton and Clinton should not be considered phases of this trail, as the infrastructure improvements needed for those alternatives will be completed independent of the trail anyway. Consideration can be given to signage along those alternatives that lead to the trail, but they will not necessarily be part of the trail. The Feasibility Study should reinforce the need for pedestrian and bicycle accommodations in the various projects (extension of Senator Keating, interchange redesign, improvements associated with “The Reserve” and “Corporate Center”).

**I-590 Bicycle/Pedestrian Bypass
Feasibility Study
Public Meeting #2
July 27, 2009**



MEETING NOTES

General Comments

- Overall positive response from attendants, most were excited about this opportunity for the Town of Brighton.
- Concern that although federal/state money could fund most of the design and construction, local money would be necessary for maintenance. The trail would have to compete with other infrastructure maintenance needs in the Town. Similar concern for police enforcement of trails. Town police already monitor existing trails in the town, so their staffing may need to increase.

Northern Segment (Segment A) – Town Hall to Buckland Park

- General agreement with selection of A4 alternative with respect to safe crossing of Elmwood Ave and Westfall Road
- Concern that the A4 option would limit access to surrounding neighborhoods, forcing people to walk/bike to Elmwood or Westfall to get on the trail. Consider moving the trail closer to the east or west side of the Farash property.
- Concept of the trail continuing north along Eastland Ave/Monroe Ave to downtown well-received, although signal at Eastland/Monroe/Highland would need to be addressed.

Southern Segment (Segment B) –Buckland Park to Erie Canalway Trail

- General agreement with selection of B1 alternative with the understanding that improvements are planned for B2 and B3, but that the off-street connection between the parks is the more safe, compelling and attractive option.
- Concern about easternmost bridge option that traces the eastern edge of Meridian Centre Park. The western chorus frog, a declining species in our region, has one of its few remaining healthy populations along that property boundary. This concern further supports the selection of the western bridge option.
- Complementary connection through Brighton Town Park and to the Erie Canal would be a valuable link for people working at Strong and the U of R.
- Connection to MCC via Clinton Ave and a trail on the south side of the Erie Canal was well received. Would need to coordinate with Monroe County, MCC, Town, NYSDOT, and Canal Corporation about developing that trail.

Technical Memorandum

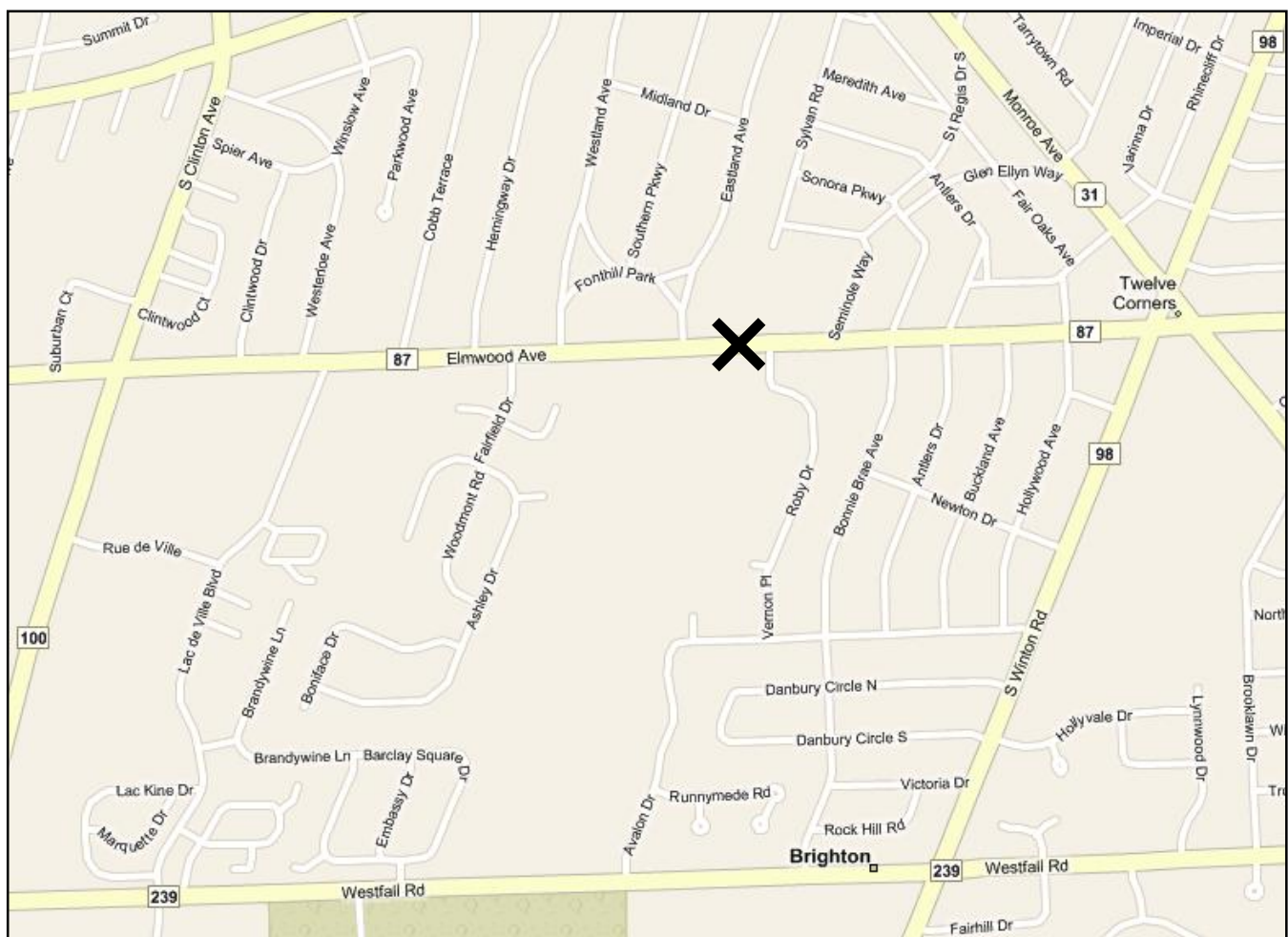
Date: Friday, March 06, 2009

Re: GTC Priority Trails Study – Elmwood Avenue Gap Study

Introduction

A study of gaps in traffic flow on Elmwood Avenue was conducted in Monroe County, NY, at the Brighton Town Hall westerly driveway in February 2009. Figure 1 depicts the location studied between Eastland Avenue and Roby Drive with an "X". The reason for the study was to evaluate the availability of adequate gaps for a potential multi-use trail crossing.

Figure 1: Study Location



Existing Conditions

Elmwood Avenue is Monroe County Route # 87, an east-west urban arterial in the Town of Brighton. The street width is approximately 44 feet from curb to curb, providing normal two-way traffic flow with two 11 foot wide lanes in each direction. Parking is prohibited on both sides of Elmwood Avenue near the Town Hall. No pedestrian



crossing facilities (crosswalks, handicap ramps, signals, etc.) are currently provided at the westerly Town Hall driveway for crossing Elmwood Avenue. Adequate sight distances are available for pedestrians to see oncoming traffic to the east and west on Elmwood Avenue. Figure 2 depicts a view of Elmwood Avenue pointing west from Roby Drive.

Figure 2: View to the West on Elmwood Avenue Showing Adequate Sight Distance



A traffic signal is located approximately 450 feet to the west of the Brighton Town Hall westerly driveway. The traffic signal system has a positive effect on traffic gaps by “platooning” or grouping vehicles together. This usually has the effect of increasing the number and duration of gaps on Elmwood Avenue. Platooning of vehicles near signalized intersections provides larger gaps than in isolated areas where traffic flow is steady. As shown below, even with the platooning effect of the nearby signal, a sufficient number of adequate gaps are not available here.

Traffic Gaps

Traffic gap data was collected from 5:00 p.m. to 7:00 p.m. on Thursday February 26, 2009. Detailed data is attached to the end of this technical memo. The time period was chosen because this is when typical trail usage peaks on a weekday. Few traffic gaps, adequate to walk across Elmwood Avenue, were observed to occur at the study location during the 2 hour time period. Pedestrians walking at a rate of 3.5 feet per second take 12.6 seconds to cross the 44 foot wide arterial street. The walking rate is based on guidance in the New York State Supplement to the National Manual of Uniform Traffic Devices (National MUTCD). There were 11 gaps of 12.6 seconds or greater during the first hour and 40 during the second. Table 1 shows the number of adequate gaps for walking across Elmwood Avenue.

Table 1: Traffic Gaps

Time Period	Number of Adequate Gaps (12.6 Seconds or Greater)
5:00 – 6:00 p.m.	11
6:00 – 7:00 p.m.	40*

* 1 gap was 25 seconds or larger and therefore counted twice

Conclusions

The National MUTCD Pedestrian Volume Warrant recommends at least 60 gaps per hour for unsignalized pedestrian crossings so that pedestrians don't experience excessive delay in crossing the street. Less than 15 gaps per hour are available during the 5:00 to 6:00 p.m. hour for crossing Elmwood Avenue and the 6:00 to 7:00 p.m. hour provides 40 gaps, both well short of meeting the minimum for a pedestrian crossing. Therefore pedestrians are expected to experience excessive delay when crossing Elmwood Avenue at the Brighton Town Hall westerly driveway.

GTC Trail Study - Elmwood Avenue Gap Study
 Brighton Town Hall - Western Driveway
 February 26, 2009
 5:00 p.m. to 7:00 p.m.

File Name : 090226 Gap Study
 Site Code : 00000011
 Start Date : 2/26/2009
 Page No : 1

Directions Printed: Combined

Start Time	Volume	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29	Int. Total	Average
05:00 PM	0	20	8	3	2	1	0	1	1	0	0	0	0	0	0	0	36	2 - 3
05:05 PM	0	23	6	5	2	0	0	0	0	0	0	0	0	0	0	0	36	2 - 3
05:10 PM	0	23	5	4	0	1	1	0	0	0	0	0	0	0	0	0	34	2 - 3
05:15 PM	0	24	9	2	1	0	0	1	0	0	0	0	0	0	0	0	37	2 - 3
05:20 PM	0	28	8	3	1	0	0	1	0	0	0	0	0	0	0	0	41	2 - 3
05:25 PM	0	24	4	5	1	1	1	0	0	0	0	0	0	0	0	0	36	2 - 3
05:30 PM	0	29	5	6	0	0	1	0	0	0	1	0	0	0	0	0	42	2 - 3
05:35 PM	0	26	8	3	2	1	1	0	0	0	0	0	0	0	0	0	41	2 - 3
05:40 PM	0	20	9	5	2	1	0	0	1	0	0	0	0	0	0	0	38	2 - 3
05:45 PM	0	24	6	8	3	2	0	0	1	0	0	0	0	0	0	0	44	2 - 3
05:50 PM	0	15	11	3	7	1	0	0	1	0	0	0	0	0	0	0	37	4 - 5
05:55 PM	0	24	6	5	1	0	2	1	0	0	0	0	0	0	0	0	39	2 - 3
Total	0	280	85	52	22	8	6	4	3	0	1	0	0	0	0	0	461	2 - 3
06:00 PM	0	18	7	3	4	2	2	1	0	0	1	0	0	0	0	0	38	4 - 5
06:05 PM	0	14	8	4	4	1	3	0	0	1	0	0	0	0	0	0	35	4 - 5
06:10 PM	0	24	7	2	2	2	0	3	0	1	0	0	0	0	0	0	41	2 - 3
06:15 PM	0	23	10	4	2	0	1	0	1	0	0	0	0	0	0	0	41	2 - 3
06:20 PM	0	9	8	5	4	1	1	0	1	2	0	1	0	0	0	0	32	4 - 5
06:25 PM	0	16	8	2	3	4	1	1	0	1	0	0	0	0	0	0	36	4 - 5
06:30 PM	0	16	10	1	6	3	1	1	0	0	0	0	0	0	0	0	38	4 - 5
06:35 PM	0	20	7	2	4	2	0	1	3	0	0	0	0	0	0	0	39	2 - 3
06:40 PM	0	21	6	7	2	2	1	3	0	0	0	0	0	0	0	0	42	4 - 5
06:45 PM	0	18	10	7	3	0	3	0	0	0	0	0	0	0	0	0	41	4 - 5
06:50 PM	0	18	8	3	1	0	1	3	1	0	1	1	0	0	0	0	37	4 - 5
06:55 PM	0	16	5	5	1	2	0	2	0	0	0	1	0	1	0	0	33	4 - 5
Total	0	213	94	45	36	19	14	15	6	5	2	3	0	1	0	0	453	4 - 5
Grand Total	0	493	179	97	58	27	20	19	9	5	3	3	0	1	0	0	914	2 - 3
Total %		53.9	19.6	10.6	6.3	3.0	2.2	2.1	1.0	0.5	0.3	0.3	0.0	0.1	0.0	0.0		

Technical Memorandum

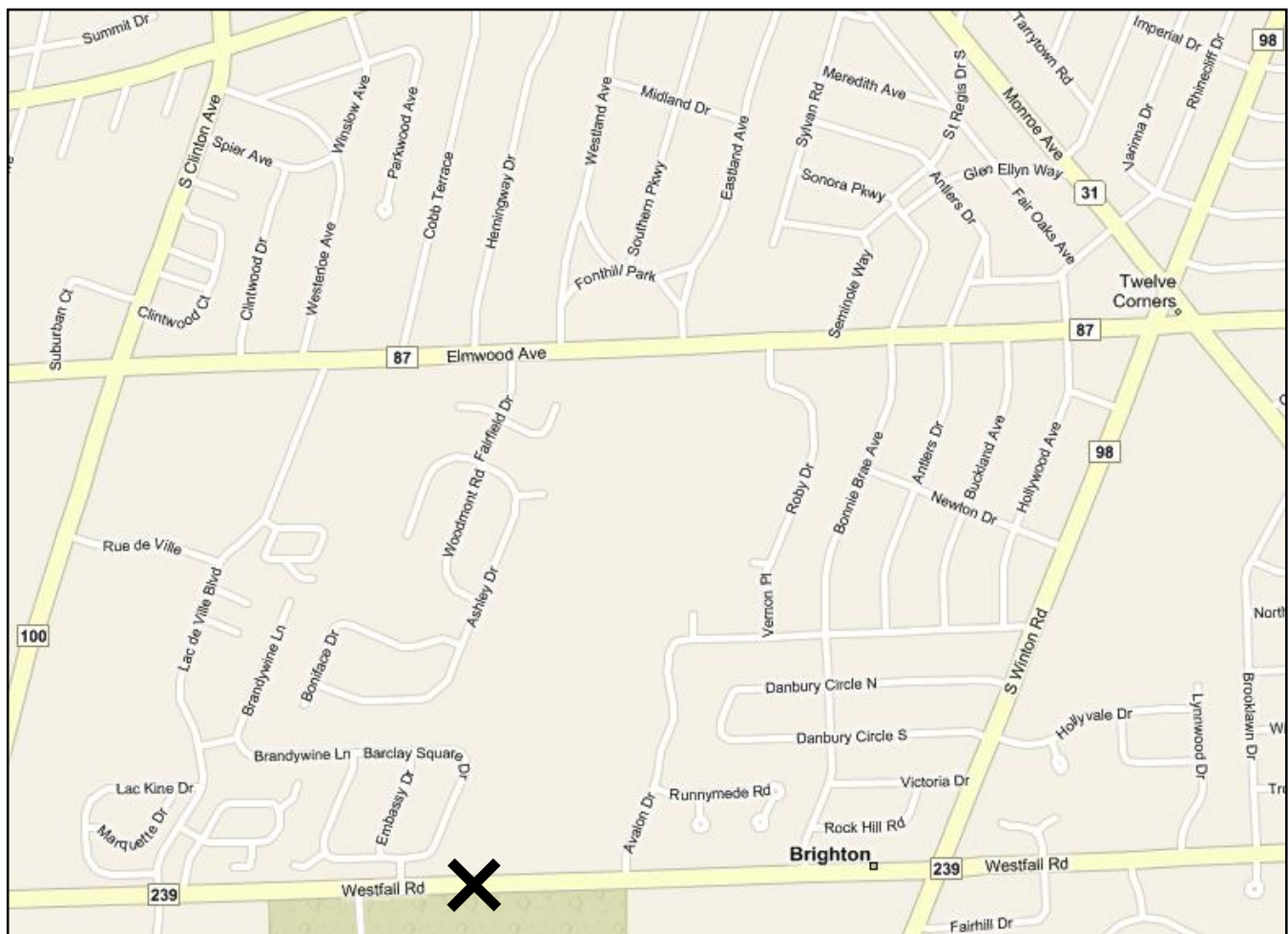
Date: Friday, March 06, 2009

Re: GTC Priority Trails Study – Westfall Road Gap Study

Introduction

A cursory review of traffic on Westfall Road was conducted for the segment of roadway in the Town of Brighton, Monroe County, NY near Barclay Square Drive. The reason for the study was to evaluate the availability of adequate gaps for a potential multi-use trail crossing. Figure 1 depicts the potential location with an "X".

Figure 1: Study Location



Existing Conditions

Westfall Road is Monroe County Route # 239, an east-west minor arterial in the Town of Brighton. The street width is approximately 34 feet from curb to curb, providing normal two-way traffic flow with one 11 foot wide lane in each direction and 6 foot wide shoulders. No pedestrian crosswalks or signals are currently provided at the potential trail crossing location for crossing Westfall Road (approximately 900 feet east of the Barclay Square



Drive). Adequate sight distances are available for pedestrians to see oncoming traffic to the east and west on Westfall Road. Figure 2 depicts a view of Westfall Road pointing west in the area of the potential trail crossing.

Figure 2: View to the West on Westfall Road Showing Adequate Sight Distance



A traffic signal is located at Barclay Square Drive, approximately 900 feet to the west of the potential trail crossing location on Westfall Road. This usually has the effect of increasing the number and duration of gaps in traffic. Platooning of vehicles near signalized intersections generally provides larger gaps than in isolated areas where traffic flow is steady. This traffic signal was observed to have a relatively small effect on traffic gaps at the potential trail location because of the distance from the traffic signal.

Westfall Road Traffic

Traffic data provided by the Monroe County Department of Transportation (MCDOT) was counted in September 2008 on Wednesday the 10th. The peak hour two-way volume on Westfall Road was 1357 vehicles with 970 traveling in the eastbound direction (71%). The average gap in two-way traffic is 2.7 seconds with an average gap in eastbound traffic of 3.7 seconds. Pedestrians walking at a rate of 3.5 feet per second take 9.7 seconds to cross the 34 foot wide street (curb to curb width). The walking rate is based on guidance in the New York State Supplement to the National Manual of Uniform Traffic Devices (National MUTCD). The number of adequate gaps for walking across Westfall Road during the peak hour could be as small as 20 or as large as 40 depending on the influence of the nearby traffic signal, a rough estimate based on the volume of two-way traffic and the size of the average gap. 60 or more gaps in one hour are not expected.

Conclusions

The National MUTCD Pedestrian Volume Warrant recommends at least 60 gaps per hour for unsignalized pedestrian crossings so that pedestrians won't experience excessive delay in crossing the street. Therefore pedestrians are expected to experience excessive delay when crossing Westfall Road at the potential unsignalized trail crossing.