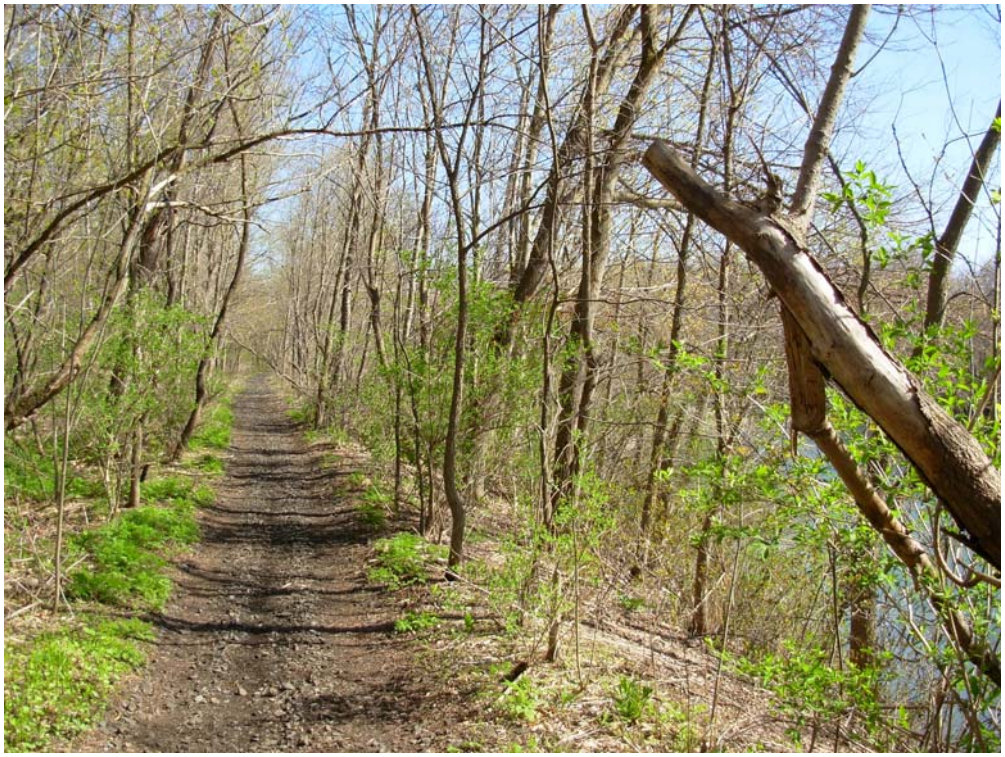
Hoosick Falls Greenway Feasibility Study

Hoosick Falls, NY



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Client: Hoosick Falls River Access Group
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Project Objective

Shelly Stiles and Michael Batcher, as representatives of the Village of Hoosick Falls River Access Group, requested that a group from Environmental Studies 302 conduct a feasibility study for a greenway along the Hoosic River in the Village of Hoosick Falls, NY, with possible extensions into the Town of Hoosick. Our main objective is to collect information that will allow the River Access Group to determine what sort of pathway will best satisfy the needs of the community. We conducted interviews with influential community leaders to ascertain community opinions and desires regarding a greenway. We also researched alternative pathway designs and features in order to find an appropriate fit for the community. Our report provides both suggestions for the final pathway as well as resources for future greenway development undertaken by the River Access Group. Ultimately, the greenway will provide both recreational and aesthetic access to the Hoosic River.

Physical Site Description[1]

The Village of Hoosick Falls, NY is located along Route 22, north of the Route 7 intersection and within the Town of Hoosick, which comprises the surrounding area. The Village is centered on the Hoosic River, which runs predominately south to north through the Village and Town. The majority of the population of Hoosick Falls is settled on the eastern side of the river and radiates out. The village itself is centered on two streets, Main and Church, which contain the majority of the commercial venues in the town. The proposed greenway will run close to those streets and adjacent to the Hoosic River's

[1] Information obtained through on site observations by A.S., E.C., E.W. Additional information provided by Michael Batcher.

eastern bank; it is also possible to extend the pathway north and south of the Village into the surrounding Town and possibly beyond. Of immediate interest to this project is the section of land situated between the sewage treatment plant to the north of the Village and the water treatment plant to the south of the Village. This stretch is around two miles long and abuts the river for much of its length.

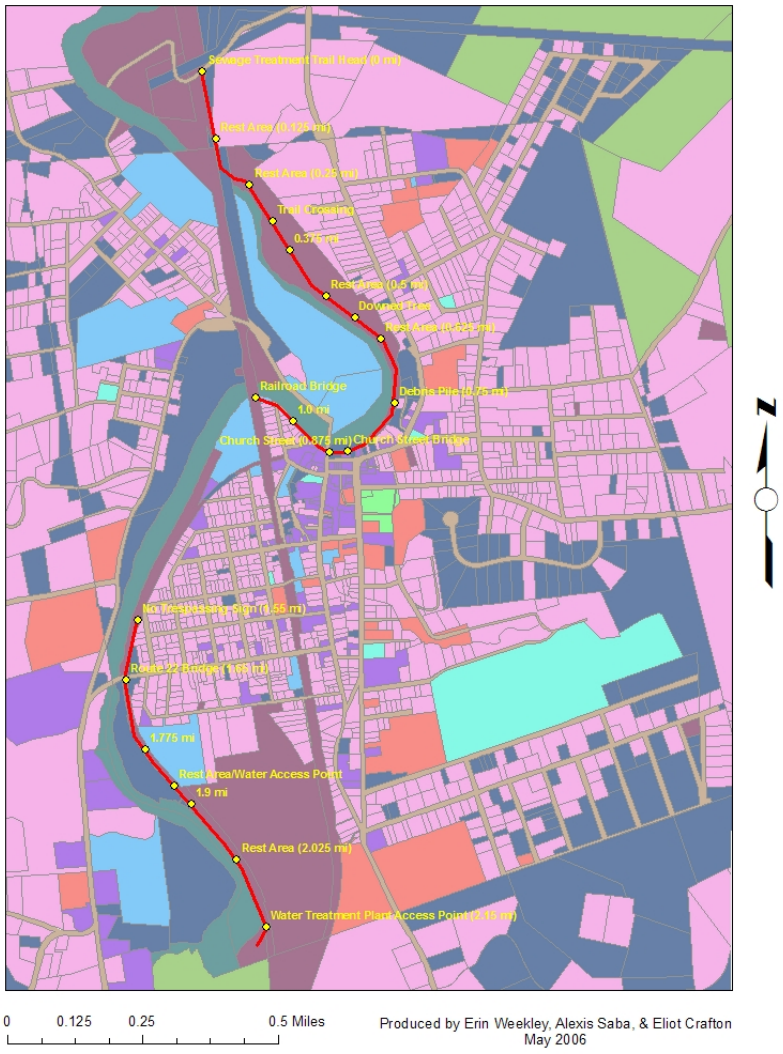


Figure 1. Map of the proposed greenway from the Sewage Treatment Plant to the Water Treatment Plant in Hoosick Falls, NY (for a larger image, see the appendix).

The land adjacent to the river varies in its ecological composition and ownership, making it a particularly interesting and varied landscape. For example, the pathway runs through residential, industrial, and commercial zones and has forested, meadow, and riverfront views. The current trail surface is undeveloped mud, gravel, and grass of varying widths overlooking the river; the length not bordered by the river is adjacent to, but below, the active rail line. The parcel in total consists of two pieces of land that are separated by the privately-owned Sutton property and that equal approximately 20 acres together. The current trail is also split by land owned by Guilford Rail Systems, which consists of the inactive line that runs through the center of the Village. The Guilford parcels, if connected via the Sutton property, will create a contiguous trail of approximately two miles.

The long-term plan for the greenway is to create a trail between 10 and 12 miles in length that provides opportunities for mixed recreational activities, transportation between the Town and Village, and interactive trail elements. The land intended for this portion of the trail is currently a mix of publicly and privately owned parcels, including agricultural and commercial land, community utility facilities, and undeveloped areas. Some areas of the trail will be adjacent to active rail lines (though separated by elevation, with the greenway below the active lines). There are existing access points and parking spaces within the Village, as well as proposed access points and parking in the surrounding areas.

The greenway is intended to provide access to the Hoosic River and surrounding areas so that residents and tourists can enjoy the region's beautiful environment through recreational and educational exploration. To this end, both land and river access points

are included in the design elements. One proposed feature of the trail is an interactive element, which may encompass historical and ecological areas intended to highlight points of interest along the trail for recreational users, tourists, school groups, and the like.

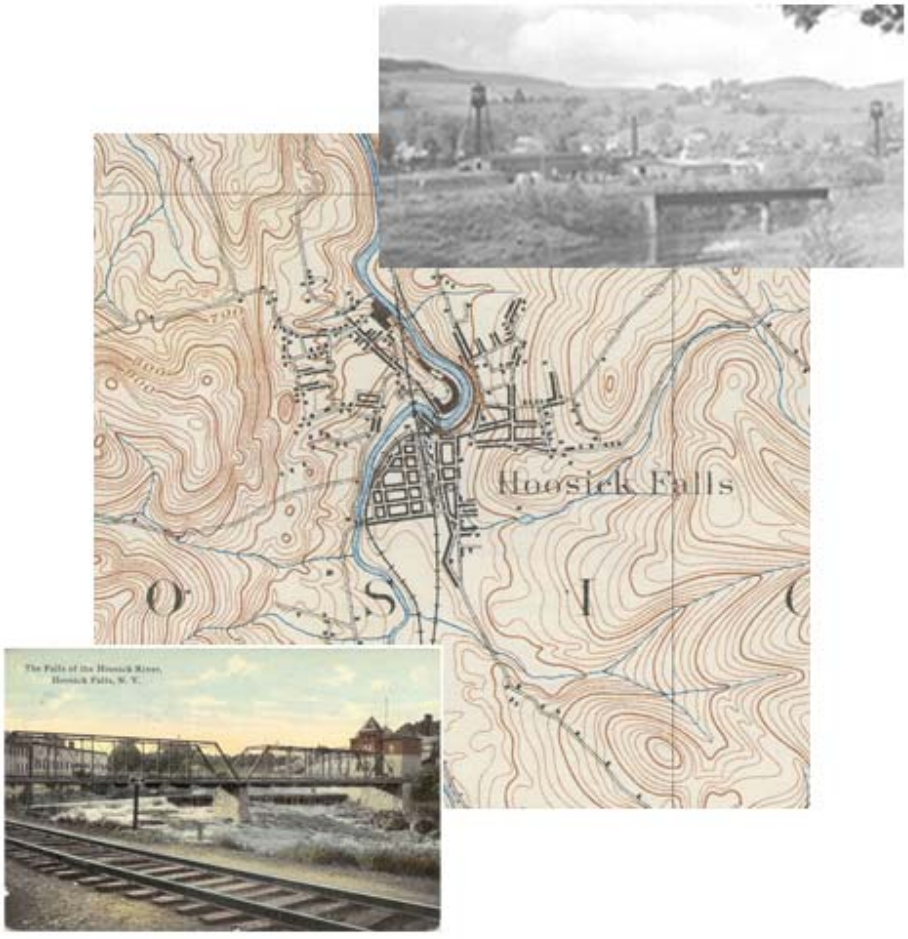
Site History

The Village of Hoosick Falls and the Town of Hoosick, New York are located in the Hoosic River valley, a historical region that was once home to Native American tribes, early European settlers, and a Revolutionary War battle. The area came alive in the 19th century with mills and factories that turned Hoosick Falls into a hub of extensive trade and manufacturing. Much of this production focused on the river, and at 85 acres of foundries, warehouses, and shops,[2] the Walter Abbott Wood factory in the center of Hoosick Falls was the focal point. Wood began manufacturing his wagons and ploughs there in 1852, and nearly ten years later he had 420 workers and produced 8500 machines.[3] He became most famous for his mowing machine invention that continues to be used around the world. By 1875, he was selling around 25,000 per year.[4] The factory continued its strong production until the early 20th century when World War I brought economic and political changes. In 1924 the company was sold.[5]

The history of Hoosick and Hoosick Falls truly revolves around the extensive rail networks in the area that helped fuel the 19th century manufacturing boom.[6] The two rail lines that run through the region today are operated by Guilford Rail Systems; however,

[2] Hoosick Area Chamber of Commerce: Historical Calendar 2000.
[3] Ibid.
[4] Niles, Grace Greylock. *The Hoosac Valley, Its Legends and Its History*. 1912. pg. 467.
[5] Filkins, Charles W. III and Philip Leonard. "Walter A. Wood and Company." 2002. pg. 22
[6] All railroad information from an interview with Charles Filkins, Hoosick Falls Historical Society. 4/18/06.

in the 1870s they were under separate ownership: the Troy and Bennington and the Boston, Hoosick Tunnel, and Western. Two decades later, the Fitchburg rail company acquired all the lines from Troy to Boston, including the two running through Hoosick and Hoosick Falls. By the turn of the century, rail companies became even more consolidated, especially with the 1902 merger of five New England railroads into the Boston and Main. Ultimately, Guilford Rail Company, formed by a member of the Mellon family, brought together more companies including the Boston and Main.



(Photographs courtesy Hoosick Township Historical Society)

Guilford has active and inactive lines that run through Hoosick Falls and Hoosick along the Hoosic River. At many points the tracks are parallel and close together, although frequently separated by elevation differences. The Hoosick Falls greenway will be located along the inactive line. There are already over two miles of dirt trail along the inactive Guilford Rail line that mountain bikers and snowmobilers use. We hope to create a more multi-use trail that highlights the area's fascinating and rich history.

Project Background

There is currently no short- or long-term comprehensive plan for the inactive rail line. The land itself is not explicitly considered in Hoosick Falls' Strategic Plan, though the Strategic Plan does recommend riverfront development and specifically mentions a greenway as a potentially beneficial development for the town. Historically, Guilford Rail Systems has been reluctant to sell even its inactive property. And according to the liaison between the River Access Group and Guilford, there is no chance of a formal right-of-way agreement because of liability concerns. While there is snowmobile signage on some parts of the trail, the fact that sections of the land along the length of the trail are owned by the railroad, private farms, the Town and the Village means that any current use is strictly informal.

The Hoosick Falls River Access Group, which is composed of Town and Village leaders, Hoosic River Watershed Association (HooRWA) members, and other involved residents, is the first organization to create a vision and goals for these parcels of land. Foreseeing the potential of a greenway to connect and enhance their community, they recently proposed the first plan for this area. Though their ideas are still in the planning

stages and therefore sometimes vague regarding specifics, they have developed a detailed list of actions that will ultimately facilitate the creation of a formal, maintained trail from the inactive rail line. These actions, listed below, are not in order of importance.

Immediate (3-6 months)

1. List the Hoosic River as a priority in the New York State Open Space Plan, with specific mention of this and other potential access projects
2. Identify funding sources and raise money
3. Work with the Syracuse Design Project, which is planning an arts center in the Village
4. Develop presentation materials for meetings with community groups and potential funding partners
5. Identify priority parcels for acquisition within the Village and the Town
6. Walk the trail and other parcels that could potentially be acquired
7. Acquire two Guilford parcels
8. Have HooRWA file appropriate forms to become a charitable organization in NY
9. Apply for funding with Park and Trail New York
10. Work with the Village to determine other access points

Long-term (1-3 years)

1. Prepare materials and arguments for those who may not support our goals and actions
2. Restore native vegetation along the river within the target area
3. Develop a design for the trail (surface, signage, access points, handicapped access, lighting, etc.)
4. Build the trail and access points (for fishing, canoe launch, birding, etc.)
5. Increase public support from community groups

Benefits of Greenways

Countless planning experiments across the country have come back with positive results: greenways are undoubtedly beneficial, in a number of different ways. Rural or urban, short or long, greenways have proven over and over again that they contribute to healthier, wealthier, and happier communities. One study concluded that greenways "attract tourists, encourage new trail-related business development, and help revitalize

downtown business districts. They enhance the quality of life, a critical factor in attracting and retaining business. Greenways and trails can also inspire renewed civic pride and provide a fresh focus for community activities."[7]

Health Benefits

The U.S. Department of Health and Human Services and the Center for Disease Control agree that an alarming percentage of Americans are not getting sufficient exercise. The U.S. Department of Health and Human Services estimates that 64%—almost two-thirds!—of Americans are overweight or obese.[8] Obesity has been shown to increase the risk for a number of diseases and other conditions, including heart disease, high blood pressure, diabetes, depression, and even cancer.[9] The cost of physical inactivity has been estimated at $117 billion nationally,[10] and $3 billion in New York state, each year.[11]

The Surgeon General recommends thirty minutes of moderate exercise, five days a week, to stay fit.[12] Greenways and trails provide an excellent venue for that exercise. Greenways feature close-to-home, low-cost, easy-access recreation and transportation opportunities, making it easy to keep fit and healthy. And studies show there is demand for these sorts of trails: over 100 million Americans walk for pleasure and an equal number bicycle.[13] One resident explained that walking on a greenway "with trees and

[7] New York Parks and Conservation Association (NYPCA). "Greenways and Trails: Bringing Economic Benefits to New York."
[8] Rails-to-Trails Conservancy Health Information. http://www.railtrails.org/benefits/health/default.asp
[9] Ibid.
[10] Ibid.
[11] NYPCA. "Greenways and Trails: Bringing Economic Benefits to New York."
[12] Rails-to-Trails Conservancy Health Information. http://www.railtrails.org/benefits/health/default.asp
[13] NYPCA. "Greenways and Trails: Bringing Economic Benefits to New York."

soft edges and the sound of birds and sun shining on water would be very soothing in a hard-surfaced, heavily trafficked town."

Greenways also provide opportunities to improve mental or emotional wellness by connecting users to a natural, peaceful setting. Many also agree that greenways improve the quality of life in nearby communities. For example, rest areas on downtown segments are ideal places for store employees to socialize while they eat lunch. Greenways and trails offer a tranquil, pleasant setting for interactions with neighbors and for personal reflection. They also encourage intergenerational interaction, since people of all ages enjoy using them. Children may ride their bicycles while teenagers rollerblade and elderly people take a walk. Interacting with neighbors and friends outside of work or school can help build a sense of community.

Economic Benefits

Economic benefits of trails are threefold: improved property values, increased tourism, and community revitalization. Studies consistently show that property values are either unchanged or affected positively by the creation of greenways. The U.S. National Parks Service found that properties adjacent to trails and greenways increased in value, with a range of 5 to 32%.[14]

Tourism also benefits from local greenways and trails. Greenways attract visitors and therefore can lead to increases in tourism; one study even found that trails extended visitors' time spent in town. This directly benefits local businesses; restaurants, motels, and shops are likely to see increased business.[15] Local art galleries, in the case of

[14] Parks & Trails Council of Minnesota. Gary Sjoquist. "The Economic and Social Benefit of Trails."
[15] NYPCA. "Greenways and Trails: Bringing Economic Benefits to New York."

Hoosick Falls, are also likely to prosper. The effect on local economies can be astonishing. One National Park Service study of three disparate greenways found that the trails indirectly added $1.2 to $1.9 million annually into the economies of local towns.[16] The Parks and Trails Council of Minnesota corroborates that finding, stating that a trail can bring in "at least" a million dollars annually, "depending on how well the town embraces the trail."[17] In a study of business owners along the Cape Cod Rail Trail in Massachusetts, almost a quarter said the trail was a factor in the decision to open their business; 60% of owners said the trail played a role in their decision to expand; and over 50% claimed revenue from trail users was more than a tenth of their business.[18]

But more than simply injecting money into the economy or creating new businesses, greenways can promote community revitalization. Community revitalization is frequently a result of creating a greenway—and sometimes an impetus for it, in savvy communities. Creating a greenway along a river can make the river the "centerpiece" of the community – a place to enjoy and be proud of, instead of a hidden asset.

Transportation Benefits

It can be easy to forget that the simplest function of greenways is their use for transportation. Recreation, health, and economies aside, these trails are a safe way to connect schools, parks, restaurants, and shopping districts. Kids can bicycle safely to school without worrying about automobile traffic; adults can walk home from the pub in the evening. This most simple function is also a very valuable one.

[16] Ibid.
[17] Parks & Trails Council of Minnesota. Gary Sjoquist. "The Economic and Social Benefit of Trails."
[18] New York Parks and Conservation Association. "Greenways and Trails: Bringing Economic Benefits to New York."

Environmental Benefits

The environmental benefits of greenways may not be as visible as health or economic benefits, but they are significant as well. Study after study features long lists of the environmental effects of trails and greenways. They serve to preserve open space; they function as wildlife corridors; they buffer the negative effects of development; they minimize flooding; they mitigate noise, water, and air pollution; and they promote biodiversity, among other benefits.[19] But perhaps most importantly, greenways provide a learning opportunity for people whose culture is largely separated from nature.

Community Profile[20]

The Village of Hoosick Falls is a small town in a rural region of eastern New York. The Village proper, having grown and developed out of its proximity to both the river and the railroads, is situated immediately adjacent to the river and both the active and inactive railroad lines. Scattered throughout the Village and Town are a compilation of municipal buildings, national and regional chain stores, and locally owned and operated stores. Main Street houses the Village municipal building, the Village green, several churches, a Rite-Aid Pharmacy, and a Key Bank, among other smaller, locally-owned stores. Church Street is home to several additional restaurants, the Armory (where the Town Clerk's office is located), and a Stewart's Convenience Store. Between Church Street and Main Street, at the southern end of the Village, is a car dealership.

[19] PA Department of Conservation and Natural Resources and Greenways Partnership Commission. 2000. "Benefits of Greenways: A Pennsylvania Study."
[20] Capital District Regional Planning Commission Community Fact Sheets for the Village of Hoosick Falls, NY and the Town of Hoosick, NY. November 2004.

Residents of the Village act in accordance with their small town setting. From interaction with members of the Village and observations made while in the area, there appears to be a strong sense of community. It seems that residents know each other and, while walking down the street, it is not unusual to observe this in the interactions between Village residents. During one interview, the proprietor of the business we were visiting acknowledged several passersby through the store window. There is also a sense of interest in both the history of the area and the current activities of the community. This is reflected in the area's small museum that highlights the region's history, focusing on the development of local businesses, the railroad, and famous historic figures. Many Town and Village members are formally active in the municipality through organizations and elected positions, while others are involved in less formal ways.

According to interviews and personal observations, the area's youth are very active in good weather, using the existing fields and other recreational venues to capacity during summer months. There are several existing summer activities for local youth, including both sports and educational summer camps. During many of our visits to the area, we observed several groups of young children riding bikes on the sidewalks and in the streets, or gathering on the local sidewalks. We were also informed that during warmer months, many local residents, especially senior citizens, will walk along the sidewalks for exercise.

The most recent census (2000) reports a population of 3,435 residents for the Village of Hoosick Falls, and this figure is predicted to decline by 1.4% in 2010. It is unclear within what age group this decline will occur. Within the Village of Hoosick

Falls, 74.13% of the population is 18 years of age or older, with 20.02% being 62 years or older.

Educational statistics are available for those residents 25 years of age and older (2247 people). The majority of this group attained a high school diploma or equivalency (803), with the next most populous category being those with some college experience but not resulting in a degree (412). 394 have either an associate's or bachelor's degree, and 210 have either graduate or professional degrees. Of the remaining 428, 126 have a less than ninth grade education, leaving the remaining 302 to have some high school but not resulting in a diploma.

Of the Hoosick Falls residents 1,565 residents are employed. The most prevalent industries represented are manufacturing (379), health care and social assistance (265), retail trade (186), and education (125). Of the 1,565 workers, 1,236 are private wage earners and salary workers, 216 are government employees, 104 are self-employed, and the remaining 9 are unpaid family workers. The median household income as of 1999 for Hoosick Falls is $36,731, with the extremes at 117 households with an income of less than $10,000 and 9 households income of $200,000 and over. According to these data, 6.5% of all households were below poverty level as of 1999.

The Town of Hoosick has very similar statistics to the Village but has nearly twice the population, totaling 6,759 people in the 2000 census. The median age is 38.6 years and the female-to-male ratio is 52.24% to 47.46%. Over 97% of the population is white. There are an estimated 2,917 housing units with a similar distribution to the Village with the exception of an increase in mobile homes. The median house value is $86,100, while the median monthly rent is $481. Adjusted property tax is $26.50-$27.53

per $1,000 market value. There are 3,289 employed residents, with similar distribution of industry and a median household income of $41,304. The resulting poverty status is 6.5% of households below poverty (1999).

Community Research Results

We formally interviewed eight key thought leaders who reside in either the Town of Hoosick or in the Village of Hoosick Falls. These key thought leaders represented a wide variety of professions and occupations; some were school teachers, others lawyers, and others healthcare professionals. (Please see the list of interviewees in the appendix, which details each person's profession.) We also informally interviewed three other local community leaders, as well as four greenway experts who are not local to the area. We traveled to Hoosick Falls a number of times during the months of April and May, 2006, in order to conduct the interviews in person and to get a feel for the town. Most interviews were conducted at the respondent's place of work, but a few were conducted in their homes. One team member would ask the interview questions, another would take notes, and the third would type the interviewee's responses as they talked. Residents were receptive to our questions and eager to help, often offering information far beyond the scope of our inquiries.

Key Findings

Regardless of their answers to our other questions, every person we interviewed responded positively to the idea of creating a greenway in the Village of Hoosick Falls. Their reasons for desiring a greenway differed; some wanted a place to go bicycling, while others wanted a safe place for kids to walk to school, and still others simply wanted

a place to connect with nature and access the river. Nonetheless, everyone agreed that it would be incredibly useful and beneficial for the town.

We also learned that while there seems to be a large number of recreational opportunities in the area, there is still a clear demand for more outdoor activities, especially for walking and/or hiking routes. Many people noted that heavily-trafficked roads are currently the only place for the area's many walkers. "There are opportunities to walk, but they're not very motivating or pleasant places," one resident explained. "I think people would naturally get more physical activity if they're walking along the river because it is so pleasant."

And everyone agreed that residents currently have very little interaction with the Hoosic River, mainly due to lack of access points and disinterest caused by poor water quality. "I think there are enough [recreational] facilities," said a resident we interviewed, but qualified her statement by explaining that "there isn't a lot of stuff for adults or older adolescents. And there is nothing that connects us to the river – recreation on or near the river is nil." Some people reported moderate amounts of fishing or swimming at a place called the "Rock Cut," but thought that these activities would be encouraged by the presence of a greenway featuring access points to the water.

Another perception common among the respondents was that a greenway would increase local tourism, which was generally considered beneficial to the town. Everyone reported that the little tourism that currently exists in Hoosick Falls is due to historical attractions. One person's comment that "the trail will start something going—if we get people interested in coming to the trail, then they might see the other things going on and get interested in the country," was characteristic of the responses we received.

Despite their positive feedback regarding a pathway along the river, many interviewees anticipated some opposition to the project, especially from landowners abutting the greenway. They predicted that private landowners might fear an increased risk of burglary because of easier access to their homes. Other concerns centered on financial and legal issues, such as who would pay for construction and maintenance, insurance, and liability. In general, however, these concerns were downplayed with statements like, "There will always be someone opposing anything," suggesting that respondents felt that the benefits of a greenway would eventually sway any people opposing the idea. It is important to note, however, that we did not interview any residents whose property abuts the proposed greenway.

Politics became apparent primarily in distinguishing the Town of Hoosick from the Village of Hoosick Falls. Distinguishing the two was important to most people we interviewed. This divisive attitude could potentially cause problems for a project that spans the boundaries of both the Town and the Village, or it could simply have been due to residents' concerns that we understand the political delineation of the region. But regardless of their area of residence, interviewees were interested, friendly, and willing to help.

Trail Development[21]

Access Points

The Hoosick Falls River Access Group is interested in establishing both land and water access points, and our interview results indicate a desire for more walking and

[21] For more information: *Trails for the Twenty-First Century*. Ed. Charles A. Flink et al. Washington: Island Press, 2001. Pg. 94-102

hiking areas in addition to increased river access. Based on their knowledge of the community, their relationships with homeowners, and their understanding of property ownership, Group members have established four potential land access points and three possible water access points on the east side of the River. These points include land and water entrances at the Village Sewage Treatment Plant, the Church Street bridge, and on the Skorupski property. An additional land access point is available at the Village Water Treatment Plant. As determined by interviews and site visits, residents already enter the existing trail and river at the bridge and the two treatment plants.

Figure 2. Access points (Map courtesy of Michael Batcher).

There is a lot of room for creativity when designing access points. As shown in the photographs below, trailheads can be very simple depending on organizations' ability to buy goods or find manual labor. Access points could be very elaborate with plantings, maps, brochures, parking, rest rooms, and other amenities. For the two trailheads on the Hoosick Falls pathway (Sewage and Water Treatment Plants), it would be best to have

kiosks with a map of the trail highlighting other access points, rest areas, historic and natural points of interest, and nearby local businesses.

(Photographs courtesy www.traillink.com)

Other helpful information available at access points would be the hours of trail operation; any regulations dealing with trespassing, littering, etc.; a brief history of the area; contact information to report maintenance issues or questions; and any restrictions on trail use. These primary access points would good areas for brochures and/or maps from the region so that tourists learn about other activities in the area. Other access points could have all or none of these features. Considering that the four points are about half a mile apart, it is probably only necessary to place a welcome sign at the inner entrances. Two other potential features of access points are discussed below.

Parking

The River Access Group is hoping to have parking at all the available access points. The Treatment Plants already have gravel lots, although they are informal and not directly adjacent to the existing pathway. Ultimately, the Group would like to have a paved lot for about fifteen spots at each of these locations. There are already around six spots at the Church Street bridge, and users could also park in the Village and walk to the trail at this point. Currently there is no parking on the Skorupski property, although the Group would like to consider about four spaces.

Our calculations for two fifteen-spot lots and one four-spot lot (without the Church Street bridge access point because it does not need new spaces) show that the paving will cost around $34,688. The minimum standard for parking space dimensions is 10 feet by 20 feet, totaling 200 square feet per spot. This figure must be attached to the 171 square feet per spot necessary for backing out.[22] Therefore, the total square footage would be 5,565 for a fifteen-car lot and 1,484 for a four-car lot, equaling 12,614 square feet of parking lot for the spaces that the River Access Group envisions for the pathway. At $2.75 per square foot for pavement, parking should cost about $34,688. A handicapped-accessible parking space must have a five foot wide isle on each side,[23] which would slightly change the dimensions and costs for the lots.

Because the pathway and its associated parking will be developed near the river, it is important to bear in mind the ecological impacts of paving large areas. Consider planting native vegetation around the parking lot to stabilize soils and absorb run-off.

[22] Gibbons, Jim. Nonpoint Education for Municipal Officials. Technical Paper #5. 1999. http://nemo.uconn.edu/publications/tech_papers/tech_paper_5.pdf
[23] Accessible Practices Exchange. Association of Science-Technology Centers. January 2003. http://astc.org/ap/issues/parking.htm

Rest Areas

There are numerous locations along the current pathway that are suitable for rest areas, both picnic tables and benches. These points are marked in Figure 3. After walking the trail, we believe it would be most appropriate to have benches every quarter-mile and picnic tables every half-mile. This equates to four to eight benches (depending on the number per site) and four picnic tables on our two mile pathway. The picnic tables could correspond to the access points if desired; the Church Street bridge point already has a bench and picnic table. Benches could also be placed at ecological and historical points of interest, as long as they are somewhat evenly spaced.

Figure 3. Potential access points, rest areas, and points of interest (for a larger image, see the appendix).

The number of benches and rest areas might depend on how much funding the River Access Group can allocate to this aspect of trail development; however, according to Group members, there is a high potential that the materials and labor would be donated by local hardware stores, construction workers, community organizations, and the like. Another option is to encourage businesses, families, and organizations to fund an individual bench or picnic table that could bear a label of their generosity. Florists or greenhouses might be willing to donate plantings as well, which would be helpful if the area has to be cleared for the pathway and/or rest area. Some images of other trail rest areas are shown below.

(Photographs courtesy www.traillink.com)

(Photographs courtesy www.cywaithcymru.org, http://www.belson.com/images/7486-8-M.jpg)

Trail Surface

One of the most significant considerations once the land has been acquired is the type of trail surface to use. This decision is directly connected to who will use the trail

and what types of recreation it will allow. When considering what type of surface to use, the River Access Group should consider cost, environmental impact, public desire, accessibility, lifespan, and future maintenance. There are many different potential surface materials available, and an exhaustive search would be daunting and unnecessary in this situation. We consider three trail surface options in our study, which are compared and analyzed in the following section.

The first option is to do no further trail surface modifications, referred to as "no further action." This low-cost approach will leave the trail in its existing condition: gravel, mud, pavement, and grass depending on the section. The trail in its current state is defined but not developed. The other two surface choices include stone dust and pavement, both of which would require significant trail work. The land would need to be graded and prepared with necessary substrate for the desired surface. In addition, most multiuse pathways are recommended to be between ten and twelve feet wide of hard material with a soft shoulder on either side. For this trail, that would require many areas to be widened by removing trees and other vegetation.

The "no further action" approach would entail connecting the existing trail surfaces to create a single corridor. The current trail surface is predominately sparse gravel, though some sections overlap with local roads; other sections are grass. There are a number of areas where the footing is difficult, making the pathway inaccessible to cyclists (with the exception of mountain bikes), rollerbladers, and walkers with impaired balance. The trail currently varies in width between narrower sections (four to five feet) and unbounded sections well over twelve feet. The pathway in its current state would provide recreation for walkers interested in a defined but rugged trail. Due to its width

constraints, the trail could not sustain multiple uses because of the potential hazards associated with conflicting users.

The second trail surface option is stone dust, which has a lower initial cost, around $100,000 per mile,[24] than pavement but requires marginally higher maintenance, estimated at $1,478 per mile annually.[25] Average lifespan for this surface before needing resurfacing is around nine years.[26] Another way to judge the cost is by looking at the annual expected maintenance and construction cost divided over the expected lifespan before resurfacing. This cost is per mile and for stone dust comes out to be approximately $12, 600 annually (Calculation: average annual maintenance + anticipated construction cost / expected lifespan = $1,478 + ($100,000 / 9) = $12,589.10 per year). This is considered by many to be the more natural of the two options, and while this may not be completely accurate, the idea is appealing to some users. Stone dust is a rougher surface than pavement but is still firm enough to be wheelchair accessible (noted as ADA approved in the analysis) and to allow for a variety of uses for visitors of all capabilities. An additional shoulder area of softer material would be available for those that desire. The only uses deterred by this surface would be those requiring a perfectly smooth surface, such as rollerblading and potentially skateboarding.

The third alternative is a paved surface, which is the most expensive up-front but requires less maintenance over time. Initial construction costs would be about one and a half times that of stone dust, about $145,200 per mile.[27] The annual maintenance cost is

[24] Personal communication with Craig DellaPenna.
[25] Poole, Tim. 2005. *Rail-Trail: Maintenance and Operations*. Rails to Trails Conservancy Northeast Regional Office.
[26] Ibid.
[27] http://www.americantrails.org/resources/trailbuilding/docs/AltaTrailSurface.pdf

expected to be slightly less than stone dust, about $1,458 per mile per year.[28] The lifespan of an asphalt trail is about twice as long as stone dust before needing resurfacing, around seventeen years,[29] with minimal maintenance as needed, such as pothole repair.[30] The combined construction and maintenance cost over the lifespan of the trail, as calculated above, comes out to be about $10,000 per mile per year over the seventeen year period (Calculation: $1,458 + ($145,200 / 17) = $9999.2 per year). While this firm, impermeable surface is often seen to be at odds with the natural environment, it would allow for the widest range of uses. This would include all of the recreations suitable for stone dust in addition to activities requiring a very hard surface, such as rollerblading and the like. As with the stone dust surface, the shoulder space would allow for a softer material pathway.

Points of Interest

The term "points of interest" can encompass a wide range of information, and that information can be displayed in many different ways. For example, plaques or markers could be used to display information along the pathway; brochures might be offered at access point kiosks and community businesses; or informative posters at kiosks could map out the location of interesting points, and give some information about them. The ideas we considered for this greenway include historical and ecological features of the area.

An obvious choice for a historical point of interest is the Walter A. Wood Mowing and Reaping Machine Company, which made the area into a busy industrial hub

[28] Poole, Tim. 2005.
[29] Ibid.
[30] http://www.americantrails.org/resources/trailbuilding/docs/AltaTrailSurface.pdf

in the early twentieth century. Even though the actual site of the factory no longer contains original buildings, many trail users might find it interesting to know something about the industry that put Hoosick Falls on the map. And in case history buffs are interested in learning more, another point of interest could be the Hoosick Township Historical Society, located in the Louis Miller Museum, which is not far from the greenway. Yet another historical point of interest is the famous artist, Grandma Moses, who is from the area. And finally, since the greenway runs along an abandoned rail line, another sign could give some history about railroads in the northeast (or about Guilford Rail Systems more specifically – especially if they agree to sell the land needed for the greenway!). The perfect place to put such a marker would be near the old granite "W" marker that is still located on the side of the trail. The "W" signaled for conductors to whistle as they approached town.

In addition, ecological points of interest might feature native plants, wildlife, birds, and the Hoosic River itself. Many people expressed interest in knowing what species of birds they might expect to see as they traveled the greenway. Similarly, having information available regarding the river (its average height, depth, and speed, as well as where it originates and where it ends) might be useful for school science classes on field trips. Since connecting with nature is often a desire of those who utilize greenways, this sort of information could make users' experiences more meaningful or satisfactory because they would be able to understand, as well as admire, their surroundings.

In our alternatives analysis, we looked at two options for points of interest: the current state (i.e., no points of interest); and the inclusion of points of interest. We

examined three factors in our analysis. First, we looked at the initial cost of installing points of interest. Then we evaluated how they might change the use of the trail. That is, would the greenway be used more or less frequently if there were points of interest along it? And finally, we considered maintenance costs.

Alternatives Comparison and Recommendations

Table 1. Alternatives analysis chart.

Surface Material			
1=Best, 3=Worst	No Further Action	Stone Dust	Pavement
Initial Cost	1	2	3
Maintenance	3	2	1
Recreations Allowed	3	2	1
ADA Approved	3	1.5	1.5
River Access Group Desire[31]	3	2	1
Life Span	3	2	1
Environmental Impacts	1	2.5	2.5
Total	**17**	**13**	**11**
Recreations Allowed			
1=Best, 3=Worst	Non-Motorized	Snowmobiles	Everything
Potential Users	3	2	1
User Conflict	1	2	3
Trail Destruction	1	2	3
Environmental Impacts	1	2	3
Total	**6**	**8**	**10**
Points of Interest			
1=Best, 2=Worst	None	Present	
Initial Cost	1	2	
Trail Use	2	1	
Maintenance	1	2	
Total	**4**	**5**	

[31] Personal Communication, River Access Group Board Meeting, May 3, 2006.

Trail Surface

Despite its low initial cost and environmental impacts, the "no further action" approach has the worst score due to no increased impermeable surfaces. While these factors are important, they do not carry the same weight as maintenance, erosion, and recreational uses afforded. The long-term costs of managing this type of trail would be very high and would require significant monitoring. As described above, due to the poor condition, this trail surface would only be accessible to those who are sufficiently capable of walking on non-stable surfaces. In addition, our interviewees and the River Access Group, as well as ADA regulations, strongly support a more solid trail surface that would allow many types of recreation and would be accessible to all age and fitness levels.

The stone dust option scores well but slightly behind asphalt. This score is based on several intermediate qualities of a stone dust trail. First, stone dust has a median initial cost, about two thirds that of asphalt, as well as an intermediate maintenance cost, marginally cheaper than asphalt at $1,478 per year per mile compared to $1,458 for asphalt.[32] While stone dust affords ADA accessibility and many recreational options due to the firm nature of its surface, recreations such as rollerblading and skateboarding, which require a completely smooth surface, may be discouraged. Based on clients' desire, as determined in a board meeting, the stone dust trail falls slightly short of the asphalt trail but far ahead of a "no further action" trail, due to previously discussed recreations afforded. Because of the stable nature of the trail, increased use would not result in much erosion; however, the degradation over time would necessitate resurfacing after about nine years, around half as long as with asphalt. This would incur a significant

[32] *Rail-Trail Maintenance and Operation.* Rails-to-Trails Conservancy Northeast Regional Office. http://www.americantrails.org/resources/ManageMaintain/docs/railtrailmaint.pdf Pg. 6

cost, countering the initial cost benefit of this surface type. Finally, a stone dust trail is still a developed surface and a significant decrease in permeability. For this reason, the environmental impacts associated with this trail type would be similar to that of a fully impermeable surface.

The best scoring option is an asphalt trail surface, which we recommend for this trail as the goal for at least the central portion through downtown. The initial cost for asphalt is one of the largest deterrents. This cost is about $145,200 per mile for construction, making it seem less affordable; however, the slightly cheaper annual maintenance and the increased lifespan of this surface type offset this initial cost. When considering the annual cost of construction and maintenance over the lifespan of the trail, an asphalt trail ends up being the cheaper option over the long run, costing about $2,600 less annually per mile of trail surface—$10,000 per year per mile as compared to the $12,600 for a stone dust surface (see above *Trail Surface* section under Trail development for calculations). Asphalt trails reportedly need resurfacing nearly half as often as a stone dust trail, after seventeen years instead of nine. In addition, the increased recreational opportunities afforded and the high ADA accessibility allow for greater use by the community. And most importantly, the River Access Group has expressed desire for this trail surface. For these reasons, we consider the initial cost for an asphalt trail well worth the benefits it would afford and therefore recommend the consideration of asphalt as the selected surface type of the Hoosic River pathway.

Recreations Allowed

To allow all uses on the trail (both non-motorized and motorized uses throughout the year) would not be in the best interest of the potential users of this pathway. While

increasing the allowed uses would provide increased access, it would also likely result in user conflict. The trail would be less attractive for those interested in walking, cycling, and other passive activities in the non-winter months due to increased noise and danger associated with motorized vehicles on the pathway, such as ATVs. In addition to the potential conflict with other trail users, the addition of motorized vehicles directly on the trail surface, with no snow as a buffer, would increase the wear on the surface and the associated erosion, labeled as "trail destruction" in the above chart. Finally, allowing motorized vehicles increases the potential for oil or gas leaks, air pollution, and noise pollution along the trail, which often abuts residential areas.

An intermediate option would open the trail to only non-motorized activities throughout the year, but would allow snowmobile use during the winter months. This would allow the pathway to remain an attractive recreational arena for potential users throughout the winter while still maintaining a safe, non-conflicting pathway during non-winter months. Though conflict may still arise between potential winter users, such as cross country skiers and snowmobilers, it has been suggested that the packing down of the snow generated by snowmobile use may be a potential advantage to cross country skiers and walkers. Trail destruction and pollution, including noise pollution, are still of concern for allowing this set of uses on the pathway. Though the snow should act as a buffer to extensive trail erosion, there is still increased potential for degradation to occur. Snowmobiling may not be the best option, although it is an appealing addition due to the increased support and the political sway of the local snowmobiling groups.

The best score, and the recreation use we recommend without the aforementioned caveat, is to allow for only non-motorized use along the trail. This obviously limits the

recreational uses, but in so doing also limits the potential user conflict associated with increased recreations. Decreasing the use of motorized vehicles throughout the year makes the pathway an inherently safer avenue for transport and recreation for passive users. It also limits the additional wear on trail surface that would increase erosion and reduces potential pollution associated with motorized vehicles. Specifically, the reduced noise pollution would be seen as a benefit for both residents near the pathway and users looking for a peaceful atmosphere.

Points of Interest

The determination of whether or not to include points of interest along the trail is one that will rely predominately on the opinion of the group in charge of developing and maintaining the trail and its resources. As such, we specifically took into account the initial cost of installing the informative devices, the potential benefit, and the long-term cost of maintaining the devices. From these points, we conclude that including informative aspects along the trail would increase both installation and maintenance costs associated with the trail, while providing benefits by increasing the potential uses of the trail, especially for education.

To exclude the informative aspect of the trail would indeed decrease the initial cost and any associated maintenance cost (for signage, etc). This cost may be an initial deterrent for constructing these signs during the costly production of trail development. As such, we recommend that if funding for the trail is a concern, points of interest may be an aspect of trail design that does not need to be included in the early development stages. Informative signs can always be added at a later date, a plan that the River

Access Group appeared to support. They commented that the area boasts a number of historical and natural features, and highlighting any of these could enhance trail use and/or enjoyment of the greenway.

Laws and Regulations

Liability Regulations

The extent of liability will depend on land ownership along the trail, which has not yet been fully determined. If the trail extends through private land, the Hoosick Falls River Access Group should obtain an easement from the landowners, allowing the trail to go through the property. The easement contract should specify that the River Access Group will maintain the trail, will obtain liability insurance, and will design the trail to proper standards. In addition, landowners can reduce the potential for injury on the trail by ensuring that the trail is located away from hazards, that signs are posted to warn of any dangers, and that trail users should not stray from the designated trail.[33] Landowners whose property *abuts* a trail can warn users about trespassing and the associated hazards, but they generally have little liability.

Each state has a Recreation Use Statute (RUS) that protects private and some public landowners who allow public use of land for recreation. This law decreases liability by removing responsibility for injury caused by known and clear harms. The trail owner, which will ultimately be the Village of Hoosick Falls, does need to ensure that the trail is maintained. For injured users to win a suit against the trail owner, they

[33] Morris, Hugh. *Rail-Trails and Liability*. Rails-to-Trails Conservancy. September 2000, p. 7. http://www.trailsandgreenways.org/resources/development/opposcom/tgc_liability.pdf

"must prove 'willful and wanton misconduct' on the part of the landowner…"[34] Government owners generally are protected from liability with Sovereign Immunity, although some municipalities have waived this right and instead have a Tort Claims Act. This allows the government to be held responsible in some situations. Therefore, liability cases can go through against a public landowner, although infrequent, so trail managers and landowners still should have liability insurance.[35]

Handicapped Accessibility Regulations

As of May 2006, the final regulations dictating trail development and picnic facility construction are still under review by the Architectural and Transportation Barriers Compliance Board (Access Board), which is responsible for writing new standards under the Americans with Disabilities Act.[36] The latest guidelines were published in September 1999 in the "Report on Recommendations" written by the Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas. The sections of this report are published online,[37] but we have highlighted the most relevant information below.

a. Clear tread width: 36" minimum
b. Tread obstacles: 2" high maximum (up to 3" high where running and cross slopes are 5% or less)
c. Running slope (trail grade): 5% or less
d. No more than 30% of the total trail length may exceed a running slope of 8.33%.
e. Passing space: provided at least every 1000' where trail width is less than 60"
f. Signs: shall be provided indicating the length of the accessible trail segment

[34] Morris, 9.
[35] Morris, 11.
[36] Interview with Craig Della Pella, New England Greenway Solutions. April 11, 2006.
[37] http://www.access-board.gov/outdoor/outdoor-rec-rpt.htm

In addition, the trail surface must be "firm and stable." "Firmness means the surface 'does not give way significantly under foot.' Stability means surfaces 'do not shift from side-to-side or when turning.'"[38] Table 2, from the National Center on Accessibility Website, contains the specific guidelines regarding firmness and stability.

Table 2. ANSI/RESNA Standard for Firmness and Stability.

ANSI/RESNA Standards for Firmness & Stability			
	Very Firm/Stable	**Moderately Firm/Stable**	**Not Firm/Stable**
Firmness	0.3 inch or less	>0.3 £ <0.5 inch	>.5 inch
Stability	0.5 inch or less	>0.5 £ <1.0 inch	>1.0 inch

There are also regulations for the frequency and design of picnic tables.[39] No fewer than two tables along a trail can be handicapped accessible. This standard only applies to picnic tables that are "fixed" to the ground, either by cement or chain. Tables that are the standard ten-foot long by 2-1/2 foot wide with a perimeter of 25 linear feet should have two accessible seats, while smaller tables need to only have one such space. The exact dimensions of this seating are explained in the regulations, as are those for benches.

For more detailed information, please refer to resources section.

Wetlands and Rivers Regulations

Due to the proximity of the greenway to the river, there are several environmental regulations that need to be considered. Most of these regulations fall under the New York State Consolidated Laws, specifically under the Environmental Conservation Law.

[38] National Center on Accessibility. "Trail Surfaces: What Do I Need to Know?" 2001-2003. http://www.ncaonline.org/monographs/1trail-surfaces.shtml

[39] All information relating to picnic table standards is cited from this page: http://www.access-board.gov/outdoor/outdoor-rec-rpt.htm

Within this subset of laws, Articles 15, 17, 24, and 70 are directly applicable to the development of a greenway such as this. These articles refer to Water Resources, Water Pollution Control, Feshwater Wetlands, and Uniform Procedures, respectively.

Article 15 refers predominately to water bodies and the flow of water through the surrounding areas. But in the event that this project is located adjacent to and has the potential to interact with the water body, i.e. at access points, it is necessary to be aware of this act. If any construction is to be conducted that impacts the river directly, Title 23, River Improvement, should be consulted.

Article 17, Titles 7 and 8, and Article 70 regulate construction activity that exceeds a one-acre (43,560 square foot) plot. This project, depending on desired alternatives, will create an impervious or semi-impervious surface exceeding this size limit. In response to the Clean Water Act, New York State, has established a program known as the State Pollutant Discharge Elimination System (SPDES) in order to control the discharge of waste and storm water. Under SPDES, this article mandates that a General Permit for Construction, GP-02-01, be obtained. To obtain this permit, a Notice of Intent (NOI) must be filed. To assist with this procedure the state has published three necessary documents. These are the GP-02-01 permit, the NOI document, and an instruction form to accompany the NOI.

Article 24 refers to the inland freshwater resources of the state. Within this article, Title 7 outlines the activities that require a permit application. Depending on the delineation of wetland resource boundaries, the greenway project will likely require permits for construction. Specifically this title requires a permit to be acquired if construction activities “impinge upon or otherwise substantially affect the wetlands and

are located not more than one hundred feet from the boundary of such wetland" (New York State Consolidated Laws, Environmental Conservation Law, Article 24, Title 7, Section 01). Under this title, a permit must be requested from the appropriate governing body.

Zoning

The pathway currently extends through areas of the Village that are zoned, from north to south, as Residential-1, Residential-2, Downtown Commercial (DC), Residential-3, Industrial, Residential-3, and Industrial. The trail, since it is considered a public park, is allowed in all of these districts.[40] The Village Mayor, Laura Reynolds, did not foresee any zoning problems with the pathway.

Parking lots are allowed in all zones except the three residential districts.[41] The zoning map does not extend far enough north to include the Sewage Treatment Plant, so it is difficult to discern whether or not parking would be allowed. Nonetheless, considering the current use of the land, it is unlikely to be zoned Residential. All other potential parking areas are zoned either DC or Industrial. In these districts, required parking off the street may be provided within 500 feet of the land use, and the lot must be paved, properly drained, and screened from adjoining property.[42]

Other potential developments on the pathway may call for zoning considerations. These include signs (information on pages IV-2, VI-4, and VI-5 of the Village Zoning Regulations), fences (VI-1), and lighting (VI-6).

[40] Reynolds, Laura and Brian Dooley. The Village of Hoosick Falls Zoning Map and Zoning Regulations. July 2003. Pg. IV-3
[41] Reynolds, IV-4
[42] Reynolds, IV-2

Maintenance

Initial restoration

The existing trail is in need of significant restoration, although it is generally walkable on a dry day by physically fit users. There are some dramatic grade shifts that cause water to collect in puddles and make light walking and biking difficult. These problems do not have to be rectified immediately; however, re-grading is one of the first steps necessary before a paved surface can be laid. In addition, there is a stream flowing perpendicular to the path, into the river, which will ultimately need to be crossed with a small footbridge. This is located between the first two rest areas (.125 and .25 miles) in Figure 3. The most urgent task is to remove hazards such as trash piles and fallen trees from the trail. Some of these areas, in addition to the stream and grade shifts, are indicated in Figure 3 above. The trail appears to be wide enough (5-10 feet at various points) and stabilized enough (large gravel base) for a vehicle to drive along it and haul away debris. There are scattered piles of rubbish such as sofas, appliances, and the like; there is only one area with significant obstruction from fallen trees. There are two large piles of old tree stumps and plant material about 0.1 miles north of the Church Street bridge, indicated as “debris pile” in Figure 3. If this area is under municipal jurisdiction, the River Access Group might consider working with the Village to chip the wood and use it as a temporary trail surface before paving. This would prevent some erosion and puddle formation in the meantime and would make the existing pathway easier to traverse.

Long-term management

The best way to reduce the amount of maintenance required over the years is to adequately plan in the beginning stages. Therefore, we recommend that the Hoosick Falls River Access Group consult books and articles about pathway management to properly design a drainage system and lay the trail surface. Good resources are noted at the end of this paper. Some suggestions include pulling weeds from the trail before applying the surface so that plants do not re-grow and destroy the trail. If possible, trail maintenance websites suggest mowing the shoulder of the trail so that plants do not encroach.[43] Because the Hoosick Falls trail has dense foliage abutting the current pathway, it may not be possible to put in a shoulder. In order to reduce surface cracking and constant re-application, the National Trails Training Partnership recommends against a gravel or mud surface. Generally matching the trail slope to the natural lay of the land will help prevent erosion and flooding.[44]

Research from trail development websites reveals that minor remediation occurs from every month to every few years. As adapted from American Trails' website on maintenance, typical operational upkeep includes:[45]

- Trail repaving or surfacing
- Parking lot repair
- Connecting walks from the trail to parking, restrooms, etc.
- Pruning and/or mowing
- Possible pest management
- Runoff and erosion control
- Litter removal
- Vandalism control
- Sign repair

[43] *Rail-Trail Maintenance and Operation.* Rails-to-Trails Conservancy Northeast Regional Office. http://www.americantrails.org/resources/ManageMaintain/docs/railtrailmaint.pdf Pg. 22
[44] National Trails Training Partnership. http://www.americantrails.org/resources/ManageMaintain/index.html
[45] Ibid.

The latter six activities often have to be completed monthly.[46] Major maintenance, such as bridge replacement, occurs much less frequently, about every few decades or after extreme weather events like floods.[47] Trail re-surfacing is the most significant maintenance project, which is why we have recommended laying asphalt with a seventeen year lifespan rather than stone dust with a nine year span.

Who maintains it?

Case studies indicate that volunteers are frequently used to maintain trails, although larger trails under state management are generally maintained by a parks agency.[48] The Hoosick Falls River Access Group has indicated that it will hire a part-time project coordinator for two years, who will be assisted by Hoosick River Watershed Association (HooRWA) members and volunteers. Trail maintenance would be an educational and civil service experience for school, community, and faith-based groups as well as summer camps. A case study from Pennsylvania presented in *Trails for the Twenty-First Century* reveals the success associated with using volunteers to maintain trails. Another applicable example is discussed in a Rails-to-Trails Conservancy online publication.[49] A study related to that in Pennsylvania implements an adopt-a-trail program to raise maintenance funds rather than relying on volunteers.[50] Hoosick Falls could try both options; volunteering opportunities would draw community members to the pathway, and adopt-a-trail programs would encourage businesses to donate money.

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[46] *Trails for the Twenty-First Century*. Ed. Charles A. Flink et al. Washington: Island Press, 2001. Pg. 159
[47] Searns, Robert. "Trail Maintenance and Management." American Trails. http://www.americantrails.org/resources/ManageMaintain/searnsmaint101.html
[48] *Rail-Trail Maintenance and Operation.* Rails-to-Trails Conservancy Northeast Regional Office. http://www.americantrails.org/resources/ManageMaintain/docs/railtrailmaint.pdf Pg. 25-27
[49] *Rail-Trail Maintenance and Operation.* Rails-to-Trails Conservancy Northeast Regional Office. http://www.americantrails.org/resources/ManageMaintain/docs/railtrailmaint.pdf Pg. 11
[50] *Trails for the Twenty-First Century*. Ed. Charles A. Flink et al. Washington: Island Press, 2001. Pg. 160

Costs and Funding

According to numerous greenway organizations, there is no absolute cost associated with maintenance since the figure depends on the frequency of extreme weather events and on labor, equipment, and re-surfacing prices. Nonetheless, an online Rails-to-Trails publication has determined average figures for asphalt and non-paved surfaces, $1,458 and $1,478 per year per mile respectively, that have been sited throughout this report. The relatively low construction and maintenance costs associated with asphalt were influential in our decision to recommend this type of trail surface. In addition, the River Access Group has indicated that community members and organizations have offered to volunteer their time and resources to cleaning and developing the trail, which might lower costs.

Future Recommendations

Trail Connections

Although the current plan focuses on the immediate development of the trail section within the Village of Hoosick Falls, the long-term goal is to extend the pathway and connect it to other trails and parks. In addition, it may be possible to use existing sidewalks as connections to the trail. This could include the creation of trail loops within the Village that may add potential interest to the trail by creating additional non-linear options. These loops need not be additional construction expenses, as the pathways may be designed to follow existing sidewalks. The only expense would be developing and installing additional signage. And by installing signs that direct path users to enter the

Village, you can also direct them along either Church Street or Main Street through the commercial corridor of the Village, where they are likely to visit local businesses.

Another potential short-term connection is to the Tibbitts State Forest area,[51] which is located on New York Route 22 and Route 7 and contains over 600 acres of woodland. This natural area is free to the public and contains areas to hike, cross-country ski, and hunt. The intersection of Route 22 and Route 7 is less than four miles south of the Route 22 Bridge in Hoosick Falls, a location that is near the southern end of the proposed Hoosick Falls greenway. In addition, this intersection is very close to the Hoosic River. Due to both the proximity of the southern end of the proposed trail and the Hoosic River, it would be a simple step to extend the trail along the river and connect it to Tibbitts State Forest.

A long-term consideration is to connect the greenway to the Bennington Battlefield, which is located, contrary to its name, in the Hoosick area on New York Route 67 between Walloomsac, New York and the Vermont state border.[52] The Bennington Battlefield is a New York State Historic Site celebrating the location of a 1777 Revolutionary War battle at which the British forces were outnumbered and forced to surrender to the stronger American troops. Today this site is the location of 276 acres of hiking paths, game fields, historic interpretive panels, and restroom facilities. Though it may not be feasible to connect the Hoosick Falls greenway to the Bennington Battlefield at present, it is a viable long-term connection since it is only about five miles from downtown Hoosick Falls.

[51] http://www.hoosickfalls.com/community/historic.htm, May 1, 2006.
[52] http://nysparks.state.ny.us/sites/info.asp?siteID=1, May 1, 2006.

Further away from this initial pathway section is a third possible connection to the northern trailhead of the Taconic Crest Trail. An access point to this branch is located in North Petersburg at the intersection of County Route 95 and New York State Route 346.[53] This area is also very near the Hoosic River and would be a logical connection if the path were to be continued for a much longer stretch. To reach this trailhead, the Hoosick Falls greenway would need to extend about seven miles south along the river from the Route 22 bridge in Hoosick Falls.

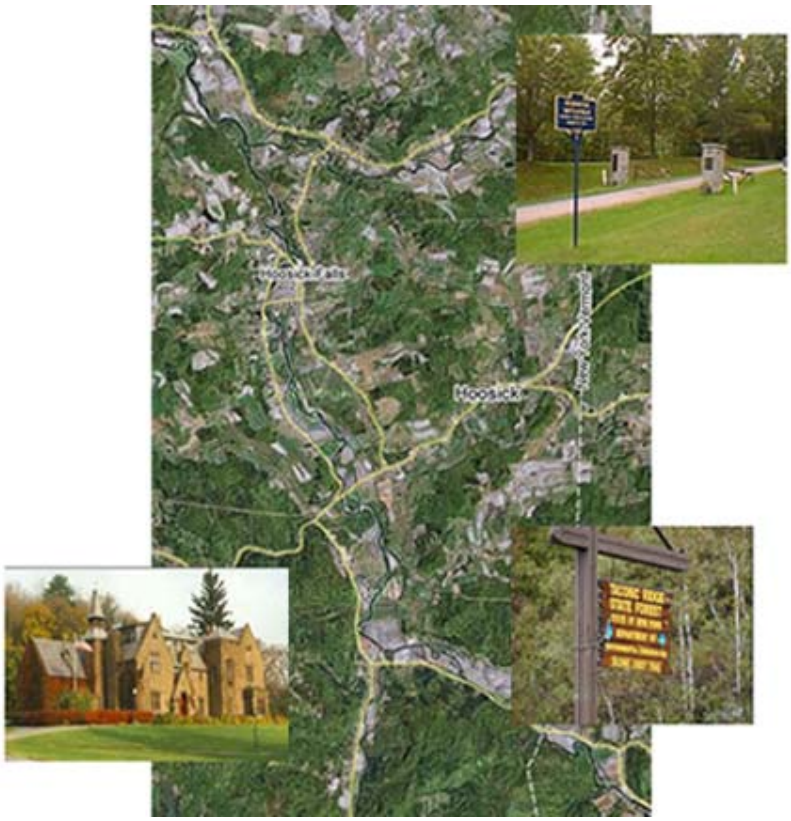

Figure 4. A map of the Hoosick Falls region with inserts of possible trail connections to Bennington Battlefield, the Taconic Crest Trail, and Tibbitts State Forest (photographs courtesy of www.revolutionaryday.com/usroute7/bennbattle/default.htm, www.hoosickfalls.com/community/hoosacfrm.htm, www.google.com/maphp?hl=en&tab=wl&q=, www.teresco.org/pics/hike-20010920-30/).

[53] Michael Batcher, personal communication.

Business Connections

While Hoosick Falls is not replete with business and tourist attractions, it does offer some unique opportunities for a short stay in the area. There are a variety of historical and local attractions, such as the Louis Miller Historical Museum, Wood Memorial Park and the Jose de Creeft Sculpture Plaza, Cheney Free Library, and the Outdoor World for Learning Nature Resource Center. These points of interest can help attract trail visitors into the Village and to local businesses. While pathway users from the immediate region may be familiar with these sites, they certainly would stop for a quick lunch or lemonade. According to the Eastwick Press 2005-2006 Community Guide, there is a farmer's market in Hoosick Falls every Wednesday afternoon from June to October. In addition, there is an ice cream parlor, pizza place, cafes, pubs, and restaurants. Other businesses include a local art gallery and florist shop. Some of the community leaders we interviewed discussed plans for a new arts center in the Village to be designed by Syracuse University students. Although this development is a few years off, it could operate in collaboration with the greenway by bringing tourists to the area and possibly by helping students and residents get into nature for artistic exploration.

The best way to develop this connection between the pathway and local business is to provide information at trailheads, access points, and rest areas. Brochures or trail guides with information about the greenway and local attractions would be the optimal form of advertisement because they could be distributed at businesses in the Town and Village as well as at the trail. Other ideas include placing a notice or map at trail welcome kiosks about the local eateries and businesses. Since the majority of greenway users will be regional residents, a kickoff event and subsequent trail activities would be

good times to advertise local attractions. A guide on developing successful rail-trails suggests hosting large events like clean-ups that can serve to maintain the trail, remind people of its services, and get them into the community.[54]

If the trail becomes especially popular, it is possible that new shops will open in association with it. A sporting goods store with fishing supplies and bike repairs, for example, could be quite successful. There is a slight potential that, if linked to other pathways and historic sites, the trail could attract enough visitors to support a bed and breakfast. Craig Della Penna in Northampton, Massachusetts operates a very successful inn that has been lauded for its location adjacent to a rail-trail. The photograph below is from the Wallkill Valley Rail-Trail in New York with abutting local businesses.

(Photograph courtesy www.traillink.com)

While the ecology and property ownership along the pathway in Hoosick Falls prevent this type of commercial proximity in most areas, the photograph demonstrates how recreation and businesses can work together.

[54] Ryan, Karen-Lee and Julie A. Winterich ed. *Secrets of Successful Rail-Trails*. Rails-to-Trails Conservancy, 2003. Pg. 89-95

Challenges/Controversies

Even with good information, political will, and plenty of funding, developing a greenway can be difficult. This section will outline some potential challenges for the Hoosick Falls Greenway as well as a few common controversies. Most challenges involve either money or property owners whose land abuts the proposed greenway.

Funding and Maintenance Conflicts

The funding of the initial development of the trail is not usually a problem, since in many communities there is demand for a greenway and enthusiasm surrounding the development process. This seems to be true in Hoosick Falls as well, and it does not appear that initial funding for land purchases and trail development will be a significant challenge.

Covering maintenance costs, on the other hand, can become something of an issue. There are several options for generating maintenance funds: continuing private fundraising endeavors; levying a general tax on the community; and/or pursuing federal or state funding. Our impression, from interviewing the Town Tax Collector, was that imposing a general tax—no matter how small—would not be well-received in Hoosick Falls. And since private fundraising requires both continuous work by at least one individual and continuous support by deep-pocketed residents, it is not a reliable alternative. Therefore, we suggest that the River Access Group apply for government funding. The only drawback with government funding is that the majority of grants require the trail to be ADA-accessible, which (from River Access Group discussion) may still be a few years down the road.

There may also be some potential for conflict in deciding which organization or entity should be responsible, financially and otherwise, for the greenway. Thus far it has been the intent of the Hoosic River Watershed Association to acquire the land and then give it to the Village of Hoosick Falls. Once the community acquires all the parcels, it may be advisable to create a department from the Public Works, which currently cares for the public areas in town, to care for the greenway. Some residents of Hoosick Falls have expressed interest in the creation of park commission to maintain the greenway.

Concerns of Adjacent Landowners

The most vocal and persistent objectors during creation of similar greenway projects in other towns are always homeowners whose properties abut the proposed trail. Their concerns, which are certainly justified, are usually about decreasing property values and the potential for increased crime with an open, publicly-accessible trail near their backyard. The good news is that studies have shown these fears to be unfounded.

One very recent study by Craig Della Penna addressed the changes in property values for homes near established greenways in Massachusetts. His study showed that homes near a greenway or trail sold nearer to the list price of the home, though it was not indicated whether or not this result was significant. More impressive was his finding that homes near greenways sold almost twice as quickly as properties not near a trail.[55] Below is a photograph of a pathway running adjacent to a home, and there is almost no fencing, suggesting that the homeowners enjoy the trail and are not fearful of trespassing.

[55] Craig Della Penna. "Home Sales Near Two Massachusetts Rail Trails." January 25th, 2006.

(Photograph courtesy www.traillink.com)

Other studies have found similar positive effects for greenway abutters. The Metropolitan Planning Organization in Pinnellas County, Florida, found that the average "trail market area home" sold for about three percent more than the average home in other parts of town. This data was so significant because it held true for three different cities. Additionally, they found that the median sales price for homes adjacent to the trail is actually rising more quickly than the median sales price of homes throughout Pinellas County.[56] The U.S. National Parks Service found an even greater increase in property values, citing an increase of 5 to 32% for homes located near greenways and trails.[57] Finally, a study done in Goshen, Indiana, showed that over 65% of respondents thought the trail near their homes resulted in an improvement in neighborhood quality.[58] The results of these studies, and many others, clearly shows that greenways and trails certainly do no harm to property values and may actually increase both the value of a home and the ease with which it sells.

[56] Pinellas County Metropolitan Planning Organization, September 2001 "Chapter 2: Property Value Trends Assessment."
[57] Parks & Trails Council of Minnesota. Gary Sjoquist. "The Economic and Social Benefit of Trails."
[58] Eppley Institute for Parks & Public Lands. "Indiana Trails Study: Maple City Greenway Trail." 2001.

The other common concern of homeowners adjacent to greenways is the fear that increased accessibility will result in more crime near their homes. The common anxiety is, "Now that they can walk right up to my house, I am worried that I will be burglarized." Apart from the obvious fact that anyone can walk right up to a house on the paved street in front of it, there seems to be little cause for concern judging by other rail-trails and greenways. A study in St. Petersburg, Florida, found that crime peaks were related to the "general character of the surrounding area" rather than to the presence of a trail. Average crime rates along the trail were no higher than average rates for the city, and none of the top ten crime tracts in the city were located near the trail.[59]

Actually, many studies suggest that crime rates may actually be lower along greenways and other multiuse trails because people use them so frequently.[60] Busy areas are poor choices for crime. Trail users are the equivalent of "eyes on the street" concept of neighborhood watch groups. As one website put it, "Trail users displace abusers."[61]

Resources

Wetlands and River Protection Regulations

For Hudson River Valley Greenway legislation:
http://www.hudsongreenway.state.ny.us/legisla.htm

For NY state laws regarding wetland and river protection:
http://public.leginfo.state.ny.us/menugetf.cgi?commonquery=laws
go to Environmental Laws, go to Articles 15 and 24
Article 15 – Water Resources
Article 17 – Water Pollution Control (stormwater discharge)
SPDES control
Article 24 – Freshwater Wetlands

[59] Pinellas County Metropolitan Planning Organization, September 2001 "Chapter 4: Crime Statistics."
[60] Ibid.
[61] Go for Green: the Active Living & Environment Program. http://www.goforgreen.ca/home_e.html

For Notice of Intent for construction activities:
http://www.dec.state.ny.us/website/dow/toolbox/swforms.html
(includes a manual for filling out NOI)

For permits GP-02-01:
http://www.dec.state.ny.us/website/dow/bwp.htm

Ecology of Greenways. Ed. Daniel S. Smith and Paul Cawood Hellmund. University of Minnesota Press, 1993.

Handicapped Accessibility Regulations

For ADA legal documents, including public law 101-336 website:
http://www.usdoj.gov/crt/ada/publicat.htm

For Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas:
http://www.access-board.gov/outdoor/outdoor-rec-rpt.htm

National Center on Accessibility
http://www.ncaonline.org/trails/index.shtml

National Trails Training Partnership Accessibility Resources
http://www.americantrails.org/resources/accessible/accessible.html#design

Information on ADA approved picnic area development:
http://www.americantrails.org/resources/accessible/ADAPicnicTechDec.html.

Liability

National Trails Training Partnership Safe Trails Forum
http://www.americantrails.org/resources/safety/index.html

General Legislation

New York State Hudson River Valley Greenway: Legislation
http://www.hudsongreenway.state.ny.us/legisla.htm

Trail Management/Maintenance

National Trails Training Partnership
http://www.americantrails.org/resources/ManageMaintain/index.html

Rail-Trail Maintenance & Operation Manual

http://www.americantrails.org/resources/ManageMaintain/docs/railtrailmaint.pdf

Landowner Issues

Friends of the Genesee Valley Greenway Landowner FAQs
http://www.fogvg.org/future/land_faq.php

Parks & Trails New York: Handbook for Trail Planning, Landowner Issues
http://www.ptny.org/pdfs/gscvrchap6-bc.pdf

Funding

Recreational Trails Program
http://nysparks.state.ny.us/grants/programs/recreation.asp

Rivers and Trails Program
http://www.ncrc.nps.gov/rtca/

Healthy Trails Healthy People
http://www.ptny.org/greenways/hthp.shtml

The National Park Service: Rivers, Trails, and Conservation Assistance Program: Apply for Assistance
http://www.nps.gov/ncrc/programs/rtca/contactus/cu_apply.html

Secrets of Successful Rail-Trails. Ed. Karen-Lee Ryan and Julie A. Winterich. Rails-to-Trails Conservancy, 1993.

Benefits of Trails

Studies of Existing Rail-Trails
http://www.brucefreemanrailtrail.org/trail_plans/rail_trail_studies.html

Parks & Trails NY Tools and Publications
http://www.ptny.org/greenways/tools.shtml

Rails-to-Trails Conservancy: Health Information
http://www.railtrails.org/benefits/health/default.asp

National Trails Training Partnership: Benefits of Trails and Greenways
http://www.americantrails.org/resources/benefits/index.html

General Resources

American Trails: New York Trails
http://www.americantrails.org/resources/statetrails/NYstate.html

Trail Finder: New York Rail-Trails
http://www.trails.com/stateactivity.asp?area=13969

New York Parks and Conservation Association: Greenways and Rail-Trails in New York (Links to Sites of Interest)
http://www.nypca.org/greenways/links.shtml

Parks and Trails New York: Greenways and Trails
http://www.ptny.org/greenways/index.shtml

Rails-to-Trails Conservancy
http://www.railtrails.org/

The National Park Service: Rivers, Trails, and Conservation Assistance Program
http://www.ncrc.nps.gov/rtca/

New York City Department of Parks and Recreation: Bicycling and Greenways
http://www.nycgovparks.org/sub_things_to_do/facilities/af_bike_paths.html

New York State Department of Transportation: Hudson Valley Bikeways and Trailways
http://www.dot.state.ny.us/reg/r8/bikes/index.html

Information on creating vibrant public spaces: Project for Public Space
http://www.pps.org

Greenways: A Guide to Planning, Design, and Development. Ed. Loring LaB. Schwarz. Island Press, 1993.

Trails for the Twenty-First Century. Ed. Charles A. Flink et al. Island Press, 2001.

Appendix

Community Research Results

Interviewees

- Maggie Casey, River Access Group member, Village Board member, and a nurse
- Laura Reynolds, Mayor of the Village of Hoosick Falls
- Herb Loretan, proprietor of Ruditis Hardward and the 15 John Street Gallery
- Rolf Sternberg, lawyer and promoter of Arts Complex
- Shelly Stiles, HooRWA member and River Access Group member
- Marilyn Douglas, Town Supervisor and high school teacher
- Sue Stradinger, Town Clerk and Tax Collector
- Michael Batcher, River Access Group member and environmental planner
- Mark Revet, River Access Group member and lawyer
- Alex Brooks, River Access Group member and newspaper publisher
- Phil Leonard, local historian
- Craig della Penna, Greenway expert and realtor
- Paul Hellmund, President of Conway School of Landscape Design
- Robin Dropkin, New York Parks & Trails employee
- Jim Fincher, Trail manager at Chautauqua Rails-to-Trails, Inc.

Interview Questions and Responses

Each question is listed, followed by all the answers we received and the number of people who gave that answer. For many of the questions, the number of responses does not exactly match the number of interviewees. This is explained by a number of reasons. First, for many questions, interviewees responded in more than one way. For example, in question #2, people simply listed off all the recreational facilities they could think of. In cases like this, where people give more than one answer, the totals cannot be expected to match the number of interviewees. Second, not all respondents adequately answered each question; when that was the case, we did not count them as having responded to the question at all. We felt this was the most appropriate way to handle this situation, as it was most frequently due to interviewees straying from the topic. By

treating it this way, we were able to take into account interviewees' comments without misrepresenting the number of responses to each question.

1. Are you a Town or Village resident? How long have you lived in Hoosick Falls?

   Town: 4
   Village: 2
   Neither: 1 (grew up in region, no longer lives there)

   Lifetime: 1
   0 – 15 years: 2
   35 – 40 years: 1
   N/A: 1

2. What types of recreational facilities are currently available in Hoosick Falls? Are there enough facilities? Is there a demand for other types of recreational facilities? If so, what type?

   Currently available activities:
   Fishing: 4
   Swimming Pool: 6
   Cycling: 3
   Walking: 4
   Hiking: 1
   Hunting: 1
   Canoeing/kayaking: 4
   Skating: 6
   Skiing: 1
   Soccer: 3
   Tennis: 4
   Horseback riding: 2
   Park/Recreational Center/Summer camp: 4
   Baseball/Softball: 4
   Basketball: 2
   Golf: 1
   Snowmobiling: 2
   Dirtbiking: 1
   Roads for running: 2
   Youth Center: 2
   Rock Cut (swimming/sunbathing): 2

   Enough facilities:
   Yes: 0
   No: 6

Other: Enough for youth, but not for adults

Demand for more:
Yes: 6
No: 1

Types of facilities:
Hiking: 4
Walking: 2
Skateboard facilities: 1
Everything: 2
Rollerblading: 1
River access: 3

3. Do people visit the river much? If yes, what for? (walking, dog walking, off-road driving, jogging, to be in nature, fishing, swimming, etc)

Visit much:
Yes: 3
No: 3
In the middle: 1

For what:
Boating: 5
Biking: 1
Fishing: 5
Swimming: 3
Walking: 2
Snowmobiles: 1
Walking dogs (on nearby roads): 1

4. Are there other paths in town to walk on? If yes, where? Do they get much use?

Other paths:
Yes: 4
No: 2

Where:
Sidewalks/streets: 6
Athletic field circuit: 2

Much use:
Yes: 5
No: 0

5. Do you think a greenway—a riverwalk along the Hoosic—is a good idea or a bad idea? What would the benefits be? Are there any drawbacks?

   Good idea:
   - Yes: 7
   - No: 0

   Benefits:
   - Health/Wellness: 5
   - Recreation: 4
   - Community development: 3
   - Tourism: 4
   - Environmental appreciation: 3

   Drawbacks:
   - Liability concerns: 2
   - Littering: 1
   - Property damage: 1
   - Maintenance: 2
   - Insurance: 1
   - Racing bikes: 1
   - Cost/Raising money: 2
   - Opposition from abutters: 2

6. How do you think the community will react to this project? Do you anticipate any opposition? Do you think people will welcome it?

   Community reactions:
   - Positive: 6
   - Negative: 0
   - Apathetic: 1

   Concerns:
   - Same as drawbacks described above

7. Do you think it would be valuable to have the trail connect the Town and the Village, or should it be primarily centered in the Village?

   Town-Village connection value:
   - Yes: 7
   - No: 0

8. If a trail could extend either north or south of the Village, which direction is preferable? Why?

   Direction:

North: 0
South: 4
Both: 1

Reasons:
Natural beauty: 3
Hoosick Falls Central School accessibility: 1
Logistics: 1

9. Due to your knowledge of the area, are there any natural or historical points you would like to see highlighted on an interpretive trail, which is a path that is designed in respect to the surrounding ecology and history?

Walter A. Wood Factory: 2
Grandma Moses: 1
Louis Miller Historical Society: 1
Bennington Battle: 1
Birds: 2

10. Is there any tourism here? If yes, why do people come to Hoosick Falls? Do you think this trail might attract visitors from out of town? Would increased tourism be desirable?

Tourism:
Yes: 2
Minimal: 5

Why people come to Hoosick Falls:
Downtown revitalization soon: 1
Historic features: 5

Trail attract visitors:
Yes: 5
No: 1

Increased tourism desirable:
Yes: 7
No: 0

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New York State Consolidated Laws – Environmental Conservation Law

Water Resources (Article 15)
TITLE 23
RIVER IMPROVEMENT

S 15-2301. Legislative purpose.
The purpose of title 23 of this article is to provide a method by which a project may be undertaken to improve the channel, construct dikes or regulate the flow of a river for the protection of life, property and the public health or welfare from damage by floods, such work in general to be done at the expense of the owners of the properties and of the political subdivisions of the state benefited thereby.

Water Pollution Control (Article 17)

"This permit may also apply to activities identified under 40 CFR Part 122, subsection 122.26(b)(15) which are also referred to as "NPDES Phase 2 small construction activities" involving soil disturbances of between one (1) and five (5) acres." (GP-02-01, page 4 of SPDES General Permit for Stormwater Runoff from Construction Activity)

Freshwater Wetlands (Article 24)
TITLE 7
FRESHWATER WETLANDS REGULATIONS

S 24-0701. Permits.
Activities subject to regulation shall include any form of draining, dredging, excavation, removal of soil, mud, sand, shells, gravel or other aggregate from any freshwater wetland, either directly or indirectly; and any form of dumping, filling, or depositing of any soil, stones, sand, gravel, mud, rubbish or fill of any kind, either directly or indirectly; erecting any structures, roads, the driving of pilings, or placing of any other obstructions whether or not changing the ebb and flow of the water; any form of pollution, including but not limited to, installing a septic tank, running a sewer outfall, discharging sewage treatment effluent or other liquid wastes into or so as to drain into a freshwater wetland; and any other activity which substantially impairs any of the several functions served by freshwater wetlands or the benefits derived therefrom which are set forth in section 24-0105 of this article. *These activities are subject to regulation whether or not they occur upon the wetland itself, if they impinge upon or otherwise substantially affect the wetlands and are located not more than one hundred feet from the boundary of such wetland* (italics added). Provided, that a greater distance from any such wetland may be regulated pursuant to this article by the appropriate local

government or by the department, whichever has jurisdiction over such wetland, where necessary to protect and preserve the wetland.

S 24-0703. Applications for permits.

Any person proposing to conduct or cause to be conducted a regulated activity upon any freshwater wetland shall file an application for a permit with the clerk of the local government having jurisdiction or the department, as the case may be. Review of the application shall be made by the local government or the commissioner, as the case may be, in accordance with applicable law and such rules hereunder as may be adopted by the commissioner. Such application shall include a detailed description of the proposed activity and a map showing the area of freshwater wetland directly affected, with the location of the proposed activity thereon.

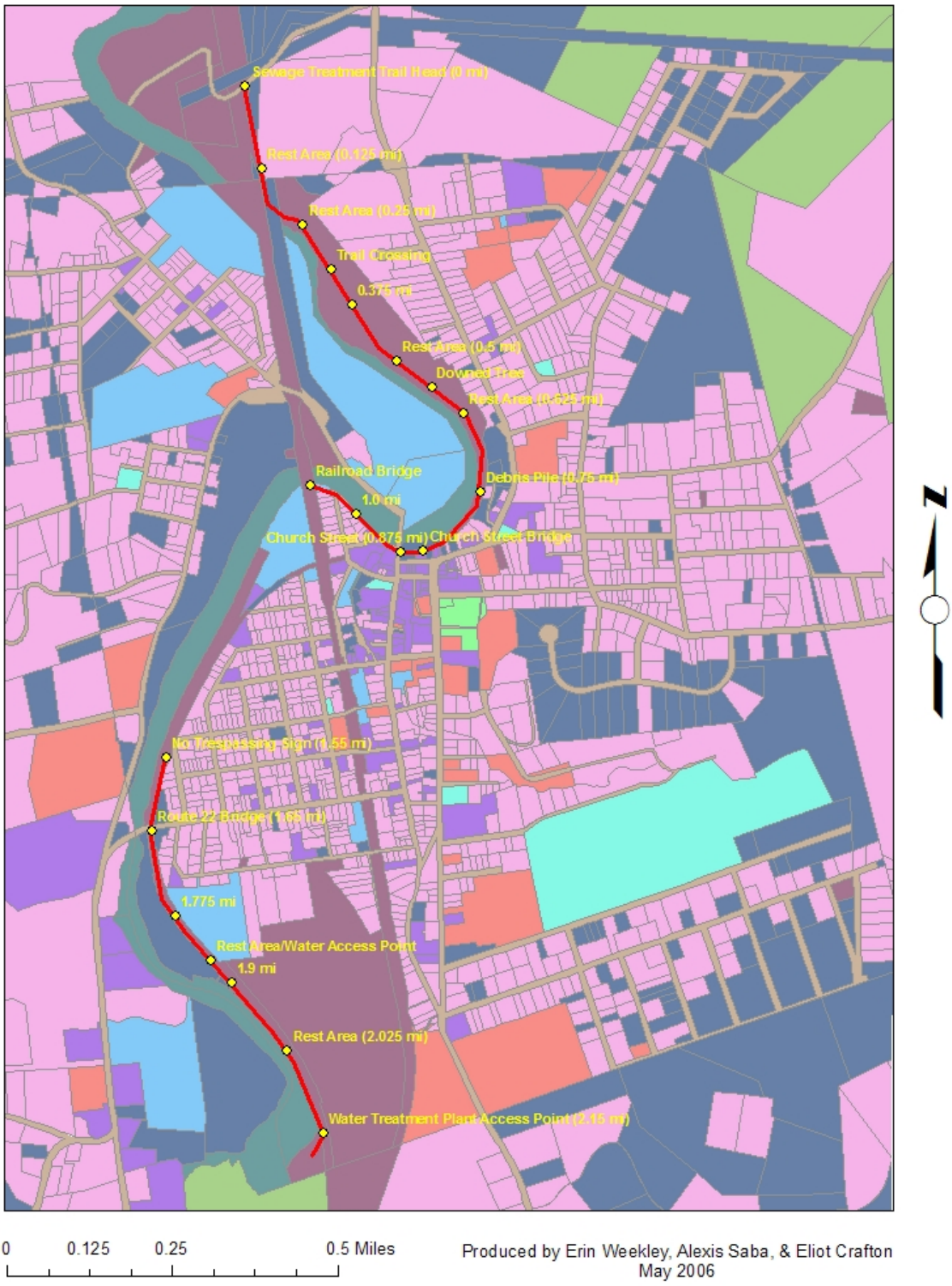

Figure 1. Enlarged map of the proposed pathway from the Sewage Treatment Plant to the Water Treatment Plant in Hoosick Falls, NY. The background shows land uses for the area.

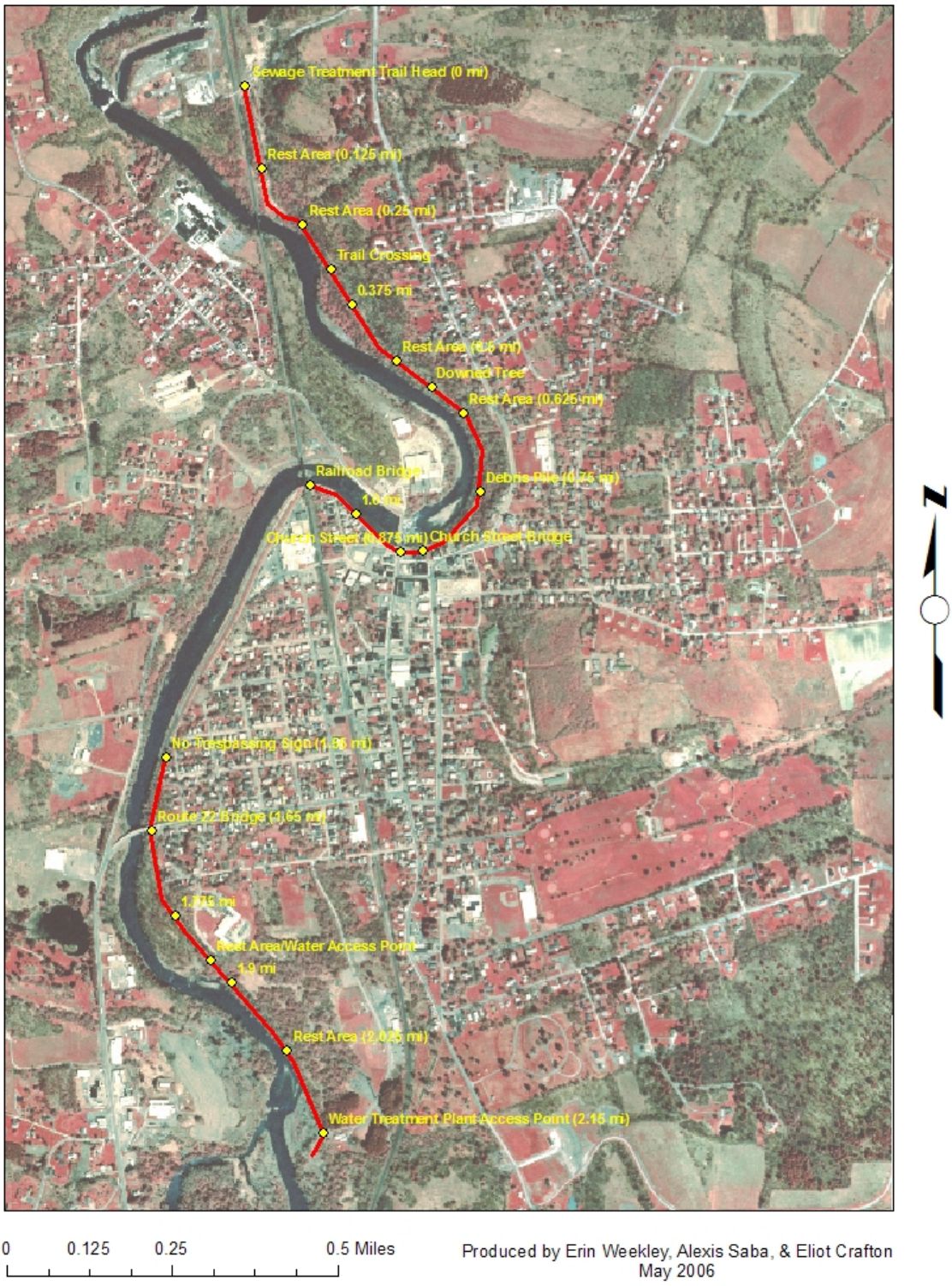

Figure 3. Enlarged map of potential access points, rest areas, and points of interest.