

CHAPTER III

ENVIRONMENTAL SETTING AND EXISTING CONDITIONS

Natural and cultural landscape features and life-style and leisure preferences guide the planning and design of new recreational resources. The following sections summarize existing demographic and landscape features located in the Finger Lakes Region that were considered in the Black Diamond Trail's plan development.

REGIONAL SETTING

Location

The Black Diamond Trail is located in the Finger Lakes State Parks Region, one of 11 state park regions within the State of New York. The Finger Lakes Region is bounded by Lake Ontario to the north and the state of Pennsylvania to the south, and includes Wayne, Ontario, Yates, Seneca, Cayuga, Tompkins, Schuyler, Steuben, Chemung, and Tioga counties.



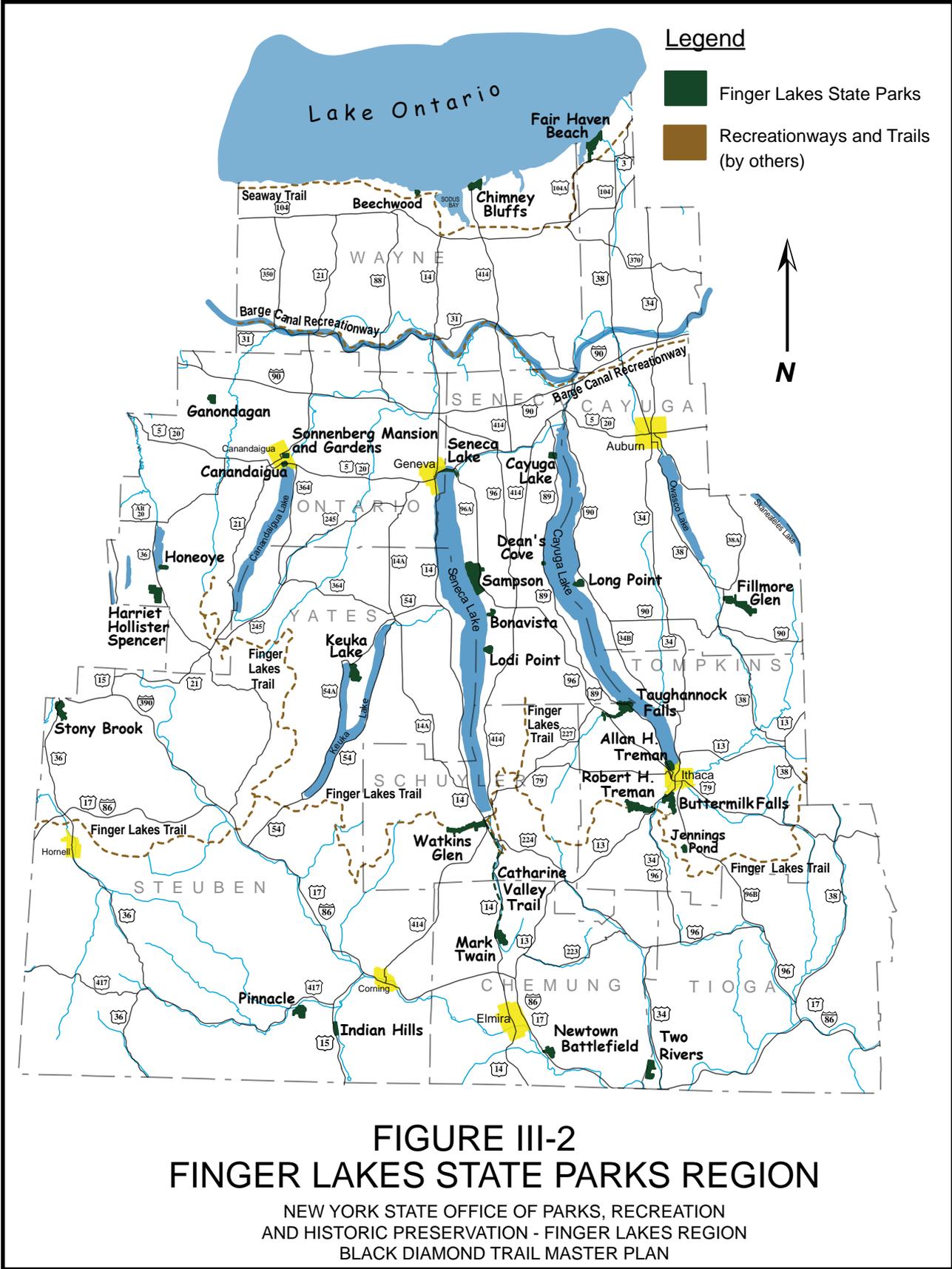
The Finger Lakes Region is home to nearly 700,000 residents. It is located within a one- to three-hour drive of the state's three largest upstate cities—Buffalo, Rochester and Syracuse. The cumulative population of these three cities is 660,000 people. While much smaller in size, the cities of Elmira, Ithaca, Auburn and Geneva, with a cumulative

population of 102,418 people, make up the urban areas within the state park region.

Each year over 2.5 million visitors enjoy the wide variety of recreational opportunities provided by the 29 Finger Lakes regional state park facilities illustrated on Figure III-2 on the following page. The background and ethnicity of the patrons that visit the region are as diverse as the State's population. International travelers are also found in significant numbers visiting the Region's park facilities.

Physical Characteristics of the Region

The Finger Lakes geographical region is an area that was carved by ancient glaciers leaving long, deep lakes surrounded by rolling hills and striking waterfalls. The Finger Lakes landscape encompasses hundreds of perennial and intermittent streams, unique species of plants and animals as well as significant wildlife refuges. The region is scattered with hundreds of rocky gorges and waterfalls, which include the striking 215-foot freefall waterfall and rock amphitheater within Taughannock Falls State Park. Many of the gorges display the rock underlay formed 408 to 360 million years ago during the Devonian period of geologic history.



Access

Centrally located in the state, the Finger Lakes Region is served by several of the interstate highway systems that pass through New York. East-west travel to the region is via the New York State Thruway (I-90) in the northern part of the region and the Southern Tier Expressway (I-17, future I-86) in the southern portion. North-south travel to the region is on Interstate Route 81 from the east and Interstate Route 390 from the west. New York State Routes 13, 34, 79, 89, and 96 are primary state highways within the Finger Lakes Region that provide direct access to the Black Diamond Trail.

Recreational Opportunities

The Finger Lakes Region contains numerous natural and cultural resources that offer a variety of year-round leisure-time opportunities. Outdoor-recreational activities include hiking, biking, jogging, camping, horseback riding, mountain biking, water skiing, sailing, boating, fishing, bird watching, swimming, hunting, skiing, snowshoeing and snowmobiling. Throughout the region, world-class fishing is supported by freshwater lakes and streams.

Miles of hiking and biking trails provide access to stunning vistas of lakes, gorges and sculptured hills. The Finger Lakes Region contains miles of snowmobile, cross-county ski and snowshoe trails that traverse the snow-covered countryside. The year-round trail opportunities make the region a popular vacation destination.

Culturally-based trails are also an integral part of the recreational opportunities in the Region. The Canandaigua, Cayuga, Keuka and Seneca Wine Trails offer a plethora of opportunity to learn about viticulture (grape growing) and wine making in the Finger Lakes Region. The scenic drives associated with exploring the wine country appeal to visitors from around the world.



Under New York State's Scenic Byway program, networks of designated highways provide intermodal access to the state's unique scenic, natural, recreational, cultural, historical and archaeological resources. Within the Finger Lakes Region, three scenic byways give visitors opportunities to explore resources adjacent to Lake Ontario, Cayuga Lake and the scenic, rolling farmlands of central New York.

The Seaway Trail, skirting Lake Ontario's south shore through the region, is promoted as an "off-the-beaten-path" experience with the natural and cultural landscape of New York's St. Lawrence River and Great Lakes communities. The trail is also designated a National Scenic Byway.

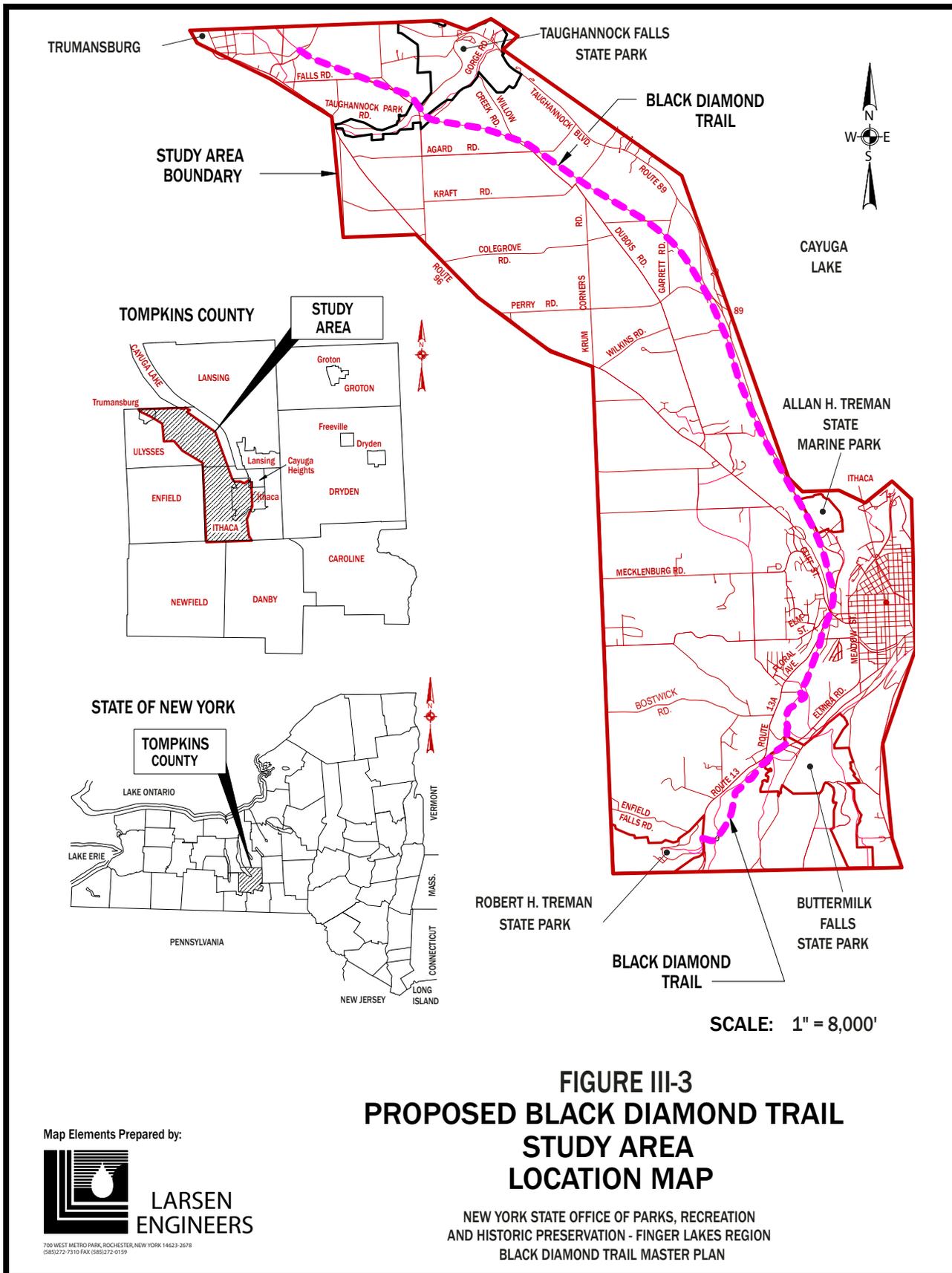
Along its 86-mile route, the Cayuga Lake Scenic Byway offers visitors opportunities to learn about the unique geologic history of the Finger Lakes Region, experience the Cayuga Lake vineyards, and visit historic villages and hamlets.

The New York State Route 90 Scenic Byway's 50-mile course passes through rolling upstate farmland in Cayuga and Cortland Counties, Cayuga Lake waterfront communities and central New York's magnificent Montezuma Wetlands Complex.

The Finger Lakes Region can also be experienced from its wealth of water resources. Most notable is the New York State Canalway System. Within the Finger Lakes Region the canalway includes a portion of the Erie Canal and the Cayuga-Seneca Canal. In addition to the recreational boating opportunity afforded by the canal, visitors can get a unique historical perspective of the communities that sprouted up along the canal to take advantage of the expanded trade route created by the boating waterway.

Statewide Trail and Greenway Systems

Interest to establish networks of hiking and biking trail systems across the state has been growing for over 30 years. Major trail corridors have developed through the northern and southern portions of the Finger Lakes Region.



**FIGURE III-3
PROPOSED BLACK DIAMOND TRAIL
STUDY AREA
LOCATION MAP**

NEW YORK STATE OFFICE OF PARKS, RECREATION
AND HISTORIC PRESERVATION - FINGER LAKES REGION
BLACK DIAMOND TRAIL MASTER PLAN

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Through the north, paralleling the State Canalway System, is the Canalway Trail. Of the 348 miles of multi-use trail to be developed, approximately 230 miles are now available for hiking and biking. When completed the trail will be the longest multiple-use trail in the United States. The Erie Canal trail system has also been designated a National Heritage Corridor, elevating the significant part it played in the nation's history.

The North Country National Scenic Trail, a planned 4,000-mile hiking trail that will link communities and wilderness areas across seven northern states, passes through the southern portion of the region. The existing Finger Lakes Trail network is the designated portion of North Country Trail in the region.

LOCAL SETTING

Study Area Boundaries

For purposes of the draft Master Plan and Environmental Impact Statement, a study area was defined to focus the impact analysis on the local resources associated with developing the Black Diamond Trail. The area is illustrated in Figure III-3 on the previous page.

One of the primary functions of the trail will be to connect the major state park resources in Tompkins County by an off-road trail system. The anticipated route to accomplish the off-road link objective helped to define the study area, focusing the study on that portion of the county proposed to host the trail.

The study area boundaries are defined by the village of Trumansburg to the north, Robert H. Treman State Park and Buttermilk Falls State Park to the south, N. Y. S. Route 96 and Sheffield Road to the west, and Cayuga Lake, N. Y. S. Route 13 and Buttermilk Falls State Park to the east. For purposes of this section, the study area will be referred to as the corridor.

Land Use

The existing land uses within the Black Diamond Trail corridor are diverse, ranging from agriculture to a developed urban center. In the immediate vicinity of the proposed trail route in the northern portion of the corridor, primary land uses include agriculture, abandoned agriculture, and rural and suburban residential. Land use in the city of Ithaca is representative of a multi-functioning urban center with mixed land-use patterns. The land uses in the southern portion of the corridor along the Cayuga Inlet Creek and flood control channel are public recreation, preserved natural areas, suburban residential and business.



Landscape south of Taughannock Falls State Park encompassing open fields and forest.

Land Ownership

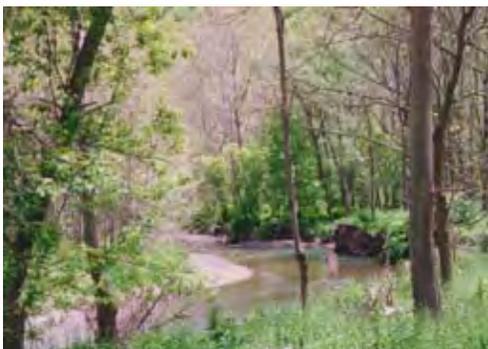
Land in the Black Diamond Trail corridor is owned by a mix of public and private entities and individuals. In the northern portion of the corridor, the vast majority of the land immediately adjacent to the proposed trail alignment is under private ownership. Local governmental land holdings are significantly greater in the southern portion of the trail and include areas like Cass Park and the future Southwest Natural Area Park, both City of Ithaca facilities. State governmental land holdings within the trail corridor, which the trail is planned to connect, include Robert H. Treman State Park, Buttermilk Falls State Park, Allan H. Treman State Marine Park, and Taughannock Falls State Park under the New York State Office of Parks, Recreation and Historic Preservation's (OPRHP) jurisdiction.

The majority of the property for the Black Diamond Trail will be owned, either through fee, easement or memoranda of understanding, by OPRHP. OPRHP, the City of Ithaca and the Town of Ithaca have worked together through the years to secure segments of the trail alignment to develop a coordinated trail network through the municipalities to connect neighborhoods to state park facilities.

Landscape Resources

The Black Diamond Trail corridor contains many of the landscape features characteristic of the Finger Lakes region including hillside streams, rolling hills, gorges and waterfalls. The trail will be constructed on or within areas of undeveloped stream bottomland, urban flood control land, and abandoned railroad land. Of the trail’s roughly 79,200 linear feet (approximately 15+miles) of coverage, 42,768 linear feet (54%) borders natural woodland; 27,720 linear feet (35%) borders active or abandoned agricultural land; 6,336 linear feet (8%) borders urban land uses; 1,584 linear feet (2%) borders low-density residential areas; and 792 linear feet (1%) borders wetland areas or perennial streams.

The segment of the Black Diamond Trail that will connect Robert H. Treman State Park to Buttermilk Falls State Park will pass through stream bottomland largely undeveloped with pockets of active and inactive agricultural fields. This area is within the floodplain of the meandering Cayuga Inlet which is interspersed with open field, floodplain forest, and wetland habitats. Soils within the area are predominantly alluvial, and generally well-drained.



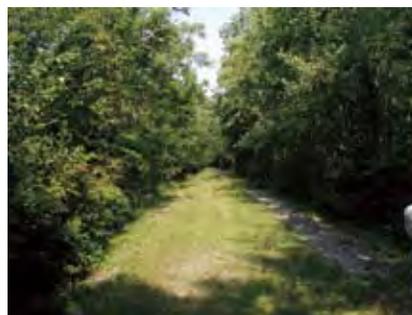
Cayuga Inlet

The portion of the Black Diamond Trail from Buttermilk Falls State Park to Cass Park/Allan H. Treman State Marine Park will be developed adjacent to the Cayuga Inlet Creek and the Cayuga Inlet Flood Control Channel. This section will also access the City of Ithaca’s new Southwest Natural Area Park. Much of this segment of the trail corridor includes land that was created from fill or draining of wetlands. The land is referred to in soil surveys as “made land.”



Cayuga Inlet Flood Control Channel

The Allan H. Treman to Taughannock Falls portion of the trail will occupy former railroad property. The landscape in the area of the trail includes hillside forest, shrubland and active and abandoned agricultural land. Bedrock outcroppings are visible along this portion of the trail, predominately located in the ravines and glens of the many streams that flow in an easterly direction towards Cayuga Lake. Soils along this area are of the Hudson-Cayuga association and are generally moderately well-draining to well-draining located on steeper slopes.



Hedgerow vegetation along the abandoned railroad corridor

The ground slope throughout the trail corridor varies greatly. Eighty-five percent of areas surrounding the trail alignment have a slope between 0-10%, ten percent have a slope of 10-

15%, and five percent have slopes greater than 15%. In the area of steepest slopes paralleling Cayuga Lake, the trail alignment will follow the former Lehigh Valley rail line that was graded so locomotives could ascend with relative ease from the Ithaca Valley to the higher elevations between Seneca and Cayuga Lakes, a grade change of some 600 feet. The rail line's slope, perpendicular to the valley slope, is generally less than 5%.

Hydrologic Resources

The Black Diamond Trail is located within several of Tompkins County's watersheds including Cayuga Inlet Creek, Taughannock Creek, West Cayuga Lakeshore (north) and West Cayuga Lakeshore (south). The Cayuga Inlet Creek watershed encompasses 58,738 acres on the west side of the Cayuga Inlet Creek from the Cass Park/Allan H. Treman State Marine Park area south through Robert H. Treman State Park. The West Cayuga Lakeshore (south) watershed is comprised of 13,533 acres and includes the west shoreline of Cayuga Lake from the Cass Park/Allan H. Treman State Marine Park area to just south of Taughannock Falls State Park, adjacent to Gorge Road. The Taughannock Creek watershed encompasses 14,289 acres along the Taughannock Creek gorge area to Cayuga Lake. The West Cayuga Lakeshore (north) watershed comprises 2,794 acres along the west shoreline of Cayuga Lake, north of Taughannock Falls State Park through the village of Trumansburg.

The depth to the water table varies widely within the trail corridor, but in general the water table is high in the area within the Cayuga Inlet Valley and low in areas within the northern portion of the trail corridor through the Town of Ulysses, along the western hillside slope.

The preferred alignment of the Black Diamond Trail within the corridor will cross 100- and 500-year floodplain areas as defined by the Federal Emergency Management Agency. The areas within the known 100-year floodplain are near or adjacent to the Cayuga Inlet and an intermittent stream, which is a tributary to Enfield Creek in Robert H. Treman State Park. The areas within the known

500-year floodplain are in the City of Ithaca, particularly within the Cass Park/Allan H. Treman State Marine Park area. Also, areas along the Cayuga Inlet Creek and Buttermilk Creek near the northwestern portion of Buttermilk Falls State Park, south of the City of Ithaca, are identified as being within the 500-year floodplain.

Along its 15-mile course, the Black Diamond Trail will cross numerous perennial and intermittent streams. The major stream courses within the corridor include the Cayuga Inlet, Cliff Park Brook, Linderman Creek, Williams Brook, Indian Creek, Glenwood Creek, Willow Creek, Taughannock Creek, and Trumansburg Creek.



Indian Creek

The National Wetland Inventory identifies several wetland areas within the Black Diamond Trail study area. These federal jurisdictional wetland areas are located in the southern portion of the Black Diamond Trail. They include small wet meadow or marsh areas adjacent to Cayuga Inlet Creek and Negundo Woods, a floodplain forest, and are located between Robert H. Treman State Park and Buttermilk Falls State Park.

The New York State Department of Environmental Conservation (NYSDEC) classifies freshwater wetlands according to size, function, value and benefit. Areas which are 12.4 acres or larger and display significant wetland function, value and benefit are considered to be under the protection of the NYSDEC. Prior to disturbing these areas, an appropriate environmental review from the NYSDEC is required. There are five NYSDEC

regulated wetland areas within the Black Diamond Trail study area.

These areas include:

- ◆ Class I wetland area located adjacent to the lake in the City of Ithaca, at the biological station north of Newman Golf Course.
- ◆ Class I wetland area located adjacent to Fall Creek in the City of Ithaca Fuertes Bird Sanctuary.
- ◆ Class I wetland area located north of the N. Y. S. Routes 13/13A split.
- ◆ Class I wetland area located south of the N. Y. S. Routes 13/13A split.
- ◆ Class II wetland area located south of Iradell Road, just west of Trumansburg Road (N. Y. S. Route 96).

The NYSDEC is also considering an application to designate the “Hog Hole” in Allan H. Treman State Marine Park as a state-regulated wetland.

The majority of the wetlands listed above are located a significant distance away from the proposed trail alignment. Trail development is adjacent to, but not within the wetlands located south of the N. Y. S. Rte. 13/Rte. 13A intersection.

Biological Resources

The Black Diamond Trail corridor is comprised of varying amounts and types of vegetative cover. In the northern portion of the corridor through the Town of Ulysses, the vegetative cover along the proposed trail alignment on abandoned rail line includes tall grasses and shrubland along with hedgerow, woodland and agricultural-crop cover. The southern portion of the Black Diamond Trail within the Cayuga Inlet Valley, outside the urbanized area of the city of Ithaca, has forested canopies of cottonwoods, willows and sycamores. The mix of vegetation types supports the wide variety of wildlife indigenous to the area.

A biological resources search and sensitivity study was conducted for the Black Diamond Trail study area in 1993. The study was prepared to assist OPRHP in developing the trail master plan and assessing the trail’s impacts. The study located significant biological resources that could be disturbed by trail development and pointed out features that could be incorporated to improve the quality and interest of the trail experience.

The biological resources study area included land within one-half mile of several proposed trail alignments. The first phase of the study included a thorough literature search to identify historical sightings of plant and animal species within the corridor, filtering for the species that are currently classified as rare, threatened, endangered or sensitive. Several classified plant species and two animals were historically recorded in the study area.

Secondly, using aerial photographs, the study mapped general ecological community types following the New York State Natural Heritage Program’s system documented in “Ecological Communities of New York State”, by Carol Reschke (1990). Five occurrences of rare or exemplary natural communities were mapped.

The third step in the search was completed in 1997. The preferred trail alignment was field surveyed by botanist F. Robert Wesley and the New York State Natural Heritage Program to confirm if the species identified in the sensitivity study currently exist within the proposed trail alignment.

Two locally significant natural communities and two plant species, which are considered rare, were field located within the project area, specifically between Robert H. Treman State Park and Allan H. Treman State Marine Park. The locally significant communities include two remnant floodplain forests, Negundo Woods located in the Cayuga Inlet Valley in the Southwest Natural Area Park and an unnamed floodplain forest located in the Cayuga Inlet Valley, south of N. Y. S. Route 13 and west of the Norfolk Southern rail line.

The Negundo Woods habitat is a rich floodplain forest with many old records of rare plant species

and is considered the best floodplain forest remnant in the area. The area is now owned by the City of Ithaca.

The unnamed floodplain forest also contains a forest of very high quality. Ownership includes both public, OPRHP, and private interests.

The two rare plant species located within the trail corridor include the Kentucky coffee tree (*Gymnocladus dioica*) and green dragon (*Arisaema dracontium*). The Kentucky coffee tree was found in two locations in the southern portion of the trail corridor. Historically, the tree had been found in only one location. The green dragon was identified throughout the floodplain of the Cayuga Inlet.

The preferred trail alignment also traverses through and is adjacent to federal and state freshwater wetland areas, particularly in the southern portion of the trail corridor. The majority of the identified wetland areas consist of floodplain forests.

The forests most commonly consist of eastern cottonwood (*Populus deltoides*), American sycamore (*Platanus occidentalis*) and willow (*Salix, spp*) trees, with varying amounts of ostrich fern (*Matteuccia Struthiopteris*) groves on the forest floor. Other wetland areas present within the southern portion of the trail corridor are best described as wet meadow areas.



Ostrich fern grove

Field inventorying also identified invasive, non-native plant species throughout the corridor. Along the northern portion of the trail alignment, between the City of Ithaca and the Glenwood Heights area in the Town of Ulysses, Asiatic bittersweet

(*Celastrus orbiculatus*) was identified in a stand of deciduous trees adjacent to the trail. The weed is progressively taking over this locally unique natural area, adversely affecting native plants and animals indigenous to the area.

Also extensively rooted throughout the trail corridor is non-native honeysuckle (*Lonicera spp.*), autumn olive (*Elaeagnus umbellata*), multi-flora rose (*Rosa multiflora*) and Norway maple (*Acer platanoides*).

The Unique Natural Areas (UNA) within Tompkins County are sites identified as possessing particular environmental and/or biological qualities that require or deserve special attention for preservation and protection. According to the Tompkins County Environmental Management Council, there are ten Unique Natural Areas within the trail corridor.

The following areas are located in the corridor segment between Taughannock Falls State Park and Allan H. Treman/Cass Park.

- ◆ The Taughannock Gorge (334 acres): includes the large water fall, rock cliffs, streams, streambed, and forested slopes.
- ◆ The Willow Creek Gorge area and adjacent forested slopes (256 acres): includes steep-sided gorge and adjacent forested slopes. This area contains a diverse setting of forest tree species, with unique herbaceous cover.
- ◆ The Maplewood Glen and Lake Slopes area (208 acres): has excellent, undisturbed oak woods and other high-quality forest examples.
- ◆ The Glenwood Ravine and Lake Slopes area (246 acres): has excellent, undisturbed oak woods and other high-quality forest examples.
- ◆ The Indian Creek Gorge and Lake Slopes area (226 acres): contains shrub thickets and a young forest growing on abandoned agricultural fields. Furthermore, the best forests are in the steep gorges following three small streams, located near Indian Creek.

The next UNA is located entirely within Allan H. Treman State Marine Park.

- ◆ The Hog Hole area (39 acres): floodplain forest and wetland with a lagoon. Rare and scarce plants are limited, but the site is diverse. Hackberry, a locally scarce plant, is found and the number of other species present is unusually high. This area provides lakeside vegetation and habitat for birds. The area is known for its richness of bird and fish fauna.

The next two areas are located in the corridor segment between Allan H. Treman/Cass Park and Buttermilk Falls State Park.

- ◆ The Octopus Cliffs area (46 acres): steep, forested slope containing many small gorges with cliffs and streams. The soil within this area is shallow with bedrock outcroppings. The Kentucky coffee tree, a locally rare species, persists here.
- ◆ The Negundo Woods area (28 acres): fertile and moist floodplain forest with some large trees. This area is located east of the channelized portion of the Cayuga Inlet, and contains deep water with gravel bars, which has been noted as an important fish site and bird area.

Located between Buttermilk Falls and Robert H. Treman State Parks are the last two UNAs.

- ◆ Larch Meadows area (39 acres): remnant floodplain forest. Area has degraded over the years, however it is still home to a rare marsh plant.
- ◆ Cayuga Inlet Floodplain (182 acres): floodplain forest dominated by sycamores and cottonwood with marsh areas present. Home to several locally rare plants and one State listed species.

With the wide variety of ecological habitats present in the trail corridor, there are also an equally large number of wildlife species present, from insect to large mammal. They are all well represented in

the trail corridor study area. The literature search for the biological sensitivity study noted two rare animal species occurrences within the study area, the tawny emperor butterfly (*Asterocampa clyton*), last seen in 1993, and the bog turtle (*Clemmys muhlenbergii*), last seen in 1940.

The tawny emperor butterfly hosts on the hackberry tree (*Celtis occidentalis*), a locally scarce species. Pockets of the tree are found within the Cayuga Inlet Valley corridor. The 1993 sighting of the butterfly was outside the preferred trail alignment.

The bog turtle is New York's smallest turtle reaching a maximum length of 4 1/2 inches. Because the turtle has not been located within the Cayuga Inlet since 1940 and significant alterations have occurred to the habitat areas preferred by the turtle, it is believed to have moved out of the area.

The Black Diamond Trail corridor is located in the Atlantic flyway for migrating birds. The region, including the Black Diamond Trail corridor, is an important resting area for many different species of migrating birds. The area, and more specifically the trail corridor, provides a variety of habitats (open water, sheltered water, cattail marsh, wet meadow, bottom land, woods, streams, grass lands, and shrubland), which draws numerous species of migrating birds and butterflies.

Historical/Cultural Features

The proposed route of the Black Diamond Trail travels through areas that reveal past and present cultural settings of Tompkins County. Some of the historic and present-day cultural features of the trail corridor include exposed ballast from the abandoned Lehigh Valley Railroad tracks and old agricultural fences that paralleled the rail bed during the railroad era, the Cayuga Nature Center an ecological learning center housed in an early 20th century tuberculosis preventorium, views of the Cargill Salt Mine, landscapes of agricultural land use to successional forest, views of Ithaca College and Cornell University, urban setting of the City of Ithaca, the Coreogonol Indian Settlement historical marker, and the Cayuga Inlet Creek fish ladder.



Remains of railroad trestle crossing Glenwood Creek

Pratt & Pratt Archaeological Consultants, Inc. conducted a Stage 1A Cultural Resource Survey for the trail corridor in 1993. The goals of the Stage 1A cultural resource evaluation were to identify any known historic properties/sites within an area three miles to either side of several potential trail routes, to predict the probability of finding additional historic properties/sites within the various trail alignments, to identify the ecological parameters which may effect the sampling procedures during the Stage 1B field inspection, and to provide a historical basis from which to evaluate the significance of any historic property/site.

The Pratt and Pratt study documented thirty-four historic property sites within the six-mile-wide study area from Robert H. Treman State Park to Buttermilk Falls State Park. From Buttermilk Falls State Park to Allan H. Treman State Marine Park, the study identified fourteen prehistoric property sites and seven historic property sites. This study also noted ten prehistoric property sites and ninety-six historic property sites within their study area from Allan H. Treman State Marine Park to the Cayuga Street trailhead in the village of Trumansburg.

Within the study area boundary selected for the Master Plan/DEIS (approximately one-half mile on either side of the proposed trail alignment), eight prehistoric sites were documented. Three of the

sites where traces of occupation were found are located on points of land along the west shore of Cayuga Lake. The five other sites are located in the Cayuga Inlet valley corridor.

Historic properties with the trail's study area include remnants of railroad operation, mills, tradesmen's shops, school houses and boat landings.

At the time the Pratt & Pratt sensitivity study was completed, the majority of the property involved in the proposed trail alignment was still privately owned. Therefore, an on-site assessment was not completed. Once OPRHP has finalized the master plan and corridor property is secured, a Stage 1B field survey will be needed in the areas identified in the sensitivity study as having a medium to high probability of having resources present.

The preferred trail name, the Black Diamond Trail, has historical/cultural significance throughout the entire trail corridor. The name "Black Diamond" originates from the locomotive that powered the passenger train that traveled through the Ithaca area over a century ago. The northern portion of the trail is proposed to follow the railroad bed of the former Black Diamond passenger train, owned and operated by the former Lehigh Valley Railroad. This elegant train provided its passengers with



Parlor observation car "Seneca" with lavishly appointed Victorian decor. It brought up the rear of the 1896 Black Diamond Express. (Courtesy of the Dewitt Historical Society of Tompkins County.)

breathtaking views of natural scenery associated with the Cayuga Lake area. During the railroad era, this area was heralded as the “Switzerland of America.” The Black Diamond train obtained its name from the Lehigh Valley Railroad’s earliest means of revenue, transporting anthracite coal, which was then known as “black diamonds.”

Agricultural Resources

The proposed alignment of the Black Diamond Trail through the Town of Ulysses traverses through New York State registered Agricultural District #2. Agricultural districts are locally formed to protect valuable agricultural land from non-agricultural uses. The regulations are contained in the New York State Agricultural and Markets Law, Article 25-AA, Section 303 and 304. One provision of the law is the requirement that all State-funded projects be examined for their potential impact on land within agricultural districts before they are approved.

The linear extent of trail within the agricultural district is 4,700 feet. The agricultural land use adjacent to the trail corridor is predominantly crop farming including grains and hay. At the time the plan was prepared, no animal husbandry use existed.

Additionally, land-use trends in the portion of the Town of Ulysses that is proposed to host the Black Diamond Trail have been gradually shifting away from farming to rural residential. Where larger parcels of land have been acquired from farmers some of the lands remain in hay production with the intent to retain grassland habitat.



Hayfield adjacent to trail corridor

Scenic Features

Along the entire Black Diamond Trail corridor, scenic overlooks or vistas reflect the natural beauty of the Finger Lakes Region. There are many pleasing views at each stream crossing as well as at various higher-elevation points, which overlook Cayuga Lake, Allan H. Treman State Marine Park, and agricultural/natural hillside areas. Spectacular waterfalls and numerous small gorges as well as open fields, wet meadows, and floodplain forests also line the proposed Black Diamond Trail.



View of Cayuga Lake from trail corridor

The southern valley forest segment of the trail, between Robert H. Treman State Park and Buttermilk Falls State Park, parallels the course of the Cayuga Inlet as it weaves through the Cayuga Inlet Valley. Some of the scenic features of this trail segment include a floodplain forest canopy of stately cottonwood, willow and sycamore trees, and regenerating meadows of former agricultural fields.

The trail traverses through the City of Ithaca—the urban core of Tompkins County. Much of the city was built on the vast wetland that occupied the Cayuga Inlet valley. The wetland complex was filled in over the years to accommodate urban development. Scenic features along this portion of the trail are man-made and include the flood control channel and levee and the fish ladder.

The northern portion of the Black Diamond Trail includes hillside glens as well as a towering canopy of maple, hemlock, and hickory trees that line the trail route. Although the trail traverses alongside NYS Route 89 for the first 3 miles of the segment, the thick woods provide a sense of seclusion.

Various hillside gorges and glens, like Indian Creek, Glenwood Creek and Taughannock Creek ravines, periodically cross the trail, and provide views of the unique geology of the area.



Upper gorge at Taughannock Falls State Park

Recreational Features

The Black Diamond Trail will provide for a variety of trail-based recreational opportunities including biking, walking, cross-country skiing, snowshoeing, jogging, and in suitable areas, in-line skating and horse-back riding. By nature of the relatively flat terrain that the trail will utilize, it will be a recreational resource for people with all levels of skill and ability including people with disabilities.

One of the objectives for the Black Diamond Trail is to connect the four state park facilities in the area—Taughannock Falls State Park, Allan H. Treman State Marine Park, Buttermilk Falls State Park, and Robert H. Treman State Park. Each of these state parks provides a variety of recreational activities and scenic natural features.

At the northern end of the trail, Taughannock Falls State Park provides swimming in Cayuga Lake and a playground, picnic areas, pavilions and fishing piers along the park's lakeshore. Hiking trails along the 300+-foot high gorge rim and to the base of the 215-foot high falls provide inspiring experiences. The marina has seasonal and transient docking spaces and a 3-lane boat launch. Winter-time activities include ice skating ponds and a sledding

slope in addition to cross-country ski opportunities. CCC-era cabins as well as tent and trailer sites are provided for three-season camping.



Swim area at Taughannock Falls State Park

Located in the city of Ithaca at the southwest end of Cayuga Lake, Allan H. Treman State Marine Park is one of the largest inland marinas in New York State. The marina provides 399 seasonal and transient slips for sail- and power boats up to 51-feet long. The ability to accommodate a variety of sizes and types of boats makes it a valuable resource along the Erie Canalway system. The park also has an 8-lane boat launching ramp, comfort stations, as well as lake and inlet fishing opportunities. A small picnic area and trails located in the northern half of the park provide space to relax along the lake or bird watch in the number of different habit types located in the park.



Allan H. Treman State Marine Park

Just outside the City of Ithaca’s southern corporate boundary, Buttermilk Falls State Park offers swimming in a natural pool at the base of the main falls. Two and three-quarter miles of scenic hiking trails follow the Buttermilk Creek gorge past the creek and through the woodlands of the park. In the upper part of the park, the Lake Treman trail, 1-1/2 miles long, offers opportunities to watch the life-cycle of the resident beavers. On the 1-mile Larch Meadow Trail the remnant swamp-forest complex gives visitors the sense of what the area looked like before early-American settlers came to the area. The park also offers camping sites and CCC-era one-room cabins on the eastern hillside overlooking the city of Ithaca. Pavilions and picnic areas are located in both the upper and lower areas of the park. A portion of the Finger Lakes Trail passes through the southern end of the park with a spur trail leading to the Lake Treman area.



Visitors on a nature hike around Lake Treman in Buttermilk Falls State Park

Two miles south of the city of Ithaca, Robert H. Treman State Park provides visitors another opportunity to experience the “old swimming hole.” The in-stream swim area is located at the base of Enfield Falls, one of the park’s many waterfalls. Standing on a ledge at the base of Enfield Falls, patrons can cool off under the water of the falls. The historic stone bathhouse complements the intimate gorge setting of the swim area. Pavilions, picnic areas, and play areas are located in both the upper and lower sections of the park. Five plus miles of hiking trails follow the Enfield Creek Gorge. The historic hamlet of Enfield Falls is highlighted at the restored Old Mill located in the upper, or west end, of the park. Ongoing

archaeological digs are unearthing more of the hamlets history.



Historic Old Mill in upper Robert H. Treman State Park

Table III-1, on page III-25, shows the 2006 attendance figures for the four state parks for the five months of the year when they experience the most visits. During these months, nearly 630,000 people took advantage of the recreational opportunities at the Tompkins County state parks.

The trail will also build on the significant number of recreational and cultural resources already available in Tompkins County, several of which will be accessible directly from the Black Diamond Trail. The resources include facilities operated by the City of Ithaca, Town of Ithaca and private operators. Figure III-4, on page III-26, depicts the relationship between the proposed Black Diamond Trail and other area leisure-time facilities.

The City of Ithaca’s Cass Park provides Tompkins County residents with year-round recreation opportunities including an outdoor ice rink, olympic-sized swimming pool, multiple athletic fields for baseball, softball and soccer, tennis courts, playground equipment, and the paved Cayuga Waterfront Trail for walkers, bikers and roller-bladers.

Also within Cass Park is the Ithaca Children’s Garden, currently under construction. The mission of the Garden is “to create a sustainable public garden with successful educational and outreach programs where children of all ages can discover,

explore, create and enjoy the plant world.” (Ithaca Children’s Garden Web page, July 24, 2005)

On the Cayuga Inlet Flood Control Channel, from the confluence with Cayuga Lake south to its channelized end, is the Cornell University and Ithaca College crew courses. During the crew racing season, the east and west banks of the Inlet are lined with local, alumni and college-aged supporters rooting on their favorite teams.

South of the City of Ithaca, between Buttermilk Falls and Robert H. Treman State Parks, are two hiking-only trail opportunities—the Finger Lakes Trail and the Lick Brook/Sweedler Preserve. The Finger Lakes Trail, also part of the long-distance North Country Trail, provides hikers with a variety of landscape and habitat experiences in the southern portion of New York State. Along the eastern slope and the floodplain of the Cayuga Inlet valley, lies the Lick Brook area which features several waterfalls. A portion of the Finger Lakes Trail passes through this preserve. Two trails, including the FLT, provide access to the property.

North of the city of Ithaca, in the town of Ulysses, the Cayuga Nature Center offers many hands-on experiences to learn about the natural world on

its 120+ acres. The center has over 40 animals in both indoor and outdoor exhibits, a six-story observational tree-house, five miles of interpretive trails and many educational programs offered throughout the year.

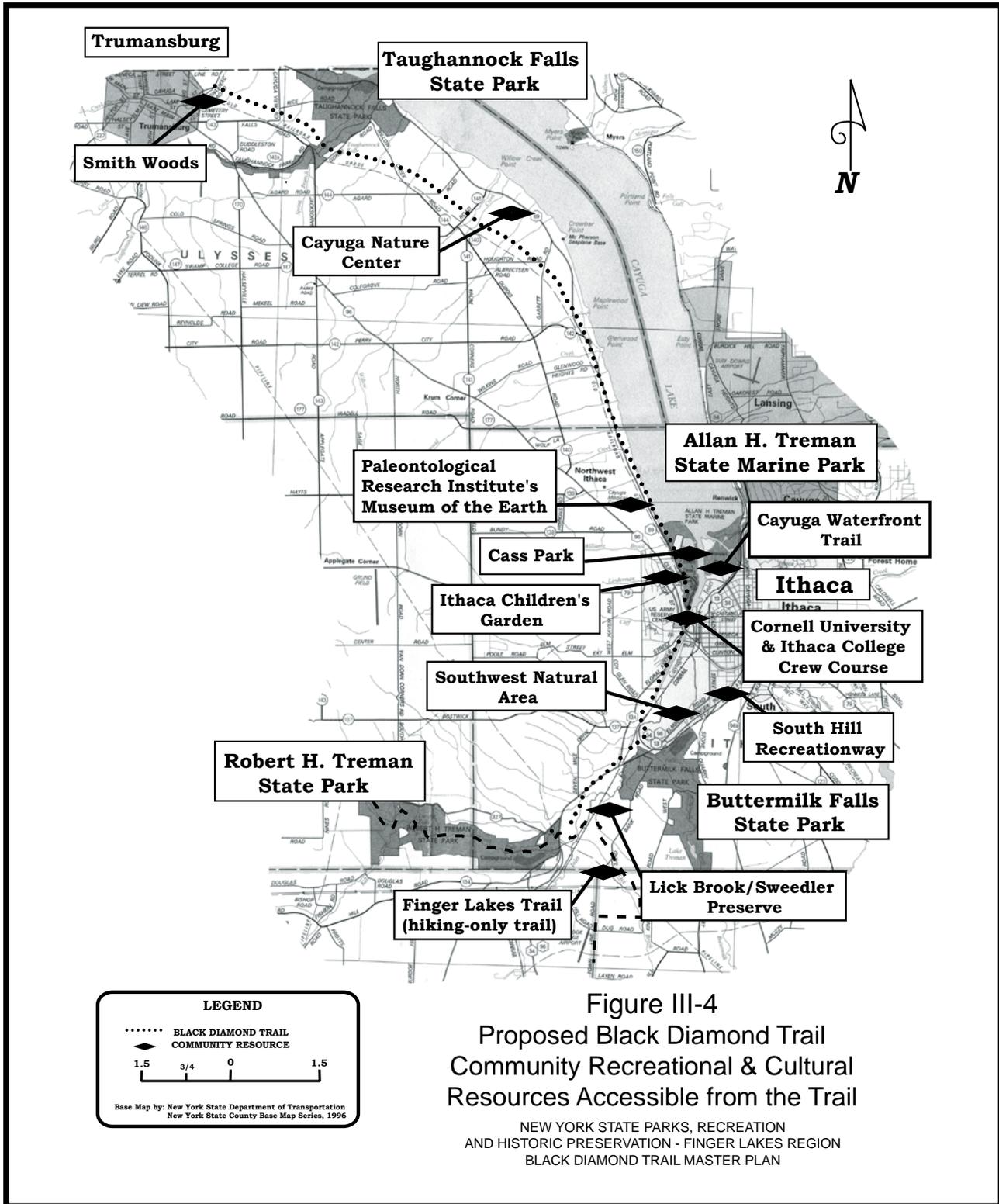
Future connections to existing and new community facilities include the City of Ithaca’s Southwest Natural Area park, the Town of Ithaca’s South Hill Recreationway and the Paleontological Research Institute’s Museum of the Earth.

Community Character

Tompkins County is home to 96,501 people. Twenty-eight percent of the population includes students attending the three higher education institutions—Cornell University, Ithaca College and Tompkins Cortland Community College. The presence of the three colleges significantly contributes to a unique demographic profile in the county. One third of the County’s population is under the age of 21. Ethnic diversity is also influenced by the colleges, adding 6 percent to races other than White above the number represented by the population in the County minus the student population. The influence of the diversity of staff and students at the colleges is evidenced by the

**TABLE III-1
State Park Monthly Attendance
May to September, 2006**

	May	June	July	August	September.	Total
Buttermilk Falls State Park	15,617	17,717	28,834	25,189	16,315	103,672
Robert H. Treman State Park	14,942	18,335	37,267	28,969	14,712	114,225
Taughannock Falls State Park	41,706	49,401	81,880	69,728	42,051	284,766
Allan H. Treman State Marine Park	16,248	22,861	34901	32,614	18,643	125,267



number of museums, live-theater companies, festivals, ethnic restaurants and ethnic commodities on the shelves in the area chain grocery stores. (Tompkins County Comprehensive Plan, 2004)

Economically, the educational job sector represents the largest employment opportunities in the county. This job sector has had the affect to insulate Tompkins County from an upward trend in unemployment rates as seen across upstate New York counties and much of the Northeast, areas hardhit by the loss of manufacturing jobs.

The influence of the colleges also shows up in a look at the housing sector. Slightly over half of the homes in the county are owner-occupied, compared to the National figure of two-thirds. The transient nature of the student and staff populations places pressure on the traditionally owner-occupied stock to be converted to rental units. And, with a high demand for both types of housing the cost of both owning a home and renting homes or apartments has pushed the rates significantly higher than the surrounding counties.

The upward trend in housing costs and the tight housing supply is having an increasing affect on the number of employees in-commuting from the six counties surrounding Tompkins. The increase in traffic from in-commuters is beginning to impact the transportation infrastructure throughout the county.

Transportation System

In addition to its role as a multi-use recreational trail facility, the Black Diamond Trail is expected to be used as an alternate transportation opportunity, allowing people to move between destinations on foot or bicycle. In recognition of its transportation role, trail development is supported by ISTEAF funding awarded the project during the first round of Federal multi-modal transportation initiatives in the early 1990s. In addition, the Ithaca/Tompkins County Transportation Council (ITCTC), the area's metropolitan transportation planning organization, supports the project by recognizing the trail in its 10-year planning process.

Few off-street, non-motorized transportation linkages currently exist within the Black Diamond Trail corridor. Historically, the focus on transportation infrastructure in Tompkins County has been for vehicular traffic and to a lesser extent bus transit. Up until the early 1990s, little attention was given to pedestrian and bicycle facilities beyond the sidewalk system in the core of the City of Ithaca. Yet commuting to work by foot, bicycle and other non-motorized means is significantly higher in Tompkins County than in New York State as a whole.

According to the 2000 Census, 17 percent of the commuting population in the county walked to work versus 4.6 percent in the state. For the category "other", 1.0 percent of commuters in Tompkins County traveled to work using an alternate mode compared to 0.7% in the state. Within the City of Ithaca, the walking and other alternate mode participation rates jump to 45 percent for walking and 2 percent for other. These participation rates are inspite of the very hilly terrain surrounding the city.

The unique demographics of Tompkins County also support investing in pedestrian and bicycle infrastructure. As noted in the previous section, the county is home to three higher-educational facilities—Cornell University, Ithaca College and Tompkins-Cortland Community College. The student population attending the three facilities contributes significantly to the county's population. Many of the students attending the colleges rely on alternate modes of transportation, including walking and biking, to reach classes, shopping and employment destinations.

The impacts on the County's economic and housing sectors from the higher-educational institutions are a mixed bag. While economically their presence in the county has minimized wide swings in unemployment rates, the pressure on the housing market has created a situation where in-commuting is on the rise. An increase in in-commuting traffic is putting a strain on the state and local highway, street and roads system.

Bolstered by the Federal multi-modal transportation initiative, communities across the country are realizing the importance to the health and quality of life of their residents of providing pedestrian and bicycle infrastructure. Assisted by the ITCTC, communities throughout Tompkins County have joined the planning and implementation effort to provide alternate transportation systems. The long-range transportation plan for Tompkins County, produced by the ITCTC, recommends that community facilities eventually be linked with on- and off-road bicycle and multi-use trails. OPRHP's Black Diamond Trail will be an integral component in the County's efforts to reach its goal. The trail will link: four state parks, the village of Trumansburg to the city of Ithaca, two city parks, and several natural areas.

Also in support of a truly multi-modal transportation system in the county and in recognition of the already significant number of bicycling public, the Tompkins County Area Transit has been installing front-mount bicycle racks on their transit buses. In 2003, the "Bikes on Buses" program recorded 8,952 bicycles loaded onto transit buses at the main downtown transfer stop. Systemwide, 17,679 bicycles were loaded onto buses. These numbers are impressive for a Northeast city and demonstrate an interest in multi-modal transport in the county.



Tompkins County Area Transit bus with front-mount bicycle rack.

The proposed alignment of the trail will connect it to the existing street, road and highway system in Tompkins County at multiple locations along the

route. The trail segment between the City of Ithaca and Taughannock Falls State Park crosses two county highways, six town roads and runs parallel to N. Y. S. Route 89 for most of its way. Within the City of Ithaca, the trail runs parallel to three state highways, 13A, 89 and 96, and is accessible from three city streets. Between the City of Ithaca and Robert H. Treman State Park, the trail intersects with two town roads and runs parallel to N. Y. S. Routes 13, 34 and 96.

The Black Diamond Trail will also link to other area trail systems including the Cayuga Waterfront Trail (multi-use), Clinton Street and West Hill Bikeways (on-street) in the city of Ithaca and the pedestrian-only Finger Lakes Trail in Robert H. Treman State Park. In the future, the extension of the South Hill Recreation Way to Buttermilk Falls and the City of Ithaca's Southwest Natural Area Park across the Gateway Bridge will expand access to the city's developing southwest commercial area.

Infrastructure

The success of the Black Diamond Trail relies in part on the availability and quality of supporting infrastructure. Supporting infrastructure includes roads, bridges, public water and sewer systems and public utilities. The following sections identify facilities in place that will contribute to the successful completion of OPRHP's trail initiative.

Trail Infrastructure by Others

Various roadway upgrade and reconstruction projects within the Black Diamond Trail corridor have included provisions for the OPRHP's trail or improvements to facilitate access to the trail. These include underpasses, bridge abutments, trail segment construction and road repaving and shoulder repair.

The New York State Department of Transportation (NYSDOT) completed significant highway improvement projects within the trail corridor during the 1980s and 1990s that included trail features.

The reconstruction and realignment of N. Y. S. Route 13/34/96 near Robert H. Treman was completed in the mid-1980s. To accommodate the future OPRHP trail, NYSDOT lengthened the bridge structure over the intermittent stream to allow the trail to pass under the busy state highway.



Trail underpass of N. Y. S. Rtes 13/34/96 at Robert H. Treman State Park

The N. Y. S. Route 96/89 realignment (Octopus Redevelopment) project on the city of Ithaca's west side included the following elements:

- ◆ Reconstructing the Cayuga Waterfront Trail, the BDT connection to Allan H. Treman State Marine Park, from the existing State Street bridge north to the new N. Y. S. Route 89 bridge.
- ◆ Constructing a new trail segment under the N. Y. S. Route 89 bridge to the west side of Cass Park and the future Black Diamond Trail connection.
- ◆ Purchase of land along the flood control channel for the BDT trail as replacement lands needed for the highway project through Cass Park.

On the City of Ithaca's south side, the reconstruction, including the widening to four lanes, of N. Y. S. Routes 13, 34 and 96 included the following trail infrastructure.

- ◆ Construction of bridge abutments along the Cayuga Inlet to accommodate a future bridge for the trail connection into Buttermilk Falls

State Park from Robert H. Treman State Park.

- ◆ The paved trail segment from the east side of the state park to the west side under the N. Y. S. Route 13/34/96 overpass.
- ◆ Construction of bridge abutments along the highway to accommodate a future bridge to connect the east and west sides of the city of Ithaca and to connect the South Hill Recreation Way to the Black Diamond Trail.



Bridge abutments constructed by NYSDOT for bridge over Cayuga Inlet to Buttermilk Falls State Park

In 2000, the City of Ithaca, utilizing special state transportation funding, installed the Gateway Bridge on the NYSDOT-constructed abutments over N. Y. S. Routes 13/34/96 for the future extension of the South Hill Recreation Way to connect to the Black Diamond Trail.



Gateway Bridge over N. Y. S. Rtes 13/34/96

Other components of these road improvement projects within the city of Ithaca that support a pedestrian and bicycle system include improved lighting, traffic calming at intersections, intersection improvements, upgrading sign controls,

and pavement overlays on parallel or intersecting roadways.

Overall, the roadway infrastructure, including State, County and Town roads, supporting vehicular traffic to future trail access points is in adequate condition. On roadways outside the city of Ithaca, repaving of N. Y. S. Rte. 96 from the Ithaca city line to Perry City Road in the Town of Ulysses was completed in 2001. N. Y. S. Rte. 89 was repaved in 1998 from the Ithaca city line to the Tompkins County/Seneca County line. Krums Corners Road, from Perry City Road to Dubois Road was repaved in 1998. Four-foot gravel shoulders were installed along Agard Road, from Jacksonville Road to Willow Creek Road in 2000.

Existing Structures

There are several existing structures that formerly served the Lehigh Valley Railroad that can be incorporated into the trail project to carry the trail over or under terrain barriers. From south to north, these include the following.

Norfolk Southern Rail Bridge

Along the trail segment between Robert H. Treman and Buttermilk Falls State Parks the proposed trail corridor must cross an active low-traffic rail line. The opportunity exists to have the trail pass under the rail line using one bay of a rail bridge. Crossing the rail line and using the bridge bay will require agreement by Norfolk Southern Railroad.



Rail bridge that can accommodate a trail underpass

Lehigh Valley Rail Bridge over Cayuga Inlet
Crossing the Cayuga Inlet at the southwest corner of the City of Ithaca’s future Southwest Natural Area Park uses a historical rail crossing that has largely been destroyed, except for abutments on the north side which can be used as a retaining wall. The grade difference between the south and north banks is approximately fifteen feet. The span is approximately 150 feet. Ramps will be required at each abutment to meet adjacent grade. The creek is fast flowing and will require rip-rap to prevent erosion.



Existing bridge abutment from former lehigh Valley rail crossing of the Cayuga Inlet

Norfolk Southern At-Grade Rail Crossing

At the north-western end of the OPRHP-owned former rail corridor property, near the beginning of the flood control channel, an existing at-grade railroad crossing is available for the trail to cross the active low-traffic Norfolk Southern line. This crossing is also anticipated to be developed and used by the City of Ithaca to access its future Southwest Natural Area Park. The following photo illustrates the existing at-grade crossing condition.



Existing at-grade crossing of the active low-traffic Norfolk Southern Line

Crossing Under State Street Bridge

The New York State Department of Transportation constructed ramps and a trail under the State Street bridge in association with the N. Y. S. Rte. 96 reconstruction. Vertical clearance on the existing trail under the State Street bridge is only 7 feet.

Lehigh Valley Rail Bridge near Kraft Road

South of Kraft Road in the Town of Ulysses is an existing railroad bridge with an approximate span of 100 feet. The deck has been removed and will require installation of a new deck. The superstructure is structurally sound. Minor repairs will be needed to bottom plates and cross frames. The existing abutments appear sound but will also require some minor surface repairs, i.e. pargetting.

Lehigh Valley Rail Bridge over Taughannock Creek

The former high span railroad bridge is currently used by the rim-trail hikers in Taughannock Falls State Park. Resurfacing of the existing cracked concrete deck will be necessary for the Black Diamond Trail use. The bridge's south end concrete abutment is deteriorating and should be considered for replacement in the future. At the juncture of the approach bridge with the railroad bridge, a three-foot by eleven-foot steel deck plat is to be removed and replaced as part of the deck-resurfacing project. Also, vegetation clean up will be required along the fence lines on each side of the railroad bridge. The railroad bridge span length is approximately 125 feet.

Lehigh Valley Rail Bridge over Trumansburg Creek and Lake Street

This existing bridge is located at the north end of the OPRHP-owned abandoned rail corridor. It is a very large, high multi-span structure that is in salvageable condition. Structural investigation of the abutments will need to be conducted as there are several cracks visible. The concrete piers at the center and end spans appear structurally sound. The deck still has railroad ties, which will need to be replaced with a new deck. The span is approximately 300 feet.



Existing rail bridge spanning Trumansburg Creek and Lake Street in the village of Trumansburg

Culverts and Spillways

There are over 80 drainage structures along the trail. Most are still functioning well; however, several will need repair or replacement. Some have outstanding stone work, the most illustrative of which can be seen upslope from N. Y. S. Route 89 along some of the deeper gullies draining to the lake.

Municipal Services

Municipal sewer and water service are not available along most of the proposed trail corridor. Public sewer and water are available within developed areas within the city of Ithaca and village of Trumansburg. Cass Park and Allan H. Treman State Marine Park have both services. The other state parks have on-site sewage disposal systems and public water in developed sections.

Emergency/Public Services

The Black Diamond Trail will have fire protection services available from the Town and City of Ithaca as well as the Village of Trumansburg. The

Ithaca Fire Department has four fire stations in close proximity to the trail. These stations include: the South Hill Fire Station #5 located on N. Y. S. Route 96 B in the Town of Ithaca; the Central Fire Station located on Green Street in the city of Ithaca; the Fall Creek Fire Station #7 located on Tioga Street in the City of Ithaca; the West Hill Fire Station #6 located on N.Y.S. Rte. 96 in the Town of Ithaca. The Village of Trumansburg has a volunteer fire department located on Main Street (N. Y. S. Route 96).

Ambulance services are available from a private ambulance business and a municipal service in the village of Trumansburg.

Police response to emergency situations within the trail corridor will be handled primarily by the New York State Park Police. Supporting the Park Police, Tompkins County has an enhanced-911 system. Calls for assistance are made to a central dispatch center where police services are sent according to the unit closest to the scene. Therefore, police units from the City of Ithaca, Tompkins County Sheriffs' Department, New York State Police, or Village of Trumansburg Police Department could be sent to a call associated with the trail.

The Cayuga Medical Center at Ithaca is the area's major medical service center. The center is located very close to the northern portion of the trail corridor off N. Y. S. Route 96.