

TRANSPORTATION

PROJECT REPORT

DRAFT DESIGN REPORT

PIN 3950.11

DRYDEN/FREEVILLE TRAIL PROJECT

**TOWN OF DRYDEN
TOMPKINS COUNTY, NEW YORK**

SEPTEMBER 2005

**TOWN OF DRYDEN
65 EAST MAIN STREET
DRYDEN, NEW YORK 13053**



**UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION**

**NEW YORK STATE DEPARTMENT OF TRANSPORTATION
GEORGE E. PATAKI, Governor THOMAS J. MADISON, JR., Commissioner**



Draft Design Report

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Town of Dryden
Tompkins County, New York

September 2005

Town of Dryden
65 East Main Street
Dryden, New York 13053

United States
Department of Transportation
Federal Highway Administration

New York State
Department of Transportation
Thomas J. Madison, Jr., Commissioner

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Chapter I – Introduction, Project Summary, and Contact Information

I.A. Introduction:

The purpose of this report is to present the findings of design studies conducted for the proposed Dryden-Freeville Trail Project (PIN 3950.11), located in the Town of Dryden, Tompkins County, New York. Included is a presentation of the project conditions and needs, project objectives, design criteria, and a discussion of the feasible alternatives for the implementation of proposed improvements.

1.B. Project Summary:

The Dryden-Freeville Trail Project entails the provision of Preliminary Design Services for a 2.8 mile (4.5 km) bicycle/pedestrian trail linking the Villages of Dryden and Freeville utilizing portions of the abandoned Lehigh Valley Railroad bed. The proposed trail will be an extension of the popular Jim Schug Trail that extends from Dryden Lake northerly to New York State Route 13 in the Village of Dryden. Once established, this connection will be one component of a larger regional system of recreational and transportation corridors planned to link the Villages of Dryden and Freeville to the Hamlets of Varna and Etna and various future neighborhood and community parks.

Presently, there is growing interest on the national and local levels in bicycling and walking for recreational and transportation purposes. As a result, there is a demand among residents for increased opportunities to walk and bicycle safely and conveniently within the community. The Town of Dryden has recognized the lack of an adequate local bicycle and pedestrian network that can be utilized for recreation and an alternative means of transportation to interconnect residential neighborhoods, commercial centers, schools, parks and places of employment at the local and regional levels.

Integral to this project, and discussed in the report, is the necessary acquisition of rights-of-way along the majority of the abandoned railroad. Alternatives discussed in this report are contingent upon such acquisitions. Currently, eleven separate parcels comprise this corridor. The Village of Dryden controls all of the 0.6 miles of right-of-way between West Main Street and Springhouse Road (approximately 0.97 km). A significant portion of the right-of-way between the Villages of Dryden and Freeville is owned partially or totally by the William George Agency, an educational institution vested in neglected youth, and used as part of the school's farming operation. Railroad rights-of-way located in the Villages of Dryden and Freeville are currently public property.

Also discussed in this report are the social, economic and environmental effects of the project. This report has been prepared to ensure the project is progressed in conformance with Federal and State laws, policies and procedures, and to assist Federal, State and local officials and agencies, as well as concerned citizens in their review and assessment of the proposed Dryden-Freeville Trail Project.

The project is being progressed by the Town of Dryden ("the Town"), in conjunction with New York State Department of Transportation (NYSDOT) and the Federal Highway Administration (FHWA), as a Class II Action under the United States Department of Transportation (USDOT) National Environmental Policy Act (NEPA) Regulations contained in the Code of Federal Regulations (23 CFR 771), and will be progressed as a Categorical Exclusion with Documentation.

Classification of this project is under the New York State Environmental Quality Review Act (SEQRA) Part 617, Title 6 of the Official Compilation of Codes, Rules, and Regulations of New York State (6 NYCRR Part 617) and is assumed to be an Unlisted Action (Non-Type II). The Town of Dryden will be Lead Agency.

I.C. Contact Information:

For additional information regarding this project, contact the following:

Michael Hattery
Town Councilman
Town of Dryden
65 East Main Street
Dryden, New York 13053

Telephone: (607) 844-5607

Chapter II – Project Identification, Evolution, Conditions and Needs, and Objectives

II.A. Project Identification:

II.A.1. Project Type:

The proposed Dryden-Freeville Trail project is an Intermodal Surface Transportation Efficiency Act (ISTEA) Enhancement Program project that entails the completion of preliminary design services related to the Dryden-Freeville Trail Project. An extension of the existing Jim Schug Trail, the Dryden-Freeville Trail Project will encompass a 2.8 mile bicycle/pedestrian corridor linking the Villages of Dryden and Freeville. Specific improvements include the acquisition of right-of-way along the proposed trail, the development of trailhead/gateway parking facilities and associated signage, and linkages to the surrounding community including a potential trail connection to Dryden High School. The official Project Identification Number (PIN) and name are:

PIN 3950.11

Dryden-Freeville Trail Project

Town of Dryden, Tompkins County, New York

II.A.2. Project Location/Description:

Sited in Eastern Tompkins County, the Town of Dryden is located along the New York State Route 13 transportation corridor linking the population centers of Elmira, Ithaca, and Cortland. The proposed project will begin at the trail's intersection with NYS Route 13 in the Village of Dryden and traverse 2.8 miles northwesterly along the abandoned Lehigh Valley rail bed where it will intersect with NYS Route 38 (Railroad Street) in the Village of Freeville. The proposed trail alignment will vary only slightly due to topography and right-of-way constraints.

- II.A.2.a. Regional Location Map: The Regional Location Map is illustrated on page 4.
- II.A.2.b. Project Location Map: A USGS Quad Map of the rail bed segment is shown on page 5.



Dryden-Freeville Trail
Regional Location Map

Tompkins County

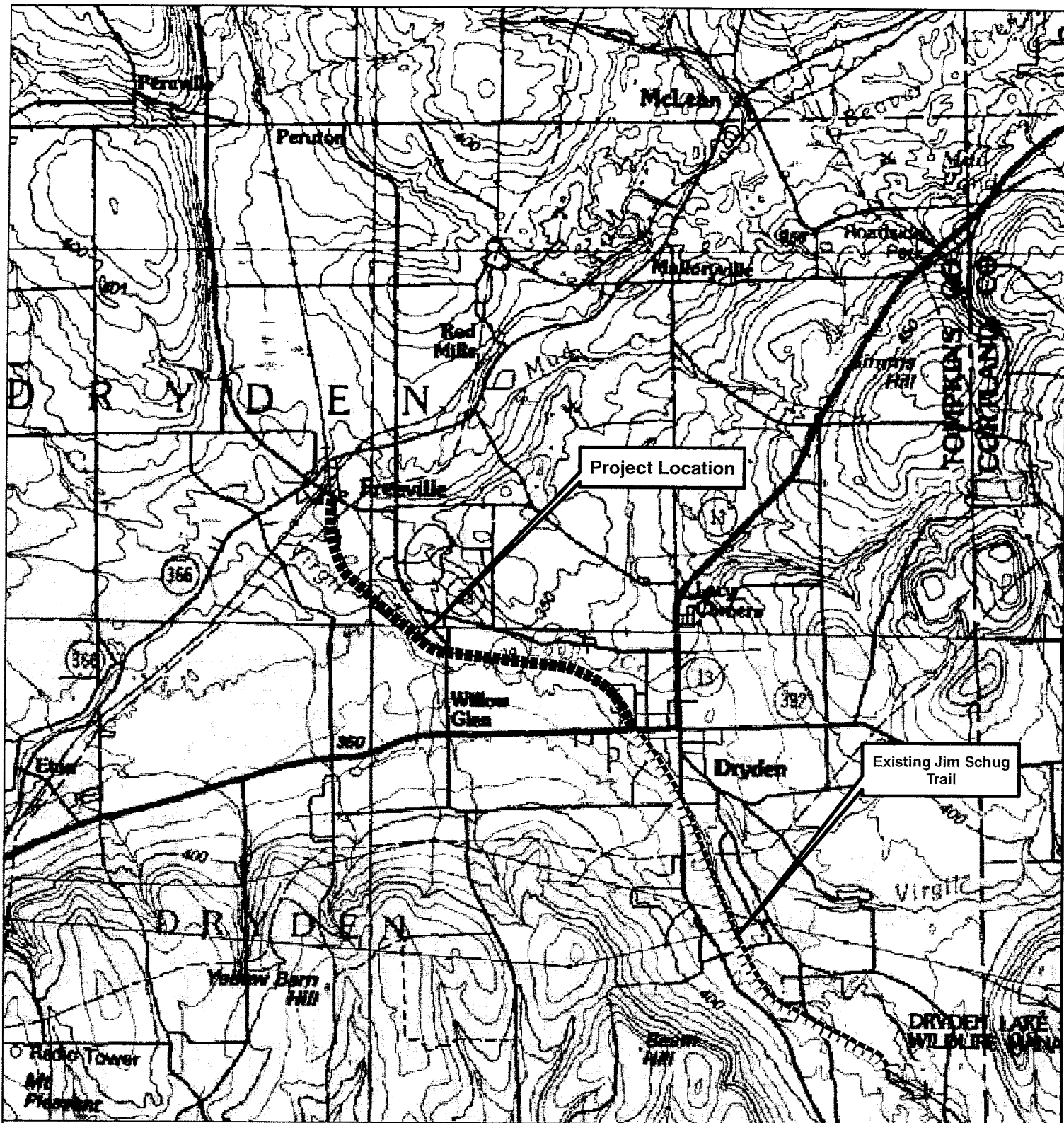
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PIN

No.

3950.11



1992 USGS Quadrangle Map: Courtesy of U.S. Geological Survey



II.B. Project Evolution:

The Town of Dryden has been interested and involved in trail development efforts ever since the local railroads terminated their operations in the late 1960's. The Town's initial effort, largely completed with volunteer assistance, was the development of the Jim Schug Trail, also called the Dryden Lake Trail. This trail runs approximately 3.5 miles (5.6 km) along the abandoned Lehigh Valley rail bed from the Village of Dryden south to Dryden Lake and beyond, towards the Town of Harford.

In 1996, the Town of Dryden submitted applications to the ISTEA Transportation Enhancement Program for the enhancement of two local trail segments – a 3.3 mile (5.3 km) section from its westerly border with the Town of Ithaca to the NYS Route 13 crossing, and the 2.8 mile (4.5 km) segment extending the existing Jim Schug Trail northwesterly from the Village of Dryden to the Village of Freeville.

In addition, both the Town and Village of Dryden are currently progressing Comprehensive Plans which include goals for trail development, and emphasize the benefits of trails for recreation, community health, and as an alternative means of transportation. The Town of Dryden's Comprehensive Planning process began with a community survey in 2000. Out of 6,000 surveys, 1,218 residents replied, a completion percentage well above the national average of six to seven percent for community surveys. Of those who replied, 79 percent of the respondents felt the Town needed more trails for walking, jogging, and cycling.

In a time of increasing dependence on the automobile, Dryden now stands poised to progress the Dryden-Freeville Trail Project, and connect its rural residents to commercial centers in the two Villages and ultimately to the Town's various hamlets by enhancing its local trails network for a healthy and sustainable environment.

II.C. Conditions and Needs:

The proposed project corridor presents an opportunity to join two existing centers of activity; the Villages of Dryden and Freeville; and potentially the Dryden High School campus. This trail will also create a connecting link between two existing and active trail segments: the Freeville Trail in the Village of Freeville, and the popular Jim Schug Trail in the Town and Village of Dryden.

With the exception of the potential Dryden High School connection, this project proposes to locate the trail entirely along the right-of-way of the abandoned Lehigh Valley Railroad that formerly ran north to south through the Town of Dryden. For much of its length the right-of-way runs through rural flat lands in the Virgil Creek valley. Within the Villages of Dryden and Freeville the right-of-

way is owned by the municipalities, whereas land along the rest of the corridor belongs to adjacent property owners. Right-of-way acquisition of those privately owned lands is critical to the trail's connectivity within the community and its general success as a continuous, cohesive recreational and transportation corridor.

Eleven separate parcels comprise the proposed trail corridor. The Village of Dryden controls all of the 0.6 miles of right-of-way between West Main Street and Springhouse Road. A significant section of the right-of-way between the two villages is owned partially or totally by the George Agency and used as part of the school's farming operation. Due to the large amount of land owned by the Agency, right-of-way acquisition becomes critical to ensure the trail utilizes the full length of the existing rail corridor.

Upon completion, this corridor will accommodate bicycle and pedestrian travel from the Village of Freeville to the library and shopping facilities in the Village of Dryden and to the recreation attractions at Dryden Lake. As stated in the aforementioned paragraphs, alternatives to provide access to the Dryden High School campus from both villages are considered as part of this project. Future extensions of this trail, currently being outlined through the update of the Town's Comprehensive Plan, will extend the trail into the larger region within Tompkins and Cortland Counties.

II.C.1. Existing Project Conditions:

II.C.1.a. Ownership and Maintenance Jurisdiction:

The existing Lehigh Valley Railroad right-of-way was built in the early 1900's and subsequently abandoned in the early 1980's. As a condition of the abandonment the Village of Dryden retained a permanent easement for the installation of municipal utilities. In the future, the Village of Dryden will own and maintain the right-of-way along the length of the trail.

II.C.1.b. Culture, Terrain and Climatic Conditions:

The proposed trail traverses a 2.8 mile corridor that transitions between the existing traditional mixed-use development patterns of the Villages of Dryden and Freeville through expanses of flat rural landscapes.

The terrain along the proposed trail corridor is primarily level. There are no known unusual climatic conditions. The project area does experience some severe winter weather that is relatively common to the region (heavy snowfall

at times, wet or icy ground conditions, etc.), however it is not anticipated that any specific design features would be implemented due to unusual climatic conditions.

II.C.1.c. Accessibility Controls:

The trail will have various points of controlled access where existing roads cross or terminate at the trail. In addition, two trailhead/gateway parking facilities are proposed at the Elm Street Road crossing and just south of Route 38 in the Village of Freeville that will provide ingress and egress locations to the trail. All access points along the trail corridor will be designed accordingly with signage and gates or bollards to ensure maximum safety when approaching road crossings.

II.C.1.d. Adjacent Land Use:

The proposed trail will transition from mixed-use development patterns from the Villages of Freeville and Dryden through expanses of rural flat lands. In the Village of Dryden, much of the surrounding area adjacent to the trail between Route 13 and Springhouse Road is a mix of small neighborhood retail stores and industrial operations that include manufacturing, warehousing and distribution facilities. Outside of the two villages, the surrounding environment is predominantly agricultural and forested. A significant portion of lands along the trail between Springhouse Road and George Road are in Agricultural Districts, which promote commercial agricultural operations and encourages retention of large blocks of farmland.

In addition, the trail will pass in close proximity to various educational facilities such as Freeville Elementary School, Dryden Elementary School, Dryden High School, the George Agency, and Tompkins Cortland Community College. There are also several health-care providers in the Villages of Freeville and Dryden who could build awareness of the trail network as a safe place for regular exercise. Additionally, Willowbrook Manor is a senior citizen housing complex located close to the trail in the Village of Dryden, and there is a similar facility in the Village of Freeville aptly named Lehigh Crossing.

II.C.1.e. Provisions for Pedestrians and Bicyclists:

The Town of Dryden, like many rural communities, has relatively limited facilities to accommodate and encourage increased walking and bicycling, either as a recreational pursuit or as an alternative to the automobile. Outside of the Villages of Freeville and Dryden, as well as the hamlets, there are very few opportunities for these activities except along the shoulders of roads.

Although several roads and highways in the Town do have wide shoulders in good condition, high traffic volumes and speed limits reduce the safety and attractiveness of these roads for the average bicyclist or pedestrian.

The Pedestrian Generator Checklist can be found in appendix C.

II.C.1.f. Planned Development for the Area:

The Town of Dryden's Comprehensive Plan outlines strategies for implementation of future trail projects that will establish a regional network linking the two villages and the existing hamlet centers of Etna, Varna, and Ellis Hollow to various parks and adjacent communities. The Plan calls for a Town Park adjacent to this proposed trail, however an exact location has not been determined at this time. The Town is currently working on purchasing a parcel of land in proximity to the trail terminus which may be used for a new Town Hall and playing fields.

Additionally, the Village of Dryden has recently engaged in traffic calming improvements to its highway system in proximity to the Route 13 trail crossing intersection, and is currently progressing initiatives to bring new businesses to Main Street adjacent to the proposed trail system.

II.C.1.g. Bridge Structure over Tributary to Fall Creek:

The proposed trail will be largely superimposed upon the abandoned railroad bed connecting the two communities. The bridge structure evaluated for the proposed Trail was a former railroad bridge over a tributary to Fall Creek. It is proposed to utilize this structure for the proposed trail.

The existing structure is a two-span structure with longitudinal timber girders, a transverse timber deck, founded on timber piles. The total length of the bridge is 24 feet 9 inches with one 12-foot span and one 11-foot span.

Substructure:

The substructure consists of three pile bents. There are six timber piles at each pile bent that support the structure. The piles vary in diameter from 12 inches to 16 inches with a majority of the piles at 14 inches in diameter. The piles are braced diagonally with two cross bracing members. The piles are capped with a 14-inch by 12-inch pier cap.

Piles – The piles are generally in good condition. The southern piles at each bent exhibit minor surface deterioration, but are still adequate.

Cross Bracing – The cross bracing between the piles is in good condition.

Pier Caps – The pier cap at the west abutment is severally deteriorated. There is a longitudinal split for half the length of the beam with severe rot in the end of the member on the downstream end. The pier cap at the second bent has moderate deterioration at the downstream end with a longitudinal crack evident. The crack has been mitigated by the use of through bolts and plate washers transversely through the member. The east abutment pier cap is generally in good condition with minor deterioration downstream.

Wingwall Piles – The piles supporting the timber lagging of the wingwalls is moderately weathered. Due to the exposure to sun and constant moisture against one side, the piles are more susceptible to deterioration. The piles are out of plane, leaning away from the fill, and are generally in poor condition.

Lagging – The timber lagging that supports the fill behind the abutments and wingwalls is in poor shape. The lagging is heavily deteriorated and has failed in isolated areas. In addition erosion has occurred behind the abutments, therefore allowing the railroad bed to collapse.

Superstructure:

The superstructure consists of 11 longitudinal girders each 16-inches deep by 8-inches wide with a 4-inch transverse timber deck. The longitudinal girders are continuous over the pier. The transverse deck has overburden soil above the deck.

Longitudinal Girders – The longitudinal girders have minor checking and deterioration of the fascia girders. The bottom of the girders is notched at the cap beam creating a potential location for a longitudinal crack. Generally the girders are in fair condition.

Transverse Deck – The transverse deck is assumed to be in poor condition. The overburden soil will hold moisture on the top of the deck causing deterioration. The underside of the deck showed signs of moisture seeping through the deck confirming the presence of moisture.

Rehabilitation:

The rehabilitation of this structure would include the removal of the entire superstructure and pier caps. The proposed structure would replace the existing caps with new members including reattaching the current cross

bracing to the new pier cap. The superstructure would consist of a longitudinal deck with a waterproofing membrane and asphalt overlay. Timber lagging would be replaced behind the abutments with a membrane to protect the lagging from moisture. The existing wingwalls would be removed including the timber piles and replaced with gabion baskets to retain the fill. The estimated cost of this alternative is \$87,000.

II.C.1.h. Site Drainage:

Drainage improvements will be required at several locations along the proposed trail. Along the segment from Route 13 to Springhouse Road, the culvert near the wastewater treatment plant will require upgrade, and the railroad bed re-graded to limit grade changes currently existing due to prior wash out of the bed. In the section between Springhouse Road and George Road, the culvert draining the fields to the north of the railroad bed will require improvement. This culvert has been impacted for the past decade, causing ponding of water within the fields. In the summer of 2005, with dry conditions prevalent, the ponding receded. The William George Agency may have conducted temporary improvements to this drainage system recently.

II.C.1.i. George Road Crossing:

The former bridge carrying George Road over the railroad, had been removed and the underpass filled in during prior years. In order to complete the Dryden to Freeville Trail, this underpass will require re-establishment, or an alternative at grade crossing constructed. Due to the grades between George Road and the railroad bed, an at-grade crossing will require significant earthwork. The George Road Crossing presents a challenge to the re-establishment of the railroad/trail thoroughfare.

II.C.1.j. Virgil Creek Tributary Embankment:

Upstream of the railroad bridge located on the Springhouse Road to George Road section, the creek has been eroding the embankment of the railroad right-of-way. Stabilization of this erosion and/or relocation of the stream channel will be necessary to limit further damage to the railroad grade embankments.

II.C.2. Project Needs:

Based on the conditions of the project elements presented in section II.C.1., the following needs have been identified:

II.C.2.a. Acquisition of Right-of-Way:

Integral to this project and subsequent design alternatives to be considered is the purchasing or obtaining of right-of-ways from the present landowners. These right-of-ways amount to approximately twelve (12) acres of frontage along the length of the rail bed. Presently, the largest obstacle to achieving this need is the pursuit of ownership from the George Agency and Van Pelt properties, who own the largest percentage of land along the rail corridor.

II.C.2.b. Trailhead/Gateway Parking Facilities:

One of the most important highways in terms of traffic volumes and connectivity in the Town of Dryden is NYS Route 13. The highway connects the Village of Dryden with Cortland, Ithaca and Elmira roughly bisecting the town from northeast to southwest. In addition, NYS Route 38 traverses the Town of Dryden from north to south and passes through the Villages of Freeville and Dryden. To the north NYS Route 38 connects Dryden to Groton Locke, Moravia and Auburn.

In identifying strategies for accessibility to the trail, the design and development of trailhead/gateway facilities at strategic locations are needed to accommodate existing commuters along NYS Routes 38 and 13. Locating such facilities in proximity to these transportation corridors will provide easy access and orientation for its users, allow for the orderly circulation of traffic, and improve access for persons with disabilities.

II.C.2.c. Shared Use Equestrian Facilities:

Equestrians from the George Agency property are longstanding users of the existing rail bed, utilizing the corridor for access to adjacent woodland trails on their property. There is concern that the acquisition of right-of-way on the George Agency property would land lock a piece of their property and create safety and access issues between the horses and users of the trail.

In order to provide safe access for pedestrians without compromising the current Equestrian operations of the Agency, the strategic design and development of a shared use facility needs to be considered along that portion of the proposed trail adjacent to the Agency property just south of the Village of Freeville.

II.C.2.d. Trail Surface:

The selection of a suitable trail surface is a key project decision with a range of potential effects on the environment, accessibility and enjoyment, public safety, aesthetics, and construction and maintenance costs.

The trail surface must, at minimum, be ADA compliant, wide enough for emergency vehicles (8 feet), and meet standards in the ASHTO Guide for the Development of Bicycle Facilities, as well as Chapter 18 of NYSDOT Highway Design Manual (Facilities for Pedestrians and Bicyclists).

II.C.2.e. Strategic Land Use Planning:

The Town of Dryden's updated Comprehensive Plan identifies highways and sidewalks as being one approach to accommodating transportation and recreational opportunities for pedestrians and bicyclists. Strategic land use planning decisions and public safety will also play an integral role in the utility and success of the proposed trail and the future pedestrian network within the Town. For bicycling and walking to be attractive transportation alternatives within the community, generators such as places of employment, schools, neighborhood retail and commercial enterprises must be directly linked to the trail system.

Enhancing the historical development patterns within the Villages of Dryden and Freeville by engaging in strategic land use practices will provide ample opportunity for the Town to develop a unique and efficient recreational and transportation corridor linking these two centers of activity.

II.D. Project Objectives:

The Dryden-Freeville Trail project will include the development of a 2.8 mile (4.5 km) continuous trail connecting the existing Jim Schug trail with the Villages of Dryden and Freeville. The project objectives identified to best respond to the established Conditions and Needs are as follows:

- Acquire right-of-way ownership along the full length of the abandoned rail bed to provide continuous access between the Village of Dryden and Freeville.
- Design and develop trailhead/gateway facilities and associated signage at strategic locations along the trail to enhance accessibility and orientation to all user groups.

- Identify locations along the trail for interpretive signage, selective thinning for view sheds, and linkages to existing community generators such as Dryden High School and adjacent residential areas.
- Identify other potential routes along the adjacent local highway network that will provide an alternate trail system from the Village of Dryden to the Village of Freeville if found necessary to vary from the rail bed due to right-of-way constraints or topography.

The design alternatives chosen to satisfy these objectives will rely largely on the successful acquisition of rights-of-way along the length of the rail bed. All new trail infrastructures provided as part of this proposed project will adhere to current standards and utilize cost-effective measures to avoid or mitigate adverse social, economic, or environmental impacts.

Chapter III - Alternative

III.A. Introduction:

A primary goal of the Dryden-Freeville Trail project is the construction of a multi-modal trail linking the villages of Dryden and Freeville while connecting to the existing Jim Schug Trail. To that end, the Town of Dryden sought and received ISTE A Enhancement Program funding to design and construct the Trail.

The intent was to construct the Trail on the abandoned railroad bed linking the two communities. Unfortunately, following abandonment, the railroad property reverted to the adjacent property owners, in effect severing the direct linkage. Further complicating the problem, the embankment at George Road, the deterioration of the railroad bridge, and the failure or alteration of drainage structures and patterns exacerbated connectivity issues.

The following discussions of the alternatives considered and investigated provides a basis for the construction of a multi-modal facility linking the two communities; and, presents a strategy and methodology for addressing the ownership, construction, and cost issues for the future implementation of a trail fully utilizing the abandoned railroad bed.

III.B. Design Criteria:

The following design criteria will be utilized for development of the project.

III.B.1. Standards:

NYSDOT Highway Design Manual (HDM) (Chapter 18), and
AASHTO Guide for the Development of Bicycle Facilities, 1999.

III.B.1.a. Design Elements:

Dryden-Freeville Trail - Shared Use Facility Design Criteria				
	Element	Standard	Existing	Proposed
A	Minimum Design Speed	32 km/hr (20 mph)	N/A	32 km/hr* (20 mph)
B	Minimum Shared Use Width	3.05 m (10.0 ft.)	3.05 m (10.0 ft.)	3.05 m (10.0 ft.)
C	Shoulder Width Minimum: Desirable:	610 mm (2 ft.) 915 mm (3 ft.)	Varies along trail	610 mm (2 ft.) 915 mm (3 ft.)
D	Maximum Grade	5% (<3% desirable)	5.5 %	5% max. (<3% desirable)
E	Minimum Horizontal Radius	27.5 m (90 ft.)	12.2 m (40 ft.)	27.5 m (90 ft.)
F	Design Superelevation Rates Min: Max:	2 % 3 %	N/A	2% 3%
G	Stopping Sight Distance	38.1 m (125 ft.)	N/A	38.1 m (125 ft.)
H	Minimum Lateral Clearance	610 mm (2 ft.)	N/A	610 mm (2 ft.)
I	Minimum Vertical Clearance	3.05 m (10 ft.)	3.61 m (11.8 ft) at Thruway	3.05 m (10 ft.)
J	Minimum Vertical Height of Barrier, Fence or Railing on Shared Use Trail Pedestrian Barrier/Rail Height	1.4 m (54 in.) 1.1 m (42 in.)	N/A 1.1 m (42 in.)	1.4 m (54 in.) 1.1 m (42 in.)
K	Signage	Comply with MUTCD	N/A	Comply with MUTCD
L	Pedestrian Accommodations	Comply with ADA & HDM Chapter 18	N/A	Comply with ADA & HDM Chapter 18

III.C. Alternatives Considered:

The following alternatives were considered for addressing the project objectives:

- Do Nothing (Null) Alternative No. 1: Alternative No. 1 does not remedy the conditions stated in section II of this report. Because this alternative does not meet the project objectives, it will not be considered further.
- Alternative No. 2 - Develop Trail from Route 13/Jim Schug Trail to Springhouse Rd with On-Road Bikeway to Freeville: This alternative improves the trail corridor between Route 13 and Springhouse Road with surfacing, signage, benches, a trailhead and improved crossings at Route 13 and Elm Street, and a trail entry at Springhouse Road. In the future, connector trails can be developed to village streets; particularly Greystone Drive, and to the Dryden Schools. An on-road signed bikeway is proposed to make an interim connection between the off-road trail and the Village of Freeville until such time as the off-road trail can be completed.

This alternative would meet the project objectives, and is considered a feasible alternative.

- Alternative No. 3 - Develop Off-Road Trail from Route 13/Jim Schug Trail to Freeville Village Hall: This alternative connects the Villages of Dryden and Freeville with an off-road trail including signage, improved road crossings, trailheads in both Villages and neighborhood connector trails. It includes sub-alternative routes for the George Road crossing (tunnel and at-grade crossing) and for passing through the George Agency property via three alternate routes.

This alternative would meet the project objectives, and is considered a feasible alternative.

- Summary and Conclusions: Alternative No. 2 will be designated the 'Preferred Alternative' for the purposes of this Design Approval Document. While it would be preferable to construct all of the Dryden-Freeville Trail to link the Villages of Dryden and Freeville under a single contract, it is clear that there is not adequate funding for the development of the full length of the Trail. Furthermore, sections of the trail described in Alternative No. 3 are owned by private landowners with serious issues and concerns about the development of the trail on their property. Given the limitations in funding availability and landowner concerns we feel that Alternative No. 2 is the only viable alternative to pursue at this time. Fortunately, Alternative No. 2 is located on Village-owned property within the Village of Dryden where it

serves the greatest concentration of population along the whole trail corridor. It will effectively extend Dryden's existing Jim Schug Trail through the Village to its western boundary and makes possible a future linkage to the Dryden Schools, an important and potentially heavily-used connector, as well as numerous residential streets.

III.D. Feasible Alternative(s):

III.D.1. Description of Alternative No. 2:

Alternative No. 2 is to develop a multi-use trail, surfaced with limestone dust, between the existing Jim Schug Trail at Route 13 and Springhouse Road. This alternative involves the construction of an at-grade crossing at the intersection of Route 13, stone dust trail surfacing, signage at crossings and trail access points, benches, a trailhead and an at-grade crossing at Elm Street, and a trail entry with signs and parking at Springhouse Road. An on-road signed bikeway is proposed to make a short-term connection between the end of the off-road trail at Springhouse Road and the Village of Freeville, until such time as the off-road trail corridor can be completed. In the future, connector trails can link to Dryden Schools and Village streets.

Alternative No. 2 will be comprised of 0.6 miles (0.97 km) of off-road trail, developed exclusively on the abandoned railroad corridor, and 2.3 miles (3.7km) of signed on-road bikeway. The Village-owned railroad right-of-way is cleared to a 20 – 30 foot width and maintained as a lawn with regular mowing by the Village DPW crews. The majority of the corridor edge has grown into hedgerows comprised of large trees, shrubs, grasses and wildflowers. Adjacent land uses include single-family residential homes, small industry and public uses within the Village. A more rural landscape comprised of wetlands, woodlands and farmlands is the norm as you move to the northwest away from the Village center along the proposed trail. Selective clearing to open up views and vistas to the surrounding landscape would enhance the experience for trail users.



View looking west in the Village of Dryden of proposed trail corridor to be constructed on abandoned railroad corridor.

Between Route 13, Elm Street, and the Dryden Wastewater Treatment Plant there appears to be remnant railroad ties along the trail corridor. Dryden's wastewater outflow pipes are located in the railroad corridor between Dryden's Treatment Plant, Springhouse Road and the Village of Freeville's Wastewater Treatment Facility. There are numerous manholes spaced at regular intervals along the corridor. Access to manholes and to the outflow pipe for routine maintenance and emergencies must be preserved.

Following are descriptions of special conditions (opportunities and constraints) along the trail:

III.D.1.a. Route 13 Crossing:

The Village's existing Jim Schug Trail extends from Route 13 to the southeast along the same railroad corridor as the proposed Dryden-Freeville Trail. The trail's surface in this area is mown grass with some exposed gravel/railroad ballast. Access to the Jim Schug Trail from Route 13 has not been formalized, i.e., there is no signage or accessible linkage.

The Dryden-Freeville trail begins with an improved at-grade crossing of Route 13 that will link this proposed trail to the existing Jim Schug Trail. Improvements include a high visibility, ladder-style crosswalk, an in-street crossing sign, and other associated signage as shown in figure 1. The trail right-of-way is at a higher elevation than Route 13, so grading will be required to create accessible approaches to the crosswalk. Curb ramps will be also be

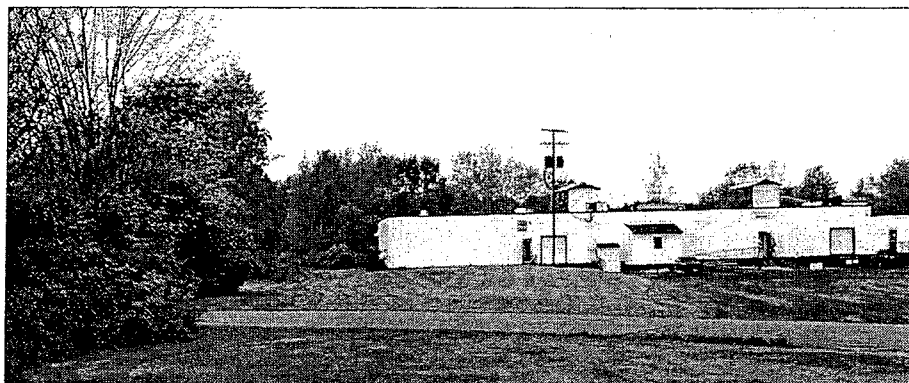
required at the crosswalk. An improved crosswalk with signage as proposed will enhance safety at this intersection and provide the trail network with greater visibility in the community.



***View looking east from the proposed trail corridor across
NY Route 13 to the Jim Schug Trail.***

III.D.1.b. Elm Street Crossing and Trailhead:

Elm Street is a low-volume, dead-end street ending at the Village's Public Works Department. Elm Street intersects the trail right-of-way providing excellent visibility in all directions for both trail users and motorists. The crossing will include a crosswalk and typical crossing signage as shown in figure 2. The trailhead, also shown in figure 2 is proposed to be located on Village-owned land northeast of the intersection, adjacent to the trail. The trailhead will have an information kiosk/bulletin board, bench along with 8 parking spaces including two accessible spaces.



View looking west across Elm Street

III.D.1.c. Village Wastewater Treatment Plant:

The trail passes the Village's Wastewater Treatment Plant. Recent installation of a wastewater pipe across the trail corridor has left a significant dip in the trail profile and will require filling, regrading and compaction prior to trail development and surfacing. The surrounding landscape in this area is a complex of wetlands that provides an opportunity for a spur nature trail and for interpretive/educational signage at some time in the future.

III.D.1.d. Springhouse Road Intersection:

Springhouse Road is a low-volume local street with no paved shoulders. Visibility where the railroad corridor crosses the road is good, though clearing of vegetation along the trail and road intersection would greatly improve the situation. Under Alternative No. 2, Springhouse Road is the end of the off-road section of the trail. Trail access will be controlled with bollards and a half-gate (if space allows) and signs where the trail corridor intersects with Springhouse Road. The development of a small trail parking area with 3-4 spaces (one accessible) at the southeast corner of the intersection is also proposed. Property acquisition or an easement will be required since the trail corridor is approximately 60-feet wide at this point.



View looking north at intersection of proposed trail and Springhouse Road

III.D.1.e. On-Road Bikeway to Freeville:

The signed on-road bikeway between the Springhouse Road intersection and the Village of Freeville will follow Springhouse Road north to Route 38, then left on Route 38 and head west to Freeville. After entering the Village and passing the railroad corridor, it will turn left, to the south, on Factory Street to Freeville's Village Hall.



Route 38 has 5 foot paved shoulders suitable for bicycle use

Some possible future trail linkages to important village destinations and residential areas include the following:

III.D.1.f. Trail Connector to Dryden High School:

Dryden High School is currently linked to Village residential neighborhoods via a sidewalk linked to a Route 38 crosswalk located east of the High School. The proposed trail connector would create a direct linkage between the Dryden-Freeville and Jim Schug Trails and the High School providing an important safe route to the school. This will require the acquisition of property or an easement, and may entail crossing federally-designated wetlands.

III.D.1.g. Greystone Drive Neighborhood Connector:

An informal pathway connects Greystone Drive, a cul-de-sac with single family homes, to the proposed trail corridor. Greystone Drive is approximately 10' higher than the rail bed, with a steep embankment between the two so the development of this neighborhood connector trail would require significant earthwork.

III.D.2. Description of Alternative No. 3:

Alternative No. 3 proposes the development of a multi-use trail from the Route 13 crossing, past both Springhouse and George Roads to the Freeville Village Hall creating a totally off-road trail linkage between the Villages of Dryden and Freeville. Total length of the trail is 2.8 miles (4.5km). This alternative involves all items described in Alternative No. 2, an at-grade crossing at Springhouse Road, sub-alternative proposals for crossing George Road and traversing the William George Agency for Children's Services property, and a trailhead with parking and kiosk at the Freeville Village Hall.

See 2.D.1. *Description of Alternative No. 2*, above, for detailed descriptions of the proposed trail development issues and proposed treatments between Route 13 and Springhouse Road. Development of the proposed trail between Springhouse Road and the Village of Freeville has many complexities including a railroad bridge renovation, technically challenging and potentially expensive road crossings, and the need to gain access to at least two privately-owned sections of the abandoned railroad corridor or adjacent properties. While it is preferable to develop a totally off-road trail between the Villages, this is not possible to do in the short term due to financial constraints and the required property negotiations.

Following are descriptions of special conditions (opportunities and constraints) along the trail:

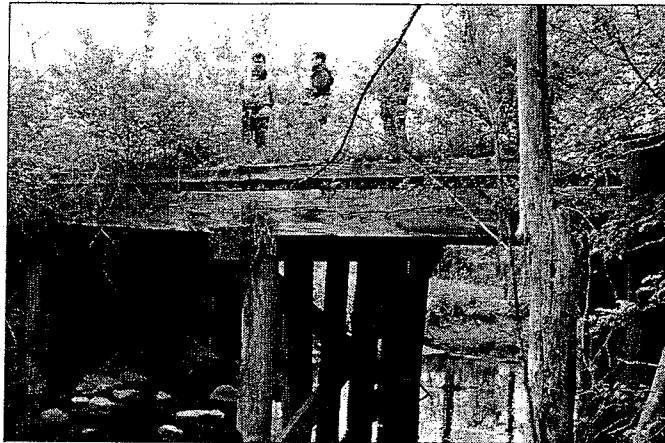
III.D.2.a. Springhouse Road Crossing:

The proposed trail will cross Springhouse Road at-grade with a crosswalk, associated signage and bollards and/or half gates as shown in figures 3 and 4. With some modest clearing of hedgerow vegetation 20 feet +/- back from the road edge on either side of the trail, sight distances at the crossing will be excellent.

III.D.2.b. Bridge Renovation and Other Van Pelt Property Issues:

West of Springhouse Road, Warren Van Pelt owns the railroad corridor. While the Village of Dryden has an easement for the wastewater outflow pipe with the right-of-way, this does not include the right to develop a trail facility. Mr. Van Pelt actively farms adjacent parcels south of the proposed trail corridor. Initial consultation with Mr. Van Pelt indicates a willingness to consider the transfer of property to the Town, provided certain liability and rights of access concerns are addressed. These include:

- The continued right of access to his agricultural fields with modern agricultural equipment via the trail corridor. He must be provided keys for any half gates or removable bollards that might be installed to limit motor vehicle access to the trail. Gates and bollards should be placed at least 20' from road edge to allow vehicles to park off the road while locking and unlocking structures.
- The railroad trestle bridge just west of Springhouse Road must be repaired to accommodate farm vehicles and to meet current design standards for a trail bridge.



Railroad trestle bridge will need to be renovated for trail use and to provide farm vehicle access to adjacent farm fields.

- The Town must assume liability for trail users and all trail maintenance activities.
- Equipment Turnaround

Approximate 300 feet west of Springhouse Road, the adjacent creek to the north of the proposed trail is eroding the railroad embankment. Stabilization of this embankment will be required to keep the top of the embankment a suitable width for trail development and for farm vehicle access.

III.D.2.c. Snowmobile Trail Section and Signage:

A snowmobile route, part of the local and statewide snowmobile trail network that is maintained by local snowmobile clubs, currently uses approximately 1000 feet of the railroad corridor on land owned by Mr. Van Pelt. Care should be taken to keep this seasonal use intact and provide adequate signage to accommodate shared use for this short section of trail.

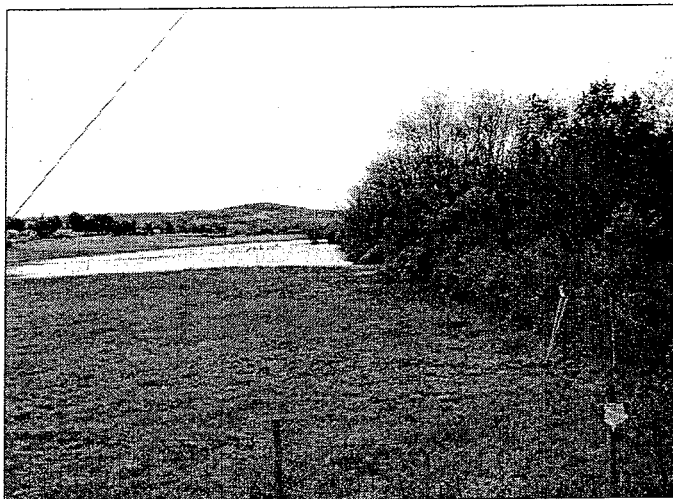
III.D.2.d. Trail Development on Price-Owned Land:

Mrs. Shirley Price owns 800 feet of the railroad corridor between the Van Pelt property and George Road. The following conditions have been outlined in discussions between the Town and the Prices to grant an easement for long-term trail use. The Town will assume liability for injuries or damages to trail users when they are on the trail and will assume maintenance of the trail, including litter pickup and mowing as needed. Other conditions will be determined at a later date when final agreements are being negotiated.

III.D.2.e. George Road Crossing Sub-Alternative Trail Routes:

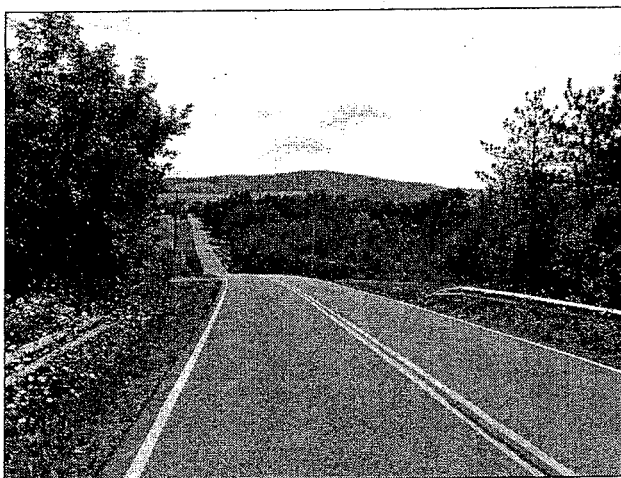
Two trail routes are considered feasible to negotiate the crossing of George Road. Both sub-alternatives are on property owned by the George Agency. The first sub-alternative is to remain within the railroad corridor and to construct a tunnel under George Road to create a separated crossing that is essentially flat and accessible. Preliminary cost estimates for this separated crossing are \$185,000.

The second sub-alternative is to construct the trail along the edge of the adjacent pasture to the north of the railroad corridor at the top of the embankment cut. The trail in this location will not require extensive earthwork, as it will be constructed on the existing grades.



***Railroad trestle bridge will need to be renovated for trail use
and to provide farm vehicle access to adjacent farm fields.***

West of George Road the proposed trail would be constructed on land owned by Mr. Paul Cook. Construction on this alignment will require extensive clearing, grading and filling to construct a ramp from the road which is sited approximately 50 feet above the railroad bed.



***George Road looking south at proposed at-grade
crossing as described for Sub-alternative No. 2***

III.D.2.f. William George Agency Property Sub-Alternative Trail Routes:

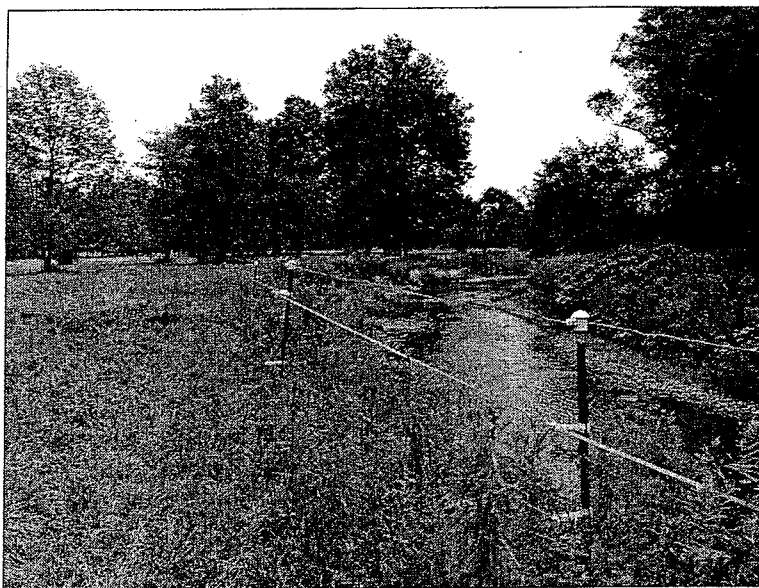
West of George Road the railroad corridor is under the ownership of the George Agency where it passes through a complex of fenced pastures adjacent to their horse barn before moving into Village of Freeville ownership near the Village Wastewater Treatment Plant. There are three sub-alternatives for making a connection through, or around the George Agency.

The first sub-alternative is to develop the trail on the railroad corridor passing through the three fenced pastures by providing the required security and gate structures. Because electric fencing is used to delineate pastures, the George Agency is requesting that a parallel fence with gates be constructed to protect trail users from the pasture fences and to provide added security. The preliminary estimate for the required fencing and gates is approximately \$150,000.



The George Agency uses the railroad corridor to access its pastures.

The second sub-alternative is to develop the trail south of the railroad corridor along the bank of Virgil Creek. West of the row of large spruce trees that form the border between the Creek and the railroad corridor, the creek meanders to the south and forms the edge of the George Agency's pastures located southwest of the proposed trail. The Agency has fenced the pastures along the creek edge. Under this alternative, the trail would be developed along the creek edge by offsetting the fence at least 20 feet away from the creek edge and the existing fence line. The trail in this location would not interfere with pasture operations, other than a slight reduction in total area. However the trail would have to be carefully sited adjacent to the creek to ensure that the creek bank erosion is protected and the water quality and native fishery is preserved. Also to be considered as part of this sub-alternative would be mitigation measures so as not to impact any wetlands currently in this vicinity of the proposed trail. The trail would return to the railroad corridor at the west end of the George Agency parcel.



Sub-alternative No. 2 is to develop the trail along the north bank of Virgil Creek and will require shifting fence to the north (left).

The third sub-alternative is to develop a signed on-road bikeway between the George Road intersection and the Village of Freeville. The bikeway will follow George Road north to Route 38, then Route 38 to Freeville. After entering the Village of Freeville and passing the railroad corridor, it will turn left, to the south, on Factory Street to Freeville's Village Hall.

III.D.2.g. Village of Freeville

The trail within the Village of Freeville will follow the Village-owned railroad right-of-way from the George Agency to the Village Department of Public Works garage. This section of the right-of-way will be a shared-use trail to accommodate access to the Wastewater Treatment Plant by Village-owned maintenance vehicles and non-motorized trail users. Appropriate signage will be provided as well as bollards and/or half-gates to restrict vehicular access from Route 38.

The proposed trail will turn to the west south of the DPW garage, proceeding to the Village Hall where a trailhead will be developed adjacent to the existing parking lot. Parking lot expansion will be considered if increased demand for parking results from trail use. Information about the trail will be provided at a kiosk to be developed in the trailhead.



***Railroad corridor in Freeville is used by DPW maintenance
Vehicles to access the wastewater treatment plant.
This short section will be shared with trail users.***



***Proposed trail will pass through small woodland to a trailhead behind
Freeville's Village Hall (right).***

III.E. Project Schedule and Costs:**III.E.1. Project Schedule:**

Outlined below is the anticipated construction schedule for the duration of this project:

September, 2005	Landowner Discussions/Public Information Meeting
October, 2005	Draft Design Report Submittal
November, 2005	Receipt of Comments/Final Design Report Submittal
December, 2005	Design Approval
February, 2006	Advance Detail Plan Submittal
March, 2006	Final Plan Submittal/Contract Documents
May, 2006	Receipt of Bids
June, 2006	Contract Award
September, 2006	Contract Completion

III.E.2. Project Costs:

The estimated total project cost for the feasible alternative is \$ _____.
The project is funded by 80 percent TEA-21 (Federal) grant funds and 20 percent Town funds.

Segment 1 – Route 13 to Springhouse Road (0.6 Miles):

Trail	\$75,000.00
Rt. 13/Elm Street Crossing.....	\$ 6,000.00
Trailhead/Parking Area	\$20,000.00
Interpretation	\$ 5,000.00
Subtotal	\$106,000.00

Segment 2 – Springhouse Road to George Road (0.85 miles):

Trail	\$ 75,000.00
Creek Embankment Stabilization	\$ 40,000.00
Railroad Bridge	\$ 87,000.00
Drainage/Culvert	\$ 15,000.00
George Road Crossing	
At grade.....	\$ 70,000.00
Underpass	\$ 160,000.00
Subtotal	
At Grade	\$ 287,000.00
Underpass	\$ 377,000.00

Segment 3 – George Road to Route 38 (1.35 miles):

Trail	\$175,000.00
Trailhead/Parking Area	\$ 20,000.00
Interpretation (kiosk)	\$ 7,000.00
Horse Crossing/Fencing.....	\$ 90,000.00
Subtotal	\$292,000.00

Total Project Cost (Route 13 to Route 38)

George Rd. Crossing at Grade	\$740,000.00
George Rd. Crossing with Underpass	\$830,000.00

Additional On-Road Route 38 Option:

Signage/Pavement Markings.....	\$ 25,000.00
Off-road Dryden High School Linkage	\$ 75,000.00

Chapter IV - Social, Economic and Environmental Considerations

IV.A. Introduction:

Projects which qualify for ISTEPA Enhancement Program funding are by definition environmentally beneficial or benign. As such, they must be designed and constructed in a manner which follows accepted protocols and preserves and enhances significant historic, cultural, and natural resources. The Dryden-Freeville Trail project presents a signal opportunity to link the Villages of Dryden and Freeville by transforming the former Lehigh Valley Rail bed into a recreational and pedestrian transportation corridor, and enhancing the overall trail network in the Town.

The purpose of this chapter is to identify the social, economic and environmental consequences of the specified project and to identify all permits and approvals required prior to trail construction.

IV.A.1. State Environmental Quality Review Act (SEQRA) and Lead Agency:

Classification of this project is under the New York State Environmental Quality Review Act (SEQRA) Part 617, Title 6 of the Official Compilation of Codes, Rules, and Regulations of New York State (6 NYCRR Part 617) and is assumed to be an Unlisted Action (Non-Type II). The Town of Dryden will be Lead Agency. The SEQR Notice of Determination of Non-Significance is provided in appendix C of this Design Report.

IV.A.2. National Environmental Action Plan Classification:

The project is being progressed by the Town of Dryden, in conjunction with New York State Department of Transportation and the Federal Highway Administration, as a Class II Action under the United States Department of Transportation National Environmental Policy Act Regulations contained in the Code of Federal Regulations (23 CFR 771), and will be progressed as a Categorical Exclusion with Documentation.

A NEPA Assessment checklist is contained within appendix C of this report. The answers indicated on the Checklist, supported by investigations and documentation referenced in this report, conclude that the overall project qualifies as a Categorical Exclusion with Documentation. The type and scope of work involved will have no significant adverse social, economic, or environmental impact on the area.

IV.B. Social, Economic and Environmental Consequences:**IV.B.1. Social Consequences:****IV.B.1.a. Affected Population:**

The proposed trail will traverse a 2.8 mile (4.5 km) corridor that transitions between the existing traditional mixed-use development patterns of the Villages of Dryden and Freeville through expanses of rural flat lands. In addition, the trail will pass in close proximity to various educational facilities such as Freeville Elementary School, Dryden Elementary School, Dryden High School, George Junior Republic, and Tompkins Cortland Community College. There are also several health-care providers in the Villages of Freeville and Dryden who could build awareness of the trail network as a safe place for regular exercise. Additionally, Willowbrook Manor is a senior citizen housing complex located close to the trail in the Village of Dryden, and there is a similar facility in the Village of Freeville.

As such, it is not anticipated that the proposed trail project will have any adverse affects on these or any other population groups within proximity to the project area.

IV.B.1.b. Local Planning Process:

The Town of Dryden's Comprehensive Plan outlines strategies for implementation of future trail projects that will establish a regional network linking the two villages and the existing hamlet centers of Etna, Varna, and Ellis Hollow to various parks and adjacent communities. The Plan calls for a Town Park adjacent to this proposed trail, however an exact location has not been determined at this time. The Town is currently working on purchasing a parcel of land in proximity to the trail terminus which may be used for a new Town Hall and playing fields.

Also, the Village of Dryden has recently engaged in traffic calming improvements to its highway system in proximity to the Route 13 trail crossing intersection, and is currently progressing initiatives to bring new businesses to Main Street adjacent to the proposed trail system.

IV.B.1.c. Community Cohesion:

Due to the nature and scope of this project, there will be no changes in the surrounding neighborhoods. Also, no businesses or residences will be displaced or relocated as a result of the proposed project. The trail will run

along the former Lehigh Valley Rail bed and vary only slightly due to right-of-way constraints, where the alternative trail alignment will be along portions of the existing highway network within the Town of Dryden.

The proposed project provides an opportunity to improve community cohesion through the construction of the proposed trail and related trailhead/gateway parking areas. By providing a pedestrian linkage between the Villages of Dryden and Freeville, key population centers will be connected and linkages to surrounding residential neighborhoods and commercial areas are provided.

IV.B.1.d. Changes in Travel Patterns & Accessibility:

No adverse changes in travel patterns or accessibility are anticipated as a result of this project. The trail itself will provide a positive affect on travel patterns by promoting the utilization of non-motorized transportation, providing energy, health, operational, and convenience benefits to residents and visitors of the Town. In addition, the proposed trail will enhance the accessibility of the existing pedestrian and bicycle network in the region by connecting key destination points such as the Villages of Dryden and Freeville, Dryden High School, the existing Jim Schug Trail and Dryden Lake with surrounding residential neighborhoods and commercial areas.

IV.B.1.e. Impacts on School Districts, Recreation Areas, Churches or Businesses:

The project will create minimal disturbance to school districts, recreation areas, churches, or businesses. As an alternative community linkage, this project will consider a spur connection to Dryden High School to provide pedestrian access and enhanced opportunities for recreation. The only adverse affect associated with these groups will be during construction, which will be minimal considering much of the trail traverses undeveloped, rural or forested lands.

IV.B.1.f. Impacts on Police, Fire Protection and Ambulance Access:

Coordination with Emergency Services will be made to ensure that adequate access to the trail is accommodated. It is anticipated that the design of the trail will allow Emergency Services the ability to provide adequate emergency response time to the area.

IV.B.1.g. Impacts on Highway Safety, Traffic Safety, and Overall Public Safety:

To ensure highway, traffic, and public safety, this project will be constructed in accordance with criteria established in Chapter 18 of the NYSDOT Highway Design Manual (Facilities for Pedestrians and Bicyclists) and ASHTO's Guide for the Development of Bicycle Facilities. Construction of the project will ensure overall safety along the trail by providing safe crossings at road intersections, and better access for vehicles, pedestrians, and bicyclists via the construction of two trailhead/gateway parking facilities.

IV.B.1.h. General Social Groups Benefited or Harmed:

This project is not expected to adversely affect the elderly, persons with disabilities, minorities or ethnic groups. The impact of a safe, efficient trail system will be beneficial irrespective of age, ethnicity, or income. In fact, the greatest benefit to these sections of the larger population lies in the design and construction of this pedestrian trail that will link two population centers with multiple residential neighborhoods and commercial areas.

IV.B.2. Economic Consequences:**IV.B.2.a. Impacts on Regional and Local Economies:**

There are no long-term adverse economic impacts caused by this project. A significant short-term benefit would be the generation of jobs to construct the proposed improvements. This project will result in long-term benefits such as easier non-motorized movement of people and enhanced recreational opportunities throughout the community. Ultimately, the successful completion of this trail along the former Lehigh Valley rail bed between the Villages of Dryden and Freeville will help extend a community-wide network of trails that will provide a functional, attractive community with increased opportunities for tourism and economic development.

IV.B.2.b. Impacts on Existing Highway-Related Businesses:

It is not anticipated that this project would have any adverse impacts on local businesses along Routes 13 and 38 in the Villages of Dryden and Freeville, respectively. In fact, the proposed layout and location of the trail and related trailhead/gateway parking facilities are designed to help efficiently distribute pedestrians and bicyclists between these two population centers within the Town of Dryden, and to also provide easier access to the trail system and its adjacent commercial businesses.

As discussed above, it is anticipated that long-term impacts of the project would have a positive effect on existing highway related businesses in proximity to the proposed trail system.

IV.B.2.c. Impacts on Established Business Districts:

The Villages of Dryden and Freeville represent established business districts within the Town of Dryden. The trail will provide greater access to these population centers and thus, enhance economic vitality within the two Villages and Town as a whole. Access to the businesses and services adjacent to the trail corridor would be maintained during all phases of construction and it is anticipated that long-term impacts of this project would have a positive effect on these two centers of business activity.

IV.B.2.d. Relocation Impacts:

No residences or businesses would be displaced as a direct result of this project. The trail will be an extension of the existing Jim Schug Trail and extend northwesterly to the Village of Freeville, varying slightly due to right-of-way constraints

IV.B.3. Environmental Consequences:

IV.B.3.a. Surface Waters/Wetlands:

1. *Surface Waters:* This project corridor spans Tributary No. 4 of Virgil Creek (NYSDEC Water Index Number Ont.66-12-P-296-74-16-4). Virgil Creek flows southwest from a group of wetland areas in the Town of Virgil, Cortland County, located east of the project site, to the Town of Dryden. From there Virgil Creek begins to flow northwest to the Village of Freeville, Town of Dryden, where it drains into Fall Creek. Virgil Creek flows adjacent to the project area for most of the corridor's length. Tributary No. 4 flows into the main branch of Virgil Creek after Springhouse Road in the Town of Dryden outside of the Village boundary. Within the project area, Virgil Creek is considered by the NYSDEC a Class C stream with C(T) Standards (6 NYCRR Part 805.4). Class C waters with C(T) Standards are included in the definition of a protected stream in 6 NYCRR Part 608 Use and Protection of Waters. Streams with this designation are protected for trout habitat. Tributary No. 4 is classified by the NYSDEC as a Class C stream with C Standards. According to the NYSDEC, the best usage of Class C waters is fishing. They are not suitable as drinking water and do not meet the New York State Department of Health drinking water standards (6 NYCRR Part 701). Construction activities included in

the project design include rehabilitating the abandoned railroad bridge that crosses Tributary No. 4 and upgrading several culvert locations along the abandoned rail bed corridor. A Stream Disturbance Permit will not be required from the NYSDEC due to the classification of Tributary No. 4. Virgil Creek does not cross the proposed trail route.

2. *Wetlands:* A review of wetland mapping indicates that there is one NYSDEC regulated freshwater wetland located adjacent to the project site. Wetland GR-17 is located along the west side of the final stretch of trail corridor, beginning across from the Village of Dryden Wastewater Treatment Facility. National Wetland Inventory results show a handful of federally regulated wetlands adjacent to the project area, including GR-17. A wetland site inspection was performed by Barton & Loguidice, P.C. on May 25, 2005 to confirm the presence and precise locations of wetlands adjacent to the project corridor. Many wetland locations were reported during this site walkover. Assessed boundaries of these wetlands were picked up using a hand-held Global Positioning System (GPS). Any impacts to mapped wetland GR-17 or any activities within 100 feet of its boundary will require a Freshwater Wetland Permit issued by the NYSDEC. If federal wetland impacts do occur, a section 401 blanket Water Quality Certification from the NYSDEC will be required as well as a Section 404 Nationwide Permit No. 3 for general maintenance. Wetland impacts totaling more than 1/10th of an acre may require the enforcement of certain wetland mitigation measures. If more than ½ an acre of wetland is impacted then an individual Executive Order 11990 Wetland Finding will be required. The above permit requirements are subject to change depending on the final design layout of this entire project.
3. *Coastal Zone Management:* The project site is not located within the New York State Coastal Zone.
4. *Navigable Waters:* This project is not within navigable waters as per the Coast Guard Checklist.
5. *Wild, Scenic and Recreational Rivers:* Virgil Creek and its tributaries are not listed in the National Program as wild, scenic or recreational waters, nor are they listed in the New York State Wild, Scenic and Recreational River System Act (16 U.S.C. 1271-1287), Title 27 of Article 15 of the E.C.L. (Dated 1994). Therefore these designations do not impact this project.

6. *Flood Plains*: According to the Federal Emergency Management Agency (FEMA), multiple sections of the proposed project route travel through areas mapped as 100 year flood plains. The requirements of EO11988 dictate that any given project must avoid or minimize impact to the flood plain(s), explore alternatives to avoid action in the flood plain(s), and conduct a Public Information Meeting to notify the local residents of the action(s) being conducted in the flood plain area(s).

IV.B.3.b. Water Source Quality:

As mentioned previously, Tributary No. 4 is Class C water with C Standards. The best usage of Class C water is fishing. Waters with these classifications are not suitable as drinking water and do not meet the New York State Department of Health drinking water standards (6 NYCRR Part 701).

The project site is not located within a Sole Source Aquifer System according to the Environmental Protection Agency Region 2 map depicting the location of Sole Source Aquifers in New York State. Mapping was reviewed to determine whether the project site is located in an area that may support a principal or primary aquifer. The project is not located in an area identified as a primary aquifer. The project is not situated within a geological formation that could be considered a Principal Aquifer according to the USGS Water-Resources Investigations Report "Unconsolidated aquifers in Upstate New York –Adirondack Sheet" (Bugliosi and Trudell, 1988).

According to the 1990 NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) No. 2.1.3, there are several criteria that an aquifer must meet in order to exhibit principal aquifer characteristics. These include sustained well yield, aquifer thickness and extent of contiguous permeable deposits serving as aquifer recharge areas. Since detailed hydrogeologic data is not often available for specific areas requiring principal aquifer determinations, the USGS Water-Resources references cited above allow for preliminary aquifer identification in the absence of such data. A site walkover of the project area was performed. Based on the observations from this walkover, no visible indications were present which would refute the information contained in the previously cited references that indicate that the project site does not overlie a principal aquifer.

IV.B.3.c. General Ecology and Wildlife:

Virgil Creek and its tributaries are shallow with a bedrock bottom and gently sloping sides. All areas surrounding the creek are characterized as deciduous forest with an abundance of shrubs like tartarian honeysuckle (*Lonicera tartarica*) and red raspberry (*Rubus idaeus*). The U.S. Department

of the Interior Fish and Wildlife Service (USFWS) and the New York State Department of Environmental Conservation (NYSDEC) Natural Heritage Program Office were contacted for information regarding the reported presence of any endangered or threatened species or significant habitats in the project area. A response from the NYSDEC NHP was received on June 23, 2005. This letter stated that no records of endangered or threatened species were found in regards to the project area. A response has not been received by the USFWS. Upon reply, any concerns reported by this agency will be taken into consideration and addressed in the Final Design Document.

The NYSDEC list of Critical Environmental Areas was reviewed to determine if any areas exist near the project site. The list indicated that there are no Critical Environmental Areas designated in Schuyler County.

Virgil Creek is not known to support a viable warm water fishery. Therefore, there are no restrictions placed on the project in regards to fisheries populations. If this determination is incorrect, the NYSDEC will issue a letter describing the situation and corresponding project restrictions.

Letters of correspondence with the above agencies and their responses are found in appendix D.

IV.B.3.d. Historic and Cultural Resources:

The proposed project will have no effect upon known historic or cultural resources. The abandoned Lehigh Valley Railroad has been determined ineligible for the National Register of Historic Places, and the Trail will have no effect on potential resources where it is superimposed upon the shoulders of Springhouse Road and State Route 38. Should, under future project phases, the described off-rail bed sub-alternative at the George Road crossing and adjacent to Virgil Creek be selected for development, a Phase 1A Literature Review and Preliminary Archeological Field Reconnaissance and a Phase 1B Archeological Investigation should be conducted by a Qualified firm and consultations with the NYS Office for Parks, Recreation, and Historic Preservations, initiated.

IV.B.3.e. Visual Resources:

The proposed project will not reduce the aesthetic value of the railroad bed or the surrounding area. Impacts to the area's natural community are not expected. The development of this trail project will provide cyclists and pedestrians with views of the riverbed, wetland areas, and surrounding forest from the trail. This project is proposed to increase the aesthetic value in the area.

IV.B.3.f. Parks and Recreational Facilities:

No dedicated parkland protected under Sections 4(f) and 6(f) will be impacted by the proposed project. While recreational access along the project corridor may be curtailed during trail development; access will be restored upon completion of the project. There are no parks or major recreational facilities contiguous to the project site.

IV.B.3.g. Farmland Assessment:

A significant portion of lands along the trail between Springhouse Road and George Road are in Tompkins County Agricultural District No. 1, through which the trail is planned to traverse between the Villages of Dryden and Freeville. Both sides of the existing rail bed outside of the Agricultural District are grown over with brush and bushes and are not actively farmed.

It is anticipated that this project will not have any adverse impacts on farm operations or agricultural resources within the Ag District or those rural lands not actively farmed outside the district. Construction of the project will consider the Department of Agriculture and Markets Guidelines and Minimum Construction Standards to minimize or avoid adverse impacts on agriculture.

IV.B.3.h. Air, Noise, and Energy:

1. Air Quality - This project has been evaluated in accordance with the NYSDOT Environmental Procedures Manual, Chapter 1.1 Air Quality, to determine whether or not an air quality analysis is required. The initial screening determination for an air quality analysis is based on overall intersection Level of Service (LOS) ratings for the project. The project corridor LOS is rated A, which does not require an air quality analysis.

Since the project will not require an air quality analysis, and will not have a detrimental effect on ambient air quality, a formal Conformity Determination is not required under the transportation conformity regulation, "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act" (40 CFR Parts 51 and 93). This project has been classified as exempt under these regulations.

2. Noise: The project is not a Type I project under the Federal Highway Administration's (FHWA) guidance regarding noise analysis and abatement and is therefore exempt from noise study requirements. The project does not meet the Type I criteria because lateral and vertical changes in rail bed alignment are not significant enough to warrant such a determination.
3. Energy: The project will not significantly alter energy requirements. Further documentation regarding this project's energy usage is not required.

IV.B.3.i. Contaminated Materials Assessment:

1. Asbestos: There were no asbestos containing materials (ACM) observed within the project corridor.
2. Hazardous Waste: A hazardous waste site screening was completed on May 25, 2005 by personnel from Barton and Loguidice, P.C. The site visit was performed in accordance with the requirements of the NYSDOT Environmental Procedures Manual (chapter 5.1). The completed hazardous waste report includes a description of the project site inspection, a review of historical information, and an evaluation of publicly accessible environmental regulatory agency records. A copy of the hazardous waste materials report, including site inspection results, is included in appendix C.
3. Lead: Lead contamination was not found within the project corridor. No lead containing substances were observed during the project site walkover.

IV.B.3.j. Construction Impacts:

Construction of this project will not result in any permanent effects on the project area. Temporary effects to the project area due to construction may include: construction equipment noise and/or dust and potential for soil erosion. The project contract will include specifications that require the Contractor, as applicable, to conform to Federal and State regulations regarding minimizing construction noise, dust and soil erosion. During construction of this project some recreational inconveniences may be experienced by the public due to trail closures during formation.

It is anticipated that this project will be completed within a single construction season. Pedestrian access will not be maintained at this site during construction. This will be a temporary inconvenience that will be retained during construction of this project.

IV.B.3.k. Anticipated Permits, Approvals and Coordination:

Table 5 Permits/Approvals Anticipated	
U.S. Army Corps of Engineers - Section 10 Permit	N
U.S. Army Corps of Engineers - Section 404 Permit	Y
U.S. Coast Guard - Section 9 Permit	N
FHWA Section 4(f) Approval	N
NPS Section 6(f) Approval	N
NPS Coordination	N
FHWA Categorical Exclusion	Y
NYSDEC Water Quality Certification	Y
NYSDEC Article 15, Title 5	Y
NYS SHPO Final Effect Determination	Y
NYSDEC SPDES Permit	N
Air Quality Analysis	N
Noise Analysis/Abatement	N
Hazardous Waste Assessment	Y
EO 11988 Floodplain Management Conformity	N

IV.B.4. Indirect/Secondary and Cumulative Impacts:

IV.B.4.a. Indirect/Secondary Impacts:

This section describes the likelihood that the proposed action may induce further development. Positive and negative effects of growth within the project area will be discussed.

Positive Growth Effects:

The proposed trail project, in conjunction with planned developments discussed in section II.C.1.f, will provide positive impacts on the regional and local economy. Upon completion of the project, the trail, an extension of the existing Jim Schug Trail, will provide a functional, attractive community with increased opportunities for recreation, tourism and economic development.

Environmental Impacts due to Growth:

The Town of Dryden has outlined efforts to enhance its multi-modal capabilities through their recent Comprehensive Plan update. This project is an integral component to achieve that vision. Improvements to the former Lehigh Valley Railroad bed to a pedestrian and bicycle corridor will reduce automobile independence at the local level, improve pedestrian mobility and levels of service, and increase air quality levels. Due to these improvements within the community, no significant adverse environmental impacts will occur as a result of this project.

IV.B.4.b. Cumulative Impacts:

This section describes the existing (or no action) impacts on the environment and the incremental direct effect of the project. The indirect/secondary impacts will also be quantified and assessed to explore the environment's ability to sustain the project.

Existing (No Action) Impacts on the Environment:

The No-Action alternative would render the project area as it exists now. Under this alternative, the existing vegetation and rail bed would remain environmental conditions would continue as is. Existing ecological habitats would also not be effected.

Incremental Direct Effect of the Project:

Improvements to the former Lehigh Valley Railroad bed to a pedestrian and bicycle corridor will reduce automobile independence at the local level, improve pedestrian mobility and levels of service, and increase air quality levels. The type and scope of work involved to complete such a project will have no significant adverse environmental impacts will occur as a result of this project.

Conclusions:

The cumulative impacts of the project on the environment have been documented. Specifically, the No-Action alternative, Direct Project Effects, and the Indirect/Secondary Impacts have been assessed to explore the environment's ability to sustain the impacts of the project and potential future development as a result. Per the investigations documented above, the cumulative effects of the project will have no significant adverse environmental impact on the project area.

In addition to the benign environmental impacts, the type and scope of work involved in such a project would have no adverse social or economic impact on the area either. A majority of the project impacts are positive and will benefit the Town of Dryden and the Villages of Dryden and Freeville by providing an improved pedestrian and bicycle network, enhancing mobility, recreation, and tourism. Overall, the proposed project provides an opportunity to improve community cohesion through the construction of the trail and related trailhead/gateway parking areas and will not have an adverse impact on the environmental, social, and economic integrity of the community and region.

Chapter V - Evaluation and Comparison of Alternatives:

The following table presents a summary of the proposed project alternatives in matrix form. Refer to Chapters III and IV for further explanation of specific project components:

<u>Description</u>	<u>Proposed Alternative</u>
1. Does each alternative meet satisfy project objectives? :	
Alternative 1(null)	No
Alternative 2	Yes
Alternative 3(preferred)	Yes
2. Monetary Costs:	
Alternative 2	\$0.15 Million
Alternative 3	\$0.74 or 0.83 Million
3. Social, Economic, and Environmental Consequences:	
Permits Required	Yes
Wetlands Encroached Upon	No
Right-of-Way Acquisitions	Yes
Improve Visual Appearance	Yes
Additional Travel Delay	Temporary, during construction
Relocation of Utilities	No
Detour Required	No
Increased Noise Level	Temporary, during construction
Change Air Quality	No
Change Water Quality	No
Provides improved ADA Access	Yes
Impacts to Business	No
Potential Hazardous Waste	No
Potential Asbestos Removal	No
Impact Historical/Cultural Resources	No
Section 4(f) and Section 6(f) impacts	No
Impacts to endangered Species	No
Construction Duration	

Chapter VI - Project Coordination:

VI.A. Early Coordination Recommendations:

Early coordination with New York State Department of Environmental Conservation (NYSDEC), New York State Office of Parks, Recreation, and Historic Preservation, and the New York State Department of Transportation has been established to gain input to the project scoping and design alternative development.

VI.B. Meetings with Community:

All pertinent information gathered from various meetings with public residents and agencies throughout the course of this project is provided in appendix D.

Appendix A
Typical Sections

Appendix B

Plans