

Charting Our Course



A
Walkway and Bikeway Plan
for
Chatham Township
Morris County, New Jersey

July 2009

Prepared by the Chatham Township
Planning Board with advice from the
Open Space Committee

In Consultation with:

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TABLE OF CONTENTS

INTRODUCTION1

REGIONAL SETTING.....2

GOALS AND OBJECTIVES2

 1999 CHATHAM TOWNSHIP OPEN SPACE PLAN ELEMENT2

 2009 GOALS AND OBJECTIVES.....2

BACKGROUND3

 1999 CHATHAM TOWNSHIP MASTER PLAN3

EXISTING CONDITIONS.....3

 TRAIL AND PATH FUNCTIONAL CLASSIFICATION.....3

 INVENTORY AND 1999 PROPOSALS5

 ROADWAY SYSTEM INVENTORY5

ACTIVITY CENTERS.....7

TOOLS FOR CREATING BICYCLE AND PEDESTRIAN PATHS8

 SIGNS.....8

 TRAFFIC CALMING.....9

 PEDESTRIAN FACILITIES10

 CROSSWALKS11

PROPOSED CHATHAM TOWNSHIP HIKE AND BIKE PLAN AND PROJECT AREAS13

 GREEN VILLAGE ROAD.....13

 LOANTAKA BROOK RESERVATION13

 LAFAYETTE AVENUE AND VICINITY14

 MEYERSVILLE/FAIRMOUNT/RIVER ROAD.....14

 POWER LINES14

 SWAMP LOOP BIKE ROUTE15

RECENTLY COMPLETED CHATHAM TOWNSHIP HIKE AND BIKE PROJECT AREAS.....17

 CHATHAM-ROSE AND SOUTHERN-SPRING CONNECTIONS17

FUNDING OPPORTUNITIES.....17

 STATE FUNDING SOURCES17

 NATIONAL RECREATIONAL TRAILS PROGRAM18

 OTHER POTENTIAL FUNDING SOURCES18

CONCLUSION19

APPENDIX A: EXISTING AND PROPOSED PEDESTRIAN AND BICYCLE ROUTES21

APPENDIX B: RESIDENTIAL SITE IMPROVEMENT STANDARDS (EXCERPT)23

LIST OF FIGURES

- FIGURE 1: REGIONAL LOCATION MAP
- FIGURE 2: EXISTING SIDEWALKS , SHARED AND MULTI-USE ROUTES
- FIGURE 3: ACTIVITY CENTERS
- FIGURE 4: WALKWAY / BIKEWAY PLAN
- FIGURE 5: PROPOSED PROJECT AREAS
- FIGURE 6: POWER LINES
- FIGURE 7: PROPOSED SWAMP LOOP TRAIL

LIST OF PHOTOS

- COVER: SHARE THE ROAD SIGNS
- PHOTO 2: MEDIAN
- PHOTO 3: PEDESTRIAN REFUGE ISLAND
- PHOTO 4: CROSSWALK
- PHOTO 5: CURB RAMP

INTRODUCTION

When national magazines rank communities around the country by their quality of life, Chatham Township has been repeatedly recognized as one of the most desirable places to live in America. Families that have recently migrated to the Township as well as those who have remained here for generations, enjoy the communal atmosphere and desirable attributes of the Township that include superior schools, scenic vistas, abundant parkland and natural areas associated with the Great Swamp and the Passaic River, and a small town feeling.

Quality of life is also measured by our ability to move safely about, using a variety of transportation modes. The health benefits of an active lifestyle, as well as the smaller “carbon footprint,” are more important now than ever.

The purpose of this plan is to preserve and enhance the quality of life in Chatham Township by promoting a comprehensive network of safe walkways and bikeways and the healthy lifestyles they promote. The Plan evaluates current conditions and identifies areas in need of improvement or additional connections. Based on this characterization and assessment, the plan identifies a series of interconnected walkways and bikeways for safer and more efficient pedestrian and bicycling activity throughout the Township and to better connect the residents to Township parks, open space and community facilities and other activity centers.

Sustainability, a term increasingly used in relation to our natural environment, also has obvious and direct implications for human health. Walkways and bikeways promote use of alternative modes of transportation and encourage healthy lifestyles for Township residents while also protecting the natural environment. Providing safe bike and hike routes can also stimulate community awareness and involvement by local residents. Strategic improvements to State, County and local roads can improve shared bicycle paths and increase safe areas for non-motorized transport.

In order to safely accommodate all modes of travel through the Township and provide connectivity among services and destinations, it will be increasingly important to establish safe pedestrian and bicycle access. Streetscape improvements and traffic calming strategies are described that can improve pedestrian and bicycle movement throughout the Township. Since resident participation in this area is important to the process from the outset, to ensure all interests and concerns are understood and addressed, this plan has been developed with input provided through a PPGIS website where comments can be provided online.

Locally identified improvements to State and County roadways will require acceptance and approval by other agencies, and it will be important for all responsible agencies to work together to develop and implement policies to protect the quality of life, enhance community character, and provide safe pedestrian and bicycle movement through the crossroads and along the byways of the community.

The study approach has yielded two products, including:

- a Long-Range Plan for a comprehensive network of walking and biking facilities, and
- an Implementation Plan, which will include short-, medium- and long-term implementation strategies.

The Long Range Plan, which the Planning Board adopts, is designed to:

- Review and evaluate the appropriateness of the designated walkway and bikeway routes as shown in the 1999 Master Plan.
- Identify missing links in the overall pedestrian and bikeway circulation plan.
- Evaluate and prioritize segments based on functional and safety considerations.
- Identify areas of future connectivity.
- Develop an updated composite map of public lands and facilities and compare to the current 1999 Walkway and Bikeway Plan.
- Provide a “toolbox” that includes design guidelines for pedestrian and bike path improvements.
- Identify funding sources and partners that can help reach these goals.
- Identify the preferred location for connecting Nash Field to the Loantaka Trail.

The Implementation Plan, which will be a companion document for use by the Township Committee in establishing priorities, is designed to

- Identify needed improvements for one-, three- and five-year horizons, and
- Identify roadway locations in need of pedestrian and bicycle improvements.

REGIONAL SETTING

Chatham Township straddles the southeastern boundary of Morris County and adjoins Union County to the east (Figure 1). The Great Swamp National Wildlife Refuge offers residents and tourists myriad recreational and education opportunities. The Township’s natural beauty is also seen in the steep slopes and dense forest pockets that extend up from the Passaic River flood plain, a setting that appeals to those who bike, hike and enjoy the natural surroundings.

GOALS AND OBJECTIVES

1999 Chatham Township Open Space Plan Element

Chatham Township has long encouraged the implementation of alternative modes of transportation. The 1999 Master Plan provided guiding principles for the creation and enhancement of Chatham Township’s walkway and bikeway systems. Goals from the Open Space Plan Element include:

1. To enhance the quality of life for all Chatham Township residents.
2. To preserve lands that connect existing public lands.
3. To expand recreational opportunities.
4. *Provide linkages between elements of the open space system, enhancing the safety and pleasure of travel throughout the township.* [emphasis added]

2009 Goals and Objectives

Based on the previous 1999 Master Plan and an examination of existing conditions, the following revised goals and objectives have been identified to guide future pedestrian and bikeway development.

1. Encourage connectivity within Chatham Township and with neighboring communities.

2. Promote bicycling and walking as a means of reducing traffic congestion and pollutants from automobile emissions and promoting healthy lifestyles.
3. Promote use of a variety of easements and rights-of-way, such as utility and trail easements, for bikeway / walkway corridors where appropriate.
4. Promote construction of sidewalks along school routes and high volume and high speed roads, as well as around community gathering spaces.
5. Promote biking and walking safety education.

BACKGROUND

1999 Chatham Township Master Plan

The 1999 Master Plan contains three plan elements that address the overall need for safe and accessible alternative modes of transportation in the Township. The Circulation Plan, Walkway/Bikeway Plan and the Open Space Plan all cite the need to promote and encourage alternative transportation modes and routes that encourage local residents and visitors to walk or bike to the various activity centers in the Township. The 1999 Walkway and Bikeway Plan Element identified and classified existing and proposed non-motorized routes (Figure 2).

EXISTING CONDITIONS¹

Trail and Path Functional Classification

The 1999 plan set forth the functional classifications as they pertain to the various types of existing or proposed walkway and bikeway paths (Figure 2). Functional classification describes how the pathways will be utilized, what type of transportation will be dominant and any associated development that will be required to address the needs of the path. For example, a walkway may need to be a smooth paved surface that is clearly marked for maximum safety and functionality for all residents. A hiking path can be less formal and only require minor trail identification and an unpaved surface. Although pedestrian and bicycle route types can overlap in terms of usage, the following route classifications, which are further detailed in the Morris County Master Plan, are summarized below based on the mode of usage:

- Multi-Use Trails
- Pedestrian Trails
- Shared Roadway
- Bicycle Lanes
- Multi-Use Paths
- Pedestrian Paths
- Sidewalks

¹ Route classification excerpted from the 1999 Chatham Township Master Plan Walkway/Bikeway Plan Element.

Multi-Use Trails

This type of trail is characterized as unpaved and usually built with existing on-site earthen materials. Multi-use trails are generally located in state, county, or municipal parks and open space lands and are primarily used for recreational purposes by both off-road bicyclists and pedestrians for walking and hiking, and are generally more intensively demanding due to trail width and/or topography.

Pedestrian Trails

Pedestrian trails are essentially similar to multi-use trails but are for the sole use of pedestrians for both walking and hiking. This type of trail usually has fewer physical constraints providing for easier mobility for all ages.

Shared Roadway

A shared roadway is a road which bicyclists and pedestrians currently use, but which does not have designated bike lanes, sidewalks or paths along it. This type of route is typically the largest component of any plan and provides connections to the various other routes found in a municipality. This type of roadway makes up the typical local road network and is used for both bicycling and walking/jogging.

Bicycle Lanes

Bicycle lanes, as the name suggests, are lanes used solely for bicycle travel, and are clearly marked as such. To date, there are no official bicycle lane designations located in Chatham Township.

Multi-Use Paths

Multi-use paths are completely separated from motor vehicle traffic and differ from multi-use trails in that these paths are usually paved or improved. Multi-use paths are generally found adjacent to road right-of-ways, follow utility right of ways, and also often travel through private property. Multi-use paths can be used for both recreation and non-recreational purposes depending on their location.

Pedestrian Paths

Pedestrian paths are also completely separated from the motor vehicle travel way and are similar to sidewalks but are generally not located adjacent to roadways. This type of path is most often used for pedestrian recreational purposes.

Sidewalks

Sidewalks are located within the street right-of-way and are designed for exclusive use by pedestrians, although it is preferred that younger bicyclists use the sidewalk system rather than the road cartway for safety reason. Sidewalks are generally used for non-recreational trips due their proximity to schools, commercial areas, and other similar destinations.

Inventory and 1999 Proposals²

The Township's current network of sidewalks and bike paths is generally oriented toward the more densely populated southern and southeastern portions of the Township (Figure 2). Fairmount Road, Southern Boulevard, Lafayette Avenue and Shunpike Roads contain the most extensive areas of sidewalks. Several subdivisions connect into these larger sidewalk segments, allowing some longer trips in a pedestrian mode. Figure 2 also illustrates the proposed sidewalk areas identified in the 1999 Master Plan.

The existing and proposed routes, as identified in the 1999 Master Plan, are listed In Appendix A. These included:

- Existing Shared Roadways
- Existing Multi-Use Non-Vehicular Paths
- Proposed Shared Roadways and Multi-Use Paths
- Proposed Local Shared Roadways and Multi-Use Paths
- Proposed Non-Vehicular Trails

This 2009 plan retains many of the elements previously recommended and proposes new trails, paths, and sidewalks. It should be noted that, while portions of the PSE&G rights-of-way or easements may also be appropriate for formal or informal use, any such use will require PSE&G approval and approval from affected property owners whose land underlies the easement.

Proposed Sidewalks - 1999

The 1999 Master Plan proposed sidewalks along one or both sides of most of the major roads in the Township. This analysis has updated the inventory of existing sidewalks and proposed walkway locations as well as probable desired routes of travel based on the locations of existing shopping areas, public lands, other municipal facilities, residential neighborhoods and future land uses. Since the publication of the 1999 Master Plan, new sidewalks have been installed along Southern Boulevard and the Planning Board has required sidewalk installation in the Oak Knoll, Melrose, and Sterling projects, among others.

Roadway System Inventory

Chatham Township is serviced primarily by County two-lane roadways and smaller local roads. The Township is considered a corridor community, where access to the larger road networks including Routes 22, I-78 and I-287, are accessible through the Township's County Roads. This can lead to an increase in cut-through traffic and roadway demand for commuting and creates a barrier to those wishing to bike or walk to local destinations. Cyclists and pedestrians who share the road with motor vehicles often feel threatened and unsafe where cartway width and other impediments force pedestrian movement closer to traffic. The Table below identifies the larger routes in the Township by name, jurisdiction and prevailing Right-of-Way:

² Ibid.

Table 1: Roadway Characteristics³

Street Name / Functional Classification	Jurisdiction	ROW (ft)	Pavement Width (feet)	Shoulder Width (feet)	Speed Limit
Fairmont Avenue (CR 638) <i>Urban Minor Arterial</i>	County	50 & 66	22ft to 29ft to 22ft.	1 ft to 0 ft to 1 ft.	40 mph
Green Village Road (CR 646) <i>Urban Collector from Meyersville Rd to Shunpike; Urban Minor Arterial from Shunpike to Southern Blvd.</i>	County	50	From municipal line traveling northeast to Shunpike Rd. the width goes from 22ft to 36ft @ Shunpike, to 48ft.	1 ft from muni line to Hickory Pl then changes to 0ft.	40 mph
Loantaka Way (CR 636) <i>Urban Minor Arterial</i>	County	50	25 ft.	1 ft.	35 mph
Meyersville Road (CR 638) <i>Urban Collector</i>	County	50	From municipal line traveling northeast to Fairmount Ave. the width goes from 32 ft to 27ft.	0 ft	40 mph
Passaic Street (CR 647) <i>Urban Minor Arterial</i>	County	50	37 ft	0 ft	40 mph
River Road (CR 647) <i>Urban Collector</i>	County	50 & 66	37 ft.	0 ft	40 mph
Shunpike Road (CR 628) <i>Urban Minor Arterial</i>	County	50	23 ft.	1 ft	35 mph
Southern Boulevard (CR 647) <i>Urban Minor Arterial</i>	County	50 & 66	24 ft.	From River Rd traveling northwest to Green Village Rd, for two miles the width is 5 ft, then it narrows to 3ft, then widens to 7 ft.	For first 1.5 miles the speed limit is 35 mph. It then changes to 40 mph.
Spring Valley Road (CR 601) <i>Urban Collector</i>	County	50	22 ft.	0 ft	40 mph
Fairmount Avenue <i>Urban Minor Arterial</i>	Municipal	50	27ft.	0 ft.	25 mph
Hillside Avenue	Municipal	66	29 ft.	0 ft.	25 mph
Lafayette Avenue	Municipal	50	29 ft.	0 ft.	35 mph to Floral Ave; 30 mph from Floral to Watchung Ave
Mt. Vernon Avenue	Municipal	50	29 ft.	0 ft.	35 mph
River Road	Municipal	50	29 ft.	0 ft	40 mph from muni line to culvert; 30 mph from culvert to Southern Blvd.
Woodland Road	Municipal	66	24 ft.	12 ft.	40 mph

³ NJ DOT Straight Line Diagram

The remaining local roads in the Township often have a standard 50-foot right-of-way. Additionally, many of the roads in the Township have 30-foot pavement width, although, there are older developments and areas where the pavement is narrower and drainage and curbing is less than adequate.

ACTIVITY CENTERS

Activity centers, which include local and regional destinations, are the terminus of trips to recreational, social or community points of interests such as libraries, shopping centers, community facilities and recreational areas. Some activity centers have more than one purpose, where multiple tasks can be achieved in one area. Easy pedestrian or bicycle access to these areas reduces congestion and the need for parking and increases the overall well-being of those utilizing pedestrian areas.

In Chatham Township there are several activity centers (Figure 3) and a total of 20 recreational fields in the Township, including:

- Green Village Post Office and Loantaka Trail Head
- Hickory Square Shopping Center
- Green Village Hamlet
- Loantaka Brook Reservation
- Chatham High School, and Southern and Lafayette Elementary Schools
- Floral Hill Neighborhood, Colony Pool and Tennis Center
- Municipal Complex
- Esternay Field
- Nash Field
- Shunpike Field
- Passaic River Park

Table 2: Township Recreational Facilities⁴

Name of Facility	Location
Chatham Township Municipal Building & Gym	58 Meyersville Road
Colony Pool and Tennis Club	55 School Avenue
Cougar Field	314 Shunpike Road
Esternay Field	700 block of Fairmount Avenue
High School Fields & Gym	255 Lafayette Avenue
Lafayette School Fields & Gym	221 Lafayette Avenue
Mountainview Field & Gym	58 Meyersville Road
Nash Field	405 Southern Boulevard
Passaic River County Park	790 Block of River Road
Shunpike Fields	500 block of Shunpike Road
Southern Boulevard School Field & Gym	192 Southern Boulevard

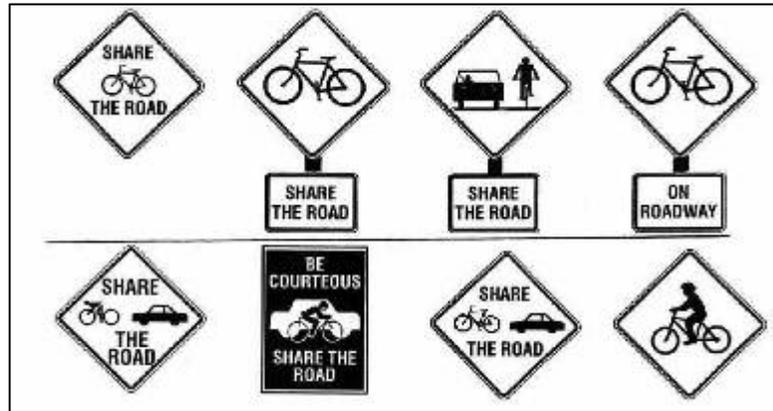
⁴ Recreational facilities are for use by Chatham Township and Borough residents.

TOOLS FOR CREATING BICYCLE AND PEDESTRIAN PATHS

Once the existing infrastructure and activity centers have been identified, the next step is to identify the various means to encourage and promote pedestrian and bicycle pathways. The following section is intended to examine these tools for use throughout the proposed pathways.

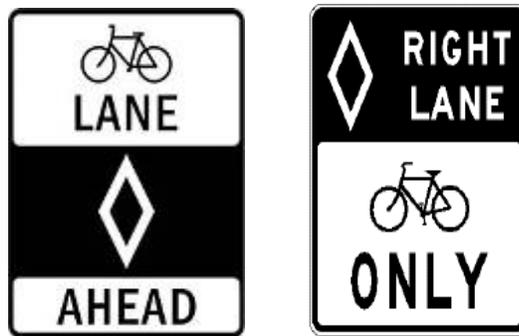
Signs

Signs are an example of a low cost improvement that can be beneficial to cyclists, pedestrians, and motorists. “Share the Road” signs are especially useful on shared lanes with speeds of 40mph or greater; shared lanes with limited sight distances; and where shared lanes, demarcated shoulders, or bike lanes end and motor vehicle travel must begin to share the travel lane.



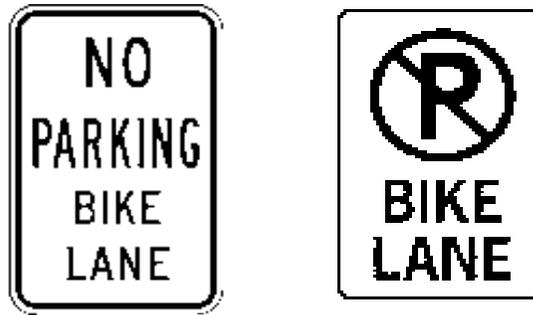
Source: Missouri Bicycle Federation sign comparison; <http://home.swbell.net/mpion/sharesigns.html>

Signage can also be used to alert the motorist to a region where cyclists have facilities with signs such as “lane ahead”. Signage also helps to remind the motorist that where bike lanes exist, that it is not a shoulder, but is for the exclusive use of cyclists. Signs such as “right lane only” accomplish this task.



Source: Missouri Bicycle Federation sign comparison; <http://home.swbell.net/mpion/sharesigns.html>

Signage is also important in areas where on-street parking may be allowed, for instance, in a downtown area. Where bike lanes run past “destinations”, it is important to alert motorists that “no parking” is allowed in the bicycle right-of-way. Signage is critical to reducing motor vehicle and bicycle conflicts. There should not be ambiguity as to the bicycle right-of-way.



Source: Missouri Bicycle Federation sign comparison;
<http://home.swbell.net/mpion/sharesigns.html>

Traffic Calming

Traffic calming is an approach to manage the roadway environment by reducing the dominance and speed of vehicles in targeted areas. The variety of methods used to accomplish this include physical alterations to the horizontal and vertical alignment of the road as well as changes in user priority.

Due to its appealing landscape character, Chatham Township's scenic roads are favored by cyclists. In order to ensure safer travel by both automobile and bicycles, traffic calming measures can be implemented to accommodate both users. Slower vehicle speeds reduce accidents and casualties and provide inherent benefits for cyclists. Traffic calming slows traffic and makes traffic movements more predictable. These measures are particularly appropriate on older and narrower roads where there may be inadequate right-of-way width for sidewalks or bike lanes or where it may be infeasible to construct bicycle facilities to recommended standards.



PHOTO 1 – Sidewalk on Fairmount Ave

In residential areas, traffic calming can alert motorists that they are entering a shared roadway. When properly planned, traffic calming diverts traffic to roadways designed to handle higher volumes. This in turn enhances the quality of life of residents, as traffic finds the roads best designed to handle it. The appropriate technique for an area is dependent upon the physical characteristics of the road, the goal of the design, and available resources.

According to the NJDOT's [Bicycle Compatible Roadway and Bikeways Planning and Design Guidelines](#) some important design considerations in regard to cyclists include:

- Where possible, provide bicyclists with opportunities, such as ramps, to by-pass physical obstacles; the recommended minimum width for a bicycle pass is 27 inches.
- Where a reduction in roadway width is employed as a speed control measure, careful consideration should be given to how motorists and bicyclists can safely share the remaining space.
- Surface materials, particularly on ramps, should have a good skid resistance, while textured surfaces should not be so rough that they endanger the stability of bicyclists or cause severe grazing if the bicyclist should fall.
- A smooth transition on entry and exit ramps should be provided. Inclines should be clearly indicated and have a gradient of not more than 1:6 (16 percent).

- If the traffic calming feature is to be installed on a road with a gradient, it must be noted that bicyclists are likely to approach it at quite different speeds uphill and downhill. This should be taken into consideration in designing the feature.

Pedestrian Facilities

Most roadways should have some type of pedestrian facility. Dedicated sidewalks are preferable, but may not be appropriate or possible in all cases. Nonetheless, pedestrian linkages in Chatham Township should continue to be expanded to connect residential neighborhoods with activity centers such as:

- Hickory Square and “Downtown” Chatham Township
- Train Station
- Schools
- Parks
- Natural Areas

While sidewalks are generally warranted wherever pedestrians are likely to move along the roadway, two areas that deserve particular scrutiny are where school children walk to school and the areas around transit facilities. Since many commuters in Chatham Township access the train station in the Borough, expanding pedestrian friendly facilities can help to reduce any rush hour traffic and parking demand at the train station.

According to the Pedestrian Compatible Planning and Design Guidelines⁵, the following are advisable:

- Consider modifications to road standards and subdivision regulations in the direction of current performance standards that are more tuned to functional classification.
- Advocate the separation of pedestrian sidewalks from the roadway by a grass strip at least three feet wide.
- Require construction of sidewalks or walkways along all arterial and collector roads located within 2 miles of a school.
- Require developers to extend sidewalks up to 400 feet beyond the boundary of the site to provide for sidewalk continuity.

Medians

Medians and refuge islands are forms of traffic calming that directly address pedestrian safety. Medians are linear features between lanes of opposing travel that allow pedestrians to cross each direction of travel on a highway as a separate movement. Refuge islands are small sections of median that taper at the ends and are located between travel lanes. Refuge islands can be installed wherever continuous medians cannot be provided, speeds are generally less than 45 mph, and pedestrian volumes are in excess of 100 people per day or where pedestrian accidents, particularly those related to roadway width and crossing time, have occurred.



PHOTO 2 – Example of a Median

⁵ NJ Department of Transportation. Pedestrian Compatible Planning and Design Guidelines.

in assessing where in Chatham Township a refuge island might be appropriate, areas where pedestrians are crossing heavily-traveled roads to access shopping, offices, schools, or recreation areas should be priorities. Installing a refuge island with an existing crosswalk may help to reduce accidents and create a safer crossing for pedestrians, particularly when crossings are not at roadway intersections.

Crosswalks

Crosswalks should be installed only where needed. Motorists lose respect for crosswalks if they encounter them at a large number of areas where they rarely encounter pedestrians. In general, crosswalks should primarily be considered in these areas:

- All signalized intersections with pedestrian signal heads.
- All locations where a school crossing guard is normally stationed to assist children in crossing the street.
- All locations within ¼ mile of transit stations or schools.
- Situations where a dedicated pedestrian trail crosses a highway at a mid-block location and pedestrian traffic would not otherwise be anticipated.
- All other locations where there is a need to clarify the preferred crossing location when the proper location for a crossing would otherwise be confusing.



PHOTO 3 – Example of a Pedestrian Refuge Island



PHOTO 4 – A Crosswalk on Southern Blvd.

- Locations in urban and non-urban areas where development on both sides of a highway result in concentrated pedestrian volumes crossing the highway and there is no highway intersection. For example, where a large parking lot is on the opposite side of the road from a campus or where shopping or eating areas are across the road from workplace areas.

Curb Ramps

A public sidewalk curb ramp with a level landing should be provided wherever a public sidewalk or public pedestrian easement crosses a curb or other change in level. Examples of such areas are:

- Intersections
- Painted crosswalks at mid-block locations
- Driveways
- Channelized islands or divisional islands
- Median islands at mid-block locations



PHOTO 5 – Example of a Curb Ramp

PROPOSED CHATHAM TOWNSHIP HIKE AND BIKE PLAN AND PROJECT AREAS

The Chatham Township Walkway and Bikeway Plan (Figure 4) includes existing and proposed walkway and bikeway elements throughout the Township. Within this larger framework, Figure 5 identifies a number of project areas to focus planning attention and guide current and future plan implementation. These include

- Green Village Road
- the Loantaka Brook Reservation
- Lafayette Avenue and vicinity
- Meyersville/Fairmount/River Road area
- Chatham St. / Rose Terrace connector
- Southern Boulevard / Spring Street connector.

Additionally, portions of the PSE&G right-of-way or easements may be appropriate for formal or informal use in the future, but any such use will require PSE&G approval and approval from affected property owners whose land underlies the easement.

A brief summary of each of these areas follows, while the Implementation Plan will identify each of the project areas in detail, describe the current condition of the area, and provide recommendations for improvements.

Green Village Road

Green Village Road runs in a north-south direction with linkages to the hamlet of Green Village, Loantaka Trail, Hickory Square, and with a potential linkage to Nash Field. The major areas along Green Village Road where pedestrian and bicycle activity is focused include the Post Office and Loantaka trailhead. Accessibility, ease of travel and safety are general concerns for those walking or bicycling along Green Village Road. However, within the activity centers, walking and bicycling are both viable and appropriate.

The Township should work with the Morris County DOT to improve the safety of bicycling along Green Village Road, with such improvements as signage, roadway maintenance, and other projects listed in the Implementation Plan.

Loantaka Brook Reservation

The Loantaka Brook Reservation comprises over 570 acres and offers a variety of walking, biking, and horseback riding trails that meander through Chatham, Morris, and Harding Townships. One entrance to the Loantaka Brook Reservation is located on Loantaka Way, where residents and visitors access this network of trails.

Access to recreation in Chatham Township is a high priority among the residents of the community. A facility such as the Loantaka Reservation offers passive recreation opportunities in a serene setting where visitors can park and walk, bike, hike, or ride horse back from the Reservation to one of the other destination points in the area. Picnicking is also accommodated at the entrance to the Reservation on Loantaka Way. A kiosk at the entrance tells the geologic history of the area, offering a look at the unique character of natural environment.

The Township should work with Morris County to improve the Reservation's accessibility for pedestrians, hikers and bicyclists. Examples of improvements could include signage at the Woodland Road trail head, an updated kiosk at the Reservation on Loantaka Way with park information, and road work that would increase the safety of those accessing the Reservation via Loantaka Way, Woodland Road, or any other access point.

Lafayette Avenue and Vicinity

Lafayette Avenue runs northeast-southwest through the town and connects destination points like schools, parks and the Borough of Chatham. Lafayette Avenue travelers can connect to other east-west roadways such as Noe Avenue and Fairmount Avenue via residential neighborhood streets. The main goal in this area is improving safety of pedestrians and bicyclists, especially for the children who walk or bike to school.

The Township should work with the Board of Education to devise and implement additional safety measures around schools, such as improving or adding sidewalks, cross-walks, and walking / biking trails. Public education about safety measures should be directed toward both the pedestrians and motorists.

Meyersville/Fairmount/River Road

Meyersville Road is a major connector for residential areas in the southwestern portion of the Township. The Municipal Complex can be accessed from Meyersville Road, and Esternay Recreational Fields are on Fairmount Avenue, which traverses the Township southwest to northeast, linking Meyersville Road with the other major east-west connectors, Shunpike Road and Southern Boulevard. River Road also traverses the township from southwest to northeast, and parallel to the Passaic River, and provides access to Passiac County River Park.

The scenic nature of these roadways makes them ideal for bicyclists, runners, hikers and walkers. However, the neighborhoods around these streets are densely populated, increasing potential hazards for pedestrians and cyclists. In addition, the scenic nature of some roadways results from the fact that they are narrow, bumpy and do not provide much of a shoulder or sidewalks along some stretches.

The Township should look for strategic approaches that can increase the safety of these roadways for bicyclists and pedestrians yet maintain their scenic, rural quality. For instance, bike lanes, signage and roadway and sidewalk improvements should be considered where appropriate and as detailed in the Implementation Plan.

Power Lines

Power line rights-of-way and easements (Figure 6) were designated as shared-use paths in Chatham Township in the 1999 master plan. Intended for non-vehicular travel and for both recreational and non-recreational travel, the easements in the township provide potential linkages to major destinations, specifically between neighborhoods and parks including the Great Swamp Wildlife Refuge. This 2009

Plan acknowledges the locations of the power lines in the overall provides that where portions of the PSE&G easement are deemed appropriate for formal or informal use, *any such use will require PSE&G approval and approval from affected property owners whose land underlies the easement.*

The West Windsor Bicycle-Pedestrian Alliance successfully opened a bike and pedestrian path along the PSE&G easement that traverses the Township, according to coordinators of the Alliance. Residents and visitors started using the pathway before it was “officially” opened, illustrating the demand for these facilities. The Alliance holds educational events where participants travel the pathway to become familiar with how it is a safe means of bicycle and pedestrian travel. The Alliance worked for years to come to the agreement with the utility company, which involved a great amount of lobbying by the town committees and residents.

Chatham Township should continue exploring with PSE&G and the neighboring property owners to determine whether possible future recreational use of portions of the right-of-way or easement easement.

Swamp Loop Bike Route

The Swamp Loop Bike Route (Figure 7) will start at the intersection of Southern Boulevard and Fairmount Avenues and continue along Meyersville Road, New Vernon Road and Green Village Road to return to the starting point. This route will connect activity centers along the way and create a local pathway to a variety of activities, fostering community awareness of these activity areas and enhancing accessibility to and among them.

The Morris County Department of Transportation (MCDOT) has assisted with the development of a signage and striping plan for bicyclists to make motorists and cyclists aware that they should expect one another and direct cyclists along the scenic route. Although MCDOT did not develop this route, originally designated by NJDOT in their *Great Swamp Ride-A Tour Guide for Cyclists*, the MCDOT has aided the Open Space Committee in developing a plan for a new “Swamp Loop” to better inform cyclists of the scenic route in Chatham Township. In a letter dated December 5, 2007, the MCDOT stated that they have prepared a Swamp Loop Signing and Striping Plan, and that as the project moves toward implementation, they will supply, install, and maintain the signs as approved by the Manual of Uniform Traffic Control Devices (MUTCD).

The Swamp Loop extends through portions of three municipalities, including Chatham Township, Long Hill Township, and Harding Township and, as originally designated by NJDOT, is a regional route that extends into nearby Somerset County. Representatives from these municipalities attended an Open Space Committee meeting in October 2007 and were apprised of the work the County has been conducting. As the project moves forward, the MCDOT will work with each of the three municipalities to install and maintain all striping and markings, as detailed in the MCDOT’s Swamp Loop Plan.

The identified signage, striping, and markings for the Swamp Loop Plan are intended to educate and bring awareness to motorists that cyclists may be riding along the edge of the roadway. It is also to remind cyclists to ride as far to the right as practicable. A coordinated plan for signage, striping, and marking the Swamp Loop Bike Route will increase the level of safety for cyclists along the route. Enforcement and continued education about bicycle safety and motorist awareness should also be employed to increase safety for everyone.

The NJDOT has created the *Great Swamp Ride – A Tour Guide for Cyclists*, to guide cyclists along a designated route around the Great Swamp Reservation in the Township. The MCDOT has developed a Swamp Loop that is based upon the County’s designated route. This route has been displayed in the County’s publications. The Open Space Committee has designated a very similar route with one detour that follows a more local route. The following is the route for the Swamp Loop:

- Start at the intersection of Southern/Fairmount and proceed on Fairmount Avenue toward the municipal building;
- Take right on Meyersville Road, passing the municipal building on right;
- Continue on Meyersville Road traveling out of Chatham Township into Meyersville (Long Hill Township);
- Take a right at the rotary in Meyersville onto New Vernon Road. New Vernon Rd turns into Long Hill as it crosses the swamp;
- (LOCAL ROUTE) Take right onto Pleasantville Road in town of New Vernon to Village Road; take a right onto Village, then a right onto Green Village Road and follow to Hickory Road; take a right onto Hickory Road, then a right onto Southern Boulevard and ride to Fairmount Avenue.
- (COUNTY ROUTE) Follow New Vernon Road as it turns into Long Hill Rd, crossing through the swamp; Turn right on Lees Hill Road; At the intersection turn right onto Village Rd.; then right on Green Village Road, and follow the Local Route to the end at Fairmount Avenue.

RECENTLY COMPLETED CHATHAM TOWNSHIP HIKE AND BIKE PROJECT AREAS

Chatham-Rose and Southern-Spring Connections

These project areas include two bikeway segments designed to recognize existing informal access patterns and improve connectivity with Chatham Borough and within the Township. One bikeway segment, between Southern Boulevard and Spring Street (Southern-Spring) alongside the utility easement, improves connectivity to the Southern Boulevard Elementary School, and will promote bicycling to community facilities such as Memorial Park and the Colony Pool and Tennis Courts. The second bikeway segment replaced a dirt path along a “paper street” connecting Chatham Street in Chatham Borough to Rose Terrace (Chatham-Rose) in Chatham Township. This project has formalized the connection that has been established over time, and assures that it is well identified where it connects with the public street system.

The Township received funding from NJDOT in 2008 for the construction of these two bikeway segments, which are now complete. The constructed bikeway segments are situated at either end of the Floral Hill neighborhood, will serve as a central linkage element, and as a catalyst for a larger network of bikeways within the Township.

FUNDING OPPORTUNITIES

This plan proposes some projects that transcend the routine operations and maintenance of roadways by the Township or County. Therefore, the funding for these projects will have to include sources outside of the municipal budget, and in this regard, the Township should also partner with other the Board of Education and other community organizations. The Board of Education will be involved in planning the paths and sidewalks near schools, and is a logical partner for planning, funding and implementation.

Municipalities can apply for funding through State, Federal, Local and non-profit sources. Listed below are a sample of funding sources that offer support to communities for projects to enhance community bicycle and pedestrian facilities.

State Funding Sources

Safe Routes to School (NJDOT)

This funding allows a community to develop and implement a bicycle and walking plan for routes that encourage walking and biking to schools safely. Safe Routes to School (SRTS) is a federal, state and local effort to enable and encourage children, including those with disabilities, to walk and bicycle to school.

The goal of New Jersey's Safe Routes to School Program is to assist New Jersey communities in developing and implementing projects and programs that encourage walking and bicycling to school while enhancing the safety of these trips. A major goal of the program is to increase bicycle, pedestrian and traffic safety. Successful Safe Routes to School programs in the United States usually includes engineering, enforcement, education, or encouragement.

NJ Highway Traffic Safety Grant

This grant is typically used for education and enforcement programs, but has also been used for engineering efforts, such as signing and striping. Bike and pedestrian advocates, as well as police

departments and Safe Routes to School coordinators can also apply for funding through this program. The issues addressed in this program must be justified using crash data, accident data, etc.

The Pedestrian Safety Corridor Program

This program is an initiative to identify and remediate highway corridors in the state with the greatest pedestrian safety problems. Corridors are chosen based on crash history and other identified pedestrian safety issues. The program involves assembling a Pedestrian Safety Impact Team consisting of 30-40 stakeholders, including government and elected officials, traffic engineers, planners, business owners, local residents, and representatives from civic groups. The team receives classroom training on pedestrian-related planning, design, education, and enforcement issues and then completes fieldwork, studying the corridor and recommending improvements.

The Division of Highway Traffic Safety

The Division offers grants for pedestrian safety education and enforcement, as well as small scale engineering treatments, such as striping and signage. So far this year, the Division has issued approximately 30 State and Community Highway Safety Program grants to police departments to enhance pedestrian safety efforts.

National Recreational Trails Program

NJDEP provides financial assistance for developing and maintaining trails and trail facilities for non-motorized, motorized and multi-use purposes. The maximum grant award is \$25,000, and projects are funded on an 80% federal share and 20% matching share basis.

Other Potential Funding Sources

Non-profit organizations and transportation groups are other funding sources that can contribute to the creation, enhancement or assistance to pedestrian and bicycle paths. While these funds may be limited they can add to existing funding or provide a necessary jumping off point for further issues. Organizations such as TransOptions, an organization which provides a variety of transportation and commuting options occasionally provides small grant opportunities to the enhancement of pedestrian and bicycle opportunities.

Other options for funding may include partnering with neighboring municipalities as a way to develop intra-municipal and larger regional connections. This type of partnership not only benefits the Township but also the region by promoting regional awareness and healthy lifestyles to a larger population base.

CONCLUSION

The goals and objectives outlined in this Plan seek to provide a safe and comprehensive system of pedestrian and bicycle routes throughout the Township that will link open space, recreational areas, residential neighborhoods and business centers. These efforts will be most effective when integrated with other initiatives designed to promote safe vehicular travel by better managing traffic speed and volumes to promote safer pedestrian and bicycle movements.

Creating safe areas for children who walk to school is of the utmost concern and efforts to achieve this should be diligently pursued. As Chatham Township establishes policies and strategies to accommodate pedestrian and bicycle travel throughout the Township and provide better connectivity among neighborhood services and destinations, partnering efforts will be of paramount importance. Strategic alliances with Morris County, neighboring towns, the National Wildlife Refuge and non-profit organizations will be important to implementation of this plan.

The Plan has identified areas in need of significantly enhanced pedestrian and bicycle access throughout the Township. These areas include:

- Green Village Post Office and Loantaka Trail Head
- Green Village Hamlet
- Hickory Square Shopping Center
- Loantaka Brook Reservation
- Chatham High School and Lafayette School
- Floral Hill Neighborhood
- Municipal Complex
- Esternay Field
- Passaic River Trails

With increased pedestrian and bicycle access into and through these areas, the need for safe travel patterns will be more important than ever. This accessibility will also contribute to healthy lifestyles and increase community and environmental awareness, as visitors enjoy the landscape and residents explore their hometown from a different perspective. The Board of Education and Morris County are important partners in these efforts and a coordinated partnering effort should be initiated to share information and produce shared solutions.

While some improvements only require signage and striping initiatives, others will involve significant planning and construction activities. Phasing the projects to begin with visible but easy to install signs and modest traffic calming devices will not only enhance existing pathways but will also increase community awareness and support for improvements efforts.

Chatham Township should develop a mechanism for tracking the schedule for applications for grants in aid, to assist in securing any funding available. Additionally, non-traditional sources of funding, such as non-profit and transportation organizations, should also be investigated for their ability to enhance any projects. Partnering efforts with neighboring municipalities may garner additional funding, including more expansive connectivity, while also creating an additional benefit of creating larger regional pedestrian and bicycle connections.

The implementation of a well planned and thoughtful pedestrian and bicycle plan will have far reaching benefits for the entire community, as alternative forms of transportation promote a healthy lifestyle and community interaction, reduce pollution and automobile dependence, and enhance the overall character of Chatham Township. The proximity of new or improved bicycle and pedestrian accessible routes to residential areas of the Township improves safety and provides an overall enhanced quality of life for residents, while also creating a more attractive destination for visitors.

**APPENDIX A: EXISTING AND PROPOSED PEDESTRIAN AND BICYCLE ROUTES
AS IDENTIFIED IN THE 1999 MASTER PLAN**

Existing Shared Roadways

1. Entire length of Meyersville Road.
2. River Road from Long Hill Township to Fairmount Avenue.
3. Fairmount Avenue from River Road to Chatham Borough.
4. Green Village Road from Shunpike Road, south to Harding Township and from Shunpike Road north to Madison Borough.
5. Shunpike Road from Green Village Road east to Chatham Borough.
6. Woodland Avenue from Madison Borough to just east of Dodge Drive.

Existing Multi-Use Non-Vehicular Paths

1. Through Loantaka Brook Reservation with connections between Green Village Road and Woodland Road and an additional link to Loantaka Way.
2. Along Woodland Road from Madison Borough (Giralda Farms) to the Loantaka Brook Reservation path connection.

Proposed Shared Roadways and Multi-Use Paths

1. Continuation of Woodland Avenue as a shared roadway to Harding Township.
2. Additional connecting link to Loantaka Brook Reservation from Green Village Road near the Harding Township border.
3. Path through the NJ Conservation property on the south side of Green Village Road to Southern Boulevard, and paralleling Southern Boulevard with a connection to the County Wildlife Center adjacent to the Great Swamp.
4. Along the entire length of the PSE&G and gas right-of-ways from Long Hill Township north to Shunpike Road.
5. Along the River Road hillside in the vicinity of Fairmount Avenue north to Chatham Borough. This facility should not be used as a bike path.
6. From the Township of Long Hill through the Passaic River Park and continuing along the entire length of the Passaic River to Chatham Borough.

Proposed Local Shared Roadways and Multi-Use Paths

1. Noe Avenue linking Shunpike Road and Southern Boulevard.
2. Sandy Hill Road from Noe Avenue to Ferndale Road.
3. From Noe Avenue south along Dale Drive, to Floral Street ultimately connecting to the PSE&G right-of-way.
4. Southern Boulevard from Noe Avenue south to River Road
5. Lafayette Avenue from Southern Boulevard north to Pine Street, and Pine Street north to Shunpike Road.
6. River Road from Fairmount Avenue north to Chatham Borough.
7. Mt. Vernon Road from River Road to the City of Summit.
8. Bridge Avenue from River Road to Berkley Heights Township

Proposed Non-Vehicular Trails

1. Path connecting Ferndale Road/Wexford Rd to Shunpike Field, then continuing on to Hickory Tree Center, crossing Township owned properties.
2. Link Southern Boulevard to Spring Street via the Township sewer easement adjacent to the PSE&G easement and between the Fire Station and Rescue Squad station properties.
3. A link along Chatham Township property and Morris County Park property, from the Township mulch area to Southern Blvd. Connections to this trail utilizing PSE&G owned property would allow connectivity from the Stonewyck/Long Hill neighborhoods to the Township gazebo and Southern Blvd.
4. With PSE&G support, trails determined feasible and appropriate throughout the Township.

Proposed Sidewalks

The 1999 Master Plan proposed sidewalks along one or both sides of most of the major roads in the Township.

APPENDIX B: RESIDENTIAL SITE IMPROVEMENT STANDARDS (EXCERPT)

5:21-4.4 Shoulders

- (a) Shoulders and/or drainage swales should be used instead of curbs when:
 - 1. Shoulders are required by CAFRA
 - 2. Soil and/or topography make the use of shoulders and/or drainage swales preferable and, or
 - 3. To preserve rural character.
- (b) Shoulders shall be provided in accordance with the requirements in Table 4.3 in N.J.A.C. 5:21-4.2
- (c) Shoulders shall be four (4) feet wide, except for minor collector streets of high intensity with off-street parking; and major collector streets of medium and high intensity should be six (6) feet and eight (8) feet wide respectively on each side for all streets., and located within the right-of-way as shown in the following street illustrations. (illustrations not shown)

5:21-4.5 Sidewalks and Graded Areas

- (a) Sidewalks and/or graded areas shall be required, depending on road classification and intensity of development, in accordance with the requirements set forth in Table 4.3 in N.J.A.C. 5:21-4.2.
- (b) Sidewalks shall be provided where graded areas are specified in Table 4.3 when the conditions described in (b)1. or 2. below exist:
 - 1. The net density of development or project exceeds one dwelling unit per acre; and
 - 1. *The development or project is located within 2,500 feet of a train station, public or school bus route;*
 - 2. *The development or project is located within 2,500 feet of an existing recreational, business or retail use or a site where such use is permitted by existing zoning; or*
 - 3. *Where the proposed streets connect to or extend existing streets which have sidewalks on both sides; or*
 - 2. The net density of the development exceeds 0.5 dwelling units per acre and the development is located within two miles of a school.
- (c) Notwithstanding (b)1 and 2 above, sidewalks shall only be required on one side of rural lanes and shall not be required in alleys.
- (d) Sidewalks shall be placed parallel to the street, as shown in the street profile figures, unless an exception has been permitted to preserve topographical or natural features, or if required to provide visual interest, or unless the applicant shows that an alternative pedestrian system provides safe and convenient circulation (e.g., in planned development).
- (e) Pedestrian-way easement at least 10-foot wide may be required by the municipal approving authority through the center of blocks more than 600-foot long. In providing circulation or access to schools, playgrounds, shopping, adjoining residential area, or other community facilities, the municipality shall consider and may require pedestrian-way easements.
- (f) Sidewalk width shall be four feet; wider widths may be necessary near pedestrian generators and employment centers. Where sidewalks abut the curb and cars overhang the sidewalk, widths

shall be six feet. In high-density residential areas when sidewalks abut the curb, a sidewalk/graded area of at least six feet in width shall be required.

- (g) Sidewalks and graded areas shall be constructed according to the specifications set forth in N.J.A.C. 5:21-4.18.

5:21-4.6 Bikeways

- (a) Separate bicycle paths and lanes shall be required only if such paths and lanes have been specified as part of a municipality's adopted master plan and/or official map.
- (b) Bicycle lanes, where provided, shall be placed in the outside lane of a roadway, adjacent to the curb or shoulder. When on-street parking is permitted, the bicycle lane shall be between the parking lane and the outer lane of moving vehicles. Lanes shall be delineated with markings, preferably striping. Raised reflectors or curbs shall not be used.
- (c) The construction of bikeways shall comply with the specifications set forth in N.J.A.C. 5:21-4.18.

5:21-4.18 Sidewalk and Bikeways construction Standards

- (a) The following apply to sidewalks and graded areas:
1. Sidewalks of concrete shall be four (4) inches thick except at points of vehicular crossing, where they shall be at least six (6) inches thick. At vehicular crossing, concrete sidewalks shall be reinforced with welded wire fabric mesh or an equivalent.
 2. Concrete air-entrained sidewalks shall be Class C concrete, having a 28-day verification strength of 4000 p.s.i. Other materials may be permitted, depending on the design of the development.
 3. Graded areas shall be planted with grass or treated with other suitable ground cover, and their width and cross slope shall correspond to that of sidewalks.
- (b) The following apply to bikeways:
1. The paved width of the bicycle path shall be established by the municipal master plan.
 - a. Choice of surface materials, including bituminous mixes, concrete, compacted gravel, soil cement, stabilized earth, and wood planking shall depend on use and users of the path.
 - b. Gradients of bike paths should generally not exceed five percent.
 - c. Bicycle-safe drainage grates shall be used in the construction of all residential streets.

IMPORTANT: The following excerpts are amendments to RSIS. These amendments are cited as N.J.A.C. 5:21-1.5, 3.4, 4.1, 4.2, 4.3, 4.4, 4.14, 4.17, 4.18, 4.19, 4.20, 5.3, 6.2, 7.3, 7.5, and 8.1.

Selected Amendments to RSIS

5:21-4.2 Cartway width

- (d) Municipalities may require additional cartway width for major or minor collectors which are part of a designated bike route as indicated in the bicycle circulation part of the municipal master plan to make them consistent with AASHTO guidelines for bicycle compatible streets.

5:21-4.3 Curbs or curbs and gutters

- (h) Where curbs and gutters are used and where the street is part of a designated bike route as indicated in the bicycle circulation part of the municipal master plan, the municipality may require that the cartway width be increased by one foot on each side of a street that uses a curb and gutter.

5:21-4.4 Shoulders

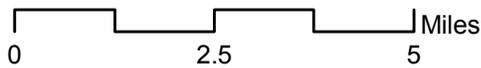
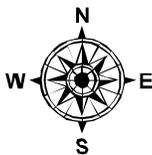
(e) Shoulders shall be constructed of materials such as stabilized earth gravel, crushed stone, bituminous treatment, or other forms of pavement which provide for vehicle load support. Shoulders along major collectors and shoulders along streets that are part of a designated bike path as indicated in the bicycle circulation portion of the municipal master plan shall be paved with asphalt pavement.

5:21-4.18 Sidewalks and bikeways construction standards

(b) ii. 1. The construction of bikeways shall conform to the New Jersey Department of Transportation planning and Design Guidelines for Bicycle Compatible Roadways and Bikeways (November 1995) and the ASHTO Guide for the Development of Bicycle Facilities (1999) incorporated herein by reference.

Figure 1 Regional Location

*Chatham Township,
Morris County NJ
July 2009*



Data Sources:
NJDEP

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been NJDEP verified and is not State-authorized.

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Planning and Design

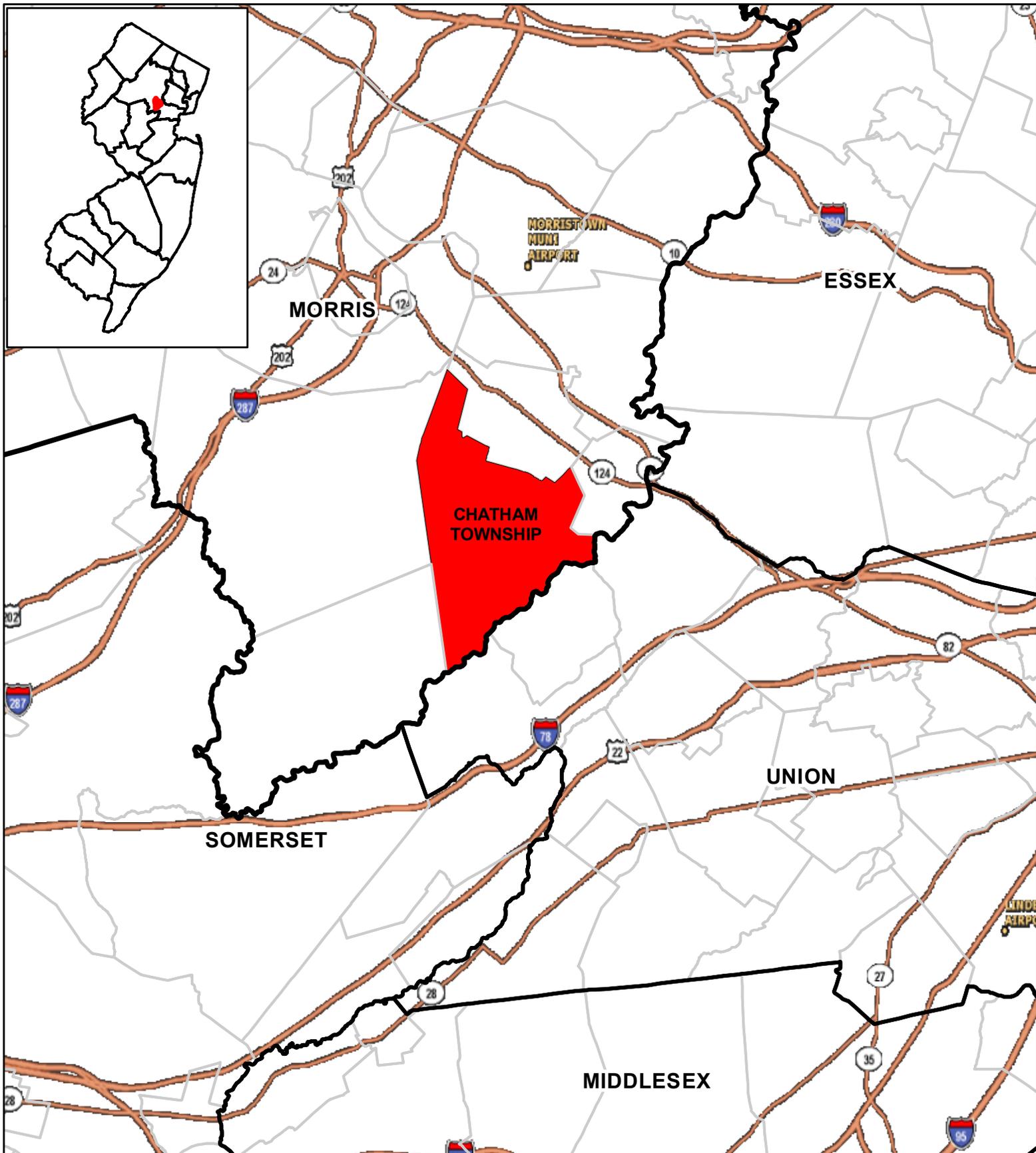


Figure 2: Existing Sidewalks, Shared and Multi-use Routes 1999 Walkway/Bikeway Plan

Chatham Township,
Morris County
July 2009

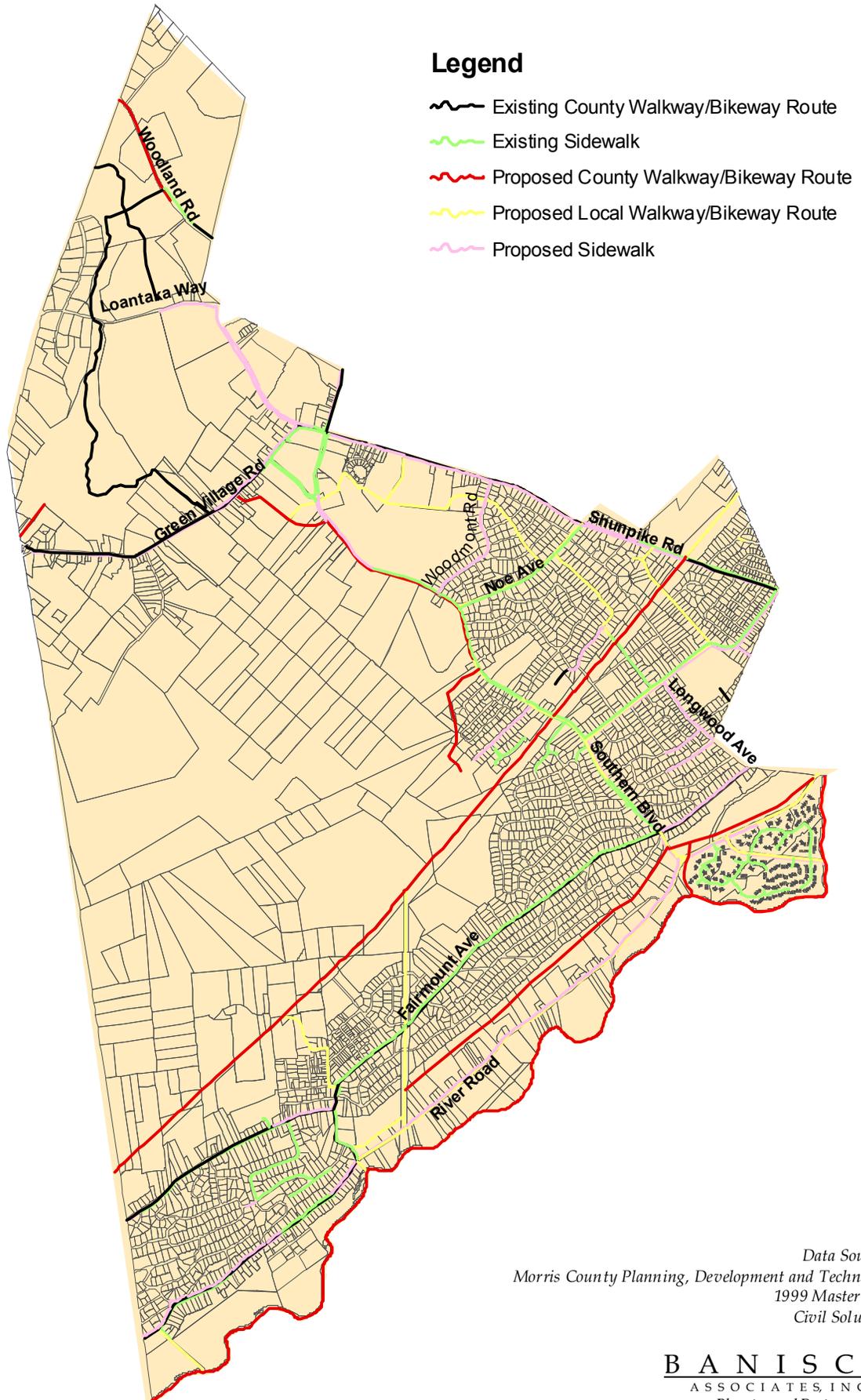
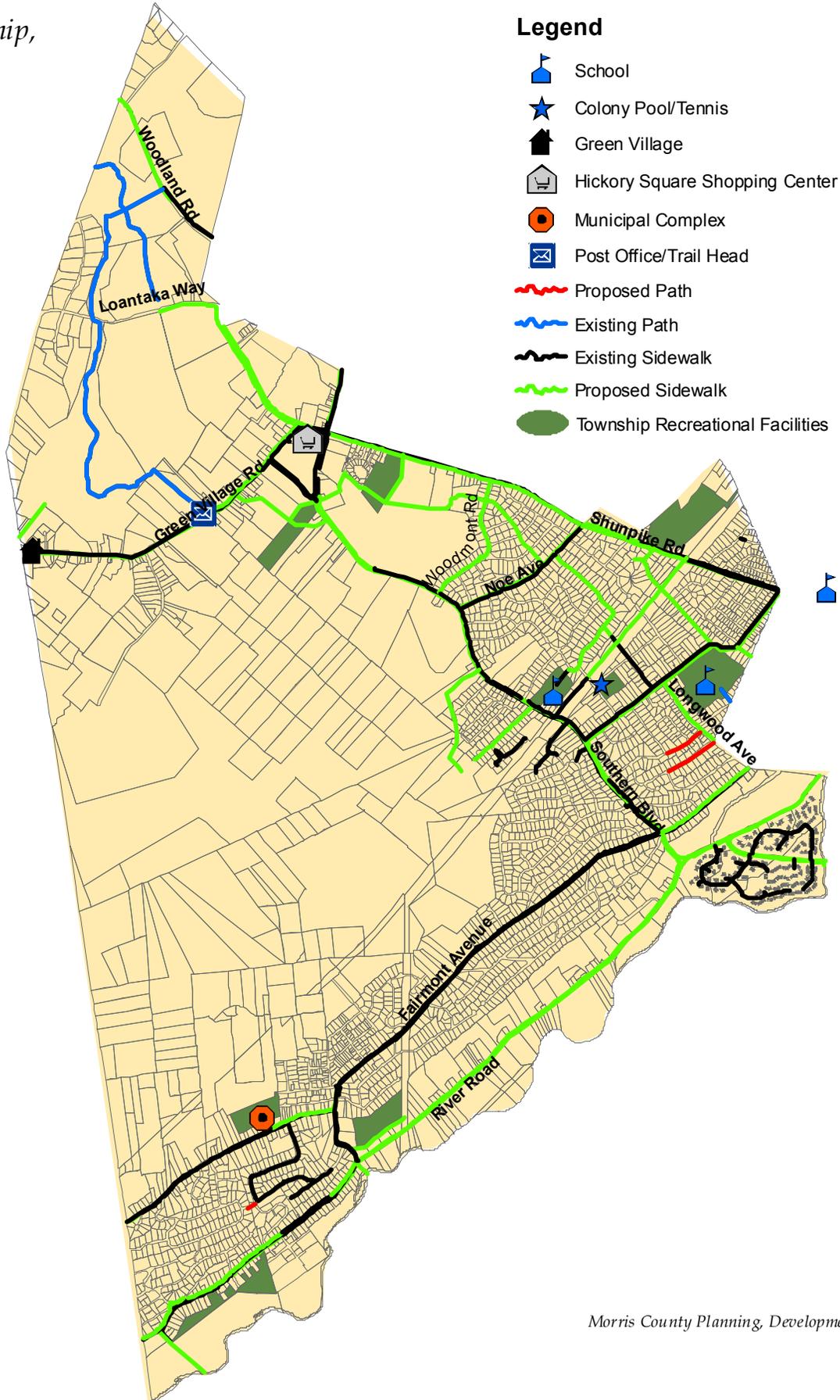


Figure 3: Walkway/Bikeway Activity Centers

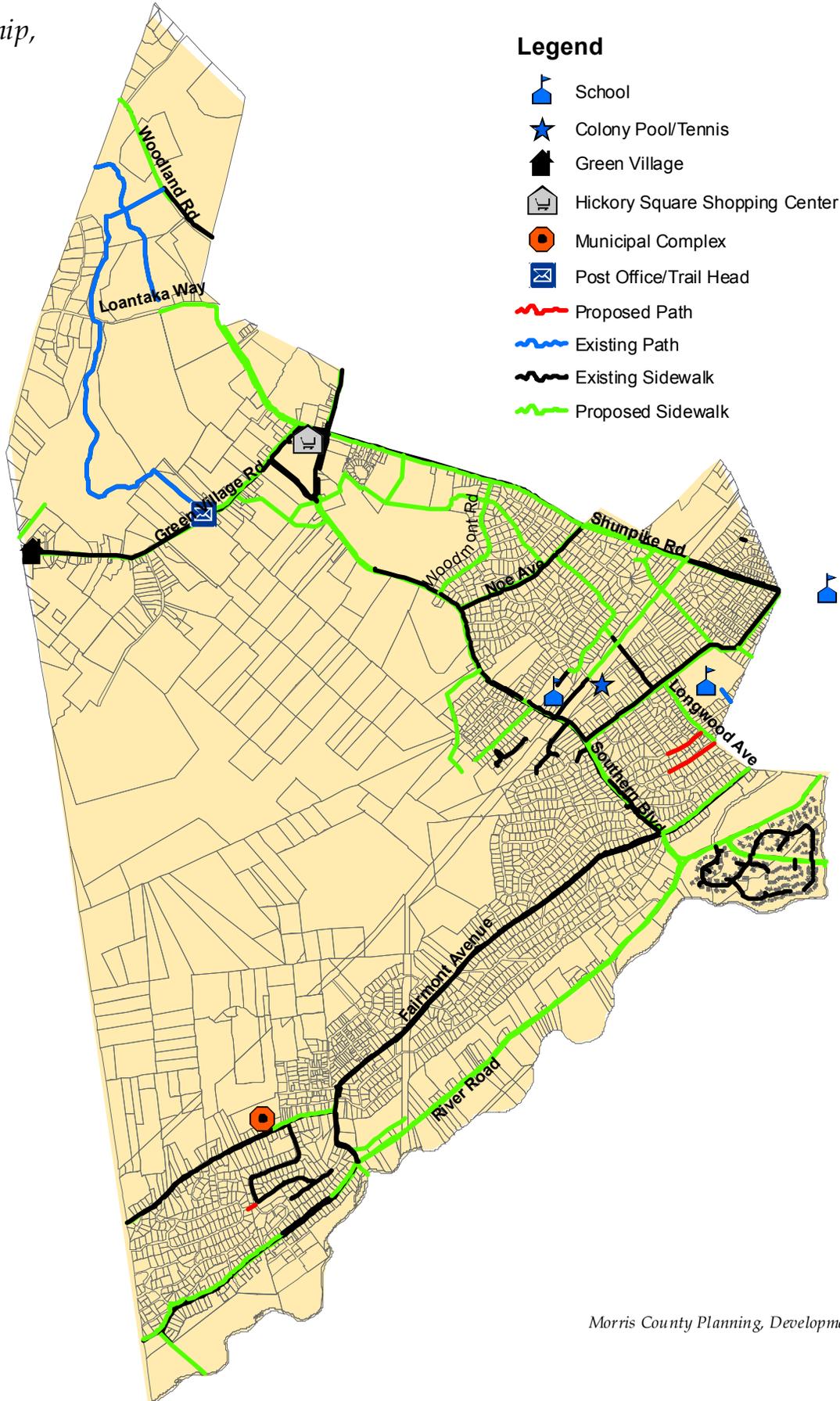
Chatham Township,
Morris County
July 2009



Data Sources:
Morris County Planning, Development and Technology
1999 Master Plan
Civil Solutions

Figure 4: Walkway/Bikeway Plan

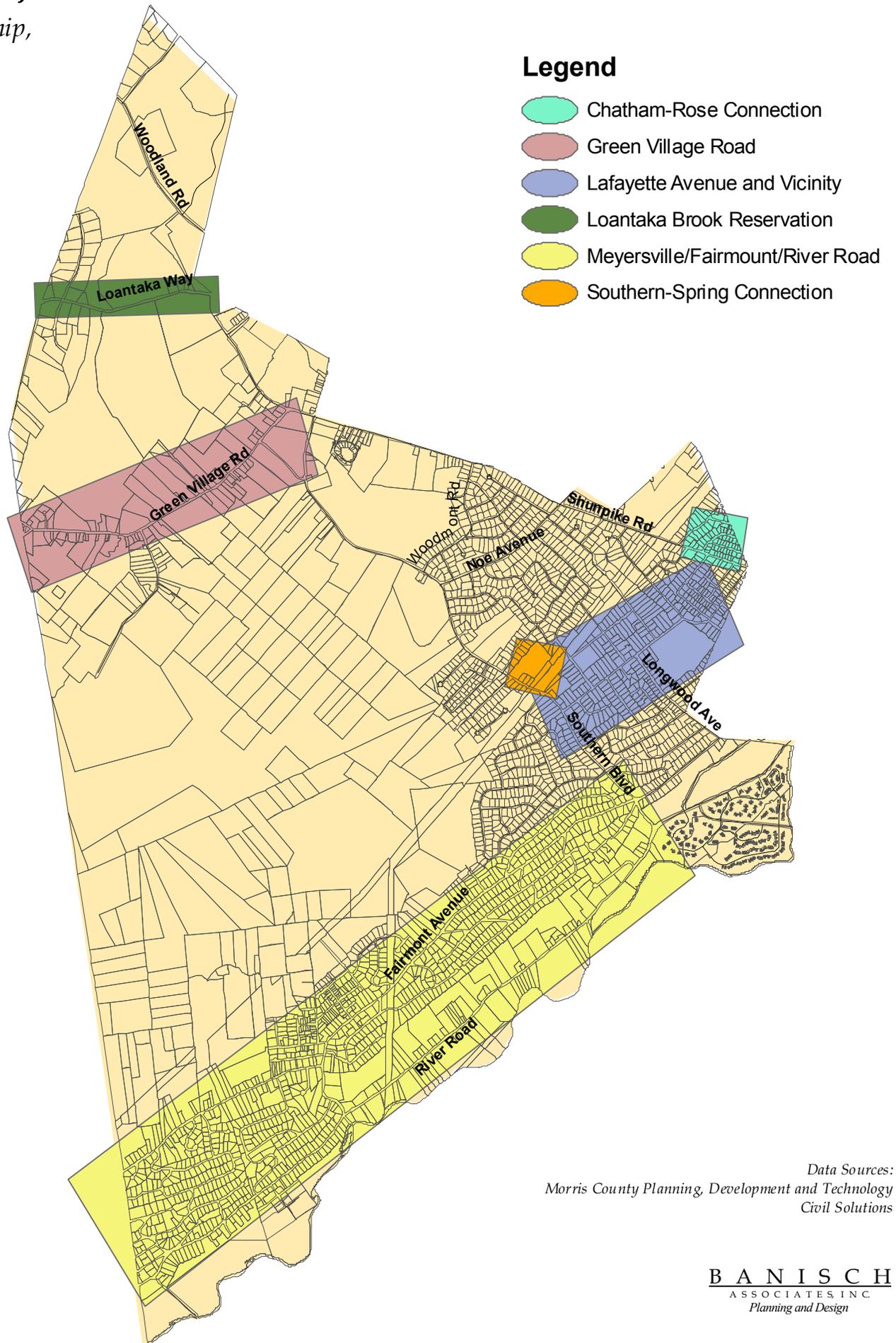
Chatham Township,
Morris County
July 2009



Data Sources:
Morris County Planning, Development and Technology
1999 Master Plan
Civil Solutions

Figure 5: Proposed Project Areas

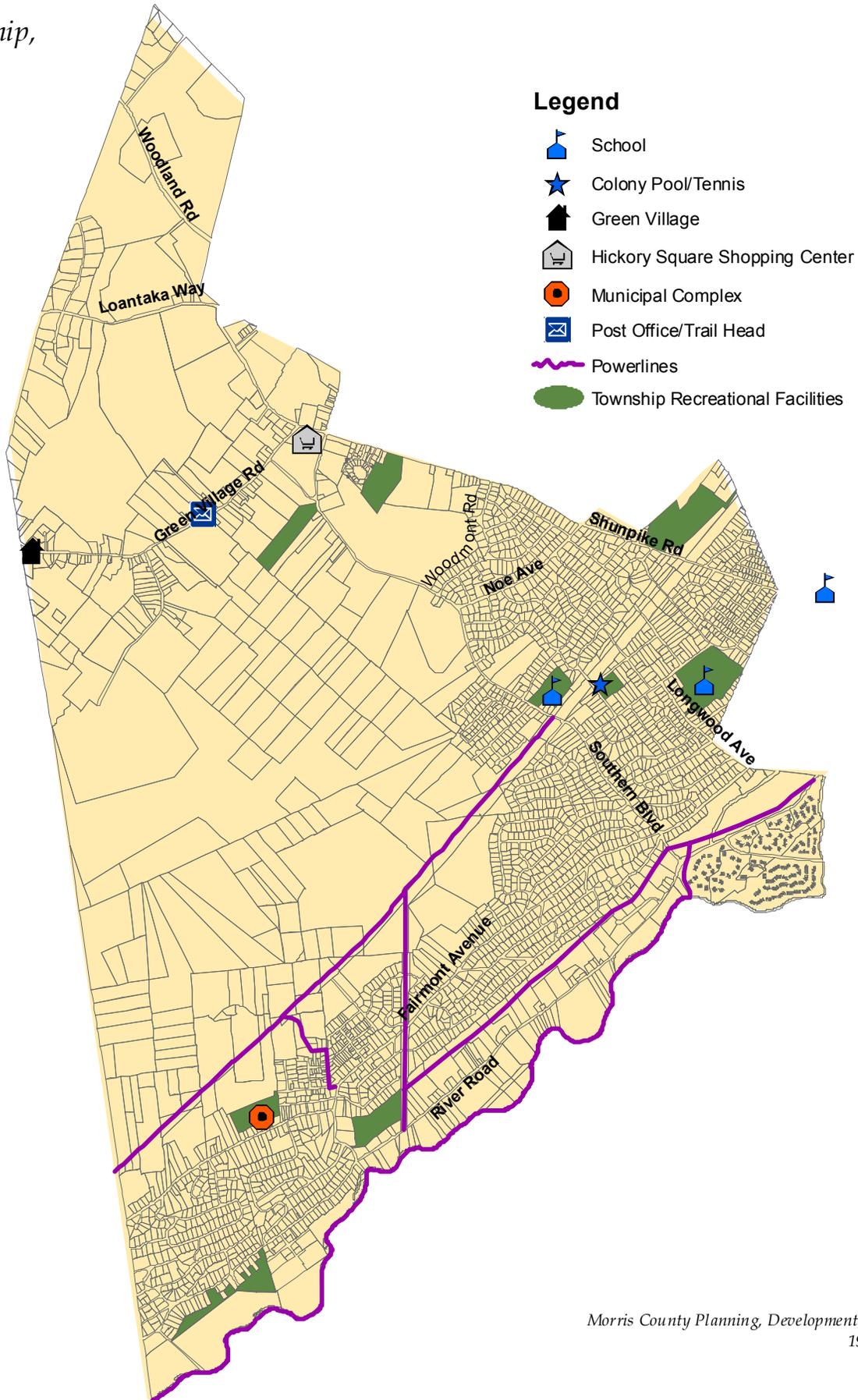
Chatham Township,
Morris County
July 2009



Data Sources:
Morris County Planning, Development and Technology
Civil Solutions

Figure 6: Walkway/Bikeway Powerlines

Chatham Township,
Morris County
July 2009



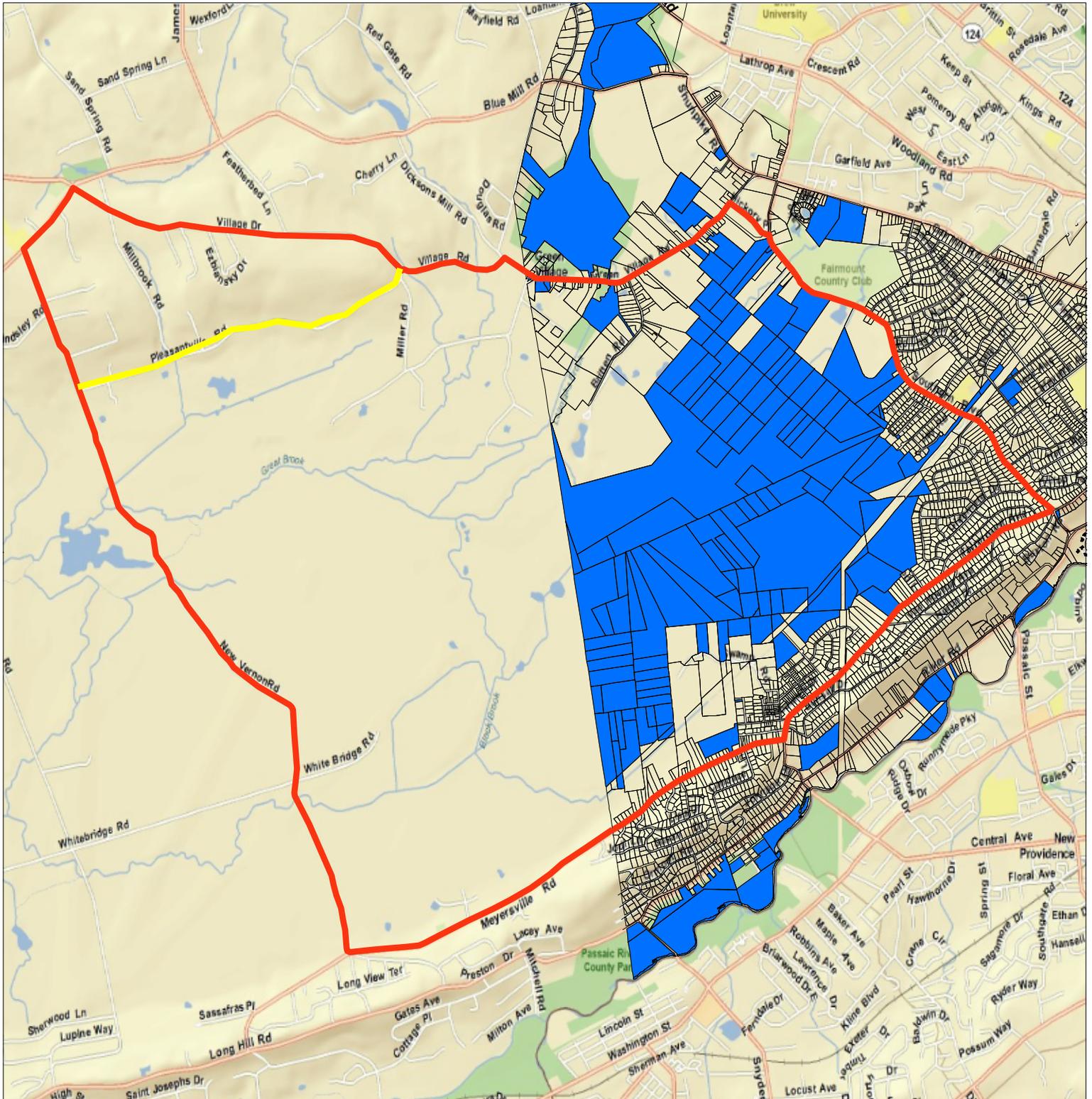
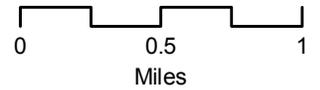
Legend

-  School
-  Colony Pool/Tennis
-  Green Village
-  Hickory Square Shopping Center
-  Municipal Complex
-  Post Office/Trail Head
-  Powerlines
-  Township Recreational Facilities

Data Sources:
Morris County Planning, Development and Technology
1999 Master Plan
Civil Solutions

Figure 7: Proposed Swamp Loop Trail

Chatham Township,
Morris County
July 2009



Legend

-  Pleasantville Road (Local Route)
-  Swamp Loop
-  Open Space and Recreation Areas

Data Sources:
Morris County Planning, Development and Technology
1999 Master Plan
Civil Solutions