

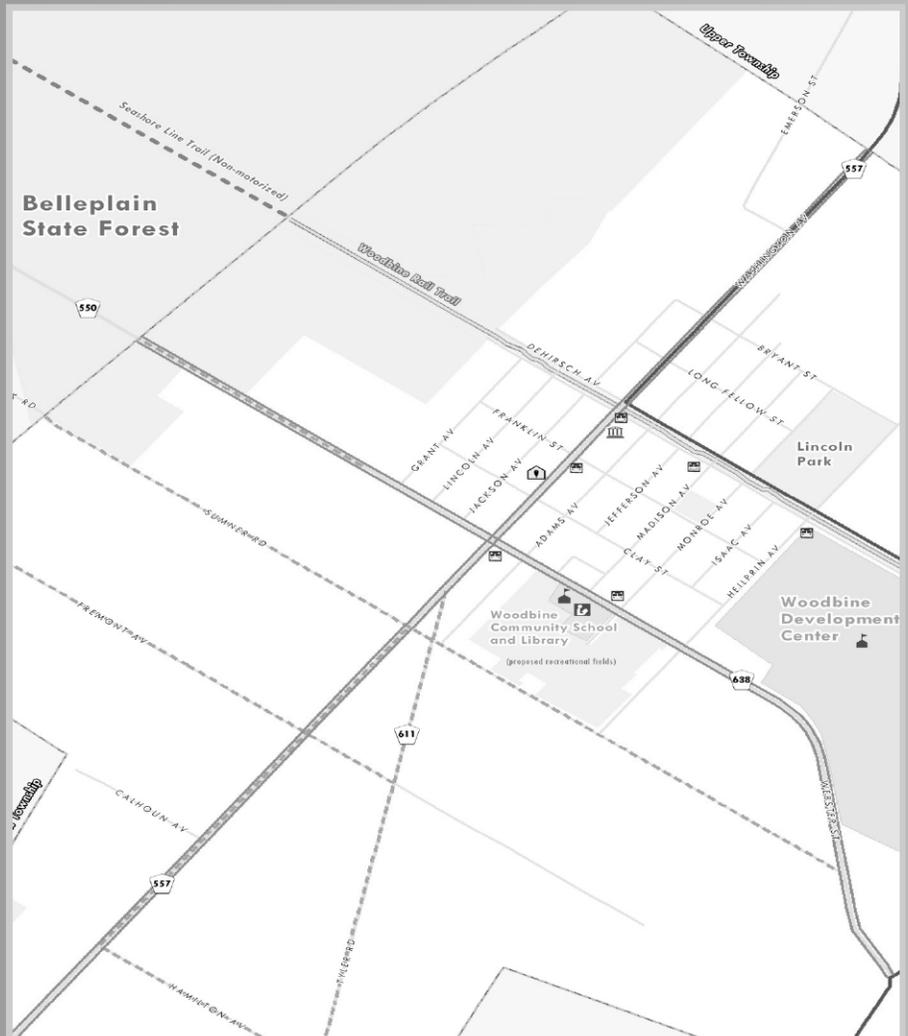
Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study



Action Plan Final Report

May 2008

Prepared for:
The Borough of Woodbine
and
the New Jersey Department
of Transportation



Baker

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I. Introduction

The Borough of Woodbine submitted an application requesting bicycle and pedestrian planning assistance to the New Jersey Department of Transportation – Office of Bicycle and Pedestrian Programs (NJDOT-OBPP) on May 9, 2007. Their stated goal was to develop a bicycle and pedestrian network in the Borough that would provide safe and accessible routes to their community school (which also houses a new county library and technology facility), downtown business district, parks, historic sites and the Woodbine Developmental Center. They further expressed interest in educating residents and visitors on bicycle and pedestrian travel as a mode of transportation.



The NJDOT-OBPP requested that Michael Baker Jr. Inc. (Baker) provide bicycle and pedestrian planning assistance to the Borough of Woodbine, Cape May County, NJ under the **Local Planning Assistance Program**. The purpose of the study was to identify and assess the condition of existing bicycle and pedestrian facilities, develop and evaluate treatments to improve bicycle and pedestrian access and mobility, and increase local knowledge with regards to bicycle and pedestrian travel. Additionally, since there are several equestrian farms in the Borough, the Scope of Services included identifying opportunities to accommodate the needs of equestrians on roadways.

This Action Plan documents the activities, findings and determinations of the Woodbine Bicycle and Pedestrian Planning Assistance Study including the data collection process, needs assessment findings and concept development efforts. Conceptual improvements are organized into their own 'work packages' for implementation when funding becomes available.

A. Local Assistance Program

NJDOT initiated the Bicycle and Pedestrian Local Planning Assistance Program in 1997. Through this program, New Jersey municipalities have an opportunity to identify pedestrian and bicycle issues that they would like addressed in their community. Upon the request of a local entity, NJDOT provides consultant planning services to the community to conduct planning studies that evaluate needs and opportunities relating to bicycle and pedestrian circulation and safety. The result of the planning study then serves as a basis for developing recommendations for implementing specific improvements. The studies are locally driven in a partnership arrangement with the applicant and have a strong public outreach component.

B. Scope of Services

The Woodbine Local Bicycle and Pedestrian Planning Assistance Study was completed following the series of tasks described below:

- 1) ***Local Officials Coordination:*** Baker partnered with local officials to identify Woodbine's vision of creating safe bicycle and pedestrian routes within their community for school children, residents, commuters and visitors. Baker continued coordinating with local officials throughout the study process. Coordination efforts included identifying members of the Study Task Force and opportunities for public outreach.
- 2) ***Data Collection and Activity Investigation:*** Existing resources were obtained to support deficiency identification and concept development, including traffic volumes, bicycle and pedestrian crash data, and applicable reports and studies. Site visits were performed to identify the location of bicycle and pedestrian trip generators and potential existing bicycle and pedestrian travel patterns. Information on existing equestrian riding routes on Borough roadways was also collected.
- 3) ***Bicycle and Pedestrian Facility Inventory and Assessment:*** The presence and condition of bicycle and pedestrian facilities were inventoried and traffic volumes were obtained from existing resources to determine bicycle compatibility on roadways. The presence and condition of existing sidewalks, curb ramps and pedestrian signals at intersections were inventoried. Physical deficiencies were identified.
- 4) ***Conceptual Improvements:*** Conceptual improvement schemes were developed to address identified bicycle, pedestrian and equestrian deficiencies and opportunities. Concept-level schematics and architectural sketches were developed to illustrate the recommended improvement concepts.



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- 5) ***Public Outreach:*** Baker attended the Woodbine Wellness Day event on September 29, 2007 to promote and discuss the study with the public and to provide general information about bicycle and pedestrian travel. A Public Information Center (October 18, 2007) and a Study Task Force Meeting (December 18, 2007), comprised of Borough, County, and State officials, were administered to present study findings and recommendations.
- 6) ***Action Plan and Destination Map:*** Study findings and recommendations, including a community bicycle and pedestrian destination map (“Woodbine Walks, Bikes and Gallops, Too”), are incorporated into the Action Plan.

C. Study Area

Generally, the Study Area included the entire Borough of Woodbine. Specific areas of investigation included major north-south and east-west travel corridors, and the downtown business district. Specific areas were also identified by Borough officials, and the public, as areas of concern for pedestrian and bicycle mobility. The Study Area is illustrated in **Figure 1** and **Figure 2**.



Woodbine Rail Trail

FIGURE 1: STUDY AREA – REGIONAL CONTEXT

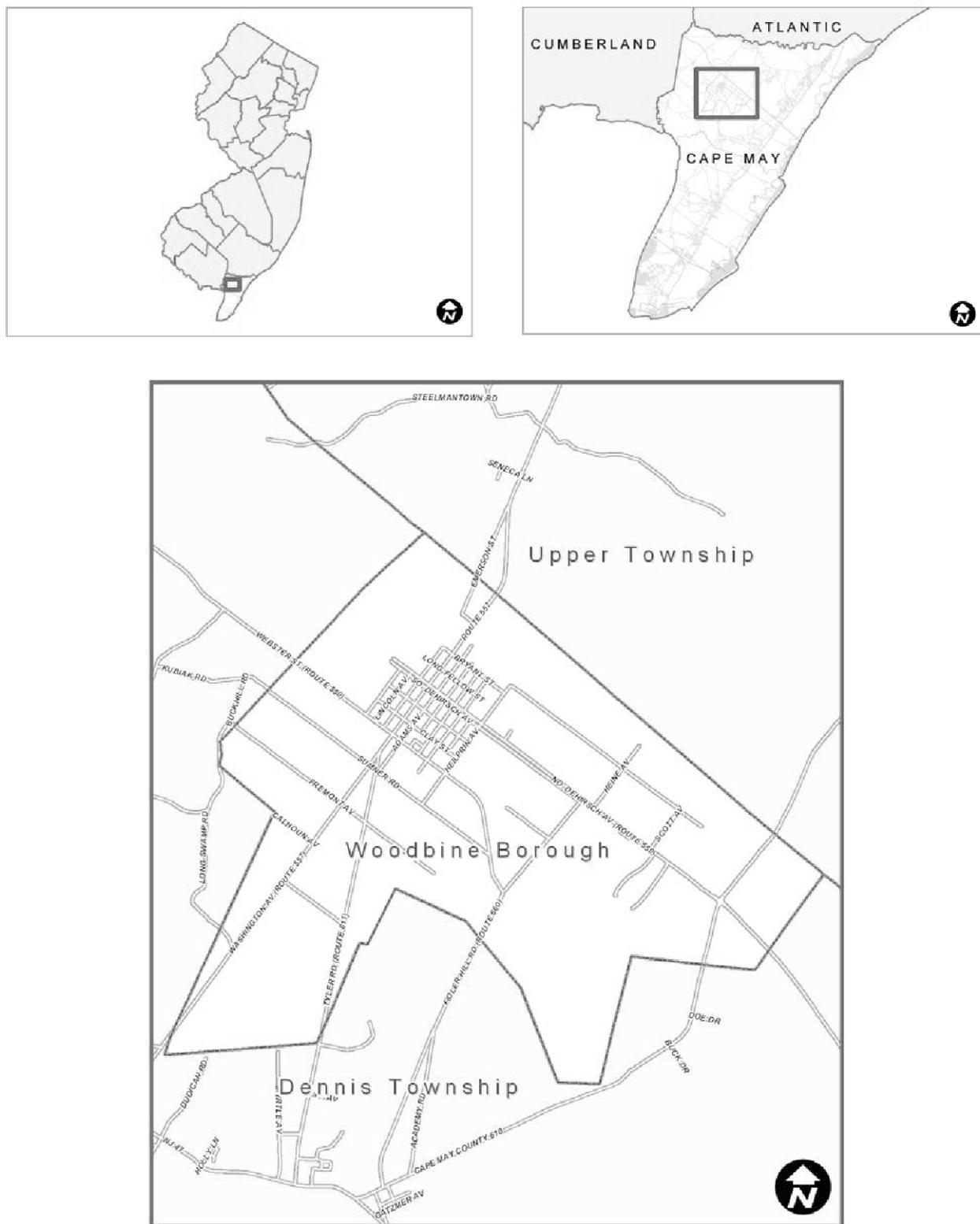
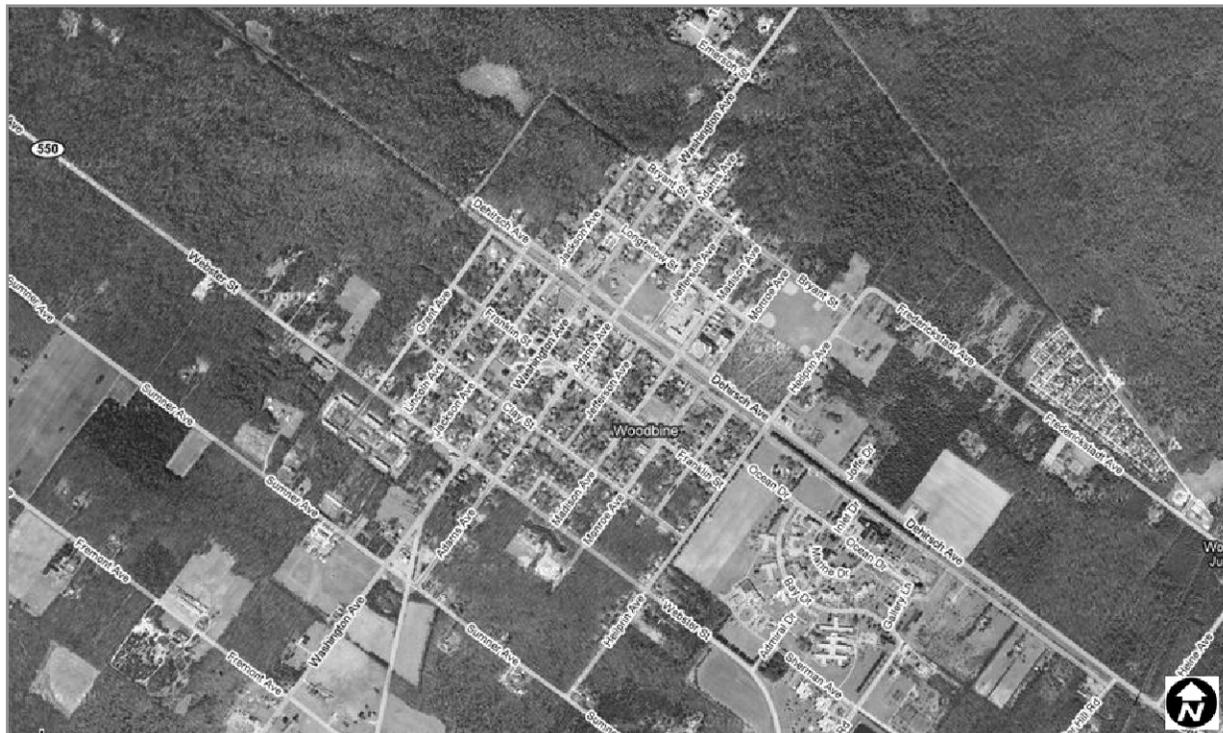


FIGURE 2: STUDY AREA – LOCAL CONTEXT

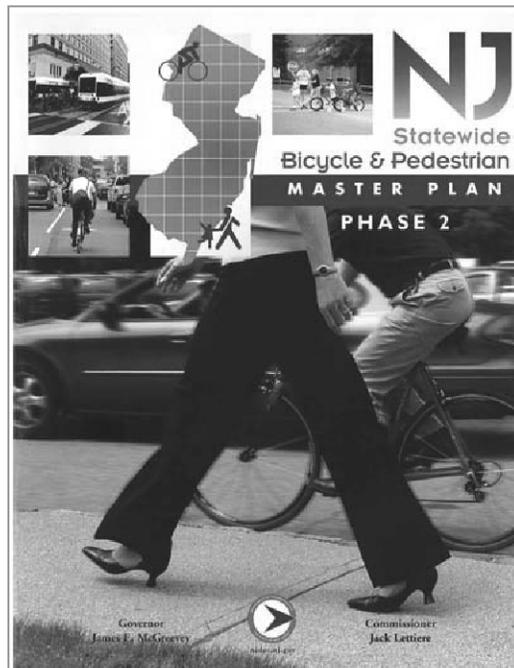


II. New Jersey Statewide Bicycle and Pedestrian Master Plan

The Local Assistance Program, and by association this study, is governed by the goals and objectives of the New Jersey Statewide Bicycle and Pedestrian Master Plan. The Master Plan maintains the following goals:

- A. Build the Infrastructure:** “Create bicycle and pedestrian infrastructure by planning, designing, constructing and managing transportation and recreational facilities that will accommodate and encourage use by bicyclists and pedestrians and be responsive to their needs.”
- B. Improve Access:** “Make community destinations, transit facilities and recreation facilities accessible and convenient for use by all types and skill levels of bicyclists and pedestrians.”
- C. Update Policies, Ordinances and Procedures:** “Reform land use planning policies, ordinances and procedures to maximize opportunities for walking and bicycling.”
- D. Educate and Enforce:** “Develop and implement education and enforcement programs that will result in reduction of crashes and a greater sense of security.”
- E. Foster a Pro-Bicycling and Walking Ethic:** “Increase bicycling and walking by fostering a pro-bicycling and pro-walking ethic in individuals, private sector organizations and all levels of government.”

Wherever possible, these goals should be factored into the bicycle and pedestrian planning and concept development process. *The Statewide Bicycle and Pedestrian Master Plan, Update* is contained in **Appendix A**.



III. Woodbine's Existing Plans

Previous plans and applications prepared by, and for, Woodbine were collected as part of this study. These plans and applications were reviewed to identify desired improvements and current planning initiatives in the Borough. The following plans and applications were collected:

- 1) Local Aid: Centers of Place Grant Application (July 2007)**, for streetscape improvements on Washington Avenue and the block surrounding Borough Hall.
- 2) Local Aid: Bikeways Grant Application (June 2007)**, southern extension of the shared use path along the Cape May Seashore Rail Line to the Borough's border with Dennis Township.
- 3) Community School Facilities and Analysis Plan (December 2005)**
- 4) Special Purpose Grant Funds Application (January 2005)**, Community and School Recreation Facility and Site Improvements.
- 5) Commerce Center Market Study (December 2004)**
- 6) Smart Planning Grant Application (May 2001)**, Development of a Strategic Revitalization Plan.



IV. Woodbine’s Bicycle, Pedestrian and Equestrian Network

Opportunities and deficiencies relating to Woodbine’s bicycle, pedestrian and equestrian network, were identified and evaluated through the course of this study. To identify opportunities and deficiencies, data was collected through field investigations and through input provided by the public and local officials. Comments were received from residents at Woodbine Wellness Day held on September 29, 2007, and at the Public Information Center on October 18, 2007. Comments received addressed bicycle and pedestrian travel opportunities, and access and mobility improvements. Residents suggested sidewalk installation between residential neighborhoods and educational, commercial and recreational destinations. A study postcard was designed and distributed at Woodbine Wellness Day to inform the public about the study. The postcard and a list of comments received at the Public Information Center are included in **Appendix B**.

A. Land Use, Bicycle and Pedestrian Trip Generators and Travel Patterns

The Borough of Woodbine was founded in the late 19th century as a rural community. Gradually, Woodbine progressed from a model agricultural community to a center of light industry and manufacturing. Today, Woodbine is designated a Town Center through both the New Jersey Pinelands Commission and the New Jersey Office of Smart Growth. This designation can be attributed to Woodbine’s role as a center of local commerce, and as a preferred location for future growth and development in New Jersey.



Historic, cultural and natural resources in Woodbine, and its immediate vicinity, include some of the following:

- Sam Azeez Museum of Woodbine Heritage
- Belleplain State Forest
- Woodbine Rail Trail
- Woodbine Airport
- Southern Pinelands Natural Heritage Trail
- New Jersey Coastal Cultural Heritage Route
- Great Cedar Swamp (Part of the Cape May National Wildlife Refuge)

These resources, combined with a number of local destinations, are accessed by a variety of transportation modes, including bicycling and walking. To identify destinations and facilities accessed through bicycle and pedestrian trips, field

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observations were performed in the Study Area. Local bicycle and pedestrian trip generators are detailed on pages 11 and 12, and identified on **Map 1**. Map 1 also illustrates observed bicycle and pedestrian travel patterns and reported equestrian routes as identified by the Woodbine Equestrian Center.

Historic and Cultural Resources

Woodbine was established in 1891 when Baron DeHirsch purchased 5,300 acres of land in Dennis Township, Cape May County, New Jersey. The community was originally started as a settlement for people of eastern European Jewish descent that were fleeing persecution. Consequently, it is often described as being “the first self-governing Jewish community since the fall of Jerusalem.” Over the next decade, Woodbine grew as an agricultural community and was incorporated as a Borough in 1903. The street layout for the Borough is the same today as it was in the original plan.

The Woodbine Brotherhood Synagogue on Washington Avenue was built by the colonists and is still available for special worship services. The synagogue is now the Sam Azeez Museum of Woodbine Heritage and is listed on the National Register of Historic Places. The museum is open to the public and displays information and artifacts from Woodbine’s past.

Employment Centers

The Woodbine Developmental Center (WDC), Cape May County’s largest employer with 1,400 employees, is located in Woodbine. The WDC is bordered by Dehirsch Avenue to the north, Heilprin Avenue to the west and Webster Street to the south. The WDC occupies the former site of the Baron DeHirsch Agricultural College (c. 1894) and is a state institution that provides training for men with mental or other developmental disabilities.

Retail and Services

Most retail services are located along Washington Avenue (CR 557/CR 550) and Dehirsch Avenue (CR 550) in downtown Woodbine. Antique stores, restaurants, bakeries and convenience stores are interspersed with residential properties along these avenues.

Civic/Institutional

Borough Hall, located on Washington Avenue, houses the Borough’s offices and Municipal Court. The Woodbine Community School, which also houses a County

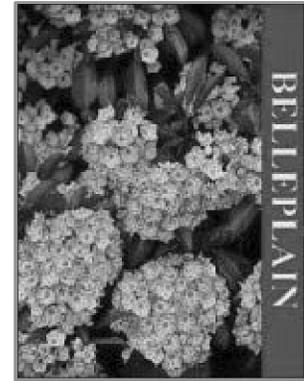


Image from exhibit at the Sam Azeez Museum

library and technology center, is located on Webster Street. The Post Office is also located on Washington Avenue.

Recreation and Open Space

A portion of Belleplaine State Forest, a 20,000+ acre nature preserve and recreation area, is located in Woodbine. Within the forest are nearly 200 camp sites, Lake Nummy (which offers canoeing) and a series of trails for hiking, mountain biking and horseback riding. A trail map for Belleplaine State Forest is contained in **Appendix C**.



Woodbine has two (2) recreational parks under local jurisdiction as well. Lincoln Park, the larger of the parks, has tennis and basketball courts, athletic fields and playgrounds. A smaller neighborhood park is located on Franklin Street, between Madison Avenue and Monroe Avenue, with a playground, basketball court and athletic fields.

B. Regional Bicycle Routes

There are two (2) regional, on-road bicycle routes that traverse Woodbine. These routes are the High Point to Cape May Bike Route and a bicycle route developed by the South Jersey Wheelmen as part of the *New Jersey Coastal Heritage Trail*.

High Point to Cape May Bike Route

The High Point to Cape May (HPTCM) Bike Route is a 238-mile bicycle route spanning the length of New Jersey from High Point State Park in Montague Township, Sussex County in the north to Cape May Point State Park in Lower Township, Cape May County in the south. In Woodbine, HPTCM follows Washington Avenue, Dehirsch Avenue and Fidler Hill Road for a total of 3.25 miles. Maps and directions for the HPTCM bike route were published in March 2006 by NJDOT and are contained in **Appendix C**.



New Jersey Coastal Heritage Trail

The New Jersey Coastal Heritage Trail covers nearly 300 miles encompassing parks, towns and other destinations along the Atlantic coast of New Jersey. Although primarily a vehicular route, the South Jersey Wheelmen (an area cycling club) developed a bicycle route for cyclists to follow the trail. The route has a length of 3.5 miles in Woodbine, on Washington and DeHirsch Avenues. Regional brochures and a website (www.nps.gov/neie/) for the Coastal Heritage Trail were published and are maintained by the National Park



Service. The map and destination guide for the Abesecon and Cape May Region, which includes Woodbine, are contained in **Appendix C**.

C. Pedestrian Environment and Existing Facilities

Site visits to Woodbine were performed to observe pedestrian travel patterns and inventory the presence and condition of pedestrian facilities including sidewalks, curb ramps, crosswalks, push buttons, pedestrian signals and signs.

Sidewalk

An inventory was performed of Borough roadways to determine the presence and condition of sidewalk. Sidewalk is available throughout the majority of Woodbine’s downtown, including Washington Avenue, DeHirsch Avenue and Webster Street. For the most part, sidewalk inventoried in the Borough is in excellent or good condition. Sidewalk condition was rated based on the following criteria:

- A. Excellent Condition:** Well maintained or new sidewalk with no cracks, overgrowth (encroaching landscape) or obstacles
- B. Good Condition** Nearly new sidewalk with very little distress
- C. Fair Condition** Sidewalk with minor cracking, some overgrowth and/or a few obstacles
- D. Poor Condition** Cracks in several sections with overgrowth and/or trees uprooting the sidewalk several obstacles in the walkway
- E. Very Poor Condition** Extremely deteriorated sidewalks with severe cracks and/or sections completely covered by dirt, overgrowth or mud.

Map 2 illustrates the results of the sidewalk inventory and condition assessment. Curb ramps are present at most intersections.



*New sidewalk on Washington Avenue
in front of Bus Stop*



Sidewalk along Heilprin Avenue

Pedestrian Facilities at Intersections

As part of this study, an inventory of pedestrian facilities at intersections was performed. Based on this inventory, there are no phased signal controlled intersections in the Borough. Most intersections are stop-controlled with signs. In addition to stop signs, the intersection of Washington Avenue and Webster Street has unphased, overhead flashing red beacons to alert motorists to the presence stop signs.

Crosswalks were inventoried at the intersections detailed in **Table 1**.

Table 1. Intersection Inventory of Pedestrian Facilities

| Intersection | Type | Number |
|---|--|--------|
| Dehirsch Avenue and Joffe Drive | Standard Stripe | 1 |
| Dehirsch Avenue and Monroe Avenue | Standard Stripe | 1 |
| Dehirsch Avenue and Madison Avenue | Standard Stripe | 1 |
| Dehirsch Avenue and Jefferson Avenue | Standard Stripe | 1 |
| Dehirsch Avenue and Washington Avenue | Standard Stripe | 1 |
| Washington Avenue and Woodbine Rail Trail | Standard Stripe | 1 |
| Washington Avenue and Webster Street | Standard Stripe | 2 |
| Webster Street and Madison Avenue | Standard Stripe Longitudinal Stripe | 1 1 |

For designated school crossings, warning signs (MUTCD S1-1) are installed at the locations in **Table 2**.

Table 2. Sign Inventory at Designated School Crossing Locations

| Intersection | Measures |
|--------------------------------------|-------------------------------------|
| Dehirsch Avenue and Monroe Avenue | Warning Signs with Flashing Beacons |
| Washington Avenue and Webster Street | Warning Signs |
| Webster Street and Madison Avenue* | Warning Signs |

** Advanced school warning speed signs and beacons are located at Adams Avenue and Monroe Avenue.*



Longitudinal stripe crosswalk in front of Woodbine Community School



Standard stripe crosswalk at the intersection of Washington Avenue and Webster Street

D. Bicycle Environment and Facilities

Site visits to Woodbine were performed to observe bicycle travel patterns and to inventory the existing roadways for bicycle compatibility. Bicyclists were observed primarily on the Woodbine Rail Trail and Washington Avenue. Bicycle travel patterns are illustrated on **Map 1**.

Data collected for roadways in Woodbine included: speed limit, Annual Average Daily Traffic (AADT), lane widths, shoulder widths and roadway classification. Data were collected to determine compliance with NJDOT guidelines. Only roadways with available traffic volumes were assessed for compatibility.

NJDOT's *Planning and Design Guidelines for Bicycle Compatible Roadways and Bikeways* contains roadway compliance standards in the form of a table (**Appendix D**) to determine compatible pavement widths and recommended bicycle facilities. Since most roadways assessed in the Borough had AADTs between 2,000 – 10,000 vehicles per day (vpd), they were evaluated under Condition II for design treatments to accommodate bicycles. Of the assessed roadways, only westbound Dehirsch Avenue (CR 550) is not compatible for bicycle traffic (12-foot westbound travel lane and 3.5-foot shoulders). **Table 3** summarizes the data collected and bicycle compatibility results. **Map 3** illustrates the results of the bicycle compatibility assessment.



Existing wide travel lane on Washington Avenue



Existing striped shoulder on Webster Street

Table 3. Bicycle Compatibility Assessment Matrix

| Street | AADT | Speed Limit (mph) | On Street Parking | Total Pavement Width (feet) | Travel Lane Widths NB/SB (feet) | Shoulder Widths NB/SB (feet) | Travel Lane Widths EB/WB (feet) | Shoulder Widths EB/WB (feet) | Bicycle Compatible |
|--|-------------------|-------------------|-------------------|-----------------------------|---------------------------------|------------------------------|---------------------------------|------------------------------|------------------------------------|
| Washington Avenue (CR 557/550) between Longfellow Street and Franklin Street | 5800 ¹ | 35/40 | Permitted | 40 | 20/20 | No shoulder striping | -- | -- | Compatible |
| Washington Avenue (CR 557/550) between Franklin Street and Tyler Road (CR 611) | 5800 ² | 35 | Permitted | 40 | 12.5/12 | 7/8.5 | -- | -- | Compatible |
| Washington Avenue (CR 557) south of Tyler Road (CR 611) | 720 ³ | 50 | Permitted | 39 | 12/13 | 6/8 | -- | -- | Compatible |
| Tyler Road (CR 611) between Sumner and Fremont Avenue | 2000 ⁴ | 50 | Permitted | 38.5 | 12.5/12.5 | 6.5/7 | -- | -- | Compatible |
| Dehirsch Avenue (CR 550) east of Washington Avenue (CR 557) | 4900 ⁵ | 40 | Permitted | 34.5 | -- | -- | 13/12 | 6/3.5 | EB Compatible WB Not Compatible |
| Webster Street (CR 557) west of Washington (CR 550/557) | 3500 ⁶ | 40 | Not Permitted | 34.5 | -- | -- | 11/11.5 | 7/5 | Compatible |
| Webster Street (CR 638) between Washington (CR 550/557) and Madison Avenue | Not Available | 40 - 50 | Permitted | 40 | 20/20 | No shoulder striping | -- | -- | To be Determined |
| Webster Street (CR 638) between Madison Avenue and Monroe Avenue | Not Available | 25 (school zone) | Permitted | 40 | 11/20 | 9/0 | -- | -- | To be Determined |
| Webster Street (CR 638) between Monroe Avenue and Heilprin Avenue | Not Available | 40 | Permitted | 41.5 | 11.5/11 | 9/10 | -- | -- | To be Determined |
| Webster Street (CR 638) east of Heilprin Avenue | Not Available | 50 | Permitted | 32 | 11/11.5 | 5.5/4 | -- | -- | To be Determined |

¹ 2005 AADT, NJDOT Control Station Volume Report

² 2005 AADT, NJDOT Control Station Volume Report

³ 2004 AADT, NJDOT SLD for CR 557

⁴ 2005 AADT, NJDOT Control Station Volume Report

⁵ 2006 AADT, NJDOT Control Station Volume Report

⁶ 2003 AADT, NJDOT SLD for CR 550



E. Equestrian Routes

The Woodbine Equestrian Center provided a map illustrating roadways used as on-road routes by equestrians in the Borough. The following roadways were identified as equestrian routes:

Table 4. On-road Equestrian Routes

| Street | From | To |
|-------------------|-----------------|-------------------------|
| Sumner Avenue | Webster Street | Belleplain State Forest |
| Fremont Avenue | Tyler Road | Belleplain State Forest |
| Hamilton Avenue | Tyler Road | Washington Avenue |
| Washington Avenue | Hamilton Avenue | Sumner Avenue |
| Tyler Road | Hamilton Avenue | Sumner Avenue |

The Woodbine Equestrian Center indicated that these routes are used frequently by equestrians to access trails in Belleplain State Forest. Equestrian routes are illustrated on **Map 1**.

Additional information was provided by residents at the PIC regarding equestrians and motorists sharing the road (Title 39 of the New Jersey State Statutes [NJSA] – Motor Vehicle Statutes). Title 39:4-72 was amended in 2004 and now requires that motorists reduce their speed to “a rate not exceeding 25 miles an hour” when approaching or passing a person riding or driving a horse.



Woodbine Equestrian Center at the corner of Washington Avenue and Sumner Avenue

VI. Crash Analysis

Bicycle and pedestrian crash reports were requested from the New Jersey State Police (Woodbine Station) for the most recent three years (2005-2007). The reports were requested to determine the crash history of bicyclists and pedestrians in the Borough. Between January 1, 2005 and August 31, 2007, there were no reported bicycle or pedestrian crashes in Woodbine, according to State Police reports.

VII. Policy and Education Recommendations

A. Policy

The Borough of Woodbine, through their application for local bicycle and pedestrian planning assistance, has documented its support for bicycle and pedestrian improvements. Similarly, through the Borough's applications for state grants, it has demonstrated its commitment to create a pedestrian and bicycle friendly streetscape in its downtown.

Woodbine could use recommendations from this study, as well as from additional future planning activities, to integrate new bicycle and pedestrian policies and requirements into their local regulations. For example, as a new policy, Woodbine could require that new development in their community include sidewalk and bicycle rack installation.

B. Education

To plan for future demand of bicycle and pedestrian travel, programs could be implemented to educate bicyclists, pedestrians and motorists on safe travel practices. Education programs assist in dispelling myths, encouraging courteous and lawful behavior, and enhancing awareness. By utilizing the resources of the police department, schools and libraries, education programs have the potential of reaching a broader audience and cross section of the community.

Members of the Woodbine LTA Study Task Force and residents informed the Study Team that bicyclists in the Borough frequently ride their bikes in an improper manner. The following safety concerns were identified by the Task Force members:

- Bicyclists are riding against traffic, rather than with traffic.
- Bicyclists are using sidewalks.
- Bicyclists are not wearing helmets.
- Bicyclists are riding side-by-side in groups, rather than single file.

Education programs and materials can assist in preventing some of the above safety concerns. For example, to discourage the practice of side-by-side riding, signs can be installed instructing bicyclists to "ride single file with traffic." However, these signs are not MUTCD approved.

The following four (4) primary groups should be educated about bicycle safety and awareness:

- 1) Young bicyclists (aged 17 years or younger)
- 2) Parents of young bicyclists
- 3) Adult bicyclists
- 4) Motorists



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Each of these groups should be educated respectively on the most frequent cause of crashes and injuries.

Resources

The National Highway Traffic Safety Administration (NHTSA) distributes a packet called “Getting to School Safely Community Action Kit.” In the packet are fact sheets about bicycle and pedestrian safety. The Department of Health and Human Services, Center for Disease Control and Prevention (CDC) also distributes a guide about how to properly walk to school. The CDC provides parents with tips for teaching their children the proper way to walk to school.

NJDOT uses several messages to educate citizens about bicycle and pedestrian safety. The two (2) messages primarily used for pedestrian safety education include: “Cross the street where you can see and be seen” (intended to encourage pedestrians to be aware of motorists) and “Yield to Pedestrians” (intended to encourage motorists to stop for pedestrians in a crosswalk).



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NJDOT also offers numerous other bicycle and pedestrian resources, including safety publications and guides to bicycle and pedestrian trails and routes throughout the state. Included below are examples of some of the available resources:

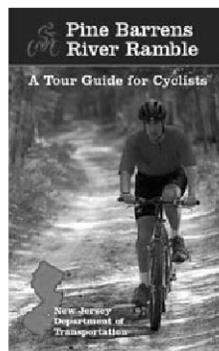
1. East Coast Greenway Multi-use Trail Guide



2. The Helmet Habit: Get Into It!



3. Pine Barren River Ramble

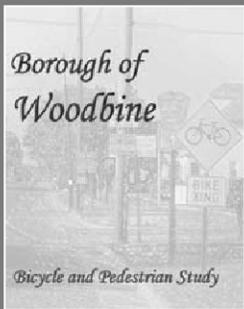


NJDOT publications are available for order at the NJDOT NJCommuter.com website.

C. Destination Map – Woodbine Walks, Bikes and Gallops, Too

As part of the local effort to increase education about bicycle and pedestrian travel and safety, a destination map was developed for Woodbine. This map, titled *Woodbine Walks, Bikes and Gallops, Too*, can serve the community as a resource in providing residents, commuters and visitors with recommended pedestrian and bicycle travel in the Borough. The map includes information about destinations, community assets (e.g. Woodbine Community School and Library) and cultural assets (e.g. Sam Azeez Museum and Belleplain State Forest) in Woodbine, and has travel and safety tips for pedestrians, bicyclists and equestrians. The map will be available to the community from the Borough.





***Borough of Woodbine
Local Bicycle and Pedestrian Assistance Study***

***Conceptual Improvement
Work Packages***

Conceptual Improvements

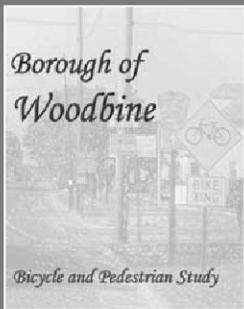
Recommendations to upgrade and enhance bicycle and pedestrian facilities, as well as to improve roadways for equestrians, in the Borough of Woodbine were determined based on findings from data collection, sidewalk inventory and assessment, bicycle compatibility assessment and through discussions with local officials and the public.

The five (5) conceptual improvement schemes developed as part of this study:

1. **Gateway and Pedestrian Enhancements**
2. **Bicycle Routes**
3. **Sidewalk Network**
4. **Equestrian Route**
5. **Shared Use Path**

The conceptual improvement schemes are described in more detail in the following sections with examples of the recommended improvements and their preliminary estimated construction cost. A directory of funding sources for bicycle and pedestrian improvements is contained in **Appendix E**.





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Local Bicycle and Pedestrian Assistance Study***

***Gateway and Pedestrian
Enhancements***

Gateway and Pedestrian Enhancements

Through field observations and discussions with local officials, some motorists travel at speeds faster than the posted speed limit along North Dehirsch Avenue (CR 550). North Dehirsch Avenue runs from east to west through the center of Woodbine, where the posted speed limit decreases from 50 mph to 40 mph. The gateway and pedestrian enhancements are recommended to improve pedestrian accessibility and mobility across North Dehirsch Avenue and to provide traffic calming along a section of roadway that serves as a gateway to the downtown. Gateway and pedestrian enhancements are illustrated on the **Gateway and Pedestrian Enhancement Map** and **Architectural Sketch** provided in this work package.

Crosswalks

It is recommended that stamped asphalt crosswalks be installed on North Dehirsch Avenue at three (3) intersections: Heilprin Avenue, Madison Avenue and Washington Avenue. Installing crosswalks at these locations would increase the visibility of pedestrians crossing, especially at Madison Avenue, which is a designated school crossing. The crosswalks could also serve as a speed control traffic calming measure for motorists traveling on North Dehirsch Avenue.



Example of a stamped asphalt crosswalk

Two (2) longitudinal striped crosswalks are proposed for installation on the north side of North Dehirsch Avenue across Heilprin Avenue and Monroe Avenue. Installing crosswalks at these locations would provide a designated crossing for pedestrians to access Lincoln Park and the proposed stamped asphalt crosswalk across North Dehirsch Avenue leading to the rail trail.



Example of a longitudinal striped crosswalk

Gateway Treatment

It is recommended that a landscaped, center island be installed on North Dehirsch Avenue between Joffe Drive and Heilprin Avenue. The island should be six (6) feet wide by twenty (20) feet long with curb. Landscaping, which would consist of low maintenance materials on the interior of the island, and a welcome sign are recommended for aesthetics and to indicate to motorists that they have entered the Borough. A center island can also be effective as a speed control traffic calming measure by visually narrowing the roadway even though vehicle travel lanes would remain at their existing width of twelve (12) feet.



Example of a landscaped center island with sign

School Crossing Beacons

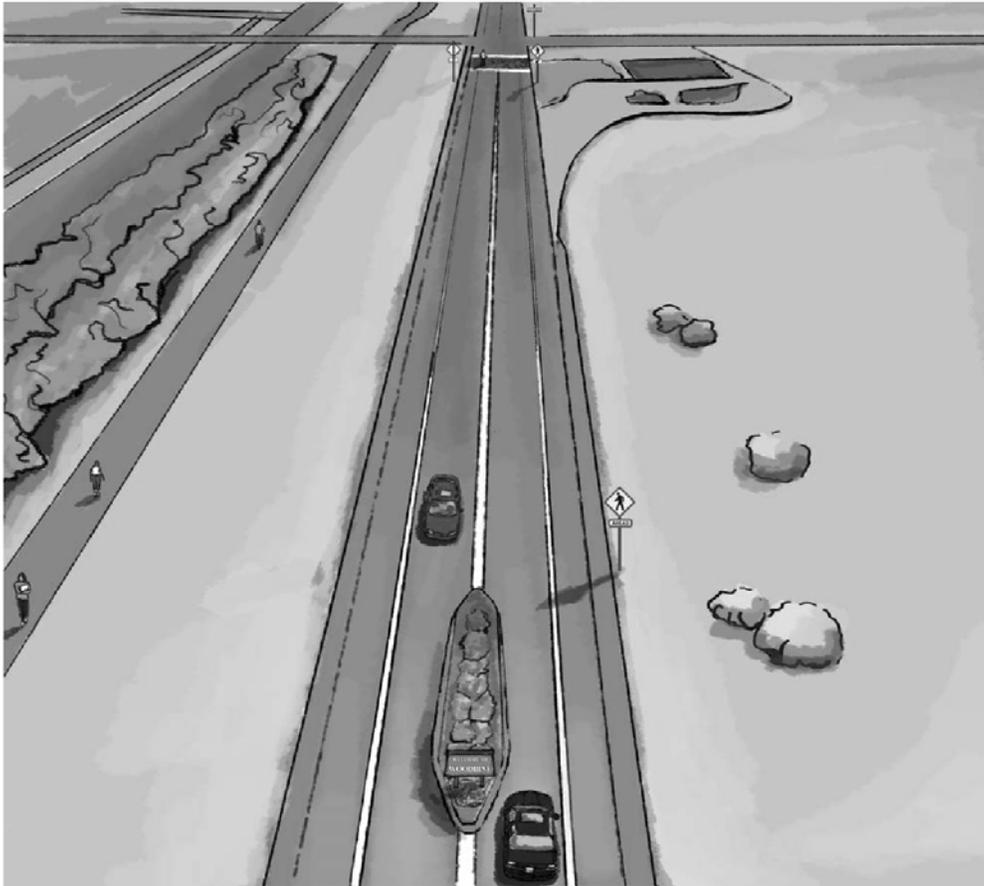
The intersection of Dehirsch Avenue (CR 550) and Madison Avenue is a designated school crossing with warning signs and a crosswalk. It is recommended that the two (2) existing warning signs at the intersection be replaced in-kind by pole-mounted warning signs affixed with flashing beacons to alert motorists when children are present. The beacons would be coordinated with the beginning and end of the school day.



Example of a school crossing warning sign with beacons

Order-of-magnitude cost estimates for the Pedestrian and Gateway Enhancements are provided in this package. DeHirsch Avenue (CR 550) is under the jurisdiction of Cape May County and County officials would therefore need to be consulted prior to engineering and design of the recommended improvements.

ARCHITECTURAL SKETCH OF GATEWAY AND PEDESTRIAN ENHANCEMENT IMPROVEMENTS



US Department
of Transportation
**Federal Highway
Administration**

Baker

**Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Final Action Plan**

**Cost Estimate for Gateway and Pedestrian Enhancement
Conceptual Improvement Scheme ⁷**

| | |
|---|--------------------------------------|
| Stamped, Colored Asphalt Crosswalk (3) | \$17,000 |
| Longitudinal Striped Crosswalk (2) | \$900 |
| 9" x 16" Vertical Curb | \$1,500 |
| Flashing Beacon – School Crossing Warning Sign | \$7,000 |
| <hr/> | |
| <i>Incidental Items</i> | <i>\$26,400</i> |
| | |
| Earthwork | \$500 |
| Landscape | \$600 |
| Erosion Control | \$200 |
| <i>Incidental Items</i> | <i>\$26,400</i> |
| <hr/> | |
| <i>Project Subtotal</i> | <i>\$27,700</i> |
| | |
| Lighting, Striping, Signs (7% of Project Subtotal) | \$1,900 |
| Maintenance of Traffic (25% of Project Subtotal) | \$7,000 |
| Training (3% of Project Subtotal) | \$800 |
| Mobilization (9% of Project Subtotal) | \$2,500 |
| Progress Schedule | \$0 |
| Site Clearing | \$2,500 |
| Construction Layout | \$1,000 |
| <u><i>Project Subtotal (from above)</i></u> | <u><i>\$27,700</i></u> |
| <i>Project Total</i> | <i>\$43,400</i> |
| | |
| Construction Estimate with Escalation* | \$45,000 |
| Construction Engineering (31.10% of Const. Est.) | \$14,000 |
| Change Order Contingencies | \$6,000 |
| Right of Way | \$0 ⁸ |
| Utility Relocations | \$0 ⁹ |
| <hr/> | |
| <i>Total Construction Cost</i> | <i>\$65,000</i> |
| <i>Contingencies (20% of Total Construction Cost)</i> | <i>\$13,000</i> |
| | |
| <i>Approximate Total Project Cost</i> | <i>\$78,000</i> ¹⁰ |

* Escalation based upon completion of construction within three (3) years.

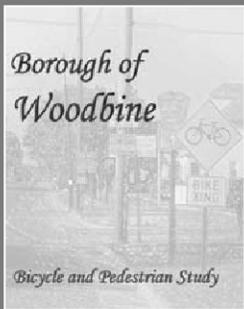
⁷ Cost estimates were calculated using NJDOT's Preliminary Engineering Cost Estimating worksheets and NJDOT 2005 Bid Price Reports.

⁸ Right of way impacts have not been investigated for associated costs.

⁹ Utility impacts have not been investigated for associated costs.

¹⁰ Cost estimate does not include engineering design costs.





***Borough of Woodbine
Local Bicycle and Pedestrian Assistance Study***

Bicycle Routes

Bicycle Routes

The Woodbine Rail Trail provides an east-west off-road bicycle route in the Borough; however, there are no additional existing signed or striped on-road bicycle routes available in Woodbine. This section recommends signing additional bicycle routes, establishing striped bicycle lanes and providing bicycle parking at destinations around Woodbine. Bicycle Route improvements are illustrated on the **Bicycle Route Map** and **Cross-Sections** within this work package.

Webster Street

Webster Street runs west to east and is divided by Washington Avenue in Woodbine. East of Washington Avenue, Webster Street is designated County Route (CR) 638 and to the west it is designated CR 550.

Webster Street (CR 638) is a two (2) lane rural local roadway with a posted speed limit that decreases from 50 mph to 40 mph as it approaches Washington Avenue. West of Washington Avenue, Webster Street (CR 550) is classified a Rural Major Collector with a posted speed limit that increases from 40 mph to 50 mph. Webster Street has a pavement width of 40 feet, but its cross section varies from a minimum of 11-foot wide travel lanes with 5-foot wide striped shoulders to a maximum of 20-foot wide lanes with no shoulder. Webster Street had an AADT of 3,642 vpd in 2003. On-street parking is permitted on Webster Street east of Washington Avenue.

Recommended Improvements for Webster Street

It is recommended that bicycle warning signs (MUTCD W11-1) with 'Share the Road' plaques (MUTCD W16-1) be installed on Webster Street to direct bicyclists to use this compatible route and to alert motorists to the presence of bicyclists. Although AADT counts for Webster Street, east of Washington Avenue, were not available, based on field observations, existing shoulder widths (≥ 4 feet) and the volume of Webster Street west of Washington Avenue (3500 vpd), it was determined that this section of Webster Street would be compatible for bicycle travel.

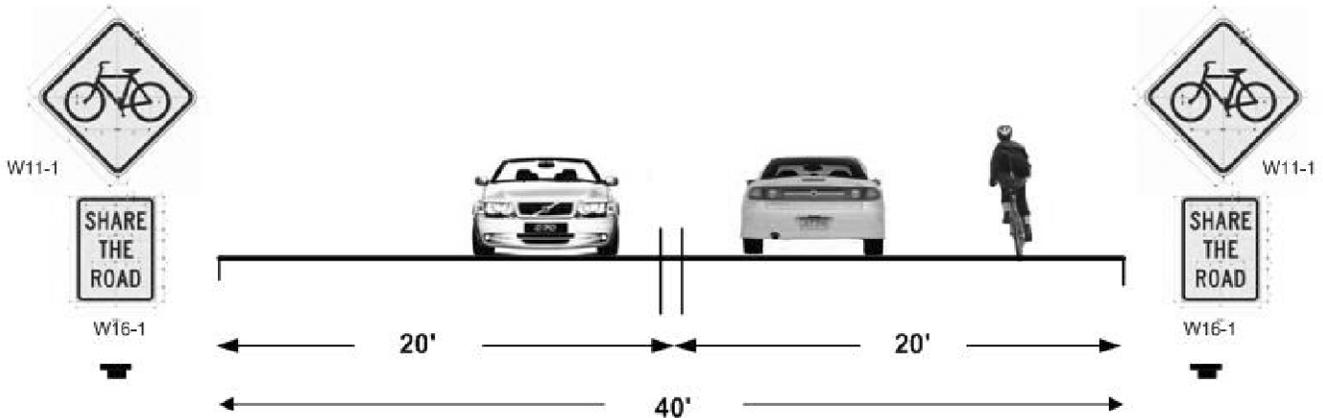
Proposed locations for the signs are indicated on the **Bicycle Route Map**.



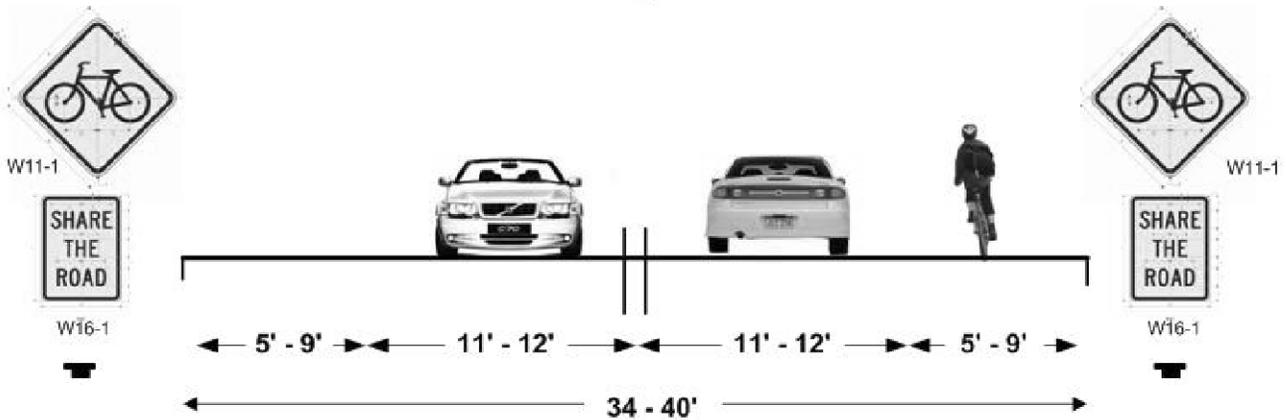
Example of a bicycle warning sign with 'Share the Road' plaque sign

**CROSS-SECTION OF BICYCLE ROUTE IMPROVEMENTS
FOR WEBSTER STREET**

Recommended Treatment for:
Webster Street, between Washington Avenue and Monroe Avenue



Recommended Treatment for:
Webster Street, west of Washington Avenue
Webster Street, east of Monroe



***Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Final Action Plan***

Washington Avenue

Washington Avenue, designated CR 557 south of Webster Street and north of Dehirsch Avenue, is a north/south Rural Major Collector with a posted speed limit of 50 mph and a pavement width of 34 – 40 feet. A typical cross section for these includes 12-foot wide travel lanes with 6 to 8 foot wide striped shoulders. South of Webster, Washington Avenue had an AADT of 702 vpd in 2004.

Washington Avenue, designated CR 550 between Webster Street and Dehirsch Avenue, is a Rural Major Collector with a posted speed limit of 35 mph and a pavement width of 40 feet. In this section there are 20-foot wide travel lanes, no striped shoulders and on-street parking is permitted. Washington Avenue, north of Webster Street, had an AADT of 5,800 vpd in 2005.

Recommended Improvements for Washington Avenue

It is recommended that bicycle warning signs (MUTCD W11-1) with ‘Share the Road’ plaques (MUTCD W16-1) be installed on Washington Avenue, from Webster Street north, to direct bicyclists to use this compatible route and to alert motorists to the presence of bicyclists. Proposed locations for the signs are indicated on the **Bicycle Route Map**.

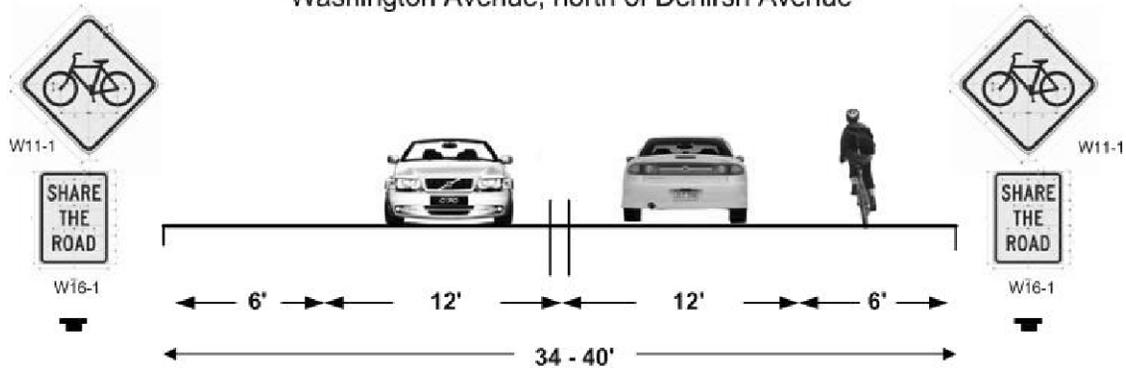
South of Webster Street, Washington Avenue meets NJDOT compliance standards for the installation of designated bicycle lanes. It is recommended that shoulders south of Webster Street be re-striped to provide 6-foot bicycle lanes to the southern municipal boundary with Dennis Township. It is further recommended that bicycle lane signs (MUTCD R3-17), ‘Ahead’ and ‘End’ plaques (MUTCD R3-17a, b) and pavement markings (bicycle and vertical arrow symbols) be installed in conjunction with the striped bicycle lanes.



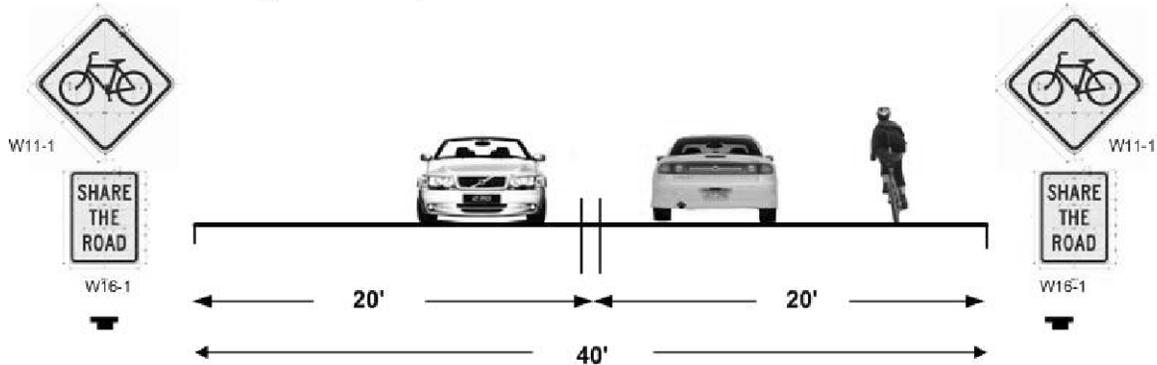
Example of bicycle lane pavement markings

**CROSS-SECTION OF BICYCLE ROUTE IMPROVEMENTS
FOR WASHINGTON AVENUE**

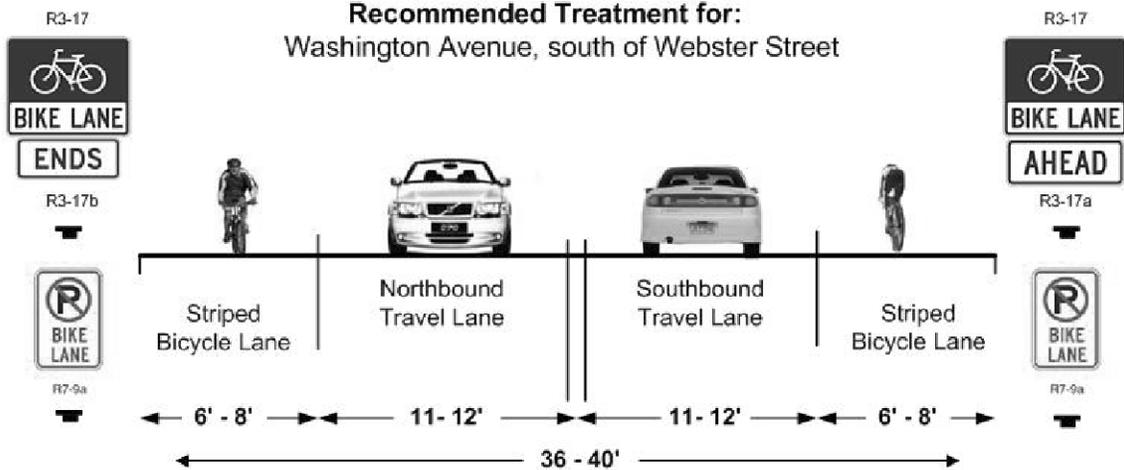
Recommended Treatment for:
Washington Avenue, north of Dehirsh Avenue



Recommended Treatment for:
Washington Avenue, between Webster Street and Dehirsh Avenue



Recommended Treatment for:
Washington Avenue, south of Webster Street



Bicycle Racks

It is recommended that bicycle racks be installed in Woodbine to provide convenient parking for bicyclists. Several locations were identified for the installation of bicycle racks based on existing bicycle activity and public input. It is recommended that three (3) inverted U bicycle racks (parking for 6 bicycles) be installed at the following locations:

- Woodbine Borough Hall
- Woodbine Post Office
- Sam Azeez Museum
- Woodbine Community School
- Dionysus Restaurant
- Smokey's Market

In total eighteen (18) bicycle racks are recommended for installation in the downtown area of Woodbine.



Example of an inverted U-shaped bicycle rack

**Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Final Action Plan**

Cost Estimate for Bicycle Routes Conceptual Improvement Scheme ¹

| | |
|---|-------------------------------------|
| Bicycle Warning sign (8) | \$2,600 |
| Share the Road plaque (8) | \$900 |
| Bike Lane Sign (4) | \$1000 |
| Bike Lane Ahead Plaque (2) | \$300 |
| Bike Lane Ends Plaque (2) | \$300 |
| No Parking Bike Lane Sign (4) | \$300 |
| Stripes, Long Life Epoxy Resin | \$11,000 |
| Traffic Markings, Symbols, Thermoplastic | \$600 |
| Loop Bicycle Racks ² | \$4,800 |
| <hr/> | |
| <i>Incidental Items</i> | <i>\$22,800</i> |
| | |
| Earthwork | \$0 |
| Landscape | \$0 |
| Erosion Control | \$0 |
| <i>Incidental Items</i> | <i>\$22,800</i> |
| <hr/> | |
| <i>Project Subtotal</i> | <i>\$22,800</i> |
| | |
| Lighting, Striping, Signs (0% of Project Subtotal) | \$0 |
| Maintenance of Traffic (10% of Project Subtotal) | \$2,000 |
| Training (1% of Project Subtotal) | \$200 |
| Mobilization (9% of Project Subtotal) | \$1,800 |
| Progress Schedule | \$0 |
| Site Clearing | \$5,000 |
| Construction Layout | \$2,000 |
| <u><i>Project Subtotal (from above)</i></u> | <u><i>\$22,800</i></u> |
| | |
| <i>Project Total</i> | <i>\$33,800</i> |
| | |
| Construction Estimate with Escalation* | \$36,000 |
| Construction Engineering (31.10% of Const. Est.) | \$11,000 |
| Change Order Contingencies | \$5,000 |
| Right of Way | \$0 ³ |
| Utility Relocations | \$0 ⁴ |
| <hr/> | |
| <i>Total Construction Cost</i> | <i>\$52,000</i> |
| | |
| <i>Contingencies (20% of Total Construction Cost)</i> | <i>\$10,000</i> |
| | |
| <i>Approximate Total Project Cost</i> | <i>\$62,000 ⁵</i> |

* Escalation based upon completion of construction within three (3) years.

¹ Cost estimates were calculated using NJDOT's Preliminary Engineering Cost Estimating worksheets and NJDOT 2005 Bid Price Reports.

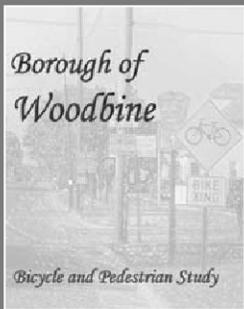
² Estimate for bicycle rack was obtained from Highland Products Group via their website www.highlandproductsgroup.com

³ Right of way impacts have not been investigated for associated costs.

⁴ Utility impacts have not been investigated for associated costs.

⁵ Cost estimate does not include engineering design costs.





***Borough of Woodbine
Local Bicycle and Pedestrian Assistance Study***

Sidewalk Network

Sidewalk Network

Sidewalks are available through the majority of Downtown Woodbine. There are some roadways with gaps in the sidewalk network and areas where sidewalk is deteriorated. It is recommended that sidewalk be installed where there are gaps in the network. It is further recommended that deteriorated sidewalk be repaired or replaced. Sidewalk improvements are illustrated on the **Sidewalk Network Map**.

New Sidewalk

It is recommended that five (5) foot wide sidewalk be installed on roadways detailed in the table below:

New Sidewalk Installation

| Street | Side | From | To | Length (ft.) |
|--------------------------------|-------|-------------------|------------------------------|--------------|
| Washington Ave. (Route 557) | West | Emerson St. | Bryant Ave. | 1200 |
| Washington Ave. (Route 557) | East | Bryant Ave. | (mid-block) | 180 |
| Bryant St. | South | Washington Ave. | Jackson Ave. | 310 |
| Jackson Ave. | East | Bryant Ave. | Longfellow St. | 600 |
| Jackson Ave. | West | Bryant Ave. | No. Dehirsch Ave. | 600 |
| Longfellow St. | North | Washington Ave. | Jackson St. | 305 |
| Longfellow St. | South | Washington Ave. | Jackson St. | 305 |
| Jackson Ave. | East | Longfellow St. | No. Dehirsch Ave. | 600 |
| No. Dehirsch | North | Washington Ave. | Jackson St. | 310 |
| Madison Ave. | West | Longfellow St. | Dehirsch Ave. (Route 550) | 635 |
| Madison Ave. | East | Longfellow St. | Dehirsch Ave. (Route 550) | 635 |
| Dehirsch Ave. (Route 550) | North | Monroe Ave. | Heilprin Ave. | 685 |
| Grant Ave. | East | So. Dehirsch Ave | Franklin St. | 620 |
| Franklin St. | North | Grant Ave. | Lincoln Ave. | 310 |
| Franklin St. | South | Grant Ave. | Lincoln Ave. | 310 |
| Clay St. | North | Grant Ave. | Lincoln Ave. | 310 |
| Clay St. | South | Grant Ave. | Lincoln Ave. | 310 |
| Lincoln Ave. | West | So. Dehirsch Ave | Franklin St. | 560 |
| Lincoln Ave | West | Franklin St. | Clay St. | 560 |
| Lincoln Ave | West | Clay St. | Webster St. (Route 550) | 560 |
| Clay Street | South | Lincoln Ave. | Jackson Ave. | 320 |
| Jackson Ave. | East | So. Dehirsch Ave. | Franklin St. | 420 |
| Jackson Ave. | West | So. Dehirsch Ave. | Franklin St. | 620 |
| Jackson Ave. | East | Franklin St. | Clay St. | 620 |
| Jackson Ave. | West | Franklin St. | Clay St. | 620 |
| Jackson Ave. | East | Clay St. | Webster St. (Route 550) | 620 |



**Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
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| Street | Side | From | To | Length (ft.) |
|----------------------|-------|-------------------|----------------------------|--------------|
| Jackson Ave. | West | Clay St. | Webster St. (Route 550) | 620 |
| Clay Street | South | Jackson Ave. | (mid-block) | 220 |
| Adams Ave. | West | Clay St. | Webster St. (Route 638) | 620 |
| Jefferson St. | West | Franklin St. | Clay St. | 620 |
| Phillip DeSantis Dr. | North | Madison Ave. | Webster St. (Route 638) | 280 |
| Phillip DeSantis Dr. | South | Madison Ave. | Webster St. (Route 638) | 280 |
| Isaac Ave. | West | So. Dehirsch Ave. | Franklin St. | 610 |
| Isaac Ave. | East | Franklin St. | Clay St. | 490 |
| Isaac Ave. | West | Franklin St. | Clay St. | 620 |
| Adams Ave. | West | Clay St. | Webster St. (Route 638) | 620 |

In addition to roadways in the table above, five (5) foot wide sidewalk is also recommended for installation between the northeast corner of the Woodbine Manor Apartments property and existing sidewalk on Webster Street. A worn foot path currently exists in this location.

Sidewalk Replacement

A few sections of existing sidewalk are deteriorated and could benefit from maintenance and/or replacement. These sections are detailed in the table below:

Sidewalk Replacement

| Street | Side | From | To | Length (ft.) |
|-------------------|-------|-------------------|--------------|--------------|
| Jackson Ave. | East | So. Dehirsch Ave. | Franklin St. | 200 |
| So. Dehirsch Ave. | South | Jackson Ave. | --- | 90 |
| Isaac Ave. | East | Franklin St. | Clay St. | 130 |



**Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Final Action Plan**

Cost Estimate for **Sidewalk Network Conceptual Improvement Scheme**¹

| | |
|---|--|
| Sidewalk | \$716,000 |
| 9" x 16" Vertical Curb | \$152,000 |
| Curb Ramps (6) | \$7,000 |
| <hr/> | |
| <i>Incidental Items</i> | <i>\$875,000</i> |
| | |
| Earthwork | \$73,000 |
| Landscape | \$192,000 |
| Drainage | \$619,000 |
| Erosion Control | \$41,000 |
| <i>Incidental Items</i> | <i>\$875,000</i> |
| <hr/> | |
| <i>Project Subtotal</i> | <i>\$1,800,000</i> |
| | |
| Lighting, Striping, Signs (0% of Project Subtotal) | \$0 |
| Maintenance of Traffic (0% of Project Subtotal) | \$0 |
| Training (0% of Project Subtotal) | \$0 |
| Mobilization (9% of Project Subtotal) | \$168,000 |
| Progress Schedule | \$0 |
| Clearing Site | \$5,000 |
| Construction Layout | \$15,000 |
| <u><i>Project Subtotal (from above)</i></u> | <u><i>\$1,800,000</i></u> |
| <i>Project Total</i> | <i>\$1,988,000</i> |
| | |
| Construction Estimate with Escalation* | \$2,228,000 |
| Construction Engineering (20.30% of Const. Est.) | \$450,000 |
| Change Order Contingencies | \$100,000 |
| Right of Way | \$0 ² |
| Utility Relocations | \$0 ³ |
| <hr/> | |
| <i>Total Construction Cost</i> | <i>\$2,778,000</i> |
| <i>Contingencies (20% of Total Construction Cost)</i> | <i>\$556,000</i> |
| | |
| <i>Approximate Total Project Cost</i> | <i>\$3,334,000</i> ⁴ |

* Escalation based upon completion of construction within three (3) years.

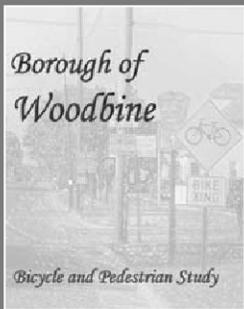
¹ Cost estimates were calculated using NJDOT's Preliminary Engineering Cost Estimating worksheets and NJDOT 2005 Bid Price Reports.

² Right of way impacts have not been investigated for associated costs.

³ Utility impacts have not been investigated for associated costs.

⁴ Cost estimate does not include engineering design costs.





***Borough of Woodbine
Local Bicycle and Pedestrian Assistance Study***

Equestrian Routes

Equestrian Route

Woodbine is home to several equestrian farms. Equestrian riders are said to use the trails in Belleplain State Forest and access the forest using local roadways¹. On-road routes that are currently used by equestrians were identified by the Woodbine Equestrian Center. This improvement scheme recommends that signs be installed on Sumner Avenue, between Webster Street and Belleplain State Forest, as this was an identified equestrian travel route. These improvements are illustrated on the **Equestrian Route Map, Cross-Section and Architectural Sketch** included in this work package.

Proposed signs include equestrian warning signs (MUTCD W11-1) with ‘Share the Road’ plaques (MUTCD W16-1), similar to the share the road signs for bicyclists. Additional recommended signs include “Speed Limit 25 MPH, When Horse Rider is Present.” This sign is not a MUTCD regulatory sign, but is similar in that it designates speed restrictions. The sign is based on NJ State Statute Title 39:4-72, which states that motorists must reduce their speed to 25 mph when passing a rider on a horse. Similar signs are on roadways in other NJ counties, such as Monmouth County and Hunterdon County.

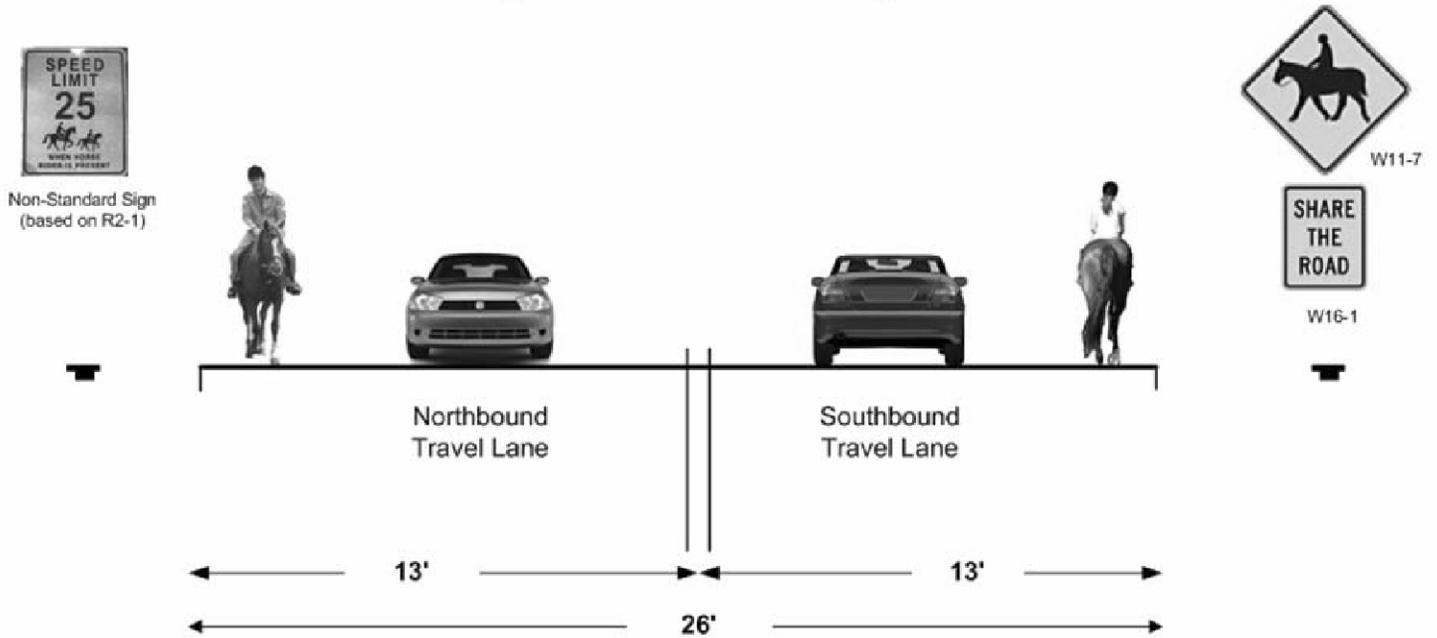


Example of a speed limit sign based on NJSA 39:4-72

¹ Based on discussions and information provided by the Woodbine Equestrian Center and residents at the Public Information Center and Study Task Force meeting.

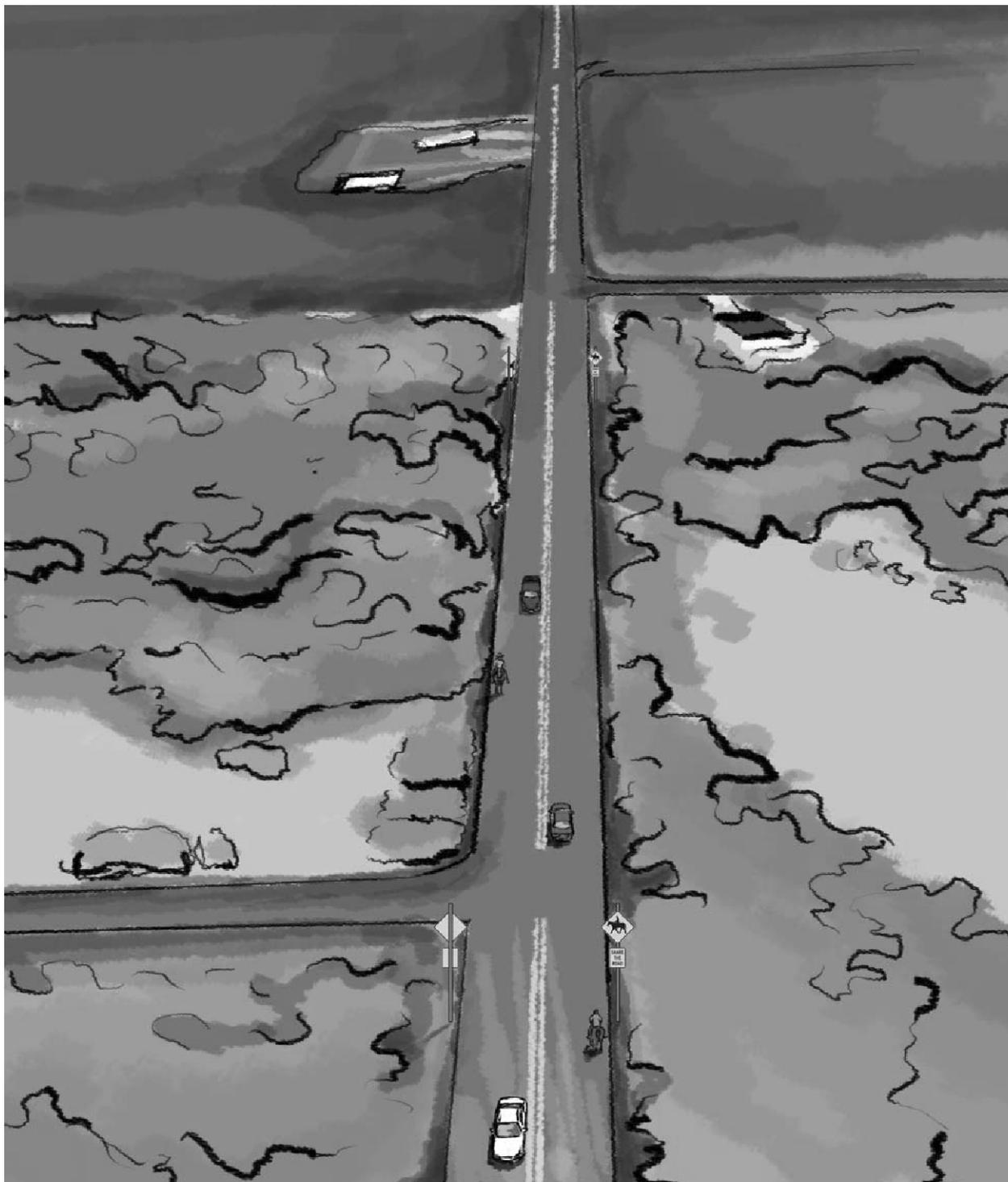
CROSS-SECTION OF EQUESTRIAN ROUTE IMPROVEMENT

Equestrian Route with “Share the Road” and Speed Restriction Sign



Recommended Treatment for: Sumner Avenue from Webster Street to Belleplain State Forest

**ARCHITECTURAL SKETCH OF RECOMMENDED
EQUESTRIAN ROUTE IMPROVEMENT**



**Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Final Action Plan**

Cost Estimate for Equestrian Route Conceptual Improvement Scheme²¹

| | |
|---|-------------------------------------|
| Horse Warning sign (4) | \$1,200.00 |
| Share the Road plaque (4) | \$400 |
| Speed Restriction sign (4) | \$1,000 |
| Supplemental Plaque (4) | \$300 |
| <hr/> | |
| <i>Incidental Items</i> | <i>\$2,900</i> |
| | |
| Earthwork | \$0 |
| Landscape | \$0 |
| Erosion Control | \$0 |
| <i>Incidental Items</i> | <i>\$2,900</i> |
| <hr/> | |
| <i>Project Subtotal</i> | <i>\$2,900</i> |
| | |
| Lighting, Striping, Signs (0% of Project Subtotal) | \$0 |
| Maintenance of Traffic (0% of Project Subtotal) | \$0 |
| Training (0% of Project Subtotal) | \$0 |
| Mobilization (9% of Project Subtotal) | \$200 |
| Progress Schedule | \$0 |
| Clearing Site | \$0 |
| Construction Layout | \$0 |
| <u><i>Project Subtotal (from above)</i></u> | <u><i>\$2,900</i></u> |
| <i>Project Total</i> | <i>\$3,100</i> |
| | |
| Construction Estimate with Escalation* | \$3,300 |
| Construction Engineering (31.10% of Const. Est.) | \$0 |
| Change Order Contingencies | \$0 |
| Right of Way | \$0 ²² |
| Utility Relocations | \$0 ²³ |
| <hr/> | |
| <i>Total Construction Cost</i> | <i>\$3,300</i> |
| <i>Contingencies (20% of Total Construction Cost)</i> | <i>\$600</i> |
| | |
| <i>Approximate Total Project Cost</i> | <i>\$3,900</i> ²⁴ |

* Escalation based upon completion of construction within three (3) years.

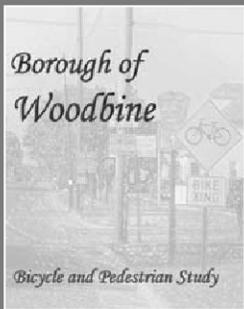
²¹ Cost estimates were calculated using NJDOT's Preliminary Engineering Cost Estimating worksheets and NJDOT 2005 Bid Price Reports.

²² Right of way impacts have not been investigated for associated costs.

²³ Utility impacts have not been investigated for associated costs.

²⁴ Cost estimate does not include engineering design costs.





***Borough of Woodbine
Local Bicycle and Pedestrian Assistance Study***

Shared Use Path

Shared Use Path

A shared use path is recommended to provide an off-road bicycle and pedestrian connection from the Woodbine Community School to Lincoln Park, which are frequent destinations for residents. It is recommended that the shared use path be eight (8) feet wide to accommodate bicycle and pedestrian traffic as per AASHTO guidelines for a bidirectional shared use facility. The path should be installed from the Woodbine Developmental Center driveway on Webster Street, continue west on Webster Street and then north on Heilprin Avenue. The path would terminate at the existing sidewalk on Heilprin Avenue and South Dehirsch Avenue, where there is a bus stop. Total length of the recommended path is approximately 3,200 feet (0.60 mi.). An alternate route is also possible, continuing from an internal access road (from Admiral Drive) on the campus of the Woodbine Development center west to Heilprin Avenue and the following the alignment described above on Heilprin Avenue.

The shared use path could also serve the community by creating a walking and bicycling loop for residents and employees of the Woodbine Developmental Center. The path would connect to the Woodbine Rail Trail, which would bring a user back to Inlet Drive and the development center campus.

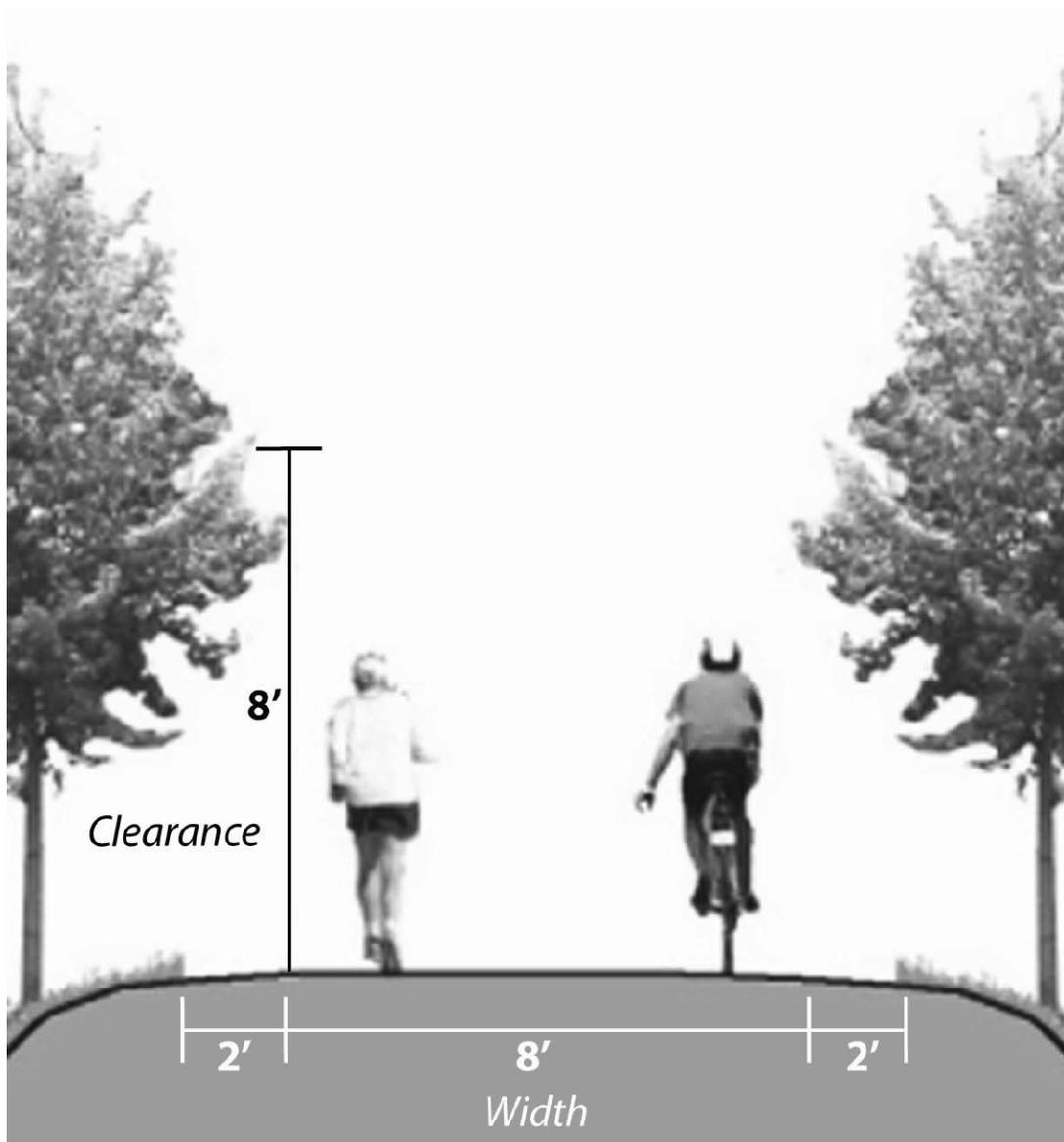
The proposed shared use path would add approximately 0.30 - 0.60 acres of new impervious surface, which may trigger NJDEP Stormwater Management rules. For this proposed improvement to be advanced, NJDEP should be consulted and a stormwater management plan may need to be developed.

The recommended shared use path concept is illustrated on **Shared Use Path Map** and **Cross-Section**.



Example of a shared use path

CROSS-SECTION OF SHARED USE PATH IMPROVEMENT



**Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Final Action Plan**

Cost Estimate for Shared Use Path Conceptual Improvement Scheme ^{25, 26}

| | |
|---|---|
| Hot Mix Asphalt, Sidewalk 5" Thick | \$177,000 |
| 9" X 16" Conc. Vertical Curb | \$107,000 |
| Crosswalk Striping | \$1000 |
| <hr/> | |
| <i>Incidental Items</i> | <i>\$284,000</i> |
| | |
| Earthwork | \$17,000 |
| Landscape | \$33,000 |
| Drainage ²⁶ | \$109,000 |
| Erosion Control | \$19,000 |
| <i>Incidental Items</i> | <i>\$284,000</i> |
| <hr/> | |
| <i>Project Subtotal</i> | <i>\$463,000</i> |
| | |
| Lighting, Striping, Signs (2% of Project Subtotal) | \$9,000 |
| Maintenance of Traffic (2% of Project Subtotal) | \$9,000 |
| Training (1% of Project Subtotal) | \$4,500 |
| Mobilization (9% of Project Subtotal) | \$41,000 |
| Progress Schedule | \$0 |
| Clearing Site | \$15,000 |
| Construction Layout | \$7,000 |
| <u><i>Project Subtotal (from above)</i></u> | <u><i>\$463,000</i></u> |
| <i>Project Total</i> | <i>\$549,500</i> |
| | |
| Construction Estimate with Escalation* | \$565,000 |
| Construction Engineering (31.10% of Const. Est.) | \$177,000 |
| Change Order Contingencies | \$27,000 |
| Right of Way | \$0 ²⁷ |
| Utility Relocations | \$0 ²⁸ |
| <hr/> | |
| <i>Total Construction Cost</i> | <i>\$769,000</i> |
| <i>Contingencies (20% of Total Construction Cost)</i> | <i>\$153,000</i> |
| | |
| <i>Approximate Total Project Cost</i> | <i>\$922,000</i> ^{29, 30} |

* Escalation based upon completion of construction within three (3) years.

²⁵ Cost estimates were calculated using NJDOT's Preliminary Engineering Cost Estimating worksheets and NJDOT 2005 Bid Price Reports.

²⁶ Drainage and other preliminary costs do not include work related to compliance with Stormwater Management Rules

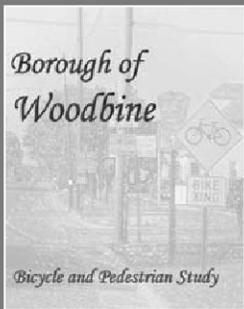
²⁷ Right of way impacts have not been investigated for associated costs.

²⁸ Utility impacts have not been investigated for associated costs.

²⁹ Cost estimate does not include engineering design costs.

³⁰ If alternate routing is used, cost estimate may be reduced due to path having a shorter length (approx. 2,100 ft.)





***Borough of Woodbine
Local Bicycle and Pedestrian Assistance Study***

Funding and Implementation

Funding and Implementation

Costs associated with implementing the recommended improvements in this Action Plan will vary. Some recommended improvements (e.g., bicycle lanes and signs on Washington Avenue) will require less design work prior to construction and therefore be lower in cost. Other recommended improvements would need feasibility assessment, as well as possible stormwater management plans, prior to design and construction (e.g., new sidewalk installation), which would affect the time and cost of implementation. Preliminary cost estimates for each improvement are included in each improvement work package.

Funding sources for bicycle and pedestrian improvements are contained in **Appendix E**, “Funding Pedestrian and Bicycle Planning, Programs and Projects.” Sources included in this list were compiled by NJDOT in an attempt to identify major funding resources that are available for bicycle and pedestrian planning, project development activities and physical improvements.



APPENDICES

***Borough of Woodbine
Local Bicycle and Pedestrian
Assistance Study***

APPENDIX A

- ***New Jersey Bicycle and
Pedestrian Master Plan***

APPENDIX B

- *Post Card*
- *Comments from the
Public Information Center*

APPENDIX C

- ***Belleplain State Forest Trail Map***
- ***High Point to Cape May (HPTCM) Bike Route***
- ***New Jersey Coastal Heritage Trail***

APPENDIX D

**- *NJDOT Bicycle Compatible
Roadway Design
Treatments***

APPENDIX E

**- *Bicycle and Pedestrian
Funding Sources***

APPENDIX F

- *Photograph Log*

APPENDIX G

**- *Study Task Force
Meeting Materials***

APPENDIX H

- ***Cross County Connection
Transportation Management
Association (TMA)***

***Draft Bicycle Facilities
Inventory for Cape May
County*** *(selected pages)*

Belleplains State Forest Trail Map



Non-Motorized Trails

- Boundary Trail (.68 mi.)
- Eagle Fitness Trail (.28 mi.)
- East Creek Trail (7.16 mi.)
- Goff's Folly Trail (.98 mi.)
- Goosekill Trail (.28 mi.)
- Meisle Trail (.61 mi.)
- Nature Trails (.89 mi.)
- North Shore Trail (.72 mi.)
- Old Cape Trail (1.67 mi.)
- Ponds Trail (2.22 mi.)
- Seashore Line Trail (1.46 mi.)
- Tarklin Bogs Trail (.90 mi.)

Motorized Trails

- Beaver Causeway Trail (1.46 mi.)
- Champion Trail (.82 mi.)
- Cinder Trail (.58 mi.)
- Duck Pond Trail (2.01 mi.)
- Dundrea Trail (1.23 mi.)
- John's Run Trail (1.05 mi.)
- Kalker's Pond Trail (1.67 mi.)
- Narrows Road Trail (1.14 mi.)
- Old Cape Trail (2.78 mi.)
- Sally's Pond Trail (1.35 mi.)
- Seashore Line Trail (5.77 mi.)
- Tom Field Trail (1.90 mi.)
- Turtle Walk Trail (1.41 mi.)
- Washington Trail (.83 mi.)

Road Network

Forest Boundary

Streams

Utility Right-of-Way

Railroad Tracks

State Forest Land

Lakes

Forest Office

East Creek Group Cabin

Nature Center

P Parking Areas

BL Boat Launch Area

Lake Nummy Recreation Area

Department of Environmental Protection
 Division of Parks and Forestry
 State Park Service State Forest Service
Bureau of Forest Management - Q03 1995

Bicycle Facilities Inventory: Cape May County – DRAFT For Review

**Appendix A
Bicycle Facilities Inventory: Cape May County
Table of Attributes**

| Municipality | Path Name | Status | Type | Length (miles) | Source |
|--|--|---------------|-------------|-----------------------|------------------------|
| Avalon Borough | Avalon | Existing | On-Road | 0.6 | NJ State Plan |
| Avalon Borough | Dune Drive | Existing | On-Road | 0.0 | Avalon Borough |
| Cape May City | Beach Drive | Existing | On-Road | 1.4 | NJ State Plan |
| Cape May City | Madison Avenue Bike Lane | Existing | On-Road | 0.3 | Cape May County |
| Cape May City | New Jersey Avenue Bike Lane | Existing | On-Road | 1.0 | Cape May County |
| Cape May City | Pennsylvania | Existing | On-Road | 0.5 | Cape May County |
| Cape May City | Pittsburg Avenue | Proposed | On-Road | 0.8 | NJ State Plan |
| Cape May Point Borough | Cape Avenue | Existing | On-Road | 0.6 | NJ State Plan |
| Cape May Point Borough | Lighthouse Avenue | Existing | On-Road | 0.0 | Cape May Point Borough |
| Cape May Point Borough, Lower Twp, West Cape May | Sunset Road | Proposed | On-Road | 1.8 | NJ State Plan |
| Dennis Twp | Dennis Township Proposed Off-Road Bike | Proposed | Off-Road | 5.2 | NJ State Plan |
| Dennis Twp, Woodbine Borough | Fidler Hill Road | Proposed | On-Road | 3.3 | NJ State Plan |
| Dennis Twp, Middle Twp, Lower Twp, Wildwood City | Delsea Drive | Proposed | On-Road | 22.3 | NJ State Plan |

Bicycle Facilities Inventory: Cape May County – DRAFT For Review

| Municipality | Path Name | Status | Type | Length (miles) | Source |
|------------------------|--|----------|----------|----------------|---------------|
| Lower Twp | Seashore Road | Existing | On-Road | 1.6 | NJ State Plan |
| Lower Twp | Cold Spring Bikeway | Existing | Off-Road | 1.5 | NJ State Plan |
| Lower Twp | Shore Road | Existing | Off-Road | 2.7 | NJ State Plan |
| Lower Twp | US Route 9 | Existing | On-Road | 1.2 | NJ State Plan |
| Lower Twp | US Route 9 - Sandman Blvd | Existing | Off-Road | 1.0 | NJ State Plan |
| Lower Twp, Middle Twp | Seashore Road | Existing | On-Road | 3.0 | NJ State Plan |
| Middle Twp | Dias Creek Road | Proposed | On-Road | 1.7 | NJ State Plan |
| Middle Twp | Middle Township Existing Off-Road | Existing | Off-Road | 2.4 | NJ State Plan |
| Middle Twp | Middle Township Proposed Off-Road Bike | Proposed | Off-Road | 3.7 | NJ State Plan |
| Middle Twp | N Main Street | Proposed | On-Road | 0.6 | NJ State Plan |
| Middle Twp | Springers Mill Road | Proposed | On-Road | 1.5 | NJ State Plan |
| Middle Twp | W Hand Avenue | Proposed | On-Road | 0.4 | NJ State Plan |
| Middle Twp, Lower Twp | Wildwood Blvd | Proposed | On-Road | 1.4 | NJ State Plan |
| Middle Twp, Dennis Twp | Court House South Dennis Road | Proposed | On-Road | 5.8 | NJ State Plan |
| North Wildwood City | 19th Avenue | Existing | On-Road | 0.2 | NJ State Plan |
| North Wildwood City | E 1st Avenue | Existing | On-Road | 0.1 | NJ State Plan |

Bicycle Facilities Inventory: Cape May County – DRAFT For Review

| Municipality | Path Name | Status | Type | Length (miles) | Source |
|--|-----------------------------------|----------|----------|----------------|------------------------|
| North Wildwood City | E 5th Avenue | Existing | On-Road | 0.2 | NJ State Plan |
| North Wildwood City | John F Kennedy | Existing | On-Road | 0.6 | NJ State Plan |
| North Wildwood City | Surf Avenue | Existing | On-Road | 1.0 | NJ State Plan |
| Ocean City | Boardwalk | Existing | On-Road | 2.5 | NJ State Plan |
| Ocean City | West Avenue | Existing | On-Road | 4.1 | NJ State Plan |
| Sea Isle City | Avalon Bike | Existing | Off-Road | 0.5 | NJ State Plan |
| Stone Harbor Borough | Second Ave | Proposed | On-Road | 0.0 | Cape May County |
| Upper Twp | Route 49 | Proposed | On-Road | 3.9 | NJ State Plan |
| Upper Twp | Route 50 | Proposed | On-Road | 7.0 | NJ State Plan |
| Upper Twp | Woodbine Road | Proposed | On-Road | 3.6 | NJ State Plan |
| West Cape May Borough | Broadway | Proposed | On-Road | 0.8 | NJ State Plan |
| Wildwood Crest Borough, Wildwood City, North Wildwood City | Boardwalk South (Ocean Avenue) | Existing | Off-Road | 2.7 | NJ State Plan |
| Wildwood Crest Borough | Seaview Avenue | Proposed | On-Road | 0.0 | Wildwood Crest Borough |
| Woodbine Borough | Dehrisch Avenue | Existing | On-Road | 3.1 | NJ State Plan |
| Woodbine Borough | Washington Avenue | Proposed | On-Road | 0.7 | NJ State Plan |

Bicycle Facilities Inventory: Cape May County – DRAFT For Review

| Municipality | Path Name | Status | Type | Length (miles) | Source |
|------------------------------|---------------------------------|----------|----------|----------------|-----------------|
| Woodbine Borough | Woodbine Airport | Proposed | Off-Road | 2.6 | Cape May County |
| Woodbine Borough | Woodbine Existing Off-Road Bike | Existing | Off-Road | 1.3 | NJ State Plan |
| Woodbine Borough, Dennis Twp | Woodbine Ocean View Road | Existing | On-Road | 0.6 | NJ State Plan |

| | | |
|---|---|---|
| Total Facilities: 47 Paths 101.8 Miles | Existing Facilities (27): 34.7 miles | Proposed Facilities (20): 67.1 miles |
| | On-Road (20): 22.6 miles | On-Road (17): 55.6 miles |
| | Off-Road (7): 12.1 miles | Off-Road (3): 11.5 miles |

Woodbine Local Bicycle and Pedestrian Planning Study
Public Information Center
October 18, 2007

COMMENT CARD

Borough of
Woodbine

Bicycle and Pedestrian Study

PLEASE SHARE YOUR COMMENTS WITH US ON BICYCLING AND WALKING IN WOODBINE!

Department of Transportation
Federal Highway Administration

Baker

Comment Card Contents

- Would like the sidewalk to extend from intersection of Bryant Street and Rt. 557 north to intersection of Emerson and Rt. 557
- Interpretive signs along the Belleplain end of the bike path
- Link bike path to state forest and federal wildlife management area dirt roads and trails
- Benches along bike path and maybe along sidewalks
- Painted bikeway marking on Webster and Washington
- Try to encourage Ride Against AIDS and other large bike groups to use as much of the bike path as possible thus alleviating some traffic congestion
- Develop a trail system in the area (Great Cedar Swamp, WMAs and SF) and tie them to bicycle path
- Wildlife (butterfly, humming bird) plantings along bike path (maybe even small wetlands area with native plants)
- Some lighting (low level) along bike path and throughout Lincoln Park
- Students walking from Emerson down Washington Ave (Route 557) to get to bus stop on Washington Ave
- There is sidewalk in front of the custard stand on Washington Ave (Route 557)
- Great presentation! I look forward to seeing what recommendations will be made for new signs and markings and sidewalks! Thanks!
- Install exercise equipment in various places on the bike path
- Pedestrian type lighting along the biking and walking paths
- Bike racks, benches, and waste receptacles along the path
- Exercise stations, bike racks and many others I can't think of
- Bike racks at school
- Equestrian routes look good, maybe continue them from Dehirsch to Fiddler Hill Road.
- Install equestrian speed limit signs all of the way not just horse crossing signs. These signs have been posted in other areas of the state (north).



Baker

Final
**Funding Pedestrian and Bicycle Planning, Programs and
Projects**

A Compilation of Funding Sources

*This information was originally compiled by
New Jersey Department of Transportation,
Bill Feldman, Manager of New Jersey Department of Transportation
Bureau of Bicycle and Pedestrian Programs
September 2, 1997
(Revised October 8, 1999)*

Revised by the Voorhees Transportation Center (March 2005)

Introduction/Acknowledgements

This paper presents a compilation and brief description of sources of funding that have been used, or could be used, to fund pedestrian and bicycle improvements in New Jersey. The list is not exhaustive, but there has been an attempt to identify all major funding sources that can be utilized to fund bicycle and pedestrian planning and project development activities, as well as construction. In some cases these funds may also be used to fund programmatic activities. The paper emphasizes those funding sources that have been utilized in, or are unique to, New Jersey.

Much of the material for the original version of this paper was taken directly from a previous draft called, "Funding Pedestrian and Bicycle Planning, Programs and Projects" that was originally taken from both the "Memorandum on Funding Sources for Innovative Local Transportation Projects" prepared by the Tri-State Transportation Campaign, and a paper on bicycle and pedestrian funding within ISTEA prepared by the Bicycle Federation of America. Virtually all of the funding sources that were available for bicycle or pedestrian projects or planning under ISTEA and TEA-21 have been continued under the new federal transportation funding legislation, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Additional material has been taken from the USDOT publication "A Summary: Bicycle and Pedestrian Provisions of the Federal-Aid Program" and from the Alan M. Voorhees Transportation Center "NJ Walks and Bikes!: A Partner's Guide to Who's Who in Walking and Biking in New Jersey."

This paper is a work in progress to be updated as new sources are identified.

Funding of Planning and Programmatic Activities

Federal and/or State Funded Programs

Technical Studies Program

This program provides federal grants for consultant-based planning, engineering, design, and evaluation of transportation projects. The funding is for studies, not capital improvements or operating costs. Applicants for grants can include state or local governmental entities. Funding can be, and has been, used to fund pedestrian and bicycle planning activities. For example, Monmouth County has received approval to carry out a planning study to address pedestrian needs and opportunities in several major corridors in the County. Additionally, Somerset County has received funding for a traffic calming study of selected locations in the county. Contact your regional MPO (Metropolitan Planning Organization) for more information. There are three regional MPO's The North Jersey Transportation Planning Authority (NJTPA) serves Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren counties and is available at www.njtpa.org. The South Jersey Transportation Planning Authority (SJTPA) serves Atlantic, Cape May, Cumberland and Salem counties, and is available at www.sjtpa.org. The Delaware Valley Regional Planning Commission (DVRPC) serves Burlington, Camden, Gloucester and Mercer counties and is available at www.dvrpc.org.

Supportive Task Grants

Portions of funds given to NJTPA to support planning activities are passed through to the sub-regions (counties) to fund staff planning activities. Monmouth County has used this funding source to carry out a countywide pedestrian facilities inventory. The inventory is being used as a basis for developing Local Lead projects (see below).

Transportation Management Associations (TMA)

In New Jersey, Transportation Management Associations receive substantial funding assistance through the Department of Transportation. In recent years, these funds have been from federal sources (CMAQ (Congestion Mitigation and Air Quality Improvement Program), or Surface Transportation Program (STP)) although in the past, funding came from state sources. TMAs have considerable latitude in developing annual work programs to implement Travel Demand Management strategies. TMAs have carried out and are encouraged to continue to develop and undertake work program elements involving the promotion of bicycling and walking including development of bicycling suitability maps, promotional efforts aimed at increasing bicycling and walking, effective cycling presentations and other activities. For example, Keep Middlesex Moving includes promotion of International Walk to School Day in their work program.

New Jersey TMA Contact Information

CROSS COUNTY CONNECTION TMA
Greentree Executive Campus
2002D Lincoln Drive West
Marlton, NJ 08053

Ph: 856-596-8228
Email: ccctma@transportationchoices.com
www.transportationchoices.com

GREATER MERCER TMA
15 Roszel Road
Princeton, NJ 08540
Ph: 609-452-1491
www.gmtma.org

HUDSON TMA
574 Summit Avenue
5th Floor
Jersey City, NJ 07306
Ph: 201-792-2825
Fax: 201-795-0240
Email: info@hudsontma.org
www.hudsontma.org

HART COMMUTER INFORMATION SERVICES
84 Park Avenue
Flemington, NJ 08822
Ph: (908) 788-5553
Email: info@hart-tma.com
www.hart-tma.com

KEEP MIDDLESEX MOVING
100 Bayard Street, 2nd Floor, Suite 202
New Brunswick, NJ 08901
Ph: 732-745-4465
Email: kmm@kmm.org
www.kmm.org

MEADOWLINK RIDESHARING
C/O Meadowlands Regional Chamber of Commerce
201 Route 17 N
Rutherford, NJ 07070
Ph: (201) 939-4242
Email: info@meadowlink.org
www.meadowlink.org

RIDEWISE OF RARITAN VALLEY
166 West Main Street
Somerville, NJ 08876
Ph: (908) 704-1011

www.ridewise.org

TRANSOPTIONS

2 Ridgedale Avenue, Suite 200

Cedar Knolls, NJ 07927

Ph: (973) 267-7600

Email: Info@TransOptions.org

www.TransOptions.org

Local Transportation Planning Assistance program (LTPA)

The NJDOT Local Transportation Planning Assistance (LTPA) program provides professional transportation and land use planning consulting services to select municipalities desiring to promote the Department's Smart Growth policy and New Jersey's State Development and Redevelopment Plan. The program is designed to help preserve the long-term integrity of the state transportation system and to enhance community quality of life objectives. Through transportation and land use planning experts under contract with the NJDOT, municipalities are able to update and develop municipal circulation elements to their master plans, conduct traffic calming studies, develop access management plans and conduct other transportation related initiatives to improve the way transportation can service the community and region. Potential and designated State Plan Endorsed Communities and Centers, Transit Oriented Developments, and municipalities participating in the Department's Transit Village and smart growth corridor planning initiatives receive highest priority. This program is administered by the Division of Systems Planning & Research, Bureau of Systems Development and Analysis (BSDA). For more information please contact Helene Rubin, Project Manager, LTPA Section, at 609-530-2869 or by email, HeleneRubin@dot.state.nj.us

Bicycle/Pedestrian Planning Assistance

This program provides NJDOT consultant support in the development of local pedestrian/bicycle circulation plans and facility inventories. The program provides municipalities with consultant expertise in the professional disciplines of transportation and pedestrian/bicycle planning to develop local circulation elements and other transportation related planning initiatives. Potential and designated State Development and Redevelopment Plan Centers, target neighborhoods under the Urban Strategies Initiatives and improving bicycle and pedestrian access and safety locations receive priority. Assistance is to be provided under a partnership arrangement, and applicants must commit staff and or/financial resources to these efforts. All studies undertaken must have a public outreach aspect, including continuing involvement by both the official representatives of the municipality as well as participation by local citizens. This program is administered by the Division of Systems Planning & Research, Bureau of Systems Development and Analysis (BSDA). For more information contact the Bicycle & Pedestrian Office at 609-530-4646.

Smart Growth Planning Grants: Smart Future Grants

These grants are for municipalities and counties to do smart growth planning. They are administered through the New Jersey Department of Community Affairs, Office of Smart Growth. Hudson County proposed using grant money for the Hudson River Waterfront Implementation Plan, which would provide a continuous walkway along the Hudson River.

Similar planning projects to improve the pedestrian or bicycle environment could be proposed by other counties or municipalities. Currently, this grant provides funds for planning initiatives that meet smart growth objectives, including more livable and sustainable communities. To gather more information, check the website at <http://www.state.nj.us/dca/osg/> or telephone 609-292-7156.

Natural Resource Conservation Program

The New Jersey Department of Agriculture helps to protect and conserve the state's soil, water and related natural resources through the stewardship efforts of its Natural Resource Conservation Program. The program offers technical support, financial and regulatory assistance, and educational outreach to landowners throughout the state for stream improvements, urban gardening and forestry, open space protection, soil conservation, and non-point source pollution reduction. For further information, check the website at <http://www.state.nj.us/agriculture/rural/natrsrc.htm> or telephone (609) 292-5540.

Urban Conservation Action Partnership (UCAP)

The State Soil Conservation Committee played a major role in the establishment of the Urban Conservation Action Partnership Program (UCAP), covering the six northeastern New Jersey counties. UCAP provides technical assistance on complex natural resource conservation issues to more than 50 local governments in Bergen, Essex, Hudson, Morris, Passaic and Union Counties. Examples of UCAP projects include stream improvement, urban gardening and forestry, and open space protection. To learn more about this program, find your local conservation district at <http://www.state.nj.us/agriculture/rural/natrsrc.htm> or contact the State Soil Conservation Committee by email at james.sadley@ag.state.nj.us, by telephone at (609) 292-5540, or by mail at PO Box 330, Trenton, NJ 08625.

Small Cities Development Block Grant

This grant provides funds for economic development, housing rehabilitation, community revitalization, and public facilities designed to benefit people of low and moderate income or to address recent local needs for which no other source of funding is available. For further information, download <http://www.nj.gov/dca/programsbook/programsbook.pdf> (page 26) or telephone (609) 292-6140.

New Jersey Historic Trust

The Historic Trust provides matching grants, loans and protection for New Jersey's historic resources. Funding assistance is limited to certified nonprofit organizations and units of local or county governments. Private owners of historic resources may benefit from the Trust's easement or property donations programs. For more information, visit: <http://www.njht.org> or telephone (609) 984-0473.

New Jersey Redevelopment Authority (NJRA) Bond Program

The New Jersey Redevelopment Authority (NJRA) is an independent state financing authority whose mission is to provide a unique approach to revitalization efforts in New Jersey's cities. The NJRA develops programs and resources to improve the quality of life by creating value in urban communities.

Committed to revitalizing urban New Jersey, the NJRA partners with community-based organizations, municipalities, developers, nonprofit and for-profit groups as well as businesses to leverage its resources for redevelopment projects in 69 eligible municipalities throughout New Jersey.

The NJRA provides customized project financing for urban redevelopment initiatives. These resources, critical to the redevelopment process, are offered in the form of loans, loan guarantees, bond financing, and equity investments. The NJRA's resources remain flexible and responsive to ensure successful redevelopment throughout New Jersey. For more information, visit www.njra.us or telephone (609) 292-3739.

NJRA Resources

NJRA Pre-Development Fund ("NJRA PDF")

The NJRA PDF is a \$2.5 million financing pool that provides funding to cover various predevelopment activities, including feasibility studies, architectural costs, environmental and engineering studies, legal and other related soft costs for development to occur. This program offers the flexibility to structure financing at the early stages of development. The NJRA PDF increases the availability of funding for community economic development projects within the NJRA's eligible municipalities.

New Jersey Urban Site Acquisition Program ("NJUSA")

The NJUSA Program is a \$20 million revolving loan fund that facilitates the acquisition, site preparation and redevelopment of properties, which are components of an urban redevelopment plan in NJRA-eligible communities. Acting as a catalyst to jump-start urban revitalization efforts, the NJUSA Program provides non-profit and for-profit developers and municipalities with a form of bridge financing to acquire title to property and for other acquisition-related costs.

NJRA Bond Program

The NJRA issues bonds at attractive interest rates to a broad range of qualified businesses and nonprofit organizations. The NJRA has the ability to issue both taxable and tax-exempt bonds to stimulate revitalization in New Jersey's urban areas.

New Jersey Redevelopment Investment Fund ("RIF")

The NJRA manages this flexible investment fund that provides debt and equity financing for business and real estate ventures. Through the RIF Program, the NJRA is able to offer direct loans, real estate equity, loan guarantees and other forms of credit enhancements.

NJRA Environmental Equity Program ("E²P")

In January 2005, the NJRA established the Environmental Equity Program. The E²P Program advances brownfields efforts by providing up-front capital to assist with the predevelopment stages of brownfields redevelopment projects. E²P funds assist with site acquisition, remediation, planning, and demolition costs associated with brownfields redevelopment projects.

Working in Newark's Neighborhoods ("WINN")

In April 2004, the NJRA created its first subsidiary - Working in Newark's Neighborhoods. WINN is charged with the investment of \$10 million from the Port Authority of New York and New Jersey for redevelopment efforts in the City of Newark's neighborhoods. The \$10 million revolving loan program focuses on redevelopment efforts in the City of Newark's neighborhoods. Funds from WINN can be used for commercial and mixed-use projects directly related to comprehensive redevelopment initiatives including: pre-development, site preparation, acquisition, demolition, permanent financing, loan guarantees and construction financing.

Freshwater Wetlands Mitigation Council

The Freshwater Wetlands Mitigation Council's role in the state's wetland mitigation program is to serve as a repository for land donations and monetary contribution collected as a result of freshwater wetlands/state open water impacts that cannot be mitigated for on-site, off-site, or at a wetland mitigation bank. The Council also reviews and approves freshwater wetland mitigation banks. Furthermore, the Council is responsible for the management and disbursement of dollars from the Wetland Mitigation Fund to finance mitigation projects. With those funds, the council has the power to purchase land to provide areas for enhancement or restoration of degraded freshwater wetlands, to engage in the enhancement or restoration of degraded freshwater wetlands and transition areas determined to be of critical importance in protecting freshwater wetlands. For more information, contact the council at (609) 777-0454 or visit <http://www.nj.gov/dep/landuse/fww/mitigate/mcouncil.html>.

Other sources of funding

Bicycle and pedestrian planning activities and programs can and have been funded through local funds budgeted through county and municipal budgets.

Funding of *Projects*

Federal Funding Under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

All the major funding programs under SAFETEA-LU include bicycle and pedestrian facilities and programs as eligible activities.

Division of Local Aid and Economic Development

The Division of Local Aid and Economic Development oversees the development and authorization of funds in the Capital Program, Statewide Transportation Improvement Program, and Study and Development Program. The division also manages problem statements for NJDOT. Staff members work with county and municipal government officials to improve the efficiency and effectiveness of the state's transportation system. The SAFETEA-LU legislation has provided funding assistance to local governments for roads, bridges, and other transportation projects. For more information, telephone (609) 530-3640 or visit <http://www.state.nj.us/transportation/business/localaid/funding.shtm>.

National Highway System (NHS)

The NHS is comprised of the 42,000-mile Interstate system and another 113,000 miles of roads identified by the states based on their importance to the national and regional economy, and their connectivity. NHS funding for projects on NHS roadways can be used for bicycle and pedestrian improvements on NHS systems highways, or on land adjacent to any NHS system highway, including interstate highways. This includes incidental improvements within larger projects which enable bicycle compatibility such as paved shoulders and bicycle safe drainage grates, designated bicycle facilities such as bikeways, signed routes, bike lanes and paths, and pedestrian accommodations such as sidewalks, signals, overpasses and crosswalks. It also includes funding of independent bicycle and pedestrian projects (projects that are initiated primarily to benefit bicycle and pedestrian travel) along or in the vicinity of NHS roadways. Projects could include shoulder paving, bicycle safe drainage grates, construction of sidewalks or bikeways, installation of pedestrian signals, crosswalks or overpasses.

Surface Transportation Program (STP) Funds

The program is broadly defined and gives states flexibility to invest in a wide variety of transportation activities. Bicycle and pedestrian facilities and walkways are specifically listed as eligible activities under this program. As with NHS, pedestrian and bicycle improvements may be incidental improvements within larger projects which establish bicycle compatibility or designated bicycle and pedestrian accommodations. The funds can also be used for independent bicycle and pedestrian projects along or in the vicinity of roadways. Projects could include shoulder paving, bicycle safe drainage grates, construction of sidewalks or bikeways, installation of pedestrian signals, crosswalks or overpasses. Under SAFETEA-LU, it is specified that these funds may be used for the modification of sidewalks to comply with the Americans with Disabilities Act.

It should be noted that STP funds may be used for non-construction projects (such as maps, brochures and public service announcements) related to safe bicycle use and walking. These funds are administered partially through NJDOT and partially through the state's Metropolitan Planning Organizations (MPOs).

STP Resources

Local Scoping and Local Lead Projects

The Local Scoping program (in the MPOs) provides a set aside of federal (STP) funds directly to the sub regions for the advancement of project proposals through the National Environmental Policy Act (NEPA) process, ultimately making that project eligible for inclusion in the Transportation Improvement Program (TIP) as a Local Lead project. The Local Lead Program provides funding to move projects from final design to construction. Local Scoping and Lead projects are selected via a competitive selection process.

Approximately \$5 M is available each year in cooperation with the MPO for Local Scoping projects. The MPOs solicit projects from the 21 counties for inclusion in the Program. The purpose of this program is to identify any cultural or environmental issues that may or will require mitigation during the design and or construction phases of the ensuing federal project. Projects that have successfully completed the Local Scoping process become eligible for federal funding for Design Engineering, Right of Way Acquisition and Construction through the Local Lead Program.

Approximately \$80 Million is available in cooperation with the MPOs for Local Lead projects. The MPOs select the projects for inclusion in the Program. Program funding is to provide for highway and bridge related projects on the county/local road system. Funding is available for engineering, right of way acquisition and construction.

Each of these sources of funds can be used to advance bicycle or pedestrian projects. As yet, only a handful of Local Scoping/Local Lead projects have directly addressed non-motorized needs as independent projects. Local Scoping/Local Lead projects can also benefit the non-motorized modes if they incorporate, incidentally, features that address bicycle and pedestrian travel needs. Contact your MPO for more information.

Transportation Enhancement Program

This program provides \$5 Million in federal funding to support non-traditional transportation projects whose objectives support more livable communities, enhance the travel experience, and promote new transportation investment partnerships. The Transportation Enhancement Program links state and federal policy. The grants are used to help local governments creatively integrate transportation facilities into their local surroundings. Two of the possible kinds of projects that can be funded with these grants are directly related to pedestrian and bicycle facilities and activities, and several others are indirectly related. The types of projects that can qualify include "provision of facilities for pedestrians and bicycles" and "provision of safety and educational activities for pedestrians and bicyclists." Others include "acquisition of scenic easements and scenic or historic sites," which could be used to enhance the pedestrian experience,

“landscaping and other scenic beautification”, which might be part of a streetscape project that can be beneficial to pedestrians and “preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails).” The grants can also be used for other types of projects, which may have a more indirect or secondary benefit for bicyclists and pedestrians.

Several restrictions apply to the grants. Proposals must be for a complete, identifiable, and usable facility or activity. Additionally, the funds cannot be used for planning documents or studies, but rather for design, property acquisition or construction of projects. The proposed bicycle and pedestrian facilities cannot be solely for recreation; they must be proposed as transportation facilities. The projects must be ready for implementation or construction within two years after the project is selected for a grant. The proposal must also show, through an attached resolution or letter, that the facility or project will be maintained for at least 20 years. The proposal should show that the entire project would be wholly funded, either in combination with other funding sources, or solely through this grant program. Grants from this program can be used as matching funds; projects with supplemental funding will be given higher priority. Work that is performed before the project is formally approved by the Federal Highway Administration (FHWA), such as surveys, preliminary engineering or final design, will not be funded through the program.

Project proposals should show the proposed project will increase availability, awareness or protection of historical, community, visual or natural resources. The impact on the surrounding communities should also be addressed, as should the ways in which it will link various transportation modes. Projects should also be consistent with the goals of the State Development and Redevelopment Plan.

Certain types of projects will be given higher priority than others. Projects that are located in a “Designated Center” and those that are part of larger state, regional or municipal plans are favored. Projects that connect community or regional activity centers, such as shopping areas, libraries and schools, are given higher priority in the selection process than other proposals.

Additionally, NJDOT analyzes user impact when evaluating proposals. Especially helpful to communities that are trying to make their environments more pedestrian and bicyclist friendly is the fact that NJDOT takes into consideration how the project would promote the use of non-automotive forms of transportation. Furthermore, the projects’ urgency will be taken into consideration, such as a project that will lose other funding sources should it not receive matching funds. Finally, Urban Aid communities, proposals that include letters of community support and projects that have an economic benefit or have value as a cultural resource will also be given additional consideration.

Local agencies and non-profit groups can also apply for grants, but they need to have their projects endorsed by the governing board in the municipality in the form of a resolution. Regional projects must have both municipal and county endorsement. The projects must also conform to the National Environmental Policy Act, the National

Historic Preservation Act and the Department of Transportation Act, Section 4(f). The projects must also be designed to meet American Association of State Highway and Transportation Officials (AASHTO) standards and NJDOT's Planning and Design Guidelines for Bicycle and Pedestrian Facilities, the American Disabilities Act, state and local building codes, and other applicable professional design standards. All projects funded through this program are subject to the NJDOT policy requiring that bicycle and pedestrian traffic should be incorporated into the planning, design, construction and operation of all projects and programs funded or processed by the NJDOT.

These grants are funded through the federal SAFETEA-LU Act. Applications are submitted to the New Jersey Department of Transportation (DOT) and reviewed by several state agencies, including the DOT and the Department of Environmental Protection, as well as the Metropolitan Planning Organizations (MPOs) and representatives from outside the traditional transportation group. This committee reviews the applications and creates a short list to be submitted to the Commissioner of Transportation. Those applications that pass the basic eligibility part of the screening process are sent to the county planning department for the county perspective. Applicants should notify the county planning department about the proposed project. The funds are distributed on a reimbursement basis.

Hazard Elimination Program

Ten percent of the STP program is to be used to fund safety projects. The Local Safety Program provides \$3 Million (\$1 Million per MPO) annually to counties and municipalities for the improvement of known safety hazards on local and county roadways. Projects will focus on crash prone locations and may include but not be limited to intersections and other road improvements including installation and replacement of guide rail and pavement markings to enhance pedestrian and vehicular safety. These safety improvements are construction ready and can be delivered in a short period of time. Funding is provided for safety-oriented improvements. Improvements that either directly or indirectly improve conditions for pedestrians can be funded. In New Jersey, the program is administered by the NJDOT Bureau of Traffic Engineering and Safety (in the near future it will be transferred to a new Bureau of Safety Programs). In general, projects are selected on the basis of excessive occurrence of a particular accident type at a given location. This often involves some sort of intersection modification, such as resurfacing with a skid resistant pavement surface. In some cases safety improvements have included the installation of pedestrian signal heads. NJDOT is revising its project selection process. The new process will include specific accident categories for which projects are to be funded. One of these categories will be pedestrian-related accidents.

Sources: "Funding Bicycle and Pedestrian Projects in New Jersey: A guide for Citizens, Cities and Towns" by the Tri-State Transportation Campaign- October 1999;
<http://www.fhwa.dot.gov/environment/bikeped/bp-broch.htm>

Safe Routes to School

Safe Routes to School (SRTS) is a Federal-Aid program created in SAFETEA-LU and administered by State Departments of Transportation. The program provides funds to the States to substantially improve the ability of primary and middle school students to walk and bicycle to school safely. The purposes of the program are to enable and encourage children to walk and bicycle to school, to make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age; and to facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity (approximately 2 miles) of primary and middle schools (Grades K-8). The program encompasses a comprehensive approach that includes the five E's: Engineering, Education, Enforcement, Encouragement, and Evaluation. Counties and municipalities, school districts, and non-profit organizations will be eligible to apply. As of March 2006, this program is under development by NJDOT. For more information, contact Elise Bremer-Nei, New Jersey Safe Routes to School Coordinator, at (609) 530-2765.

Local Aid for Designated Transit Villages

This program provides \$2 Million per year to those communities that have been selected for inclusion in the Transit Village Program. It will focus on projects in a community that plans and encourages mixed-use redevelopment near passenger transportation facilities. Transportation initiatives may include bike paths, sidewalks, streetscapes and signage.

NJDOT and NJ TRANSIT spearhead a multi-agency Smart Growth partnership known as the Transit Village Initiative. The Transit Village Initiative helps to redevelop and revitalize communities around transit facilities to make them an appealing choice for people to live, work and play, thereby reducing reliance on the automobile. The Transit Village Initiative is an excellent model for Smart Growth because it encourages growth in New Jersey where infrastructure and public transit already exist. Aside from Smart Growth community revitalization, two other goals of the Transit Village Initiative are to reduce traffic congestion and improve air quality by increasing transit riders.

Studies have shown that an increase in residential housing options within walking distance of a transit facility, typically a one-quarter to one half mile radius, does more to increase transit ridership than any other type of development. Therefore, it is a goal of the Transit Village Initiative to bring more housing, more businesses and more people into communities with transit facilities. For more information, visit <http://www.state.nj.us/transportation/community/village> or call (609) 530-5857.

The Congestion Mitigation and Air Quality Improvement Program (CMAQ)

Authorized by SAFETEA-LU, The Congestion Mitigation and Air Quality Improvement Program provides funds for surface transportation and other projects that help to reduce congestion and improve air quality. The funds are mainly used to help communities in non-attainment areas and maintenance areas to reduce emissions. Non-attainment areas are those areas designated by the Environmental Protection Agency as not meeting the National Ambient Air Quality Standards (NAAQS). A maintenance area was once a non-attainment area but has now reached NAAQS. The SAFETEA-LU CMAQ program provides more than \$8.6 billion in

funds to State Departments of Transportation (DOT), Metropolitan Planning Organizations (MPO), and transit agencies to invest in emissions-reducing projects. Pedestrian and Bicycle Programs are two kinds of many programs that can be funded using CMAQ funds.

Bicycle and pedestrian programs that can be funded under this program can come in one of many forms. Some include creating trails or storage facilities or marketing efforts designed to encourage bike riding and walking as forms of transportation. Education and outreach programs are also eligible for CMAQ funds and could be used to increase public knowledge about the benefits of biking and walking.

The funds are made available through the MPOs and NJDOT to local governments and non-profit organizations, as well as to private organizations as part of a public-private partnership. CMAQ funds are only released as reimbursement payments for completed work. CMAQ funds require a state or local match. Usually, this breaks to 80% federal funding and 20% state or local funding.

Source: "The Congestion Mitigation and Air Quality Improvement Program" by the U.S. Department of Transportation, FHWA, Federal Transit Administration

National Recreational Trails Fund (Symms Trails System Act)

An annual sum is apportioned to the states for use in developing trails related projects, many of which benefit bicyclists and pedestrians. Funding is from federal motor fuels taxes collected on sale of fuel for motorized recreational vehicles (ATVs, off road motorcycles, snowmobiles) and is administered through the Federal Highway Administration. In New Jersey, the program, including solicitation of projects and project selection, is administered by the Office of Natural Lands Management in the Department of Environmental Protection. State, county, and local governments and non-profit organizations are eligible for funds.

In 2006, New Jersey will receive approximately \$900,000 for trail projects. The deadline for submitting applications for 2006 was December 15, 2005. Next year's application and additional information can be obtained from Larry Miller at 609-984-1339, larry.miller@dep.state.nj.us or <http://www.state.nj.us/dep/parksandforests/natural/njtrails.html>.

Scenic Byways

The program recognizes roads having outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities and provides for designation of these roads as National Scenic Byways, All-American Roads or America's Byways. Funds for this program can also be used in the development and provision of tourist implementation; and construction of bicycle and pedestrian facilities, interpretive facilities, overlooks and other enhancements for byway travelers. Designation of the scenic byway must be in accordance with a Scenic Byways program developed and adopted by the state.

Benefits of adoption as a Scenic Byway under the Program could include direct funding of projects and preferential treatment in the funding/selection process for other funding sources administered by the Department.

Section 402 Safety Funds

These funds are administered by the National Highway Traffic Safety Administration (NHTSA) to be spent on non-construction activities to improve the safety of the traveling public. Pedestrian and bicycle projects are on the NHTSA priority list. In each state, the program is administered by a designated Highway Safety representative. In New Jersey, the designated representative is the Director of the Division of Highway Traffic Safety in the Department of Law and Public Safety.

Pedestrian projects have been funded, including the development and dissemination of brochures and public service announcements promoting safe pedestrian practices and a 3-E (Engineering, Enforcement, Education) program in cooperation with the City of Trenton, which includes road signs and crosswalk marking. Recently, cooperative pedestrian safety programs have been implemented with Jersey City and Elizabeth. This program may be repeated in other communities with high pedestrian accident experiences, where there is local support.

Federal Transit Administration Funds

Title 49 U.S.C. (as amended by TEA-21) allows the Urbanized Area Formula Grants, Capital Investment Grants and Loans, and Formula Program for Other than Urbanized Area transit funds to be used for improving bicycle and pedestrian access to transit facilities and vehicles.

SAFETEA-LU continues the Transit Enhancement Activity program with a 1% set-aside of Urbanized Area Formula Grant funds designated for, among other things, pedestrian access and walkways and bicycle access, including storage equipment and installing equipment for transporting bicycles on mass transit vehicles.

Federal Community Development Block Grant (CDBG) Program

Community Development Block Grants (CDBG) are for the use of local communities serving low- to moderate-income people. The grants are most often used for projects such as rehabilitating or constructing affordable housing or for job-creating economic development, but they can also be used for projects that would benefit low- and moderate- income pedestrians and bicyclists. Several of the types of projects that can be funded with these grants could be used for pedestrian and bicycle activities. These include acquisition of land for some public purpose, building public improvements or facilities, including sidewalks and recreational facilities, and also the costs associated with administering or planning these projects.

Not all local governments are eligible to apply for CDBG. The local government must have at least 50,000 residents or be designated a central city of a metropolitan area. Urban counties with at least 200,000 residents may also apply (these local governments are called entitlement communities). The local governments can spend the money themselves or distribute it to local non-profit or for-profit organizations or entities. Additionally, a portion of the funds is distributed to states, which can then distribute the funds as they see fit, including to non-entitlement communities. The most central restriction on the use of CDBG funds is that at least 70% of the money must be used for activities that primarily benefit low- to moderate-income people. In the case of building sidewalks or other pedestrian facilities, this usually means that these funds can only be used in areas where at least 70% of the residents have low to moderate

incomes.

Importantly, a community must also prepare a Consolidated Plan in order to be eligible for the funds. This plan contains an action plan, which specifies how the community will use the funds, as well as fulfills the reporting and application requirements for entitlement communities. These grants are funded through the U.S. Department of Housing and Urban Development and administered by the Office of Block Grant Assistance in HUD's Office of Community Planning and Development (CPD).

Contact information for the program: Barbara Neal, Director, Entitlement Communities Division, Room 7282, 451 7th Street, SW, Washington, DC 20410, (202) 708-1577. Hearing impaired users may call the Federal Information Relay Service at 1-800-877-8339.

Fairview, in Bergen County, used \$449,000 in CDBG funds to make sidewalk and intersection improvements, including crosswalk striping. Guttenberg, in Hudson County, used \$234,770 in CDBG funds for the Bergenline Avenue streetscape project and sidewalk improvements. Several other New Jersey communities have used the funds in a similar fashion.

Sources: <http://www.hud.gov/offices/cpd/communitydevelopment/programs/cdbg.cfm> and Pedestrian and Bicycle Resource Project database.

State Funding

Local Aid for Centers of Place

Currently, the Centers of Place program is designed to assist municipalities that have formally participated in implementation of the New Jersey State Development and Redevelopment Plan (SDRP). The program provides funds to non-traditional transportation improvements that advance municipal growth management objectives. NJDOT notifies eligible municipalities about the application process.

The funding from this program is meant to help communities in New Jersey make non-traditional transportation improvements that are meant to aid in managing growth. The funds can only be used by those communities that have formally participated in implementing the New Jersey State Development and Redevelopment Plan (SDRP). The State Planning Commission designates these communities as Centers (Urban, Regional, Town, or Village Center) as part of this process and the Centers prepare a Strategic Revitalization Plan and Program, approved by the Commissioner of Transportation or enter into an officially recognized Urban Complex. If a project is selected for funding, it must follow certain standards, including the NJDOT Bicycle Compatible Roadways Planning and Design Guidelines and the AASHTO Guide for the Development of New Bicycle Facilities.

Many different kinds of projects that can be funded with Local Aid for Centers of Place would benefit pedestrians and bicyclists. These include traffic calming improvements, bicycle lanes or modifications to existing roadways to accommodate bicycles, bicycle lockers at transportation facilities, retail complexes and public buildings, mid-block connections/paths to ease bicycle and

pedestrian circulation, and strategies which enable mixed use of a 'Main Street' as both public space and a transportation link. Additionally, bicycle trails and pedestrian trails in abandoned railway corridors can also be funded through Local Aid for Centers of Place. Other possible projects that could benefit pedestrians or bicyclists and that can be funded through this program include signage for downtown circulation and street side landscaping.

The grants can be used for project-related activities including preliminary or final design (for Urban Aid or Depressed Rural Centers according to the Transportation Trust Fund Authority Act) and/or construction, including construction inspection and material testing according to the Transportation Trust Fund Authority Act. These grants cannot be used for roadway projects that are eligible for funding through NJDOT's State Aid to Counties and Municipalities Program, such as resurfacing, rehabilitation or reconstruction, and signalization. They also cannot be used for right-of-way purchases or for operating costs associated with any project.

Priority is given to projects that meet several criteria, including that the project is transportation related, construction ready, compatible with the State Development and Redevelopment Plan, located in an Urban Coordinating Council target area, has local commitment, has supplemental funds, has community support and is coordinated with other funding sources or programs. Form SA-96 must be submitted to the Division of Local Government Services District Office to apply for funding. Supplemental materials, including photographs and maps, are encouraged.

Municipalities that want to make improvements on county or state roads must have the appropriate resolution or permission to proceed. Applications are evaluated by the Centers of Place Review Committee, which includes representatives from several state offices, including the DOT, the Office of State Planning, the Economic Development Authority and Downtown New Jersey. This committee makes recommendations to the Commissioner of Transportation.

Several New Jersey communities have received funding from NJDOT through this program for local pedestrian- and bicycle-oriented projects. Wildwood City, in Cape May County, received \$200,000 for their Pacific Avenue Streetscape project. Jersey City, in Hudson County is using their \$500,000 grant for a wayfinding project. Franklin Township in Somerset County received \$150,000 for a pedestrian access project in Kingston Village. Eight other municipalities also received grants ranging from \$75,000 to \$500,000 for other projects including town center redevelopments and streetscapes.

Contact your local Division of Local Government Services District Office for additional information. Visit <http://www.state.nj.us/transportation/business/localaid/office.shtm>.
Sources: "New Jersey Department of Transportation Centers of Place Handbook: Procedures for Local Aid for Centers of Place Program, November 1998" and <http://www.state.nj.us/transportation/lgs/>.

County Aid Program

Currently, County Aid is used for the improvement of public roads and bridges under county jurisdiction. Public transportation, bicycle and pedestrian projects, and other transportation initiatives are eligible for funds.

This program provides funding to counties for transportation projects. These funds are allocated to New Jersey's 21 counties by a formula that takes into account road mileage and population. Annually, each county develops a Capital Transportation Program that identifies all projects to be undertaken and their estimated cost. Projects may include improvements to public roads and bridges under county jurisdiction, public transportation or other transportation related work. Funding can be used for design, ROW, and construction.

Independent pedestrian and bicycle projects can be funded under the County Aid program; however, few independent pedestrian and bicycle projects have been funded.

As state funded projects, all projects funded under the county aid program are subject to the NJDOT policy that requires that all bicycle and pedestrian traffic should be incorporated into the planning, design, construction and operation of all projects and programs funded or processed by the NJDOT. The Department of Transportation will continue efforts to encourage counties to comply with this policy mandate. For more information, visit their website at <http://www.state.nj.us/transportation/business/localaid/countyaid.shtm>.

Municipal Aid Program

Currently, funds are appropriated by the legislature for municipalities in each county based on a formula contained in legislation. These funds can be used for a variety of transportation projects including bicycle and pedestrian related projects. Additional funds are allotted for municipalities that qualify for Urban Aid.

The Municipal Aid program provides funding to municipalities for transportation projects. Funding is made available for municipalities in each county based on a formula that takes into account municipal road mileage within the county and county population. These funds are allocated to individual projects within various municipalities through a competitive process. Funding is allotted to municipalities that qualify for Urban Aid under N.J.S.A. 52:D-178 et seq. All 566 municipalities may apply. Projects may be improvements to public roads and bridges under municipal jurisdiction. Applications are solicited, evaluated, and rated by NJDOT staff. The results are presented to a Screening Committee comprised of Municipal Engineers and NJDOT staff, appointed by the Commissioner. The Committee evaluates the projects and makes recommendations to the Commissioner for approval.

NJDOT will pay 75% of the award amount at the time that the award of construction is approved by the NJDOT. The remaining amount is paid upon project completion.

As is the case with the County Aid program, independent pedestrian and bicycle projects can be funded under the Municipal Aid program; however, few if any independent pedestrian and bicycle projects have been funded through this program.

As with county aid projects, all projects funded under the Municipal Aid program are subject to NJDOT policy that requires that all bicycle and pedestrian traffic be incorporated into the planning, design, construction and operation of all projects and programs funded or processed by the NJDOT. More information is located at <http://www.state.nj.us/transportation/business/localaid/municaid.shtm>.

Discretionary Aid Program

Currently, subject to funding appropriations, a discretionary fund is established to address emergencies and regional needs throughout the state. Any county or municipality may apply at any time. Under this program, a county or municipality may apply for funding for pedestrian safety and bikeway projects.

The Discretionary Aid program provides funding to address emergency or regional needs throughout the state. Any county or municipality may apply at any time. These projects are approved at the discretion of the Commissioner.

As state funded projects, all projects funded under the discretionary aid program are subject to NJDOT policy which requires that all bicycle and pedestrian traffic should be incorporated into the planning, design, construction and operation of all projects and programs funded or processed by NJDOT.

NJDOT will pay 75% of the award amount at the time of the award of construction with the remaining amount to be paid upon project completion. To gain more information, visit their website at <http://www.state.nj.us/transportation/business/localaid/descrfunding.shtm>.

Safe Streets to Schools Projects

This program provides \$4.0 million each year to fund projects that improve safety for school children walking or bicycling to school. It focuses on projects that create safer walkways and bikeways, safer street crossings, and improve motorists' awareness of school children. Approximately 50 projects are selected each year. For more information, visit their website at <http://www.state.nj.us/transportation/business/localaid/safestreets.shtm>.

Bikeways Projects

This program provides funds for municipalities and counties for the construction of bicycle projects. These could include roadway improvements, which enable a roadway or street to safely accommodate bicycle traffic, or designated bikeways (signed bike routes, bike lanes or multi-use trails). The solicitation for project applications occurs at the same time as the solicitation for municipal aid projects. Applications are solicited, evaluated, and rated by NJDOT staff. Based on this evaluation, a list of recommended projects is proposed to the Commissioner of Transportation, who makes the final selection. The program is administered by NJDOT's Division of Local Government Services. For more information, their website is <http://www.state.nj.us/transportation/business/localaid/bikeways.shtm> .

Urban Enterprise Zones (UEZ)

Several communities in New Jersey have used Urban Enterprise Zones to fund pedestrian and bicycle facilities. The Urban Enterprise Zone Program (UEZ), enacted by the State Legislature in 1983, is meant to revitalize the State's most distressed urban communities through the creation of private sector jobs and public and private investment in targeted areas within these communities.

Such investment funds can be used to build new sidewalks, as has been done in Perth Amboy, streetscaping, as in Plainfield, or bikeways with signage like in Pleasantville. More information is available at http://www.newjerseycommerce.org/about_uez_program.shtml or by calling (609) 777-0885.

Office of Green Acres

The Green Acres program provides loans and grants to counties, towns and nonprofit land trusts to preserve land and develop parks for recreation and conservation purposes. (In a separate part of the program, Green Acres also directly purchases land for the state to increase the state's ownership of open space). The open space land that is purchased by the local government or nonprofit can be used for outdoor recreation, which is why the program is important for funding pedestrian and bicycle projects. The development of bikeways, trails, and other outdoor recreation is eligible for Green Acres funding.

Currently, the mission of the Office of Green Acres is to achieve, in partnership with others, a system of interconnected open spaces that protect, preserve, and enhance New Jersey's natural environment, which serves the historic, scenic, and recreational needs of the public through use and enjoyment. Green Acres' primary focus is acquiring land that creates linkages between existing protected lands to form open space corridors. These corridors provide linear habitat for wildlife to move through, parkland for recreation, and areas of scenic beauty between towns and urban centers. Recreation needs are as diverse as the people who play. To meet these needs, Green Acres funds different types of parks in a variety of settings. Whether in rural, suburban, or urban areas, parks play an important role in sustaining New Jersey's high quality of life. Increasingly, Green Acres gathers other public and private partners together to assist in buying and managing open space. The Program works with municipal and county governments, nonprofit organizations, and the state Farmland Preservation Program to meet compatible conservation goals. To gather more information, visit <http://www.nj.gov/dep/greenacres/> or call (609) 984-0500.

County or Municipal Capital (Public Works) Funding

County or municipal funding can be used to fund pedestrian improvements including sidewalks, trails, crosswalk signals, traffic calming and other projects on rights of way under county or municipal jurisdiction. The project must be included in the municipal (or county) budget, or bonding for it in the same way bonds are used to fund the construction and rehabilitation of roadway improvements for cars. Pedestrian improvements can be fully or partially assessed against the property owners along whose frontage the improvement (most commonly, a sidewalk) is placed.

As with other categories of funding, bicycle and pedestrian improvements may be incidental to larger roadway projects, or they can be independent.

Even small amounts of funding from the county or municipality can be very important since they may be used to leverage or show local commitment in applications for other funding sources (e.g., TE, Local Aid For Centers, etc.).

Special Assessment Districts

Another form of municipal funding is through the creation of a local Special Assessment District. The Borough of Fair Lawn, for example, established a Special Improvement District in which assessments are made on those seeking to develop or improve property. The Borough provided \$100,000 in matching funds. The funding is used for infrastructure improvements, including pedestrian improvements within the district. This form of funding can be used to leverage or show local commitment in applications for other funding sources.

Transportation Development Districts (TDD)

TDDs are joint state/county programs in New Jersey in which transportation improvements within a defined growth area are funded through a combination of public funding and developer contributions (for new developments) within the district. Independent pedestrian improvements can be included in the infrastructure improvement plan developed through a joint planning process for the district, and funded through the TDD.

Developer Provided Facilities

The Residential Site Improvement Standards currently in effect in New Jersey require new residential developments to include sidewalks.

Other municipal and state zoning or access code regulations have been used to require developers to provide both onsite and offsite improvements to benefit bicycle and pedestrian traffic.

Open Space Trust Funds

Many counties have established open space trust funds, which can be used to purchase land for bicycle and pedestrian facilities. For example, Atlantic County used \$459,000 from the Atlantic County Open Space Trust Fund to help pay for the Atlantic County Bikeway East. Other counties also have open space trust funds or an open space tax, including Bergen, Burlington, Camden, Cape May, Cumberland, Essex, Gloucester, Hunterdon, Mercer, Middlesex, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren.

The Bergen County Open Space, Recreation, Farmland and Historic Preservation Trust fund is funded through an annual property tax assessment and is used to preserve land, improve and develop outdoor recreation opportunities, preserve farmland, and improve historic areas. At least thirty percent of the money is distributed to municipalities to support their efforts in these areas. Additional information can be obtained from Mr. Robert Abbatomarco at 201-336-6446, rabbatomarco@co.bergen.nj.us, or Open Space, Recreation, Farmland & Historic Preservation Trust Fund, Bergen County Department of Planning & Economic Development, ONE Bergen County Plaza, Fourth Floor, Hackensack, New Jersey 07601-7000.

The Hunterdon County Open Space, Farmland and Historic Preservation Trust Fund is funded through property taxes and funds the preservation of lands for many purposes, including recreation, conservation, and open space. The funds can also be distributed to municipalities or charitable organizations for land acquisition only. The fund does not provide for development of any facilities. Additional information about this fund can be obtained at www.co.hunterdon.nj.us/openspachtm, the Planning Board a (908)788-1490 , or Hunterdon County Open Space Trust Fund Program, Route 12 County Complex, Building #1, PO Box 2900, Flemington, New Jersey, 08822-2900.

Somerset County has established the County/Municipal Open Space Planning Partnership Grant Program to assist municipalities in the acquisition of open space. County Planning Board staff administers the program, which annually administers a competitive grant process. Additional information can be obtained from Robert Bzik, Senior Planner, at (908) 231-7021 or from the County/Municipal Open Space Partnership of Somerset County Policy and Procedures Manual, available at <http://www.co.somerset.nj.us/planweb/planningbdmain.htm>.

Many municipal governments also have open space funding programs. Counties and municipalities, that levy an open space tax can receive more money in matching grants than local governments that do not, as described in the Green Acres section of this document above. Manalapan is one of many townships with an open space tax and an open space element in their comprehensive plan. The open space element lays out the properties that the township hopes to acquire. Part of the open space element includes an “Action Plan” to apply for funds from the Green Acres program to buy their proposed open space lands.

Some private organizations also have established open space trust funds, including the Passaic River Coalition, which has established a Land Trust. Among other activities, the Land Trust acquires land for recreation.

Source: Pedestrian Bicycle Resource Project database; municipal and county websites; Passaic River Coalition
H:\2004 SDA 495C Bike Ped\Funding Bike_Ped Projects (updated 3-14).doc

website.

Other Funding Sources

Bicycles Belong

The Bicycles Belong Coalition is sponsored by member companies of the American bicycle industry. The Coalition's stated goal is to put more people on bikes more often through the implementation of TEA-21. One of the Coalition's primary activities is the funding of local bicycle advocacy organizations that are trying to ensure that TEA-21-funded bicycle or trail facilities get built. Grants are awarded for up to \$10,000 on a rolling basis. By June 2000, almost \$200,000 has been awarded to advocacy organizations in the District of Columbia, Marin County, CA, Milwaukee, WI, Dallas, TX, Los Angeles, New York City, Portland, Maine, and others. Information about the Coalition, including grant applications and related information, is on the web at www.bikesbelong.org. They can also be contacted at:

Bikes Belong

1368 Beacon Street, Suite 102
Brookline, MA 02446-2800
617-734-2800 Fax: 617-734-2810

The National Institutes of Health

The National Institutes of Health funds projects that "study primary and secondary prevention approaches targeting environmental factors that contribute to inappropriate weight gain in children, adolescents, and adults." Applications may be submitted by for-profit and non-profit organizations (e.g., universities, colleges, hospitals, laboratories, units of state and local governments, and eligible agencies of the federal government).

Approximately \$4,000,000 is committed to fund successful applications and NIH anticipates making 5 to 12 awards. The application guidelines that apply to pedestrian and bicycle programs are listed below:

- Promoting walking or bicycling to school or to worksites
- Increasing physical activity during before and after school care
- Decreasing sedentary behaviors in children and adolescents
- Promoting physical activity at worksites
- Increasing family participation in physical activity

For more information, visit <http://www.grants.nih.gov/grants/guide/rfa-files/RFA-DK-02-021.html>.

Local School Districts

Local communities with bicycle/pedestrian plans that include schools can approach local school districts or private schools about funding those projects. The Phillipsburg Board of Education in Lopatcong Township, Warren County, has pledged to build trails near a proposed new high school, which would be built adjacent to a Lopatcong Township recreation center. As part of the discussions with the Board of Education concerning the new high school, the Board agreed to

construct part of a proposed bikeway on the Board of Education property. Another example is in Hightstown, in Mercer County. The borough, the county, the state and the Peddie School are sharing the costs of engineering and constructing pedestrian improvements to a bridge that, in part, connects faculty housing to the school.

General Mills Foundation

The foundation provides grants through the Champions Youth Nutrition and Fitness program. In 2003, the foundation will award 50 grants, each for up to \$10,000. Applicants must be a non-profit organization. The American Dietetic Association will assist in evaluating the proposals. The application is available at

<http://www.generalmills.com/corporate/commitment/2006ChampionsApplicationOverview.pdf> .

Source: <http://www.generalmills.com/corporate/about/community/#Nutrition>



HIGH POINT CAPE MAY BIKE ROUTE

A Tour Guide for Cyclists

Governor Jon S. Corzine

Commissioner Kris Kolluri, Esq.



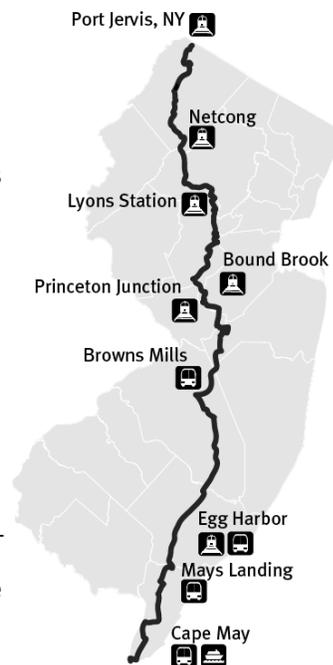
New Jersey Department of Transportation

It's a wonderful route

The New Jersey Department of Transportation (NJDOT) recognizes bicycling as an important element in improving the quality of life for the state's residents.

The High Point to Cape May Bicycle Route was created to capitalize on the cycling opportunities presented by New Jersey's varied geography and land use. Over the course of this on-road route, riders will encounter historic, recreational and scenic attractions, in urban, suburban and rural settings.

The route traverses the center of the state, and serves as a "spine" that can ultimately be expanded by counties and municipalities into a network of bicycle routes and trails that stretch across the state. As the High Point to Cape May Bicycle Route offers both breathtaking scenery and connections to major destinations, it encourages residents and visitors to discover these opportunities. Cyclists may choose to either ride the entire 238 miles of the route or travel along shorter segments over several days.



Public Transportation

Taking the bus or train can simplify your trip by eliminating the need to double back to your start point or make special arrangements. Public transportation may also be useful if you have difficulties or encounter bad weather. For schedule and bike access information contact NJ TRANSIT at www.njtransit.com or call (800) 772-2222.

Transit accessible starting points:

Port Jervis Station (NY) – 100 Pike St, 7 miles from High Point Monument via Route 23 (steep climb to High Point)
Cape May Bus Terminal – Lafayette St Cape May Bus Routes 313/315, 552

Transit access at intermediate points:

Netcong Station* - Main St & Route 46
Lyons Station – Lyons Rd adjacent to South Finley Rd
Bound Brook Station – Main St at the foot of Hamilton St
Princeton Junction Station – Wallace Road – 1.5 miles from Grover's Mill Rd and Maple Av via Millstone Rd and Cranbury Rd, West Windsor
Bus 317 – Main St and Bunting Bridge Rd, Cookstown
Egg Harbor Station – Atlantic Av and Route 50
Bus 553, 315** – Main St and Route 50, Mays Landing
Bus 313** - Washington and Franklin St, Woodbine
Bus 313/315, 552 – Main and Merchant St, Cape May Court House

* Weekdays Only **Limited Daily Service



About this guide

The New Jersey Department of Transportation (NJDOT) has published this guide to help cyclists plan a safe and enjoyable trip.

Road Conditions

Although every attempt has been made to select roads that can provide a quality bicycle touring experience, some route segments may have adverse conditions. For example, pavements deteriorate, roads are resurfaced, and development leads to increased traffic. The conditions listed in this route were effective at this printing.

Contact Us

Your comments will be useful in updating or revising this route.

E-mail

bicycle.advocate@dot.state.nj.us

Safety Tips

Be aware of traffic patterns

Plan trips to avoid peak traffic hours.

Obey the rules of the road

In New Jersey, a bicyclist has the same rights and responsibilities as a motor vehicle driver.

Cyclists must:

Keep right.

Ride with traffic, not against it.

Obey all traffic signs and signals.

Use signals

Show your intention clearly when turning and changing lanes.

Always wear your helmet

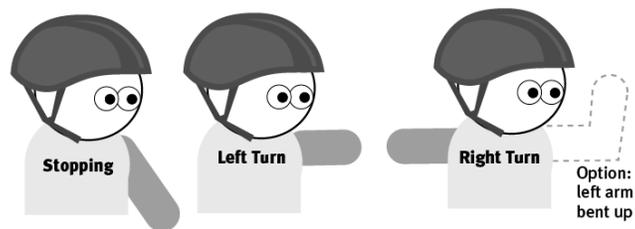
Anyone 17 and under must wear a helmet. It's the law in New Jersey.

Share the road/trail

Be aware of and respect the rights and safety of other road and trail users.

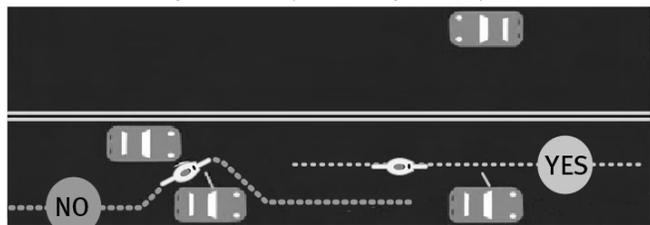
Navigating the road

Use hand signals in advance of your turn.
Be predictable. Let drivers know your intentions.



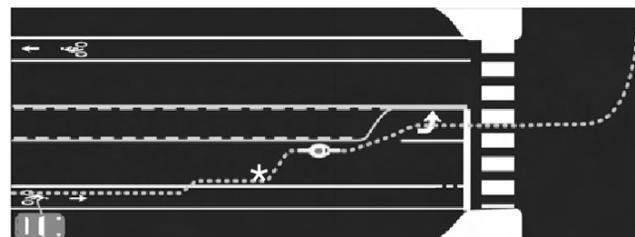
Ride in a straight Line

Avoid weaving in between lanes. Drivers cannot position themselves to pass if they cannot predict your behavior.



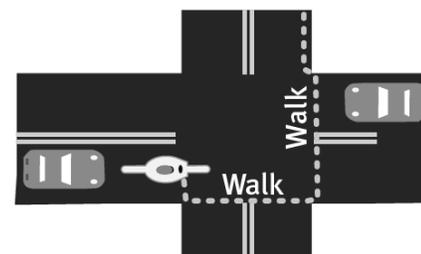
Two ways to make a left turn

- While riding, turn left from the far left lane.



* Scan for traffic

- Walk the bike across the intersection.



Map Legend and Cue Sheet Directions

- Steep grade ↘
- Bike route
- Major Trail
- Interstate
- Major road
- Road
- Rail
- Township line
- Map overlap

- State Park/Natural Area
- Other Natural Lands
- Rivers and lakes

- County Route
- State Route
- US Route
- Interstate

Transportation

- Rail station
- Key bus stop
- Ferry terminal
- Gas station
- Bike trail
- Canoe access
- Railroad Xing

Parks & Cultural

- Parking
- Cultural site
- Scenic view
- Campground
- Playground
- Phone
- Information
- Hiking trail
- Picnic
- Swimming
- Wildlife Mgmt Area

Services

- Restrooms
- Restaurant
- Bike shop
- ATM/bank
- Lodging
- Pharmacy
- Convenience store
- Pub/inn
- Hospital
- Grocery store
- Ranger station
- Post office

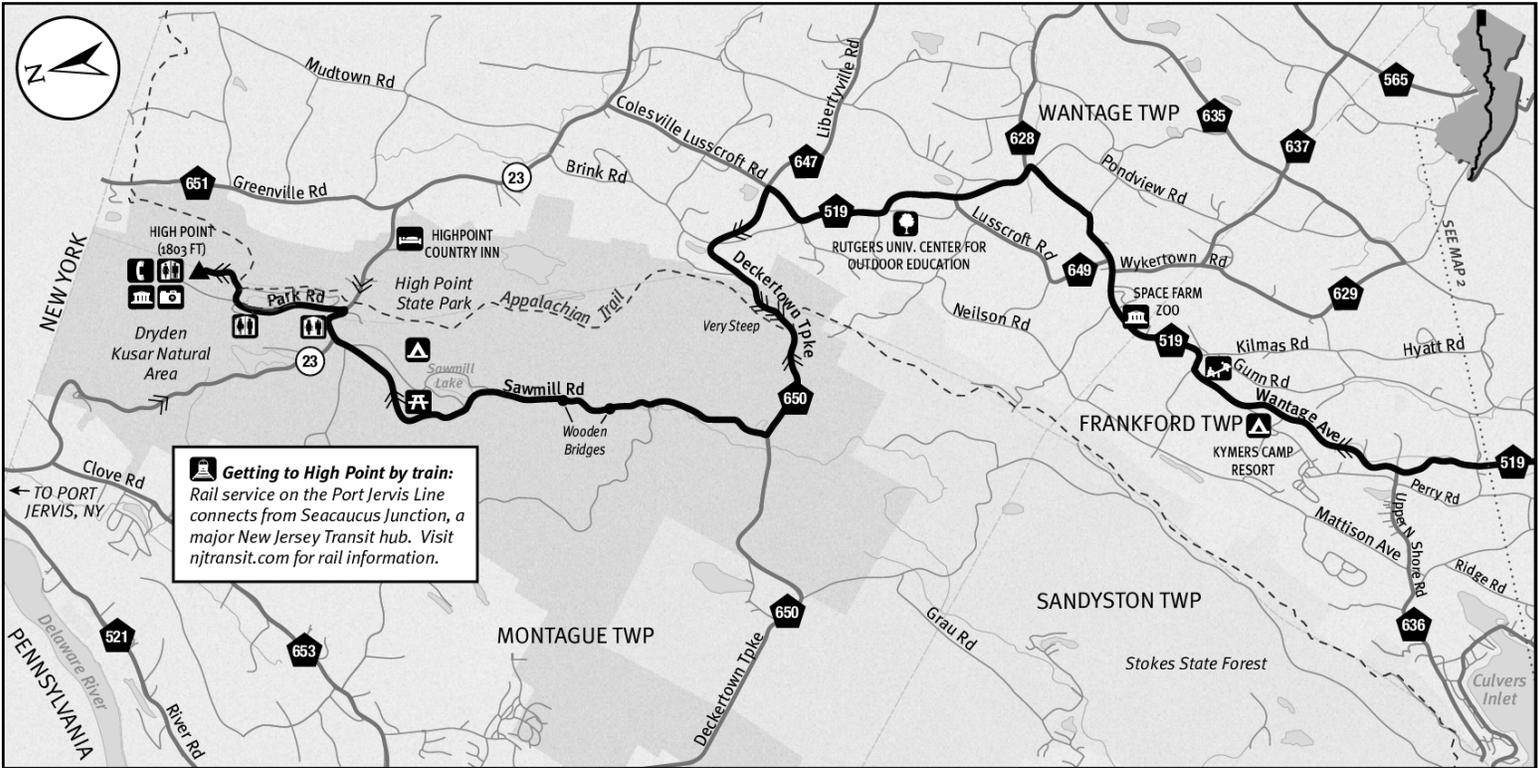


Cue Sheet Directions

- | | | | |
|----|------------|----|-------------------|
| R | Turn Right | QR | Quick Right |
| L | Turn Left | QL | Quick Left |
| BR | Bear Right | S | Continue Straight |
| BL | Bear Left | WR | Wide Right |
| | | WL | Wide Left |

0 1 2 3 mi

Mileage for each map is noted on the corresponding directions

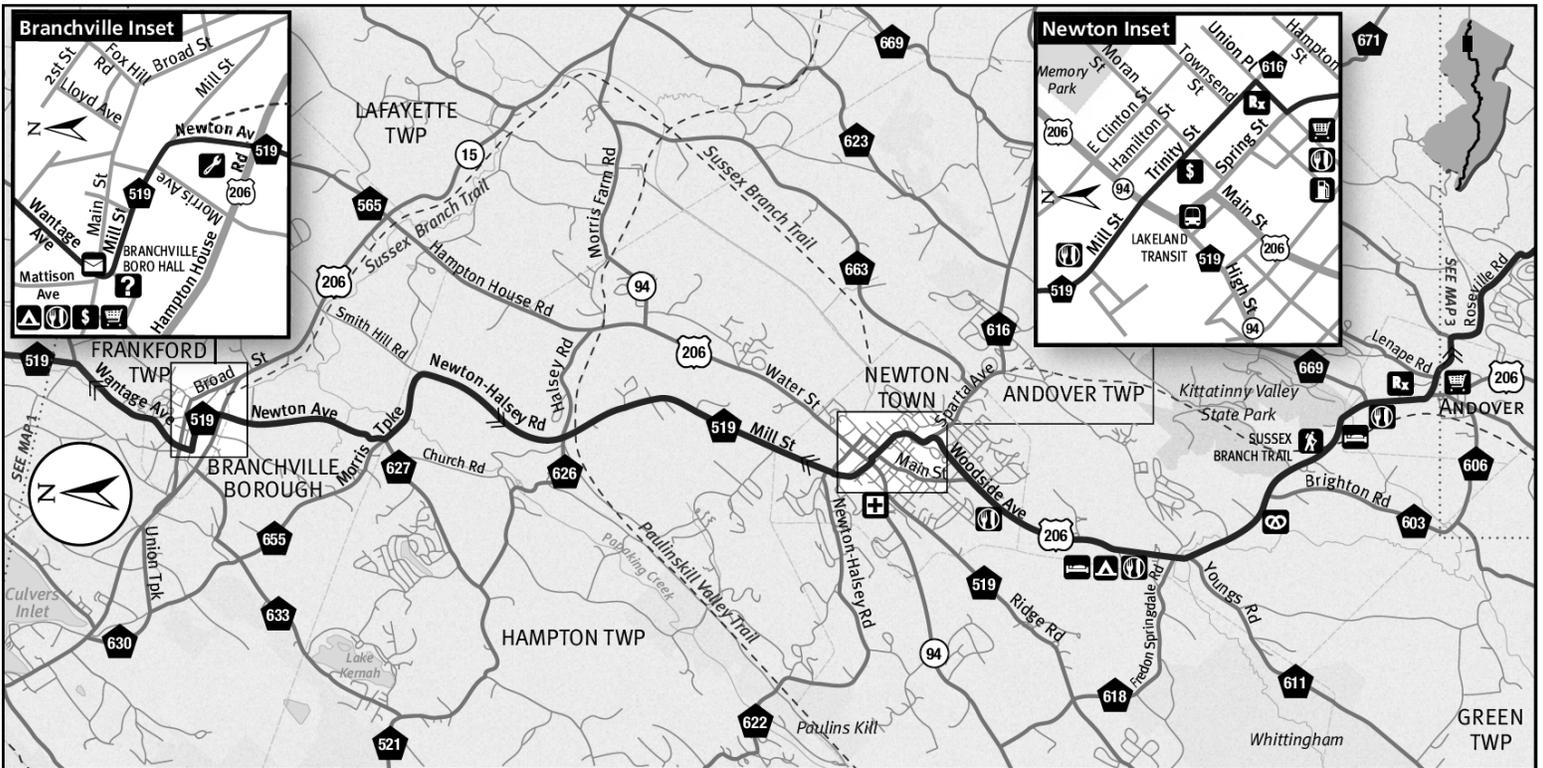


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|------|--------------------------|---|
| 0 | 0.0 | R | Park Road | Leave parking area on Park Rd |
| 1.4 | 1.4 | R/QR | Rt 23 | Restrooms, parking, hiking Montague Twp. Appalachian Trail 0.25 mi. to left |
| 0.4 | 1.8 | L | Sawmill Rd | Picnic Areas, Waterfall |
| 4.5 | 6.3 | L | CR 650 (Deckertown Tpke) | Wantage Twp. Caution: steep down hills |
| 2.9 | 9.2 | R | CR 519 | CR 519 |
| 2.6 | 11.8 | R | CR 519 | at CR 628 |
| 1.3 | 13.1 | S | CR 519 (Wantage Av) | Space Farm Zoo |
| 4.9 | 18 | S | CR 519 (Wantage Av) | |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|------|------------------------|---|
| 4.9 | 224.9 | S | CR 519 (Wantage Av) | Space Farm Zoo |
| 1.3 | 226.2 | L | CR519 | at CR 628 |
| 2.6 | 228.8 | L | CR 650 (Decktown Tpke) | Wantage Twp. |
| 2.9 | 231.7 | R | Sawmill Rd | Waterfall, Picnic Areas |
| 4.5 | 236.2 | R | Rt 23 | Montague Twp. |
| 0.4 | 236.6 | L/QL | Park Rd | Appalachian Trail 0.25 mi. to left |
| 1.4 | 238 | - | | Restrooms, parking, hiking Short walk up to Monument |

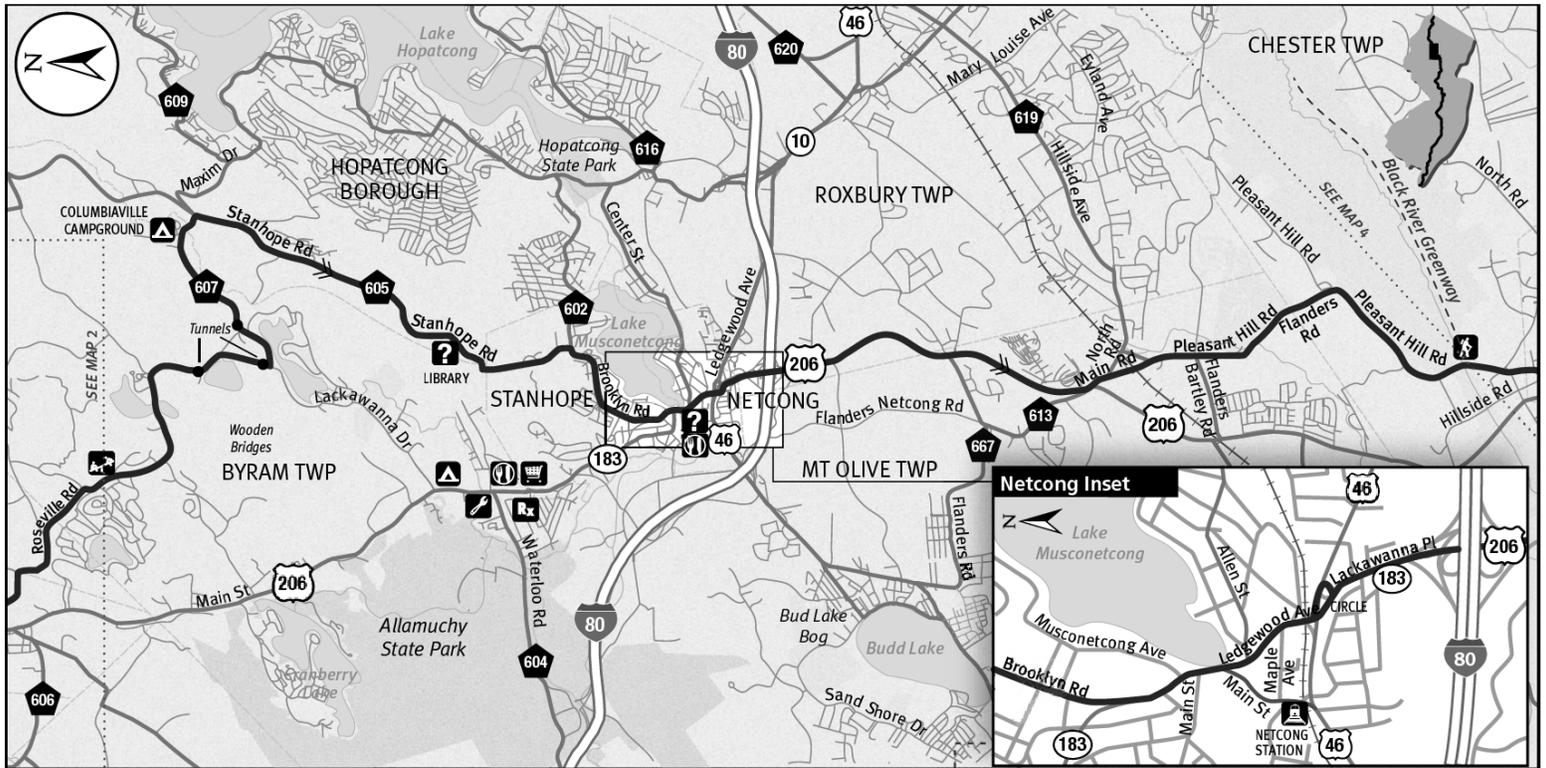


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|------|----------------------|---|
| 1.2 | 19.2 | R/QL | CR 519 (Mill St) | Branchville Boro, Deli, Post Office, Boro Hall |
| 0.3 | 19.5 | R | CR 519 (Newton Av) | Cross Sussex Branch Trail, Camping |
| 0.1 | 19.6 | S | CR 519 (Newton Av) | Cross Rt 206 |
| 1.5 | 21.1 | L | CR 519 (Newton Av) | |
| 2.1 | 23.2 | S | CR 519 | Cross CR 626 |
| 2.9 | 26.1 | S | Trinity St | Cross Rt 206/ Rt 94, Newton, Many services |
| 0.3 | 26.4 | R | Union Pl | |
| 0.1 | 26.5 | L | Spring St | Food, Pharmacies, Groceries, Gas Station |
| 0.2 | 26.7 | BR | Sparta Av | Food, Pub |
| 0.2 | 26.9 | R | CR 621 (Woodside Av) | |
| 0.4 | 27.3 | L | Rt 206 (Woodside Av) | Sporting Goods Shop |
| 3.8 | 31.1 | S | Rt 206 | Cross Sussex Branch Trail |
| 1.1 | 32.2 | L | Lenape Rd | Andover Boro |
| 0.1 | 32.3 | S | Andover Mohawk Rd | |
| 0.4 | 32.7 | R | Roseville Rd | Andover Twp., Byram Twp., One Lane Bridge, two tunnels |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|------|----------------------------|---|
| 3.8 | 205.3 | L | CR 613 (Andover Mohawk Rd) | |
| 0.4 | 205.7 | S | CR 517 (Lenape Rd) | |
| 0.1 | 205.8 | R | Grist Mill Ln | Andover Boro |
| 0 | 205.8 | QR | Rt 206 | |
| 1.1 | 206.9 | S | Rt 206 | Andover Twp., Cross Sussex Branch Trail |
| 3.8 | 210.7 | BR | CR 616 (Woodside Av) | |
| 0.4 | 211.1 | L | CR 616 (Sparta Av) | Food, Pub |
| 0.2 | 211.3 | L | Spring St | Food, Pharmacies, Groceries, Gas Station |
| 0.2 | 211.5 | R | Union Pl | |
| 0.1 | 211.6 | L | Trinity St | Newton, Many services |
| 0.3 | 211.9 | S | CR 519 (Mill St) | Cross Rt 206/94 |
| 2.9 | 214.8 | S | CR 519 (Mill St) | Cross CR 626 |
| 1.4 | 216.2 | BL | CR 519 | |
| 0.7 | 216.9 | R | CR 519 (Newton Av) | Hampton Twp. |
| 1.5 | 218.4 | S | CR 519 (Newton Av) | Cross Rt 206 |
| 0.1 | 218.5 | L | CR 519 (Mill St) | |
| 0.3 | 218.8 | R/QL | CR 519 (Wantage Av) | Sussex Branch Trail, Camping, Branchville Boro |
| 1.2 | 220.0 | L | Route 519 (Wantage Av) | Not straight on CR 629 |

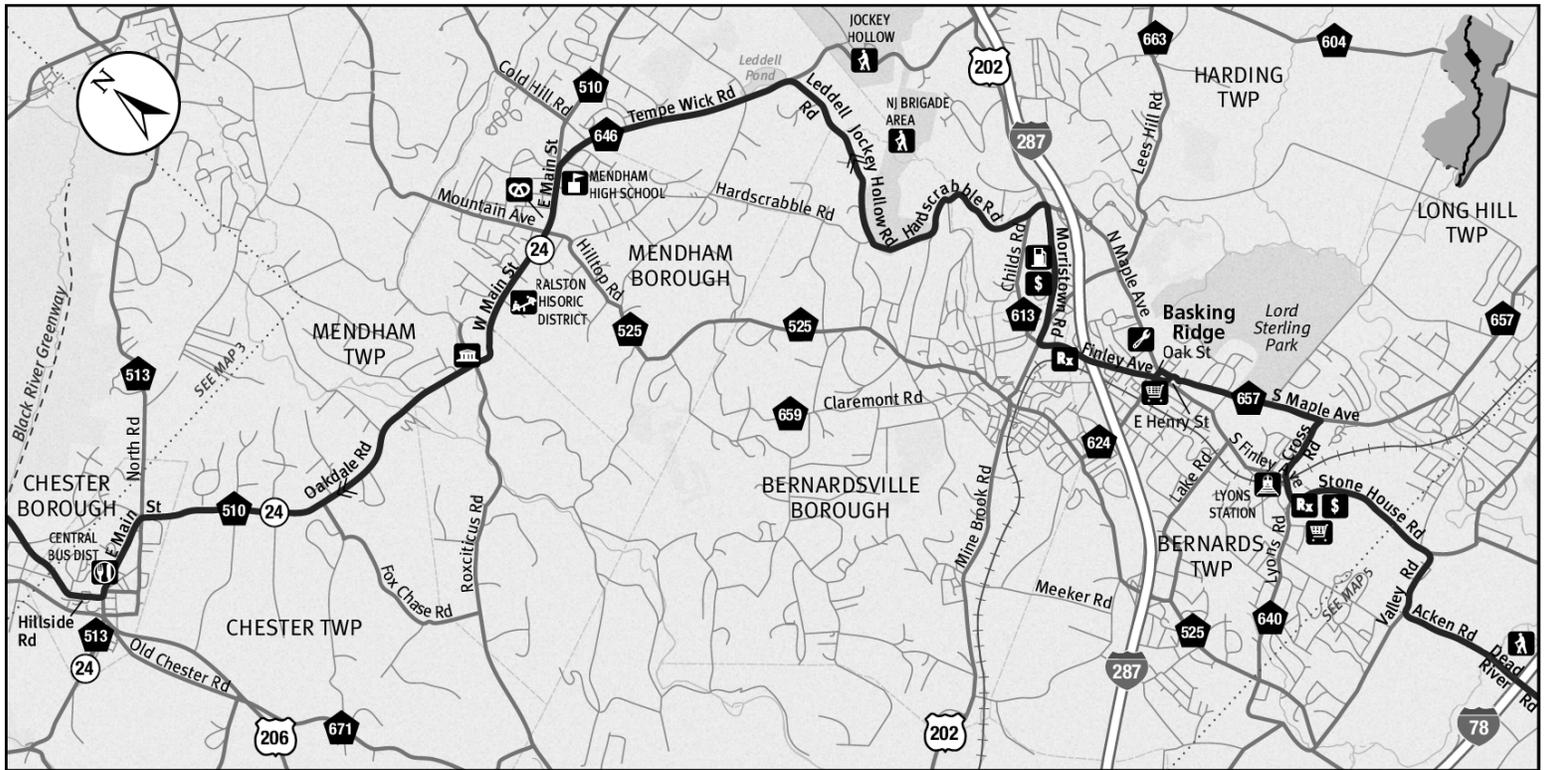


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|----------------------|--|
| 3.8 | 36.5 | L | CR 607 | Tunnel, Lake view |
| 1.5 | 38.0 | R | CR 605 (Stanhope Rd) | |
| 3.0 | 41.0 | S | CR 605 (Stanhope Rd) | Caution - One lane bridge, changes to Sparta Rd |
| 0.8 | 41.8 | R | CR 602 (Brooklyn Rd) | |
| 1.1 | 42.9 | WL | Rt 183 | |
| 0.5 | 43.4 | S | Rt 183 South | Cross Rt 46 stay left on Rt 183 South, to Rt 206S To Rt 206S |
| 0.1 | 43.5 | BR | Rt 183 South | Cross I-80W - Caution - merging traffic |
| 0.3 | 43.8 | S | Rt 183 South | Cross I-80E - Caution - merging traffic |
| 0.2 | 44.0 | S | Rt 206 | Flanders-Netcong Rd/Rt 206 to the right |
| 3.0 | 47.0 | L | Main St | Stay right |
| 0.1 | 47.1 | BR | Pleasant Hill Rd | Stay right |
| 0.4 | 47.5 | S | Pleasant Hill Rd | Flanders Bartley Rd to the right |
| 0.4 | 47.9 | S | Pleasant Hill Rd | |
| 1.2 | 49.1 | S | Flanders Rd | |
| 0.1 | 49.2 | R | Pleasant Hill Rd | |
| 2.7 | 51.9 | S | Hillside Rd | Chester/Chester Boro town line - stay straight at stop sign |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|------|--------------------------|---|
| 3.1 | 189.0 | L | Flanders Rd | Unmarked, changes to Pleasant Hill Rd |
| 1.3 | 190.3 | S | Pleasant Hill Rd | Flanders Bartley Rd to left |
| 0.4 | 190.7 | BL | Pleasant Hill Rd | |
| 0.4 | 191.1 | S | Main Rd | |
| 0.1 | 191.2 | R | Rt 206 | |
| 2.8 | 194.0 | S | Rt 206 | Cross I-80E - Caution - merging traffic |
| 0.1 | 194.1 | S | Rt 183 North | Cross I-80W - Caution - merging traffic |
| 0.4 | 194.5 | L | Rt 183 North | Traffic Circle - stay left along Rt 183 North |
| 0.1 | 194.6 | L | Rt 183 North | |
| 0.5 | 195.1 | WR | CR 602 (Brooklyn Rd) | |
| 1.1 | 196.2 | L | CR 605 North (Sparta Rd) | Lenape Valley Regional High School |
| 0.8 | 197.0 | S | CR 605 North | Caution - One lane bridge, changes to Stanhope Rd |
| 3.0 | 200.0 | L | CR 607 | Byram/Hopatcong town line |
| 1.1 | 201.1 | S/BL | CR 607 | Cross thru tunnel and bear left |
| 0.4 | 201.5 | R | Roseville Rd | |

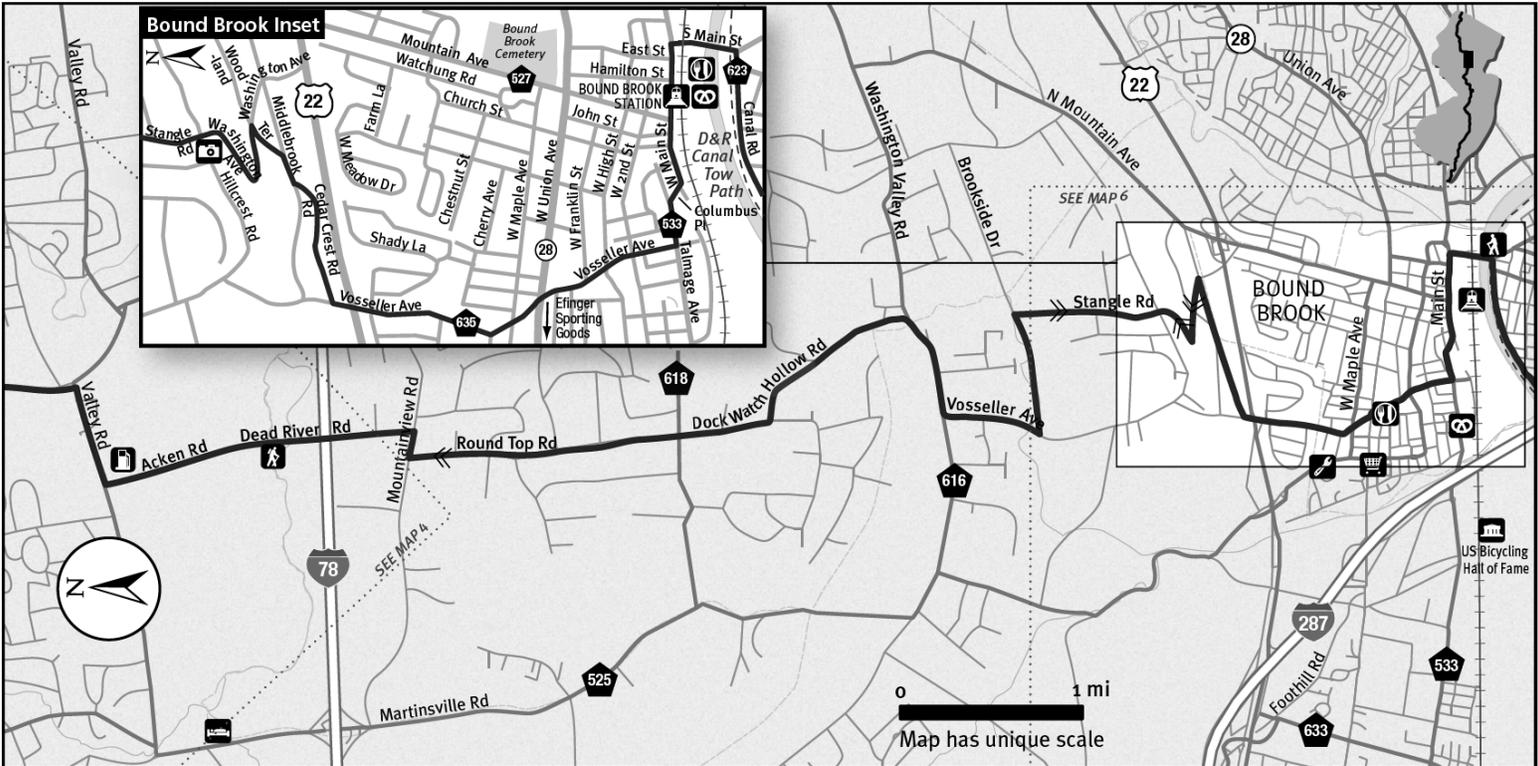


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|------------------------|---|
| 0.4 | 52.3 | L | Rt 24/East Main | Chester Boro |
| 0.8 | 53.1 | WR | Rt 24/CR 510 | |
| 4.8 | 57.9 | S | Rt 24/CR 510 | Cross CR 525, Mendham Boro, Services |
| 0.6 | 58.5 | R | CR 646 (Tempe Wick Rd) | |
| 2.2 | 60.7 | R | Leddell Rd | Unmarked Pond on left, Jockey Hollow Park 0.5 mi. north |
| 0.7 | 61.4 | S | Jockey Hollow Rd | Single lane bridge, followed by a steep hill |
| 1.0 | 62.4 | L | Hardscrabble Rd | |
| 0.5 | 62.9 | BL | Hardscrabble Rd | |
| 1.2 | 64.1 | BL | Child's Rd | |
| 0.2 | 64.3 | R | Rt 202 (Morristown Rd) | Gas, Bank |
| 1.1 | 65.4 | S | Rt 202 (Morristown Rd) | Bernards Twp./Bernardsville Boro Line |
| 0.2 | 65.6 | L | CR 613 (Finley Av) | Pharmacy |
| 1.2 | 66.8 | L | Henry St | Bernardsville Twp., cross I-287, many services |
| 0.1 | 66.9 | R | CR 657 (S. Maple Av) | Liberty Cycle Bike Shop, Lord Sterling Park |
| 1.4 | 68.3 | R | Cross Rd | |
| 0.6 | 68.9 | WL | S. Finley Av | Wide left |
| 0.2 | 69.1 | L | Stonehouse Rd | Gas, Grocery, Deli |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|------------------------|--|
| 1.4 | 169.1 | WR | CR 613 (S. Finley Av) | Wide right, Gas, Deli |
| 0.2 | 169.3 | R | Cross Rd | |
| 0.6 | 169.9 | L | CR 657 (S. Maple Av) | Liberty Cycle Bike Shop, Lord Sterling Park |
| 1.4 | 171.3 | L | CR 613 (Oak St) | Many services |
| 0.1 | 171.4 | R | CR 613 (N. Finley Av) | Bernardsville Twp., cross under I-287 |
| 1.2 | 172.6 | R | Rt 202 (Morristown Rd) | Gas, Bank, Restroom |
| 0.2 | 172.8 | S | Rt 202 (Morristown Rd) | Bernardsville Boro/Bernards Twp. Line |
| 1.1 | 173.9 | L | Child's Rd | |
| 0.2 | 174.1 | BR | Hardscrabble Rd | Bernards Twp./Bernardsville Line |
| 1.2 | 175.3 | BR | Hardscrabble Rd | |
| 0.5 | 175.8 | R | Jockey Hollow Rd | NJ Brigade Area |
| 1.0 | 176.8 | S | Leddell Rd | Single lane bridge, followed by a steep hill |
| 0.7 | 177.5 | L | CR 646/Tempe Wick Rd | |
| 2.2 | 179.7 | L | Rt 24/CR 510 | |
| 0.6 | 180.3 | S | Rt 24/CR 510 | Cross CR 525/Mendham Boro, many services |
| 4.8 | 185.1 | L | E. Main St | Chester Boro, many services |
| 0.8 | 185.9 | R | Hillside Rd | Changes to Pleasant Hill Rd |

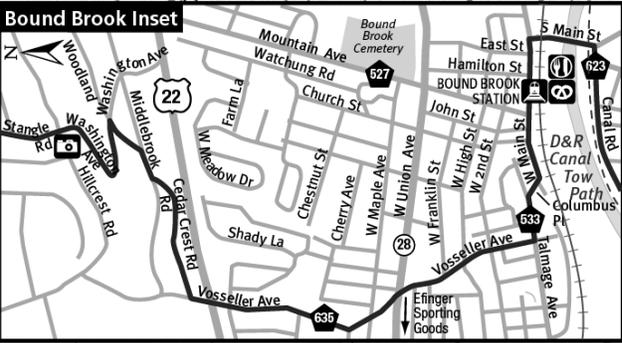
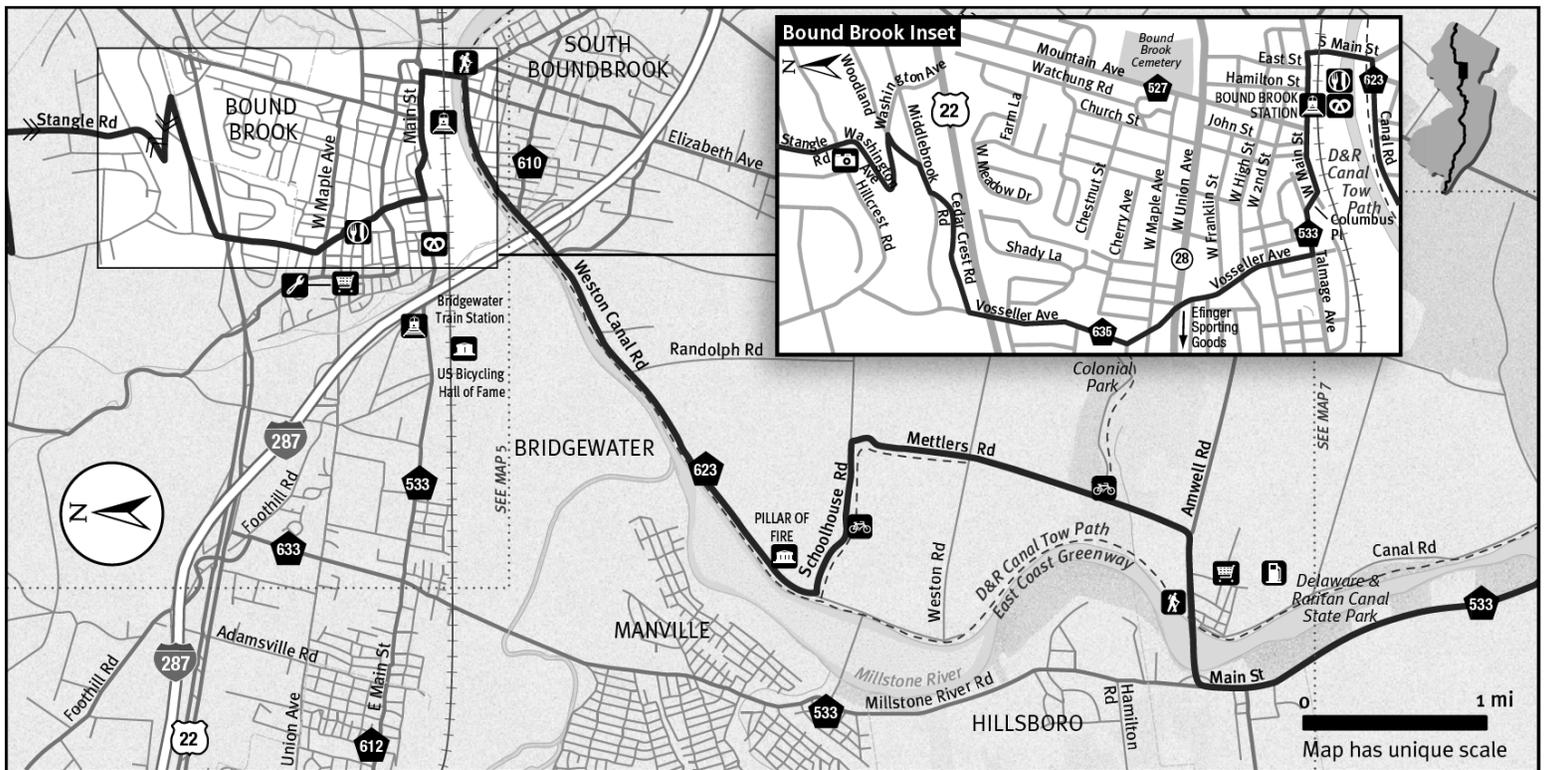


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|--------------------------|--|
| 1.4 | 70.5 | R | CR 512 (Valley Rd) | Restroom, Hotel |
| 0.6 | 71.1 | L | Acken Rd | Gas |
| 1.3 | 72.4 | S | Dead River Rd | Warren Twp., Hiking trail crossing, cross I-78 |
| 0.4 | 72.8 | R | Mountainview Rd | |
| 0.1 | 72.9 | L | Round Top Rd | Steep downhill |
| 1.6 | 74.5 | S | Dock Watch Hollow Rd | Cross Mt. Horeb Rd, Ramble Farm Gallery |
| 1.3 | 75.8 | R | CR 616 (Wash. Valley Rd) | Bridgewater Twp. |
| 0.6 | 76.4 | L | Vosseller Av | |
| 0.6 | 77.0 | L | Brookside Dr | Narrow road |
| 0.6 | 77.6 | R | Stangle Rd | Steep uphill |
| 0.8 | 78.4 | S | Washington Av | Cross Hillcrest Rd - Scenic view |
| 0.5 | 78.9 | R | Woodland Terrace | Steep winding downhill |
| 0.1 | 79.0 | R | Middlebrook Rd | |
| 0.1 | 79.1 | BL | Cedarcrest Rd | |
| 0.5 | 79.6 | L | Vosseller Av | Bound Brook Boro (cross Rt 22), Food |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|--------------------------|---|
| 1.2 | 158.6 | R | Cedarcrest Rd | |
| 0.5 | 159.1 | BR | Middlebrook Rd | |
| 0.1 | 159.2 | L | Woodland Terrace | Steep winding uphill |
| 0.1 | 159.3 | L | Washington Av | Steep winding uphill |
| 0.5 | 159.8 | S | Stangle Rd | Cross Hillcrest Rd, steep downhill - scenic view |
| 0.8 | 160.6 | L | Brookside Dr | Narrow road |
| 0.6 | 161.2 | R | Vosseller Av | |
| 0.6 | 161.8 | R | CR 616 (Wash. Valley Rd) | |
| 0.6 | 162.4 | L | Dock Watch Hollow Rd | Warren Twp. |
| 1.3 | 163.7 | S | Round Top Rd | Cross Mt. Horeb Rd, Ramble Farm Arabians Gallery |
| 1.6 | 165.3 | R | Mountainview Rd | Steep downhill |
| 0.1 | 165.4 | L | Dead River Rd | Cross I-78 |
| 0.4 | 165.8 | S | Acken Rd | Bernards Twp., Hiking trail crossing, |
| 1.3 | 167.1 | R | CR 512 (Valley Rd) | Restroom, Hotel, Gas |
| 0.6 | 167.7 | L | CR 613 (Stonehouse Rd) | Gas, Grocery, Deli |



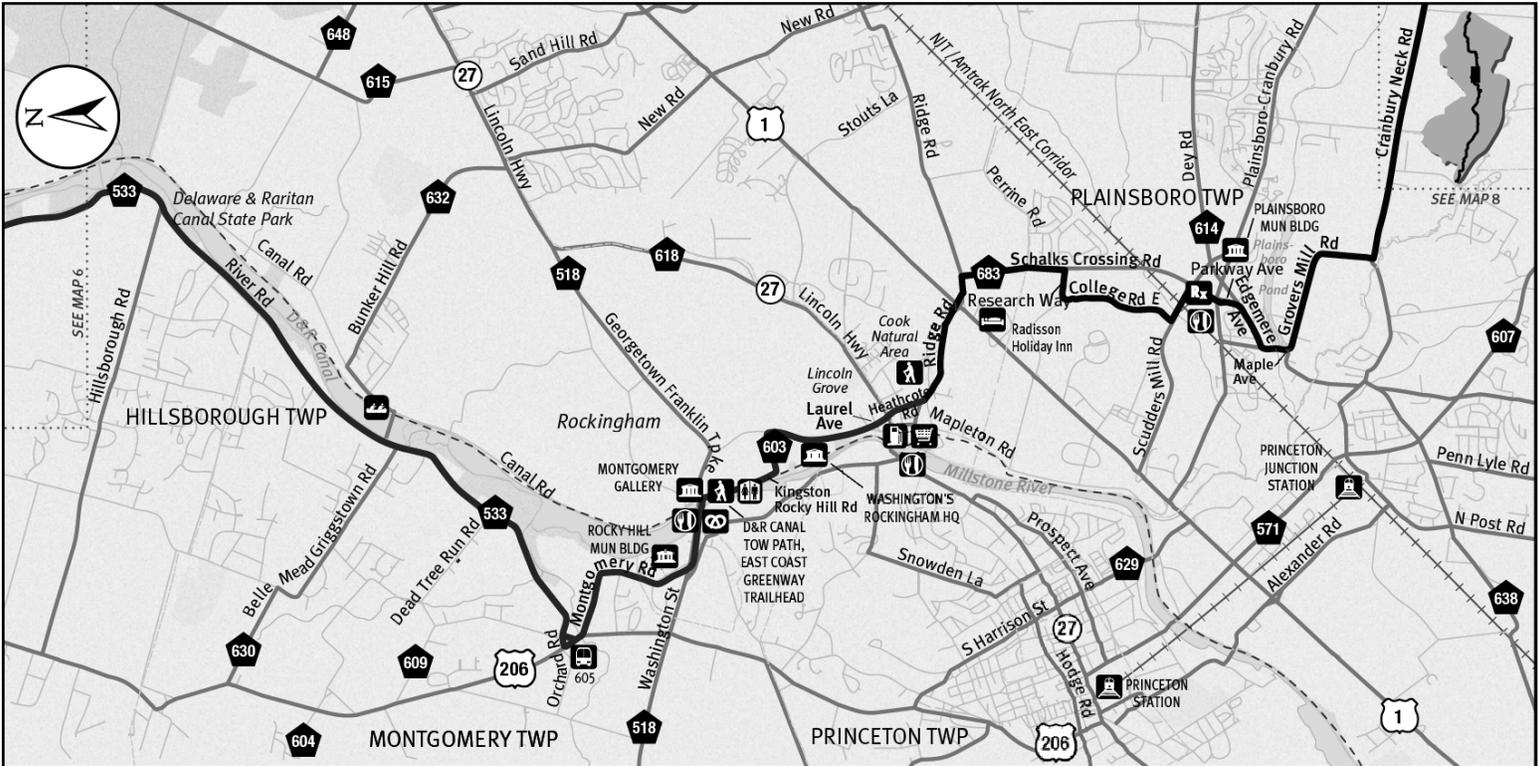
1 mi
Map has unique scale

Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|--------------------------|--|
| 1.2 | 80.8 | L | CR 533 (Talmage Av) | Food |
| 0.2 | 81.0 | BR | Columbus Pl | |
| 0.1 | 81.1 | BL | CR 533 (W. Main St) | Hotel, Train Station, and many services |
| 0.4 | 81.5 | R | S. Main St | Roundabout - share the lane |
| 0.2 | 81.7 | R | CR 623 (Canal Rd) | East Coast Greenway, South Bound Brook Boro, Restroom, Pub |
| 1.0 | 82.7 | S | CR 623 (Weston Canal Rd) | Franklin Twp., cross under I-287 - open grate bridge, Zarapeth, Pillar of Fire |
| 2.5 | 85.2 | L | School House Rd | |
| 0.9 | 86.1 | R | Mettlers Rd | Narrow road |
| 0.7 | 86.8 | S | Mettlers Rd | Cross Weston Rd, Colonial Park, Bike path crossing |
| 1.2 | 88.0 | R | CR 514 (Amwell Rd) | Grocery, Gas, cross D&R Canal, Millstone River |
| 0.7 | 88.7 | L | CR 533 (Main St) | Millstone Boro, Hillsboro and Montgomery Twp. |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|--------------------------|---|
| 7.9 | 149.3 | S | CR 533 (Main St) | Millstone Boro, Hillsboro Twp., Montgomery Twp. |
| 0.2 | 149.5 | R | CR 514 (Amwell Rd) | Grocery, Gas, cross Millstone River |
| 0.7 | 150.2 | L | Mettlers Rd | Colonial Park, Bike path crossing |
| 1.2 | 151.4 | S | Mettlers Rd | Parallel bike path |
| 0.7 | 152.1 | L | School House Rd | |
| 0.9 | 153.0 | R | CR 623 (Weston Canal Rd) | Zarapeth, Pillar of Fire, Franklin Twp. |
| 2.5 | 155.5 | S | CR 623 (Canal Rd) | South Bound Brook Boro - cross under I-287 |
| 1.0 | 156.5 | L | CR 533 (S. Main St) | Bound Brook Boro, open grate bridge, East Coast Greenway, cross Millstone River, Restrom, Pub |
| 0.2 | 156.7 | L | CR 533 (W. Main St) | Roundabout - share the lane, Hotel, Train Station and many services |
| 0.4 | 157.1 | BR | Columbus Pl | |
| 0.1 | 157.2 | BL | CR 533 (Talmage Av) | |
| 0.2 | 157.4 | R | CR 635 (Vosseller Av) | Bridgewater Twp., cross Rt 22, Food |

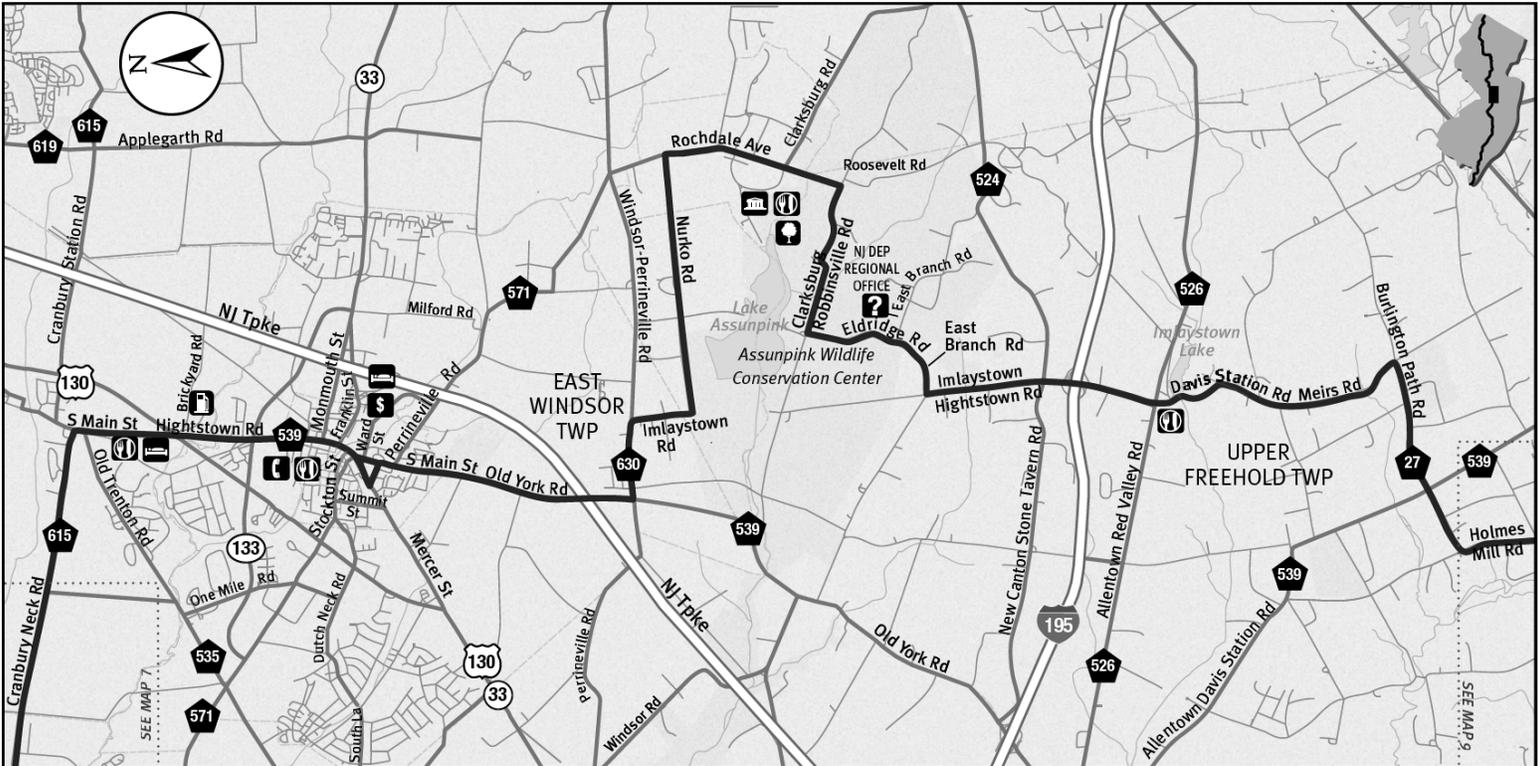


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|-----------------------------|---|
| 8.1 | 96.8 | L | Rt 206 | Heavy Traffic |
| 0.2 | 97.0 | L | Montgomery Av | Montgomery Gallery, Rocky Hill Municipal Bldg. |
| 1.5 | 98.5 | L | CR 518 (Washington St) | Restroom, Pub |
| 0.5 | 99.0 | S | CR 518 (G'town Frklin Tpke) | Cross Millstone River and D&R Path/ East Coast Greenway |
| 0.1 | 99.1 | R | CR 603 (K'gston R Hill Rd) | Restroom at Trail Head, Parking lot on right |
| 1.7 | 100.8 | S | Laurel Av | George Washington's Rockingham HQ - becomes Laurel Av at Church Rd |
| 0.2 | 101.0 | S | Heathcote Rd | Cross Rt 27, Restroom, Grocery, Gas |
| 0.3 | 101.3 | BL | Ridge Rd | South Brunswick Twp., cross Cook Hiking Trail |
| 1.2 | 102.5 | S | Ridge Rd, X Rt 1 | Cross Rt 1 very busy, services to north and south |
| 0.3 | 102.8 | R | Schalks Crossing Rd | |
| 0.9 | 103.7 | R | Research Way | Plainsboro Twp. |
| 0.3 | 104.0 | L | College Rd E. | |
| 1.0 | 105.0 | L | CR 614 (Scudders Mill Rd) | |
| 0.4 | 105.4 | R | Schalks Crossing Rd | Restroom, Pharmacy, many services |
| 0.2 | 105.6 | S | Parkway Av | Cross Plainsboro Rd, Municipal Bldg to east |
| 0.2 | 105.8 | R | Edgemere Av | |
| 0.4 | 106.2 | L | Maple Av | Cross Plainsboro Rd |
| 0.3 | 106.5 | L | Grovers Mill Rd | |
| 1.3 | 107.8 | L | CR 615 (Cranbury Neck Rd) | Cranbury, Hotel, Food |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|-----------------------------|--|
| 3.7 | 130.4 | R | Grovers Mill Rd | |
| 1.3 | 131.7 | R | Maple Av | Unmarked, Cross Plainsboro Pond |
| 0.3 | 132.0 | R | Edgemere Av | |
| 0.4 | 132.4 | L | Parkway Av | Cross Plainsboro Rd, Municipal Bldg to east |
| 0.2 | 132.6 | S | Schalks Crossing Rd | Restroom, Pharmacy, many services |
| 0.2 | 132.8 | L | Scudders Mill Rd | |
| 0.4 | 133.2 | R | College Rd E | |
| 1.0 | 134.2 | R | Research Way | |
| 0.3 | 134.5 | L | Schalks Crossing Rd | South Brunswick Twp. |
| 0.9 | 135.4 | L | Ridge Rd | |
| 0.3 | 135.7 | S | Ridge Rd | Cross Rt 1, busy road crossing, services |
| 1.2 | 136.9 | BR | Heathcote Rd | Cross Cook Hiking Trail |
| 0.3 | 137.2 | S | Laurel Av | Cross Rt 27, Somerset County, Franklin Twp., Restroom, Grocery, Gas |
| 0.2 | 137.4 | S | CR 603 (K'gston R. Hill Rd) | George Washington's Rockingham HQ |
| 1.7 | 139.1 | L | CR 518 (G'town Frklin Tpke) | Restroom at Trail Head, Parking lot on left |
| 0.1 | 139.2 | S | CR 518 (Washington St) | D&R Path/ East Coast Greenway, Rocky Hill Boro, cross Millstone River |
| 0.5 | 139.7 | R | Montgomery Av | Restroom, Pub, Montgomery Twp. |
| 1.5 | 141.2 | R | Rt 206 | Rocky Hill Municipal Bldg., Montgomery Gallery |
| 0.1 | 141.3 | R | CR 609 (Bridgepoint Rd) | |
| 0.1 | 141.4 | R | CR 533 (River Rd) | Hillsboro Twp. |

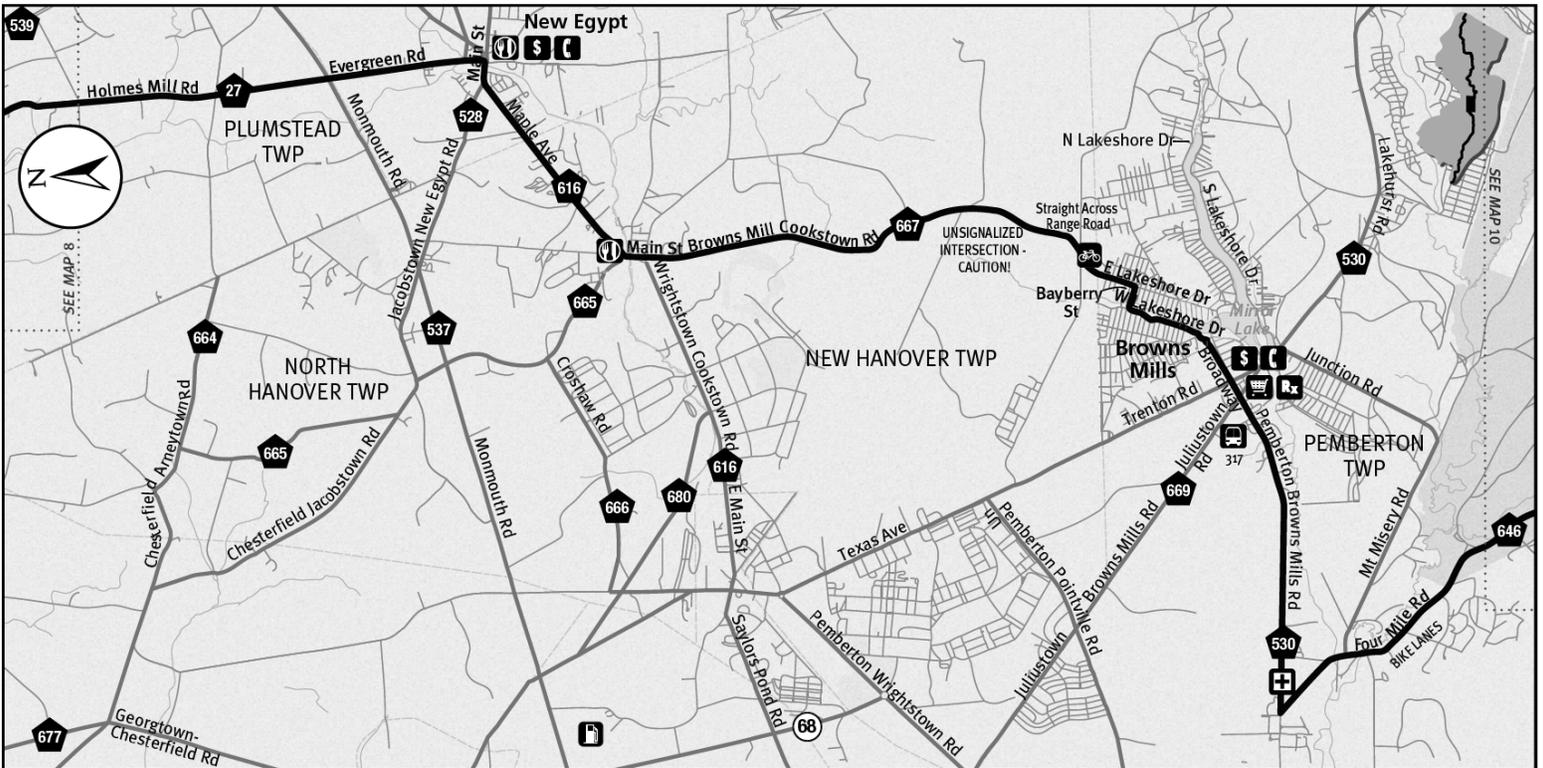


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|-----------------------------|--|
| 3.7 | 111.5 | R | S Main St | |
| 0.9 | 112.4 | S | Main St | Caution - straight across circle |
| 1.6 | 114.0 | BR | CR 539 (Mercer St) | Hightstown - Food, Lodging, Bank, Phone |
| 0.1 | 114.1 | L | CR 539 (W. Ward St) | |
| 0.1 | 114.2 | R | CR 539 (Main St) | |
| 2.4 | 116.6 | L | CR 630 (Windsor-P'ville Rd) | |
| 0.7 | 117.3 | R | Imlaystown Rd | |
| 0.5 | 117.8 | L | Nurko Rd | |
| 2.3 | 120.1 | R | CR 571 (N. Rochdale Av) | |
| 0.6 | 120.7 | S | S. Rochdale Av | Roosevelt - Food, Historic sites |
| 0.5 | 121.2 | S | Roosevelt Av | Enter Assunpink WMA |
| 0.3 | 121.5 | R | Clarksburg Robbinsville Rd | Unmarked |
| 1.4 | 122.9 | L | Eldridge Rd | Unmarked - Assunpink Wildlife Cons. Center |
| 0.8 | 123.7 | BR | East Branch Rd | NJDEP Regional Office on left |
| 0.6 | 124.3 | L | CR 43 (Imlaystown-Hights.) | Crossover I-195 |
| 2.1 | 126.4 | L | CR 526 (Al'town-Red Valley) | |
| 0 | 126.4 | QR | Davis Station Rd | Imlaystown - Food |
| 0.1 | 126.5 | BR | Davis Station Rd | |
| 0.5 | 127.0 | BR | Davis Station Rd | |
| 0.5 | 127.5 | BL | Meirs Rd | |
| 1.2 | 128.7 | R | CR 27 (Burlington Path Rd) | |
| 1.2 | 129.9 | S | CR 27 (Burlington Path Rd) | Cross CR 539 |
| 0.6 | 130.5 | L | CR 27 (Holmes Mill Rd) | |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|------|-----------------------------|--|
| 2.9 | 107.9 | R | CR 27 (Burlington Path Rd) | |
| 0.6 | 108.5 | S | CR 27 (Burlington Path Rd) | Cross CR 539 |
| 1.2 | 109.7 | L | Meirs Rd | |
| 1.2 | 110.9 | BR | Davis Station Rd | |
| 0.5 | 111.4 | BL | Davis Station Rd | At Mill Pond Dr |
| 0.5 | 111.9 | BL/S | Davis Station Rd | Imlaystown - Food |
| 0.1 | 112.0 | L | CR 526 (Al'town-Red Valley) | |
| 0 | 112.0 | QR | CR 43 | |
| 0.7 | 112.7 | S | CR 43 | Cross over I-195 |
| 0.3 | 113.0 | S | CR 524 | Onto Imlaystown - Hightstown Rd |
| 1.1 | 114.1 | R | East Branch Rd | To Assunpink WMA |
| 0.6 | 114.7 | S/BL | Eldridge Rd | Unmarked - NJDEP Regional Office on right |
| 0.3 | 115.0 | BL | Eldridge Rd | Unmarked - Assunpink Wildlife Cons. Center |
| 0.5 | 115.5 | R | Clarksburg Robbinsville Rd | |
| 1.4 | 116.9 | L | Roosevelt Rd | Unmarked |
| 0.3 | 117.2 | S | S. Rochdale Rd | Roosevelt - Food, Historic sites |
| 1.1 | 118.3 | L | Nurko Rd | |
| 2.3 | 120.6 | R | Imlaystown Rd | Right turn only |
| 0.5 | 121.1 | L | CR 630 (Windsor-P'ville Rd) | |
| 0.7 | 121.8 | R | CR 539 (Old York Rd) | |
| 2.6 | 124.4 | S | Main St | Hightstown - Food, Lodging, Bank, Phone |
| 1.4 | 125.8 | S | CR 539 (S. Main) | Cross Rt 130 Circle |
| 0.9 | 126.7 | L | CR 615 (Cranbury Neck Rd) | Restroom, Plainsboro Twp. |

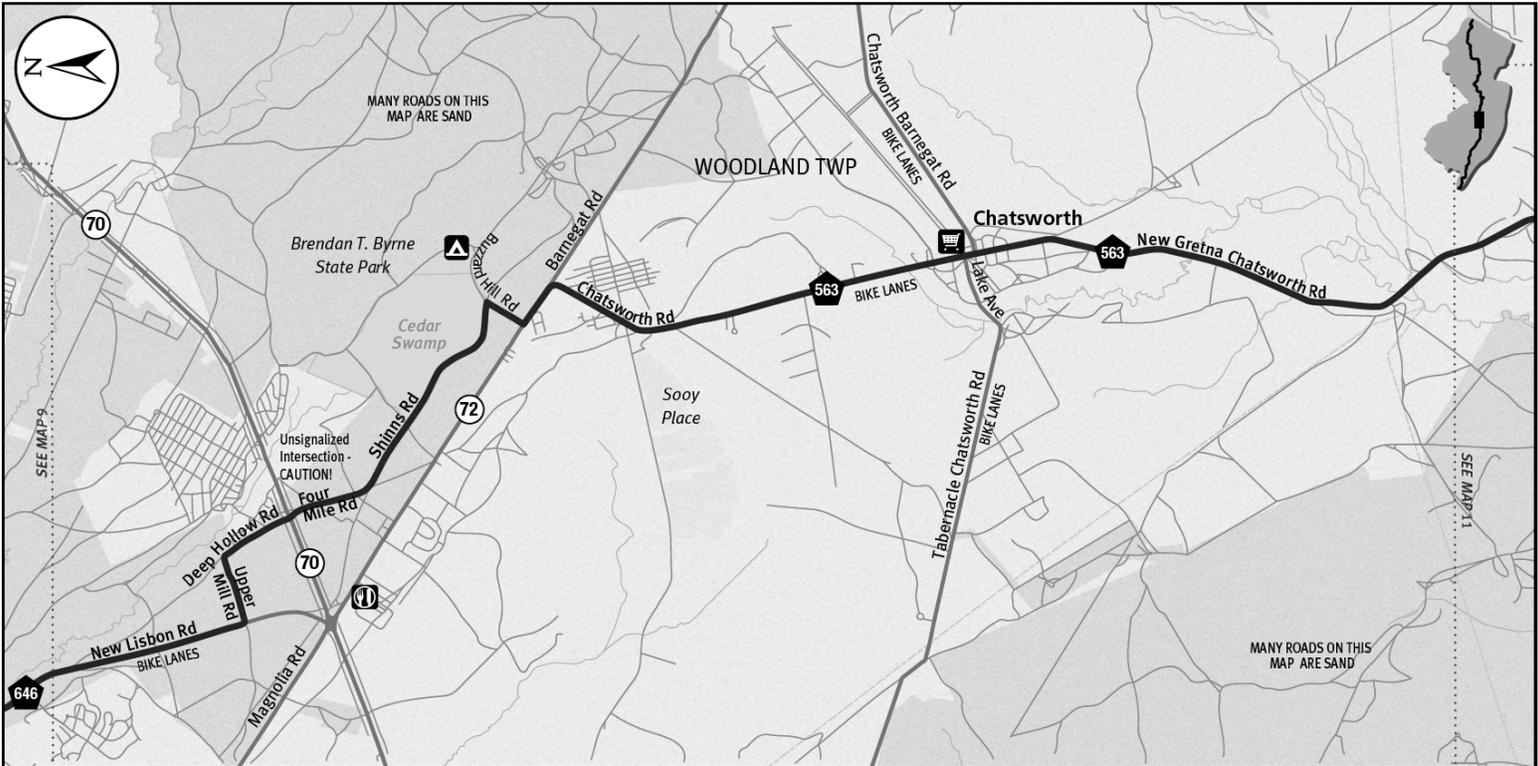


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|----------------------------|--|
| 2.9 | 133.4 | S | Evergreen Rd | Cross CR 537, Plumstead Twp. |
| 1.3 | 134.7 | R | Main St | New Egypt - Food, Bank, Phone |
| 0.2 | 134.9 | BL | CR 528 Spur (Maple Rd) | Pass into Burlington County in 0.5 mi. |
| 1.9 | 136.8 | BL | CR 667 (Main St) | Cookstown - Diner |
| 4.4 | 141.2 | S | CR 667 | Cross Range Rd |
| 0.5 | 141.7 | R | CR 667 (Bayberry St) | Blinking light |
| 0.2 | 141.9 | L | CR 667 (W. Lake Shore Dr) | |
| 0.8 | 142.7 | BR | CR 667 (Broadway) | (Broadway - Browns Mill) |
| 0.4 | 143.1 | S | CR 530 | |
| | | | (Pemberton-Browns Mill Rd) | Cross Trenton Rd, Browns Mills - Food, Lodging, Post Office, Pharmacy, Phone |
| 0.2 | 143.3 | S | CR 530 | Cross Juliestown Rd |
| 2.8 | 146.1 | L | CR 646 (Four Mile Rd) | Water Tower, Hospital |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|----------------------------|---|
| 4.1 | 91.7 | BL | Four Mile Rd | |
| 0.6 | 92.3 | R | CR 530 | Hospital, Water Tower, Cross Juliestown Rd |
| 2.8 | 95.1 | S | CR 667 | |
| | | | (Pemberton-Browns Mill Rd) | Food, Lodging, Post Office, Pharmacy, Phone |
| 0.2 | 95.3 | S | CR 667 (Broadway) | |
| 0.4 | 95.7 | L | CR 667 (W. Lake Shore Dr) | |
| 0.8 | 96.5 | R | CR 667 (Bayberry St) | |
| 0.2 | 96.7 | L | CR 667 (E. Lake Shore Dr) | |
| 0.5 | 97.2 | S | | Cross Range Rd |
| 4.4 | 101.6 | BR | CR 616 (CR 528 Spur) | Unmarked - Cookstown - Diner |
| 1.9 | 103.5 | BR | CR 667 (Main St) | New Egypt - Food, Bank, Phone |
| 0.2 | 103.7 | L | Evergreen Rd | |
| 1.3 | 105.0 | S | CR 27 (Holmes Mill Rd) | Cross CR 537 (Monmouth Rd) |

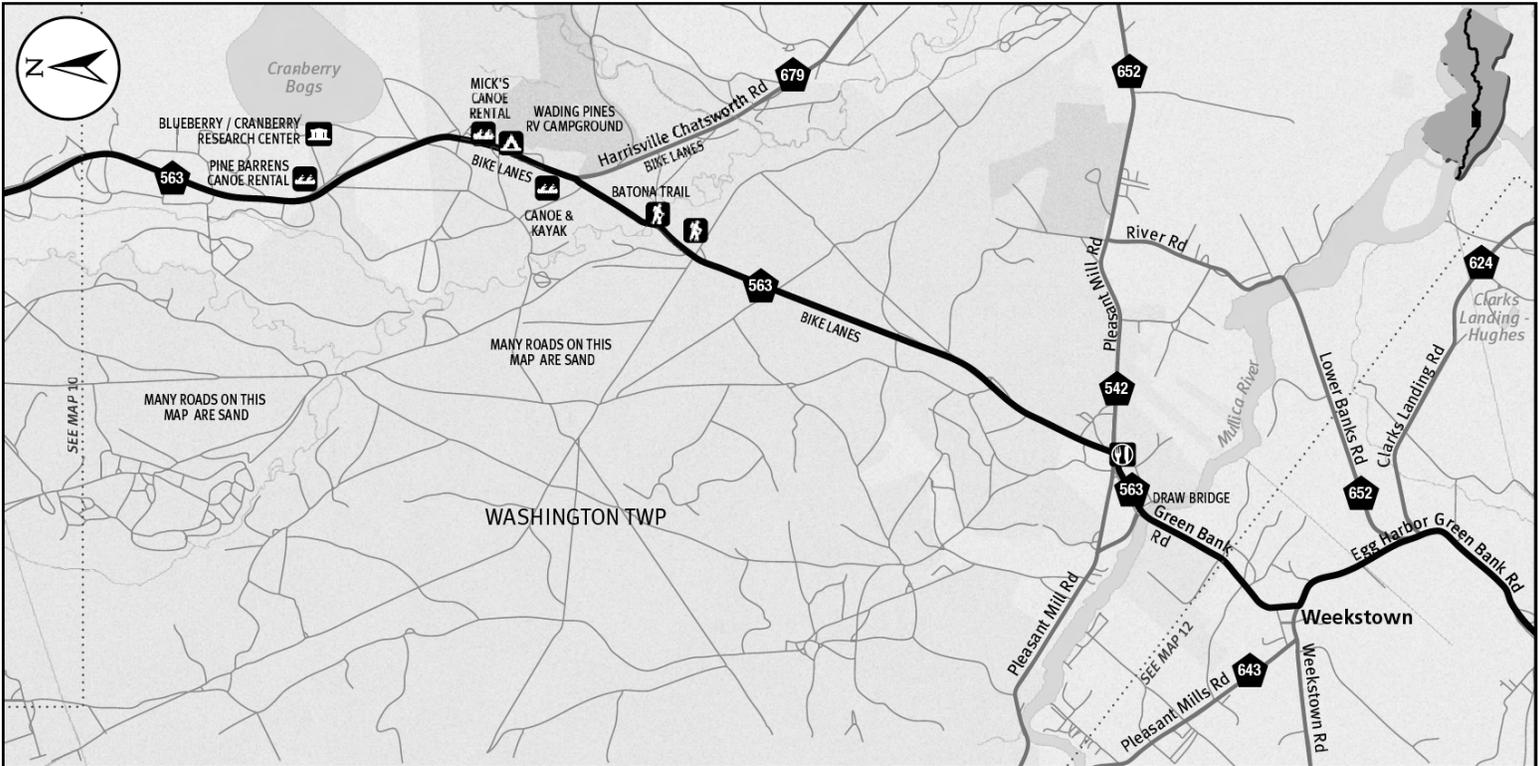


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|------------------------|--|
| 4.7 | 150.8 | L | Upper Mill Rd | Changes to Deep Hollow Rd |
| 1.3 | 152.1 | S | Four Mile Rd | Cross Rt 70 to Brendan T. Byrne State Park Park office on right |
| 0.7 | 152.8 | L | Shinn's Rd | |
| 2.0 | 154.8 | R | Buzzard Hill Rd | Unmarked |
| 0.4 | 155.2 | L | Rt 72 (Barnegat Rd) | Food - right 0.1 mi. |
| 0.4 | 155.6 | R | CR 563 (Chatsworth Rd) | Bike Lane |
| 4.0 | 159.6 | S | CR 563 | Chatsworth General Store, Food |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|------------------------|--|
| 7.2 | 78.8 | S | CR 563 | Chatsworth General Store, Food |
| 4.0 | 82.8 | L | Rt 72 | |
| 0.4 | 83.2 | R | Buzzard Hill Rd | Unmarked - Brendan T. Byrne State Park, Food opposite |
| 0.4 | 83.6 | L | Shinn's Rd | Unmarked, to Park office |
| 2.0 | 85.6 | BR | Four Mile Rd | Unmarked |
| 0.7 | 86.3 | S | Deep Hillow Rd | Cross Rt 70, changes to Upper Mill Rd |
| 1.3 | 87.6 | R | CR 646 (New Lisbon Rd) | Bike Lane |



Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|---------------------|--------------------------------------|
| 7.2 | 166.8 | S | CR 563 | Pine Barrens Canoe Rental |
| 1.6 | 168.4 | S | CR 563 | Mick's Canoe Rental - Jenkins |
| 0.2 | 168.6 | S | CR 563 | Wading Pines RV Campground |
| 0.7 | 169.3 | BR | CR 563 (Not CR 679) | |
| 0.6 | 169.9 | S | CR 563 | Batona Trail left |
| 0.4 | 170.3 | S | CR 563 | Batona Trail right |
| 4.5 | 174.8 | R | CR 542 (and CR 563) | |
| 0.1 | 174.9 | BL | CR 563 | Food |
| 0.4 | 175.3 | BL | CR 563 | Greenbank, Food |
| 0.1 | 175.4 | S | CR 563 | Cross Mullica River, Atlantic County |
| 1.6 | 177.0 | L | CR 563 | Weekstown |
| 1.2 | 178.2 | BR | CR 563 | |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|----------------|---|
| 3.3 | 60.2 | BL | CR 563 | To Weekstown |
| 1.2 | 61.4 | R | CR 563 | Weekstown, to Batsto |
| 1.6 | 63.0 | S | CR 563 | Cross Mullica River, open grate bridge, Burlington County - Greenbank, Food |
| 0.1 | 63.1 | BR | CR 563 | |
| 0.4 | 63.5 | R | CR 542, CR 563 | Food |
| 0.1 | 63.6 | L | CR 563 | To Jenkins, Chatsworth, Bike Lane |
| 4.5 | 68.1 | S | CR 563 | Batona Trail left |
| 0.4 | 68.5 | S | CR 563 | Batona Trail right |
| 0.6 | 69.1 | S | CR 563 | Not CR 679 |
| 0.7 | 69.8 | S | CR 563 | Wading Pines RV Campground |
| 0.2 | 70.0 | S | CR 563 | Mick's Canoe Rental - Jenkins |
| 1.6 | 71.6 | S | CR 563 | Pine Barrens Canoe Rental |

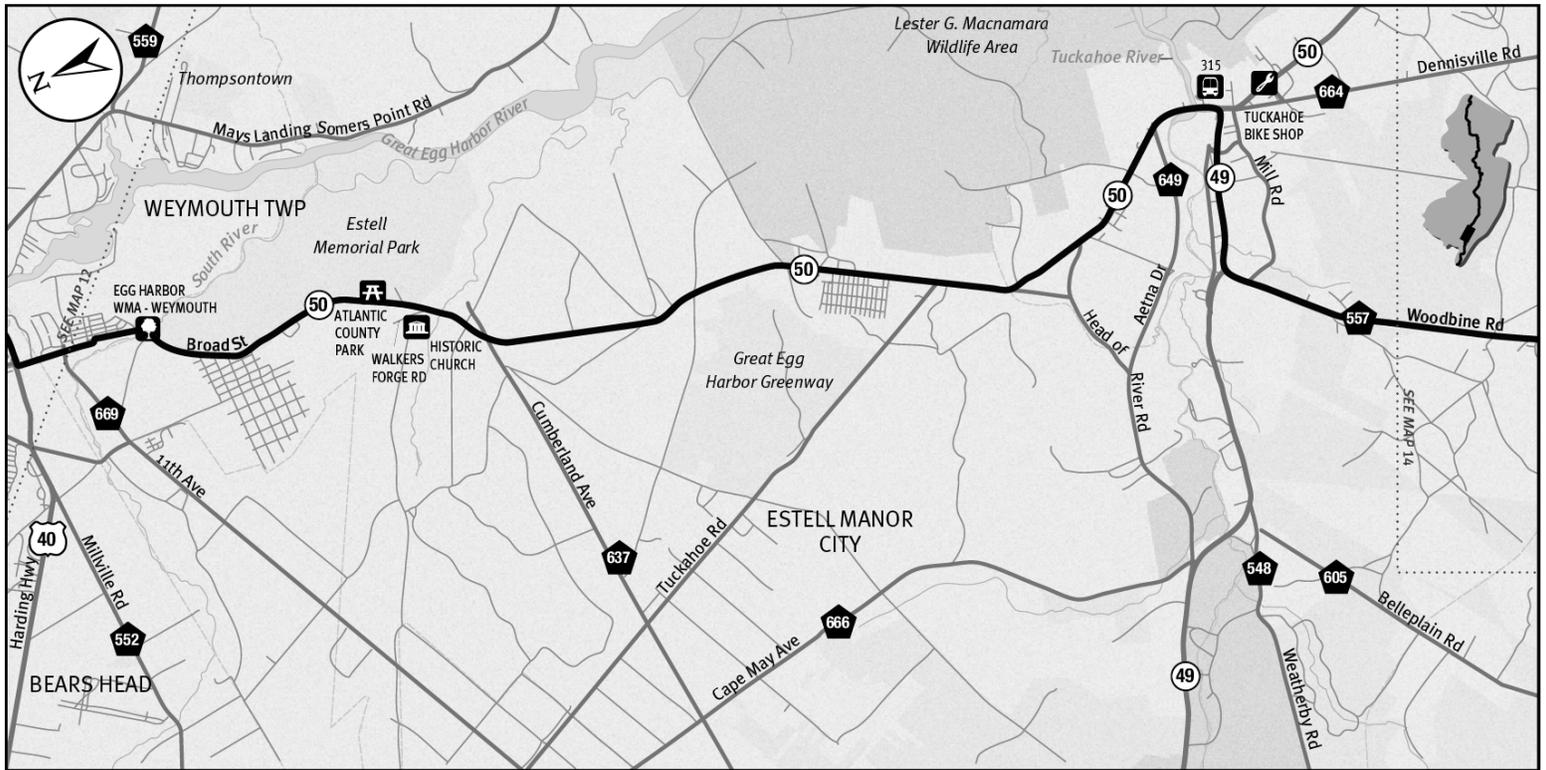


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|--------------------------|---|
| 3.3 | 181.5 | S | CR 563 (Philadelphia Av) | Egg Harbor City, Food, Lodging, Transit, Bank, Post Office, etc. Caution - angled parking |
| 1.5 | 183.0 | S | Rt 50 (Philadelphia Av) | Cross Rt 30 White Horse Pike |
| 0.1 | 183.1 | S | Rt 50 (Atlantic Av) | RR Tracks, Train Station 1 block left |
| 2.1 | 185.2 | S | Rt 50 | Cross under Atlantic City Expressway - Caution - watch for on/off expressway ramps |
| 2.8 | 188.0 | S | Rt 50 | Cross over Rt 322 |
| 1.9 | 189.9 | S | Rt 50 | (Also Rt 40) May's Landing, many services |
| 0.6 | 190.5 | L | Rt 50 | |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|--------------------------|---|
| 0.5 | 47.9 | R | Rt 50 (Rt 40E) | |
| 0.6 | 48.5 | S | Rt 50 | Cross Main St, May's Landing |
| 1.9 | 50.4 | S | Rt 50 | Cross over Rt 322, Caution - watch for on/off ramp traffic |
| 2.8 | 53.2 | S | Rt 50 | Cross under Atlantic City Expressway, Caution - watch for on/off ramp traffic |
| 2.1 | 55.3 | S | | RR Tracks, Train Station 1 block right |
| 0.1 | 55.4 | S | Rt 50 (Philadelphia Av) | Cross Rt 30 White Horse Pike, |
| 1.5 | 56.9 | S | CR 563 (Philadelphia Av) | Egg Harbor City, Food, Lodging, Transit |

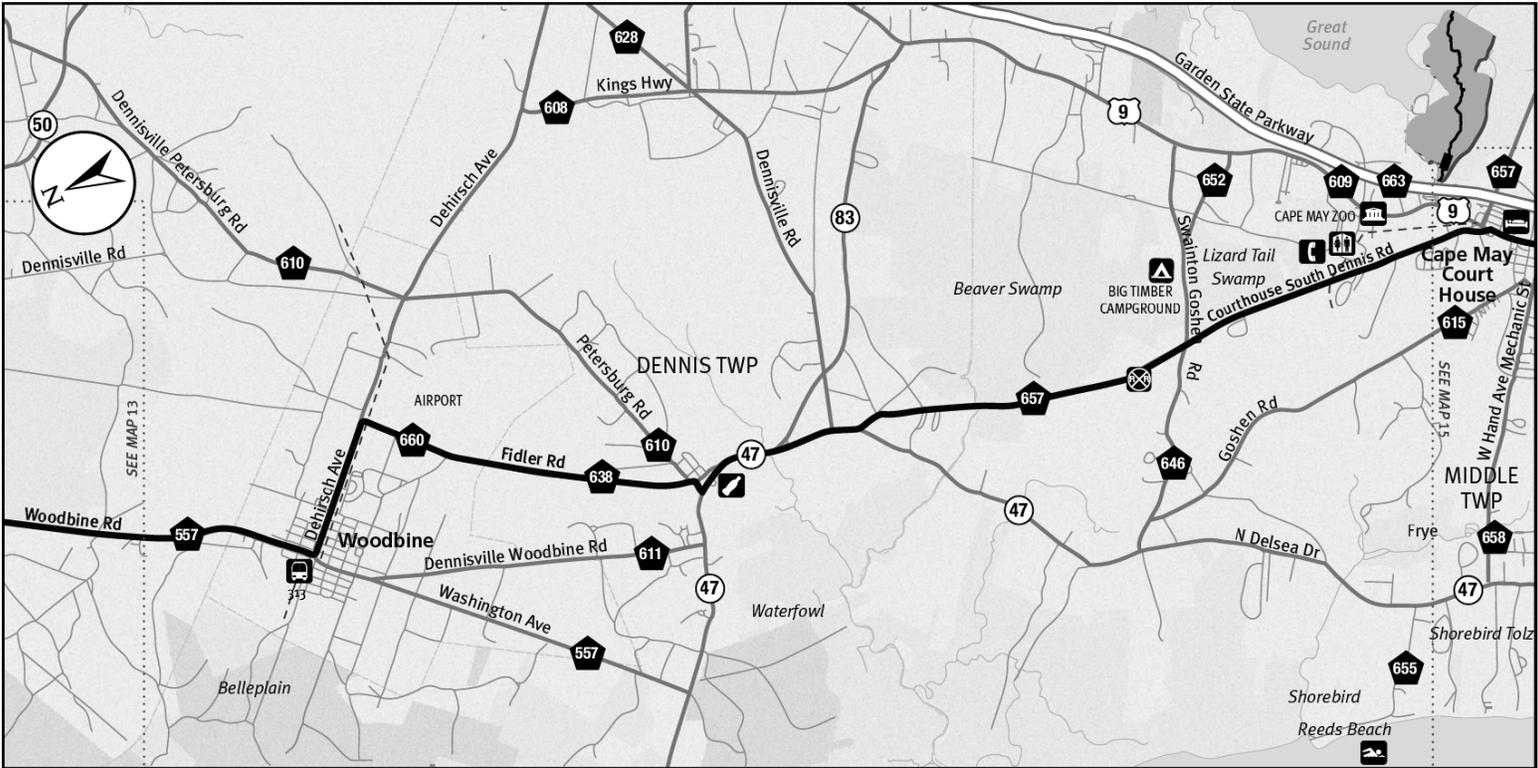


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|----------------------|---|
| 0.5 | 191.0 | S | Rt 50 | Cross CR 669, 11th Av |
| 0.7 | 191.7 | S | Rt 50 | Egg Harbor River WMA - Weymouth |
| 2.5 | 194.2 | S | Rt 50 | Estellville, Atlantic County Park, Historic Church on Walkers Forge Rd |
| 7.9 | 202.1 | S | Rt 50 (CR 557) | Cape May County - Tuckahoe River |
| 0.3 | 202.4 | R | Rt 49 | Tuckahoe - Cape May County, Bike Shop 0.4 mi. S. on Rt 5 |
| 1.4 | 203.8 | L | CR 557 (Woodbine Rd) | |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|-------------|---|
| 4.4 | 34.6 | R | Rt 49 | To Tuckahoe |
| 1.4 | 36.0 | L | Rt 50 | To May's Landing, open grate bridge, Bike Shop 0.4 mi. S. on Rt 50 |
| 8.2 | 44.2 | S | Rt 50 | Atlantic County Park |
| 2.5 | 46.7 | S | Rt 50 | Egg Harbor River WMA - Weymouth |
| 0.7 | 47.4 | S | Rt 50 | Cross 11th Av |

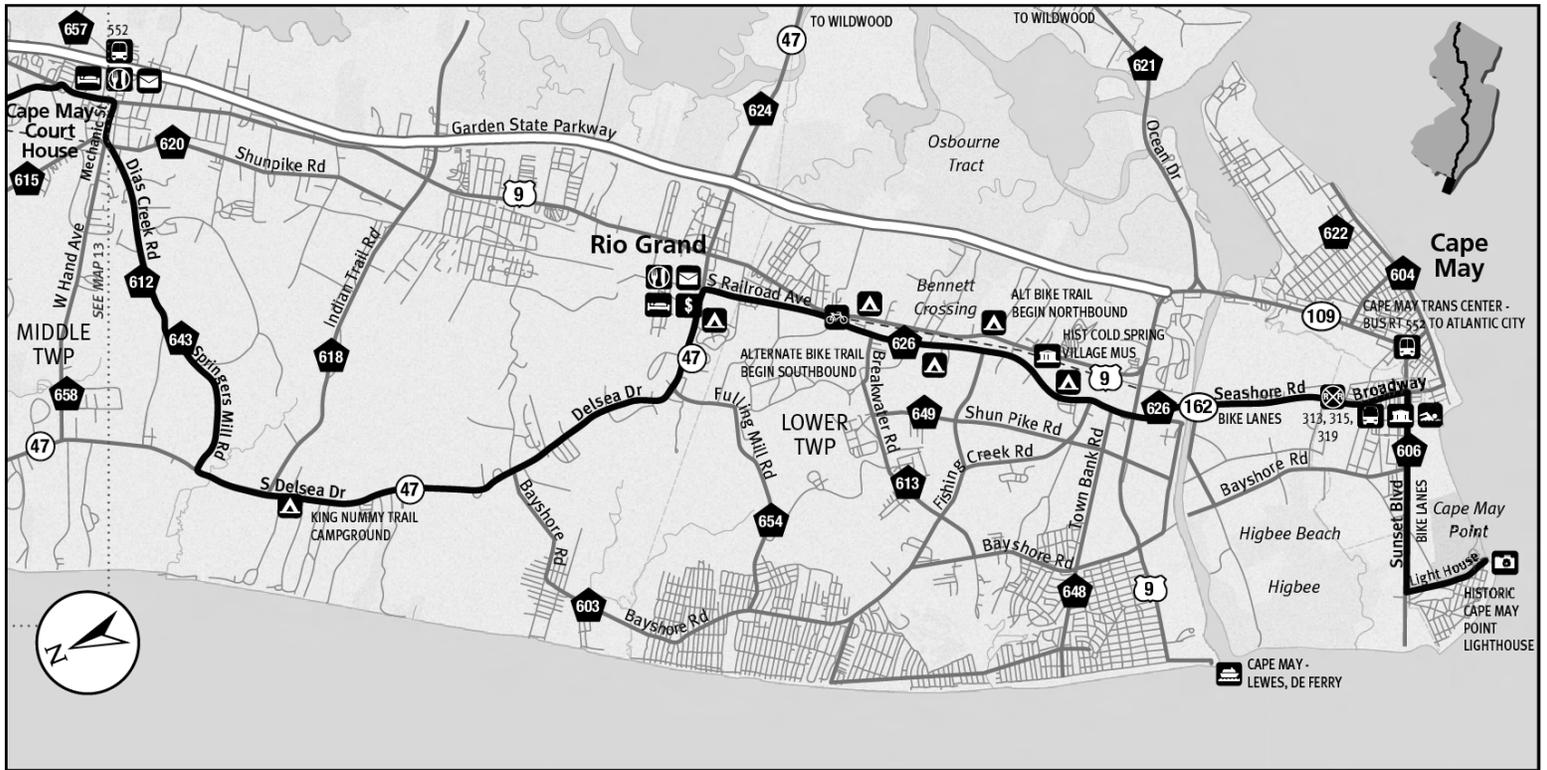


Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|-------------------------------------|--|
| 4.4 | 208.2 | L | Dehirsch Av | Woodbine, Food, Post Office, Parallel Bike Path |
| 1.4 | 209.6 | R | CR 660 (Fidler Hill Rd) | |
| 0.8 | 210.4 | L | CR 638 (Fidler Hill Rd) | |
| 2.2 | 212.6 | R | CR 610 (Petersburg Rd) | |
| 0.2 | 212.8 | L | Rt 47 | Food |
| 1.6 | 214.4 | L | CR 657 (Courthouse-S. Dennis Rd) | |
| 2.8 | 217.2 | S | CR 657 (Courthouse-S. Dennis Rd) | Caution - diagonal RR Tracks |
| 0.4 | 217.6 | S | CR 657 | Cross CR 646, Big Timber Campground |
| 1.7 | 219.3 | S | CR 657 (Dennisville Rd) | Cape May Zoo, County Park - Restrooms, Phone |
| 1.1 | 220.4 | R | Rt 9 (N. Main St) | Cape May Courthouse, Food, Lodging, Post Office, Transit Bus, Hospital, Bank/ATM. Straight on Rt 9 0.3 mi. to Historical Museum |

Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|-------------------------------------|---|
| 0.3 | 17.6 | L | Rt 9 (N. Main St) | |
| 0.4 | 18.0 | L | CR 657 (Courthouse-S. Dennis Rd) | |
| 1.1 | 19.1 | S | CR 657 (Dennisville Rd) | Cape May Zoo |
| 1.7 | 20.8 | S | CR 657 | Cross CR 646, stay on Dennisville Rd - Big Timber Campground |
| 0.4 | 21.2 | S | CR 657 | Caution - diagonal RR Tracks |
| 2.8 | 24.0 | R | Rt 47 | South Dennis Township |
| 1.6 | 25.6 | R | CR 610 (Petersburg Rd) | |
| 0.2 | 25.8 | L | CR 638 (Fidler Rd) | |
| 2.2 | 28.0 | BR | CR 660 (Fidler Hill Rd) | |
| 0.8 | 28.8 | L | Dehirsch Av | Turn before CR 550 - Parallel Bike Path |
| 1.4 | 30.2 | R | CR 557 (Woodbine Rd) | Woodbine, Food, Post Office |



Southbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|----------------------------|--|
| 0.4 | 220.8 | R | CR 615 (Mechanic St) | |
| 0.3 | 221.1 | BL | CR 612 (Dias Creek Rd) | |
| 0.1 | 221.2 | S | CR 612 (Dias Creek Rd) | |
| 1.7 | 222.9 | L | CR 643 (Springers Mill Rd) | Cross Hand Av |
| 1.5 | 224.4 | L | Rt 47 (S. Delsea Dr) | Unmarked, King Nummy Trail Campground |
| 5.2 | 229.6 | R | CR 626 (Railroad Av) | Rio Grande - Food, Lodging, Bank, Post Office |
| 1.2 | 230.8 | S | CR 626 | Beachcomber Camping, Begin alternate Bike Path on left at Sally Marshall Crossing |
| 1.6 | 232.4 | S | CR 626 | End Bike Path on left at Bennett Crossing Seashore Campsites on right |
| 0.4 | 232.8 | S | CR 626 (Broadway) | Historic Cold Spring Village Museum |
| 0.8 | 233.6 | S | CR 626 | Cross Rt 9 - Cape May, Lewes, DE Ferry to right |
| 0.1 | 233.7 | BL | CR 626 (Seashore Rd) | |
| 0.4 | 234.1 | S | CR 626 (Seashore Rd) | Cross Canal Bridge |
| 1.2 | 235.3 | S | CR 626 (Rt 162) | Caution - Railroad Crossing - Bike Lane ends |
| 0.7 | 236.0 | S | CR 626 (Broadway) | Historic West Cape May, left to Food, Lodging, Entertainment, Museums, Transit, Beach |
| 1.7 | 237.7 | R | CR 606 (Sunset Blvd) | |
| 0.7 | 238.4 | L | CR 629 (Light House Av) | Historic Cape May Point Lighthouse |

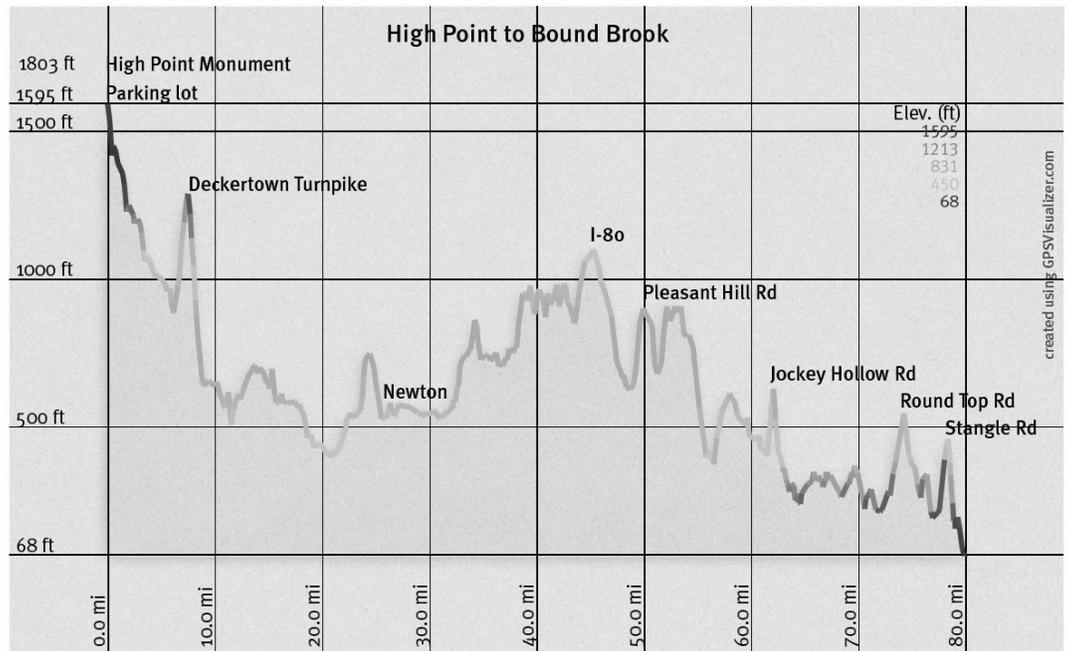
Northbound

| Leg | Total | Dir | Street Name | Notes/ Services |
|-----|-------|-----|----------------------------|---|
| 0 | 0.0 | R | CR 629 (Light House Av) | Historic Cape May Point Lighthouse, right out of parking area |
| 0.7 | 0.7 | R | CR 606 (Sunset Blvd) | |
| 1.7 | 2.4 | L | CR 626 (Broadway) | Historic West Cape May, Food, Lodging, Entertainment, Museums, Transit |
| 0.7 | 3.1 | S | CR 626 (Rt 162) | Caution - Railroad Crossing - Bike Lane starts |
| 1.2 | 4.3 | S | CR 626 (Seashore Rd) | Bridge over Canal |
| 0.5 | 4.8 | S | CR 626 (Seashore Rd) | Cross Rt 9, Cape May - Lewes, DE Ferry to left |
| 0.8 | 5.6 | S | CR 626 (Seashore Rd) | Historic Cold Spring Village Museum |
| 0.4 | 6.0 | S | CR 626 (Seashore Rd) | Begin alternate Bike Path on right at Bennett Crossing, Seashore Campsites on left |
| 1.6 | 7.6 | S | CR 626 | End Bike Path alternate at Sally Marshall Crossing |
| 1.2 | 8.8 | L | Rt 47 (Delsea Dr) | Beachcomber Camping on left |
| 5.2 | 14.0 | R | CR 643 (Springers Mill Rd) | Rio Grande - Food, Lodging, Bank, Post Office, King Nummy Trail Campground |
| 1.5 | 15.5 | R | CR 612 (Dias Creek Rd) | To Cape May Courthouse |
| 1.7 | 17.2 | S | CR 643 | Cross Hand Av |
| 0.1 | 17.3 | BR | CR 615 (Mechanic St) | Cape May Courthouse, Food, Lodging, Post Office, Transit Bus, Hospital, Bank/ATM |

Route Elevation

While the elevation of the High Point to Cape May ride goes from 1595 feet to sea level, there is little elevation change south of Bound Brook. This chart shows the northern-most 80 miles.

Chevrons on the route maps indicate the larger climbs.





High Point Monument, Sussex County



Cape May Lighthouse, Cape May County



HIGH POINT CAPE MAY BIKE ROUTE

For more information please contact:



NJDOT Bicycle and Pedestrian
Program Coordinator
1035 Parkway Avenue
P.O. Box 600
Trenton, NJ 08625

www.njdot.nj.gov

The High Point Cape May Bike Route Map was published by the New Jersey Department of Transportation with funds from the Federal Highway Administration.

The maps were prepared by The RBA Group with Steve Spindler Cartography and Bikeways Engineering.

March 2006



New Jersey Coastal Heritage Trail Route Absecon & Cape May Region Destinations

Atlantic County:

Edwin B. Forsythe National Wildlife Refuge

At this wildlife refuge, more than 40,000 acres of coastal habitat are managed for migratory birds. Almost 90 percent of it is tidal salt meadow and marsh, interspersed with shallow coves and bays. The quiet tidal waters serve as nurseries, spawning, and feeding grounds for fish and shellfish that are important to the diets of many wildlife species.

Located in one of the Atlantic Flyway's most active flight paths, it is an important link in the network of national wildlife refuges. Here, the habitat needs of the American black duck and Atlantic brant are a special concern. Both species depend heavily on New Jersey's remaining coastal habitat for their survival.

An eight-mile Wildlife Drive and two short foot trails provide excellent wildlife viewing and photo opportunities. The entrance fee helps to buy additional wetlands for wildlife refuges.

Directions: From the north, take exit 48 of the Garden State Parkway and follow US9 south. At the third traffic light, turn left onto Great Creek Rd., and follow it into the refuge. From the south, take the Atlantic City Service Area exit. Follow county road 561 (Jimmie Leeds Rd.) east to the first left fork (Great Creek Rd.), and follow it into the refuge.

Hours: This site is open daily from dawn to dusk. The headquarters building is open weekdays from 8:00am to 4:00pm. The bookstore/gift shop is open on weekends from 9:00am to 5:00pm September to November and April to June.

Telephone: (609) 652-1665.

Website: www.fws.gov/northeast

U.S. Coast Guard Station, Atlantic City

When constructed in 1941, it was the largest Coast Guard station in existence. With a crew of 44 men and women and five boats, the station handles approximately 450 calls for assistance annually from two locations, Atlantic City and Ocean City. Aid is rendered to distressed boaters as far as thirty miles offshore. Missions include search and rescue, law enforcement, and marine environmental protection.

The station grounds include a short, self-guided interpretive walk with a handout providing information about the station's history and the plant and animal struggle for survival on coastal barrier islands.

Directions: The station is located at the end of Huron Avenue. As you enter Atlantic City, follow the signs for the Trump Marina Hotel & Casino located adjacent to the intersection of US30 and state road 87 (Brigantine Boulevard.)

Hours: Open 24 hours a day; 7 days a week. Please note, there is no smoking while at this facility.

Telephone: (609) 344-6594.

Website: www.uscg.mil/d5/station/atlanticcity

Senator Frank S. Farley State Marina

The marina was originally constructed in the late 1950s as a joint effort between the State of New Jersey and the city of Atlantic City to revitalize the pleasure boat industry in the city. In the early 1980s, New Jersey's Division of Parks and Forestry initiated proposals to rehabilitate Farley as it was quickly slipping from its status as the "show place" marina of the East Coast. Budgetary constraints contributed to its further decline and eventually led to an agreement between the State and Trump Castle Associates. Three and one-half years and 30 million dollars later, Trump had demolished the old facility and constructed a new, expanded premier marina. Its 640 slips are capable of berthing boats from under 20 feet to over 300 feet.

An interpretive exhibit provides information about New Jersey's maritime history and the changing role of marinas. Historic Gardiner's Basin can be seen in the view south of the marina.

Directions: As you enter Atlantic City, follow the highway directional signs to Trump Marina Hotel and Casino (located at the intersection of US30 and Brigantine Boulevard) and Huron Avenue to reach the marina. It is located next to the U.S. Coast Guard Station, Atlantic City.

Hours: The marina office is open May 15 to June 30 from 9:00am to 5:00pm and July 1 to Labor Day from 8:00am to 8:00pm. Hours may sometimes vary.

Telephone: 1 (800) 876-4386.

Website: www.themarina@trumpmarina.com

Cape May County:

Cape May Region Welcome Center

Ocean View Service Area, Garden State Parkway

This is a full-service Welcome Center operated by the New Jersey Office of Travel and Tourism. It is fully-accessible and includes the Cape May County Chamber of Commerce with information about regional lodging and points of interest.

New Jersey Coastal Heritage Trail Route exhibits include an audio-visual orientation program and exhibits that focus on the Trail's Relaxation & Inspiration interpretive theme. Brochures about the Trail are also available.

Directions: The welcome center is located at the Ocean View Service Area of the Garden State Parkway at milepost 18.3.

Hours: The information center operates daily from 8:30am to 4:30pm. It is closed on Thanksgiving, Christmas, and New Year's Day.

Telephone: (609) 624-0918.

Website: www.state.nj.us/travel

Cape May Migratory Bird Refuge

Cape May is one of the prime birding areas on the East Coast. Due to its location and mile-long beach front, The Nature Conservancy's William D. & Jane C. Blair Jr. Cape May Migratory Bird Refuge is one of Cape May's "hot spots" for birding. During the fall migration, tens of thousands of raptors representing more than 15 species can be seen flying over the refuge. Over a million seabirds pass the refuge every autumn. In the spring, thousands of migrating shorebirds, songbirds, and waterfowl pass through this area. It also protects nesting habitat for the endangered least terns and piping plovers.

Directions: Take the Garden State Parkway south to the end where it joins county road 633 (Lafayette Street) in the City of Cape May. Turn right onto CR606 (West Perry Street.) This will turn into Sunset Blvd. Continue west on CR606 for one mile. The refuge and parking area are on the left just past Bayshore Rd.

Hours: This site is open daily from dawn to dusk.

Telephone: (609) 861-0600.

Website: www.nature.org

Cape May Point State Park

The park is a combination of an ever-changing shoreline, sand dunes, coastal freshwater marsh and ponds, wooded islands, and varied uplands. It is perhaps best known as a tranquil area where the visitor may find rest and enjoy the beauty of nature.

Cape May Point is a popular bird-watching site. It is not only a home for many species but also a feeding and resting area for birds migrating south along the Atlantic Flyway. Although both spring and fall migrations occur, the fall is the best time to observe songbirds, waterfowl, shorebirds, sea birds, and birds of prey. Join other bird-watchers on the hawk watch platform.

Cape May Lighthouse is listed on the State and National Registers of Historic Places. It has been an important navigational aid to seagoing mariners since its construction in 1859.

Picnicing, beach walking, birding, a museum, and museum shop help round out a visit to this site. Free

educational programs and guided nature walks are also available from April to November. WWII coastal defense gun emplacements, now battling the elements of erosion and the encroaching sea, can still be seen here.

Directions: Take county road 606 (Sunset Boulevard) west from Cape May, towards Cape May Point. Follow the signs, and turn south via CR629 (Lighthouse Avenue).

Hours: The park is open daily from dawn to dusk. Days and hours for the lighthouse vary, but it is generally open between President's Day weekend and Thanksgiving weekend. A voice message concerning the hours of operation is available by calling (609) 884-5404. The museum is open from 8:00am to 4:00pm daily in the winter. Summer hours vary.

Fees: Admission charge for the lighthouse, which is operated by the Mid-Atlantic Center for the Arts.

Telephone: (609) 884-2159 for the park; (609) 884-5404 for the lighthouse.

Website: www.capemaymac.org

Corson's Inlet State Park

Established in the late 1960s, Corson's Inlet State Park is one of the few undisturbed stretches of Atlantic coastline left between Atlantic City and Cape May. Enjoy the beach and coastal dune trails. Look for remnants of marine life washed up on the beach, and watch for beach nesting birds in the spring and summer: piping plovers, black skimmers, and least terns. Migrations of dolphins, ducks, geese, and monarch butterflies also pass through this area every year.

Sport fishing, boating, sun bathing, photography, hiking, and biking are seasonal activities available here. Guided beach walks occur twice each week from the late spring to early fall.

Directions: From exit 25 of the Garden State Parkway, turn east onto county road 623 (Roosevelt Blvd), and follow it into Ocean City. Then turn south onto West Avenue and follow it to 55th St. Turn south (right) onto CR619 (Ocean Highway). The main parking area for Corson's Inlet is on the left at the north end of Rush Chatten Bridge.

Hours: Open daily from dawn to dusk.

Telephone: (609) 861-2404 (Belleplain State Forest).

Website: www.njparksandforests.org

Hereford Inlet Lighthouse

This "Great Victorian" fourth-order lighthouse has guided local mariners along the Jersey Shore since its construction in 1874. This active lighthouse is the only one of its kind on the East Coast and is on the National Register of Historic Places.

The lighthouse is surrounded by cottage-style gardens with over 170 plant varieties.

Next door is the old Hereford Inlet Coast Guard Station now occupied by the NJ State Police, Marine Law Enforcement Bureau.

Directions: The lighthouse is located in North Wildwood on Central Avenue, between First and Chestnut Avenues. Southbound Garden State Parkway traffic can take state road 147 from exit 6 to North Wildwood.

Hours: The lighthouse is open daily from mid-May through mid-October, 9:00am to 5:00pm.

From mid-October to mid-May, the lighthouse is closed Mondays and Tuesdays and open from 10:00am to 4:00pm Wednesday to Sunday. There is an admission fee.

Telephone: (609) 522-4520.

Website: www.herefordlighthouse.org

Higbee Beach Wildlife Management Area

This one and one-half mile stretch of beach contains the last remnant of coastal dune forest on the bayshore. The inland dunes are more than 20-feet high in some places. A forest of holly, red cedar, and beach plum stabilizes them. Several hundred acres of wooded upland with a dense understory, a freshwater marsh, two freshwater ponds, a hardwood swamp, old farm fields, and a coastal dune forest all provide cover for migratory songbirds, raptors, and butterflies. Higbee Beach is managed specifically to provide habitat for migratory wildlife. Hike the marked dune trail, and view the surrounding landscape and wildlife from three observation platforms.

Directions: Take the state road 109 west from the exit at the south end of the Garden State Parkway to the junction with US9. Turn left onto US9 (all turns from the right lane), and proceed to the first traffic light.

Turn south (left) onto county road 162 (Seashore Rd.). Turn west (right) onto CR641 (New England Rd.). Follow CR641 for 2 miles to the end and the beach access parking area. Parking is restricted to the parking lots and may be limited during the summer. Call the number listed for parking information.

Hours: Open daily from 5:00am to 9:00pm.

Telephone: NJ Division of Fish & Wildlife (856) 785-0455.

Website: www.njfishandwildlife.com

The Wetlands Institute

Located near Stone Harbor, The Wetlands Institute is situated on 6,000 acres of coastal wetlands. The marsh, nearby upland, and barrier islands form a living laboratory where visitors can learn about this delicately-balanced ecosystem between land and sea.

The Wetlands Institute features saltwater aquariums, exhibits, an observation tower, nature trails, beautiful butterfly and bird gardens, and guided tours.

Directions: From exit 10B of the Garden State Parkway, take county road 657 east (Stone Harbor Boulevard) toward Stone Harbor. The Institute will be on your right in about 2.75 miles.

Hours: From May 15th until October 15th, the interpretive center and store are open from 9:30am to 4:30pm, Monday through Saturday, and from 10:00am to 4:00pm on Sunday. From October 16th to May 14th, they are open Tuesday through Saturday from 9:30am to 4:30pm. The trails are open daily 24 hours.

Fees: An admission fee supports the organization's efforts.

Telephone: (609) 368-1211.

Website: www.wetlandsinstitute.org

Tuckahoe Wildlife Management Area (MacNamara)

The scenic Tuckahoe River winds its way to the Great Egg Harbor River and Bay through an expanse of salt marsh and tidal creeks, that is excellent for bird watching. Six brackish water impoundments on the upland edges of the tract also provide good bird-watching opportunities. Located on the edge of the Pine Barrens, the woodlands bordering the salt marsh are a mixture of pine and oak trees. A hardwood swamp and small freshwater lake provide additional habitat for beaver, turtles, frogs, and fish.

An 8-mile loop drive provides opportunities for exploring these dynamic habitats.

Directions: From the junction of US9 and state road 50 in Seaville, take SR50 north for 4.8 miles to CR631. Turn right, and travel 0.3 miles to the entrance on the left. Turn left onto the sand and gravel road, and travel 0.5 mile to the office on the right. Stop at the office for information and maps.

Hours: Open daily from dawn to dusk. Office hours are 9:00am to 4:00pm on weekdays only.

Telephone: NJ Division of Fish & Wildlife (609) 628-2103.

Website: www.njfishandwildlife.com



Did You Know?

Did you know that the financing for The Bunker Hill Monument was a hand-to-mouth project, culminating in a bake sale in 1840, three years before the dedication? By contrast, The Dorchester Heights Monument was financed by an appropriation from the Massachusetts Legislature amounting to \$100,000.

Last Updated: July 26, 2006 at 12:17 EST

Welcome to the



Statewide
Bicycle & Pedestrian

MASTER PLAN

PHASE 2

INTRODUCTION

This CD reproduces the 48-page printed document, New Jersey Statewide Bicycle and Pedestrian Master Plan, Phase 2. This updated Plan presents a vision and an action plan for improving the bicycling and walking environment throughout the state, and reflects the many significant accomplishments and new directions in bicycle and pedestrian accommodation since the Plan was first published in 1995.

Developed by the New Jersey Department of Transportation in partnership with New Jersey's three regional Metropolitan Planning Organizations, and with contributions from many agencies, organizations and citizens throughout the state, the Plan will serve as a framework for action to achieve the VISION:



New Jersey remains committed to improving our quality of life by making bicycling and walking an important part of our comprehensive transportation system.



NJ

Statewide Bicycle & Pedestrian

MASTER PLAN

PHASE 2



Governor
James E. McGreevey



njdot.nj.gov

Commissioner
Jack Lettiere



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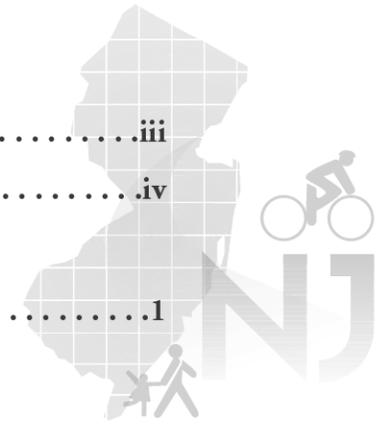
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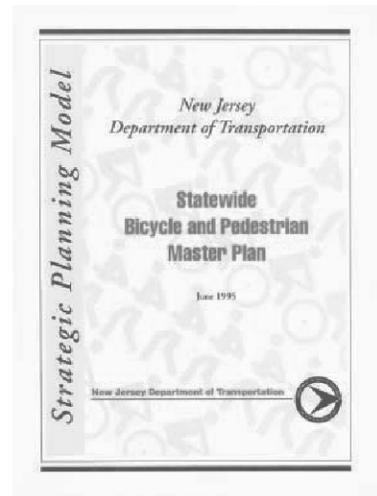
Preface

This update of the New Jersey Bicycle and Pedestrian Master Plan, Phase 2, presents a vision and action plan for improving the bicycling and walking environment throughout the state. The updated Plan restates the original goals, objectives, roles, responsibilities and recommendations of the 1995 Master Plan in today's context and in relationship to the many significant accomplishments of the last eight years towards a more bicycle and pedestrian friendly New Jersey.

This Plan serves as part of a federally-mandated planning process to include bicycle and pedestrian accommodation in long-range transportation plans. It is also intended to fulfill the policies of the New Jersey Department of Transportation (NJDOT) and the State's Metropolitan Planning Organizations (MPOs) regarding bicycle and pedestrian concerns.

The updated Plan was developed by NJDOT in partnership with New Jersey's three regional MPOs: the North Jersey Transportation Planning Authority (NJTPA), the Delaware Valley Regional Planning Commission (DVRPC), and the South Jersey Transportation Planning Organization (SJTPO). Other agencies, organizations and citizens provided input on the goals, objectives and implementation strategies throughout the planning process, in recognition that all have a role to play in creating a state where citizens and visitors can choose to bicycle and walk for transportation and recreation.

This Plan is one of a series of documents that were developed as part of the overall Phase 2 planning effort. Other Phase 2 documents include:



**Technical Memorandum
Task 1:**

- Literature Survey
- Bicycle/Pedestrian Demand and Suitability Estimation
- Modeling Selection

**Technical Memorandum
Task 2:**

- Data Inventory
- Bicycle/Pedestrian Demand and Suitability Modeling
- Calculations

**Technical Memorandum,
Tasks 3, 4, 5:**

- Analysis and Identification of Priority Bicycle Corridors
- Analysis and Identification of Priority Pedestrian Corridors
- Finalized Bicycle and Pedestrian Priorities

New Jersey remains committed to improving our quality of life by making bicycling and walking an important part of our comprehensive transportation system.

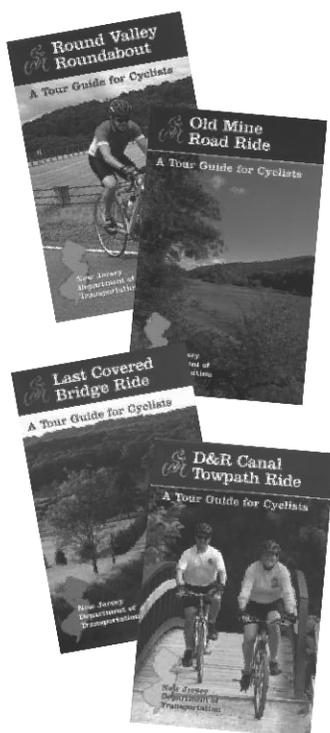
James E. McGreevey Governor, State of New Jersey
Jack Lettiere Commissioner of Transportation

Acknowledgements

The Bicycle and Pedestrian Master Plan was initiated by NJDOT and conducted in partnership with other governmental and non-profit organizations. It has been a collaborative effort receiving input and direction from New Jersey's three MPOs: North Jersey Transportation Planning Authority (NJTPA); Delaware Valley Regional Planning Commission (DVRPC) and the South Jersey Transportation Planning Organization (SJTPO). Together they formed a Project Management Team that guided and reviewed all Plan elements.

A Technical Advisory Committee met at critical intervals to provide technical assistance to the consultant team and to serve as liaison to their respective agencies. Many other organizations and individuals also contributed through the public participation elements of the planning process.

In addition, numerous individuals at NJDOT, although not on the Project Management Team, assisted with various elements of the Plan. They include the NJDOT Bureau of Systems Development and Analysis under Manager Robert Miller. In addition, NJDOT Local Aid District Managers Joseph Jagniatowski, Albert Maiocchi, Robert Werkmeister and Steven Moy and their staffs were most helpful in providing Local Aid project data for use in the Bicycle Facilities Inventory.



NJDOT Tour Guides for Cyclists



Rahway



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 Association of New Jersey Environmental Commissions (ANJEC)
 New Jersey Chapter American Planning Association
 Keep Middlesex Moving (KMM)
 New Jersey Department of Health
 New Jersey Department of Law and Public Safety



Morristown

Funding Credits

This project was financed by the NJDOT, the NJTPA, the U.S. Department of Transportation, the Federal Transit Administration and the Federal Highway Administration. NJIT is the host agency for the NJTPA.

The State of New Jersey and the U.S. government assume no liability for the contents of this plan or its use thereof.



Introduction

The original Statewide Bicycle and Pedestrian Master Plan prepared by The New Jersey Department of Transportation and published in 1995 is a comprehensive policy plan that addresses a wide variety of bicycle and pedestrian issues. The Plan presents a vision of New Jersey as a place where people can choose to safely and conveniently bicycle and walk as alternatives to automotive use. However, problematic conditions and unaddressed needs effectively prevent a bicycle and pedestrian friendly environment; the Plan lays out the issues and recommends a wide range of actions that can be taken to move closer to the ideal expressed in the vision, with significant increases in bicycle and pedestrian modes for transportation and recreation. These recommendations, along with the roles and responsibilities of government, nonprofit organizations and citizens, encompass the 4 “Es”: Engineering, Education, Enforcement and Encouragement. The Plan also suggests the wide range of benefits that would accrue if the vision were achieved, from society-wide benefits such as the reduction of traffic congestion, to personal benefits from increased choices of transportation modes.

The Plan was intended to serve - and has served - as a framework for action for achieving the vision. In the eight years since the publication, the Plan has been used by the Department of Transportation (NJDOT), along with other organizations responsible for the transportation infrastructure, as the blueprint for developing and implementing measures that improve conditions for bicycling and walking, and for supporting and encouraging the efforts of others to do likewise. Since the publication of the Master Plan, the Department has updated its policies to strongly state that bicycling and walking are “important and necessary elements of comprehensive solutions to transportation problems and needs.” NJDOT continues as a leader in planning and implementing bicycle and pedestrian improvements.



Newark



Newark

Interest in addressing bicycle and pedestrian needs has continued unabated. In fact, it has increased dramatically. The many accomplishments and initiatives that have been implemented since the publication of the original Plan have resulted in an encouraging climate for future bicycle and pedestrian investment in New Jersey. Available funding programs are consistently and significantly oversubscribed. Many counties and municipalities have developed bicycle and pedestrian plans, are building new facilities and are making improvements to the transportation infrastructure. Over the past few years it became evident that, as a result of increased interest in developing bicycle and pedestrian accommodations,

new implementation strategies are needed. These strategies should prioritize and target resources for appropriate bicycle and pedestrian improvements to achieve the greatest results and benefits. The New Jersey Statewide Bicycle/Pedestrian Master Plan Phase 2 addresses that need.

The primary goal of the New Jersey Statewide Bicycle and Pedestrian Master Plan Phase 2 is to provide clear guidance on the most efficient and effective use of federal, state and local resources to implement bicycle and pedestrian initiatives. To achieve this, preparation of the Phase 2 Plan included the development of analytical tools that can be used by Department of Transportation, Metropolitan Planning Organizations (MPOs), and county and municipal government to guide improvements for bicycles and pedestrians. These tools are described in the companion Technical Memoranda that were developed as part of the Phase 2 Plan.

In addition, Phase 2 of the Master Plan included the development of this update to the 1995 Plan, revisiting the vision, goals and objectives and recasting the Plan to reflect past accomplishments and new directions in bicycle and pedestrian accommodation. This updated Plan also references the new analytical tools for resource allocation.

The Phase 2 Master Plan builds on the original by taking into account:

- The activities and successes that have occurred since the publication of the 1995 Plan,
- The changing context for bicycle and pedestrian planning that has evolved since the publication of the 1995 Plan,
- The vastly increased significance of pedestrian concerns that has occurred since the publication of the 1995 Plan, and
- The work done in connection with the Statewide Bicycle and Pedestrian Master Plan Phase 2.

Overall, the vision, goals, objectives, and recommendations of the original Plan remain as valid today as in 1995. The updated Plan incorporates many of the issues, ideas and recommendations of the original, as well as adding new elements and recommendations pertinent to New Jersey today. The Phase 2 Master Plan will continue to guide the decisions of the organizations responsible for our transportation infrastructure, and to support New Jersey's momentum towards a bicycle and pedestrian friendly environment.

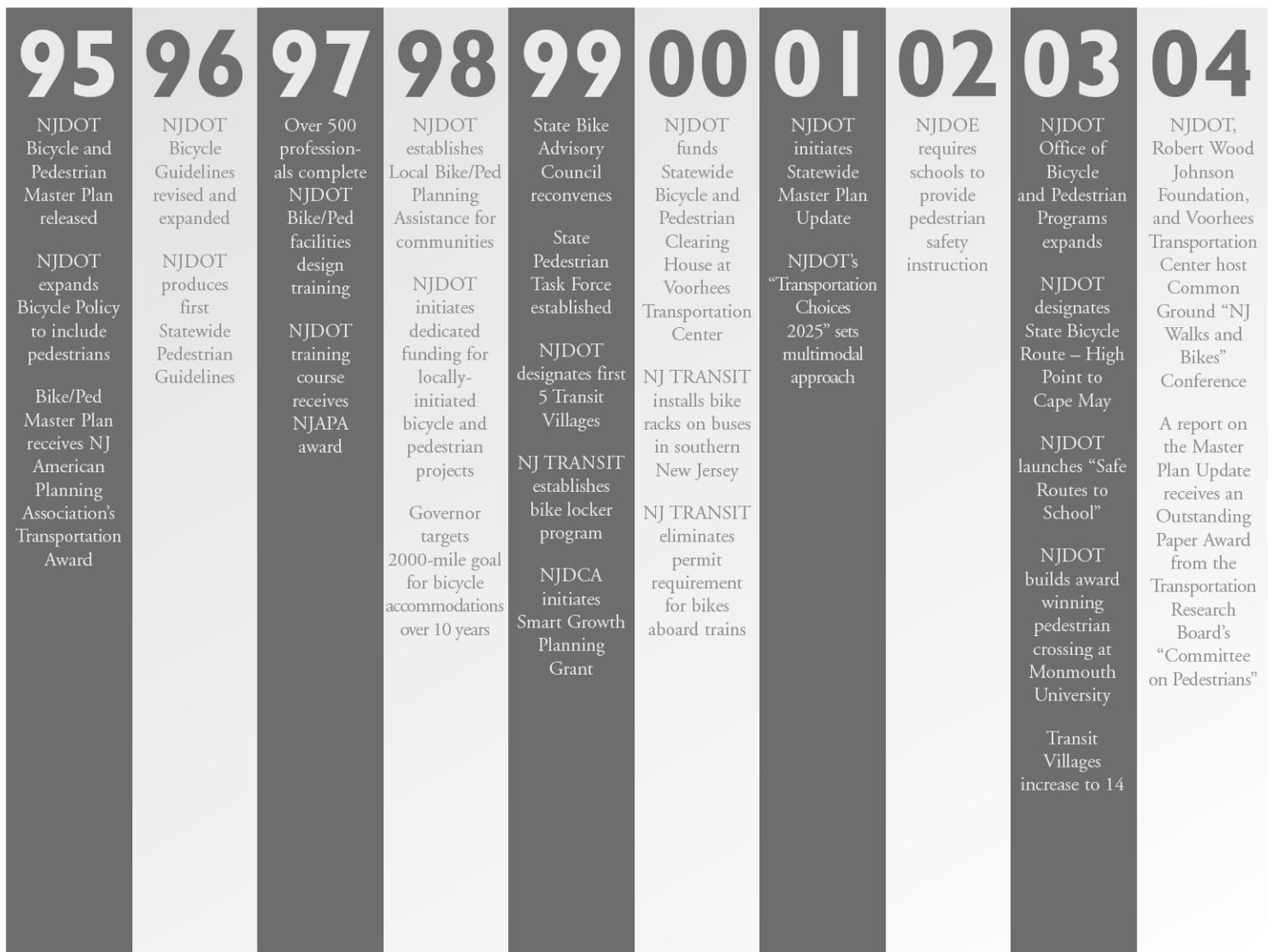


Lambertville

Milestones and Successes

As the timeline below illustrates, the level of interest and activity in bicycle and pedestrian issues has grown significantly since the publication of the original Master Plan in 1995. These accomplishments and initiatives have resulted in an encouraging climate for future bicycle and pedestrian investment in New Jersey.

NJDOT and the MPOs are proactively funding and supporting bicycle and pedestrian plans and building facilities into the transportation infrastructure. The result is that bicycling and walking are elevated in importance as part of the solution for transportation, health and quality of life issues.



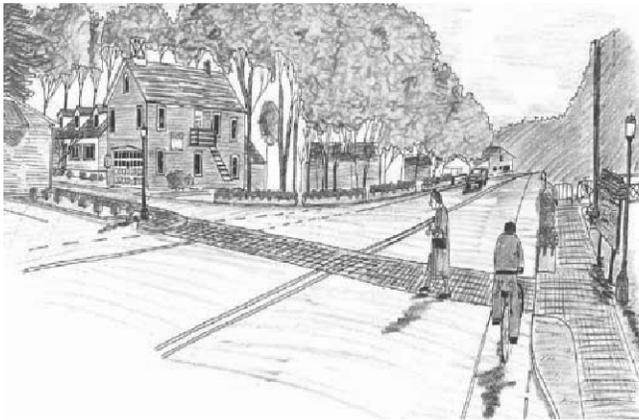
Envisioning New Jersey

The vision statement paints a portrait of New Jersey in the ideal future. It describes the desired outcome from implementing the full range of bicycle and pedestrian recommendations and improvements in each and every community.

This vision of New Jersey reflects recent trends in programs designed to improve our quality of life, elevating the importance of bicycle and pedestrian modes. Planning initiatives such as Livable Communities, Sustainable Transportation and Safe Routes to School, and the focus on bicycling and walking as elements of active living and healthy life styles, generate wider support for implementing bicycle and pedestrian improvements. These trends also indicate a growing awareness of the unintended consequences of a transportation infrastructure that emphasizes the use of motor vehicles at the expense of other modes, diminishing the quality of life in our communities. This vision for New Jersey expresses both the conditions and the benefits of greater choice in transportation modes.



New Jersey is a state where people choose to walk and bicycle.



Blairstown

Residents and visitors are able to conveniently walk and bicycle with confidence and a sense of security in every community.



Newark

Both activities are a routine part of the transportation and recreation systems and support active, healthy life styles.



Glen Rock



Key Action Plan Recommendations

The following are key recommendations for actions to achieve the Plan's vision and goals. They include many recommendations from the original 1995 Plan and new recommendations that emerged as part of the public participation and interagency collaboration process for the Master Plan Update. Agencies with lead responsibility are noted in parentheses.

Planning & Facility Implementation

Taking the following actions will result in coordinated planning and a transportation infrastructure that supports bicycling and walking:

- Regularly update statewide and regional bicycle and pedestrian plans (NJDOT, MPOs).
- Develop local bicycle and pedestrian plans (counties, municipalities).
- Develop bicycle and pedestrian improvements as independent projects and as integral features of other transportation projects (NJDOT, NJ TRANSIT, counties, municipalities).
- Continue and expand funding and technical assistance for bike/ped planning and implementation (NJDOT).
- Expand programs that support or embody bike/ped modes and quality of life concerns – Safe Routes to School, Context Sensitive Design, Transit Villages, Smart Growth, New Jersey Main Streets, Greenways and Trails (NJDOT, NJ TRANSIT, Departments of Community Affairs, Environmental Protection, Health & Senior Services, Education, Law & Public Safety and others).
- Establish strategies for using utility, transit and other linear corridors for bicycle and pedestrian facilities (NJDOT).
- Adopt state-of-the-practice design standards for bike/ped and traffic calming facilities (NJDOT).
- Revise the Municipal Land Use Law to require circulation elements with bike/ped sections (NJ Legislature).
- Reassess and revise municipal site plan standards to address bike/ped needs (DCA, municipalities).
- Include bicycle and pedestrian considerations in development codes, including parking requirements for bicycles (municipalities).
- Establish policies, procedures and incentives to incorporate bike/ped improvements into state, county and local maintenance and resurfacing programs (NJDOT, counties, municipalities).
- Review and update NJDOT's Procedures Manual for consistency with bike/ped policy (NJDOT).
- Implement internal project review processes to ensure that bike/ped needs are addressed in all projects (NJDOT, MPOs, counties, municipalities).
- Establish policies to include walkways and bikeways in bridge construction and rehabilitation projects (NJDOT, MPOs, Authorities and Commissions).



The Key Action Plan Recommendations are presented in three general categories, which are in the order of priority assigned by the public who participated in an informal voting exercise at three public meetings. The recommendations within each category, however, are not presented in priority order as they cover a broad range of activities that are to be conducted by many different organizations.

Education & Encouragement

Taking the following actions will help to educate the public, to encourage more consistent enforcement of regulations that contribute to a safe bicycling and walking environment and to create a pro-bicycling and walking ethic:

- Initiate a media campaign emphasizing bike/ped benefits as central to quality of life concerns (NJDOT, DCA, Departments of Education and Health).
- Regularly conduct media campaigns to educate the public about bicycle, pedestrian and motorist rights and mutual responsibilities within public rights of way (NJDOT, NJDL&PS).
- Maintain a comprehensive web resource for bike/ped planning and implementation in New Jersey (NJDOT).

Data Collection, Tracking & Analysis

Acting on the following recommendations will improve the collection of data that supports and guides decisions to improve bicycle and walking facilities, as well as providing a means of measuring progress:

- Set and track bicycling and walking usage goals in the State; assign tracking responsibility (NJDOT).
- Choose and track performance measures for achievement of goals and objectives of the Master Plan Update. (NJDOT).
- Routinely track bike/ped injuries and fatalities as a guide for implementing improvements (NJDOT with other agencies)
- Commit to addressing the priority locations identified through the Master Plan Update, adjusting focus as needed (NJDOT, MPOs, counties, municipalities).
- Refine new analysis techniques developed for the Master Plan Update and routinely reassess priorities (NJDOT, MPOs).
- Expand the bicycle compatibility analysis to include all collector and arterial roads in New Jersey (NJDOT, MPOs, counties, municipalities).
- Routinely update the bicycle facility inventory (NJDOT with counties, municipalities).
- Inventory pedestrian facilities and sidewalks; add data to maps routinely used by NJDOT and others planning improvements in the state. (NJDOT, counties, municipalities).



Current Conditions and Needs

Existing conditions and needs continue to form the basis for the Master Plan's vision statement, goals and recommendations. They reflect the concerns of citizens from the public and private sectors who represent both users and providers of New Jersey's transportation system.

The outreach effort and discussions with the Technical Advisory Committee carried out as part of the Statewide Bicycle and Pedestrian Master Plan Phase 2 confirm that the many of needs and conditions identified in the 1995 Plan continue to exist. They are the needs for:

- Leadership from the state,
- Coordinated planning efforts at the state level,
- Better integration of bicycle/pedestrian concerns in the transportation planning and design process,
- Adequate funding, and
- Public education on bicycle and pedestrian rights and responsibilities for everyone (drivers, bicyclists, pedestrians, transportation professionals).



The following four areas of concern continue to represent the most critical bicycle and pedestrian issues for New Jersey, based on the input from planning participants and the public.

Facilities

Facilities issues reflect concerns that are related to mobility and access. Pedestrians and cyclists need safe, convenient, efficient, compact, accessible and inviting facilities and environments for walking and bicycling. Pedestrian and bicycle trips for transportation purposes require support facilities and amenities, as well as well-planned routes and linkages between origins and destinations. Increasing numbers of people are also walking and bicycling for recreational and fitness purposes. Facilities that support these purposes, such as trails, greenways, open space and off-route amenities, are also needed.

Specific facility-related needs identified by outreach participants include:

- Better accommodations for non-motorized users on existing and planned roadways: wider lanes, paved shoulders, safe storm grates, bike lanes, bridge access, bicycle sensitive loop detectors.
- Sidewalks without gaps and adequately wide pedestrian-activated traffic signals, adequate timing for slower pedestrians and marked crosswalks.
- Separate facilities and rights-of-way for bicyclists and pedestrians such as rail-trails or connector paths.

- Facilities to separate pedestrians from motor vehicle traffic that assure parity between users and separation of incompatible uses.
- Generally applicable design standards for bicycle and pedestrian facilities and accommodations.
- Facilities at destinations including employment centers and public buildings: bicycle racks and lockers, showers, restrooms, benches and shelters.
- Reduction of automobile impacts through traffic calming and other speed reduction techniques and parking restrictions.
- Encouragement of social interaction through pedestrian friendly design and interesting streetscapes.
- Independent mobility for children.



Blairstown



Newark

Community Design

Community Design issues reflect concerns that are primarily related to land use and linkages. Bicycle and pedestrian trips for transportation purposes are characterized by shorter trip distances and direct routes or linkages between origins and destinations.

Land use patterns have a critical impact on bicycle and pedestrian circulation. Current development trends in New Jersey, such as suburban sprawl and decentralization, result in inconvenient linkages between residential areas and shopping and employment centers and create disincentives for bicycling and walking.

Opportunities to provide accessible, safe, convenient and inviting environments for walking and bicycling should include adoption of effective land use planning and design standards.

The New Jersey State Development and Redevelopment Plan (SDRP), Smart Growth, and Transit Village initiatives promote such practices.

Specific community-related needs identified by outreach participants include:

- Land use design standards that facilitate bicycling and walking.
- Linkages (delineated by appropriate rights-of-way and infrastructure) connecting origins and destinations - transit, commercial, schools and work places - and providing “short-cuts” for non-motorized mobility.
- Better access and the integration of bicyclists, pedestrians and mobility-disadvantaged with transit.
- Continuous and accessible trail systems, grade-separated where needed; preservation and utilization of railroad corridors where available.



D & R Canal Tow Path

Current Conditions and Needs



Newark

Acceptance/Legitimacy

Acceptance/Legitimacy issues relate specifically to the public's perception and/or image of bicycling and walking. Typically, bicycle and pedestrian modes have not been viewed as legitimate means of transportation and have not been adequately recognized by either the public, including drivers of motor vehicles, or local, state and regional officials. Bicyclists and pedestrians need supportive government and policies that provide for routine inclusion of bicycling and walking in planning, design, budgeting and funding efforts for state and local projects and programs. Both recreational and transportation needs should be recognized and integrated into existing systems.



Hoboken (source: NJTPA)

Specific needs identified by outreach participants include the following:

- Pro-active roles for state and local government and the development of community consensus to create more favorable conditions for bicyclists and pedestrians.
- Resolution of perceived liability issues, arising from attempts to accommodate bicyclists and pedestrians, including possible legislative measures.
- State and regional initiatives, including a statewide plan and policies that mandate accommodation of bicyclists and pedestrians in transportation planning; bicycle/ pedestrian program staffing at all levels of government; and recognition of local efforts.
- Intergovernmental cooperation and planning to assure contiguous and continuous bicycle routes and connected sidewalks.
- Zoning that encourages appropriate density of development and mixed use, in combination with the preservation of open space.
- Model ordinances that encourage bicycling and walking by providing adequate facilities and that require access to adjacent development.
- Incorporation of bicycle and pedestrian accommodations into a circulation element as part of community master-planning efforts.
- Adequate funding and standards for maintenance of bicycle and pedestrian facilities.
- Roadway maintenance, especially of edges, shoulders, bike lane and sidewalks.
- Greater awareness of the legitimacy and importance of pedestrians and bicyclists by transportation agencies and the public.



Confidence/Security

Confidence/Security issues relate to training and education of bicyclists, pedestrians and motorists, and to the enforcement of existing laws and regulations. Different types of uses need different kinds of facilities, training and programs to bicycle and walk safely, efficiently and with confidence. Needs vary for each user type. For example, children, older adults, recreational bicyclists and walkers, commuters, etc., each have different skill levels, experience, and perceptions of risks. An understanding of these varying types of users and their needs is necessary to provide resources, programs, and facilities to accommodate everyone.

Bicycle and pedestrian accidents and injuries, hazardous traffic conditions, lack of enforcement of traffic laws, poor maintenance of walkways and bicycle routes, insufficient lighting and security along facilities and lack of bicycle/pedestrian training programs have been cited as problems that contribute to confidence- and security-related needs.

Needs relating to confidence and security include the following:

- Educational programs for motorists, bicyclists and pedestrians, targeted to both adults and to children.
- Education of government officials, planning and engineering professionals, planning boards, school boards, educators and police.
- Inclusion of more information and questions about bicyclists and pedestrians in driver's education and testing.
- Increased enforcement of traffic laws to regulate bicyclists, pedestrians and motorists, and to increase the legitimacy of non-motorized traffic.
- Information: useful, visible signage; safety brochures; media campaigns; public education; maps; rules of the road.
- Safety from crime and traffic conflicts.
- Lighting of facilities for safety.



Goals, Objectives & Performance Measures



Goal statements define what needs to be achieved in order to reach the Vision. Objectives specify accomplishments needed to achieve each goal. The accomplishments that have been achieved since the publication of the 1995 Plan show progress towards the goals; however, the Goals of the 1995 Plan have yet to be fully realized. In large measure, and with a few relatively minor modifications, the Goals and Objectives remain valid today.

Measuring success toward the achievement of a goal is necessary to establish program priorities and allocate resources. Performance can be measured in terms of quantity, quality, timeliness and cost. Critical success factors are necessary or desirable conditions for achieving the performance measures.

The following five Goals are presented with related Objectives, Performance Measures and Critical Success Factors:



Princeton



Convent Station



Hoboken (source: NJDOT)



Newark

Goal 1 – Build the Infrastructure

Create a bicycle and pedestrian infrastructure by planning, designing, constructing and managing transportation and recreation facilities that will accommodate and encourage use by bicyclists and pedestrians and be responsive to their needs.

Objectives:

- Design all roadway improvements under the assumption that they will be used by bicyclists and pedestrians.
- Develop or revise policy statements to recognize the importance of bicycling and walking and the need to integrate these modes into the transportation and recreation systems.
- Establish capital program funding for improvements to existing facilities and to implement new facilities.
- Support and sustain the existing planning and scoping procedure that ensures full consideration of bicycling and walking modes for all projects in the planning and project development process.
- Develop bicycle and pedestrian plans to ensure integrated and continuous networks of accessible facilities and to maximize bicycle and pedestrian mobility within the transportation system.
- Involve the bicycling and walking community at the earliest stages of planning and implementation of improvements to transportation and recreation facilities to ensure full consideration of the needs of bicyclists and pedestrians.
- Adopt standard guidelines developed by NJDOT to ensure consistent application of design throughout the state.
- Design and manage bicycle and pedestrian facilities to maximize personal security of the users.
- Adopt maintenance and management procedures to ensure continuous and efficient use by bicyclists and pedestrians.
- Train key design and transportation professionals in the proper application of planning and design guidelines and standards.
- Develop bicycle and pedestrian plans at the county and municipal level.



Proposed Performance Measures:

- *Percent of transportation improvement projects that have been reviewed for consideration of bicycle and pedestrian facilities.*
- *Percent of highways that are bicycle and pedestrian compatible as defined in NJDOT Roadway Design Manual (pending adoption).*
- *Percent of or total amounts of capital and/or resources devoted to managing the accommodations of bicycling and walking.*
- *Percent of built projects that have incorporated appropriate pedestrian and bicycle accommodations.*

Critical Success Factors:

- *Presence of a supportive policy and a procedure for the consideration of bicycling and walking in all transportation improvement projects.*
- *Presence of staff or assignment of accountability to manage review procedure.*
- *Presence of standard guidelines for bicycle and pedestrian facilities.*
- *Presence of a plan to encourage bicycling and walking.*

Goals, Objectives & Performance Measures

2 Goal 2 – Improve Access

Make community destinations, transit facilities and recreation facilities accessible and convenient for use by all types and skill levels of bicyclists and pedestrians.

Objectives:

- Provide a support system of ancillary facilities and information such as bicycle parking, changing rooms and showers, maps, etc., that will serve the needs of bicyclists and pedestrians at destinations.
- Integrate bicycle and pedestrian facility planning, design and maintenance skills into the training and education of all practicing transportation and design professionals.
- Promote “traffic calming” on appropriate roads to reduce traffic speeds and increase the use of streets by bicyclists and pedestrians.
- Enhance opportunities for land use linkages that increase the efficiency of the transportation system.
- Develop a planning process and implement a program of identifying and designating facilities to encourage use by bicyclists and pedestrians.

Proposed Performance Measures:

- *Percent of transit and recreation facilities that have bicycle parking and/or are bicycle and pedestrian accessible.*
- *Percent of government buildings that have secure bicycle parking available.*
- *Total number or linear miles of designated bicycle/pedestrian facilities.*

Critical Success Factors:

- *Presence of local plans that include development of bicycle and pedestrian facilities that link trip attractors and walking.*
- *Presence of guidelines for planning and designing bicycle and pedestrian accessible facilities.*
- *Presence of review procedures for considering bicycling and walking in site plans and land use planning.*



New Brunswick



Monmouth University

3 Goal 3 – Update Policies, Ordinances and Procedures

Reform land use planning policies, ordinances and procedures to maximize opportunities for walking and bicycling.

Note: Although fulfillment of this Goal requires major action by parties outside the transportation agencies, it remains an essential requirement for the achievement of the Vision.

Objectives:

- Adopt policies and ordinances that promote mixed-use development at densities that allow and encourage bicycling and walking as the preferred choice of transportation mode to destinations or to transit facilities.
- Adopt and/or amend site review procedures and design guidelines to assure convenient pedestrian and bicyclist access to public and private buildings.
- Promote the adoption of programs, including parking strategies, that encourage and support bicycling and walking as commute options.
- Develop policies for use of state-owned abandoned rail corridors as trails or interim trails.

New Brunswick



Hudson Bergen Light Rail (source: NJTPA)



Proposed Performance Measures:

- *Percent of site plans that are reviewed for bicycle and pedestrian accessibility.*
- *Percent of major destinations that are bicycle and pedestrian accessible.*

Critical Success Factors:

- *Presence of a supportive policy for bicycling and walking in the community.*
- *Presence of ordinances that promote mixed-use development at densities that will result in shorter trips and encourage bicycling and walking.*



D & R Canal Tow Path

Goals, Objectives & Performance Measures

Goal 4 – Educate and Enforce

Develop and implement education and enforcement programs that will result in reduction of crashes and a greater sense of security and confidence for bicyclists and pedestrians.

Proposed Performance Measures:

- *Percent of students receiving bicycle and/or pedestrian skill training or education.*
- *Safety program expenditures devoted to bicycle and pedestrian safety education and awareness.*
- *Percent of law enforcement officials that have received bicycle and pedestrian safety education and enforcement training.*
- *Number of jurisdictions with police on bikes programs.*

Critical Success Factors:

- *Access to bicycle and pedestrian education programs.*
- *Presence of training programs for law enforcement officials and safety program managers.*
- *Staff assigned for implementing safety education and training activities.*

Objectives:

- Conduct walking and bicycling skill training for children as part of the school curriculum.
- Develop and conduct continuing public information and awareness campaigns targeted towards all roadway users, with the intent of modifying behavior and attitudes to create acceptance and tolerance of shared use of public rights of way by all modes.
- Provide training for law enforcement officials in the conduct of safety education and enforcement programs for bicyclists and pedestrians.
- Provide education programs to companies promoting walking and bicycling to work.
- Promote and provide support for “Police on Bikes” programs.
- Educate planning and enforcement officials in the importance of traffic calming as a safety countermeasure.
- Educate planning and enforcement officials about bicycling and walking issues and concerns.

Seaside Heights



Leonia



Maplewood

5 Goal 5 – Foster a Pro-Bicycling and Walking Ethic

Increase bicycling and walking by fostering a pro-bicycling and pro-walking ethic in individuals, private sector organizations and all levels of government.

Objectives:

- Establish local citizens' advisory groups to advocate policies, programs and facility improvements that will enhance and promote bicycle and walking.
- Develop and implement voluntary Employee Commute Options programs that encourage and support bicycling and walking.
- Develop a means of ensuring public participation in the development and implementation of plans and policies that impact pedestrians and bicyclists.
- Depict bicycling and walking as everyday activities in all state publications, public activities and media campaigns related to transportation and recreation issues.
- Develop and conduct public awareness campaigns promoting bicycling and walking and emphasizing the virtues of bicycling and walking as a means of solving community problems, improving personal health and wellness and enhancing the quality of life.



Proposed Performance Measures:

- *Number of bicycle and pedestrian groups or citizen advisory bodies that advocate bicycling and walking.*
- *Level of funding spent on media or advertising that promotes bicycling and walking.*

Critical Success Factors:

- *Presence of a supportive policy for bicycling and walking in the community.*
- *Presence of an active advocacy organization.*
- *Available funding to be spent on media or advertising which promotes bicycling and walking.*



Bull's Island State Park



Dover

Implementing the Plan

Implementing the Plan involves the identification of strategies and the assignment of responsibilities for implementing them. Implementation strategies are programs and actions that are necessary to generate change to accomplish objectives, achieve goals and fulfill the vision. They relate to programmatic, funding, staffing, policy, legislative and procedural issues that will effect change. A wide variety of participants (state agencies, counties, municipalities, developers, individuals, etc.) need to be involved in implementing these strategies.

Roles and Responsibilities

Creating a supportive environment for bicycling and walking in New Jersey cannot be accomplished by NJDOT alone. A comprehensive effort on the part of all levels of government, private sector organizations and individuals continues to be necessary to create conditions that fully support walking and bicycling. The level of participation and/or level of effort required for each agency vary. Some are principal or primary participants who provide facilities and resources directly. Others have supporting roles and are involved and cooperate through more indirect participation. Effective implementation of the Master Plan requires participation by both principal and supporting entities.

The following matrix lists agencies and organizations that are recommended as principal and supporting participants for implementation of the plan and suggests roles and responsibilities for each. Roles and responsibilities generally relate to the management and provision of facilities, funding, implementation of programs/policy and technical planning, design and engineering expertise. Specific implementation strategies and recommended actions are also presented in sections that follow. As shown in the matrix, principal participants include the New Jersey Department of Transportation, New Jersey Transit, regional and local government agencies and the authorities and commissions responsible for transportation facilities throughout the state. Generally, these entities provide and manage transportation facilities or play significant roles in determining how resources are allocated.

The type of involvement and participation of these organizations is determined by jurisdictional and location-related factors. For example, it is within the jurisdiction of NJDOT to construct, manage, maintain and operate bicycle and pedestrian facilities on state highways, either as independent projects or as incidental features of roadway and bridge improvement projects.

Since the majority of roadways (and many recreational trails) in New Jersey are under local or county jurisdictions, NJDOT is limited in its authority to implement bicycle and pedestrian improvements. However, NJDOT's state-wide perspective, technical resources, funding authority and programs provide the Department with the ability to provide leadership and assistance to others. County and local road departments, parking authorities, parks and recreation commissions, maintenance departments, planners, engineers, enforcement officers and others are guided by the policies, programs and procedures of NJDOT.



New Jersey Statewide Bicycle and Pedestrian Plan

Recommended Roles and Responsibilities for Implementation of Bicycle/Pedestrian Programs and Facilities

| | Operations and Maintenance | Construction | Planning | Funding | Regulatory/Legislative | Land Use/ Policy | Design/ Engineering | Leadership | Advisory | Enforcement/Safety | Education/Training | Promotion/Advocacy |
|--|----------------------------|--------------|----------|---------|------------------------|------------------|---------------------|------------|----------|--------------------|--------------------|--------------------|
| PRINCIPAL PARTICIPANTS | | | | | | | | | | | | |
| NJ Dept. of Transportation | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| NJ TRANSIT | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| MPOs | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Counties | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Authorities & Commissions | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Municipalities | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| SUPPORTING ENTITIES | | | | | | | | | | | | |
| Governor & Legislature | | | | ● | ● | ● | | ● | ● | | | |
| NJ Dept. Law & Public Safety | | | | ● | ● | | | ● | ● | ● | | ● |
| NJ Dept. Community Affairs | | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● |
| NJ Commerce & Economic Growth Commission | | | ● | ● | | ● | | ● | ● | | | |
| NJ Dept. Environ. Protection | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● |
| NJ Dept. of Health | | | ● | ● | ● | | | ● | ● | | ● | ● |
| NJ Dept. Education | | | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| Transportation Mgmt. Associations | ● | ● | ● | ● | | | | ● | ● | | ● | ● |
| Professional Organizations | | | ● | ● | | | ● | ● | ● | | ● | |
| Special Interest Groups | | | | | | | | | ● | | | ● |
| Employers | ● | ● | ● | ● | | | | | ● | | ● | ● |
| Builders/Developers | ● | ● | ● | ● | | | ● | | ● | | | ● |
| Private Business | ● | ● | ● | ● | | | | | ● | | | ● |
| Individuals | | | ● | ● | | | | ● | ● | | | ● |



Morristown



Bedminster





Implementing the Plan

Similarly, for program-related issues, NJDOT is limited in its authority to administer safety, educational, enforcement, recreational and promotional bicycle and pedestrian projects. NJDOT provides guidance to the appropriate agencies responsible for such activities. Other state agencies such as the New Jersey Department of Law and Public Safety, New Jersey Department of Community Affairs, New Jersey Department of Environmental Protection and others listed in the matrix would, in turn, advise others at county and local levels and serve in supporting roles.

The major roles and responsibilities are as follows:

Primary Participants and Providers of Facilities

New Jersey Department of Transportation

Provide leadership for all levels of government in bicycle and pedestrian planning, design, technical assistance and funding.

Coordinate efforts of other state agencies.

Manage bicycle and pedestrian facility programs for state highways.

Administer state and federal funding for bicycle and pedestrian projects, on all roadways regardless of jurisdiction.

Provide technical expertise and training to regional, county and local governments.

Coordinate the involvement of the bicycle and pedestrian community representatives in the fulfillment of the Goals and Objectives of this plan.

NJ TRANSIT

Develop plans for transit station areas that emphasize and support bicycling and walking.

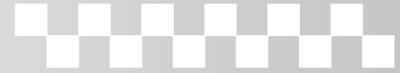
Administer programs for bicycle carriage programs on trains and buses.

Provide secure bicycle parking facilities at station areas.

Encourage municipalities and developers to construct pedestrian and bicycle linkages to transit facilities.

Promote walking and bicycling as access modes to transit.





Metropolitan Planning Organizations

North Jersey Transportation Planning Authority (NJTPA),
Delaware Valley Regional Planning Commission (DVRPC),
South Jersey Transportation Planning Organization (SJTPO).

Develop regional long-range bicycle and pedestrian plans and incorporate bicycling and walking considerations into regional long-range transportation plans.

Provide supportive task- and technical-studies funding to sub-regions for bicycle and pedestrian plans and studies.

Incorporate bicycling and walking projects in Transportation Improvement Programs (TIP).

Encourage counties to develop bicycle/pedestrian plans.

Develop TIP project selection criteria that include bicycle and pedestrian projects.

Provide local scoping/local-lead funding for bicycle and pedestrian projects.

Counties

Adopt/amend comprehensive plans that address walking and bicycling issues.

Prepare bicycle/pedestrian plans and suitability maps.

Accommodate bicyclists and pedestrians in all county roadway projects, and initiate independent bicycle and pedestrian projects.

Authorities and Commissions

NJ Turnpike Authority,
NJ Highway Authority,
NJ Expressway Authority,
Port Authorities,
Bridge Commissions,
Palisades Interstate Park Commission,
Hackensack Meadowlands Development Commission,
Pinelands Commission and others.

Accommodate bicyclists and pedestrians on major bridge facilities.

Adopt/amend plans and programs to facilitate walking and bicycling.

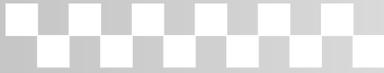
Support/develop projects that facilitate bicycle and pedestrian access across major toll roads and rivers.

Municipalities

Develop local programs to address walking and bicycling.

Initiate independent bicycle projects.





Implementing the Plan

Municipalities (cont.)

Adopt bicycle and pedestrian friendly land use regulations, including bicycle parking requirements.

Prepare and implement bicycle and pedestrian circulation elements.

Adopt/amend comprehensive plans to address walking and bicycling issues.

Incorporate bicycle and pedestrian considerations in all public, school, recreation and transportation facilities.

Support/implement walk and bike to school programs.

Support local enforcement to improve safety for bicyclists and pedestrians.

Implement “police on bikes” program.

Other Responsible Supporting Entities

The Governor’s Office and Legislature of the State of New Jersey

Provide leadership, vision and policy for implementation of the bicycle and pedestrian plan.

New Jersey Department of Law and Public Safety

Promote and undertake bicycle and pedestrian safety and enforcement programs.

Administer Federal highway safety funds.

New Jersey Department of Community Affairs Office of Smart Growth

Incorporate bicycle and pedestrian guidelines in model site plan and subdivision regulations.

Promote bicycle and pedestrian-friendly land use and development patterns.

Promote walkable and bikeable communities as part of downtown revitalization through the “Main Street New Jersey” program.





**New Jersey Commerce
and Economic Growth
Commission**

Office of Travel and Tourism

Promote bicycling and walking events and activities.

**New Jersey Department
of Environmental
Protection**

Promote state trails program and use of abandoned rail corridors.

Develop bicycle and pedestrian access plans to state parks and forests.

**New Jersey Department
of Health**

Participate in “Safe Routes to School” programs.

Provide information on the benefits of active and healthy lifestyles, and promote non-motorized modes of transportation as important elements of an active life.

**New Jersey Department
of Education**

Incorporate walking and bicycling issues in school curriculum.

Promote/support “Safe Routes to School” programs.

Include bicycle and pedestrian issues in school facility planning and regulations.

**Transportation
Management Associations**

TMA_s

Include work program elements that facilitate bicycling and walking.

Professional Organizations

ASCE, ITE, APA, ASLA, AIA,
and others.

Foster education and professional development in the field of bicycle and pedestrian facility planning and design.

Special Interest Groups

Advocate walking and bicycling for transportation and recreation.

Advocate projects and programs to improve bicycle and pedestrian access and safety.





Implementing the Plan

Employers

Sponsor bicycling and walking programs and events.

Advocate health and fitness benefits of walking and bicycling for employees.

Provide bicycle parking facilities for employees.

Include bicycling and walking in employee commute options plans.

Provide bicycle and pedestrian linkages to surrounding neighborhoods.

Builders and Developers

Participate in implementation of local and regional bicycle and pedestrian plans.

Provide bicycle and pedestrian linkages to surrounding neighborhoods.

Provide bicycle parking and other ancillary facilities for bicyclists and pedestrians.

Private Business

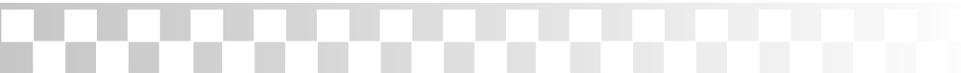
Retail and Service Industry

Provide bicycle and pedestrian linkages to surrounding neighborhoods.

Provide bicycle parking and other ancillary facilities for bicyclists and pedestrians.

Individuals

Make walking and bicycling a routine part of life.





➡ *Implementation Strategies* ⬅

Legislative Strategies

Leadership for the implementation of this Plan should be provided by the highest levels of government.

NJ State Legislature:

Adopt a resolution in support of the vision, and encourage all state agencies and other entities to participate, to promulgate policy, etc.

Amend the Municipal Land Use Law to support bicycling and walking by requiring master plans to include a circulation element with specific reference to bicycle and pedestrian modes, and by requiring that site plans for new developments incorporate adequate bicycle and pedestrian facilities.

Review and revise Title 39 (NJ Motor Vehicles Statutes) to clarify operating requirements for bicyclists, pedestrians and motorists.
Pass legislation with requirements for implementing bicycle and pedestrian projects and provide adequate resources for bicycle and pedestrian projects.

Counties and Municipalities:

Adopt ordinances or resolutions that support bicycling and walking (zoning and land use, design standards, parking, maintenance).

Policy Strategies

Policies and procedures should be established which will result in changes that are necessary to achieve goals.

New Jersey Department of Transportation:

Adopt Roadway Design Manual sections on pedestrian, bicycle, and traffic calming facilities.

Revise, update and assess progress in implementing this Plan on a regular schedule to coincide with the updating of the Department's Long Range Transportation Plan.

Continue to convene advisory groups consisting of citizen and agency representatives to provide guidance and input on matters related to the implementation of this Plan.





Implementing the Plan

New Jersey Department of Transportation: (cont.)

Adopt policies that allow for acquisition, development and operation of abandoned rail corridors for interim and permanent trail use. Develop procedures for considering trail and abandoned railroad crossings in the high-way design process.

New Jersey Department of Community Affairs:

Promote bicycle and pedestrian-friendly land use and development patterns advanced in the State Development and Redevelopment Plan.

NJ TRANSIT:

Adopt policies that provide for bicycle and pedestrian-friendly transit service and facilities.

New Jersey Department of Environmental Protection:

Provide continued support for designation and development of multi-use trails and other recreational facilities for bicyclists and pedestrians; include policy recommendations in the State Comprehensive Outdoor Recreation Plan (SCORP) and The New Jersey Trails Plan.

Counties and Municipalities:

Adopt policies, procedures and guidelines requiring that roadway projects be designed to accommodate shared use and to ensure safety for pedestrians, bicyclists and motorists. NJDOT policies, procedures and guidelines can serve as a model.

Authorities and Commissions:

Adopt guidelines, procedures and policies requiring that roadway projects be designed to address the needs of and ensure safety for pedestrians and bicyclists.

Establish policies to include walkways and bikeways in all bridge construction or rehabilitation projects.

Municipalities:

Promote bicycling and walking policies in all elements of the municipal Master Plan (circulation, land use, recreation, etc.) and other municipal programs.

Include bicycle and pedestrian considerations in development codes, including bicycle parking requirements





Funding Strategies

Because the success of the implementation of the Master Plan relies heavily on efforts by regional and local governments, funding sources must be available.

New Jersey Department of Transportation:

Expand programs that provide funding for local independent bicycle and pedestrian facility projects. The program should provide incentives for local communities to enact proactive policies and procedures for the incorporation of bicycle and pedestrian accommodations in transportation-related projects. Funding should be available to support program activities, incidental and independent bicycle and pedestrian projects, and projects to eliminate hazards or barriers to bicyclists and pedestrians.

Within the constraints of Federal/State laws and regulations, make use of the entire range of available transportation funds for bicycle and pedestrian projects and programs.

New Jersey Department of Law and Public Safety:

Make use of NHTSA (Section 402) funds for bicycle and pedestrian program activities that deal with safety and enforcement.

New Jersey Department of Environmental Protection:

Pursue additional funding sources for trails to augment existing National Recreational Trails and Green Acres funding.

NJ Commerce and Economic Growth Commission

Office of Travel and Tourism

Provide grants in support of bicycle and walking tours and events.

Metropolitan Planning Organizations:

Revise TIP project selection criteria to promote bicycle and pedestrian projects.

Provide funding for project development (local scoping/local lead) and planning studies.

Ensure that an adequate percentage of transportation funding is used for bicycle and pedestrian transportation facilities.





Implementing the Plan

Counties: Routinely fund bicycle and pedestrian improvements and incorporate incidental bicycle and pedestrian improvements into roadway projects.

Municipalities: Dedicate funds for independent bicycle and pedestrian projects and establish funding sources for bicycle/pedestrian improvements related to roadway projects (land use/recreation fees, general funds, etc.).

Administrative Strategies

Organizations should institute staffing and procedural changes in order to assure a continuing process.

New Jersey Department of Transportation:

Expand staffing for bicycle and pedestrian program activities. The bicycle and pedestrian unit will promote bicycling and walking, arrange for implementation of the Bicycle and Pedestrian Master Plan Phase 2 and provide follow-up advocacy, both internal and external.

Continue to review transportation projects to ensure that bicycle and pedestrian needs are appropriately addressed; develop bicycle and pedestrian facility databases; review studies and proposals by other units and agencies to assure consideration of bicycle and pedestrian concerns; initiate independent projects; provide technical assistance to other units, agencies and entities (citizens, government, media, etc.) as the principal NJDOT contact for bicycling and walking and other activities associated with advancing the needs of bicyclists and pedestrians.

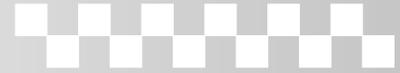
Undertake studies to determine the amount of travel by bicycling and walking for all trip purposes. This will enable the Department to refine target usage goals and track progress towards their achievement.

Revise/update procedures to ensure consideration of bicycling and walking in all projects.

New Jersey Department of Law and Public Safety:

Designate a representative to work full-time on the development of bicycling and walking safety, education, registration and enforcement programs.





**New Jersey Department
of Environmental
Protection:**

Develop streamlined procedures for stream encroachment and wetland permits for bicycle and pedestrian trails and facilities, including sidewalks and shoulders of existing roadways; revise rules to permit appropriately designed shared use paths to traverse wetland and wetland transition areas.

NJ TRANSIT:

Expand the Transit Village program and other programs that facilitate bicycle/pedestrian access to transit.

**Metropolitan Planning
Organizations:**

Assign a staff person to coordinate all bicycle and pedestrian related issues.

Develop regional bicycle and pedestrian plans.

Counties:

Identify a bicycle and pedestrian representative who would coordinate and develop walking and bicycling programs and projects.

Initiate a procedure to review all highway maintenance, reconstruction and capacity enhancement projects to ensure bicycle and pedestrian compatible design, and to retrofit bike lanes and sidewalks as part of the project where feasible.

Local Municipalities:

Establish bicycle and pedestrian advisory groups, appoint bicycle and pedestrian coordinators and/or include bicycle and pedestrian representatives on local commissions and boards as part of requirement for state funding of projects.

Professional Development Strategies

Accommodating bicycling and walking in the transportation and recreation systems requires a new discipline of thought and the application of standards and guidelines.

**New Jersey Department
of Transportation:**

Prepare an ongoing professional development series for the Department's professional staff and other transportation professionals, such as municipal planners, engineers, highway superintendents, park and recreation planners, and other state agency staff, that provides a thorough understanding of state-of-the-art bicycle and pedestrian transportation planning and design.





Implementing the Plan

Professional Organizations:

Encourage institutions offering degrees in engineering and transportation planning to address the needs and capabilities of bicyclists and pedestrians in instruction programs.

Provide continuing education programs to members in the area of bicycle and pedestrian planning and design.

New Jersey Department of Law and Public Safety:

Provide training and bicycle/ pedestrian oriented enforcement program information to municipal law enforcement personnel (Police on Bikes, etc.).

Counties:

Require county engineers, planners, enforcement officers, maintenance personnel, and other employees to complete training programs related to bicycling and walking.

Local Municipalities:

Encourage planning and zoning board members, police officers, administrators and other municipal decision-makers to attend seminars, etc., on bicycling and walking.

Communication Strategies

Acceptance of bicycling and walking as legitimate modes in the transportation and recreation systems requires knowledge and understanding on the part of all users. A comprehensive approach to achieving the vision will require extensive communication between the various agencies and levels of government and the users of the transportation and recreation systems.

New Jersey Department of Transportation:

Develop a communication network and communication plan for NJDOT personnel, transportation professionals, MPOs, counties and municipalities to increase their awareness of NJDOT bicycle and pedestrian policies, procedures and guidelines.

Develop bicycle and pedestrian educational and training materials and curricula in cooperation with NJLPS and the NJ Department of Education for all types of bicyclists and pedestrians and motorists.

Develop and implement media programs to improve bicycle and pedestrian safety and highlight the benefits of bicycling and walking.

Develop a statewide bicycle map and continue to update and distribute bicycle tour and information literature.



**NJ Commerce &
Economic Growth
Commission**

Office of Travel and Tourism

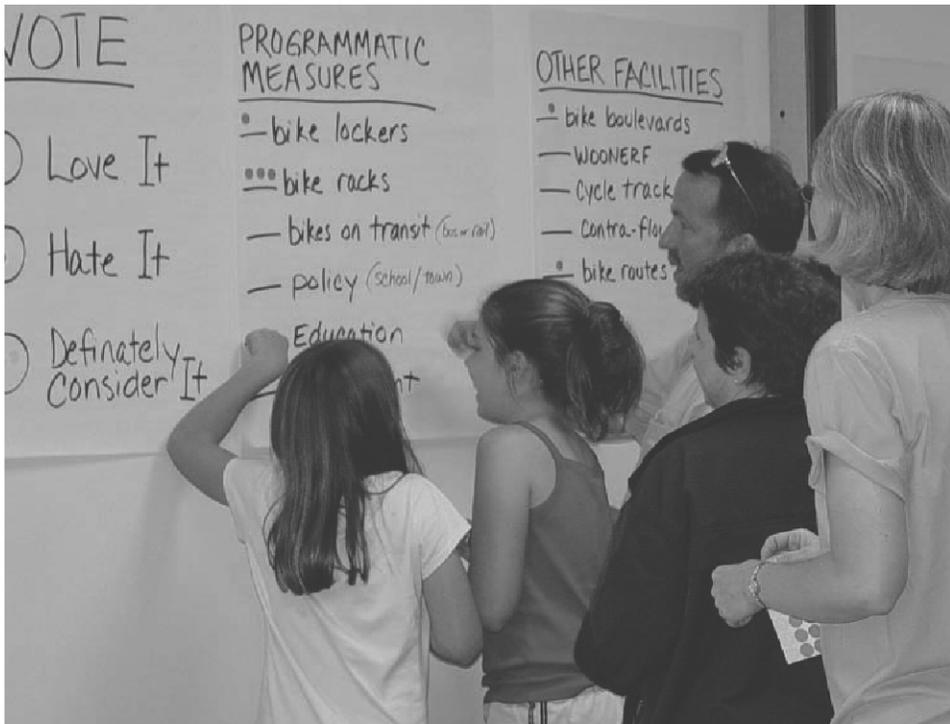
Prepare and distribute promotional and informational materials on bicycling events and activities.

**New Jersey Department
of Law and Public Safety:**

In publications and other media, encourage accurate descriptions and depictions of correct bicycle and walking behaviors.

Special Interest Groups:

Establish organizational networks for distribution of bicycle and pedestrian information.



Facility Priorities

Developing the Tools

All analysis and results were done in a Geographic Information Systems (GIS) environment, allowing valuable information to be displayed in lists or shown on maps.

What is Demand Forecasting?

In the context of bicycle and pedestrian planning, demand forecasting is a process by which we identify what areas or corridors are most likely to carry bicycle or pedestrian trips. This is done by evaluating census population and employment data to estimate the potential level of bicycle and pedestrian trip making that could occur in a given area.

What is Suitability Forecasting?

Suitability forecasting is a process by which we quantify how comfortable a bicyclist or pedestrian would be traveling along or across a given facility. The bicycle compatibility model assesses the comfort level of a bicyclist along each roadway segment.

Why Do We Use Models to Estimate Demand and Suitability?

By definition, bicycle and pedestrian trips are local in nature. To identify priority needs throughout the state, large volumes of local information must be organized and evaluated. Models with standards and thresholds lend themselves to quickly identifying conditions that present themselves as less (or better than) ideal. Most models are based on simple mathematical calculations and contain generally accepted design and other standards.

Where Do We Get the Data?

Data is collected from state agencies like NJDOT, New Jersey Department of Environmental Protection (NJDEP), New Jersey Office of Smart Growth, Metropolitan Planning Organizations (MPOs), New Jersey TRANSIT, and many others. Counties and other interested parties also contributed valuable data and insights during the planning process.

As noted previously, the provision of safe and inviting bicycle accommodations is a necessary condition for achieving the Vision. The provision of these facilities should be based on a rational planning process that utilizes appropriate data and effective analytical tools to identify priority locations for such improvements. The majority of the Phase 2 planning process was devoted to the collection of appropriate data and the development and utilization of flexible analytical tools that were utilized to develop initial priorities on a statewide basis. This data and these tools can be refined and used by others to examine needs and establish priorities at the local level. Detailed information on these tools is available in the support documents listed in Appendix 1.

Data Collection

A significant data collection effort was carried out in order to identify:

- known existing, programmed and proposed bicycle facilities, on- and off- road (*See Figure 1*)
- the location of major trip attractors throughout New Jersey for bicycling and walking trips (*See Appendix 2*)

Modeling

The Bicycle Demand Model (BDM) was utilized to provide a measure of the total daily bicycle trip demand by Census Tract. (*See Figure 2*)

The Bicycle Compatibility Index (BCI) Model was used to compute bicycle compatibility on a link level using the New Jersey Congestion Management System (CMS) as the base network. (*See Figure 2*)

The Pedestrian Compatibility Index (PCI) was used to calculate the suitability of making capital investments at the census tract level (a measure of demand). (*See Figure 4*)

A new model, the Barrier analysis, was devised to measure the extent to which links in the CMS system were “crossable” or the extent to which links were a barrier to pedestrian travel (a measure of suitability). (*See Figure 4*)

Analysis and Development of Priorities

Utilizing the output from the modeling effort, priorities for potential capital investments were generated. Separate lists were made for bicycle priorities and pedestrian priorities. Bicycle Priority is a function of trip demand at the census tract level and CMS link bicycle suitability. Pedestrian Priority is a

function of demand at the tract level and “crossability”. CMS links were assigned a “low”, “medium” or “high” priority for both the bicycle and pedestrian analyses. (See Figures 3 and 5)

Other analyses used to identify priorities included:

- An examination of the bicycle facilities inventory to identify obvious gaps or deficiencies in both on-road and off-road facilities or networks.
- An analysis of the proximity of CMS links (*i.e. within bicycling distance*) to selected bicycle trip attractors.
- An analysis of the proximity of CMS links (*i.e. within walking distance*) to selected pedestrian trip attractors.



Additional lists of priorities for capital investment decisions were generated from these analyses.

An “overall” priority, based on a numerical score, was established for each CMS link in terms of both bicycling and pedestrian needs. The link priority scores that were generated took into account the results of previous analyses involving suitability, demand, use and proximity to selected attractors.

These priority lists and the tools that were used to generate them are available and are intended to be used as a basis for the identification of priority opportunities for capital improvements that will benefit bicycling and walking in New Jersey. It is intended that the data and analysis tools developed as part of preparation of this plan will be made available to appropriate transportation agencies so that they can be used in the context of their own bicycle and pedestrian planning activities to refine the analysis based on local needs and public input.



Newark



Scotch Plains



Newark

Facility Priorities

Examples of Bicycle Facility Types

On Road



Bike Lane - A portion of the roadway designated by striping, signing and pavement markings that defines space for bicyclists



Bike Route - A bikeway designated by directional and informational markers



Shared Road - A roadway open to both bicycle and motor vehicle travel with wide curb lanes or paved shoulders

Off Road



Shared Use Path - A path physically separated from the roadway shared by pedestrians, bicyclists and other non-motorized users

Figure 1: New Jersey Bicycle Facilities



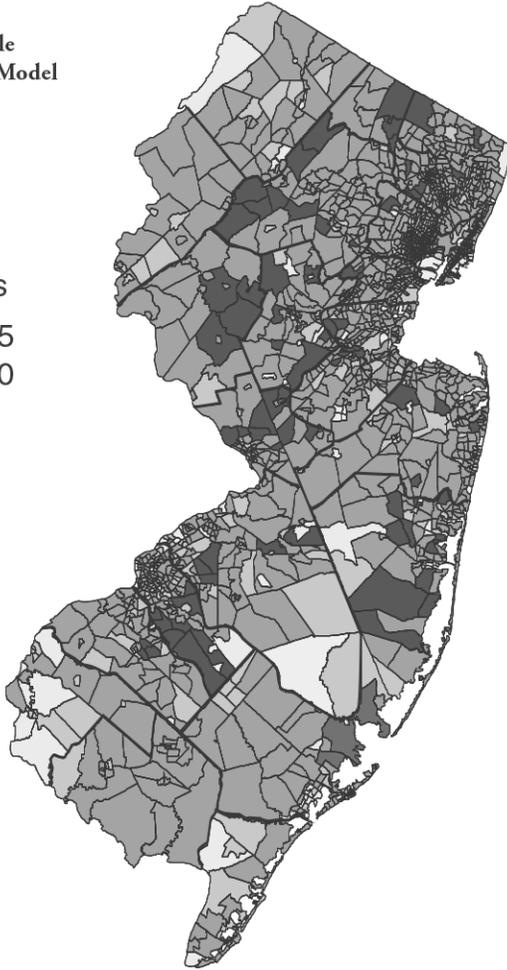
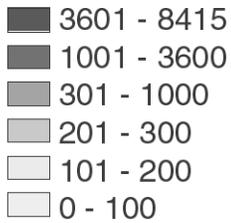
Figure 2: Bicycle Tools and Models

BICYCLE



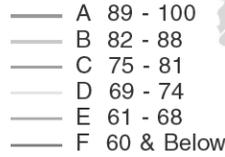
Bicycle Demand Model

Daily Bike Trips



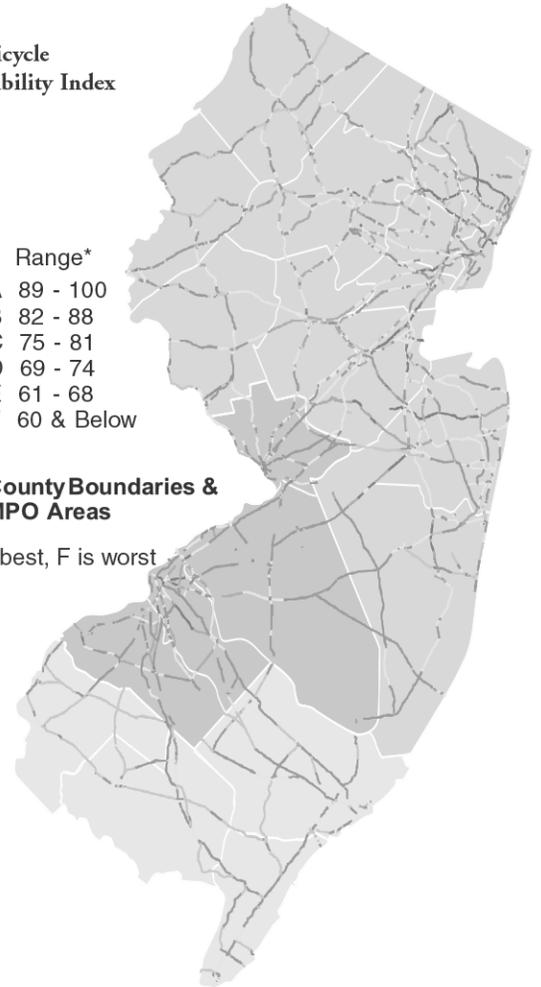
Bicycle Compatibility Index

Legend: Range*



■ County Boundaries & MPO Areas

*A score is best, F is worst



Demand + Suitability = Priority



Figure 3: Priority Bicycle Links Map

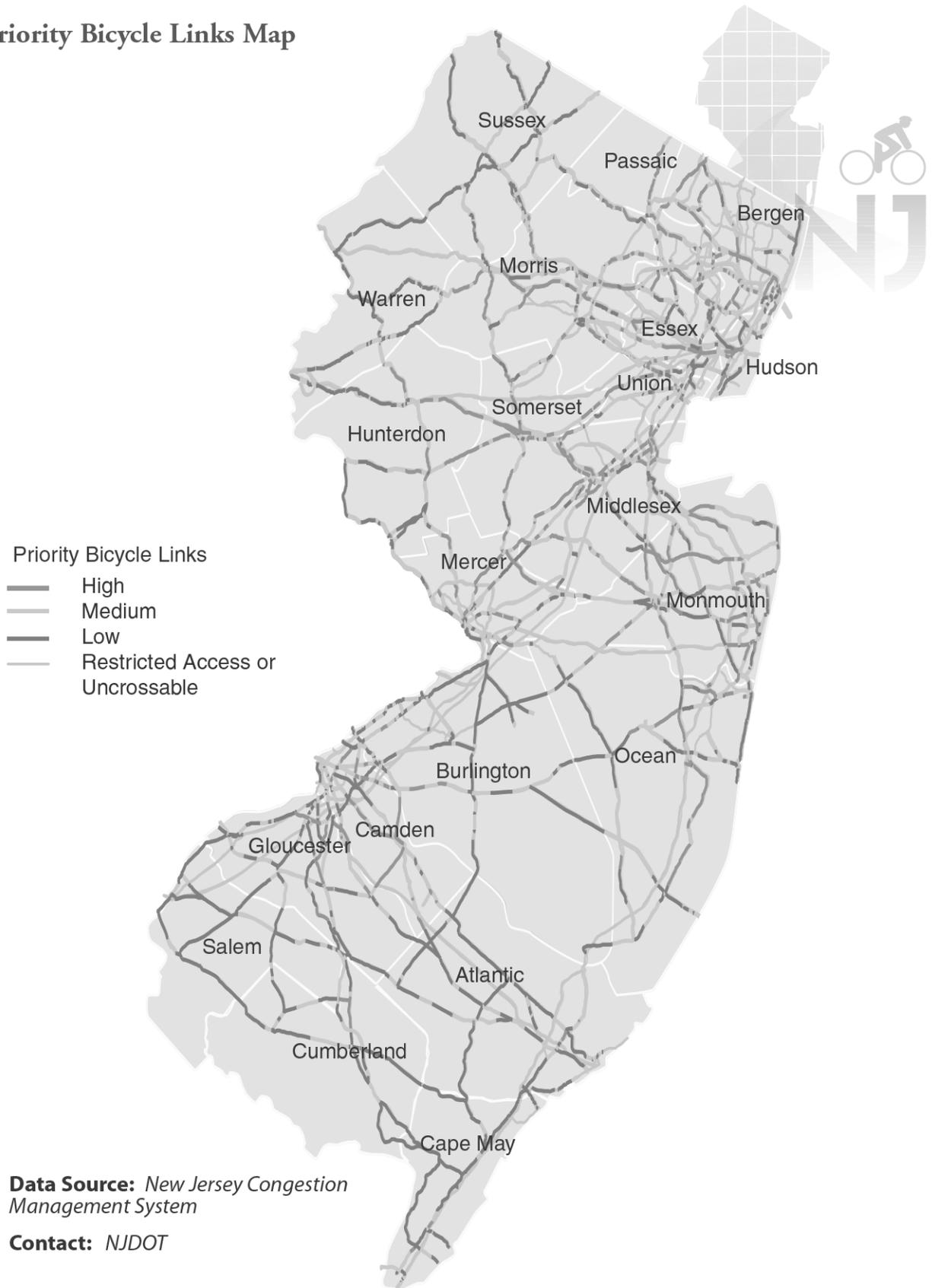


Figure 4: Pedestrian Tools and Models

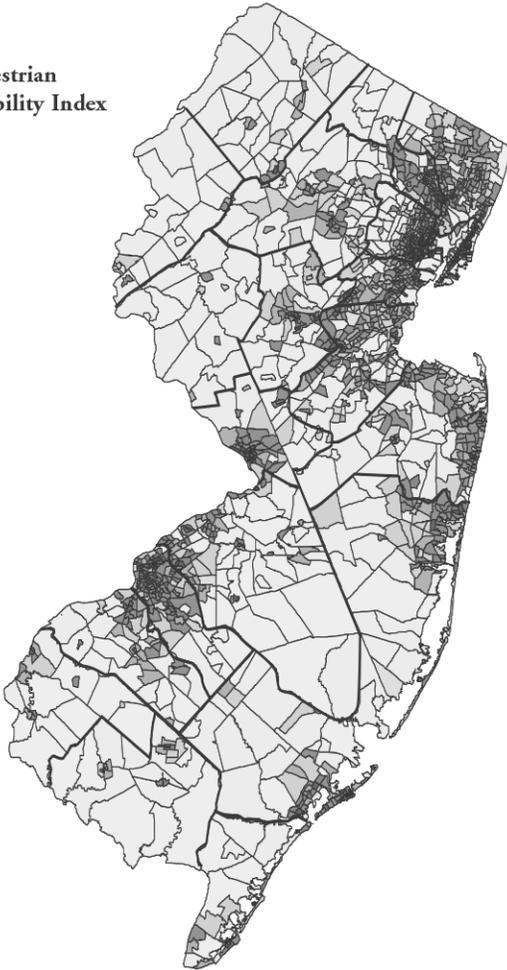
PEDESTRIAN



Pedestrian
Compatibility Index

Pedestrian
Compatibility

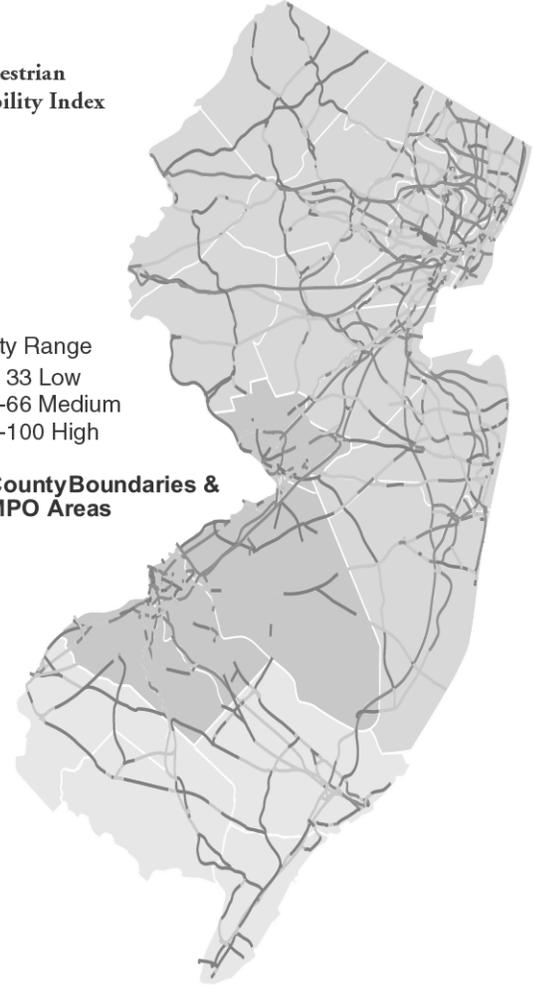
- Very High
- High
- Average
- Moderate
- Low
- Very Low



Pedestrian
Crossability Index

- Crossability Range
- 0 - 33 Low
 - 34-66 Medium
 - 67-100 High

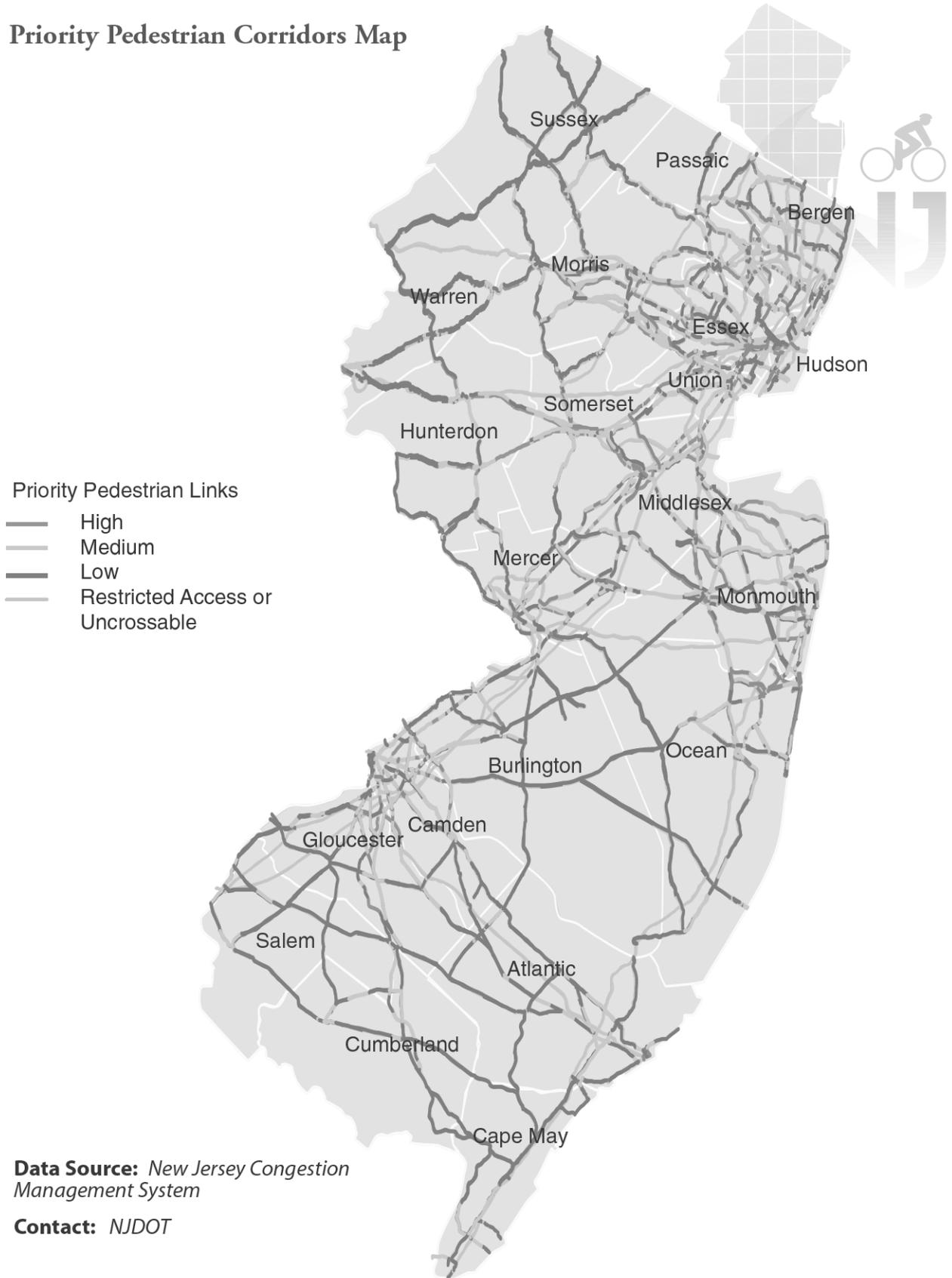
County Boundaries & MPO Areas



Demand + Suitability = Priority



Figure 5: Priority Pedestrian Corridors Map



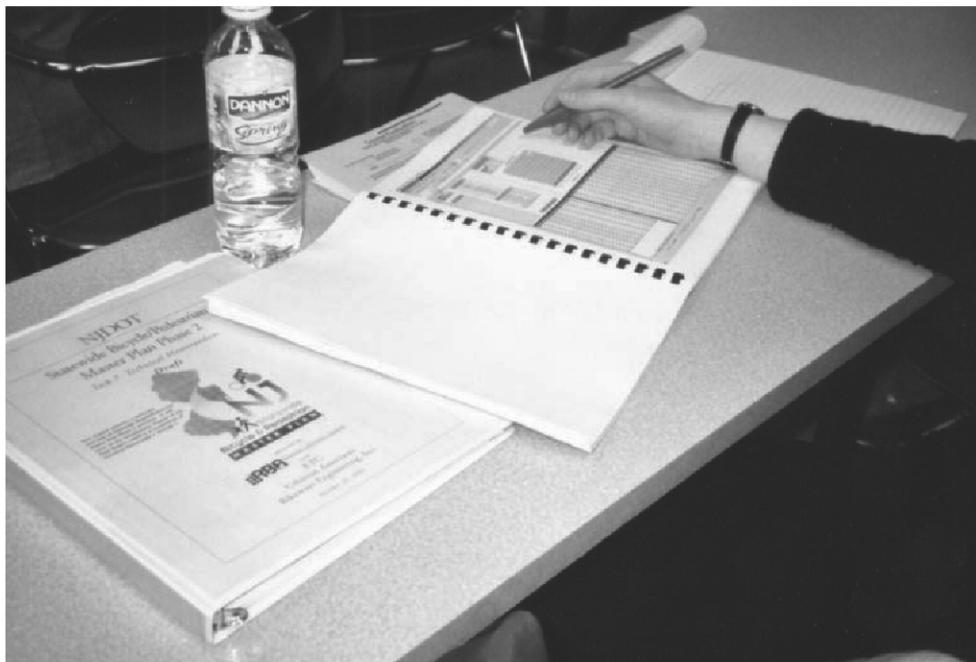
Appendices

Appendix 1: List of Support Documents

New Jersey Bicycle and Pedestrian Master Plan, 1995

NJDOT Statewide Bicycle/Pedestrian Master Plan Phase 2

- **Project Overview** of Statewide Bicycle/Pedestrian Master Plan Phase 2 Activities
- **Technical Memorandum Task 1:**
Literature Survey and Bicycle and Pedestrian Demand and Suitability Estimation Modeling
- **Technical Memorandum Task 2:**
Data Inventory and Utilization in Bicycle/Pedestrian Demand and Suitability Modeling
- **Technical Memorandum, Tasks 3, 4, 5:**
Analysis and Identification of Priority Bicycle Corridors
Analysis and Identification of Priority Pedestrian Corridors
Finalized Bicycle and Pedestrian Priorities





Appendix 2: Bicycle and Pedestrian Trip Attractors and Data Sources Table

Table 1 NJ Statewide Bicycle & Pedestrian Master Plan Trip Attractor Data Sources

| Bike/Ped Master Plan Data Inputs | Source | Year(s) | Original Format | Data Contents | Contact URL |
|--|---------------------------------|--------------|-------------------|---|---|
| Designated Centers (per NJ State Dev. & Redev.) | NJ Office of Smart Growth | 2000 updated | Arc View//MapInfo | Designated Centers as of 2000 | www.njstateplan.com/gis |
| State and County Parks | NJ Office of State Planning | 2000 updated | Arc View//MapInfo | State & County Park/Locations | www.njstateplan.com/gis |
| Municipal Parks | NJDEP Land use files | N/A | Arc View//MapInfo | Municipal Park/Locations | www.state.nj.us/dep/gis |
| College and Universities | NJ DEP of Higher Education | 2000 | Excel | College or University Name, Addresses & Enrollment | www.state.nj.us/highereducation |
| Public and Parochial Schools | NJ Dept. of Education | 2000 | Excel | School Name, Addresses & Enrollment | www.state.nj.us/education |
| Public Vocational Schools | NJ Dept. of Education | 2000 | Excel | School Name, Addresses & Enrollment | www.state.nj.us/education |
| Non-public Vocational Schools | NJ Dept. of Education | 2000 | Excel | School Name, Addresses & Enrollment | www.state.nj.us/education |
| Transit Rail Stations | NJ Transit | 2000 | MapInfo | Station Locations & Ridership #s | |
| Abandoned Rail Lines | Rails to Trails | N/A | MapInfo | Locations of Tracks | http://www.railtrails.org/PA |
| Active Rail Lines | NJ Transit | 2001-2002 | ArcView | Locations of Tracks | |
| Park and Ride | NJDOT | N/A | Excel | Location of Facilities | |
| Bus Routes | NJ Transit | N/A | MapInfo | Location of Route, Route # & Local vs. Express | |
| Bus Terminals | NJ Transit | 2001 | Excel | Location of the Main NJ Transit Bus Terminals | http://www.njtransit.com/ |
| Recreational Destinations (Shore/Public Beaches) | NJDEP Land Use Files | 1986-1999 | ArcView/MapInfo | Locations of Shore Areas | www.state.nj.us/dep/gis |
| Recreational Destinations (Historical/Museums/Amusement) | NJ Tourism | 2001 | Excel | Name & Address of Museums, Historical Sites, Shore Amusements, etc. | http://nj.gov/travel/ |
| Commercial Districts | NJDEP Land Use Files | 1986-1999 | ArcView/MapInfo | Larger Commercial Sites | www.state.nj.us/dep/gis |
| NJ Libraries | NJ Tourism | N/A | Excel | Locations of Most Public Libraries | http://nj.gov/travel/ |
| Abbot School Districts ^a | NJSCC | 2003 | Text | List of Municipalities | www.njsc.com/general/overview.asp |
| Renaissance School Zones ^b | Governor's Office Press Release | 2003 | Text | List of Municipalities | www.state.nj.us/cgi-bin/governor/ninewline |
| Transit Villages ^c | NJDOT | 2003 | Text | List of Locations | http://www.state.nj.us/transportation/community/village/faq.shtm |
| Main Street Communities ^d | NJDCA | 2003 | Text | List of Municipal Contacts | http://www.state.nj.us/dca/dhcr/mstowns.htm |

- a. Abbott Districts – A series of 30 needier urban school districts, in New Jersey for which the State is required by Supreme Court decision (Abbott v. Burke) to provide certain infrastructure improvements.
- b. Renaissance Schools – Schools within Renaissance Zones identified by the Governor's Office that are targeted for existing public, private and non-profit funding and, act as catalysts for redevelopment and investment in neighborhoods surrounding the school.
- c. Transit Villages – A program in which local communities partner with NJ Transit, NJDOT and other agencies to create development and investment centered around passenger rail stations. Communities selected for inclusion in the program are given priority consideration for a variety of state funding programs.
- d. Main Street Communities – Communities selected for inclusion in DCA's Main Street New Jersey program. These communities receive technical assistance and training to revitalize historic downtowns, improving the economy, appearance and image of their central business districts through the organization of local citizens and resources.

Appendix 3: List of Acronyms

| | |
|---------|---|
| AIA: | American Institute of Architects |
| APA: | American Planning Association |
| ASCE: | American Society of Civil Engineers |
| ASLA: | American Society of Landscape Architects |
| BDM: | Bicycle Demand Model |
| BCI: | Bicycle Compatibility Index |
| CMS: | Congestion Management System |
| DOT: | Department of Transportation |
| DVRPC: | Delaware Valley Regional Planning Commission |
| ITE: | Institute of Transportation Engineers |
| MPO: | Metropolitan Planning Organization |
| NHTSA: | National Highway Traffic Safety Administration (part of DOT) |
| NJDEP: | New Jersey Department of Environmental Protection |
| NJDLPs: | New Jersey Department of Law and Public Safety |
| NJDOT: | New Jersey Department of Transportation |
| NJTPA: | North Jersey Transportation Planning Authority |
| PCI: | Pedestrian Compatibility Index |
| PMT: | Project Management Team |
| SDRP: | State Development and Redevelopment Plan |
| SIP: | State Implementation Plan (under Clean Air Act Amendments) |
| SJTPO: | South Jersey Transportation Planning Organization |
| STIP: | State Transportation Improvement Program |
| STP: | Surface Transportation Program (part of Federal Transportation Legislation, TEA21) |
| STPP: | Surface Transportation Policy Project |
| TAC: | Technical Advisory Committee |
| TIP: | Transportation Improvement Plan |
| TMA: | Transportation Management Association |
| VTC: | Voorhees Transportation Center |





Appendix 4: Glossary of Terms

CMS – The U.S. Department of Transportation (U.S. DOT) requires large metropolitan areas (200,000 population or more) and states to develop Congestion Management Systems which monitor traffic congestion and make new and existing transportation facilities more effective through the use of travel demand management and operational management strategies. The CMS requirement strengthens the link between the Clean Air Act Amendments and TEA21.

FHWA – Federal Highway Administration is the agency of U.S. DOT with jurisdiction over highways.

FTA – Federal Transit Administration is the agency of U.S. DOT administration with jurisdiction over transit. Formerly the Urban Mass Transit Administration.

Performance Measures – are means of measuring the success of the achievement of a goal, and can be measured in terms of quantity, quality, timeliness and cost.

Target Usage Goals – illustrate existing patterns and attitudes and the potential for bicycling and walking for transportation and recreation. They focus on areas where change is measurable and can be implemented in the short term.

TIP – Transportation Improvement Program is a three-year transportation investment strategy, required at the metropolitan level, which addresses the goals of the long range plans and lists priority projects and activities for the region.



Morristown



TDM – Transportation Demand Management, a method to reduce traffic congestion by means other than roadway improvements, such as transit, staggered work hours, telecommuting, etc.

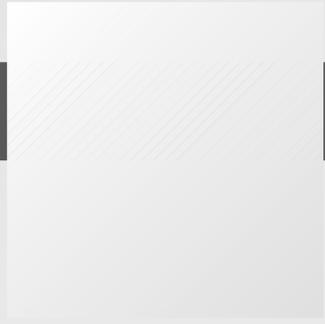
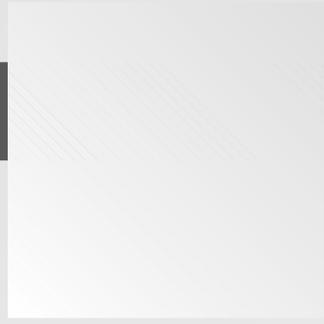
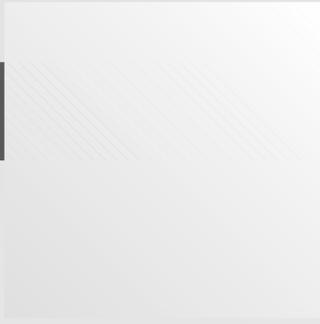
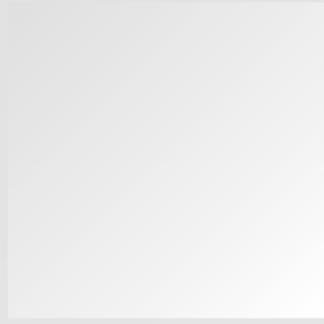
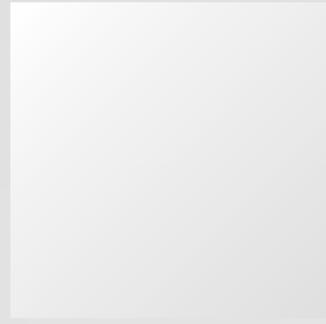




Appendix 5: Local Bike/Ped Planning Assistance Studies

- | | |
|-------------------------------|----------------|
| Audubon | Summit |
| Blairstown | Trenton |
| Boonton | Voorhees |
| Delaware River Heritage Trail | Wanaque |
| Evesham | Westfield |
| Fair Lawn | West Windsor |
| Haddonfield | Wildwood Crest |
| Jersey City | |
| Kingston | |
| Lambertville | |
| Leonia | |
| Manasquan | |
| Medford | |
| Mendham | |
| Montclair | |
| Morris County | |
| New Brunswick | |
| Oaklyn | |
| Ocean City | |
| Oxford | |
| Pine Hill | |
| Plainfield | |
| Roselle | |
| Rutherford | |
| Somerdale | |
| South Orange | |
| Stratford | |





Condition I
AADT 1200* -2000

| | URBAN W/PARKING | URBAN W/O PARKING | RURAL |
|-----------------------------|---------------------|---------------------|---------------------|
| <50 km/h (30 mph) | SL 3.6m (12 ft.) | SL 3.3m (11 ft.) | SL 3.0m (10 ft.) |
| 50 km/h-65 km/h (31-40 mph) | SL 4.2m (14 ft.) | SL 4.2m (14 ft.) | SL 3.6m (12 ft.) |
| 65 km/h-80 km/h (41-50 mph) | SL 4.5m (15 ft.) | SL 4.5m (15 ft.) | SH 0.9m (3 ft.) |
| >80 km/h (50 mph) | NA | SH 1.2m (4 ft.) | SH 1.2m (4 ft.) |

* For volumes less than 1200 a shared lane is acceptable.

KEY: SH=shoulder SL=shared lane

Condition II
AADT 2000-10,000

| | URBAN W/PARKING | URBAN W/O PARKING | RURAL |
|-----------------------------|---------------------|---------------------|---------------------|
| <50 km/h (30 mph) | SL 4.2m (14 ft.) | SL 3.6m (12 ft.) | SL 3.6m (12 ft.) |
| 50 km/h-65 km/h (31-40 mph) | SL 4.2m (14 ft.) | SL 4.2m (14 ft.) | SH 0.9m (3 ft.) |
| 65 km/h-80 km/h (41-50 mph) | SL 4.5m (15 ft.) | SL 4.5m (15 ft.) | SH 1.2m (4 ft.) |
| >80 km/h (50 mph) | NA | SH 1.8m (6 ft.) | SH 1.8m (6 ft.) |

Condition III
AADT over 10,000 or Trucks over 5%

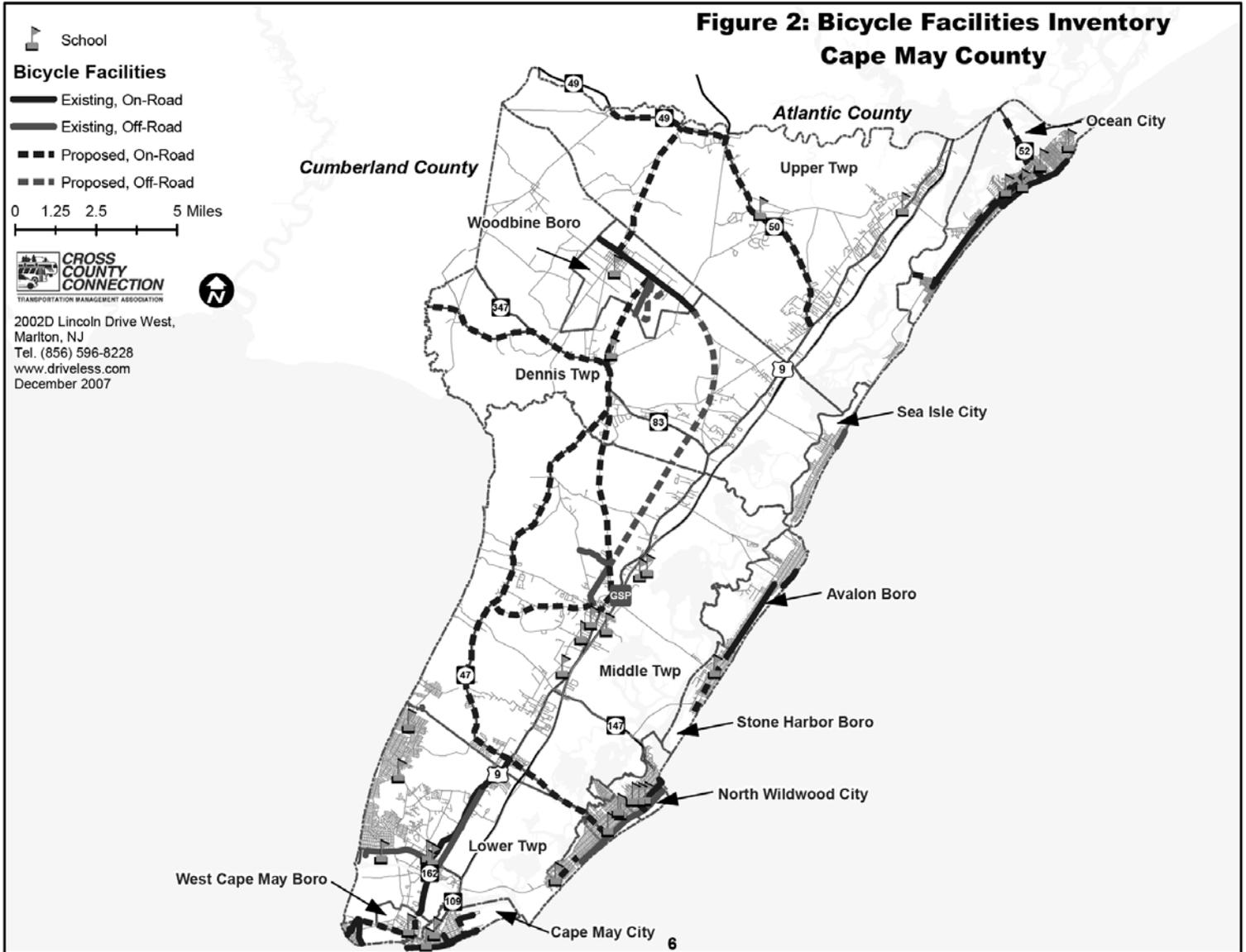
| | URBAN W/PARKING | URBAN W/O PARKING | RURAL |
|-----------------------------|---------------------|---------------------|---------------------|
| <50 km/h (30 mph) | SL 4.2m (14 ft.) | SL 4.2m (14 ft.) | SL 4.2m (14 ft.) |
| 50 km/h-65 km/h (31-40 mph) | SL 4.2m (14 ft.) | SH 1.2m (4 ft.) | SH 1.2m (4 ft.) |
| 65 km/h-80 km/h (41-50 mph) | SL 4.5m (15 ft.) | SH 1.8m (6 ft.) | SH 1.8m (6 ft.) |
| >80 km/h (50 mph) | NA | SH 1.8m (6 ft.) | SH 1.8m (6 ft.) |

NOTE: NJDOT minimum shoulder width of 2.4 meters (8 feet) should be provided wherever possible on roadways having an AADT greater than 10,000 vehicles.

Table 1
Bicycle Compatible Roadway Pavement Widths



**Figure 2: Bicycle Facilities Inventory
Cape May County**



**Figure 4: Bicycle Facilities Inventory
Cape May, Atlantic & Cumberland Counties**

- Bicycle Facilities**
- Existing, Off-Road
 - Existing, On-Road
 - - - Proposed, Off-Road
 - - - Proposed, On-Road

0 2 4 8 Miles



2002D Lincoln Drive West,
Marlton, NJ
Tel. (856) 596-8228
www.driveless.com
December 2007

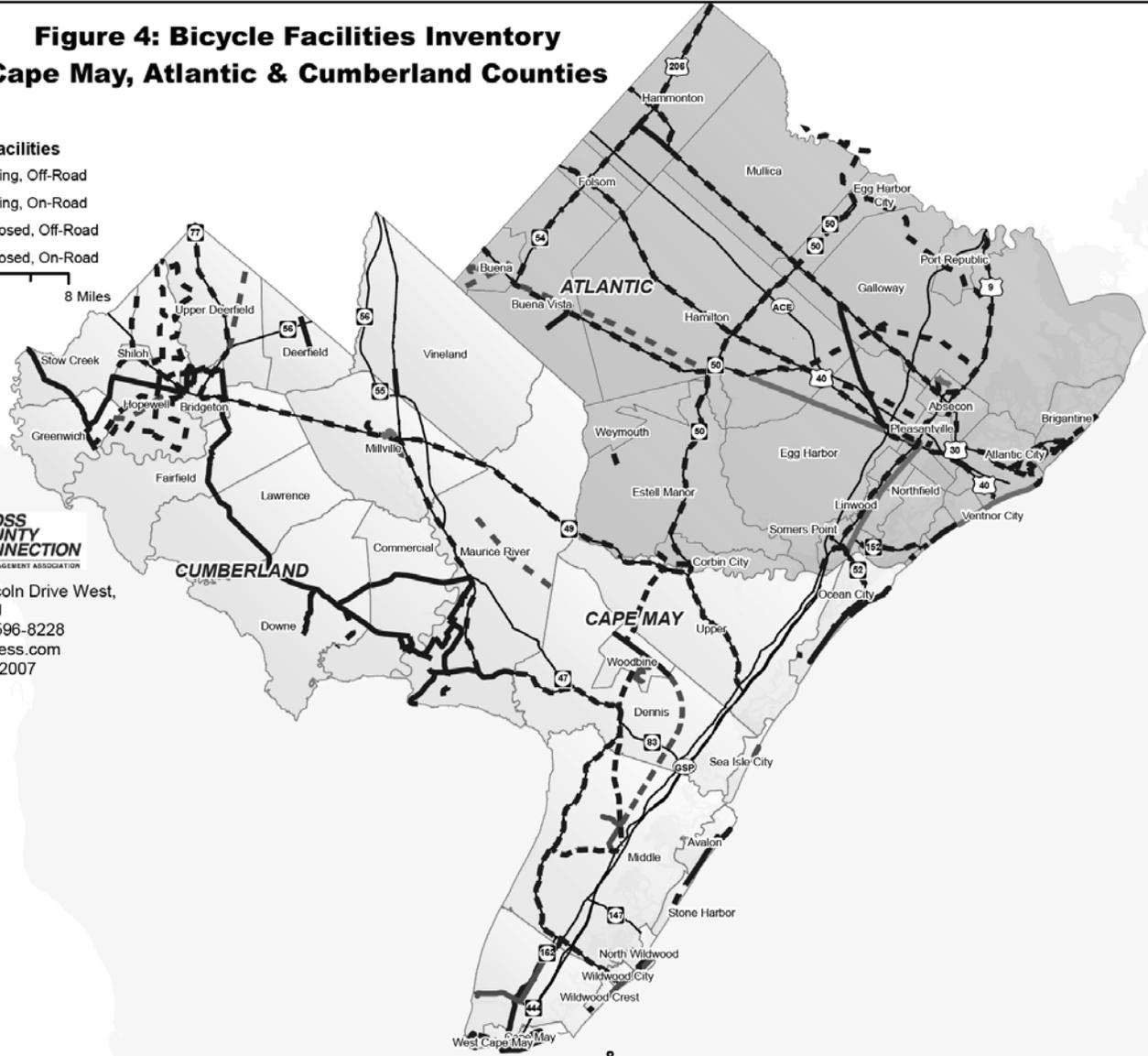
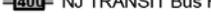
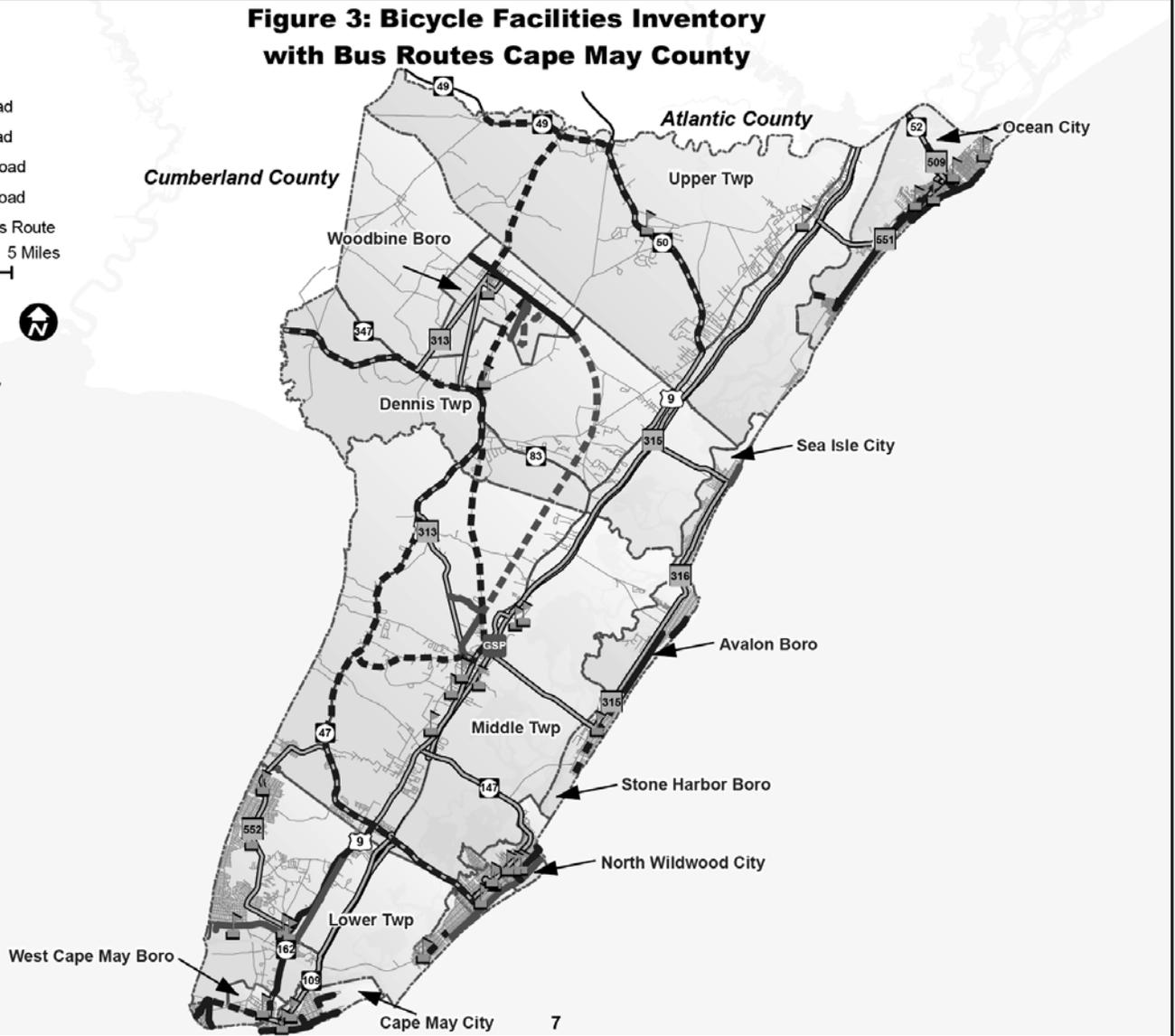


Figure 3: Bicycle Facilities Inventory with Bus Routes Cape May County

 School
Bicycle Facilities
 Existing, On-Road
 Existing, Off-Road
 Proposed, On-Road
 Proposed, Off-Road
 NJ TRANSIT Bus Route
 0 1.25 2.5 5 Miles

 2002D Lincoln Drive West,
 Marlton, NJ
 Tel. (856) 596-8228
 www.driveless.com
 December 2007



Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Webster Street looking east towards Washington Avenue



Intersection of Webster Street and Washington Avenue

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Webster Street in front of the Woodbine Community School



Crosswalk in front of the Woodbine Community School

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Webster Street looking west towards Washington Avenue



Webster Street looking east towards Heilprin Avenue

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Northwest corner of Webster Street and Heilprin Avenue



Webster Street, east of Heilprin Avenue

***Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log***



Woodbine Equestrian Center on Washington Avenue at Sumner Avenue



Washington Avenue looking north towards Webster Street

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Southwest corner of Washington Avenue and Franklin Street



Bicyclist on the sidewalk on Washington Avenue

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Washington Avenue looking north towards Dehirsch Avenue



Washington Avenue looking south towards Franklin Street

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Smokey's Market at corner of Washington Avenue and Dehirsch Avenue



Bicyclist at Smokey's Market

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Washington Avenue looking south towards Dehirsch Avenue



Washington Avenue looking north towards Bryant Avenue

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Dehirsch Avenue looking west towards Heilprin Avenue



Bicycle crossing warning sign on Dehirsch Avenue

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Dehirsch Avenue looking west towards Washington Avenue



Intersection of Dehirsch Avenue and Washington Avenue

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Woodbine Rail Trail looking west towards Belleplain State Forest



Woodbine Rail Trail crossing at Dehirsch Avenue

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Woodbine Rail Trail looking east towards Heilprin Avenue



Woodbine Rail Trail looking west towards Washington Avenue

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Bicyclist on the Woodbine Rail Trail



Crosswalk connecting Woodbine Rail Trail to Lincoln Park, looking north

Borough of Woodbine Local Bicycle and Pedestrian Planning Assistance Study
Photograph Log



Crosswalk connecting Woodbine Rail Trail to Lincoln Park, looking south



Lincoln Park at the corner of Monroe Avenue and Dehirsch Avenue



Borough of Woodbine

Bicycle and Pedestrian Study

- Turn Over -

Baker

Woodbine, NJ

*"Sleep thou and I will wind thee in my arms,
Fairies begone and be all ways away,
So doth the woodbine, the sweet honeysuckle,
Gently entwine."*
- *A Midsummer Night's Dream, Act 4, Sc. 1*

In an effort to **Make the Borough of Woodbine a Bicycle and Pedestrian Friendly Place** to live and work, the Borough applied to the New Jersey Department of Transportation (NJDOT) for planning assistance and identified bicycle & pedestrian issues to be addressed in **Your Community**.

This planning study examines a range of potential improvements to foster bicycle and pedestrian safety and mobility in Woodbine.

The Final Action Plan and Destination Map will serve as resources for developing bicycle and pedestrian projects in the Borough, and will assist the community by identifying existing bicycle and pedestrian routes.

Please Tell Us What You Think by Joining Us at the PUBLIC INFORMATION CENTER on OCTOBER 18, 2007 between 4pm and 7:30pm at the Municipal Building!



Woodbine Bicycle and Pedestrian Planning Assistance Study

Study Task Force Meeting
December 18, 2007
3:00 PM – 5:00 PM
Main Meeting Room, Woodbine Borough Hall

AGENDA

1. **Welcome, Introductions and Meeting Purpose** 3:00 PM
2. **Study Scope of Work** 3:15 PM
3. **Data Collected and Deficiency Identification** 3:30 PM
4. **Preliminary Conceptual Improvements** 4:00 PM
 - a. *Gateway and Pedestrian Enhancements*
 - b. *Bicycle Routes*
 - c. *Sidewalk Network*
 - d. *Equestrian Route*
 - e. *Shared Use Path*
5. **Open Discussion/Destination Map Feedback** 4:30 PM
6. **Next Steps** 4:55 PM
 - a. **Draft Action Plan**
 - b. **Destination Map (“Woodbine Walks, Bikes, and Gallops, Too”)**

*Handouts at Meeting: Agenda, Fact Sheet, Conceptual Improvements Maps (5),
Destination Map Feedback Form*





MEMORANDUM OF MEETING



| | | | |
|-----------------|--|------------------|---------------------------------|
| Project: | Woodbine Bicycle & Pedestrian Planning Assistance Study | S.O. No.: | 2004SDA495C T.O. #14 |
| Date: | December 18, 2007 | Time: | 3:00- 5:00 PM |
| Place: | Woodbine Borough Hall Main Meeting Room | By: | Barry Keppard |

Subject/Purpose: Study Task Force Meeting

Attending:

| | |
|----------------------|--|
| William Pikolycky | Mayor, Woodbine Borough |
| David Rodriguez | Council Member, Woodbine Borough |
| Bruce Graham | Engineer, Woodbine Borough (Van-Note Harvey) |
| Louis Conley | Planner, Woodbine Borough (Van-Note Harvey) |
| Lisa Fisher | Recreation Department, Woodbine Borough, Equestrian |
| David Bennett | Planning Board Chair, Woodbine Borough |
| Lisa Suthard | Planning Board Vice Chair, Woodbine Borough |
| Mary Jane Sypniewski | Assistant to the Mayor, Woodbine Borough |
| Bernard Sypniewski | Woodbine Borough Resident |
| Flo McNelly | Belleplain State Forest, NJ Department of Environmental Protection |
| Amy Valentin | Cross County Connection TMA |
| William Riviere | NJDOT Office of Bicycle and Pedestrian Programs |
| Regina Del Vecchio | Michael Baker Jr. Inc. |
| Barry Keppard | Michael Baker Jr. Inc. |

The meeting began with Regina Del Vecchio welcoming everyone to the Study Task Force (STF) Meeting for the Woodbine Bicycle and Pedestrian Planning Assistance Study. Ms. Del Vecchio introduced William Riviere of the NJDOT – Office of Bicycle and Pedestrian Programs and Barry Keppard of Michael Baker Jr. Inc. Introductions by attendees then followed.

Ms. Del Vecchio explained that the purpose of the meeting is to present the work performed to date, including data collected, deficiencies identified and potential improvements to bicycle, pedestrian and equestrian routes and facilities.

Scope of Work

Each task in the Scope of Work was summarized for attendees. Tasks included coordination with local officials, data collection and an activity investigation, an inventory and assessment of bicycle and pedestrian facilities, development of conceptual improvements and various public outreach activities. It was explained that the final products of the study will be an action plan and a bicycle, pedestrian and equestrian destination map.

Data Collected and Deficiency Identification

Ms. Del Vecchio stated that the Activity Investigation was performed on September 5th to correspond with the start of school. Pedestrians, including school age children, were observed and their movements were mapped to determine walking routes. Bicycle activity was also observed and roadways where bicyclists were traveling were a map. Equestrian routes were obtained from



MEMORANDUM OF MEETING



Woodbine Equestrian Center and were illustrated with the observed bike and pedestrian travel routes. Potential trip generators were identified through field visits.

Mr. Keppard discussed the data collected for the study, which included traffic volumes, bicycle and pedestrian crash data, previous planning reports and studies, GIS data, NJ Transit routes, aerial photographs and applicable NJDOT Straight-Line Diagrams (SLD). To supplement the existing data, several field visits were performed to obtain information on existing conditions of pedestrian and bicycle facilities as well as roadway geometry. Mr. Keppard referred to display boards that illustrated the data collected. Mr. Keppard explained that roadways inventoried were determined to be bicycle compatible according to NJDOT guidelines and that sidewalks exist in much of the Borough.

Mr. Keppard stated that two (2) public outreach events were held prior to the STF Meeting. The Project Team staffed a booth at Woodbine Wellness Day in September to promote the study, and provide information and safety materials to residents regarding bicycling and walking. A Public Information Center (PIC) was held in October to present the existing conditions and activity investigation findings to the community. Comments received at the PIC were incorporated into the conceptual improvements.

Preliminary Conceptual Improvements

Mr. Keppard described the five (5) proposed conceptual improvement schemes:

1. Gateway and Pedestrian Enhancements

Gateway and pedestrian enhancements include textured and/or striped crosswalks at three (3) pedestrian crossing locations on Route 550, the addition of flashing beacons to school warning signs at Madison Avenue and a gateway treatment such as a small planted island with signage on Route 550 north of Heilprin Avenue.

2. Bicycle Routes

Washington Avenue, north of Webster Street, and Webster Street could be signed as shared use roadways, and Washington Avenue, south of Webster, could be signed and striped with bicycle lanes.

3. Shared Use Path

A shared use path could be constructed parallel to the Woodbine Developmental Center to connect to the Woodbine Community School and Lincoln Park. This shared use path would create a physical activity loop for the Woodbine Developmental Center by connecting to the existing Woodbine shared use path along Route 550.

4. Equestrian Route

Sumner Avenue, from Webster Street to Belleplain State Forest, could be signed with “Horse” and “Share the Road” signs to provide a designated route for horseback and equestrian riders and to alert motorists to the presence of horseback and equestrian riders.

5. Sidewalk Network

Existing sidewalk in poor condition is recommended for replacement. New sidewalk is proposed to complete existing gaps in the sidewalk network (e.g., the west side of Washington Avenue between Bryant Street and Emerson Street).



MEMORANDUM OF MEETING



Open Discussion

Following the presentation of concepts, Ms. Del Vecchio led an open discussion with the STF members. The following comments were received:

- Bicycle racks could be provided at Campark Liquors on Dehirsch Avenue and at the Woodbine Custard Ranch on Washington Avenue.
- Lighting could be installed along the existing shared use path.
- There is a blind spot at the intersection of Franklin Street and Washington Avenue.
- The intersection of Washington Avenue and Webster Street has a visibility issue due the bus stop and signs on the southeastern corner of the intersection. It is difficult for motorists on Webster Street to see oncoming traffic and pedestrians on Washington Avenue.
- There is an issue with left turns from CR 550 to Washington Avenue. Motorists turning left from CR 550 sometimes do not stop and this conflicts with shared use path users crossing Washington Avenue and motorists making left turns from Dehirsch Avenue onto Washington Avenue.
- During the summer months, Sumner Avenue, west of Washington Avenue, serves as an informal walking path to Belleplaine State Forest.

Next Steps/Schedule

Ms. Del Vecchio informed attendees about the next steps in the study:

1. Drafting of the Action Plan
2. Creation of a Woodbine Destination Map (“Woodbine Walks, Bikes, and Gallops Too”)

The STF members were then asked to use the Feedback Forms to provide their recommendations for the destination map, such as historic and natural areas. Feedback forms were collected and the meeting concluded.

Handouts: Agenda, Project Fact Sheet, Existing Condition Maps (3),
 Conceptual Improvements Maps (5), Destination Map Feedback Form.



MEMORANDUM OF MEETING



Destination Map Feedback Form Comments

- Partner with land and business owners to include destination information in guide, i.e. Belleplaine State Forest information in paragraph form.
- Public restroom facilities should be noted.
- Equestrian watering opportunities should be included.
- Wayside exhibits (e.g. Woodbine history) could be included along paths.
- Develop informational signs along the portion of the shared use path between Washington and Belleplaine State Forest. This may be the least used portion of the path but the most environmentally interesting.
- Points of interest that should be included on the map:
 - Sam Azeez museum
 - Library
 - Post Office
 - School
 - State Forest
 - Restaurants
 - Shopping locations

Additional STF Comments

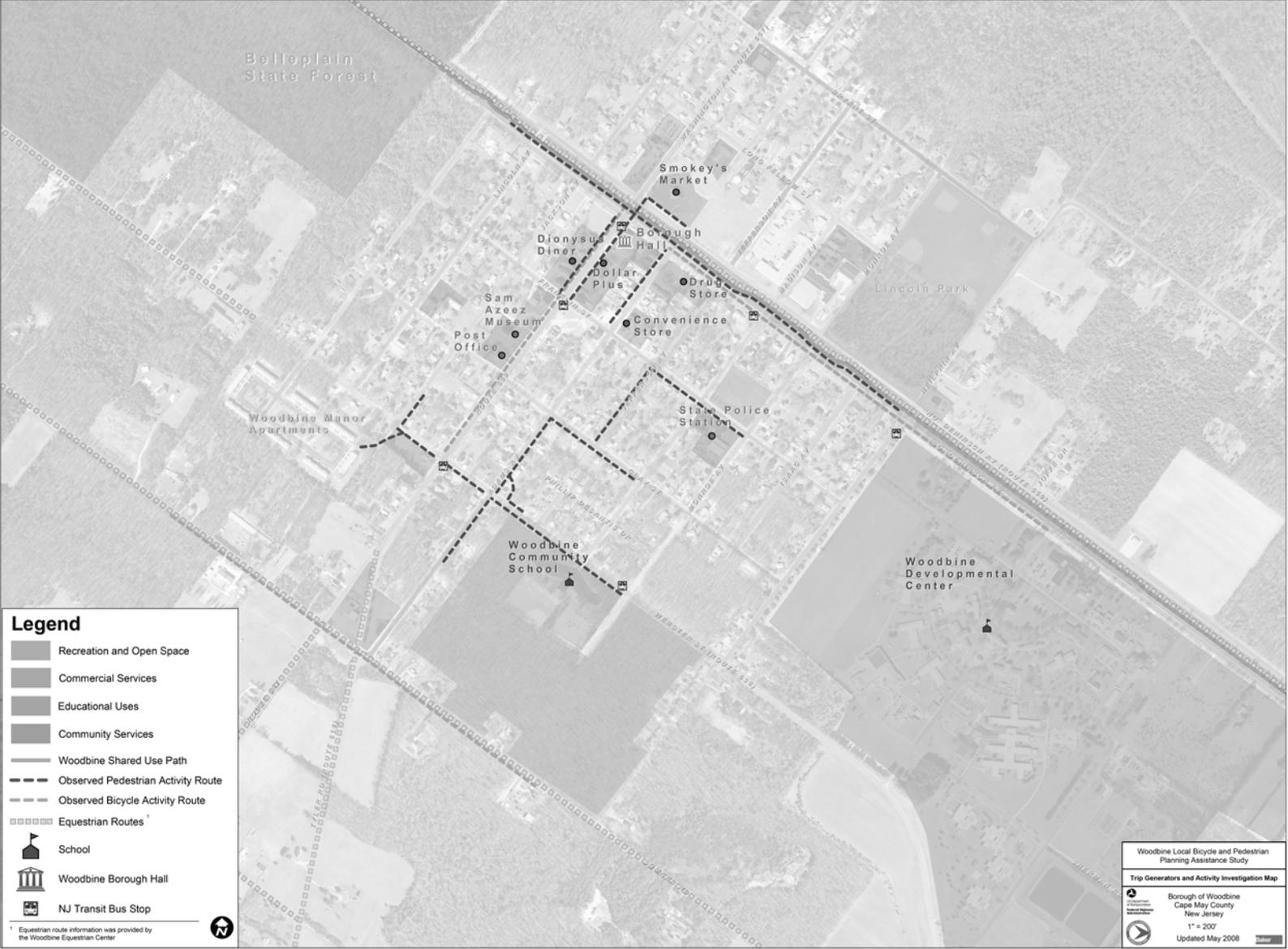
- The downtown part of Woodbine along Washington Ave. is perhaps a more appropriate place for a gateway enhancement with traffic slow down features. During the summer season, traffic is rather heavy from both directions just before and during weekends. Since the majority of businesses are located along Washington, it would seem to make more sense to locate Gateway features as you approach this area. The planning/zoning board is in the process of codifying the borough land use ordinances, which if approved by council and the Pinelands, will include an expanded downtown commercial zone along Washington.

*Borough of Woodbine
Local Bicycle and Pedestrian Assistance Study*

MAPS

Local Bicycle and Pedestrian Planning Assistance Study

Map 1. Local Trip Generators and Activity Investigation Map



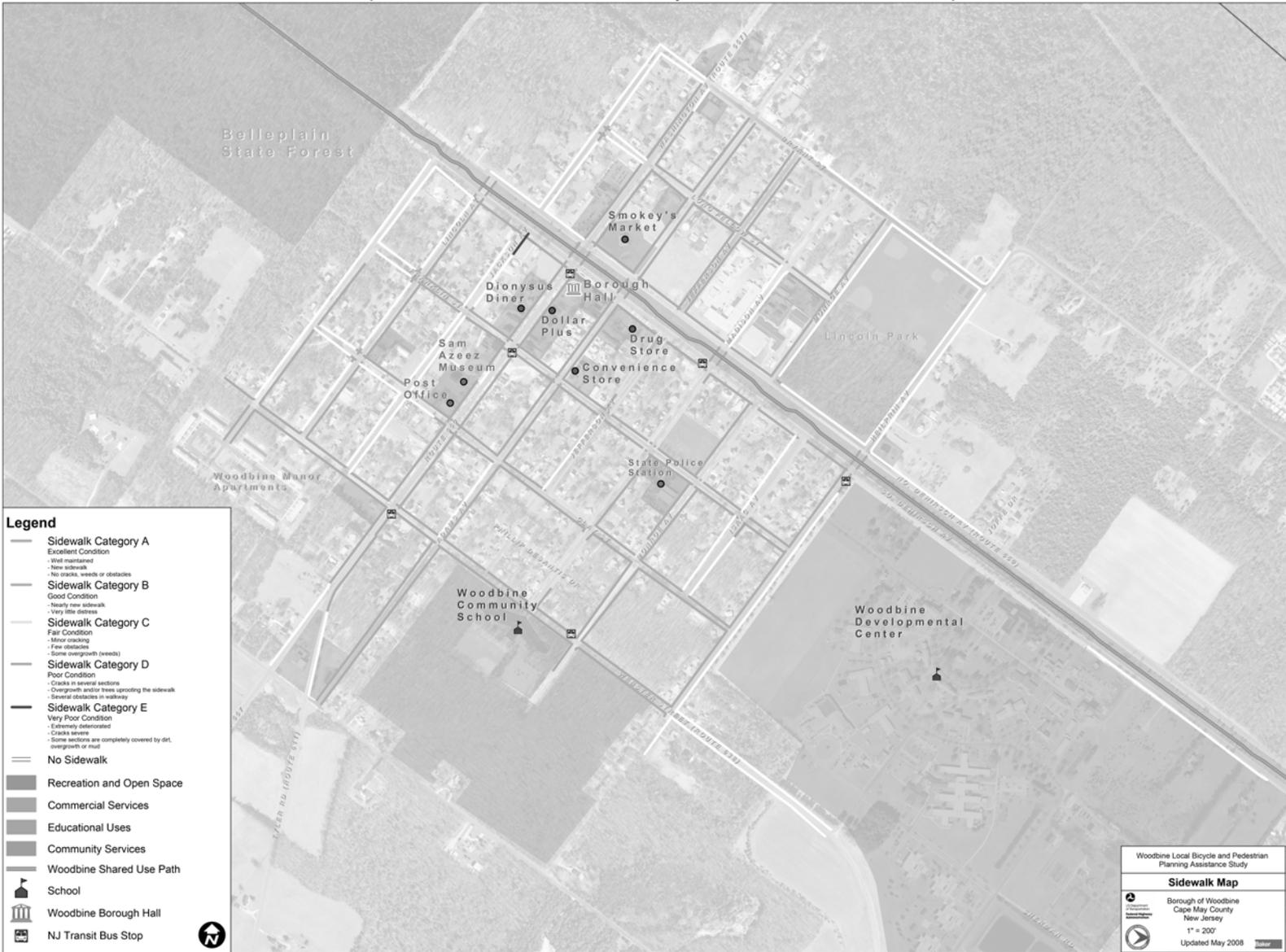
- Legend**
- Recreation and Open Space
 - Commercial Services
 - Educational Uses
 - Community Services
 - Woodbine Shared Use Path
 - Observed Pedestrian Activity Route
 - Observed Bicycle Activity Route
 - Equestrian Routes ¹
 - 🏫 School
 - 🏛️ Woodbine Borough Hall
 - 🚏 NJ Transit Bus Stop

¹ Equestrian route information was provided by the Woodbine Equestrian Center

Woodbine Local Bicycle and Pedestrian Planning Assistance Study
 Trip Generators and Activity Investigation Map
 Borough of Woodbine
 Cape May County
 New Jersey
 1" = 200'
 Updated May 2008

Local Bicycle and Pedestrian Planning Assistance Study

Map 2. Sidewalk Inventory and Conditions Map



Local Bicycle and Pedestrian Planning Assistance Study

Map 3. Bicycle Compatibility Map



Local Bicycle and Pedestrian Planning Assistance Study

Conceptual Bicycle Facilities Improvements



Woodbine Local Bicycle and Pedestrian Planning Assistance Study

Conceptual Sidewalk Network Improvements

| New Sidewalk Installation | | | | |
|-----------------------------|-------|-------------------|---------------------------|---------------|
| Street | Side | From | To | Length (ft.) |
| Washington Ave. (Route 557) | West | Emerson St. | Bryant Ave. | 1200 |
| Washington Ave. (Route 557) | East | Bryant Ave. | (mid-block) | 180 |
| Bryant St. | South | Washington Ave. | Jackson Ave. | 310 |
| Jackson Ave. | East | Bryant Ave. | Longfellow St. | 600 |
| Jackson Ave. | West | Bryant Ave. | No. DeHirsch Ave. | 600 |
| Longfellow St. | North | Washington Ave. | Jackson St. | 305 |
| Longfellow St. | South | Washington Ave. | Jackson St. | 305 |
| Jackson Ave. | East | Longfellow St. | No. DeHirsch Ave. | 600 |
| No. DeHirsch | North | Washington Ave. | Jackson St. | 310 |
| Madison Ave. | West | Longfellow St. | DeHirsch Ave. (Route 550) | 635 |
| Madison Ave. | East | Longfellow St. | DeHirsch Ave. (Route 550) | 635 |
| DeHirsch Ave. (Route 550) | North | Monroe Ave. | Heisron Ave. | 685 |
| Grant Ave. | East | So. DeHirsch Ave. | Franklin St. | 620 |
| Franklin St. | North | Grant Ave. | Lincoln Ave. | 310 |
| Franklin St. | South | Grant Ave. | Lincoln Ave. | 310 |
| Clay St. | North | Grant Ave. | Lincoln Ave. | 310 |
| Clay St. | South | Grant Ave. | Lincoln Ave. | 310 |
| Lincoln Ave. | West | So. DeHirsch Ave. | Franklin St. | 560 |
| Lincoln Ave. | West | Franklin St. | Clay St. | 560 |
| Lincoln Ave. | West | Clay St. | Webster St. (Route 550) | 560 |
| Clay Street | South | Lincoln Ave. | Jackson Ave. | 320 |
| Jackson Ave. | East | So. DeHirsch Ave. | Franklin St. | 420 |
| Jackson Ave. | West | So. DeHirsch Ave. | Franklin St. | 620 |
| Jackson Ave. | East | Franklin St. | Clay St. | 620 |
| Jackson Ave. | West | Franklin St. | Clay St. | 620 |
| Jackson Ave. | East | Clay St. | Webster St. (Route 550) | 620 |
| Jackson Ave. | West | Clay St. | Webster St. (Route 550) | 620 |
| Clay Street | South | Jackson Ave. | (mid-block) | 220 |
| Adams Ave. | West | Clay St. | Webster St. (Route 635) | 620 |
| Jefferson St. | North | Franklin St. | Clay St. | 620 |
| Philip DeSantis Dr. | North | Madison Ave. | Webster St. (Route 635) | 280 |
| Philip DeSantis Dr. | South | Madison Ave. | Webster St. (Route 635) | 280 |
| Isaac Ave. | West | So. DeHirsch Ave. | Franklin St. | 610 |
| Isaac Ave. | East | Franklin St. | Clay St. | 490 |
| Isaac Ave. | West | Franklin St. | Clay St. | 620 |
| Adams Ave. | West | Clay St. | Webster St. (Route 635) | 620 |
| Total | | | | 16,105 |

| Sidewalk Replacement | | | | |
|----------------------|-------|-------------------|--------------|--------------|
| Roadway | Side | From | To | Length (ft.) |
| Jackson Ave. | East | So. DeHirsch Ave. | Franklin St. | 200 |
| So. DeHirsch Ave. | South | Jackson Ave. | --- | 90 |
| Isaac Ave. | East | Franklin St. | Clay St. | 130 |
| Total | | | | 420 |

Legend

Conceptual Improvements

- Install New Sidewalk*
- Install School Crossing Beacon
- Install Longitudinal Striped Crosswalk
- Install Textured Crosswalk
- Proposed Shared Use Path

Existing Conditions

- Existing Sidewalk
 - Category A: Excellent
 - Category B: Good Condition
 - Category C: Fair Condition
- Recreation and Open Space
- Residential Uses
- Commercial Services
- Educational Uses
- Community Services
- Woodbine Shared Use Paths
- School
- Woodbine Borough Hall
- NJ Transit Bus Stop

* Proposed sidewalk network includes Woodbine Borough sign for crosswalks and directional sidewalk



Woodbine Local Bicycle and Pedestrian Planning Assistance Study

Conceptual Equestrian Route Improvements



Legend

| | |
|---|----------------------------|
| Conceptual Improvements | Existing Conditions |
| Install Horse Riding Sign | Recreation and Open Space |
| Install Speed Limit Sign | Residential Uses |
| Proposed On-Road Horse Riding Connector Route | Commercial Services |
| Proposed On-Road Bicycle Routes | Educational Uses |
| Proposed Shared Use Path | Community Services |
| | Woodbine Shared Use Paths |
| | School |
| | Woodbine Borough Hall |

Woodbine Local Bicycle and Pedestrian Planning Assistance Study

Equestrian Route Improvements

Borough of Woodbine
Cape May County
New Jersey
1" = 350'
Updated May 2008

Woodbine Local Bicycle and Pedestrian Planning Assistance Study

Conceptual Shared Use Path



Woodbine Destinations

Sam Azeez Museum of Woodbine Heritage

The Sam Azeez Museum, housed in the former Brotherhood Synagogue (built circa. 1896), displays personal accounts, photographs, documents and artifacts that detail the history of Woodbine and its original settlers.

Belleplaine State Forest

Belleplaine State Forest is a 20,000+ acre nature preserve and recreation area. Within the forest are nearly 200, Lake Nummy, which offers canoeing, and trails for hiking, mountain biking and horseback riding.

Woodbine Rail Trail

The Woodbine Rail Trail runs parallel to Route 550 (DeHirsch Avenue) along a former piece of the Cape May Branch of the Pennsylvania Railroad. The trail extends from Belleplaine State Forest, through sections of downtown Woodbine and Lincoln Park, to the eastern border of the Borough, near Petersburg Road.

Local Parks & Recreation

Woodbine has two recreational parks within its borders. Lincoln Park, which is the larger of the two parks, has tennis and basketball courts, athletic fields and playgrounds. A smaller neighborhood park is located on Franklin Street, between Madison Avenue and Monroe Avenue, with a playground, basketball court and athletic fields.

Refreshments

There are a variety of places to find refreshments in Woodbine. Look on Washington Street for the Dionysus Restaurant and the Woodbine Custard Ranch. Soprano's Pizza and the Bull & Bear Tavern are located on DeHirsch Avenue. If you need a quick bite, there is Smokey's Market and the Woodbine Grocery Store among other local convenience stores.

Shopping

Downtown Woodbine is a diversified shopping destination. Take a walk or bike down Washington Avenue to visit the various antique stores and other unique local shopping spots.

Walking

Stretch Your Legs on the Woodbine Rail Trail

Length: 3 Miles (45 - 60 minutes, one way)
Enjoy nature with a long stroll along the trail, which follows along a former regional rail line.

Museum, Library and Neighborhood Trail

Length: 1 Mile (15 - 20 minutes for loop)
On this walking route, visit the Sam Azeez Museum, the Woodbine Community School and Library, while strolling through the local neighborhoods.

Walk Around Downtown

Length: 1.9 Miles (30 - 40 minutes for loop)
Take a walk around downtown. See the Rail Trail, Washington Avenue, the Community School, Woodbine Developmental Center and Lincoln Park along the way.

Exploring Trails in Belleplaine

Length: Varies.
Explore Belleplaine State Forest and enjoy the outdoors on the paved and unpaved trails in the park. For a map of the trails in Belleplaine, visit the Forest's Office on Route 550, or call (609) 861-2404.

Safety Tips for Walking:

1. Cross intersections carefully. Be sure to stop, look left-right-left and over your shoulder. Cross intersections as quickly as possible.
2. Pay attention. Be alert for turning vehicles that may not stop for you. Make eye contact with the motorist, if possible, and do not assume the motorist will stop.
3. Walk on the sidewalk or on the shoulder. If there is no sidewalk, walk facing traffic.
4. Take extra care at dusk and at night. Walking at night increases the chance of injury. Drivers cannot avoid what they cannot see. Wear retro-reflective clothing or shoes, and avoid dark clothes when walking at night.



5. Practice and teach safe walking behavior to children. Children under nine years old often lack the judgment to make safe choices when dealing with traffic and their size makes them difficult for motorists to see.

Facts:

- As little as 30 minutes of walking or cycling a day is enough to improve your energy level and mood, aid with weight loss and reduce your risk for a number of chronic afflictions.
- In 1969, over 40% of children walked or biked to school as compared to about 15% in 2001.
- Longer, moderately-paced daily walks are best for losing weight, while shorter, faster walks are best for conditioning your heart and lungs.



Funding for the design of this guide was made possible by the New Jersey Department of Transportation under the Local Bicycle and Pedestrian Planning Assistance Program. For additional copies of the guide, please contact the Borough of Woodbine at (609) 861-2153. On behalf of the New Jersey Department of Transportation and the Borough of Woodbine, we hope you enjoy your travels through one of New Jersey's historic communities. Please use this map as a guide, but do not substitute this information for your own common sense based on weather, road conditions and other factors.

This map was prepared by Michael Baker, Jr., Inc.

Cycling

Woodbine Rail Trail

The rail trail is designed for bicyclists as well as pedestrians and is a good off-road cycling option. Want to make your ride longer? Try out the rail trail extension by the Woodbine Airport

On-Road Cycling

Several roadways in the Borough are compatible for on-road bicycle travel. Both Washington and Webster Avenues are some of those roadways. Also, neighborhood streets have lower traffic volumes and may suit less experienced riders.

Regional Bicycle Routes

The High Point to Cape May Bicycle Route (HPTCM) is an on-road bicycle route connecting High Point State Park in Sussex to the Cape May Lighthouse in Cape May. The route passes through Woodbine along Washington Avenue (Route 557) and DeHirsch Avenue (Route 550). For more information please contact the NJDOT Office of Bicycle and Pedestrian Programs or visit www.state.nj.us/transportation/commuter/bike/tours.shtm.

Also pass through Woodbine is a bicycle route developed by the South Jersey Wheelmen as part of the New Jersey Coastal Heritage Trail. This route covers nearly 300 miles encompassing parks, towns and other destinations along the Atlantic coast. For more information please contact the South Jersey Wheelmen at (609) 848-6123 or visit www.sjwheelmen.org/.

Safety Tips for Bicycling:

1. Always wear a helmet when riding a bike. Wearing a helmet helps prevent serious injuries in the event of a crash. In New Jersey, children under the age of 17 are required to wear a bicycle helmet when riding a bicycle.
2. Care for your bicycle. Keep your bicycle clean and perform regular checkups. Check your bicycle's brakes, wheels and tires, chains and lights before riding.
3. Ride on the right side of the road, with traffic. A bicycle is a vehicle and must travel with traffic patterns in the appropriate direction.
4. Watch for turning vehicles. Be alert for cars

making left and right turns, and for cars opening doors along streets with on-street parking. They may not see you.

5. Wear retro-reflective clothing and have lights on your bike. While bicycling, especially at night, wear reflective clothing, and use head and rear lights that make you visible to motorists.
6. Walk your bike across busy intersections. Dismount and use crosswalks to walk your bicycle across intersections.
7. Yield to pedestrians. Pedestrians have the right of way so bicyclists must yield to them when they are crossing streets.

Facts:

- 25% of all trips are within a mile of your home; ride your bike for your next trip.
- A short, four-mile round trip by bicycle keeps about 15 pounds of pollutants (like CO₂) out of the air we breathe.
- When locking your bicycle, make sure it is highly visible, attached to a fixed, immovable object and that the lock passes through your frame and wheels.

US Department of Transportation
Federal Highway Administration



New Jersey
Department of Transportation



Galloping

There are several on road routes used by equestrian and horseback riders in Woodbine. These routes, including Sumner and Fremont Avenues, as noted by the Woodbine Equestrian Center, provide connections in the Borough and from local horse and equestrian farms, to Belleplaine State Forest. In Belleplaine, there are a number of trail opportunities for horseback riding.

In New Jersey, according to the law, motorists must drive at 25 MPH when passing persons riding or driving horses. In addition, horses are considered vehicles, so as a rider, your horse must travel with the direction of traffic.

Safety Tips for Horseback Riding:

1. Always wear a helmet when riding a horse. Wearing a helmet helps prevent serious injuries in the event of an accident.
2. Know the traffic regulations in your area regarding horses. Horses must travel with traffic, and motorists are required drive at 25 MPH when passing horses on the road.

3. Ride a horse that suits your riding level. Before taking a horse on the road, be sure that you can control your horse
4. Check your equipment. Make sure that your saddle and other equipment fits well and is in good condition.
5. Keep both hands on the rein. Riders should keep both hands on the reins, except when signaling, and both feet in the stirrups.
6. Be aware of road surface dangers. Some surfaces, like asphalt roads, can be very slippery especially when wet. Riding on these require special shoeing considerations.

Facts:

- Equestrian events were first included in the Olympic Games in 1900
- The top speed of a horse is about 45 mph
- Horses have the largest eyes of any land animal

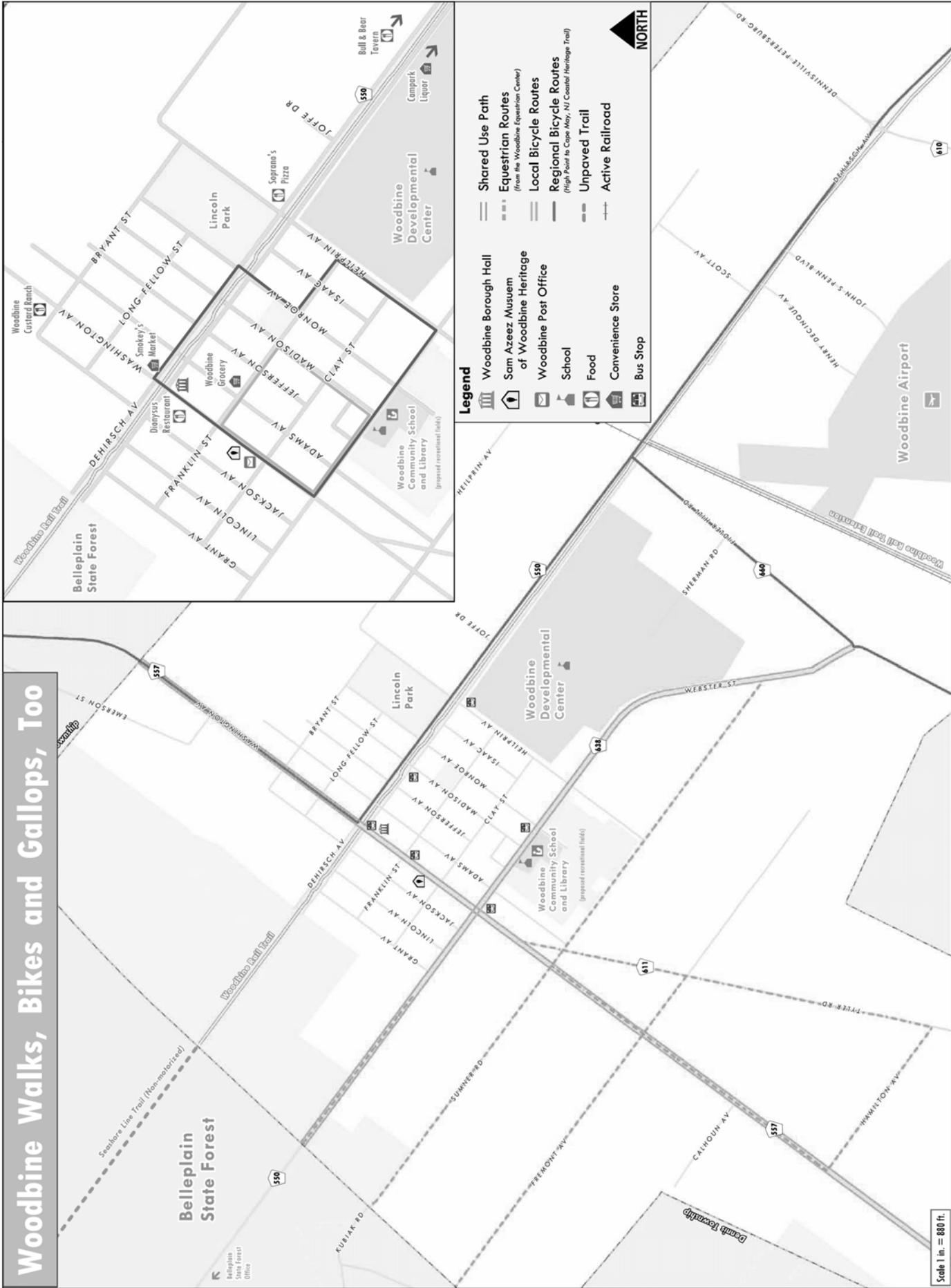


Woodbine

Walks, Bikes
& Gallops Too



Woodbine Walks, Bikes and Gallops, Too



Legend

- Woodbine Borough Hall
- Sam Azeez Museum of Woodbine Heritage
- Woodbine Post Office
- School
- Food
- Convenience Store
- Bus Stop
- Woodbine Community School and Library
- Woodbine Developmental Center
- Woodbine Airport
- Woodbine Covedale Ranch
- Lincoln Park
- Woodbine Grocery
- Dinerias Restaurant
- Smoke's Market
- Woodbine (Rail Trail)
- Belleplain (Rail Trail)
- Seashore Line Trail (Non-motorized)
- Deeds Township

Shared Use Path

Equestrian Routes
(from the Woodbine Equestrian Center)

Local Bicycle Routes

Regional Bicycle Routes
(High Point to Cape May, NJ Coastal Heritage Trail)

Unpaved Trail

Active Railroad

Scale 1 in. = 880 ft.