TEANECK BICYCLE AND PEDESTRIAN MASTER PLAN

FINAL
MARCH 2011

Prepared For:
The Township of Teaneck and
The New Jersey Department of Transportation

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EXECUTIVE SUMMARY

The Township of Teaneck requested bicycle and pedestrian planning assistance from the New Jersey Department of Transportation – Office of Bicycle and Pedestrian Programs (NJDOT – OBPP) to assist in the development of a Bicycle and Pedestrian Master Plan.

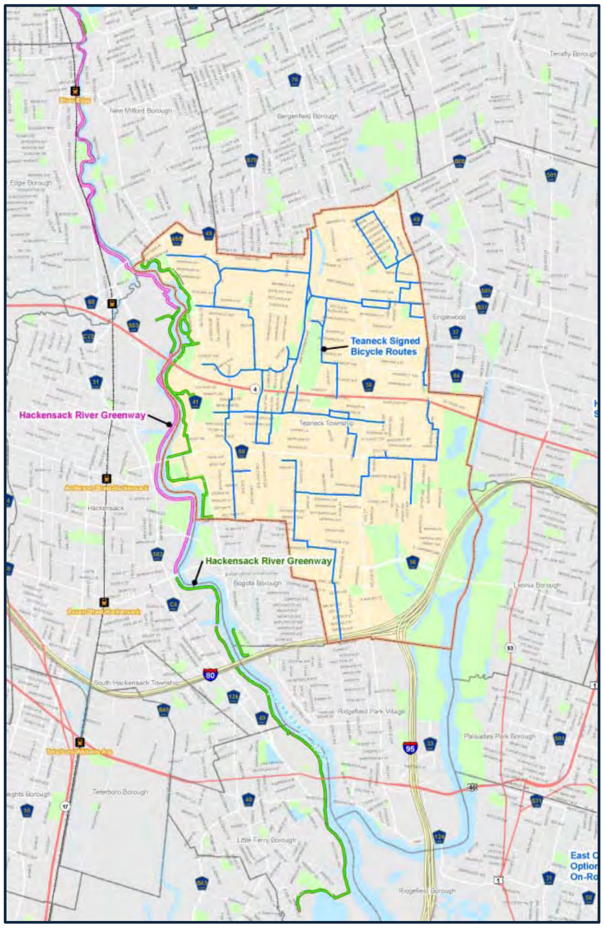
NJDOT – OBPP requested that Michael Baker Jr. Inc., (Baker) assist Teaneck in developing a Bicycle and Pedestrian Master Plan through a compatibility assessment of sidewalks, roadways, and intersections using NJDOT guidelines, an analysis of reported bicycle and pedestrian crashes, and the identification of bicycle and pedestrian facilities and trip generators. From this analysis, recommendations were developed to address on-road bicycle facility improvements, pedestrian facility improvements, and adopt a Complete Streets Policy. An implementation plan for the recommended improvements was developed summarizing cost, responsibility, priority and lead agency.

The study was advanced under the direction of the Teaneck Environmental Commission to support the Township's goal to improve bicycle and pedestrian facilities, enhance bicycle and pedestrian accessibility for local and regional destinations, and to develop education initiatives to increase residents' knowledge of recommended bicycle and pedestrian travel practices. A Study Task Force (STF) was formed, consisting of municipal officials, stakeholders and township residents. The STF was instrumental in guiding the study and providing feedback and comments throughout the process.

Existing Bicycle Lanes on Windsor Road

Study Area

The Study Area encompassed the Township of Teaneck and included several key corridors and roadways identified by the Study Task Force (STF). The STF was comprised of local officials, stakeholders and community residents, who provided guidance throughout the course of the Study. The STF assisted to identify potential bicycle and pedestrian connections to trip generators, attractors, and destinations, which included schools, commercial/retail centers, places of worship, and parks.



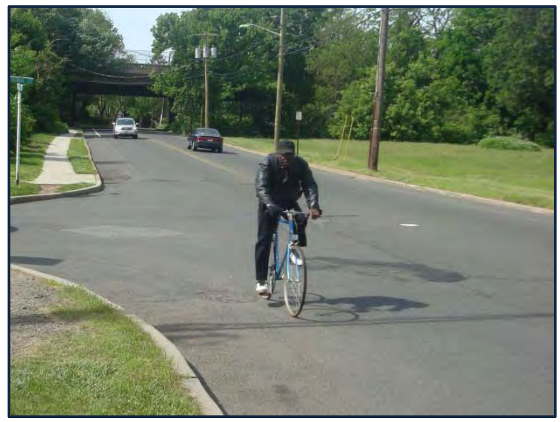
Regional Connections Map

Roadway Network Resources

Data collection was performed to obtain existing resources related to bicycle facilities. Data and documentation was obtained from the Township of Teaneck, Bergen County, the North Jersey Transportation Planning Authority (NJTPA) and NJDOT. Traffic volumes, signal timing, bicycle crash data, GIS data, and available mapping and plans were received. To supplement data from public agencies, an inventory of roadway attributes was performed through several field visits. In addition to received traffic volume data, six (6) supplemental traffic counts were performed using Automatic Traffic Recorders (ATR's) at different locations throughout Teaneck where volumes were not currently available.

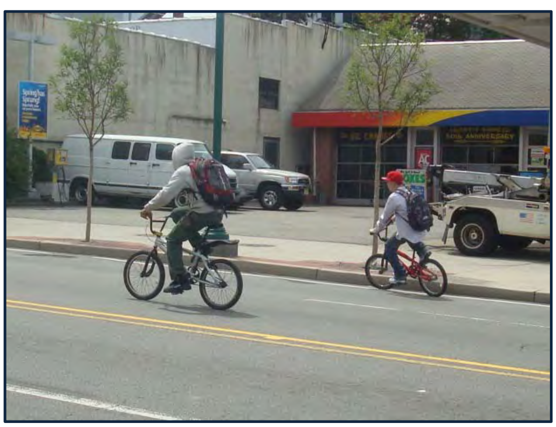
Bicycle and pedestrian crash reports were requested from the Teaneck Police Department to assist in identifying the location and circumstances of the incidents. The reports were received for the most recent three (3) years available (March 2007 – December 2009). During the three year period, a total of 185 crashes involving bicyclists or pedestrians occurred on Teaneck roadways.

Bicycle Compatibility



Bicyclist traveling North on Palisade Avenue

Roadways with available traffic volumes were inventoried to determine bicycle compatibility based on NJDOT guidelines. NJDOT maintains that "bicycle compatible roadway improvements are intended for the shared use of all highway users" and that a "well designed bicycle compatible roadway should reduce accidents and exposure to liability by allowing a safer environment."[1] In pursuit of these goals, roadway pavement widths were inventoried and compared to traffic volumes, observed heavy truck traffic, posted speed, and presence of on-street parking to determine if sufficient width exists for the roadway to be shared by bicycles.



Bicyclists traveling East on Cedar Lane

Data collected included posted speed limits, pavement width (lane and shoulder width), pavement condition, on-street parking, existing bicycle facilities (designated routes and bicycle lanes), location of signage and traffic signals, and potential horizontal and vertical sight distance issues.

Six (6) intersections were identified by the STF to expand the bicycle compatibility assessment of Study Area Roadways. These intersections were also analyzed to identify deficiencies in regard to pedestrian accommodation. The inventoried intersections included:

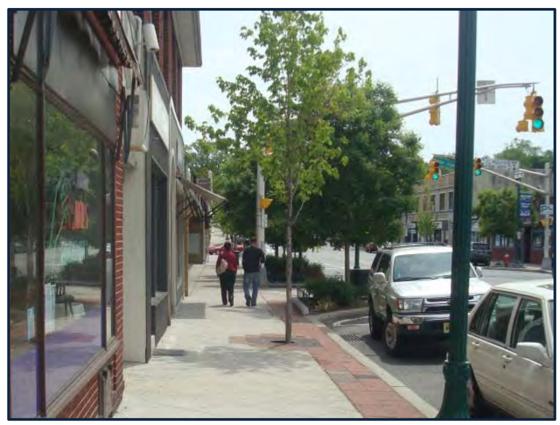
[1] Bicycle Compatible Roadways and Bikeways, Planning and Design Guidelines, NJDOT, 1996, page 6.

- Queen Anne Road and Degraw Avenue *(signalized)*
- Cedar Lane and Queen Anne Road *(signalized)*
- Cedar Lane and Teaneck Road *(signalized)*
- Teaneck Road and Tryon Ave/Queen Anne Road *(signalized)*
- Cedar Lane and River Road *(signalized)*
- Teaneck Road and Werner Place *(unsignalized)*

Each intersection was inventoried to document signing, striping, lane widths, intersection approaches, and roadway cross-section characteristics. While in the field, the overall operation of signalized intersections was evaluated to identify any immediate conflicts with motor vehicle traffic. A Level of Service (LOS) analysis and pedestrian signal timing analysis was performed using signal timing and phasing plans obtained from the Bergen County Engineering Office.

Pedestrian Facility Analysis

In addition to County roadways, four (4) pedestrian corridors identified by the STF were inventoried to identify the location and condition of sidewalk. This assessment utilized existing sidewalk data obtained by NJDOT in 2002 for county roadways and was supplemented by field visits to verify the data.



Pedestrians walking along Cedar Lane

The data was used to identify gaps and deteriorated segments of the sidewalk network. These areas were then highlighted for improvement with recommendations varying based on the condition and presence of sidewalk.

The additional pedestrian corridors included:

- Jefferson Street / Buckingham Road
- Country Club Drive / East Lawn Drive / Phelps Road
- Windsor Road
- Palisade Avenue

Recommendations

Recommendations to upgrade and enhance bicycle and pedestrian facilities in the Township were determined based on the findings from the bicycle compatibility assessment, pedestrian facility analysis, crash analyses, and the facilitation of an online community survey performed from August 2, 2010 to September 20, 2010. Recommendations are summarized in an Implementation Matrix, which outlines improvement cost, implementation time, priority, and lead agency.

The implementation matrix is intended to be used as a guide to install the recommended improvements throughout the Township. Costs associated with implementing the improvements will vary and can range from material costs to construction escalation. Funding sources for bicycle improvements are compiled by NJDOT to assist municipalities identify major funding sources that can be used to fund bicycle planning and project development activities. These funding sources, including Congestion Mitigation and Air Quality (CMAQ) and Safe Routes to School (SRTS) funds, are listed in the Appendix.

Maintenance, Education, and Enforcement

Maintenance of roadways, including on-road bicycle facilities, and enforcement of traffic laws and statutes are important considerations as the potential for increased bicycle ridership increases as new facilities are created. Similarly, the pedestrian network, sidewalks, crosswalks and curb ramps, should be assessed regularly to determine whether maintenance or replacement may be necessary. Education and outreach programs are also recommended to promote the proper use of facilities throughout Teaneck.

Conclusion

As Teaneck begins updating the overall Township Master Plan, the opportunity to enhance bicycle and pedestrian accommodations is present. Implementing the recommendations outlined in this Bicycle and Pedestrian Master Plan can help Teaneck in its desire to increase bicycle and pedestrian travel in the township, while improving personal health, traffic conditions, and air quality. This Master Plan is intended to serve as a resource for the Township to improve these networks for present and future generations.

I

INTRODUCTION

I. INTRODUCTION

The Township of Teaneck requested bicycle and pedestrian planning assistance from the New Jersey Department of Transportation – Office of Bicycle and Pedestrian Programs (NJDOT – OBPP) to assist in the development of a Bicycle and Pedestrian Master Plan. The study was advanced under the direction of the Teaneck Environmental Commission to support the Township's goal of improving bicycle and pedestrian facilities, enhancing bicycle and pedestrian accessibility for local and regional destinations, and to developing education initiatives to increase residents' knowledge of recommended bicycle and pedestrian travel practices.

NJDOT – OBPP requested that Michael Baker Jr. Inc., (Baker) assist Teaneck in developing a Bicycle and Pedestrian Master Plan through a compatibility assessment of sidewalks, roadways, and intersections using NJDOT guidelines, an analysis of reported bicycle and pedestrian crashes, the identification of bicycle and pedestrian facilities and trip generators, and a review of current Teaneck ordinances. From this analysis, treatments to address on-road bicycle facility improvements, pedestrian facility improvements, the adoption of a Complete Streets Policy, and an implementation plan were developed.

This report documents the activities, findings, and recommendations of the Teaneck Bicycle and Pedestrian Master Plan Study, including the data collection process, assessment of major bicycle and pedestrian corridors identified by the Study Task Force (STF). A Study Task Force (STF) was formed, consisting of municipal officials, stakeholders and township residents. The STF was instrumental in guiding the study and providing feedback and comments throughout the process. STF meeting minutes and study comments are provided in **Appendix A**.

Additionally, the community was able to directly provide input about the study through an online survey, linked through the township's webpage from August 2, 2010 to September 20, 2010 (paper copies of the survey were made available at the public library). A summary of the survey and survey results are provided in **Appendix B**.

The Master Plan presents a range of improvements, as well as recommendations for future study to address the complex and constrained characteristics of Teaneck's urban environment, which includes cartway and sidewalk width constraints (the result of a densely built environment), and high traffic volumes. The primary goal of the Master Plan is to increase bicycle and pedestrian travel in the township, thereby improving personal health, traffic conditions, and air quality.

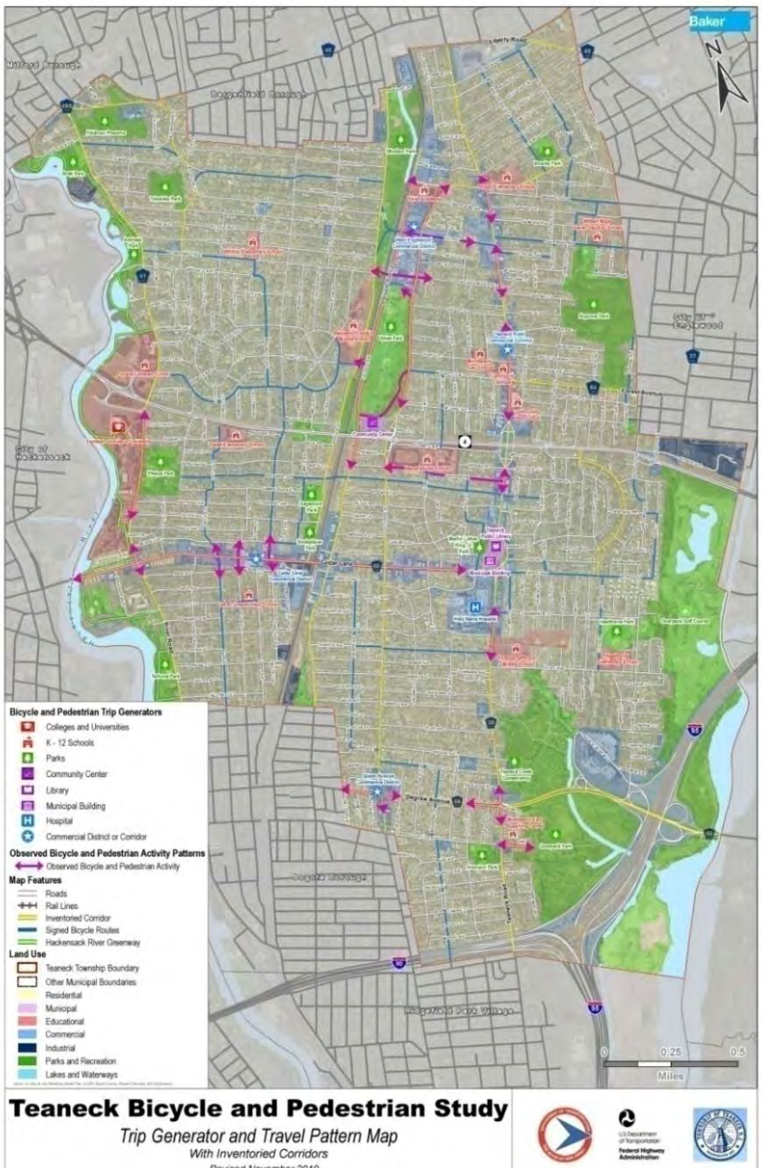
II

STUDY AREA

II. STUDY AREA

The Study Area was limited to key corridors and roadways within Teaneck, which would provide bicycle and pedestrian connections to major trip generators, attractors, and destinations, including schools, commercial/retail centers, and parks. These corridors are highlighted on **Map 1** below, which also includes land uses, trip generators, and observed bicycle and pedestrian activity. Larger versions of the maps can be found in **Appendix C**.

Map 1: Study Area with Trip Generators and Inventoried Corridors



A. Regional Connections

Regional connections are an important aspect to consider when planning bicycle and pedestrian facilities. Since some origins and destinations of bicycle and pedestrian trips may be located outside of Teaneck, an analysis of regional facilities was performed. The Study Team identified several proposed and existing bicycle and pedestrian facilities which are highlighted on **Map 2** and listed below.

Saddle River Bicycle Path

The Saddle River Bicycle Path is a 6-mile shared use path that runs through the municipalities of Ridgewood, Glen Rock, Fair Lawn, Paramus, Saddle Brook, and Ho-Ho-Kus. It travels the length of Saddle River County Park and includes a trailhead located 4 miles from Teaneck in Saddle River.

Hackensack River Greenway

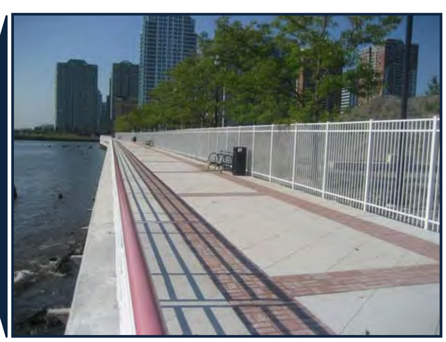
The Hackensack River Greenway travels through Teaneck parallel to the Hackensack River. Most of the 3.5 mile trail in Teaneck follows the river, with portions utilizing roadways for local connections. It is the goal of the Environmental Commission in Teaneck to provide one (1) contiguous trail segment in the future.

Henry Hudson Drive/Route 9W

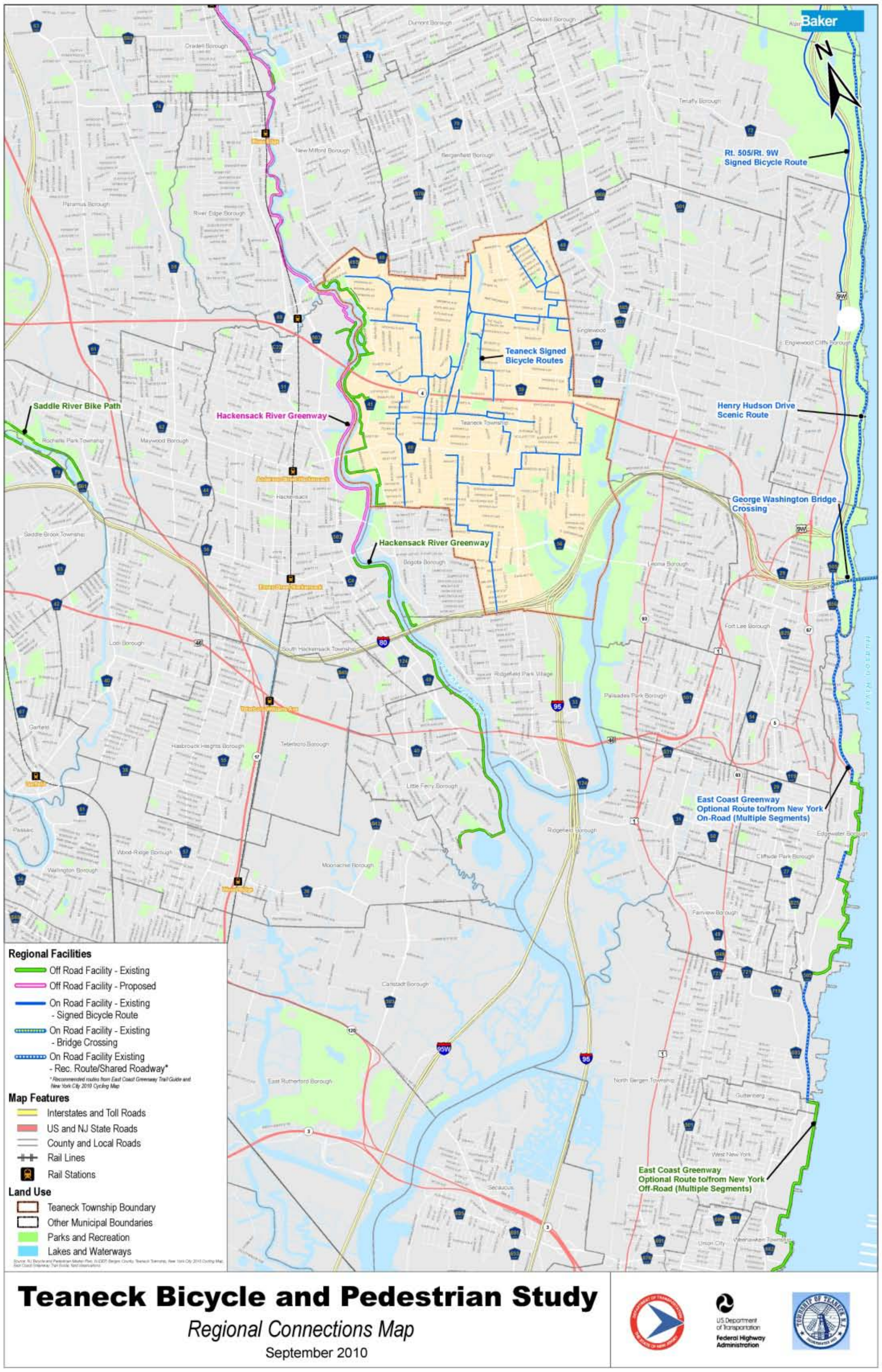
Henry Hudson Drive is a scenic roadway found in Palisades Interstate Park paralleling the Hudson River for 7 miles, starting in Fort Lee, NJ. Portions of the roadway are open only to bicycle traffic. Route 9W parallels this roadway and is an official signed bicycle facility. Henry Hudson Drive is located approximately 4 miles from Teaneck.

East Coast Greenway

The East Coast Greenway is a shared-use path extending from Maine to Florida utilizing both on and off-road facilities. A segment of the Greenway runs through New Jersey and parallels the Hudson River. This route provides connections across the George Washington Bridge, into New York City. The Greenway is located approximately 4 miles from Teaneck.



Map 2: Regional Connections Map



III

BICYCLE FACILITIES & COMPATIBILITY ASSESSMENT

III. BICYCLE FACILITIES & COMPATIBILITY ASSESSMENT

NJDOT's *Planning and Design Guidelines for Bicycle Compatible Roadways and Bikeways* (Guidelines) outline three (3) types of on-road bicycle facilities that were considered for Teaneck's roadway network. These facilities are intended to enhance on-road conditions and accommodate bicycle traffic. Advancements in the provision of on-road bicycle accommodations through the use of shared lane markings or traffic calming measures have also been considered. These enhancements have been applied on urban roadway networks in an attempt to address current increases in bicycle travel and to promote healthier lifestyles. Some of the countermeasures mentioned in the following section have received support from the Federal Highway Administration (FHWA) and the American Association of State and Highway Transportation Officials (AASHTO), while others are still being evaluated. Application of these facilities has proven to be successful when applied throughout Europe and in several major American cities.

A. Bicycle Facility Categories

The three (3) types of on-road bicycle facilities according to NJDOT guidelines are: Shared Lane, Paved Shoulder, and Bicycle Lane. Specific roadway attributes (e.g., on-street parking provisions, traffic volumes, posted speed limit, etc.) are inventoried and assessed to determine the feasibility of each facility. Each on-road facility can serve as a designated bicycle route[2]. Following is a description of each facility.

Shared Lane A Shared Lane accommodates bicyclists and motorists in the same travel lane. Shared Lanes can be located on urban or rural roadways with low vehicular traffic volumes and low posted speeds, and are occasionally supplemented with 'Share the Road' warning signs. Wide (12' – 15') outside travel lanes are often desired for shared lane facilities. A new pavement marking used to guide bicyclists with lateral positioning in a shared travel lane, especially in locations with on-street parking, is the Shared Lane marking (informally referred to as 'Sharrows'), which is included in the 2009 Manual on Uniform Traffic Control Devices (MUTCD).

Shared Lane application with the use of the "Sharrow" and "Bicycles May Use Full Lane" sign.

[2] A bicycle route is a signed route used to direct a bicyclist on bicycle compatible roadways between local and/or regional destinations.

Paved Shoulder A Paved Shoulder accommodates bicyclists on the roadway shoulder adjacent to vehicular travel lanes. Paved Shoulders can be located on urban or rural roadways with moderate to high vehicular traffic volumes and moderate to high posted speeds. Paved Shoulders for bicyclists range in width from 4' – 6+' depending on available width, and are occasionally supplemented with 'Share the Road' warning signs.

Paved Shoulder allpication with the use of the "Share the Road" warning sign.

Bicycle Lane Bicycle Lanes are designated travel lanes for exclusive or preferential use by bicyclists. Bicycle Lanes are typically located on roadways in urban settings with moderate to high vehicular traffic volumes, moderate to high posted speeds and permitted or designated on-street parking. Bicycle Lanes include the application of pavement striping, markings and regulatory signage.

Bicycle Lane application in a downtown setting.

B. Innovative Bicycle Facilities

In certain situations, traditional bicycle facilities (e.g., bicycle lanes) may not achieve desired results due to the nature of the existing roadway network. For this reason, the application of innovative facilities can be utilized to make important connections that would otherwise be unavailable through traditional means. Three (3) examples of innovative facilities are presented below, since they may be applicable in the future to bicycle compatibility improvements in Teaneck. These facilities have been evaluated by the FHWA through the BIKESAFE Countermeasure Selection System and have been successfully implemented in many cities throughout the United States.

Advance Stop Line "Bicycle Box"

The Advance Stop Line or "Bicycle Box" is a roadway treatment developed to provide cyclists with the space to position themselves for turning movements at signalized intersections. This treatment marks an area for bicyclists in front of stopped vehicles at signalized intersections. Similar to High Visibility Bicycle Lanes, current applications use a contrasting surface color to mark the entire area occupied by the bicycle box and to enhance visibility. A prominent example of this treatment currently in use and under evaluation in Portland, Oregon.


Source: BikePortland.org

Bicycle Box installed at the intersection of SE Hawthorne Blvd and SE 7th Avenue, Portland, Oregon.

Bicycle Boulevard

A Bicycle Boulevard is a roadway on which bicycle travel receives priority over vehicular traffic. Typical applications are found on local roadways with low volumes, which are intended to serve as low-speed "arterials" for bicycle travel. Bicycle boulevards typically include bicycle route signage and other physical diversions that allow for the passage of bicycles, but do not allow through traffic for vehicles. Intersecting streets are usually stop controlled, giving full right-of-way to the travelling bicyclist.

Phyisical diversion island installed on a Bicyle Boulevard in Albequerque, NM

Traffic Calming Measures

Traffic Calming Measures can be implemented on minor arterial streets where lower speeds or volumes are desired. Calming measures modify the existing roadway, and are intended to be self-regulating. Some Traffic Calming Measures include: speed tables/humps, chicanes, traffic circles, and raised intersections. Each measure is applicable under different circumstances, and should be investigated thoroughly before installation.


Source: BIKESAFE

Mini traffic circle installed in Seattle, WA

C. Bicycle Compatibility Assessment

The NJDOT Guidelines state "At a minimum, all highway projects shall provide sufficient width of smoothly paved surface to permit the shared use of the roadway by bicycles and motor vehicles.[3]" For this reason, a bicycle compatibility analysis was performed for County and State roadways in addition to local roadways selected by the STF. The compatibility of a roadway is determined through the collection of several different characteristics that could affect bicycle travel. Characteristics such as, vehicle volume, vehicle type, speed, and parking availability are identified on the analyzed corridors to help determine whether it is compatible based on NJDOT guidelines. When a roadway is determined incompatible, it is likely that one or more of these characteristics would present unfavorable conditions for bicyclists or motorists when shared use occurs. Incompatibility does not preclude cyclists from using the roadway, but simply highlights unsatisfactory conditions, and directs attention towards the development of concepts to mitigate these issues.

Available traffic volume data was collected from NJDOT's Traffic Monitoring System, Bergen County, and Teaneck. Supplemental traffic counts were performed by Baker for five (5) locations using Automatic Traffic Recorders (ATRs) where traffic volumes were unavailable. These locations included:

- **River Road** – Between Route 4 New Bridge Road
- **Sussex Avenue** – Between Route 4 and W. Englewood Avenue
- **Windsor Road** – Between Route 4 and State Street
- **Queen Anne Road** – Between Route 4 and State Street
- **Teaneck Road** – Between Degraw Avenue and Route 80

For locations where traffic volume data was not available, assessments were made under Condition III (AADT over 10,000) using NJDOT guidelines for bicycle compatible roadways. When volumes are obtained for these locations, it is recommended that they be re-assessed for compatibility.

Site visits were performed to collect roadway attributes, including posted speed limits, pavement widths, (land and shoulder width), pavement condition, on-street parking locations and widths, bicycle compatibility of drainage grates, existing bicycle facilities, and traffic control devices. A review of Teaneck's existing bicycle route network was also performed to determine connectivity of the routes and condition/accuracy of bike route signage.

A Bicycle Compatibility Matrix was developed to assist in assessing the compatibility of roadways in Teaneck. The complete matrix has been included in **Appendix D.**

[3] *Bicycle Compatible Roadways and Bikeways, Planning and Design Guidelines,* New Jersey Department of Transportation, page 6, 1996.

Bicyclist riding south on River Road in the shoulder.

Bicycle lanes on Palisade Avenue.

Several roadways in Teaneck were determined to be compatible based on the assessment. The following lists identify roadways where compatible and non-compatible segments were identified.

Compatible Segments

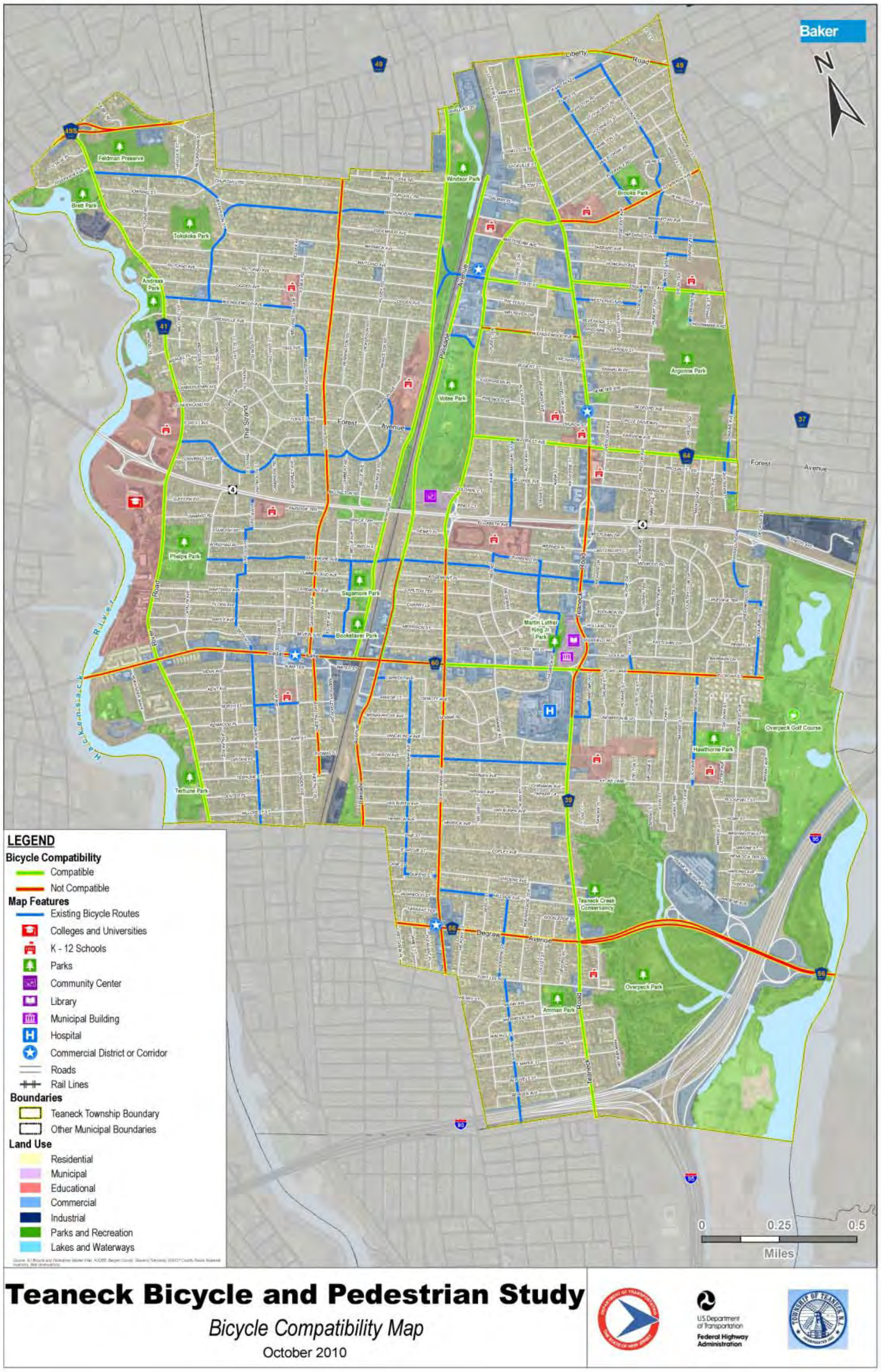
- Cedar Lane
- Englewood Avenue
- Liberty Road
- Palisade Avenue
- Queen Anne Road
- Windsor Road
- River Road
- State Street
- Teaneck Road
- West Englewood Avenue
- West Forest Avenue

Non-Compatible Segments

- Cedar Lane
- Chestnut Avenue
- East Cedar Lane
- East Tryon Avenue
- Garrison Avenue
- Liberty Road
- Palisade Avenue
- Queen Anne Road
- Roemer Avenue/ New Bridge Road
- Sussex Road

These roadways are also illustrated in **Map 3** on the following page.

Map 3: Bicycle Compatibility Map



IV

PEDESTRIAN FACILITIES & SIDEWALK ASSESSMENT

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NJDOT's *Pedestrian Compatible Planning and Design Guidelines* identify five (5) general principles for the provision of pedestrian facilities. The guidelines state:

- All roadways should have some type of walking facility out of the traveled way.
- Direct pedestrian connections should be provided between residences and activity areas.
- Development density can be used as a surrogate for pedestrian usage in determining need.
- The need for sidewalks can be related to the type, density, and pattern of land uses in an area.
- Collector and arterial streets in the vicinity of schools should be provided with sidewalks to increase school trip safety.

New pedestrian facilities are subject to the rules and regulations for accessibility set forth in the Americans with Disabilities Act of 1990 (ADA). Through these regulations, accommodations would include the installation of curb ramps, detectable warning mats, audible warning signals, and pedestrian signals, where necessary.

A. Sidewalk Inventory & Assessment

From 2006 - 2007, NJDOT performed a County Roadway Sidewalk Inventory (CRSI) throughout the State of New Jersey. Data from the CRSI was obtained to identify the presence, location and condition of sidewalks on county routes in Teaneck. Field visits were also performed to confirm the CRSI data, as conditions may have changed since the inventory was performed. Four (4) additional routes were identified by Township officials as pedestrian corridors, and a sidewalk condition and location analysis was performed for these roadways, as well. These roadways included:

- Jefferson Street / Buckingham Road
- Country Club Drive / East Lawn Drive / Phelps Road
- Windsor Road
- Palisade Avenue

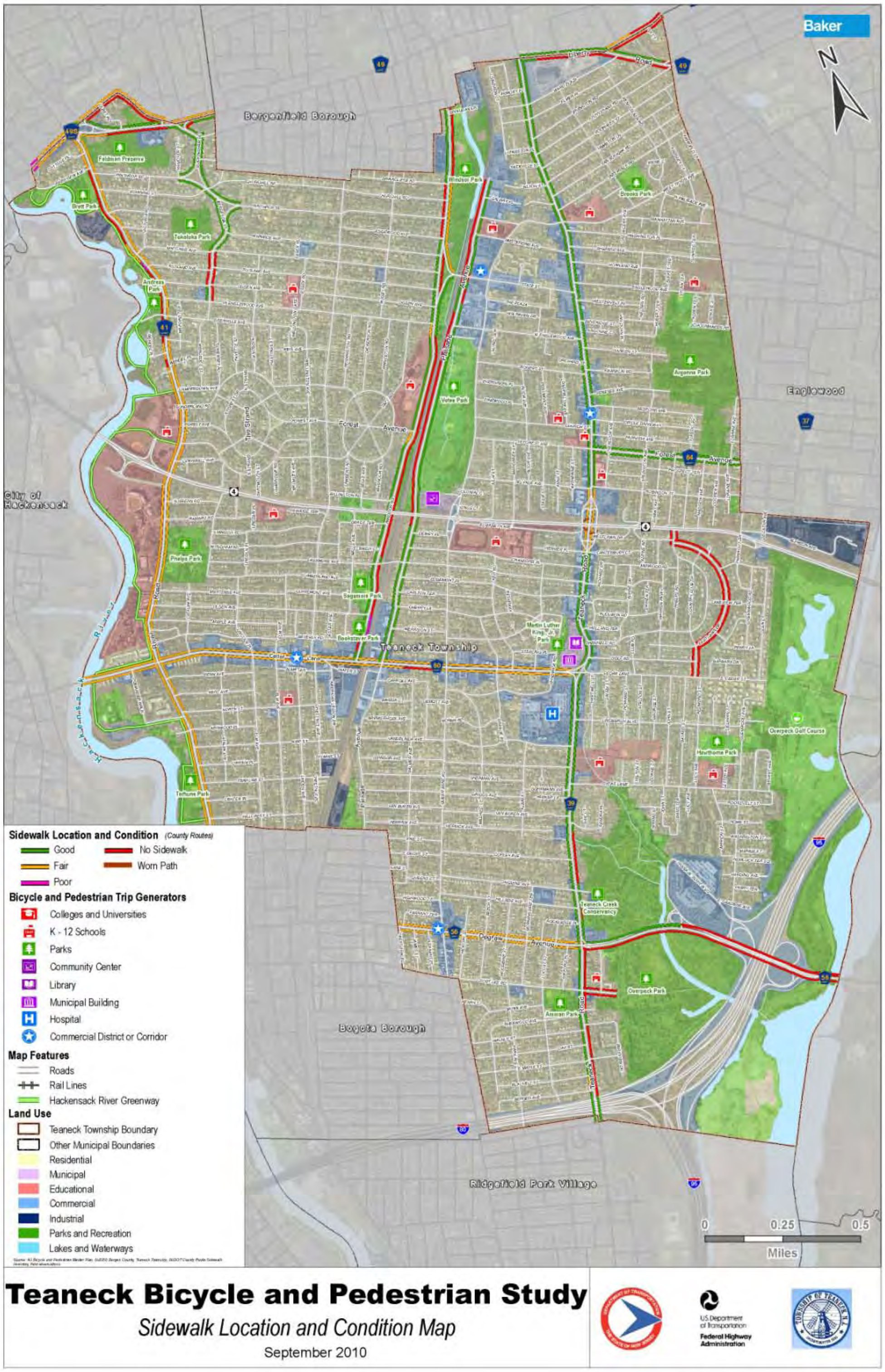
The assessment identified that sidewalks exists on a majority of inventoried roadways, but the condition of the sidewalk varied throughout the township. The CRSI uses four (4) categories for the assessment; Good, Fair, Poor, and No Sidewalk. Worn paths (where present) were also identified in the field by the Study Team. The determining criteria for sidewalk condition used by the CRSI can be seen in **Table 1**.

Table 1: County Route Sidewalk Condition Classifications

Value	Description
Good	New or nearly new material is present. No identifiable defects are present.
Fair	Minor defects are present but are not considered detrimental to bicycle/pedestrian traffic.
Poor	Major defects are present. Example: Sidewalk is severely cracked or is disintegrating. Bicycle/pedestrian travel could be difficult.
No Sidewalk	No sidewalk present

The location and condition of the sidewalk on inventoried roadways is identified on **Map 4**.

Map 4: Sidewalk Location and Condition Map



V

BICYCLE & PEDESTRIAN INTERSECTION ASSESSMENT

V. BICYCLE & PEDESTRIAN INTERSECTION ASSESSMENT

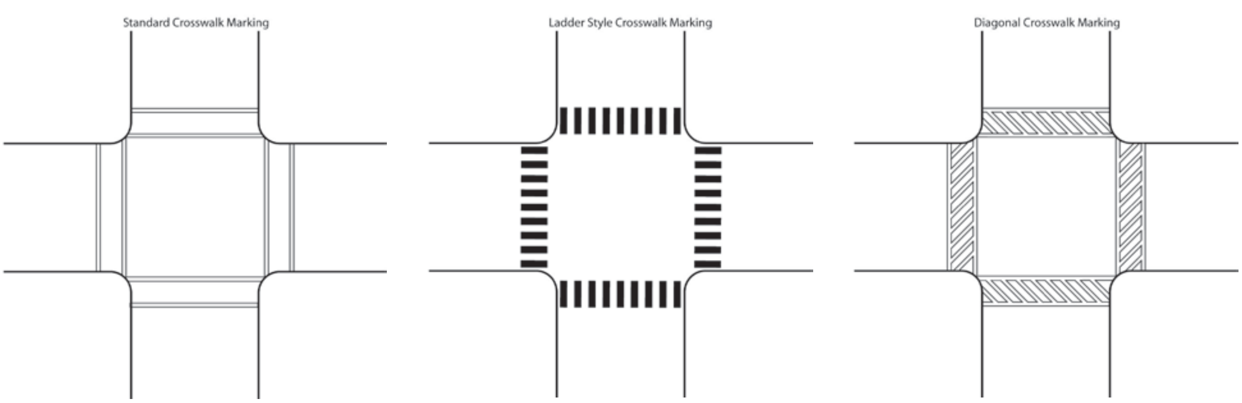
An important consideration for bicycle and pedestrian travel is accommodation at intersections. Use of design treatments to enhance visibility at intersections enhances motorist awareness of the presence of bicyclists and pedestrians. In the case of bicyclists, drawing attention to changes in roadway delineation, especially at turning locations, can enhance mobility at the intersection and reduce the potential for conflicts.

The application of bicycle signage in advance of intersections is intended to alert motorists to the presence of bicyclists. Applicable signs include the MUTCD bicycle warning sign combined with the 'Share the Road' placard (W11-1, W16-1P). The 'Bicycle May Use Full Lane' sign (R4-11) may also be used if shared lanes (where the bicyclist would occupy the travel lane) are proposed. Striping at intersections should be clearly marked so lane edges are defined. In general, it is recommended that treatments guide merging movements to occur in advance of, rather than at, intersections.

W11-1, W16-1P Signs

R4-11 Sign

Pedestrian accommodations may include the application of the MUTCD pedestrian warning sign with the applicable diagonal downward arrow plaque (W11-2, W16-7P) at unsignalized intersections where high pedestrian volumes are expected. Use of higher visibility crosswalks, such as longitudinal or diagonal striped crosswalks in place of parallel striped standard crosswalks, are recommended at all intersections to identify motorists of the presence of crossing locations for pedestrians.



Typical crosswalk markings

A. Existing Conditions at Intersections

Five (5) signalized and one (1) unsignalized intersection were inventoried to assess bicycle and pedestrian accommodation. The intersections are illustrated below and include:

Signalized Intersections

- Queen Anne Road and Degraw Avenue
- Cedar Lane and Queen Anne Road
- Cedar Lane and Teaneck Road
- Teaneck Road and Tryon Ave/Queen Anne Road
- Cedar Lane and River Road

Unsignalized Intersections

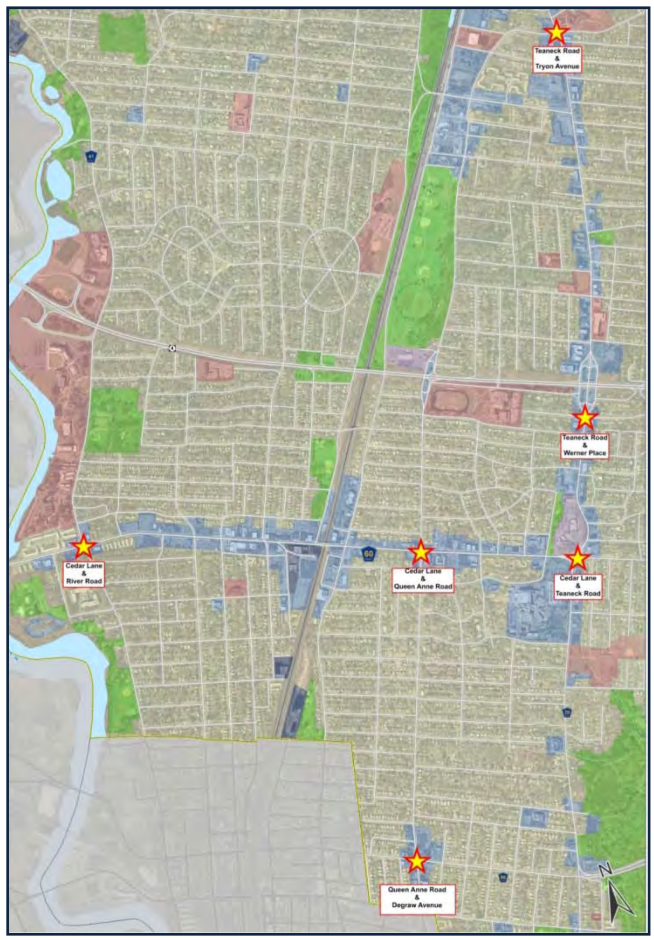
- Teaneck Road and Werner Place

Field visits were performed to collect lane and shoulder widths, the number and configuration of lanes, and presence, type, and condition of curb ramps, crosswalks, and sidewalks. If the intersection was signalized, the type, and condition of pedestrian signal (including push buttons) were inventoried. Potential bicycle and pedestrian conflicts with turning vehicles and through movements were observed during the inventory, and noted for future development of conceptual improvements.

To supplement field collected data, signal timing directives were obtained from Bergen County for signalized intersections and reviewed to determine compliance with 2009 MUTCD guidelines.

This inventory and analysis assisted in the development of improvements for bicycle and pedestrian access and mobility in Teaneck at intersections.

Results of the intersection inventory are illustrated on the following pages.



Inventoried Intersection Locations

Table 2: Intersection of Queen Anne Road and Degraw Avenue

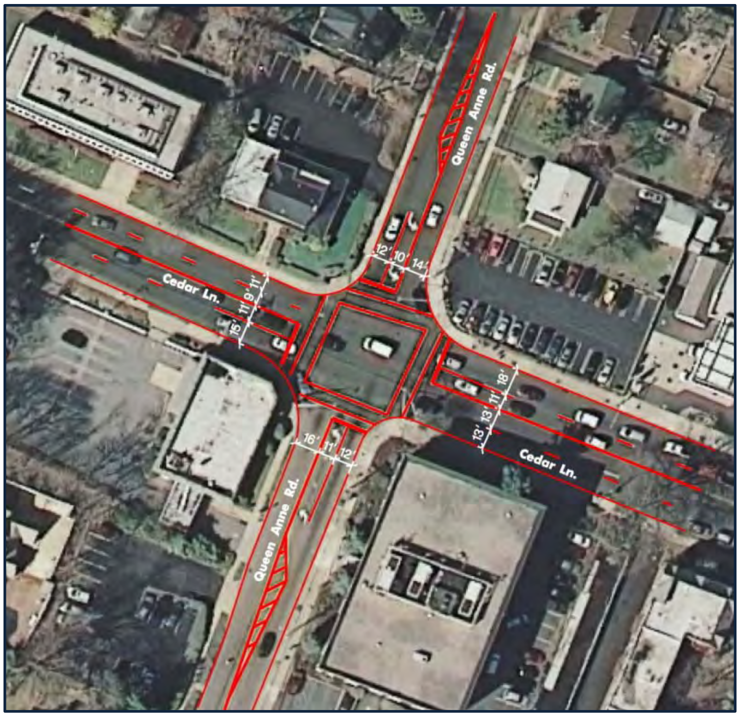
Intersection Control:	• Signalized
Northbound Travel	
Approaching Lanes:	• 10’ Left Turn Lane • 11’ Through and Right Turn Lane
Receiving Lanes:	• 13’ Through Lane
Southbound Travel	
Approaching Lanes:	• 10’ Left Turn Lane • 11’ Through and Right Turn Lane
Receiving Lanes:	• 14’ Through Lane
Eastbound Travel	
Approaching Lanes:	• 11’ Through and Left Turn Lane • 12’ Through and Right Turn Lane
Receiving Lanes:	• 11’ Through Lane (Left) • 12’ Through Lane (Right)
Westbound Travel	
Approaching Lanes:	• 10’ Through and Left Turn Lane • 23’ Through and Right Turn Lane
Receiving Lanes:	• 11’ Through Lane (Left) • 21’ Through Lane (Right)

Inventory of Intersection Features	
Crosswalks:	• Four (4) standard crosswalks across each approach.
Curb Ramps:	• Four (4) curb ramps across each approach.
Pedestrian Signals or Push Buttons:	• Pedestrian signal heads with symbols are provided for each approach. • Pedestrian push buttons are present to cross Degraw Avenue
Approaching Pedestrian Facilities (Paved Path and/ or Sidewalk):	• Sidewalks are present at each approach.
Observations:	• No conflicts were observed.

Signal Timings Compliance Assessment

		MUTCD Guidelines	***Existing Condition***	***MUTCD Compliant (Y/N)***
Pedestrian Clearance Interval (Pedestrian Green time):	***Northbound & Southbound Queen Anne Road***	27 Sec	20 Sec	N
	Eastbound & Westbound Degraw Avenue	24 Sec	16 Sec	N
Change Interval (Yellow):	***Northbound & Southbound Queen Anne Road***	4 Sec	3.5 Sec	N
	Eastbound & Westbound Degraw Avenue	4 Sec	5 Sec	Y
Clearance Interval (All Red):	***Northbound & Southbound Queen Anne Road***	2 Sec	1.75 Sec	N
	Eastbound & Westbound Degraw Avenue	2 Sec	1 Sec	N

Table 3 : Intersection of Cedar Lane and Queen Anne Road

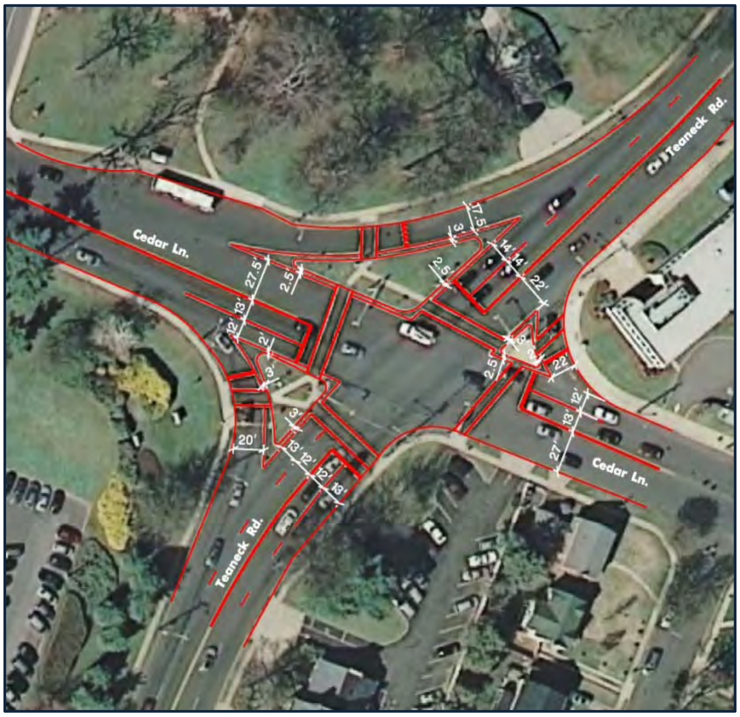


Intersection Control:	• Signalized
Northbound Travel	
Approaching Lanes:	• 11' Left Turn Lane • 12' Through and Right Turn Lane
Receiving Lanes:	• 14' Through Lane
Southbound Travel	
Approaching Lanes:	• 10' Left Turn Lane • 12' Through and Right Turn Lane
Receiving Lanes:	• 16' Through Lane
Eastbound Travel	
Approaching Lanes:	• 11' Through and Left Turn Lane • 15' Through and Right Turn Lane
Receiving Lanes:	• 12' Through Lane (Left) • 14' Through Lane (Right)
Westbound Travel	
Approaching Lanes:	• 11' Through and Left Turn Lane • 18' Through and Right Turn Lane
Receiving Lanes:	• 9' Through Lane (Left) • 11' Through Lane (Right)

Inventory of Intersection Features	
Crosswalks:	• Four (4) standard crosswalks across each approach.
Curb Ramps:	• Four (4) curb ramps across each approach.
Pedestrian Signals or Push Buttons:	• Pedestrian signal heads with symbols are provided for each approach. • Pedestrian push buttons are provided for each approach. • Push buttons on southeast and southwest corners do not appear to function.
Approaching Pedestrian Facilities (Paved Path and/ or Sidewalk):	• Sidewalks are present at each approach.
Observations:	• No conflicts observed.

Signal Timings Compliance Assessment				
		MUTCD Guidelines	***Existing Condition***	***MUTCD Compliant (Y/N)***
Pedestrian Clearance Interval (Pedestrian Green time):	***Northbound & Southbound Queen Anne Road***	22 Sec	15 Sec	**N**
	Eastbound & Westbound Cedar Lane	22 Sec	14 Sec	**N**
Change Interval (Yellow):	***Northbound & Southbound Queen Anne Road***	3 Sec	4 Sec	**Y**
	Eastbound & Westbound Cedar Lane	4 Sec	3.5 Sec	**N**
Clearance Interval (All Red):	***Northbound & Southbound Queen Anne Road***	3 Sec	1 Sec	**N**
	Eastbound & Westbound Cedar Lane	2 Sec	1.2 Sec	**N**

Table 4 : Intersection of Cedar Lane and Teaneck Road

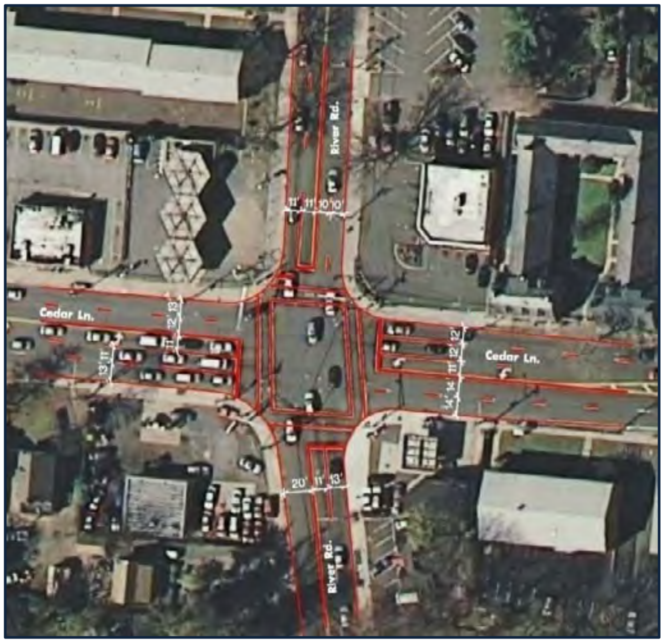


Intersection Control:	• Signalized
Northbound Travel	
Approaching Lanes:	• 12’ Through and Left Turn Lane • 13’ Through and Right Turn Lane
Receiving Lanes:	• 22’ Through Lane
Southbound Travel	
Approaching Lanes:	• 14’ Through and Left Turn Lane • 14’ Through and Right Turn Lane
Receiving Lanes:	• 12’ Through Lane (Left) • 13’ Through Lane (Right)
Eastbound Travel	
Approaching Lanes:	• 13’ Through and Left Turn Lane • 12’ Through and Right Turn Lane
Receiving Lanes:	• 27’ Through Lane
Westbound Travel	
Approaching Lanes:	• 13’ Through and Left Turn Lane • 12’ Through and Right Turn Lane
Receiving Lanes:	• 27’ Through Lane (Left)

Inventory of Intersection Features	
Crosswalks:	• Seven (7) standard crosswalks are present for each ramp and approach.
Curb Ramps:	• Curb ramps are present at each corner.
Pedestrian Signals or Push Buttons:	• Pedestrian signal heads with symbols are provided for all approaches. • Pedestrian push buttons are not present.
Approaching Pedestrian Facilities (Paved Path and/ or Sidewalk):	• Sidewalks are present for all approaches.
Observations:	• Pedestrians do not use the small refuge islands crossing the shorter distance which is diagonally, outside of the crosswalks. • The right turn from southbound Teaneck Road to Cedar Lane is not signalized. Vehicles do not stop for pedestrians in the crosswalk.

Signal Timings Compliance Assessment				
		MUTCD Guidelines	***Existing Condition***	***MUTCD Compliant (Y/N)***
Pedestrian Clearance Interval (Pedestrian Green time):	***Northbound & Southbound Teaneck Road***	21 Sec	13 Sec	N
	Eastbound & Westbound Cedar Lane	21 Sec	13 Sec	N
Change Interval (Yellow):	***Northbound & Southbound Teaneck Road***	3 Sec	4.5 Sec	Y
	Eastbound & Westbound Cedar Lane	4 Sec	4 Sec	Y
Clearance Interval (All Red):	***Northbound & Southbound Teaneck Road***	3 Sec	3 Sec	Y
	Eastbound & Westbound Cedar Lane	2 Sec	2.5 Sec	Y

Table 5 : Intersection of Cedar Lane and River Road

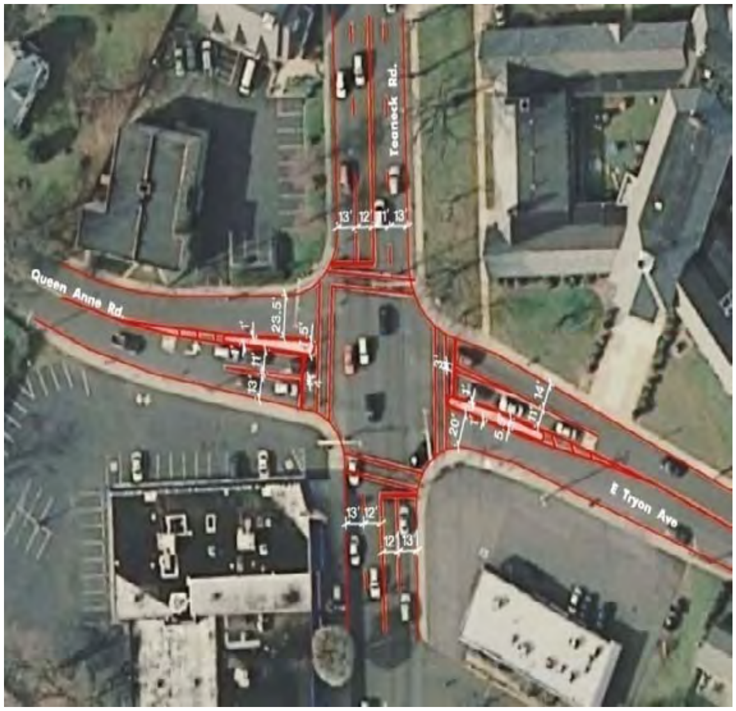


Intersection Control:	• Signalized
Northbound Travel	
Approaching Lanes:	• 11' Through and Left Turn Lane • 13' Through and Right Turn Lane
Receiving Lanes:	• 10' Through Lane (Left) • 10' Through Lane (Right)
Southbound Travel	
Approaching Lanes:	• 11' Through and Left Turn Lane • 11' Through and Right Turn Lane
Receiving Lanes:	• 20' Through Lane
Eastbound Travel	
Approaching Lanes:	• 11' Left Turn Lane • 11' Through Turn Lane • 13' Through and Right Turn Lane
Receiving Lanes:	• 14' Through Lane (Left) • 14' Through Lane (Right)
Westbound Travel	
Approaching Lanes:	• 11' Through and Left Turn Lane • 12' Through Turn Lane • 12' Through and Right Turn Lane
Receiving Lanes:	• 12' Through Lane (Left) • 13' Through Lane (Right)

Inventory of Intersection Features	
Crosswalks:	• Four (4) standard crosswalks present across each approach.
Curb Ramps:	• Curb ramps exist at each corner.
Pedestrian Signals or Push Buttons:	• Pedestrian signal heads with symbols are provided for each approach. • Pedestrian push buttons are provided for crossing Cedar Lane only.
Approaching Pedestrian Facilities (Pave Path and/ or Sidewalk):	• Sidewalks exist at each approach.
Observations:	• No conflicts observed.

Signal Timings Compliance Assessment				
		MUTCD Guidelines	***Existing Condition***	***MUTCD Compliant (Y/N)***
Pedestrian Clearance Interval (Pedestrian Green time):	***Northbound & Southbound River Road***	29 Sec	22 Sec	**N**
	Eastbound & Westbound Cedar Lane	23 Sec	18 Sec	**N**
Change Interval (Yellow):	***Northbound & Southbound River Road***	3 Sec	2 Sec	**N**
	Eastbound & Westbound Cedar Lane	4 Sec	2 Sec	**N**
Clearance Interval (All Red):	***Northbound & Southbound River Road***	3 Sec	4.5 Sec	**Y**
	Eastbound & Westbound Cedar Lane	2 Sec	4.5 Sec	**Y**

Table 6 : Intersection of Tryon Road/Queen Anne Road and Teaneck Road

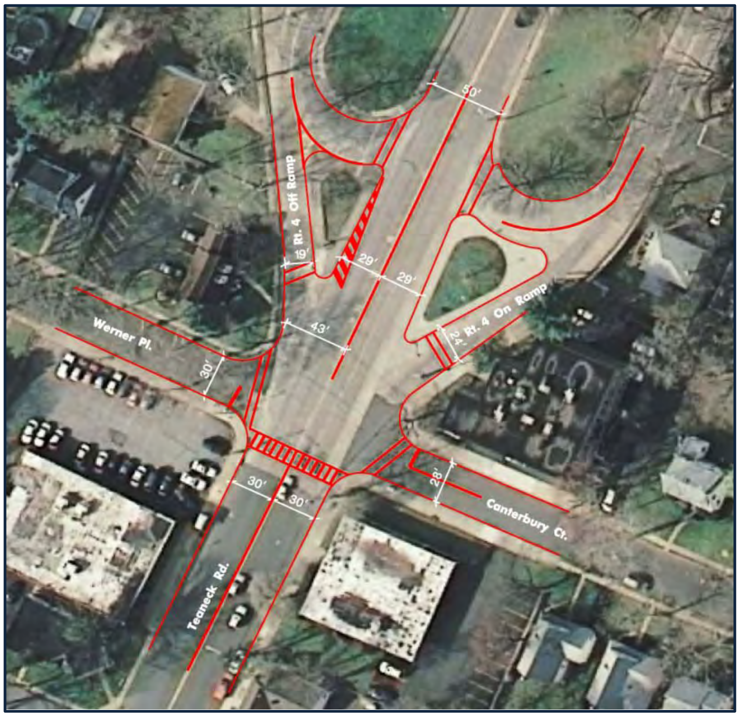


Intersection Control:	• Signalized
Northbound Travel	
Approaching Lanes:	• 12’ Through and Left Turn Lane • 13’ Through and Right Turn Lane
Receiving Lanes:	• 11’ Through Lane (Left) • 13’ Through Lane (Right)
Southbound Travel	
Approaching Lanes:	• 12’ Through and Left Turn Lane • 13.5’ Through and Right Turn Lane
Receiving Lanes:	• 12’ Through Lane (Left) • 13’ Through Lane (Right)
Eastbound Travel	
Approaching Lanes:	• 11’ Left Turn Lane • 13’ Through and Right Turn Lane
Receiving Lanes:	• 20’ Through Lane
Westbound Travel	
Approaching Lanes:	• 13’ Through and Left Turn Lane • 13.5’ Through and Right Turn Lane
Receiving Lanes:	• 23.5’ Through Lane

Inventory of Intersection Features	
Crosswalks:	• Four (4) standard crosswalks present across each approach.
Curb Ramps:	• Curb ramps exist at each corner.
Pedestrian Signals or Push Buttons:	• Pedestrian signal heads with countdown type are provided for each approach. • Pedestrian push buttons are provided for each approach.
Approaching Pedestrian Facilities Paved Path and/ or Sidewalk):	• Sidewalks exist at each approach.
Observations:	• No conflicts observed.

Signal Timings Compliance Assessment				
		MUTCD Guidelines	***Existing Condition***	***MUTCD Compliant (Y/N)***
Pedestrian Clearance Interval (Pedestrian Green time):	***Northbound & Southbound Teaneck Road***	25 Sec	16 Sec	**N**
	Eastbound & Westbound Tryon Road	22 Sec	18 Sec	**N**
Change Interval (Yellow):	***Northbound & Southbound Teaneck Road***	3 Sec	4.5 Sec	**Y**
	Eastbound & Westbound Tryon Road	4 Sec	3.5 Sec	**N**
Clearance Interval (All Red):	***Northbound & Southbound Teaneck Road***	3 Sec	3 Sec	**Y**
	Eastbound & Westbound Tryon Road	2 Sec	3 Sec	**Y**

Table 7 : Intersection of Teaneck Road and Werner Place



Intersection Control:	• Unsignalized
Northbound Travel	
Approaching Lanes:	• 30’ Through and Left and Right Turn Lane
Receiving Lanes:	• 30’ Through Lane • 24’ Through Rt. 4 On Ramp (Right)
Southbound Travel	
Approaching Lanes:	• 30’ Through and Left and Right Turn Lane • 19’ Through Rt. 4 Off Ramp (Right)
Receiving Lanes:	• 30’ Through Lane
Eastbound Travel	
Approaching Lanes:	• 15’ Through and Left and Right Turn Lane
Receiving Lanes:	• 14’ Through Lane
Westbound Travel	
Approaching Lanes:	• 14’ Through and Left and Right Turn Lane
Receiving Lanes:	• 15’ Through Lane

Inventory of Intersection Features	
Crosswalks:	• Six (6) standard and one (1) Longitudinal crosswalks present at this intersection
Curb Ramps:	• Curb ramps exist at some corners.
Pedestrian Signals or Push Buttons:	• No pedestrian signals or push buttons.
Approaching Pedestrian Facilities (Paved Path and/ or Sidewalk):	• Sidewalks exist at each approach.
Observations:	• Vehicles do not stop for pedestrians in the crosswalk. Crossing Teaneck Road at this location is difficult. • Vehicles do not stop for pedestrians in the crosswalk when crossing Werner Place or the Elizabeth Avenue curb ramps.

B. Intersection Summary

Overall, each of the five (5) signalized intersections include pedestrian signal heads, pedestrian push buttons, standard crosswalks, and curb ramps with detectable warnings. Pedestrian signal timings for some intersection approaches do not meet the current (2009) MUTCD standard of 3.5 feet per second. For the one (1) unsignalized intersection located at Werner Place and Teaneck Road, a higher visibility 'ladder" style crosswalk exists on Teaneck Road, but the 60' crossing, high vehicle volumes, and speeds may be intimidating for pedestrians.

Pedestrian crossing at Teaneck Road and Werner Place

Crosswalk at the Cedar Lane and River Road intersection.

VI

BICYCLE & PEDESTRIAN CRASH REVIEW

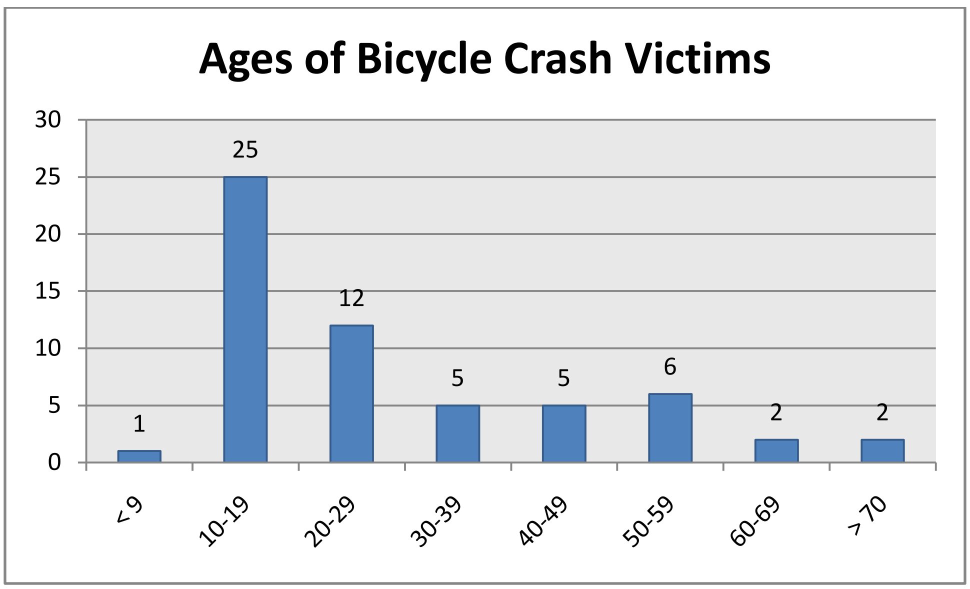
VI. BICYCLE AND PEDESTRIAN CRASH REVIEW

Bicycle and pedestrian crash reports were requested for the most recent three (3) years available (March 2007-December 2009) and were used to identify the locations and circumstances of crashes located on Teaneck roadways. A detailed listing of all crashes can be found in **Appendix E**.

There were 185 reported bicycle and pedestrian crashes in Teaneck. The following section highlights details of the reported crashes.

A. Bicycle Crashes

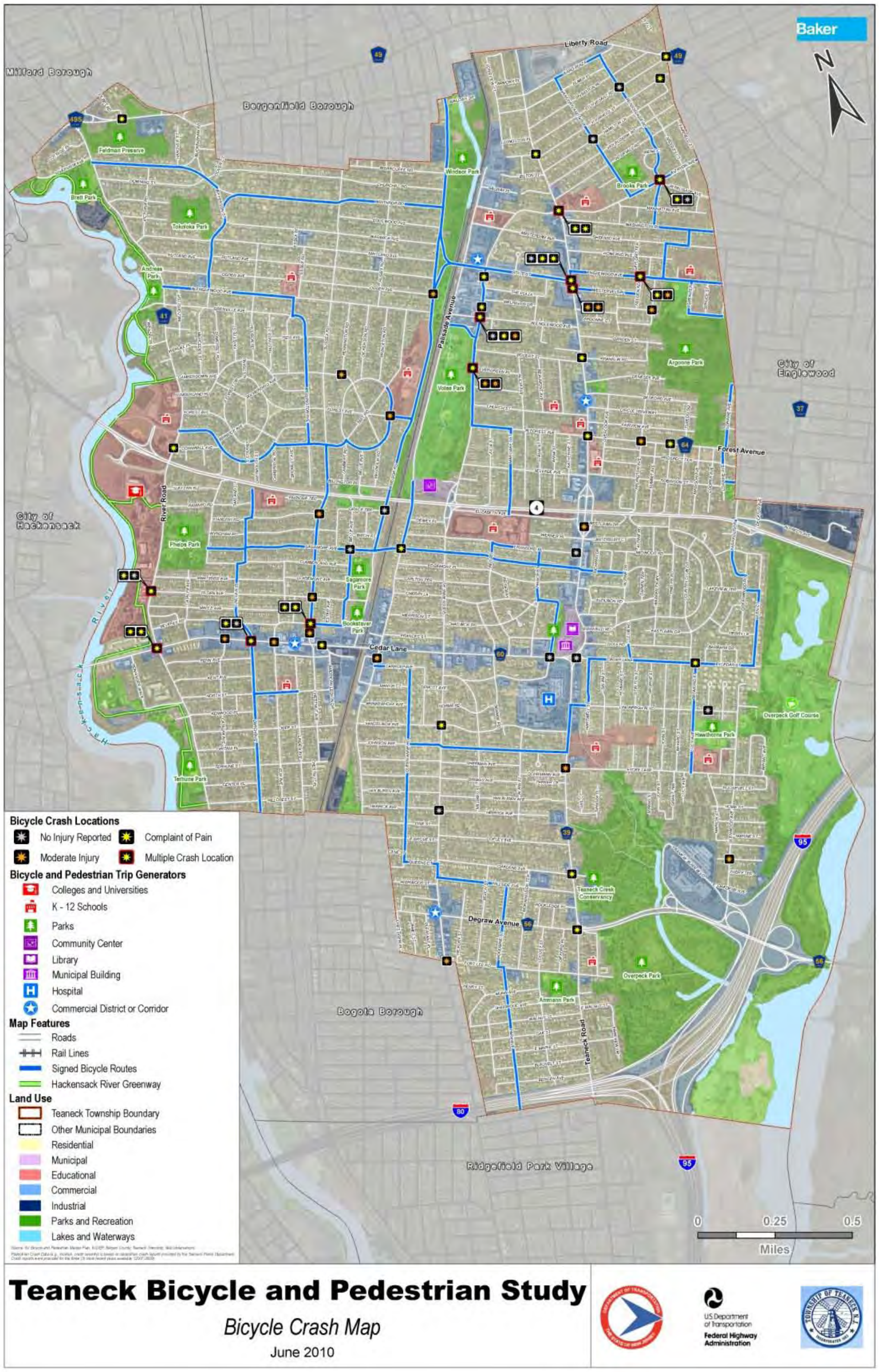
- There were 63 reported bicycle crashes during the three (3) year period
- Common circumstances for the bicycle crashes include: wrong-way riding by bicyclists, failure to yield or stop by bicyclists and motorists, sidewalk riding by bicyclists, and left turns by motorists into the paths of bicyclists.
- The chart below illustrates the ages of bicyclists involved in reported crashes (Five [5] reports did not include the age of the bicyclist). Twenty-five (25) crashes, which account for 43% of the reported crashes, involved cyclists between the ages of 10 and 19 years old.



- Locations that had two (2) or more bicycle crashes include:
  - Teaneck Road and Tryon Avenue
  - State Street and Teaneck Road
  - Queen Anne Road and W. Englewood Avenue
  - Queen Anne Road and Evergreen Place
  - Tryon Avenue and W. Palisade Avenue
  - Garrison Avenue and Beverly Road
  - Cedar Avenue and Elm Avenue
  - Cedar Avenue and River Road
  - River Road and Tilden Avenue
  - Englewood Avenue and Nelden Road
  - State Street and Englewood Avenue

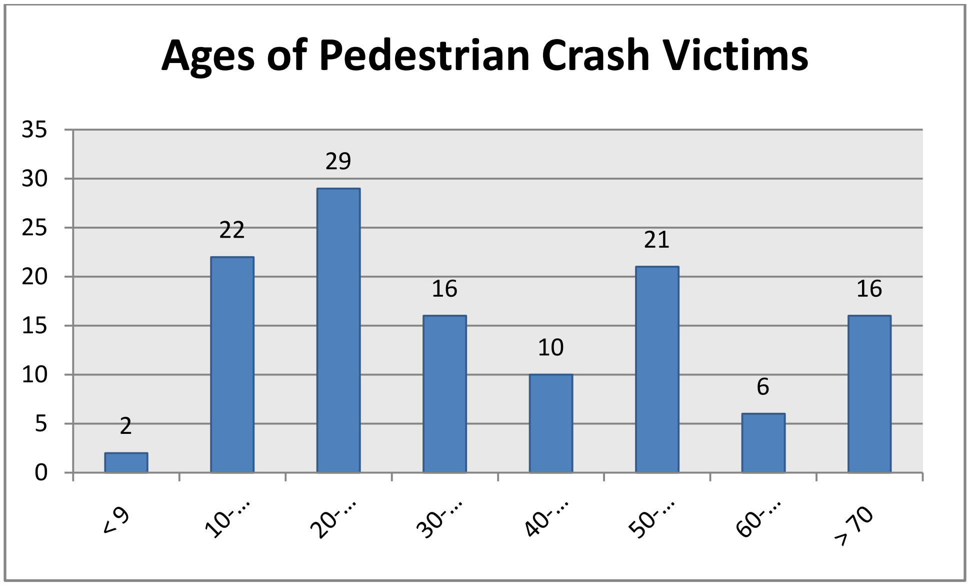
Bicycle crash locations are illustrated on **Map 5**.

Map 5 : Bicycle Crash Map



B. Pedestrian Crashes

- There were 122 reported pedestrian crashes during the three (3) year period.
- Common circumstances for the pedestrian crashes include: failure to yield or stop by motorists, left- and right-turning movements by motorists, pedestrians crossing at unmarked and mid-block locations, reversing by motorists in parking lots, and pedestrians crossing at unsignalized intersections with no marked crosswalks.
- The chart below illustrates the ages of pedestrians involved in reported crashes (Ten [10] reports did not include the age of the pedestrian). The age group of 20 – 29 year olds had the highest number (24) of pedestrian crash victims.

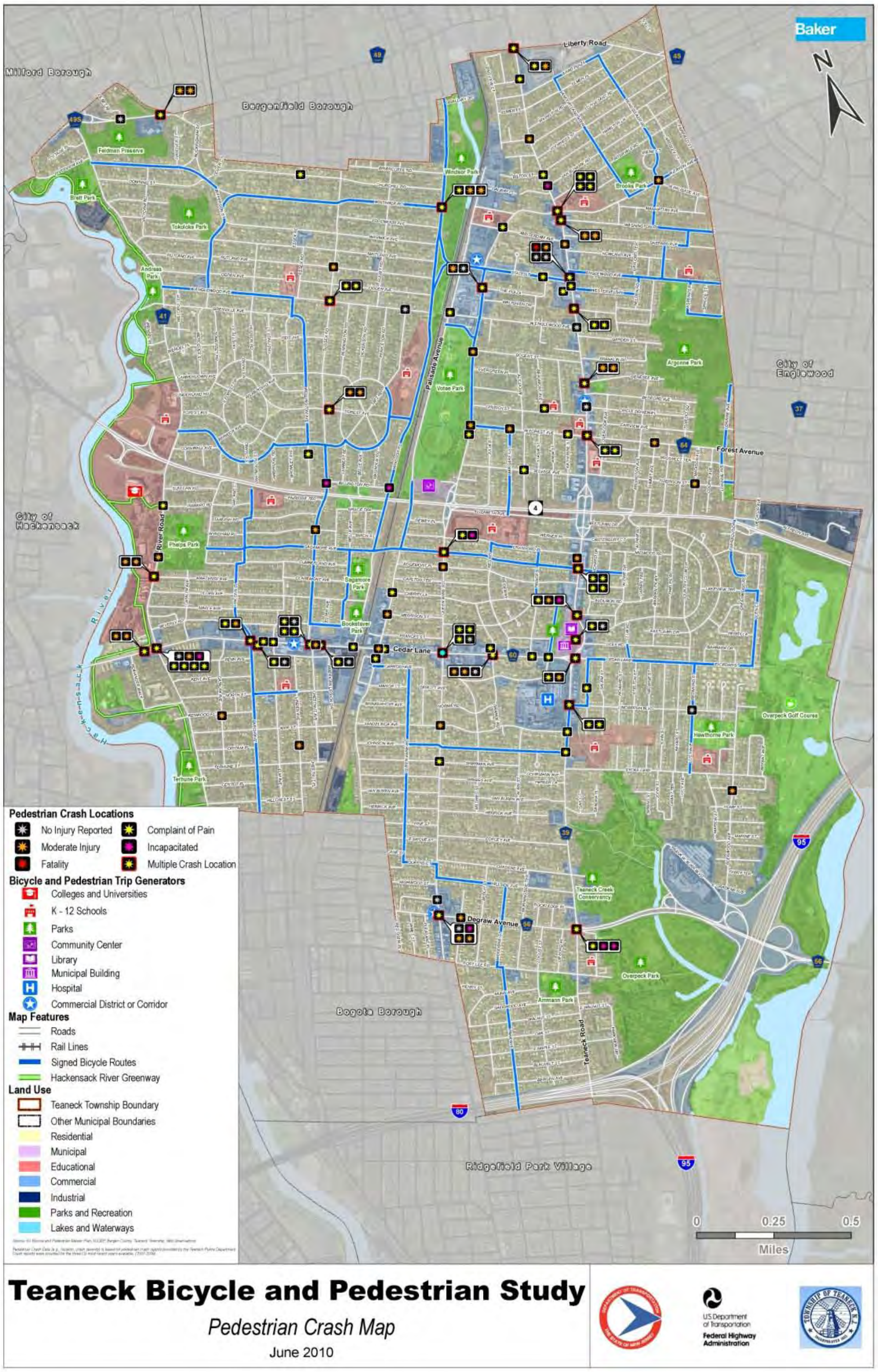


- Locations that had three (3) or more pedestrian crashes include

- Teaneck Road and Tryon Avenue
- Teaneck Road and Degraw Avenue
- Teaneck Road and State Street
- Teaneck Road and Sagamore Avenue
- Teaneck Road and Holland Terrace
- Cedar Lane and Queen Anne Road
- Cedar Lane and Grange Road
- Cedar Lane and Garrison Avenue
- Cedar Lane and River Road
- Queen Anne Road and Degraw Avenue
- Windsor Road and Winthrop Road

Pedestrian crashes are illustrated on **Map 6**.

Map 6 : Pedestrian Crash Map

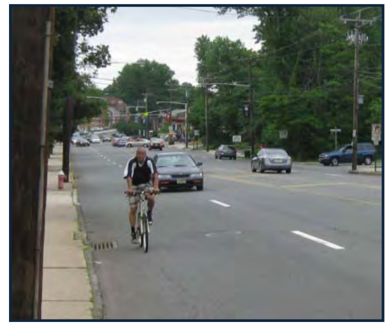


VII

RECOMMENDED BICYCLE FACILITY IMPROVEMENTS

VII. RECOMMENDED BICYCLE FACILITY IMPROVEMENTS

Recommended improvements to enhance bicycle access and mobility were developed based on findings from the bicycle compatibility assessment, bicycle crash review, and input from the STF. The following recommended improvements address existing deficiencies on inventoried roadways and intersections in Teaneck.



Bicyclist traveling on Cedar Lane

A. Bicycle Facility Improvements

Due to the urban character of Teaneck, bicycle facility improvements have been developed for application within the existing right-of-way. The recommendations have been developed for ten (10) roadways. These roadways include:

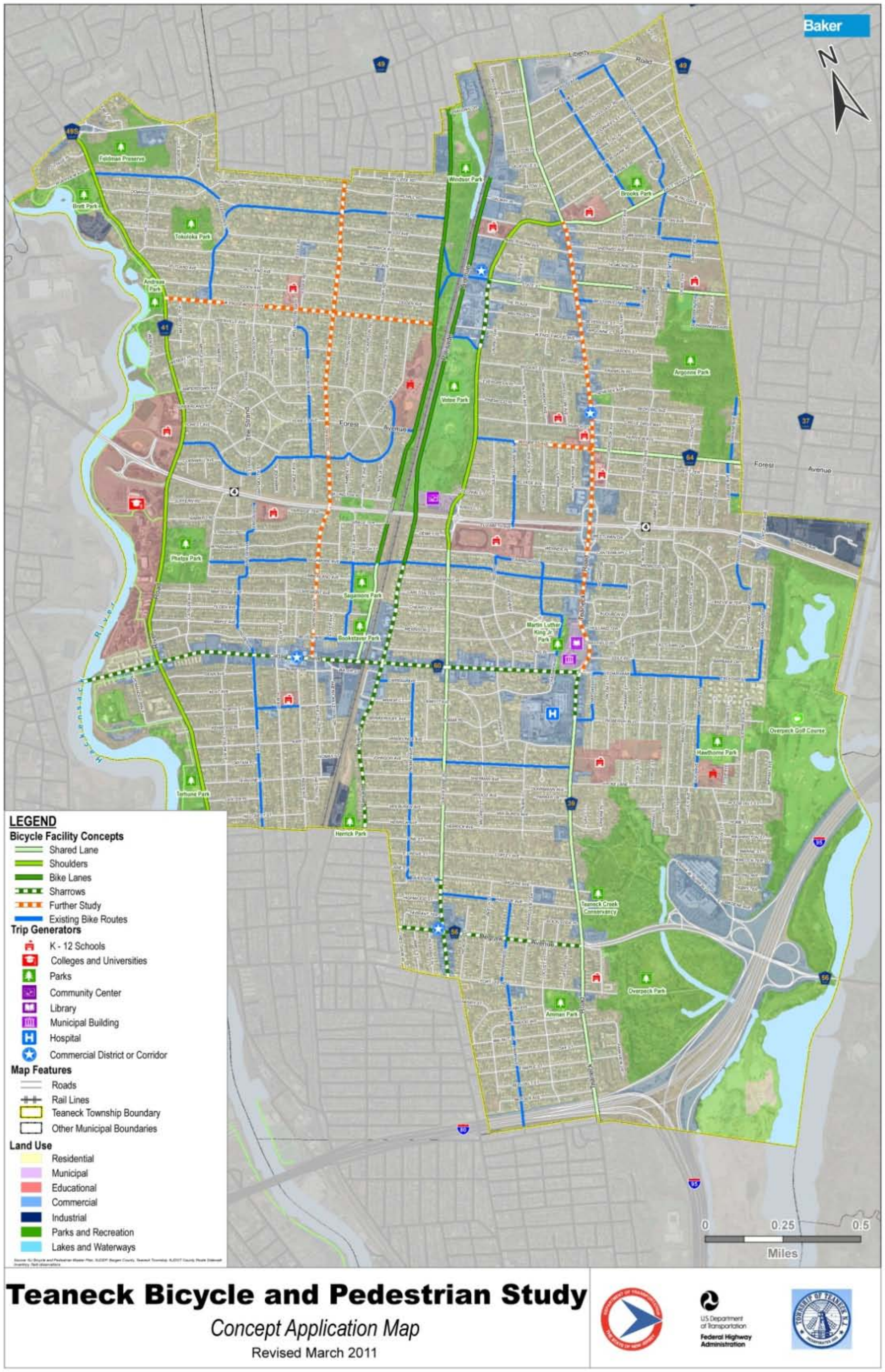
- Cedar Lane
- Degraw Avenue
- East Tryon Avenue
- Palisade Avenue
- Queen Anne Road
- River Road
- State Street
- Teaneck Road
- Forest Avenue
- Windsor Road

Recommendations are detailed on the following pages and accompanied by potential constraints that may be associated with their installation. Order-of-magnitude costs estimates are also included for the recommended improvements. Detailed cost estimating spreadsheets have been prepared along with an implementation matrix which details the costs and proposed timeframe for implementation. The cost estimating spreadsheets can be found in **Appendix F**.

Recommended improvements were developed in accordance with NJDOT guidelines for bicycle facilities (*Bicycle Compatible Roadways and Bikeways, Planning and Design Guidelines*), American Association of State Highway and Transportation Officials (AASHTO) guidelines (*Guide for the Planning, Design, and Operations of Bicycle Facilities*), and the Federal Highway Administration (FHWA) 2009 Edition of the MUTCD.

Concepts are detailed in the following sections with concept improvement locations illustrated on **Map 7**.

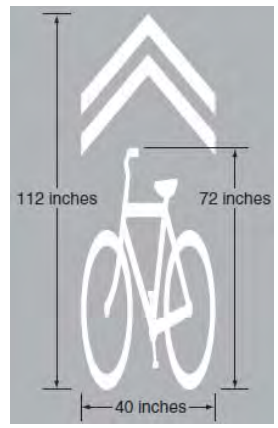
Map 7 : Concept Application Map



1. Concept # 1 – Sharrows

Concept # 1 proposes the installation of Shared Lane Markings, or "Sharrow" symbols on specific roadways. The installation of sharrows is proposed for the following four (4) roadway segments:

Roadway	Limits	Total Distance	
Cedar Lane	Hackensack River – Teaneck Road	1.6 mi	
Degraw Avenue	Teaneck Road – Queen Anne Road	0.7 mi	
Palisade Avenue	Herrick Avenue – Sagamore Avenue	1.2 mi	
Queen Anne Road	Court Street – State Street Fort Lee Road – Queens Court	0.2 mi 0.3 mi	0.5 mi
Teaneck Road	Lindberg Blvd – Cedar Lane	0.2 mi	



Shared Lane Marking

Shared Lane markings are recommended to provide guidance to bicyclists regarding positioning in the travel lane. Positioning varies for each condition based on the availability of on-street parking, but typical application places a bicyclist outside of the 'door zone', avoiding potential conflicts with motorists as they exit their vehicle. The 2009 MUTCD recommends that the markings be placed a minimum of eleven feet (11') from the curb in areas where parking is available, and four feet (4') from the curb where parking is not present. Shared Lane markings can also reduce the incidence of riding against traffic and reduce sidewalk riding by bicyclists[4]. Shared Lane markings are recommended for installation at regular intervals (approximately every 250') and immediately following each signalized intersection along the roadway. Cross-sectional diagrams for each roadway segment can be seen in **Figures 1-4**.

Recommended signage to supplement the Shared Lane Markings varies based on the proposed cross section and the width of the travel lane. For roadway segments with a travel lane width of less than fourteen feet (14') the 'Bicycles May Use Full Lane' sign (R4-11) would be utilized, while on roadways with travel lanes fourteen feet (14') and wider, use of "Share the Road" signs (W11-1, W16-1P) would be sufficient. Signs are recommended for installation at greater intervals (approx. every 1000') along the roadway, but should be installed to correspond with the markings where possible.

Complete cost spreadsheets and the implementation matrix for each roadway segment has been prepared and is included in **Appendix F**.

No potential constraints are anticipated for this concept.

[4] *Based on evidence from studies, including San Francisco's Shared Lane Pavement Markings: improving Bicycle Safety Final Report and Florida Department of Transportation's Evaluation of the Shared-Use Arrow.*

Figure 1 : Cedar Lane Cross Section with Shared Lane Marking Application

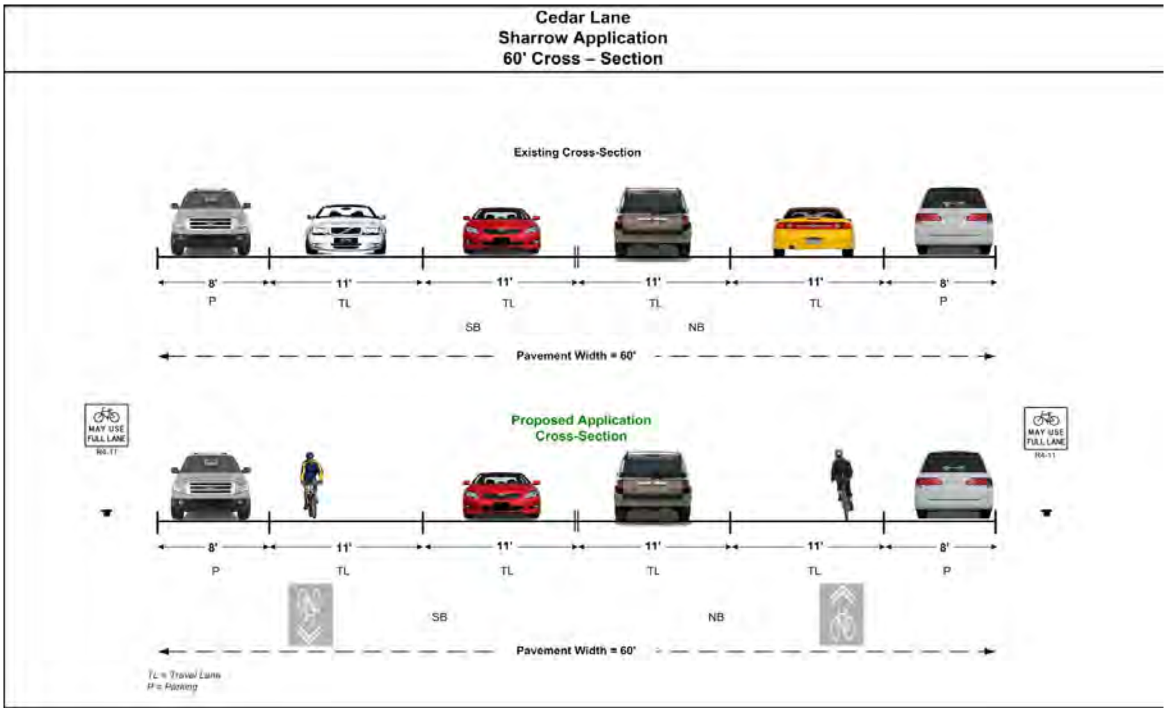


Figure 2: Degraw Avenue Cross Section with Shared Lane Application

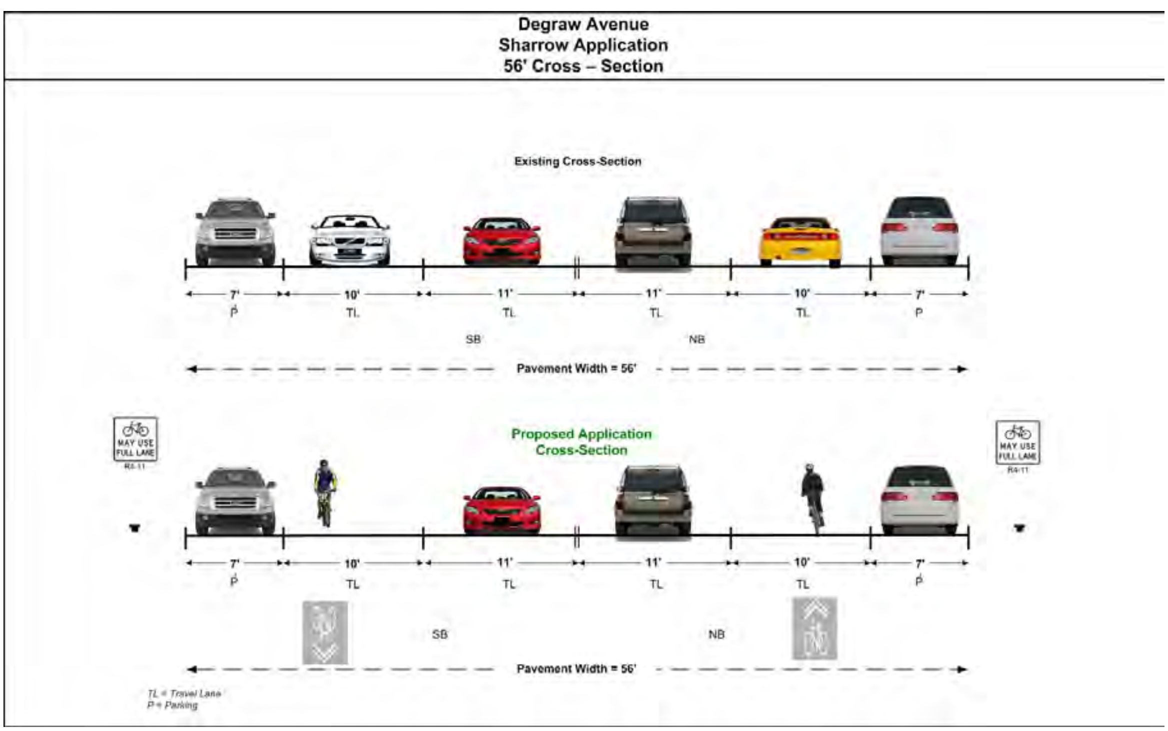


Figure 3 : Palisade Avenue Cross Section with Shared Lane Marking Application

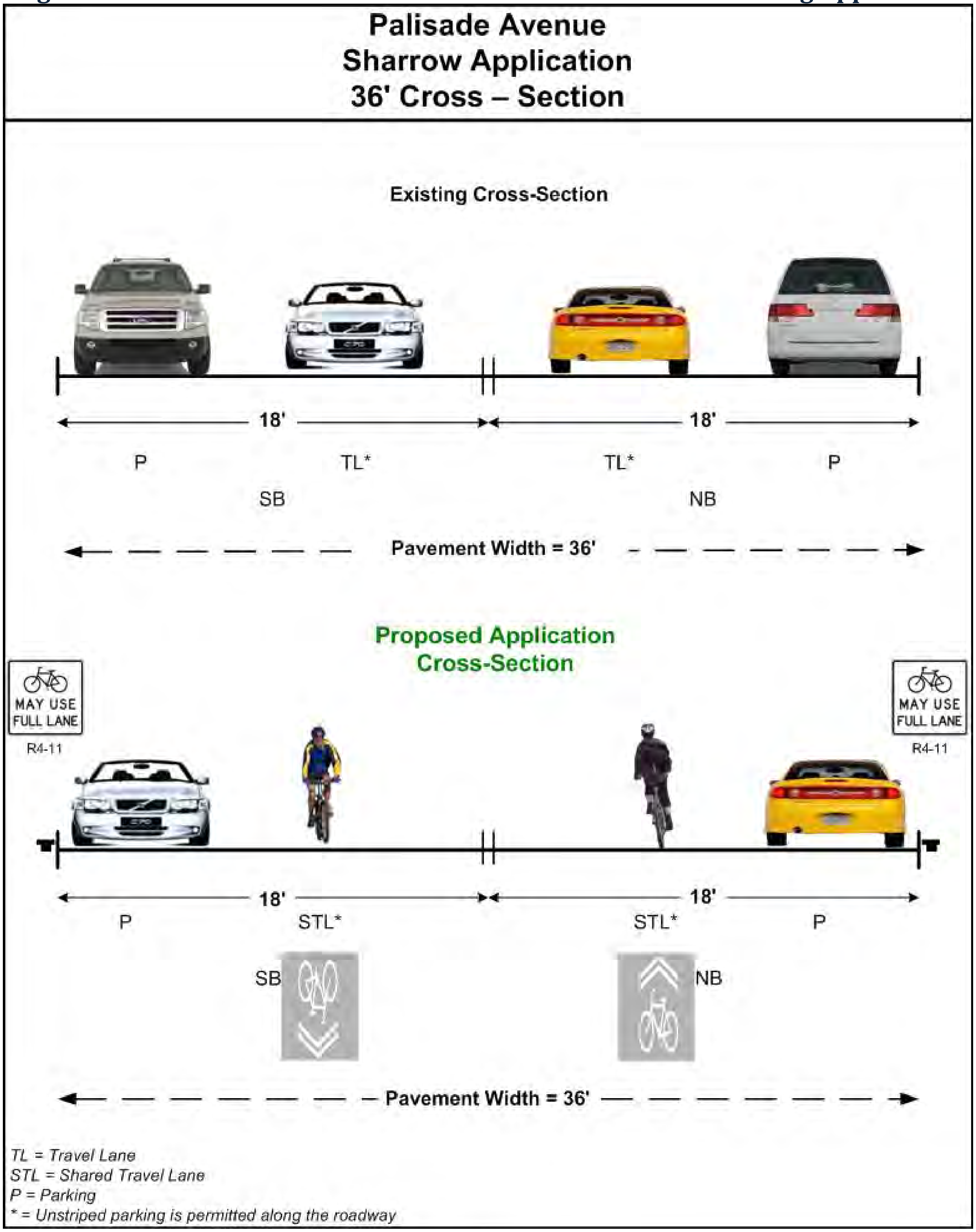
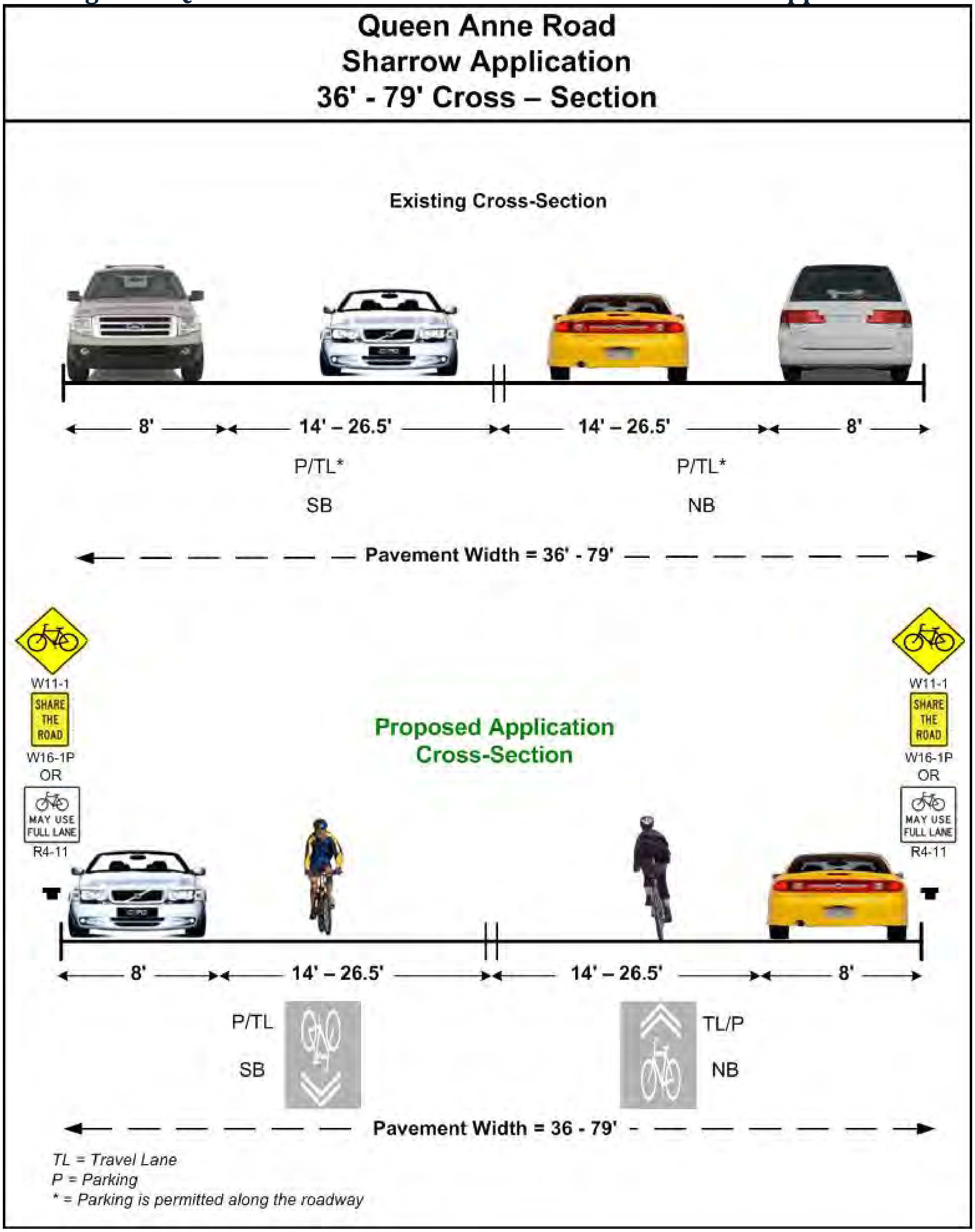


Figure 4: Queen Anne Road Cross Section with Shared Lane Application



2. Concept # 2 – Bicycle Lanes

Concept # 2 proposes the improvement and extension of existing Bicycle Lanes. Existing Bicycle Lanes in Teaneck can be found on Palisade Avenue and Windsor Road. Since their installation, recommended widths and signage regulations have changed, and it is recommended that upgrades to current MUTCD and AASHTO standards occur. Existing limits and further extension of the Bicycle Lanes include:

Road	Existing	Extension	Total Distance
Windsor Road	Sagamore Avenue – W. Englewood Avenue	W. Englewood Avenue – Vesey Street	1.3 mi
Palisade Avenue	Sagamore Avenue – Colonial Court	Colonial Court – Ma'ayanot Yeshiva H.S.	1.5 mi

Bicycle Lanes provide a designated lane solely for the use of bicyclists. Where Bicycle Lanes are present, parking is typically restricted along the roadway unless sufficient roadway width exists. Proposed Bicycle Lanes would be five feet (5') wide for the entire length of the proposed roadway segments. Bicycle Lane signs and (R3-17) and plaques (R3-17aP and R3-17bP), as well as "No Parking" signs (R7-9a), would be installed in conjunction with the striping and marking of the Bicycle Lane facility. For the roadways on which bicycle lanes have been proposed, parking is already restricted. Pavement markings for Bicycle Lanes should be placed immediately before and after each signalized intersection, with additional symbols placed for continuous sections of roadway greater than ¼ mile (Approx. every 500'). Bicycle Lane signage should be installed at the beginning and end of the lanes and correspond with pavement markings along the route. Cross sectional diagrams for each roadway segment can be seen in **Figures 5 and 6**.

Examples of the three (3) different types of MUTCD recommended Bicycle Lane Markings

For intersections, Bicycle Lane striping should continue to the intersection approach where existing pavement width allows. In circumstances where an exclusive, or channelized right turn lane exists (e.g., at State Street on Windsor Road) broken line striping for the Bicycle Lane is recommended. Use of the "Begin Right Turn Lane, Yield to Bikes" sign (R4-4) is also recommended for intersections with dedicated right turn lanes.

Complete cost spreadsheets and the implementation matrix for each roadway segment has been prepared and is included in **Appendix F**.

No potential constraints are anticipated for this concept.

Figure 5: Windsor Road Cross Section with Bicycle Lane Application

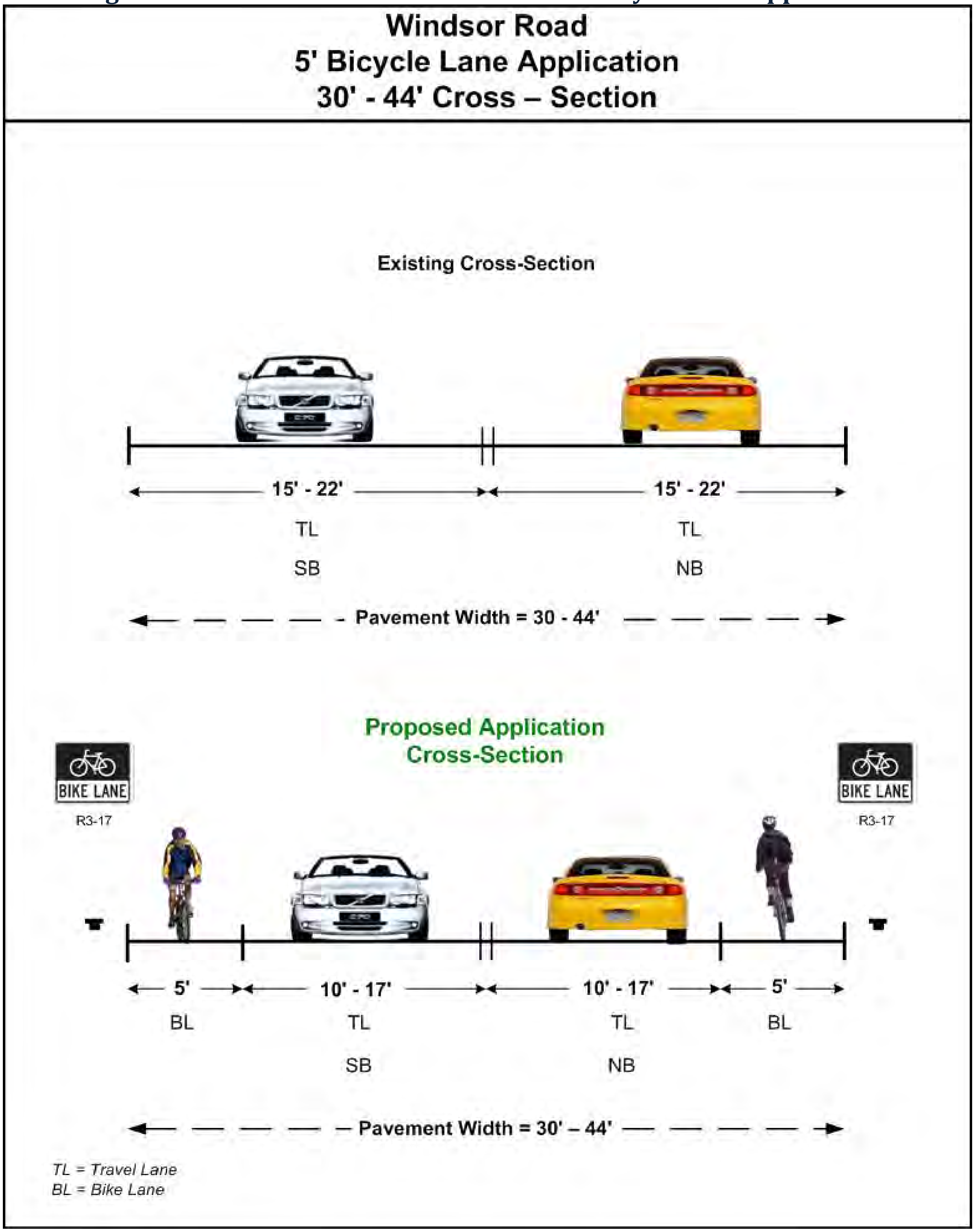
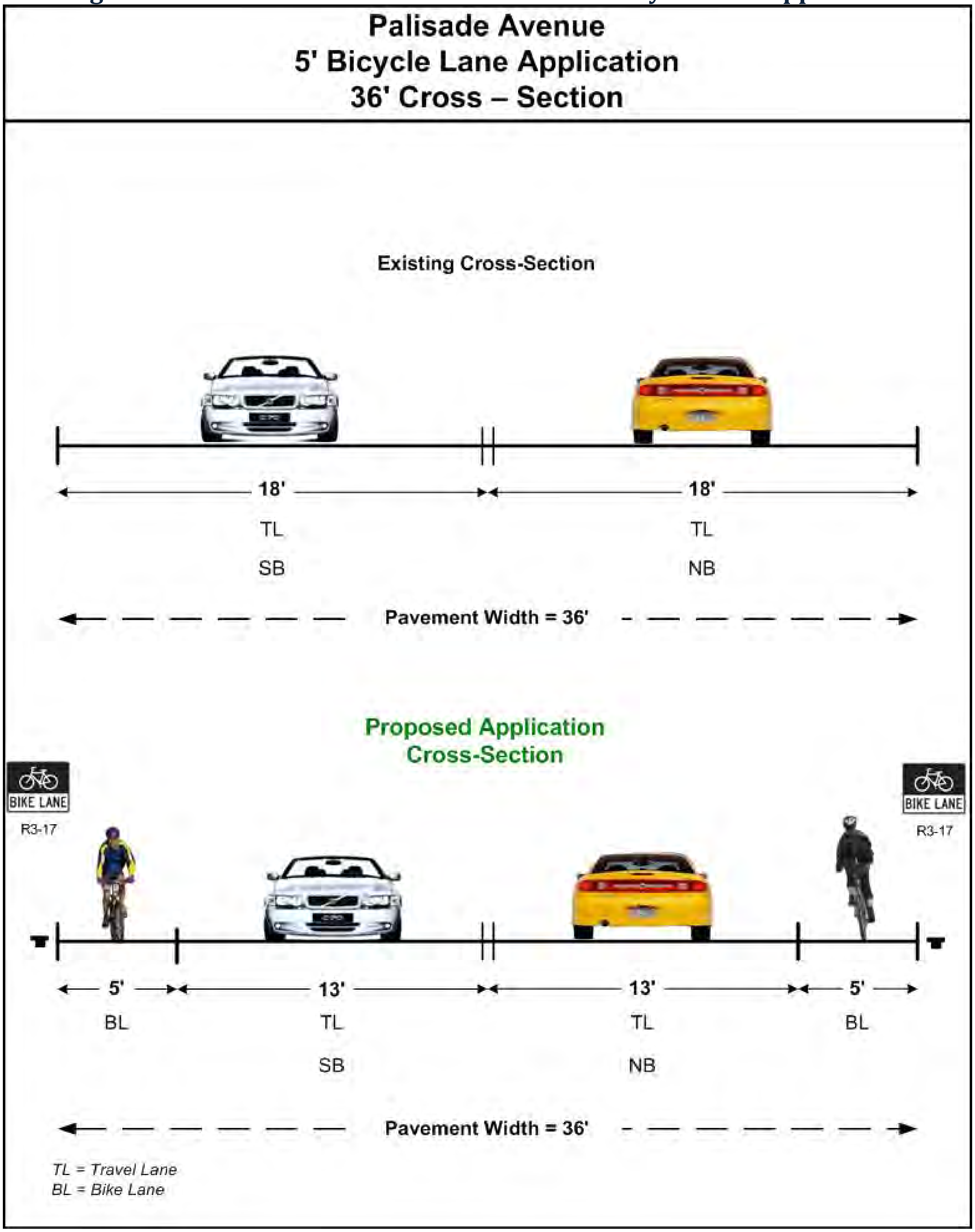


Figure 6 : Palisade Avenue Cross Section with Bicycle Lane Application



3. Concept # 3 – Shoulders with "Share the Road" Signage

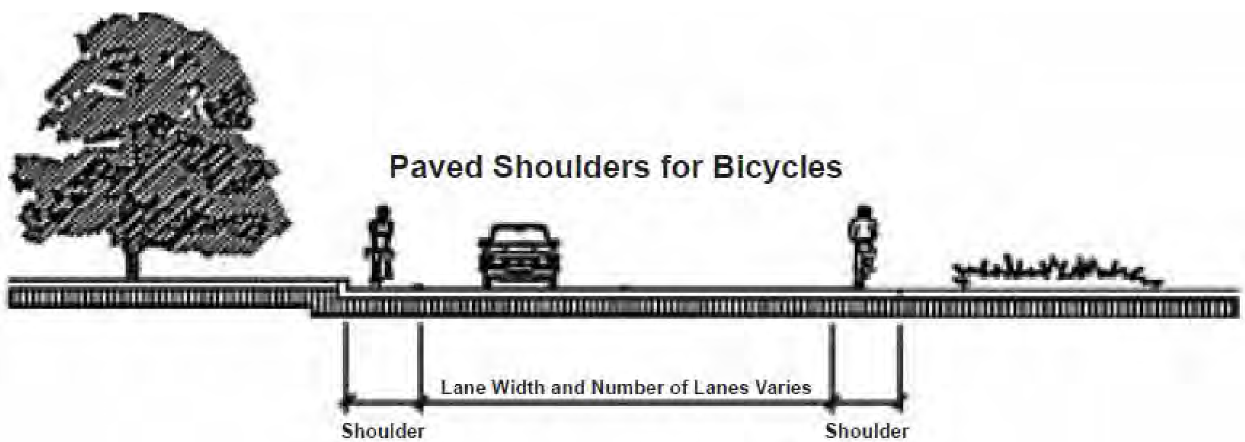
Concept # 3 proposes striping shoulders on roadways without existing shoulders. The installation of shoulders is proposed for four (4) roadway segments. These roadways include:

Roadway	Limits	Total Distance	
River Road	Hillcrest Street – New Bridge Road	2.3 mi	
Queen Anne Road	Cranford Place – Court Street State Street – Teaneck Road	0.7 mi 0.3 mi	(1.0 mi)

Four foot (4') shoulders are recommended to provide adequate space for a bicyclist to ride in the shoulder, adjacent to motor vehicles. "Share the Road" signs (W11-1, W16-1P) should be installed in conjunction with the striping to alert motorists to the presence of bicyclists in the roadway. Signage should be placed at regular intervals along the route (approx. every 1000') and after major intersections. Parking along the roadway at these locations is currently not permitted, but with the installation of shoulders additional signage may be warranted to deter vehicles from parking at these locations. Cross-sectional diagrams for each roadway segment can be seen in **Figures 7 and 8**.

Complete cost spreadsheets and the implementation matrix for each roadway segment has been prepared and is included in **Appendix F**.

No potential constraints are anticipated for this concept.



Generic cross section for Paved Shoulders included in the NJDOT Guidelines.

Figure 7 : River Road Cross Section with Shoulder Application

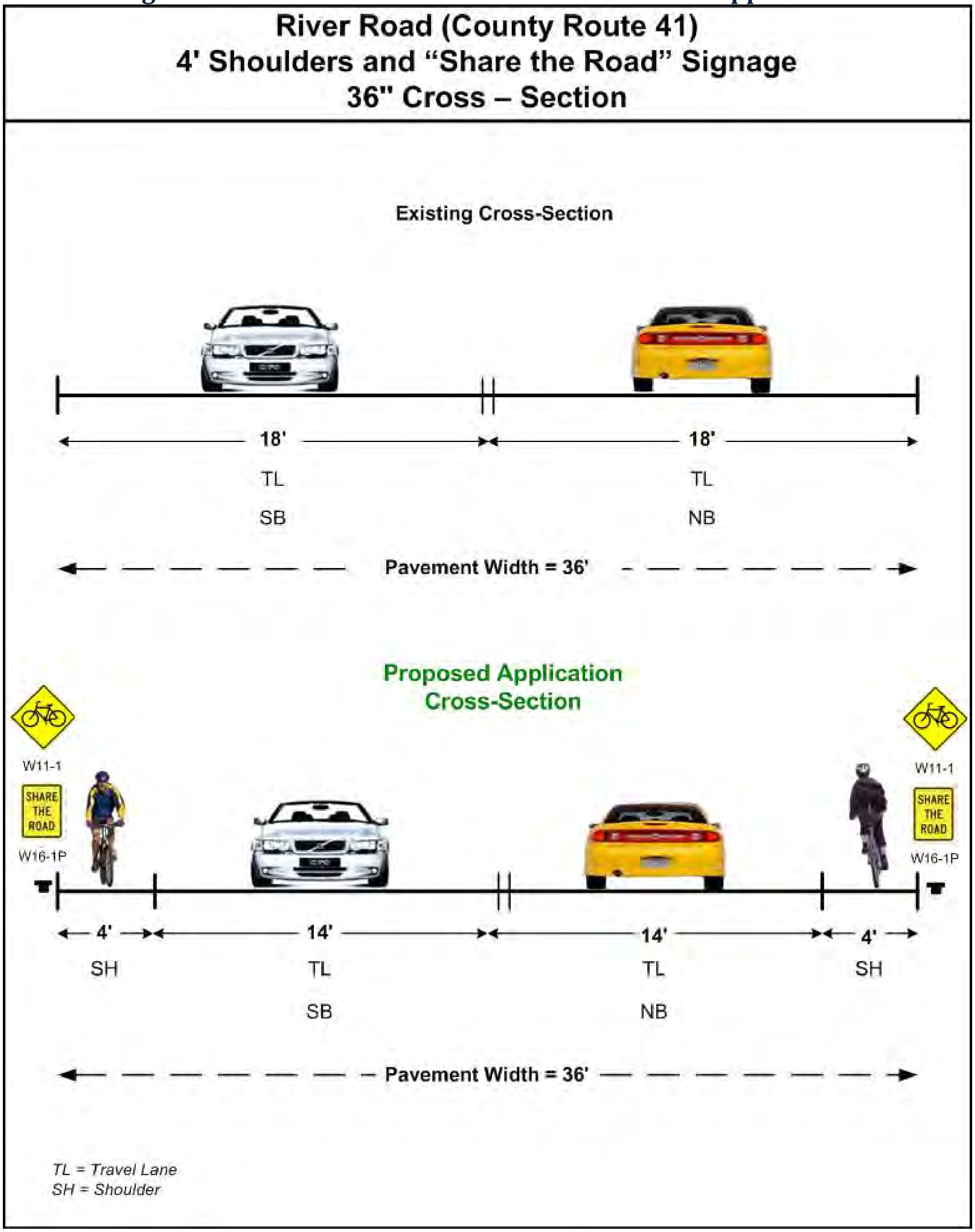
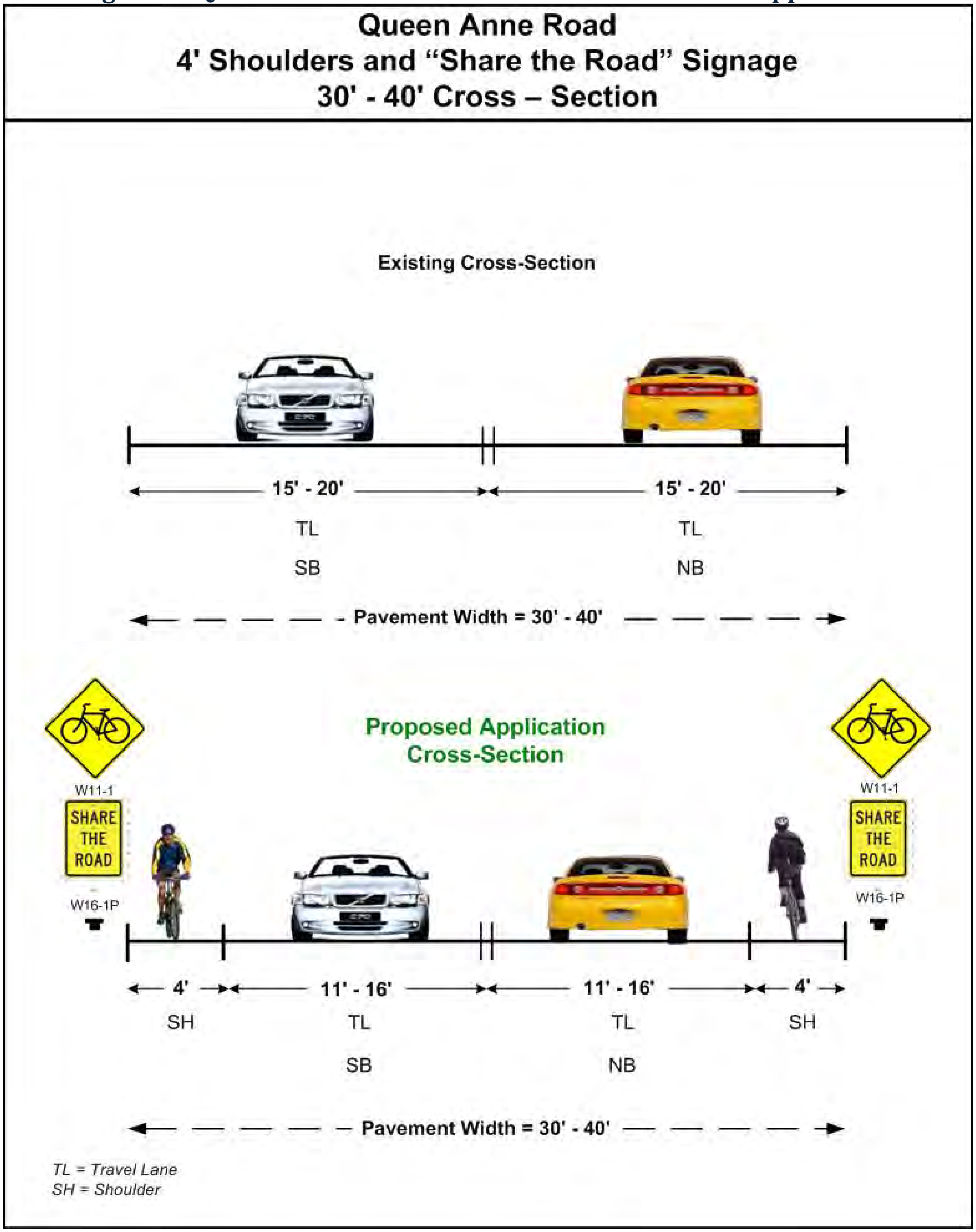


Figure 8 : Queen Anne Road Cross Section with Shoulder Application



4. Concept # 4 – Shared Lanes with "Share the Road" Signage

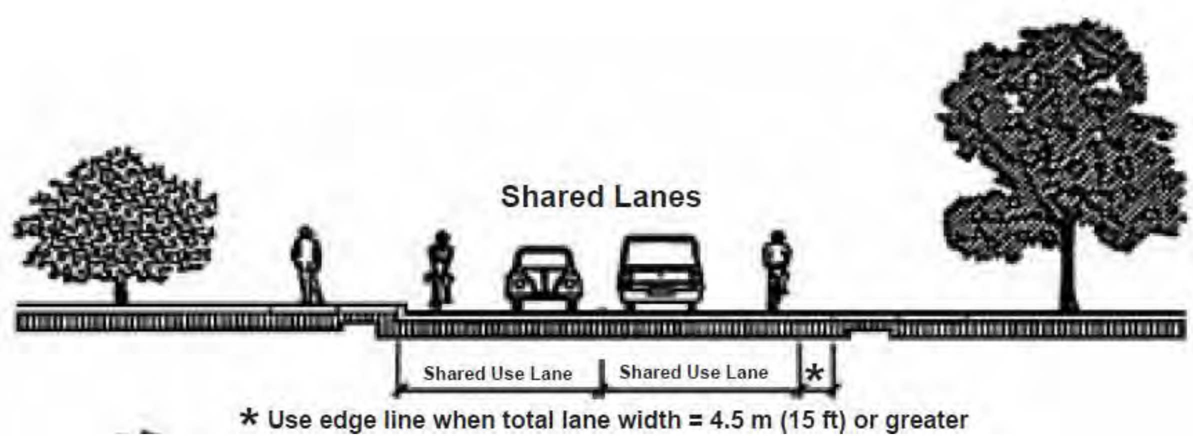
Concept # 4 proposes installing signs along roadways where vehicular volumes and existing lane widths currently meet NJDOT standards for a Shared Travel Lane. The installation of "Share the Road" signage is proposed for five (5) roadway segments. These roadways include:

Roadway	Limits	Total Distance	
East Forest Avenue	Teaneck Road – Lorraine Avenue	0.5 mi	
East Tryon Avenue	Teaneck Road – Fairfield Street	0.4 mi	
Englewood Avenue	Teaneck Road – Green Street	0.6 mi	
State Street	Queen Anne Road – Teaneck Road	0.3 mi	
Teaneck Road	I-80 Bridge – Lindberg Blvd E. Tryon Avenue – Liberty Road	1.3 mi 0.2 mi	(1.5 mi)
Queen Anne Road	Queens Court – Cranford Place	1.1 mi	
Windsor Road	Beverly Road – Sagamore Avenue	0.2 mi	

A Shared Travel Lane will not require additional striping as the existing lane widths are sufficient for a bicyclist and a vehicle to share. "Share the Road" signage (W11-1, W16-1P) is recommended at regular intervals along the route (approx. every 1000') and after major intersections. Parking along the roadway may be permitted, but should be evaluated further. At locations where a vehicle may be parked along the side of the roadway, a bicyclist would need to maneuver around the vehicle and occupy the full travel lane. Cross-sectional diagrams for each roadway segment can be seen in **Figures 9 – 13**

Complete cost spreadsheets and the implementation matrix for each roadway segment has been prepared and is included in **Appendix F**.

No potential constraints are anticipated for this concept.



Generic cross section for Shared Lanes included in the NJDOT Guidelines.

Figure 9 : East Forest Avenue with Shared Lane Application

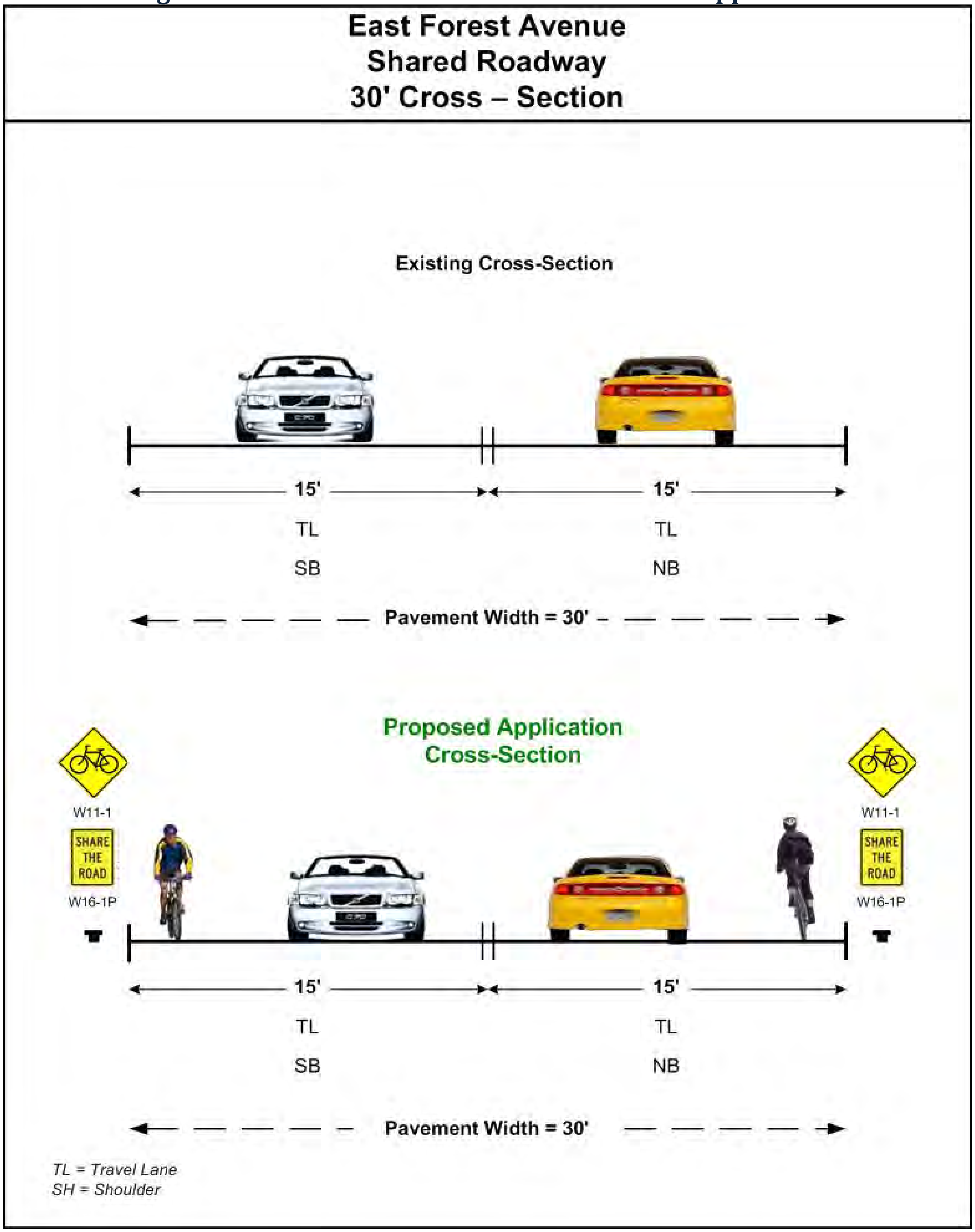


Figure 10 : East Tryon Avenue Cross Section with Shared Lane Application

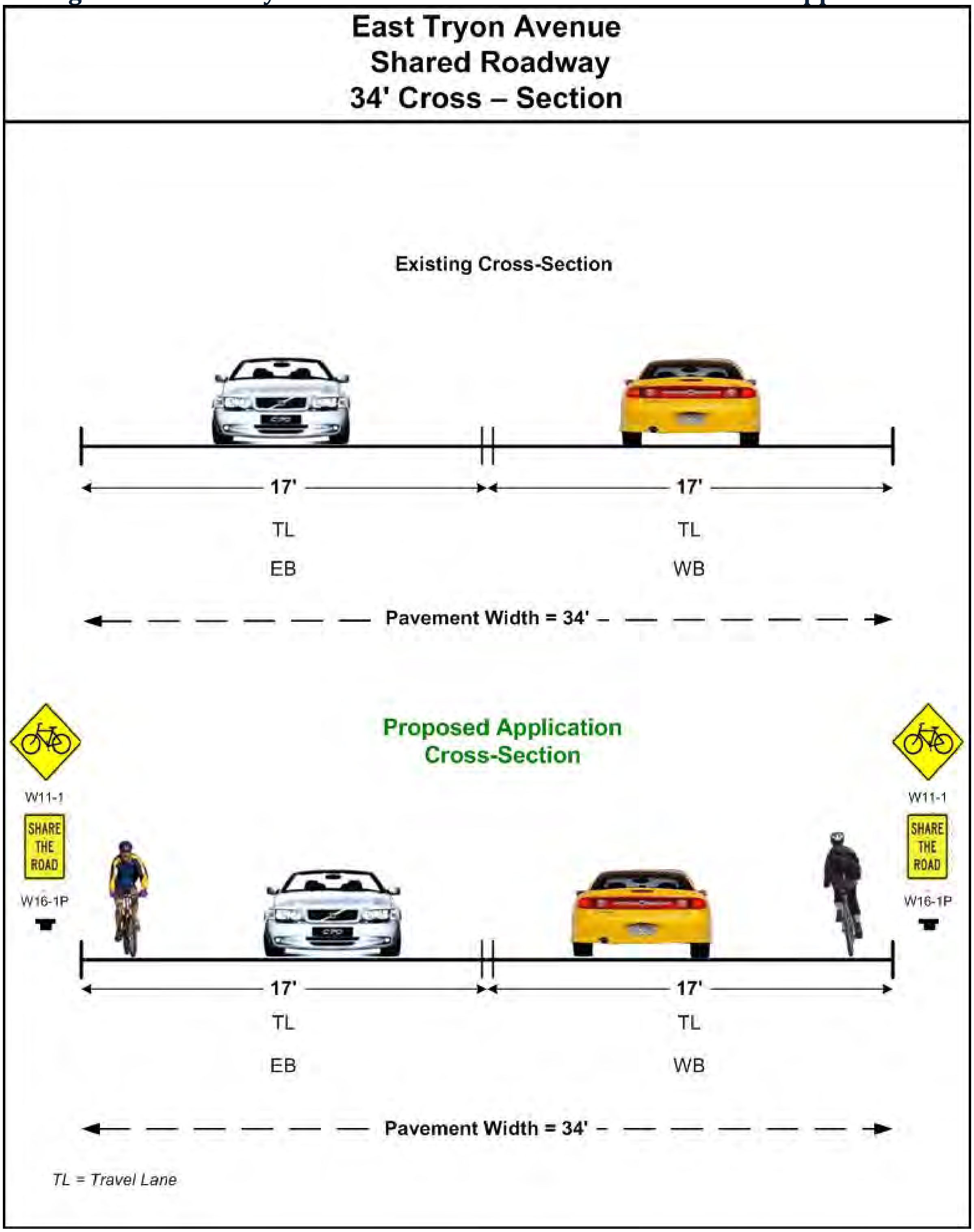


Figure 11: Englewood Avenue Cross Section with Shared Lane Application

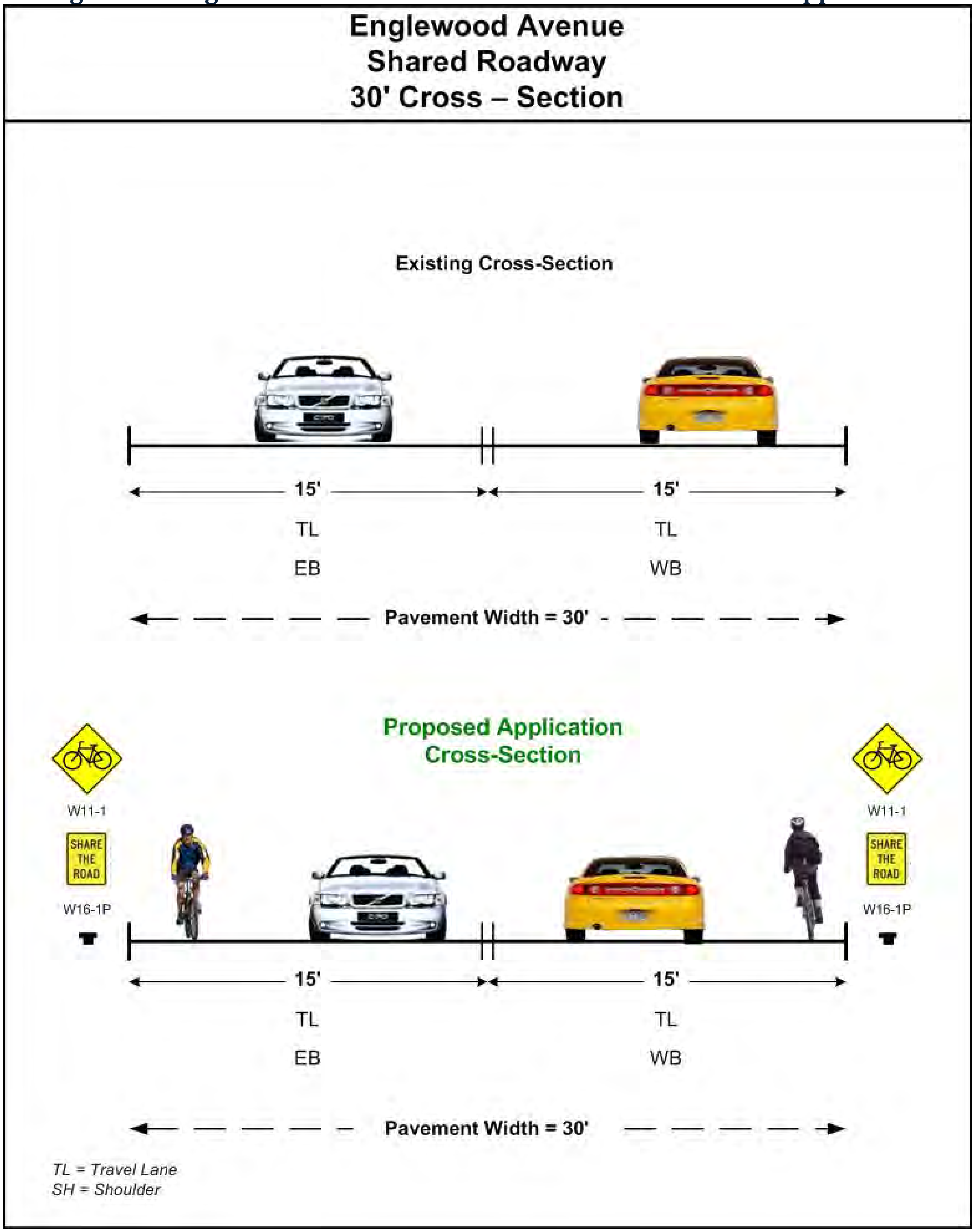


Figure 12 : State Street Cross Section with Shared Lane Application

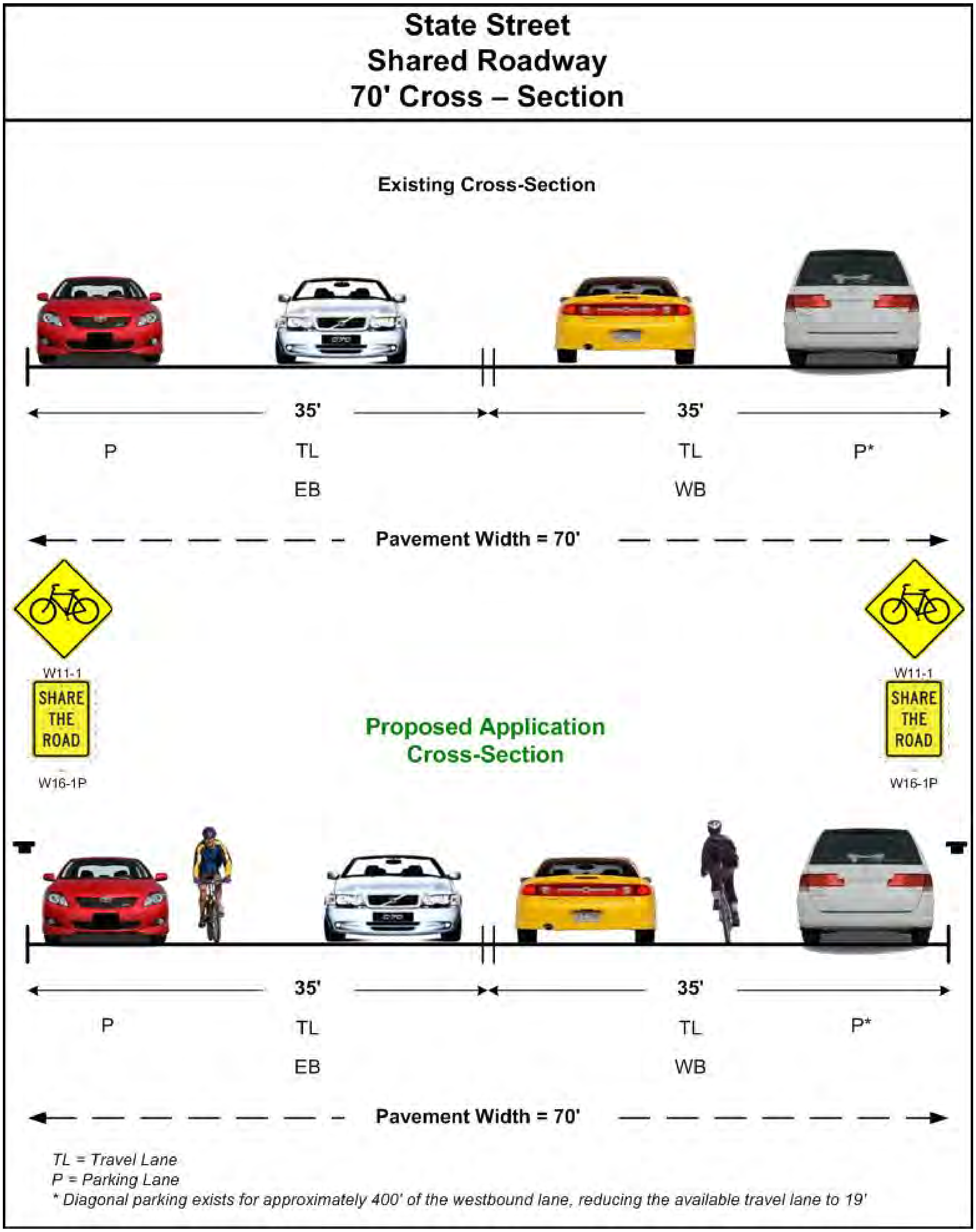
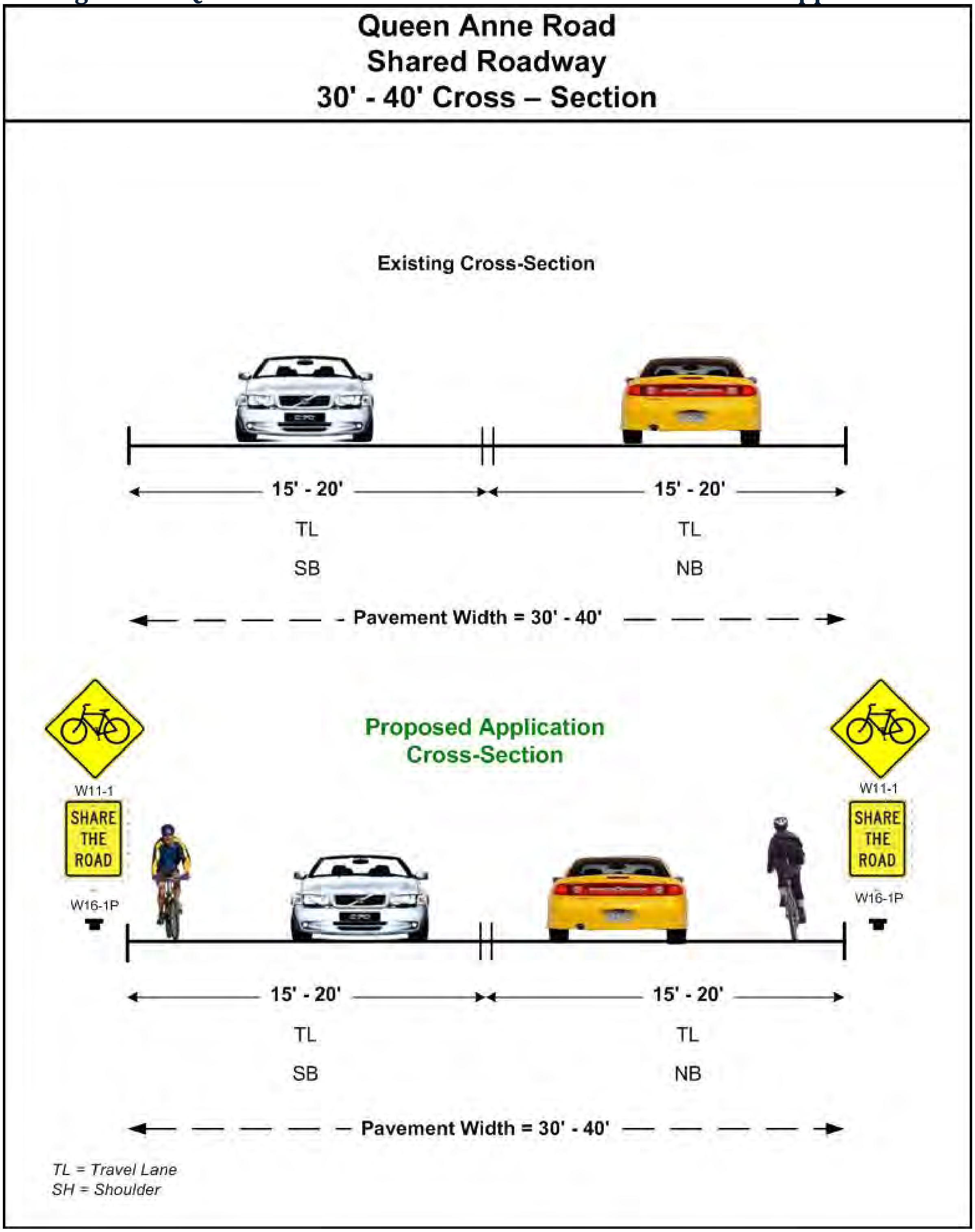


Figure 13 : Queen Anne Road Cross Section with Shared Lane Application



VIII

RECOMMENDED PEDESTRIAN FACILITY IMPROVEMENTS

VIII. RECOMMENDED PEDESTRIAN FACILITY IMPROVEMENTS

Recommended improvements to enhance pedestrian access and mobility are based on findings from the sidewalk inventory, pedestrian crash review, and input from the STF. The following recommended improvements address existing deficiencies on inventoried roadways and intersections in Teaneck.

Chestnut Avenue Pedestrian Plaza

A. Pedestrian Network Improvements

Sidewalks are available along the majority of Teaneck roadways. As detailed in **Map 4**, most of the sidewalk was determined to be in fair to good condition based on field inventory and investigation. However, there are gaps in the existing sidewalk network and sections of fair condition sidewalk in high pedestrian areas, near recreational amenities, schools and commercial areas. The recommendations for new sidewalk installation and sidewalk repair focus on incomplete and deteriorated sections of the sidewalk network. **Table 8** lists locations where new sidewalk and sidewalk replacement is recommended.

Table 8 : Sidewalk Improvements

Roadway	Direction	Limits *(by closest cross street)*	Classification	Distance
Cedar Lane	EB	Palisade Avenue – Queen Anne Road	New	400'
	EB	Grange Road – Chadwick Road	Replacement	1,000'
Country Club Drive	NB	E. Cedar Lane – E. Lawn Drive	New	600'
E. Lawn Drive	NB	Country Club Drive – Phillips Road	New	2,700'
Jefferson Street	SB	Ogden Avenue – Maitland Avenue	New	1,000'
Palisade Avenue	SB	Dewey Place – Colonial Court	New	800'
Phelps Road	NB	E. Lawn Drive – NJ Route 4	New	250'
Roemer Avenue	EB	Lilbet Road – New Bridge Road	New	1,000'
River Road	SB	Riverview Avenue – W. Englewood Avenue	New	2,700'
	SB	Grenville Avenue – Sunderland Road	New	1,600'
	SB	Forest Avenue – Northumberland Road	New	300'
	SB	Kenwood Place – Kipp Street	New	20'
Teaneck Road	NB	Demarest Road – Oakdene Avenue	New	1,000'
	NB	Lees Avenue – E. Walnut Street	New	1,500'
	NB	E. Sherwood Avenue – Degraw Avenue	New	1,000'
	NB	Hillside Avenue – Fenimore Road	New	300'
	SB	Blauvelt Street – Lees Avenue	Replacement	200'
Windsor Road	SB	Beverly Road – Cedar Lane	New	200'
	SB	Braircliffe Road – Edgewood Avenue	New	1,000'

Cost spreadsheets for sidewalk installation have been prepared and are included in **Appendix F**.

B. Pedestrian Overpasses/Underpasses

Teaneck is bisected north and south by NJ Route 4 and also east and west by Conrail freight lines, pedestrian overpasses/underpasses are utilized by residents to connect to parks, schools, commercial areas, and residential areas. Three (3) overpasses and one (1) underpass were identified in Teaneck.

The underpass, located in Frances E. Hall Veterans Park at the intersection of Windsor Road and W. Englewood Avenue, is currently owned and maintained by the CSX Corporation. It was identified by the STF as a major crossing of the railroad tracks for pedestrians. Currently, the underpass does not meet the requirements of the Americans with Disabilities Act of 1990 (ADA). Due to the limitations of this study, a thorough investigation of the underpass was not performed. It is recommended that future study be performed to determine treatments to provide ADA compliance. In addition to the underpass, the remaining three (3) overpasses should also be reviewed for ADA compliance.

W. Englewood Avenue Underpass

Pedestrian Bridge over CSX Rail Lines on Windsor Road

IX

INTERSECTION & CORRIDOR IMPROVEMENTS

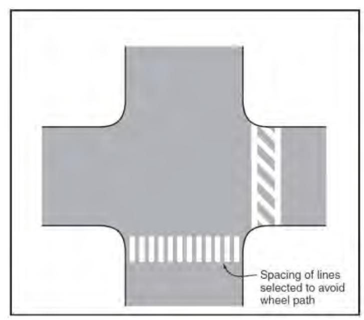
IX. INTERSECTION AND CORRIDOR IMPROVEMENTS

Several STF identified key connections through Teaneck will require bicyclists and pedestrians to traverse intersections. Additionally, some roadways in Teaneck may provide limited opportunity for bicycle and pedestrian travel, due to restricted roadway widths and vehicular speeds and volumes. This section recommends improving conditions at intersections for bicycles and pedestrians, in addition to corridor-wide improvements, based on findings from the intersection review and analysis.

A. Pedestrian Improvements at Intersections

Of the six (6) intersections inventoried, five (5) were signalized. As described in the existing conditions summary, the signalized intersections provide parallel striped (standard) crosswalks on each leg, with pedestrian signals and push buttons for major crossings. It is recommended that pedestrian signals and crosswalks be upgraded to "countdown" signals, and high visibility crosswalks. It is further recommended that pedestrian signal timings that do not meet the 2009 MUTCD recommended timing of 3.5 feet per second be adjusted to meet this new standard.

Pedestrian countdown signals

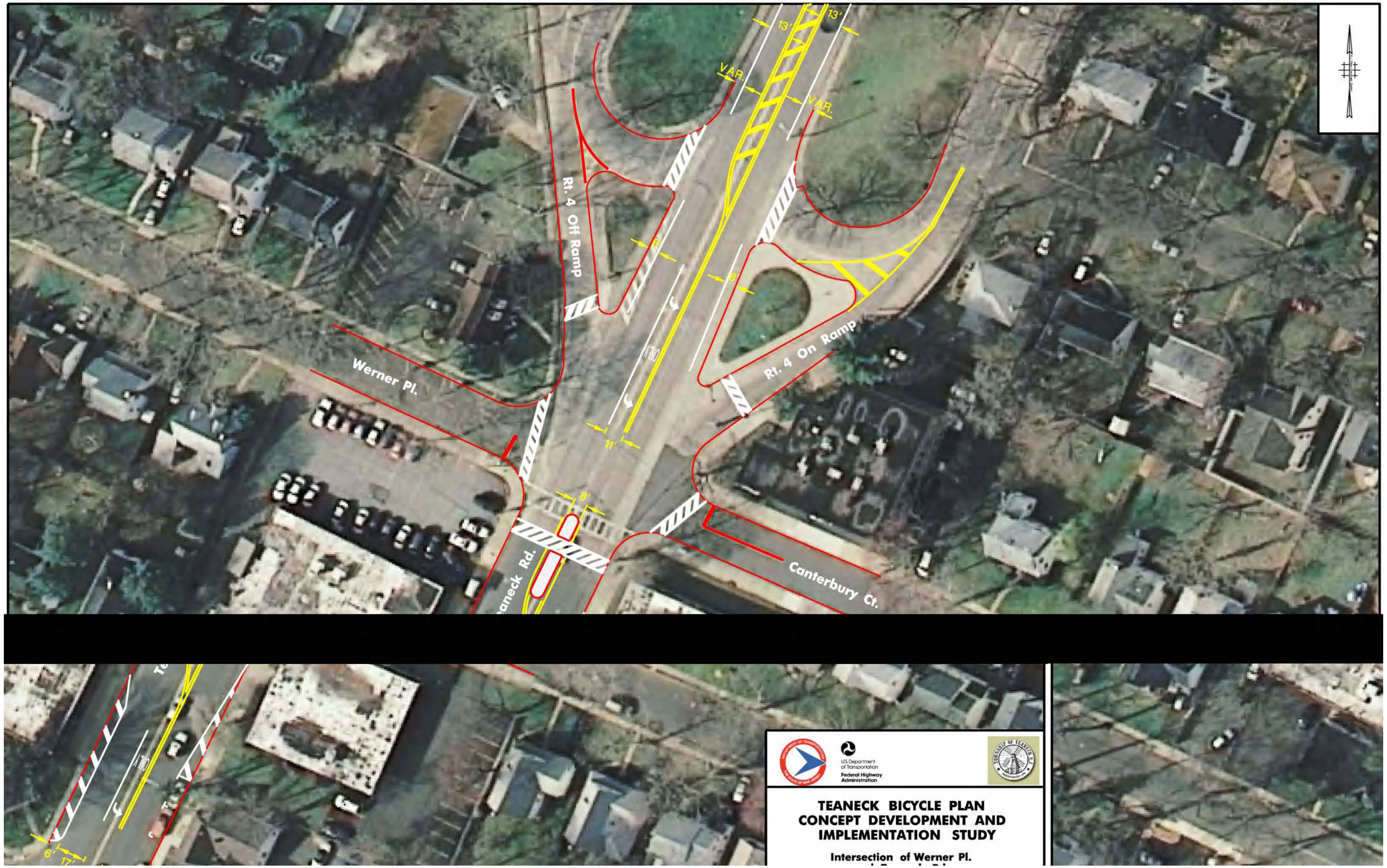


High visibility crosswalks

For the unsignalized intersection of Teaneck Road and Werner Place, motor vehicle speeds, volumes, and timing of the upstream and downstream traffic signals on Teaneck Road make crossing at this location difficult. The current crossing is sixty feet (60') long. It is identified as a "school crossing" through the use of the School Crossing Assembly (S1-1, W16-7P) to serve Teaneck High School, two (2) blocks west of Teaneck Road. Entrance and exit ramps for NJ Route 4 are also located at the intersection. On the NJ Route 4 overpass, north of the intersection, pedestrians were observed waiting for NJ Transit buses that stop on Route 4, generating additional pedestrian traffic at this intersection.

For this intersection, it is proposed that a pedestrian refuge island be installed to facilitate crossing Teaneck Road. Concept level schematics have been developed for this modification to the roadway cross section as illustrated in **Figure 16**.

Figure 14 : Pedestrian Refuge Concept at the Intersection of Teaneck Road and Werner Place



The recommended improvement provides one (1) lane in each direction on Teaneck Road, which vary in width from seventeen feet (17’) to thirteen feet (13’) as the roadway continues under the Route 4 bridge. An eleven foot (11’) painted median and six foot (6’) shoulders are recommended to reduce speeds through this location. Center turn lanes for left turning traffic in the southbound direction are provided, and further analysis is needed to determine whether left turns should be permitted onto Werner Place in the northbound direction.

B. Bicycle Improvements at Intersections

Improvements for bicycle facilities at intersections include the addition of signage and potential changes to lane widths. Where applicable, the installation of bicycle warning signs (W11-1) at intersection approaches alert motorists to the presence of bicyclists. Additionally, wide outside lanes of fourteen feet (14’) are recommended on roadways where sufficient right-of-way exists. Where sufficient right-of-way does not exist, use of the “Bicycles May Use Full Lane” sign (R4-11) is recommended, although this would typically be used at intersections utilizing the Shared Lane Marking, as described in Concept # 1.

W11-1 Bicycle Warning Sign

R4-11 Bicycles May Use Full Lane Sign

C. Bicycle Parking

Bicycle parking is an important element of the bicycle infrastructure. Well-maintained bicycle parking can help encourage bicycle trips to destinations that might otherwise be avoided. Further, in the absence of visible and functional bicycle parking, bicyclists may simply choose to lock their bikes to lamp posts, parking meters, signs, and other street fixtures or in areas which may block pedestrian passage.

An effective way to determine the best place to locate bike racks is to identify where bicyclists currently park their bikes. Conversely, placing bike racks where they go unnoticed, or in locations inconvenient to bicyclists, will ensure that they go unused. As noted in *Bicycle Parking Guidelines*[5], short-term parking racks should be:

[5] Association of Pedestrian and Bicycle Professionals, 2nd edition

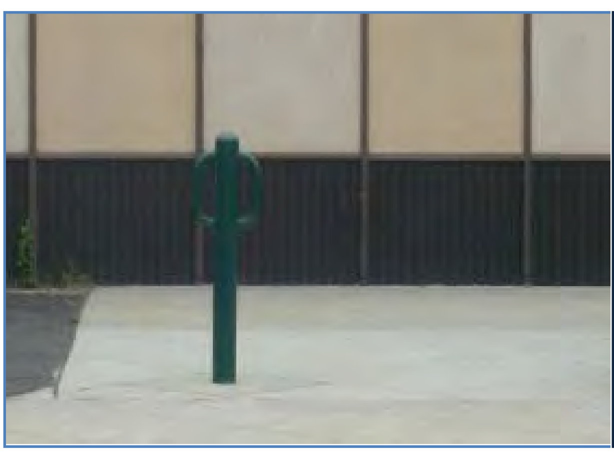
- Placed no more than 50 feet from the door of the destination; otherwise, cyclists may lock to other street furniture or trees.
- Visible from the destination to reassure cyclists about the security of the rack.
- Located in a high-traffic area with passive surveillance or eyes on the street.
- Located along the desire line from adjacent bikeway (the path that cyclists are most likely to travel).

In Teaneck, bicycle racks should be placed in parks, at schools, and along commercial corridors. For each location, the design of bicycle racks will vary as the available space for secure bike parking may be limited. The following criteria are recommended by the Association of Pedestrian and Bicycle Professionals (APBP):

- Support the bicycle upright by its frame in two places.
- Prevent the wheel of the bicycle from tipping over.
- Enable the frame and one or both wheels to be secured.

The "Wave" rack is not recommended as it supports a bicycle only in one place. Additionally, it is often misused by bicyclists who lock a bicycle parallel to the frame (not perpendicular), thus permitting only two bicycles to be locked to a rack that has capacity for four bicycles. Handlebar conflicts are common between adjacent bikes, and, in general, it can be difficult to fit in as many bicycles as the manufacturer promises.

The two most common and recommended racks are the "Inverted-U" and "Post and Ring" style bike racks. Both styles support bicycles at two points, are intuitive to use, and are inexpensive. These can be easily arranged in a series to expand capacity of parking at any one location.



Post and Ring Bicycle Rack located outside J&J Pharmacy on Cedar Lane

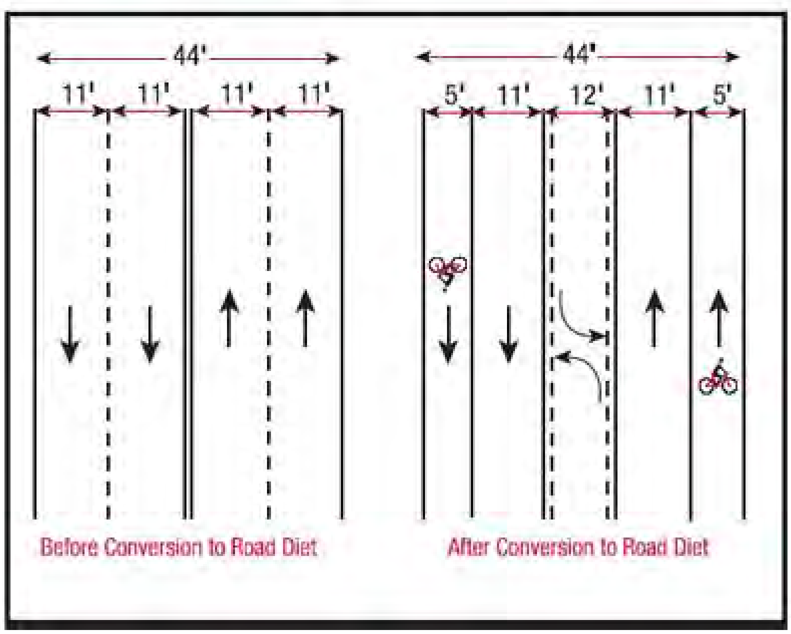
A series of inverted U Racks as utilized by NJ Transit

D. Corridor Improvements

Based on the findings of the intersection analysis, a potential application for Teaneck Road could be a Road Diet. A Road Diet involves reducing the number of vehicle travel lanes and reallocating roadway space for other modes of travel and potential uses such as Bicycle Lanes. Road Diets have been successfully constructed on roadways with an Average Annual Daily Traffic (AADT) under 20,000, and have resulted in improved multi-modal travel, speed reductions, and minimal traffic diversions.[6] However, at a minimum, this treatment requires a traffic study to determine the impact a Road Diet would have on roadway operation before it can be implemented. Other potential improvements at this location include installing a traffic signal, similar to the treatment north of the NJ Route 4 overpass, or a Pedestrian Hybrid Beacon ("HAWK" signal).

The recommendation for a Road Diet will require a detailed engineering review for design, as well as coordination with residents, property owners, transportation agencies, and other involved stakeholders. **Figure 17** illustrates a typical Road Diet cross-section and a Road Diet prior to, and after, implementation.

Figure 15 : Road Diet Application



Source: FHWA

[6] *Road Diet Handbook: Setting Trends for Livable Streets, Institute of Transportation Engineers, July, 2009*

Roadway Before Road Diet

Roadway After Road Diet

E. Additional Study

The Study Task Force identified additional areas of concern, which could not be accommodated under the current Scope of Work. It is recommended that those locations be studied in the future for bicycle and pedestrian accommodations. The following locations were identified:

Area of Concern	Type	Location
Cedar Lane	Road Diet	Hackensack River Bridge - Teaneck Road
Cedar Lane	Mid-Block Crossing	Trail crossing on Cedar Lane
Sussex Road	Bicycle Compatibility	Cedar Lane – New Bridge Road
W. Englewood Road	Bicycle Compatibility	River Road – Windsor Road

An important connection identified by the STF included the desire to provide residents with access to Overpeck Park, which is located just east of I-95 in Leonia Township. After careful consideration of all available connections to the park via existing roadways, it was determined that no viable connection was possible given the existing conditions and vehicular volumes on the roadways which lead to the park.

A potential connection for Teaneck residents to access Overpeck Park may exist through further coordination with Bergen County and the Township of Leonia. By utilizing existing paths and bridges currently used by patrons of Overpeck Golf Course, E Cedar Lane in Teaneck could connect to Cedar Lane in Leonia. This connection would be for the sole use of bicycles and pedestrians, as a means to provide a connection to the park. Further analysis would be needed to assess the compatibility of roadways in Leonia before this connection could be considered.

X

IMPLEMENTATION PLAN

X. IMPLEMENTATION PLAN

Teaneck covers an area of roughly six (6) square miles. The average bicycle trip ranges from 3 – 5 miles, while the average pedestrian trip only covers approximately .5 mile. As a result, this Master Plan represents a tremendous opportunity for increasing the amount of bicycle and pedestrian travel in town.

As detailed in this Master Plan, there are opportunities for multiple improvements in Teaneck to enhance bicycle and pedestrian access and mobility. The following sections provide guidance on coordination, planning, and funding sources that can serve as a resource for developing these facilities throughout Teaneck.

A. Complete Streets Policy

A Complete Streets Policy is designed to ensure that future roadway construction projects consider all roadway users. Through this policy, the addition of bicycle lanes, construction of sidewalks, or the upgrading of signals may be considered as a part of a roadway project.

A fundamental step that the Township of Teaneck can take to advance a Complete Streets practice is to adopt and implement a Complete Streets Policy. The NJDOT Complete Streets Policy strives to:

- Create a comprehensive, integrated, connected multi-modal network by providing connections to bicycling and walking trip generators.
- Provide safe and accessible accommodations for existing and future pedestrian, bicycle and transit facilities.
- Design bicycle & pedestrian facilities to the best currently available standards and practices.
- Establish an incentive within the Local Aid Program for municipalities and counties to develop and implement a Complete Streets policy.
- Ensuring that improvements comply with Title VI/Environmental Justice, ADA, and should complement the context of the surrounding community.
- Will address the need for bicyclists and pedestrians to cross corridors, as well as travel along them.
- Establish a procedure to evaluate resurfacing projects for Complete Streets inclusion according to the length of project, local support, environmental constraints, and right-of-way limitations, funding resources and bicycle and/or pedestrian compatibility.
- In rural areas, paved shoulders or a multi-use path shall be included in new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day (from FHWA's Design Guidance Accommodating Bicycle and Pedestrian Travel: A Recommended Approach).
- Research, develop and support new technologies in improving safety and mobility.
- Make provisions for pedestrians and bicyclists when closing roads, bridges and sidewalks during construction projects.

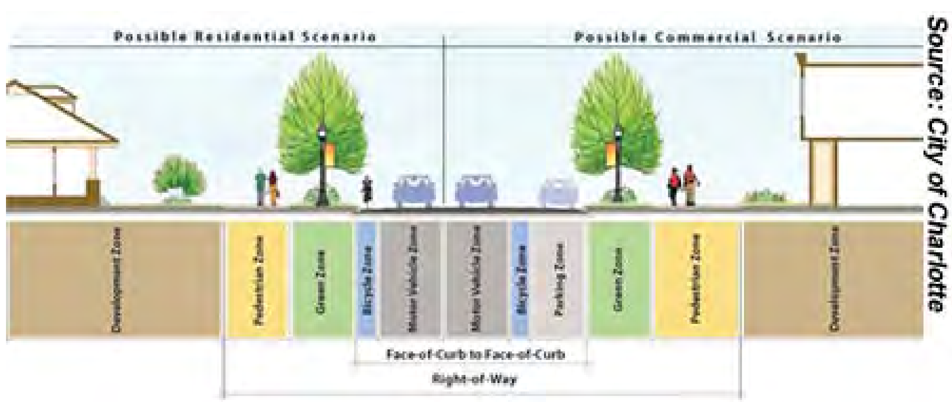
- Improvements will also consider connections for Safe Routes to School, Safe Routes to Transit, Transit Villages, trail crossings and areas or population groups with limited transportation options.
- Implement training for Engineers and Planners on Bicycle/Pedestrian/Transit policies and integration of non-motorized travel options into the transportation systems.
- Establish Performance Measures to gauge success.

There are a variety of measures municipalities can use to adopt a Complete Streets policy, although not all of the elements are vital to every measure. For example, the establishment of performance measures would be appropriate for a complete streets plan, but detailed performance measures should be left out of an ordinance.

Complete streets practice can be adopted in a wide variety of ways, these include:

- Ordinance Legislation
- Plan
- Executive Order
- Internal Policy
- Resolution

Ordinances and resolutions are the preferred method for adopting Complete Streets policies, since they provide a concise, direct declaration of municipal intent by the municipality's governing body. Resolutions have been chosen by the largest plurality of municipalities, representing 47% of municipalities with Complete Streets policies. An ordinance is second in popularity, being adopted by 22% of municipalities.[7] Plans and internal policies are useful in fleshing out details on ordinances, resolutions, or executive orders. A model ordinance has been provided in **Appendix G**.



Typical Complete Streets Cross-Section for potential application in Residential or Commercial zones.

[7] Percentages were calculated based on summary of adopted policies, www.completestreets.org.

B. Coordination Efforts

Coordination between Teaneck, Bergen County, and NJDOT should begin to advance improvements for bicycle and pedestrian accommodations on roadways inside and around Teaneck. Following this study, a potential step could be the formation of a working group (e.g., Bike/Ped Task Force) to pursue opportunities, and resources to support the design and implementation of the facilities. The working group could assist in establishing bicycle compatible routes, areas of high pedestrian concentrations, as well as identifying potential regional connections that can be supported collectively. Additionally, working with communities that surround Teaneck, which include Bergenfield, Bogota, Englewood, Hackensack, Leonia, New Milford, and Ridgefield Park, could help to provide connectivity to neighboring bicycle and pedestrian networks.

Coordination should also include the identification of opportunities through future development and encouraging feedback from local groups (e.g., Friends of the Hackensack River Greenway, Teaneck Clergy Council, Teaneck Chamber of Commerce). As projects occur, such as office expansions and commercial developments, opportunities to advance bicycle and pedestrian improvements should be pursued. Through coordination and collaboration, responsibility can be shared regarding future maintenance for these facilities.

C. Funding Improvements

Although costs associated with bicycle and pedestrian improvements can fluctuate, improvements (e.g., installing "Share the Road" signage on Englewood Avenue) can be completed at a relatively low cost. Signing and striping could be accomplished by utilizing municipal maintenance resources.

The recommended concepts for both bicycle and pedestrian projects could be eligible for the following potential funding sources:

- Community Development Block Grants (CDBG)
- Congestion Mitigation and Air quality (CMAQ)
- New Jersey's Local Aid Program for Municipalities and Counties
- Transportation Development Districts (TDD)
- Smart Future Planning Grants
- Safe Routes to School Grants

Funding sources for bicycle and pedestrian projects are described in more detail in **Appendix H,** "Funding Pedestrian and Bicycle Planning, Programs, and Projects." The funding sources identified in this document were compiled by NJDOT to identify major funding sources for bicycle and pedestrian planning and project development activities.

XI

MAINTENANCE, EDUCATION, ENFORCEMENT

XI. MAINTENANCE, EDUCATION, AND ENFORCEMENT

Maintenance of roadways, including on-road bicycle facilities, education of bicyclists and motorists, and enforcement of traffic laws and statutes are important considerations as bicycle ridership and pedestrian volumes will increase as new facilities are created.

A. Maintenance

The condition, specifically smoothness of a roadway's surface, is an important factor in bicycle comfort and safety. When a surface is irregular it not only causes an unpleasant ride, but also poses risk to the bicyclist as potholes, cracking, heaving, and other roadway deterioration may cause a bicyclist to swerve into motor vehicle traffic to avoid the obstacle. NJDOT and AASHTO bicycle guidelines recommend the routine maintenance of roadways to provide good riding conditions for bicycle traffic. In addition, efforts should be made to prohibit and remove debris in the roadway, especially along the outside edge of roadways where bicyclists often ride. Debris can impact bicycle operations and increase maintenance needs of roadway facilities over time.

When facilities are installed, it is important for municipalities to notify residents of the necessity in not placing debris in shoulders and bicycle lanes. Further coordination should also be maintained with the appropriate public works departments to identify areas that will need additional street cleaning during the fall and winter months.

Sidewalk conditions can also adversely affect pedestrians, especially those with disabilities. Sidewalks should be inspected routinely so that cracking, shifting, or deterioration that would otherwise affect the use of the sidewalk, is avoided. If replacement is necessary, the appropriate notice should be made to the responsible party or parties.

B. Education

To properly plan for future growth of bicycle use, educational programs that encourage lawful and safe practices among bicyclists and motorists should be implemented. When educating a community it is important to dispel myths, encourage courteous and lawful behavior, and enhance awareness. By utilizing the resources of the local police, schools, and libraries, education programs have the potential of reaching a broader audience and cross section of the community.

Bicyclists riding on the sidewalk can conflict with pedestrians.

The following groups should be educated about bicycle and pedestrian safety and awareness in Teaneck:

1. **Bicyclists Riding on Sidewalks**
2. **Young (17 and under) bicyclists and pedestrians**
3. **Adult bicyclists and pedestrians**
4. **Motorists**

Educational materials regarding recommended bicycle and pedestrian travel practices and behavior can be accessed at the following locations:

- **NJDOT – Biking in New Jersey**
  http://www.state.nj.us/transportation/commuter/bike/
- **NJDOT – Pedestrian Safety**
  http://www.state.nj.us/transportation/commuter/pedsafety/
- ***Touring Tips***
  http://www.state.nj.us/transportation/commuter/bike/tourtips.shtm
- **Federal Highway Administration (FHWA)– Bicycle Safety Education Resource Center**
  http://www.bicyclinginfo.org
- ***Good Practices Guide***
  http://www.bicyclinginfo.org/education/resource/bestguide.cfm

The National Highway Traffic Safety Administration also distributes a packet called "Getting to School Safely Community Action Kit." Within the packet there are fact sheets about bicycle and pedestrian safety. Another organization that distributes a guide about how to walk to school is the Department of Health and Human Services, Center for Disease Control and Prevention (CDC). The CDC gives parents fun tips for teaching children the proper way to walk to school. These resources are available online, at the following websites:

- **http://www.nhtsa.gov/people/injury/buses/Getting_to_School/index.html**
- **http://www.cdc.gov/nccdphp/dnpa/kidswalk/**

C. Enforcement

An important component of a safe and well traveled transportation system is an enforcement program for traffic regulations as they apply to each type of roadway user: motorists, bicyclists, and pedestrians. The Township of Teaneck can reduce poor travel behavior and encourage beneficial travel habits through enforcement. This process should include reviewing current ordinances and traffic regulations to identify elements that may unnecessarily affect certain roadway users, such as bicyclists. As bicycle facilities are installed, it is recommended that local ordinances and regulations be developed or revised to clarify items such as: application of vehicle laws to bicyclists, permitted movements on and across bicycle facilities (e.g., permitted motor vehicle movements across bicycle lanes), bicycling on sidewalks, and bicycle parking requirements. Possible sources for reference include the California Vehicle Code (Division 11, Chapter 1), the Pennsylvania Consolidated Statutes (Title 75, Chapter 35), and the City of Cambridge, MA Traffic regulations (Article XII).

N.J.S.A 39: 4-36 in New Jersey has changed from 'Yield' to 'Stop' for pedestrians in the crosswalk.

In addition, a review of enforcement regulations and practices may assist in identifying opportunities to partner with community, county, or state organizations to inform users about safe bicycle travel behavior, such as the required use of helmets by bicyclists under the age of 17 (N.J.S.A 39:4-10.1), or the recent changes in N.J.S.A 39: 4-36 which now require motorists to stop for pedestrians in the crosswalk**.** Outreach and promotion through community channels and events is a critical piece in reminding motorists, bicyclists, and pedestrians of applicable laws and recommended travel practices.

D. Policy and Programmatic Recommendations

Low-cost programmatic recommendations are also recommended in this section to complement any ongoing educational programs the township currently provides.

Walking School Bus

A Walking School Bus provides parents with a mechanism to teach children how to walk to school safely. The concept involves one or more parents walking to school with a group of children, therefore providing a healthy alternative for students where bussing is not available. Walking School Buses are often developed in coordination with the school administrations and local law enforcement. Communities in New Jersey, such as Garwood and Westfield, have successfully implemented Walking School Bus programs. Additional information on developing a Walking School Bus has been provided in **Appendix I**.

Children participating in a walking school bus in Garwood, NJ

Bicycle Rodeos

A Bicycle Rodeo provides parents and law enforcement with a mechanism to teach children how to safely ride a bicycle. This concept involves children attending a class which teaches proper riding techniques by local law enforcement and school administrators or volunteers. Through a series of "real life" riding simulations, students are taught how to safely ride their bicycle. Communities in New Jersey such as Hoboken and Tenafly, have successfully implemented Bicycle Rodeos. Additional Information on developing a Bicycle Rodeo has been provided in **Appendix I**.

Children participating in a bicycle rodeo.

XII

CONCLUSION

XII. CONCLUSION

Teaneck has an opportunity to enhance roadway conditions to improve bicycle and pedestrian accommodation on its roadway network in its desire to develop a comprehensive bicycle and pedestrian network. This Master Plan is intended to serve as a resource for the town to improve the roadway network for present and future generations of bicyclists and pedestrians. The concept templates provided within this Master Plan demonstrate improvements that could enhance bicycle compatibility on existing roadways and improve conditions for pedestrian travel throughout the town. NJDOT provides the information contained in these Local Bicycle and Pedestrian Plans as a service to local communities. The Department and its consultants strive to provide quality planning studies that include a range of recommended improvements, but make no claims, promises, or guarantees about the availability of funding to complete the projects recommended.

APPENDIX A

MEETING MEMORANDA/ PUBLIC COMMENTS

MEMORANDUM OF MEETING

Project:	Township of Teaneck Bicycle and Pedestrian Master Plan Study	**S.O. No:**	2007BPP643C, T.O. # 15
Date:	November 8, 2010	**Time:**	6:00 PM – 8:00 PM
Place:	Multi-Purpose Room 1, Richard Rodda Community Center	**By:**	James Van Schoick

Purpose: Study Task Force Meeting # 2

Attending:

Name		**Representing**
Charles	McKearnin	Teaneck Municipal Engineer/Director of Public Works
Lt. John	Faggello	Teaneck Police Department
Harry	Kissileff	Teaneck Environmental Commission
Robert	Bado	Teaneck Environmental Commission
Norma	Goetz	Teaneck Environmental Commission
Howard	Rose	Teaneck Planning Board
Anthony	D'Angelo	Teaneck Board of Education
Ashley	Edwards	Teaneck Youth Advisory Board
Barry	Doll	Borough of Bergenfield
Ken	Aloisio	Bergen County Department of Planning
Nancy	Dargus	Bergen County Engineering
Elizabeth	Thompson	North Jersey Transportation Planning Authority
Bill	Mayser	Bicycle Touring Club of North Jersey
Ted	Semegran	Bicycle Touring Club of North Jersey
William	Riviere	NJDOT - Office of Bicycle and Pedestrian Programs
Stephen	Wong	Michael Baker Jr., Inc.
Jim	Van Schoick	Michael Baker Jr., Inc.

The meeting began with William Riviere (NJDOT-OBPP) welcoming everyone to Study Task Force (STF) Meeting # 2 for the Teaneck Bicycle and Pedestrian Master Plan. Mr. Riviere introduced Steven Wong and Jim Van Schoick from Michael Baker Jr., Inc. (Baker). Mr. Riviere continued by providing an overview of the NJDOT bicycle and pedestrian planning assistance program and stated that the desired result is a plan that meets the needs of Teaneck. He then turned the meeting over to Mr. Wong.

Mr. Wong stated that the purpose of the STF meeting was to present the findings of the online survey, and the work completed to date on the Teaneck Bicycle and Pedestrian Master Plan. Mr. Wong then stated that a *Feedback Form* has been provided for attendees to record their questions and comments during the meeting.

Mr. Wong continued by outlining the meeting agenda, which included the scope of work, the results of the online survey, findings from the ordinance review, and the presentation of conceptual improvements for bicycle and pedestrian facility improvements.

Results of the Online Public Survey

Mr. Wong stated that the intent of the survey was to get public input on conditions for bicycling and walking, popular routes for bicycling and walking, and to identify deficiencies faced by users. He informed attendees that the survey was made available from August 2, 2010 to September 20, 2010 and received 276 responses. Mr. Wong then summarized the results which included:

- 74% of respondents fell between the ages of 37 and 69.
- 48% made a trip by bike in the past month and 75% made a bike trip in the past week.
- 69% of respondents use their bicycle for recreation
- 49% of respondents travel between 1 and 7 miles on an average bicycle trip
- 90 % of respondents made at least one walking trip in the past week.
- Recreation and shopping were the primary reasons walking trips were made

The following question was received:

- Harry Kisseleff asked if the survey could be re-opened so that a focus on school aged children could be more represented in the Study. Mr. Wong replied that the survey could not be re-opened under this Study, but future surveys could be administered by the Township of Teaneck to gain a representative sample from this demographic.

Mr. Wong then turned the meeting over to Mr. Van Schoick to present the findings from the ordinance review and to present the bicycle and pedestrian conceptual improvements.

Township of Teaneck Ordinance Review

Mr. Van Schoick stated that Baker was tasked to perform a review of exiting bicycle and pedestrian related ordinances. He explained that the review found that Teaneck's bicycle and pedestrian related ordinances met current NJDOT guidelines and the recommendations included minor changes in language for clarification and to provide compliance with the Americans with Disabilities Act. Further recommendations included the adoption of a Complete Streets policy, similar to what has been adopted by the NJDOT as a method of financing the future inclusion of bicycle and pedestrian related facilities.

Sidewalk Inventory and Recommendations

Mr. Van Schoick stated that for the areas inventoried during the course of the Study, the sidewalk network was found to be mostly complete and in good condition. He continued to identify that many of the locations inventoried had met NJDOT guidelines for sidewalks and that many intersections had ADA compliant features. The following recommendations were made:

- For those areas where gaps in the sidewalk were present, new sidewalk was recommended. Locations for new construction of sidewalk included Cedar Lane, River Road, and Windsor Road.
- For locations where sidewalk was found to be in poor condition, increased maintenance or replacement of sidewalk was recommended. Locations for improved maintenance or replacement of sidewalk included Cedar Lane, Teaneck Road, and New Bridge Road.

Bicycle Compatibility and Recommendations

Mr. Van Schoick stated that a bicycle compatibility assessment of county and municipal roadways was performed. The assessment utilized the NJDOT *Bicycle Compatible Roadways and Bikeway Planning and Design Guidelines* to determine compatibility. Compatibility for the Township of Teaneck was expressed through a map, which was also given to participants. He explained that from this assessment four (4) concepts were developed for application on Teaneck roadways. These concepts included:

- Bike Lanes
- Use of the Shared Lane Marking or “Sharrow”
- Paved Shoulders
- Shared Lane

Mr. Van Schoick explained further that each treatment was developed to work within Teaneck’s existing roadway network, as projects that would involve roadway widening would be costly and difficult, given that Teaneck is an established community with limited room for expansion.

Intersection Assessment and Recommendations

Mr. Van Schoick stated that six (6) intersections were inventoried for bicycle and pedestrian improvements. He explained that of the six (6) intersections, five (5) were signalized and one (1) was unsignalized. The inventoried intersections included:

- Degraw Avenue & Queen Anne Road
- Cedar Lane & River Road
- Cedar Lane & Queen Anne Road
- Teaneck Road & Cedar Lane
- Teaneck Road & Tryon Avenue
- Teaneck Road & Werner Place *(unsignalized)*

Mr. Van Schoick explained further the results of the intersection assessment which found that the intersections were mostly ADA compliant, included pedestrian signal heads and pedestrian push buttons (at signalized intersections), and followed complete streets principles. He added that despite an overall good analysis of the intersections, improvements could still be made. This included

- Installation of countdown pedestrian signal heads
- Installation of detectable warning mats (truncated dome)
- Application of higher visibility "diagonally-striped" crosswalks
- Additional pedestrian and bicycle related signage, as needed

Group Assessment

A general discussion with the group followed the presentation. The following comments were received during the discussion, and were submitted via feedback forms after the meeting:

- A concern for the placement of leaves in bicycle lanes by residents was made, as the leaves obstruct a bicyclists path along the roadway.
- A continued emphasis among the STF for increased education was expressed throughout the group assessment.
- It was asked whether additional traffic lights were recommended as a part of the Study. Mr. Van Schoick responded that no additional traffic lights were recommended at this time, however if the STF felt there were intersections which would merit further investigation, it could be mentioned in the final report.
- It was requested that a Road Diet be investigated along Cedar Lane.
- It was requested that a mid-block crossing be investigated near the Anderson Bridge on Cedar Lane for the Hackensack River Greenway crossing at this location.
- It was asked how projects of would be funded. Mr. Riviere stated that funding for bicycle and pedestrian projects through the NJDOT has been reduced and municipalities should seek additional funding from within or through grants which may be available in the future. He also added that the adoption of a Complete Streets Policy would aid in funding for improvements as they would have to be considered as part of any roadway construction project.

Next Steps/Schedule

Mr. Wong informed attendees that the next steps for the study are to prepare the Draft Bicycle and Pedestrian Master Plan and to present the report to the Township at a future meeting to be decided on in the coming weeks.

The meeting then concluded with attendees being thanked for their participation and input.

Handouts at Meeting:	Agenda, Fact Sheet, Feedback Form, and Teaneck Bicycle and Pedestrian Master Plan STF Meeting # 2 Presentation
Next Steps:	Draft Bicycle and Pedestrian Master Plan (December), Township Presentation (December)
Follow up Materials:	Teaneck Bicycle and Pedestrian Master Plan STF Meeting # 2 Presentation (electronic copy)

MEMORANDUM OF MEETING

Project:	Township of Teaneck Bicycle and Pedestrian Master Plan Study	**S.O. No:**	2007BPP643C, T.O. # 15
Date:	June 30, 2010	**Time:**	7:30 PM – 9:00 PM
Place:	Multi-Purpose Room 3A, Richard Rodda Community Center	**By:**	James Van Schoick

Purpose: Study Task Force Meeting # 1

Attending:

Name		**Representing**
Charles	McKearnin	Teaneck Municipal Engineer/ Director of Public Works
Lt. Robert	Carney	Teaneck Police Department
Harry	Kissileff	Teaneck Environmental Commission
Robert	Bado	Teaneck Environmental Commission
Glen	Chin	Teaneck Environmental Commission
Howard	Rose	Teaneck Planning Board
Eugene	Coleman	Teaneck Historical Preservation Commission
Larry	Bauer	Teaneck Chamber of Commerce
Rabbi Lawrence	Zierler	Teaneck Clergy Council
Berni	Zierler	Teaneck Resident
Ari	Jacobsen	Teaneck Clean and Green
Marie	Warnke	Preserve the Greenbelt Committee
Ashley	Edwards	Teaneck Youth Advisory Board
George	Reskakis	Teaneck Parks, Playgrounds, and Recreation Advisory Board
Louis	Osman	Friends of the Hackensack River Greenway through Teaneck
Ingrid	Brennan	Council Member, Leonia
Cynthia	Sumner	Englewood Environmental Commission
Ted	Semegran	Bicycle Touring Club of North Jersey
William	Riviere	NJDOT - Office of Bicycle and Pedestrian Programs
Barry	Keppard	Michael Baker Jr., Inc.
Jim	Van Schoick	Michael Baker Jr., Inc.

The meeting began with William Riviere (NJDOT-OBPP) welcoming everyone to Study Task Force (STF) Meeting # 1 for the Teaneck Bicycle and Pedestrian Master Plan. Mr. Riviere introduced Barry Keppard and Jim Van Schoick from Michael Baker Jr., Inc. (Baker). Mr. Riviere continued by providing an overview of the NJDOT bicycle and pedestrian planning assistance program and stated that the desired result is a plan that meets the needs of Teaneck. Introductions by attendees followed. He then turned the meeting over to Mr. Keppard.

Mr. Keppard stated that the purpose of the STF meeting was to present work completed to date, and to solicit feedback from the members of the task force on potential opportunities for bicycle and pedestrian improvements in Teaneck. Mr. Keppard then stated that a *Feedback Form* has been provided for attendees to record their questions and comments during the meeting.

Mr. Keppard continued by outlining the meeting agenda, which included the scope of work, an overview of data collected and activity observations, existing conditions for bicycle and pedestrian facilities, and a group assessment.

Data Collected and Activity Observations

Mr. Keppard reviewed the data collected, which included existing studies, reports and plans, information on existing bicycle routes and proposed trails, bicycle crash reports, GIS data, and bicycle and pedestrian-related local codes. Attendees were informed that field visits were performed to observe bicyclist and pedestrian travel patterns in the town as well as existing conditions on local and county roadways. A map that illustrated the observed travel patterns and trip generators was then reviewed with attendees.

Mr. Keppard then turned the meeting over to Mr. Van Schoick to present the findings from the bicycle and pedestrian crash reports and the signed bicycle route assessment.

Bicycle and Pedestrian Crash Review

Mr. Van Schoick stated that bicycle and pedestrian crash reports from 2007 to 2009 were provided by the Teaneck Police Department. Reported crashes were reviewed for contributing circumstances, and crash locations were mapped. Mr. Van Schoick stated that there were 188 crashes reported, with 64 bicycle crashes and 124 pedestrian crashes. Two (2) crash maps were presented to illustrate locations and the severity of the bicycle and pedestrian crashes in Teaneck. Locations where either multiple bicycle or pedestrian crashes occurred were reviewed, and Mr. Van Schoick added that the intersections with a high frequency of crashes could be candidates for further analysis. The following question was received:

- Berni Zierler asked if the crash reports involved bicycles or pedestrians with vehicles. Mr. Keppard replied that the crash reports received by the Study Team were incidents reported to the Teaneck Police which involved either a pedestrian and a vehicle, or a bicyclist and a vehicle.

Assessment of Signed Bicycle Routes

Mr. Van Schoick stated that Teaneck has an extensive network of signed bicycle routes, and an assessment of the existing routes was performed to inventory their location and existing physical conditions of the roadways used for the routes. He explained that the assessment included an inventory of posted speeds, presence of parking, pavement width (lane and shoulder widths), condition of signs, and the observed presence of truck traffic. He then presented a map which illustrated the signed bicycle routes and the widths of roadways on the routes. The results of the inventory and assessment include:

- Roadway widths on signed bicycle routes varied between 30' and 70' with the majority of roadways having a width of around 30' – 36'.
- Parking was permitted on most of the roadways with signed bicycle routes. Timed restrictions are in place as to when parking was permitted. (e.g. street sweeping, etc.)
- In some locations, bicycle route signage was observed to be missing or deteriorated.

Mr. Van Schoick then turned the presentation over to Mr. Keppard to present the results of the sidewalk assessment, regional connections investigation, and the bicycle and pedestrian code review.

Sidewalk Assessment

Mr. Keppard stated that an assessment was performed for sidewalk on county roadways based on data from the NJDOT County Route Sidewalk Inventory (CRSI). The assessment focused on confirming the presence and condition of sidewalks included in the CRSI. A map illustrating the condition and presence of sidewalk on County Routes was then presented to attendees. The following comments were received:

- Cynthia Sumner stated that there is no sidewalk present along River Road at Andreas Park, and that pedestrians often have to cross the roadway to use the sidewalk on the opposite side of the roadway. She continued to mention that this is an important segment of the Hackensack River Greenway.
- Marie Warnke stated that the missing sidewalk on Cedar Lane between Palisade Ave and Queen Anne Rd presents dangerous circumstances for pedestrians, especially those who have disabilities.
- Harry Kissileff mentioned that the pedestrian underpass at W. Englewood Avenue is not ADA accessible, and there is a desire to have accommodations at this location to assist in crossing the rail line.

Regional Connections Analysis

Mr. Keppard provided an overview of trails, paths, and routes in the region around Teaneck. He explained that these facilities were explored to identify potential connections and links to regional destinations. A map that was created to identify regional connections surrounding Teaneck was then reviewed with the attendees. Mr. Keppard identified the mapped regional facilities including:

- Saddle River Bicycle Path
- East Coast Greenway – Optional route to New York City (via George Washington Bridge)

- Henry Hudson Scenic Route

He then asked that the STF share their local expertise as the study progresses regarding any additional regional facilities that were not identified.

Bicycle and Pedestrian Code Review

Attendees were informed that a review was performed of ordinances which involve bicycle and pedestrian travel. Ordinance sections such as those dealing with bicycle riding on sidewalks, upkeep of sidewalks, and maintenances of sidewalks were included in the review. Mr. Keppard explained that these ordinances would be compared to state and national best practices and policies for bicycle and pedestrian travel and 'Complete Streets' practices.

Group Assessment

A general discussion with the group followed the presentation. The following comments were received during the discussion:

- It was stated that I-95 (New Jersey Turnpike) was major obstacle for bicycle and pedestrian access to Overpeck Park in the neighboring municipality of Leonia.
- Ingrid Brennan stated that Fort Lee Rd. was planned to be widened to six (6) lanes with no planned bicycle accommodations on the roadway. Either Bergen County or the Bergen County Utility Authority was thought to be involved in this planning work.
- Rabbi Zierler expressed a desire to educate the public so that they may understand the laws and rights afforded to pedestrians and bicyclists on roadways. He also mentioned that he felt enforcement needed to be increased for violations such as not stopping for pedestrians in crosswalks.
- Lt. Carney stated that both education and enforcement programs are in place to address violations. He mentioned that coupons for local business were given by police officers to distribute to young bicycle riders and others who followed the rules of the road and were practicing safe riding habits (e.g., Bicycling with a helmet, riding with traffic, etc.)
- Others expressed the need for bicycle and pedestrian education, especially concerns for bicycles riding on the sidewalks.
- Ari Jacobson suggested that someone should contact the internet search company Google, whose maps now include an option for bicycling directions. He stated that the existing bike route network is not currently displayed on their maps.
- Larry Bauer of the Teaneck Chamber of Commerce stated that pamphlets were created by the Chamber of Commerce on bicycle and pedestrian safety. A program to distribute these pamphlets by local businesses to their patrons was proposed was not yet advanced. Mr. Bauer was hoping that new efforts could help advance this program.

- Mr. Kissileff requested that information concerning bicycle racks be provided along with some direction as to where the best locations for bicycle racks would be within town. Mr. Keppard responded that bicycle parking reviewed and included with the recommendations in the draft report.
- It was stated that the signed bicycle routes in Teaneck are not intuitive (e.g., no destination information) and sometimes end abruptly at dead ends. Mr. Keppard responded that enhanced signage could be installed that included destinations and possibly enhanced route names/numbers for the signed bicycle routes to provide more information for cyclists.
- It was stated that Teaneck is a diverse community and this plan would need to address the needs of different segments of the population. Mr. Keppard responded that it is important that the Master Plan reach out to the various communities in Teaneck to advance the bicycle and pedestrian goals of the township.

In addition to the comments recorded during the discussion, feedback forms were provided my attendees. *(Input from the feedback forms is included at the end of memorandum.)*

Next Steps/Schedule

Mr. Keppard informed attendees that the next steps for the study are to prepare the online survey, available to all residents of Teaneck,

The meeting then concluded with attendees being thanked for their participation and input.

Handouts at Meeting:	Agenda, Fact Sheet, Feedback Form, and Teaneck Bicycle and Pedestrian Master Plan STF Meeting # 1 Presentation
Next Steps:	Online Survey (July), Study Task Force Meeting # 2 (September), Township Presentation (November)
Follow up Materials:	Teaneck Bicycle and Pedestrian Master Plan STF Meeting # 1 Presentation (electronic copy)

Feedback Form Comments

The following comments were received from the feedback forms provided by meeting attendees:

Mr. Kissileff wrote the following:

- Need bicycle routes to Over peck Park
- Establish regional connections (e.g., to NY)
- Bike path around Argonne Park.
- Separate routes for children and adults.
- Need education and enforcement campaign – re: Rabbi Zierler articles and Suburbanite.
- Handicapped issues – ramp under railroad at West Englewood Ave.
- Sidewalks – Holy Name, Green Way, River Rd. These areas need to be fixed.
- Speed limit controls (e.g., W. Englewood Ave. 35 MPH)
- Need signs to direct – dead ends. Need a bicycle route map.
- Send our bicycle routes to Google.
- Education campaign for area merchants.
- Bike racks need to be installed throughout Teaneck.
- A desire to see Sharrows installed on Teaneck roadways.
- Connecting to schools and commercial zones.
- Put educational materials in Teaneck library.
- Safe Routes to School Grants.

Mr. McKearnin wrote the following:

- Ward Plaza is being reconstructed and will include bicycle lanes in both directions. Please e-mail me to have plans sent.

Rabbi Zierler wrote the following:

- Need to enforce pedestrian crossing so that cars know to stop and respect the rules under penalty of law.
- Part of the environmental scan that should to be a precursor to this study needs to improve on the principles of safety before we do the actual work to build and improve the bike paths.
- More bike lanes on prominent roads and streets such as Cedar Lane, and create bike parking spots – identify areas/businesses that people might be more inclined to ride by bicycle rather than car.
- Incentivize parents and children to wear helmets.

- Promote and "reward" materials to pass out at our local synagogues, churches mosques, and library.
- Create a culture of cycling – make it the thing to do!
- Feel free to contact me.

Ms. Brennan wrote the following:

- Fort Lee Road – east to west corridor. One of the only pathways from GW Bridge/Leonia over the Overpeck Creek is planned for widening. They currently have no plans for bikeway or sidewalks. Help! Contact county (I think) or BCUA. There are paths planned for the park, but not for the crossing.

Mr. Jacobsen wrote the following:

- Sidewalk Law – as an attorney, I've done sidewalk lawsuits against NYC and property owners there. I did research on NJ law too. I wanted to see if the township is liable for failure to send out notices when someone gets hurt on a homeowners sidewalk. It costs the town nothing, or just postage, to send notices. A survey does cost $. I wonder if Google Maps has this info.
- Get town to engineer roads for 25 MPH. That doesn't necessarily mean speed bumps.

The following additional comments were received on Feedback Forms:

- Open Overpeck Golf Course to enhanced multiple uses. e.g. walking and bicycle paths.
- West side of River Road north of Andreas Park has no sidewalk. This becomes a problem because it is used as a connector for the Greenway where private residences abut the river.
- Excellent materials and meeting.
- Disabled pedestrians along Cedar Lane need sidewalk on south side between Queen Anne Rd. and Palisade Ave.
- Bicycle paths have many dead ends and the signage does not label the path you are on.
- There are many streets without sidewalks.
- River Road speed danger.
- Many pedestrians walk in the street. Educate them not to do that.
- Lower speeds on Cedar Lane. Should not be 25 MPH. Right on red for Amalgren Drive at Cedar Lane should be allowed.
- Bike routes need maps.

Teaneck Police Department

Inter-Office Communication

To: Chief Robert Wilson #207

Date: February 17, 2011

Subject: Teaneck Bicycle and Pedestrian Master Plan

In early January 2011, I received a copy of the 2010 Teaneck Bicycle and Pedestrian Master Plan prepared by Michael Baker Jr., Incorporated from Teaneck Township Engineer Charles McKearnin.

On January 17, 2011, I submitted an inter-office communication to Captain Robert Carney informing him that I had not had the opportunity to prepare any comments on the master plan due to its sheer volume. However, both Township Engineer McKearnin and I were in agreement that we were opposed to any bicycle and pedestrian master plan that reduced the current inventory of parking spaces within the Township.

Since then, I have had the opportunity to review the Teaneck Bicycle and Pedestrian Master Plan and my comments regarding it are as follows:

- An online survey was conducted between August 2, 2010 and September 20, 2010 regarding the master plan. During this time, only 277 responses were received. 91 percent of the 277 respondents reported living in Teaneck while 14 percent reported working in Teaneck. Another 7 percent of respondents reported living in neighboring communities such as Leonia, Englewood, or Hackensack. My concern is that this is a very minute sample size considering the current population of Teaneck and number of people who would ultimately be affected by such a plan on a daily basis.
- On page 27 of the master plan, State Street and Western Place are listed as a location that had two (2) or more bicycle crashes. To my knowledge, the Township of Teaneck has no Western Place.
- On page 52 of the master plan, the pedestrian underpass located in Frances E. Hall Veterans Park at the intersection of West Englewood Avenue and Windsor Road was identified by the study task force (STF) as a major crossing of the railroad tracks. According to the master plan, the underpass may not meet the requirements of the Americans with Disabilities Act of 1990. Admittedly, due to the limitations of the study, a thorough investigation of the underpass was not performed. A study to assess ADA compliance should be conducted and any

associated costs required to gain compliance should be quantified before implementation of the master plan.

- Similarly, as stated on page 26, Teaneck Road and Werner Place is an unsignalized intersection that “may be intimidating for pedestrians to cross” and the master plan proposes installation of a pedestrian refuse island to facilitate the crossing. However, according to the master plan, although center turn lanes for left turning traffic in the southbound direction are provided, further analysis is needed to determine whether left turns should be permitted onto Werner Place in the northbound direction. The analysis should be completed to conclusively determine whether left turns onto Werner Place from a northbound direction should be permitted before implementation of the pedestrian refuge island. (Pages 54-55)
- Once again, although the master plan presents a range of improvements, it also contains recommendations that require future study to address the complex and constrained characteristics of Teaneck’s urban environment and high traffic volumes. I believe a complete picture and cost-benefit analysis should be conducted before implementation of any bicycle and pedestrian master plan is implemented.
- I don’t see how any of the three proposed bicycle facilities, i.e. shared lanes, paved shoulders, and bicycle lanes, would be practical for Cedar Lane between Teaneck Road and the City of Hackensack due to the current on-street parking provisions, traffic volumes, and posted speed limits. In addition, double-parkers on Cedar Lane, a common daily occurrence, are not factored into this equation.
- Similarly, I have doubts about the effectiveness of dedicated bicycle lanes and/or paved shoulders. Due to seasonal changes in New Jersey between October and April, the roadways are frequently littered with large piles of leaves and snow. Because of this, the bicycle lanes or paved shoulders are impassable for bicyclists and require them to use the outside lane of travel. For example, the recently installed bicycle lane on the north side of Ward Plaza is presently incapable of being utilized by bicyclists because daily commuters are parked on top of it. This is so because the amount of snow that protrudes from the curb line is currently occupying the marked vehicular parking spaces.
- If and when any bicycle and pedestrian master plan is implemented, who will be responsible for maintaining the striping, signage and associated costs with doing so?

As a result of these issues and other unknown variables and related costs, the Teaneck Police Department Traffic Bureau recommends that additional studies be conducted before implementation of the bicycle and pedestrian master plan, whether in full or in part.

Respectfully submitted,

____

Lieutenant John A. Faggello
Traffic Bureau Commander

Township of Teaneck
Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 2

November 8, 2010

FEEDBACK FORM

The following form is to record written comments by you the attendee regarding items presented and discussed at Study Task Force Meeting #2. Comments provided on this form may be shared with other members of the Study Task Force and the Study Team (NJDOT and Baker), and incorporated into future planning efforts for the Teaneck Bicycle and Pedestrian Master Plan.

SUSSEX ROAD NEEDS TO ADDED TO THE CORRIDOR LIST FOR FUTURE STUDY - NO HANDICAPPED RAMPS NORTH OF W ENGLEWOOD SIDEWALKS ARE IN ONLY FAIR CONDITION

CEDAR LANE AT GREENWAY INTERSECTION NEED PEDESTRIAN CROSSING SIGNAL

SHARROW MARKED STREETS SHOULD INCLUDE SPEED LIMIT REDUCTIONS WHEN BICYCLES ARE PRESENT

H. KISSLEFF

U.S. Department of Transportation
Federal Highway Administration

Baker

Township of Teaneck
Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 2

November 8, 2010

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TIMED?
SIGNALS "BICYCLES" ?

✓ LEAVES — IN BIKE LANES

✓ RABBI'S — EDUCATE CONGREGATIONS
PEDESTRIANS

cyclist — Be Visible, Predictable & assertive
SHOULD BE FOR PEDS. ALSO

U.S. Department of Transportation
Federal Highway Administration

Baker

Township of Teaneck
Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 2

November 8, 2010

FEEDBACK FORM

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(1) Do you recommend additional traffic lights, ie Wenner Pl.?

(2) Education component needs to be put in action section.

(3) Need for "HAWK" light on Cedar Lane at intersection with Greenway at Anderson Street Bridge.

US Department of Transportation Federal Highway Administration

Baker

Township of Teaneck
Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 1

June 30, 2010

HARRY KISSILEFF
6/30/10

FEEDBACK FORM

The following form is to record written comments by you the attendee regarding items presented and discussed at Study Task Force Meeting #1. Comments provided on this form may be shared with other members of the Study Task Force and the Study Team (NJDOT and Baker), and incorporated into future planning efforts for the Teaneck Bicycle and Pedestrian Master Plan.

NEED ROUTES TO OVERPECK PARK

BEST REGIONAL CONNECTIONS, E.G. TO NY

BIKE PATH AROUND ARGONNE

SEPARATE ROUTES FOR CHILDREN + ADULTS

NEED EDUCATION & ENFORCEMENT CAMPAIGN - RE RABBI ZIERLER ARTICLES - SUBURBANITE

HANDICAPPED ISSUES - RAMP UNDER RAILROAD AT W. ENGLEWOOD

SIDE WALKS - HOLY NAME GREENWAY - RIVER RD. GETTING THEM CLEAR

SPEED LIMIT CONTROLS E.G. W. ENGLEWOOD AVE 35 MPH

NEED SIGNS TO DIRECT - DEAD ENDS NEED WAY FINDING INFO

SEND OUR STUDY TO GOOGLE

EDUCATION CAMPAIGN AMONG MERCHANTS

BIKE RACKS

SHARROWS

CONNECTING TO SCHOOLS + COMMERCIAL ZONES

PUT MATERIAL IN LIBRARY

SAFE ROUTES TO SCHOOL GRANT

Township of Teaneck
Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 1

June 30, 2010

FEEDBACK FORM

The following form is to record written comments by you the attendee regarding items presented and discussed at Study Task Force Meeting #1. Comments provided on this form may be shared with other members of the Study Task Force and the Study Team (NJDOT and Baker), and incorporated into future planning efforts for the Teaneck Bicycle and Pedestrian Master Plan.

Disabled pedestrians along Cedar Lane
need sidewalk on south side
between Queen Anne Rd & Palisade Ave.

Township of Teaneck
Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 1

June 30, 2010

FEEDBACK FORM

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* Bicycle trails have too many deadends
+ the signage does not label the path you are on.
* There are multiple streets w/o sidewalks.
* River Road speed danger
* Many pedestrians walk in the street, educate them not to do that.
* Lower Cedar Lane should not be 25 mph!/
Ron Red Amlegion Drive at Cedar Lane should be allowed.
* Bike routes need maps.

Study Task Force Meeting # 1

June 30, 2010

FEEDBACK FORM

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(1) West side of River Road north of Andreas Park has no sidewalk. Becomes a problem because it is used as a connector for the Greenway where private residences abut the river.

(2) Excellent materials & meeting.

Township of Teaneck

Bicycle and Pedestrian Master Plan Study

Charles McKearnin

Study Task Force Meeting # 1

June 30, 2010

FEEDBACK FORM

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1) WARD PLAZA IS BEING RECONSTRUCTED AND WILL INCLUDE BICYCLE LANES IN BOTH DIRECTIONS

email ME TO HAVE IT SENT

CMCKEARNIN@TEANECKNJ.GOV

US Department of Transportation
Federal Highway Administration

Baker

Township of Teaneck

Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 1

June 30, 2010

FEEDBACK FORM

feel free to contact me
Rabbi L Zierler
RabbiZ@JCOT.org

The following form is to record written comments by you the attendee regarding items presented and discussed at Study Task Force Meeting #1. Comments provided on this form may be shared with other members of the Study Task Force and the Study Team (NJDOT and Baker), and incorporated into future planning efforts for the Teaneck Bicycle and Pedestrian Master Plan.

Need to enforce pedestrian crossings so that cars know to stop + respect the rules under penalty of the law – part of an environmental scan that needs to be a precursor to this study. Need to improve on these 1st principles of safety before we do the actual work to build + improve the bike paths. (as per Rabbi L Zierler)

– More bike racks on prominent roads + streets such as Cedar Ln. and create bike parking spots – identify areas / business that people might be more inclined to ride to by bicycle rather than car.

– incentivize parents + children to wear helmets.

– promo of "reward" materials to pass out at our local syns, churches + mosque, library.

Create a culture of cycling – make it the in thing to do!

US Department of Transportation Federal Highway Administration

Baker

Township of Teaneck
Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 1

June 30, 2010

FEEDBACK FORM

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Fort Lee Rd - East → West corridor
One of the only pathways from GW Bridge / Leonia ~~to~~ over the Overpeck Creek is planned for widening.
There currently has no plans for bikeway or sidewalks. Help! contact County, (I think) BCUA
There are paths planned for the park but not for the crossing

- STICKLEY BIKES - 9W SAT./SUN.

Ingrid Brennan
Leonia councilwoman
ingridbrennan@gmail.com

Township of Teaneck
Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 1

June 30, 2010

FEEDBACK FORM

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Open Overpek Golf Course to enhanced multiple uses... walking and bicycle paths.

US Department of Transportation
Federal Highway Administration

Baker

Township of Teaneck
Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 1

June 30, 2010

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- Sidewalk law

As an attorney, I've done sidewalk lawsuits against NYC and property owners there. I did research on NJ law, too.

I wanted to see if the township is liable for failure to send out notices, when someone gets hurt ~~d [illegible]~~ on a homeowner's sidewalk. It costs the town nothing — or just postage to send notices. A survey does cost $. I wonder if Google maps has the info.

- Get town to engineer roads for 25 mph

Ari Jacobson - 917-817-9030
arijacobsonlaw@gmail.com

US Department of Transportation Federal Highway Administration

Baker

Township of Teaneck

Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 1

June 30, 2010

FEEDBACK FORM

The following form is to record written comments by you the attendee regarding items presented and discussed at Study Task Force Meeting #1. Comments provided on this form may be shared with other members of the Study Task Force and the Study Team (NJDOT and Baker), and incorporated into future planning efforts for the Teaneck Bicycle and Pedestrian Master Plan.

(N) of Andreas Park - Hackensack River Greenway Connector
Pedestrian/Bicycle Connections to Overpeck / New Park
Fort Lee Road proposed for widening, 6L (3L/3L)
- Bergen / BCUA
- from Challenger bridge over Overpeck Creek -
- importance of connector (missing) on Cedar Lane
- importance W. Englewood
education
- culture - the way info is shared / language / frame
- role of speed in crashes, calming measures
- network / directional signage
- replacement of sidewalks
- chamber of Commerce banner program
- need for bicycle racks
- showers
- successful communities
- school - Comm. Zone
- BOE .. website / library

Township of Teaneck
Bicycle and Pedestrian Master Plan Study

Study Task Force Meeting # 1

June 30, 2010

FEEDBACK FORM

The following form is to record written comments by you the attendee regarding items presented and discussed at Study Task Force Meeting #1. Comments provided on this form may be shared with other members of the Study Task Force and the Study Team (NJDOT and Baker), and incorporated into future planning efforts for the Teaneck Bicycle and Pedestrian Master Plan.

Correspondence w/ Chiefs + Lt. Carey re: corridors + intersections

TOWNSHIP OF TEANECK
INTER-OFFICE COMMUNICATION

Date: January 13, 2011

To: Planning Board

From: Charles J. McKearnin, P.E.
Township Engineer

Re: *Draft* - Teaneck Bicycle and Pedestrian Plan

I have made a preliminary review of the "Teaneck Bicycle and Pedestrian Master Plan" draft dated December, 2010. The following comments are noted;

- The existing Township Bike and Facility maps do not include the recent improvements to Ward Plaza.

- The Saddle River Bicycle Path, noted on Page 3 refers to a connection in Saddle River. I believe the correct municipalities is Saddle Brook or Rochelle Park.

- I cannot distinguish the color difference between sidewalk condition poor, no sidewalk and worn path noted on Map 4, Page 12 and Appendix A. Additionally, the sidewalks have been improved along the south side of Cedar Lane, between Grange Road and Chadwick Road. The map should be revised to reflect this condition.

- Page 9 notes the compatibility and non-compatibility segments of roadways assessed for bicycle routes. The segments assessment are delineated on Map 3, Page 12 and in Appendix A. The plan further recommends bicycle facility improvements which include non-compatible roadways noted on Map 3. The improvements require the elimination of parking on segments of the proposed bicycle facility roadway improvement routes which includes the business areas (i.e. Palisade Avenue, Queen Anne Road).

  It is suggested, to obtain community acceptance of the bicycle element of this plan, impacts to on-street parking should be kept to a minimum. The Township has always been proactive in seeking additional parking for residential, business areas and commuters. Therefore, I recommend improvements be considered which will not effect existing on-street parking.

- Sections of State Street include angle parking. The cross section on Page 49 does not reflect this condition.

- Currently, sections of existing Township bicycle routes are noted to be non-compatible, such as Garrison Avenue, Sussex Road, East Cedar Lane, etc. Should these existing routes be <u>eliminated</u>?

- Please refer to my earlier comment regarding the sidewalk on Cedar Lane (EB) between Grange Road and Chadwick Road as noted in Table 8 on Page 51. Additionally, Lees Avenue does not cross Teaneck Road. These items should be revised.

- The pedestrian underpass noted on Page 52 is not owned by the Township. This section should be revised to reflect this condition.

- Comments and recommendations should be obtained from various Township departments, including Police and Legal for the "Complete Streets Policy" noted on Pages 57 and 58. This suggestion is also for the ordinance noted in Appendix E and the Township ordinance review provided in Appendix G.

- Township Regulation 32-30 and 32-31 places the responsibility of maintenance and repair on the abutting property owner. I recommend no change to this regulation as suggested in Appendix G. Also, Township Regulation 32-32 (a) & (b) requires a 4' wide sidewalk in residential areas. The Plan recommends this be changed to a 5' wide sidewalk. How would this standard be implemented in existing areas improved with a 4' wide sidewalk?

- To assist in understanding the cost estimates provided, it is recommended a Table be provided noting the specific improvement with limits and cost estimates.

- It is recommended the Hackensack River Greenway routing along Cedar Lane be relocated to the south side and the crossing of Cedar Lane be relocated to the signalized intersection of Cedar Lane and River Road.

cc: William Broughton, Municipal Manager
Stanley Turitz, Twp. Attorney
Chief R. Wilson, Police Department
Lt. J. Faggello, Police Department
Harry Kissileff, Environmental Commission Chair
Steven Wong, Michael Baker Jr., Inc.

COUNTY OF BERGEN
DEPARTMENT OF PUBLIC WORKS
One Bergen County Plaza • 4th Floor. • Hackensack, N.J. 07601-7076
(201) 336-6800 • Fax (201) 336-6845

received
3/16/11

Kathleen Donovan
County Executive

Joseph Crifasi
Director of Public Works

Joseph A. Femia, P.E.
County Engineer/Asst. Director of Public Works

March 11, 2011

Mr. Charles McKearnin, P.E.
Township of Teaneck
818 Teaneck Rd.
Teaneck, NJ 07666

Re: ***Teaneck:*** ***Teaneck Bicycle and Pedestrian Master Plan***

Dear Mr. McKearnin:

The County is in receipt of the draft of the above referenced Master Plan for the Township of Teaneck dated December 2010. The County is willing to work with the Township to improve bicycle and pedestrian safety within your municipality. To that end, the County will analyze the existing timings at the County's signalized intersections highlighted within the Master Plan, and make any adjustments necessary to assure adherence to the new 2009 MUTCD requirements.

Prior to the Township implementing any improvements on County roads, plans shall be submitted to the County for review and approval, which shall include an evaluation of impacts on traffic and verification of compliance with design standards. All improvements will be based on design standards as set forth in the NJDOT 'Bicycle Compatible Roadways and Bikeways' guidelines, 2009 MUTCD standards, and Bergen County standards.

Please note that the Township will be responsible for the physical placement of the lane markings and required complementary signage, as well as the future maintenance thereof. All signage is to meet 2009 MUTCD standards and 2007 NJDOT Standard Specifications for material and reflectivity.

In addition, please note the following additional comments on the Master Plan cost estimate:

- The cost estimate is for 4" wide traffic markings whereas the County standard is 6" wide markings.
- The cost estimate is for long life epoxy resin traffic markings whereas the County standard is 90 mil. hot applied extruded thermoplastic.
- The cost estimates don't appear to include the cost of signs or eradication of old traffic markings.
- The Township will need to budget adequate funds for any future maintenance necessary to maintain compliance with applicable standards.

We look forward to working with you. Please contact the County Engineering Department with any questions.

Sincerely,

Joseph A. Femia, P.E.
County Engineer

Nancy A. Dargis

Nancy A. Dargis, P.E.
Principal Engineer

Cc: Joseph Crifasi, Director-BCDPW
Gary Ascolese, P.E. , Asst County Engineer, BCDPW

APPENDIX B

ONLINE COMMUNITY SURVEY RESULTS

Task 15: Public Outreach – Online Survey Results Summary
Online Survey: August 2, 2010 through September 20, 2010

November 2010

Prepared For:
The New Jersey Department of Transportation
and the Township of Teaneck

Prepared By:
Michael Baker Jr. Inc.

Online Survey Results Summary

To:	William Riviere	**Date:**	November 14, 2010
From	Michael Baker Jr., Inc.	**Subject:**	Township of Teaneck Bicycle and Pedestrian Study Online Survey Results Summary

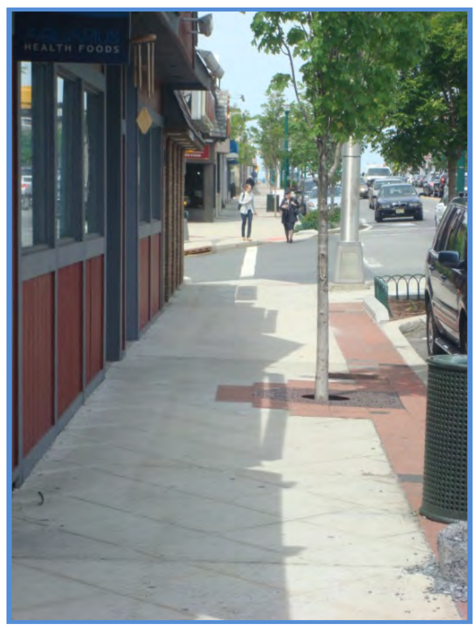
Introduction

The Township of Teaneck, Bergen County, with the assistance of the New Jersey Department of Transportation (NJDOT) is performing a Bicycle and Pedestrian Master Plan Study. The primary goal of the Study is to increase the use of bicycle and pedestrian travel in the township, thereby improving personal health, traffic conditions, and the environment.

Under the Public Outreach Task performed for this study, Michael Baker Jr., Inc. (Baker) designed and administered an online survey. The purpose of the survey was to gather public input and assist NJDOT and the Township of Teaneck in identifying bicycle and pedestrian deficiencies and opportunities. Data on the presence and condition of bicycle and pedestrian facilities will be used to identify improvement areas, as part of Concept Development Activities, to be performed under this Study.

A link to the survey was posted on The Township of Teaneck's website[1] and the Study's Facebook page[2]. An email link was provided to Study Task Force members for distribution. The survey was available online from August 2, 2010 through September 20, 2010 and during that period 277 responses were received. Paper copies of the survey were provided for non-computer users at the Teaneck Public Library.

Bicycle Lanes on Windsor Road.



Sidewalk located on Cedar Lane.

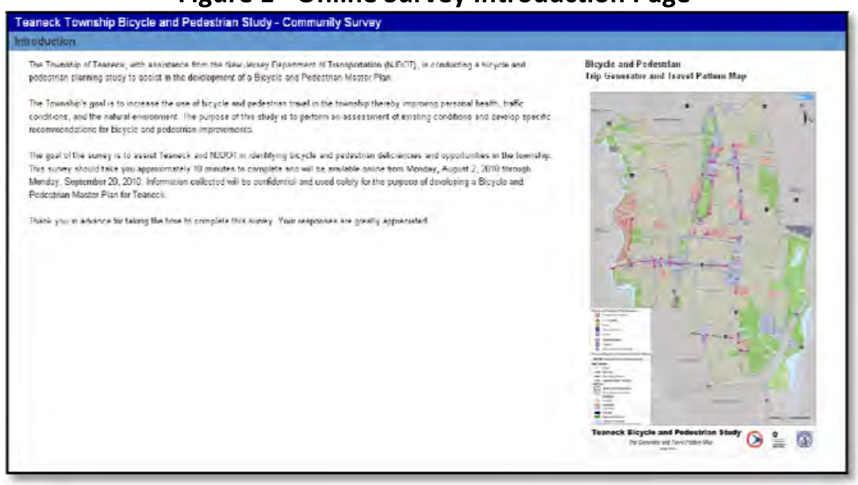
1 www.teanecknj.gov

2 http://www.facebook.com/pages/Township-of-Teaneck-Bicycle-and-Pedestrian-Study/1243530 34254940?ref=ts

Survey Design and Data Processing

The Township of Teaneck Bicycle and Pedestrian Master Plan Online Survey was developed to take 5-10 minutes to complete with the majority of questions designed in multiple-choice format. Respondents were provided an opportunity at the end of the survey to provide general comments in an open-end format. The online survey introduction page is shown as **Figure 1** and the paper copy of the survey is provided in **Appendix A**.

Figure 1 - Online Survey Introduction Page



The survey focused on obtaining the following information from survey participants:

- Who is bicycling and/or walking in Teaneck?
- Which routes and bicycle and/or pedestrian facilities are being used?
- What deficiencies and/or challenges do bicyclists and pedestrians encounter?
- What opportunities exist to improve facilities?

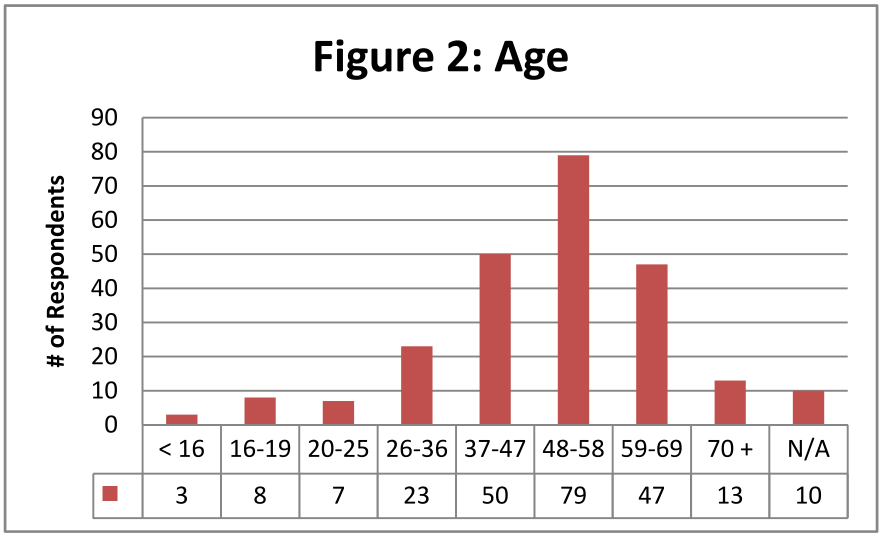
Raw survey data was downloaded from the survey website and imported into Microsoft Excel, which was used to manage and process the responses. Data variables were then assigned to create tabular and graphical output of survey results. Since the survey was distributed online, logic was applied to certain questions so that respondents did not have to answer questions that did not apply to them. For example, if someone who was taking the survey was not a bicycle rider, and did not have a bicycle in working condition, they would not be asked corresponding questions concerning bicyclist travel patterns, but rather questions asking them what would encourage them to ride a bicycle. For this reason, the number of respondents on each question varied.

General Survey Results

A total of 277 responses were received for the survey. Of these, ninety-one percent (91%) of respondents reported living in Teaneck, while fourteen percent (14%) reported working in Teaneck. Seven percent (7%) of respondents reported living in neighboring communities such as Leonia, Englewood, or Hackensack.

Gender and Age

Respondents' ages ranged from under 16 to over 70 years old. The largest number of respondents came from the 48-58 year old category, and the lowest number of respondents belonged to those under 25. Overall, seventy-four percent (74%) of all respondents fell between the ages of 37 and 69 **(Figure 2)**. Gender was fairly well distributed throughout the Study, but women did have more responses than men, overall.



	< 16	16-19	20-25	26-36	37-47	48-58	59-69	70 +	N/A
■	3	8	7	23	50	79	47	13	10

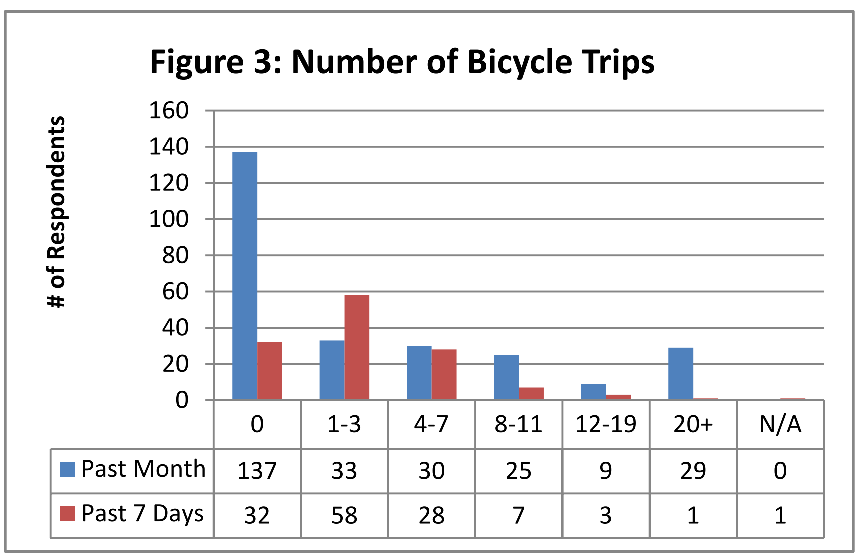
Bicycle Survey Results

Since the survey was looking to capture responses from both bicyclists and pedestrians, respondents were first asked whether they owned a bicycle in working condition. Respondents who answered "yes" to owning a bicycle were then asked questions about their most recent bicycle trip including, how many miles they traveled, what routes they used, if they rode separately from vehicle traffic, how safe they felt riding their bicycles with traffic, what made them feel unsafe while riding, etc. The following sections summarize responses to those questions.

Bicycle Ridership

Sixty-three (63%) percent of respondents reported owning a bicycle in working condition, and this accounted for 167 of the respondents. Of those 167 respondents, ten percent (10%) utilize a bicycle as their primary mode of transportation (work, school, social trips, etc.).

Bicyclists were then asked how many trips they have made in the past month, and the seven days (7) preceding the survey. When trips were made, "1-3 trips" was the most popular response for both questions, but at least one trip was made by 126 people in the past month and 97 of those respondents had made a trip by bicycle in the past week. **(Figure 3)**

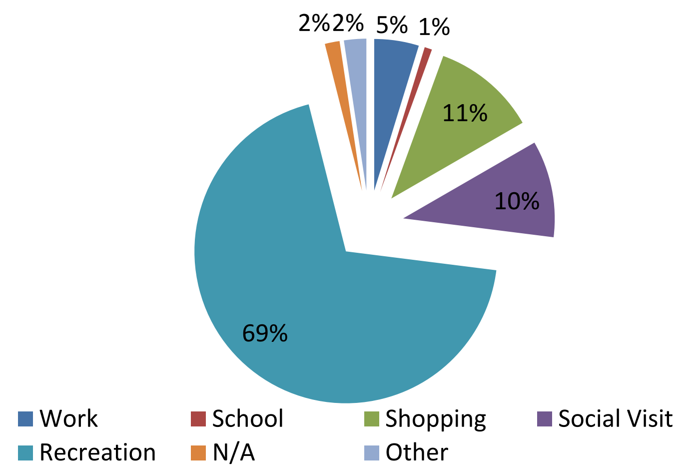


	0	1-3	4-7	8-11	12-19	20+	N/A
Past Month	137	33	30	25	9	29	0
Past 7 Days	32	58	28	7	3	1	1

Bicycle Trip Purpose

Bicyclists who have made at least one (1) trip in the past month were asked what the primary purpose of their most recent bicycle trip was. Sixty-nine percent (69%) of the 167 bicyclists indicated "Recreation/Exercise" as their primary trip purpose. "Errand/Shopping" and "Social Visit" followed at eleven percent (11%) and ten percent (10%) respectively. Only five percent (5%) of the respondents traveled to work via bicycle during their most recent bicycle trip.

Figure 4: Bicycle Trip Purpose



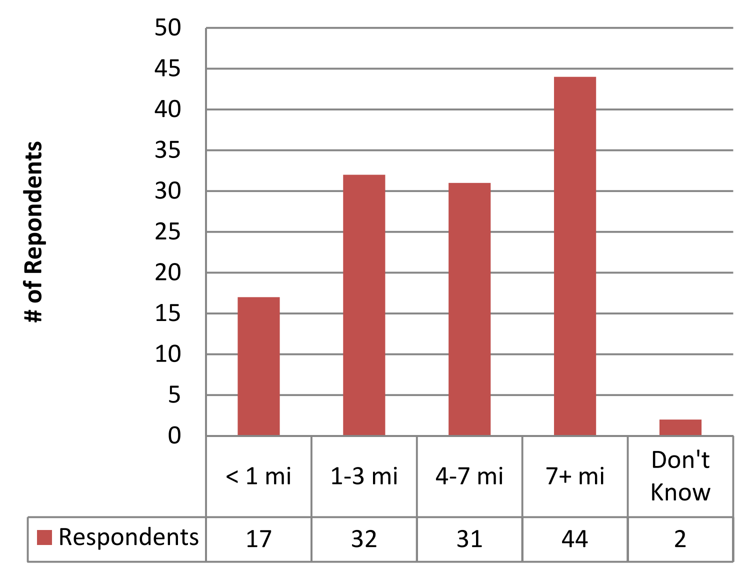
When asked if their most recent bicycle trip included connections to transit, only three (3) respondents said that they had. For those that used a connection to a bus or other vehicle, accommodations were available for them to transport their bike via an on-board bicycle rack. It is not known whether the connections to transit had provided bicycle racks.

Bicycle Trip Details

Bicyclists were asked the number of miles (roundtrip) they traveled during their most recent bicycle trip. **Figure 5** summarizes the results.

Participants were also asked if their most recent bicycle trip was separated from motor vehicle traffic. Sixty-nine percent (69%) of respondents stated that their route was "Not Separated (i.e., on road)," while twenty-two percent (22%) reported riding on a route which was "Partially Separated." Of those respondents who traveled on road, seventy-one percent (71%) shared a travel lane with motor vehicles, and ten percent (10%) rode on a paved shoulder.

Figure 5: Miles Traveled During Most Recent Bicycle Trip *(round trip)*



Bicycle Safety

Respondents who biked through Teaneck were asked if they felt "safe" while making their typical biking trip during the past seven (7) days. Forty-six percent (46%) reported feeling "Somewhat Safe" while riding, while twenty-six percent (26%) felt "Somewhat Unsafe".

The top five (5) reasons cited by respondents for feeling "unsafe" on their most recent **bicycle trip** were:

1. Lack of Paved Shoulders/Bicycle Lanes
2. Condition of Pavement Surfaces (potholes, cracking, etc.)
3. High Volume Motor Vehicle Traffic
4. High Speed Motor Vehicle Traffic
5. Potential to be "doored" due to on-street parking

Hills and steep roadways were also identified through the survey as major barriers that affected bicycle travel in Teaneck. Other reasons include a lack of adequate bicycle facilities, poor lighting conditions at night, age of riders, a lack of bicycle parking areas, and high traffic volumes.

Bicycle Facilities

All individuals who took the survey were asked to rate existing bicycle facilities located throughout Teaneck. Results showed large number of negative responses, as seen below in **Figure 6**, indicating that residents do not feel that facilities are currently adequate, or are not aware of their existence. The rating scale included the following categories: "Excellent," "Good," "Satisfactory," "Not Satisfactory," "Poor," "Don't Exist," and "Don't Know." **Figure 6** summarizes the results of the bicycle facility ratings into "Positive" and "Negative" ratings and summarizes the results of the bicycle facility ratings.

Figure 6: Bicycle Facility Ratings

	Positive Rating	Negative Rating	Don't Exist	Don't Know
Presence of Shoulders	21%	46%	14%	19%
Condition of Shoulders	28%	37%	12%	23%
Presence of Bicycle Lanes	11%	50%	22%	18%
Presence of Off Road Paths	9%	40%	17%	33%
Condition of Off Road Paths	17%	21%	16%	46%
Presence of Bicycle Signage	20%	46%	10%	23%
Presence of Bicycle Racks	8%	43%	25%	24%
Capacity of Bicycle Racks	9%	29%	22%	40%

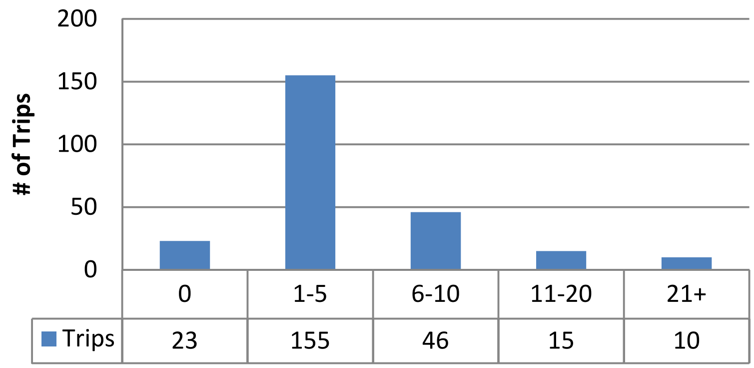
Pedestrian Survey Results

The survey continued by asking similar questions in regard to pedestrian travel habits. The same logic that applied to the bicycle segment of the survey, also applied to the pedestrian portion. Respondents that made at least one (1) trip in the past seven (7) days were then asked questions about their most recent walking trip including trip purpose, availability of sidewalk, condition of the sidewalk (if present) , whether the trip included connections to transit, what made them feel safe or unsafe during the trip, etc. The following sections summarize responses to those questions.

Number of Walking Trips

To obtain information on the frequency of pedestrian trips in Teaneck, survey respondents were asked how many trips they had made by walking, whether as a mode of commuting or for recreation, in the seven (7) days prior to taking the survey. Survey results show that ninety percent (90%) had made at least one (1) walking trip in the previous week. **Figure 7** illustrates the number of walking trips made by respondents in the past week.

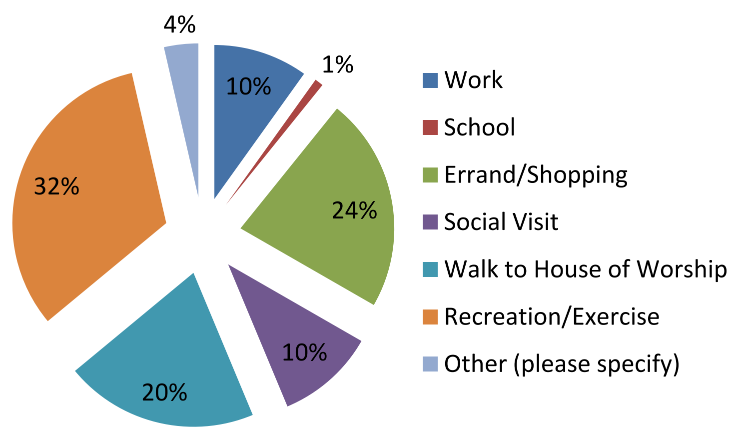
Figure 7: Walking Trips in the Previous Week



Walking Trip Purpose

Thirty-two percent (32%) of survey respondents indicated "Recreation/Exercise" was their primary trip purpose. "Errand/Shopping" and "Walk to House of Worship" accounted for twenty-three percent (23%) and twenty percent (20%), respectively. Only one percent (1%) of respondents walked to school during their most recent walking trip. **Figure 8** summarizes the results. "Other" responses included mailing a letter, dog walking, picking up children from school, and going to the library.

Figure 8: Purpose of Most Recent Walking Trip



Pedestrian Safety

Respondents who walked through Teaneck were asked if they felt "safe" while making their typical walking trip during the past seven (7) days. Forty-five percent (45%) reported feeling "Somewhat Safe" while walking, while forty-one percent (41%) felt "Completely Safe" while walking.

The top five (5) reasons cited by respondents for feeling "unsafe" on their most recent **walking trip** were:

1. Lack of Sidewalk/Paved Paths
2. High Speed Motor Vehicle Traffic
3. Poor Sidewalks
4. Poor Lighting
5. High Volume Motor Vehicle Traffic

Pedestrian Facilities

All individuals who took the survey were asked to rate existing pedestrian facilities located throughout Teaneck. Results showed large number of positive responses, as seen below in **Figure 9**, indicating that residents feel that the facilities are adequate. Negative ratings still do exist, which indicates marginal improvements may be necessary. The rating scale included the following categories: "Excellent," "Good," "Satisfactory," "Not Satisfactory," "Poor," "Don't Exist," and "Don't Know." **Figure 9** summarizes the results of the bicycle facility ratings into "Positive" and "Negative" ratings and summarizes the results of the pedestrian facility ratings.

	Positive Rating	Negative Rating	Don't Exist	Don't Know
Presence of Off-Road Paths/Connectors	**27%**	**28%**	**12%**	**33%**
Presence of Sidewalks	**69%**	**27%**	**2%**	**2%**
Condition of Sidewalks	**55%**	**42%**	**1%**	**2%**
Presence of Curb Ramps	**64%**	**21%**	**3%**	**12%**
Condition of Curb Ramps	**73%**	**12%**	**2%**	**13%**
Presence of Crosswalks at Signalized Intersections	**81%**	**14%**	**1%**	**4%**
Presence of Pedestrian Signals at Signalized Intersections	**77%**	**18%**	**1%**	**4%**
Presence of Warning Signs and Crosswalks Near Schools	**70%**	**13%**	**0%**	**17%**
Presence of Pathways for Recreational Use	**49%**	**26%**	**6%**	**19%**
Condition of Pathways for Recreational Use	**49%**	**19%**	**4%**	**28%**

To supplement the data obtained from Tables 1 and 2, respondents were asked if there are locations where it is "difficult or uncomfortable to cross the road by bike or walking." Seventy-eight percent (78%) of respondents indicated the following top five (5) locations where it is difficult to cross the roadway:

1. Cedar Lane
2. Teaneck Road
3. Queen Anne Road
4. DeGraw Avenue
5. Windsor Road

Respondents were asked what would encourage them to ride a bicycle more often. Fifty-three percent (53%) selected "More Bicycle Lanes", while forty-eight percent (48%) selected "More Recreational Trails and Paths." When asked "What would encourage you to walk more often?" fifty percent (50%) responded "More or Improved Recreational Trails and Paths", and forty-six percent (46%) selected "More or Improved Sidewalks".

Bicycle and Pedestrian Deficiencies and Opportunities

Survey respondents were asked in an open-ended format to identify particular roadways on which they would like to see improvements made as part of this Study. Over seventy respondents indicated that they would like to see the following top five (5) roadways suggested for bicycle improvements.

1. Teaneck Road
2. Queen Anne Road
3. Cedar Lane
4. Palisade Avenue
5. River Road

Furthermore, over 130 respondents indicated that they would like to see the following top five (5) roadways suggested for pedestrian improvements.

1. Teaneck Road
2. Cedar Lane
3. Queen Anne Road
4. DeGraw Anevue
5. Palisade Avenue

APPENDIX A

Introduction

The Township of Teaneck, with assistance from the New Jersey Department of Transportation (NJDOT), is conducting a bicycle and pedestrian planning study to assist in the development of a Bicycle and Pedestrian Master Plan.

The Township's goal is to increase the use of bicycle and pedestrian travel in the township thereby improving personal health, traffic conditions, and the natural environment. The purpose of this study is to perform an assessment of existing conditions and develop specific recommendations for bicycle and pedestrian improvements.

The goal of the survey is to assist Teaneck and NJDOT in identifying bicycle and pedestrian deficiencies and opportunities in the township. This survey should take you approximately 10 minutes to complete and will be available online from Wednesday, July 21, 2010 through Wednesday, August 25, 2010. Information collected will be confidential and used solely for the purpose of developing a Bicycle and Pedestrian Master Plan for Teaneck.

Thank you in advance for taking the time to complete this survey. Your responses are greatly appreciated.

Bicycle and Pedestrian
Trip Generator and Travel Pattern Map

Connection to Teneck

* 1. Which of the following statements applies to you (you may select more than one answer)?

- [ ] I live in Teaneck Township
- [ ] I work in Teaneck Township
- [ ] I live in an adjacent community (e.g., Leonia, Hackensack)
- [ ] None of the above

Preferred Mode of Travel

*** 2. What is your PRIMARY MODE OF COMMUTING to work, school, social visits, etc.?**

- Walk
- Bicycle
- Mass Transit (e.g., bus, rail, etc.)
- Carpool
- Drive Alone
- Other (please specify)

3. What are the roadways in Teaneck that you use when commuting?

Bicycle Travel

4. Do you currently own a bicycle in working condition?

- ◯ Yes
- ◯ No

5. In the past MONTH, how many trips have you made by bicycle (commute, errand/shopping, social, recreation, etc.)?

- ◯ 0
- ◯ 1-3
- ◯ 4-7
- ◯ 8-11
- ◯ 12-19
- ◯ 20+
- ◯ Don't Know/Don't Remember

Day Bicycle Trips

6. In the past 7 DAYS, how many trips have you made by bicycle?

- ◯ 0
- ◯ 1-3
- ◯ 4-7
- ◯ 8-11
- ◯ 12-19
- ◯ 20+
- ◯ Don't Know/Don't Remember

Bicycle Trip Details

7. What was the PRIMARY purpose of your MOST RECENT bicycle trip?

- ◯ Work
- ◯ School
- ◯ Errand/Shopping
- ◯ Social Visit
- ◯ Recreation/Exercise
- ◯ Don't Know/Don't Remember
- ◯ Other (please specify)

8. Approximately how many miles was your MOST RECENT bicycle trip (roundtrip?)

- ◯ Less than 1/4 mile
- ◯ 1/4 - 1/2 mile
- ◯ 1/2 - 1 mile
- ◯ 1-3 miles
- ◯ 4-7 miles
- ◯ 7+ miles
- ◯ Don't Know/Dont' remember

9. Thinking about your MOST RECENT bicycle trip, was it separated from motor vehicle traffic (off road)?

- ◯ Completely separated
- ◯ Partially separated
- ◯ Not separated (i.e., on road)
- ◯ Don't Know/Don't Remember

On Road Trip by Bicycle...

10. If your MOST RECENT bicycle trip was not completely separated from motor vehicle traffic (on road), did you...

- ◯ Share a lane with motor vehicles (with no pavement markings)
- ◯ Share a lane with motor vehicles (with Shared Lane Markings/'Sharrows')
- ◯ Ride in a BICYCLE LANE
- ◯ Ride on a PAVED shoulder
- ◯ Ride on an UNPAVED shoulder
- ◯ Don't Know/Don't Remember
- ◯ Other (please specify)

Bicycle and Transit

11. Did your MOST RECENT bicycle trip include connections to transit?

- ◯ Yes
- ◯ No

Bicycle and Transit (continued)

12. Which transit mode did you connect with?

- ◯ Train
- ◯ Light Rail
- ◯ Bus
- ◯ Other (please specify)

13. Where did you connect with the transit? (e.g., name of station, intersection, park and ride lot, etc.)

14. Does the transit mode accommodate your bicycle?

- ◯ Yes, on board or on bicycle rack on vehicle
- ◯ Yes, at transit stop
- ◯ No

Bicycle Safety

15. Did you FEEL SAFE making your MOST RECENT bicycle trip?

- ◯ Completely Safe
- ◯ Somewhat Safe
- ◯ Somewhat Unsafe
- ◯ Not Safe at All
- ◯ Don't Know/Don't Remember

Bicycle Safety Details

16. What MADE YOU FEEL UNSAFE about your MOST RECENT bicycle trip? (Select all that apply)

- [ ] Condition of Pavement Surfaces (potholes, cracking, etc.)
- [ ] Condition of Roadside (debris, rubble, sand, etc.)
- [ ] Potential to be "Doored" due to on-street parking
- [ ] Lack of Paved Shoulders/Bicycle Lanes
- [ ] Lack of Off Road Paths
- [ ] Condition of Off Road Paths
- [ ] High Speed Motor Vehicle Traffic
- [ ] High Volume Motor Vehicle Traffic
- [ ] High Truck Volume
- [ ] Poor Lighting
- [ ] Don't Know/Don't Remember
- [ ] Other (please specify)

Barriers to Bicycling

17. Are there barriers that affect your decision to bicycle? (Select all that apply)

- [ ] Hills or Steep Roadways
- [ ] Weather Conditions
- [ ] Cultural Conditions
- [ ] Bicycle Theft
- [ ] Physically Unable
- [ ] Prohibited Bicycle Travel on Certain Roads
- [ ] Other (please specify)

18. On which road(s), if any, would you like to see improvements made with regard to bicycle travel?

Bicycle Incentives

19. What would encourage you to ride a bicycle more often? (Select all that apply)

- ☐ More bicycle lanes
- ☐ Wider motor vehicle lanes
- ☐ Wide paved shoulders
- ☐ More recreational trails and paths
- ☐ Bicycle racks and/or lockers at destinations
- ☐ Reduced traffic speeds
- ☐ Reduced traffic volumes
- ☐ Don't Know
- ☐ Other (please specify)

Bicycle Facilites in Your Community

20. Please rate the following bicycle facilities in terms of their presence and/or condition in YOUR COMMUNITY.

	Excellent	Good	Satisfactory	Not Satisfactory	Poor	Don't Exist	Don't Know
Presence of Shoulders	◯	◯	◯	◯	◯	◯	◯
Condition of Shoulders	◯	◯	◯	◯	◯	◯	◯
Presence of Bicycle Lanes	◯	◯	◯	◯	◯	◯	◯
Presence of Off Road Paths	◯	◯	◯	◯	◯	◯	◯
Condition of Off Road Paths	◯	◯	◯	◯	◯	◯	◯
Presence of Bicycle Signage (e.g., Bicycle Route)	◯	◯	◯	◯	◯	◯	◯
Presence of Bicycle Racks	◯	◯	◯	◯	◯	◯	◯
Capacity of Bicycle Racks	◯	◯	◯	◯	◯	◯	◯

Pedestrian Trips

21. In the past 7 DAYS, how many trips have you made by walking (commute, errands/shopping, social, recreation, etc.)?

- ◯ 0
- ◯ 1-5
- ◯ 6-10
- ◯ 11-20
- ◯ 21+
- ◯ Don't Know/Don't Remember

24-Hour Pedestrian Trips

22. In the past 24 HOURS (1 DAY), how many trips have you made by walking?

- ◯ 0
- ◯ 1-3
- ◯ 4-6
- ◯ 7+
- ◯ Don't Know/Don't Remember

Pedestrian Trip Details

23. What was the PRIMARY purpose of your MOST RECENT walking trip?

- ◯ Work
- ◯ School
- ◯ Errand/Shopping
- ◯ Social Visit
- ◯ Recreation/Exercise
- ◯ Don't Know/Don't Remember
- ◯ Other (please specify)

24. For your MOST RECENT walking trip, was there sidewalk, paved path or blazed trail available (to walk on)?

- ◯ Yes
- ◯ Mostly
- ◯ Partially
- ◯ No
- ◯ Don't Know/Don't Remember

No Sidewalk Available

25. If there was no sidewalk or paved path available for your MOST RECENT walking trip, did you:

- ◯ Walk in the roadway
- ◯ Walk adjacent to the roadway in the shoulder
- ◯ Walk adjacent to the roadway in the grass/dirt/etc.
- ◯ Walk through the woods or other recreation area (nature walk)
- ◯ Don't Know/Don't Remember
- ◯ Other (please specify)

Sidewalk/Paved Path Details

26. If your MOST RECENT walking trip was on a sidewalk or paved path, what was the condition of the sidewalk or paved path?

- ◯ Excellent Condition (New or Nearly New)
- ◯ Good Condition (Well Maintained but Not New)
- ◯ Fair Condition (Few Cracks and Obstacles)
- ◯ Poor Condition (Several Cracks and Obstacles)
- ◯ Don't Know/Don't Remember

27. Was the sidewalk or paved path of adequate width (comfortably wide enough for your walking trip)?

- ◯ Yes
- ◯ No
- ◯ Don't Know/Don't Remember

Pedestrian and Transit

28. Did your MOST RECENT walking trip include connections to transit?

- ◯ Yes
- ◯ No

Pedestrian and Transit (continued)

29. Which transit mode did you connect with?

- ◯ Train
- ◯ Light Rail
- ◯ Bus
- ◯ Other (please specify)

30. Where did you connect with the transit? (e.g., name of station, intersection, park and ride lot, etc.)

31. Did the stop for the transit mode include accommodations?

- ◯ Yes, shelter and waiting pad
- ◯ Yes, shelter
- ◯ Yes, bench
- ◯ No

Did You Feel Safe?

32. Did you FEEL SAFE making your MOST RECENT walking trip?

- ◯ Completely Safe
- ◯ Somewhat Safe
- ◯ Somewhat Unsafe
- ◯ Not Safe at All
- ◯ Don't Know/Don't Remember

Pedestrian Safety

33. What MADE YOU FEEL UNSAFE about your MOST RECENT walking trip? (Select all that apply)

- ☐ Lack of Sidewalk/Paved Paths
- ☐ High Speed Motor Vehicle Traffic
- ☐ High Volume Motor Vehicle Traffic
- ☐ Poor Lighting
- ☐ Desolate Area
- ☐ No Sense of Security
- ☐ Don't Know/Don't Remember
- ☐ Other (please specify)

Pedestrian Facilities in Your Community

34. Please rate the following pedestrian facilities in terms of their presence and/or condition in YOUR COMMUNITY.

	Excellent	Good	Satisfactory	Not Satisfactory	Poor	Don't Exist	Don't Know
Presence of Sidewalks	○	○	○	○	○	○	○
Condition of Sidewalks	○	○	○	○	○	○	○
Presence of Curb Ramps	○	○	○	○	○	○	○
Condition of Curb Ramps	○	○	○	○	○	○	○
Presence of Crosswalks at Signalized Intersections	○	○	○	○	○	○	○
Presence of Pedestrian Signals at Signalized Intersections	○	○	○	○	○	○	○
Presence of Warning signs and Crosswalks Near Schools	○	○	○	○	○	○	○
Presence of Pathways for Recreational Use	○	○	○	○	○	○	○
Condition of Pathways for Recreational Use	○	○	○	○	○	○	○

Pedestrian Incentive

35. What would encourage you to walk more often? (Select all that apply)

- [ ] More or improved sidewalks
- [ ] More or improved recreational trails and paths
- [ ] Improved pedestrian accommodations at intersections (e.g., crosswalks, pedestrian signals, curb ramps)
- [ ] Reduced traffic speeds
- [ ] Reduced traffic volumes
- [ ] Improved lighting
- [ ] Improved security
- [ ] Don't Know
- [ ] Other (please specify)

36. On which road(s), if any, would you like to see improvements made with regard to pedestrian travel?

5

6

Roadway Changes

37. Are there locations in YOUR COMMUNITY where it is DIFFICULT OR UNCOMFORTABLE to cross the road by bike or walking?

- ◯ Yes
- ◯ No

Location of Difficult Crossings

38. Please tell us WHERE IT IS DIFFICULT or UNCOMFORTABLE to cross the road.

Demographic Information

Just a few questions for you to tell us about yourself...

39. Gender?

- ◯ Male
- ◯ Female
- ◯ I'd rather not say

40. Age?

- ◯ Under 16
- ◯ 16-19
- ◯ 20-25
- ◯ 26-36
- ◯ 37-47
- ◯ 48-58
- ◯ 59-69
- ◯ 70 and over
- ◯ I'd rather not say

41. How many individuals 18 years and older live in your household?

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5
- ◯ 6
- ◯ 7
- ◯ 8
- ◯ 9
- ◯ 10+
- ◯ I
- ◯ I'd rather not say

Demographic Information (continued)

42. How many children (17 years and younder) live in your household?

- ◯ 0
- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5
- ◯ 6
- ◯ 7
- ◯ 8
- ◯ 9
- ◯ 10+
- ◯ I'd rather not say

43. How many motor vehicles are available in your household?

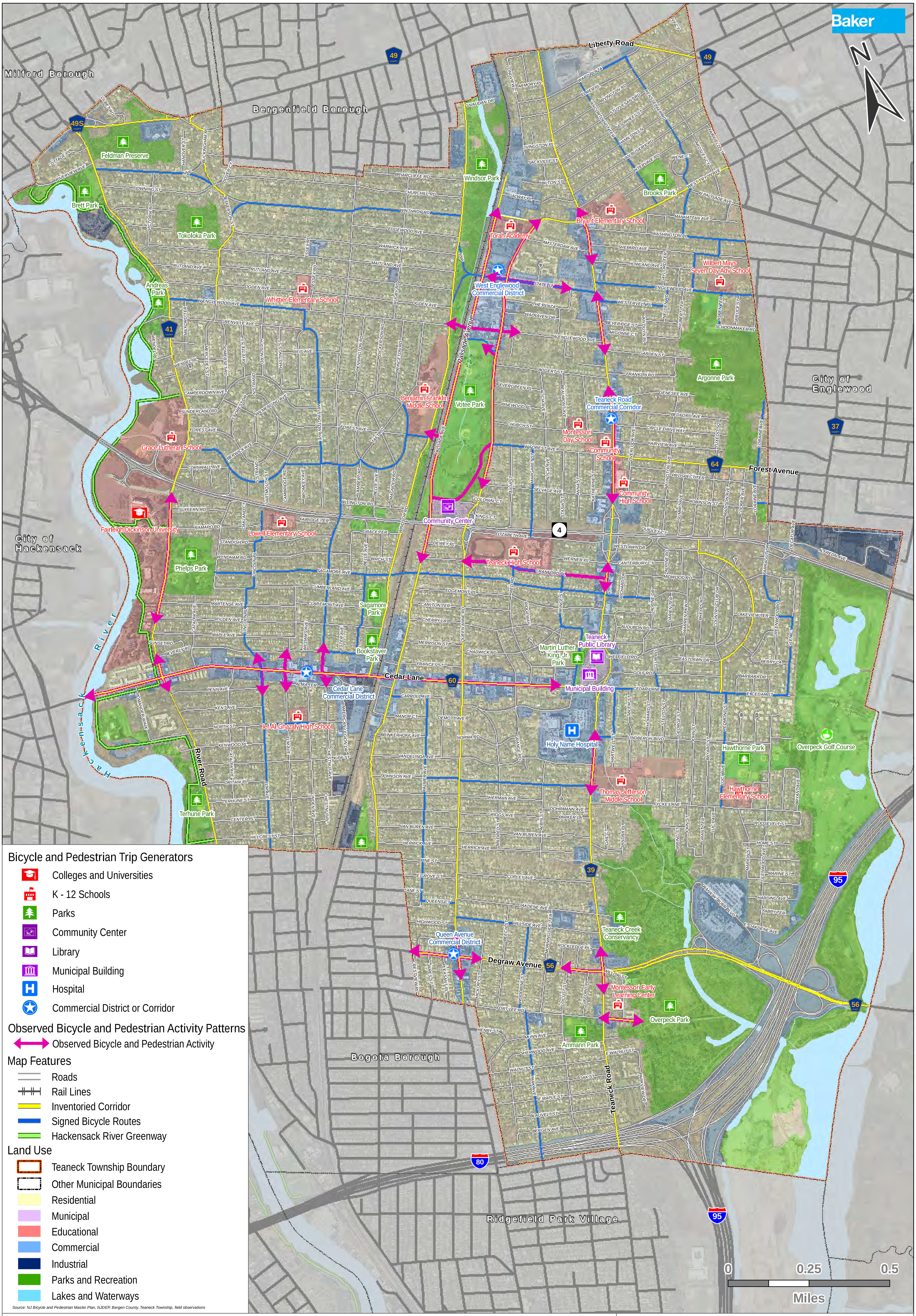
- ◯ 0
- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5+
- ◯ I'd rather not say

General Comments

44. In the comment box below, please feel free to list any other comments you have regarding bicycle and pedestrian travel in Teaneck Township.

APPENDIX C

STUDY MAPS



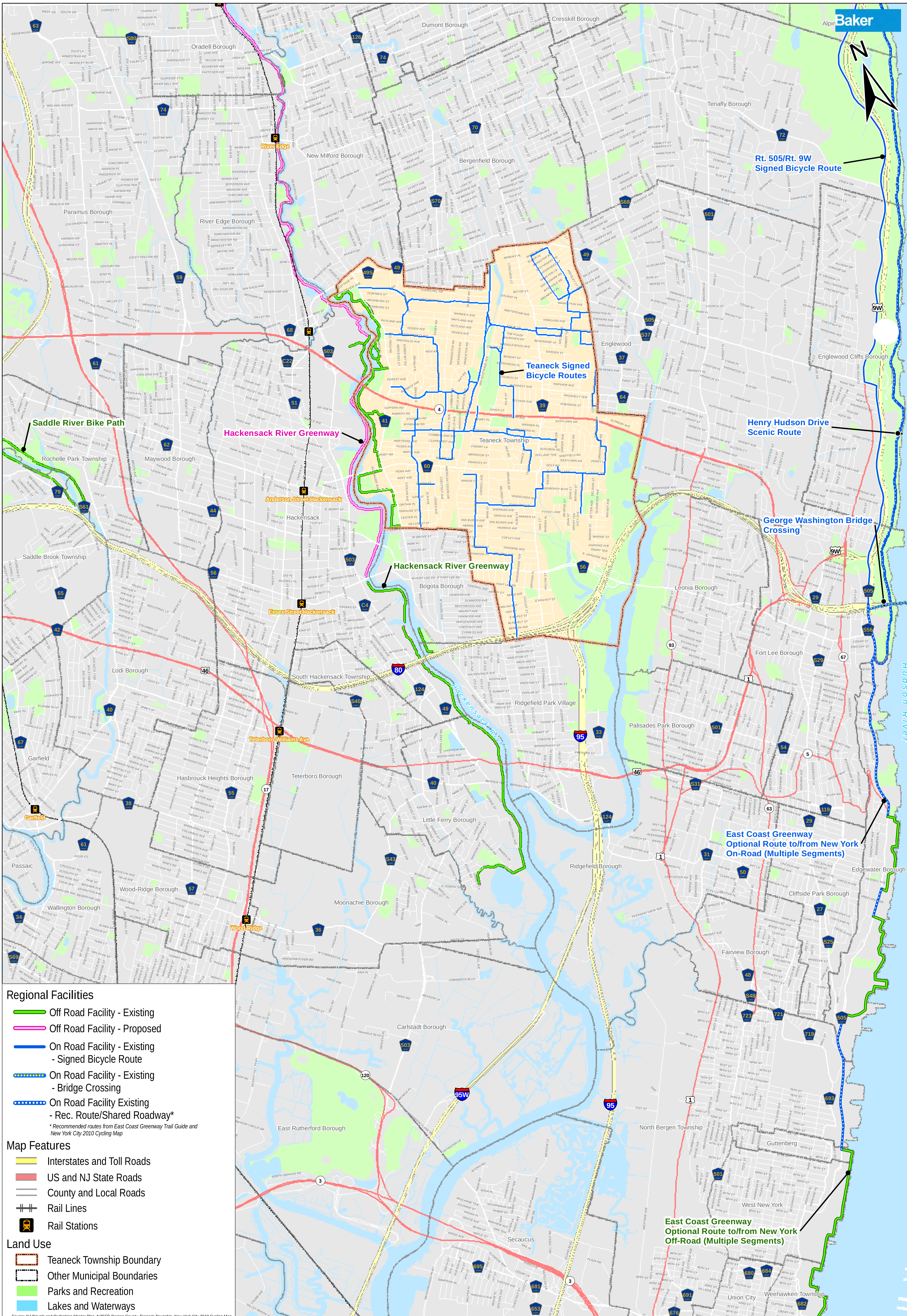
Teaneck Bicycle and Pedestrian Study

Map 1: Trip Generator and Travel Pattern Map

With Inventoried Corridors

Revised November 2010

U.S. Department of Transportation
Federal Highway Administration

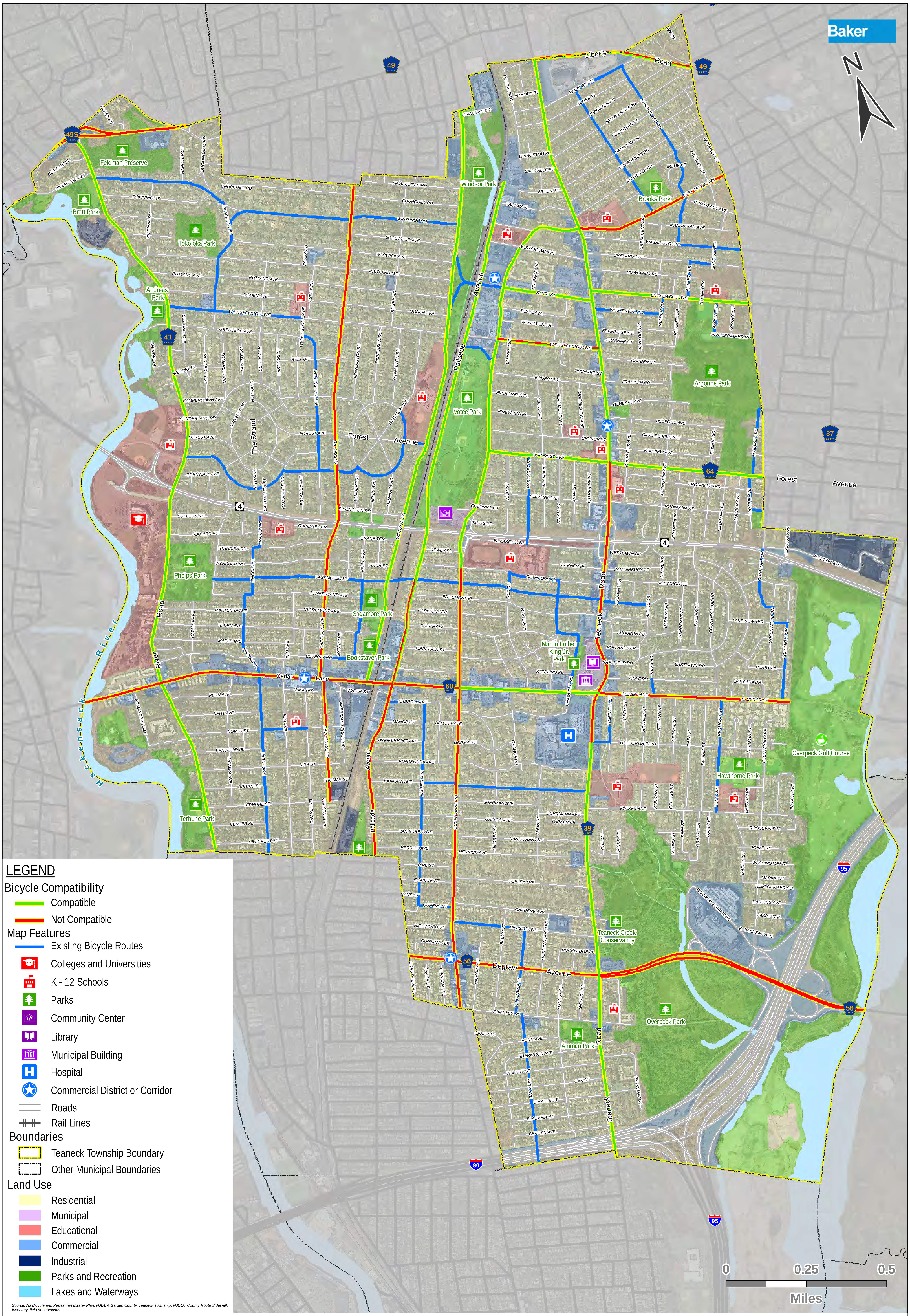


Teaneck Bicycle and Pedestrian Study

Map 2: Regional Connections Map

September 2010

U.S. Department of Transportation
Federal Highway Administration

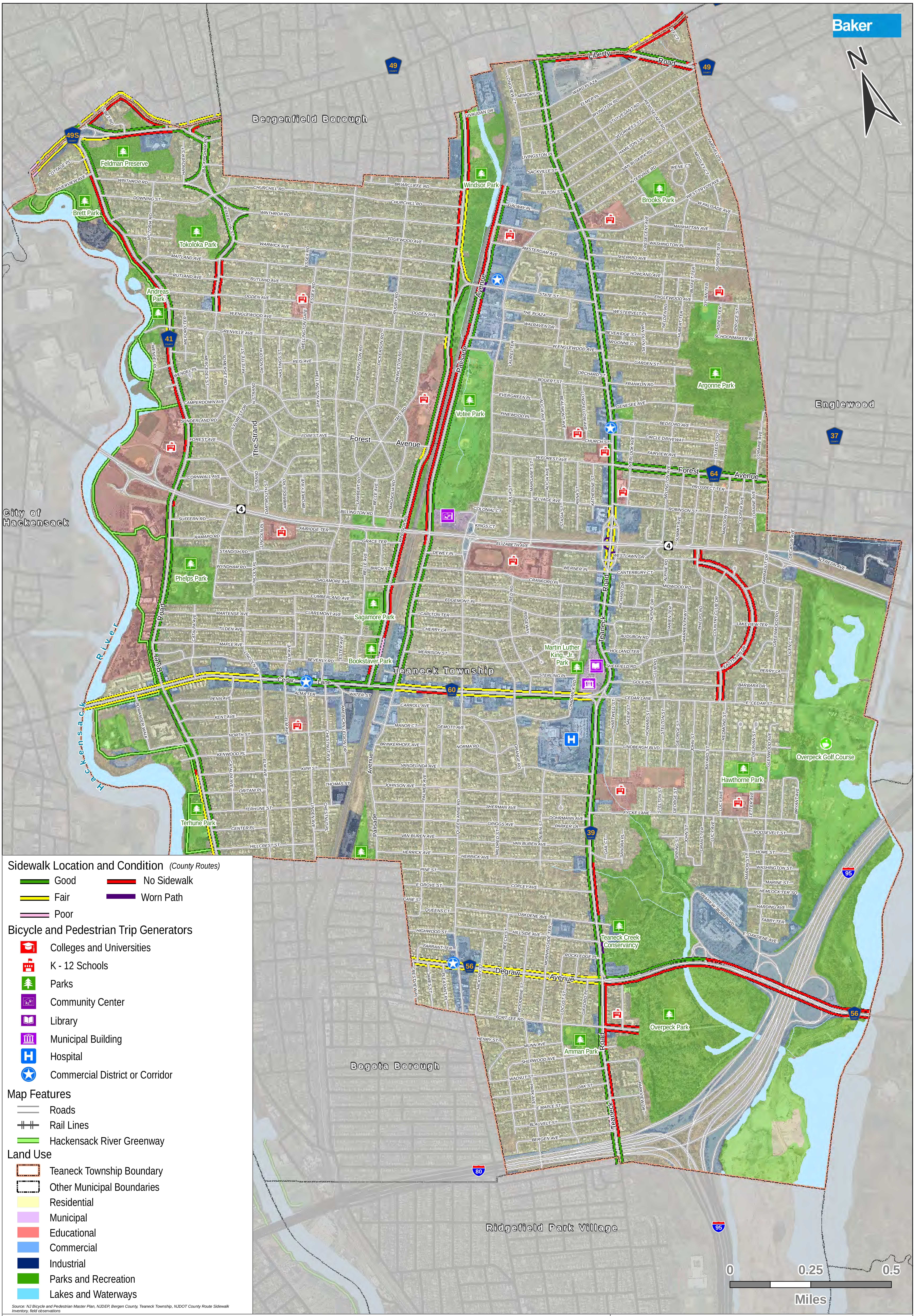


Teaneck Bicycle and Pedestrian Study

Map 3: Bicycle Compatibility Map

October 2010

U.S. Department of Transportation
Federal Highway Administration



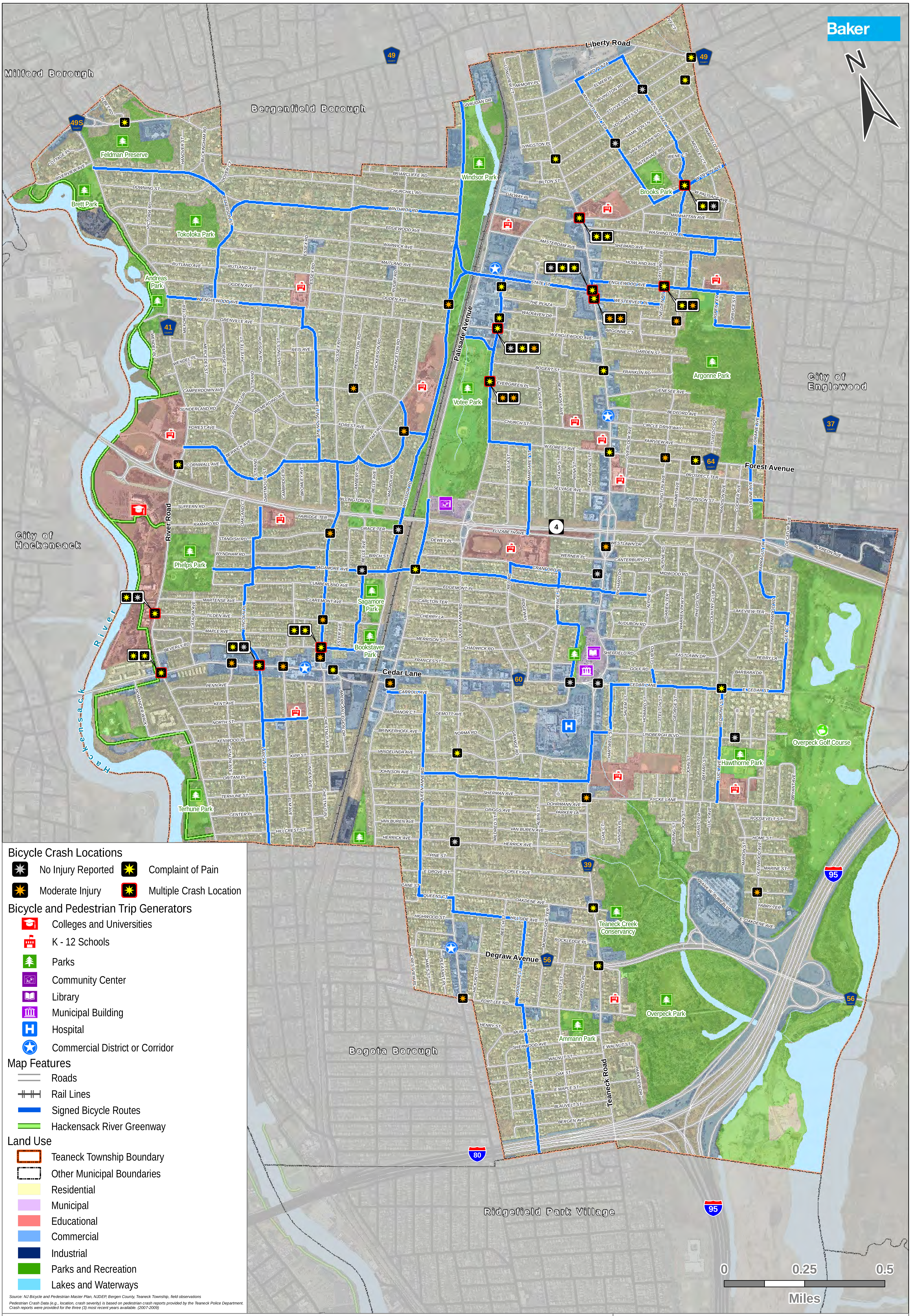
Teaneck Bicycle and Pedestrian Study

Map 4: Sidewalk Location and Condition Map

September 2010

Revised January 2011

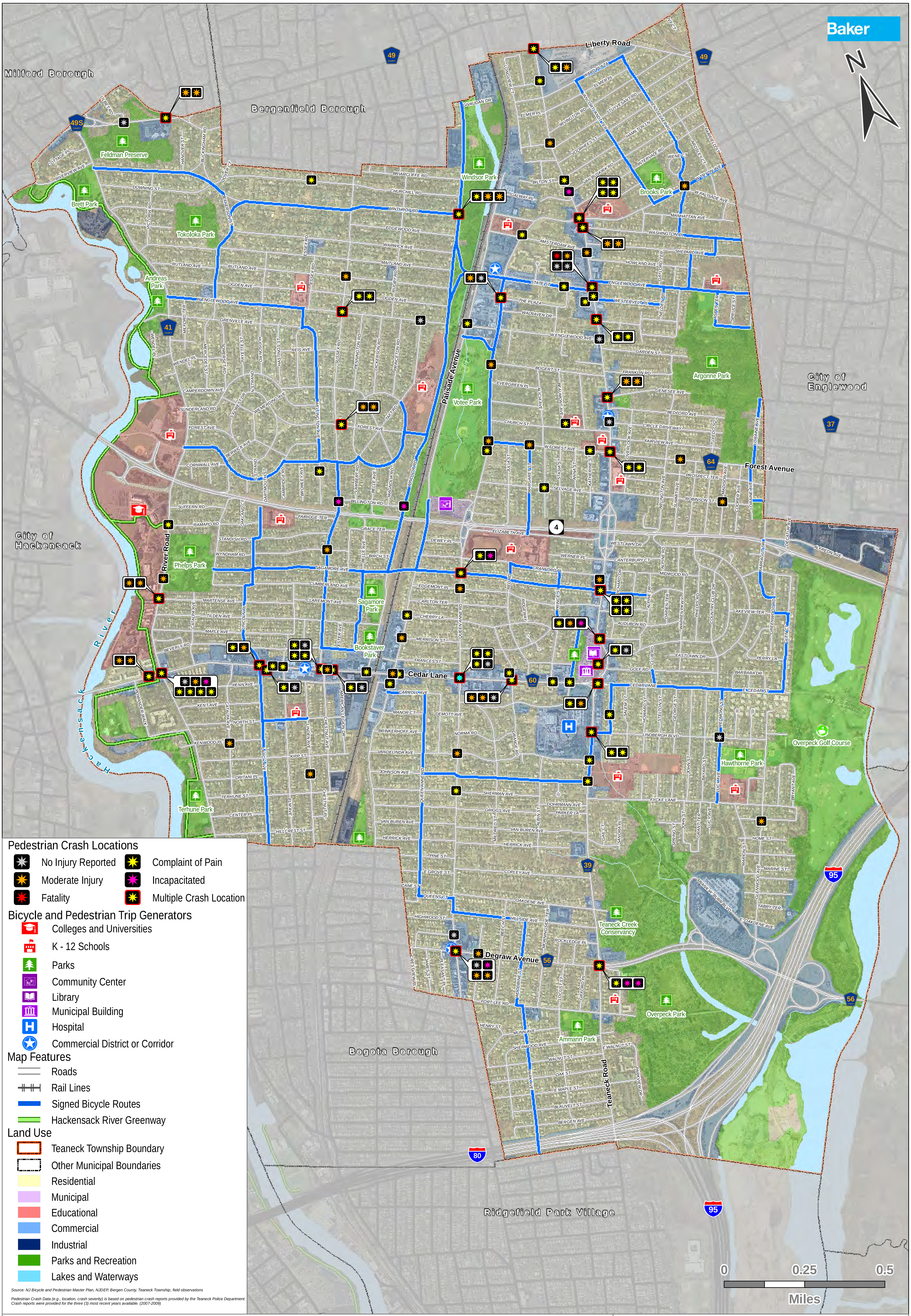
U.S. Department of Transportation
Federal Highway Administration



Teaneck Bicycle and Pedestrian Study

Map 5: Bicycle Crash Map

June 2010

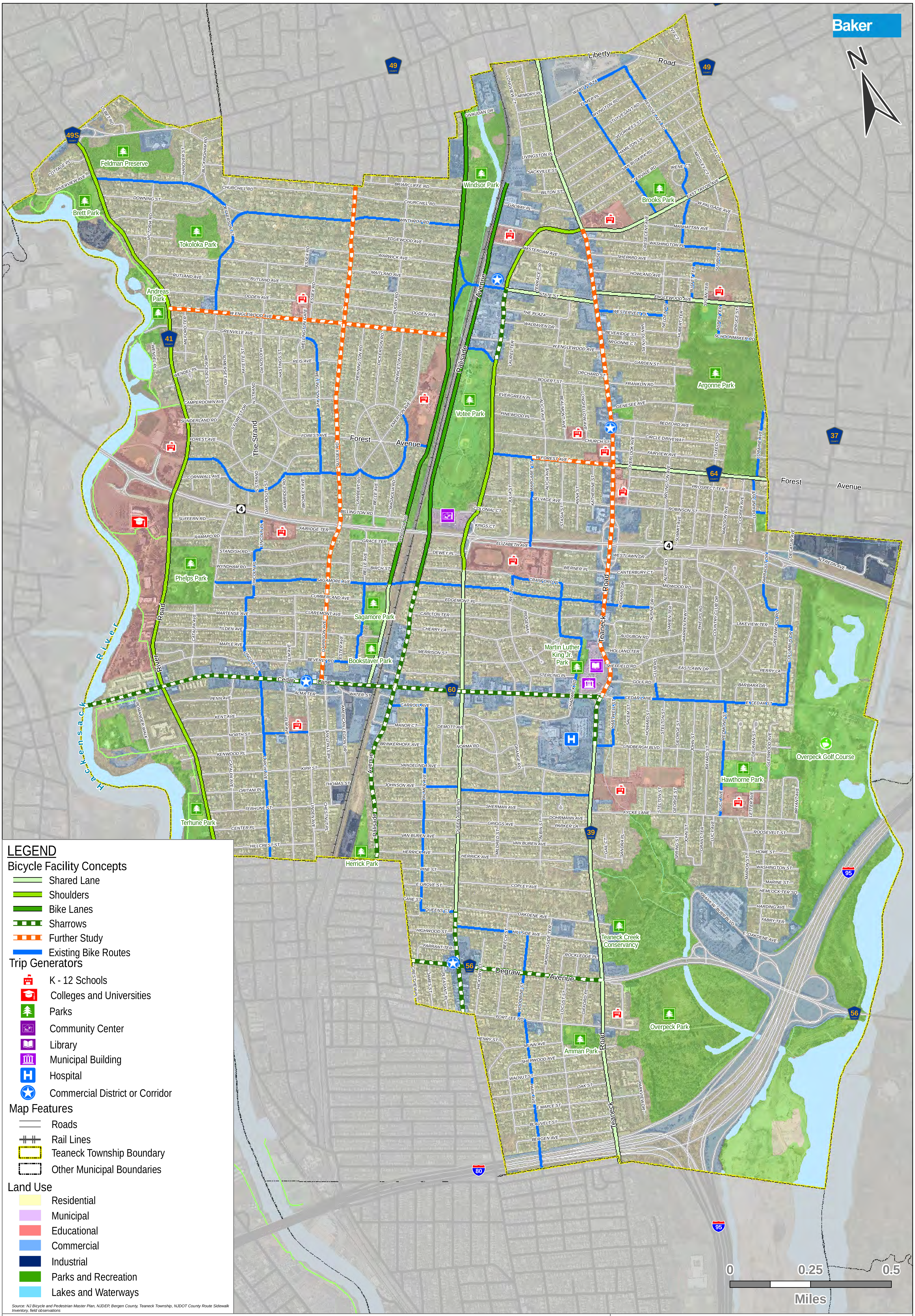


Teaneck Bicycle and Pedestrian Study

Map 6: Pedestrian Crash Map

June 2010

U.S. Department of Transportation
Federal Highway Administration



Teaneck Bicycle and Pedestrian Study

Map 7: Concept Application Map

Revised March 2011

U.S. Department of Transportation
Federal Highway Administration

APPENDIX D

BICYCLE COMPATIBILITY MATRIX

Teaneck Township
Bicycle Compatibility Matrix

Street Name	From	To	Annual Average Daily Traffic Volume (year)	Speed (MPH)	Shoulder and Lane Width NB/SB (SH/LN/LN//MD//LN/LN/SH)	Shoulder and Lane Width EB/WB (SH/LN/LN//MD//LN/LN/SH)	On-Street Parking (Y/N)	Bicycle Compatibility	Recommendations
County Route 39 (Teaneck Road)	*Liberty Road*	State Street	13,100 (2006)	30	0'/25'//0'//25'/0'		N	Yes	
	State Street	W. Englewood Avenue	14,300 (2007)	30-35	0'/20'//0'//20'/0'		N	Yes	Striped 4' SH is recommended where speed limit is 35 mph
	W. Englewood Avenue	W. Forest Avenue	14000 (2007)	30	0'/20'//0'//20'/0'		N	Yes	
	W. Forest Avenue	Werner Place	15000 (2002)	30	0'/13'/12'//0'//12'/13'/0'		N	No	14' SL
	Werner Place	Holland Terrace	15,400 (2002)	30	8'/10'/12'//0'//12'/10'/8'		Y	No	14' SL
	Holland Terrace	Lindbergh Boulevard	15,000 (2000)	30	0'/13'/12'//0'//12'/13'/0'		N	No	14' SL
	Lindbergh Boulevard	*Degraw Avenue*	15,000 (2000)	35	0'/20'//0'//20'/0'		N	Yes	Striped 4'SH is recommended
	Degraw Avenue	*I-95*	7,600 (2010)	35	0'/20'//0'//20'/0'		N	Yes	
County Route 41 (River Road)	New Bridge Road	Ogden Place	14,000 (2010)	35	0'/18'//0'//18'/0'		N	Yes	Striped 4'SH is recommended
	Ogden Place	Grenville Avenue	14,000 (2010)	35	0'/14'//0'//22'/0'		N	Yes	Striped 4'SH is recommended
	Grenville Avenue	Cedar Lane	10,300 (2007)	35	0'/18'//0'//18'/0'		N	Yes	Striped 4'SH is recommended
	Cedar Lane	*Hillcrest St*	7,300 (2007)	35	0'/18'//0'//18'/0'		N	Yes	
County Route 49/49S (New Bridge Road)	River Road	*The Boulevard*	10,000*	35		11'/11'//0'//11'/11'	N	No	
	Teneck Road	*Stuyvesant Road*	10,000*	35		18//0'//20	Y Westbound Only	No WB/Yes EB	
County Route 56 (Degraw Avenue)	*Crestview Road*	*Teaneck Road*	10,000*	35		7'/10'/11'//0'/11'/10'/7'	Y	No	
	Teaneck Road	*I-95*	18,900 (2000)	35		0'/13'/12'//18'//11'/12'/13'/0'	N	No	14' SL
County Route 60 (Cedar Lane)	*Hackensack River*	River Road	11,100 (2007)	25		0'/13'/13'//11'//13'/13'/0'	N	No	14' SL
	River Road	Larch Avenue	9,000 (2007)	25		8'/11'/11'//0'//11'/11'/8'	Y	No	14' SL
	Larch Avenue	Palisade Avenue	9,400 (2006)	25		8'/11'/11'//0'//11'/11'/8'	Y	No	14' SL
	Palisade Avenue	Queen Anne Road	17,800 (2007)	25		0'/12'/11'//0'//11'/10'/0'	N	No	14' SL
	Queen Anne Road	Teaneck Road	10,100 (2000)	25		8'/19'//0'//19'/8'	Y	Yes	
	Teaneck Road	Columbus Drive	6,400 (2000)	25		0'/20'//0'//20'/0'	Y	No	22' SL
County Route 64 (East Forest Avenue)	Teaneck Road	*Webster Ave*	10,000*	35		0'/15'//0'//15'/0'	N	Yes	
Tryon Ave.	State Street	*Teaneck Road*	6,400 (2006)	35		0'/18'/0'/18'/0'	N	Yes	
	Teaneck Road	Knickerbocker Rd	5,800 (2006)	25		0'/17'//0'//17'/0'	Y	No	22' SL
Englewood Avenue	Teaneck Road	*Lafayette Place*	1,100 (2001)	25		0'/15'//0'//15'/0'	N	Yes	
Chestnut Avenue/Garrison Avenue/ Sussex Road	New Bridge Road	*NJ Route 4*	3,900 (2010)	25	0'/17.5'//0'//17.5'/0'		Y	No	22' SL
	NJ Route 4	*Cedar Lane*	2,900 (2006)	25	0'/18'//0'//18'/0'		Y	No	
	Cedar Lane	Terhune Street	2,000 (2000)	25	0'/18'//0'//18'/0'		Y	No	22' SL
Palisade Avenue	*Township Boundary*	Cedar Lane	5,800 (2007)	30	0'/18'//0'//18'/0'		Y	No	22' SL
	Cedar Lane	Sagamore Avenue	5,700 (2007)	30	0'/18'//0'//18'/0'		Y Southbound Only	Yes NB/No SB	22' SL
	Sagamore Avenue	Colonial Court		35	5'/13'//0'//13'/5'		N	Yes	
	Colonial Court	*Dead End*		35	0'/18'//0'//18'/0'		N	Yes	
Queen Anne Road	State Street	Ayers Court	10,800 (2010)	25	8'/26.5'//0'//26.5'/8'		Y	Yes	
	Ayers Court	W. Englewood Avenue	10,800 (2010)	25	8'/20.5'//0'//20.5'/8'		Y	Yes	
	W. Englewood Avenue	Court Street	10,800 (2010)	25	0'/14'//0'//14'/8'		Y Southbound Only	Yes	
	Court Street	Selvage Avenue	10,800 (2010)	35	0'/19'//0'//19'/0'		N	Yes	
	Selvage Avenue	Cranford Place	10,800 (2010)	35	0'/20'//0'//20'/0'		N	Yes	
	Cranford Place	*Fort Lee Road*	6,100 (2009)	35	0'/15'//0'//15'/0'		Y	No	
State Street	Queen Anne Road	Terrace Circle	3,500 (2001)	25		8'/27'//0'//27'/8'	N	Yes	
	Terrace Circle	Lozier Place				8'/24'//0'//24'/14'	Y	Yes	
	Lozier Place	Teaneck Road				0'/35'//0'//35'/0'	Y	Yes	
W. Englewood Ave	Queen Anne Road	Teaneck Road	813 (2007)	25		0'/15'/0'/15'/0'	Y Eastbound Only	No EB/Yes WB	
Windsor Road	*Maiden Lane*	State Street (north ramp)	9,500 (2010)	35	0'/22'//0'//22'/0'		Y	Yes	
	State Street (north ramp)	State Street (south ramp)	9,500 (2010)	35	0'/15'//0'//15'/0'		N	Yes	
	State Street (south ramp)	W. Englewood Avenue	9,500 (2010)	25	0'/18'//0'//18'/0'		N	Yes	
	W. Englewood Avenue	Colonial Court	9,500 (2010)	25	4'/14'//0'//14'/4'		N	Yes	
	Colonial Court	Sagamore Road	9,500 (2010)	25	0'/18'//0'//18'/0'		N	Yes	
	Sagamore Road	Beverly Road	10,000*	25	0'/15'//0'//15'/0'		N	Yes	
	Beverly Road	Cedar Lane	10,000*	25	0'/20'//0'//0'/0'		N	Yes	

SH - Shoulder   SL - Shared Lane

*If traffic volume was unknown, roadway was assessed under Condition III (AADT over 10,000) of the NJDOT guidelines

APPENDIX
E

BICYCLE & PEDESTRIAN CRASH SUMMARIES

Township of Teaneck Bicycle Crash History

1. **March 30, 2007** **5:41 PM** **Daylight/Clear**

   A crash involving a vehicle and a bicycle occurred at the intersection of Teaneck Road and Degraw Avenue. The vehicle was traveling west on Degraw Avenue when it made a left turn and was struck by a bicyclist who was traveling east in an eastbound lane on the roadway and crossing on a red signal. (Bicyclist age: 31 years old)

2. **May 1, 2007** **3:08 PM** **Daylight/Overcast**

   A crash involving a vehicle and a bicycle occurred on Palisade Avenue approximately 150 feet north of West Englewood Avenue. The vehicle was stopped in the shoulder of Palisade Avenue when the passenger side door was opened and struck a bicyclist traveling south in a southbound shoulder on Palisade Avenue. The bicyclist suffered minor injuries. (Bicyclists age: unknown)

3. **May 22, 2007** **4:17 PM** **Daylight/Clear**

   A crash involving a vehicle and a bicycle occurred on Teaneck Road at the intersection of the eastbound Route 4 exit ramp. The vehicle was turning right onto Teaneck Road after stopping at a stop sign when it struck a bicyclist who as traveling south on the northbound side of Teaneck Road and crossing in marked crosswalk. The bicyclist suffered moderate injuries. (Bicyclist age: 13 years old)

4. **May 25, 2007** **6:35 PM** **Daylight/Clear**

   A crash involving a vehicle and a bicycle occurred on Teaneck Road at the intersection of Tryon Avenue. The vehicle was traveling west on Tryon Avenue when it made a left turn and struck a bicyclist who was traveling south on the northbound side of Teaneck Road and crossing in marked crosswalk. The bicyclist suffered minor injuries and was taken to the hospital. (Bicyclist age: 11 years old)

5. **June 9, 2007** **5:18 PM** **Daylight/Clear**

   A crash involving a vehicle and a bicycle occurred at the intersection of Englewood Avenue and Nelden Road. The vehicle was traveling west on Englewood Avenue when it made a left turn and struck a bicyclist was traveling east on the eastbound shoulder of Nelden Road. The bicyclist suffered moderate injuries and was taken to the hospital. (Bicyclist age: 43 years old)

6. **June 21, 2007** **3:36 PM** **Daylight/Clear**

   A crash involving a vehicle and a bicycle occurred on Teaneck Road at the intersection of Sackville Road. The vehicle was traveling east on Sackville Road when it made a right turn and struck a bicyclist traveling in the wrong direction (north on the southbound shoulder) on Teaneck Road. The bicyclist suffered minor injuries and was taken to the hospital. (Bicyclist age: 16 years old)

7. **June 22, 2007** **5:23 PM** **Daylight/Clear**

   A crash involving a vehicle and a bicycle occurred on Kensington Road at the intersection of Pennington Road. The vehicle was traveling west on Kensington Road when it struck a bicyclist who was traveling south on Pennington Road and entered the intersection with slowing or stopping. The bicyclist suffered moderate injuries and was taken to the hospital. (Bicyclist age: 11 years old)

8. **June 25, 2007** **1: 12 PM** **Daylight/Clear**

   A crash involving a vehicle and a bicycle occurred at the intersection of River Road and Cornwall Avenue. The vehicle was turning left onto River Road after stopping at a stop sign when it struck a bicyclist traveling north in the northbound shoulder on the roadway. The bicyclist suffered minor injuries. (Bicyclist age: 57 years old)

9. June 28, 2007 6:36 PM Dusk/Rain
A crash involving a vehicle and a bicycle occurred at the intersection of Garrison Avenue and Beverly Road. The vehicle was traveling north on Garrison Avenue when it struck a bicyclist who was traveling west on Beverly Road and failed to stop at a stop sign. Weather conditions were cited a potential contributing factor in the crash. The bicyclist suffered minor injuries. (Bicyclist age: 15 years old)

10. August 19, 2007 12:37 PM Daylight/Clear
A crash involving a vehicle and a bicyclist occurred at the intersection of West Englewood Avenue and Queen Anne Road. The vehicle was traveling east on West Englewood Avenue bicyclist when it stopped to look around a parked vehicle and was struck by a bicycle who entered the roadway after traveling on the sidewalk. (Bicyclists age: 12 years old)

11. August 30, 2007 6:28 PM Daylight/Clear
A crash involving a vehicle and a bicycle occurred on Stuyvesant Road approximately 150 feet west of Liberty Road. The vehicle traveling west on Stuyvesant Road when it was struck by a bicyclist who was traveling on the sidewalk before entering the roadway from behind a parked vehicle. The bicyclist suffered minor injuries and was taken to the hospital. (Bicyclists age: 10 years old)

12. August 31, 2007 8:23 PM Dark/Clear
A crash involving a vehicle and a bicycle occurred at the intersection of Cedar Lane and Chadwick Road. The vehicle was turning left onto Cedar Lane after stopping at a stop sign when it was struck by a bicyclist who was traveling east on Cedar Lane in the eastbound shoulder. No injuries were reported. (Bicyclist age: 16 years old)

13. September 21, 2007 3:46 PM Daylight/Clear
A crash involving a vehicle and a bicycle occurred on Teaneck Road. The vehicle was exiting a driveway when it struck a bicyclist traveling on the sidewalk. The bicyclist suffered minor injuries and was taken to the hospital. (Bicyclists age: 11 years old)

14. September 23, 2007 4:18 PM Daylight/Clear
A crash involving a vehicle and a bicycle occurred at the intersection of Sagamore Avenue and Belle Avenue. The vehicle was traveling west on Sagamore Avenue when it was struck by a bicyclist traveling north on Belle Avenue who failed to stop at a stop sign. The bicyclist fled the scene. A mechanical failure of the bicycle was cited a potential contributing factor in the crash. The bicyclist was taken to the hospital. (Bicyclists age: 10 years old)

15. October 4, 2007 7:59 AM Daylight/Clear
A crash involving a vehicle and a bicycle occurred at the intersection of Teaneck Road and Oakdene Avenue. The vehicle was traveling east on Oakdene Avenue when made a right turn and struck a bicyclist who had entered the intersection after riding on the sidewalk. The bicyclist suffered minor injuries and was taken to the hospital. (Bicyclist age: 11 years old)

16. October 4, 2007 8:09 AM Daylight/Clear
A crash involving a vehicle and a bicycle occurred at the intersection of Windsor Road and Woods Road. The vehicle was turning right onto Windsor Road after stopping at a stop sign when it struck a bicyclist who was traveling north on the roadway. The bicyclist suffered minor injuries and was taken to the hospital. (Bicyclist age: 11 years old)

17. October 7, 2007 9:20 AM Daylight/Clear
A crash involving a bicycle and a vehicle occurred at the intersection of Teaneck Road and State Street. The vehicle was exiting a parking lot when it was struck by a bicyclist traveling south in a

southbound lane on Teaneck Road. No injuries were reported. (Bicyclist age: 54 years old)

18. October 14, 2007 10:18 AM Daylight/Clear
A crash involving a bicycle and a vehicle occurred at the driveway for the parking lot located on Cranford Place. The vehicle was exiting a parking lot when it was struck a bicyclist that had turned into the parking. A mechanical failure of the bicycle was cited a potential contributing factor in the crash. No injuries were reported. (Bicyclists age: 10 years old)

19. November 2, 2007 12:53 PM Daylight/Clear
A crash involving a bicycle and a vehicle occurred at the intersection of Garrison Avenue and Beverly Road. The vehicle was turning right onto Garrison Ave after stopping at a stop sign when it struck a bicyclist traveling in the wrong direction (south in the northbound shoulder) on Beverly Road. The bicyclist suffered minor injuries. (Bicyclist age: 27 years old)

20. November 10, 2007 4:31 PM Daylight/Clear
A crash involving a bicycle and a vehicle occurred at the intersection on Queen Anne Road and West Englewood Avenue. The vehicle was traveling east on West Englewood Avenue when it made a right turn and struck the bicyclist who had entered the intersection after riding on the sidewalk. The bicyclist fled the scene. No injuries were reported. (Bicyclists age: unknown)

21. November 21, 2007 8:11 PM Dark/Fog,Smog,Smoke
A crash involving a bicycle and a vehicle occurred at the intersection of Teaneck Road and Tryon Avenue. The vehicle was traveling south Teaneck Road when it made a left turn and struck a bicyclist who was traveling in the wrong direction (south in a northbound lane) on Teaneck Road. The bicyclist suffered minor injuries. (Bicyclist age: 18 years old)

22. January 30, 2008 9:05 PM Dark/Clear

A crash involving a vehicle and a bicyclist occurred on River Road approximately 20 feet south of Tilden Avenue. The vehicle was traveling south on River Road when it struck a bicyclist who had been traveling south in the shoulder. The bicyclist entered the travel lane in front of the vehicle while attempting to avoid debris in the shoulder. The bicyclist suffered minor injuries. (Bicyclist age: 20 years old)

23. February 28, 2008 Not Noted Daylight/Clear

A crash involving a vehicle and a bicyclist occurred on Redmond Street approximately 200 feet south of East Cedar Lane. The vehicle traveling north on Redmond Street when it struck a bicyclist who was traveling north in a northbound lane. The vehicle fled the scene. The bicyclist suffered moderate injuries and was taken to the hospital. (Bicyclist age: 16 years old)

24. March 26, 2008 5:31 PM Daylight/Clear

A crash involving a vehicle and a bicyclist occurred at the intersection of Teaneck Road and Westervelt Avenue. The vehicle was traveling south in the inside lane on Teaneck Road when they were struck by a bicyclist who was traveling south in the southbound outside lane and attempting to make a left turn. The bicyclist suffered moderate injuries. (Bicyclist age: 39 years old)

25. April 15, 2008 6:48 PM Daylight/Clear

A crash involving a vehicle and a bicyclist occurred on Queen Anne Road, approximately 200 feet south of State Street. The bicyclist was traveling south in a southbound lane on Queen Anne Road and struck an opened driver’s side door of a parked vehicle. The bicyclist suffered minor injuries. (Bicyclist age: 51 years old)

26. May 1, 2008 **4:19 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Herbert Terrace and Schoonmaker Road. The vehicle was traveling north on Hubert Terrace when it struck a bicyclist who was traveling east on Schoonmaker Road and entered the intersection without stopping. The bicyclist suffered moderate injuries and was taken to the hospital. (Bicyclist age: 16 years old)

27. May 9, 2008 **8:00 AM** **Daylight/Rain**

A crash involving a vehicle and a bicyclist occurred at the intersection of Cedar Lane and Queen Anne Road. The vehicle was making a right turn after stopping for a red light when it struck a bicyclist who had entered the intersection after riding on the sidewalk. A faulty pedestrian signal was cited a contributing factor in the crash. The bicyclist suffered minor injuries. (Bicyclist age: 14 years old)

28. May 12, 2008 **4:59 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Palisade Avenue and Grayson Place. The vehicle was traveling east on Grayson Avenue when it made a right turn and struck a bicyclist in the wrong direction (north in the southbound lane). The bicyclist suffered minor injuries. (Bicyclist age: 47 years old)

29. May 13, 2008 **5:56 AM** **Dawn/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Roemer Avenue and Lilbet Road. The vehicle was traveling east on Roemer Avenue when it made a left turn and struck a bicyclist traveling west in the westbound shoulder of Roemer Avenue. The bicyclist suffered minor injuries. (Bicyclist age: 45 years old)

30. May 17, 2008 **3:42 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred on Voorhees Street approximately 200 feet west of Hamilton Lane. The vehicle was stopped in the westbound lane of Voorhees Street when it was struck by a bicyclist who was traveling west and had just pulled out from behind a parked car. The bicyclist suffered minor injuries. (Bicyclist age: 7 years old)

31. June 03, 2008 **7:40 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred on Garrison Avenue approximately 300 feet north of Cedar Lane. The vehicle was parked on Garrison Avenue when a bicyclist it was struck in the rear by a bicyclist traveling south in a southbound lane on Garrison Avenue. The bicyclist suffered moderate injuries. (Bicyclist age: 20 years old)

32. June 07, 2008 **12:05 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Tilden Avenue and River Road. The vehicle was turning right onto River Road after stopping at a stop sign when it struck a bicyclist traveling in the wrong direction (south in the northbound shoulder) on River Road. No injuries were reported. (Bicyclist age: 15 years old)

33. June 08, 2008 **3:47 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Rensselaer Road and Stuyvesant Road. The vehicle traveling west on Stuyvesant Road when it proceeded illegally through a stop sign and struck a bicyclist was traveling north in a northbound lane on Rensselaer

Road. The driver fled the scene. No injuries were reported. (Bicyclist age: 30 years old)

34. June 30, 2008 **4:04 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred on Teaneck Road approximately 25 feet south of State Street. The vehicle was exiting a parking lot when it struck a bicyclist traveling in the wrong direction (north in a southbound lane) on Teaneck Road. The bicyclist suffered minor injuries and was taken to the hospital. (Bicyclist age: 17 years old)

35. July 31, 2008 **7:38 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Van Cortlandt Terrace and Hamilton Road. The vehicle was traveling south on Van Cortlandt Terrace when it was struck by a bicyclist was traveling east on Hamilton Road. The bicyclist fled the scene. No injuries were reported. (Bicyclists age: unknown)

36. August 8, 2008 **Not Recorded** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Glenwood Avenue and Harding Avenue. The vehicle was traveling south on Glenwood Avenue when it struck a bicyclist traveling south in a southbound lane. The vehicle fled the scene. The bicyclist reported moderate injuries and was taken to the hospital. (Bicyclist age: 66 years old)

37. August 22, 2008 **3:15 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Cedar Lane and Larch Avenue. The vehicle was traveling east on Cedar Lane and made a right turn onto Larch Avenue when it was struck by a bicyclist traveling in the wrong direction (west in an eastbound lane) on Cedar Lane. The bicyclist suffered minor injuries. (Bicyclist age: 26 years old)

38. September 15, 2008 **5:57 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Cedar Lane and Larch Avenue. The vehicle was traveling east on Cedar Lane when it struck a bicyclist traveling south through the intersection at Larch Avenue. The bicyclist fled the scene. No injuries were reported. (Bicyclists age: unknown)

39. September 29, 2008 **8:15 AM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Englewood Avenue and Nelden Road. The vehicle was traveling west on Englewood Avenue when it made a left turn onto Nelden Road and struck a bicyclist traveling east in an eastbound lane on Englewood Avenue. The bicyclist suffered minor injuries. (Bicyclist age: 86 years old)

40. October 18, 2008 **8:06 PM** **Dark/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Teaneck Road and Westervelt Place. The vehicle was stopped on Westervelt Place when it was struck by a bicyclist who entered the roadway from the sidewalk. The bicyclist suffered moderate injuries. (Bicyclist age: 36 years old)

41. October 21, 2008 **8:30 PM** **Dark/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Garrison Avenue and Beatrice Street. The vehicle was traveling north on Garrison Avenue when it made a left turn onto Beatrice Street and struck a bicyclist traveling south in a southbound lane on Garrison Avenue.

The bicyclist suffered moderate injuries. (Bicyclist age: 29 years old)

42. November 3, 2008 **4:43 PM** **Dusk/Clear**

A crash involving a vehicle and a bicyclist occurred on Lindberg Boulevard approximately 20 feet east of Sanford Street. The vehicle was traveling west on Lindbergh Boulevard when it was struck by a bicyclist who was traveling on the sidewalk and made a left turn into the roadway. No injuries were reported. (Bicyclist age: 13 years old)

43. February 17, 2009 **7:15 PM** **Dark/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Queen Anne Road and Vandelinda Avenue. The vehicle The vehicle was proceeding east on Vandelina Avenue after it stopping at a stop sign when it struck a bicyclist was traveling south in a southbound lane on Queen Anne Road. The lack of lights or reflectors on the bicycle was cited as a potential contributing factor. The bicyclist suffered moderate injuries. (Bicyclist age: 62 years old)

44. March 9, 2009 **7:33 AM** **Dawn/Rain**

A crash involving a vehicle and a bicyclist occurred on Ft. Lee Road approximately 30 feet west of Queen Anne Road. The vehicle was traveling west on Fort Lee Road when it struck a bicycle traveling west in a westbound lane. The lack of lights or reflectors on the bicycle was cited as a potential contributing factor. The bicyclist suffered moderate injuries. (Bicyclist age: 25 years old)

45. April 16, 2009 **3:10 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred on Cedar Lane approximately 100 feet east of American Legion Boulevard. The vehicle was exiting a driveway when it was struck by a bicyclist was traveling on the sidewalk. The bicyclist suffered minor injuries. (Bicyclist age: 24 years old)

46. May 11, 2009 **5:56 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Forest Avenue and East Laurelton Parkway. The vehicle was traveling west on Forest Avenue when it struck a bicyclist traveling south on East Laurelton Parkway who had failed to observe a posted stop sign. The bicyclist suffered moderate injuries and was taken to the hospital. (Bicyclist age: 11 years old)

47. May 16, 2009 **7:42 PM** **Dawn/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Queen Anne Road and Evergreen Place. The vehicle was traveling north on Queen Anne Road when it struck a bicyclist who was making a right turn onto Queen Anne Road. The bicyclist suffered moderate injuries and was taken to the hospital. (Bicyclist age: 20 years old)

48. May 25, 2009 **3:05 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred on Elm Avenue approximately 25 feet south of Cedar Lane. The vehicle was stopped at a red traffic light bicyclist when it was struck in the rear by a bicyclist traveling north in a northbound lane. The bicyclist suffered moderate injuries and was taken to the hospital. (Bicyclist age: 24 years old)

49. May 26, 2009 **5:41 PM** **Daylight/Overcast**

A crash involving a vehicle and a bicyclist occurred at the intersection of Queen Anne Road and Herrick Avenue. The vehicle was proceeding east on Herrick Avenue after it stopping at a stop sign when it was struck by a bicyclist traveling north in a northbound lane on Queen Anne Road. No injuries were reported. (Bicyclist age: 18 years old)

50. June 6, 2009 **1:38 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Catalpa Avenue and Cedar Lane. The vehicle proceeded north on Catalpa Avenue after making a right turn on red when it struck a bicyclist traveling east in an eastbound lane on Cedar Lane. The vehicle left the scene. The bicyclist suffered minor injuries and was transported to the hospital. (Bicyclist age: 55 years old)

51. June 12, 2009 **7:44 AM** **Daylight/Rain**

A crash involving a vehicle and a bicyclist occurred at the intersection of Cedar Lane and Teaneck Road. The vehicle was traveling south on Teaneck road when it entered a channelized right turn lane for Cedar Lane and struck a bicyclist was traveling on the sidewalk before entering a marked crosswalk. No injuries were reported. (Bicyclist age: 11 years old)

52. July 09, 2009 **2:56 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of East Forest Avenue and Congress Avenue. The vehicle was exiting a driveway when it struck a bicyclist traveling on the sidewalk. The bicyclist suffered minor injuries and was taken to the hospital. (Bicyclists age: 21 years old)

53. July 14, 2009 **7:59 AM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Palisade Avenue and Manor Court. The vehicle was traveling north on Palisade Avenue when it made a left turn onto and struck the bicyclist who was traveling south in the southbound shoulder on Palisade Avenue. The bicyclist suffered moderate injuries. (Bicyclist age: 39 years old)

54. July 15, 2009 **9:13 AM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Tryon Avenue and Hargreaves Avenue. The vehicle was traveling east on Tryon Avenue when it struck a bicyclist crossing at Hargreaves Avenue. The driver of the vehicle initially waved the bicyclist across the road, and then proceeded to move forward. The vehicle then left the scene. (Bicyclists age: 12 years old)

55. July 22, 2009 **7:27 AM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Palisade Avenue and West Englewood Avenue. The vehicle was traveling west on West Englewood Avenue when it made a right turn onto Palisade Avenue and struck a bicyclist traveling in the wrong direction (south in a northbound lane) on Palisade Avenue. The bicyclist suffered moderate injuries and was taken to the hospital. (Bicyclists age: 13 years old)

56. August 04, 2009 **4:08 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Tryon Avenue and Hargreaves Avenue. The vehicle was traveling south on Hargreaves Avenue when a bicyclist traveling east on Tryon Avenue struck the vehicle. The bicyclist suffered minor injuries and was taken to the hospital. (Bicyclist age: 40 years old)

57. August 28, 2009 **8:10 AM** **Daylight/Rain**

A crash involving a vehicle and a bicyclist occurred at the intersection of Cedar Lane and River Road. The vehicle was traveling south on River Road when it made a left turn and was struck by a bicyclist traveling north on the roadway. Wet conditions were cited as a potential contributing factor in the crash. The bicyclist suffered minor injuries. (Bicyclists age: 55 years old)

58. September 4, 2009 **5:25 PM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Teaneck Road and Fycke Lane. The vehicle was traveling west on Fycke Lane when it made a left turn onto Teaneck Road and struck a bicyclist crossing in a marked crosswalk. The bicyclist suffered moderate injuries and was taken to the hospital. (Bicyclist age: 73 years old)

59. September 17, 2009 **8:37 AM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Forrest Avenue and Teaneck Road. The vehicle was traveling north on Teaneck Road when it made a right turn onto Forest Avenue and struck a bicyclist who traveling in the wrong direction (south in the northbound lane) on Teaneck Road. The bicyclist suffered minor injuries and was transported to the hospital. (Bicyclist age: 48 years old)

60. September 26, 2009 **11:19 AM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of Teaneck Road and State Street. The vehicle was traveling south on Teaneck Road when it made a right turn and struck a bicyclist traveling south in the southbound shoulder on State Street. The vehicle fled the scene. The bicyclist suffered minor injuries. (Bicyclist age: 53 years old)

61. September 30, 2009 **8:12 AM** **Daylight/Clear**

A crash involving a vehicle and a bicyclist occurred on Standish Road approximately 20 feet west of Garrison Avenue. The vehicle was traveling east on Standish Road when it struck a bicyclist who was traveling in the wrong direction (west in the eastbound lane) on the roadway. The bicyclist suffered moderate injuries and was taken to the hospital. (Bicyclist age: 24 years old)

62. October 11, 2009 **8:03 PM** **Dark/Clear**

A crash involving a vehicle and a bicyclist occurred at the intersection of State Street and Windsor Road. The vehicle was traveling south on Windsor Road when it made a left turn and struck a bicyclist on the State Street bridge. Lighting was cited as a potential contributing factor in the crash. The bicyclist suffered moderate injuries. (Bicyclists age: unknown)

63. November 11, 2009 **9:40 PM** **Dark/Clear**

A crash involving a vehicle and a bicyclist occurred on 724 Cedar Lane approximately 50 feet of River Road. The vehicle was exiting a driveway when it struck a bicyclist traveling on the sidewalk. The bicyclist suffered minor injuries. (Bicyclist age: 22 years old)

Township of Teaneck Pedestrian Crash History

1. January 25, 2007 **6:50 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Teaneck Road approximately 50 feet north of Livingston Place. The vehicle was traveling north on Teaneck Road when it crossed over the southbound lane, mounted the curb, and struck a pedestrian on the sidewalk. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 52 years old)

2. January 25, 2007 **8:29 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and State Street. The vehicle was traveling north on Teaneck Road when it made a left turn and struck a pedestrian crossing in marked crosswalk. The pedestrian was killed. (Pedestrian age: 52 years old)

3. February 6, 2007 **4:33 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Grayson Place. The vehicle was traveling on east on Grayson Place when it made a left turn and struck a pedestrian crossing in a marked crosswalk. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 69 years old)

4. February 28, 2007 **5:21 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred on Degraw Avenue approximately 100 feet west of Queen Anne Road. The vehicle was traveling east on Degraw Avenue when it struck a pedestrian crossing at an unmarked, mid-block location. The pedestrian was incapacitated. (Pedestrian age: 21 years old)

5. March 16, 2007 **5:04 AM** **Dawn/Snow**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Washington Place. The vehicle was traveling north on Teaneck Road when it struck pedestrian crossing at an unsignalized intersection with no marked crosswalks. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 77 years old)

6. March 20, 2007 **8:01 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Palisade Avenue approximately 50 feet south of Merrison Street. The vehicle was traveling south on Palisade Avenue when it struck crossing at an unmarked, mid-block location. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 60 years old)

7. March 25, 2007 **12:22 AM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Roemer Avenue and Lilbet Road. The vehicle was traveling east on Roemer Avenue when it struck a pedestrian (police officer) who was standing next to a parked car. The driver fled the scene but was later stopped. The driver was cited for driving while under the influence. No injuries were reported. (Pedestrian age: 74 years old)

8. March 29, 2007 **10:10 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred in a parking lot at 247 Degraw Avenue. The pedestrian was struck by a vehicle backing out of a parking space. The pedestrian fled the scene. No injuries were reported. (Pedestrian age: unknown)

9. April 2, 2007 **5:27 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Circle Driveway and Teaneck Road. A vehicle was traveling west on Circle Driveway when it made a right turn onto and struck a pedestrian who was crossing at an unsignalized intersection with no marked crosswalks. The pedestrian fled the scene on foot. No injuries were reported. (Pedestrian age: unknown)

10. April 6, 2007 **11:00 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Minell Place. A vehicle was traveling south on Teaneck Road when it made a left turn and struck a pedestrian in a marked crosswalk. The driver fled the scene. The pedestrian reported minor injuries. (Pedestrian age: 54 years old)

11. April 9, 2007 **5:00 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Tryon Avenue, approximately 25 feet east of Rensselaer Road. The vehicle was traveling east on Tryon Avenue when it struck a pedestrian crossing in a marked crosswalk. The driver fled the scene. The pedestrian suffered moderate injuries. (Pedestrian age: 20 years old)

12. April 10, 2007 **3:08 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Cedar Lane, approximately 100 feet east of Palisade Avenue. A pedestrian was struck while walking on the sidewalk by a vehicle pulling out of a parking lot. The pedestrian suffered moderate injuries. (Pedestrian age: 31 years old)

13. April 16, 2007 **6:45 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred in the municipal parking lot on Teaneck Road. The pedestrian was struck by a vehicle backing out of a parking space. The driver fled the scene. The pedestrian suffered minor injuries. (Pedestrian age: 11 years old)

14. April 30, 2007 **7:20 AM** **Daylight/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Cedar Lane. The vehicle was traveling north on Teaneck Road when it struck a pedestrian in a marked crosswalk. The pedestrian was taken to the hospital with moderate injuries. (Pedestrian age: 83 years old)

15. May 4, 2007 **7:18 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred in the parking lot of 980 Teaneck Road. The pedestrian was struck by a vehicle backing out of a parking space. The pedestrian was taken to the hospital with moderate injuries. (Pedestrians age: 45 years old)

16. May 12, 2007 **11:02 PM** **Dark/Rain**

A crash involving a vehicle and three (3) pedestrians occurred on Windsor Road, approximately 90 feet from Winthrop Road. The vehicle was traveling south on Windsor Road when it struck the pedestrians who were walking in the street. The vehicle fled the scene. Minor to moderate injuries were reported and the three (3) pedestrians were taken to the hospital. (Pedestrian ages: 15 years old, 15 years old, and 14 years old)

17. May 12, 2007 **11:23 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Genesee Avenue. The vehicle was traveling north on Teaneck Road when it struck a pedestrian who was crossing at an unsignalized intersection with no marked crosswalks. The pedestrian suffered moderate injuries. (Pedestrian age: 44 years old)

18. May 15, 2007 **1:07 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Degraw Avenue approximately 125 feet west of Teaneck Road. The vehicle was traveling west on Degraw Avenue when it struck a pedestrian standing next to a car parked in a No Stopping/No Standing zone. The pedestrian suffered minor injuries. (Pedestrian age: 65 years old)

19. May 17, 2007 **8:37 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred on Cedar Lane approximately 50 feet east of River Road. The vehicle was traveling east on Cedar Lane when it struck a pedestrian crossing at an unmarked, mid-block location. The driver fled the scene, but was later found and cited for DWI and reckless driving. The pedestrian was incapacitated. (Pedestrian age: 39 years old)

20. May 29, 2007 **8:53 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Grayson Place. The vehicle was traveling east on Grayson Place when it made a left turn and struck a pedestrian crossing in a marked crosswalk. The pedestrian suffered minor injuries. (Pedestrian age: 35 years old)

21. June 17, 2007 **2:29 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Teaneck Road, approximately 100 feet from Holland Terrace. The vehicle was turning left from the driveway at 818 Teaneck Road when it struck a pedestrian crossing at an unmarked, mid-block location. The pedestrian suffered moderate injuries. (Pedestrian age: 33 years old)

22. June 23, 2007 **12:02 PM** **Daylight/Clear**

A crash involving a vehicle and two (2) pedestrians occurred at the intersection of Teaneck Road and. The vehicle was turning left from Beveridge Street after stopping at a stop sign when it struck the pedestrians who were crossing at an unsignalized intersection with no marked crosswalks. Both pedestrians suffered minor injuries. (Pedestrian ages: 52 years old and 39 years old)

23. June 25, 2007 **6:55 PM** **Dusk/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of State Street and Teaneck Road. The vehicle was traveling north on Teaneck Road when it made a left turn and struck a pedestrian crossing in a marked crosswalk. The pedestrian suffered moderate injuries. (Pedestrian age: 9 years old)

24. July 19, 2007 **2:54 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and Grange Road. The vehicle was turning left from Grange Road after stopping at a stop sign when it struck a pedestrian in marked crosswalk. The pedestrian suffered moderate injuries. (Pedestrian age: 27 years old)

25. July 28, 2007 **1:23 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Tryon Avenue. The vehicle was traveling north on Teaneck Road and struck a pedestrian who was crossing against the light in a marked crosswalk and attempting to catch a bus. The pedestrian suffered moderate injuries. (Pedestrian age: 43 years old)

26. August 18, 2007 **12:19 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Teaneck Road approximately 75 feet north of Holland Terrace. The vehicle was traveling north on Teaneck Road when it struck a pedestrian crossing at an unmarked, mid-block location. The pedestrian was incapacitated and taken to the hospital. (Pedestrian age: 24 years old)

27. August 25, 2007 **Not Noted** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Lindbergh Blvd. The vehicle was traveling north on Teaneck Road when it turned right and struck a pedestrian in a marked crosswalk. The pedestrian suffered minor injuries. (Pedestrian age: 40 years old)

28. September 5, 2007 **5:10 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Cedar Lane, approximately 20 feet west of River Road. The vehicle was traveling west on Cedar Lane when it struck a pedestrian crossing at an unmarked, mid-block location in front of the bus. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 20 years old)

29. September 8, 2007 **7:53 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred on Teaneck Road, approximately 50 feet south of Washington Place. The vehicle was traveling south on Teaneck Road when it struck a pedestrian crossing from at an unmarked, mid-block location. The pedestrian suffered moderate injuries. (Pedestrian age: 90 years old)

30. September 11, 2007 **7:31 PM** **Dusk/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and Grange Road. The vehicle struck a pedestrian crossing Cedar Lane in a marked crosswalk. The driver fled the scene. No injuries were reported. (Pedestrian age: 42 years old)

31. September 16, 2007 **8:31 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cherry Lane and Palisade Avenue. The vehicle was traveling south on Palisade Avenue when it made a left turn and struck a pedestrian who was crossing at an unsignalized intersection with no marked crosswalks. The pedestrian suffered minor injuries and was taken to the hospital. It was also noted that the pedestrian was intoxicated at the time. (Pedestrian age: unknown)

32. October 19, 2007 **2:06 PM** **Daylight/Rain**

A crash involving a vehicle and a pedestrian occurred in the parking lot of Walgreens on Teaneck Road approximately 500 feet from State Street. The vehicle's side mirror struck a pedestrian walking through the parking lot. The pedestrian suffered minor injuries. (Pedestrian age: 66 years old)

33. October 29, 2007 **10:09 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Lindbergh Boulevard and Redmond Street. The vehicle was traveling south on Redmond Street when it made a left turn and struck a pedestrian in a marked crosswalk. No injuries were reported. (Pedestrian age: 26 years old)

34. November 1, 2007 **8:07 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Wyndham Road and Garrison Avenue. The vehicle was traveling south on Garrison Avenue when it made a left turn and struck a pedestrian in a marked crosswalk. The pedestrian suffered moderate injuries. (Pedestrian age: 34 years old)

35. November 8, 2007 **5:21 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Vandelinda Avenue and Teaneck Road. The vehicle was traveling north on Teaneck Road when it made a left turn and struck a pedestrian in a marked crosswalk. The pedestrian suffered minor injuries. (Pedestrian age: 19 years old)

36. November 12, 2007 **6:05 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and Queen Anne Road. The vehicle was traveling north on Queen Anne Road when it turned left and struck a pedestrian in a marked crosswalk. The pedestrian suffered minor injuries. Cell phone use by the pedestrian was cited as a potential factor in the crash. The pedestrian was taken to the hospital. (Pedestrian age: 26 years old)

37. November 15, 2007 **3:22 PM** **Daylight/Rain**

A crash involving a vehicle and a pedestrian occurred on River Road, approximately 300 feet from Martense Avenue. The vehicle was traveling north on River Road when it struck a pedestrian who crossing the roadway at an unmarked, mid-block location. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 22 years old)

38. November 19, 2007 **5:40 PM** **Dark/Clear**

A possible crash involving a vehicle and a pedestrian occurred at the intersection of Taft Road and West Englewood Avenue. The vehicle was proceeding north on Taft Road after stopping at a stop sign when a pedestrian either was struck by or struck the vehicle. Pedestrian fled the scene. No injuries were reported. (Pedestrian age: unknown)

39. November 22, 2007 **6:59 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred in the parking lot of the CVS on Cedar Lane. The vehicle struck a pay phone and then struck a pedestrian while reversing in the parking lot. The vehicle fled the scene. No injuries were reported. (Pedestrian age: 34 years old)

40. November 23, 2007 **3:32 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Cedar Lane, approximately 200 feet west of Windsor Road. The vehicle was traveling east on Cedar Lane when it struck a pedestrian crossing in a marked, mid-block crosswalk. The pedestrian suffered minor injuries. (Pedestrian age: 29 years old)

41. November 27, 2007 **6:31 AM** **Dawn/Clear**

A crash involving a vehicle and a pedestrian occurred on Queen Anne Road approximately 75 feet south of Grayson Place. The vehicle was traveling north on Queen Anne Road when it struck a pedestrian crossing at an unmarked, mid-block location to enter a parked vehicle. The driver fled the scene. The pedestrian was incapacitated and was taken to the hospital. (Pedestrian age: 51 years old)

42. December 13, 2007 **3:30 PM** **Daylight/Snow**

A crash involving a vehicle and a pedestrian occurred at the intersection of Selvage Avenue and Alicia Avenue. The vehicle was traveling north on Alicia Avenue when it struck a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The driver fled the scene. The pedestrian suffered minor injuries. (Pedestrian age: 15 years old)

43. December 17, 2007 **8:57 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of West Forest Avenue and Katherine Street. The vehicle was traveling west on West Forest Avenue when it struck a pedestrian who was walking in the roadway. The driver fled the scene. The pedestrian suffered minor injuries. (Pedestrian age: 17 years old)

44. December 27, 2007 **5:59 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and Lincoln Place. The vehicle was traveling south on Lincoln Place when it made a left turn and struck a pedestrian in a marked crosswalk. The pedestrian suffered minor injuries. (Pedestrian age: 62 years old)

45. January 8, 2008 **7:52 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Teaneck Road approximately 50 feet north of Amsterdam Avenue. The vehicle was traveling south on Teaneck Road when it struck a pedestrian crossing the roadway at an unmarked, mid-block location. The pedestrian suffered minor injuries. (Pedestrian age: 13 years old)

46. January 16, 2008 **11:49 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and Queen Anne Road. The vehicle was traveling south on Queen Anne Road when it made a left turn onto Cedar Lane and struck a pedestrian in a marked crosswalk. The pedestrian suffered minor injuries. (Pedestrian age: 59 years old)

47. January 17, 2008 **9:34 PM** **Dark/Rain**

A crash involving a vehicle and two (2) pedestrians occurred at the intersection of Cedar Lane and Garrison Avenue. The vehicle was traveling west on Cedar Lane when it made a left turn onto Garrison Avenue and struck both pedestrians in a marked crosswalk. Wet road conditions were cited as a potential contributing factor in the crash. The pedestrians suffered minor injuries. (Pedestrian ages: 55 years old and 54 years old)

48. February 4, 2008 **10:09 PM** **Dark/Snow**

A crash involving a vehicle and a pedestrian occurred at the intersection of Palisade Avenue and Cedar Lane. The vehicle was traveling east on Cedar Lane when it made a left turn onto Palisade Avenue and struck a pedestrian in a marked crosswalk. The pedestrian suffered moderate injuries.

(Pedestrian age: 27 years old)

49. February 11, 2008 **2:40 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Cedar Lane approximately 75 feet east of Garrison Avenue. The vehicle pedestrian was attempting to parallel park on-street when it struck a pedestrian crossing at an unmarked, mid-block location. The pedestrian suffered moderate injuries. (Pedestrian age: 23 years old)

50. February 18, 2008 **6:14 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred on Teaneck Road approximately 50 feet north of Amory Place. The vehicle was traveling north on Teaneck Road when it struck a pedestrian crossing the road at an unmarked, mid-block location. The pedestrian suffered minor injuries. (Pedestrian age: 53 years old)

51. March 2, 2008 **5:02 AM** **Dawn/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Queen Anne Road and West Forest Avenue. The vehicle was traveling north on Queen Anne Road when it made an illegal right turn on red onto West Forest Avenue struck a pedestrian in a marked crosswalk. The pedestrian suffered moderate injuries. (Pedestrian age: 72 years old)

52. March 8, 2008 **6:57 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Bilton Street and Teaneck Road. The vehicle was traveling east on Bilton Street when it made a right turn onto Teaneck Road and struck a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The pedestrian suffered minor injuries. (Pedestrian age: 51 years old)

53. March 28, 2008 **9:58 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred in the parking lot of 61 Church Street. The vehicle was traveling north through the parking lot when it struck a pedestrian. Lighting was cited as a potential contributing factor to the crash. The pedestrian suffered minor injuries. (Pedestrian age: 20 years old)

54. April 10, 2008 **10:06 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred on Teaneck Road approximately 40 feet south of Genesee Avenue. The vehicle was traveling south on Teaneck Road when it struck a pedestrian who was crossing the roadway at an unmarked, mid-block location. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 59 years old)

55. May 3, 2008 **4:54 AM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Degraw Avenue and Queen Anne Road. The vehicle was traveling south on Queen Anne Road when it made a left turn and struck a pedestrian in a marked crosswalk. The vehicle fled the scene. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 26 years old)

56. May 9, 2008 **8:18 AM** **Daylight/Rain**

A crash involving a vehicle and a pedestrian occurred on Hartwell Street approximately 500 feet south of East Cedar Lane. The vehicle was traveling south on Hartwell Street when it struck a pedestrian who was crossing the roadway at an unmarked, mid-block location. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 10 years old)

57. May 19, 2008 **5:48 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Glenwood Avenue approximately 15 feet south of Roosevelt Street. The vehicle was traveling north on Glenwood Avenue when it struck a pedestrian crossing the roadway from behind a parked vehicle at an unmarked, mid-block location. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 14 years old)

58. May 23, 2008 **2:17 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and River Road. The vehicle was traveling east on Cedar Lane when it struck a pedestrian who crossed against the traffic signal in a marked crosswalk. The pedestrian was incapacitated as a result of the crash and taken to the hospital. (Pedestrian age: 21 years old)

59. June 27, 2008 **12:40 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Queen Anne Road and The Plaza (Ayers Court). A vehicle backed up on The Plaza and struck a pedestrian in a marked crosswalk. The vehicle left the scene. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 15 years old)

60. July 22, 2008 **10:35 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred on Queen Anne Road approximately 50 feet south of Sherman Avenue. The vehicle was traveling north on Queen Anne Road when it struck a pedestrian crossing at an unmarked, mid-block location in front of a stopped bus. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 16 years old)

61. August 19, 2008 **12:04 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred in a parking lot at 540 Cedar Lane. The pedestrian was struck by a vehicle backing out of a parking space. The driver fled the scene. The pedestrian suffered minor injuries. (Pedestrian age: 76 years old)

62. August 31, 2008 **8:59 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the driveway for 1072 Trafalgar Street, approximately 200 feet south of Emerson Avenue. The vehicle was backing out of the driveway at when it struck a pedestrian on the sidewalk. The pedestrian suffered minor injuries. (Pedestrian age: 79 years old)

63. September 12, 2008 **4:03 PM** **Daylight/Rain**

A crash involving a vehicle and a pedestrian occurred on Teaneck Road approximately 60 feet north of East Forest Avenue. The vehicle was traveling south on Teaneck Road when it struck a pedestrian who crossing at an unmarked, mid-block location the roadway between two vehicles that were stopped in the outside lane. The pedestrian suffered minor injuries. (Pedestrians age: 15 years old)

64. October 1, 2008 **1:04 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred in the Municipal parking lot on Teaneck Road. The pedestrian was struck by a vehicle backing out of a parking space. No injury was reported. (Pedestrian age: 83 years old)

65. October 1, 2008 **7:41 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Queen Anne Road and Grayson Place. The vehicle was traveling north on Queen Anne Road when it made left turn onto Grayson Place and struck a pedestrian in a marked crosswalk. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 90 years old)

66. October 06, 2008 **9:55 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Cedar Lane approximately 25 feet east of Garrison Avenue. The vehicle was traveling west on Cedar Lane when it struck a pedestrian (Delivery truck driver) standing beside a double parked vehicle. The vehicle fled the scene. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 28 years old)

67. October 16, 2008 **7:36 AM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and River Road. The vehicle was traveling south on River Road when it made a left turn onto Cedar Lane and struck a pedestrian in a marked crosswalk. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: unknown)

68. October 26, 2008 **8:10 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred on Queen Anne Road approximately 150 feet south of West Forest Avenue. The vehicle was traveling south on Queen Anne Road when the driver struck a pedestrian who crossing at an unmarked, mid-block location. The absence of street lighting was noted as a possible factor in the crash. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 23 years old)

69. October 28, 2008 **8:15 AM** **Daylight/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Queen Anne Road and Farrant Terrace. The vehicle was traveling south on Queen Anne Road when it made a right onto Farrant Terrace and struck a pedestrian in a marked crosswalk. The vehicle fled the scene. The pedestrian suffered minor injuries. (Pedestrian age: 58 years old)

70. November 5, 2008 **8:56 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of River Road and Cedar Lane. The vehicle was traveling north on River Road when it made an illegal right turn on red and struck a pedestrian crossing with the signal in a marked crosswalk. The pedestrian suffered moderate injuries. (Pedestrian age: 27 years old)

71. November 5, 2008 **6:27 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on River Road approximately 300 ft. south of Martense Avenue. The vehicle was traveling north on River Road when it struck the pedestrian crossing at an unmarked, mid-block location. The pedestrian suffered moderate injuries. (Pedestrian age: 77 years old)

72. November 9, 2008 **11:49 PM** **Not Listed**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and West Englewood Avenue. The vehicle was traveling north on Teaneck Road when it struck a pedestrian crossing outside of a marked crosswalk. The driver of the vehicle fled the scene. The pedestrian was incapacitated due to the accident and was taken to the hospital. (Pedestrian age: 32 years old)

73. November 24, 2008 **8:45 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Windsor Road and Billington Road. The vehicle was traveling north on Windsor Road when it struck a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The pedestrian was incapacitated and was taken to the hospital. (Pedestrian age: 24 years old)

74. December 9, 2008 **7:41 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred in the Walgreens parking lot by the intersection of Teaneck Road and State Street. The vehicle was making a left turn in the parking lot when it struck a pedestrian. The driver fled the scene. The pedestrian suffered minor injuries. (Pedestrian age: 54 years old)

75. December 11, 2008 **6:37 AM** **Dawn/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Liberty Road and Teaneck Road. The vehicle was traveling south on South Washington Avenue/Teaneck Road when it turned left onto Liberty Road and struck a pedestrian in a marked crosswalk. The pedestrian suffered moderate injuries. A summons was issued to the driver. (Pedestrians age: 37 years old)

76. December 11, 2008 **4:15 PM** **Daylight/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Grayson Place. The vehicle was travelling south on Teaneck Road when it struck a pedestrian in a marked crosswalk. The driver fled the scene. (Pedestrian age: 13 years old)

77. December 17 2008 **2:45 PM** **Daylight/Clear**

A crash involving two (2) vehicles and a pedestrian occurred at the intersection of Sussex Road and Rutland Avenue. A vehicle was traveling east on Rutland Avenue when it ran a stop sign and struck a vehicle traveling south on Sussex, then a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 35 years old)

78. December 30, 2008 **2:42 PM** **Daylight/Clear**

A crash involving a vehicle and two (2) pedestrians occurred at the intersection of Cedar Lane and Garrison Avenue. The vehicle was traveling south on Garrison Avenue when it made a right turn onto Cedar Lane and struck two (2) pedestrians in a marked crosswalk. Sun glare was cited as a potential contributing factor. One (1) pedestrian suffered minor injury. (Pedestrians ages: 74 and 53)

79. January 7, 2009 **5:49 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and State Street. The vehicle was traveling north on Teaneck Road when it struck a pedestrian in a marked crosswalk. The pedestrian may have been crossing against the light, and the driver of the vehicle fled the scene. No injuries were reported. (Pedestrian age: 14 years old)

80. January 10, 2009 **2:12 AM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred on East Forest Avenue approximately 10 feet east of Summit Avenue. The vehicle was traveling east on East Forest Avenue when it struck a pedestrian waiting to enter the driver's side of a parked vehicle. The driver of the vehicle was cited for driving while intoxicated. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 38 years old)

81. January 16, 2009 **4:10 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and State Street. The vehicle was exiting the driveway at 1456 Teaneck Road when it struck a pedestrian walking south on the sidewalk. No injuries were reported. (Pedestrian age: 53 years old)

82. January 21, 2009 **6:43 AM** **Dawn/Clear**

A crash involving a vehicle and a pedestrian occurred on Cedar Lane approximately 75 feet east of Prince Street. The vehicle was traveling east on Cedar Lane when it struck a pedestrian crossing the roadway at an unmarked, mid-block location. The pedestrian was issued a summons for improper crossing of the roadway. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrians age: unknown)

83. January 27, 2009 **3:39 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Teaneck Road approximately 10 feet from Van Buskirk Road. The vehicle was traveling north on Teaneck Road when it struck a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The pedestrian was incapacitated and taken to the hospital. (Pedestrian age: 12 years old)

84. January 31, 2009 **5:45 PM** **Dark/Clear**

A crash involving a vehicle and two (2) pedestrians occurred on Roemer Avenue approximately 100 feet west of New Bridge Road. The vehicle was traveling west on Roemer Avenue when it struck two (2) pedestrians crossing at an unmarked, mid-block location. Lighting was cited as a potential factor in the crash. Both pedestrians suffered moderate injuries and were taken to the hospital. (Pedestrian ages: 27 years old and unknown)

85. February 4, 2009 **5:55 PM** **Dusk/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of River Road and Martense Avenue. The vehicle was traveling west on Martense Avenue when it made a right turn onto River Road and struck a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 23 years old)

86. February 14, 2009 **2:16 AM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Degraw Avenue and Teaneck Road. The vehicle was traveling south on Teaneck Road when it made a left onto Degraw Avenue and struck a pedestrian in a marked crosswalk. The vehicle fled the scene. The pedestrian suffered minor injuries. (Pedestrian age: 20 years old)

87. February 18, 2009 **6:45 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of River Road and Ramapo Road. The vehicle was traveling south on River Road when it struck a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 19 years old)

88. February 23, 2009 **8:12 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Tryon Avenue. The vehicle was traveling north on Teaneck Road when it struck a pedestrian in a marked crosswalk. The pedestrian may have been crossing against the light, and the driver of the vehicle fled the scene. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 48 years old)

89. February 27, 2009 **7:27 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and Queen Anne Road. The vehicle was traveling south on Queen Anne Road when it made a left turn onto Cedar Lane and struck a pedestrian in a marked crosswalk. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 35 years old)

90. March 4, 2009 **8:01 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Cedar Lane approximately 70 feet west of River Road. The vehicle was traveling east on Cedar Lane when it was struck by a pedestrian crossing at an unmarked, mid-block crossing location. The pedestrian suffered moderate injuries. (Pedestrian age: 27 years old)

91. March 6, 2009 **11:45 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Palisade Avenue and Manor Court. The vehicle was traveling south on Palisade Avenue when it made a right turn on onto Manor Court and struck a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The pedestrian suffered minor injuries. (Pedestrian age: 51 years old)

92. March 7, 2009 **6:10 PM** **Dusk/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Johnson Avenue. The vehicle was traveling north on Teaneck Road when it made a left turn onto Johnson Avenue and struck a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 72 years old)

93. March 11, 2009 **8:00 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on Palisade Avenue approximately 25 feet north of West Englewood Avenue. The vehicle was traveling north on Palisade Avenue when it struck a pedestrian who had just exited a parked vehicle. The pedestrian suffered minor injuries. (Pedestrian age: 49 years old)

94. March 16, 2009 **4:57 PM** **Daylight/Sleet/Freezing Rain**

A crash involving a vehicle and a pedestrian occurred on Queen Anne Road approximately 50 feet south of Bogert Street. The vehicle was traveling south on Queen Anne Road when it was struck by a pedestrian crossing at an unmarked, mid-block crossing location. The pedestrian suffered moderate injuries. (Pedestrian age: 14 years old)

95. March 30, 2009 **8:59 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Robinson Street and Madison Avenue. The vehicle was traveling west on Robinson Street when it made a left turn onto Madison Avenue and struck a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 46 years old)

96. April 14, 2009 **6:47 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and River Road. The vehicle was traveling north on River Road when it made left turn and struck a pedestrian in a marked crosswalk. The pedestrian suffered minor injuries. (Pedestrian age: 24 years old)

97. April 17, 2009 **6:38 PM** **Dusk/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of American Legion Drive and Cedar Lane. The vehicle was traveling west on Cedar Lane when it made a left turn onto American Legion Drive during an exclusive left turn phase and struck a pedestrian in a marked crosswalk. The pedestrian stated that they were unable to see the pedestrian signal due to glare. The pedestrian suffered minor injuries. (Pedestrian age: 58 years old)

98. May 6, 2009 **10:23 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred on Edgemont Place approximately 5 feet east of Queen Anne Road. The vehicle was traveling south on Queen Anne Road when it turned left onto Edgemont Place and struck a pedestrian in a marked crosswalk. The pedestrian suffered moderate injuries. (Pedestrian age: 47 years old)

99. May 26, 2009 **4:25 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and American Legion Drive. The pedestrian stated that they were waiting to cross Cedar Lane when they lost their balance, fell forward and used a passing vehicle to regain balance. No injuries were reported. (Pedestrian age: 16 years old)

100. June 10, 2009 **11:52 AM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred at the intersection of Vandelinda Avenue and Queen Anne Road. The vehicle was traveling west on Vandelina Avenue when it turned right onto Queen Anne Road and struck a pedestrian in a marked crosswalk. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 28 years old)

101. June 13, 2009 **3:58 PM** **Daylight/Rain**

A crash involving a vehicle and a pedestrian occurred on Sussex Road approximately 75 feet south of Billington Road. The vehicle was traveling west on Billington Road when it made a left turn onto Sussex Road and struck a pedestrian (a Postal carrier) who was crossing the roadway at an unmarked, mid-block location. The pedestrian was incapacitated. (Pedestrian age: 22 years old)

102. June 15, 2009 **12:11 PM** **Daylight/Clear**

A crash involving a vehicle and a pedestrian occurred on West Forest Avenue approximately 40 feet west of Teaneck Road. The vehicle was traveling east on West Forest Avenue when it struck the pedestrian who was crossing at an unmarked, mid-block location. The pedestrian was taken to the hospital with minor injuries. (Pedestrian age: 18 years old)

103. June 21, 2009 11:21 PM Dark/Clear

A crash involving a vehicle and a pedestrian occurred at the intersection of Hickory Street and Degraw Avenue. The vehicle was traveling west on Degraw Avenue when it made a left turn onto Hickory Street and and struck a pedestrian crossing at an unsignalized intersection with no marked crosswalks. The driver of the vehicle fled the scene. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 20 years old)

104. June 26, 2009 1:48 PM Daylight/Overcast

A crash involving a vehicle and a pedestrian occurred at the intersection of Queen Anne Road and Ayers Court. The vehicle was traveling north on Queen Anne Road when it made a left turn onto Ayers Court and struck a pedestrian crossing in a marked crosswalk . No injuries were reported. (Pedestrian age: 80 years old)

105. June 29, 2009 2:20 PM Daylight/Clear

A crash involving a vehicle and a pedestrian occurred at the intersection of River Road and Cedar Lane. The vehicle was traveling north on River Road when it made a right turn on red onto Cedar Lane and struck a pedestrian waiting in a marked crosswalk. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 72 years old)

106. July 24, 2009 4:59 PM Daylight/Clear

A crash involving a vehicle and a pedestrian occurred on Forest Avenue approximately 100 feet east of Sussex Road. The vehicle was parking on-street when two (2) pedestrians crossed into the street between parked vehicles. The vehicle struck pedestrians and pinned one (1) pedestrian against a parked vehicle. Both pedestrians suffered moderate injuries. (Pedestrian ages: 2 years old and unknown)

107. August 10, 2009 1:25 PM Daylight/Clear

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and Broad Street. The vehicle was traveling north on Broad street when it made a left turn onto Cedar Lane and struck a pedestrian crossing in a marked crosswalk. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 56 years old)

108. September 14, 2009 7:19 AM Daylight/Clear

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Degraw Avenue. The vehicle was turning left onto Degraw Avenue when it struck two (2) pedestrians crossing in a marked crosswalk. Both pedestrians were incapacitated and taken to the hospital. (Pedestrian ages: 34 years old and unknown)

109. September 24, 2009 7:26 PM Dark/Clear

A crash involving a vehicle and a pedestrian occurred on Teaneck Road near the intersection of of Amsterdam Avenue. The vehicle was exiting the driveway at 1510 Teaneck Road when it struck a pedestrian. The pedestrian was walking north on the sidewalk when the collision occurred. The pedestrian suffered minor injuries. (Pedestrian age: 59 years old)

110. October 1, 2009 7:57 AM Daylight/Clear

A crash involving a vehicle and two (2) pedestrians occurred at the intersection of West Englewood

Avenue and Sussex Road. The vehicle was traveling east on West Englewood Avenue when it made a left turn onto Sussex Road and struck two (2) pedestrians who were crossing in a marked crosswalk. The pedestrians suffered moderate injuries and were taken to the hospital. (Pedestrian ages: 13 years old and 43 years old)

111. October 27, 2009 2:50 PM Daylight/Rain

A crash involving a vehicle and a pedestrian occurred in the CVS parking lot on Cedar Lane west of Grange Road. The pedestrian was struck by a vehicle backing out of a parking space. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 88 years old)

112. October 27, 2009 6:41 PM Daylight/Rain

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Lindberg Boulevard. The vehicle had exited the Holy Name Hospital parking lot and proceeded east on Lindbergh Avenue when it struck a pedestrian crossing in a marked. The driver of the vehicle fled the scene. The pedestrian suffered minor injuries. (Pedestrian age: 11 years old)

113. October 27, 2009 10:34 PM Dark/Rain

A crash involving a vehicle and a pedestrian occurred at the intersection of Degraw Avenue and Queen Anne Road. The vehicle was traveling south on Queen Anne Road when it made a left turn onto Degraw Avenue and struck a pedestrian crossing in a marked crosswalk when. Heavy rain and low visibility were cited in the report. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 27 years old)

114. November 7, 2009 7:42 PM Dark/Clear

A crash involving a vehicle and a pedestrian occurred on Cedar Lane approximately 50 feet east of Queen Anne Road. The vehicle was traveling east on Cedar Lane when it struck a pedestrian who was crossing at an unmarked, mid-block location. No injuries were reported. (Pedestrian age: 58 years old)

115. November 12, 2009 3:40 PM Daylight/Clear

A crash involving a vehicle and a pedestrian occurred in the municipal parking lot on Teaneck Road. The pedestrian was struck by a vehicle backing out of a parking space. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 63 years old)

116. November 13, 2009 7:03 PM Dark/Rain

A crash involving a vehicle and a pedestrian occurred at the intersection of Grange Road and Cedar Lane. The vehicle was traveling east on Cedar Lane when it made a left turn onto Grange Road and struck a pedestrian crossing in marked crosswalk. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 25 years old)

117. November 18, 2009 8:43 PM Dark/Clear

A crash involving a vehicle and a pedestrian occurred at the intersection of Larch Avenue and Cedar Lane. The vehicle was traveling east on Cedar Lane when it made a right turn onto Larch Avenue and struck a pedestrian crossing in marked crosswalk. The driver of the vehicle fled the scene. The pedestrian suffered moderate injuries and was taken to the hospital. (Pedestrian age: 32 years old)

118. November 19, 2009 **8:31 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred on Degraw Avenue approximately 1000 feet west of Queen Anne Road. The vehicle was traveling east on Degraw Avenue when it struck a pedestrian crossing at an unmarked, mid-block location. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 34 years old)

119. November 25, 2009 **5:26 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and Elm Avenue. The vehicle was traveling north on Elm Avenue when it made a left turn onto Cedar Lane and struck a pedestrian crossing in a marked crosswalk. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 73 years old)

120. December 13, 2009 **7:02 PM** **Dark/Rain**

A crash involving a vehicle and a pedestrian occurred at the intersection of Cedar Lane and River Road. The vehicle was traveling east on Cedar Lane and made a left turn onto River Road when it struck a pedestrian crossing outside of a marked crosswalk. The pedestrian suffered minor injuries. (Pedestrian age: 26 years old)

121. December 18, 2009 **5:55 PM** **Dark/Clear**

A crash involving a vehicle and a pedestrian occurred on Cedar Lane approximately 175 feet west of Elm Avenue. The vehicle was traveling west on Cedar Lane when it struck a pedestrian crossing the roadway at an unmarked, mid-block location. The pedestrian suffered minor injuries. (Pedestrian age: Unknown)

122. December 21, 2009 **6:46 AM** **Dark/Blowing Snow**

A crash involving a vehicle and a pedestrian occurred at the intersection of Teaneck Road and Liberty Road. The vehicle was traveling south on Teaneck Road when it struck a pedestrian crossing at Liberty Avenue. A snow bank which blocked access to the sidewalk was cited as a contributing factor in the crash. The pedestrian suffered minor injuries and was taken to the hospital. (Pedestrian age: 55 years old)

APPENDIX F

COST ESTIMATES / IMPLEMENTATION MATRIX

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Cedar Ln (CR 60)

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

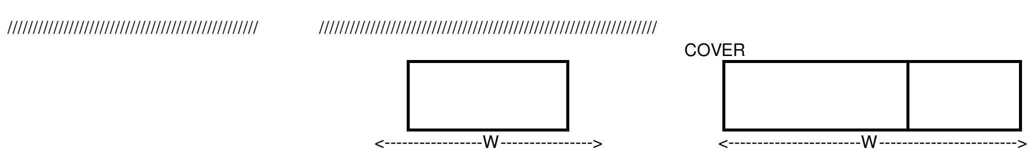
*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS



Type 1 W< 20 Feet

Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet)
H = Clear Height 14 To 23 feet (4)
L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Ab	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Ab	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)
H = Clear Height 14 feet (4)
L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 2 spans (Max. Span 125 feet)
H = Clear Height 14 feet (4)
L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)	Cost/ Sq. Foot
Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
		40 to 60 Degrees	No Piles	166.50
Minimum Length			Piles at Semi-Stub Abut.	194.75

100 feet			Piles at Piers & Semi-Stub Abut.	217.50
				0
	Length	Width	Cost per SF	Bridge Total

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

Rural		0	364356	0
		project length (miles	x cost per mile	= Amount
Urban		0	544280	0
		project length (miles	x cost per mile	= Amount

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

0	55	0
length of ramp or frontage rd. in feet	x cost per foot	= Amount

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	16,578.0	$13,096.62
Concrete Sidewalk, 4" Thick	SY	$44.00	778.0	$34,232.00
INCIDENTAL ITEMS TOTAL		=		$47,328.62

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0

Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Cedar Ln (CR 60)

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$47,328.62
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$47,328.62

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$4,259.58	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		4260
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0
		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$15,000	
		Less than 1.0	15,000		15000
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0

		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$79,588.20	

CONTINGENCIES & ESCALATION

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required. Maximum value = 10%

			Y			
			3.00		3.00	1.04
$79,588.20		1.030	1.04	$85,255		
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD		

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0
CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$85,255		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST — NO ROW

If there is no ROW cost on the project indicate “No ROW” the box

SUMMARY

Construction Estimate for Initial	$85,255
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$91,255
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Windsor Rd

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS

// //

COVER

<-----------------W----------------> <-----------------------W------------------------>

Type 1 W< 20 Feet Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet)

H = Clear Height 14 To 23 feet (4)

L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Ab	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Ab	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)

H = Clear Height 14 feet (4)

L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 2 spans (Max. Span 125 feet)

H = Clear Height 14 feet (4)

L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)		Cost/ Sq. Foot

Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
Minimum Length 100 feet		40 to 60 Degrees	No Piles	166.50
			Piles at Semi-Stub Abut.	194.75
			Piles at Piers & Semi-Stub Abut.	217.50

Length	Width	Cost per SF	Bridge Total
			0

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

		project length (miles	x cost per mile	= Amount
Rural		0	364356	0
Urban		0	544280	0

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

length of ramp or frontage rd. in feet	x cost per foot	= Amount
0	55	0

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	18,764.0	$14,823.56
Concrete Sidewalk, 4" Thick	SY	$44.00	667.0	$29,348.00

INCIDENTAL ITEMS TOTAL	=	$44,171.56

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0
Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Windsor Rd

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$44,171.56
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$44,171.56

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$3,975.44	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		3975
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0

		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$15,000	
		Less than 1.0	15,000		15000
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0
		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$76,147.00	

CONTINGENCIES & ESCALATION

			Y			
Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required. Maximum value = 10%			3.00		3.00	1.04
$76,147.00		1.030	1.04	$81,569		
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD		

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0

CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$81,569		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST NO ROW

If there is no ROW cost on the project indicate “No ROW” the box

SUMMARY

Construction Estimate for Initial	$81,569
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$87,569
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Teaneck Rd (CR 39)

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS

// //

COVER

<-----------------W---------------> <-----------------------W----------------------->

Type 1 W< 20 Feet

Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet)
H = Clear Height 14 To 23 feet (4)
L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Al	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Al	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)
H = Clear Height 14 feet (4)
L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 2 spans (Max. Span 125 feet)
H = Clear Height 14 feet (4)
L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)	Cost/ Sq. Foot
Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
		40 to 60 Degrees	No Piles	166.50
Minimum Length			Piles at Semi-Stub Abut.	194.75

100 feet			Piles at Piers & Semi-Stub Abut.	217.50
				0
	Length	Width	Cost per SF	Bridge Total

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

Rural		0	364356	0
		project length (miles	x cost per mile	= Amount
Urban		0	544280	0
		project length (miles	x cost per mile	= Amount

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

0	55	0
length of ramp or frontage rd. in feet	x cost per foot	= Amount

DRAINAGE TOTAL =	0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	19,614.0	$15,495.06
Concrete Sidewalk, 4" Thick	SY	$44.00	2,223.0	$97,812.00
INCIDENTAL ITEMS TOTAL		=		$113,307.06

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0

Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Teaneck Rd (CR 39)

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$113,307.06
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$113,307.06

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$10,197.64	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		10198
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0
		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$15,000	
		Less than 1.0	15,000		15000
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0

		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$151,504.70	

CONTINGENCIES & ESCALATION

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required. Maximum value = 10%			Y 3.00		3.00	1.04
$151,504.70		1.030	1.04	$162,292		
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD		

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$0.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0

CHANGE ORDER CONTINGENCY AMOUNT = FALSE

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$162,292		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST — NO ROW

If there is no ROW cost on the project indicate “No ROW” the box

SUMMARY

Construction Estimate for Initial	$162,292
Construction Engineering (CE)	$0
Contingencies	FALSE
Utilities Relocations	NO UTILITIES
Total Construction Cost	$162,292
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Intersection of Teaneck Rd (CR 39) & Werner Pl/Canterbury Ct

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS

COVER

<-----------------W---------------->

Type 1 W< 20 Feet

<-----------------------W----------------------->

Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet)

H = Clear Height 14 To 23 feet (4)

L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Ab	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Ab	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)

H = Clear Height 14 feet (4)

L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 2 spans (Max. Span 125 feet)

H = Clear Height 14 feet (4)

L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)	Cost/ Sq. Foot
Width at Least		0 to 40	No Piles	157.00
40 feet		Degrees	Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
		40 to 60	No Piles	166.50
Minimum Length		Degrees	Piles at Semi-Stub Abut.	194.75
100 feet			Piles at Piers & Semi-Stub Abut.	217.50

			0
Length	Width	Cost per SF	Bridge Total

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

Rural		0	364356	0
		project length (miles	x cost per mile	= Amount
Urban		0	544280	0
		project length (miles	x cost per mile	= Amount

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

0	55	0
length of ramp or frontage rd. in feet	x cost per foot	= Amount

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	2,768.1	$2,186.80

Traffic Markings, Thermoplastic	SF	$4.21	1,644.2	$6,922.08
Removal of Traffic Stripes	LF	$0.47	1,049.0	$493.03
Regulatory and Warning Sign	SF	$30.04	0.0	$0.00
INCIDENTAL ITEMS TOTAL		=		$9,601.91

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0
Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Intersection of Teaneck Rd (CR 39) & Werner Pl/Canterbury Ct

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$9,601.91
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$9,601.91

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$864.17	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		864
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	

		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0
		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$0	
		Less than 1.0	15,000		0
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0
		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$23,466.08	

CONTINGENCIES & ESCALATION

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required.
Maximum value = 10%

			Y			
			3.00		3.00	1.04
$23,466.08		1.030	1.04	$25,137		
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD		

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0

CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$25,137		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST — NO ROW

If there is no ROW cost on the project indicate “No ROW” the box

SUMMARY

Construction Estimate for Initial	$25,137
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$31,137
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Intersection of Teaneck Rd (CR 39) & Cedar Ln (CR 60)

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS

// //

COVER

<-----------------W---------------->

Type 1 W< 20 Feet

<-----------------------W------------------------>

Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet)
H = Clear Height 14 To 23 feet (4)
L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Al	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Al	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)
H = Clear Height 14 feet (4)
L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 2 spans (Max. Span 125 feet)
H = Clear Height 14 feet (4)
L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)	Cost/ Sq. Foot
Width at Least		0 to 40	No Piles	157.00
40 feet		Degrees	Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
		40 to 60	No Piles	166.50
Minimum Length		Degrees	Piles at Semi-Stub Abut.	194.75
100 feet			Piles at Piers & Semi-Stub Abut.	217.50

Length	Width	Cost per SF	Bridge Total
			0

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

Rural		0	364356	0
		project length (miles	x cost per mile	= Amount
Urban		0	544280	0
		project length (miles	x cost per mile	= Amount

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

0	55	0
length of ramp or frontage rd. in feet	x cost per foot	= Amount

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	291.5	$230.29

Traffic Markings, Thermoplastic	SF	$4.21	1,117.1	$4,702.99
Removal of Traffic Stripes	LF	$0.47	0.0	$0.00
Regulatory and Warning Sign	SF	$30.04	12.0	$360.48
INCIDENTAL ITEMS TOTAL		=		$5,293.76

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0
Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Intersection of Teaneck Rd (CR 39) & Cedar Ln (CR 60)

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$5,293.76
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$5,293.76

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$476.44	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		476
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	

		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0
		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$0	
		Less than 1.0	15,000		0
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0
		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$18,770.19	

CONTINGENCIES & ESCALATION

			Y			
Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required. Maximum value = 10%			3.00		3.00	1.04
$18,770.19		1.030	1.04	$20,107		
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD		

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0

CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$20,107		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST NO ROW

If there is no ROW cost on the project indicate “No ROW” the box

SUMMARY

Construction Estimate for Initial	$20,107
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$26,107
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Roemer Ave

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

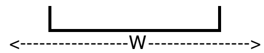
CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

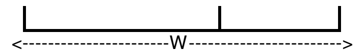
CULVERTS

// //

COVER



Type 1 W< 20 Feet



Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES
For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet)
H = Clear Height 14 To 23 feet (4)
L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Ab	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Ab	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)
H = Clear Height 14 feet (4)
L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 2 spans (Max. Span 125 feet)
H = Clear Height 14 feet (4)
L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)		Cost/ Sq. Foot

Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
		40 to 60 Degrees	No Piles	166.50
Minimum Length 100 feet			Piles at Semi-Stub Abut.	194.75
			Piles at Piers & Semi-Stub Abut.	217.50

Length	Width	Cost per SF	Bridge Total
			0

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

		project length (miles	x cost per mile	= Amount
Rural		0	364356	0
Urban		0	544280	0

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

length of ramp or frontage rd. in feet	x cost per foot	= Amount
0	55	0

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	0.0	$0.00
Concrete Sidewalk, 4" Thick	SY	$44.00	556.0	$24,464.00

INCIDENTAL ITEMS TOTAL	=		$24,464.00

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0
Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL	=			0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL	=				0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL	=			0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Roemer Ave

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$24,464.00
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$24,464.00

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$2,201.76	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		2202
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0

		5.0 to 10.0	8,000		0
		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$15,000	
		Less than 1.0	15,000		15000
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0
		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$54,665.76	

CONTINGENCIES & ESCALATION

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required.
Maximum value = 10%

			Y		
			3.00		3.00 1.04
$54,665.76		1.030	1.04	$58,558	
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD	

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0

CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$58,558		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST

If there is no ROW cost on the project indicate “No ROW” the box

NO ROW

SUMMARY

Construction Estimate for Initial	$58,558
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$64,558
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	River Rd (CR 41)

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

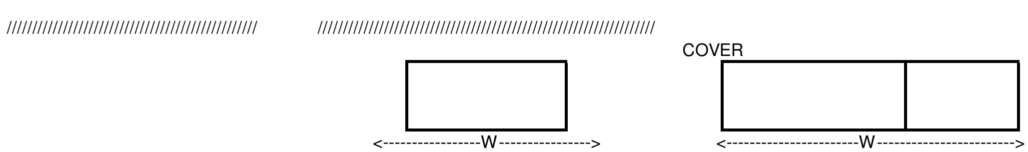
*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS



Type 1 W< 20 Feet　　　Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet)
H = Clear Height 14 To 23 feet (4)
L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Ab	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Ab	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)
H = Clear Height 14 feet (4)
L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 2 spans (Max. Span 125 feet)
H = Clear Height 14 feet (4)
L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)	Cost/ Sq. Foot
Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
		40 to 60 Degrees	No Piles	166.50
Minimum Length			Piles at Semi-Stub Abut.	194.75

100 feet			Piles at Piers & Semi-Stub Abut.	217.50
				0
	Length	Width	Cost per SF	Bridge Total

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

Rural		0	364356	0
		project length (miles	x cost per mile	= Amount
Urban		0	544280	0
		project length (miles	x cost per mile	= Amount

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

0	55	0
length of ramp or frontage rd. in feet	x cost per foot	= Amount

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	24,286.0	$19,185.94
Concrete Sidewalk, 4" Thick	SY	$44.00	2,567.0	$112,948.00
INCIDENTAL ITEMS TOTAL		=		$132,133.94

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0

Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	River Rd (CR 41)

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$132,133.94
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$132,133.94

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$11,892.05	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		11892
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0
		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$15,000	
		Less than 1.0	15,000		15000
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0

		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$172,025.99	

CONTINGENCIES & ESCALATION

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required.
Maximum value = 10%

Y: 3.00

3.00 1.04

$172,025.99		1.030	1.04	$184,274
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$0.00
0.1 to 0.5	$25,000.00	$25,000.00
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500	0
		0

For State Funded Projects, Contingencies for Change orders = 0
CHANGE ORDER CONTINGENCY AMOUNT = 25000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$184,274		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST — NO ROW

If there is no ROW cost on the project indicate “No ROW” the box

SUMMARY

Construction Estimate for Initial	$184,274
Construction Engineering (CE)	$0
Contingencies	$25,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$209,274
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Queen Anne Rd

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS

// //

COVER

Class 2 - Reconstruction, Widening Dualization


<-----------------W---------------->

Type 1 W< 20 Feet


<-----------------------W------------------------>

Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet)

H = Clear Height 14 To 23 feet (4)

L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Ab	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Ab	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)

H = Clear Height 14 feet (4)

L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 2 spans (Max. Span 125 feet)

H = Clear Height 14 feet (4)

L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)		Cost/ Sq. Foot

Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
Minimum Length 100 feet		40 to 60 Degrees	No Piles	166.50
			Piles at Semi-Stub Abut.	194.75
			Piles at Piers & Semi-Stub Abut.	217.50

			0
Length	Width	Cost per SF	Bridge Total

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

Rural		0	364356	0
		project length (miles	x cost per mile	= Amount
Urban		0	544280	0
		project length (miles	x cost per mile	= Amount

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

0	55	0
length of ramp or frontage rd. in feet	x cost per foot	= Amount

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	15,586.0	$12,312.94
Concrete Sidewalk, 4" Thick	SY	$44.00	0.0	$0.00

INCIDENTAL ITEMS TOTAL	=	$12,312.94

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0
Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Queen Anne Rd

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$12,312.94
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$12,312.94

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$1,108.16	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		1108
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0

		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$0	
		Less than 1.0	15,000		0
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0
		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$26,421.10	

CONTINGENCIES & ESCALATION

Y

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required.
Maximum value = 10%

3.00

3.00 1.04

$26,421.10		1.030	1.04	$28,302
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0
CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$28,302		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST NO ROW

If there is no ROW cost on the project indicate "No ROW" the box

SUMMARY

Construction Estimate for Initial	$28,302
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$34,302
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Phelps Rd

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS

// //

COVER


<-----------------W---------------->

Type 1 W< 20 Feet


<-----------------------W------------------------>

Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet)
H = Clear Height 14 To 23 feet (4)
L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Ab	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Ab	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)
H = Clear Height 14 feet (4)
L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 2 spans (Max. Span 125 feet)
H = Clear Height 14 feet (4)
L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)		Cost/ Sq. Foot

Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
		40 to 60 Degrees	No Piles	166.50
Minimum Length 100 feet			Piles at Semi-Stub Abut.	194.75
			Piles at Piers & Semi-Stub Abut.	217.50

			0
Length	Width	Cost per SF	Bridge Total

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

Rural		0	364356	0
		project length (miles	x cost per mile	= Amount
Urban		0	544280	0
		project length (miles	x cost per mile	= Amount

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

0	55	0
length of ramp or frontage rd. in feet	x cost per foot	= Amount

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	0.0	$0.00
Concrete Sidewalk, 4" Thick	SY	$44.00	139.0	$6,116.00

INCIDENTAL ITEMS TOTAL	=	$6,116.00

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0
Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Phelps Rd

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$6,116.00
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$6,116.00

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$0.00	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		0
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0

		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$2,000	
		Less than 1.0	15,000		2000
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0
		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$0	
		Less than 1.0	7,000		0
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$14,116.00	

CONTINGENCIES & ESCALATION

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required.
Maximum value = 10%

Y: 3.00 — 3.00 — 1.04

$14,116.00		1.030	1.04	$15,121
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0

CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$15,121		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST — NO ROW

If there is no ROW cost on the project indicate “No ROW” the box

SUMMARY

Construction Estimate for Initial	$15,121
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$21,121
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Palisade Ave

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

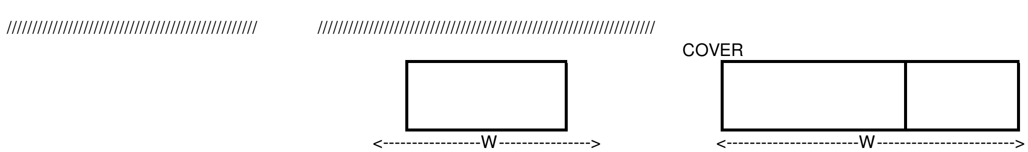
*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS



Type 1 W< 20 Feet   Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet)
H = Clear Height 14 To 23 feet (4)
L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub At	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub At	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)
H = Clear Height 14 feet (4)
L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 2 spans (Max. Span 125 feet)
H = Clear Height 14 feet (4)
L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)	Cost/ Sq. Foot
Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
		40 to 60 Degrees	No Piles	166.50
Minimum Length			Piles at Semi-Stub Abut.	194.75

100 feet			Piles at Piers & Semi-Stub Abut.	217.50

Length	Width	Cost per SF	Bridge Total
			0

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

		project length (miles	x cost per mile	= Amount
Rural		0	364356	0

		project length (miles	x cost per mile	= Amount
Urban		0	544280	0

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

length of ramp or frontage rd. in feet	x cost per foot	= Amount
0	55	0

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	22,478.0	$17,757.62
Concrete Sidewalk, 4" Thick	SY	$44.00	445.0	$19,580.00
INCIDENTAL ITEMS TOTAL		=		$37,337.62

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0

Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Palisade Ave

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$37,337.62
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$37,337.62

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$3,360.39	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		3360
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0
		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$15,000	
		Less than 1.0	15,000		15000
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0

		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$68,698.01	

CONTINGENCIES & ESCALATION

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required.
Maximum value = 10%

			Y			
			3.00		3.00	1.04
$68,698.01		1.030	1.04	$73,589		
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD		

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500	0
		0

For State Funded Projects, Contingencies for Change orders = 0
CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$73,589		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST — NO ROW
If there is no ROW cost on the project indicate “No ROW” the box

SUMMARY

Construction Estimate for Initial	$73,589
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$79,589
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Jefferson St

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS

// //

COVER

<-----------------W----------------> <-----------------------W------------------------>

Type 1 W< 20 Feet Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet)
H = Clear Height 14 To 23 feet (4)
L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Al	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Al	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)
H = Clear Height 14 feet (4)
L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 2 spans (Max. Span 125 feet)
H = Clear Height 14 feet (4)
L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)	Cost/ Sq. Foot

Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
Minimum Length 100 feet		40 to 60 Degrees	No Piles	166.50
			Piles at Semi-Stub Abut.	194.75
			Piles at Piers & Semi-Stub Abut.	217.50

Length	Width	Cost per SF	Bridge Total
			0

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

		project length (miles	x cost per mile	= Amount
Rural		0	364356	0
Urban		0	544280	0

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

length of ramp or frontage rd. in feet	x cost per foot	= Amount
0	55	0

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	0.0	$0.00
Concrete Sidewalk, 4" Thick	SY	$44.00	556.0	$24,464.00

INCIDENTAL ITEMS TOTAL	=	$24,464.00

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0
Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Jefferson St

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$24,464.00
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$24,464.00

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$2,201.76	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		2202
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0

		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$15,000	
		Less than 1.0	15,000		15000
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0
		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$54,665.76	

CONTINGENCIES & ESCALATION

Y

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required.
Maximum value = 10%

3.00 | 3.00 | 1.04

$54,665.76		1.030	1.04	$58,558
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	$25,000.00
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0

CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$58,558		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST

If there is no ROW cost on the project indicate "No ROW" the box

NO ROW

SUMMARY

Construction Estimate for Initial	$58,558
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$64,558
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	E Lawn Dr

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS

// //

COVER

<-----------------W----------------> <-----------------------W------------------------>

Type 1 W< 20 Feet Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet)
H = Clear Height 14 To 23 feet (4)
L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Ab	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Ab	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)
H = Clear Height 14 feet (4)
L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual
1 to 2 spans (Max. Span 125 feet)
H = Clear Height 14 feet (4)
L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)	Cost/ Sq. Foot

Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
		40 to 60 Degrees	No Piles	166.50
Minimum Length 100 feet			Piles at Semi-Stub Abut.	194.75
			Piles at Piers & Semi-Stub Abut.	217.50

			0
Length	Width	Cost per SF	Bridge Total

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

Rural		0	364356	0
		project length (miles	x cost per mile	= Amount
Urban		0	544280	0
		project length (miles	x cost per mile	= Amount

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

0	55	0
length of ramp or frontage rd. in feet	x cost per foot	= Amount

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	0.0	$0.00
Concrete Sidewalk, 4" Thick	SY	$44.00	1,500.0	$66,000.00

INCIDENTAL ITEMS TOTAL	=	$66,000.00

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0
Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	E Lawn Dr

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$66,000.00
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$66,000.00

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$5,940.00	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		5940
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0

		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$15,000	
		Less than 1.0	15,000		15000
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0
		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$99,940.00	

CONTINGENCIES & ESCALATION

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required. Maximum value = 10%			Y 3.00		3.00	1.04
$99,940.00		1.030	1.04	$107,056		
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD		

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0

CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$107,056		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST NO ROW

If there is no ROW cost on the project indicate “No ROW” the box

SUMMARY

Construction Estimate for Initial	$107,056
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$113,056
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Degraw Ave (CR 56)

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

CULVERTS

// //

COVER

<-----------------W----------------> <-----------------------W------------------------>

Type 1 W< 20 Feet Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet)

H = Clear Height 14 To 23 feet (4)

L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Ab	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Ab	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)

H = Clear Height 14 feet (4)

L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 2 spans (Max. Span 125 feet)

H = Clear Height 14 feet (4)

L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)		Cost/ Sq. Foot

Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
		40 to 60 Degrees	No Piles	166.50
Minimum Length 100 feet			Piles at Semi-Stub Abut.	194.75
			Piles at Piers & Semi-Stub Abut.	217.50

			0
Length	Width	Cost per SF	Bridge Total

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

Rural		0	364356	0
		project length (miles	x cost per mile	= Amount
Urban		0	544280	0
		project length (miles	x cost per mile	= Amount

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

0	55	0
length of ramp or frontage rd. in feet	x cost per foot	= Amount
DRAINAGE TOTAL =		0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	5,114.0	$4,040.06
Concrete Sidewalk, 4" Thick	SY	$44.00	0.0	$0.00

INCIDENTAL ITEMS TOTAL		=		$4,040.06

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0
Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Degraw Ave (CR 56)

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$4,040.06
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$4,040.06

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$363.61	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		364
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0

		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$0	
		Less than 1.0	15,000		0
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0
		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$17,403.67	

CONTINGENCIES & ESCALATION

			Y			
Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required. Maximum value = 10%			3.00		3.00	1.04
$17,403.67		1.030	1.04	$18,643		
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD		

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0

CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$18,643		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST	NO ROW
If there is no ROW cost on the project indicate "No ROW" the box	

SUMMARY

Construction Estimate for Initial	$18,643
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$24,643
Right of Way Cost	NO ROW

Classification Number 2 - RECONSTRUCTION, WIDENING & DUALIZATION - English

Township	Teaneck	Section/Contract #	2007BPP643C Bike Ped T.O. #15 (119902)
PM	Del Vecchio	UPC No.	Coutnry Club Dr

EARTHWORK (must be calculated)

		Unit	Quantity	x Unit Price	Amount
Stripping (4 - 6" Depth)		Acre	0	4,050	0
Roadway Exc. Unclassified, **See (J)**		C.Y.	0	85	0
Removal of Conc. Base & Conc. Surface Courses		S.Y.	0	15	0
Channel Excavation		C.Y.	0	12.25	0
Ditch Excavation		C.Y.	0	10	0
Borrow Excavation Zone 3, **See (J)**		C.Y.	0	20	0
			0		0
EARTHWORK TOTAL		=			0

Suggested procedure for calculating earthwork:
A) Determine Typical section (number of lanes, median widths, side slopes, etc.).
B) Get latest topography map available.
C) Plot proposed alignment on topo map.
D) Develop profile using topo controls such as existing roads, streams, rivers and design manual.
E) Calculate Areas for the typical section in 1 foot increments of cut or fill.
F) At 10 to 60 foot intervals (depending on frequency of X-section changes) calculate the earthwork.
G) Calculate any other significant earthwork (ramps, cross-roads, etc.).
H) Make appropriate earthwork corrections for the pavement box and striping. Use 21 inch depth for rigid pavement, 26 inch depth for all flexible pavement and 4 inch depth for stripping.
I) Deduct any roadway excavation from borrow required to calculate Borrow Excavation Zone 3.

J) See Construction Cost Estimate Work Sheet (Section 3.1). This worksheet must be utilized for the most recent price information.

PAVEMENT

12 FOOT WIDE LANE (from subgrade up)

Pav't. Type		Description of Pavement	Cost/Linear Foot
A		10 inch R.C. Pavement	156
B		2 inch HMA Surf. Crs. & 8 inch HMA	61
C		3 inch HMA Surf. Crs. & 4 inch HMA	46
D		2 inch HMA Surf. Crs. & 2 inch HMA	22
E		Bridge Approach & Transition Slabs	156
		(Resurfacing Portion only F & G)	
F		2 inch HMA Surface Course	8.25
G		3 inch HMA Surface Course	12
H		Milling 2 inch	3

Computation Table for Pavement. Cost

Type		Cost from table above	x Length	x Pavement *W.F.	= Amount
					0
					0
					0
					0
					0
					0
					0
					0
					0
PAVEMENT TOTAL				=	0

*Width Factors = Ratio of 12 foot wide lane to actual pavement width.

Example = actual pavement width = 25 foot = 25/12 = 2.08 W.F.

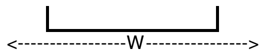
CONTEXT SENSITIVE DESIGN

Attach additional sheet detailing items and costs of context sensitive design work =

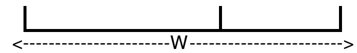
CULVERTS

// //

COVER



Type 1 W< 20 Feet



Type 2 W> 20 Feet

Type		Layout (3)	Skew (1)	Cover (2)	Cost Per Sq. Foot
Type 1		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	114.75
				10' to 20'	147.25
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00
Type 2		Area w x L exceeds 1000 Sq. Feet	0-60 degrees	0 to 10'	121.75
				10' to 20'	152.50
		Short Culverts Difficult Conditions under 1000 Square Feet	0-60 degrees	0 to 10'	203.50
				10' to 20'	235.00

For skews over 60 degrees it will be necessary to make a special analysis and establish a square meter price comparable to above.

Description		Area Computation	x Cost per Sq. Foot	= Amount
				0
				0
				0
				0
			Culvert Total =	0

BRIDGES

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet)

H = Clear Height 14 To 23 feet (4)

L = 100 to 400 feet & all viaducts over 400 feet (5)

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
I		Width at Least 45 feet	0 to 40 Degrees	No Piles	134.75
				Piles at Stub Abut.	159.75
				Piles at Piers & Stub Ab	174.75
			40 to 60 Degrees	No Piles	145
				Piles at Stub Abut.	168.25
				Piles at Piers & Stub Ab	181.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 3 spans and 2 side spans (Max. Span 100 feet) (3)

H = Clear Height 14 feet (4)

L = under 400 feet

Class		Layout	Skew (1)	Foundation (2)	Cost per Sq.Foot
II		L exceeds W Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	176.5
				On Piles	187.25
			40 to 60 Degrees	No Piles	219.75
				On Piles	273.25
III		W exceeds L Area L x W exceeds 4500 Sq. Feet	0 to 40 Degrees	No Piles	226.75
				On Piles	299.25
			40 to 60 Degrees	No Piles	241.5
				On Piles	310
IV		Width 30 - 45 feet Area W x L under 4500 Sq. Foot	0 to 40 Degrees	No Piles	295.5
				On Piles	396.75
			40 to 60 Degrees	No Piles	318.25
				On Piles	416.25

For the Bridge Sketch see the Construction Cost Estimation Preparation Manual

1 to 2 spans (Max. Span 125 feet)

H = Clear Height 14 feet (4)

L = 100 to 250 feet

Layout		Skew (1)	Foundation (2)		Cost/ Sq. Foot

Width at Least 40 feet		0 to 40 Degrees	No Piles	157.00
			Piles at Semi-Stub Abut.	182.00
			Piles at Piers & Semi-Stub Abut.	204.50
Minimum Length 100 feet		40 to 60 Degrees	No Piles	166.50
			Piles at Semi-Stub Abut.	194.75
			Piles at Piers & Semi-Stub Abut.	217.50

			0
Length	Width	Cost per SF	Bridge Total

1. For skews over 60 degrees it will be necessary to make a special analysis and establish a square foot price comparable to above.

2. For very bad foundation conditions requiring unusual lengths or spacing of piles, it will be necessary to establish a square foot price.

3. For longer spans, adjust the cost per square foot to reflect increased cost of structural members.

4. For span bridges, it is expected the length of the side span will be in- creased in proportion to any increase in height. Because of the resultant increase in deck area, the square foot price will remain approximately the same in the range of heights shown. For extremely high structures (particularly for viaducts), square foot prices will have to be increased.

5. For structures over 400 foot long (viaducts), reduce the cost per square foot if repetitive span length and forming can be used. Reduce by $0.50 for lengths from 400 to 600 feet and by $1.00 for lengths over 600 feet. (Do not forget adjustments (3) and (4) above on viaducts).

6. For statically indeterminate structures, square foot prices will have to be established.

Structure Description		Calculated Sq. Foot of Bridge Deck	x Cost Per Square Foot	= Amount
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
			Sub Total	0
Clearing Site Bridge *0-3% of Sub Total				0
		%		
			BRIDGE TOTAL	0

*Pick appropriate percent based on the size, type and materials of existing structure

DRAINAGE (includes inlets and cross drains)

Rural		0	364356	0
		project length (miles	x cost per mile	= Amount
Urban		0	544280	0
		project length (miles	x cost per mile	= Amount

The above are the total costs of basins, manholes, longitudinal and transverse pipes, underdrains, headwalls, protecting curbs, aprons, etc. for a divided highway with a depressed median. The costs are assumed to apply to 4, 6 or 8 lane sections since there will be no appreciable difference in the number of basins or the sizes or lengths of pipes.

Frontage Road & Ramp Drainage

0	55	0
length of ramp or frontage rd. in feet	x cost per foot	= Amount

DRAINAGE TOTAL = 0

INCIDENTAL ITEMS

Item	Units	Cost	x Quantity	= Amount
Traffic Markings, Line, Long Life, Thermoplastic	LF	$0.79	0.0	$0.00
Concrete Sidewalk, 4" Thick	SY	$44.00	334.0	$14,696.00

INCIDENTAL ITEMS TOTAL	=		$14,696.00

LANDSCAPE

		Quantity	x Unit Prices	= Amount
Topsoil and Seeding (Mainline) Length of Project in miles		0	112,815	0
Planting (Mainline) Length of Project in miles		0	64,500	0
Topsoil, Seeding, Planting (Finger Ramp Number of Finger Ramps		0	12,500	0
Topsoil, Seeding, Planting (Loop Ramp) Number of Loop Ramps		0	20,000	0
Topsoil, Seeding (Access Road) Length of Access Road in Feet		0	7.9	0
LANDSCAPE TOTAL		=		0

NOISE ABATEMENT

		Unit	Quantity	x Cost	= Amount
				305	0
					0
					0
					0
NOISE ABATEMENT TOTAL		=			0

GENERAL ITEMS

Item		Project Length (mile	x Cost/Mile	= Amount
Field Office		0	44,260	0
Materials Field Laboratory		0	28,970	0
Erosion Control during Construction		0	64,375	0
GENERAL ITEMS TOTAL		=		0

SUMMARY

Route	Teaneck	Section/Proj. Id. #	2007BPP643C Bike Ped T.O. #15
PM	Del Vecchio	UPC No.	Coutnry Club Dr

Work Type	Totals from other pages
Earthwork	$0.00
Pavement	$0.00
Context Sensitive Design	$0.00
Culverts	$0.00
Bridges	$0.00
Drainage	$0.00
Incidental Items	$14,696.00
Landscape	$0.00
Noise Abatement	$0.00
General Items	$0.00
PROJECT SUBTOTAL	$14,696.00

Other Items		Proj. Subtotal Range	Choice	Amount	
Lighting, Traffic Stripes, Signs and Delineators				$0.00	
Maintenance of Traffic			Lump Sum	$6,000.00	
Training				$0.00	
Mobilization				$1,322.64	
		Project Cost < 5.0 (Mil.)	9% of Proj. Subtotal		1323
		Project Cost 5.0 & above	10% of Proj. Subtotal		0
Progress Schedule		Project Cost(Mil.)	$	$0	
		Less than 2.0	0		0
		2.0 to 5.0	6,000		0
		5.0 to 10.0	8,000		0

		10.0 to 20.0	15,000		0
		20.0 to 30.0	30,000		0
		30.0 to 40.0	40,000		0
		40.0 & above	58,000		0
Clearing Site		Project Cost (Mil.)	$	$15,000	
		Less than 1.0	15,000		15000
		1.0 to 2.0	30,000		0
		2.0 to 5.0	45,000		0
		5.0 to 10.0	115,000		0
		10.0 to 20.0	220,000		0
		20.0 to 30.0	240,000		0
		30.0 to 40.0	250,000		0
		40.0 & above	490,000		0
Construction Layout		Project Cost(Mil.)	$	$7,000	
		Less than 1.0	7,000		7000
		1.0 to 2.0	20,000		0
		2.0 to 5.0	42,000		0
		5.0 to 10.0	87,000		0
		10.0 to 20.0	160,000		0
		20.0 to 30.0	220,000		0
		30.0 to 40.0	490,000		0
		40.0 & above	890,000		0
			PROJECT TOTAL	$44,018.64	

CONTINGENCIES & ESCALATION

Y = Number of Years until midpoint of construction duration plus number of years until construction start. If midpoint is less than 2 years from the date of this estimate, no escalation is required.
Maximum value = 10%

Y: 3.00 — 3.00 — 1.04

$44,018.64		1.030	1.04	$47,153
Project Total		Contingencies (1+C)	1 + [0.01 (Y+1) (Y-2)]	Construction Estimate for PD

Project Cost(Mil.)		Contingencies (C) Percent	Average Construction Duration in Years	
0-10		3%	1	0.030
10-20		2.50%	2	0.000
Over 20		2%	3	0.000

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)			% of Construction Cost	
Less than 1.0			31.10%	0
1.0 to 5.0			20.30%	0.00
5.0 to 10.0			16.20%	0.00
10.0 & above			12.20%	0
CONSTRUCTION ENGINEERING AMOUNT			$0.00	

CONSTRUCTION CHANGE ORDER CONTINGENCIES

Total Federal Participating Items in Millions of $	Construction Change Order Contingency Amount	
$0 to 0.1	$6,000.00	$6,000.00
0.1 to 0.5	$25,000.00	0
0.5 to 5.0	25,000 + 4% of amount in excess of $500,000	0
5.0 to 10.0	205,000 + 3% of amount in excess of $5,000,000	0
10.0 to 15.0	355,000 + 2% of amount in excess of $10,000,000	0
15.0 and above	455,000 + 1.5% of amount in excess of $15,000,000 - max $500,	0
		0

For State Funded Projects, Contingencies for Change orders = 0

CHANGE ORDER CONTINGENCY AMOUNT = 6000

UTILITIES RELOCATIONS BY COMPANIES/OWNERS

$47,153		0	NO UTILITIES
Construction Cost for Initial Estimate		for Urban use 0.12, Rural 0.055 or + Estimate Use % or utilities detailed estimate	= Utility Relocation Cost for Initial Estimate

If there are no utility relocations on the project indicate “No Utilities” in the box above.

RIGHT OF WAY COST	NO ROW
If there is no ROW cost on the project indicate “No ROW” the box	

SUMMARY

Construction Estimate for Initial	$47,153
Construction Engineering (CE)	$0
Contingencies	$6,000
Utilities Relocations	NO UTILITIES
Total Construction Cost	$53,153
Right of Way Cost	NO ROW

APPENDIX G

COMPLETE STREETS MODEL ORDINANCE

Complete Streets Model Ordinance

Following is a model ordinance recommended for adoption by study area municipalities. The text is based on model policy language recommended by the National Policy and Legal Analysis Network to Prevent Childhood Obesity (NPLAN), and also incorporates language from adopted policies for Rochester, Minnesota, and Seattle, Washington. The model ordinance is concise by intent, focusing on the simple principle that roadway projects should accommodate all users. The language can also be modified for use on resolutions and executive orders.

Complete Streets Model Ordinance

AN ORDINANCE relating to Complete Streets policy for the ____ of _____, stating guiding principles and practices so that transportation improvements are planned, designed and constructed to encourage walking, bicycling and transit use while promoting safe operations for all users.

WHEREAS, implementing transportation improvements that are planned, designed and constructed to safely accommodate walking, bicycling, and transit use increase the general safety, health and overall welfare of the citizens of and visitors to the ___ of______; and,

WHEREAS, the ____ of ______ will seek to enhance the safety, access, convenience and comfort of all users, including pedestrians, bicyclists, transit users and drivers, motorists and freight drivers, and people of all ages and abilities, including children, older adults, and persons with disabilities, through the design, operation and maintenance of the transportation network so as to create a connected network of facilities accommodating each mode of travel; and,

WHEREAS, transportation improvements are to be planned and designed in a manner consistent with, and supportive of, the surrounding community, recognizing that all streets are different and that the needs of various users will need to be balanced in a flexible manner;

NOW, THEREFORE, BE IT ORDAINED BY THE _____ OF ______ AS FOLLOWS:

Section 1. All roadway projects, including construction, re-construction, re-paving and rehabilitation, will provide appropriate accommodation for pedestrians, bicyclists, transit riders and drivers, motorists and freight drivers, and people of all ages and abilities, including children, older adults and persons with disabilities, except under one or more of the following conditions:

- The roadway project is comprised of ordinary maintenance activities designed to keep assets in serviceable condition (e.g., mowing, cleaning, sweeping, spot repair and surface treatments such as chip seal);
- Where use by non-motorized users is prohibited by law;
- The cost would be excessively disproportionate to the need or probable future use over the long term;
- There is an absence of current and future need.

Section 2. Appropriate accommodations include facilities and amenities that are recognized as contributing to Complete Streets, which may include sidewalks and pedestrian safety improvements such as median refuges, pedestrian signals, bulbouts and crosswalks; street and sidewalk lighting; improvements that provide ADA (Americans with Disabilities Act) compliant accessibility; transit accommodations including improved pedestrian access to transit stops and bus shelters; bicycle accommodations including shared-use lanes, wide travel lanes or bike lanes as appropriate; paved shoulders; bicycle parking; street trees, landscaping, street furniture and adequate drainage facilities; and other facilities.

Section 3. Complete Streets principles will be incorporated into the Comprehensive Plan, Subdivision and Land Development Ordinance, and other plans, manuals, regulations and programs as appropriate.

The first paragraph of the model ordinance summarizes the ordinance, and indicates the purpose. The preamble ("Whereas" clauses) indicate the reasons why the municipality is adopting a complete streets ordinance; it is recommended that officials of municipalities in the ActiveAllegheny study area add reasons specific to their community, if possible.

Section 1 indicates that complete streets policies will be followed on roadway projects in the municipality, with the exception of simple maintenance projects, and projects where there is no need or where implementation of the policy will result in disproportionate costs. These exceptions are common provisions in adopted complete streets policies nationwide. They help address concerns on the part of some that implementation of a complete streets policy will significantly increase costs.

Section 2 provides examples of complete streets facilities. The examples are similar to those found in the NPLAN model ordinance, and in adopted policies. However, not every municipality has listed typical examples of complete streets facilities in their adopted policies.

Section 3 indicates that the municipality will incorporate complete streets principles into other municipal ordinances, plans and standards as appropriate. Although, as discussed earlier, there is not a prescribed complete streets treatment, the municipal standards should be reviewed to determine whether there are basic standards for sidewalks and bike facilities. Further, there should not be one set standard for travel lanes; flexibility for this feature is desirable.

APPENDIX H

FUNDING PEDESTRIAN & BICYCLE PLANNING, PROGRAMS, & PROJECTS

Alan M. Voorhees Transportation Center

Funding Pedestrian and Bicycle Planning, Programs and Projects:

A Compilation of Funding Sources

prepared by:
New Jersey Bicycle and Pedestrian Resource Center

prepared for:
New Jersey Department of Transportation

funded by:
Federal Highway Administration

January 2009

RUTGERS
Edward J. Bloustein School
of Planning and Public Policy

Introduction/Acknowledgements

This paper presents a compilation and brief description of sources of funding that have been used, or could be, 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.

Table of Contents

Funding of *Planning and Programmatic Activities*

Federal and/or State Funded Programs

Subregional 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 for more information. The North Jersey Transportation Planning Authority subregions served are the counties of Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren as well as Jersey City and Newark. More information is available at www.njtpa.org. The South Jersey Transportation Planning Authority serves Atlantic, Cape May, Cumberland and Salem counties and is available at www.sjtpo.org. The Delaware Valley Regional Planning Commission serves Burlington, Camden, Gloucester and Mercer counties and is available at www.dvrpc.org.

Supportive Task Grants
A portion of funds given to NJTPA to support planning activities are passed through to the sub-regions (counties) to fund staff planning activities. The Subregional Study Program funds studies assessing accessibility and mobility issues. For fiscal year 2008-2009 grants totaled approximately $2.4 million. Somerset County has used this to fund the “Somerset County Regional Center Pedestrian, Bicycle and Greenway Systems Connection Plan”, intended to improve pedestrian, bike and greenway connections between community facilities.

Transportation Management Associations (TMAs)
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, or 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 sponsors the annual Bike to Work Week.

New Jersey TMA Contact Information

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

Ph: 856-596-8228
Fax: 856-983-0388
Email: ccctma@driveless.com
www.driveless.com

GREATER MERCER TMA
15 Roszel Road South, Suite 101
Princeton, NJ 08540
Ph: 609-452-1491
Fax: 609-452-0028
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, Suite E-104
Flemington, NJ 08822
Ph: 908-788-5553
Fax: 908-788-8583
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
Fax: 732-745-7482
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
Fax: 201-939-2630
Email: info@meadowlink.org
www.meadowlink.org

RIDEWISE OF RARITAN VALLEY
360 Grove Street
Bridgewater. NJ 08807
Ph: 908-704-1011
Email: staff@ridewise.org
www.ridewise.org

TRANSOPTIONS
2 Ridgedale Avenue, Suite 200
Cedar Knolls, NJ 07927
Ph: 973-267-7600
Fax: 973-267-6209
www.transoptions.org

Local Transportation Planning Assistance Program (LTPA)
This program makes professional transportation planning consultants available to municipalities wishing to implement the State's Smart Growth land use and transportation policies. The program is designed to help municipalities and counties with planning initiatives that will preserve the long term integrity of the state transportation system, as well as to enhance community quality of life objectives. Through the transportation and land use planning experts under contract with the Department, municipalities are able to develop or update local circulation elements, conduct downtown traffic calming and parking management studies, develop access management plans, and plan for improved bicycle, pedestrian and local transit services. Potential and designated Transit Villages, Transit Oriented Developments, and municipalities participating in the State's Office of Smart Growth Plan Endorsement Process receive highest priority.

The LTPA program is administered by the Division of Local Aid and Economic Development, Local Transportation Planning Assistance Unit. For more information please contact Helene Rubin, Section Chief, LTPA Unitat 609-530-2869, Helene.Rubin@dot.state.nj.us or Mike Russo, Director, Local Aid and Economic Development
at 609-530-3640, Michael.Russo@dot.state.nj.us.

Bicycle/Pedestrian Planning Assistance
This program provides NJDOT consultant support designed to develop 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 Statewide Planning, Bureau of Commuter Mobility Strategies.

For more information please contact Sheree Davis, Manager of Commuter Mobility Strategies via email at sheree.davis@dot.state.nj.us.

Smart Future Planning Grants

The Smart Future Planning grant program, formerly known as Planning Assistance for Counties and Local Agencies, is administered through the Department of Community Affairs, Office of Smart Growth. The program provides money for municipalities, counties and regional organizations to develop plans that lead to smart growth objectives and create investment opportunities for communities. The grants are designed to promote the principles of smart growth by providing funding and technical assistance so that a county or municipality can develop and implement plans that add to the overall value of their communities. The value added comes from coordinating land use, transportation, parks and recreation, environmental protection, farmland preservation, health, schools and other land uses, so that communities can deliver services more efficiently as well as take full advantage of their positions in the region. Hudson County received a Smart Future grant in 2001 to support a Regional Strategic and Open Space Action Plan to focus on construction of the Waterfront Walkway along the Hudson River through seven Hudson County towns. Similar planning projects to improve the pedestrian or bicycle environment could be proposed by other counties or municipalities.
Each year, our grant categories change. For more information, visit http://www.nj.gov/dca/divisions/osg/programs/grants.html; visit SAGE at https://njdcasage.state.nj.us/portal.asp or call 609-292-7156.

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, visit http://www.state.nj.us/dca/dcr/sccdbg/index.shtml or contact Richard Z. Osworth at rosworth@dca.state.nj.us or (609) 633-6263.

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. Funding programs include, the Garden State Historic Preservation Fund, Revolving loan fund and the Cultural Trust Capital Preservation Grant Program. Private owners of historic resources may benefit from the Trust's easement or New Jersey Legacies programs. For more information, visit: http://www.njht.org or telephone (609) 984-0473.

New Jersey Redevelopment Authority (NJRA)

The New Jersey Redevelopment Authority (NJRA) is committed to revitalizing urban New Jersey as demonstrated in Governor Jon S. Corzine's Economic Growth Strategy. This strategy ensures that economic growth benefits all cities and regions of the state creating new economic opportunities for New Jersey citizens.

The mission of the New Jersey Redevelopment Authority (NJRA) supports the Governor's goal to support the resurgence of the state's cities by providing the necessary financial and technical tools to grow and revitalize neighborhoods.

It is NJRA's unique approach to revitalization that allows for the creation of programs and resources that improve the quality of life by creating value in urban communities. NJRA makes it mark in cities throughout the state by investing in comprehensive redevelopment projects that contribute to an improved quality of life.

The NJRA provides many resources, critical to the redevelopment process in the form of loans, loan guarantees, bond financing, and equity investments. The NJRA's remains flexible and responsive to ensure successful redevelopment throughout New Jersey. To date the NJRA has committed to invest more than $330 million in New Jersey's urban communities, leveraging over $2.9 billion in private sector investments.

Authority 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 for-profit and nonprofit 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 offers direct loans, real estate equity, loan guarantees and other forms of credit enhancements.

NJRA Environmental Equity Program ("E^2P")
The E^2P Program advances brownfields efforts by providing up-front capital to assist with the predevelopment stages of brownfields redevelopment projects. E^2P funds assist with site acquisition, remediation, planning, and demolition costs associated with brownfields redevelopment projects.

Working in Newark's Neighborhoods ("WINN")
WINN is a $10 million revolving loan program focused 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.

NJRA Redevelopment Training Institute
The NJRA Redevelopment Training Institute (NJRA RTI) offers intensive intermediate-level training courses that focus on the redevelopment of New Jersey's communities. NJRA RTI is designed to provide nonprofit and for-profit developers, professional consultants, entrepreneurs and city/county staff with a body of knowledge of the redevelopment and real estate development process. The goal of NJRA RTI is to provide classroom instruction outlining the nuances of the redevelopment planning process in New Jersey, to focus on the real estate development process and to unlock the key to understanding real estate finance.

Contact: New Jersey Redevelopment Authority
150 West State Street, Second Floor
P.O. Box 790
Trenton, NJ 08625
Phone: 609-292-3739
Fax: 609-292-6070
Web site: www.njra.us
E-mail: njra@njra.state.nj.us

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 Jill.Aspinwall@dep.state.nj.us or visit 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 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, defense and mobility. 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).

<u>STP Resources</u>

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 NEPA process, ultimately making that project eligible for inclusion in the Statewide Transportation Improvement Program, STIP (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.

Municipalities are eligible for the Local Scoping Program but must work through their appropriate sub region. Projects must be part of the National Highway System or be designated a Federal Aid route. A project is considered to be "Scoped" when it has received an approved environmental document, and a scoping Report including any design exceptions and that the preliminary engineering is completed. An important aspect of Scoping is the public involvement process that is required under NEPA. A decision to either advance a project for inclusion in the STIP and an eventual final design, right-of-way purchase and construction, or a decision to discontinue the project will be the result of the Scoping process. If a decision is made to advance the project to construction, funding will be provided either through the Local Lead Program, the New Jersey Department of Transportation, or other sources. A completed Scoping project does not guarantee construction funding.

The Local Lead program is an opportunity for sub regions to apply for federal funding for the advancement of projects through final design, right-of-way, and/or construction. This is a highly competitive program. The MPOs select the projects for inclusion in the Program. Applications are evaluated on a myriad of factors including but not limited to whether the project improves air quality, reduces travel time, reduces congestion, optimizes capacity, creates a community of place, etc.

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
Ten percent of annual STP funds are set aside 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. It focuses on transportation projects

designed to preserve and protect environmental and cultural resources, and to promote alternative modes of transportation.

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. Funds are used 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.

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 M ($1 M 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. The New Jersey Department of Transportation awarded the first SRTS grants in July 2007 and announced the second round of grant applications in January 2008. For more information, contact Elise Bremer-Nei, New Jersey Safe Routes to School Coordinator, at (609) 530-2765.

Local Aid for Designated Transit Villages
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. Programs include bicycle/pedestrian paths, bike routes signs, bicycle parking, and storage and bicycle/pedestrian safety education program. For more information, visit http://www.state.nj.us/transportation/community/village or contact Monica Etz at (609) 530-5957.

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, subject to sliding scale, 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 Program (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 Division of Parks and Forestry. State, county, and local governments and non-profit organizations are eligible for funds.

In 2008, New Jersey will receive approximately $1,000,000 for trail projects. The deadline for submitting applications for 2008 was December 15, 2007. 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
This 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 jointly by the National Highway Traffic Safety Administration

(NHTSA) and the Federal Highway Administration (FHWA) 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.

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. 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). 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 administrating 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.

For more information on the federal CDBG program contact Kathleen Naymola of HUD at 973-776-7288 or kathleen_a._naymola@hud.gov. For information on New Jersey's Small Cities CDBG program please contact Richard Osworth at (609) 633-6263 or rosworth@dca.state.nj.us

Fairview, in Bergen County, used $449,000 in CDBG funds to make sidewalk and intersection improvements, including crosswalk striping and 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.

The current categories of projects include, pedestrian and bicycle facilities, scenic or historic transportation programs, parking and circulation management, landscaping/beautification of transportation related facilities, and rehabilitation of transportation structures. Eligible pedestrian and bicycling projects include strategies which enable mixed use of a "Main Street" as both a public space and a transportation link, traffic calming improvements, bicycle lockers at transportation facilities, retail complexes, public buildings and public and mid-block connections/paths to ease bicycle and pedestrian circulation

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 though 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. 2007-2008 grant recipients include Palmyra Burrough of Burlington County which received $90,000 for their Palmyra Pathway Project. North Bergen Township of Hudson county received $400,000 for their JFK Boulevard East Streetscape while ten other municipalities received from $150,000 and $400,000 for a myriad of projects.

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 an Annual 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 submitted to the Division of Local Aid and Economic Development District Office. 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 Funding/Local Aid Infrastructure Fund
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 Routes to School
This program is funded at $612 million over federal fiscal years 2005-2009 to fund projects that improve safety for school children walking or bicycling to school. New Jersey will receive approximately $15 million for fiscal years 2005-2009. It focuses on projects that create safer walkwats and bikeways, safer street crossings, and improve motorists' awareness of school children. For more information visit their website at www.state.nj.us/transportation/community/srts.

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. Special consideration will be given to bikeways that are physically separated from motorized vehicle traffic by an open space or barrier. 2008 recipients included Bordentown Township in Burlington County for the Joseph Lawrence Park Pedestrian/Bike Path as well as Princeton Township in Mercer County for their Stony Brook Regional Bicycle and Pedestrian Pathway. 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/bikewaysf.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. The UEZ Authority usually designates around 30% of a city as a UEZ. New Jersey has established 32 UEZs covering 37 economically distressed cities.

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 Deputy Administrator Gary M. Rice at 609-984-0500.

County or Municipal Capital (Public Works) Funding

County or municipal funding can be used to fund pedestrian improvements including sidewalks, trails, crosswalks signals, traffic calming and other projects on rights of way under county or municipal jurisdiction, by including the project 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 Improvement Districts (SIDs)

Another form of municipal funding is through the creation of a local Special Improvement District. 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. Impetus for SID usually comes from business and property owners hoping to attract new customers by cleaning up sidewalks, improving parks, etc. Property owners within the District are assessed a special fee to cover the cost of the improvements.

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. TDDs must have a plan of development consistent with other land use and development plans. They are a convenient and lawful method by which municipalities and counties can agree together on methods to raise revenue to fund infrastructure and other development related costs.

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, farmland and general open space and historic preservation. The funds can also be distributed to municipalities or charitable organizations for similar preservation purposes. The current 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 at (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.

Many municipal governments also have open space funding programs. Counties and municipalities with open space taxes 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 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. They concentrate efforts in 4 areas: federal policy, national partnerships, community grants and promoting bicycling. Grants are awarded for up to $10,000 on a rolling basis. Between 2002 and 2005, bicycles belong invested $1 million in a lobbying effort that involved several national bicycle advocacy groups. 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

Local School Districts
Local communities with bicycle/pedestrian plans that effect schools or will serve 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. The foundation awards 50 grants, each for up to $10,000. Applicants must be a non-profit organization of agency. The American Dietetic Association will assist in evaluating proposals along with the General Mills Foundation and other qualified nutrition and fitness experts. The application is available at http://www.generalmills.com/corporate/commitment/2006ChampionsApplicationOverview.pdf .
Source: http://www.generalmills.com/corporate/about/community/#Nutrition

APPENDIX I

WALKING SCHOOL BUS AND BICYCLE RODEO INFO

Starting a walking school bus: the basics

Chester, VT

Why develop a walking school bus?

Studies show that fewer children are walking and biking to school, and more children are at risk of becoming overweight. Changing behaviors of children and parents require creative solutions that are safe and fun.

Implementing a walking school bus can be both.

What is a walking school bus?

A walking school bus is a group of children walking to school with one or more adults. If that sounds simple, it is, and that's part of the beauty of the walking school bus. It can be as informal as two families taking turns walking their children to school to as structured as a route with meeting points, a timetable and a regularly rotated schedule of trained volunteers.

A variation on the walking school bus is the bicycle train, in which adults supervise children riding their bikes to school. The flexibility of the walking school bus makes it appealing to communities of all sizes with varying needs.

Parents often cite safety issues as one of the primary reasons they are reluctant to allow their children to walk to school. Providing adult supervision may help reduce those worries for families who live within walking or bicycling distance to school.

Starting simple

When beginning a walking school bus, remember that the program can always grow. It often makes sense to start with a small bus and see how it works. Pick a single neighborhood that has a group of parents and children who are interested. It's like a carpool—without the car—with the added benefits of exercise and visits with friends and neighbors. For an informal bus:

1. Invite families who live nearby to walk.
2. Pick a route and take a test walk.
3. Decide how often the group will walk together.
4. Have fun!

Apex, NC

When picking a route, answer these four questions:

1. **Do you have room to walk?**
   Are there sidewalks or paths?
   Is there too much traffic?
2. **Is it easy to cross the street?**
3. **Do drivers behave well?**
   Do they yield to walkers?
   Do they speed?
4. **Does the environment feel safe?**
   Are there loose dogs?
   Is there criminal activity?

For more help identifying walkable routes, use the Walkability Checklist that can be found at www.walktoschool.org/buildevent/checklists.cfm.

Reaching more children

Success with a simple walking school bus or a desire to be more inclusive may inspire a community to build a more structured program. This may include more routes, more days of walking and more children. Such programs require coordination, volunteers and potential attention to other issues, such as safety training and liability. The school principal and administration, law enforcement and other community leaders will likely be involved.

Mill Valley, CA

▸ **First, determine the amount of interest in a walking school bus program. Contact potential participants and partners:**

Parents and children
Principal and school officials
Law enforcement officers
Other community leaders

▸▸ **Second, identify the route(s).**

The amount of interest will determine the number of walking routes.

Walk the route(s) without children first.

Sacramento, CA

▸▸▸ **Third, identify a sufficient number of adults to supervise walkers.**

The Centers for Disease Control and Prevention recommend one adult for every six children. If children are age 10 or older, fewer adults may be needed. If children are ages 4 to 6, one adult per three children is recommended.

▸▸▸▸ **Next, finalize the logistical details.**

Who will participate?

How often will the walking school bus operate? Will the bus operate once a week or every day?

When do children meet the bus? It's important to allow enough time for the slower pace of children, but also to ensure that everyone arrives at school on time.

Where will the bus meet children—at each child's home or at a few meeting spots?

Will the bus operate after school?

What training do volunteers need?

What safety training do children need? See "Walking School Bus: Guidelines for talking to children about pedestrian safety" at http://www.walkingschoolbus.org/safety.pdf.

▸▸▸▸▸ **Finally, kick-off the program.**

A good time to begin is during International Walk to School Month each October. Walk and look for ways to encourage more children and families to be involved. Have fun!

For more detailed instructions on how to organize a walking school bus, go to:

- How to Organize a Walking/Cycling School Bus, Go for Green Canada, **http://www.goforgreen.ca/asrts**. Pick "English," then "Tools and Resources."
- The walking bus: A safe way for children to walk to school, Friends of the Earth UK, **http://www.foe.co.uk/campaigns/transport/resource/parents.html**
- Walking School Bus - A Guide for Parents and Teachers, VicHealth Australia, **http://www.vichealth.vic.gov.au**. Select "Local Government," then "Walking School Bus." Scroll to bottom to find link to download the guide.
- KidsWalk-to-School Guide, Centers for Disease Control and Prevention, **http://www.cdc.gov/nccdphp/dnpa/kidswalk/resources.htm**

Wheeled Sport/Bike Rodeo Resources

Rodeos are an effective and fun way to involve children, parents, and community members in the safety aspects of bicycling and other wheeled sports. A rodeo typically involves simulating real life riding situations and teaches children and their parents how to enjoy their wheeled activities safely.

Riders must have a properly fitted helmet to participate in this event and some rodeos include a helmet fitting station. Some rodeos also feature an inspection center where participants can make sure their bikes, skateboards, scooters or skates are in good working condition. Volunteers, bike shop owners or police officers can perform these inspections. There may also be safety presentations, exhibits and give-aways. Some communities also include a “drivers licensing” booth and a bike registration center. Often, this is followed by a ride through an obstacle course, utilizing cones or chalk, where children can practice safe riding.

Organization and planning are important for a successful rodeo. Community partners can be utilized as volunteers to plan and publicize the event, and to help out on the day of the rodeo.

The following is an example of how to set up a rodeo in your town. For assistance in organizing a wheeled sport rodeo, you may also contact your local Safe Kids chapter, AAA or State Farm Insurance office.

Reprinted Material from

Safe Routes to Schools *Rodeo* Manual

Safe Routes to Schools Rodeo Manual is a Program of the Transportation Authority of Marin and created by the Marin County Bicycle Coalition

What is the Bicycle Rodeo?

The goal of the Rodeo is to teach children the importance of seeing, being seen, and remaining in control, at all times when riding a bike. This is achieved through a series of bike handling drills and the simulation of traffic situations. This activity is a follow up activity to two classroom lessons focusing on helmet usage, basic safety strategy, laws and regulations.

What do I need?

You must bring a bike, helmet, water, snack, hat and sunscreen.

Managing Students

The students arrive excited and ready to participate but are easily distracted because there is so much happening at once. Participation in the rodeo is a privilege, we explain this at the beginning of the event and we are very clear about the behavior we expect. You should not tolerate disruptive or disrespectful behavior. Students respond well to “Time Outs” where they are off their bikes until allowed to participate again. Consult lead staff or school teacher for additional support if unsafe or disruptive behavior continues

Communication Tips

Require Respect for yourself as an instructor and for one another as students. Do not tolerate or ignore disrespectful behavior. Use the specific language “I expect you to respect me/one another”. Don’t allow disruptive students to ruin the event for everybody. “Participating in the rodeo is a privilege and riding on your own is an important responsibility”. .

Be enthusiastic, use this as a tool to engage them. Build on their enthusiasm.

Set high performance standards. Many children genuinely lack confidence and this can be a valuable confidence building experience. Many youth think these exercises are too easy. If you explain the stations correctly and provide them with **feedback** that is positive and encouraging, you can challenge their ability. If they are working hard they won’t get bored and they will be easier to manage.

Keep an open ear. Youth are constantly being told what to do by adults, so keep an ear open to what they have to say. You must balance being firm and clear with your expectations and instructions with being welcoming and friendly.

Breathe! Especially when total chaos breaks out; smile and remember to BREATHE! Think about what needs to happen and act to make sure that it does. Ask for help. Improvisation is healthy.

Modeling. You should model (on bike) what you want them to do.

Ask a lot of questions. Rather than telling them, ask them, prompt them to provide the answers about how and why we do things.

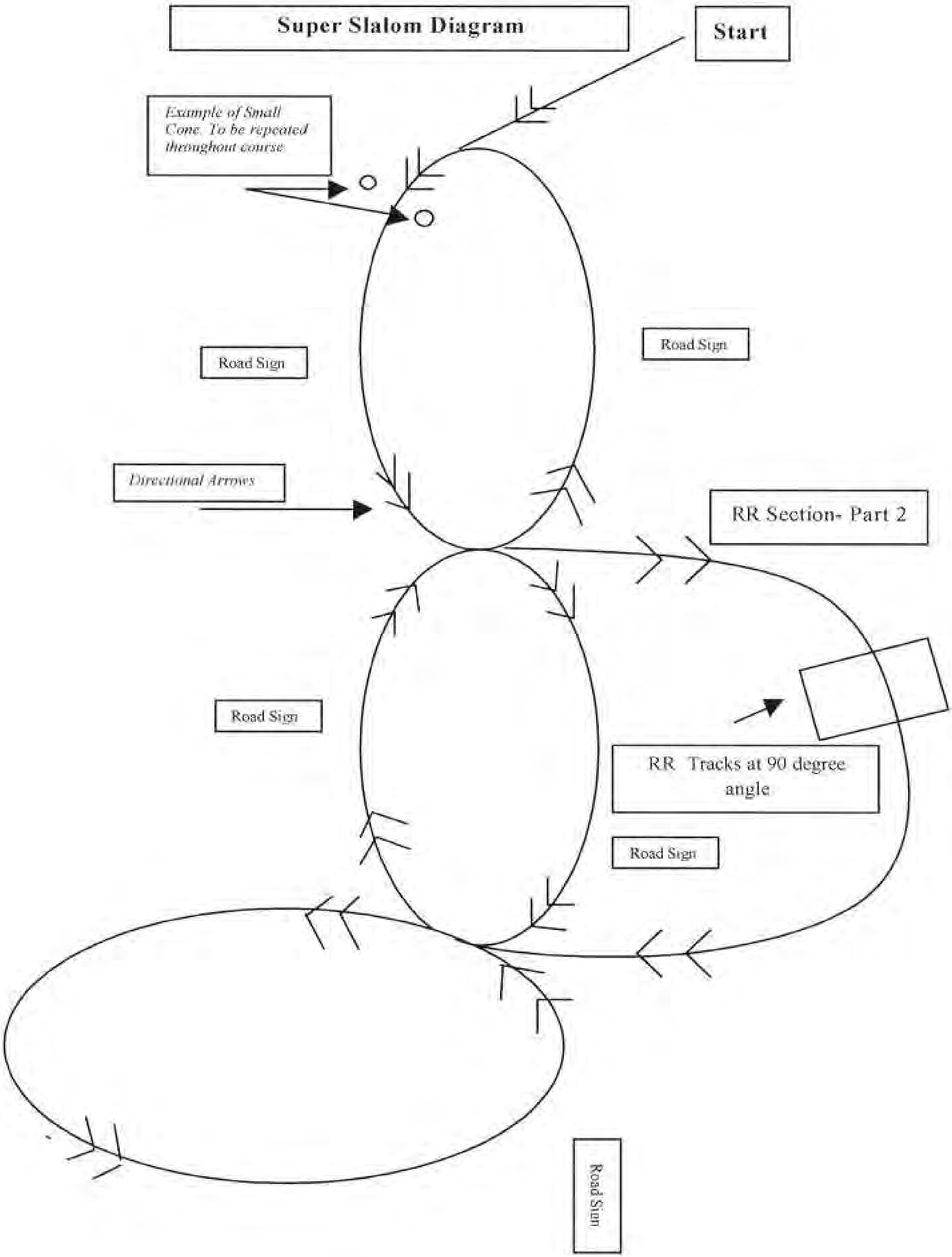
What is my job?

1. Set up and Break down.
You may need help loading and unloading the rodeo supplies and setting up the stations. All four stations and the orientation/debriefing area are set up as described below. You must place a white sandwich sign with the name of the station beside each of the four courses. Students will gather for start and finish of rodeo in a central area from which other stations are visible.
Notes: After deciding on the general layout, first chalk the slalom course, then chalk Safetyville. Incorporate the van/trailer into the Safetyville course and leave it parked. Leave Safetyville materials in van until course is chalked. Remove equipment for other stations and continue setup. During orientation: if there is a large number of scooters- keep them in the same group.

a. **Initial Orientation with Students.**
When students initially gather there will be a large number of bicycles needing minor adjustments. We will need your help with pumping up tires, checking brakes, adjusting seats and helmets and other details. Someone will be assigned to help students that don't have bikes and helmets. Safe Routes to Schools has extra bikes and helmets to lend out. Staff will be responsible for sizing the students for the right bikes. Two students can share a bike but not a helmet. Please remember to work quietly during these tasks as other instruction will be happening concurrently.

b. **Running the Stations**
Each station has specific teaching objectives. Use this manual to orient yourself with these objectives. Every teacher has his or her own style and ways of communicating with youth. Don't be hard on yourself the first few times explaining the stations. This manual will explain how many volunteers you need for your station and what to expect them to do. Just remember that keeping it simple and **modeling** instructions on your bike will always help.

Super Slalom
<u>Set up</u> The course consists of a circuitous chalk line, which winds and turns tightly then opens up into straight away sections. The line crosses itself at several points creating intersections. Think of a triple figure 8. Use arrows at crossings to indicate the direction riders should follow. The chalk line is outlined by traffic cones. The traffic cones are placed far enough apart that any child should be able to navigate the course while remaining between the cones. Traffic signs (supported by sawhorses) are placed to the left and right of the course so that students can use their peripheral vision to read them.
On separate section, place railroad crossing bars perpendicular to direction of rider.



Super Slalom Diagram
Start
Example of Small Cone. To be repeated throughout course
Road Sign
Road Sign
Directional Arrows
RR Section- Part 2
Road Sign
RR Tracks at 90 degree angle
Road Sign
Road Sign

Super Slalom Course Objectives:
Bike handling
Smooth stopping
Peripheral vision
Yielding to cross traffic
Navigating obstacles (railroad Tracks)

Instructions:
Ride the course once and demonstrate.
The object is to follow the chalk line drawn on the blacktop with their front wheel. Cones are set up to mark the course and they must stay within the cones. Keeping their tire right on the line will be very difficult (impossible actually) to do, but everybody should be able to stay within the cones. As riders practice this course, suggest that they pick up their speed

Teaching Points:
Peripheral Vision Demonstration. Have students hold their hands out in front of them at shoulder level and wiggle their index finger and thumb. They are easy to see in front of us. We are used to seeing this way, but we are going to learn about how much we can see on either side. Have students look forward while moving their arms at shoulder level out to the side. Find out how far you can hold your arms out to the side and see your wiggling fingers. This side vision is called Peripheral Vision. *Explain that is "what we see out of the corners of our eyes"; we can see things without looking directly at them.* Use this vision to help you read the street signs (out loud) on either side of the course and to watch for things out on the road. We always want to focus on where we are going, so instruct them to follow the chalk line but also to be aware of the other riders, they must avoid collisions at each intersection and avoid running into the rider ahead of them.

Crossing at Intersections. Students will need to slow down where the paths cross. The goal is to take turns. Explain that slowing or stopping to let someone else go ahead is the best way to stay safe and the kind, courteous thing to do. The Concept of "Yield" or surrendering your right of way will be introduced in Safetyville.

Crossing Rail Road Tracks is an important skill. Start the course with the railroad track section closed off. After students are comfortable with the triple figure 8 course, open the RR section. The railroad track unit can be turned over and the height adjusted or surface to be crossed changes from metal to wood to increase or decrease the difficulty of crossing. Initially angle the railroad tracks to be perpendicular to the slalom course line. As the course is being run, they will get used to crossing on this angle. Later on, change the orientation of the tracks and have students adjust their crossing angle to be perpendicular. Feed the riders onto the course one at a time, several seconds apart.

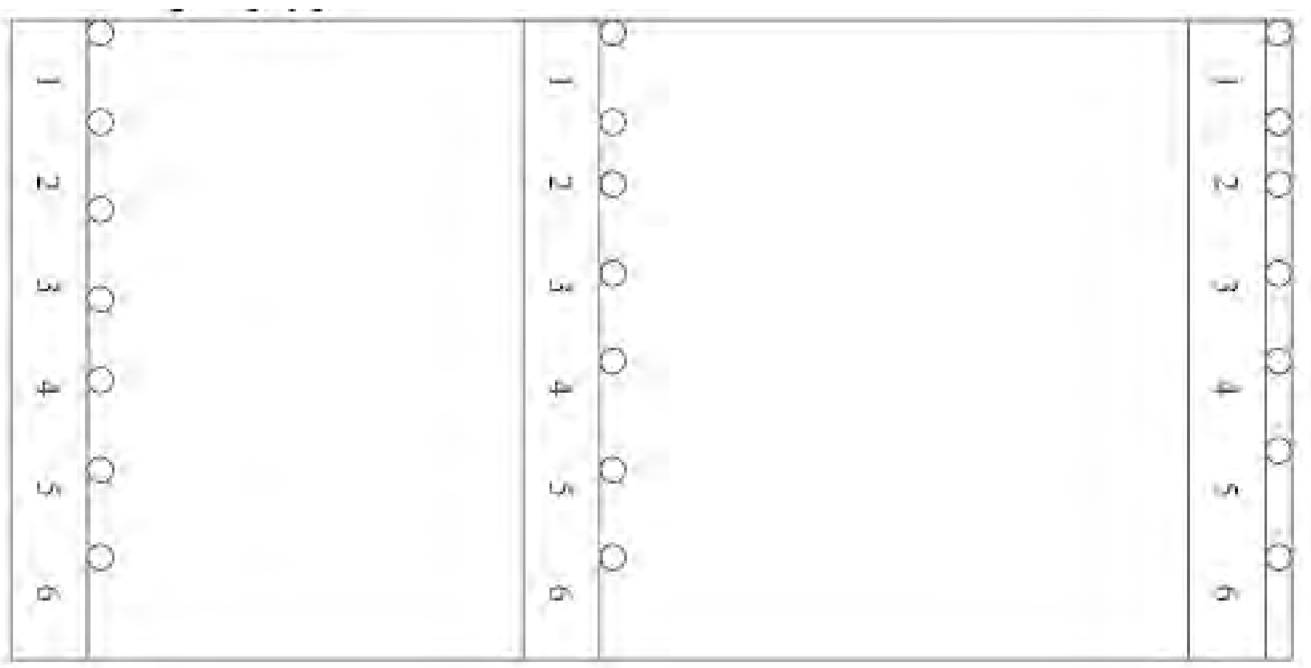
Volunteer Jobs Volunteers can be used to clean up knocked over cones and to help students navigate through intersections .

Things to watch for:
Talk to the riders, offering positive and encouraging feedback but holding riders to the goals of the exercise. Keep the riders at a safe speed and do not allow passing. Replace cones when they get knocked over.

Turtle Race

Set Up

The course consists of 6 (or more) lanes about 3 feet wide and 75 feet in length. Mark the start, middle and finish with medium sized cones. You will need at 21 cones for 6 lanes. It helps students to mark lane numbers 1-6 in front of the cones. This station will need the red, yellow and green poly/plastic dots.



Turtle Race Station Objectives:

Balance and control when riding slowly

Quick stopping

Shoulder check

Instructions for stage one, Turtle Race; how slow can you go?

Ask the riders if they find it harder to control their bikes at slower speeds. They will most likely agree. Explain that this is a balance exercise, that we want them to practice controlling their bikes at slow speeds. *. *The objective for kids on scooters is to coast as much as possible, pushing off with their foot the least amount of times. Group all the scooters in the same heat.*

- The last person across the finish line is the winner
- Try not to put your foot down and stay in your lane.
- Start the riders by blowing the whistle, coach the riders, offering positive and encouraging feedback and challenging them to stay in their lanes. Cheer the riders enthusiastically

Teaching Points

Power Pedal: Starting from a stop with your pedal up in a 2 o'clock position gives cyclist a strong start. Demonstrate what a "scooter step" looks like and contrast it to a strong "power pedal position".

- Staying in your lane is the most important thing because you never want to swerve out in front of a car

Things to watch out for:

If a child is having difficulty going slow without swerving into other lanes, encourage them to put down their feet if they have to.

Instructions for stage two, Braking

Explain that now that we have mastered straight-line riding we will be adding a new challenge, this time they can pick up some speed but the marshal will be standing at the end of the lanes and will hold up a ”stoplight” There are three circles, red, green and yellow. Review what each color means at a stoplight. As they ride down the lane they must do what the card means. (Slow down for yellow, stop for red or keep going for green.)

Teaching Points:

- Breaking evenly to keep from going over the bars
- Shifting your weight back, over the rear wheel to maintain control

Instructions for stage three, Shoulder Check

Increase the challenge by looking over your shoulder while riding in a straight line. Model this by riding up the lane and scanning back to the right and the left without swerving. Explain that the natural tendency when we look back is to swerve in the direction we are trying to see. When riding on the street this can put you in the path of traffic. *This exercise is easiest if students can take one hand off the handlebars when peering behind them.*

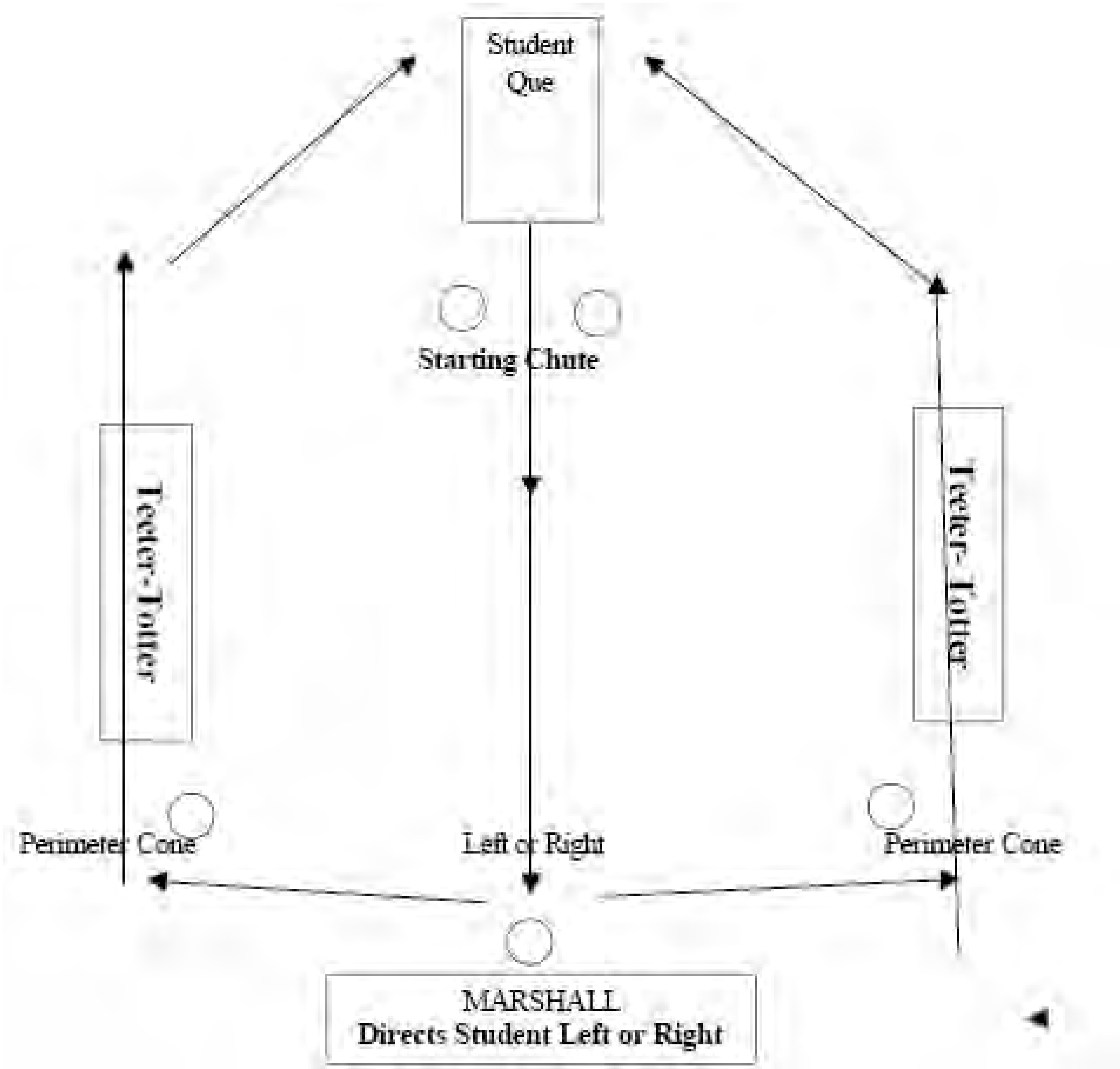
Riders proceed down the lane one at a time, the Marshal stands behind the rider and randomly calls out either “check right” or “check left” and holds up one of the big red, yellow or green colored circles which tells to slow, stop, or keep riding.

Volunteer Jobs

Volunteers can be used as cheerleaders and to help kids move from the end of the race back to the starting point efficiently and safely.

Quick Turn/Fast Dodge __Set up__

The course consists of a starting chute marked with chalk and/or cones. One at a time students will cycle toward a Course Marshall who will direct them to turn either left or right. Students will cycle around a perimeter cones and ride over a teeter-totter obstacle on their way back to the student line to try it again. An area of at least 100 feet by 40 feet is suggested; it works best when riders have the opportunity to build up speed.



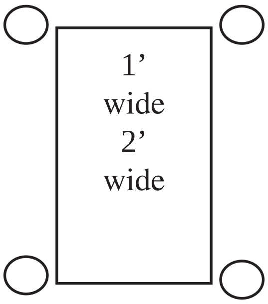
Quick Turn/Fast Dodge Objectives
Quick decision making Fast turning Balance and control Dodging an obstacle (optional)

__**Instructions stage for stage one, Basic Route:**__

Instruct the riders to line up at the top of the course (designated by the sandwich board) and ride through the marked chute toward the Marshal at the other end of the course, just as the rider reaches them they will direct the rider to turn right or left. Instruct them to then ride out between the marker cones and circle back to the top of the chute and repeat the drill.

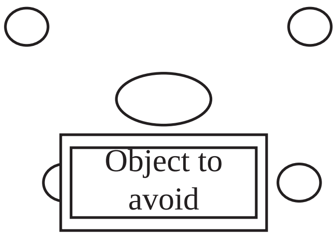
Demonstrate this. Encourage them to build up speed as they become comfortable with the activity. Have students ride the teeter-totters on the return trip, as they are comfortable.

Instructions for stage two, the Chute (optional)



On the way from the Marshall create a small chute 1’ x 2’
Instruct students to ride through the chute on their return to the top.
Demonstrate this.

Instructions for stage three, the Rock Dodge (optional)



Place the obstacle in the center of the chute. Instruct the students to continue to stay within the chute but flick their front wheel around the obstacle. **Demonstrate this.** This practices dodging road hazards like glass and rocks.

Teaching Points:

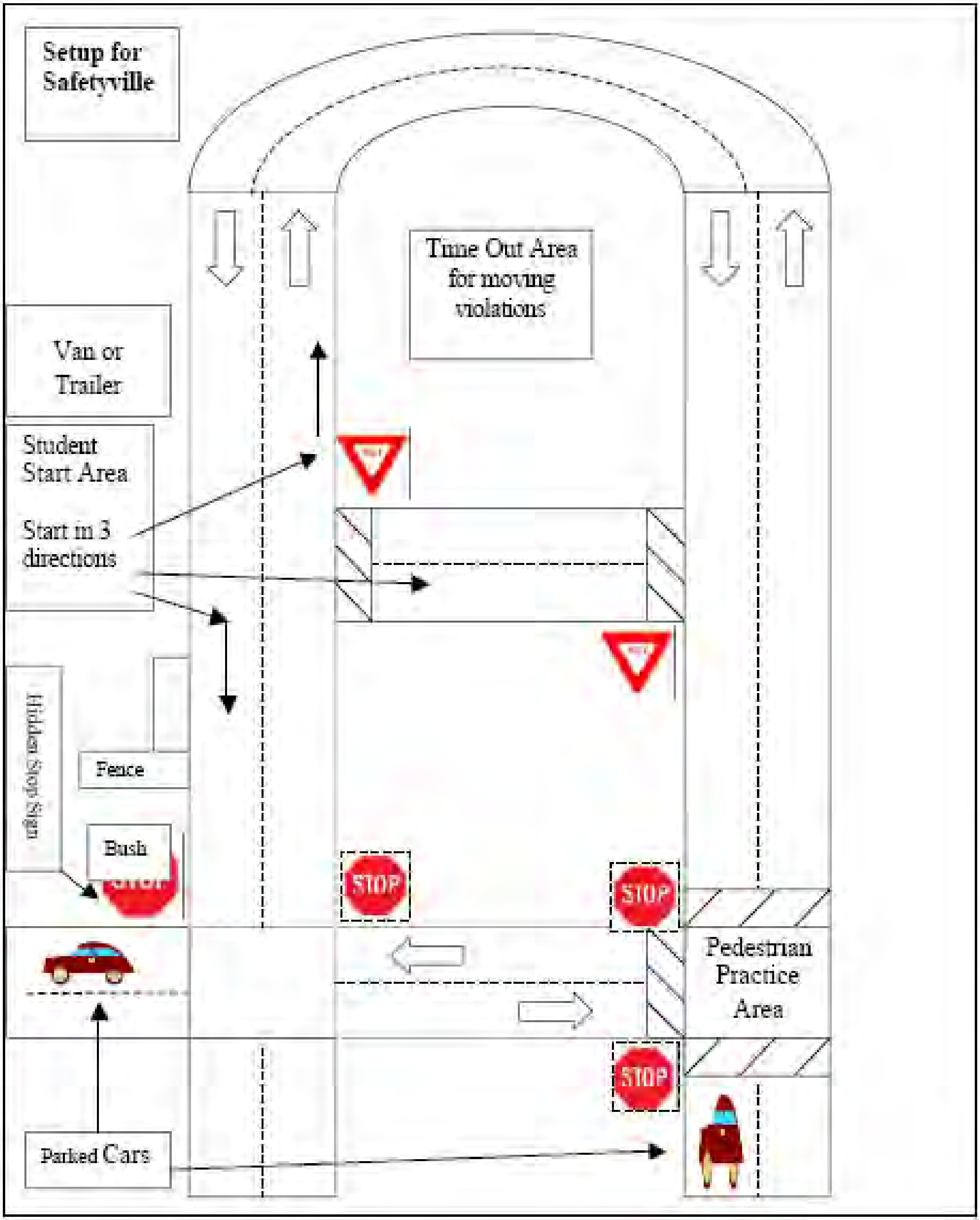
- Why is it more dangerous to hit something with the front wheel but not such a big deal if you roll over something with the rear wheel?
  Hitting something with the front wheel affects steering, the rear does not steer. Hitting things causes flats.

- Why is it more dangerous to get a flat on your front tire?
  A front flat makes it harder to control because you are steering with the front. A rear flat is not so bad because our weight is over the rear and this helps to stabilize the bike.

Volunteer Jobs

It is extremely useful to have one or two volunteers at this station. Since the course is long, it is useful to have the instructor starting kids at the chute and providing feedback near the teeter-totters. A volunteer can act as the marshal signaling the turn directions to students. It is useful to have someone stationed at the chute to pick up cones and fix the teeter-totter, etc.

Safetyville **<u>Set up</u>** Safetyville is the most complicated course in this program. Please consult the picture below. Use the chalk cart and props to set up a street course as pictured below. The basic idea is to create a course, simulating traffic patterns. Each intersection is a little different. Some have a barrier that covers a stop sign, others encourage yielding and communication among bikers/drivers. Rules of the Road are reinforced by giving bikers a Ticket/time out when they break the rules.



Safetyville Objectives:
Learning to hand signal
Practice stopping at edges
Learning to yield
Judgement and Bike
Handling Skills

Instructions

Instruct the students to line up behind each other in groups of three. They will be pulling out of their driveway and entering into the roadway. The student on the left hand column will turn left out to the driveway, the student on the right column will turn right out of the driveway and the center column will cross the road and continue straight. Tell the students that Safetyville is a place where bikes get to Judgment and Bike take over the road,. Since bicycles and cars are both vehicles, bikes need to follow all the rules of the road. Students will get a ticket (placed into the middle of the route for 1 minute) if they break a rule.

- All students will demonstrate peeking around the fence barriers and looking left, right, left before pulling into the course
- At stop signs and intersections, students should demonstrate appropriate hand signals and yielding practices. They should also practice looking left, right and left before proceeding through the intersections
- Students can get a ticket for speeding and passing.

Teaching Points

- Teach students hand signals.
- Review stopping at edges and looking Left, Right and Left and using hand signals.
- Introduce the concept of "Yield." It means to surrender of give up your right of way. When you see the Yield sign you let other people go first unless there is no one there. At intersections you yield to pedestrians and the other riders who were there first.
- Pedestrians have the right of way (right to go first) at intersections. Pedestrians can practice in the marked crosswalk areas.

Volunteer Jobs

Volunteers can be used as police officers in this course. They should be placed at intersections to reinforce the use of hand signals and looking left, right and left before proceeding through intersections. Students can be used as pedestrians at cross works to reinforce the idea of pedestrian right of way.