MIDDLESEX COUNTY BICYCLE PEDESTRIAN PLAN

APPENDICES

Middlesex County Planning Department
Transportation Division
Dated: March, 2002

APPENDIX A

NEW JERSEY DEPARTMENT OF TRANSPORTATION

DESIGN GUIDELINES

FOR

BICYCLE FACILITIES

Table 6.1
Bicycle Compatible
Roadway Pavement Widths

SH = Shoulder *SL = Shared Lane*

AADT 1200*-2000 vehicles/day

	Urban w/ parking	Urban w/o parking	Rural
<30 mph	SL: 12 ft	SL:11 ft	SL: 10 ft
31-40 mph	SL: 14 ft	SL: 14 ft	SL: 12 ft
41-50 mph	SL: 15 ft	SL: 15 ft	SH: 3 ft
>50 mph	N/A	SH: 4 ft	SH: 4 ft

- *For volumes less than 1200 vehicles per day a shared lane is acceptable*

AADT 2000-10,000 vehicles/day

	Urban w/ parking	Urban w/o parking	Rural
<30 mph	SL: 14 ft	SL:12 ft	SL: 12 ft
31-40 mph	SL: 14 ft	SL: 14 ft	SH: 3 ft
41-50 mph	SL: 15 ft	SL: 15 ft	SH: 4 ft
>50 mph	N/A	SH: 6 ft	SH: 6 ft

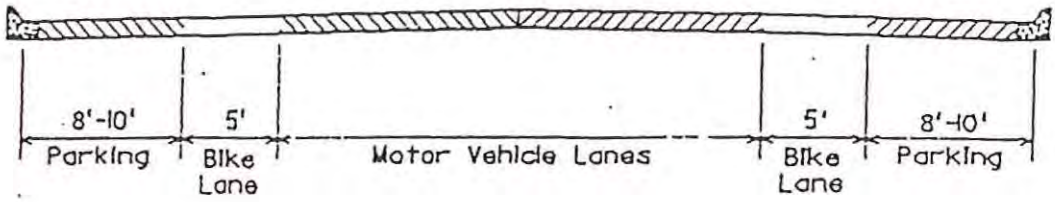
AADT over 10,000 vehicles/day
or Trucks over 5%

	Urban w/ parking	Urban w/o parking	Rural
<30 mph	SL: 14 ft	SL:14 ft	SL: 14 ft
31-40 mph	SL: 14 ft	SH: 4 ft	SH: 4 ft
41-50 mph	SL: 15 ft	SH: 6 ft	SH: 6 ft
>50 mph	N/A	SH: 6 ft	SH: 6 ft

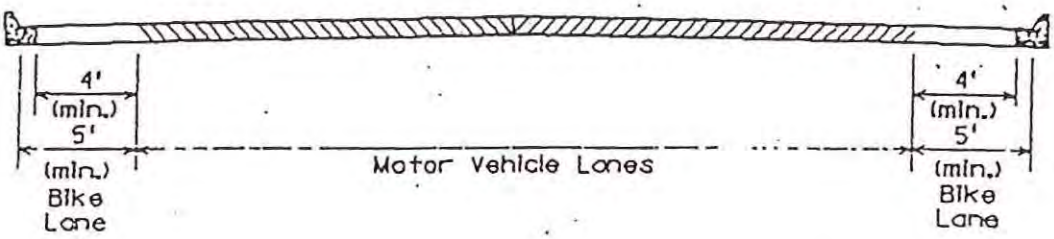
Note: NJDOT minimum shoulder width of 8 feet should be provided, wherever possible, on roadways having an AADT greater than 10,000 vehicles.

Source: NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines

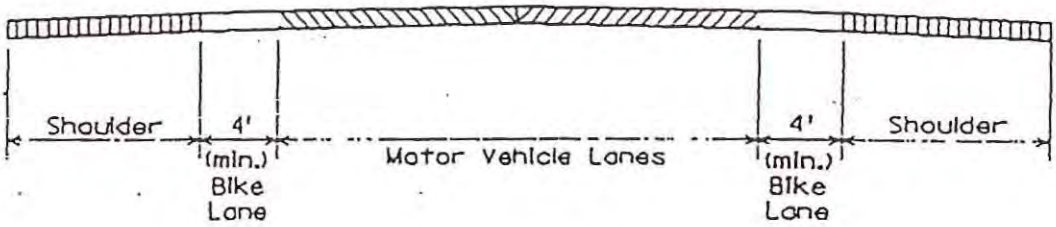
(a) CURBED STREET WITH PARKING



(b) CURBED STREET WITHOUT PARKING



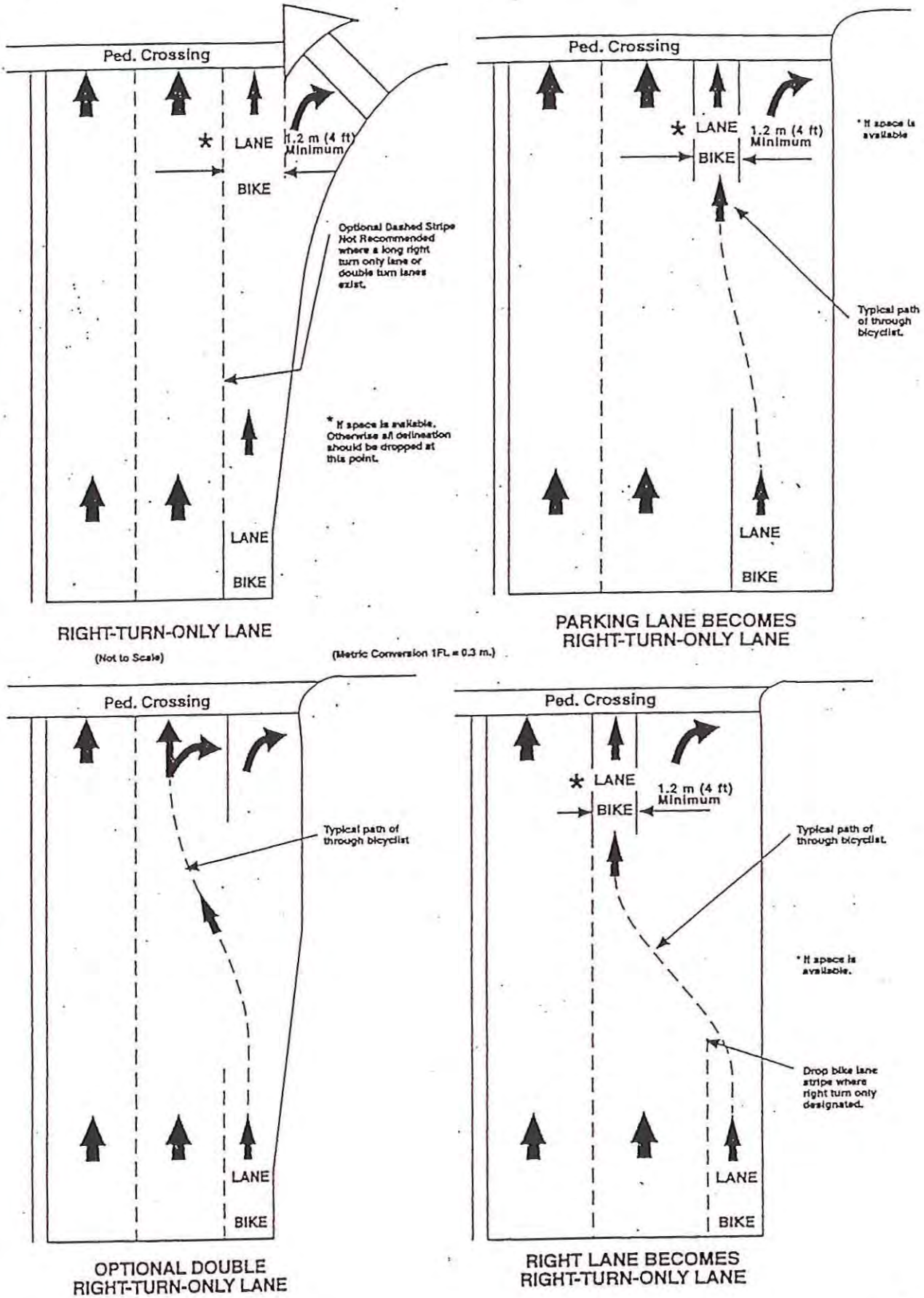
(c) STREET OR HIGHWAY WITHOUT CURB OR GUTTER



(Not to Scale)

A-2

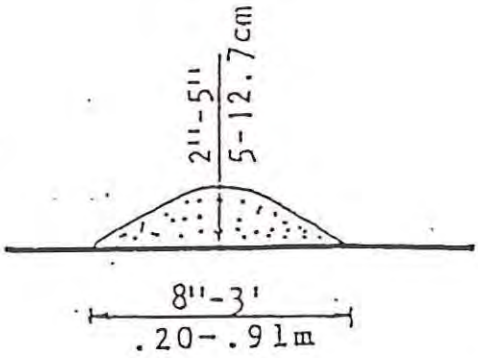
Figure 6.3 Typical Bicycle Lane Cross-Sections
Source: AASHTO Guide for the Development of Bicycle Facilities



A-3

Figure 6.4 Bicycle Lanes Approaching Motorist Right-Turn-Only Lanes
Source: AAHSTO Guide for the Development of Bicycle Facilities

Speed Bump



Speed Hump

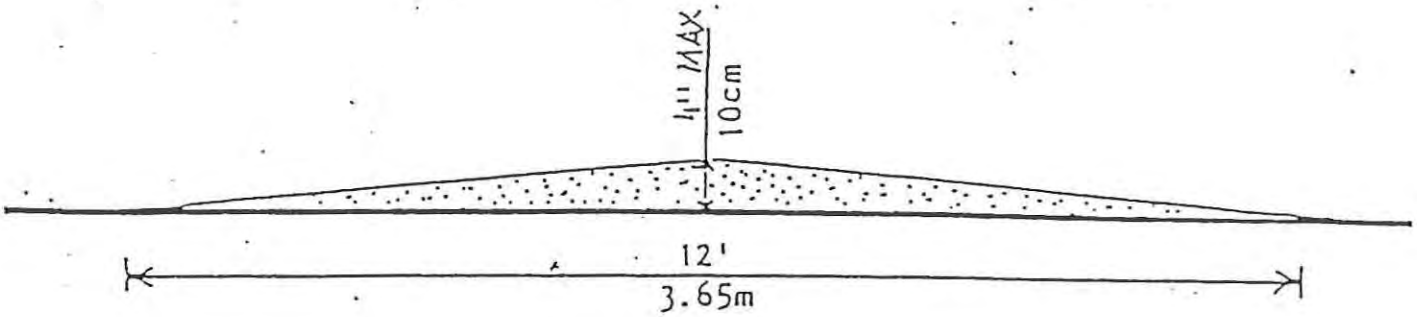


Figure 6.12 Speed Bump vs. Speed Hump
Source: The Northwestern University Traffic Institute Pedestrian Planning and Design Workshop Notebook

9. Speed Tables: similar to speed humps but have a flat portion that can double as a pedestrian crosswalk.

Other traffic calming measures may include speedwatch programs, increased signage, and irregular or textured surfaces.

- Where a paved shoulder is dropped to provide for an auxiliary lane and bicycle traffic must share the auxiliary lane or a through lane with motorized traffic.
- Where a paved shoulder is dropped to provide space for turning lanes, and bicycle traffic must share the turning lanes or through lane with motorized traffic.
- Along roads where there is no paved shoulder or where the paved shoulder is less than three feet in width and bicycle traffic must share the travel lane with motorized traffic, especially along collector or arterial roads. This is especially valid if that road is designated or signed as a bicycle facility, or has been identified in a plan or on a bicycle map as a bicycle facility.
- Along local access streets that are designated or signed as bicycle facilities or have been identified in a plan or bicycle map as bicycle facilities.
- Along any other roadway where bicycle traffic may be present or that is commonly used by bicycle traffic; especially where there is no designated bicycle lane or a wide paved shoulder in good condition, thus causing bicycle traffic to share the travel lane with motorized traffic.

Figure 6.2 Example of "Share the Road" Sign
Source: NJDOT Bicycle Compatible Roadways and Bikeways: Planning and Design Guidelines

APPENDIX B

U.S. DEPARTMENT OF TRANSPORTATION

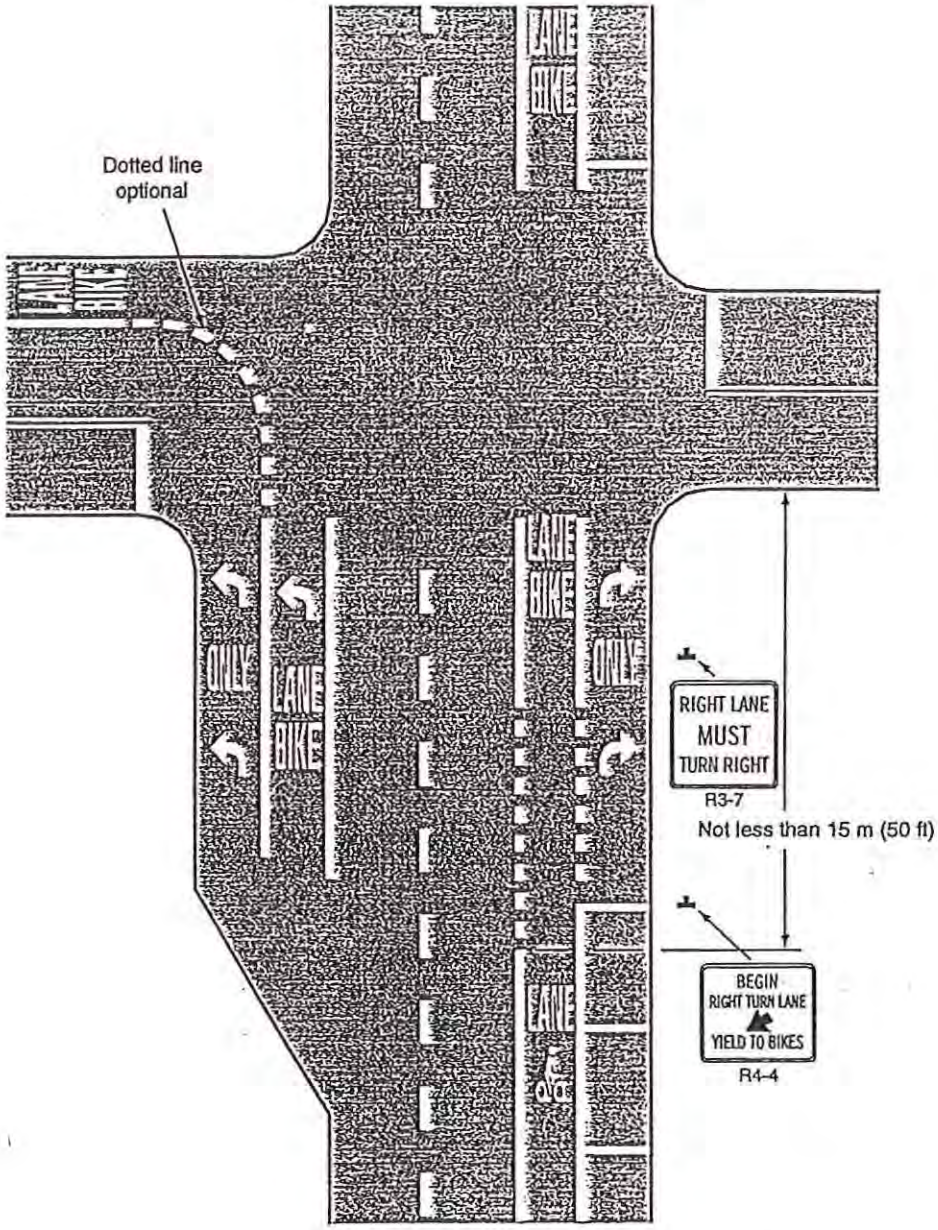
FEDERAL HIGHWAY ADMINISTRATION

TRAFFIC CONTROLS

FOR

BICYCLE FACILITIES

Figure 9C-1. Typical Intersection Pavement Markings-Designated Bicycle Lane with Left-Turn Area, Heavy Turn Volumes, Parking, One-Way Traffic, or Divided Highway



Source: U.S. Department of Transportation Federal Highway Administration Traffic Controls For Bicycle Facilities December, 2000

Figure 9C-2. Centerline Markings for Shared-Use Paths

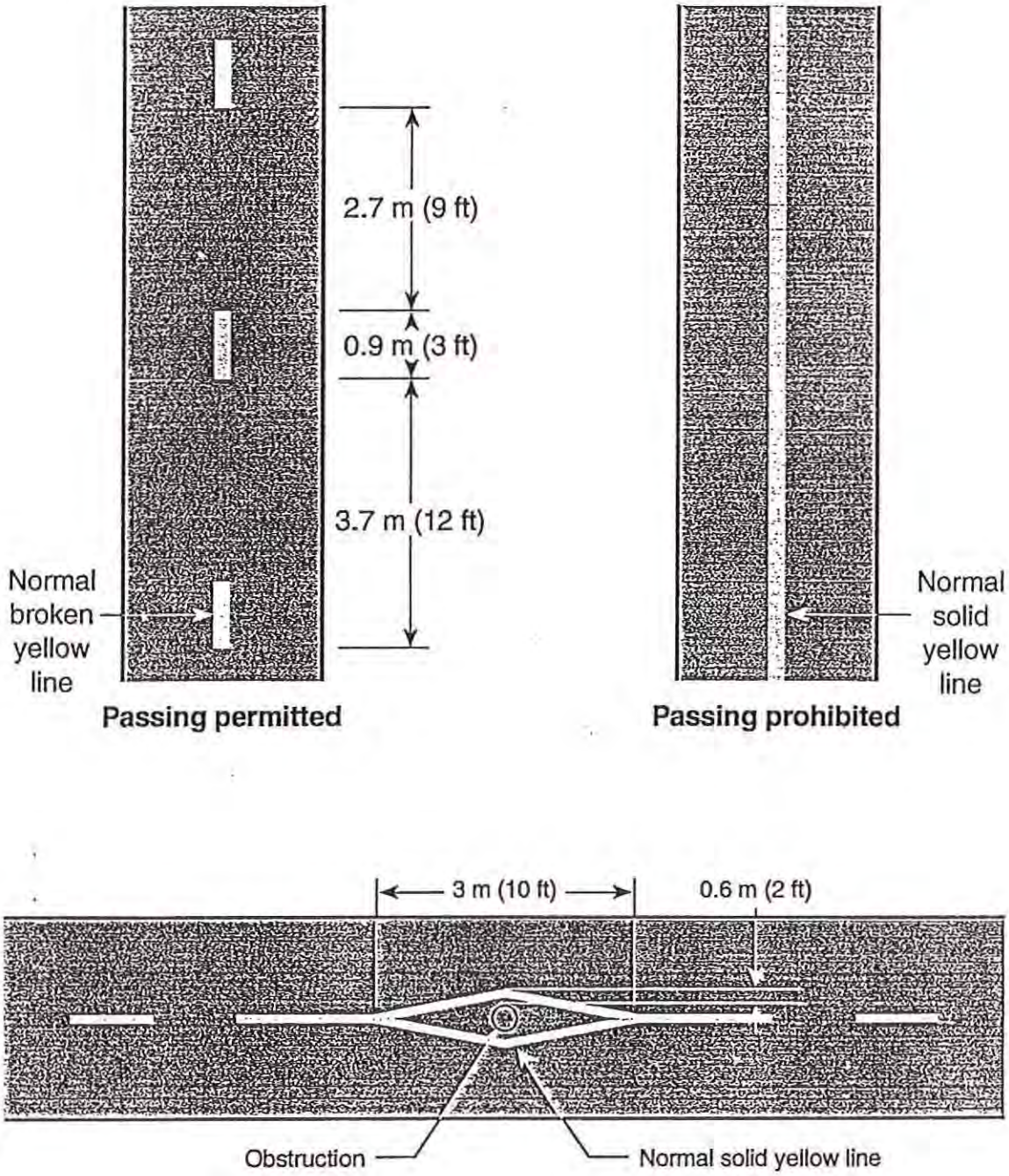


Figure 9C-3. Typical Bicycle Lane Treatment at a Right Turn Only Lane

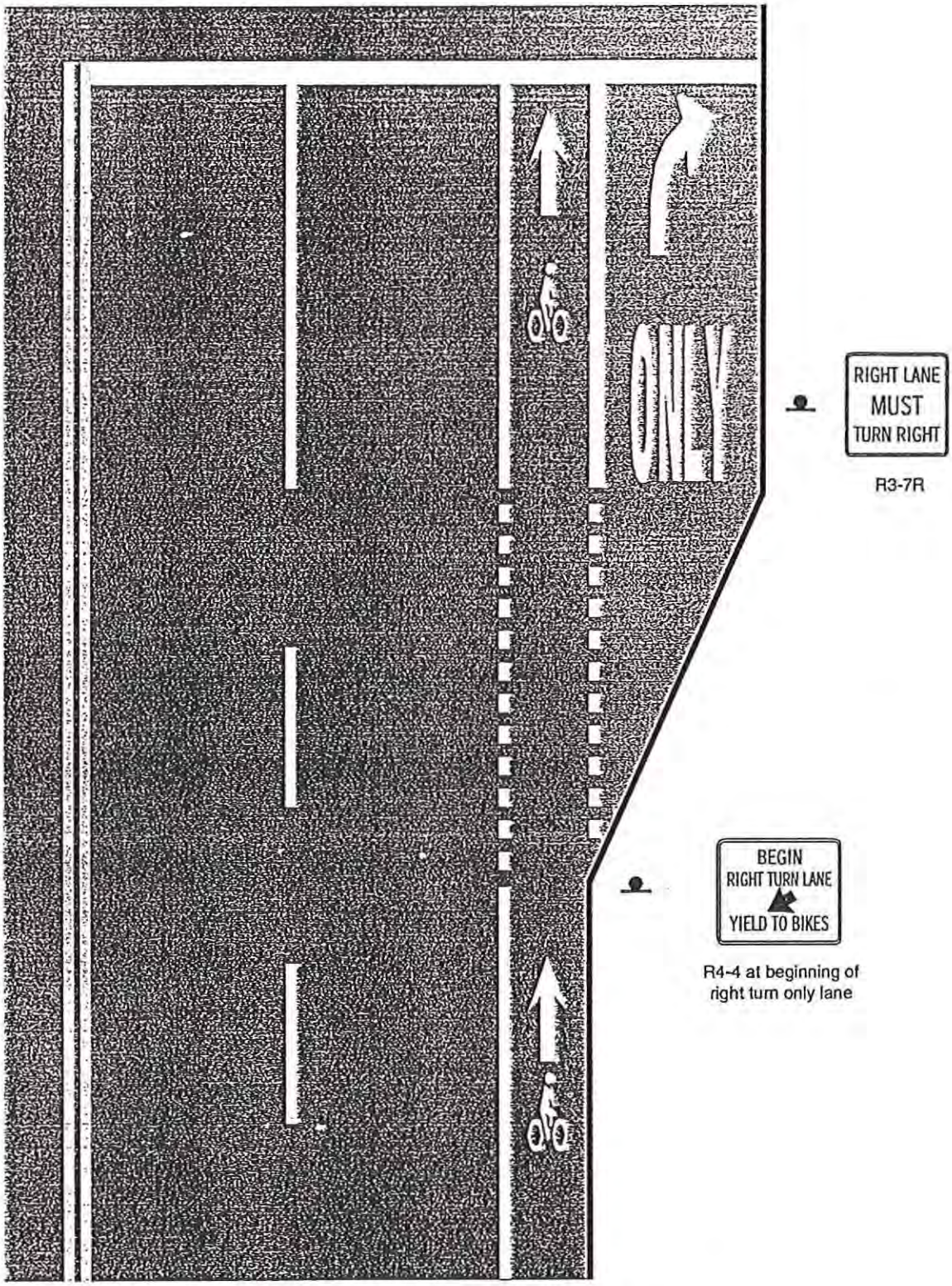


Figure 9C-4. Typical Bicycle Lane Treatment at Parking Lane Into a Right Turn Only Lane

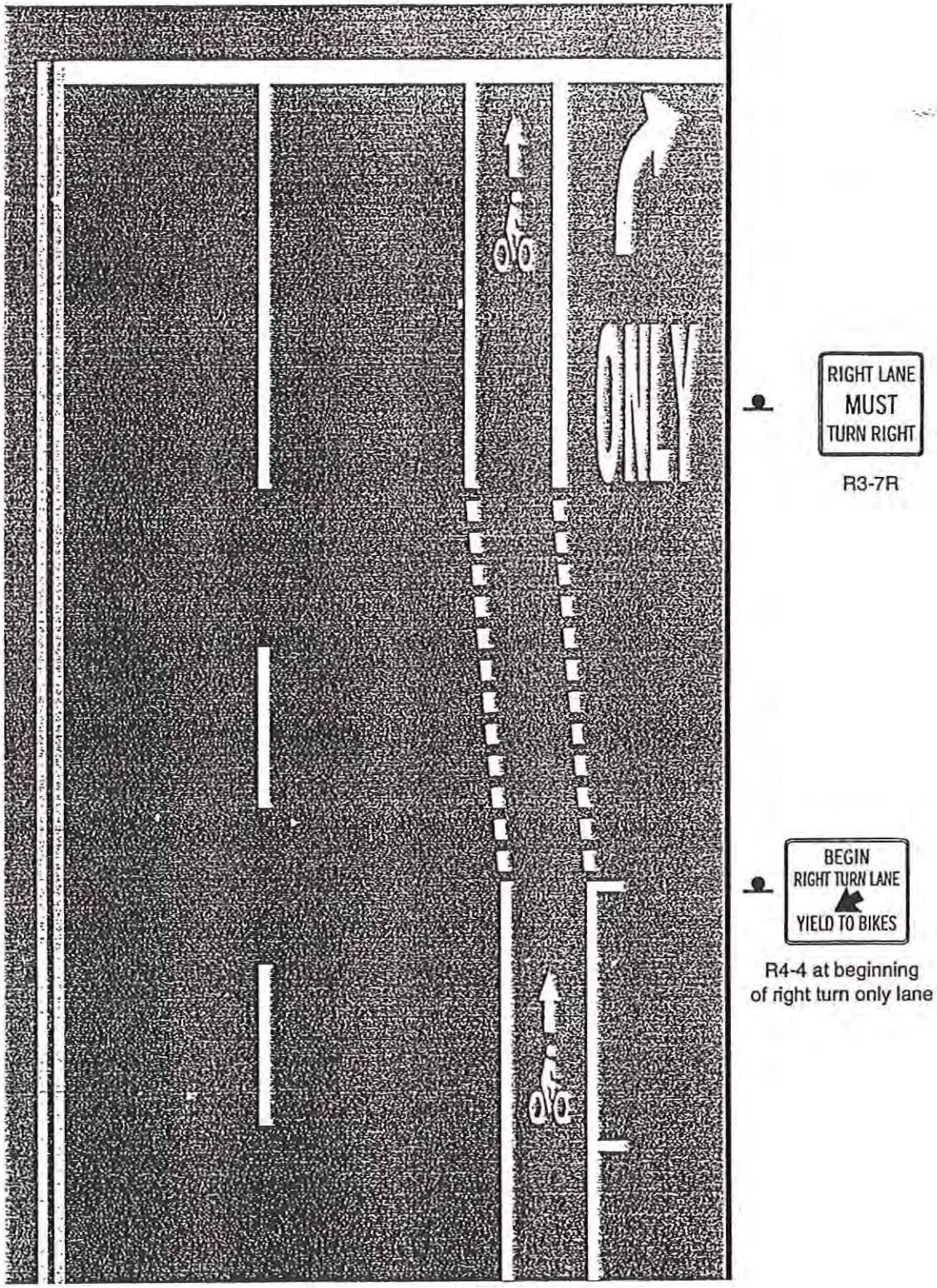


Figure 9C-5. Typical Pavement Markings for Bicycle Lanes on a Two-Way Street

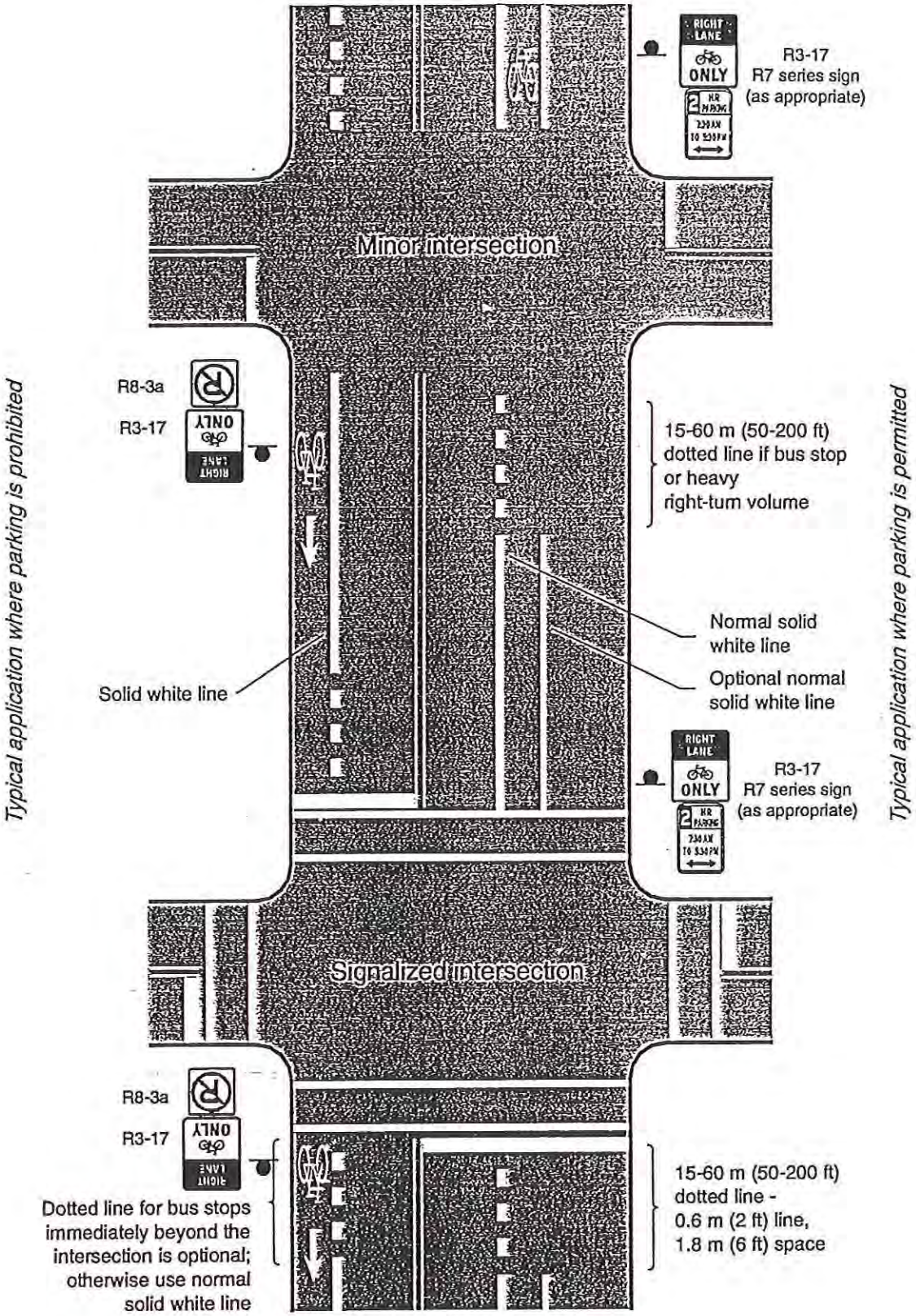
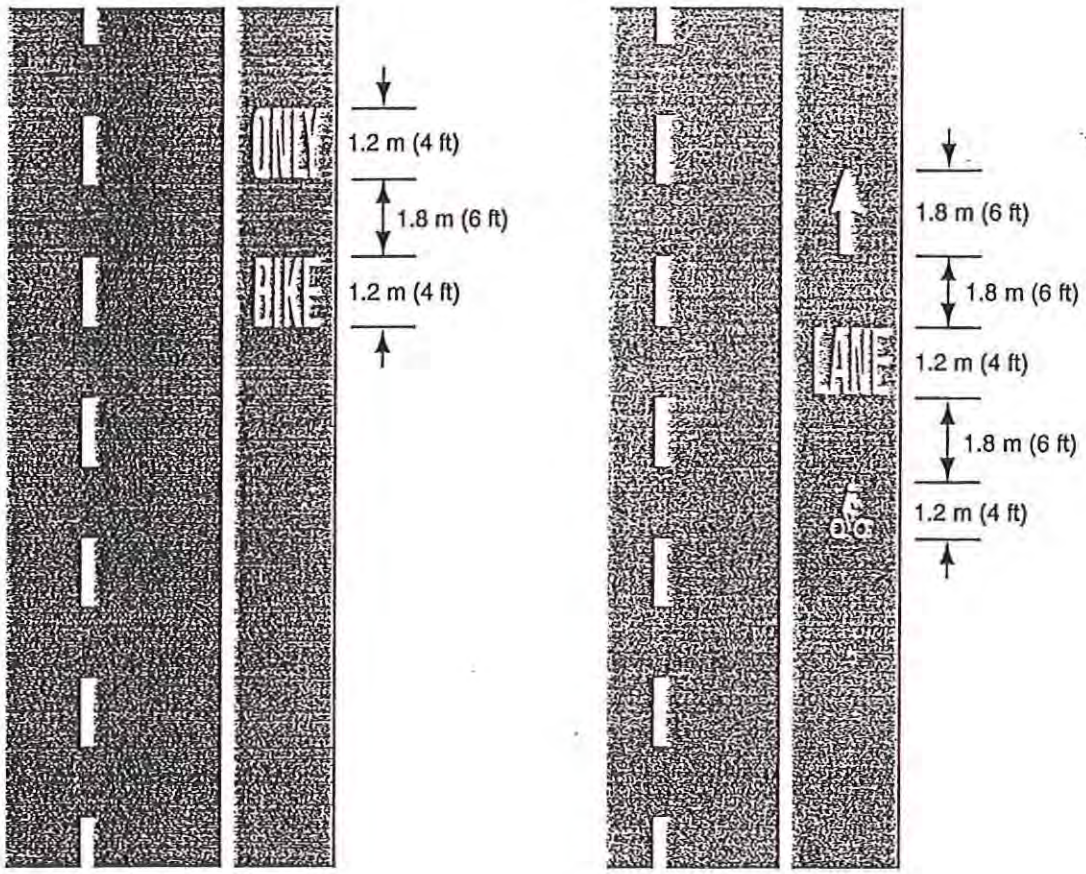


Figure 9C-6. Typical Optional Word and Symbol Pavement Markings for Bicycle Lanes



Standard:

All object markers shall be retroreflective.

Markers such as those described in Section 3C.01 shall also be used on shared-use paths, if needed.

As indicated in Section 3C.02, obstructions within the bikeway shall be marked with the appropriate object marker or delineation.

On Type 3 markers, the alternating black and retroreflective yellow stripes shall be sloped down at an angle of 45 degrees toward the side on which traffic is to pass the obstruction.

Figure 9B-3. Typical Signs and Markings for Shared-Use Paths

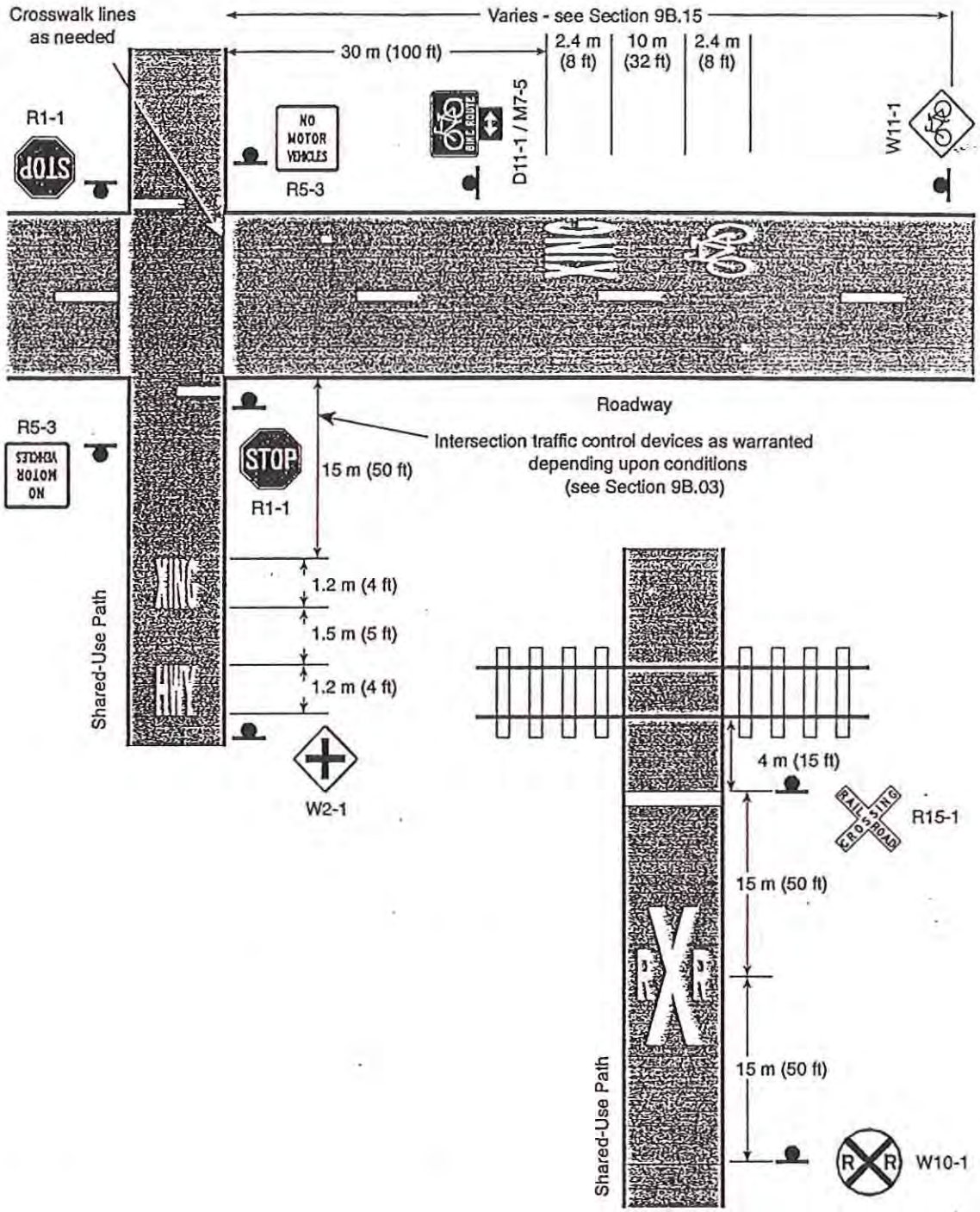
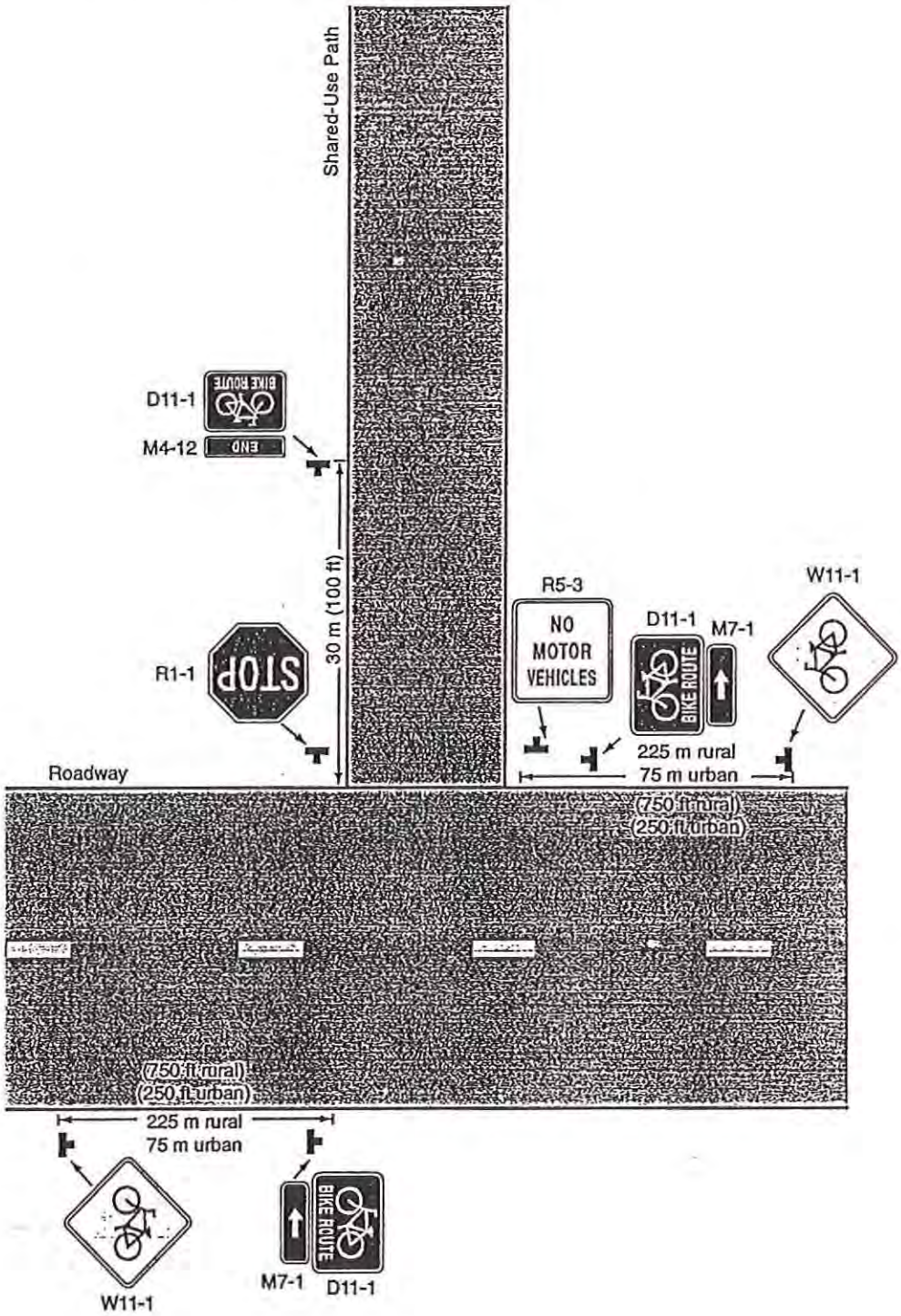


Figure 9B-2. Typical Signing for the Beginning and End of a Bicycle Route

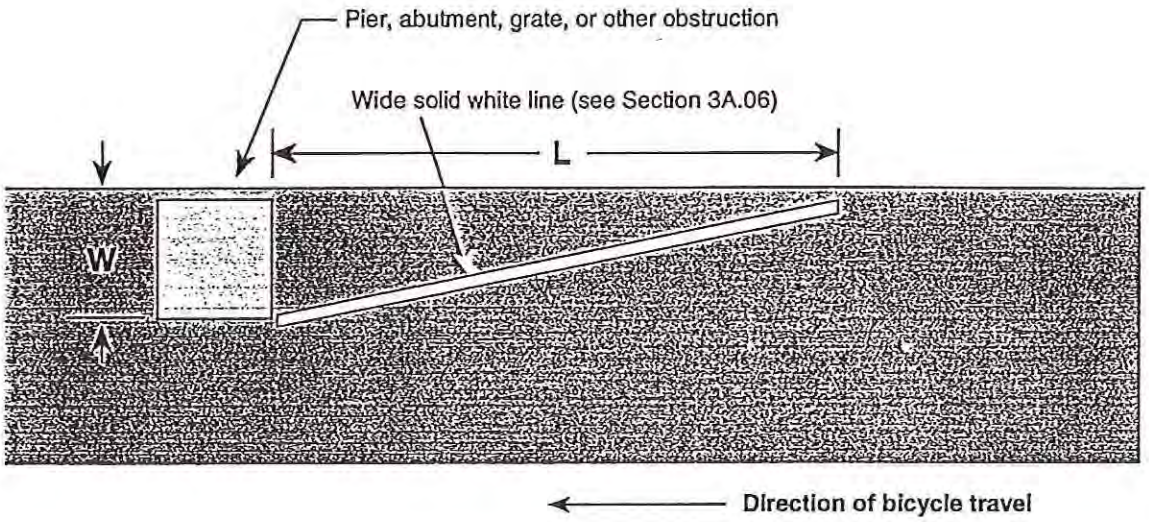


Section 9C.07 Pavement Markings for Obstructions

Guidance:

In roadway situations where a drain grate or other roadway obstruction that is inappropriate for bicycle travel cannot be eliminated, white markings applied as shown in Figure 9C-7 should be used.

Figure 9C-7. Typical Obstruction Pavement Marking



For metric units:

L = 0.6 WS , where S is bicycle approach speed in kilometers per hour

For English units:

L = WS , where S is bicycle approach speed in miles per hour

APPENDIX C

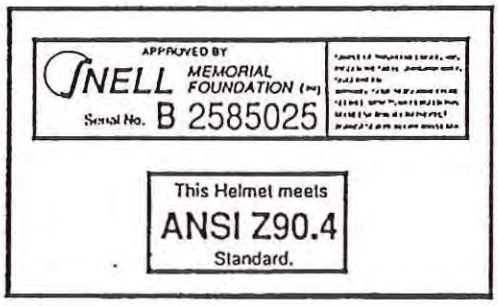
NEW JERSEY

MANDATORY BICYCLE HELMET LAW

New Jersey's
Mandatory Bicycle Helmet Law

Effective July 1, 1992, all children **under 14 years of age** must wear a properly fitted and fastened bicycle helmet whenever they operate or ride a bicycle on open public property or areas used by the public for pedestrian or vehicular purposes. This applies to children riding in a "child carrier" restraining seat or in a trailer towed by a bicycle.

The helmet must meet the standards of either the American National Standards Institute (ANSI Z90.4 bicycle helmet standard) or the Snell Memorial Foundation's 1984 Standard for Protective Headgear for Use in Bicycling. When purchasing a helmet, look inside for stickers which indicate it meets one of these bicycle helmet testing standards:



The ANSI Z90.4 standard means the manufacturer certifies that the helmet meets the minimum industry standard for impact protection. The blue or green Snell Memorial Foundation sticker indicates that the helmet has been tested by Snell and meets its much tougher standard.

Municipalities may enact ordinances that create exemptions to the law in special situations where motor vehicle traffic is restricted.

Children who violate the law shall receive a warning from police, and the parents or legal guardian may be fined up to $25 for a first offense, and up to $100 for repeat offenses.

Vendors who sell or rent bicycles must provide customers a written explanation of the law, and must obtain the signature of the purchaser or renter that they have received this information. Places which rent bicycles must either provide or offer to rent a helmet to any customer under 14 who does not already have a helmet.

While the law applies only to children under 14, **EVERYONE** riding a bicycle should wear a helmet.

Frequently Asked Questions

Do I really need to wear a helmet?

Yes. While there appears to be an exaggerated fear among many people about the risk of bicycle-motor vehicle collisions, bicycle accidents can result from many causes. The most severe injuries from bicycle accidents and most deaths result from head trauma. Medical research shows that bicycle helmets reduce the chance of brain injury by 88 percent.

How does a helmet work?

Most helmets that currently meet the ANSI or Snell Standards contain a stiff inner cushion of expanded polystyrene or expanded polypropylene. In a crash, this cushion crushes, absorbing crash energy and lengthening the head's stopping time. The strap keeps the helmet on the head and covered after the first impact. A good fit is important. Most helmets come with different size foam pads to fine tune the helmet's fit. The helmet should sit level on the head and touch the head all around. The chin strap should be snug (not tight) under the chin; it should not be hanging loose.

Are soft shell helmets as good as hard shells?

Hard shells distribute the impact force over a wider surface and help the helmet slide more easily over pavement which may lengthen the stopping time. However, Consumers Reports found that the thicker foam in the soft shell models they tested gave greater impact protection. Soft shells are lighter, but need reinforcing to hold them together after first impact. Sometimes this is molded into the helmet, sometimes it is applied externally. If a soft shell is sold with external reinforcing such as a lycra or cloth cover, it must be used with the cover. Laboratory data published in 1991 on thin shell helmets shows that they seem to combine the best features of both types.

What's new in helmets?

By and large, most helmets on the market today are lighter and cooler than earlier models. More than 100 models now meet the current Snell standard. There are a wide selection of styles in many colors. Prices start as low as $15 to $25, though there are some high-end racing models for over $100.

What about children's helmets?

Children's helmets should meet all the criteria for adult helmets. Very small children (toddlers riding in child carrier seats and trailers) may not be able to support the weight of an adult helmet that weighs 7 to 14 ounces. Lighter toddler helmets are available. If in doubt, the parent should take the helmet and child to a pediatrician and ask if the child's neck is able to support the additional weight of a helmet. Children not ready to wear a helmet are not ready to go bicycling, even in a high backed child carrier or trailer. Children should be encouraged to select their own helmet (as long as it meets ANSI or Snell standards). That way they'll be more likely to wear it.

When should I replace my helmet?

Many manufacturers recommend that helmets be replaced after five years since exposure to ultraviolet light may cause invisible deterioration. A helmet **MUST** be replaced if it has been in a crash.

APPENDIX D

ROADWAY CHARACTERISTICS

FOR

BICYCLE SUITABILITY INVENTORY

(THE ROADWAY INVENTORY)

MIDDLESEX COUNTY BIKEWAY PLAN ROAD INVENTORY - JULY, 1994

Municipality	Road	Limits	Pavement Width Of Road	ROW Width	Availability Of Shoulders > 8 Feet		Speed Limit	Overall Traffic Conditions	Truck Traffic Conditions	Roadway Conditions	Parallel Routes
					Yes	No					
Carteret	602 (Roosevelt Avenue)	Randolph Ave. (WO) to N. Washington Ave.	2 lanes	50 feet		?	25mph	high	high	road width varies	
	602 (Roosevelt Avenue)	N. Washigton Ave. to Coolidge Street	2 lanes			none	25 mph	moderate-high	moderate	heavy industry in some areas, security issues	Industrial Ave., side streets
	Industrial Ave.	entire length	2 lanes		over 10 feet		45 mph	moderate	moderate	wide shoulders	Roosevelt Ave.
	Washington Ave.	Roosevelt Ave. to Roosevelt Ave.	2 lanes			none	25 mph	moderate-high	light	narrow street, (to downtown center)	side streets
Cranbury	535 (Trenton Avenue)	Mercer County border to Main Street	2 lanes	33 feet	varies	varies	40-50 mph	light	light	shoulder conditions vary	
	614 (Dey Road)	U.S. 130 to Prospect Plains	2 lanes	33-50 feet		none	45 mph	light-moderate	light		Cranbury-Half Acre Road
	615 (Cranbury Neck Road)	Main Street to Plainsboro border	2 lanes	33 feet		less than 2	25-45 mph	light	light	Rural Route	
	685/539 (Hightstown Road)	Old Trenton Road to East Windsor	2 lanes	43-66 feet		none	35 mph	light	light	Cranbury Village to Heightstown Center	
	535 (South River Road)	U.S. 130 to N.J. 32	2 lanes	66 feet		less than 2	50 mph	moderate	moderate	very wide roadway, (to Cranbury Village)	Cranbury Village to U.S. 130
	614 (Main Street)	U.S. 130 to Plainsboro Road	2 lanes			0-5 feet	25-40 mph	light-moderate	light		535 (South River Road)
	535 (Main Street)	Plainsboro Road to Old Trenton Road	2 lanes			street parking	25 mph	light-moderate	light	on street parking, (to Cranbury Village)	U.S. 130
	Brick Yard Road	Hightstown Road and Wycoffs Mills Rd.	2 lanes			none	35 mph	light	light	very rural route	
	Plainsboro Road	Plainsboro border to Main Street	2 lanes			less than 2	25-45 mph	light-moderate	light	little or no shoulder	Dey Road, Cranbury Neck Road
	Ancil Davidson	Cranbury Neck to Old Trenton Road	2 lanes			none	unmarked	light	light	rural back road, (to Mercer County)	
	615 (Station Road)	U.S. 130 to Applegarth Rd.	2 lanes			none	50 mph	light	light	high speed but very low traffic	
	Cranbury-Half Acre Road	U.S. 130 to 615	2 lanes			0 to 6 feet	40-45 mph	light-moderate	light	shoulder available between 615 & 619, wide lanes	Station Road, Prospect - Half Acre.
	Scott Ave/Maplewood Ave.	Main Street to U.S. 130	2 lanes			none	25 mph	light	light	no shoulder but wide roadway	614 (Main Street)
Dunellen	665 (New Market Road)	Stelton Road to Washington Ave.	2 lanes			none	30 mph	light-moderate	light	residential side streets available,	side streets, Washington Ave.
	529 (Washington Ave.)	Greenbrook to Seventh St.	2 lanes	66-80 feet		none	25-35 mph	moderate-high	?	wide roadway north of N.J. 28	side streets
	678 (Walnut Street)	Seventh St. to Washington Ave.	2 lanes			none	25 mph	light-moderate	light	residential	
East Brunswick	615 (Bordentown-Amboy Rd.-Main St.)	Spotswood to Old Bridge	2 lanes			0-4 feet	35-40 mph	moderate-high	moderate		
	694 (Church Lane)	Georges Road to Dunhams Corner Rd.	2 lanes			none	40-45 mph	light-moderate	light	narrow lanes in places	Hardenburg Lane, Davidson Mill Road
	535 (Cranbury-South River Rd.)	Ryders Lane to N.J. 18	2-4 lanes		yes		40-45 mph	moderate-high	light-moderate	(to East Brunswick High School)	
	535 (Cranbury-South River Rd.)	Ryders Lane to Davidsons Mill Road	2 lanes		in places	2-6 feet	50 mph	moderate-high	moderate	road condition & shoulder varies	Dunhams Corner Road
	Dunham's Corner Road	535-Dutch Rd.-Church Rd.-535	2 lanes			none	40-50 mph	moderate	light	wide between Dutch and Church,(to E.B. Aquatic Center)	
	Dunham's Corner Road	Hardenburg Lane to East Brunswick Park	2 lanes		yes		40 mph	moderate	light	(to East Brunswick Aquatic Center)	
	527 (Old Bridge Tpk.)	N.J. 18 to 615	2 lanes	50 feet		0-2 feet	35 mph	moderate-high	moderate	high traffic areas	side streets
	677 (W. Prospect Street)	N.J. 18 to 527 (one way)	2 lanes			none	35 mph	moderate-high	?	heavy commercial area	
	677 (River Road)	615 to Whitehead Rd. (S.R.)	2 lanes			0-6 feet	35-30 mph	light-moderate	light	dangerous curves near South River border	side streets
	617 (Ryders/Rues Lane)	U.S. 1 to Tices Lane	4 lanes		yes		50 mph	moderate-heavy	moderate	new roadway with wide shoulder, (to Rutgers University)	Milltown Road
	617 (Ryders/Rues Lane)	Tices Lane to Milltown Road	2-3 lanes			variable	45 mph	moderate-heavy	moderate	variable shoulder, side streets available	Milltown Road
	617 (Ryders/Rues Lane)	Milltown Road to Dunhams Corner	2 lanes			var. to none	40 mph	moderate-heavy	moderate-light	variable shoulder to none, side streets available	
	617 (Ryders/Rues Lane)	Ryders Lane (New section)	2 lanes		yes		40 mph	moderate-high	moderate-light	wide shoulder, (to East Brunswick Square Mall)	Rues Lane
	Riva Ave.	Milltown Rd. to U.S. 130	2 lanes			none	40 mph	light-moderate	light	shoulder conditions vary, (to Bicentennial Park& Far.Lake)	
	Rues Lane	Summerhill Rd. to N.J. 18	4 lanes			none	45 mph	moderate	light-moderate	(to Vo-Tech School& Brunswick Square Mall)	Ryders Lane
	Fresh Ponds Road	U.S. 130 to Milltown	2 lanes			none	40 mph	light	light		Riva Ave.
	Dutch Road	Fresh Ponds Road to Dunhams Corner Road	2 lanes			none	35 mph	light	light		
	Dutch Road	Riva Ave to Dunhams Corner Rd.	2 lanes			none	35 mph	light	light		
	Old Stage Road	Helmetta Blvd. to New Brunswick Ave.	2 lanes			none	40 mph	light-moderate	light	road condition varies greatly	615
	Old Stage Road	Main Street to New Brunswick Ave.	2 lanes			none	35-40 mph	light-moderate	light	residential area	Main Street
	New Brunswick Ave.	Rues Lane to Snowhill Road (SP)	2 lanes			none	40 mph	moderate	light	residential area, wide roadway in East Brunswick	Summerhill Road
	Summerhill Road	N.J. 18 to Old Stage Road	2 lanes			0-3 feet	40 mph	moderate	light	wide roadway south of Ryders Lane	
	Rues Lane	Cranbury Road to Ryders Lane	2 lanes			none	35 mph	light-moderate	light		Ryders Lane
	615 (Main Street)	Spotswood to Old Bridge	2 lanes			none	35-40 mph	moderate	light-moderate	many large roadway intersections	
	Old Matawan Road	Main Street to 516 (O.B.)	2 lanes			none	25 mph	moderate-high	light	Spotswood-East Brunswick-Old Bridge connection	
	Tices Lane	Ryders Lane to N.J. 18	2 lanes			none	40 mph	moderate-high	light		
	Milltown Road	Ryder's Lane to Route 18	2 lanes			2-6 feet	40 mph	moderate-high	light		side streets available

conditions may vary during peak driving hours

MIDDLESEX COUNTY BIKEWAY PLAN ROAD INVENTORY - JULY, 1994

Municipality	Road	Limits	Pavement Width Of Road	ROW Width	Availability Of Shoulders > 8 Feet		Speed Limit	Overall Traffic Conditions	Truck Traffic Conditions	Roadway Conditions	Parallel Routes
					Yes	No					
Edison	602 (Inman Avenue)	Wood Ave. to Raritan Road	2 lanes			up to 4 feet	40 mph	moderate	light-moderate	shoulder only between Wood Ave. and Tingley La.	New Dover Road to Oak Tree Road
	514 (Woodbridge Avenue)	U.S. 1 to Mill Rd.	2-4 lanes	52-66 feet		none	35-45 mph	moderate-high	moderate		some side streets
	514 (Woodbridge Avenue)	Mill Rd. (667) to 501	4 lanes		10-12 feet		45-50 mph	moderate-high	moderate	(to Middlesex County College)	
	529 (Plainfield Avenue)	Woodbridge Ave to Kilmer Road	2 lanes	66 feet		none	35-40 mph	moderate-high	moderate	wide roadway	side streets are available
	531 (Park Avenue)	Woodbridge Ave. to I-287	2 lanes	60-66 feet		none	35 mph	moderate	light-moderate	newly paved wide roadway	
	531 (Park Avenue)	Oak Tree Road (SP) to Plainfield Road	2 lanes			0-6 feet	35 mph	moderate	light	very wide roadway	side streets, Plainfield Road
	501 (New Durham/Amboy Ave.)	Stelton Road to Metuchen	2 lanes	66 feet	varies	varies	35-50 mph	moderate-high	moderate	very wide roadway, shoulders vary, mostly 45 mph	
	604 (Oak Tree Road)	Woodland Ave. to Wood Ave.	2-5 lanes	66 feet		none	40 mph	moderate-high	light-moderate		New Dover Road, side streets
	661(Plainfield Road)	Park Avenue to Oak Tree Road	2 lanes	66 feet		none	25-35 mph	moderate	light	residential area	
	529 (Plainfield Ave.)	Piscataway limit to Kilmer Road	2 lanes		yes		45 mph	moderate-high	moderate	wide roadway and shoulders	
	676 (Sutton La./Dulcios)	Truman Dr. to N.J. 27	2 lanes			none/parking	25-35 mph	light-moderate	light	residential area	side streets are available
	Kilmer Road	Plainfield Ave. to Cedar Lane	2 lanes			parking	25 mph	moderate-high	moderate	industrial warehouse area	Ethel Road & School Street
	Brunswick Ave.	Plainfield Ave. to Talmadge Road	2 lanes			none	25 mph	moderate	moderate	industrial warehouse area, quick traffic area	Ethel Road
	Talmadge Road	New Durham Road to N.J. 27	2 lanes			none	40 mph	moderate-high	moderate-high	wide roadway	
	Ethel Road	Plainfield Ave. (Pl) to New Durham Road	2 lanes			none	25 mph	light	light	no trucks allowed	New Durham Road
	Vineyard Road	N.J. 27 to Post Road	2 lanes			none	25 mph	moderate	light-moderate		side streets are available
	Post Road	U.S. 1 to Woodbridge Ave.	2 lanes			none	25 mph	moderate	light	residential area	
	Tingley Lane	New Dover Road to Inman Ave.	2 lanes			none	25 mph	light-moderate	light		Woodland Ave.
	Woodland Ave.	Oak Tree Road to Plainfield border	1.5-2 lanes			none	35 mph	light-moderate	light	wooded/residential area, rough road in places	Park Ave.
	Wood Ave.	N.J. 27 to Inman Ave.	2 lanes			none	25 mph	light-moderate-high	light		side streets
	New Dover Road	Wood Ave. to Oak Tree Road	2 lanes			none	25 mph	light-moderate	light		Oak Tree Road, Inman Ave.
	Grove Ave.	Inman Ave to N.J. 27 (ME)	2 lanes			none	25-35 mph	light-moderate	light	speed limit 25 mph within Metuchen only	side streets, Tingley La. & Plainfield Road
	Lafayette Dr.	Amboy Ave. to Parsonage Rd.	2 lanes			none	25 mph	light-moderate	light	one way adjacent to Roosevelt Park	
	Parsonage Road	U.S. 1 to N.J. 27	2-4 lanes			0-8 feet	35 mph	moderate-high	light	shoulder varies.(to Menlo Park Mall, Roosevelt Park & Hospital)	Roosevelt Drive-Evergreen Rd.
	657 (Evergreen/Thornhall St.)	Parsonage Road to Thornhall St.	2 lanes			none	25 mph (?)	moderate	light	(to Metro-park)	
	Grandview Ave.	U.S. 1 to 514	2 lanes			none	25 mph	moderate-high	light		501 (New Brunswick Ave.)
Helmetta	615 (Main Street/Helmetta Road)	Spotswood to Monroe	2 lanes	50 feet		0-3 feet	35-40 mph	moderate	light-moderate	wide roadway	Forge Road
	615 Main St. (Spotswood-Cranbury Rd.)	Spotswood to Monroe	2 lanes	50 feet		0-3 feet	35-40 mph	moderate	light-moderate	wide roadway	Forge Road
	(Maple Street)	615 to Helmetta Blvd.	2 lanes			none	35 mph	light	light	(to Jamesburg County Park)	
	Helmetta Blvd.	615 to Cranbury-South River Road	2 lanes			none	25-40 mph	light	light	(to Jamesburg County Park)	
Highland Park	514 (Woodbridge Avenue)	Raritan Ave. to U.S. 1	2 lanes			parking	25-35 mph	moderate-high	moderate		side streets are available
	514 (River Road)	Raritan Ave to Cedar Lane	2 lanes			less than 2	35 mph	moderate-high	light	(to Johnson Park Bikeways)	Johnson Park
	692 (Cedar Lane)	River Road to Kilmer Road	4 lanes			none	25 mph	moderate-high	light	(to Rutgers University; Livingston Campus)	Mellars Lane
	(Raritan Avenue)	Albany Street Bridge to Suttons Lane	2-4 lanes			parking/none	30-40 mph	high	light-moderate	downtown traffic congestion	side streets are available
	(Valentine Street)	entire length	resid			parking (?)	25 mph	light	light	(to Donadson County Park), residential environment	side streets are avialable
	(Crowells Road)	Valentine to Woodbridge Ave.	resid			parking	25 mph	light-moderate	light	Multi-family (apartment) complex access	side streets are avalible
Jamesburg	612 (Pergola Avenue)	Boro limits	2 lanes			0-6 feet	25-40 mph	light-moderate	light	speed decreases into Boro	
	522 (Railroad Rd.)	615 to 612	2 lanes	100 feet		none	30 mph	moderate-high	light-moderate	Jamesburg Center	side streets including W. Railroad Ave.
	522 (Buckelew Ave./Gatzmer Rd.)	Boro limits	2 lanes	33-66 feet		none	40 mph	light-moderate	light	(to Thompson County Park)	
	522	615 to 698	2 lanes			0-2 feet	35 mph	light-moderate	light-moderate	no shoulder but wide roadway	
	698 (Docks Corner Road)	535 to 522 (Jamesburg)	2 lanes	33 feet		none	50-35 mph	light	light	slower speeds into Jamesburg Boro	
	612 (Forsgate Dr./Pergola)	615 to 522	2 lanes	50-66 feet		none	35 mph	light-moderate	light-moderate		side streets in Jamesburg
	615 (Jamesburg/Half Acre)	612 to 522	2 lanes	50 feet		none	35-40 mph	light-moderate	light		side streets available
	615 (Lincion Ave./Helmetta Rd.)	522 to Helmetta	2 lanes			none	35-45 mph	light-moderate	light-moderate	slower speeds in Jamesburg Boro	
	Jameburg-Perrineville Road	522 to Monroe border	2 lanes			2-4 feet	40 mph	light-moderate	light	(toThompson County Park)	
	Forge Road	Boro limits	2 lanes			none	25 mph	light	light		

conditions may vary during peak driving hours

MIDDLESEX COUNTY BIKEWAY PLAN ROAD INVENTORY - JULY, 1994

Municipality	Road	Limits	Pavement Width Of Road	ROW Width	Availability Of Shoulders > 8 Feet		Speed Limit	Overall Traffic Conditions	Truck Traffic Conditions	Roadway Conditions	Parallel Routes
					Yes	No					
Metuchen	501 (New Durham/Amboy Avenue)	entire length in Boro	2 lanes	66 feet		none	30-35 mph	moderate-high	light-moderate	to Downtown Metuchen	Woodbridge Ave.
	669 (Woodbridge Ave.)	Main Street to U.S. 1	2 lanes	50-66 feet		none	25-35 mph	light-moderate	light		501 Amboy Ave.
	531 (Main St.)	I-287 to Central Ave.	2 lanes	66 feet		none/parking	30-35 mph	moderate-high	light	(Downtown Metuchen)	sidestreets are available
	669 (Central Avenue)	Main Street to Plainfield Rd.	2 lanes			none	35 mph	light-moderate	light	very wide roadway, residential neighborhood	sidestreets are available
	Grove Ave.	Boro limits	2 lanes			none	25 mph	light	light	residential area, (to High School)	side streets and Main Street
	Bridge Street to Middlesex	entire length	2 lanes			none	25-35 mph	moderate	light	light traveled area between	N.J. 27
Middlesex	607 (Lincoln Blvd.)	River Road to N.J. 28	2 lanes	60-66 feet		none	30-35 mph	moderate-high	moderate-high	industrial area, wide roadway, extensive side streets	side streets
	514 (River Rd./Raritan Ave.)	Lincoln Blvd. to N.J. 28	2 lanes	50-80 feet		none	35 mph	moderate	moderate	wide roadway	side streets
	514 (River Road)	DETOURED	2 lanes								
	Harris Avenue	N.J. 28 to Cedar Ave.	2 lanes			none	25 mph	light	light	residential	side streets
	N.J. 28 (Bound Brook Road)	River Road to Washington Avenue (DU)	2 to 4 lane			none	35 mph	moderate-high	moderate	extensive side streets	side streets
	Shepard Ave.	N.J. 28 to Somerset Co.	2 lanes			none	25 mph	moderate		residential area	side streets
	Mountain Ave.	Lincoln Blvd to N.J. 28	2 lanes			none	25 mph	moderate	?		side streets
Milltown	606 (Main Street)	U.S. 1 to Ryders Lane	2 lanes	50 feet		none	30 mph	moderate-high	light	extensive side streets, side walks, (to Downtown)	side streets
	606 (Main Street)	Washington to Ryders Lane	2 lanes	50 feet		none	30 mph	moderate-high	light	(to Downtown)	side streets
	617 (Ryders Lane)	Tices Lane to Milltown Road	2-3 lanes			variable	45 mph	moderate-heavy	moderate	variable shoulder, side streets available	Milltown Road
	(Washington Avenue)	Ryders Lane to Main Street	2 lanes			none	25 mph	moderate-high	light	(to Downtown)	side streets available
Monroe	619 (Applegarth Rd./Butcher Rd.)	Millstone Township to 614	2-4 lanes	33 feet		vary	35-45 mph	light-moderate	light	road type and conditions vary greatly	Union Valley-Applegarth Rd. to 615
	619 (Applegarth Rd./Butcher Rd.)	612 to 614	2- 4 lanes			none	35-40 mph	light-moderate	light		
	522 (Buckelew Ave./Jamesburg-Englishtown Road)	613 to Jamesburg border	2 lanes	33-50 feet		0-5 feet	40-50 mph	light-moderate	light	shoulder varies along roadway	
	522 (Brown Corner Road)	Jamesburg to 535	2 lanes			0-3 feet	40-50 mph	moderate	light-moderate		
	615 (Cranbury Station/Jamesburg (Half Acre) Road-Union Valley Road/	U.S. 130 to Applegarth Rd.	2 lanes			none	50 mph	light	light	high speed but very low traffic	Cranbury-Half Acre Road
	Spotswood Cranbury Station	Applegarth Rd. to 614 (Hoffman Station Rd)	2 lanes			none	50 mph	light	light	very wide road (Gravel Hill to Hoffman Station)	Applegarth Rd. or Jamesburg-Perrineville Rd.
	Spotswood Cranbury Station	614 to 612	2 lanes			none	50 mph	light-moderate	light	roadway of average width	
	615 (Lincion Ave./Helmetta Rd.)	522 to Helmetta	2 lanes			none	35-45 mph	light-moderate	light-moderate	slower speeds in Jamesburg Boro	
	698 (Dock's Corner Road)	535 to 522 (Jamesburg)	2 lanes	33 feet		none	50-35 mph	light	light	slower speeds into Jamesburg Boro	
	612 (Pergola Ave.-Matchaponx Ave.)	Forge Rd. to 613 (Englishtown Rd.)	2 lanes		limited	0-5 feet	40 mph	light-moderate	light		
	612 (Foragate Dr./Pergola Ave.)	N.J. 32 to 615 (Jamesburg)	2-4 lanes	33 feet		0-2 feet	40-45 mph	moderate	light-moderate	little to no shoulder, (NJ Turnpike exit 8A)	Prospect Plains Road by-pass Jamesburg
	527 (Old Bridge/Englishtown Rd.)	Monroe Township limits	2 lanes	50 feet		0-3 feet	50 mph	light-moderate	light-moderate	quick moving roadway	613 (Spotswood-Englishtown Road)
	614 (Prospect Plains/Hoffman	Jamesburg-Perrineville to 522	2 lanes	33 feet		none	40-50 mph	light	light		
	Station Road)	Jamesburg-Perrineville to 535	2 lanes		over 8 feet	0-8 feet	40-45 mph	moderate	light-moderate	shoulder is not consistant and varies greatly	
	613 (Spotswood-Englishtown Rd.)	Old Texas Road and South	2 lanes	41 feet		none	50 mph	light-moderate	light		
	613 (Spotswood-Englishtown Rd.)	Old Texas Road to Spotswood	2 lanes		up to 8 feet		35-45 mph	light-moderate	light		Monmouth Road
	Wycoff Mills-Applegarth Rd.	entire length	2 lanes			none	35 mph	light	light	rural	Halsey Reed Road
	Halsey Reed Road	entire length	2 lanes			none	40 mph	light	light	rural	Wycoffs Mills-Applegarth Road
	Wycoffs Mills-Cranbury Station Rd.	Station Road to Mercer County	2 lanes			none	35 mph	light	light	rural	Applegarth Road
	Tracy Station Road	South of 613	2 lanes			none	30 mph	light	light	rural	
	Hoffman Station-Mounts Mills Rd.	522 to 527	2 lanes			none	40-45 mph	light	light	roadway in poor condition	
	Schoolhouse Road	entire length	2 lanes			none	35-45 mph	light	light	roadway in poor condition	
	Spotswood-Gravel Hill Road	entire length	2 lanes			none	35-40	light	light	narrow in some places	Spotswood-Englishtown Road
	North State Home Road	entire length	2 lanes			none	45 mph	light	light		Matchaponx Ave.
	Old Texas Road	613 to 527	2 lanes			none	40-45 mph	light-moderate	light		
	Jamesburg-Perrineville Road	Jamesburg to Schoolhouse Road	2 lanes			none	40-45 mph	light-moderate	light		
	Jamesburg-Perrineville Road	Schoolhouse Road to 614	2 lanes		yes		45 mph	light-moderate	light	excellent shoulder	Jamesburg-Half Acre Road
	Jamesburg-Perrineville Road	614 to N.J. 33	2-3 lanes			none	40-45 mph	moderate	moderate	narrow in places	Applegarth Road
	Union Valley Road	entire length	2 lanes			none	35 mph	light	light	rural route	Federal Road
	Gravel Hill Rd. (& Bergen Mills-)	entire length	2 lanes			none	35-40 mph	light	light	rural route	
	Forge Road	Jamesburg to Helmetta	2 lanes			none	40 mph	light	light	rough road in place	615
	Lower Matchaponx Road	entire length	2 lanes			none	40 mph	light	light		612
	Hoffman Road	entire length	2 lanes			none	35 mph	light	light	rough road in places	522
	Day Grove Road	entire length	2 lanes			none	30 mph	light	light	rural route	
	Jurgelsky Road	entire length	2 lanes			none	35-40 mph	light	light	rural route	
	Federal Road	West of Jamesburg-Perrineville Road	2 lanes			none	35-40 mph	light	light	rural route	very narrow in some areas
	Federal Road	East of Jamesburg-Perrineville Road	2 lanes			none	50 mph	light	light	rural route	wide roadway
	England & Mount Roads	entire length	1-2 lanes			none	35 mph	light	light	rural route	Road condition is poor in some areas
	Union Valley-Applegarth	entire length	2 lanes			none	45 mph	light	light	rural route	
	Monroe Blvd.	entire length	2 lanes			none	40 mph	light	light	rural route	
	Monmouth Road	entire length	2 lanes			none	25 mph	light	light	residential neighborhood	

conditions may vary during peak driving hours

MIDDLESEX COUNTY BIKEWAY PLAN ROAD INVENTORY - JULY, 1994

Municipality	Road	Limits	Pavement Width Of Road	ROW Width	Availability Of Shoulders > 8 Feet		Speed Limit	Overall Traffic Conditions	Truck Traffic Conditions	Roadway Conditions	Parallel Routes
					Yes	No					
New Brunswick	617 (Clifton Ave./Ryders Ln.)	George Street to Ryders Lane	2 lanes	33-50 feet		none	25 mph	moderate	low	(to Rutgers University; Cook/Douglass Campus)	
	672 (George St.)	Clifton Ave. to Landing Lane Bridge	2 lanes	66 feet		some parking	25 mph	high	low-moderate	downtown congestion, wider near Rutgers College	Commercial Ave to Nielson to Albany
	Georges Road	Commercial Ave to Nassau St. (No. B)	2 lanes	66 feet		parking	25-40 mph	moderate-high	moderate	security, poor pavement in areas	
	609 (Landing Lane)	Easton Ave. to River Road	2 lanes	50 feet		none	35 mph	moderate-high	light	narrow Raritan River Crossing, (to Johnson County Park)	N.J. 18
	693 (Jersey Avenue)	How Lane to Van Dyke Ave.	2 lanes	60-75 feet		6 foot	40 mph	moderate-high	high	industrial area however wide shoulders in good condition	Livingston Ave, N.J. 27
	693 (Jersey Avenue)	Van Dyke to French Street	2 lanes			none	25 mph	moderate	moderate	narrow roadway with no shoulder, industrial area	Livingston Ave. N.J. 27
	691 (Livingston Ave.)	New Street to Nassau Street	4 lanes			parking	25 mph	moderate-high	light-moderate	heavy traffic, multiple side streets, (to downtown)	Jersey Avenue, side streets
	691 (Livingston Ave.)	Nassau Street to U.S. 1	2 lanes		yes	4-6 feet	35-40 mph	moderate-high	moderate	shoulder good on north side of roadway	Jersey Ave.
	(Somerset Street)	N.J. 27 to George Street	2 lanes			parking	25 mph	moderate-high	light	(to Robert Wood Johnson Hospital & Rutgers University)	Hamilton Blvd., Albany Street
	(Commercial Ave.)	Route 18 to Georges Road	2 lanes			none	25 mph	moderate-high	light-moderate	wide roadway	Nichol
	(Nichol Avenue)	George Street to Sanford	2 lanes			none	25 mph	light-moderate	light	(to Rutgers University; Cook/Douglass Campus)	Commercial Ave.
	(Dudley Road)	Nichol Ave to Clifton Ave.	2 lanes			none	25 mph	light	light	through Cook/Douglass Campus	George St. to Clifton Ave.
	(Lee Ave.)	Loretta Street to Walton Street	2 lanes			parking	25 mph	light	light	security, many crossing streets	Livingston Ave., Commercial Ave.
	(Joyce Kilmer Ave.)	Albany Street to Suydam St.	2 lanes			some parking	25 mph	moderate-high	moderate	security, narrow roadway, congestion	Livingston Ave.
	Joyce Kilmer Ave.	Suydam St. to North Brunswick border	2 lanes			some parking	25 mph	light-moderate	light-moderate	wide roadway with little parking	Livingston Ave.
	(College Ave.)	Somerset St. to George Street	2 lanes			some parking	25 mph	light-moderate	light	(to Rutgers University; College Avenue Campus)	Easton Ave. , George Street
	N.J. 27	How Lane to Somerset Street	4 lanes			none	40 mph	moderate-high	moderate	security issues	
	N.J. 27 (French Street)	Somerset St. to Easton Avenue	2 lanes			parking	25 mph	high	moderate-high	(to downtown New Brunswick)	Somerset St.
	N.J. 27 (Albany Street)	Train Station to Albany Street Bridge	4 lanes			none/parking	25 mph	high	moderate	(to downtown New Brunswick & Train Station)	high traffic area
North Brunswick	608 (Cozzens Ln.)	U.S. 1 to N.J. 27	2 lanes	35 feet	varies	varies	40 mph	moderate-high	moderate	(to Sabella Park Bikeway), shoulder wide in some areas	Finnegans Lane, How Lane
	608 (Adams Lane)	U.S. 1 to U.S. 130	2 lanes			none	35 mph	moderate	moderate		
	694 (Church Lane)	U.S. 130 to Dunhams Corner Road	2 lanes	33 feet		none	40-45 mph	light-moderate	light		Davidson Mill Road
	610 (Finnegan's Lane)	U.S. 1 to N.J. 27	4 lanes	33 feet	yes	more than 6	45 mph	moderate	light-moderate	quick, straight run	Henderson La. or Cozzens La.
	606 (Milltown Rd./Main St.)	Georges Road to U.S. 1	4 lanes	50 feet		none	35 mph	moderate-high	moderate	congested area, Route 1 By-pass	
	680 (How Lane)	Livingston Ave to N.J. 27	2 lanes	33 feet	yes		40 mph	moderate-high	moderate-high		
	693 (Jersey Avenue)	How Lane to U.S. 1	2 lanes	60 feet	yes	6 feet	40 mph	moderate-high	high	industrial area with wide shoulders	side streets available
	Livingston Ave.	How Lane to U.S. 1	2 lanes			variable	45 mph	moderate-heavy	moderate-high	industrial area, pavement condition varies, to New Brunswick	Jersey Ave.
	617 (Ryders Lane)	U.S. 1 to Weston Mills Pond	4 lanes	33 feet	yes		40 mph	moderate-heavy	light-moderate	(to Rutgers University Display Gardens), Rt. 1 By-pass	
	620 (Nassau St.)	Livingston Ave. to Georges Road	2 lanes			none	25 mph	light-moderate	light	sidewalks, side streets	Hermann Rd.
	George's Road	Nassau St. to Milltown Road	2 lanes			none	35 mph	moderate	light		Livingston Ave.
	N.J. 27	How Lane to Finnigans Lane	2 lanes		yes	4-6 feet	40-45 mph	moderate-high	moderate	condition of shoulder varies from excellent to poor	U.S. 1
Old Bridge	615 (Bordentown-Amboy Rd.)	-see Sayerville	20 feet	50 feet							
	687 (Cottrell Road)	516 to N.J. 34	2 lanes	33 feet		0-4 feet	45 mph	moderate	light		Farrington & Partridge Roads
	689 (Amboy (Frenesu) Rd.)	N.J. 34 to 516	2 lanes	33 feet		none	40 mph	light	light		Farrington & Partridge Roads
	516 (Matawan-Old Bridge Rd.)	N.J. 18 to U.S. 9	2 lanes	33 feet		0-6 feet	40-45 mph	moderate-high	light-moderate	mostly small shoulder under 2 feet, (to municipal complex)	
	516 (Matawan-Old Bridge Rd.)	U.S. 9 to Amboy Road	2 lanes			0-8 feet	45 mph	moderate-high	light-moderate		
	527 (Old Bridge-Englishtown Rd.)	Texas Road to N.J. 18	2 lanes	50 feet		0-6 feet	35-50 mph	moderate	light-moderate		613
	527 (Old Bridge-Englishtown Rd.)	Texas Road to Manalapan	2 lanes			0-10 feet	50 mph	light-moderate	light	quick moveing roadway with variable shoulder	
	Rue Road	613 to 527	2 lanes			none	30 mph	light	light	back road	Mount Mills Road
	Pleasant Valley Rd, E. Greystone Rd.	entire length	2 lanes			none	25 mph	light	light	back roads	each other, Old Texas Rd
	Marlboro Rd.	south of N.J. 18	2 lanes			none	unknown	light	light	back road	
	Marlboro Rd.	north of N.J. 18	2 lanes			none	25 mph	light	light		N.J. 18
	(Ernston Road)	-see Sayerville									
	(Perrine Road)	Cheesequake Road to N.J. 9	2 lanes			none	?	light-moderate	light	wooded area	
	(Higgins Road)	Ticetown Road to 516	2 lanes			none	25 mph	light	light		Cotrell Road
	(Ticetown Road)	U.S. 9 to Marlboro	2 lanes			none	25 mph	moderate	light	narrow roadway in places	516
	Spring Hill Road	N.J. 34 to Cotrell Road	2 lanes			0-2 feet	40 mph	light-moderate	light		Cotrell Road
	(Spring Valley Road)	N.J. 18 to Marlboro Rd.	2 lanes			none	25 mph	light	light		
	(Throckmorton La.)	entire length	2 lanes			none	25 mph	light-moderate	light	wide roadway	extensive side streets are available
	Old Texas Road	613 to 527	2 lanes			none	40-45 mph	light-moderate	light		
	Old Texas Road	527 to U.S. 9	2 lanes			none	45-50 mph	light	light		East Greystone Road
	West Greystone	entire length	2 lanes			none	25 mph	light	light	wooded area	
	689 (Cheesquake-Morristown)	entire length	2 lanes			0-6 feet	40 mph	moderate	light		
	689 (Matawan-Lawrence Rd)	Cheesquake Park - Raritan Bay				0-4 feet	35-40 mph	moderate	light	(to Raritan Bay Shore)	
	Partridge-Farrington Rd.	516 to N.J. 34	2 lanes			none	25 mph	light	light	seemingly rural setting	Cotrell Rd.
	Cheesequake Rd.	Bordentown-Amboy Turnpike Loop	2 lanes			none	25 mph	light-moderate	light	residential, wooded & industrial area south of Perrine	

conditions may vary during peak driving hours

MIDDLESEX COUNTY BIKEWAY PLAN ROAD INVENTORY - JULY, 1994

Municipality	Road	Limits	Pavement Width Of Road	ROW Width	Availability Of Shoulders > 8 Feet		Speed Limit	Overall Traffic Conditions	Truck Traffic Conditions	Roadway Conditions	Parallel Routes
					Yes	No					
Perth Amboy	655 (Florida Grove Road)	New Brunswick Ave. to N.J. 35	2 lanes	66 feet		none	25 mph	light-moderate	light	residential area, (to William Warren County Park)	some side streets
	616 (New Brunswick Avenue)	Smith Street to U.S. 440	2 lanes	66 feet		parking	25 mph	high	moderate	urban area, (to Downtown)	side streets
	656 (Smith Street)	N.J. 35 to Front Street	2 lanes	66 feet		parking	25 mph	high	?	urban area, 4 lanes near 440, (to Downtown)	side streets
	611 (State Street)	U.S. 440 to Woodbridge Ave. (WO)	2 lanes			none	25-45 mph	moderate	moderate-high	highly industrialized area, 4 lanes near 440	Amboy Ave.
	611 (State Street)	Smith Street to U.S. 440	2 lanes	66 feet		parking	35 mph	high	?	urban area, (to Downtown)	side streets
	Sadowsky-Water-Front St.	entire length	2 lanes			parking	25 mph	moderate	light	park area, waterfront, historic area	side streets
	659 (Herbert-Market Street)	Smith Street to High Street	2 lanes			parking	25 mph	moderate-high	light	urban area	side streets
	Pfeifer Blvd.	U.S. 9 to U.S. 440	4 lanes				40 mph	moderate-high	?		
Piscataway	609 (Landing Lane)	Easton Ave to River Road	2 lanes	20 feet		none	35 mph	moderate-high	light	steep incline, Raritan River Crossing, (to Johnson Park)	N.J. 18 to traverse river
	609 (Metlars Lane)	River Road to Sutton Lane	2 lanes	50 feet		none	45 mph	high	light	curving road, Rutgers University traffic, narrow roadway	Cedar Lane to Sutton/ Hoes Lane to Morris Ave.
	609 (Metlars Lane)	Sutton Ave. to Stelton Road	2 lanes			0-4 feet	40 mph	moderate-high	light-moderate	no shoulder between Washington & Stelton	School Street
	529 (Washington Ave.)	U.S. 28 to Stelton Road	2 lanes	50-59 feet		up to 6 feet	35-40mph	moderate-high	moderate	wide roadway, shoulders south of Lakeview, (to Dunellen)	New Market and Stelton Roads
	529 (Washington Ave.)	Stelton Road to Metlars Lane	2 lanes			none	40 mph (?)	moderate-high	light-moderate	little to no shoulder	Stelton Road and Randolphville Road
	514 (River Road)	Cedar Lane to Lincoln Avenue (MX)	2 lanes	50 feet	vary	less than 3	35-45 mph	moderate-high	moderate to heav	(to Rutgers University & Johnson County Park)	
	671 (Rock Avenue)	Second St. to Seventh St.	2 lanes	60 feet		none	35 mph	moderate	light-moderate	wide roadway	5 th street bike route
	665 (Stelton Road)	Washington Avenue to I-287	2 lanes			variable	40 mph	high	high	busy industrial/commercial corridor, poor pavement	Washington Ave. over I-287 to Metlars La.
	665 (Stelton Road)	I-287 to New Durham Road	4 lanes			none	40 mph	high	high	very busy roadway	Washington Ave. over I-287 to Metlars La.
	665 (Stelton Road)	Washington Ave. to New Market Road	2 lanes	40 feet		none	25-35 mph	moderate	light-moderate		Washington Ave. & side streets
	665 (Stelton Road)	New Durham Road to Kilmer Road (ED)	2 lanes		yes		40 mph	moderate-high	moderate	wide road and newly paved shoulders	Metlars La. to Sutton Road
	601 (W. 7th Street)	Plainfield to New Market Road	2 lanes	66 feet		none	35 mph	moderate-high			designated bike routes in area
	(Hoes Lane)	Possumtown Road to Morris Ave.	4 lanes		up to 8 feet	4-8 feet	40 mph	moderate	light-moderate		
	(Hoes Lane)	Morris Ave to River Road	2 lanes			none	30 mph	moderate	light	(to Rutgers University: Busch Campus and UMDNJ)	Park Avenue side street
	(Centennial Avenue)	Washington Ave to Possumtown Road	2-4 lanes		yes		40-45 mph	light-moderate	light	wide roadway or shoulder in most areas	Behmer Rd & Knights Bridge Road
	(Centennial Avenue)	Possumtown Road to River Road	4 lanes			0-4 feet	45 mph	moderate	light-moderate		
	655 (New Market Road)	Stelton Road to Washington Ave.	2 lanes			none	30 mph	light-moderate	light	residential side streets available,	side streets, Washington Ave.
	Walnut	Seventh St. to Washington Ave.	2 lanes			none	25 mph	light-moderate	light	residential	
	Lakeview Ave.	New Brunswick Ave to Stelton Road	2-4 lanes			none	25 mph	moderate-high	moderate-high	industrial area	
	Williams Street	Lakeview to N. Randolphville Rd.	2 lanes			none	30-35 mph	light-moderate	light-moderate	more trucks in Middlesex Boro	side streets available
	N. Randolphville Road	William Street to Old New Brunswick Rd.	2 lanes			none	40 mph	light-moderate	light	street width vary	
	Randolphville Road	Old New Brunswick Rd. to Metlars La.	2 lanes			none	40 mph (?)	light-moderate	light-moderate	heavier traffic toward interchange with I-287, road width varies	Old New Brunswick Road and Hoes Lane
	674 (Sutton Lane)	Gordon Road To Metlars Lane	2 lanes			0-5 feet	35 mph	light-moderate	light	road width varies, (to Rutgers University; Livingston Campus)	Livingston Campus
	Ethel Road	Suttons Ave. to Stelton Road	2 lanes			4 feet	25 mph	light	light	very wide roadway, (to Rutgers University; Livingston Campus)	School Street
	School Street	Stelton Road to Sutton Road	2 lanes			none	25 mph	light	light	residential/ wooded area	Ethel Road, Metlars Lane, Kilmer Road
	Old New Brunswick Road	Stelton Road to Hoes Lane	2-4 lanes			none	40 mph	moderate-high	moderate	very wide roadway	Randolphville Road
	Possumtown Road	Hoes Lane to Middlesex Boro	2-4 lanes			none	not posted	light-moderate	light-moderate	very wide roadway	
	Knights Bridge Road	Centennial Ave. to Behmer Rd.	2 lanes			none	not posted	light-moderate	light	by-pass Centennial Ave & Hoes Lane intersection	Hoes Lane
	Behmer Road	Hoes Lane to Randolphville Road	2 lanes			none	25 mph	light-moderate	light		Centennial Ave.
	Morris Ave.	Hoes Lane to Randolphville Road	2 lanes		yes		35 mph	light-moderate	light	wide roadway with good shoulder	
	Sindney Road	Hoes Lane to Randolphville Road	2 lanes			none	25 mph	light	light	good roadway conditions, (to Piscataway High School)	
	Rutgers Univ. (Stuphen Road)		2 lanes			no	40 mph	light-moderate	light	very wide roadway	
	Rutgers Univ. (Frelinghuysen Road)		2 lanes			no	35 mph	light-moderate	light	very wide roadway	
	Rutgers Univ. (Ave. E, D, & A)		2 lanes			no	25-35 mph (	light-moderate	light	many pedestrians and cyclists	River Road & Kilmer road
	Rutgers Univ. (Davidson Road)		2 lanes		up to 8 feet	0-8 feet	25 mph	moderate	light	8 foot shoulder available in some areas	currentnly improving roadways in this area
Plainsboro	*614 (Day Rd./Scudders Mill Rd.)	U.S. 1 (South) to Academy Street	2 lanes	45 feet		less than 2	40-45 mph	moderate	moderate	(to Delaware/Raritan Canal Park)	U.S. 1
	*614 (Day Rd./Scudders Mill Rd.)	Cranbury Twp Border to Edgemere Rd.	2 lanes	45 feet		less than 2	40-45mph	light-moderate	light-moderate	rural roadway, long-straight stretch of roadway	Plainsboro Road
	683 (Schalks Crossing Road)	522 to 614	2 lanes			none	45 mph	moderate	light	wide road in places, narrow in others	New Road to Scotts Corner
	College Rd.-Seminary Rd.	U.S. 1 to 614	2-4 lanes			none	40 mph	light	light	straight line, good visibility	
	Plainsboro Road	East of Day Rd. (614)	4 lanes			none	45-50 mph	moderate-heavy	light-moderate	bikeways throughout adjacent developments	Day Road
	Plainsboro Road	West of Day Road	2 lanes			none	35-40 mph	light-moderate	light-moderate	biking conditions vary	Scudders Mill
	Maple Ave.	South of Plainsboro Rd.	2 lanes			less than 2	35 mph	light-moderate	light	pedestrian way, bikeway along roadway	
	Edgemere Road	Maple Ave to Plainsboro Road	2 lanes			none	35 mph	moderate	light	residential, wide roadway for bikers(north bound), parks	
	*George Davidson Road	South of Plainsboro Road	2 lanes			less than 2	40 mph	light-moderate	light	rural road, straight and level	
	*Scotts Corner Road	Plainsboro Road to Broadway	2 lanes		variable	variable	40 mph	light-moderate	light	pedestrian way along roadway in Plainsboro	

conditions may vary during peak driving hours

MIDDLESEX COUNTY BIKEWAY PLAN ROAD INVENTORY - JULY, 1994

Municipality	Name	Road	Limits	Pavement Width Of Road	ROW Width	Availability Of Shoulders > 8 Feet		Speed Limit	Overall Traffic Conditions	Truck Traffic Conditions	Roadway Conditions	Parallel Routes
						Yes	No					
Sayreville	CR615	615 (Bordentown-Amboy Turnpike)	Ernston Road to South Amboy	2 lanes	50 feet		none	35-40 mph	moderate-high	light-moderate		
	CR615	615 (Bordentown-Amboy Turnpike)	Ernston Road to 677 (River Road in E.B.)	2 lanes		small area	0-2 feet	35-50 mph	moderate	moderate	heavier traffic toward Sayerville-South Amboy	
	CR673	673 (Ernston Road)	Parkway to Washington Road	2 lanes	50 feet	wide areas	none	35-40 mph	moderate-high	moderate	very, very wide roaway between Parkway and U.S. 9	side streets in some places
	CR670	670 (Main Street)	535- Main Street Extension	2 lanes			variable	30-45 mph	moderate	light-moderate	street side parking in downtown area	Washington Rd.
		Main Street Extension	Main Street-Chevalier Ave.	4 lanes		yes		45 mph				
	CR535	535 (Washington Road)	South Amboy to South River	2 lanes	50 feet	some places	none	35-40 mph	moderate-high	light-moderate	side streets available west of Parlin	670 (Main Street)
	CR535	535 (Raritan Street)	-see South Amboy									
	CR675	675 (Jernee Mill Road)	Washington Rd. to 675	2 lanes			0-2 feet	45 mph	light-moderate	light-moderate	wooded and undeveloped area	Whitehead and River Road in S.R. and E.B.
		McArthur Avenue	Washington Rd. to Main St.	2 lanes			parking	25 mph	light-moderate	light-moderate	parking in shoulder area	Main Street
		Cheesequake Road	Bordentown Ave. to Minisink Ave.	2 lanes		up to 10 feet		35-50 mph	light-moderate	light-moderate	newly reconstructed in parts	
South Amboy	CR670	670 Main Street	Scott Ave. to Train Tracks	2 lanes			0-4 feet	50 mph	moderate	moderate	quick moving traffic	
	CR670	670 Main Street	Train Tracks to Route 9	2 lanes			parking	35 mph	moderate	light-moderate	downtown area, on street parking	side streets available
	CR684	684 Main Street										
	CR686	686 Scott Avenue	Main St. to Ridgeway	2 lanes			none	25 mph	light	light	residential area	
		Ridgeway Ave.	Scott Ave. to 4 th Ave.	2 lanes			none	25 mph	light-moderate	light	residential area, narrow train passage	
	Raritan	Raritan Ave.	Ridgeway Ave. to Main Street	2-4 lanes			none	25-35 mph	moderate	light		
	CR535	Washington Rd	Main Street (SA) to Main Street (SY)	2 lanes				25-40 mph	moderate	moderate	to Downtown area	
	CR686	Feltus St.	Main Street to Orchard	2 lanes				25 mph	light-moderate	light	very wide roadway in places	Pine Street
	CR688	Pine Street	Route 35 to Augusta	2 lanes				25-40 mph	moderate	light-moderate		Feltus Ave.
	CR615	Bordentown Avenue										
South Brunswick	CR535	535 (Cranbury-So. River Rd.)	In South Brunswick	2 lanes	66 feet	variable	variable	40-50 mph	moderate-high	moderate-high	very wide roadway & shoulder not lined in places	
	CR610	610 (Deans Lane)	U.S. 1 to Georges Road	2 lanes			none	40 mph	light-moderate	light-moderate	mostly wooded	Deans Pond Lane
	CR610	610 (Dean-Rhodes Hall Rd.)	Georges Road to 535 (Cranbury/S.R. Rd.)	2 lanes	2 lanes		less than 2	40-50 mph	light	light	rural and wooded areas	Davidsons Mill Road
	CR612	612 (Foregate Drive) & N.J. 32	U.S. 130 to Turnpike	4 lanes	33 feet	Yes		50 mph	moderate	high	Heavy truck volume but wide shoulders	Stultz Road
	CR522	522 (Ridge Road)	U.S. 1 to Academy Street	2 lanes	33-50 feet		none	40mph	moderate-heavy	moderate	limited visibility, curves, no shoulders	College Road/Raymond Road
	CR522	522 (Ridge Road)	U.S. 1 to Stoute Ln.	2 lanes			variable	40-50 mph	moderate-heavy	light-moderate	variable shoulders	U.S. 1
	CR522	522(Ridge Road)	Stoute Lane to (new)522	2 lanes			var. to none	35-40 mph	light-moderate	light	variable shoulder width	
	CR522	New 522	Ridge Road to Kingston Lane	3 lanes			none	45 mph	light-moderate	light	new pavement, (to municipal complex)	New Road
	CR522	New 522	Ridge Road to New Road	2 lanes					light-moderate	light	wide shoulder	New Road
	CR522	522 (Monmouth Jct. Rd.)	Kingston Road to Georges Road	2 lanes		variable	less than 2	40-45mph	moderate	light-moderate	shoulder varies	
	CR522	522 (Jamesburg Road)	Georges Road to U.S. 130	2 lanes		variable	less than 2	45 mph	moderate	light-moderate	shoulder varies	
	CR522	522 (Jamesburg Road)	U.S. 130 to Cranbury/S.R. Road	2 lanes		variable	variable	50 mph	moderate	high	shoulder varies, industrial park area	
		Culver Road	Georges Road to Friendship Rd.	2 lanes			none	45 mph	light-moderate	light	narrow lanes	
		Black Horse Ln.	U.S.1 to Deans Lane	2 lanes			none	45 mph (?)	light	light		Deans Lane
	CR681	681 (Kingston Lane)	Georges Road to Monmouth Jct. Road	2 lanes	33-47 feet	up to 5		35 mph	moderate	light-moderate	(to municipal complex & library)	
	CR683	683 (Schalks Crossing Road)	522 to 614	2 lanes			none	45 mph	moderate	light	wide road in places, narrow in others	New Road to Scotts Corner
		Route 27 (Lincoln Highway)	south of Finnigans Ln.	2 lanes		variable	variable	35-50 mph	heavy traffic	moderate to heav	commercial traffic/ shoulder conditions vary	U.S. Route 1
		New Road-West	U.S. 1 to N.J. 27	2 lanes			less than 3	25-40 mph	moderate	light	Woodlock Park bikeways/ residential area	Sands Hill Road
		New Road-East	U.S. 1 to 522	2 lanes			none	35mph	moderate	light-moderate	potential shoulder in some places, none in others	Major Rd. or Stoute Lane
		Friendship Road	U.S. 130 to Broadway	2 lanes			none	45 mph	light	light	rural road	Broadway Road
		Beekman Road	Sand Hills Rd. to N.J. 27	2 lanes			none	35-45 mph	light	light	narrow travel lanes	Sands Hill Road/Henderson
		Stoute Lane	U.S. 1 to 522	2 lanes			none	35-40 mph	light	light	good pavement	W. New Road
	CR610	610 (Henderson Road)	U.S. 1 to N.J. 27	2 lanes	33 feet	variable	variable	40 mph	moderate	light	inconsistent shoulder	Finnigans Lane
		Sands Hill Road	U.S. 1 to N.J. 27	2 lanes			none	25mph	light	light	walkway/bikeway in some areas	New Road
		Raymond Road	U.S. 1 to N.J. 27	2 lanes			none	40mph	light	light		Ridge Road
		Major Road	U.S. 1 to Kingston Ln.	2 lanes			none	35 mph	light-moderate	light		New Road
		Davidson Mill Road	535 (Cranbury/S.R. Rd.) to U.S. 130	2 lanes			none	35-50 mph	light-moderate	light		Deans Rhode Hall Road
		Hayprese Road	Georges Road to Friendship Road	2 lanes			none	35 mph	light	light	narrow lanes	Culver Road, U.S. 130
		Miller Road	Friendship Road to Broadway	2 lanes			none	40-45 mph	light	light	wooded area	U.S. 130
		Broadway	Scotts Corner Rd. to U.S. 130	2 lanes			none	45 mph	light	light	heavily wooded area, farmlands	Friendship Road, Dey Road
	CR695	695 (Georges Road)	U.S. 130 to Deans Lane	2 lanes	33 feet	not lined	varies	40-45 mph	moderate	moderate-heavy	very wide roadway	U.S. 130
	CR695	695 (Georges Road)	Deans Lane to Kingston Lane	2 lanes		up to 5	varies	40 mph	moderate	moderate-heavy	very wide roadway	U.S. 130
	CR695	695 (Georges Road)	Kingston Lane to Monmouth Jct. Road	2 lanes		up to 8	varies	35-45 mph	moderate	moderate-heavy	wide roadway	U.S. 130
	CR675	675 (Georges Road)	Monmouth Jct. Road to U.S. 130	2 lanes	66 feet		varies	35-40mph	moderate	moderate-heavy		U.S. 130
		Fresh Ponds Road	U.S. 130 to Milltown	2 lanes			none	40 mph	light	light		

conditions may vary during peak driving hours

MIDDLESEX COUNTY BIKEWAY PLAN ROAD INVENTORY - JULY, 1994

Municipality	Road	Limits	Pavement Width Of Road	ROW Width	Availability Of Shoulders > 8 Feet		Speed Limit	Overall Traffic Conditions	Truck Traffic Conditions	Roadway Conditions	Parallel Routes
					Yes	No					
South Plainfield	663/605 (Clinton Avenue)	Seventh Ave. to New Market Ave	2 lanes	60 feet		less than 2	35 mph	moderate			side streets are available, Plainfield Ave.
	663 (Clinton Ave.)	New Market Ave. to Hamilton Blvd.	2 lanes	2 lanes	over 10 feet		40 mph	moderate	moderate	corporate/industrial area	New Brunswick Ave, Hamilton Ave.
	605 (Sampton Ave.)	Clinton Ave. to Maple Ave.	2 lanes			none	25 mph	moderate	light	(to High School & Spring Lake Park)	
	603 (Hamilton Blvd.)	Stelton Road To Durham Road	2 lanes	50 feet		none	40 mph	moderate	moderate		
	603 (Hamilton Blvd./Lakeview Ave.)	Durham Road to Maple Ave.	2 lanes			none	35 mph	moderate-high			
	501 (New Durham Road)	Stelton Road to Durham Road	2 lanes	66 feet	over 8 feet		45-50 mph	moderate-high	moderate-high	wide roadway and shoulder	Ethel Road
	631 (Park Avenue)	Plainfield to Oaktree Road (ED)	2 lanes	60 feet		none	25 mph	moderate-high	light	wide roadway	
	609 (Maple Avenue)	Sampton Ave to Inman Ave.(ED)	2 lanes	50 feet		some parking	25 mph	moderate-high	light-moderate	wide roadway	South Plainfield Ave., side streets available
	604 (Oak Tree Road)	Metuchen Road to Woodland Ave.	2 lanes	50 feet		none	25 mph	moderate	moderate-light		South Plainfield Ave., side streets are available
	603 (Plainfield Avenue)	Sampton Ave to Plainfield border	2 lanes	60 feet		none	25 mph	moderate-high	light	very wide roadway, (to High School area)	side streets are available
	(Park Avenue)	Plainfield to Plainfield Road	2 lanes			none	25-35 mph	moderate-high	light-moderate	slower speeds north of Oak Tree Road	side streets available in South Plainfield
	New Brunswick Ave.	Lakeview Ave. to Stelton Road	2-4 lanes			up to 4 feet	35 mph	moderate	moderate	wide roadway	Clinton Ave.
	Durham Road	Hamilton Blvd. to New Durham Road			up to 8 feet	up to 8 feet	25 mph	moderate-high	moderate to high	road condition is poor, industrial area	shoulder only.exists south of I-287
	Hadley Road	New Durham Road to Stelton Road				poor	40 mph	moderate	light-moderate	shoulder condition is very poor	
	Front Street	Oak Tree Road to Maple Ave.	2 lanes			none	25 mph	moderate	light	narrow roadway, (to Downtown area)	
	New Market Ave.	New Brusnwick Ave. to Hamilton Blvd.	2 lanes			none	25 mph	moderate	moderate	traffic is greater west of Clinton Ave.	side streets are available
South River	Causeway (535)	over the South River	4 lanes	66 feet		none	35 mph	moderate	moderate		Bordentown-Amboy Turnpike Crossing (EB-OB)
	677 (Ferry St./Whitehead Ave.)	535 to River Road (E.B.)	2 lanes	30-50 feet		0-3 feet	25-35 mph	moderate	light-moderate	parking in downtown, (to Downtown South River)	side streets in places
	Jackson St.	entire length	2 lanes	66 feet		parking	25 mph	moderate-high	light-moderate	wider alternative to Main Street.	side streets
	527 (Old Bridge Tpk.)	N.J. 18 to 516	2 lanes	50 feet		0-2 feet	35 mph	moderate-high	moderate	high traffic areas	side streets
	677 (Prospect/Reid St.)	527 to 535	2 lanes			some parking	25 mph	moderate-high	unknown	roadway narrow in places	side streets
	535 (Main St.)	527 to Causeway	2 lanes			some parking	25 mph	moderate-high	unknown	street parking used extensively	side streets
Spotswood	516 (Main St.)	Helmetta to N.J. 18 (EB)	2 lanes	50 feet		0-4 feet	30-40 mph	moderate	light-moderate		
	613 (Summerhill Rd.)	Old Stage Road to Main Street	2 lanes	50 feet		0-4 feet	40 mph	moderate	light	wide roadway	New Brunswick ave.
	613 (De Voe Ave.)	Main Street to Monmouth Road	2 lanes			none	35 mph	light-moderate	light	(to De Voe Lake)	
	Old Stage Road	Helmetta Blvd. to New Brunswick Ave.	2 lanes			none	40 mph	light-moderate	light	road condition varies greatly	516
	Old Stage Road	Main Street (EB) to New Brunswick Ave.	2 lanes			none	40 mph	light-moderate	light	residential area	
	New Brunswick Ave.	Rues Lane to Snowhill Road	2 lanes			none	40 mph	moderate	light	residential area	Summerhill Road
	Snowhill St.	New Brunswick Ave. to 516	2 lanes			none	30 mph	light-moderate	light	residential area	
Woodbridge	650 (Middlesex Ave.)	Green Steet to Avenel St.	2 lanes			0-3 feet	25 mph	light-moderate	light	wide roadway, small shoulder in some places	
	650 (Avenel St.)	New Dover road to Rahway Ave.	2 lanes	66 feet		none	25-35 mph	moderate-high	moderate	wide roadway west of U.S. 1/9	
	602 (Randolph Ave.)	Rahway Ave. to Roosevelt Ave (CA)	2 lanes	50 feet		none	25 mph	moderate-high	moderate-high	industrial area, wide roadway in poor condition	
	604 (Port Reading Ave.)	Rahway Ave. to Carteret limits	2 lanes		up to 10 feet		35 mph	moderate	moderate	wide roadway	
	604 (Green St.)	Rahway Ave. to U.S. 9	2 lanes	66 feet		none	25 mph	moderate-high	?	intersections with N.J. 35 and U.S. 1/9 are difficult to cross	side streets in some areas
	604 (Green St.)	U.S. 9 to Oak Tree Road	2 lanes			none	25 mph	moderate	light-moderate	wide roadway	side streets in some areas
	602 (Inman Avenue)	Rahway to Wood Ave.	2 lanes	66 feet		none	25 mph	moderate	light-moderate	no shoulder but very wide roadway	side streets
	501 (King George Post Rd.)	New Brunswick Ave. to U.S. 9	2 lanes	66 feet		none	25 mph	moderate-high	moderate		side streets
	616 (New Brunswick Ave.)	Metuchen to Perth Amboy	2 lanes	66 feet		none	25-35 mph	moderate-high	moderate		
	514 (Rahway Ave.)	Green Steet to Randolph Ave.	2 lanes	40-66 feet		none	25 mph	moderate-high	moderate		
	604 (Oak Tree Rd.)	Green Street to Wood Ave.	2 lanes	66 feet		none	25-35 mph	moderate-high	light-moderate		
	657 (Middlesex/Essex Tpk.)	Thornhall Street to Green Street	2 lanes			none	25 mph	moderate-high	light	(to Metro-park)	
	514 (Woodbrige Ave.)	501 (New Brunswick Ave.) to N.J. 35	2-4 lanes			varies	35-40 mph	moderate-high	moderate	steep grade near 501, wide roadway in places	
	Main Street	N.J. 35 to Rahway Ave.	2 lanes			parking	25 mph	high	moderate-high	(to Downtown center)	side streets
	652 (Woodbridge Ave.)	West Ave. to Main Street	2 lanes			none	25 mph	light-moderate	light-moderate	wide roadway	
	Woodbridge Center Dr.	U.S. 1 to Main Street	6 lanes			none	40 mph	moderate-high	?	(to Woodbridge Center Mall)	Green Street
	N.J. 35 (Amboy Ave.)	North of Turnpike	4 lanes			none	35 mph	high	moderate-high		Rahway Ave. to Avenel St.
	651 (Colonia Ave.)	Middlesex Ave. to Rahway limits	2 lanes			0-3 feet	25-35 mph	light	light	residential area	side streets, N.J. 27
	New Dover Road	Avenel St. to Wood Ave.	2 lanes			0-3 feet	25 mph	light-moderate	light	road width varies, small shoulders east of Colonia Blvd.	
	Chain O Hills Road	Green Street to Avenel Street	2 lanes			none	35 mph	light-moderate	light	(to Merrill County Park)	side streets
	611 (West Ave.)	Port Reading Ave to Woodbridge Ave.	2 lanes			0-6 feet	40 mph	light-moderate	light-moderate	wide roadway even where shoulders are not lined	side streets
	611 (State Street)	-see Perth Amboy									
	Poor Farm Rd.	Middlesex-Essex Turnpike	2 lanes			none	25 mph	moderate-high	light	narrow train passage, rough road in places	

conditions may vary during peak driving hours

APPENDIX E

FUNDING SOURCES

Funding Pedestrian and Bicycle Planning, Programs and Projects

A Compilation of Funding Sources

Bill Feldman

New Jersey Department of Transportation

September 2, 1997
(Revised October 8,1999)

Introduction/Acknowledgements

This paper presents a compilation and brief description of sources of funding which have been or could be used to fund pedestrian 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 funding construction. In some cases these funds may also be used to fund programmatic activities, as well. There is an emphasis on 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 **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 which were available for bicycle or pedestrian projects or planning under ISTEA have been continued under the new Federal transportation funding legislation: the Transportation Equity Act for the 21st Century (TEA-21). Additional material has been taken from the USDOT publication: **A Summary; Bicycle and Pedestrian Provisions of the Federal-Aid Program.**

This paper should continue to be viewed as a "work in progress" to be updated as new sources are identified.

Funding of *Planning and Programmatic Activities*

Federal and/or State Funded Programs

Technical Studies Program

This program provides federal grants for (consultant based) planning, engineering, design, and evaluation of transportation projects, i.e., studies, not capital improvements or operating costs. Applicants for grants can include state or local governmental entities. Funding can be used to fund pedestrian and bicycle planning activities. Monmouth County has received approval to carry out a planning study to address pedestrian needs and opportunities in several major corridors in the County. Somerset County has received funding for a traffic calming study of selected locations in the county.

Supportive Task Grants

A portion of PL funds passed through to the MPO to support MPO planning activities is, by agreement in the NJTPA passed through to the sub-regions (counties) to fund staff planning activities. Monmouth County has used this funding source to carry out a county-wide pedestrian facilities inventory. The inventory is being used as a basis for developing local lead projects.

Transportation Management Associations

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). (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, development of bicycling suitability maps, promotional efforts aimed at increasing bicycling and walking, effective cycling presentations, etc.

Local Planning Assistance

This program provides funding to retain consultant assistance for the purpose of fostering sound transportation planning at the local level. The Department partners with municipalities who desire to develop Access Management Plans, local circulation plans and other transportation related plans. SDRP designated centers and target neighborhoods under the Governor's Urban Strategies Initiatives receive priority. This funding source could be used to develop local pedestrian/bicycle circulation plans and facilities inventories. To date, none of the studies funds have been of this type. This program is administered by the Division of Transportation Systems Planning, Bureau of Mobility Strategies, New Jersey Department of Transportation.

Local Bicycle/Pedestrian Planning Assistance

The Department of Transportation has retained the services of consultant teams with expertise in pedestrian and bicycle planning. The consultants are available to provide technical planning assistance to counties and municipalities who wish to develop pedestrian and bicycle local circulation plans and other related studies. Guidelines for participation in the program are available from the Department's Bicycle/Pedestrian Advocate. This program is administered by Division of Transportation Systems Planning, Bureau of Mobility Strategies, New Jersey Department of Transportation.

Corridor and Regional Planning Studies (TDM) Component)

The NJDOT Division of Transportation Systems Planning carries out numerous corridor and regional planning studies to determine transportation needs and develop project proposals to address those needs. It is the current policy of the Division to take a multi-modal approach in all planning activities in the Division. The Department has retained the services of consultant teams with expertise in Travel Demand Management (TDM) strategies, including walking and bicycling, to participate in and support other planning activities in the Division. These consultant teams are available to undertake planning studies which examine multi-modal solutions to transportation needs. This could include the accommodation of bicycle and/or pedestrian travel needs. This program is administered by Division of Transportation Systems Planning, Bureau of Mobility Strategies, New Jersey Department of Transportation.

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 TEA-21

All the major funding programs under TEA-21 include bicycle and pedestrian facilities and programs as eligible activities.

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, ant their connectivity. NHS funding-for project on NHS roadways- can be used for bicycle and pedestrian improvements on or on land adjacent to any highway on the NHS system, including Interstate highways. This includes ***incidental*** improvements within larger projects which enable bicycle compatibility (e.g. paved shoulders, bicycle safe drainage grates, etc., designated bicycle facilities (i.e. bikeways: signed routes, bike lanes, paths), and pedestrian accommodations such as sidewalks, signals, overpasses, crosswalks, etc. It also includes the funding of ***independent*** bicycle and pedestrian projects along (within the right of way) or in the vicinity of (associated with) NHS roadways. Independent bicycle and pedestrian projects would be those initiated primarily to benefit bicycle and pedestrian travel. 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

A broadly defined program giving states wide 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 (e.g. paved shoulders, bicycle safe drainage grates, etc.), or designated bicycle facilities (i.e. bikeways: signed routes, bike lanes, paths), and pedestrian accommodations such as sidewalks, signals, overpasses, crosswalks, etc. It also can include the funding of ***independent*** bicycle and pedestrian projects along (within the right of way) or in the vicinity of (associated with) roadways. Independent bicycle and pedestrian projects would be those initiated primarily to benefit bicycle and pedestrian travel. Projects could include shoulder paving, bicycle safe drainage grates, construction of sidewalks or bikeways, installation of pedestrian signals, crosswalks or overpasses. Under TEA-21, it is specified that these funds may be used for the modification of sidewalks to comply with the Americans for Disabilities Act.

A number of projects initiated by NJDOT as bike/pedestrian new starts in FY97 utilizing CMAQ funding (see below) have been programmed (subsequent phases of project development) in out years with STP funds. It should be noted that STP funds may be used for non-construction "projects" (such as maps, brochures, public service announcements) related to safe bicycle use and walking.

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 TIP (as a Local Lead project). Subregions (counties) apply for inclusion in the program, which are screened through a competitive selection process. Once scoping is completed, projects may advance as local lead projects

Projects that clearly have no significant adverse environmental impacts may be eligible to move directly to the **Local Lead** program. Counties (plus municipalities partnering with counties) can receive STP funds for final design and construction of projects that are included in the TIP. Local Lead projects are selected via a competitive selection process.

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.

Transportation Enhancements

This is probably the best known source of federal funds available for pedestrian and bicycle improvements. In each state, ten percent of STP funds must be allocated to a set of 12 specific types of projects known as Transportation Enhancements. Pedestrian and bicycle projects and the conversion of abandoned railway corridors to trails are two of the 12 project types. Other project types (e.g., landscaping/scenic beautification, rehabilitation and operation of historic transportation facilities, such as canals, tow paths, bridges, viaducts, may directly benefit or provide for bicycle and pedestrian needs). A multi-discipline Committee reviews the projects and makes recommendations to the Commissioner of Transportation who makes final selections. The program is administered by NJDOT's Division of Local Government Services.

Hazard Elimination Program

Another STP program set aside, 10% of the STP program is to be used to fund Safety projects. 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.

Congestion Mitigation and Air Quality (CMAQ)

As was the case under ISTEA, under TEA-21, pedestrian and bicycle improvements are among the types of projects eligible for CMAQ funding. In New Jersey, for FY97, the NJDOT initiated approximately a dozen independent bicycle and pedestrian projects utilizing CMAQ funding. Later phases of the projects were funded with STP funds.

National Recreational Trails Fund (Symms Trails System Act)

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

Scenic Byways

A small grant program under which pedestrian projects may be funded if they are in fulfillment of a management plan for a designated scenic byway. Designation of the scenic byway must be in accordance with a Scenic Byways program developed and adopted by the state.

New Jersey has adopted a Scenic Byways program, and, as a case study, a management plan for the first proposed scenic byway in the state (State Route 29, in Mercer and Hunterdon Counties, along the Delaware River).

Benefits of adoption as a Scenic Byway under the Program could include direct funding of projects (assuming the passage of federal transportation legislation which includes Scenic Byways funding); and, through preferential treatment in the funding/selection process for other funding sources administered by the Department, for projects which are in fulfillment of a scenic byways management plan.

Section 402 Safety Funds

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

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

Federal Transit Administration Funds

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

TEA-21 also created a ***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

Federal block grant funding from the Department of Housing and Urban Development can and has been used to fund pedestrian improvements. Projects must occur in an eligible low or moderate income areas (as defined by HUD) or benefit special needs groups. Funding flows directly to counties and municipalities. In Monmouth County, for example, a compact of 49 of the 53 municipalities works together to identify and select eligible projects (in 1997, $ 3.854 million was available to fund projects. Some municipalities receive funding directly. Examples of projects funded which benefit pedestrians has included streetscape improvements. Sidewalk installation, curb ramps, and building modifications to meets ADA access requirements.

State Funding

Local Aid for Centers of Place

A New Jersey Department of Transportation funding program designed to assist municipalities who have formally participated in implementation of the New Jersey State Development and Redevelopment Plan (SDRP). Such participation entails designation as a Center by the State Planning Commission, preparation of a Strategic Revitalization Plan and Program which has been approved by the Commission, or entrance into an Urban Complex, which has been approved by the Commission. The program provides the opportunity to apply for funds to support non-traditional transportation improvements that advance municipal growth management objectives as outlined in the action planning agenda of the municipality.

Participation of municipalities in the SDRP ensures eligibility to compete for funds in the program.

Typical projects include:

- **pedestrian and bicycle** improvements
- adaptive reuse of abandoned railway corridors (**pedestrian and bicycle** trails)
- scenic or historic transportation improvements
- landscaping/beautification of transportation related facilities (streetscape improvements)
- rehabilitation of transportation structures

In general, eligible projects are similar to Transportation Enhancements projects, but only SDRP municipalities are eligible to apply for funding. Allowable costs include preliminary engineering, design and construction.

An annual solicitation for project proposals sent to all eligible municipalities. The program is administered by the NJDOT Division of Local Government Services in cooperation with the Bureau of Statewide Planning.

County Aid Program

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

Independent pedestrian and bicycle projects can be funded under the county aid program; however, few independent pedestrian and bicycle projects have been funded. The challenge is to encourage counties to include pedestrian and bicycle projects among those which they propose to fund.

As "state funded" projects, ***all projects funded under 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.

Municipal Aid Program

The Municipal Aid Program provides funding to municipalities for transportation projects. Funding is made available for municipalities in each county based on a formula that takes into account municipal road mileage within the county and county population. These funds are allocated to individual projects within various municipalities through a competitive process. Funding is allotted to municipalities that qualify for Urban Aid under N.J.S.A. 52:D-178 et seq.

All 566 municipalities may apply. Projects may be improvements to public roads and bridges under municipal jurisdiction. Applications are solicited, evaluated, and rated by NJDOT staff. The results are presented to a Screening Committee comprised of Municipal Engineers and Department Staff, appointed by the Commissioner. The Committee evaluates the projects and makes recommendations to the Commissioner for approval.

The Department will pay 75% of the award amount at the time that the award of construction is approved by the Department. 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. Municipalities need to be encouraged to include pedestrian and bicycle projects among those which they propose to fund, and make such adjustments in the program and project selection process so that these projects are ultimately selected and funded.

As with county aid projects, ***all projects funded under municipal aid program are subject to the 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 the NJDOT."***

Discretionary Aid Program

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 the NJDOT."***

The Department 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.

In FY98 and FY99 this program was used a significant funding source for independent pedestrian and bicycle projects. In FY98, the Commissioner has earmarked a minimum of $1.5 million of Discretionary Aid to be used for pedestrian projects. In FY99 $1.5 million was earmarked for pedestrian projects, and $10.0 million was earmarked for bicycle projects. Now, two new state funded programs, described below, are available for locally initiated bicycle and pedestrian projects.

Locally Initiated Bicycle Projects

This is a new program for FY2000 which provides funds for municipalities and counties for the construction of bicycle projects. These could include roadway improvements which enable a roadway or street to safely accommodate bicycle traffic, or designated bikeways (signed bike routes, bike lanes or multi-use trails). The solicitation for project applications occurs at the same time as the solicitation for municipal aid projects. Applications are solicited, evaluated, and rated by NJDOT staff. Based on this evaluation, a list of recommended projects is proposed to the Commissioner of Transportation, who makes the final selection. The program is administered by NJDOT's Division of Local Government Services.

Locally Initiated Pedestrian Projects

This is a new program for FY2000 which provides funds for municipalities and counties for the construction of pedestrian access and safety improvements. The solicitation for project applications occurs at the same time as the solicitation for municipal aid projects. Applications are solicited, evaluated, and rated by NJDOT staff. Based on this evaluation, a list of recommended projects is proposed to the Commissioner of Transportation, who makes the final selection. The program is administered by NJDOT's Division of Local Government Services.

County or Municipal Capital (Public Works) Funding

County or Municipal funding can be used to fund pedestrian improvements sidewalks, trails, crosswalks signals, traffic calming, etc., on rights of way under county or municipal jurisdiction, by including the project in the municipal (or county) budget, or bonding for it. just as they 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 (ordinarily a sidewalk) is placed.

As with other categories of funding, bicycle and pedestrian improvements may be incidental to (a part of) larger, roadway projects; or they can be independent, i.e. solely to address pedestrian needs.

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

Special Assessment Districts

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

Transportation Development Districts (TDD)

A joint state/county program 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. Theoretically, 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.

Green Acres

State Green Acres grants and loans can and have been used to fund pedestrian projects such as multi use trails and trail head facilities. Funding for state, county and local governments (and non-profits - acquisition only with a 50% match) is available for land acquisition and facilities development. The source of these funds are state bond issues. The program is administered by the Green Acres Office in the Department of Environmental Protection.

Developer Provided Facilities

The current 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 on site and off site improvements to benefit bicycle and pedestrian traffic.

APPENDIX F

BICYCLE-PEDESTRIAN

ADVOCACY GROUPS

BICYCLE AND PEDESTRIAN ADVOCACY GROUPS

The following are organizations that promote bicycle and pedestrian use:

Bicycle Federation of America
1818 R Street, NW
Washington, D.C. 20009
(202) 332-6986

This is a national non-profit organization that promotes bicycle and pedestrian use for all purposes and is a service organization for bicycle program specialists.

Adventure Cycling
P.O. Box 8308
Missoula, MT 59807
(406) 721-1776

This is a national bicycle touring and route information service.

The League of American Bicyclists
1612 K Street NW, Suite 401
Washington, DC 20006-2802
Web: hhtp://www.bikeleague.org

This national organization of bicyclists and affiliated clubs promotes bicycling, sponsors annual rallies and maintains an on-going government relations and legislative action program.

Rails-to-Trails Conservancy
1400 16th Street, NW
Washington, D.C. 20036

This non-profit corporation promotes the conservation of abandoned railroad corridors in New Jersey.

United States Cycling Federation (USCF)
1750 East Boulder Street
Colorado Springs, CO 80909
New Jersey Representative: Cindy Donnelly
416 Catherine Street
Somerville, NJ 08876

This is the sanctioning body for amateur bicycle racing.

Bicycle Coalition of the Delaware Valley
PO Box 8194
Philadelphia, PA 19101
(215) BICYCLE

This is a bicycle advocacy group in the Philadelphia metropolitan area.

Transportation Alternatives
494 Broadway
New York, NY 10012
(212) 941-4600

This is a bicycle advocacy group in the New York metropolitan region.

Bike New Jersey
PO Box 667
Chatham, NJ 07928
(908) 771-0360
153 Dead Tree Road
Belle Mead, NJ 08502

This is a private, non-profit organization composed of citizens working to encourage greater use of bicycling and pedestrian travel as transportation alternatives, and to enhance bicycle and pedestrian facilities within local communities.

New Jersey Bicycling Association
PO Box 718
Chandler, AZ 85244
(602) 961-1903

This is the Association of New Jersey bicycle racing clubs.

Central Jersey Bike Club
Mike Kruimer, Chairperson
33 Parkerson Road
Edison, NJ 08817
(732) 287-9447

This is a bicycle group in the central New Jersey area.

New Jersey Department of Transportation
Pedestrian/Bicycle Advocate
1035 Parkway Avenue
Trenton, NJ 08625
(609) 530-8062

APPENDIX G

NEW JERSEY DEPARTMENT OF TRANSPORTATION

HIGH POINT TO CAPE MAY

BICYCLE ROUTE

IMPLEMENTATION PLAN

New Jersey Department of Transportation

High Point to Cape May Bicycle Route Implementation Plan

LEGEND:

- Interstate Routes
- State Routes
- U.S. Numbered Routes
- Authority Routes
- 500 Series Routes
- Other Routes
- Selected Route
- Spur Route

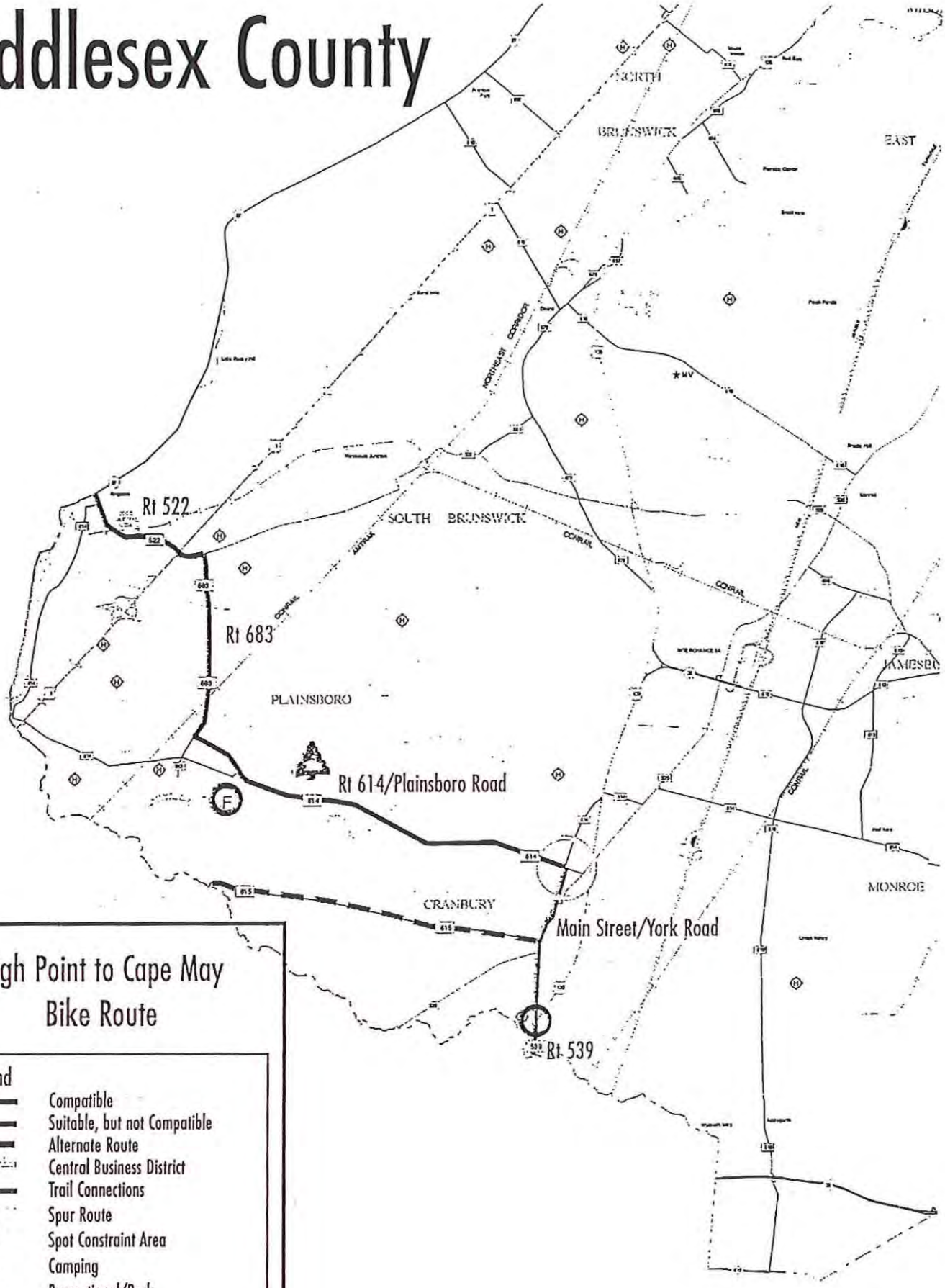
Frederic R. Harris, Inc.

RBA

Bikeways Engineering, Inc

BUREAU OF TRANSPORTATION DATA DEVELOPMENT

Middlesex County



High Point to Cape May Bike Route

Legend

- Compatible
- Suitable, but not Compatible
- Alternate Route
- Central Business District
- Trail Connections
- Spur Route
- Spot Constraint Area
- Camping
- Recreational/Park
- Food
- Transportation
- Historic

APPENDIX H

NEW JERSEY DEPARTMENT OF TRANSPORTATION

PEDESTRIAN SAFETY GUIDELINES

PEDESTRIAN SIGNALS

Many years ago when traffic volumes were much lower than they are today, pedestrians could take their cues from the same traffic lights as motorists. Since then new signals were introduced to improve pedestrian safety. We hope to answer the most common questions about pedestrian signals.

Why are pedestrian signals available at some intersections and not at others?
Pedestrian signals are installed at intersections for two main reasons: a high volume of foot traffic, or, the signals that direct motorists do not meet the needs of pedestrians.

For example, some intersections occur at odd angles and the traffic signals can't be seen by pedestrians. At other locations, turning and merging lanes make intersections so complex that special provisions must be made for pedestrians.

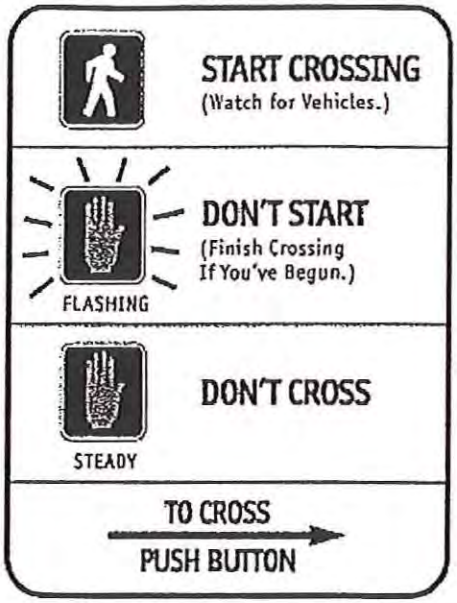
Shouldn't pedestrian signals be available at every intersection?
If existing traffic signals meet the needs of people on foot — the signals are easy to see and provide plenty of time to cross safely — there is no need for special pedestrian signals.

Why are the words WALK and DON'T WALK being replaced by symbols?
Transportation engineers worldwide are moving toward the use of symbols in place of words on signs because they are easier for people to comprehend in a shorter amount of time. Easily recognized symbols also accommodate people who don't read English.

In the case of pedestrian signals, both word and symbol signs are currently in use. Here's what they mean:

Why does it always say DON'T WALK before I've completed crossing the street?
The flashing DON'T WALK or upraised hand is a warning to people who have not yet entered the intersection. It means that it is too late to start to safely cross the street before the traffic signal changes and allows cars to proceed. Signals are timed to allow plenty of time for people who have already started walking to safely cross the street.

Is it really necessary for me to push a button to activate the pedestrian signal? Can't I just wait for the light to change?
Buttons are available to pedestrians at locations where the traffic light is set for cars, not for people on foot. If you don't activate the pedestrian signal by pushing the button, the pedestrian signal across the main roadway will not activate, and the traffic light may not give you enough time to safely cross the street. You only need to push the button once for it to be activated.



Can I count on a safe crossing if I carefully follow the pedestrian signals?
The signals assign your legal rights in the intersection. However, it is important to be cautious when crossing busy intersections.

SAFETY TIPS

- Cross intersections carefully.
- When crossing the street, regardless of the availability of signals, cross as quickly as possible. Minimize your time in the roadway.
- Always watch for turning vehicles. Having the legal right of way doesn't protect you from careless motorists.

CROSSWALKS

What is a crosswalk?
A crosswalk is an extension of the road, sidewalk, curb or edge of the shoulder at an intersection. Crosswalks can be either marked or unmarked. A marked crosswalk is any portion of the roadway outlined by white painted markings or a different texture of concrete, such as brick pavers, etc. These markings indicate that a portion of the roadway is designated for pedestrian travel.

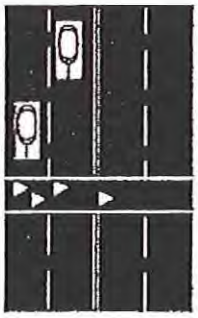
How are crosswalks used?
At any crosswalk (marked or unmarked) drivers must yield the right of way to pedestrians who are within the crosswalk. Crosswalks are marked mainly to encourage pedestrians to use a particular crossing. Marked crosswalks and associated signing provide visual cues to drivers to be alert for pedestrians.

Where are crosswalks normally marked?
Crosswalks are usually marked at intersections where there is a substantial amount of vehicle and pedestrian travel. Examples of such locations are along school routes and at signalized and four-way stop intersections.

Marking crosswalks encourages crossing at a particular location. For example, school
children are guided to a crossing which is usually supervised. Pedestrians are encouraged to use the preferred safer crossing location to avoid crossing where they do not have the right of way.

What are mid-block crosswalks?
Occasionally crosswalks are marked at mid-block locations to accommodate greater pedestrian traffic or where there is a substantial distance between corner crosswalks. In these instances the painted lines should be supplemented by signs advising motorists of the crossings. As with crosswalks at intersections, drivers approaching the crosswalk must yield the right of way to pedestrians.

What causes pedestrian/vehicle accidents at marked crosswalks?
Even though pedestrians have the right of way at marked crosswalks, pedestrian/vehicle accidents do occur. Research suggests that pedestrians may have a false sense of security at marked crosswalks. They may step off the curb into the crosswalk and expect oncoming vehicles to stop. However, drivers sometimes fail to stop.



Another frequent cause of accidents at mid-block crosswalks happens when the driver of a vehicle nearest the curb stops for a pedestrian who is waiting to cross or who is already in the crosswalk. Then the driver of a vehicle in the lane next to the stopped vehicle may try to pass the stopped vehicle and hit the pedestrian. Pedestrians should be very cautious when crossing in a crosswalk, especially when their visibility is limited by vehicles already stopped at the crosswalk as illustrated.

At all crosswalks, both marked and unmarked, it is the responsibility of pedestrians to be
cautious and alert before crossing the street.

Keep in mind...

- While the law assigns pedestrians the right of way if they have appropriately entered a crosswalk, it does not relieve pedestrians of using due care for their safety.
- Any pedestrian entering a roadway outside a crosswalk gives up the right of way to vehicles on the roadway. However, this does not relieve a driver from the duty of exercising care for the safety of pedestrians on the roadway.
- Pedestrians should keep to the right when walking in a crosswalk.
- Drivers of vehicles about to turn into a driveway, alley, garage or private road are required to yield the right of way to pedestrians on sidewalks.
- At intersections where traffic is controlled by signals or a traffic officer, pedestrians must obey the signal and not cross against the stop signal unless specifically directed to go by a traffic officer.
- Pedestrians who have started to cross at a crosswalk on a go signal have the right of way until they reach the opposite curb or place of safety, such as a median.

Should you have questions or suggestions concerning pedestrian issues, please call the NJDOT Bicycle/Pedestrian Advocate at 609-530-8062.

It is the policy of the New Jersey Department of Transportation to increase non-motorized travel options by integrating pedestrian opportunities into transportation systems and promoting walking as a "Smart Move" for short trips.

BIKING AND WALKING • HOME

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APPENDIX I

GLOSSARY

APPENDIX I

GLOSSARY

ADA: Americans With Disabilities Act of 1990.

Bicycle and Pedestrian Facility: Any path, trail, sidewalk, shared roadway or storage facility used for the purpose of bicycle or pedestrian travel.

Bicycle Lane (Class II Bikeway): A portion of a roadway that has been designated by signs and pavement markings for preferential or exclusive use by bicyclists.

Bicycle Path (Class I Bikeway): A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right of way or within an independent right of way.

Bicycle Route (Class III Bikeway): A segment of a system of bikeways designated by the jurisdiction having authority with appropriate directional and informational markers, with or without specific bicycle route numbers.

Bikeway: Any road, street, path, or way that in some manner is specifically designed for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

CMAQ: Congestion Mitigation and Air Quality.

DCA: New Jersey Department of Community Affairs.

Crosswalk: Any portion of a road distinctly indicated or marked for pedestrian crossing through the use of lines or of different surface materials.

FHWA: Federal Highway Administration.

Highway: A general term denoting a public way for purposes of vehicular traffic, including the entire area within the right of way.

ISTEA: Intermodal Surface Transportation Efficiency Act of 1991: Federal legislation that provided funding for highways, highway safety, and mass transportation. ISTEA also included funding for bicycle and pedestrian activities. The funding expired at the end of 1992.

Multi-use Path: A paved path which is utilized by different modes of travel and which is completely separated from vehicular traffic. A multi-use path may be adjacent to a road or utility right of way.

Multi-use Trail: A trail which is utilized by different modes of travel, which is out of the automobile right of way. A multi-use trail may be unpaved and made of earthen materials.

NJDOT: New Jersey Department of Transportation.

NJT: New Jersey Transit.

NJTPA: New Jersey Transportation Planning Authority.

Path: A paved passage separate from vehicular traffic which travels through controlled property.

Pedestrian Path: A path which is completely separated from the motor vehicle traveled way and may be similar to a sidewalk.

Recreational bicyclists and pedestrians: People who participate in bicycling and walking as a leisure activity or as a form of exercise.

Right-of-Way: The strip of land over which a public road is built, or land occupied by a rail line.

Roadway: The portion of the highway, including shoulders, for vehicular use.

Shared Roadway: A road without a designated bicycle lane, sidewalk, or path due to insufficient road width but which is utilized for bicycle or pedestrian activity. A shared roadway may also include signage and striping.

Shared Use Path: A bikeway that is physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right of way or within an independent alignment. Shared use paths may also be used by pedestrians, wheelchair users, joggers and other non-motorized users.

Sidewalk: The portion of a right of way designated for preferential or exclusive use by pedestrians.

TEA 21: Transportation Efficiency Act of the 21st Century: This federal transportation reauthorization bill continues the transportation goals set by ISTEA through the year 2003.

SOURCES:

"Guide for the Development of Bicycle Facilities," Prepared by the American Association of State Highway and Transportation Officials Task Force on Geometric Design, August, 1991.

"New Jersey Department of Transportation Design Guidelines for Bicycle Facilities"

APPENDIX J

BICYCLE STORAGE FACILITIES

BICYCLE RACK

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Bicycle Rack

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Majestic Sales
20 Pequot Trail
Westport, Ct. 06880
800-858-8100

2.2 BICYCLE RACK

A. All Bicycle Racks to be constructed of the following materials and assembled as shown in Detail 1, with all construction joints being welded.

1. Tubular Members:
   All tubular members to be ASTM A53 Schedule 40 steel pipe.

2. Horizontal Support:
   Horizontal support member to be a 3" x 3/8" thk carbon steel plate.

3. Mounting Plates:
   Mounting plates to be 8" x 8" x ½" thk carbon steel plates with four (4) mounting holes as required to hold standard ½" anchors. (See Detail 2)

4. Finish:
   Each bicycle rack shall have a minimum 1/16" thk hot dipped black nylon coating (or approved equal) that prevents cracking or peeling.

5. Permanent Graphics:
   The words "BICYCLE PARKING" shall appear on each side of the horizontal support as indicated on detail No. 1. by means of silk screening or approved stickers.

Source: New Jersey Transit

6. Anchor bolts:

Eight (8) ½" Dia. x 3-1/2" long anchor bolts shall anchor each bicycle rack. Nuts are to be peened once tightened.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install all units level, square and securely anchored to a concrete pad in accordance with the installation plans.

B. When the installation of a concrete pad is not practical (e.g. When a unit is to be installed on existing brick pavers.) each Bike Rack shall be anchored to (2) 12" square x 12" deep concrete footings.

C. All units to be installed 2'-9" O.C. minimum or as indicated on the installation plan and Detail 3.

D. Upon the installation of each Bike Rack, Contractor to "peen" all anchor bolts once tightened, as to deter theft and vandalism.

E. All units to be installed without damage to shape or finish. Units damaged during installation shall be repaired or replaced at contractors expense.

F. Inspect all installed units to assure proper installation as indicated in the installation plans.

PART 4 QUANTITY AND PAYMENT

4.1 BASIS OF MEASURE

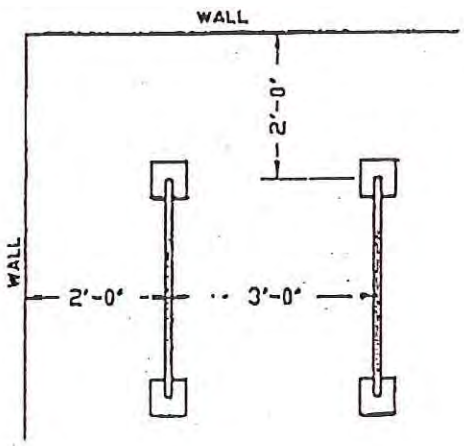
A. Payment for installation of bike racks will be measured as each unit in place.

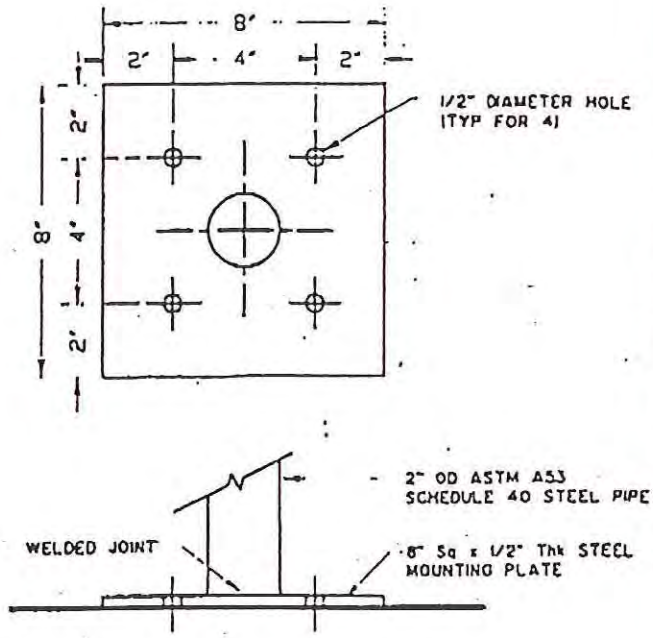
4.2 BASIS OF PAYMENT

A. Payment for installation of bike racks will be for the total quantity of each item measured in place.

B. No separate payment will be made for shims, anchor bolts, epoxy and other incidentals and the cost thereof shall be included in the bid price listed in the Contract.

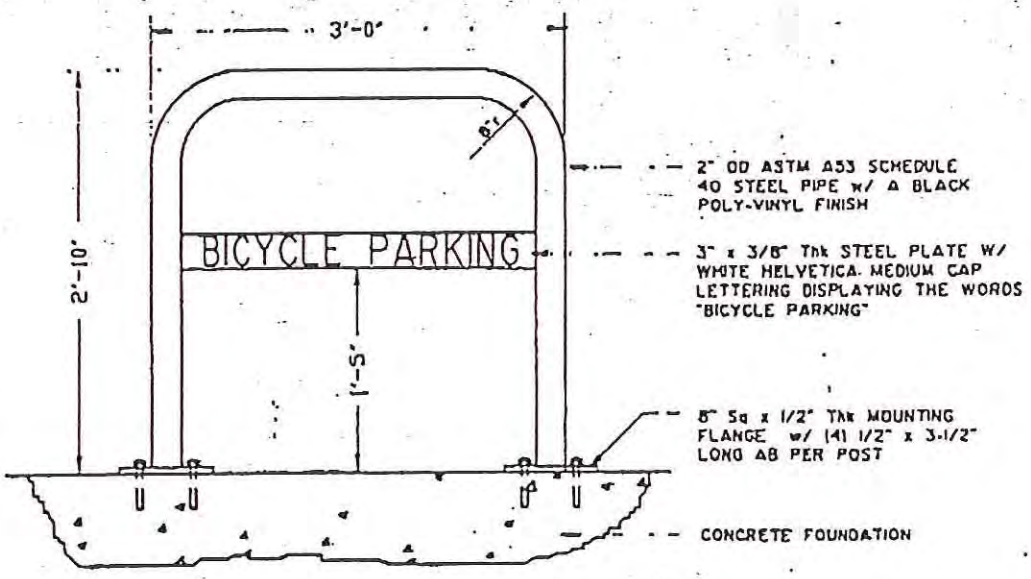
END OF SECTION





INSTALLATION SETBACKS

MOUNTING FLANGE DETAIL



NJ TRANSIT
One Penn Plaza East, Newark NJ 07105-2240

NJ TRANSIT CORPORATION

BIKE RACK DETAIL

REVISIONS

BICYCLE STORAGE

BICYCLE RACK

Mrf: Majestic Sales

Finish: Each bike rack has a minimum 1/16" thk hot dipped black nylon coating

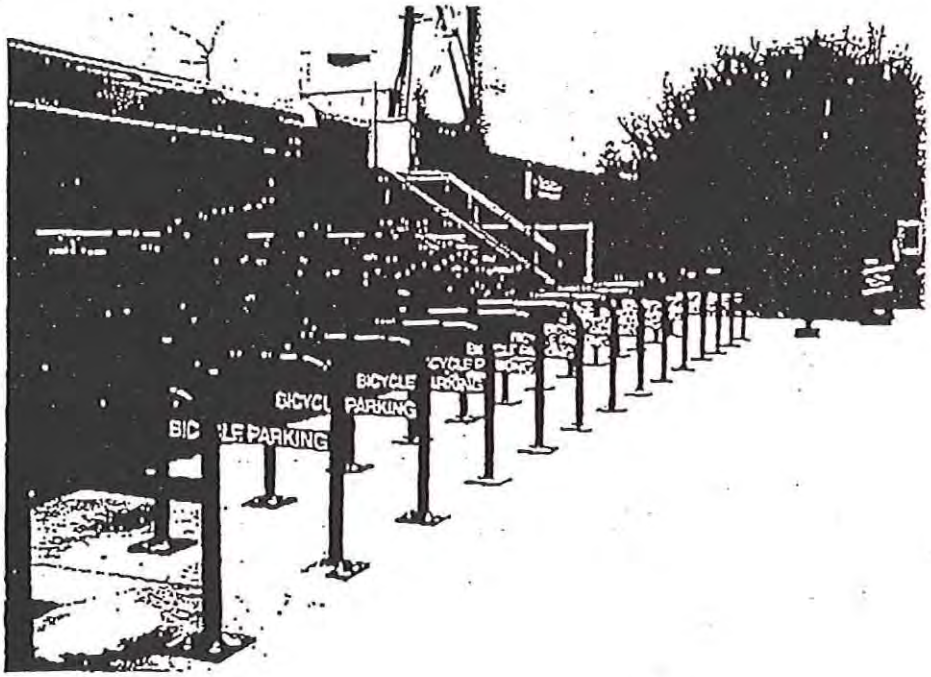
Material: ASTM Schedule 40 Steel tubing. 2" OD w/ (2) 8" x 8" x 0.5" thk steel mounting plates.

Dimensions:

Height: 2'-10"

Width: 3'-0"

Horiz. support height: 1'-8"



PROVIDERS OF SECURE BICYCLE PARKING DEVICES

BICYCLE LOCKERS

American Bicycle Security Co.
P.O. Box 7359
Ventura, CA. 93006
Phone - 805-933-3688
1-800-245-3723
Fax 805-933-1865

Bike Lokr Mfg. Co.
P.O. Box 720005
Norman, OK. 73030
Phone - 405-360-6999
Fax - 405-360-6644

Cycle Safe, Inc.
2772-5 Woodlake Road SW
Wyoming, MI 49509
Phone - 616-538-0079
Fax - 616-538-6223

Sunshine U-Lok Corp.
31316 Via Colinas, Suite 102
Westlake Village, CA 91362
Phone - 818-707-0110

BICYCLE RACKS

American Bicycle Security Co.
P.O. Box 7359
Ventura, CA. 93006
Phone - 805-933-3688
1-800-245-3723
Fax 805-933-1865

Bicycle Parking Foundation
P.O. Box 7342
Philadelphia, PA 19101
Phone - 215-222-1253

Creative Pipe, Inc.
2632 SW Sherwood Drive
Portland, OR. 97201
Phone - 1-800-644-8467
Fax 503-223-6378

Source: New Jersey Department of Transportation

Function First Bike Security
P.O. Box 44137
Tucson, AZ 85733-4137
Phone - 602-322-9626

Graber
5253 Verona Road
Madison, WI 53711
Phone - 608-274-6550
1-800-542-6644

LocCycl
1755 East Locust Street
Omaha, Nebraska 68110
Phone - 402-345-0042
Fax - 402-345-5920

Madrax
2210 Pinehurst Drive
Middleton, WI 53562
Phone - 608-831-9040
1-800-448-7931
Fax 608-831-7623

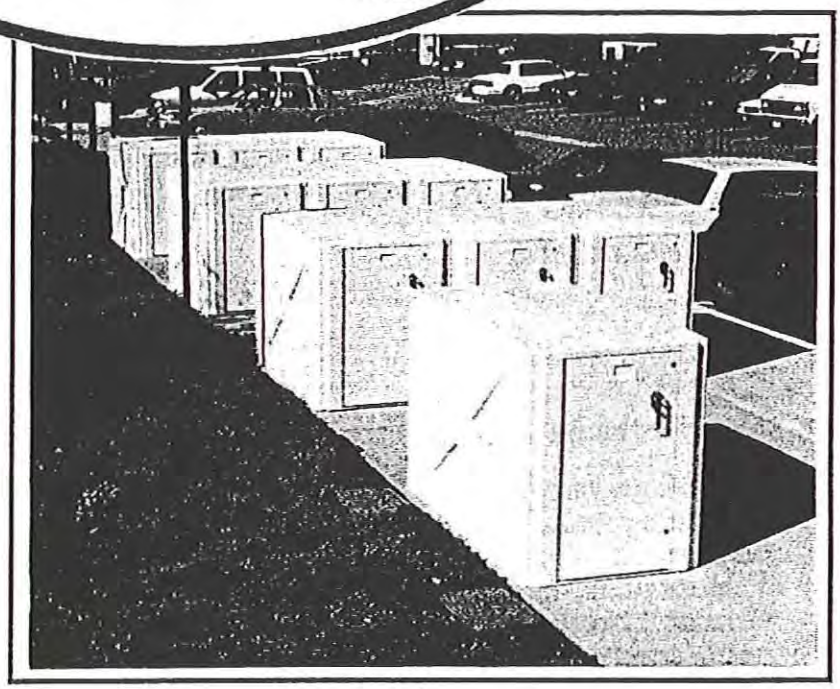
Rack III
675 Hartz Ave., Suite 306
Danville, CA. 94526
Phone - 510-838-8171
1-800-733-1971
Fax - 510-838-2686

Ribbon Rack
Brandir International, Inc.
200 Park Ave., Suite 303E
New York, NY 10166
Phone - 212-505-6500
Fax - 212-505-6813

Sunshine U-Lok Corp.
31316 Via Colinas, Suite 102
Westlake Village, CA 91362
Phone - 818-707-0110

The Palmer Group
Crank Case
1072 Folsom
Suite 328
San Francisco, CA 94103
Phone - 415-985-7128

BIKE-SHELL® Bicycle Lockers



Ideal Locations For BIKE-SHELL® Bicycle Lockers:

- Universities / High Schools
- Dormitories
- Apartments / Condominiums
- Libraries
- Office Buildings
- Manufacturing Plants
- Parking Facilities
- Mass Transit Depots
- Airports
- Shopping Centers
- Fast Food Outlets
- Convenience Stores
- Bicycle Shops
- Parks / Recreation Areas
- Marinas /Beaches
- Fitness Centers
- Tennis Clubs
- Resort Hotels

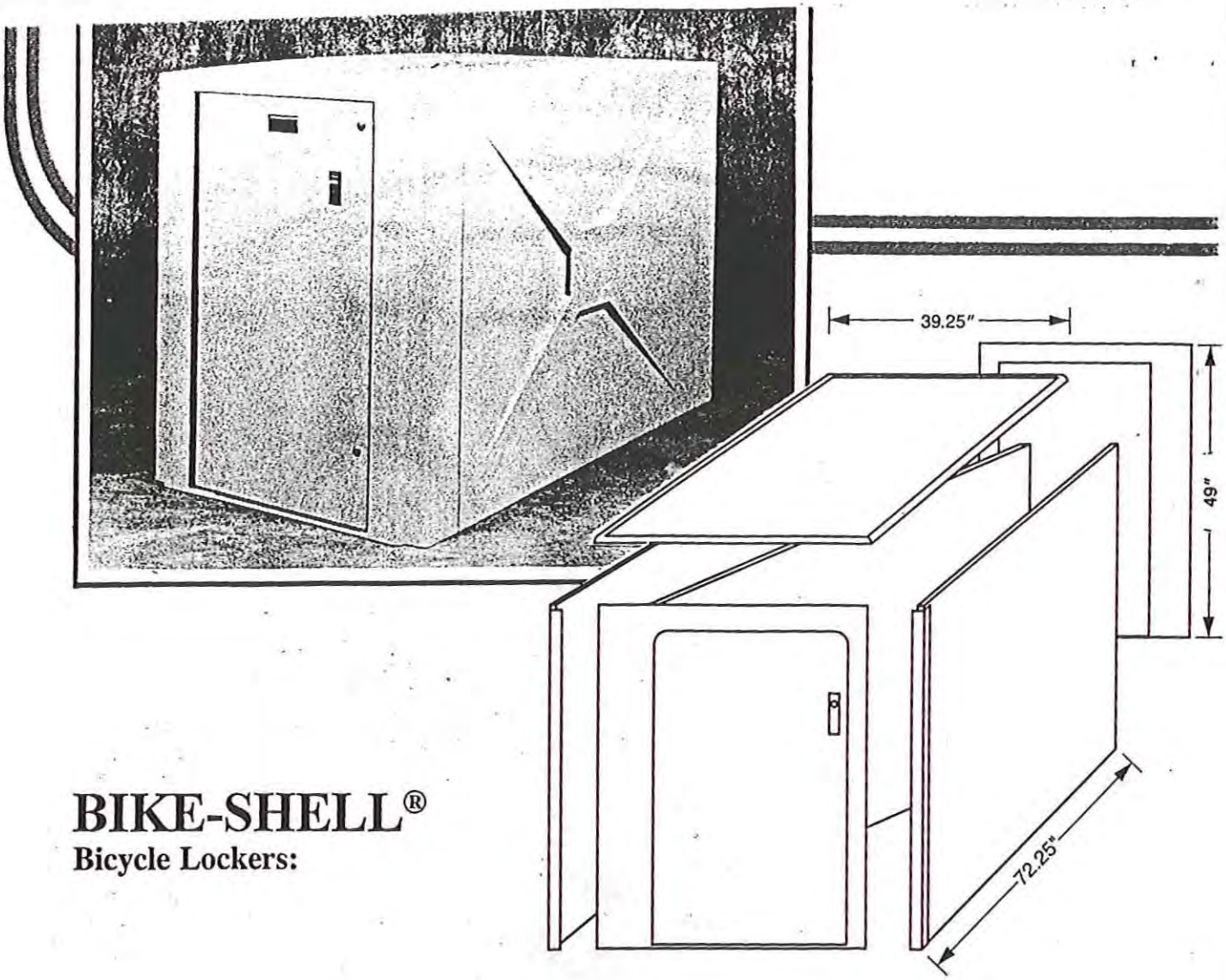
Bicycles have long been the transportation mode of choice for students. And now, with the considerations of traffic, pollution, and energy usage, more and more concerned businesses and service organizations are promoting cycling. The ever greater number of cyclists with their valuable bicycles and mopeds all need safe parking and storage facilities.

ENTER, BIKE-SHELL®

For More Information

AMERICAN BICYCLE SECURITY CO.

800·245·3723 • 805·933·3688 • FAX 933·1865



BIKE-SHELL®

Bicycle Lockers:

Consider the Advantages

- Bicycles and mopeds are fully enclosed-preventing vandalism, theft and weather damage.
- Lockers promote cycling by providing security for both bicycles and the rider's accessories.
- Bicycle damage from racks and other bikes becomes a thing of the past, as does wall and floor damage caused by bringing bikes into buildings.
- The user need only carry a key, or coin or lock without the cable or chain.
- Modular design of lockers facilitates installation and allows optimum use of space.
- One-piece frame with prehung door alleviates adjustment.
- An exterior of fiberglass reinforced plastic is highly resistant to impact and scratching.
- The outer finish never needs painting, will not rust or corrode and is extremely resistant to most stains and chemicals.
- The standard key-lock mechanism is completely internal and resists tampering. (system for user provided padlock is also available).
- The owners decide what kind of return they receive by their choice of locking mechanism.
- Many models and materials are available to suit space and budget requirements.

Whether you need just a few, or rows upon rows,
We are at your service.

AMERICAN BICYCLE SECURITY CO. • A Division of TURTLE STORAGE, LTD.
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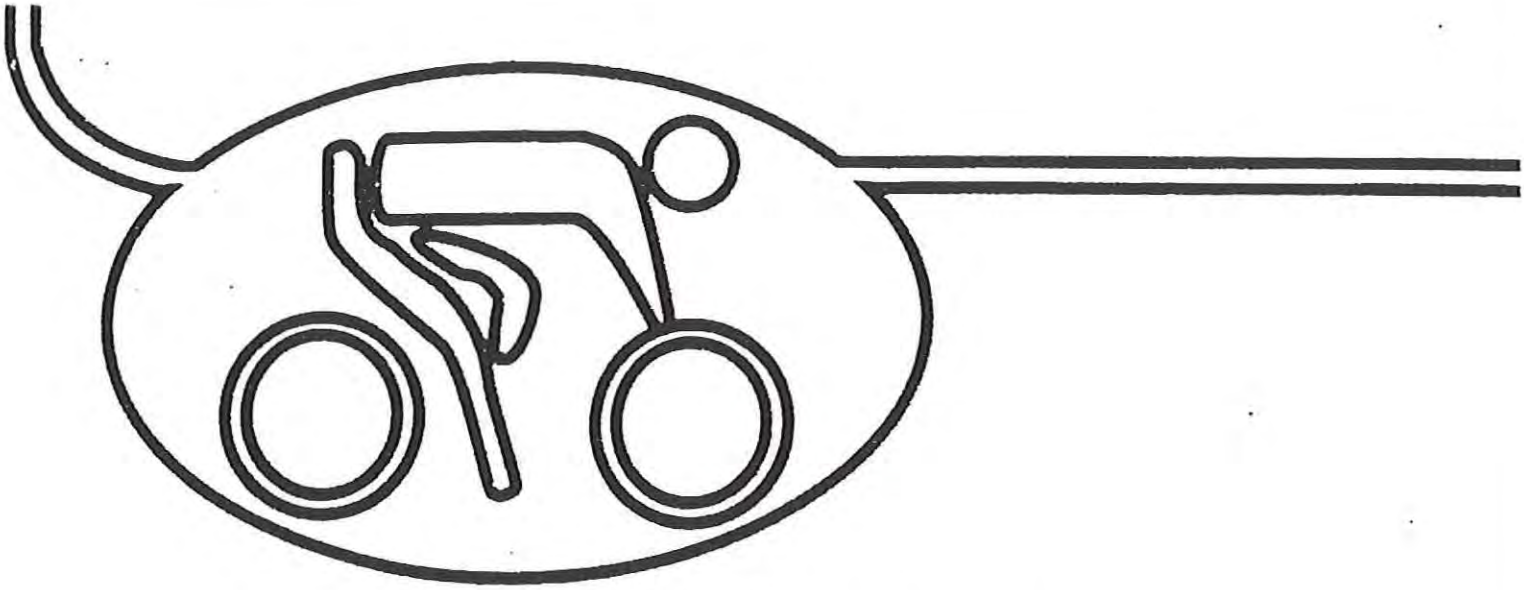


A Few Of Our Valued Customers

PRIVATE
General Dynamics
EASTMAN
TRW Inc.
Little Company of Mary Hospital
Iolab, (Johnson & Johnson)
Walmart
Chevron USA
Humana Hospital (3 locations)
Coca-Cola Foods
Lawrence Livermore National Lab
TACAN Corp.
Glendale Federal
Hughes Aircraft
Albertson's
Irvine Co.
General Research Corp.
Home Federal Savings & Loan
International Light Metals
Oro America
Computer Science Corp.
The Aerospace Corp.
Miles, Inc.
Pacific Development, OR
Southern Calif. Edison
Avery
UNOCAL
Fleetwood Enterprises
Anheuser Busch, CA, NH
Kaiser Permanente (7 locations)
Beatrice/Hunt-Wesson
HARPERS
Shell Oil Co.
Sears Roebuck & Co.
ALECTEC
Hughes Communications, Inc.
Laidlaw Transit, Inc.
Harbor Gateway Business Ctr.
Panavision
Trammel Crow Co.
Pace Consolidation Ctr.
Cal/West United Inc.
Coldwell Banker
Redlands Federal Bank
Buenaventura Mall
Bugle Boy Industries
United Artists Cable
Jet Propulsion Laboratory
The Capital Group, Inc.
COSTCO
Trend Offset Printing
EG & G Astrophysics Research
Old Country Bakery
Olive Garden Restaurant (8 locations)
WHEREHOUSE Enterprises
Florida Hospital, FL

GOVERNMENT
City/County of Denver
City of Arvada, CO
City of San Luis Obispo
County of San Luis Obispo
CalTrans
City of Bakersfield
City of Loma Linda
County of Riverside
Riverside Transit Agency
County of San Bernardino
Orange County Trans. Auth.
City of Santa Barbara
County of Santa Barbara
City of Ventura
County of Ventura
City of Los Angeles
County of Los Angeles
City of San Diego
City of Anaheim
City of Santa Monica
City of Escondido (Trans. Center)
City of Glendale
City of Carson
City of Chino
City of Rialto
City of Burbank
O.C. Performing Arts Center
City of Eugene, OR
City of Portland, OR
TRI-MET, OR
South Coast Air Quality Mgmt. District
Maricopa College District, AZ
Phoenix Transit, AZ
Patrick AFB, FL
Pinellas County, FL
New Jersey DOT
Town of Oyster Bay, NY
Virginia DOT
City of Fairfax, VA
Spokane Transit, WA
Everett Community Transit, WA
U.S. Navy PMTC
U.S. Postal Service

OVERSEAS
Nottingham City Council, U.K.

For More Information

AMERICAN BICYCLE SECURITY CO.
800·245·3723 · 805·933·3688 · FAX 933·1869

Material Specifications

STRUCTURE AND FINISH

150 Series: Walls, tops, doors, door frames and internal dividers of weather resistant phenolic board made to Commercial Standard 236-66 type 2-B-2 overlaid, or MDO Ex. plywood. Exterior finished with colored acrylic, or equal to withstand weathering, and shall have graffiti resistant finish coat. Standard color is tan; other colors available on special order. Bottom of all walls encapsulated in plastic or aluminum extrusion for superior weatherability.

250 Series: Exterior walls, tops, doors and door frames made of colored fiberglass-reinforced plastic with DF ext. grade core (ASTM PS1-83). Solid color never needs painting, is graffiti resistant and resists impact and scratches. Interior walls of MDO 2-side G1 exterior board (ASTM ATA 10–PS1–83), which is not susceptible to delamination from moisture or immersion in water. Standard color is tan. Bottom of all walls are encapsulated in plastic or aluminum extrusions for superior durability.

350 Series: Molded composite lockers shall be manufactured with fiberglass reinforced plastic and a solid color pebble grain texture finish. Finish allows easy removal of graffiti and is resistant to impact, scratches and U.V. damage. Lockers shall not use an external or internal frame. Walls and top shall be double wall construction for high strength and insulation from the elements, roof shall be crowned for water run off and all corners are curved. Finish does not need painting, resists impact plus chemicals and stains. Materials will withstand extremes in temperature and other weather/environmental conditions. Walls between joined units shall be fiberglass-reinforced plastic. Interior diagonal wall shall be MDO 2-side G1 exterior board (ASTM ATA 10–PS1–83)

Two door two bike unit shall be manufactured in 7 components; 2 doors, 2 door frames, 2 locker body components and an internal diagonal divider to separate the bikes. The locker body components incorporate the roof and walls into one structure and the doors are hung prior to shipping. The locker body components shall be joined by internal fasteners. Standard colors are tan and light grey though CUSTOM COLORS can be ordered or matched with a color sample.

Optional: Ventilation system, includes stainless steel louvered vents on exterior walls for dissipation of heat, dampness and allowing air exchange throughout all lockers.

FRAME:

150 and 250 Series: Walls, tops and door frames shall lock together utilizing custom extrusions manufactured from 6063-T5, commercial anodized aluminum.

LOCKS AND LOCKING HARDWARE:

Standard: Chicago ACI II 7 pin tumbler Pop Out "T" Handle locks with removable lock cylinders. Standard internal locking hardware consist of six chromolly steel cams controlling an extruded aluminum locking bar which engages the door frame over 3 foot span. High custom extruded continuous door hinge has no hinge pins to wear or rust.

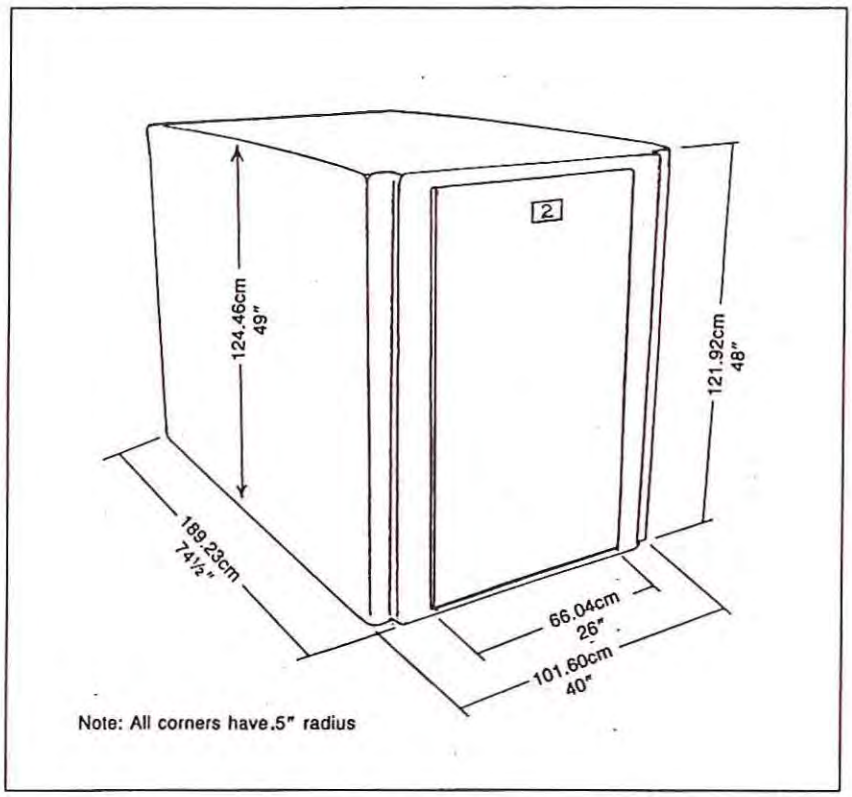
All fasteners and assembly hardware is zinc plated or better and internal to prevent tampering.

Optional: Heavy Duty pad lock system that will accommodate high security pad locks.
Optional: MEDECO Stainless Steel high security T-Handle lock.
Optional: Coin-operated system. Shall be AMERICAN LOCKER patented system.

Load ratings and additional technical information available upon request.

BIKE-SHELL®
Bicycle Lockers

Dimensional Specifications



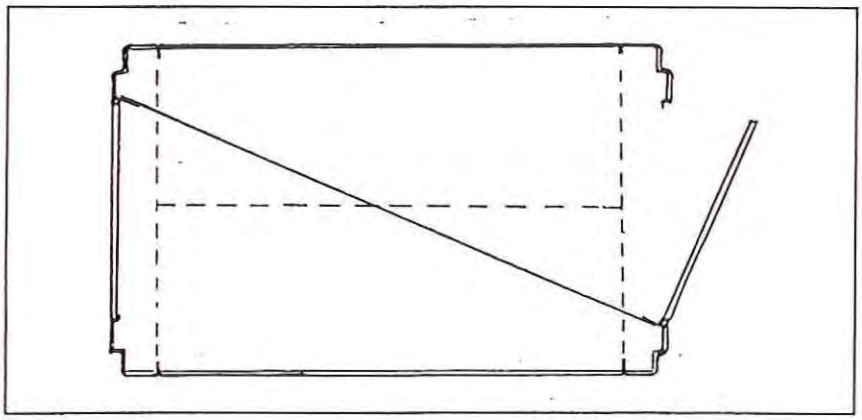
Bicycle Locker Model 352

2 Door — 2 Bike Capacity

Patent Pending

Top View of Bicycle Locker Model 352

Dashed lines indicate joints between components. 5 components. 1) Two door frames with doors 2) Two locker halves 3) Diagonal interior wall



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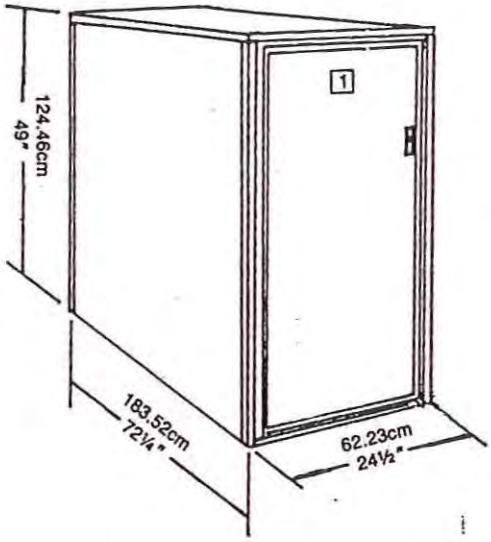
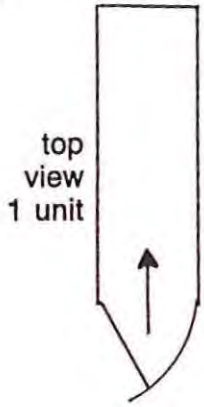
P.O. Box 7359 • Ventura, CA 93006 • (800) 245-3723 • (805) 933-3688 • FAX (805) 933-1865

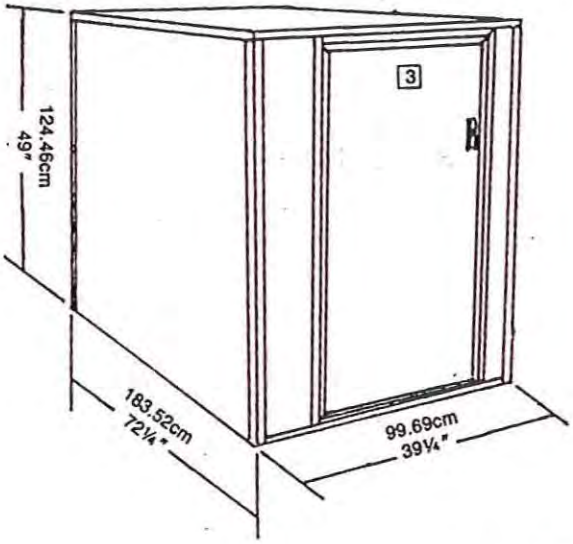
BIKE-SHELL®
Bicycle Lockers

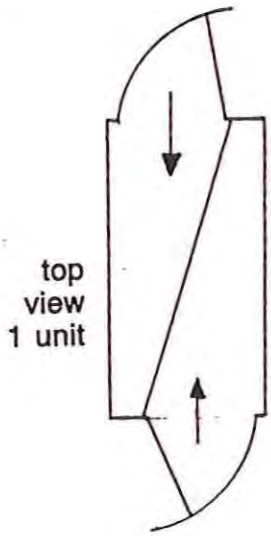
Dimensional Specifications





Bicycle Locker Model 151 & 251
1 Door — 1 Bike Capacity
Patent Pending





Bicycle Locker Model 152 & 252
2 Door — 2 Bike Capacity
Patent Pending

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AMERICAN BICYCLE SECURITY CO.
div. of Turtle Storage, Ltd.
(805) 933-3688 * FAX (805) 933-1865

BIKE PARKING & STORAGE LOCKERS

Price Sheet
Effective August 1, 1994
CLASS 1 BICYCLE PARKING FACILITIES

Model No.	Description	Dimensions	Prices	
151	1 door, 1 bicycle capacity. Aluminum frame with acrylic finished phenolic board.	49"H X 24 1/2"W X 72 1/4"L	1-5 units $ 469.00	6 + QUOTE
152	2 door, 2 bicycle capacity. Aluminum frame with acrylic finished phenolic board.	49"H X 39 1/4"W X 72 1/4"L	1-5 units $ 639.00	6 + QUOTE
153	1 door, 2 bicycle capacity. Aluminum frame with acrylic finished phenolic board.	49"H X 39 1/4"W X 72 1/4"L	1-5 units $ 599.00	6 + QUOTE
251	1 door, 1 bicycle capacity. Aluminum frame with fiberglass reinforced plastic exterior.	49"H X 24 1/2"W X 72 1/4"L	1-5 units $ 770.00	6 + QUOTE
252	2 door, 2 bicycle capacity. Aluminum frame with fiberglass reinforced plastic exterior.	49"H X 39 1/4"W X 72 1/4"L	1-5 units $ 900.00	6 + QUOTE
253	1 door, 2 bicycle capacity. Aluminum frame with fiberglass reinforced plastic exterior.	49"H X 39 1/4"W X 72 1/4"L	1-5 units $ 880.00	6 + QUOTE
352	2 door, 2 bicycle capacity. Molded fiberglass reinforced plastic with colored finish.	49"H X 42 1/4"W X 74 1/2"L	1-5 units $ 1995.00	6 + QUOTE

Custom lockers available for wheelchairs, golf bags, sporting equipment, etc.

STANDARD

- Lock: High Security Pop Out "T" Handle Locks w/ 3 keys (each lock keyed different).

- Color: 150 Series. Tan with gold anodized aluminum, special order colors, $30 set up. Changes in color of anodized aluminum frame, call for quote.

250 Series. Tan with gold anodized aluminum.

350 Series. White, tan and light grey, special order colors, quote.

Options, Accessories and Installation/Delivery rates on page 2

LOCKERS ARE SHIPPED KNOCKED DOWN, FOB Santa Paula, CA.

Returns subject to 15% restocking charge plus freight costs

ABSLKRP8.FRM/ts7

Prices subject to change without notice

AMERICAN BICYCLE SECURITY CO.
Effective August 1, 1994

BIKE LOCKER OPTIONS & ACCESSORIES

Part #	Description	Price
010	Padlock Locking System. Padlock not included	NO CHARGE
012	Master keyed FORT LOCK T-Handle locks. 3 user keys. 1 master key per set.	$15.00 per door
013	Coin operated locks - collection of revenue, token or coin refund	Call for quote
015	Medeco - Stainless steel high security "T" Handle locks	Call for quote
020	Locker Numbers: Numbers are 1 1/2" in height. Each order starts with 1 unless specified otherwise. Engraved numbered labels are fastened to doors.	$ 8.00 per door
030	Ventilation system, includes stainless louvered vents one on each exterior wall For areas of high temperature, humidity or dampness for cross ventilation.	$15.00 per exterior wall
040	Clothes / Gear hooks, 2 per locker. Hang up your helmet, riding accessories or clothes for the next work day.	$10.00 per locker
050	ALARM - Motion activated alarm, activated & deactivated with key pad, self contained, installed on door. Can also be mounted on bikes, golf bags, etc.	$76.00 per door Specify use when ordering

Delivery & Installation

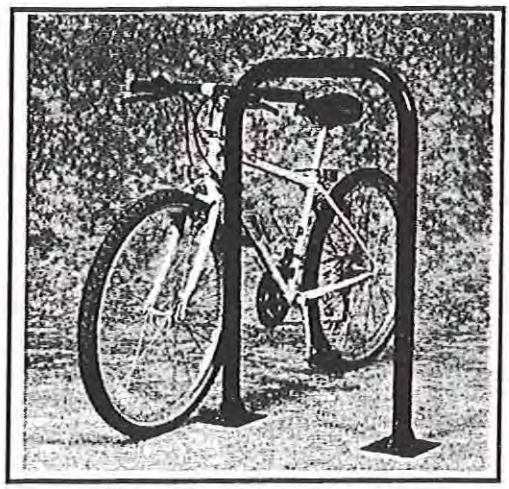
DELIVERY			INSTALLATION (PER UNIT)	
DISTANCE	QUANTITY	AMOUNT	QUANTITY	AMOUNT
0-50 MILE	1 - 15	$160	1 - 15	$50EA
	16 - 30	$225	16 - 40	$45EA
	OVER 30	QUOTE	OVER 40	QUOTE
-100 MILE	1 - 15	$220		
	16 - 30	$310		
	OVER 30	QUOTE		
-150 MILE	1 - 15	$375	INSTALLATION INSTRUCTIONS ON VCR TAPE FOR 150 & 250 SERIES LOCKERS. $ 19.95	
	16 - 30	$450		
	OVER 30	QUOTE		
+150 MILE	CALL FOR QUOTE			

ALL INSTALLATION PRICES ARE BASED ON THE CUSTOMER PROVIDING AN ADEQUATE SURFACE OR CONSTRUCTED PAD, CALL FOR MORE INFORMATION

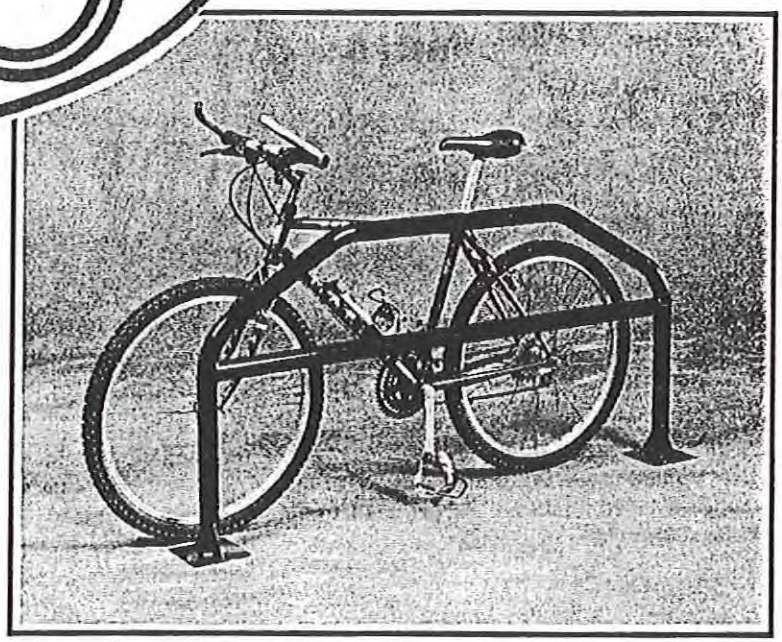
Limited Warranty

AMERICAN BICYCLE SECURITY CO. warrants that all of its products are guaranteed against defective material or poor workmanship for a period of one year from date of shipment. AMERICAN BICYCLE SECURITY CO.'s liability under this warranty shall be discharged by furnishing without charge F.O.B. Santa Paula, CA, any goods, or part thereof, which shall appear to the company upon inspection to be of defective material or not of first class workmanship, provided that claim is made in writing to company within a reasonable period after receipt of the product. Where claims for defects are made, the defective part or parts shall be delivered to the company, prepaid, at Santa Paula, CA, for inspection. AMERICAN BICYCLE SECURITY CO. will not be liable for the cost of repairs, alterations, or replacements, or for any expense connected therewith made by the owner or his agents, except upon written authority from the AMERICAN BICYCLE SECURITY CO., Santa Paula office. AMERICAN BICYCLE SECURITY CO. will not be liable for any damages caused by defective materials or poor workmanship, except for replacement as provided above.

ABSLKRP8.FRM/ts7 Prices subject to change without notice



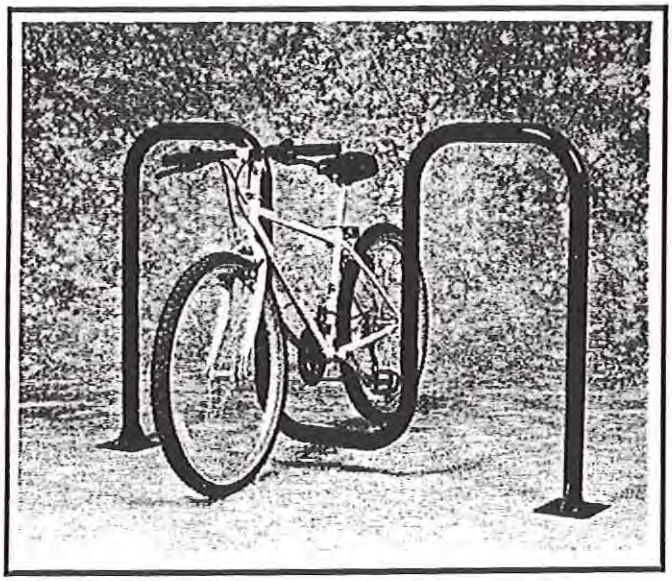
Viper Rack 1000 Series



Viper Rack 3000A Series

The Viper Rack Advantages:

- High strength steel tubing supports bicycle by its frame, eliminating wheel damage
- Smooth vinyl coated finish to protect bicycle
- Allows locking of both wheel and frame for highest security
- Extra wide arch allows easy access even at maximum capacity



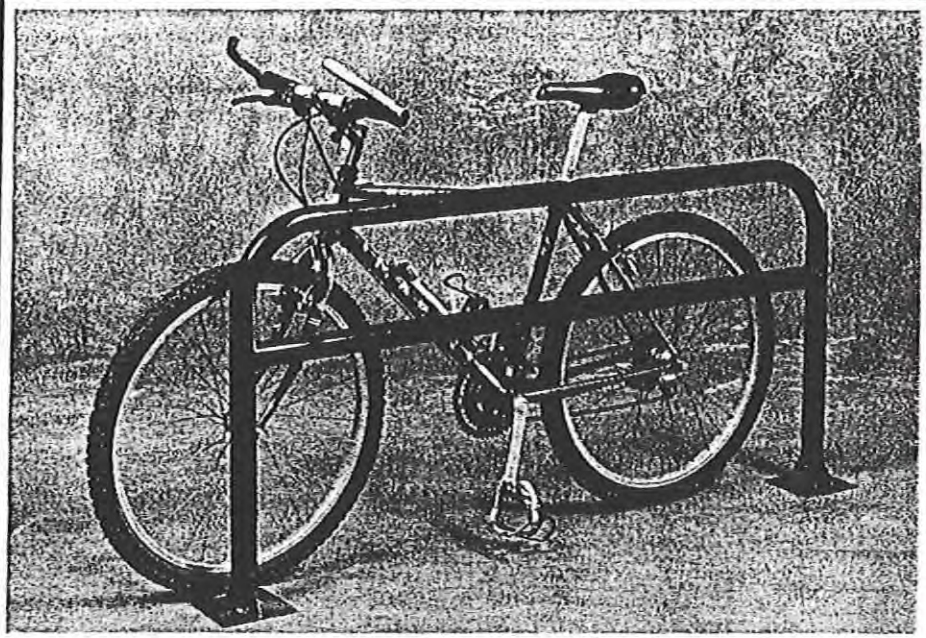
Viper Rack 2000 Series

Viper Racks are a space efficient, economical and secure method of parking bicycles. An increasing number of communities have realized the importance of bicycling as an alternative mode of transportation. Our high quality products and customer care will make you a leader in your community.

For More Information

AMERICAN BICYCLE SECURITY CO.
(800) 245-3723 • (805) 933-3688 • FAX (805) 933-1865

Material Specifications:



Viper Rack 3000 Series

Availability
Delivery time is approximately 2 weeks after the receipt or order. Racks are shipped FOB Santa Paula, California, USA, 93060.

Installation
Viper Rack Model 1042, 2082, and 3002 use 8 expansion anchors which are available (PN#MK9000). Installation in hard masonry is recommended. Racks can be installed on asphalt, but concrete embedment for anchors is recommended. Installation instructions provided with each shipment.

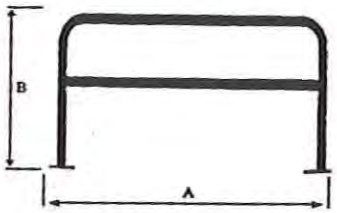
Materials
All MIG welded construction. Tubing is 2" OD with .09 thickness. Finished racks are grit blasted, then polyester powder coated and oven cured. Polyester powder coating will not chip, has excellent corrosion resistance. Smooth finish will not scratch bicycle. Standard color is black.

Viper Rack Model 1041, 2081, and 3001 in ground mount and have 8" longer end posts for installation in concrete. Soft surfaces can be accomodated with post hole digger and ready mix concrete. Installation instructions provided with each shipment.

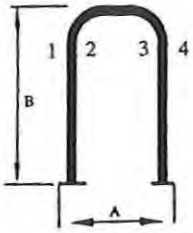
Ideal Location For Viper Rack:

- Retail Store Front Protection
- Universities/High Schools
- Dormitories
- Apartments/Condominiums
- Libraries
- Office Buildings
- Manufacturing Plants
- Parking Facilities
- Mass Transit Depots
- Airports
- Shopping Centers
- Fast Food Outlets
- Convenience Stores
- Bicycle Shops
- Parks/Recreations Areas
- Marinas/Beachs
- Fitness Centers
- Tennis Clubs
- Resort Hotel

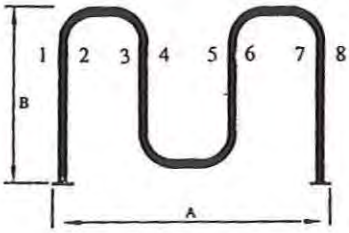
Viper Rack 3000 Series

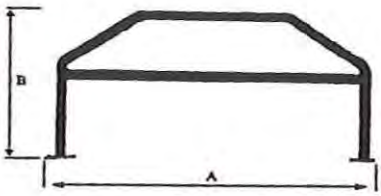


Viper Rack 1000 Series



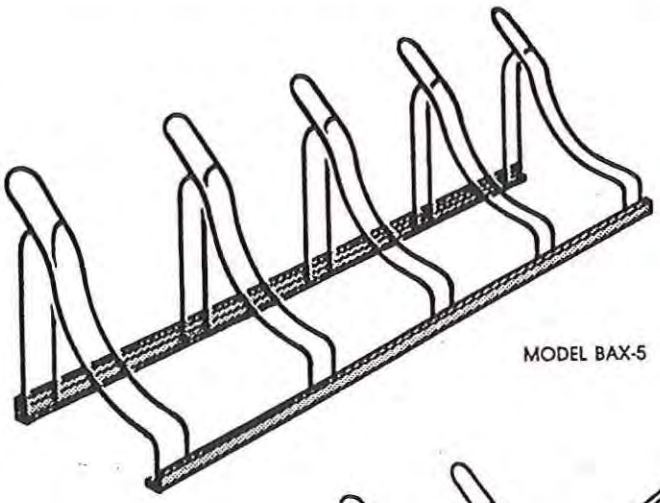
Viper Rack 2000 Series



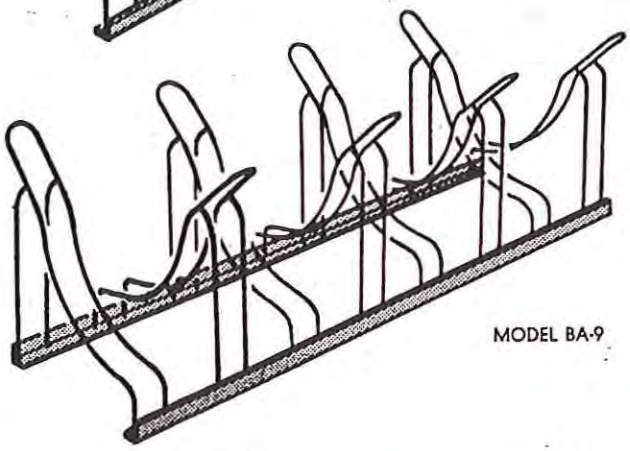


Model 1042 With Base Plate	Model 1041 Without Base Plate	Model 2082 With Base Plate	Model 2081 Without Base Plate	Model 3002 & 3002A With Base Plate	Model 3001 & 3001A Without Base Plate
..... 26" 66.04 cm	A ..... 22" 55.88 cm	A ..... 66" 167.44 cm	A ..... 62" 157.48 cm	A ..... 64" 162.56 cm	A ..... 60" 152.40 cm
..... 39" 99.06 cm	B ..... 47" 119.38 cm	B ..... 39" 99.06 cm	B ..... 47" 119.38 cm	B ..... 30" 76.20 cm	B ..... 38" 96.52 cm
eight 18 lbs. 8.16 kg	Weight 16 lbs. 7.26 kg	Weight 31 lbs. 14.06 kg	Weight 28 lbs. 12.70 kg	Weight 26 lbs. 11.79 kg	Weight 24 lbs. 10.89 kg

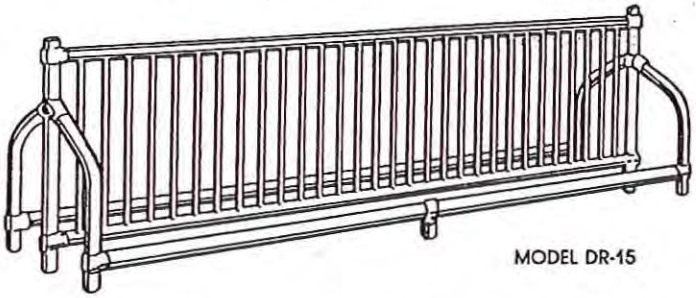
bike racks



MODEL BAX-5



MODEL BA-9



MODEL DR-15

These traditional bicycle racks are designed to last a lifetime. Manufactured out of 1-5/8" galv. steel pipe and 1/2" galv. pipe. All fittings are also galvanized. Bike racks come in single or double face, and for portable or permanent settings — Please specify when ordering.

DOUBLE FACE BICYCLE RACKS			
MODEL	LENGTH	CAPACITY	SHIPPING WT. lbs.
DR-15	15'	33 Bicycles	300 lbs.
DR-30	30'	66 Bicycles	600 lbs.
SINGLE FACE BICYCLE RACKS			
MODEL	LENGTH	CAPACITY	SHIPPING WT. lbs.
SR-15	15'	15 Bicycles	255 lbs.
SR-30	30'	30 Bicycles	400 lbs.

Whether you need just a few, or rows upon rows,
We are at your service.

BA-series

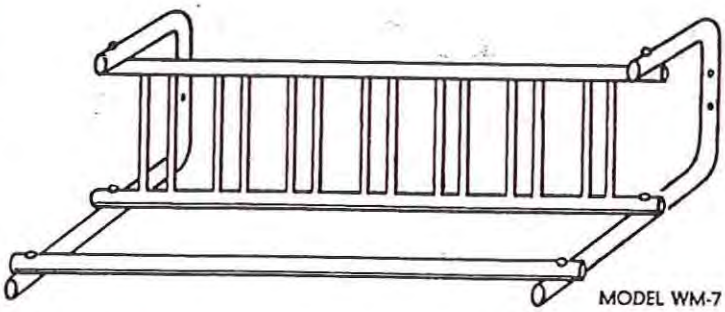
"BA" SERIES — Bike Rack is made in separate wheel holder units, which can be installed 16" apart, all facing one way for one side loading; or facing in alternate directions for loading from both sides, spaced 8" apart.
Wheel holders are individual welded units made of 1/2" steel rod. Base of each holder is bolted to 1-1/2" x 1-1/2" x 3/16" steel angle runners the full length of the bike rack. Bolts are provided with locknuts. Angle runners and wheel holders are Hot Dip Galvanized after fabrication. Angle runners are provided with holes for anchoring. Bike holders are designed to accommodate all sizes of bike wheels.

LOAD ONE SIDE

MODEL	CAPACITY	LENGTH	WIDTH	HEIGHT	WEIGHT Lbs.
BAX-2	2	19"	19-3/4"	20-1/4"	20 lbs.
BAX-5	5	67"	19-3/4"	20-1/4"	52 lbs.
BAX-8	8	115¼"	19-3/4"	20-1/4"	85 lbs.

LOAD BOTH SIDES

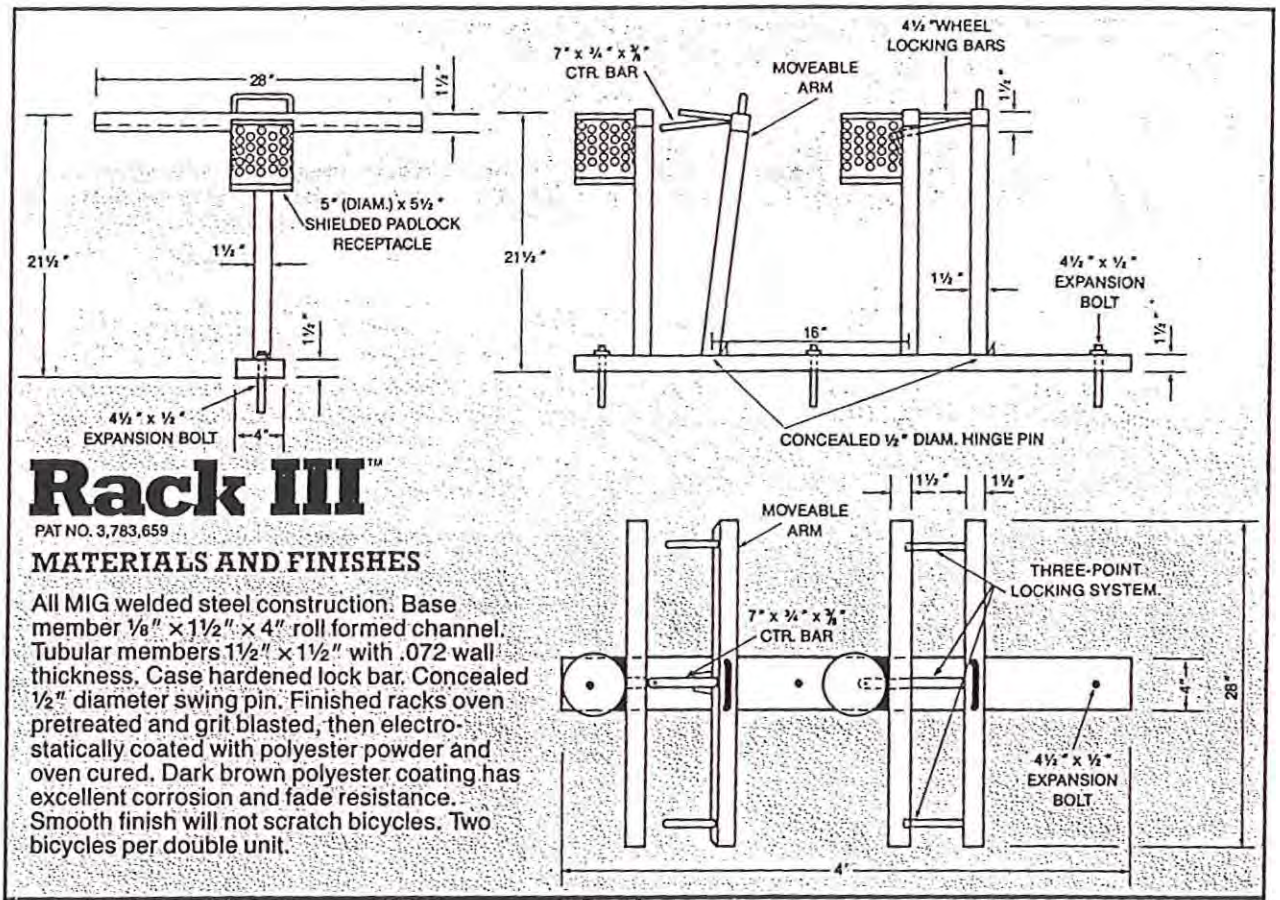
MODEL	CAPACITY	LENGTH	WIDTH	HEIGHT	WEIGHT Lbs.
BA-4	4	27"	22"	20-1/4"	32 lbs.
BA-9	9	67"	22"	20-1/4"	68 lbs.
BA-15	15	115¼"	22"	20-1/4"	127 lbs.



MODEL WM-7

This portable bike rack is made out of 1-5/8" galv. pipe and 1/2" galv. steel pipe. This model is ideal for either stand alone, or wall mount installation. Please specify when ordering. Single side load only on this model.

MODEL	LENGTH	DEPTH	HEIGHT	CAPACITY	SHIP WT. lbs.
WM-7	10'	20"	38"	7 Bicycles	98 lbs.
WM-11	15'	20"	38"	11 Bicycles	150 lbs.

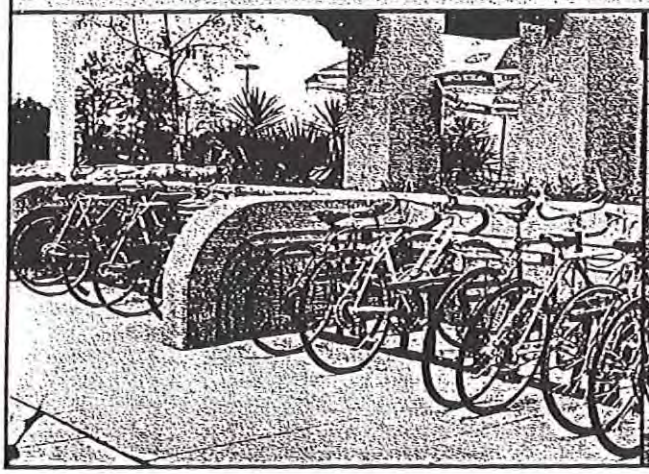


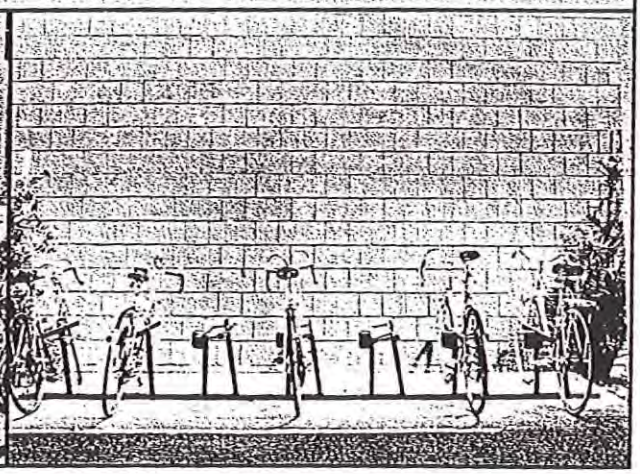
Rack III™

PAT NO. 3,783,659

MATERIALS AND FINISHES

All MIG welded steel construction. Base member ⅛" × 1½" × 4" roll formed channel. Tubular members 1½" × 1½" with .072 wall thickness. Case hardened lock bar. Concealed ½" diameter swing pin. Finished racks oven pretreated and grit blasted, then electrostatically coated with polyester powder and oven cured. Dark brown polyester coating has excellent corrosion and fade resistance. Smooth finish will not scratch bicycles. Two bicycles per double unit.





SUGGESTED ARCHITECTURAL SPECIFICATIONS

[specify quantity] double units each accommodating two bicycles shall be installed according to manufacturer's specification. Rack to secure bicycle frame and both wheels without chain or cable. Padlock protection must be provided and rack must accept U-shaped bike locks. Height 21½"; overall width 28", length 48". Racks to be delivered fully assembled with dark brown finish (other colors subject to special inquiry).

INSTALLATION

Three self-tapping ½" x 4½" anchor bolts are provided with each double unit. Installation in concrete is recommended. Minimum bolt embedment is 2⅛". Allow 3' from center line of base channel to walls, etc., for bike clearance. Complete installation instructions are provided with each shipment. Racks can be installed in asphalt, but concrete embedment for bolts is required.

AVAILABILITY

Delivery time is approximately 3 weeks after receipt of order. Racks are shipped fully assembled, f.o.b. Oakland, California. Shipping weight 40 lbs. per double unit.

CODE ACCEPTABILITY, CERTIFICATION

Many city and county governments have specified Rack III for use in any new or remodeled commercial construction.

Whether you need just a few, or rows upon rows, We are at your service.

AMERICAN BICYCLE SECURITY CO. • A Division of TURTLE STORAGE, LTD.
P.O. Box 7359 • Ventura, CA 93006 • 800-245-3723 805-933-3688 FAX 933-1865

AMERICAN BICYCLE SECURITY CO.

BICYCLE RACKS

Price Sheet
Effective January 1, 1995
CLASS 2 & 3 BICYCLE PARKING FACILITIES

Model No	Description	# Bikes	Class	Prices
Rack III	Locks frame and both wheels with one lock. No cables needed. Surface mounted. Pad lock protector prevents pry bar or bolt cutters from damaging lock.	2	2	$367.00
B-1	Steel/powder epoxy finished wall mounted rack hangs one bike from wheel. Two loops to lock with cable. Coated hook won't damage wheels.	1	3	$ 23.00
BR-2	Steel/powder epoxy finished wall mounted rack hangs two bikes from wheel. Loops to lock with cable. Coated hooks won't damage wheels. Accessory rack.	2	3	$ 80.00
HFB-1	Steel/powder epoxy finished wall mounted folding rack hangs one bike by the frame horizontal. Bike is parallel to the wall. Has accessory rack.	1	3	$ 60.00
HFB-2	Steel/powder epoxy finished wall mounted folding rack hangs two bikes by the frame horizontal. Bikes are parallel to the wall. Has accessory rack.	2	3	$ 75.00
PBH-1	Steel vinyl coated, ceiling or wall mount hangs one bike from front wheel.	2	3	$ 11.00
1041	Steel tube in a single arch with in the ground mount 8" depth. Durable weather resistant finish. Mounts in most any surface.	4	3	$140.00
1042	Steel tube in a single arch with base plates for surface mount. Durable weather resistant finish. Mounting kit available.	4	3	$175.00
2081	Steel tube in a double arch with in the ground mount 8" depth. Durable weather resistant finish. Mounts in most any surface.	8	3	$280.00
2082	Steel tube in a double arch with base plates for surface mount. Durable weather resistant finish. Mounting kit available.	8	3	$315.00
3021 & 3021A	Steel tube in a single arch with cross member. In ground mount. Durable weather resistant finish. Angled ends.	2	3	$175.00
3022 & 3022A	Steel tube in a double arch with base plates for surface mount. Durable weather resistant finish. Mounting kit available. Angled ends.	2	3	$200.00
MK9000	Mounting kit for 1042, 2082, & 3022 racks. (complete hardware kit for one rack)			$ 20.00

Warranty: One year on parts due to manufacturer defects
Prices subject to change without notice.

AMERICAN BICYCLE SECURITY CO.
a div. of Turtle Storage, Ltd.

BICYCLE RACKS

Price Sheet
Effective January 1, 1995

Model No.	Description	# Bikes	Class	Prices
BA-4	Load from both sides. Galvanized finish. Requires some assembly.	4	3	$129.00
BA-9	Load from both sides. Galvanized finish. Requires some assembly.	9	3	$289.00
BA-15	Load from both sides. Galvanized finish. Requires some assembly.	15	3	$409.00
BAX-2	Load from one side. Galvanized finish. Requires some assembly.	2	3	$ 79.00
BAX-5	Load from one side. Galvanized finish. Requires some assembly.	5	3	$179.00
BAX-8	Load from one side. Galvanized finish. Requires some assembly.	8	3	$260.00
DR-15	Load from both sides. Galvanized finish. Requires some assembly.	33	3	$639.00
DR-30	Load from both sides. Galvanized finish. Requires some assembly.	66	3	$1119.00
SR-15	Load from one side. Galvanised finish. Requies some assembly.	15	3	$519.00
SR-30	Load from one side. Galvanized finish. Requires some assembly.	30	3	$919.00
WM-7	Portable or wall mount. Galvanized finish. Requires some assembly.	7	3	$275.00
WM-11	Portable or wall mount. Galvanized finish. Requires some assembly.	11	3	$310.00

RACKS SHIPPED KNOCKED DOWN WHERE APPLICABLE

Limited Warranty
AMERICAN BICYCLE SECURITY CO. warrants that all of its products are guaranteed against defective material or poor workmanship for a period of one year from date of shipment. AMERICAN BICYCLE SECURITY CO.'s liability under this warranty shall be discharged by furnishing without charge F.O.B. Santa Paula, Ca, any goods, or part thereof which shall appear to the company upon inspection to be of defective material or not of first class workmanship, provided that claim is made in writing to company within a reasonable period after receipt of the product. Where claims for defects are made, the defective part or parts shall be delivered to the company, prepaid, at Santa Paula, Ca, for inspection. AMERICAN BICYCLE SECURITY CO. will not be liable for the cost of repairs, alterations, or replacements, or for any expense connected therewith made by owner or his agents, except upon written authority from the MAERICAN BICYCLE SECURITY CO., Santa Paula office. AMERICAN BICYCLE SECURITY CO. will not be liable for any damages caused by defective materials or poor workmanship, except for replacement as provided above.

Prices subject to change without notice.

B:\PRICLIST.DIR\BIKRKP12.FOR

BIKE LOCKER LOCATIONS!

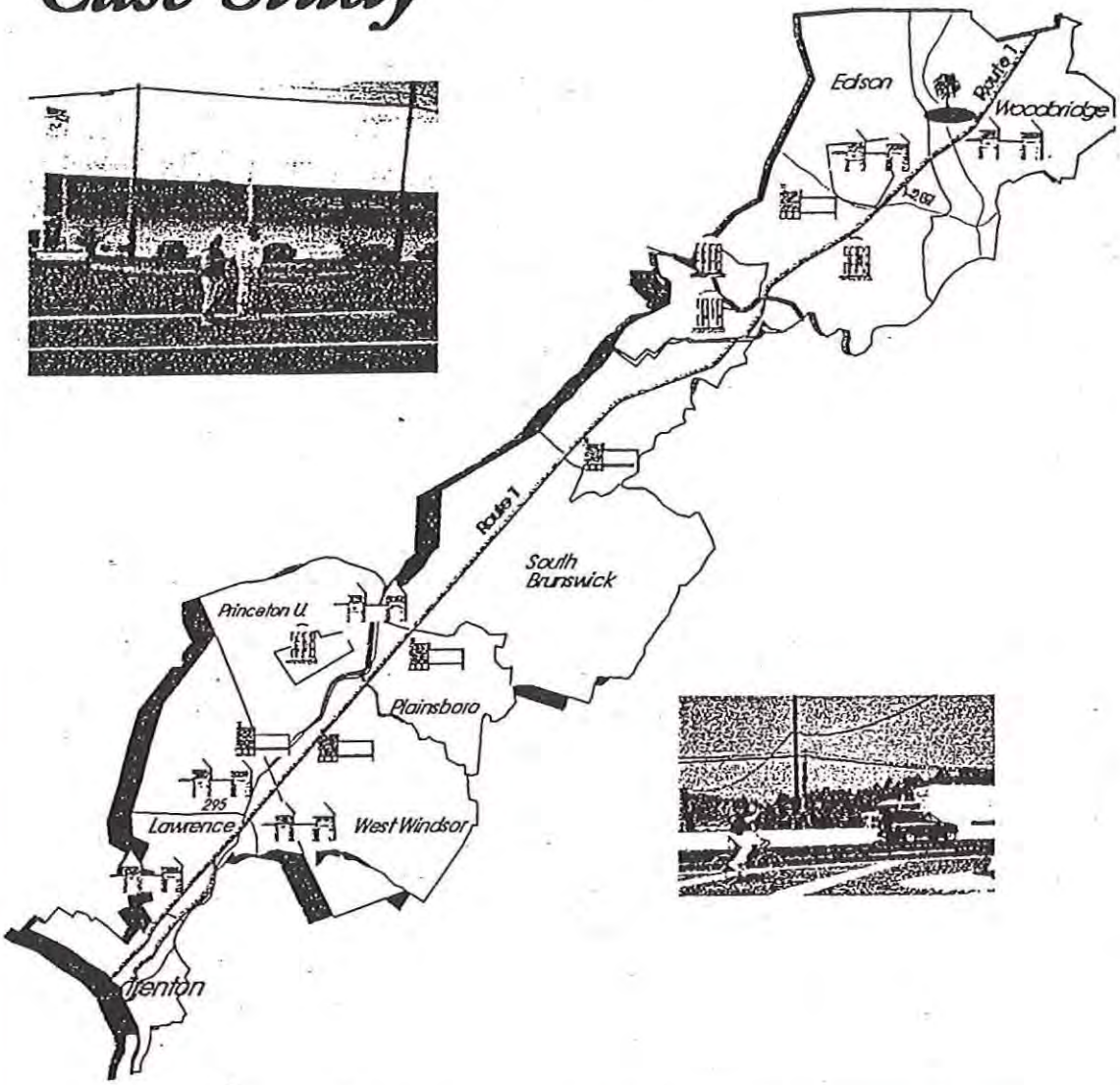
Currently KMM has bike lockers available for rent at Red Bank, Metro Park, Edison, Old Bridge, Point Pleasant, Matawan, South Amboy, Long Branch, Belmar, and Middletown. The lockers operate on a six month lease for $45.00. If you are interested in obtaining a bike locker, contact Brian Boles at 732-745-5903 or bboles@kmm.org.

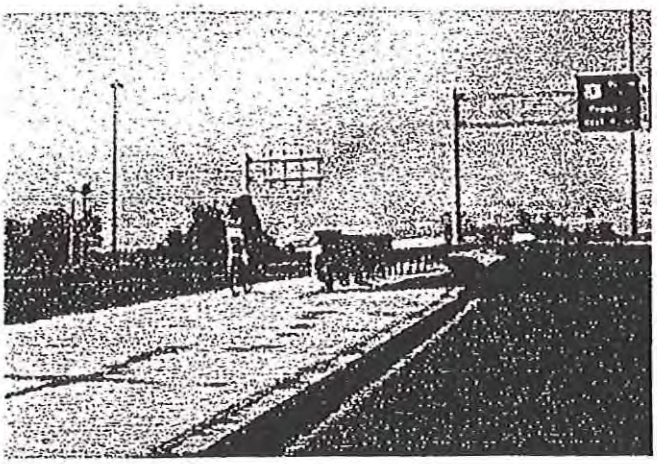
APPENDIX K

NEW JERSEY DEPARTMENT OF TRANSPORTATION
ROUTE ONE BICYCLE AND PEDESTRIAN CORRIDOR CASE STUDY

December 1997

Route One Bicycle and Pedestrian Corridor Case Study





Prepared For:
New Jersey Department of Transportation

Prepared By:
The RBA Group
Greenways Incorporated
Bicycle Federation of America

DRAFT

III. RECOMMENDATIONS

A. Corridor-Wide Recommendations

In addition to the site-specific recommendations and design details provided in subsequent sections of this report, there are a number of general bicycle and pedestrian improvements that can be implemented throughout the entire Route One Corridor. These recommendations are listed below and typical details illustrating some of these concepts are shown in the attached figures.

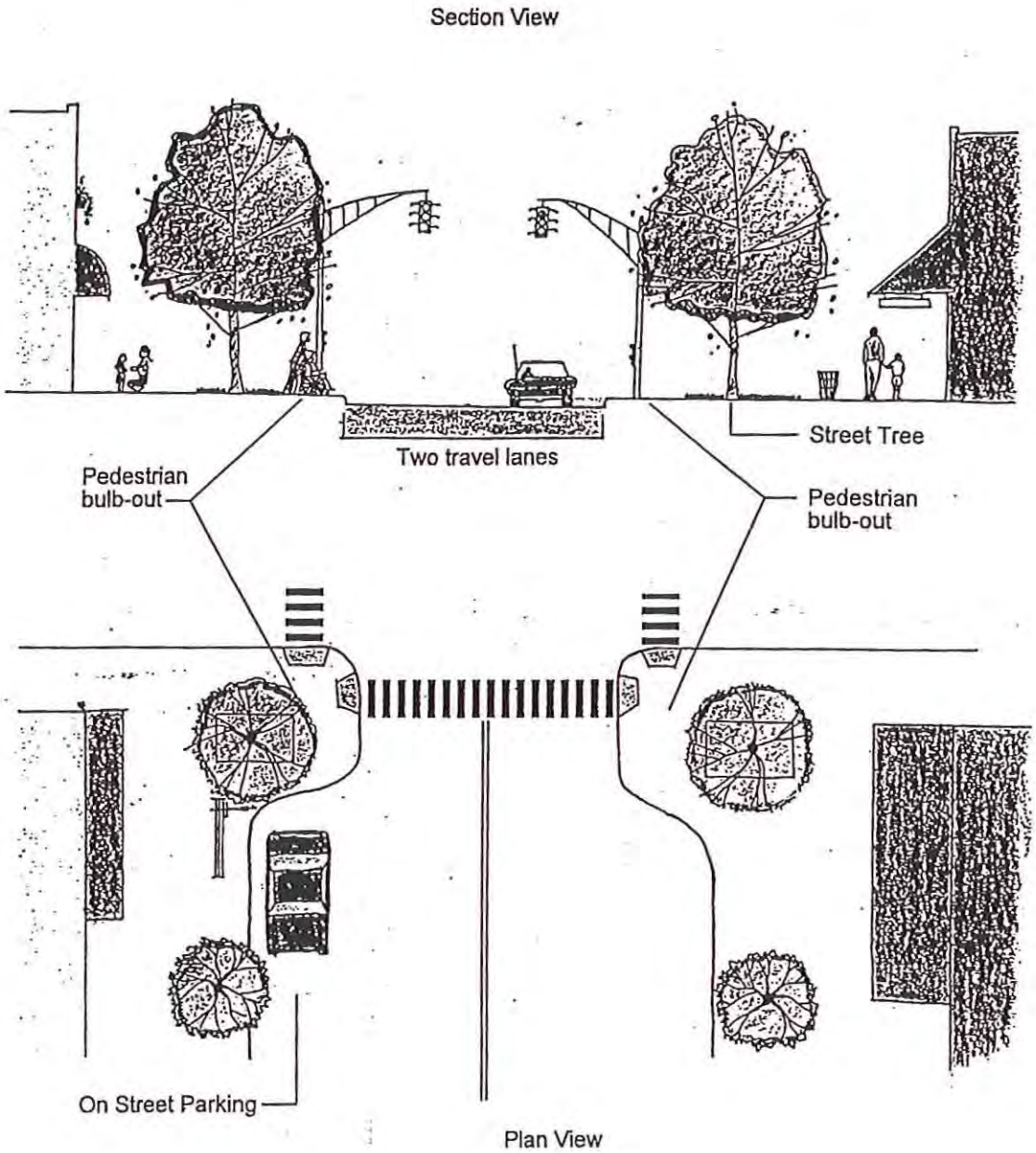
- Develop sidewalks along roadways. Sidewalks should be installed or upgraded wherever roadways are constructed, reconstructed or maintained, and designed according to state guidelines.
- Incorporate bicycle and pedestrian improvements into Department of Transportation projects.
- Develop bicycle parking facilities where major land use attractions and traffic generators are located.
- Work to create a continuous network of bicycle routes throughout the Corridor.
- Install striped crosswalks, medians and pedestrian signals at signalized intersections. Signal timing should be adjusted to allow pedestrians sufficient time to cross roadways.
- Install signs warning motor vehicles of pedestrian and bicycle activities where high volumes of bicyclists and pedestrians are anticipated.
- Develop a system of greenways, rail-trails and utility corridor trails where sufficient right-of-way exists.
- Develop bicycle-on-transit programs.
- Construct curb ramps at all intersections and connect to existing sidewalks.
- Incorporate bicycle safe drainage grates.
- Discourage truck traffic on local roadways.
- Promote traffic calming techniques in residential neighborhoods.
- Encourage programs that promote bicycle and pedestrian safety.

B. "Early Action" Project Recommendations

Site-specific recommendations for bicycle and pedestrian improvements along Route One were developed in two categories, "Early Action" Projects and Target Areas. "Early Action" Project recommendations focus on proposed, pre-existing roadway projects which have been programmed by NJDOT, county or local governments. After gathering the necessary information from the appropriate agency, the Consultant Team made recommendations for bicycle and pedestrian improvements to be incorporated into these roadway projects. These recommendations refer to specific sites within the roadway project limits, and therefore, should be included in the overall design plans. The following are Early Action Projects, with recommendations provided on the following pages.

- 7L Woodbridge Widening (NJDOT)
- 7M Edison Interchange (NJDOT)
- Route 130 (NJDOT)
- Route 522
- Route 92 (NJDOT)
- 2S3J Millstone Bypass (NJDOT)
- D & R Canal Crossing of Route One
- Bakers Basin Road (NJDOT)
- South Trenton Waterfront (Mercer Co. and City of Trenton)

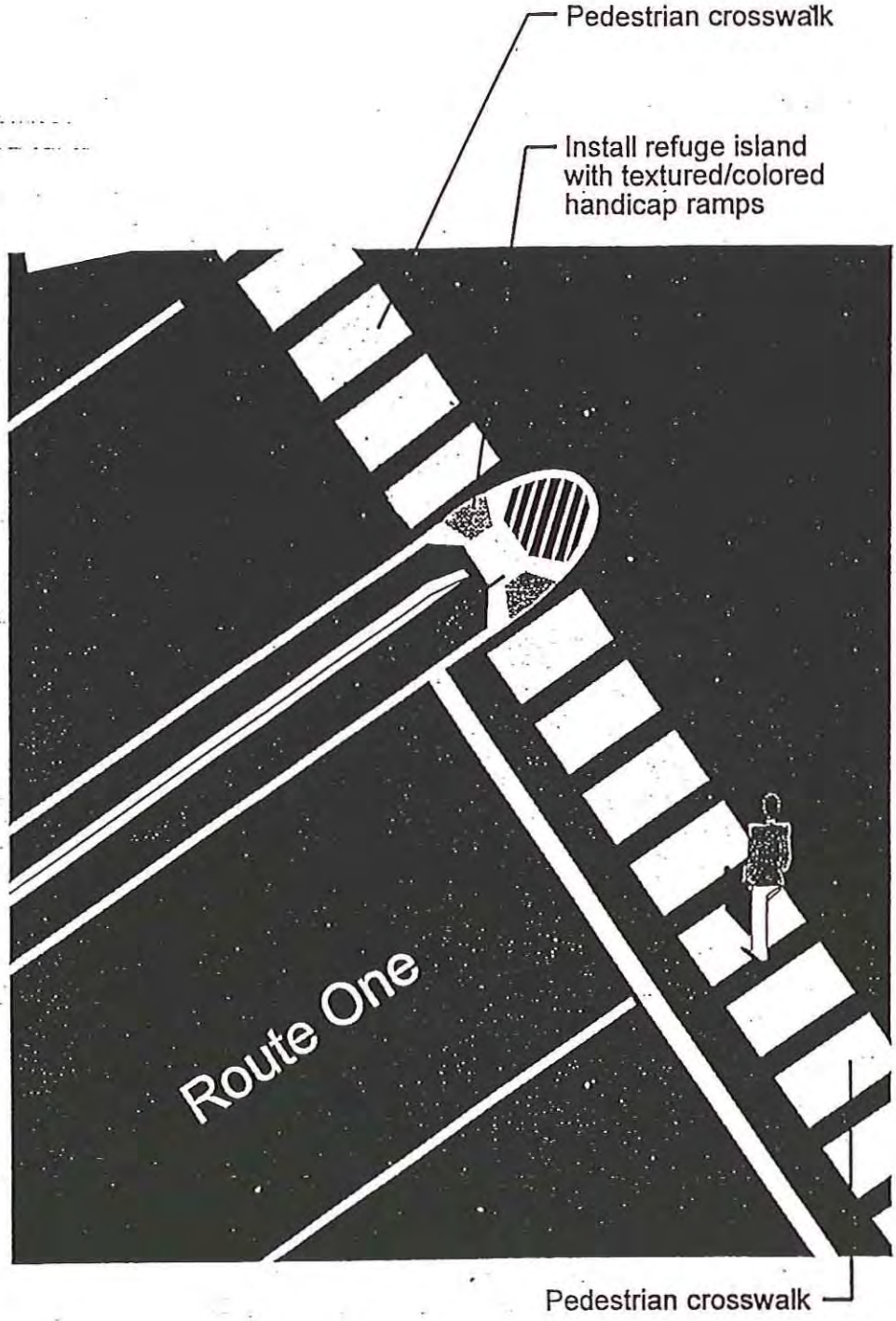
Figure 11
Typical Treatments for Route 1A Segment of Corridor



Streetscape Improvements on Route 1A
Route One Corridor Bicycle and Pedestrian Study

(J070300.CS_ES/G)

Figure 8
Typical Crosswalk and Refuge Island Treatments



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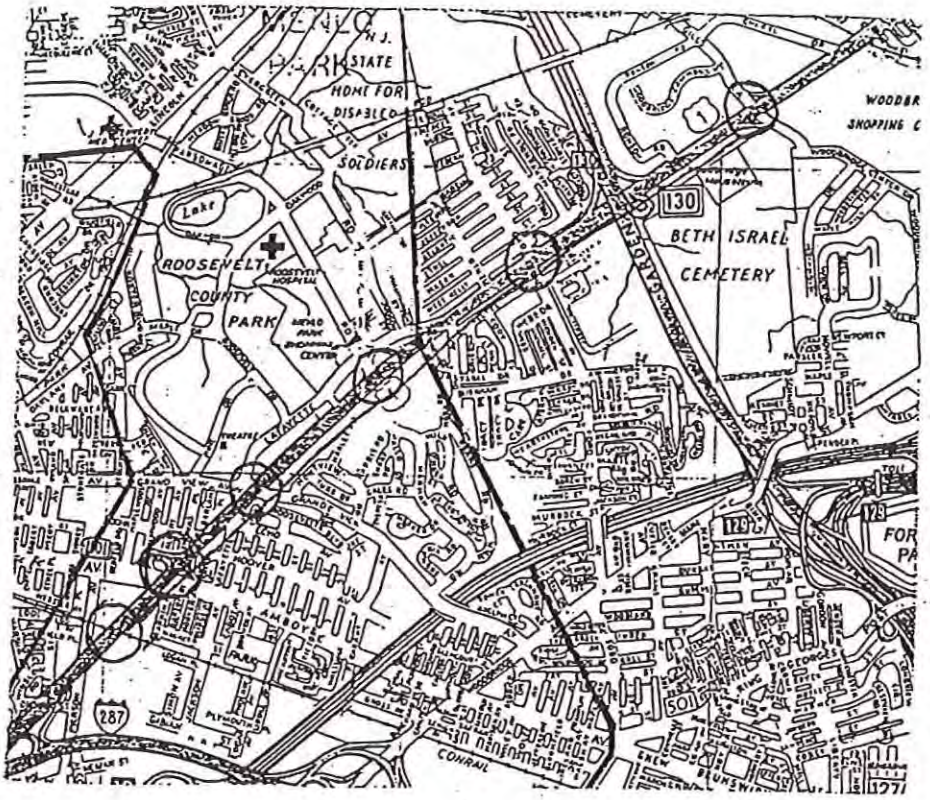
7L: EDISON-WOODBRIDGE WIDENING (NJDOT)

Project Description: Route One widening for four miles between Pierson Avenue and Edward Street.

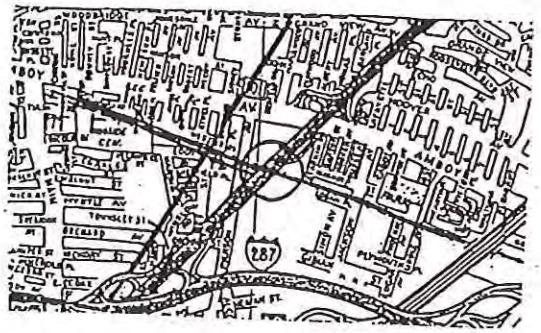
Overall Map of NJDOT Project Area:



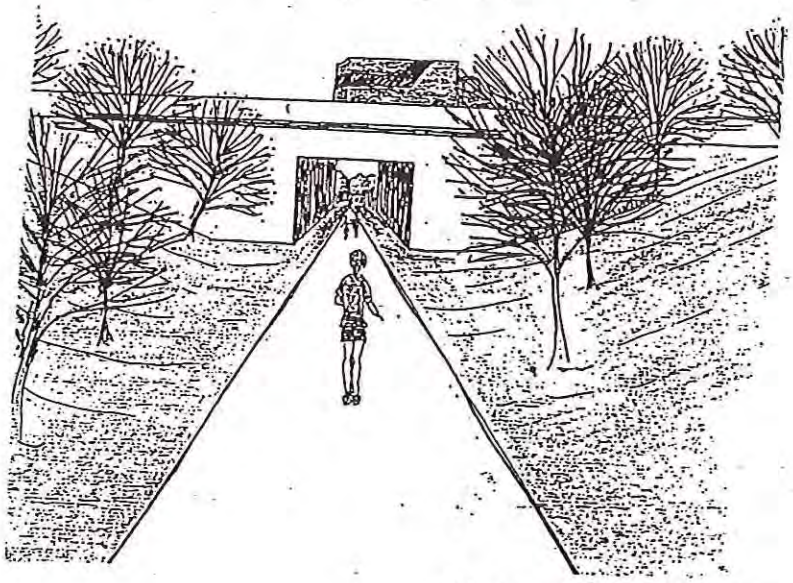
Bicycle and Pedestrian Improvements within Project Area:

- Middlesex Greenway Underpass
- Utility Corridor
- Amboy Avenue Underpass
- Grandview Avenue Intersection
- Parsonage Road Intersection
- Woodbridge Center Drive Intersection
- Fords Avenue Intersection

Middlesex Greenway Underpass



Existing Conditions



Proposed Conditions

- The Middlesex Greenway is proposed to be developed along an abandoned railroad corridor.
- NJDOT should accommodate movement of trail users under Route One during the widening of Route One.
- NJDOT should install a 10-foot tall (minimum) box culvert under Route One to accommodate future trail users.

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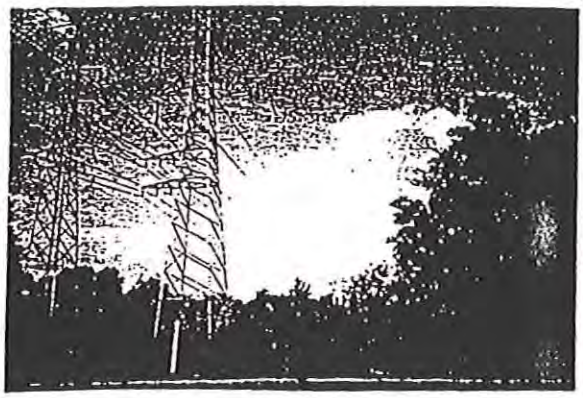
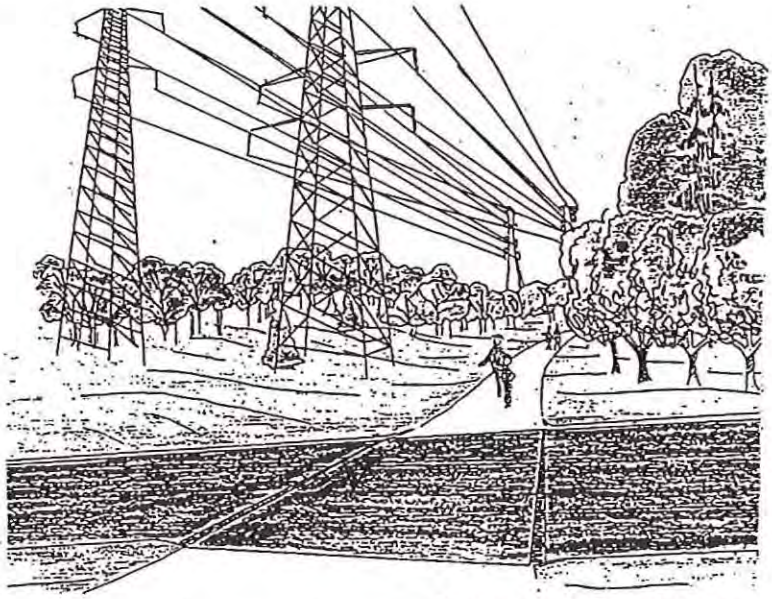
Utility Corridor Adjacent to Route One

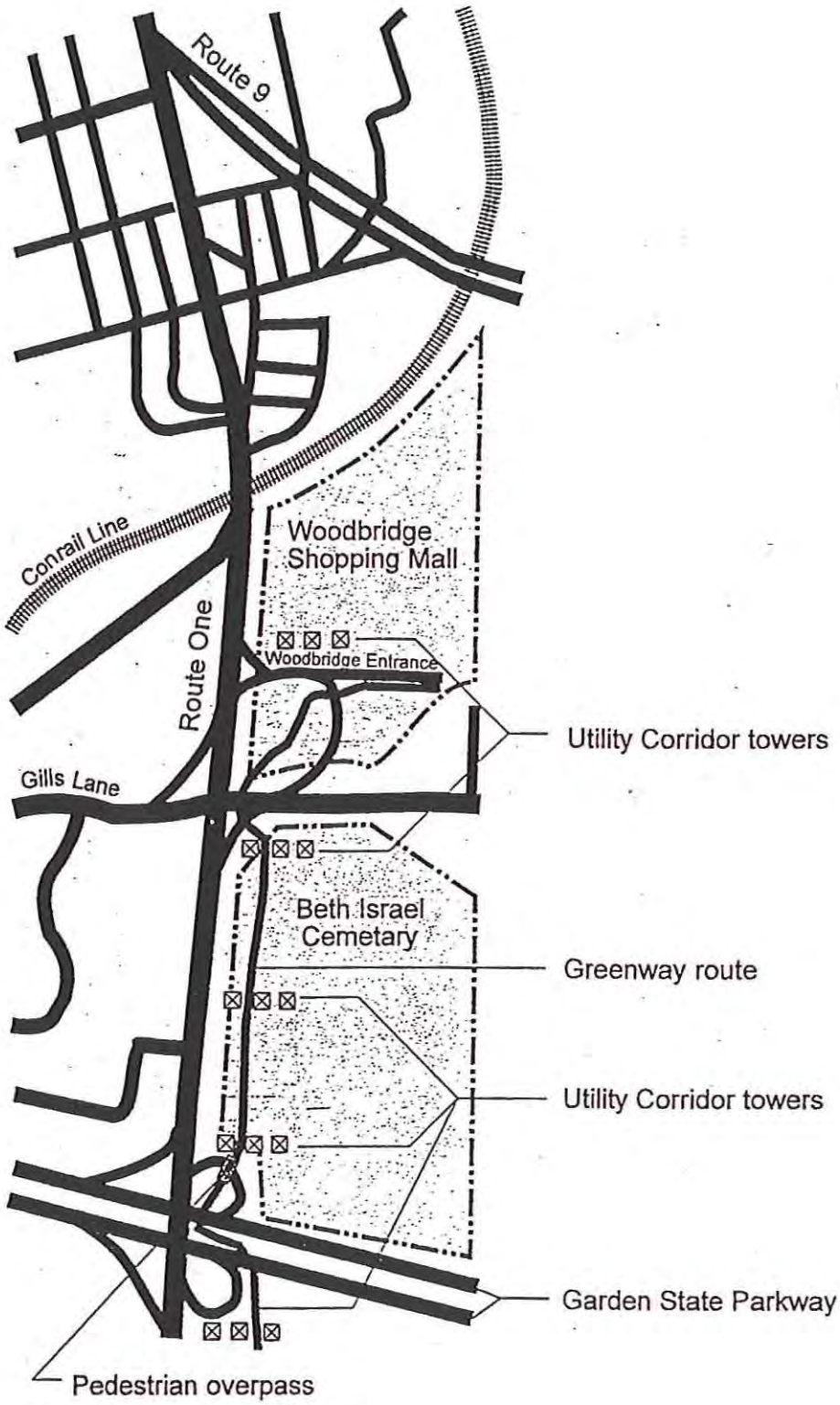


Existing Conditions



Proposed Conditions

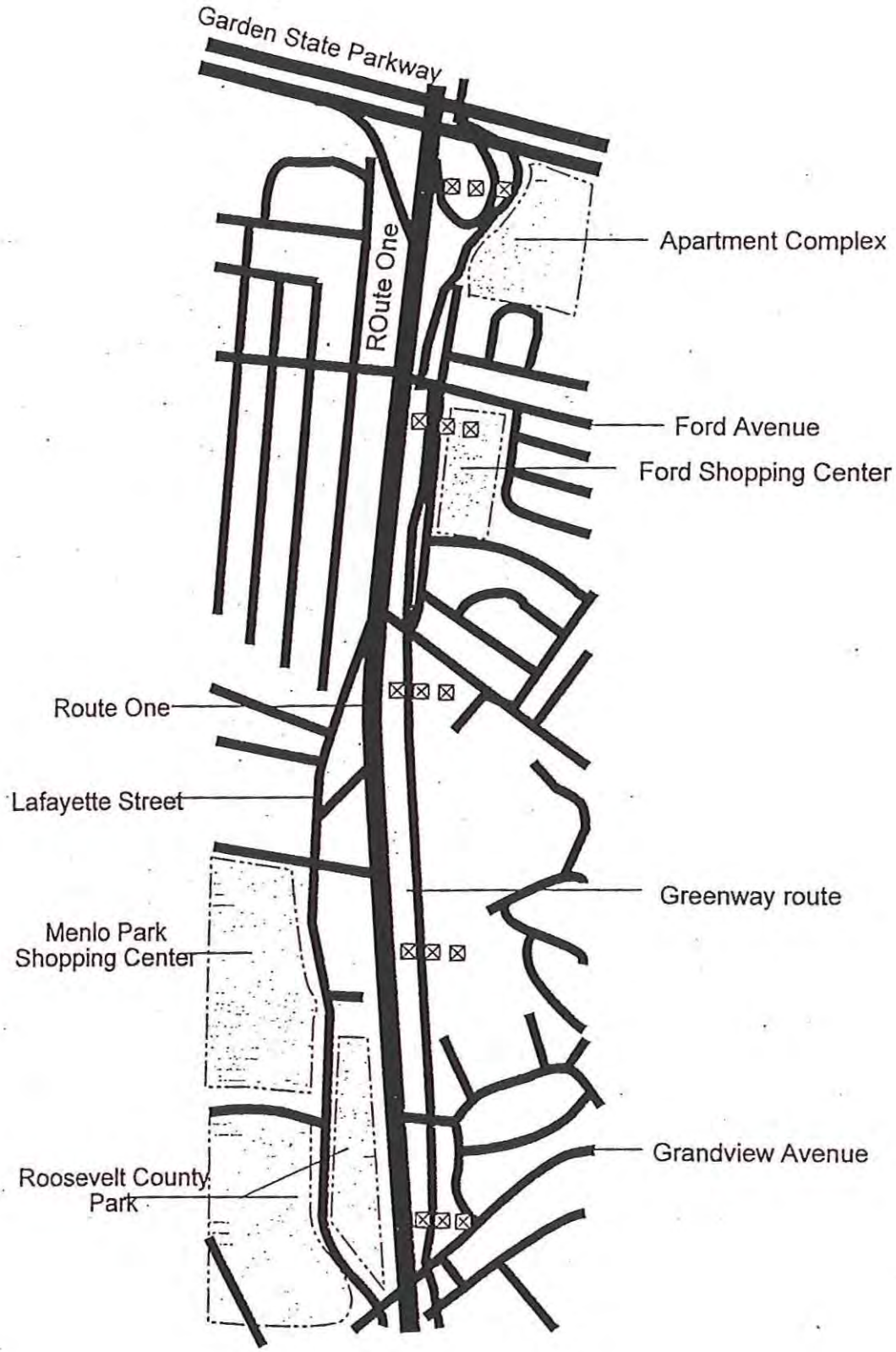
- A wide utility corridor east of Route One represents open space opportunities within the NJDOT project area.
- Developing a multi-use trail (10-feet minimum width, 12-feet preferred) within the utility right-of-way from the Middlesex Greenway to Woodbridge Mall is recommended for further investigation. A potential route and typical detail are illustrated on the following pages.



Greenway Route along Utility Corridor — Woodbridge Mall to Garden State Parkway

Route One Corridor Bicycle and Pedestrian Case Study

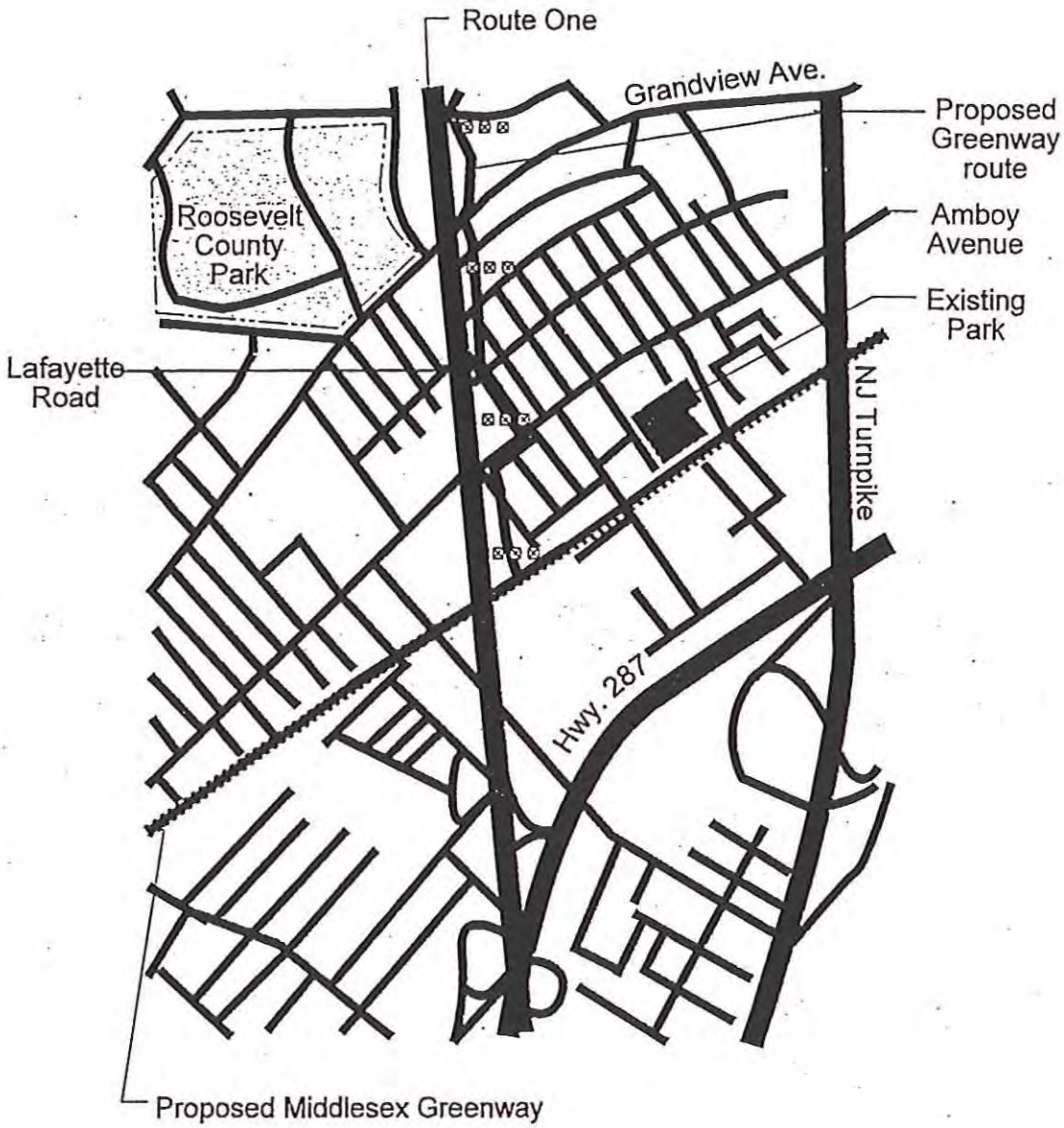
(J070300.CS_ES/G)



Greenway Route along Utility Corridor — Garden State Parkway to Grandview Avenue

Route One Corridor Bicycle and Pedestrian Case Study

(I070300.CS ES/G)

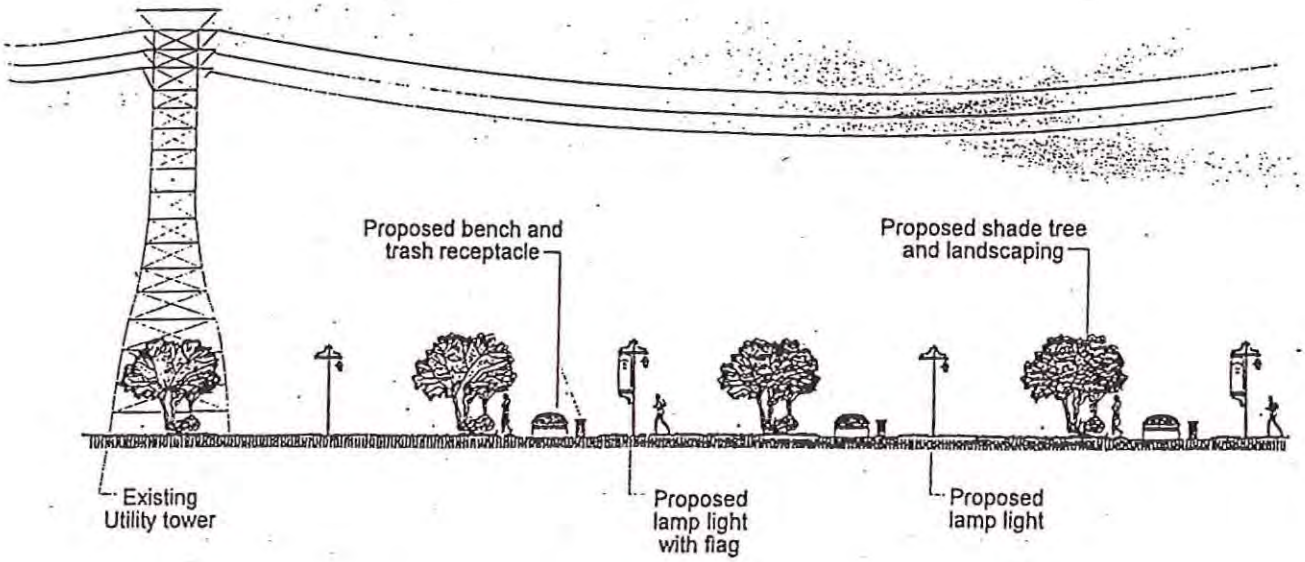


Greenway Route along Utility Corridor — Grandview Avenue to Middlesex Greenway

Route One Corridor Bicycle and Pedestrian Case Study

(J070300.CS_ES/G)

Typical Section
Woodbridge Utility Corridor Trail

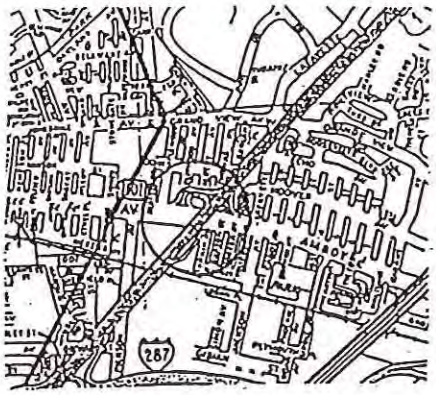


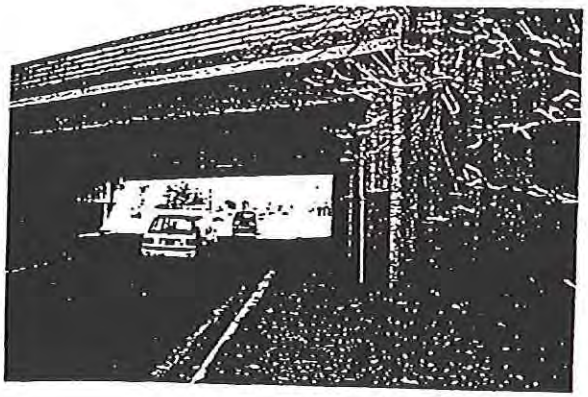
Typical Section
Route One Corridor Bicycle and Pedestrian Study

Woodbridge Utility Trail

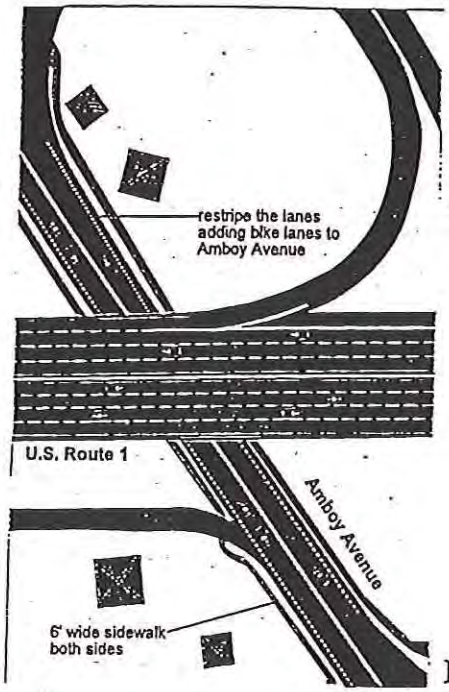
(J070300.CS_ES/G)

Amboy Avenue Intersection





Existing Conditions



Proposed Conditions

- Amboy Avenue could provide a safe means of travel for bicyclists and pedestrians to cross under Route One.
- Restriping the existing lanes on Amboy Avenue to add bicycle lanes would enhance bicycle access and initiate development of the proposed bicycle route on Amboy Avenue.
- Extending sidewalks to both sides of the Amboy Avenue underpass would provide pedestrian access and connect the broken links in the sidewalk network along Amboy Avenue.

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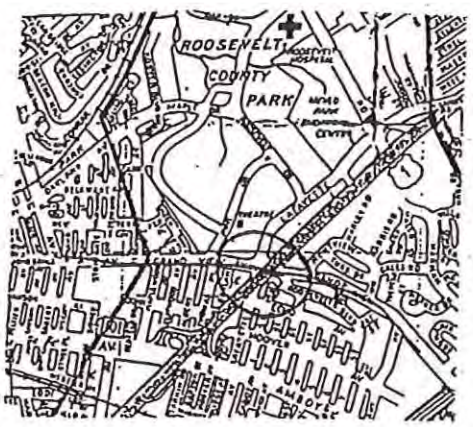
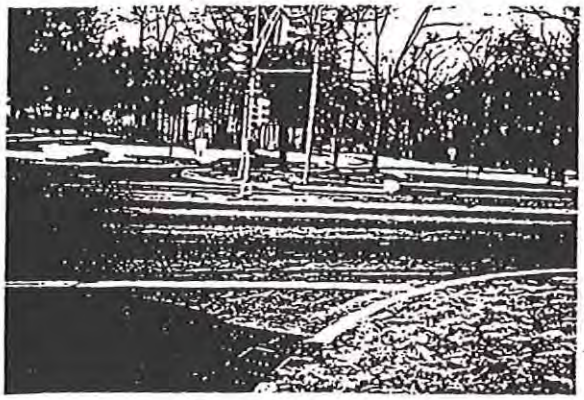
Grandview Avenue Intersection





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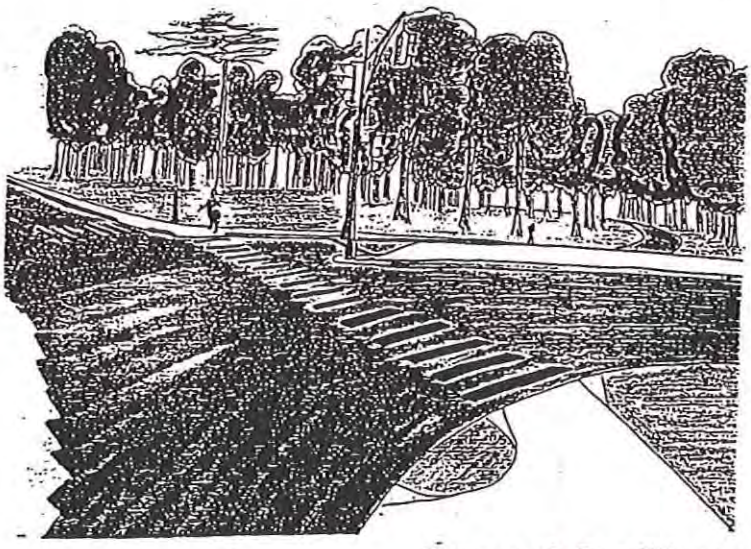
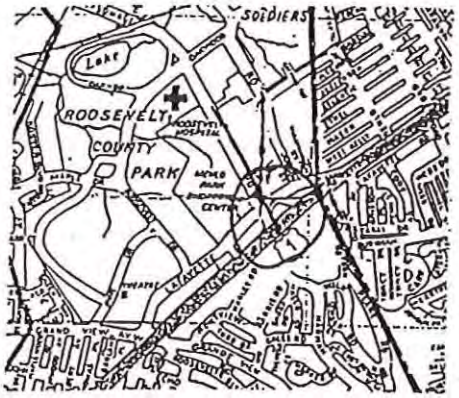
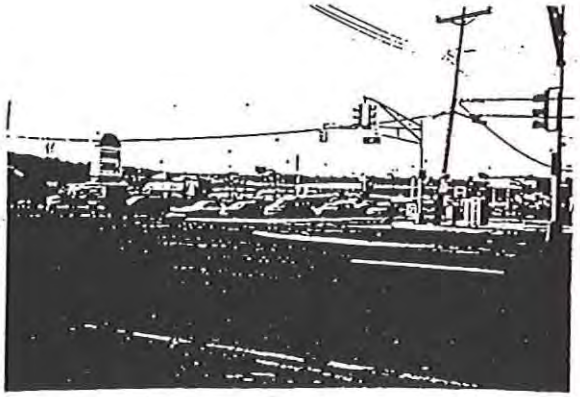


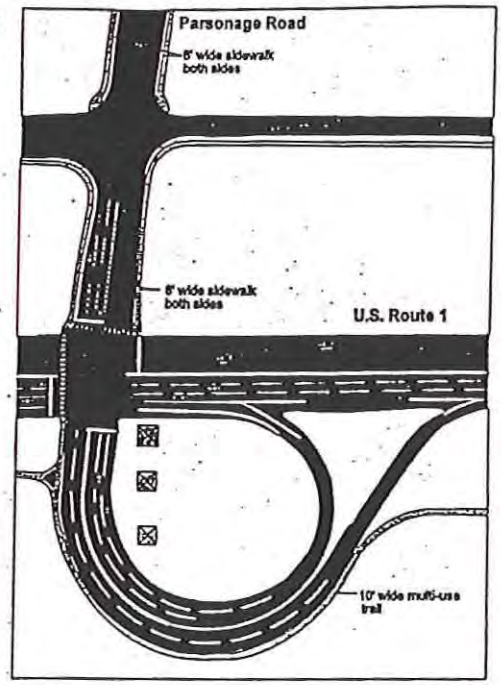
Proposed Conditions

- The proposed redevelopment of Route One/Grandview Avenue intersection does not accommodate bicyclists or pedestrians.
- Sidewalks along Grandview Avenue should be developed to connect the proposed utility trail and Roosevelt Park.
- The installation of crosswalks, pedestrian signals and curb ramps through the intersection to facilitate pedestrian crossing of Route One is also recommended.

Parsonage Road Intersection







Existing Conditions

Proposed Conditions

- The Route One/Parsonage Road intersection is adjacent to Menlo Park Mall and does not accommodate bicyclists or pedestrians.
- Sidewalks and crosswalks are recommended to facilitate pedestrian travel across Route One and into Menlo Park Mall.
- The proposed utility corridor trail would connect with the sidewalk on Parsonage Road, allowing trail users easier access to the Mall.

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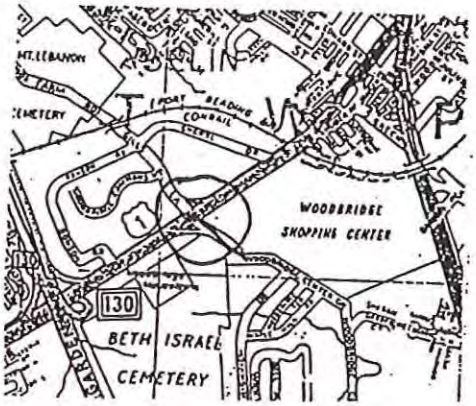
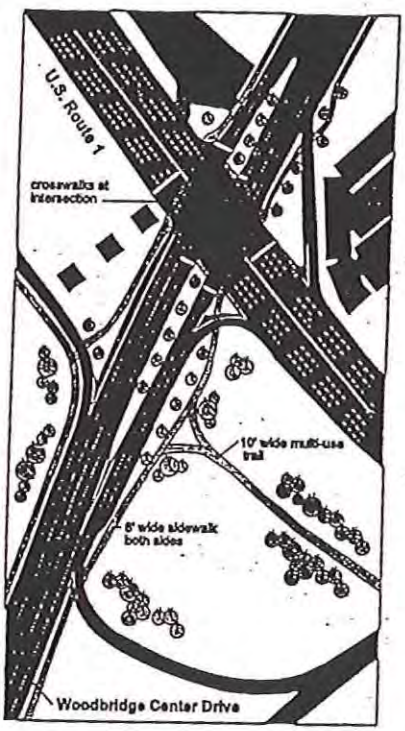
Woodbridge Center Drive Intersection



Existing Conditions



Proposed Conditions

- The Woodbridge Center Drive/Gill Lane intersection with Route One does not accommodate bicycle or pedestrian traffic near Woodbridge Mall.
- Crosswalks within the intersection and sidewalks along Woodbridge Center Drive and Gill Lane are recommended.
- These sidewalks would connect with the proposed utility trail.

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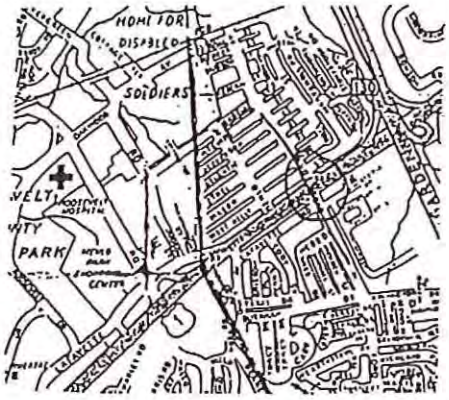
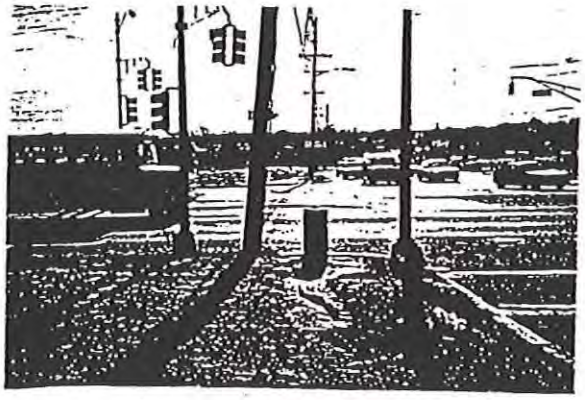
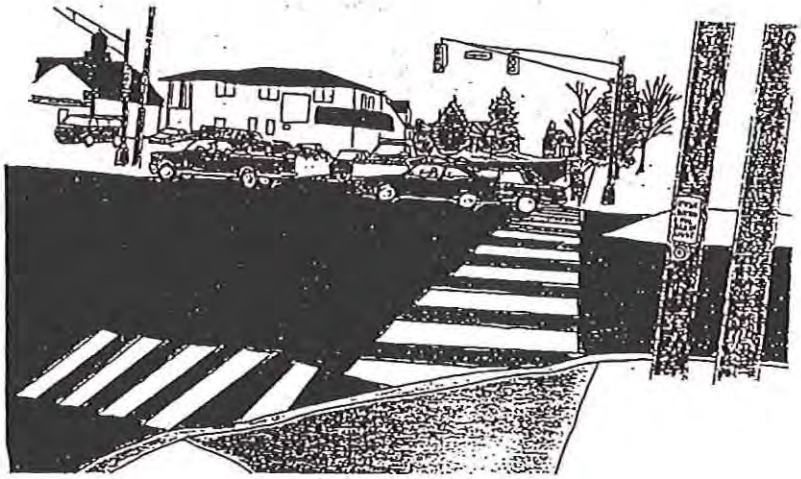
Ford Avenue Intersection





Existing Conditions



Proposed Conditions

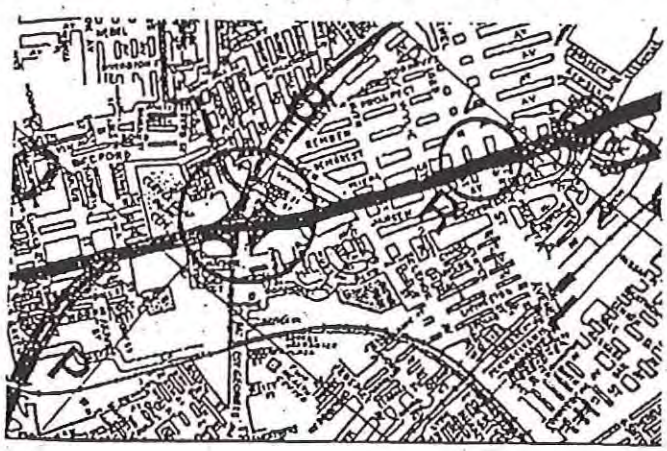
- Narrow and broken sidewalks should be replaced with 5′ wide sidewalks.
- Crosswalks should be restriped for greater visibility and pedestrian signals and curb ramps installed on all four corners.
- Sidewalks should be developed to connect adjacent land uses with the intersection.

(J070300.CS_ES/G)

7M: ROUTE 9 INTERCHANGE (NJDOT)

Project Description: Project runs northbound along Route One from Edward Street to Rogers Street. Other segments extend to Route 9 at Green Street, Route 35 to Roanoke Street, Route 35 west to Tappen Street and Avenel Street between Jansen and Minna Avenues.

Overall Map of NJDOT Project Area:



Bicycle and Pedestrian Improvements within Project Area:

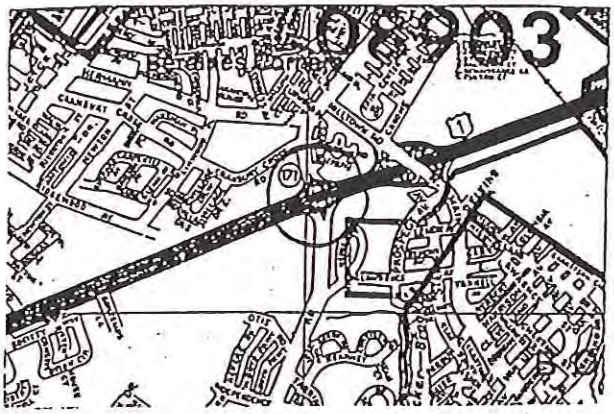
- Amboy Avenue/St. Georges Avenue Route One Interchange
- Avenel Street Intersection
- Smith Street Intersection

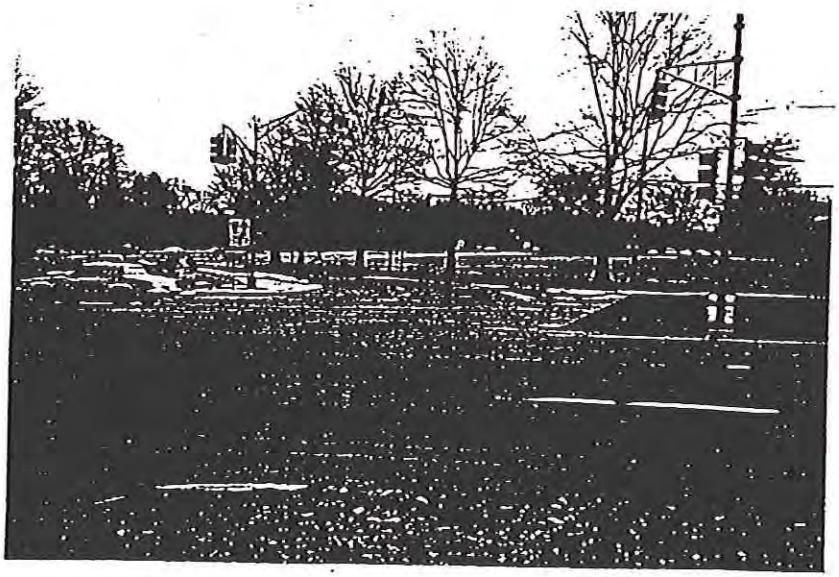
(J070300.CS_ES/G)

ROUTE 130 INTERCHANGE (NJDOT)

Project Description: Intersection improvements at Route 130 and Route One.

Map of NJDOT Project Area:

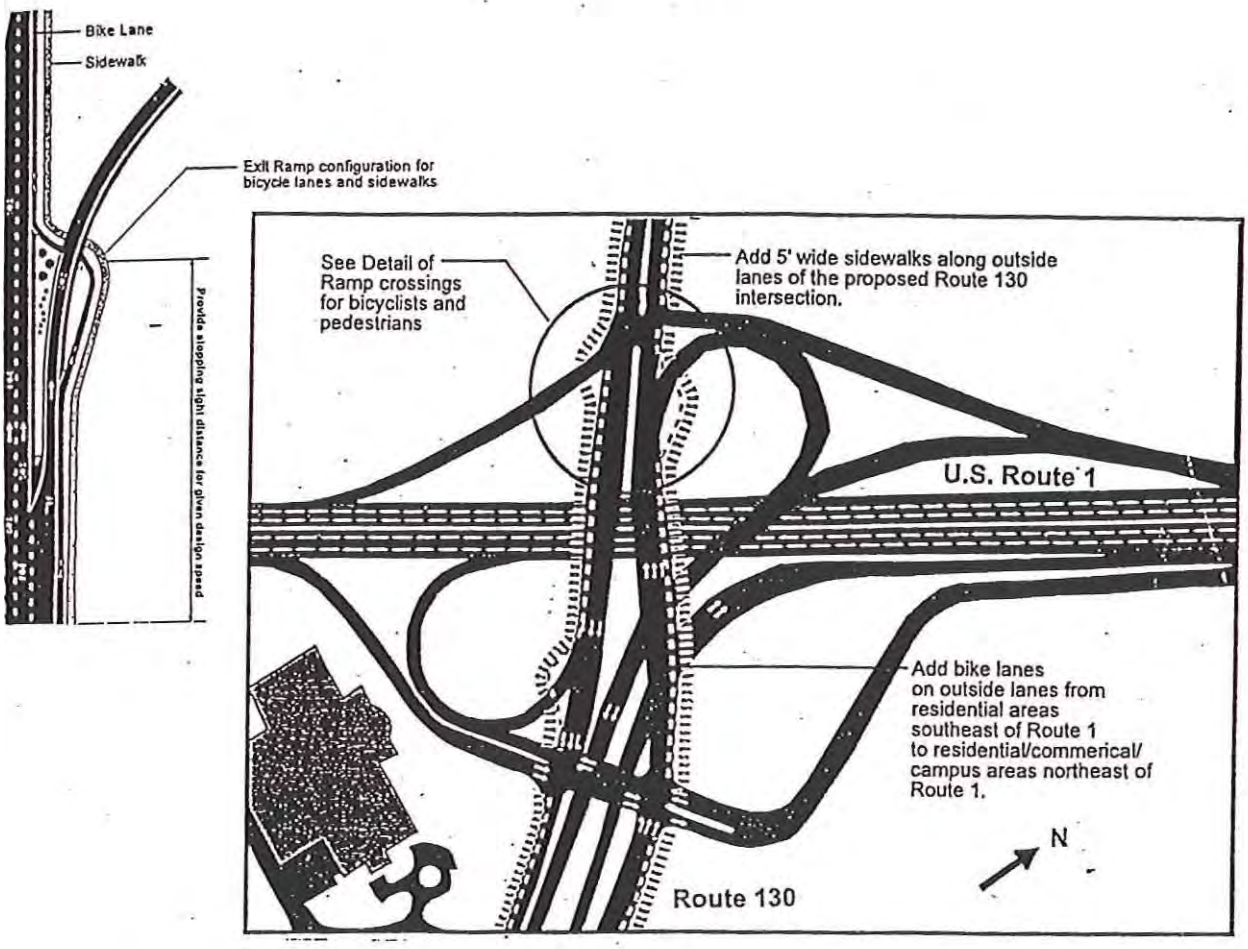




Existing Conditions

(J070300.CS_ES/G)

Route One and Route 130 Interchange



Proposed Conditions

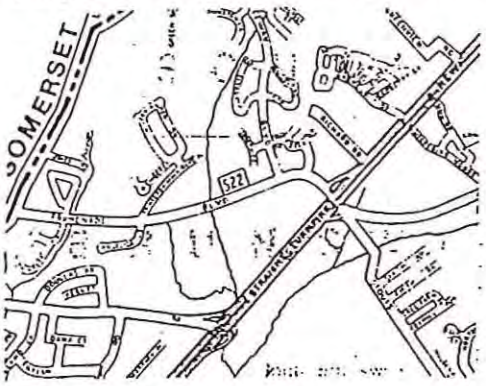
- Proposed improvements do not fully accommodate bicycle or pedestrian movement across Route One.
- There is a need for a connection between a new school, parks, Cook College and residential areas.
- Sidewalks and bike lanes are recommended along Route 130.
- Typical exit ramp treatments,, shown, above, are also recommended for this interchange.

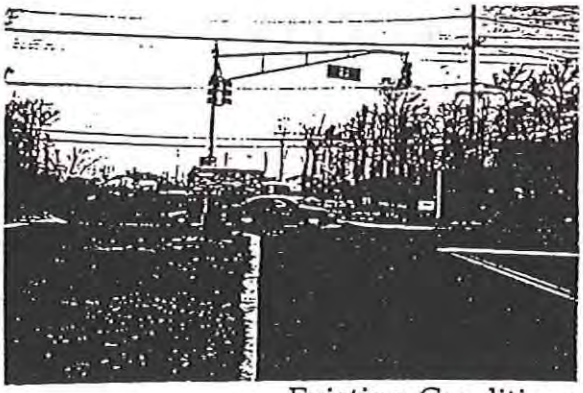
(J070300.CS_ES/G)

ROUTE 522 (MIDDLESEX COUNTY)

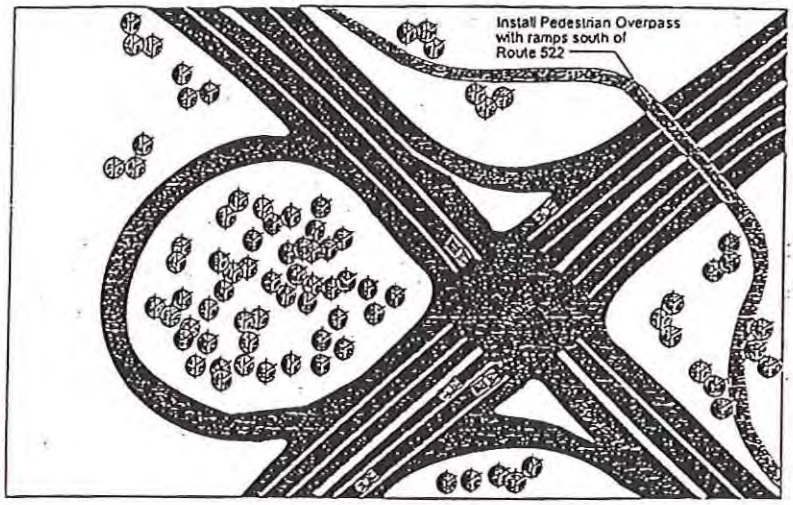
Project Description: Construction of a new east-west road between Route One and Route 535.

Map of Middlesex County Project Area:





Existing Conditions



Proposed Conditions

- Proposed plans for the Route 522 project do not include pedestrian facilities to accommodate movement between the new High School east of Route One and residential areas to the west.
- The development of sidewalks on the south side of Stouts Lane east of Route One and on both sides of Stouts Lane west of Route One is recommended to accommodate pedestrians wishing to walk to the High School from residential areas west of Route One.
- The development of a proposed rail-trail east of Route One with a proposed pedestrian overpass over Route One would also connect with the recommended sidewalks.

(J070300.CS_ES/G)

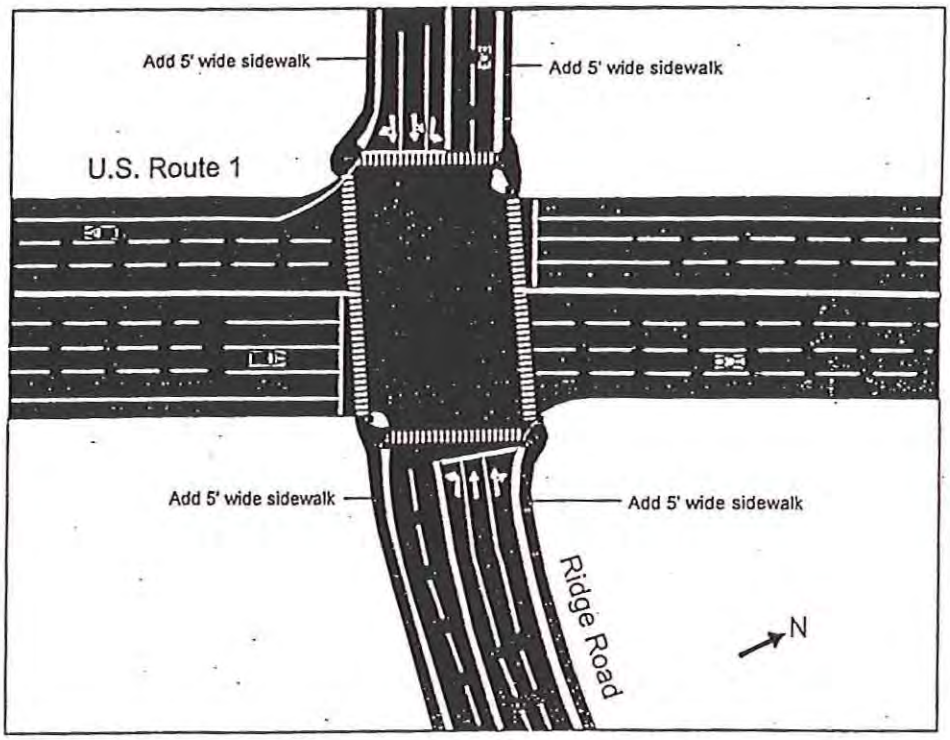
ROUTE 92 (NJDOT)

Project Description: Construction of a new east-west road between Route One and the New Jersey Turnpike.

Map of NJDOT Project Area:

(J070300.CS_ES/G)

Route 92 Project



- The proposed Route 92 project will bridge Route One north of Ridge Road.
- The Ridge Road/Route One intersection should be improved to accommodate bicycle and pedestrian traffic as part of this project.
- Sidewalks on either side of Ridge Road, and crosswalks and pedestrian signals at the intersection of Route One and Ridge Road are recommended to accommodate bicyclists and pedestrians wishing to cross Route One to travel between homes, workplaces, schools, and recreation areas.

(J070300.CS_ES/G)

APPENDIX L

EXCERPTS FROM NORTH BRUNSWICK 1989 OPEN SPACE AND RECREATION PLAN - PROPOSED BICYCLE AND PEDESTRIAN FACILITIES

G-8	Parcel west of Farrington Glen development - Potential future development open space dedication.
G-9	Farmland south of Old Georges Road - Potential future development open space dedication.
H-7	Property at intersection of Route 1 and Milltown Road - Existing ballfield under Borough of Milltown administration. Investigate with property owner opportunities for future open space dedication/acquisition.

Proposed Non-Inventory Sites - County, State Lands (Indefinite Location) - Potential exists within North Brunswick for the use of County and State lands for open space and recreation purposes. The actual potential of the following items is subject to Township discussions with Rutgers University and Middlesex County:

Map Reference Number	Action Plan/Step
D-6	Rutgers University (part) - Investigate potential for acquisition and/or use of Rutgers property for Township open space/recreation usage.
H-8	Rutgers University (part) - Investigate potential for acquisition and/or use of Rutgers property for Township open space/recreation usage.
G-10	County detention facility - Existing practice field for soccer league. Investigate potential for increased use of facility for active recreation.
G-18	Davidsons Mill County Park (part) - Undeveloped. Investigate potential for passive recreation use.

Open Space Linkages - Existing and Proposed - The existing and proposed linkages below are intended to provide a unified open space network and facilitate bicycle and pedestrian access to open space and recreation facilities.

Map Reference Number	Action Plan/Step
A-10	Willowbrook Street - Class I bicycle/pedestrian path on north side of street.

A-11	Finnegans Lane - Proposed County road widening. Coordinate provision of Class I or II bikeway with Middlesex County and South Brunswick as part of planned widening from Route 27 to Route 1.
A-12	Society Hill II Development - Proposed bikeway along internal road from Aaron Road to Cozzens Lane.
A-13	Utility Right-of-Way - Acquire easement, improve with bicycle/pedestrian path.
A-14	Six Mile Run - Acquire easement and improve with bicycle/pedestrian pathway.
A-15	Linder Avenue - Improve with bicycle/pedestrian path.
A-16	Existing Street Right-of-Ways - Hidden Lake Drive, Aaron Road, Tulip Drive, Schmidt Lane, Willowbrook Drive, Parkside Drive, Leonard Drive. Designate Class II or Class III bikeways, as conditions permit. Connect with existing bicycle paths on Willowbrook Drive and Cozzens Lane.
B-7	Existing Bicycle Path - Sabella Park/Cozzens Lane.
B-8	Six Mile Run (Sabella Park) - Provide bicycle/pedestrian path. Connect with B-7.
B-9	Utility Right-of-Way - Acquire easement and provide bicycle/pedestrian path to connect with Sabella Park and Axel Avenue.
B-10	Existing Street Right-of-Ways - Axel Avenue, Adams Lane, Arlington Avenue, Spring Street, Cozzens Lane, Seneca Road, Omaha Road, Redmond Street, Clover Street, How Lane - Provide Class II or Class III bikeways, as conditions permit. Acquire easement between Redmond and Clover Streets.
C-6	Existing Street Right-of-Ways - How Lane, Livingston Avenue, Ridgewood Avenue, Linwood Place - Designate Class II or Class III bikeway, as conditions permit.
D-7	Existing Street Right-of-Ways - Linwood Place, Glenridge Avenue, Pine Street, Maple Street, Nassau Street, Chrome Street, Milltown Road - Designate Class II or Class II bikeways as conditions permit.
E-6	Utility Right-of-Way - Acquire easement and provide bicycle/pedestrian path. Coordinate with Brunswick Manor development.

E-7	Deerbrook Village - Coordinate bicycle/pedestrian route with existing bicycle path in development.
E-8	Existing Street Right-of-Ways - Black Horse Lane, Adams Lane, Sunny Terrace - Designate/improve with bicycle/pedestrian pathway.
E-9	Finnegans Lane Extension - Exact Route unknown. Provide bicycle/pedestrian path along route. Coordinate with Hartz Mountain development, County road construction, Brunswick Manor development.
E-10	Brunswick Manor Development - Require bicycle/pedestrian paths as part of open space and roadway network.
F-6	NBTHS/Veterans Park Complex - Existing bicycle/pedestrian path. Link with paths F-7 and F-8.
F-7	Existing Street Right-of-Ways - Oak Road, Wood Avenue, Fillmore Drive, Raider Road, Independence Boulevard, North Boyd Park Street - Provide Class II or Class III bicycle route as conditions permit.
F-8	Wooded tract northeast of High School - Acquire easement, provide bicycle/pedestrian pathway between High School and Independence Boulevard.
G-11	Stream Corridor - Acquire easement, provide bicycle/pedestrian path to connect Farrington Lake Park with Old Georges Road, path link G-16.
G-12	Farrington Lake Open Space and Conservation Area (part) and Township property - provide bicycle/pedestrian path from Quarry Lane to Church Lane.
G-13	Board of Education Offices (Maple Meade School) and Adams Station - Provide/designate bicycle/pedestrian path to connect Route 130, Old Georges Road and path link G-15.
G-14	Existing Street Right-of-Ways - Davidsons Mill Road, Black Horse Lane, Route 130, Quarry Lane, Old Georges Road, Miriam Drive, Washington Place - Designate Class II or Class III bikeway, as conditions permit.
G-15	Existing Farm Tract - Provide bicycle/pedestrian path in coordination with acquisition G-5.
G-16	County Detention Facility - Acquire easement, provide bicycle/pedestrian path to link Quarry Lane, Brunswick Manor bicycle path (E-9) and stream corridor link G-11.

G-17	Private property between Davidsons Mill Road and Quarry Lane - Acquire easement and provide Class III bikeway.
H-9	Existing Bikeway - Farrington Lake Open Space and Conservation Area (part).
H-10	Utility R.O.W. - Acquire easement, provide Class III bikeway, bridge across Suckers Brook into Milltown.
H-11	Existing Street Right-of-Ways - Milltown Road, Borough of Milltown. Coordinate with Borough of Milltown. Designate Class II or Class III bikeways as conditions permit.
H-12	Existing Street Right-of-Ways - Farrington Boulevard, Hoover Drive, Madison Drive, Colfax Road, Kearny Drive, Franklach Street, Duane Street - Designate bikeways as conditions permit.
H-13	Farrington Lake Dam - Investigate opportunity for provision of bicycle/pedestrian path across Farrington Lake in coordination with dam renovation/reconstruction.

Problem/Risk Contingency - The plan recommendations in this report are based upon certain expectations as to the suitability of land for recreation use. Should these assumptions and expectations become invalid, the plan contains adjustments including alternative recreation facility locations.

1. Acquire additional land from existing farm adjacent to Maple Meade School building (map items G-8 and G-9).

2. Acquire land from existing farm adjacent to Brunswick Manor development (map item E-3).

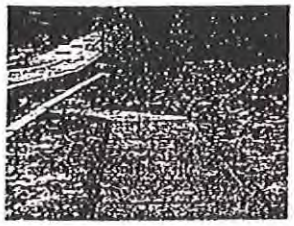
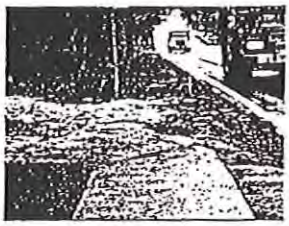
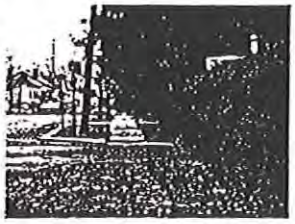
3. Acquire land at intersection of Route 1 and Milltown Road (map item H-7).

APPENDIX M

TRAFFIC CALMING DEVICES

A. Sidewalks

- New sidewalk installations
- Fill in gaps in sidewalk network
- Widen sidewalks
- Reconstruct curb/sidewalk

→ B. Traffic Calming

The following measures could be implemented to slow travel speeds through high pedestrian areas.

Vertical Measures

- Speed humps
- Raised crosswalks
- Intersections
- Speed tables

Horizontal Measures

- Lateral shifts
- Narrowings
- Center islands
- Roundabouts & traffic circles
- Realigned intersections
- Neckdowns/ Chokers
- Chicanes

Other Measures

- Village-wide 25 MPH speed limit
- Improved accommodation for traffic patrols

C. Pedestrian Accommodations

The following measures could be implemented to accommodate pedestrians.

- Improving the visual attractiveness of bus stop locations, by providing benches, paving the area and landscaping (such as was done in the vicinity of Laurel Avenue/Heathcote Brook Road.) Signs would educate residents that a bus is available and benches would increase the comfort and convenience of those waiting.
- Explore opportunities for creating visually aesthetic public spaces where people can congregate. Such spaces could include pedestrian amenities, landscaping and a focal point such as a fountain or sculpture, to give the space identity.
- Reconstruct problem intersections for improved pedestrian safety.
- Maintain traffic signs, crosswalks, stanchions, and other physical measures for pedestrian safety.
- Add crosswalks.

Source: Kingston Pedestrian & Bicycle Circulation Study, Existing Conditions, Technical Memorandum, Prepared by DMJM Harris August, 2001

APPENDIX N

NEW JERSEY COASTAL HERITAGE TRAIL

New Jersey Coastal Heritage Trail

State Of New Jersey

United States Department of the Interior National Park Service

The NJCHT is being developed cooperatively by the National Park Service, the State of New Jersey, and many organizations working to preserve the state's natural and cultural heritage. The trail is still growing - as new sites are added they will be identified by the New Jersey Coastal Heritage Trail Logo.

For further information contact: New Jersey Division of Travel and Tourism, PO Box 826, Trenton, NJ 08625-0826, or New Jersey Coastal Heritage Trail Route, National Park Service, PO Box 568, Newport, NJ 08345.

Printing made possible in part by a grant from NJ Department of Commerce and Economic Development, Division of Travel and Tourism.

Designated cities and towns are for directional purposes only and may or may not be official trail destinations.

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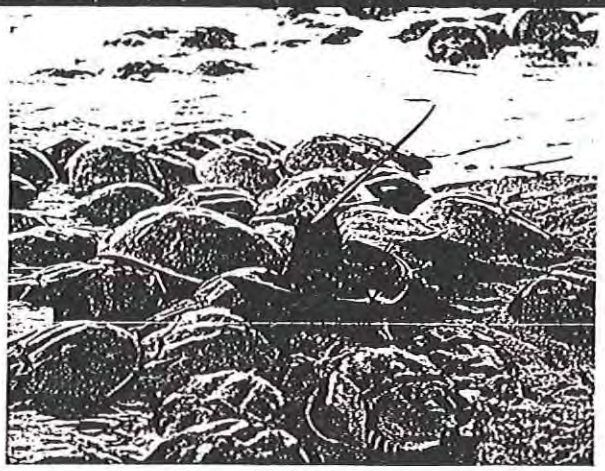
New Jersey Coastal Heritage Trail

State Of New Jersey

United States Department of the Interior National Park Service

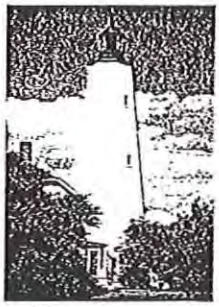


New Jersey's heritage has been shaped by its close association with the ocean. Lighthouses protect busy shipping lanes while resorts thrive on sandy ocean beaches. Fishing villages are tucked into safe bays and wide cranberry bogs flourish in reclaimed marshes. New Jersey's strategic location between Philadelphia and New York encourages the fullest use of every coastal resource.

The New Jersey Coastal Heritage Trail (NJCHT) was established in 1988 "to provide for public appreciation, education, understanding, and enjoyment" of significant natural and cultural sites associated with the coastal area of the State of New Jersey. It encompasses the area east of the Garden State Parkway from the Raritan Bay south to Cape May and the area north and west of Cape May south of Route 49 to the vicinity of Deepwater.

The NJCHT is divided into five regions linked by the common heritage of life on the Jersey Shore and Raritan and Delaware bays. The map on the back identifies the NJCHT and its regions. Each region will eventually have a Welcome Center with information and exhibits. Interim Welcome Centers are currently being developed. Trail literature is also available at local information centers.

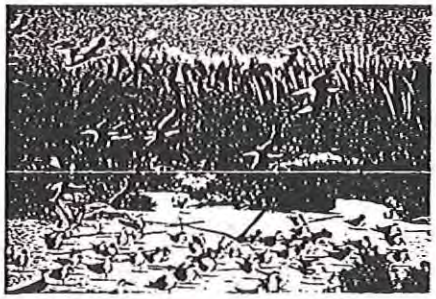
Five themes define different aspects of coastal life. A regional brochure explains how the themes relate to the special places within its boundaries and allows you to plan a visit to suit your needs and interests. New Jersey's many scenic roads and byways beckon as you plan your trip, since the trail is designed for vehicular touring.



Historic Settlements: Abundant natural resources shaped the economies of New Jersey's coastal communities from prehistoric times to the present. Minerals from the soil supported special industries, and marshy lands encouraged unique agricultural crops. Visit cranberry bogs and salt hay meadows, or learn about iron and glass making, all examples of how people earn their living from their lands by sea and bay.

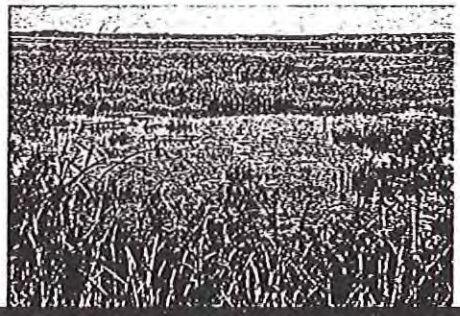
Relaxation and Inspiration: The Jersey Shore enjoys a long tradition as a destination for those seeking fun in the sun, a quiet rest, or inspiration. Explore amusement parks, historic hotels, and boardwalks, as well as religious retreats. The Delaware Bay shore has traditionally attracted sport fishermen, crabbers, hunters, and birders. Discover the special appeal of these coastal rivers, bays, and marshes.

Maritime History: Learn about the interdependence of people and the sea and their struggle both to use the ocean and to protect themselves from it. Explore lighthouses, life saving stations, forts and fishing villages, all in existence because of maritime trade.



Wildlife Migration: The New Jersey coast is a vital stop in the global migration of many birds and sea mammals. Dolphins, whales, osprey, and eagles are just a few animals that can be found along the coast. Discover sites that serve as seasonal refuge for a variety of threatened species.

Coastal Habitats: The changing boundary between land and water forms many different habitats from sandy beaches to fertile salt marshes to dense maritime forests. Visit barrier islands, wetlands, estuaries, bays, and rivers that serve as home for a rich diversity of plant and animal life.



Regional Welcome Centers are full service facilities offering trail and regional orientation/information, restrooms, personal services, and interpretive exhibits.

There are two levels of **Trail Sites**: *full service sites* are open at least five days per week with staff, exhibits, and restrooms. Check with Regional Welcome Centers for hours of operation and access to *limited service sites*.

Trail Points of Interest are places and scenic views with an interpretive wayside exhibit.

NATIONAL PARK SERVICE

experience YOUR AMERICA

New Jersey Coastal Heritage Trail Route

Follow the Coastal Heritage Trail logo along New Jersey's highways. (NPS Composite Photo Image)

Printable Travel Guide

IN BRIEF

The New Jersey Coastal Heritage Trail Route was established in 1988 "to provide for public appreciation, education, understanding, and enjoyment" of significant natural and cultural sites associated with the coastal area of the State of New Jersey. The Coastal Heritage Trail is divided into five regions linked by the common heritage of life on the Jersey Shore and Raritan and Delaware bays. Five themes define different aspects of coastal life: Maritime History, Coastal Habitats, Wildlife Migration, Historic Settlements, and Relaxation and Inspiration. The Maritime History, Coastal Habitats, and Wildlife Migration theme Trails are open to the public. The Historic Settlements and Relaxation & Inspiration themes are still under development.

The trail is intended primarily for vehicular tourism. It is a partnership project by the National Park Service in cooperation with the State of New Jersey and many other public and private organizations working to preserve the state's natural and cultural heritage. The Trail extends along coastal New Jersey, from Perth Amboy to Cape May on the Atlantic coast, and west along the Delaware Bay from Cape May to the Delaware Memorial Bridge at Deepwater, New Jersey.

The Trail's expanded web page - InDepth button - provides a listing of destinations with detailed site descriptions of each region.

NEWS & EVENTS

»

MAPS
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FACTS/DOCS

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http://www.nps.gov/neje/index.htm
Last Updated: Tuesday, 27-Mar-01 09:16:52

APPENDIX O

EAST COAST GREENWAY

You can help create the ECG!

Volunteer with your State Committee to determine the route, advocate for trail development, and have a hand in the most exciting trail project of our time: the **East Coast Greenway**.

Maine
Sue Ellen Bordwell
207-846-3340

New Hampshire
Krystina Arrain
603-929-9252

Massachusetts
Stephen Winslow
781-397-6893

Rhode Island
Sue Barker
401-423-2623

Connecticut
Bill O'Neill
860-647-1611

New York
David Lutz
212-352-9330

New Jersey
Mike Kruimer
732-287-9447

Pennsylvania
Dennis Winters
215-567-4004

Delaware
Bobbi Britton
610-558-4775

Maryland
Dan Maletic
301-470-2772

Washington, DC
Harry Jaffe
202-686-3414

Virginia
Barbara Nelson
804-798-4160

North Carolina
Chuck Flink
919-484-8448

South Carolina
James Gardner
843-726-7706

Georgia
Joseph Steffen
912-525-1407

Florida
Ceylon Barclay
904-235-8038

EAST-COAST GREENWAY™

East Coast Greenway Alliance
135 Main Street
Wakefield, RI 02879
401-789-4625 phone/fax
ecga@greenway.org
www.greenway.org

National Millennium Trail

East Coast Greenway Alliance
135 Main Street, Wakefield, RI 02879

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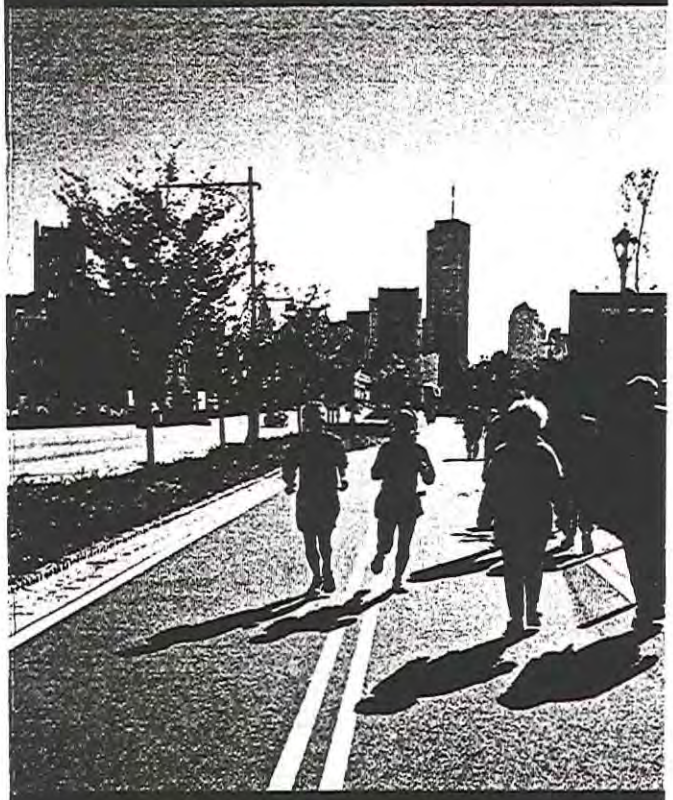
EAST COAST GREENWAY®



The ECG will provide muscle-powered users wi
a safe trail connecting the cities of the eastern
seaboard. This 2600-mile off-road trail system,
the urban sister to the Appalachian Trail,
will be a pathway to adventure for
walkers, cyclists, skaters, skiers, equestrians
and persons with disabilities.

EAST COAST GREENWAY®

A TRAIL CONNECTING CITIES

Why do we need an ECG?

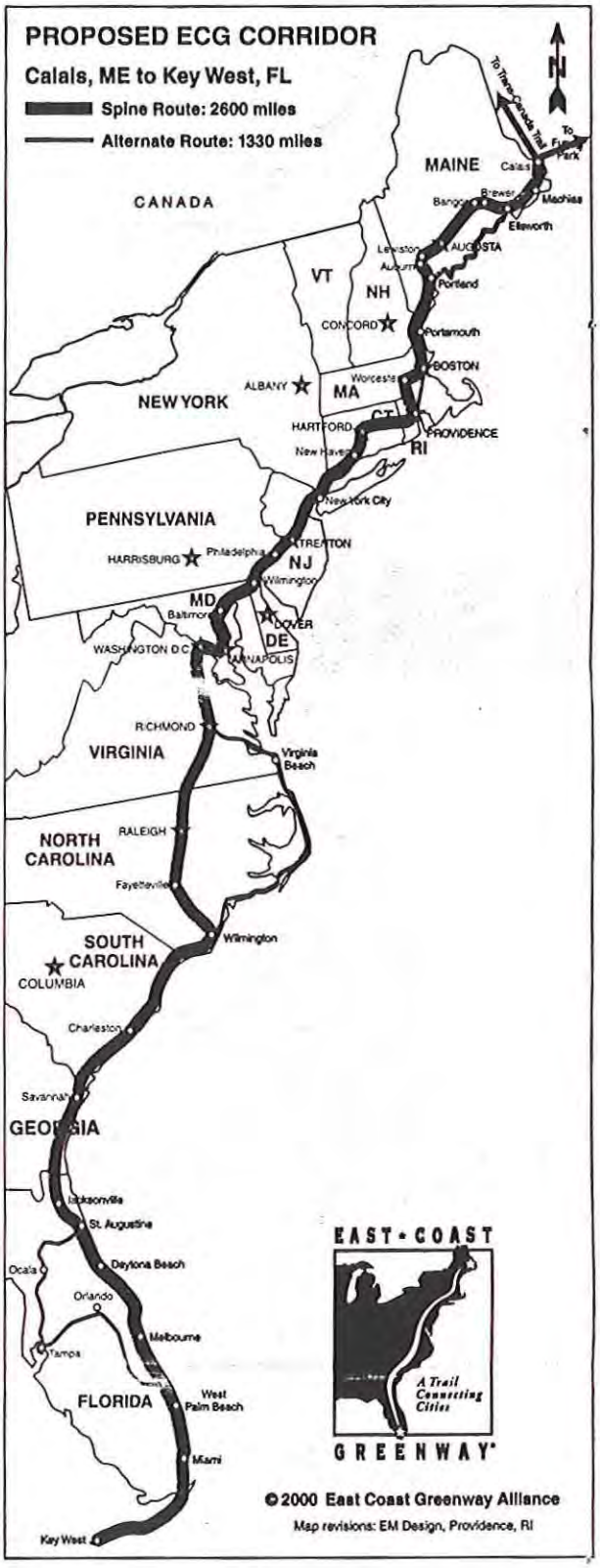
- New healthy recreational opportunities
- New green transportation routes
- Sustainable tourism development
- Economic development for local communities
- Preserved historic routes — abandoned canal towpaths and railroads
- New parkland for our crowded cities
- Increased momentum for local trail development
- Reduced air, water and noise pollution
- Reduced dependence on fossil fuels

The Broadwalk in Hollywood, Florida.

Groundbreaking for a segment of the Blackstone River Bikeway in Rhode Island, birthplace of the American Industrial Revolution.

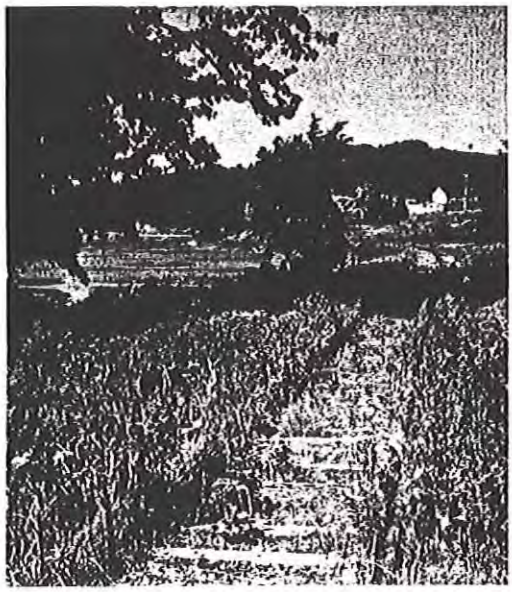
What have we done so far?

- Formed state committees to guide trail development in each state
- Defined 2600-mile route corridor linking 23 major cities
- Designated hundreds of miles of the ECG system
- Forged partnerships with scores of federal, state and local public agencies to ensure ECG progress
- Created user maps so that walkers, cyclists and others can get out and use the East Coast Greenway
- Received National Millennium Trail designation from the White House



Here's what we still need to do:

- Continue to build support for our vision
- Expand our membership and strengthen our voice
- Close the gaps along the route
  - Complete continuous off- and on-road route by 2003
  - Complete the trail from Key West to Calais, Maine by 2010
- Make a trail user guide and maps for the entire route
- Get trail markers up along route

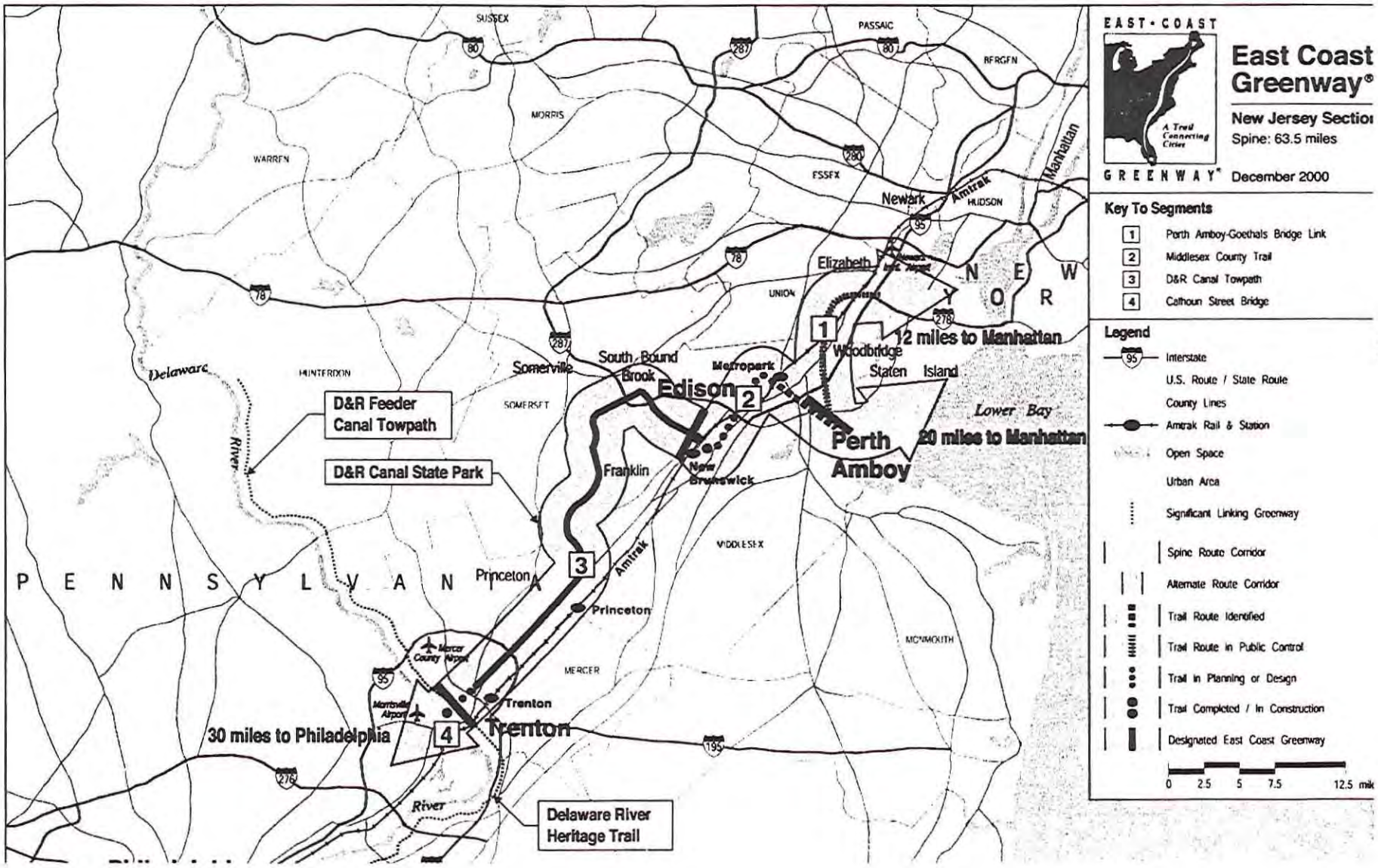


Planned Giving

The ECGA encourages supporters to consider a planned gift to aid the Alliance's work in developing this exciting facility. Bequests can play an important role in determining the future of recreation and transportation along the eastern seaboard.

For more information, contact

Karen Votava, Executive Director
ECGA, 135 Main St, Wakefield RI 02879
(401) 789-4625
KVotava935@aol.com


EAST • COAST
GREENWAY®
A Trail Connecting Cities
East Coast Greenway®
New Jersey Sectio
Spine: 63.5 miles
December 2000
Key To Segments
1 Perth Amboy-Goethals Bridge Link
2 Middlesex County Trail
3 D&R Canal Towpath
4 Calhoun Street Bridge
Legend
Interstate
U.S. Route / State Route
County Lines
Amtrak Rail & Station
Open Space
Urban Area
Significant Linking Greenway
Spine Route Corridor
Alternate Route Corridor
Trail Route Identified
Trail Route in Public Control
Trail in Planning or Design
Trail Completed / In Construction
Designated East Coast Greenway
0 2.5 5 7.5 12.5 mile
SUSSEX
PASSAIC
BERGEN
MORRIS
WARREN
ESSEX
Newark
Amtrak
HUDSON
Manhattan
Elizabeth
UNION
N E W Y O R K
12 miles to Manhattan
Woodbridge
Staten Island
Lower Bay
20 miles to Manhattan
Perth Amboy
Metropark
Edison
South Bound Brook
Somerville
HUNTERDON
SOMERSET
Delaware
River
D&R Feeder Canal Towpath
D&R Canal State Park
Franklin
New Brunswick
MIDDLESEX
Princeton
Amtrak
P E N N S Y L V A N I A
Princeton
MERCER
MONMOUTH
Mercer County Airport
Trenton
Trenton
Mercerville Airport
30 miles to Philadelphia
River
Delaware River Heritage Trail

03

East Coast Greenway Alliance

East Coast Greenway Route North Bound through New Jersey

53 Mile Route - Terrain: 4

October 6 & 7, 2001 - Starting Point: Calhoun Street Bridge, Trenton, NJ

Route designed by Mike Kruimer - 732-287-9447

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TURN	ONTO ROAD NAME	DIST.	TOTAL
X	Walk bike over Calhoun St. Bridge	0.0	0.0
	from PA into NJ at Trenton		
	Path is on your left!		
X	over Calhoun St. &	0.2	0.2
BL	towards Lambertville		
	CAUTION! Watch Traffic		
BL	& cross W. State St. TL	0.1	0.3
	(Capital Building to right)		
QR	onto D & R Canal Towpath	0.1	0.4
X	W. Hanover St.	0.2	0.6
	(put canal on your right)		
X	Passaic St. & keep canal on your	0.2	0.8
	right follwing path		0.8
X	Spring & N. Willow Sts.	0.1	0.9
	keep canal on your right		0.9
X	N. Broad St.	0.2	1.1
	Now keep canal on your left		1.1
	Trenton Revolutionary War Battle		
	Monument to your left		
X	over the canal on bridge & straight	0.3	1.4
	on path		

TURN	ONTO ROAD NAME	DIST.	TOTAL
L	Southard St.	0.5	1.9
R	Brunswick Ave. TL	0.1	2.0
R	Fuld St. TL Hospital on corner	0.5	2.5
L	New York Ave. SS	0.2	2.7
BL	at SS	0.1	2.8
X	N. Olden Ave. TL	0.0	2.8
X	Mulberry St TL	0.4	3.2
L	Puritan Ave.	0.3	3.5
R	Ohio Ave. SS	0.1	3.6
L	Cherry Tree Lane SS	0.5	4.1
X	Business Rte. 1 TL	0.2	4.3
S	Slack Ave.	0.0	4.3
R	Princeton Pike SS	0.3	4.6
	(Sam's Deli on right)		
X	Texas Ave. TL	0.6	5.2
X	Darrah Ln. TL	0.6	5.8
X	Franklin Corner Rd. TL	1.0	6.8
R	Meadow Rd.	1.0	7.8
	Follow sign for Brearley House		
X	**Brearley House** go around front &	0.5	8.3
	cross field to get on Brearley-Great Meadow Trail		

TURN	ONTO ROAD NAME	DIST.	TOTAL
L	Delaware & Raritan Canal State	0.3	8.6
	Park Towpath		
X	under Province Line Rd.	0.7	9.3
	CAUTION! soft gravel!		
X	Quaker Bridge Rd.	0.3	9.6
	Princeton Battlefield SP 2 miles to left		
	Next 3 left turns will take you to Princeton		
	University or town		
X	Alexander Rd.	2.5	12.1
X	Washington Rd. -	0.5	12.6
	Carnegie Lake is on your left		
X	Harrison St.	0.6	13.2
X	Walk bike over Millstone River Aqueduct	0.4	13.6
X	Kingston Lock Tenders House	2.2	15.8
	Town of Kingston up the hill		
X	under Rte. 27 following signs	0.2	16.0
X	Rte. 518 - town of Rocky Hill to the left	1.8	17.8
X	Griggstown Causeway	3.0	20.8
	Mule Tenders House Museum &		
	Porta-Johns to your left		
X	Blackwells Mills Causeway	3.5	24.3
	State Park Office to right on Canal Rd.		

TURN	ONTO ROAD NAME	DIST.	TOTAL
X	Manville Causeway	2.1	26.4
X	Somerset Christian College, Zeraphath	0.6	27.0
	World Hdqtrs. Of the Pillar Of Fire		
	Church & oldest continuous radio		
	broadcasting station.		
	CAUTION! Steep spillway 2.8 miles down path!		
X	Easton Ave. Town of So. Bound	3.1	30.1
	Brook to right		30.1
X	DeMott Lane Bridge	3.2	33.3
	VanWickle House & Rutgars		
	Preparatory School across the bridge		
L	Landing Lane Bridge	2.0	35.3
	CAUTION! Open stone spillway!		
R	Johnson's Park Rd.	0.2	35.5
	Rutgers Stadium is on your left		
	Use path or road (your choice)		
X	Race Track **(trotters)** and small zoo	0.8	36.3
	on your left		
X	River Rd. TL to continue on Cedar Ln.	0.7	37.0
L	Road 1 at top of hill	0.6	37.6
	This was all part of Camp Kilmer		
	(WW II troop camp)		

R = RIGHT L = LEFT Q=QUICK B = BEAR X = CROSS S = STRAIGHT
SS = STOP SIGN T = "T" INTERSECTION TL = TRAFFIC LIGHT RR = RAILROAD TRACKS

East Coast Greenway Alliance

East Coast Greenway Route North Bound through New Jersey

53 Mile Route - Terrain: 4

October 6 & 7, 2001 - Starting Point: Calhoun Street Bridge, Trenton, NJ

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TURN	ONTO ROAD NAME	DIST.	TOTAL
L	Road 3 around bend	0.4	38.0
L	Avenue E - **Rutgers U. Livingston Campus now on right**	0.3	38.3
R	Rockafeller Rd. **Rutgers Athletic Center (RAC) on L**	0.5	38.8
R	Suttons Ln. SS	0.4	39.2
L	Ethal Rd.	0.1	39.3
X	Stelton Rd. TL	1.0	40.3
L	Talmadge Rd. **(CAUTION! - Traffic!)**	1.2	41.5
X	New Durham Rd. TL **(Caution! - busy intersection!)**	0.2	41.7
X	over Rte. 287	0.3	42.0
X	**Middlesex Greenway (proposed) and Tripple C Ranch to the left**	1.2	43.2
S	Park Ave. TL	0.4	43.6
R	Central Ave. TL St. Joseph's High School will be on right	0.5	44.1
L	Plainfield Rd. TL after going under RR bridge	0.7	44.8
R	Main St. SS	0.2	45.0
X	Rte. 27 (Middlesex Ave.) TL	0.6	45.6

TURN	ONTO ROAD NAME	DIST.	TOTAL
	Metuchen Bicycle Shop on right - (birth place of Central Jersey Bicycle Club, Inc. in Oct. of 1968)	0.1	45.7
X	Metuchen Train Station on left	0.1	45.8
L	Amboy Ave. TL	0.1	45.9
X	under US Rte. 1	0.9	46.8
X	under NJ Turnpike	0.7	47.5
X	Woodbridge Ave. TL (becomes New Brunswick Ave.)	0.3	47.8
X	Ford Ave. & King Georges Post Rd. TL	0.5	48.3
X	over Rte. 9 & Garden State Pkwy.	1.0	49.3
X	Pathmark Food Market on right	0.2	49.5
	(Spot where Anne Kruimer was hit by a car on 8/20/1992)		
X	Florida Grove Rd. TL	0.2	49.7
X	Convery Blvd. (Rte. 35) TL (Hospital on left)	0.5	50.2
X	Amboy Ave. TL **(Jerry & Stan's Bicycle Shop to left on Amboy Ave. in 2nd block on right)**	0.5	50.7
R	Oak St. TL after going under RR bridge	0.1	50.8

TURN	ONTO ROAD NAME	DIST.	TOTAL
X	Smith St. TL	0.3	51.1
L	Market St. SS - **Perth Amboy Train Station on left**	0.1	51.2
R	Madison St. TL	0.3	51.5
X	Lewis St. SS	0.4	51.9
BL	Sadowski Pkwy. - Raritan River is on your right	0.1	52.0
X	High St. to continue on Water St. **Cross over to Harbor Side Boardwalk and WALK bike**	0.3	52.3
X	Raritan Yacht Club (RYC) and continue towards docks	0.5	52.8
R	Ferry Slips	0.2	53.0

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R = RIGHT	L = LEFT	Q=QUICK	B = BEAR	X = CROSS	S = STRAIGHT
SS = STOP SIGN	T = "T" INTERSECTION		TL = TRAFFIC LIGHT		RR = RAILROAD TRACKS

APPENDIX P

EXCERPTS FROM PLAINSBORO TOWNSHIP BIKEWAY AND PEDESTRIAN CIRCULATION PLAN

AND

PLAINSBORO TOWNSHIP RECOMMENDED ALTERNATE ALIGNMENT(S) TO THE HIGH POINT TO CAPE MAY BIKE ROUTE

C. Pedestrian Circulation and Bikeway Plans

1. Introduction and Purpose

Adequate pedestrian and bicycle circulation is vital to having a successful comprehensive transportation planning process that links people with places they want to go. Plainsboro has developed this plan in recognition of the importance of enhancing the level of pedestrian and bicycle circulation in the township.

This plan was developed to provide Plainsboro residents and workers with safe and convenient linkages between their homes and points of interest and activity, such as the library and municipal building, post office, shopping areas, local parks and schools, and scenic areas. The implementation of a comprehensive pedestrian and bicycle circulation system will also help to alleviate some of the safety and traffic congestion problems on local roadways. Pedestrian and bicycle pathways can and will be used for commuting purposes, as well as for recreation, which, in turn, will increase the vehicular carrying capacity of local roadways.

The *Pedestrian Circulation and Bikeway Plans* are intended to guide municipal review boards and the Township Committee in insuring that the areas designated for pedestrian paths and/or bikeways are reserved and used for that purpose. Once these plans are fully implemented, the system can be used by Plainsboro residents to locate a preferred route of unmotorized travel to recreational or nature areas, shopping facilities, places of employment and worship, and other activity centers both within and outside the township.

2. Types of Pathways

a. Bicycle Paths

The first type of pathway is a bicycle or bike path, which is part of the broader category of pathways known as *Bikeways*. Bike paths are designed to accommodate both pedestrians and bicyclists, and in the winter months, as conditions permit, may be used for cross-country skiing. Such pathways can be located throughout the township parallel to existing streets instead of sidewalks, adjacent to or within utility rights-of-way, and through natural areas such as along stream corridors. The Delaware & Raritan Canal Commission path and the Lenape Trail are examples of the later type of pathway.

The design and engineering standards for bike paths in the township, as much as possible, shall be in accordance with the

New Jersey Department of Transportation *Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines* (NJDOT bikeway standards), which are based on national bicycle facility design standards (AASHTO *Guide for the Development of Bicycle Facilities).*

Generally, bike paths shall at a minimum measure eight (8) feet in width and include a bituminous surface material. However, bike path widths of ten(10) feet or more may be appropriate if: i. bicycle traffic is generally expected to be high, ii. where pedestrian use of path is expected to be more than occasional, iii. where good horizontal and vertical alignment will not exist, providing safe and frequent passing opportunities, or iv. where the path will be subjected to maintenance vehicle loading conditions that would cause pavement edge damage. Also, when a bike path is part of a multi-use pathway or trail facility, alternative surface material and pavement structure may be appropriate.

b. Bicycle Routes

The second type of pathway, which is also part of the broader category "Bikeway," is the bicycle or bike route. Bike routes are located on existing roadways which are either wide enough to safely accommodate bicyclists without having to provide exclusive bicycle lanes (i.e., shared-roadway condition) or roadways with specially designated and appropriately identified bike lanes along both sides of the roadway. Shared-roadway bicycle routes should be located on roadways having low to moderate traffic volumes and/or speeds, low number of trucks using roadway, and having anywhere from 12'-15' of travel lane width in each direction, including shoulders where on-street parking does not exist.

Generally speaking, the proposed bikeway plan seeks to utilize existing and planned roadways for bike routes (whether shared-roadway or with bike lanes) where such roadways are bicycle compatible per NJDOT bikeway standards. However, where a bike route is not the appropriate option due to the considerations listed below, an off-road bike and pedestrian path is recommended.

- Incompatibility of roadway for safe bicycle usage (narrowness of roadway, traffic speeds and/or volumes, or frequent presence of trucks)
- Heavy usage of pathway by children and/or less experienced cyclists

- Need or desire to make connections within the system where roads do no exist
- Desire to provide bikeway access to natural/scenic areas

As with bike paths, the design and engineering standards for designated bike routes, as much as possible, shall be in accordance with the NJDOT bikeway standards. For example, designated bike lanes along roadways shall have a minimum width of five(5) feet where the roadway is curbed or four(4) feet where no curbs exist. Important components of safe bicycle routes are bicycle friendly grates and utility covers flush with the pavement surface, a smooth pavement surface free from irregularities (i.e. rumble strips), and adequate signage. Proper signage is essential to alert motorists to the fact that certain roadways will be used by bicyclists and that special care should be taken when traveling these roadways.

The Manual on Uniform Traffic Control Devices (MUTCD) should be used for signage design and placement.

All designated bike routes should be regularly inspected or monitored to insure that debris is being picked up and removed from roadway shoulders and bike lanes, and that any necessary maintenance is done in a timely manner. Such monitoring and maintenance is critical to providing a safe and attractive bikeway system.

c. Sidewalks

Plainsboro Township already has an extensive network of existing sidewalks that link residential and non-residential areas together. Proposed sidewalks expand the existing system to permit improved pedestrian access throughout the township.

Sidewalks provide for safe pedestrian movement. In residential areas, sidewalks are used by children for playing and as a way to get to school and to parks. Adults use sidewalks as a way to get to neighbors, activity centers in the community, and for exercise.

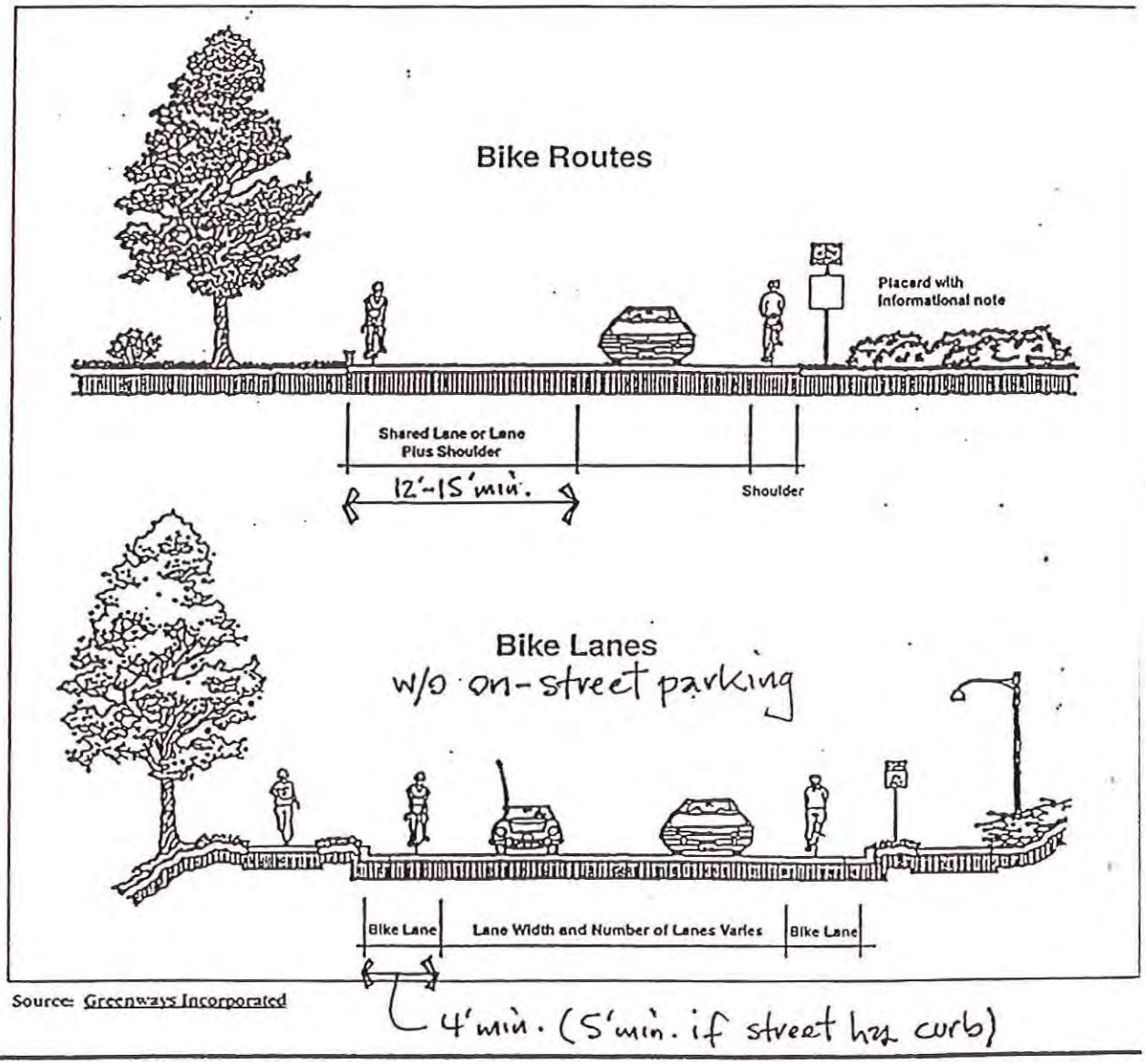
Sidewalks should be at least 5 feet wide, which is adequate for 2 pedestrians or 1 pedestrian and 1 bicyclist. In areas where the roads are too narrow for bicycles to share use of the roadway with motorists or where an off-road bike path is not feasible, sidewalks will inevitably be used by bicyclists; especially by children and less experienced bicyclists. Even though it is not recommended that sidewalks be used in this manner, the sharing of sidewalks by

As indicated by these definitions, the designation of a roadway as a bikeway represents a proactive policy designed to encourage bicycling. Three categories of bikeways exist:

Bicycle Routes — Roadways designated for bicycle use through the installation of directional and informational signage.

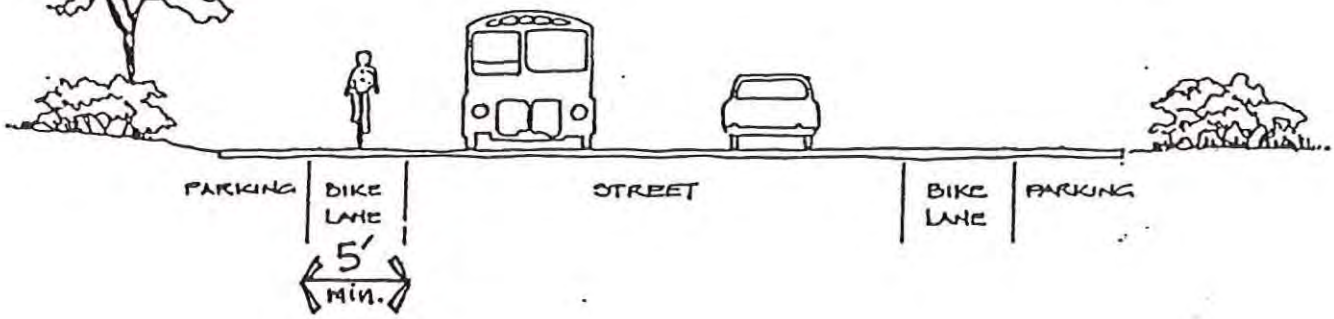
Bicycle Lanes — A lane designated for exclusive or preferential use by bicycles through the application of pavement striping or markings and signage.

Bicycle Paths — A bicycle facility separated from motorized vehicular traffic. A bicycle path may be located within a highway right-of-way or on an independent right-of-way. A bicycle path is not a sidewalk but may be designed to permit shared use with pedestrians.

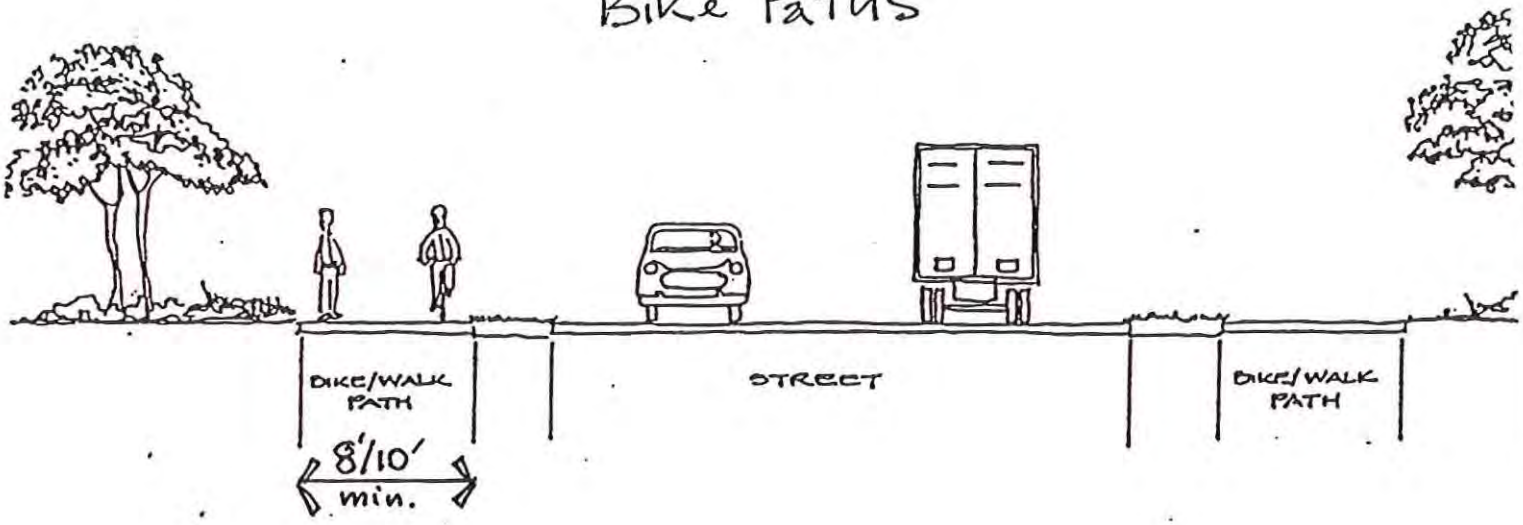


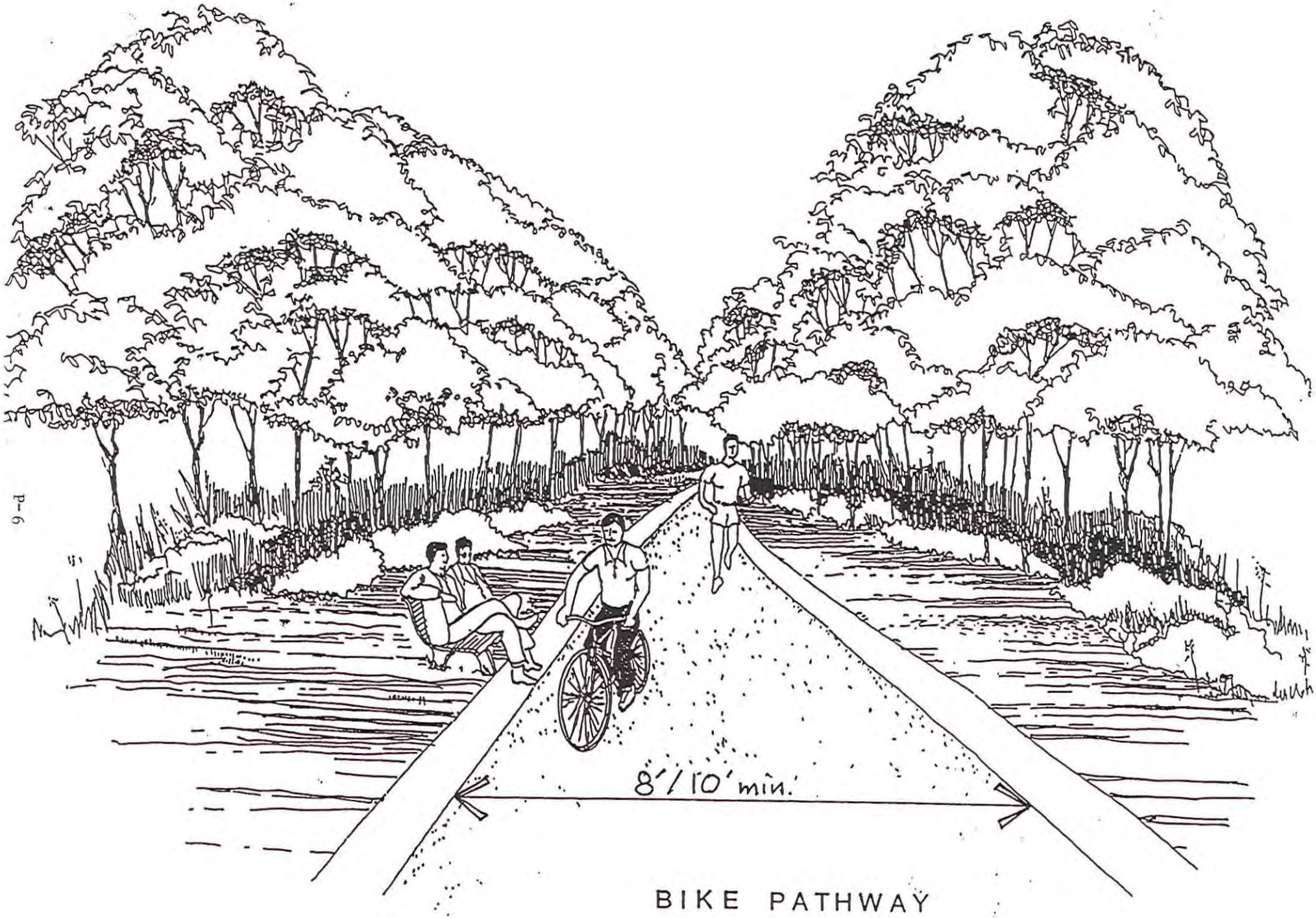
Source: Greenways Incorporated

Bike Lanes with On-Street Parking

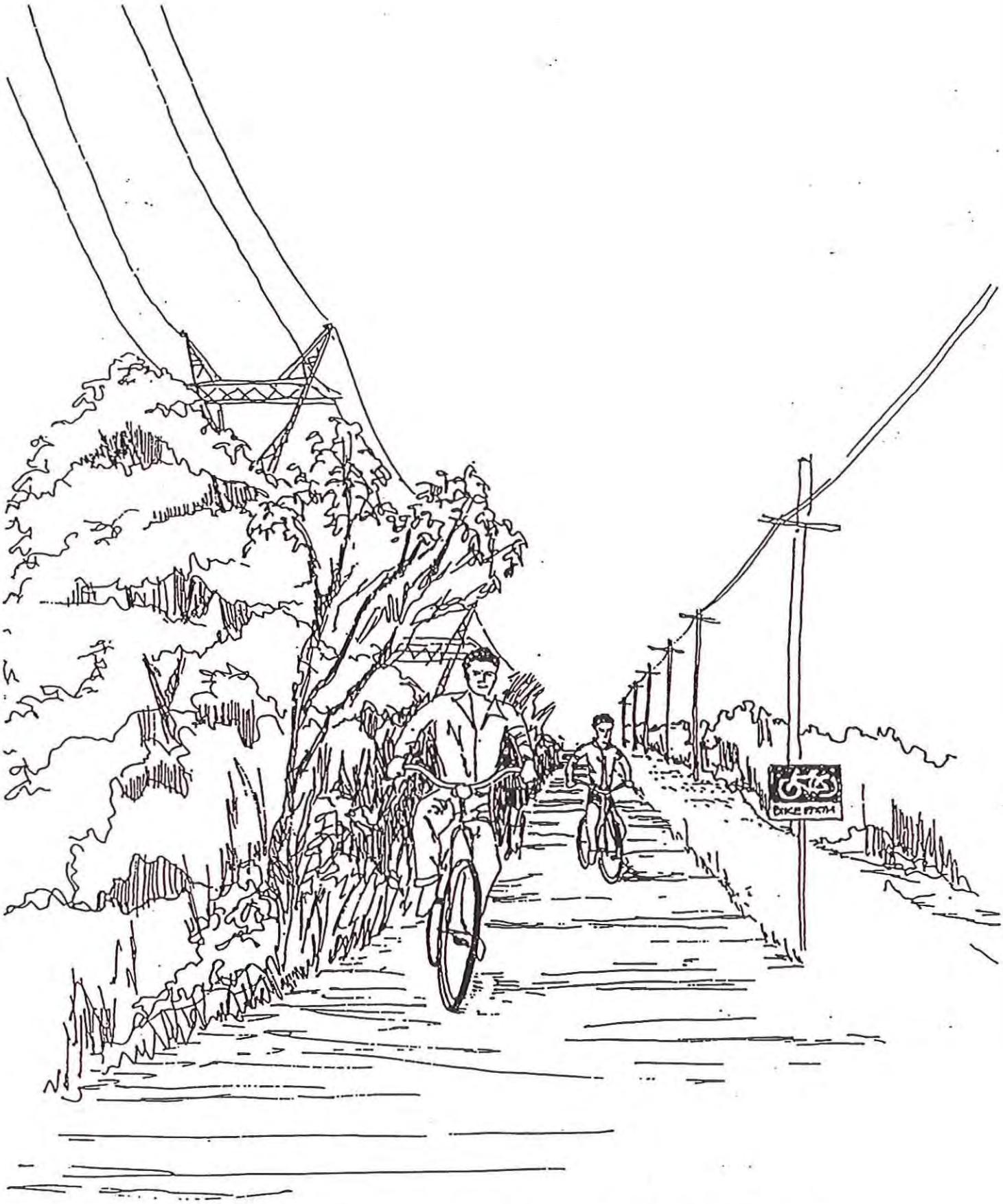


Bike Paths





BIKE PATHWAY



BIKE PATHWAY – UTILITY EASEMENT

bicycles can be done when pedestrian or bicycle traffic is very light.

Sidewalks should be 4 inches thick, except at driveway crossings where the thickness should be increased to 6 inches. Handicapped ramps should be provided at intersections and driveways.

d. Nature Trails

A 9.8-mile system of private nature trails exists within the Princeton Forrestal Center (PFC) for walking and jogging. Unpaved nature trails are encouraged to exist and expand within the PFC, on Township parks, and within other natural settings, while paved pathway systems are proposed within developments to absorb heavier use. Nature trails should be located to connect with recreational, historic and employment sites, and other points of interest. They provide for quiet and unspoiled walking and jogging experiences to observe pleasant scenery or for exercise, usually through heavily treed areas and along stream corridors and next to wetlands. Existing sidewalks, fire lanes and loop roads on developed properties may be used as part of the network.

Nature trails should be about three (3) to four (4) feet wide for pedestrian use only. The path may be as wide as eight (8) feet if necessary, but under no circumstances less than 1'6". The trail width should be determined by amount and intensity of use as well as by topography and vegetation. If the trail is narrow, occasional passing areas should be provided at places with gentle slopes.

Grades of 10% or less are desirable; grades may be as great as 15%, but should be avoided or kept as short as possible. Vegetation should be removed up to seven (7) feet for vertical clearance along a trail. The color and type of material chosen for surfacing, whether grass (dense fescue turf), wood chips, fine gravel, packed earth, etc., should be compatible with the environment through which the trail passes. The surfacing material must not create unacceptable run-off or erosion problems. In order to provide directional information in an unobtrusive way, we suggest using a series of cedar bollards, two (2) feet in height, placed at various entry points and at forks in the A" system.

3. Inventory of Pedestrian and Bicycle Pathways

Through visual surveys, there is a large bicycling and jogging population that now exists in the township. While the township's pedestrian and

bicycle pathway system is currently somewhat limited, it is continuing to expand as a result of the efforts of the Township and development community. Five (5) foot wide walkways or sidewalks are commonly found within many existing residential developments. More sidewalks and now bike paths are being approved and constructed within new residential projects like Walker Gordon Farm, Crossing at Grovers Mill, Wicoff Estates, Parkside, and Burken/Katona Farms. These pedestrian and bicycle pathway systems are being connected with the existing off-tract pathways. The Township's philosophy has been to require new residential development to provide for internal pedestrian/bicycle circulation and to contribute to the implementation of external portions of a larger and more complex municipal system.

In addition to the pathways serving residential developments, the Township has required pedestrian circulation systems within non-residential developments, i.e. Princeton Forrestal Center and Enterprise Business Center.

Major components of the existing pedestrian and bikeway system include the Lenape Trail which is located adjacent to the Cranbury Brook and connects George Davison Rd. and the Brittany townhouse development with Enterprise Business Center, Deer Creek and Fox Run Apartments, Pond View Drive (Waters Edge Park) and Maple Avenue (Mill Pond Park). The Lenape Trail also extends into Plainsboro Park and to Plainsboro Rd. across from the Municipal Complex.

Another important pedestrian pathway system exists along the Cedar Brook connecting Dey Rd. and Petty Rd. with Plainsboro Rd., adjacent to the Gentry and Raven's Crest developments. This same system extends in back of the Aspen development along the Cranbury Brook and up to Plainsboro Rd., where it runs north along Scotts Comer Rd. to Quail Ridge Drive and then west along Plainsboro Rd. in front of the Ashford, Hampshire, and Tamarron developments. Ultimately this network of pathways connect to the Lenape Trail and to Morris-Davison Park. Pedestrian paths also exist along Plainsboro Rd. connecting Hunters Glen with the Princeton Meadows Shopping Center, as well as along Plainsboro Rd. in the Village area.

The Princeton Forrestal Center has an extensive system of informal nature trails within wooded areas along the Bee Brook. Included along these trails are node areas that include benches, litter containers and trail bollards. Forrestal's nature trail system is largely confined to areas west of College Road East and north of Research Way. The trail system east of College Road East and south of Research Way has been removed from the Township's pathway plan to be replaced by sidewalk extensions between existing and proposed buildings and College Road East to provide

pedestrian access to the College Road walkway system and the Bee Brook nature trail system located generally west of College Road East.

In addition to the nature trails, the Forrestal Center has paved walking/jogging paths along College Rd. East and portions of Scudders Mill Rd. Additional paved pathways are planned along Scudders Mill Rd. and the soon to be constructed Campus Rd. The College Rd. East pathway extends across the Route 1/College Rd. grade separation to the Forrestal Village. A pedestrian crossing at College and Scudders Mill Rds., with a paved pathway along Scudders Mill Rd. to Schalks Crossing Rd., provides pedestrian and bicycle access from the Forrestal Center to the Post Office, Plainsboro Plaza, and the rest of the Village area.

In terms of bike routes, the Township's only posted bike route is located in the Forrestal Center along Research Way and College Rd. East.

Another important pedestrian/bike path network in the Township exists within the D&R Canal Commission Park, which connects Princeton and West Windsor Township to South Brunswick Township along scenic Carnegie Lake.

4. Master Plan Network

The primary goal of this plan is to foster the creation of a coordinated and comprehensive network of multi-use pedestrian and bicycle pathways throughout the township – connecting residential, recreational, community facilities, commercial and employment areas. An effort has also been made to coordinate the township's bikeway system with bikeways planned in neighboring townships, Middlesex County and the State.

The proposed bikeway system is intended to compliment existing and planned pedestrian pathways in the township. In order to avoid redundancy between the bicycle and pedestrian pathway networks, an effort has been made, where feasible and appropriate, to utilize existing and planned pedestrian pathways for both bicyclists and pedestrians. For reasons of bicycle safety and convenience, the bikeway system has been designed with an eye towards maximizing continuity within the overall system. This is achieved by avoiding the creation of dead-end bike paths and minimizing the switching back and forth of the bike paths from one side of a street to another.

In recent years, plans have been approved and, in some cases, construction has actually taken place to implement important pathway segments in the township. Most recently, sidewalk improvements have been completed in the Village area along Edgemere Ave., Parkway Ave. and Plainsboro Rd. Additional pedestrian and bikeway improvements are planned throughout

the township, and particularly along Plainsboro Rd. in the vicinity of Morris Davison Park in response to traffic calming improvements recommended by the Township Planning Board. Funding for these improvements is being sought from the New Jersey DOT *Transportation Enhancement Program.*

The 1990 Pathways Plan identified a new pathway network in the Township's farmland preservation area (R-1 00 and R-1 50 zones), along Grovers Mill Rd., Cranbury Neck Rd., as well as along the PSE&G right-of-way and a portion of the Millstone River. Among the most critical of these pathways would appear to be the one along (actually, within) the PSE&G right-of-way. This pathway connection will function to link the farmland preservation area of the township, as well as the educational facilities area along Grovers Mill Rd. (Middle, Upper Elementary, North High School and planned Montessori School), with the residential and non-residential areas along and north of Plainsboro Rd. As well, this proposed pathway would connect with the existing Lenape Trail, further enhancing its usefulness as a pedestrian and bicycle path. A pedestrian/bicycle access easement from PSE&G, who have granted similar easements elsewhere in the state, will be necessary to make this pathway a reality.

Other major bike paths include those planned along Grovers Mill Rd., Plainsboro Rd., Dey Rd., and within the Village area. Bike paths are also planned in order to link the Village area and east side of the township with areas west of the Amtrak main line, including: Walker Gordon Farm, FMC/Firmenich complexes, and the Princeton Forrestal Center (including connections across Route 1 at the Scudders Mill and College Rds. to the Forrestal Village, Princeton Landing, Princeton Nurseries and the D&R Canal).

The following two maps, *Pedestrian Circulation Plan* and *Bikeway Plan,* show existing, as well as planned and proposed sidewalks, pedestrian paths, trails, and bikeways to be constructed by developers, the Township and others.

5. Supplemental Facilities

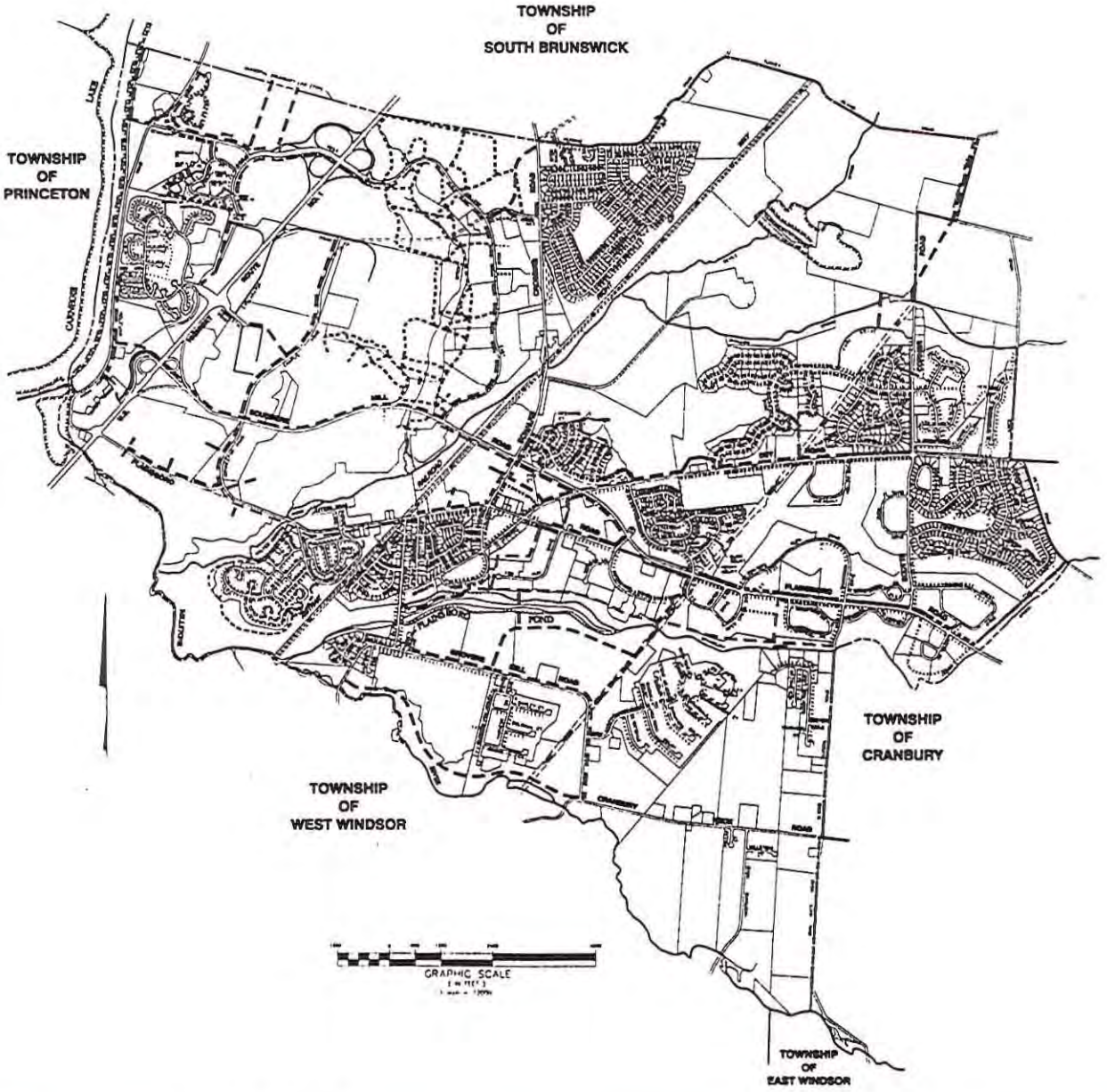
To improve the quality of the proposed pathways system, it is important to provide supplemental or accessory facilities. These facilities will make the pathways and designations along the pathways more enjoyable, thus encouraging their greater use.

Township of PLAINSBORO

MIDDLESEX COUNTY, NEW JERSEY

2000

PEDESTRIAN CIRCULATION PLAN



LEGEND :

EXISTING SIDEWALKS, PATHWAYS & NATURE TRAILS :

- 4' - 5' WIDE SIDEWALK
- 6' - 8' WIDE PATHWAY *
- 4' - 6' WIDE NATURE TRAIL

PLANNED SIDEWALKS, PATHWAYS & NATURE TRAILS :

- 4' - 5' WIDE SIDEWALK
- 6' - 8' WIDE PATHWAY *
- 4' - 6' WIDE NATURE TRAIL
- UPGRADE TO 8' WIDE PATHWAY *

* SHARED PEDESTRIAN AND BICYCLIST PATHWAYS

MAP 4A

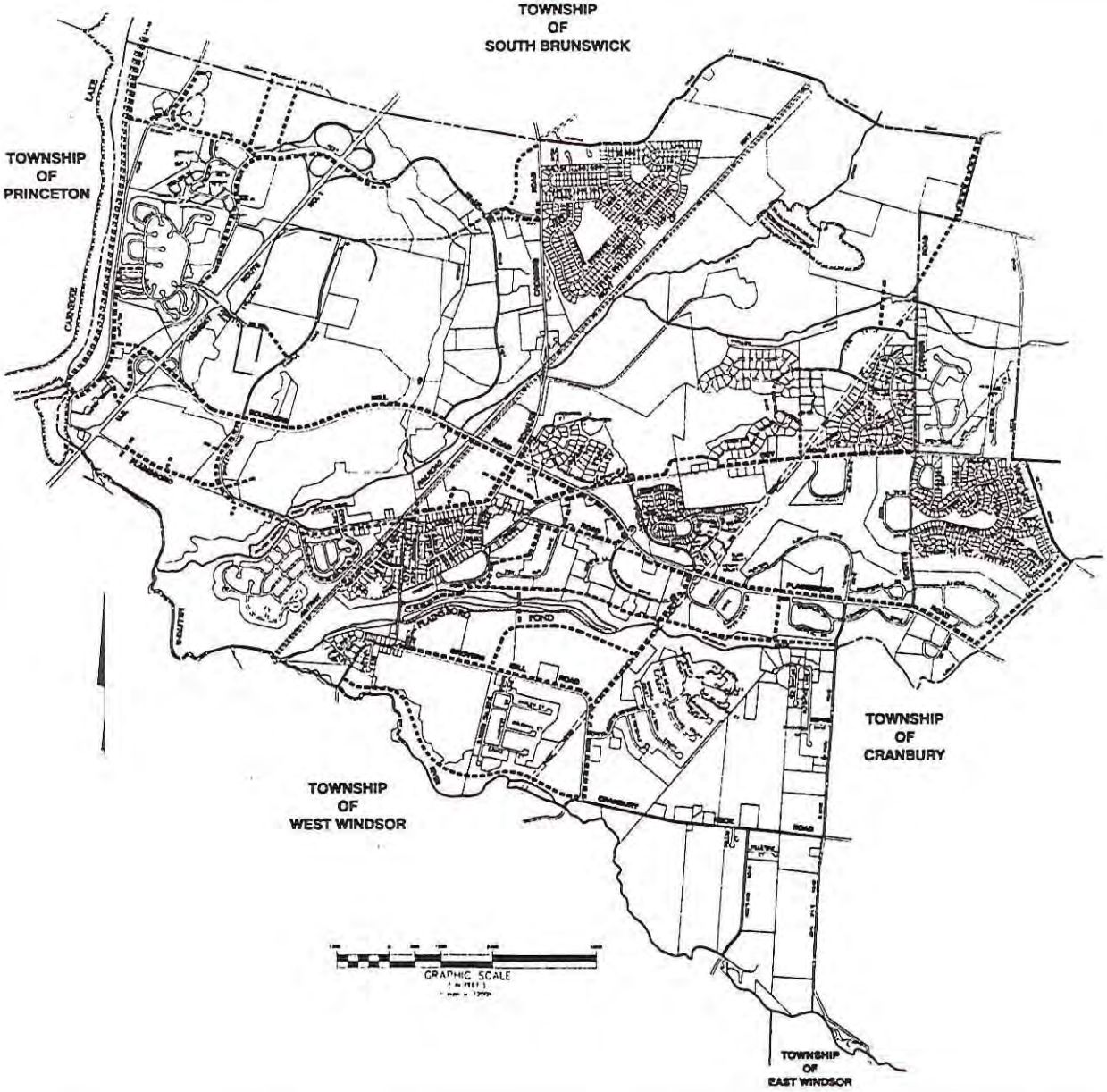
Prepared By
David J. Samuel P.E.
Township Engineer
CME ASSOCIATES
CONSULTING AND MUNICIPAL ENGINEERS

Township of PLAINSBORO

MIDDLESEX COUNTY, NEW JERSEY

1999

BIKEWAY PLAN



LEGEND

BIKE PATHS :

- EXISTING BIKE PATH
- PLANNED BIKE PATH

BIKE ROUTES :

- PLANNED BIKE ROUTE/DEDICATED BIKE LANE
- PLANNED BIKE ROUTE/SHARED ROADWAY

MAP 5

Prepared By
David J. Samuel P.E.
Township Engineer
CME ASSOCIATES
CONSULTING AND MUNICIPAL ENGINEERS

Bike parking facilities should be provided at various stopping points along a pathway for security and weather protection. For example, shopping centers, the Municipal Complex and employment centers should have adequate parking facilities that are conveniently located near building entrances or other highly visible areas that are self-policing. As noted by the American Association of State Highway and Transportation Officials (AASHTO), bicycle parking that is not properly designed will encourage bicyclists to use trees, railings, and other appurtenances for bicycle parking, which may lead to damage to such structures.

Accessories such as park benches, trash receptacles, exercise stations and rest areas with restroom facilities and water fountains should be considered along bicycle and pedestrian trails. The Township's plan does not specifically address these supplemental facilities for several reasons. Since the pathways system has been designed to lead pedestrians and bicyclists into activity centers, accessories such as rest rooms and water fountains would be provided in conjunction with existing structures or park facilities. Parking facilities would also be provided within these activity centers. If these centers do not have adequate accessory facilities, provision should be made to provide them. Also, it will be easier to properly locate and determine the types of accessory facilities needed after the paths have been used over a period of time.

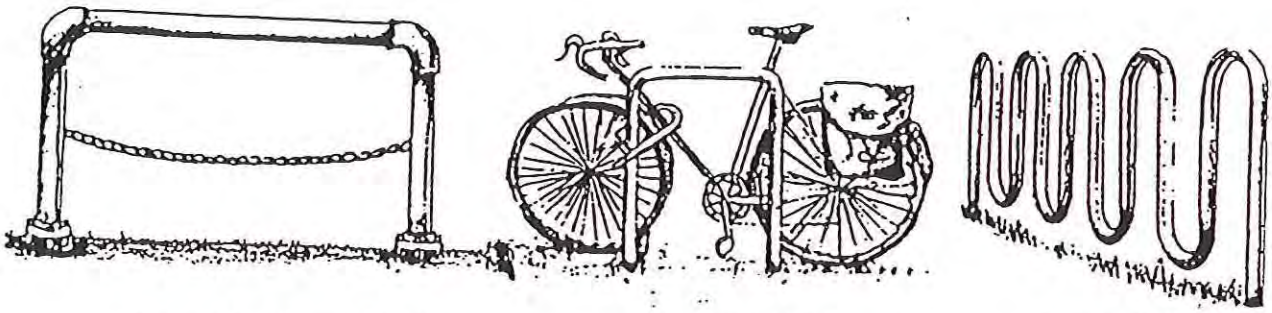
6. Implementation

In order for the Township to have a successful pedestrian and bicycle pathway system, an implementation strategy is important. Initially, the Township should amend its zoning, subdivision and site plan review ordinances to encourage the development of pedestrian and bicycle pathways by:

- Adding new definitions for pedestrian and bikeway facilities
- Specifying bicycle parking requirements for new development and redevelopment
- Providing bicycle parking facilities design standards
- Identifying the NJDOT *Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines* as the principal standards for bikeway facilities

After such ordinances are amended, the Township's Community Development, Recreation and Police Departments should work together to prepare and distribute a pathways plan package. Included in this package should be a detailed pathways map(s), generally accepted "Rules of the Road," and safety tips.

FIGURE 26. CLASS III FACILITIES, SUPPORTIVE POSTS, RACKS, AND RAILS



Missoula's "Cheap" Racks "Ribbon" Rack Inverted U

FIGURE 25. CLASS II FACILITIES, RACKS THAT LOCK WHEELS AND FRAME

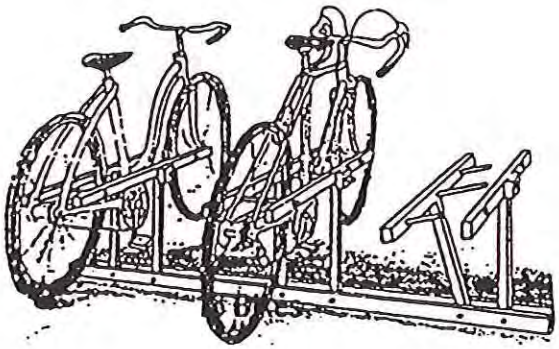
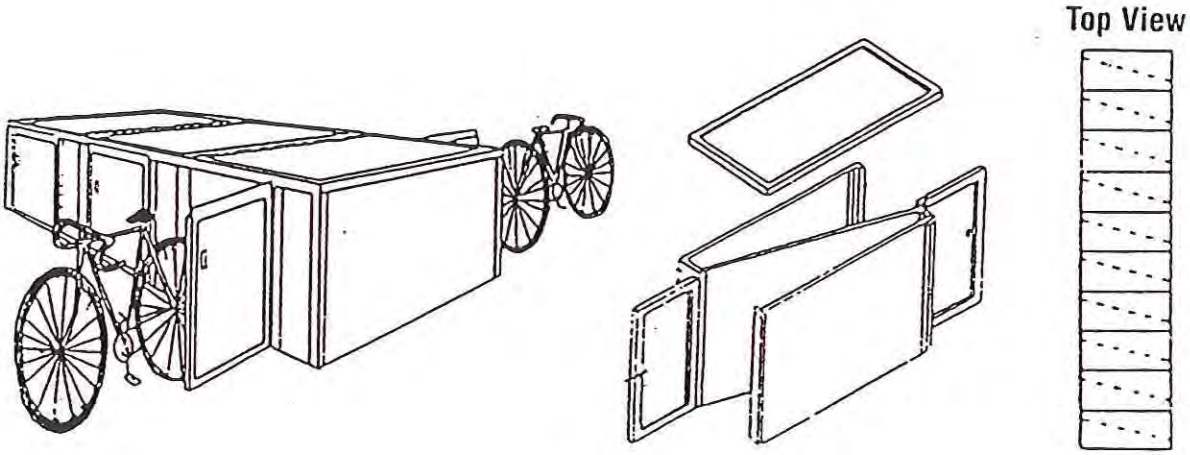
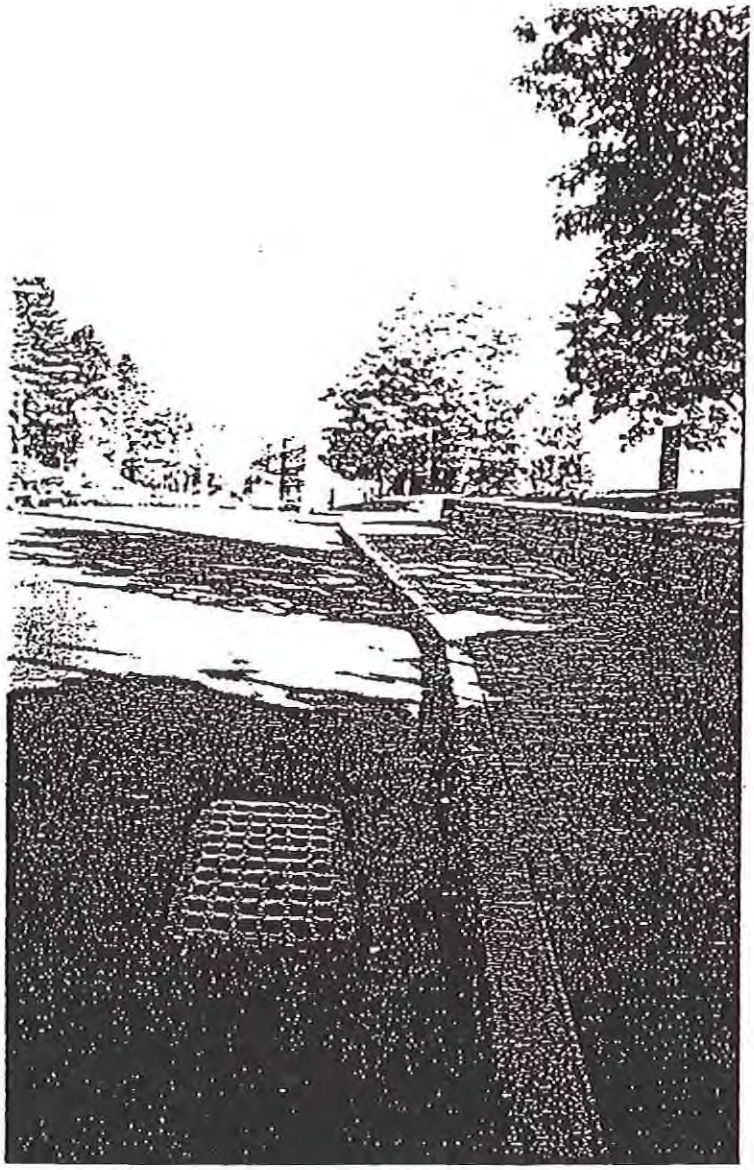
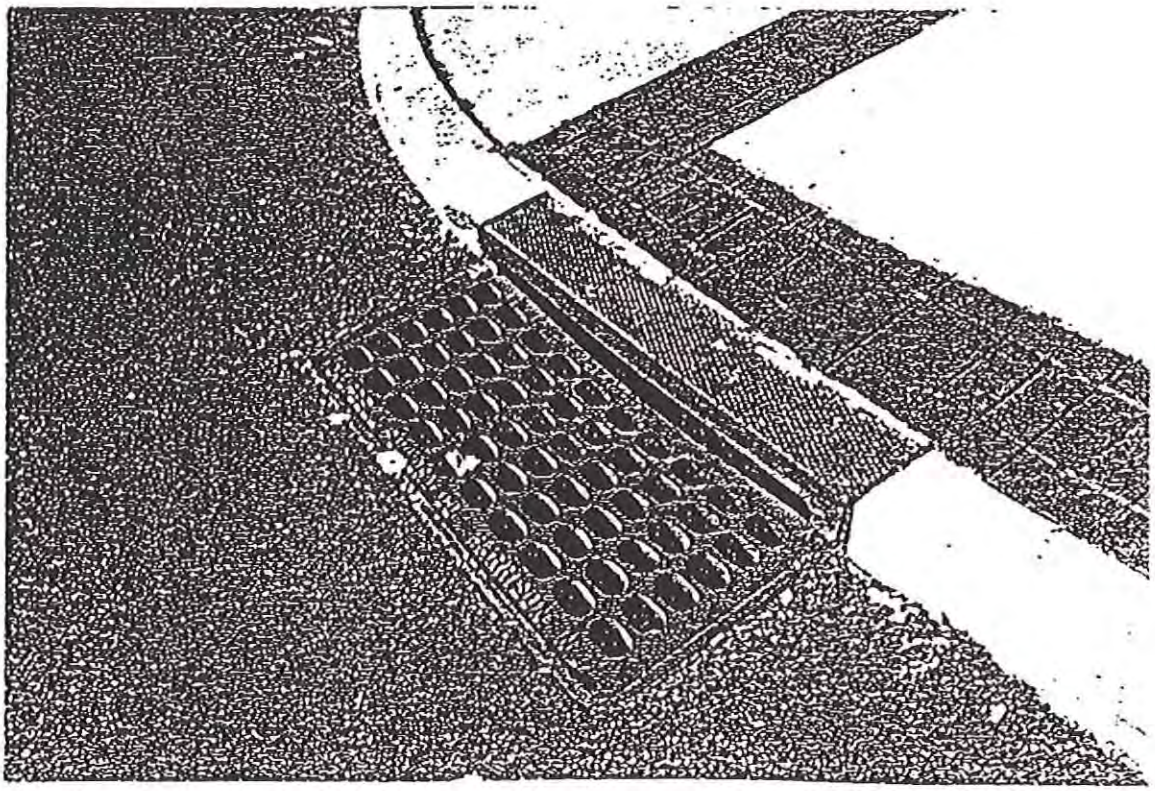


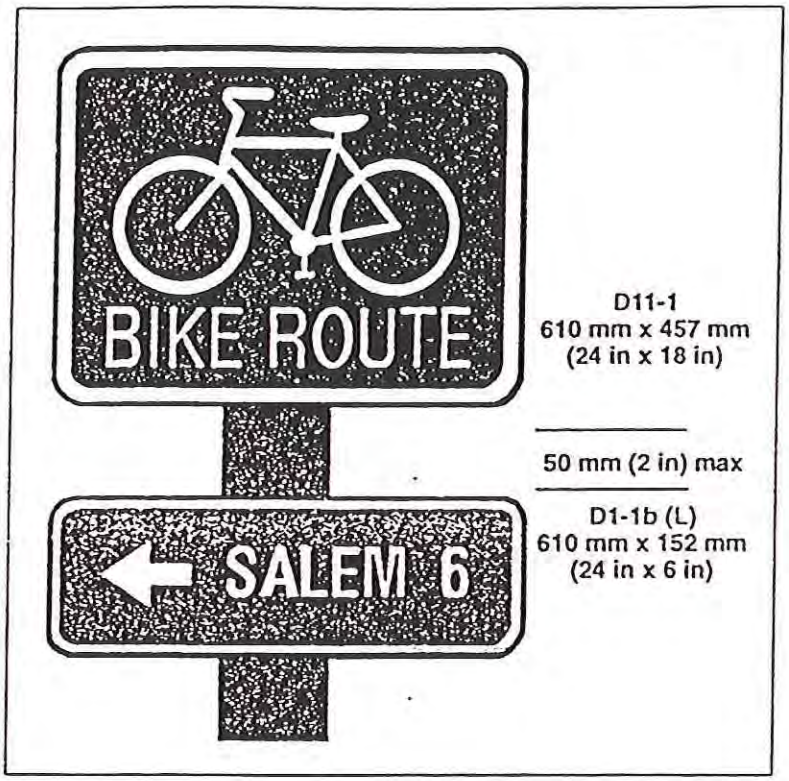
FIGURE 24. CLASS I FACILITIES, BICYCLE LOCKERS

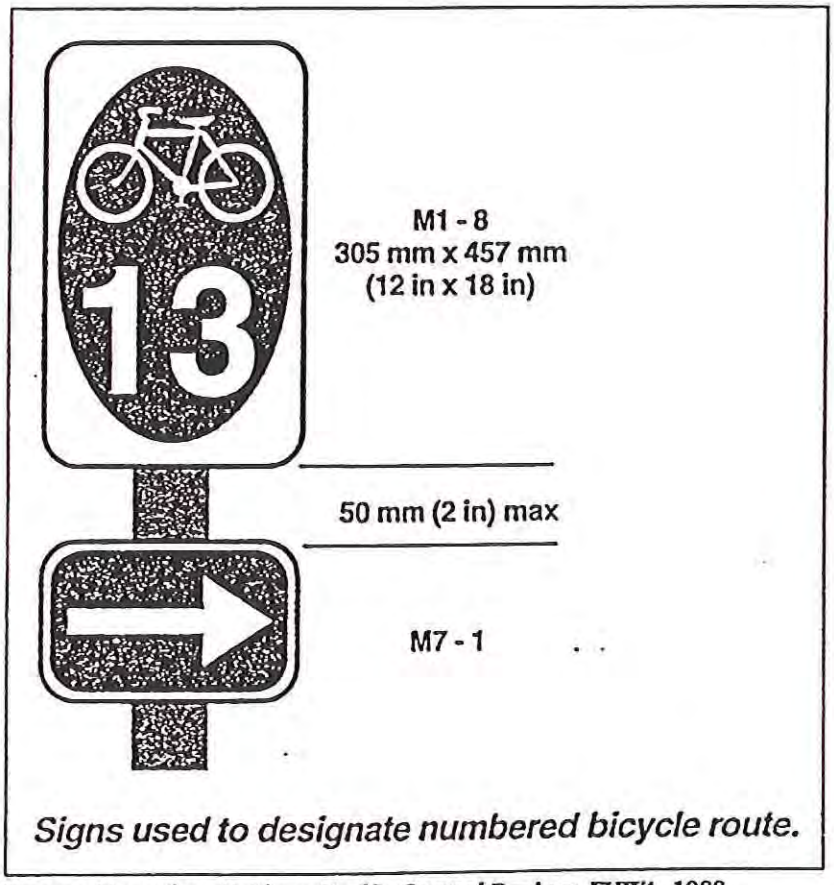




"Bicycle friendly" drainage grates and catch basins create a safer cycling environment. These types of improvements are easily implemented in roadway projects.

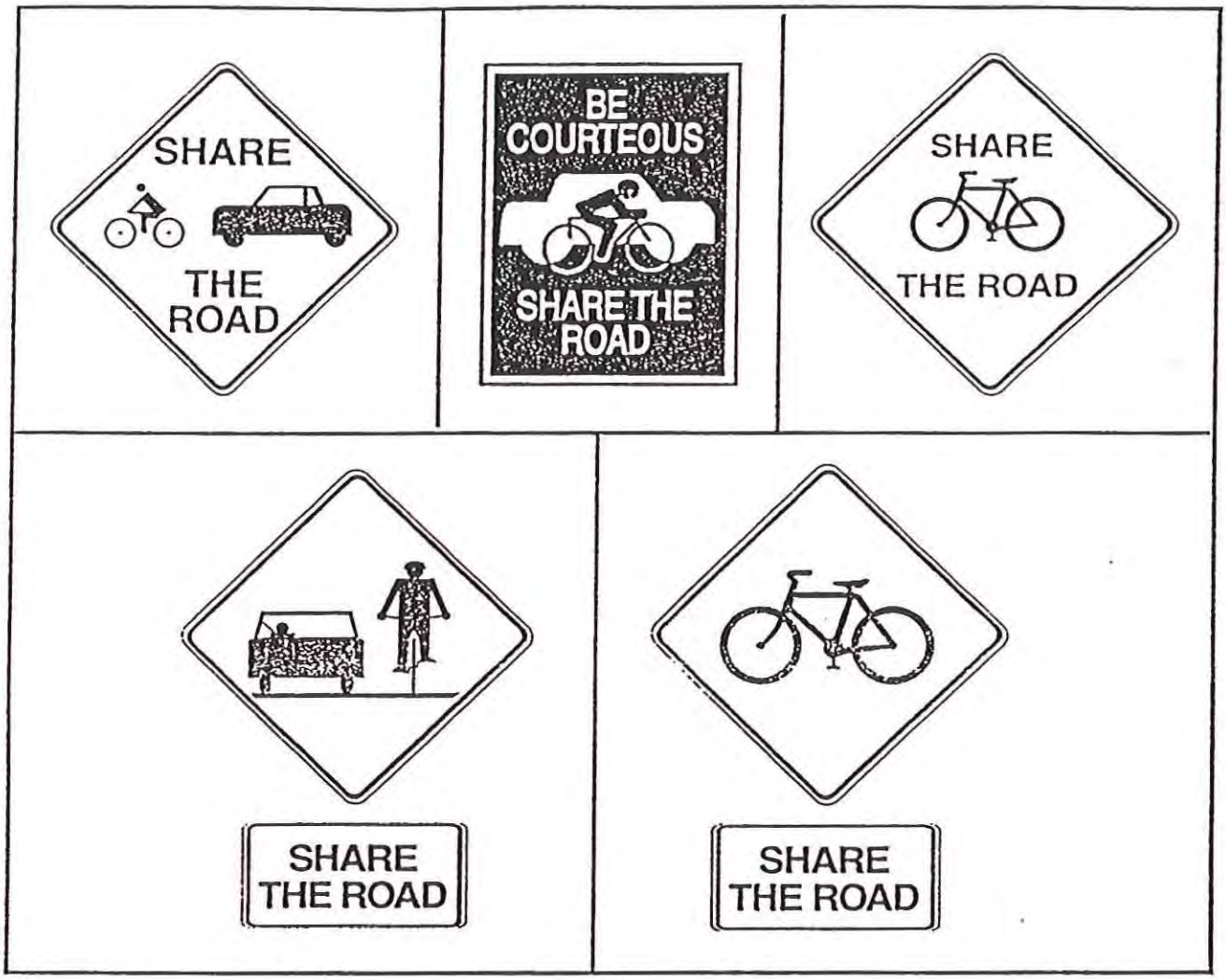






Signs used to designate numbered bicycle route.

Source: Manual on Uniform Traffic Control Devices, FHWA, 1988



Source: Bicycle Federation of America

NOTE: These represent examples of signs used by others. NJDOT is in the process of adopting an approved sign.

R3 - 16
610 mm x 760 mm
(24 in x 30 in)

R3 - 17
610 mm x 760 mm
(24 in x 30 in)

R7 - 9
300 mm x 460 mm
(12 in x 18 in)

R7 - 9a
300 mm x 460 mm
(12 in x 18 in)

Source: Manual on Uniform Traffic Control Devices, FHWA, 1988

One of primary means by which the pedestrian circulation and bikeway plans will be implemented will be through the development process, whereby a developer of new development or redevelopment requiring subdivision and/or site plan approval(s), would be required to construct on-tract and possibly off-tract pathways as a condition of plan approval.

While the development approval process will be the primary means of implementing the pedestrian circulation and bikeway plans, an important secondary means of implementing such plans will be through the Township itself, as a result of funds obtained through County, State and/or federal programs. For example, funds may be available in the future through the State DOT *Transportation Enhancement Program*, funded through the U.S. DOT *TEA-21 Program*.

In order to communicate the existence of a planned bikeway system in the township and to demonstrate early progress in the implementation of the bikeway plan, an effort should be made to quickly move ahead with the implementation of those portions of the proposed system that can be done so without significant expense or effort. For example, one task that should be considered for early action is the posting of "bike route" signs along those roadways proposed as bike routes that already comply with NJDOT bikeway standards.

7. Recommended Priority Bikeways

On September 22, 1998, a public outreach meeting or workshop was held in the Community Room of the Municipal Building. The purpose of this meeting was to obtain meaningful public feedback regarding the issue of -- *where in the township bikeway facilities are needed and what priority should be given to such facilities.* With this in mind, the participants, including members of the various Township boards and committees, broke up into small work groups and proceeded to reach consensus about where bikeway improvements are needed and what priority should be given to each. The recommendations of the small work groups were used to create the following list of proposed bikeways that they recommended be given high priority. The proposed bikeway plan includes all bikeway facilities recommended at this meeting.

High Priority Bikeways* _

Scudders Mill Road

- *From BMS west to existing pathway near Route 1 overpass*
- *From Schalks Crossing Road east to P-Loop*

Plainsboro Road

- *From P-Loop/Enterprise Drive east to Cranbury border (particularly Wyndhurst/Center Drive to Cranbury border)*
- *From Schalks Crossing Road west to Connector Road ending at Scudders Mill Road*

PSE&G Right-of-Way

- *From Grovers Mill Road northeast to Woodland Drive* (*mid-block crossing at Dey Rd. problematic – staff recommends end path at Plainsboro Rd.)*

Scotts Corner Road

- *From Plainsboro Road north to Park Drive*

Research Way

- *From College Road East east to Schalks Crossing Road*

Schalks Crossing Road

- *From Plainsboro Road north to Scudders Mill Road*

Cranbury Neck Road

- *From Grovers Mill Road east to Cranbury border*

* Recommended at meeting of grass root/community consensus groups on September 22, 1998.

D. Rail Transportation

As the township continues to experience population growth in the future, a greater burden is placed on Plainsboro's Road network. As a result, there is a need to integrate alternative modes of transportation into the township's circulation system.

One of these transportation methods involves rail transportation facilities. There is one existing rail station, the Princeton Junction Train Station, that serves the majority of Plainsboro's rail commuters. In addition, another rail facility is being planned in South Brunswick which also could eventually serve township rail commuters.

1. Princeton Junction Train Station

The Princeton Junction Train Station services most of Mercer County's and part of Middlesex County's rail transit needs. Since the closest rail stations are in New Brunswick and Trenton, many commuters travel to Princeton Junction from Ewing Township, Hamilton Township, Lawrence

Township of Plainsboro
641 Plainsboro Road, Plainsboro, New Jersey 08536 • (609) 799-0909 • Fax: (609) 799-3194

March 12, 2001

Sheree J. Davis, Administrative Analyst
NJDOT – Office of Bicycle and Pedestrian Programs
1035 Parkway Avenue
P.O. Box 600
Trenton, New Jersey 08625

Re: High Point to Cape May Bike Route

Dear Ms. Davis:

As you may recall, I spoke with you a few weeks ago regarding the proposed *High Point to Cape May bike route*. Per your request, I am following up with some written comments and suggestions for alternative routing of the subject bike route through Plainsboro. While the bike route currently proposed through Plainsboro is reasonable in some regards, we believe there are alternatives that should be considered that would be more true to the goals of the August 2000, *High Point to Cape May -- Bicycle Touring Route Location Study* prepared for NJDOT. For example, we do not find the route proposed to be a *preferred route* from the standpoint of utilizing low traffic roads connecting historic, cultural and environmental attractions, with amenities favorable to cyclists (e.g., shops, restaurants, public rest facilities, etc.). In some regards the proposed route is uninteresting and certain portions of it raise safety concerns for cyclists.

NJDOT Proposed Bike Route:

The proposed bike route in Middlesex County, from north to south, runs from Kingston Village in South Brunswick along Route 522 (Heathcote Road and Ridge Road), then south along Route 683 (Schalks Crossing Road) in South Brunswick into Plainsboro, until it meets Route 614 (Scudders Mill Road), at which point it heads east along Route 614 (Scudders Mill Road and Plainsboro Road) into Cranbury until it reaches Main Street in Cranbury Village, at which point it runs south along Route 614 (Main Street /York Road) to Route 539 (Hightstown Road) out of Middlesex County and into Mercer County (East Windsor/Hightstown).

As an alternative, and again, we believe more true to the expressed goals of the High Point to Cape May Bike Route Location Study, we suggest the following alternative bike route(s):

Alternative A: *(Preferred Route)*

1. Starting in Kingston Village, from Route 27 (Main Street) travel south on Route 614 (Academy Street/Mapleton Road) into Plainsboro, passing Lake Carnegie and the D&R Canal to your right, until you reach the soon to be constructed reconfigured intersection of Mapleton Road and Seminary Road (signalized intersection).
2. Go left (east) on Seminary Road passing St. Joseph's Seminary on your right until you reach College Road West (signalized intersection).
3. From here you'll go left (east) on College Road passing the Forrestal Village (retail/hotel/office development) to your right.
4. Continue on College Road over US Route 1 through the Princeton Forrestal Center (Princeton University's corporate business park) until you reach Route 614 (Scudders Mill Road, a signalized intersection).
5. Go left (east) on Route 614 (you'll pass over a bridge over the Amtrak mainline) until you reach Schalks Crossing Road (signalized intersection).
6. Go right (south) on Schalks Crossing Road into Plainsboro's village center area. This portion of Schalks Crossing Road will soon (starting Spring 2001) be transformed into a new "Main Street" village area with a landscaped center median, brick sidewalks, and historic/period streetlights, etc. This area is planned to include a village green, retail shops, restaurants, offices, personal services, a recreational/educational facility, village-type housing, etc.
7. At the intersection of Schalks Crossing Road and Plainsboro Road (signalized intersection), continue straight ahead south on Parkway Avenue, passing a quaint looking church and open space area (Wicoff Elementary School grounds) to your left. This is the original section of Plainsboro Village.
8. At the end of Parkway Avenue, go right (southwest) on Edgemere Avenue until it ends at Maple Avenue.
9. Go left (south) on Maple Avenue passing Plainsboro Pond and the Maple Avenue dam on your left, until you reach Grovers Mill Road (signalized intersection). Note, there is an attractive public observation deck at the dam.
10. Go left (east) on Grovers Mill Road passing by the upper elementary, middle and high school campuses on your left and right.
11. Continue on Grovers Mill Road (now entering the Township's farmland preservation zone) until you reach Route 615 (Cranbury Neck Road).
12. Go left (east) on Route 615. As you continue down this road, you'll pass permanently preserved farmland on your left and right, including a new farmstand a mile or two up the road.
13. At the intersection of Route 615 and John White/George Davison Roads (signalized intersection), you'll continue straight ahead (east) into Cranbury Township.
14. Continue traveling east on Route 615 until it reaches Route 614/539 (Hightstown Road).

15. Go left (north) if alternate route (*"out-and-back"* side trip) up Main Street in Cranbury Village is desired (less than ¼-½ mile north) or go right (south) on Route 539 heading out of Middlesex County into Mercer County (East Windsor/Hightstown).

Alternative B:

The first part of this bike route is the same as 1-5 above. After that, continue straight ahead (east) on Route 614 (Scudders Mill and Plainsboro Roads) and follow the currently proposed route through Plainsboro into Cranbury Village and then south on Route 539 out of Middlesex County into Mercer County (East Windsor/Hightstown).

The Alternative A or *Preferred* Bike Route is preferred for a number of reasons, including:

- It provides a more interesting and varied route through Plainsboro, including both natural and built environments.
- There is far greater access to amenities and services along the Preferred Route than the currently proposed route.
- The roads included in the Preferred Route are either bicycle suitable or compatible as these terms are used in the Location Study.
- Portions of the Preferred Route include or will include (i.e., committed to by developers) parallel off-road bike paths, which would supplement the Preferred Route and could be used by less experienced cyclists, if desired.
- Preferred Route is better complimented by the Township's Bikeway Plan (enclosed) than is the currently proposed route.
- The Preferred Route would include Cranbury Village as an alternate route, without using a trip through Cranbury Village to effectively dictate the course the HP-CM bike route takes through Plainsboro.
- The Preferred Route (and Alternative B) would eliminate the safety hazard of traveling over the existing Schalks Crossing Road bridge over the Amtrak line in Plainsboro. While such hazard was not identified as a "major constraint" on the map of the current proposal (identified elsewhere using a red circle), it should have been.
- The Preferred Route would utilize the College Road/US Route 1 overpass to bridge Route 1, instead of the at-grade crossing proposed in the currently proposed route.

While Plainsboro is supportive of the High Point to Cape May bike route in concept, the Township would prefer the above cited Alternative A or "Preferred Route" for the reasons given. As far as the "current proposal" goes, minimally, the hazard associated with the existing Schalks Crossing Road bridge over the Amtrak line needs to be addressed. One option would be to provide monies to replace this bridge with a new bridge that is "bicycle compatible." At the very least, the portion of the bike route on Schalks Crossing Road south of Research Way in Plainsboro

should be replaced by a route that would use Research Way and College Road East to Scudders Mill Road.

Again, Plainsboro is supportive of the concept of the proposed north-south state bike route. The Township too agrees that such a bike route can serve as a "spine" bike route encouraging other communities to develop bikeway systems around such spine. The *Preferred Route* that we've suggested would very much serve as a spine or key element in our planned township-wide bikeway system. Township staff would be happy to take you on a tour of the township using the current proposed bike route and our *Preferred Route*.

If you have any questions or a need for clarification, please give me a call at 799-0909, X221. I look forward to hearing word from you regarding this matter.

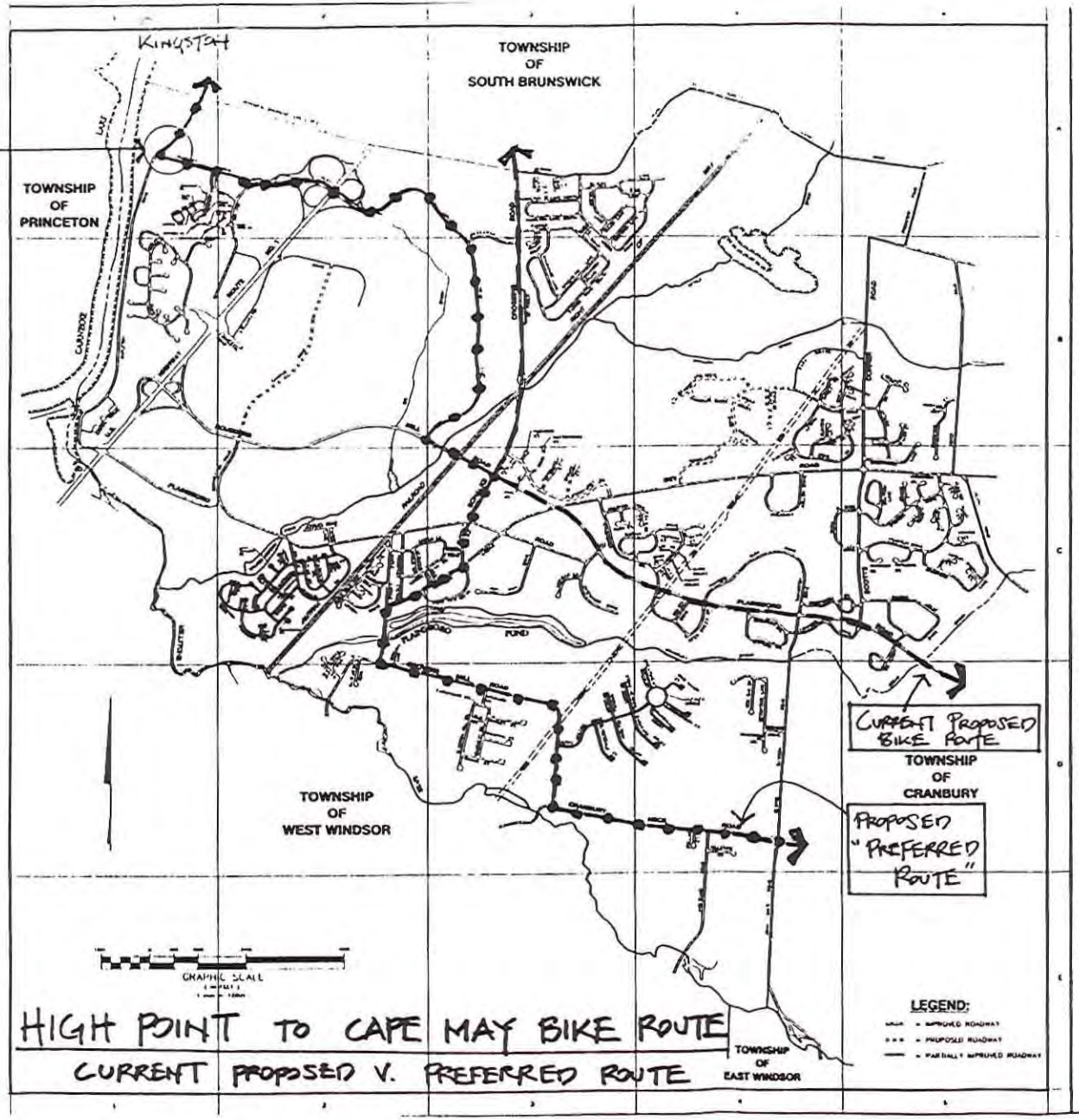
Sincerely,

Ronald J. Yake
Planner/Zoning Officer

Enclosures

c: Michael La Place, Community Development Director
Ed Yates, Township Committee
Tony Gambilonghi, Middlesex County Planning Department
David Knights, Princeton Forrestal Center

Planned Seminary/ Mapleton Rd intersection reconfiguration construction likely in 2001)



HIGH POINT TO CAPE MAY BIKE ROUTE

CURRENT PROPOSED V. PREFERRED ROUTE

Township of PLAINSBORO

MIDDLESEX COUNTY, NEW JERSEY

2000

STREET INDEX MAP

A
ADAMS COURT 3C
ALFALFA DRIVE 4D
ALLEN COURT 3C
AMBERLY ROAD 3C
ASHFORD DRIVE 4C 3C
ASPEN DRIVE 3C 3D
AZALEA COURT 2A

B
BAILEY COURT 3D
BARLOW COURT 2C
BARN SWALLOW COURT 2C
BARNYARD COURT 3D 4D
BEECHNEL LANE 4D
BEECHWOOD DRIVE 4D
BIRCH DRIVE 2C
BIRCHWOOD COURT 1A 2A
BLOSSOM HILL DRIVE 3D
BRADFORD LANE 3C
BRENTWOOD LANE 3D 3C
BRIARDALE COURT 4D
BROOKSIDE COURT 3B 3C
BUNTING LANE 4B
BURR COURT 4C

C
CANAS COURT 3D
CAMPUS ROAD 2B
CARDINAL DRIVE 4B
CENTER DRIVE 4C
CHANDLER COURT 3A 3D
CLINTON COURT 3C
CLEARWATER COURT 3D
COLLEGE ROAD EAST 2A 3A 3B
COLLEGE ROAD WEST 2A
COLONIAL COURT 3D
COMFIER COURT 1A
CONNECTICUT ROAD 2B 2C
COUNTS CORNER 2C 2D
CORA LANE 2C
COTTONWOOD COURT 3B 3C
CRANBURY NECK ROAD 3D 4D
CYPRESS COURT 4B

D
DAISY COURT 2C
DEER CREEK DRIVE 4C
DENNISON PLACE 3B
DERBY MEETING DRIVE 3D 4D
DEY ROAD 3C 4C 3C
DICKINSON COURT 3C
DOLMOND DRIVE 2C
DOUGLAS FIR COURT 1A
DRAYTON LANE 3C
DRYER COURT 2C

E
EDGEWOOD AVENUE 2C 3C
EMLEN ROAD 3B 3C
ELM COURT 3C
ELM DRIVE 2C
EMPRESS COURT 1A
ENTERPRISE DRIVE 3C
EVERGREEN DRIVE 1A

F
FALCON COURT 3B
FARMHOUSE DRIVE 3D
FORRESTAL ROAD 2B
FOX RUN DRIVE 3C
FRANKLIN DRIVE 3C
FRIENDSHIP ROAD 3A 3B
FRINGE TREE COURT 1A

G
GARDENIA COURT 2C
GEORGE DAWSON ROAD 4C 4D
GOLDFINCH COURT 4B
GRIFFITH COURT 1A
GROVEWOOD LANE 3B
GROVERS MILL ROAD 2C 2D 3D
GULICH LANE 3A 4A

H
HALE DRIVE 4A
HAMILTON LANE NORTH 3A
HAMILTON LANE SOUTH 3A
HAWTHORNE DRIVE 4A 3C
HAWCLIFF COURT 3C
HARVEST DRIVE 3D
HAWTHORN DRIVE 2A
HEATHER COURT 2C
HEDGE RUN ROAD 1A
HENRY COURT 4C
HERITAGE WAY 3B
HERON CT 2C
HIGHLEY COURT 3B
HILLTOP COURT 3D 4D
HOLIDAY DRIVE 3C 4C
HORNING COURT 4C
HUNTINGDON COURT 2C
HUNTERS GLEN DRIVE 4C

J
JASMINE WAY 1A
JAY COURT 4C
JEFFERS ROAD 2C
JOHN WHITE ROAD 4D 4E

K
KEPPEL ROAD 3A
KING HAKEN COURT 4D
KINGLET DRIVE NORTH 4B 3B
KINGLET DRIVE SOUTH 4B 4C 3B 3C
KNIGHT DRIVE EAST 2C
KNIGHT DRIVE WEST 2C
KNOX COURT 4C
KNOBS ROAD 3A 3B 4A

L
LAKEVIEW TERRACE 1B
LARKSPUR DRIVE 2C
LEE COURT 4C
LEAC WAY 1A
LINDEN LANE 3C 3C
LINDEN LANE SOUTH 3A 3C
LOUIS COURT 3A
LOWELL DRIVE 2C

M
MACKENZIE LANE 3B
MADISON DRIVE 3C
MANAUGHT COURT 3C
MAJOR LANE 3A
MAPLE AVENUE 2C
MAPLETON ROAD 1A 1B
MARION DRIVE 3A 4C
MARYANNE COURT 3C
MAYFAIR TERRACE 2C 2D
MEADOW DRIVE 3C
MEADOWLARK DRIVE 3B
MERSON LANE 3A 3B 4A
MILL COURT 3C
MILLSTONE COURT 4D
MOUNTAINBIRD COURT 3B
MURRAY COURT 3C
MORGAN LANE 3C

N
NAMMONMUCK COURT 4D
NORTHWAY ROAD 4D 4E

O
OAKLE COURT 4B
ORCHARD LANE 3D
ORCHID DRIVE 3C
OSPREY COURT 3B

P
PADUCA DRIVE 2C
PARK DRIVE 4B 3B
PARKER ROAD 3A 3D
PARKER ROAD SOUTH 3A 3B
PARKWAY AVENUE 3C
PARRIDGE COURT 4C
PASTURE LANE 2C
PERRINE ROAD 3A 4A
PETTY ROAD 3C
PHEASANT HOLLOW DRIVE 4C
PINE COURT 3C
PLAINSBORO ROAD 1C 2C 3C 4C 3C
POLLINA COURT 4D
POND VIEW DRIVE 2C 3C
POPLAR DRIVE 3B 3C
PRINCETON AVENUE 2C

Q
QUAIL RIDGE DRIVE 4C 3C
QUAIL LANE 3C

R
RAILROAD AVENUE
RAMBLE CREST DRIVE 3C
RED OAK DRIVE 4D
REDWOOD COURT 2C
RESEARCH WAY 3A 3B 2B
RIDGEWOOD DRIVE 3C
RUSH COURT 3C
RUTLEDGE COURT 3C

S
SAFFRON COURT 4C
SAPPI DRIVE 1B
SCHOOLS CROSSING ROAD 3A 3B 3C
SCOTTS CORNER ROAD 3B 3C
SCUDDERS MILL ROAD 1B 2B 3B 3C
SEAWRIGHT DRIVE 1A 2A
SEMINARY DRIVE 3B
SHEAHAN COURT 3C
SKILLMAN LANE 3D
SKYLARK COURT 3C
SIMPSON COURT 2C
SPRUCE COURT 3C
STANTON COURT 2C
STELLAMANOR ROAD 3B
STONE MEADOW COURT 3D
STUTS DRIVE 2C 2D
SYCAMORE DRIVE 2C

T
TAMARRON DRIVE
TANGLER LANE 4B 4C 3B
TEMPLETON DRIVE 4C
THORNLEY DRIVE 4C
TITUS LANE 3A 4A
THORNHILL ROAD 2C

U
U.S. HWY ROUTE NO. 1 1B 1C 2A 2B

W
WALKER GORDON DRIVE 3C
WALNUT COURT 4C
WALTHE COURT 3C
WEBSTER COURT 2C 3C 4C
WEDGEWOOD ROAD 2C 3C
WEATHERLY COURT 4D
WILLOW COURT 3B
WINDMILL COURT 3B
WINDSOR DRIVE 1A 2A
WOODLAND DRIVE 4B 4C 3B
WYNDHURST DRIVE 3C 4C

Prepared by
David J. Samuel P.E.
Township Engineer

CME ASSOCIATES
CONSULTING AND MUNICIPAL ENGINEERS

REVISED SEPTEMBER 2000
REVISED JANUARY 1998

APPENDIX Q

MIDDLESEX COUNTY PLANNING BOARD RESOLUTION

ENDORSING THE MIDDLESEX COUNTY BICYCLE-PEDESTRIAN PLAN

MIDDLESEX COUNTY PLANNING BOARD
RESOLUTION

ENDORSING THE MIDDLESEX COUNTY BICYCLE-PEDESTRIAN PLAN AS AN ELEMENT OF THE MIDDLESEX COUNTY TRANSPORTATION PLAN AND PROGRAM AND THE MIDDLESEX COUNTY COMPREHENSIVE MASTER PLAN

WHEREAS, federal legislation including the Clean Air Act Amendments (C.A.A.A.) of 1990 and the 1998 Transportation Efficiency Act for the 21st Century (TEA 21) acknowledges bicycle and pedestrian movements as legitimate modes of transportation as well as activities which provide recreational and health benefits; and

WHEREAS, the Middlesex County Adopted Transportation Plan and Program which serves as a planning guide for transportation needs in the County is a component of the Middlesex County Comprehensive Master Plan; and

WHEREAS, the new Middlesex County Bicycle-Pedestrian Plan, developed as an element of the Middlesex County Transportation Plan and Program, represents an update of the former Middlesex County Bicycle Pedestrian Plan adopted by the Middlesex County Planning Board in March, 1995; and

WHEREAS, the Middlesex County Bicycle-Pedestrian Plan is a response to the growing public interest for safe and adequate bicycle and pedestrian facilities in Middlesex County, and to the provisions of the C.A.A.A. and TEA 21; and

WHEREAS the Middlesex County Bicycle-Pedestrian Plan seeks to promote a cohesive network of bicycling and pedestrian compatible transportation facilities in Middlesex County to enhance public safety, reduce automotive emissions and congestion, and promote land uses which are compatible with the needs of the cyclist and pedestrian throughout the County; and

WHEREAS, the Middlesex County Bicycle-Pedestrian Plan has been developed in collaboration with Middlesex County municipal officials, the Middlesex County Transportation Coordinating Committee (T.C.C.) and its Bicycle-Pedestrian Task Force inclusive of representation from the New Jersey Department of Transportation, New Jersey Transit, Keep Middlesex Moving, Inc., the Office of the County Engineer, the County Traffic Safety Coordinator, Rutgers University, and the Coalition of New Jersey Cyclists; and

WHEREAS, the Middlesex County T.C.C. and its Bicycle-Pedestrian Task Force have endorsed the Middlesex County Bicycle-Pedestrian Plan; and

WHEREAS, the Middlesex County Planning Board held a formal public meeting on February 13, 2002 at which all comments and recommendations were taken under due consideration; and

WHEREAS, the Middlesex County Bicycle-Pedestrian Plan, inclusive of the Middlesex County Bicycling Guide, the Middlesex County Bicycle Route Network Map, and all tables and appendices and descriptive matter contained therein, is deemed an important element of the Middlesex County Adopted Transportation Plan and Program;

NOW, THEREFORE, BE IT RESOLVED, that the Middlesex County Planning Board does hereby adopt the Middlesex County Bicycle-Pedestrian Plan as an element of the Middlesex County Transportation Plan and Program and the Middlesex County Comprehensive Master Plan;

BE IT FURTHER RESOLVED, that copies of this resolution and adopted Plan, as required by the Enabling Act, be sent to each municipal clerk and planning board secretary in Middlesex County;

BE IT FURTHER RESOLVED, that copies of this resolution and adopted Plan be sent to the Middlesex County Board of Chosen Freeholders, the Office of the County Engineer, Keep Middlesex Moving, Inc., Rutgers University, the New Jersey Department of Transportation, the New Jersey Transportation Planning Authority, New Jersey Transit Corporation, and the adjacent Counties of Mercer, Monmouth, Somerset and Union.

MIDDLESEX COUNTY PLANNING BOARD

HENRY MILLER, CHAIRMAN

ATTEST:

DOROTHY K. POWER, SECRETARY

DATED: 3-12-02

APPROVED AS TO FORM AND LEGALITY:

STEVEN D. CAHN, PLANNING BOARD COUNSEL

I, Anthony Gambilonghi am in charge of the Transportation Division

Of the County Planning Department staff, whose duty it is to establish the facts underlying the resolution which is attached hereto. Pursuant to my duties I caused an investigation to be made and research to be done and have reached the conclusion that the facts and conclusions of fact as contained in the annexed resolution are true. It is our recommendation that the Planning Board adopt the annexed resolution.

APPENDIX R

EDISON GREENWAY GROUP, INC.

RECOMMENDATIONS

Edison Greenways Group, Inc.
P.O. Box 10432 New Brunswick, NJ 08906

Phone: 732-985-7071 FAX: 732-985-3294
E-Mail: info@edisongreenways.org Website: www.edisongreenways.org

RECEIVED
JAN 08 2002
MIDDLESEX COUNTY
PLANNING BOARD

Anthony Gambilongi
Middlesex County Planning Dept.
40 Livingston Ave.
New Brunswick NJ 08901

December 29, 2001

RE: Roosevelt Park-Edison Tower Trail.

Dear Tony,

As part of the Edison Greenways Group's research into potential bicycle-pedestrian opportunities in the Route 1 corridor, we have been looking at a way to connect Roosevelt Park with the Edison Tower & State Park, and with the Menlo Park Terrace neighborhood in Woodbridge.

There are 3 recent developments that may make this an opportune time to implement such a connection.

1. The transfer of the 49-acre parcel of State land to the NJ Natural Lands Trust. This site is located on the north side of the Conrail ROW along Evergreen Rd.

2. NJDOT is planning to reconstruct the North Evergreen Rd. AMTAK underpass.

3. Middlesex County's plan (or the MCIA's) to demolish the existing Roosevelt Hospital Clinic, and replace with a new nursing home with an entrance on Oakwood Ave.

The plans we have seen for the new nursing home indicates that there will be extensive site work on the parcel along Oakwood Ave. from Parsonage Rd. to Evergreen Rd. The Roosevelt Park bike path could be extended along Oakwood Ave. in front of the new nursing home.

The 49-acre State Land is just north of the easternmost portion of Roosevelt Park. There is a Conrail ROW in between. A bicycle-pedestrian tunnel can be created underneath the railroad to connect these two open space areas. Such a tunnel would be a great TEA 21 enhancement project. This trail could be extended along Evergreen Rd.

north to the Edison State Park. NJ DOT will be rebuilding the Evergreen Rd. underpass at the AMTRAK line and that new underpass will have a sidewalk and shoulder.

Another branch of this trail could extend along Evergreen Rd. into the Margate development, and the Menlo Park Terrace neighborhood.

Currently, the Menlo Park Terrace neighborhood in Woodbridge does not have any safe bicycle-pedestrian access to Roosevelt Park or to the Menlo Park Mall. The thousands of residents in Menlo Park Terrace, and the Margate development, have to use automobiles to get to Roosevelt Park.

The same could be said about the Menlo Park neighborhood in Edison near the Edison Tower. A bicycle-pedestrian trail system can link all these areas with Roosevelt Park. Giving the residents a chance to get out of their automobiles and walk or bike to the park.

The Edison Tower commemorates the work of Thomas Edison at Menlo Park, and was built during the Great Depression of the 1930's. As was Roosevelt Park and Roosevelt Hospital. This trail could link the common heritage of all these sites.

There is also the future possibility of linking the existing Roosevelt Park bike path on the south end of the park to the Middlesex Greenway via a multiuse trail along Rt. 1. Thus creating a longer system of trails in the Edison, Woodbridge, Metuchen area, similar to Patriots Path in Morris County. The Middlesex Greenway has also been designated part of the East Coast Greenway. This trail system would link the East Coast Greenway to the Historic Menlo Park.

The Edison Greenways Group feels strongly that Middlesex County should also consider including this trail in the County Bicycle-Pedestrian Plan.

We have enclosed a description of the trail, and some maps showing potential routes. If you have any questions please contact us.

Thank you,

Robert E. Takash

Robert E. Takash
President-Edison Greenways Group, Inc.

Cc: Board of Freeholders
Edison Council
Mayor Spadoro
Woodbridge Council
Woodbridge Mayor
Assemblyman Barnes
Senator Buono
Assemblyman Wisnewski
Assemblywoman Friscia
Senator Vitale
R. Albanier
A. Strauss
J. Bauer
F. Caporaso
S. McGreevey
M. Kruimer
D. Kahn
P. Sauers
C. Nazzaro
I. Durand
R. Spiegel

Roosevelt Park-Edison Tower Trail

Objective: To connect Roosevelt Park to the Edison State Park, and to the Menlo Park Terrace neighborhood.

This would link County, and State owned open space and facilities with neighborhoods and shopping centers.

Possible alignments:

1. North Side of Oakwood & West Side of Evergreen

   A. Cross Parsonage Rd. at existing bike path near the tennis courts. Follow the east side of Parsonage Rd. to Oakwood and follow the north side of Oakwood to North Evergreen Rd.
   B. Create a crosswalk at Evergreen Rd. (Possible traffic signal)
   C. Follow the west side of North Evergreen Rd.
   D. Create a tunnel under the Conrail RR.
   E. Continue trail on the west side of North Evergreen Rd.
   F. Create a bicycle-pedestrian bridge over the South Branch of the Rahway River.
   G. Continue trail past Meadow Brook Rd. to the AMTRAK RR.
   H. Underpass to be reconstructed by NJDOT.
   I. Cross Rt. 27 to Edison State Park.
   J. Create a trail from Rt. 27 through Edison State Park to Edison Tower & Museum.

2. South Side of Oakwood & East Side of Evergreen Rd.

   A. Cross Parsonage Rd. at existing bike path near tennis courts. Follow the east side of Parsonage Rd. to Oakwood, and stay on the south side of Oakwood.
   B. At North Evergreen Rd. Create a crosswalk to the Menlo Park Veterans Home, and the Menlo Park Terrace neighborhood. (Possible traffic signal)
   C. Continue the trail along the west side of North Evergreen Rd.
   D. Create bike-pedestrian tunnel under Conrail RR.
   E. Create a bike-pedestrian bridge over the South Branch of the Rahway River.
   F. Continue along the west side of North Evergreen Rd., and create a crosswalk at Meadow Brook Rd.
   G. Underpass at AMTRAK to be reconstructed by NJDOT
   H. Cross Rt. 27 to Edison State Park
   I. Create a trail from Rt. 27 through Edison State Park to the Edison Tower & Museum.

Roosevelt Park-Edison Tower Trail

Menlo Park Terrace Extension

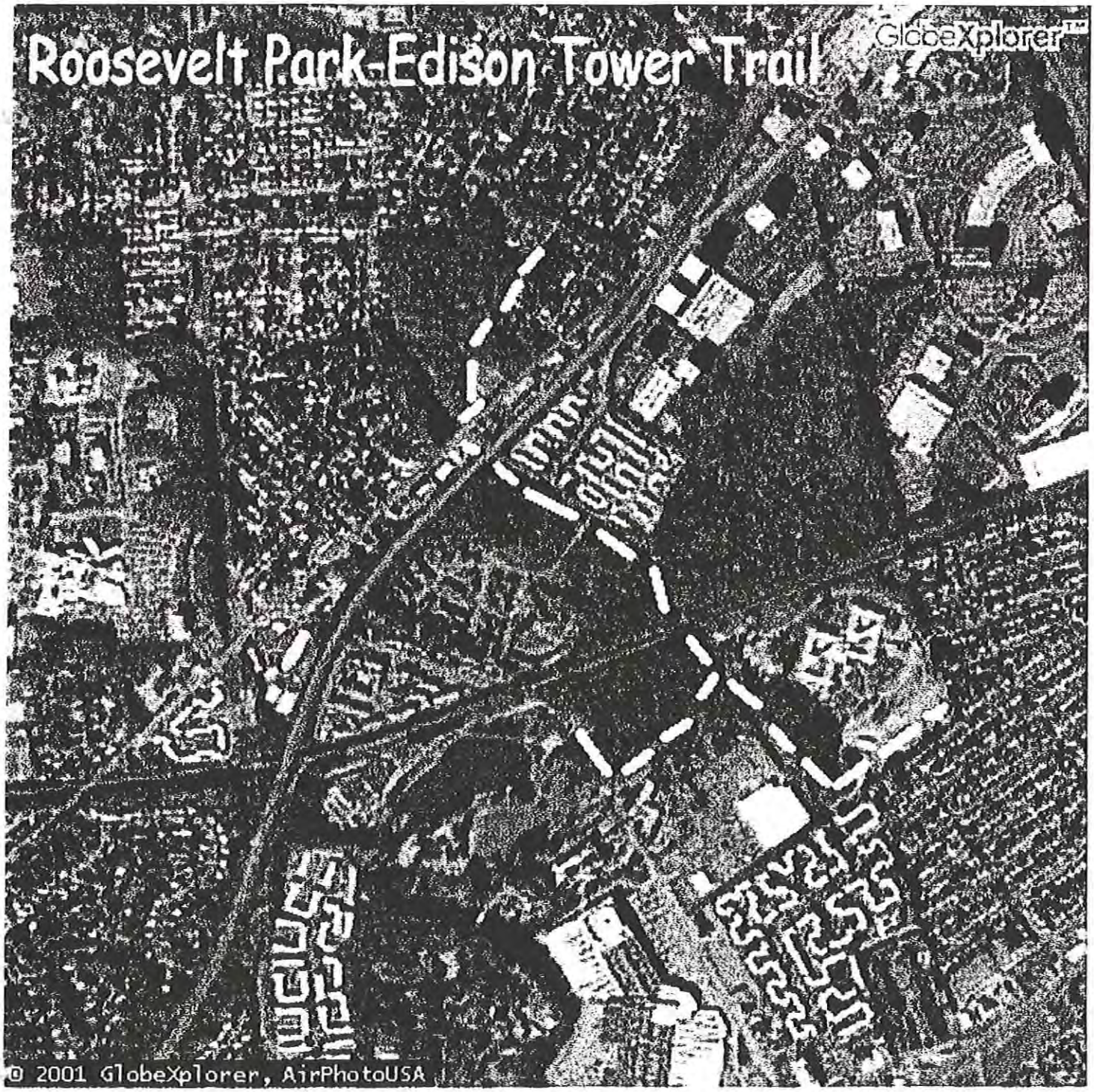
Objective: To link the Roosevelt Park-Edison Tower Trail to the Menlo Park Terrace Neighborhood.

1. Multi-Use Trail

   A. Create crosswalk at North Evergreen Rd. and Oakwood Ave. (Possible traffic signal)
   B. Create a multi-use trail on State land along Evergreen Rd and Isabelle St.

3. Bike-Route

   A. Create crosswalk at North Evergreen Rd. and Oakwood Ave. (Possible traffic signal)
   B. Stripe Evergreen Rd. for bike lanes.
   C. Repair sidewalk on Evergreen Rd.
   D. Extend sidewalk along Isabelle St.
   E. Designate Isabelle St. as a bike route.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