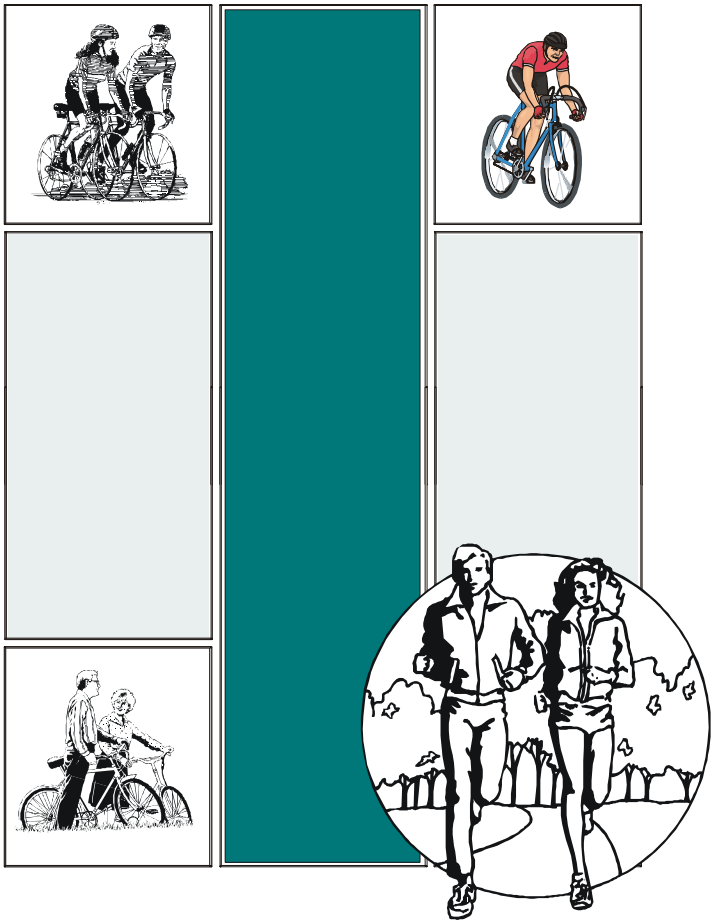
Poughkeepsie-Dutchess County Transportation Council

Bicycle and Pedestrian Plan



Adopted March 20, 1996

PDCTC

Poughkeepsie-Dutchess County Transportation Council

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Table of Contents

Page

1. **Introduction**. 1

2. **Major Issues**. 6

3. **Plan Recommendations**. 15

4. **Summary of Public Comments**. 38

Appendices

Appendix A Glossary of Terms and Abbreviations 41

Appendix B References 45

Appendix C Bicycle Route Evaluations 47

Appendix D 1993 Bicyclist Survey 53

Appendix E Facility Costs 55

Appendix F Typical Bicycle Lane Designs 58

Appendix G Bicycle and Pedestrian Signs 60

Appendix H Bicycle Network Routes 62

List of Figures

		Page
Figure 1.	Journey to Work, 1990	3
Figure 2.	Bike Route 9 (Dutchess County)	4
Figure 3.	Shoulder for Bicycle Use	8
Figure 4.	Bicycle Lane	8
Figure 5.	Bicycle Path	9
Figure 6.	Sidewalk Designs	10
Figure 7.	Traffic Calming Strategies	10
Figure 8.	Bicycle Safe Drainage Grate	11
Figure 9.	Railroad Track Crossing	11
Figure 10.	Bicycle Network	13
Figure 11.	City of Beacon Bicycle Network	14
Figure 12.	City of Poughkeepsie Bicycle Network	14
Figure 13.	Pedestrian Zones	16
Figure 14.	Alternative Development Patterns	18
Figure 15.	Village Sidewalk	19
Figure 16.	Pedestrian Crossing	20
Figure 17.	Bicycle Curb Lane	21
Figure 18.	Bus Bicycle Rack	21
Figure 19.	Bicycle Route Characteristics	24
Figure 20.	Programmed Improvements	31

POUGHKEEPSIE-DUTCHESS COUNTY TRANSPORTATION COUNCIL

RESOLUTION

Adoption of PDCTC Bicycle and Pedestrian

Resolution PDCTC 96-2

WHEREAS, the Poughkeepsie-Dutchess County Transportation Council is designated by the Governor of New York State as the Metropolitan Planning Organization (MPO) for the Poughkeepsie-Dutchess metropolitan area, and

WHEREAS, the Poughkeepsie-Dutchess County Transportation Council has prepared a long-range, multi-modal transportation plan that meets the federal ISTEA requirements for transportation planning entitled Transportation Plan; and

WHEREAS, the PDCTC has prepared a supplementary plan, the Bicycle and Pedestrian Plan to specifically address issues of bicycle and pedestrian transportation; and

WHEREAS, the PDCTC Bicycle and Pedestrian Plan is a product of a continuing, cooperative, and comprehensive effort of the Poughkeepsie-Dutchess County Transportation Council; and

WHEREAS, The Bicycle and Pedestrian Plan was developed in accordance with the PDCTC Public Involvement Procedures, and

WHEREAS, The Transportation Plan has been determined to be in conformity with the State Implementation Plan for air quality (SIP), and includes the required Air Quality Conformity Assessment to meet the Clean Air Act Amendments of 1990,

NOW, THEREFORE BE IT RESOLVED, that the Poughkeepsie-Dutchess County Transportation Council adopts the PDCTC Bicycle and Pedestrian Plan as an Amendment to the Transportation Plan, which sets the planning and programming priorities for the metropolitan area's transportation system.

March 20, 1996
Date

_____
Albert J. Bauman, Secretary
Poughkeepsie-Dutchess County
Transportation Council

1. Introduction

In September 1994 the Poughkeepsie-Dutchess County Transportation Council (PDCTC) adopted its Transportation Plan, which provides the blueprint for identifying and implementing a range of transportation projects and activities in the Poughkeepsie metropolitan area. One of the major recommendations of the Transportation Plan was the completion of a separate plan for bicycle and pedestrian issues that identifies projects and actions to increase the number and improve the condition of sidewalks, crosswalks, paths, walkways, bike lanes, shoulders and other facilities used for non-motorized transportation. This Bicycle and Pedestrian Plan fulfills that recommendation.

This plan was developed in response to the federal ISTEA (Intermodal Surface Transportation Efficiency Act) regulations, and its primary focus is on bicycling and walking transportation, that is, as a means of travel from one point to another. The proposed bicycle routes identified in Chapters 2 and 3 were highlighted because of their importance in linking major communities, shopping centers, and employment centers. There are also other roads that are favored by bicyclists, but which have a more limited transportation function. In this plan the recommended improvements focus on projects designed to increase use of bicycling and walking primarily for transportation, but providing non-motorized travel also creates recreation, tourist, exercise and environmental benefits.

The Bicycle and Pedestrian Plan is intended to be used as a guide for bicycle and pedestrian project development, and as a resource for cities, towns, villages, and other groups to develop their own bicycle and pedestrian plans. This **Introduction** includes description of the planning process and an overview of existing facilities and attitudes about bicycles and pedestrians. Chapter 2, **Major Issues,** describes some of the major challenges, and includes design and maintenance guidelines to be considered in the development of a more "friendly" transportation system. Chapter 3 includes a Bicycle Network Map, a Pedestrian Zone Map, and details the **Plan Recommendations**. Once the Bicycle and Pedestrian Plan has been adopted by the PDCTC, it will become part of the Transportation Plan which is used to guide decisions about programming federal capital funds for various transportation projects.

Overview

The Bicycle and Pedestrian Plan uses the traditional "4E" approach to develop better facilities and increase cycling and walking: **encouragement**, **education**, **enforcement**, and **engineering**. Each element builds on the others to create a friendlier atmosphere for both cyclists and walkers.

- **Encourage** people to walk or use a bicycle for some trips instead of their cars. Brochures, advertisements, and special incentives are all forms of encouragement.

- **Educate** drivers, pedestrians, cyclists, old and young, in appropriate behavior and "rules of the road". Incorporate safety sections into driver manuals, driver education courses, Department of Motor Vehicle (DMV) and school program pamphlets. Public service announcements can also be an effective education tool.

- **Enforce** laws affecting bicyclists, pedestrians and motorists.

- Apply standard **Engineering** guidelines for the design of bicycle and pedestrian facilities that can be used by all involved agencies. The standards should allow for some flexibility to respond to local conditions or needs.

In general, bicycling and walking should be given more emphasis as components of a multimodal transportation system. This plan does not suggest these forms become the

only means of transportation. Instead, bicycling and walking should be viewed as one of the options available for moving from place to place.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) emphasized the need to incorporate all types of transportation into the planning and programming processes and to consider how each relates to the others. This intermodal concept is comprised of three elements: connections linking parts of the transportation system together, expanding the available choices for commuters and other travellers, and improving coordination and cooperation to enhance service quality and efficiency. Implementation of this plan will promote two important and sometimes overlooked forms of transportation. Increased use of bicycling and walking can provide other benefits to both individuals and the wider community: improved personal health, reduced roadway congestion, cleaner air, less gasoline use and improved quality of life.

Background

There is little reliable information about the role bicycling and walking play in the overall transportation network. The Nationwide Personal Transportation Survey (NPTS) tracks the characteristics of travel by individuals in the United States on a periodic basis, and includes data on the types of transportation people use for all different activities. Between 1983 and 1990 the number of personal trips (of less than 75 miles) increased by about eight percent from 224.7 billion to 242.1 billion.

In both years walking accounted for seven to nine percent of trips, and bicycling for less than one percent, but where walking showed a net decrease in number of trips, bicycling increased by about 58 million trips.

Walking and biking do compare well with other travel choices in two situations: commuting trips of under three miles, and in households that do not own a car. Nationwide, approximately one-third of commuting trips are less than three miles in length; walking and bicycling accounted for about 90 percent of these trips in 1990. About nine percent of the households surveyed had no vehicle available, and 44 percent of trips made by these households were walking, making it the major mode regardless of income.

On the local level the only available data about travel is from the 1990 Census, and is limited to information about commuting (Journey to Work). In Dutchess County walking and bicycling account for less than five percent of the daily work trips in the county although in some communities, primarily the cities and villages, the share is much higher (Figure 1). These figures represent how people usually commute to work and do not account for occasional, or even seasonal, variations.

Although walking is currently more prevalent than bicycling as a means of travel, bicycling is one of the fastest growing recreational activities in the United States. The April 1991 issue of Bicycling magazine states that 20 million American adults are bicyclists, 42 percent of the adult population. New technology making bicycles more efficient and easier to use coupled with greater interest in personal health has increased the number of recreational bicyclists. There is also more interest and support for the development of bicycle routes that can be used for recreation as well as transportation. The transportation network identified in this plan can form the basis for a recreational bicycle system. The key to encouraging both bicyclists and pedestrians is the development and maintenance of an integrated system of bicycle and pedestrian facilities including paths and routes that link different areas of the community.

Existing Conditions

A major obstacle to the use of bicycles and walking for transportation is the lack of

appropriate facilities. In addition, information about existing facilities is often difficult to locate and evaluate. There is no comprehensive inventory and most sidewalks and bikeways exist as an ancillary part of a street, road, or highway. Information about width, location, condition and jurisdiction varies in both quality and quantity.

Figure 1.

Journey To Work, 1990

	Employed* Residents	Bike	Walk	Total Bike/ Walk	Percent Bike/ Walk
Cities					
Beacon	5,532	29	243	272	4.9%
Poughkeepsie	13,001	54	1,089	1,143	8.8
Towns (excluding villages)					
Amenia	1,911	0	97	97	5.1
Beekman	4,024	9	37	46	1.1
Clinton	2,062	0	58	58	2.8
Dover	3,240	0	113	113	3.5
East Fishkill	10,686	0	66	66	0.6
Fishkill	6,540	0	86	86	1.3
Hyde Park	9,936	0	284	284	2.8
LaGrange	6,645	11	73	84	1.3
Milan	906	0	24	24	2.6
North East	897	11	68	79	8.8
Pawling	1,911	0	58	58	3.0
Pine Plains	1,087	3	67	70	6.4
Pleasant Valley	4,198	12	52	64	1.5
Poughkeepsie	20,630	79	2,039	2,118	10.3
Red Hook	2,009	24	354	378	18.8
Rhinebeck	1,991	0	81	81	4.1
Stanford	1,800	0	106	106	5.9
Union Vale	1,601	0	9	9	0.6
Wappinger	12,259	0	113	113	0.9
Washington	1,564	0	94	94	6.0
Villages					
Fishkill	808	0	50	50	6.2
Millbrook	652	2	65	67	10.3
Millerton	386	0	20	20	5.2
Pawling	889	0	123	123	13.8
Red Hook	856	2	59	61	7.1
Rhinebeck	1,189	12	37	49	4.1
Tivoli	481	0	8	8	1.7
Wappingers Falls	2,425	0	140	140	5.8
Dutchess County	**122,735**	**248**	**5,713**	**5,961**	**4.8**

**Does not include people who worked at home.*
Source: US Census Bureau, 1990

The majority of pedestrian facilities in Dutchess County are concentrated in the two cities, Beacon and Poughkeepsie, the eight villages, and in some of the larger hamlets. Generally, the facilities consist of sidewalks, crosswalks, pedestrian signals in the business areas, but many do not extend to residential neighborhoods beyond the community centers. There is also a lack of facilities along major commercial strip areas. There are some recreational facilities such as the Appalachian Trail and the Hyde Park Trail that attract visitors and tourists from outside the County.

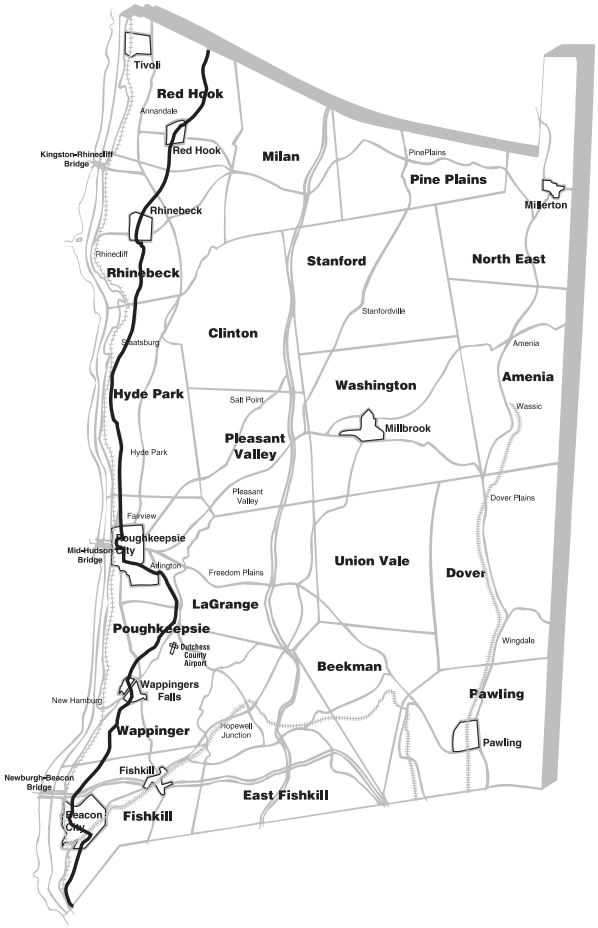
Designated bicycle routes are even more rare in Dutchess County. At present, there are four miles of bikeways that have been completed and are in use. The two official bikeways include a one mile path (separate facility) adjacent to Wilbur Boulevard in the city and town of Poughkeepsie, and another three miles of shared roadway on Route 113 (Spackenkill Road) in the town of Poughkeepsie. Bicyclists can, and do, use many of the state, county, and local roads for both transportation and recreation purposes.

Bicycle issues have received greater attention from both the New York State Department of Transportation (NYSDOT) and the Greenway Conservancy for the Hudson River Valley. 21st Century Mobility, the NYSDOT-Region 8 Transportation Plan (1992), identifies Routes 9, 9D, 22, 44 and 55 as official bicycle routes. The Hudson River Valley Greenway Bikeway System Proposal developed for the Greenway Council includes portions of Route 9, Route 9D, CR 103 (River Road), and CR 85 (Fishing Grounds Road) that would serve as key components for both transportation and recreation by bicyclists.

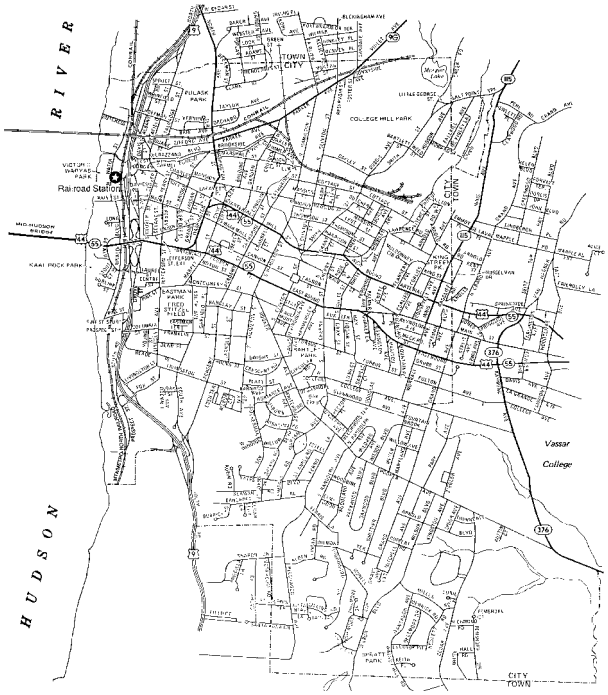
In September, 1995 NYSDOT-Region 8 inaugurated its portion of Bike Route 9 which will run from the George Washington Bridge to the Canadian border. During the summer NYSDOT and the Greenway Conservancy worked with county and local officials to place signs along the roads that comprise the route (Figure 2).

Figure 2
Bike Route 9

Dutchess County



City of Poughkeepsie



An inventory of both existing and potential bicycle routes was completed for this plan in 1993. Most of the routes were inventoried by an experienced bicyclist on a bicycle which provided a useful evaluation of route suitability and physical condition. The evaluation rated roads on quality, comfort and traffic level. The evaluation of quality was based on personal judgement employing a good/ fair/ bad scale. Traffic level was determined using state and county traffic counts where available. Bicyclist comfort was a judgement based on the road conditions and the traffic level. A summary of the evaluations can be found in **Appendix C.** The actual evaluation forms are available from PDCTC-Dutchess County offices.

Bicyclist Survey

In an effort to determine how often and where active bicyclists used their bicycles as a form of transportation, the PDCTC staff cooperated with the Mid-Hudson Bicycle Club to prepare and distribute a Bicyclist Survey **(Appendix D)** to it members. Surveys were also made available to seven bicycle shops in the county. The survey asked questions about commuting, errands, and needed improvements. Ninety-eight surveys were returned and analyzed.

Thirty-six percent of bicyclists responding to the survey commute by bicycle at least one day a week. The average one-way commute was five miles and the average number of days per week was three. There were respondents who commuted longer distances and fewer days per week. The roads used most frequently by bicycle commuters were: Route 376, Hooker Avenue (Poughkeepsie), Route 44, Route 82, Route 9G, Spackenkill

Road (Route 113), Route 55, Lake Walton Road (East Fishkill), Route 9, and North Clinton Street (Poughkeepsie).

In addition, close to half of bicyclists indicated that they use their bicycle for errands at least one day a week. The average one-way distance was four miles and the average number of days was three. The roads used most frequently for errands included: Route 9, Vassar Road (CR 77), Route 44, Route 9G, and Hooker Avenue (Poughkeepsie).

In both cases, commuting to work and completing errands, respondents identified **wider shoulders** on existing roads, improved **road surface** quality, and more designated **bicycle lanes** as the three improvements or changes that would be most important to them.

Summary

There has been increased emphasis on bicycling and walking as integral parts of the transportation system. The federal ISTEA legislation requires that bicycle and pedestrian facilities be part of plans and programs prepared for metropolitan areas. Although current levels of activity are low compared to motor vehicles, there are indications that they could increase in importance if proper facilities were developed to accommodate both pedestrians and bicyclists.

2. Major Issues

Bicyclists and pedestrians can be integrated into the overall transportation system, but it will take a concerted effort to insure that their special needs are addressed in planning and implementation. This chapter discusses some of the issues that should be considered in the efforts to establish bicycle and pedestrian facilities and improve the multi-modal transportation system, and are loosely grouped in the 4-E categories described in the **Introduction**: **encouragement**, **education**, **enforcement** and **engineering**.

Encouragement

Concerns about access, safety and storage often prevent or inhibit people from considering walking or bicycling as a potential method of travel, particularly for shorter trips.

Access - The primary issue related to access is accommodation of bicyclists and pedestrians within the larger transportation system. In cities, villages, larger hamlets and other activity centers where there are concentrations of pedestrians, sidewalks, crosswalks and other pedestrian facilities should be provided and maintained. For bicyclists, shoulders or other appropriate space should be established on and along major roads and highways. Finally, bus and rail systems also need to consider ways to accommodate both bicyclists and pedestrians on vehicles and at stations and other major transfer points. Improved transit access will allow people to use their bicycles for part of a much longer trip.

Safety and Security - The biggest concern for most bicyclists and pedestrians is the feeling of safety and security. People are more likely to walk or bicycle if they feel safe. Safety concerns include adequate width of the facilities, sufficient buffer from adjacent vehicle traffic, lighting and patrols on separate paths, appropriate information and warning signs, and secure storage for bicycles.

Parking and Storage - The automobile is such a major part of the American landscape that drivers rarely worry about parking at their destination. Although parking space may be at a premium in older city centers or in areas that are confined by geography or existing land use patterns, municipal zoning ordinances have long required adequate (and in some cases excessive) parking as a prerequisite to new development. Bicycle parking also needs to be considered in both new development and redevelopment activities. At a minimum, bicycle parking facilities should be provided in high usage areas. Ideally they should be available at major destinations such as schools, offices, retail centers and transportation hubs. In those cases where bicycles will be left for several hours, at work or at the train station, bicycle lockers would be most appropriate; where the expected stay is much shorter, bicycle racks would suffice.

Incentives and Information - Gaining acceptance in the work place is a concern of many people who want to bike or walk to work. Companies can offer financial incentives to encourage workers to commute to work by bicycle or walking which may have a snowball effect by encouraging others to join. This method has been used successfully by NYSDOT in New York City where several firms in the financial district have provided special facilities such as showers and secure indoor storage for bicycle commuters.

Information is another critical means of encouragement. Many potential bicyclists lack necessary information about the location, condition, and difficulty of available routes or the confidence and experience to travel by bike. Maps, brochures, organized bicycle events, and tourist information all help to fill the information void.

Signs - Once bicycle routes have been designated and improved, they should be signed so as to alert the general public to their existence, to provide information to bicyclists using the routes, and to provide for

a visual reminder to motorists that there may be a bicyclist ahead. Similarly, pedestrian crosswalks should be clearly marked on the roadway to provide a warning to vehicular traffic and to act as a guide for the pedestrians using the walkway.

Education

Proper training and ongoing education are also very important in developing and maintaining the overall environment for both pedestrian and cyclists. Education must start early in the schools and continue as people get older and begin to drive.

Many of the conflicts between bicyclists, pedestrians, and motorists are caused or exacerbated by not knowing or not following appropriate "rules of the road." Each group must learn proper behavior and the rules and regulations in order to make shared-use facilities safe for all users.

Bicycle and pedestrian safety laws should be incorporated into the New York State drivers manual, and the drivers test should include discussion of sharing the road with bicycles. Bicycle and pedestrian safety programs should be part of the curriculum in early grades. Safety brochures can be made available at bicycle shops, schools, and at Department of Motor Vehicle offices. Another potentially effective education program is one or more bicycle rodeos sponsored by local police, bicycle clubs, schools or the Dutchess County Traffic Safety Board to teach proper bicycle safety.

Enforcement

There are existing vehicle and traffic laws and regulations that would help to improve safety and confidence for pedestrians and bicyclists. Local police departments should be encouraged to enforce the laws affecting bicyclists, pedestrians, and motorists. Police can also lead by example. In Beacon and Poughkeepsie the police bicycle patrols have raised awareness of how a bicycle can be used to get around the city quickly and efficiently.

Engineering

The design and construction of facilities and supporting features (such as benches and bike racks) are the critical links between planning and implementation. Design and maintenance considerations cover a broad area from surface composition to type of drainage grates. Most of the information in this section is drawn from the Manual of Uniform Traffic Control Devices (MUTCD), and the FHWA publication, Selecting Roadway Design Treatments to Accommodate Bicycles. **Appendix E**, includes some information about potential costs for different facilities.

Bicycle Routes - "Bicycle Route" is used here as a general term to describe a facility that can accommodate bicycle traffic. The route may be a separate trail, a marked bike lane, a road shoulder, or some combination. Some of the more common types of facilities are described below.

- Shoulders - In rural locations shoulders are the most appropriate choice for bicyclists, although the provision of wider shoulders is in no way meant to limit a bicyclist's right to ride in the travel lane. A four foot minimum width is appropriate when constructing new shoulders or updating older ones. The addition of wider shoulders on uphill sections of roads is recommended to allow slow moving bicyclists maneuvering room (Figure 3). Where bicyclists are expected to use the shoulders they must be maintained properly and have a smooth surface. Rumble strips should be avoided since bicyclists will tend to ride in the roadway to avoid them. Shoulders can also be used as pedestrian walkways in rural areas, but they are no substitute for sidewalks.

- Wide Curb Lanes - A curb lane is a road lane that has no shoulder and is

confined at the edges by curbs. In general, a curb lane width of 14 feet is desired to allow for the safe usage of both motor vehicles and bicyclists. Lane width is usually measured from roadway edge line to center lane stripe, but adjustments will have to be made for drainage grates, parking, and the ridges between pavement and gutter sections. Lane widths of greater than 14 feet may encourage motor vehicles to operate two vehicles in the single lane. If the lane is wider than 14 feet, a bike lane should be striped to discourage drivers from using the space as an extra lane.

Figure 3. *Shoulder for bicycle use*

- Bicycle Lanes - The formal designation of a bicycle lane is most appropriate when some sort of separation is needed between bicyclists and motor vehicles. Bicycle lanes provide for a more predictable relationship between motorists and bicyclists. The striping of bicycle lanes offers a sense of security to bicyclists. Further, motorists will be less likely to swerve to pass the bicyclist (Figure 4). In cities and other densely developed areas bicycle lanes or separate paths may be required to accommodate higher levels of use.

Figure 4. *Bicycle Lane*

In general, bicycle lanes should be one-directional, going with the flow of traffic unless a physical separation is provided between motorists and bicyclists. Two-way travel is inappropriate because one lane will always be riding against the flow of traffic, a major cause of bicycle accidents. The minimum width for a bicycle lane is four feet, but certain conditions such as a curbed street and a curbed street with parking will require the use of additional width (for situations where extra width is desired see **Appendix F**, Typical Bicycle Lane Designs).

Bicycle lanes at intersections can be a source of trouble, especially for the uninitiated. The bicycle lane encourages bicyclists to continue in the bicycle lane even if a left turn is desired. The bicycle lane can also confuse a motorist who needs to make a right turn through the bicycle lane and doesn't know when or whether to cross the lane. Proper signing and pavement markings will help prevent problems at intersections. At an intersection where there is already a large volume of left turning bicyclists, a left turn bicycle lane should be considered. General guidelines for pavement markings and signs can be found in the MUTCD.

- Bicycle Paths - Bicycle paths are located on exclusive rights of way such as abandoned railroad beds, banks of rivers, or other such areas. These facilities provide for a path with limited access and limited crossing points by motor vehicles. These paths can be used both as commuter routes and for recreation. Paths can run through parks and public land, provide a connection

Figure 5. *Bicycle Path*

between two cul-de-sac streets, or provide a way around a limited access highway (Figure 5).

In the past, bicycle paths were thought by some to be dangerous; that has changed with the adoption of better standards and better design criteria. Early bicycle paths were poorly designed and some did not suit and/or fill the needs of bicyclists. With the improvements in designs and standards modern bicycle paths fulfill the needs of the users, and if used correctly, are safe. No new statistics have surfaced showing high accident rates on bicycle paths.

- Multi-Use Paths - Multi-use paths are designed to accommodate different types of users (e.g. bicycles, pedestrians, skaters, wheelchairs, baby strollers, horses). In the past there was some reluctance to develop multi-use facilities because of the potential for conflicts, but in most cases problems arose because the range of uses had not been anticipated. Now facilities are specifically designed for shared usage and are constructed accordingly.

  Some of the problems that must be addressed in design include conflicts among pedestrians, bicyclists, horse riders and other users due to the differences in the speed and maneuverability, sight distance requirements, surface types, and width of facility. Wherever possible, separate facilities for pedestrians and bicyclists are desirable, but if a multi-use path is established, it should be designed to safely accommodate all expected users, and "rules of path" signage should be developed to alert all users about safety and etiquette.

- Sidewalks - Sidewalks are the facilities used most by pedestrians and require certain design standards to insure user safety. Sidewalks should be at least five feet wide, wider in areas with heavy pedestrian traffic or where there is no buffer from adjacent traffic. Sidewalks must also now meet the requirements set forth in the Americans with Disabilities Act (ADA). Sidewalks are the safest place for pedestrians to walk in populated areas, and these facilities should be included in community centers and other activity centers to encourage safe pedestrian access (Figure 6). Special emphasis should be given to building sidewalks that link new streets or subdivisions to nearby community centers.

- Traffic Calming - In more densely developed areas and in some residential neighborhoods where pedestrian volumes are relatively high there is growing interest in "traffic calming" techniques that limit the priority of automobiles in favor of a more balanced approach to pedestrians (and bicycles). Initiated in Europe, the traffic calming concept includes the following techniques which are consistent with traditional American main street design. In many places these features have been eliminated with the modern emphasis on high speed driving (Figure 7).

- **Buffer zones** between sidewalks and street traffic with a landscaping strip, street trees and on-street parking.

- **Crosswalks** with more visible patterns or distinctive surfaces.

- **Refuge islands** or planted medians in the center of multi-lane streets.

- **Flared sidewalks** (neckdowns) at crosswalks to reduce the distance from one side of the street to the other, and improve pedestrian visibility.

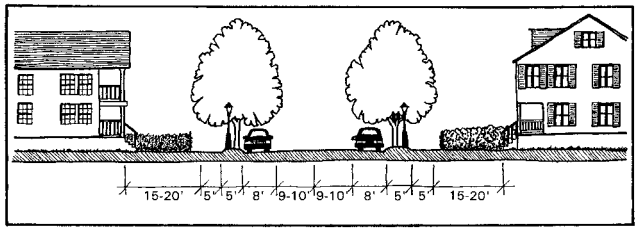
- **Bus shelters, planters, seating, trash cans and pedestrian scale (10-14 feet high) lighting** as amenities.

- **Pedestrian signals**, and prohibition of "right on red" at busy crossing.

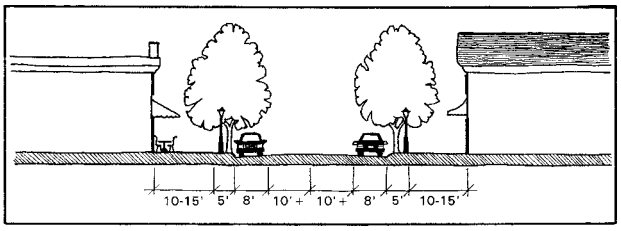
  Several of the traffic calming methods are low cost and can be incorporated into regular road reconstruction projects. In practice, these types of pedestrian enhancements also help enforce lower speed limits by visually narrowing the roadway and inducing drivers to slow down.

Pavement and Surfaces - The surface of the roadway has the greatest effect on bicyclists and surface irregularities can cause serious problems. Cracks parallel to the flow of traffic can trap wheels, causing loss of steering control. Potholes and bumps can cause bicyclists to swerve into the path of other vehicles to avoid the hazard. Steel deck bridges, especially when wet, are slippery. To the extent possible, the roadway surface should be maintained to be free of irregularities.

Maintaining a good surface for bicycling includes ensuring that fixtures in the street, drainage grates, utility covers, and railroad track crossings do not pose a hazard.



Typical Residential Street/Sidewalk Section with On-Street Parking



Typical Main Street Section with Sidewalks and Storefronts

Figure 6. *Sidewalk Designs*

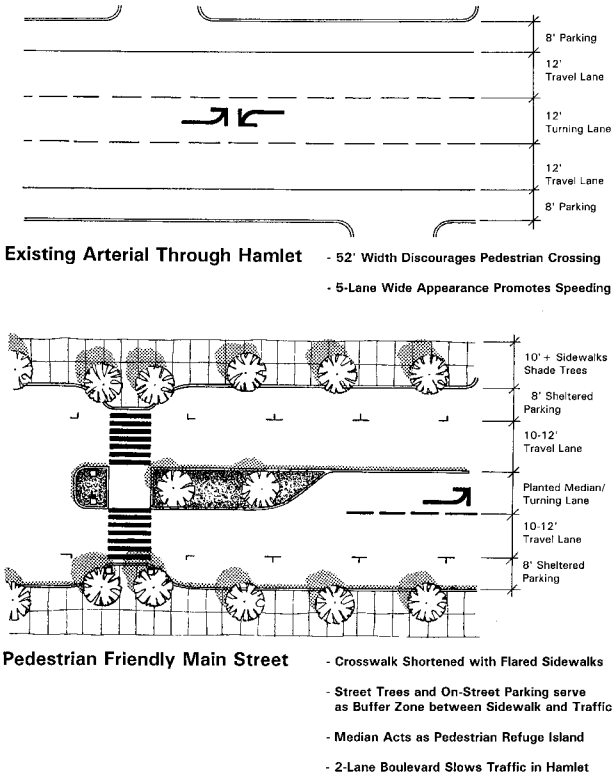


Figure 7. *Traffic Calming Strategies*

- Drainage Grates - Drainage grate inlets and utility covers can pose problems to bicyclists. If the surface of the utility cover is not flush with the roadway surface, it may cause a bicyclist to lose steering control. All fixtures in the roadway, including drainage grates, manhole covers, and utility covers, should be checked to be sure that they are at the same level as the roadway

surface, and repaired if necessary. In new construction, all new fixtures should be placed outside the expected travel path of the bicyclist.

Parallel bar drainage grates pose a special problem for bicyclists, because the bars can trap the front wheel of bicyclist causing a loss of steering control. Bicycle safe grates that have bars that are perpendicular to the flow of traffic (Figure 8) are preferred. A temporary solution is to weld steel bars perpendicular to the bars already in the grate. The best option is the installation of curb inlets that will eliminate the danger of drainage grates.

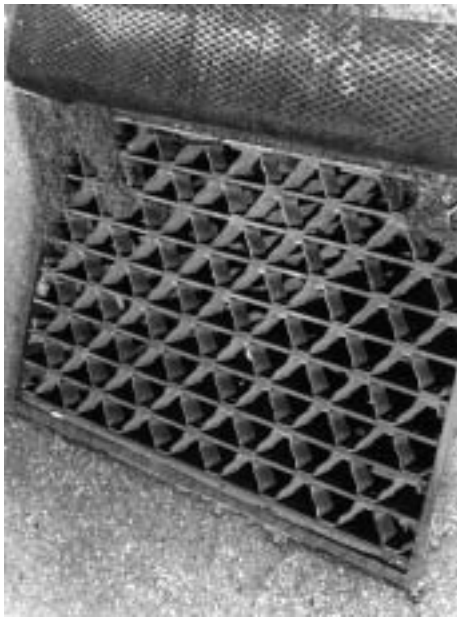


Figure 8. *Bicycle safe drainage grate*

- Railroad Crossings - The ideal path for a bicyclist crossing railroad tracks is at a right angle. The further away from a right angle, the greater the possibility of the bicyclist getting a wheel caught in the flangeway, which could cause loss of steering control. If the angle of crossing is less than 45 degrees, consideration should be given to widening the outside lane or shoulder to allow room for the bicyclist to cross at a right angle. If this is unavailable, the use of a flangeway filler is recommended (Figure 9).

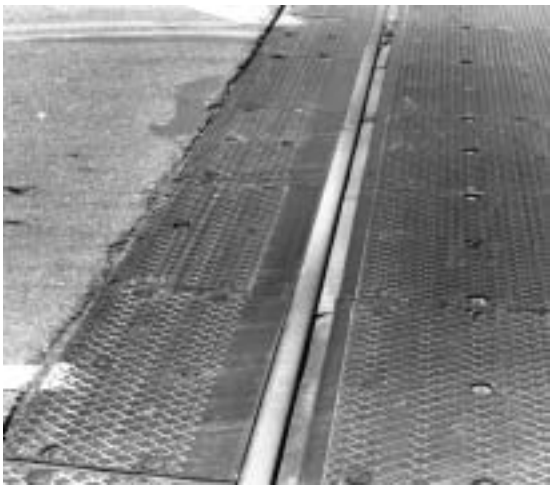


Figure 9. *Railroad Track Crossing*

Sidewalk surfaces should also be selected carefully. The surfaces must be selected so as to conform with the Americans with Disabilities Act (ADA). A smooth surface is necessary to provide safe walking and handicap accessibility. Consideration should be given to continuing sidewalks across roadways by delineating paths with the use of pigmented or textured pavement/concrete. This provides a definitive path for the pedestrian and a visual and audible warning to the motorist. The actual material selected should take into account climate changes and should be chosen by local highway officials based on their experience with different surface types.

Maintenance - Regular maintenance of bicycle and pedestrian facilities is necessary to ensure continued use. Maintenance activities include regular sweeping, plowing (if appropriate), crack sealing, and minor repaving or repair. Generally, responsibility for maintenance of sidewalks, bike lanes and other bicycle and pedestrian facilities falls to the agency that has jurisdiction over the adjacent road. The exception is NYSDOT and state highways. NYSDOT will construct sidewalks and bicycle paths as part of a general highway improvement only where they can obtain a maintenance agreement from a local or county agency. This long-standing policy has created situations where sidewalks end abruptly or existing facilities

are removed because the local or county government declined to continue the agreement. The provision of appropriate bicycle and pedestrian facilities should not be contingent on assigning maintenance responsibility to another agency.

Traffic Control Devices - In areas or along routes with high pedestrian or bicycle usage traffic signals should allow for adequate crossing time. This is especially important on multi-lane facilities or other situations where the roadway is especially wide. Pedestrian crossing signals should include an audible warning to assist the visually impaired.

A related concern is the sensitivity of traffic detection devices. Traffic detector loops in the expected path of bicyclists, including detectors in turn lanes, should be bicycle-sensitive and situated so as to effectively detect bicyclists. In some situations, an alternative is a button-activated detector within easy reach of a mounted bicyclist. If the bicyclist is expected to use a different path than the motorist, signage indicating the route change should be made visible to the bicyclist. Once again, pavement markings and signs should be placed at intersections in accordance with the MUTCD.

Signs and Marking - Signing of a bicycle route is appropriate in areas where it will provide continuity with other bicycle facilities. Signs should identify route name/number, and could include destination point, mileage and intersection identification. These types of signs also help to warn motorists that the road is a bicycle route. Special signs that identify turns, narrow roads, or other potential hazards should be installed where necessary. Signs should be designed and installed using the guidelines in the MUTCD. For a listing of typical signs see **Appendix G**.

On bicycle paths that are two-directional or multi-use, a four-inch center- line stripe should be used. This will provide for a visual separation of the path and a delineation of the area available for bicyclists and other users traveling in different directions. This is particularly needed where heavy volumes of users are expected, where there is limited sight distance at a turn, and where night time use is expected. Because some materials are more slippery when wet a skid resistant material should be used. Whenever a bicycle path crosses a road it should be striped (zebra stripes) on the roadway to provide a visual path for the pedestrian or bicyclist and to act as a visual warning to motorists.

Bicycle Parking - As discussed under **Encouragement**, bicycle parking is an important component of a successful bicycle strategy. When considering bicycle parking it is crucial to distinguish between long-term and short-term parking. Long-term parking is parking for bicycles which will be left for an entire day or longer. These facilities are usually needed at major places of employment and transportation facilities, such as train and bus stations, airports and park and ride facilities. The best facility for this purpose is a bicycle locker. Short-term bicycle parking facilities are useful in places like major shopping areas, public areas, and recreational facilities, and usually consist of bicycle racks of one kind or another that simply allow a bicyclist to secure the bicycle. The Oregon Department of Transportation has developed a very good guide, Bicycle Parking Facilities: A Source Book of Designs, Manufacturers and Representatives that includes examples of different types of equipment.

Summary

Improving the overall environment for pedestrians and bicyclists will result in increased use. Achieving these improvements will require a multi-pronged approach that includes more attention to the needs and desires of those who are interested in these options, continuing education for all ages, more consistent enforcement of applicable laws, and creation and maintenance of good physical facilities. The next chapter includes more specific recommendations.

Figure 10
Bicycle Network

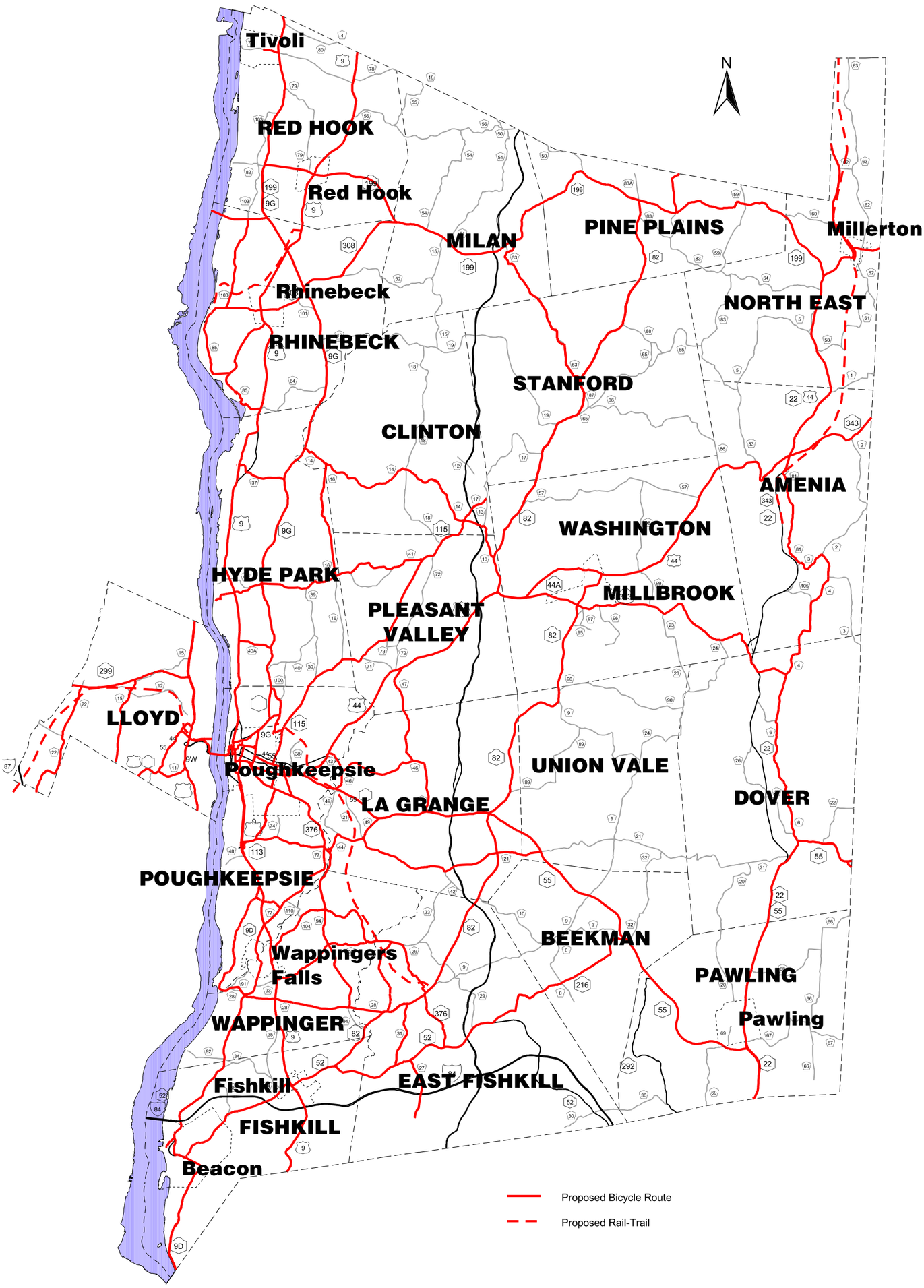


Figure 11
City of Beacon Bicycle Network

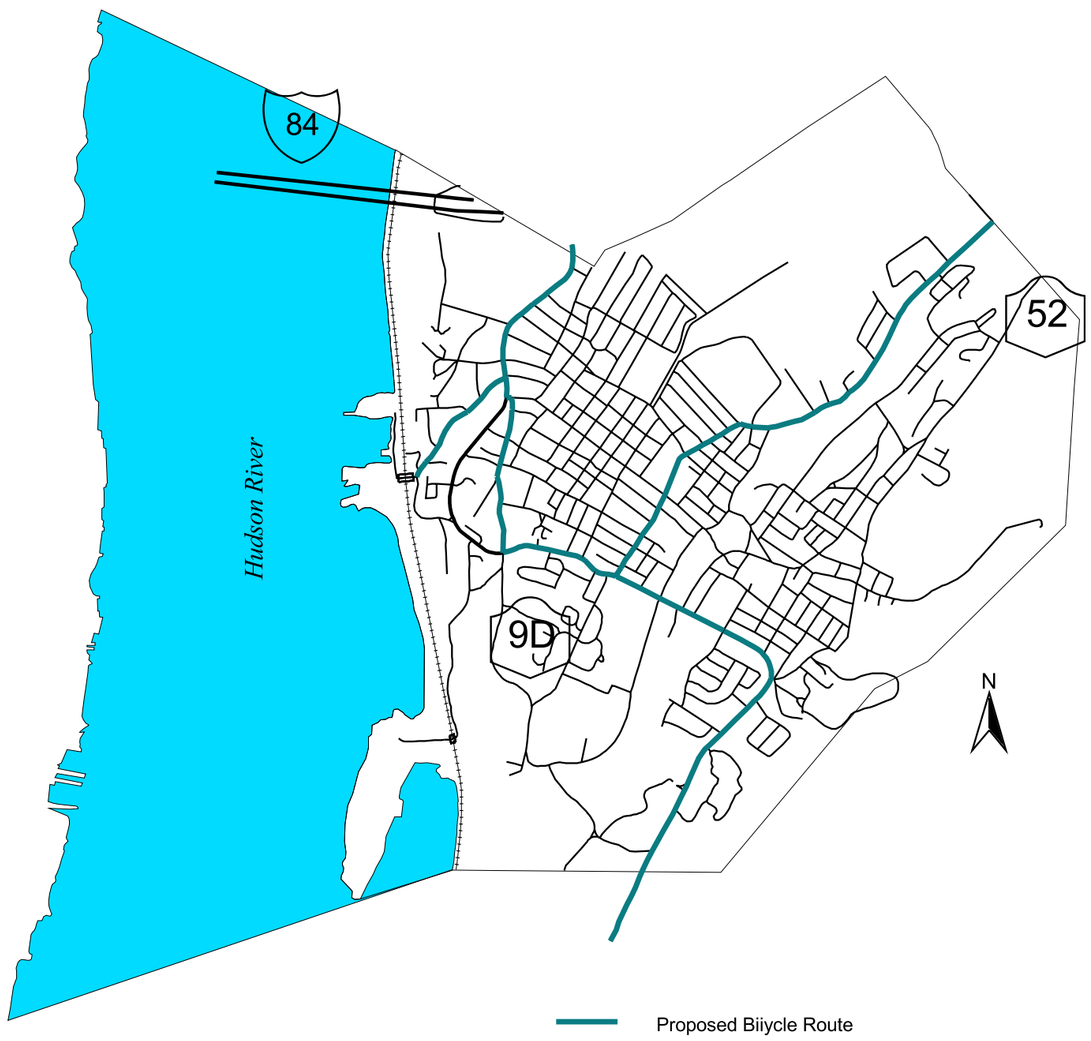
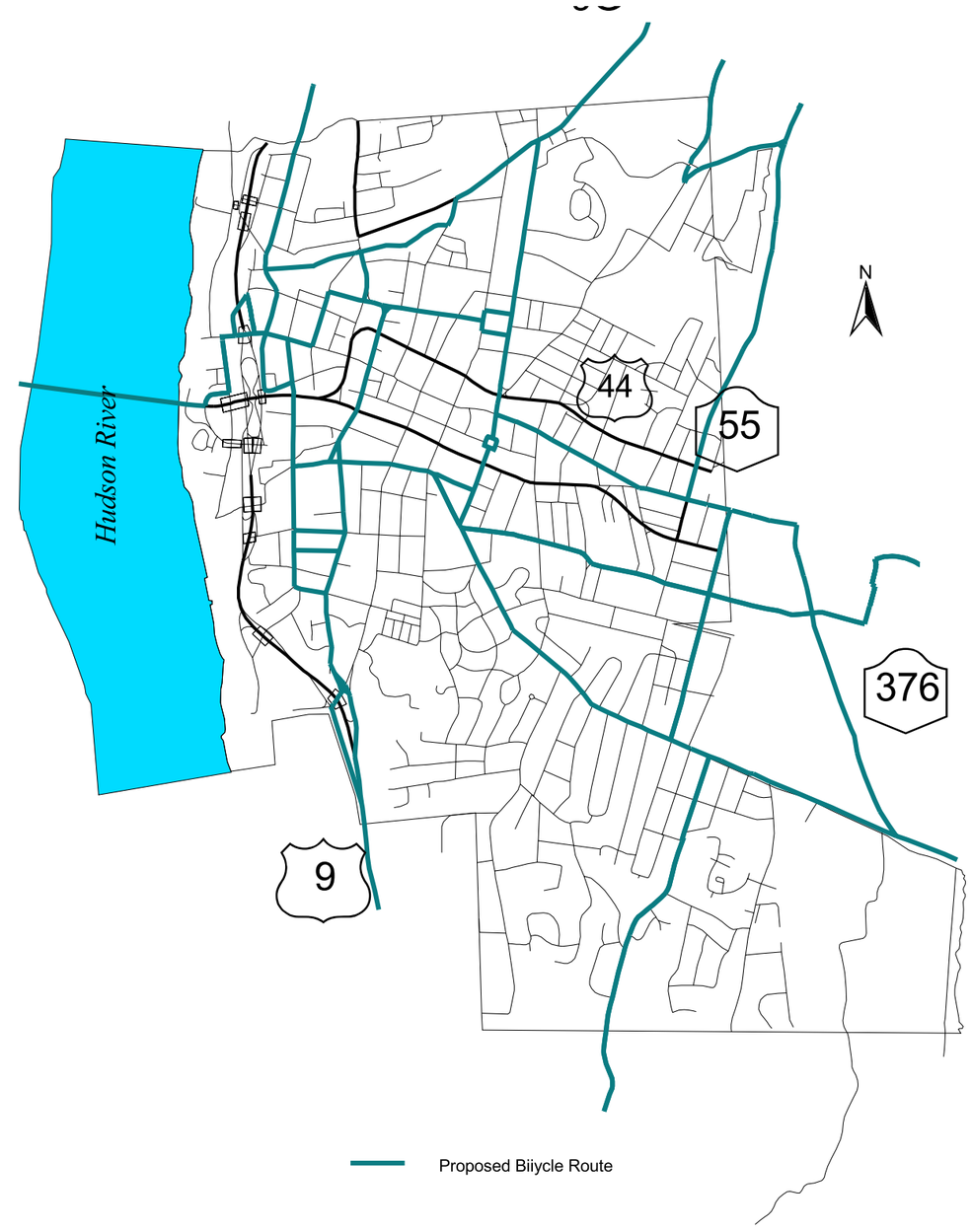


Figure 12
City of Poughkeepsie Bicycle Network



3. Plan Recommendations

The key to a successful bicycle or pedestrian plan is in the implementation, and the primary implementation tool is the Transportation Improvement Program (TIP), approved by the PDCTC, usually on an annual basis. The TIP is a five-year capital program that includes all of the federally funded transportation projects, and most major state, county and local funded projects as well.

The previous chapters of this plan have outlined the current situation and identified some of the outstanding issues affecting the bicycle and pedestrian system in the county. This chapter includes a Bicycle Network Map and a Pedestrian Zone Map that form the basis for the plan recommendations. In addition, there are sections on management strategies, specific project recommendations, and financial resources. The final section explains the relationship of this plan and its recommendations to the Transportation Plan adopted by the PDCTC in September, 1994.

Bicycle Network Map

The development of the Bicycle Network map was an important step in the process of identifying specific bicycle projects. The roads and other facilities identified as part of the bicycle network were selected based on their ability to provide connections to activity centers or employment destinations (Figures 10, 11, 12). Although recreation was not a major consideration in route selection, many of the routes would support recreation and tourism uses. Generally, plan routes connect to major places of employment, shopping, community centers, and mass transit hubs from major residential areas. Many of the routes can (and do) accommodate bicyclists in their current condition; others could use improvements to make them more attractive for commuting and other purposes. A complete list of roads is included as **Appendix H**.

In addition to the proposed routes, local cities, towns and villages are encouraged to come up with their own suggested bicycle routes to accommodate local trips. The Village of Red Hook already has a bicycle and pedestrian plan which complements this plan in many ways. It could be used as a model plan for other communities.

In addition to transportation routes highlighted in this plan, recreation routes can also be developed in conjunction with the tourism, historic and land preservation, and recreation interests in the county. Some potential routes are the Harlem Valley Rail Trail, the Rhinebeck Rail Trail, CR 103 (River Road) and CR 85 (Fishing Grounds Road).

Pedestrian Zone Map

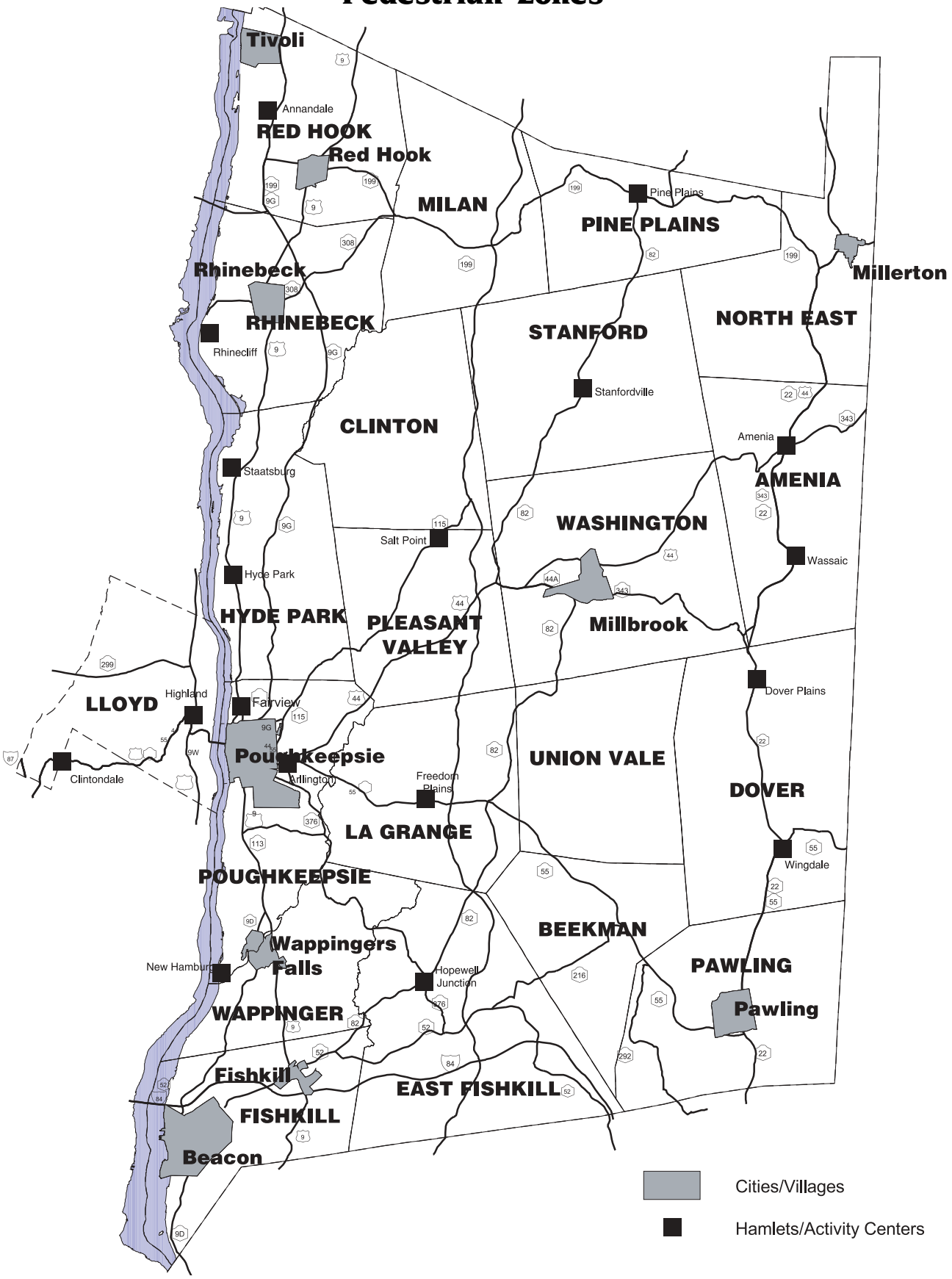
Information about existing sidewalks, paths and other pedestrian facilities is in short supply. In some respects it may be impossible to complete a comprehensive inventory because walking is generally more flexible than other means of transportation and people can (and do) walk in areas without designated sidewalks or paths.

There are areas where more formal accommodation of pedestrians is appropriate. These "Pedestrian Zones" (Figure 13) occur in the cities, villages, larger hamlets and other activity centers where walking is common. As in the case of the bicycle network, these pedestrian zones are areas where walking is a means of transportation rather than a recreation activity. The distinction is sometimes difficult to measure, but there are some paths like the Appalachian Trail, the Hyde Park Greenway Trail, and state park trails that are designed primarily for recreation or tourism uses.

These areas are prime candidates for the traffic calming techniques described in the previous chapter. Crosswalks, curbcuts, pedestrian signals, buffer zones, appropriate lighting and amenities will help to enhance the pedestrian network.

Figure 13

Pedestrian Zones



Implementation

The general goal of the PDCTC is a minimum shoulder of four feet, or in more urban areas where shoulders are not feasible, a curb lane of 14 feet on any road designated as a bicycle route that receives state or federal funding. In some there is a need or an opportunity to establish designated bicycle lanes and/or bicycle paths on separate rights-of-way.

In identified pedestrian zones including cities, villages and the larger hamlets, the goal is installation and maintenance of a complete sidewalk network connecting community uses, and crosswalks at all major intersections. In community centers with narrow corridors and low speed limits the optimum bicycle route will have to be balanced with pedestrian needs for short crosswalks, wide sidewalks, and on-street parking that serves as a protective buffer.

The goals are intended as guidelines, not absolute requirements, but they will be considered by the PDCTC in its review of future TIP projects. The improvement of bicycle and pedestrian facilities will be an evolutionary process that has already begun. The discussion of implementation activities includes both general management guidelines and specific recommendations regarding route improvements, including preliminary project costs. Where appropriate, recommendations for pedestrians and bicyclists are discussed separately.

Strategies to Promote Bicycling and Walking

The principal goal of this plan is to encourage the use of modes of transportation other than the single occupant vehicles; specifically to increase use of bicycles and walking. Communities like Boulder, Seattle and Portland (Oregon) that have high pedestrian and bicycle usage rates have generally made a deliberate choice to design, build and maintain the necessary infrastructure. These communities also have an ongoing commitment to education, promotion and enforcement activities that help to maintain a bicycle- and pedestrian-friendly environment.

While Dutchess County and its communities have a long way to go before bicycle and pedestrian usage rates match those in these communities, the creation of sidewalks, shoulders, and paths and their regular maintenance will set the stage for transformed travel patterns in the next century. Without adequate facilities potential pedestrians and bicyclists will continue to use the automobile simply because it is the only practical way to reach their destinations. With reasonable and convenient choices those who have only considered walking or biking in the abstract might begin using such alternatives. As these forms of transportation become more visible they also become more accepted, providing encouragement to still more people.

The following specific strategies include many non-construction activities designed to improve accessibility, desirability, and safety of walking and cycling in the county. Responsibility for the various strategies by tradition and necessity, will be shared among various levels of government and different private and public organizations.

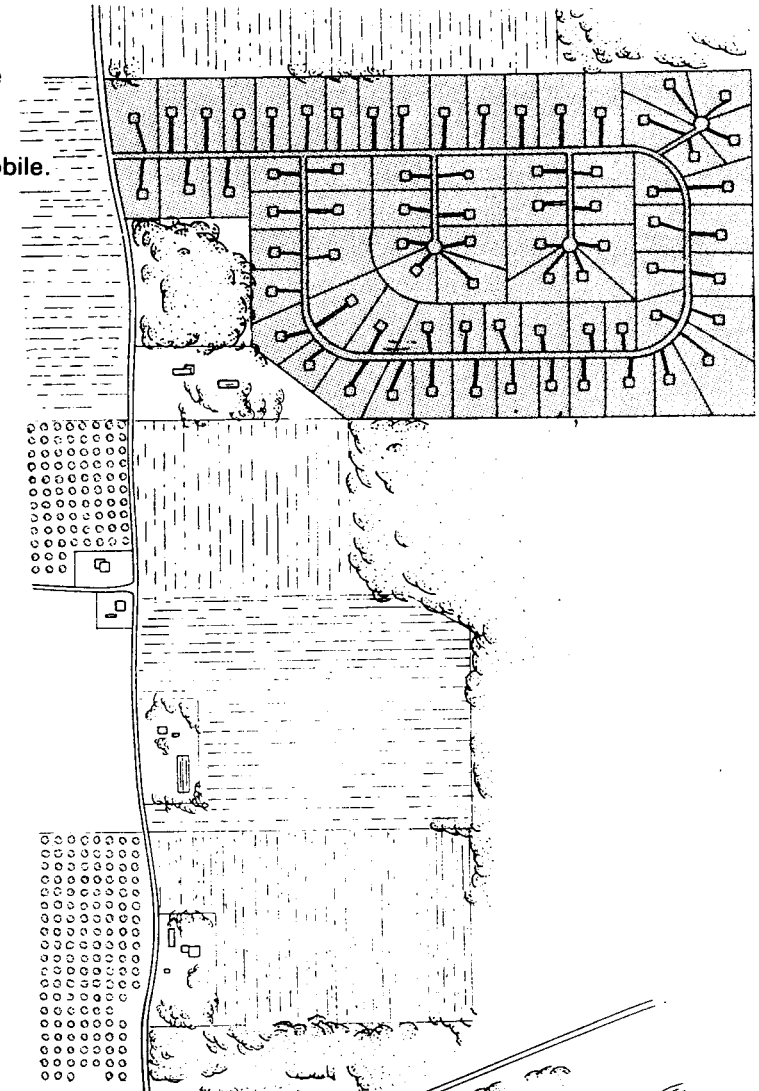
I. Overall Land Use Strategies

The most essential strategy to promote walking and bicycling is to ensure a compact land development pattern. Community centers must be walkable or they will not work. Studies of traditional pre-automobile villages and city neighborhoods reveal a common form - a wide mix of uses is contained within a ten minute walk of a commercial core or central civic structure such as a school. The sidewalk system is considered equally important as the road network.

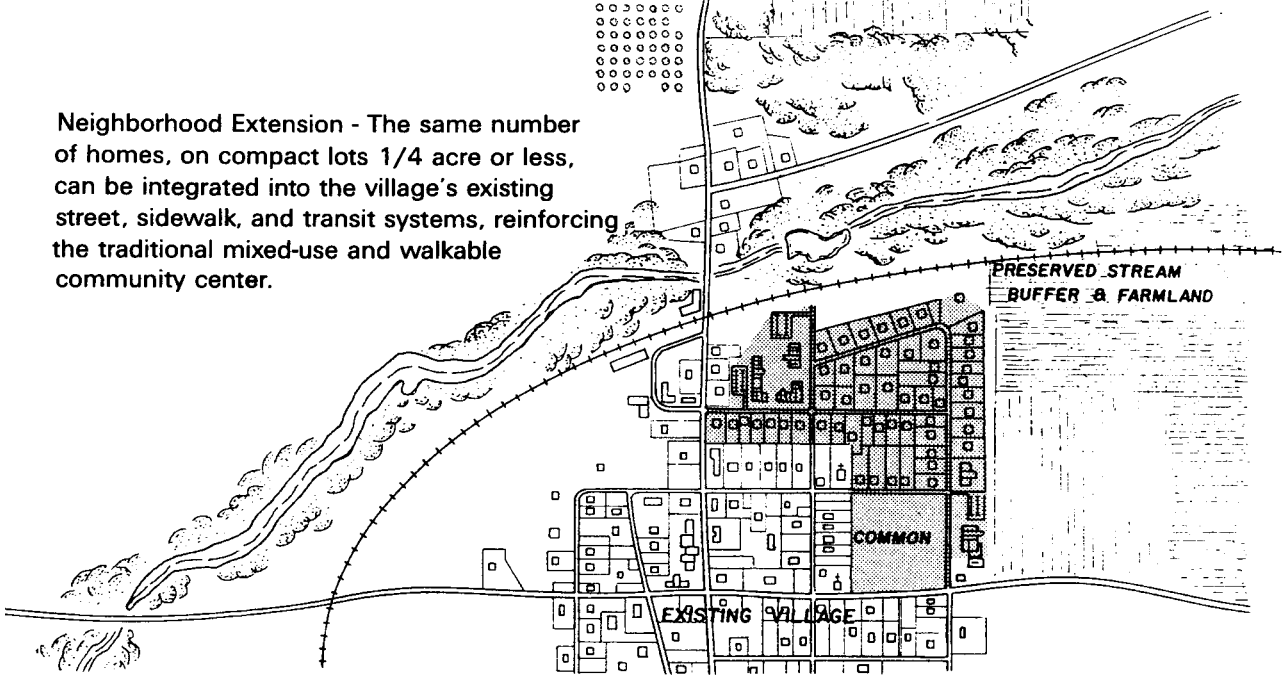
Current suburban style developments, however, are entirely auto-dependent. Houses are far-removed from work places

Figure 14
Alternative Development Patterns

Suburban Isolation - Conventional one-acre subdivision on outlying farmland, far from the existing village, makes new residents completely reliant on the automobile.



Neighborhood Extension - The same number of homes, on compact lots 1/4 acre or less, can be integrated into the village's existing street, sidewalk, and transit systems, reinforcing the traditional mixed-use and walkable community center.



and shopping centers. Even adjacent stores are separated by wide arterial streets and surrounding parking lots. Not only does this sprawling pattern threaten to eliminate any remaining sense of place of community, it also isolates large, non-driving segments of the population, especially children and the elderly, from many of the essential functions of everyday life.

Most local and regional plans, citing high levels of traffic congestion, the loss of farmland and open space, air pollution, and the ever-increasing public costs to subsidize an inefficient development pattern, stress the virtues of compact centers and alternatives to the exclusive use of the automobiles. Higher density centers also support the transit connections that are necessary to reinforce walking as a primary means of transportation. A regional strategy to encourage walking and biking would focus on transit-oriented development, a tightly organized mixture of community uses within an average 2,000 foot walking distance of a rail station or other stop on an inter-connected transit line. A surrounding secondary area within one mile of the transit stop would provide for lower density uses, but still be within easy biking distance of the center. This traditional development pattern is the best way to allow residents and employees to conveniently travel by transit, bicycle, foot, or car.

2. General Bicycle and Pedestrian Strategies

- Incorporate bicycle and pedestrian safety laws into the New York State Driver's Manual, and include discussion of sharing the road with bicycles as part of the drivers test.

- Implement a bicycle and pedestrian safety program in all schools in early grades.

- Make safety brochures available at bicycle shops, schools, and at Department of Motor Vehicle offices.

- Undertake studies to locate the site and causes of accidents involving pedestrians and bicyclists, and work with appropriate agencies (e.g. NYSDOT) to devise strategies to correct any deficiencies.

- Work with employers to develop programs to get a portion of their work force to commute by bicycle or on foot as a substitute for driving.

3. Pedestrian Strategies

- Prepare a comprehensive inventory of existing pedestrian facilities, pedestrian accident history, and key pedestrian projects.

- Provide sidewalks in city and village centers and in other areas with potential for significant pedestrian travel. Where possible provide sidewalks on both sides of streets, not just one.

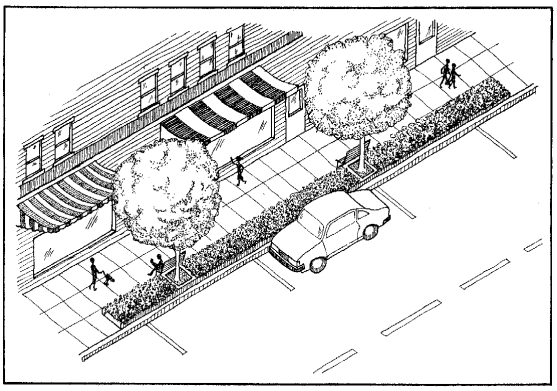


Figure 15 *Village Sidwalk*

Street trees and on-street parking separate the sidewalk from traffic and provide a sence of pedestrian safety. Continuous storefronts, window displays, awning, and sidewalk cafes help enliven the street for walkers.

- Provide sidewalks and pathways for new streets and subdivisions where reasonable connections can be

established to existing pedestrian networks in community or activity centers. Pedestrian connections between nearby cul-de-sacs should also be encouraged.

- Identify and remedy deficiencies in existing pedestrian facilities. Remove barriers that inhibit pedestrian movement.

- Identify and implement appropriate "traffic calming techniques" (see pp. 9,10) in major pedestrian zones. Wherever possible decrease auto speeds to below 20 mph in heavy pedestrian areas or residential streets.

- In high volume pedestrian areas, such as cities and major villages eliminate "Right on Red" and clearly delineate crosswalks at major intersections.

- Construct crosswalks so they are delineated from the roadway by striping (zebra bars) or textured or colored materials.

- Install crossing signals that include audible as well as visual warnings at all crosswalks.

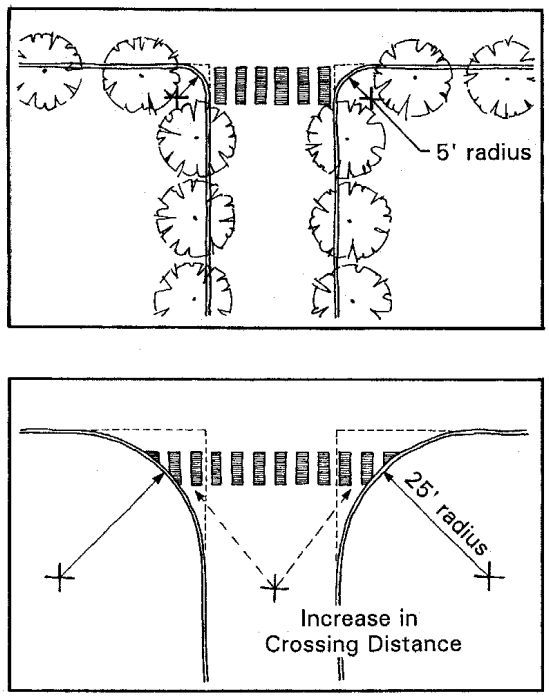
- Install signs in heavily travelled pedestrian areas which state the legal requirement that cars yield to pedestrians especially at mid-block crosswalks.

- Ensure that walkways (and bikeways) are properly illuminated and provide for regular police or security patrols.

4. **Bicycle Strategies**

- State, county, and local transportation officials need to determine what improvements are needed on facilities that have been designated as bicycle routes in order to make them more comfortable and attractive to bicyclists. The overall strategy calls for four foot shoulders (minimum) along major roads in rural and suburban areas and 14-foot curb lanes in urban areas. In some instances it is appropriate to establish

Figure 16 Pedestrian Crossing



Corner radius distances in community centers should be as short as possible to decrease crosswalk widths and slow down turning vehicles. Where a 5' radius produces a 35' crossing distance, a 25' radius can create a 75' crosswalk

designated bike lanes or separate bicycle paths. The next section, Project Recommendations, includes more specific proposals.

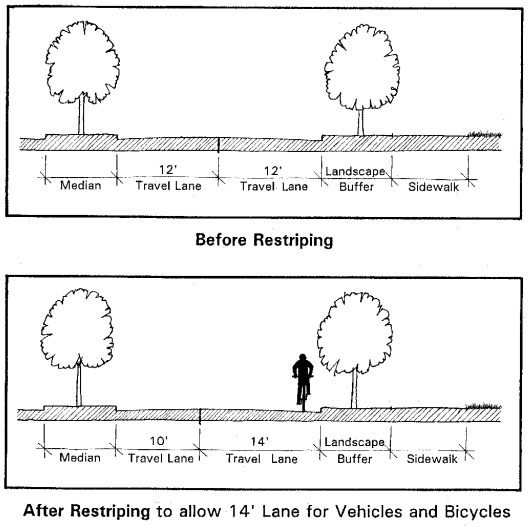


Figure 17. *Bicycle Curb Lane*

- In those cases where funding is deemed inadequate to provide a shoulder or other improvement for the entire length of the project, priority should be to complete a section to the appropriate standard rather than constructing a longer, substandard facility.

- Development and regular maintenance of bicycle facilities is very important. The items discussed in the **Engineering** portion of Chapter Two (pp 7-12) are among the more important strategies for encouraging bicycle use. These include: maintaining a smooth surface clear of impediments such as drainage grates, establishing adequate security and lighting and signage, and providing bicycle parking and storage facilities in major activity center (e.g. shopping centers) and at transit centers (e.g. Metro-North train stations).

  Encourage local businesses and industries to install bicycle parking for their customers and employees. The parking for employees should be considered long-term parking, requiring bicycle lockers. Parking for customers would be short-term, requiring bicycle racks of some type.

- The Dutchess County Traffic Safety Board, local bicycle clubs and police should sponsor bicycle rodeos to teach proper bicycle safety.

- Develop a program to register and mark bicycles as a deterrent to theft.

- Provide "Share the Road" signs on roads where heavy bicycle usage is expected and substandard conditions exist until improvements can be made.

- Separate facilities for bicyclists and pedestrians whenever possible.

- Facilitate bicycle access to mass transit. The Dutchess County LOOP Bus System could experiment with the installation of bicycle racks on routes where demand could be expected (Figure 18). Metro-North could improve convenience allowing bicycles to be transported on some peak hour trains, a practice currently prohibited due to concerns about capacity and safety during periods of highest ridership.

Figure 18. Bus Bicycle Rack

Source: Williams, Linda. Bikes on TRI-MET *Demonstration Program.*

The strategies outlined above are intended to improve accessibility and safety of bicycling and walking in Dutchess County. Responsibility for implementation is spread among different agencies including member governments and agencies of the PDCTC. The main way in which PDCTC and its members can implement the goals of this plan is to identify and implement specific projects to establish or improve bicycle and pedestrian facilities.

Project Recommendations

Historically, there have been very few "stand alone" bicycle or pedestrian projects in Dutchess County. Usually sidewalks, bike lanes, or wider shoulders are included in the scope of a more comprehensive road reconstruction, resurfacing, intersection or bridge project. This method will continue to be a primary way of expanding and improving facilities, because it is cost effective, although separate proposals for bike paths, sidewalks or shoulders can be developed and implemented. Two such projects, the Harlem Valley Rail Trail and the Rhinebeck Rail Trail, are currently underway (see pp.35).

1. **Bicycle Route Characteristics**

   Although bicycling is legally permitted on every public road in Dutchess County except I-84 and the Taconic State Parkway, the current condition of some roads makes them less desirable for walking or bicycling. The Bicycle Route evaluations discussed previously identified several common deficiencies on many of the roads included the PDCTC Bicycle Network. Figure 19 outlines the specific characteristics and potential improvements for these roads. An explanation of the terms is provided below. In all cases these bicycle routes need routine maintenance including regular sweeping of travel path (shoulder, path, or curb lane).

No Change	Roads are suitable for bicycle use in current condition.
Wider Shoulders	Roads where a paved four foot (or wider) shoulder would be appropriate.
Bicycle Lane	Roads where the clear designation of a separate bicycle lane would be appropriate.
Bicycle Path	Roads or areas where the construction of a separate bicycle path would be appropriate due to the level of traffic congestion and/or limited space. This also includes areas where railroad or other special right-of-way is available.
14 Foot Curb Lane	In urban areas where there are curbs and available right-of-way is limited, the establishment of a 14 foot curb lane should be considered to accommodate both bicycles and motor vehicles.
Bicycle Sensitive	Roads with signalized intersections that Traffic Signals would benefit from bicycle sensitive traffic detector loops.
Replace Drainage Grates	Road with drainage grates with bars that are parallel to the flow of traffic.
Resurfacing	Roads where the surface has a vast amount of cracks, potholes, and/or an uneven surface.

Filling of Cracks	Roads where the surface has scattered and Potholes cracks and potholes.
Flangeway Expansion	Roads with a railroad track crossing that Joint needs a flangeway filler to fill the space between the flange and the roadway or where expansion joints in concrete section roadways need a filler.
Steel Deck Bridge	Road with a bridge surface that is slippery when wet, and where a paved path would assist bicyclists.

It is important to note that the analysis of potential bicycle routes did not include an evaluation of bridge widths, which are often insufficient to safely accommodate bicycles (or pedestrians). In those cases future bridge replacement and reconstruction projects should include shoulders or walkways on both sides.

2. **Specific Recommendations**

In addition to the improvements described above there are several specific projects that would improve existing bicycle/pedestrian facilities.

Kingston-Rhinecliff Bridge - Clearly delineate a bicycle lane on the bridge, and improve west side (Ulster County) access.

Mid-Hudson Bridge - Examine options for improving bicycle access on both sides of the bridge. Access from the east side (Dutchess County) is particularly difficult.

Newburgh-Beacon Bridge - The intersection of the I-84 off ramp and Route 9D is located directly adjacent to the entrance to the multi-use bridge path. Motor vehicles waiting to complete a right turn to go south on Route 9D usually roll forward, blocking the entrance to the path for users travelling south. A "stop line" behind the entrance to the path, and a "Yield to bicyclists and pedestrians" sign should be installed to allow bicyclists and pedestrians the right of way. These rules should be enforced by the local police department.

Downtown Beacon and Poughkeepsie - Consider limiting "right on red" movements at intersections with heavy pedestrian traffic. Establish traffic calming improvements at intersections where pedestrians have to cross multiple traffic lanes in order to slow traffic flow and provide continuity of walkway for pedestrians. These actions are also appropriate for some of the major village centers as well.

Manchester Road Path - Construct a multi-use path from Manchester Road to Overocker Road as part of the Route 55 reconstruction project in Poughkeepsie and LaGrange. The path would accommodate bicyclists traveling from the City of Poughkeepsie to Route 44.

Hooker Avenue and Route 376

These two roads, which connect near Vassar College in Poughkeepsie, were identified in the Bicyclist Survey as high use roads for both commuting and errands. In addition, they are included as part of New York's "Bike Route 9" that stretches from New York City to the Canadian border near Plattsburgh. State and local officials should work cooperatively to implement bicycle improvements in the near future. This project is recommended even in the absence of any related highway projects.

Maybrook Corridor

The Maybrook Corridor, an abandoned railbed which runs from Hopewell Junction in Dutchess County to Maybrook in Orange County, has been the focus of much specula-

Figure 19
Bicycle Route Characteristics

	No Change	Wider Shoulders	Bicycle Lane	Bicycle Path	Bicycle Sensitive Traffic Signals	Replace Drainage Grates	Resurfacing	Filling of Cracks and Potholes	Flangeway Expansion Joint	Steel Deck Bridge
STATE HIGHWAYS										
Route 9										
Putnam County to Myers Corners Rd. (CR 93)		X			X	X				
Myers Corners Rd. to Delafield St.			X	X	X	X				
Delafield St. to Columbia County		X			X	X				
Hamlet of Hyde Park			X	X	X	X				
Village of Rhinebeck			X	X	X	X				
Village of Red Hook			X	X	X	X				
Route 9D		X			X	X				
Route 9G		X			X	X				
Route 22		X			X					
Route 9W (Lloyd)-not evaluated										
Route 44/55 (Lloyd)-not evaluated										
Route 44		X			X					
Town of Pleasant Valley			X		X					
Village of Millbrook			X		X					
Village of Millerton			X		X					
Route 44A		X								
Route 52		X			X	X			X	
Route 55		X			X					
Route 82		X			X	X				
Route 113		X			X	X				

Figure 19
Bicycle Route Characteristics (con't)

	No Change	Wider Shoulders	Bicycle Lane	Bicycle Path	Bicycle Sensitive Traffic Signals	Replace Drainage Grates	Resurfacing	Filling of Cracks and Potholes	Flangeway Expansion Joint	Steel Deck Bridge
Route 115		X			X	X				
Route 199		X			X	X				
Route 216	X								X	
Route 299 (Lloyd)-not evaluated										
Route 308		X			X	X				
Route 343		X				X				
Route 376		X			X					
COUNTY HIGHWAYS - DUTCHESS										
CR 3 Amenia	X									
CR 4 Amenia, Dover	X									
CR 6 Dover	X									
CR 13 Clinton, Pleasant Valley	X							X		
CR 14 Clinton	X							X		
CR 16 Hyde Park-not evaluated										
CR 17 Clinton-not evaluated										
CR 21 LaGrange, Union Vale		X			X					
CR 27 East Fishkill		X			X					
CR 28 East Fishkill, Wappinger		X			X					
CR 29 East Fishkill		X			X					
CR 31 East Fishkill		X			X					
CR 37 Hyde Park		X			X					
CR 40A Hyde Park		X			X					
CR 41 Hyde Park, Pleasant Valley		X			X					

Figure 19
Bicycle Route Characteristics (con't)

	No Change	Wider Shoulders	Bicycle Lane	Bicycle Path	Bicycle Sensitive Traffic Signals	Replace Drainage Grates	Resurfacing	Filling of Cracks and Potholes	Flangeway Expansion Joint	Steel Deck Bridge
CR 44 LaGrange		X			X					
CR 49 LaGrange		X			X					
CR 53 Milan, Stanford		X								
CR 74 Poughkeepsie-not evaluated										
CR 75 Poughkeepsie		X			X					
CR 77 Poughkeespie		X			X					
CR 78 Red Hook	X				X					
CR 81 Amenia	X									
CR 85 Rhinebeck-not evaluated										
CR 93 Wappinger		X			X					
CR 94 Wappinger		X			X					
CR 103 Rhinebeck-not evaluated										
CR 104 Wappinger		X			X					
COUNTY HIGHWAYS - ULSTER										
CR 15 Lloyd-not evaluated										
CR 22 Lloyd-not evaluated										
CR 108 Lloyd-not evaluated										
LOCAL ROADS										
Town of Dover										
Maple Ln.	X				X				X	

Figure 19
Bicycle Route Characteristics (con't)

	No Change	Wider Shoulders	Bicycle Lane	Bicycle Path	Bicycle Sensitive Traffic Signals	Replace Drainage Grates	Resurfacing	Filling of Cracks and Potholes	Flangeway Expansion Joint	Steel Deck Bridge
Town of East Fishkill										
Lake Walton Rd.					X		X			
Town of Lloyd (Ulster County)										
Haviland Rd.-not evaluated										
Tillson Ave.-not evaluated										
Town of Poughkeepsie										
Boardman Rd.					X		X			
Burnett Blvd.	X				X					
College Ave.	X				X	X		X		
Cottage Rd.	X				X	X		X		
Creek Rd.		X			X	X		X		
Fairmont Rd.	X				X	X		X		
Manchester Rd.	X					X		X		
Old Post Rd.	X									
Overocker Rd.	X				X	X		X		
Pendell Rd.	X				X	X		X		
Sheafe Rd.	X				X					
Spring Rd.	X				X					
Town of Rhinebeck										
Mill Rd.-not evaluated										
Town of Wappinger										
Main St.							X			

Figure 19
Bicycle Route Characteristics (con't)

	No Change	Wider Shoulders	Bicycle Lane	Bicycle Path	Bicycle Sensitive Traffic Signals	Replace Drainage Grates	Resurfacing	Filling of Cracks and Potholes	Flangeway Expansion Joint	Steel Deck Bridge
City of Beacon										
Beekman St.	X									
Verplanck Ave.	X				X	X		X		
City of Poughkeepsie										
Brookside Ave.	X				X	X		X		
Cedar Ave.-not evaluated										
Davis Pl.	X					X		X		
Dean Pl.	X				X	X		X		
Delafield St.	X				X	X		X		
Forbus St.	X				X	X		X		
Franklin St.	X				X	X		X		
Fulton Ave.	X				X	X		X		
Garden St.	X					X		X		
Gerald Dr.	X					X		X		
Grand Ave.					X	X	X			
Hooker Ave.					X	X	X			
Jefferson St.	X				X			X		
Lincoln St.	X					X		X		
Little George St.	X					X		X		
Livingston St.	X				X	X		X		

Figure 19
Bicycle Route Characteristics (con't)

	No Change	Wider Shoulders	Bicycle Lane	Bicycle Path	Bicycle Sensitive Traffic Signals	Replace Drainage Grates	Resurfacing	Filling of Cracks and Potholes	Flangeway Expansion Joint	Steel Deck Bridge
Main St.					X	X	X	X		
Mansion St.					X	X	X	X		X
Market St.	X				X	X		X		
Mill St.	X				X	X		X		
Montgomery St.	X				X	X		X		
Mt. Carmel Pl.	X				X	X		X		
N Bridge St.						X	X			
N Clinton St.	X				X	X		X		
N Clover St.	X				X	X		X		
Rinaldi Blvd	X					X			X	
South Ave.	X				X	X		X		
S Clinton St.	X				X	X		X		
S Clover St.	X				X	X		X		
S Perry St.	X				X	X		X		
Taft Ave.	X				X	X		X		
Union St.	X					X		X		
Verazzano Blvd.	X				X	X		X		
Washington St.	X				X	X		X		
Wilbur Blvd.	X				X	X		X		
PATHS										
Manchester Rd.							X			
Wilbur Blvd.	X									

tion and interest in recent years. As a result, the PDCTC Transportation Plan recommended that the various options be addressed in a single study which NYSDOT has agreed to undertake. The NYSDOT study will look into the possibility of transportation uses of the Maybrook Corridor and the Poughkeepsie Railroad Bridge, which include the construction of a roadway, restoration of heavy-rail, light-rail, and bicycle and pedestrian usage. Final decision about use of the right-of-way will await completion of the study.

In the meantime Dutchess County has agreed to cooperate with local initiatives to convert the portion of the right-of-way that it owns to an interim rail-trail for pedestrian and bicycle use. The Town of Lloyd is also considering the establishment of a rail-trail along portions of the right-of-way within its jurisdiction. Finally, Putnam County is cooperating with Metro-North to construct a bicycle/ pedestrian rail-trail along the portion of the Beacon Line that will link with other projects in their county and to the south (Westchester County).

All projects, highway or transit, included in the annual TIP should be evaluated for inclusion of bicycle and pedestrian facilities. The Route 55 reconstruction project discussed above is an example of such a potential project. Other examples are the inclusion of paved shoulder or a separate curbed lane in major resurfacing projects, installing bicycle sensitive detector loops as part of intersection or signal improvement projects, planning for transport of bicycles on trains and buses, and including secure bicycle storage at major train stations and bus transfer points.

The decision to include bicycle and pedestrian facilities as part of larger highway or transit projects does not guarantee ultimate implementation. Most major projects go through a lengthy multi-phase design process where decisions about the scope can be changed. In some cases, the bicycle/pedestrian facilities are eliminated from the design before the project is finally constructed. Active participation by local government officials, PDCTC members, and local citizen groups can help to ensure that the need for these facilities is clearly articulated at every stage of the design process.

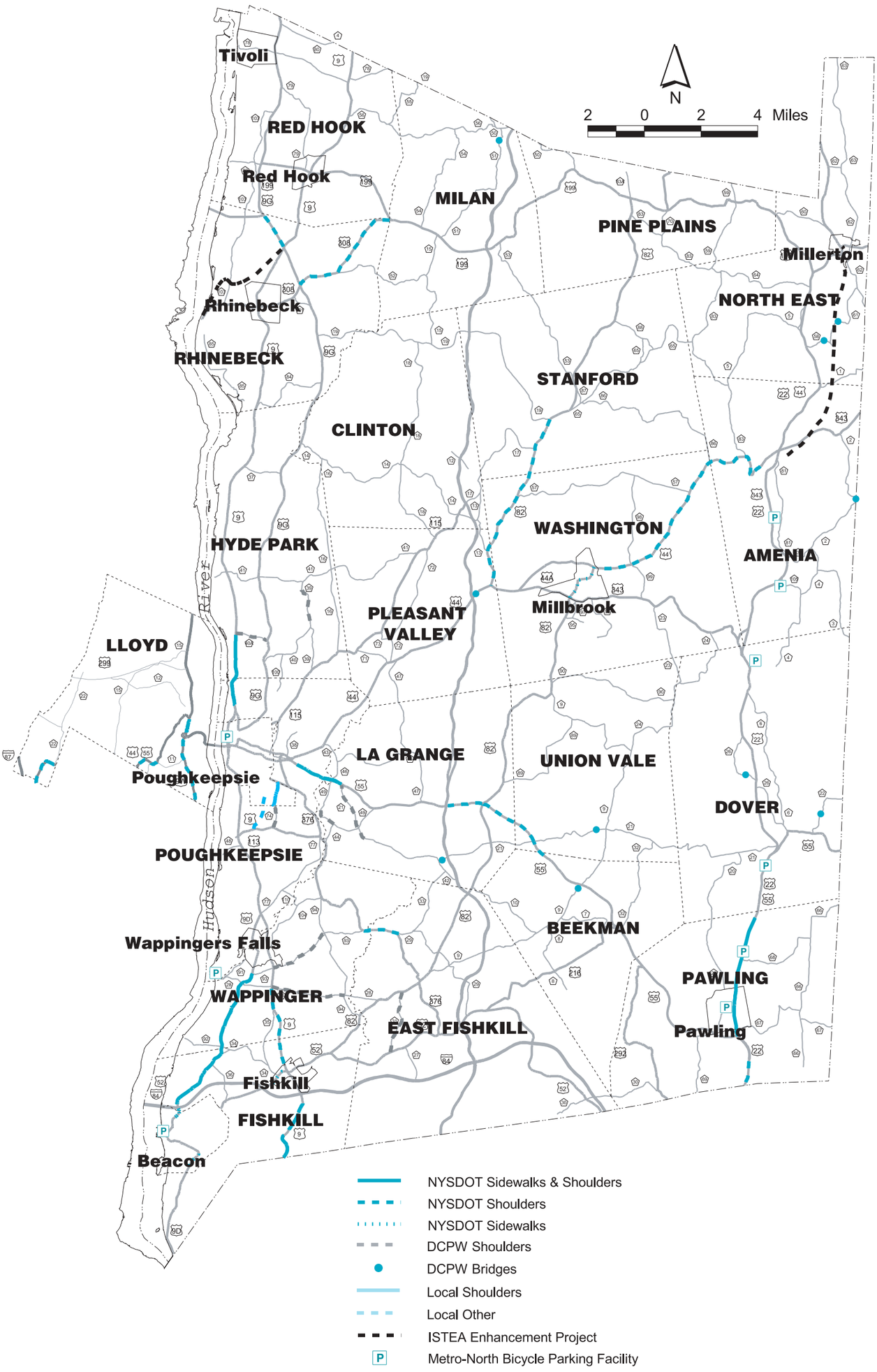
3. **Current Projects**

The current Transportation Improvement Program (1994-1995) includes over 30 federally funded projects that incorporate shoulders, sidewalks or other bicycle/pedestrian facilities into project design, and six bicycle/pedestrian projects funded by federal Surface Transportation Program (STP) Enhancement funds. In addition, New York State, Dutchess County, and several municipalities have included bicycle and pedestrian facilities in other projects funded by state or local funds (Figure 20).

State Projects - NYSDOT lists all its projects, regardless of funding, on the TIP. The best opportunities for including bicycle and pedestrian facilities are Reconstruction/Construction and Reconditioning/Preservation projects. For these two categories of projects the 1994-1995 TIP includes 3 federally funded and 16 state funded projects on highways identified on the Dutchess County Bicycle Network. Decisions about project scope, including width of shoulder, provision of sidewalks, or construction of bicycle paths, can be modified during the design process. Items 1-18 include improvement to, or new construction of, shoulders, sidewalks and/or bicycle paths in the current project scope. For five projects (19-23) it is too early to determine whether the final project scope will include shoulders or sidewalks.

1. Route 9/I-84 Interchange (0.8 miles) - This project includes the reconstruction of the interchange and the widening of Route 9 between the interchange and Elm Street in Fishkill. The project will include shoulder improvements and construction of new sidewalks.

Figure 20
Programmed Improvements



2. Route 9D (6.5 miles) - This project will involve reconstruction and minor widening at selected intersections between I-84 in Beacon and East Main Street in Wappingers Falls to improve overall operations. Recent resurfacing on the same stretch (see # 11) provided a good four-foot shoulder for the length of the section. The reconstruction project will maintain the shoulder and provide some sidewalks where needed.

3. Route 9 (3.0 miles) - This is the second stage of a multi-year project to widen Route 9 between the city of Poughkeepsie and St. Andrews Road (CR 40A) in Hyde Park. The project includes new shoulders for the length of the project and new sidewalks between Marist College and the Hudson River Psychiatric Center.

4. Route 22 (1.0 miles) - Widening Route 22 between Aikendale Road and Putnam County will include new shoulders. This project is part of a larger reconstruction of Route 22 between Route 55 and I-684 in Putnam County.

5. Route 55 (2.1 miles) - The reconstruction between Burnett Boulevard in Poughkeepsie and Noxon Road (CR 21) in LaGrange includes 8-10 foot utility way and shoulder, sidewalks along the south side of the highway, and the extension of a bike path along Burnett Boulevard.

6. Route 9G (1.3 miles) - The resurfacing of this section includes the improvement to shoulders between Route 9 and Route 199 in Rhinebeck.

7. Route 9 (3.6 miles) - Pavement rehabilitation between Route 52 and Myers Corners Road (CR 93) in Fishkill and Wappinger will include the shoulders.

8. Route 308 (4.4 miles) - The reconditioning and preservation between Route 9G and Route 199 in Rhinebeck will include improvement to shoulders.

9. Route 22 (5.2 miles) - This project will include reconstruction and improvement to shoulders between Fernwood Drive and the Dover line and provision of new sidewalks where needed.

10. Route 44 (9.5 miles) - This project includes resurfacing the road and rehabilitating the shoulders between the Millbrook line and Route 22 in Amenia.

11. Route 9D (5.7 miles) - This project was completed in 1994, and includes newly paved shoulders for the length of the project (Fishkill, Wappinger).

12. Route 9D (0.8 miles) - This Beacon project will include addition of sidewalks between Howland Avenue and City Line.

13. Route 55 (4.0 miles) - This project will include improvement and repaving of shoulders between the Taconic State Parkway and DeForest Lane in LaGrange, Union Vale and Beekman.

14. Route 82 (6.5 miles) - Resurfacing both road and shoulders between Route 44 and Bulls Head Road (CR 19) in Washington and Stanford.

15. Route 44 (1.6 miles) - This project includes resurfacing the highway, and upgrading the sidewalks in the village of Millbrook. The possibility of creating a striped bike lane has not yet been addressed.

16. Route 52 (0.7 miles) - Resurfacing and construction of new sidewalks and crosswalks between Blodgett Road and Route 9 in the village of Fishkill.

17. Route 9W (1.0 mile) - Resurfacing and minor widening to provide turn lanes

and shoulders in the hamlet of Highland.

18. Route 44/55 (2.7 miles) - This project includes the resurfacing of both pavement and shoulders between Route 32 and Chapel Hill Road in Ulster County.

19. Route 9 (6.7 miles) - This project will add passing zones and improve intersections between I-84 in Fishkill and Route 301 in Putnam County. Improved shoulders should be included in this project.

20. Route 376 (4.4 miles) - New and/or improved shoulders between All Angels Hill Road (CR 94) and Dogwood Knolls Country Club should be included in this resurfacing project.

21. Route 199 (4.0 miles) - The resurfacing project in Pine Plains should include any necessary shoulder work.

22. Park-and-Ride Lot on Taconic State Parkway - Bike lockers/racks should be included at this new lot.

23. Express Bus Routes - Once the bus stop locations have been selected for the new NYSDOT intercounty express bus service, bike lockers/racks should be installed.

Dutchess County Projects - Dutchess County Department of Public Works capital program includes projects funded with federal, state and county funds. Where there is both sufficient right-of-way and funding the county is adding three to five foot shoulders along its facilities, particularly on the more heavily travelled roads in the urbanized area. In addition, most bridge replacement projects include two four-foot shoulders on the decks and approaches. Over the next five years Dutchess County will be improving shoulders on over 14 miles of county highway designated as part of the bicycle network, and on 10 county-maintained bridges.

1. CR 21 (Noxon Road) 2.8 miles - This project involves the realignment and restoration of the road between Route 55 and Smith Road. The project will include a minimum three to four foot shoulder.

2. CR 49 (Titusville Road) 0.8 miles - This project involves the realignment and restoration of the road between Richards Boulevard and CR 44 (Red Oaks Mill Road). The project will include a minimum four foot shoulder.

3. CR 93 (Myers Corners Road) 1.4 miles - This project involves the realignment and restoration of the road between CR 94 (All Angels Road) and Route 376. The project will include a minimum three to four foot shoulder.

4. CR 28 (Old Hopewell Road) 2.6 miles - This project involves the rehabilitation of the road between CR 94 and Route 9. The project will include a minimum three to four foot shoulder.

5. CR 93 (Myers Corners Road) 1.9 miles - This project involves a minor realignment and restoration of the road between Losee Road and CR 94. The project will include a minimum five foot shoulder.

6. CR 39 (Cream Street) 1.5 miles - This project involves the rehabilitation of the road between Haviland Road and Dorsey Lane. The project will include a minimum three to four foot shoulder.

7. CR 31 (Palen Road) 2.1 miles - This project involves the resurfacing of the road between Route 82 and Route 52. The project will include a minimum four foot shoulder.

8. CR 40A (St. Andrews Road) 1.2 miles - This project involves the realignment and restoration of the road between Route 9 and Route 9G. The project will include a minimum four to five foot shoulder.

9. CR 74 (Cedar Avenue) 10 miles - This project involves the resurfacing of the road between Spackenkill Road (Route 113) and the Poughkeepsie City line. The project will include a minimum three to four foot shoulder widening.

10. Bridge Projects - The following bridges are scheduled to be replaced or restored. There will be two four foot shoulders on the decks when the projects are complete.

Code	Municipality	Route	Over
A-16	Amenia	CR 2	Webatuck Creek Tributary
B-8	Beekman	CR 9	Clove Creek
C-25	Clinton	CR 17	Wappinger Creek Tributary
D-35	Dover	CR 22	Ten Mile River
D-40	Dover	CR 26	Swamp River
L-30	LaGrange	CR 21	Jackson Creek
M-6	Milan	CR 51	Cold Spring Creek
N-40	North East	CR 61	Webatuck Creek
N-36	North East	CR 58	Webatuck Creek
U-28	Union Vale	CR 21	Fishkill Creek

Metro-North Railroad Projects - In order to encourage customers to access its stations by bicycle, Metro-North will install bicycle racks and lockers at all six Dutchess County stations as part of parking expansion and improvement projects. Dover Plains, Harlem Valley-Wingdale and Pawling are expected to have bicycle racks and/or lockers in place by late 1996. Bike racks and lockers will be installed at Beacon in 1996, to coincide with the completion of the parking expansion project. Bicycle needs for Poughkeepsie and New Hamburg will be determined as part of the overall scoping of the parking expansion projects at these stations.

Local Projects - Although it is difficult to gather comprehensive information about local road and highway projects, there are three recent projects in the cities of Beacon and Poughkeepsie that include shoulder improvements and one bicycle path upgrade. In addition, the town of Hyde Park continues to develop its Greenway Trail between Staatsburg and the Roosevelt National Historic Site.

1. South Avenue (Route 9D), Beacon, 1.3 miles - This project will widen and resurface the road between Dennings Avenue and South Avenue. The projects includes shoulder improvements and possible sidewalk construction.

2. Cedar Avenue, Poughkeepsie, 1 mile - This project was completed in 1994 and includes newly paved shoulders for the length of the project. This project connects directly to the Dutchess County CR 74 project discussed above.

3. Wilbur Boulevard Multi-Use Path - In late 1993 the city and town of Poughkeepsie cooperated to resurface the Wilbur Boulevard path between Spratt Park and Route 113 (Spackenkill Road).

STP Enhancement Projects - In the past two years the Hudson Valley Enhancement Committee recommended funding 12 projects in the PDCTC area, all of which are in Dutchess County. Of that number, nine were bicycle/pedestrian projects, including two new rail trails.

1. Harlem Valley Rail Trail, Dutchess County ($750,129) - Construction of approximately 8 miles of trail between Millerton and the hamlet of Amenia. Project includes an 8-10 foot paved path, replacement of six bridges, two new parking lots, and necessary signage.

2. Rhinebeck Rail Trail Conversion, Winnakee Land Trust/Rhinebeck Town ($20,000) - Conversion of 6 miles of abandoned railroad corridor between the Rhinebeck Dock and the Old Stone Church on Route 9 to multi-use trail.

3. Rhinecliff Station Pedestrian Overpass, Hudson River Heritage/Rhinebeck Town ($250,000) - Restoration of the Rhinecliff Station pedestrian overpass that connects the dock, station, and parking area.

4. Pawling Pedestrian/Bike System, Oblong Conservancy/Pawling Village ($340,000) - Construction of new pathways and sidewalks to create a comprehensive, interconnected system of bicycle and pedestrian facilities in the village.

5. Hudson River Scenic Overlook, Marist College/Dutchess County ($442,000) - Construction of a scenic overlook and bicycle/ pedestrian path connections to Route 9 and the remainder of the Marist College campus.

6. Greenway Trail Signage, City of Beacon ($25,000) - This project will create and install directional and site signage along the city's Greenway Trail.

7. Wassaic Bicycle/Pedestrian Pathway, Metro-North Railroad/ MTA ($370,000) - Construction of a bicycle/pedestrian path connecting the proposed new Wassaic station and the Harlem Valley Rail Trail.

8. Old Mill Store Preservation, Pleasant Valley Town ($388,000) - This project includes building a pedestrian path along the Wappinger Creek between the old mill site and the Town Recreation Park.

9. Hudson Highlands Trail Hub, Scenic Hudson/New York State Office of Parks, Recreation and Historic Preservation ($88,400) - Development of a trail hub linking existing trails in Hudson Highlands State Park and the Beacon Greenway Trail system.

Financing Sources

There are a variety of federal funding sources for bicycle and pedestrian facilities. The financing programs listed below are all part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The use of federal funds must be consistent with an overall long-range plan such as the PDCTC Transportation Plan (1994).

- National Highway System (NHS) - may be used to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System, except the interstate system.

- Surface Transportation Program (STP) - may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or non-construction projects (such as brochures, public service announcements, and route maps) related to safe bicycle use. A minimum of ten percent of each state's annual STP funds are available for "Transportation Enhancement Activities". Of the ten defined enhancement activities, two are specifically bicycle and pedestrian related: "provision of facilities for bicyclists and pedestrians" and "preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian or bicycle trails)."

- Congestion Mitigation Air Quality Program (CMAQ) - may be used for either the construction of bicycle transportation facilities and pedestrian walkways or non-construction projects (such as brochures, public service announcements, and route maps) intended to increase bicycle and pedestrian use. These bicycle projects must be principally for transportation rather than recreation, and must have a demonstrated impact on existing congestion or air quality conditions.

- Federal Lands Highway Funds - may be used to construct pedestrian walkways and bicycle transportation facilities in conjunction with roads, highways, and parkways at the discretion of the department charged with the administration of such funds. Again, these facilities must be principally for transportation rather than recreation purposes.

- Scenic Byways Program - may be used to construct facilities along the highway for the use of pedestrians and bicyclists.

- National Recreational Trails/Symms Act - may be used for bicyclists, pedestrians and other non-motorized and motorized users. Projects must be consistent with a Statewide Comprehensive Outdoor Recreational Plan (SCORP) required by federal law.

- Federal Transit Funding - continues to allow transit funds to be used for bicycle and pedestrian access to transit facilities, to provide shelter and parking facilities for bicycles in or around transit facilities, or to install racks or other equipment for transporting bicycles on transit vehicles.

The federal share of the costs of projects under the NHS, STP, CMAQ, and Scenic Byways programs is 80 percent, with a 20 percent state or local match. Federal Lands projects are 100 percent federally funded. Federal Transit Administration funds are 80 percent federal, 20 percent non-federal. New York State may contribute half the non-federal portion, leaving a 10 percent local match.

The federal government does not select specific bicycle or pedestrian projects. Instead, individuals and organizations interested in initiating a project should first gain support of local governments (through the MPO in urban areas) to work with the state transportation agency to determine eligibility, availability of funds, and priority. The projects must be included in a Transportation Improvement Program (TIP) for metropolitan areas and in the State Transportation Improvement Program (STIP).

Transportation Plan Modifications

As mentioned previously, the PDCTC adopted its Transportation Plan in September, 1994. That plan included some general policies and recommendations regarding bicycle and pedestrian facilities. With the adoption of this Bicycle and Pedestrian Plan, including the recommended projects and actions by the PDCTC, it became part of the Transportation Plan and supersedes all previous discussion of bicycle and pedestrian facilities and recommendations. In addition, the Bicycle and Pedestrian Plan will be used in evaluation of proposed highway and transit projects to determine if modifications are needed.

In general, those roads and other routes identified on the Bicycle Network should be considered as priority, and any proposed project in an affected corridor should include construction or improvement of appropriate bicycle/pedestrian facilities even at an increased cost. The current state and county projects listed on pp (30-36) are the first of these projects. Others will follow as future Transportation Improvement Programs (TIPs) are developed.

4. Summary of Public Comments

The draft PDCTC Bicycle and Pedestrian Plan was completed in June 1995. Summaries of the plan were mailed to the PDCTC Executive Committee, the PDCTC Technical Committee, Mayors and Supervisors, Conservation Advisory Commissions, and the Public Information mailing list. In addition, two public forums were held on August 7 in Pleasant Valley, and on August 8 in the PDCTC-Dutchess offices in Poughkeepsie. Local newspapers and radio stations included stories about the Bicycle and Pedestrian Plan during the week before the meetings. Fifteen individuals and groups provided comments about the plan.

This summary includes verbal comments made at the public forums, and written comments received by the comments deadline of August 17, 1995. The comments are grouped by topic, and individuals and/or organizations are identified in brackets. The PDCTC response is outlined immediately following each comments.

Pedestrian Safety - In villages and hamlets there should be better control in cross walks; motorists should be required to stop for pedestrians in marked crosswalks. There was strong support for the concept of traffic calming in the cities, towns and villages. [Scenic Hudson, NYSDOT-Bike/Ped, Schaeffer, Scholl]

Response - This is a recommendation in the BP Plan. Current state law requires that motorists yield to pedestrians which is not as strong as the Connecticut requirement that motorists stop for pedestrians in crosswalk.

Town of Lloyd - Information and recommendations for bicycle and pedestrian facilities in Lloyd should be included as part of the PDCTC plan. [Scenic Hudson, Gordon]

Response - Lloyd is now included in the Bicycle and Pedestrian Plan.

Mid-Hudson Bridge - The current access to and from the east side of the Mid-Hudson Bridge is inadequate. It very difficult to get from the bridge to the Poughkeepsie train station and the waterfront parks. [Scenic Hudson, Gordon, Davis]

Poughkeepsie-Dutchess County Transportation Council

Bicycle and Pedestrian Plan

Comments Received
August 1995

Dutchess and Beyond Bicycle Club	
Fred Schaeffer	Forums 8/7/96
DC Environmental Management Council	
Jennifer Chichester	Written 8/17/95
Harlem Valley Partnership	
Kathy Schibanoff	Forums 8/7/96
Hudson Riverkeeper	
David Gordon	Forums 8/8/96
Metro-North Railroad	
Joan McDonald	Written 8/15/95
NYSDOT-Bike/Ped	
Jeffrey Olson	Written 8/17/95
Scenic Hudson	
Jeffrey Anzevino	Forums & Written 8/8/96
T/Clinton	
Raymon Oberly	Written 8/14/95
T/Fishkill	
Dennis Campbell	Forums 8/8/96
T/Poughkeepsie Recreation	
Richard Rose	Forums 8/7/96
V/Wappingers Falls	
Hank DiMarco	Forums 8/8/96
Brown, Robinson	Forums 8/8/96
Davis, Marshall	Forums 8/8/96
Kizer, Les	Written 7/24/95
Scholl, Katie	Forums 8/7/96

Response - NYSDOT and the New York State Bridge Authority are developing plans to correct this problem. The issue is also recognized as a priority in the BP Plan.

Safety Education - There should be greater emphasis on the need for comprehensive and continuing education programs. Existing programs should be improved and expanded. [DC Environmental Management Council, DiMarco, Schaeffer]

Response - This is a strong recommendation in the BP Plan. Also, the BP Plan recommends greater coordination among the agencies that provide safety education. A regional clearinghouse at NYSDOT or traffic safety boards would be appropriate.

Cost Information - The BP Plan should include information about estimated costs for different types of facilities and/or specific projects so involved agencies have a better idea of the potential impact of the plan. [T/Poughkeepsie Recreation, T/Fishkill]

Response - Illustrative costs have been included in an Appendix.

Road Shoulders - Two general comments: 1) improved (wider, paved) shoulders should not be strictly limited to routes identified as part of the Bicycle Network; 2) all state and county road improvements should include installation or improvement of paved shoulders, even if they are substandard width. [Schaeffer, Schibanoff]

Response - NYSDOT and Dutchess County DPW agree that paved shoulders are desirable on all roads. The goal is at least four feet, but in circumstances where this may not be readily achievable they will pave the available right-of-way.

Design & Maintenance - Shoulders and other facilities need better maintenance. Pavement markings (e.g. Spackenkill at Route 9) should recognize and accommodate the needs of bicyclists and pedestrians who regularly use these facilities.

Response - This is a strong recommendation of the BP Plan.

Specific Facility Recommendations

1. Sidewalks/Pedestrian Facilities - Need to install/improve facilities at the following locations:

   - Route 9 in vicinity of shopping centers in town of Poughkeepsie and Wappinger. [Davis]
   - Innis Avenue/Smith Street/Creek Road to Morgan Lake and Dutchess Community College. [Scholl]

2. Existing Bike Route - Deterioration of the Spackenkill Road (Route 113) bicycle route should be corrected. [Davis]

3. Bicycle Network - Add the following roads to the Bicycle Network map:

   - Fishing Flats (Grounds) Road in Rhinebeck
   - Mill Road in Rhinebeck
   - River Road (CR 103) in Rhinebeck
   - Mid-Hudson Bridge in Poughkeepsie and Lloyd
   - Cedar Avenue (CR 74) in town and city of Poughkeepsie
   - Salt Point Turnpike (CR 17) between Taconic Parkway and CR 13 in Clinton
   - Maybrook (CR 11) right-of-way as an interim rail trail

Response - These facility recommendations are part of the BP Plan.

Bicycles on Trains - The current Metro-North policy regarding bicycles on trains is too restrictive, especially for those who want to travel to Dutchess from NYC for weekend recreation. Recommend easing prohibition for some of the later evening peak trains (especially on Fridays) so that arrival time is not too late. [Brown]

Response - Metro-North currently does not allow bicycles on its trains during peak

periods so as not to reduce capacity for its customers, or to impede passengers boarding and detraining during the periods of highest ridership when the trains are the most crowded.

Friday evenings are one of Metro-North's heaviest periods of travel, partly due to the number of commuters who stay in New York City during the week and return to Dutchess County on the weekends. Therefore, allowing bicycles during the Friday evening peak period, even if at the end of the peak, would limit capacity and impede access and egress for other customers.

Encouragement-Information - More detailed information about route locations, support facilities, recreation opportunities, general condition is needed for wide distribution. The Bicycle Network Map in the BP Plan shows goal, not current conditions. [Brown, Gordon]

Response - PDCTC staff intends to develop and publish such a map as a follow-up project. It is listed as a priority recommendation in the BP Plan.

Appendix A - Glossary of Terms

21st Century Mobility (Hudson Valley Transportation Plan) - Transportation plan prepared by NYSDOT-Region 8 for the seven county mid-Hudson region (Columbia, Dutchess, Orange, Putnam, Rockland, Ulster and Westchester).

AADT - Annual Average Daily Traffic. The estimate of typical daily traffic on a road segment for all days of the week over the period of one year.

AASHTO - American Association of State Highway and Transportation Officials.

ADA - Americans with Disabilities Act. Federal law that governs the provision of services and facilities necessary to accommodate people with disabilities. The law includes specific requirements regarding transportation services and facilities.

Bicycle - Every two or three wheeled device upon which a person or persons may ride, propelled by human power through a belt, chain, or gears, with such wheels in tandem or tricycle, except that it shall not include such a device having solid tires and intended for use only on a sidewalk or by pre-teenage children. (New York State Vehicle and Traffic Law)

Bicycle Facility - A general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling, including parking facilities, bikeway maps, and shared roadways not specifically designated for bicycle use.

Bicycle Lane (Bike Lane) - A portion of roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists. (New York State Vehicle and Traffic Law)

Bicycle Path (Bike Path) - A path completely separated from vehicular traffic and within an independent right of way or the right of way of another facility. Travelways separated from vehicles, but shared by both bicycles and pedestrians are included in this definition.

Bicycle Route (Bike Route) - 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 number. Includes both facilities for exclusive use of bicycles and shared use with motor vehicles.

Bicycle-Sensitive Traffic Signals - Traffic detector loops that are sensitive enough to pick up a bicycle and trigger a change in the light.

Bikeway - Any road, path, or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

CAAA - Clean Air Act Amendments of 1990. Federal law which stresses the relationship of transportation and air quality and the attainment of National Ambient Air Quality Standards.

CMAQ - Congestion Mitigation/Air Quality Program. Federal funding program for projects and programs designed to decrease traffic congestion and/or improve air quality.

Crosswalk - Any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface. (New York State Vehicle and Traffic Law)

Curb Lane - The furthest right travel lane on the outside edge of the roadway.

DCDPW - Dutchess County Department of Public Works. Dutchess County department charged with responsibility for county highway, bridge, and building facilities.

Directions - Dutchess County's master plan prepared by the Dutchess County Department of Planning and Development.

EPA - Environmental Protection Agency. Federal agency responsible for implementing the Clean Air Act.

FHWA - Federal Highway Administration. USDOT agency responsible for approval of transportation projects that affect the federal aid highway system. FHWA is a non-voting member of the PDCTC.

FTA - Federal Transit Administration. USDOT agency responsible for approval of mass transit projects. FTA is a non-voting member of the PDCTC.

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

HVTP - Hudson Valley Transportation Plan. See 21st Century Mobility.

Intermodal Transportation - A description of transportation using various forms of public and private transportation to reach a destination.

ISTEA - Intermodal Surface Transportation Efficiency Act of 1991 (pronounced ice-tea). Federal law that governs how federal transportation funds are spent. The requirements of ISTEA are administered jointly by FHWA and FTA.

Local Authorities - Every county, municipal or other local board, body or officer, county park commissioner, parkway authority, bridge authority, bridge and tunnel authority, the office of parks and recreation, the New York State Thruway authority or similar body or person having authority to enact laws or regulations relating to traffic under the constitution and laws of this state. (New York State Vehicle and Traffic Law)

LRP - Long Range Plan. The long-range plan for PDCTC is Transportation Plan (1994).

MNR - Metro-North Railroad (Metro-North). An operating affiliate of the Metropolitan Transportation Authority (MTA) that provides rail service to Dutchess County (among others). MTA is a voting member of the PDCTC.

MPO - metropolitan planning organization. Federally mandated organization for coordinating transportation planning in a designated metropolitan area. All urbanized areas over 50,000 population are required to have an MPO.

Multi-Use Path - A facility physically separated from the roadway and intended for shared use by bicycle, pedestrian and other non-motorized users.

MUTCD - Manual of Uniform Traffic Control Devices.

NAAQS - National Ambient Air Quality Standards. Federal standards that set allowable concentrations and exposure limits for various pollutants.

Neck Downs - A portion of the sidewalk that is extended at the end of a roadway into the existing lane to narrow the distance a pedestrian has to walk across the roadway.

NHS - National Highway System. A nation-wide system of highways and roads designated by the US Congress that serve to link the states, major urban areas, and other important destinations. Also a federal funding program for projects and programs on designated NHS facilities.

Non-attainment Area - Geographic area designated by the EPA where the national ambient air quality standards (NAAQS) have been exceeded. The Poughkeepsie Ozone Non-attainment area includes Dutchess, Putnam and northern Orange Counties.

NOCTC - Newburgh-Orange County Transportation Council. The MPO for Orange County.

NPTS - Nationwide Personal Transportation Survey. Periodic survey of travel behavior of people in the United States.

NYMTC - New York Metropolitan Transportation Council. The MPO for the New York metropolitan area that includes New York City, Long Island, and the Hudson Valley counties of Putnam, Rockland and Westchester.

NYSDEC - New York State Department of Environmental Conservation. NYSDEC is the state air quality agency/with primary responsibility for developing and amending the New York State Implementation Plan (SIP) for Air Quality.

NYSDOT - New York State Department of Transportation. NYSDOT is a voting member and Secretary to the PDCTC.

Park and Ride Lots - Parking lots provided for the use of car or van pool commuters. A parking lot to park one's personal vehicle close to home and continue the rest of the trip in a car or van pool or on public transportation.

PDCTC - Poughkeepsie-Dutchess County Transportation Council. The MPO for the Poughkeepsie metropolitan area which covers Dutchess County and the town of Lloyd (Ulster County). The PDCTC is responsible for adopting the long-range transportation plan, the Transportation Improvement Program, and an annual work program.

Pedestrian - Any person afoot or in a wheelchair. (New York State Vehicle and Traffic Law)

Right-of-Way - A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

Right of Way - The right of one vehicle or pedestrian to proceed in a lawful manner in preference to another vehicle or pedestrian.

Roadway - The portion of the highway, including shoulders, for vehicle use.

Shared Lanes - Shared lanes are streets and highways with no special provisions for bicyclists. Shared motor vehicle/bicycle use of a standard width travel lane.

Shared Roadway - Any roadway upon which a bicycle lane is not designated and which may be legally used by bicycles regardless of whether such a facility is specifically designated as a bikeway.

Shoulder - A paved portion of the roadway to the right of the edge stripe designated to serve bicyclists, pedestrians, and motorists, but not specifically marked for bike/pedestrian use.

Sidewalk - The portion of a highway designed for preferential or exclusive use by pedestrians. A separated, hard-surfaced paved path raised from the street by means of a curb or other barrier, designed primarily for pedestrian users.

SIP - State Implementation Plan. A plan mandated by the Clean Air Act that contains procedures to monitor, control, maintain, and enforce compliance with the NAAQS.

SOV - Single Occupant Vehicle. A vehicle carrying a single person.

STIP - State Transportation Improvement Program. A statewide compilation of MPO and rural area TIPs that is submitted to the federal transportation agencies for approval.

STP - Surface Transportation Program. The major federal funding program for projects and programs on federal-aid highways. STP funds can also be used for transit capital projects.

TIP - Transportation Improvement Program. A five-year program of highway, transit, and other transportation capital projects. All federally funded projects must appear on an approved TIP to be implemented.

TDM - Transportation Demand Management. Activities and programs designed to improve travel by reducing demand. Examples include ridesharing, transit, bicycling, and tele-commuting.

TSM - Transportation Systems Management. Activities and programs designed to improve travel by improving overall operations. Examples include signalization and turning lanes.

Traffic Calming - Strategies that employ physical measures to slow motorists through changes to the horizontal and vertical alignment of the road and by giving greater design priority to pedestrians, bicyclists and community amenities.

Traffic Calmed Area - A street, neighborhood or other public place where automobile use has been limited to lower priority use in favor of pedestrian and bicycle transportation and safety.

Trail - A separated, soft surface (stone dust, natural or other surface) designed primarily for pedestrian use.

USDOT - United States Department of Transportation. The federal cabinet department that includes the Federal Highway Administration and the Federal Transit Administration.

Walkway - Any road, path, or way which in some manner is specifically designated as being open to pedestrians, regardless of whether such facilities are designated for the exclusive use of pedestrians or are to be shared with other transportation modes.

Wide Curb Lane - The right-most through traffic lanes that are substantially wider than 12 feet (3.6 meters). (FHWA, 1994)

Appendix B - References

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Appendix C - Bicycle Route Evaluations

	Length (miles)	Surface Type	Surface Quality	Shoulder Type	Shoulder Quality	Shoulder Width (feet)	Traffic Level AADT or ADT	Speed Limit (mph)	Bicyclist Comfort	Grade
STATE HIGHWAYS										
Route 9										
Putnam County to Myers Corners Rd. (CR 93)	14.5	Blacktop	Fair	Paved	Bad	0-5	15,000 to 49,000	40-55	Fair	Flat
Myers Corners Rd. to Delafield St.	9.5	Blacktop	Fair	Paved	Bad	0-5	15,000 to 49,000	40-55	Fair	Flat
Delafield St. to Columbia County	26.1	Blacktop	Fair	Paved	Fair	0-5	7,250 to 9,250	30-55	Fair	Rolling
Route 9D	14.5	Blacktop	Fair	Unpaved	Bad	2-3	3,750 to 16,600	30-40	Bad	Flat
Route 9G	13.2	Blacktop	Fair	Paved	Fair	0-2	5,700 to 13,500	30-55	Fair	Rolling
Route 22	22	Blacktop	Fair	Paved	Bad	0-4	2,550 to 15,600	30-55	Fair	Hilly
Route 44	32.5	Blacktop	Good	Paved	Good	0-4	3,700 to 36,000	30-55	Good	Hilly
Route 44A	3	Blacktop	Good	Paved	Fair	0-2	2,500 to 2,700	40-55	Good	Rolling
Route 52	20.2	Blacktop	Fair	Unpaved	Bad	2-3	6,700 to 9,560	30-55	Fair	Rolling
Route 55	34	Blacktop	Good	Unpaved	Fair	2-6	3,650 to 36,800	40-55	Bad	Rolling
Route 82	41.5	Blacktop	Fair	Paved	Fair	0-2	6,650 to 19,000	30-55	Fair	Rolling
Route 113	3.2	Blacktop	Fair	Paved	Fair	2-4	11,000 to 20,600	40	Good	Rolling
Route 115	11.2	Blacktop	Good	None			2,000 to 16,400	30-55	Good	Hilly
Route 199	26.8	Blacktop	Fair	Paved	Fair	1-5	11,000 to 16,200	30-55	Fair	Hilly
Route 216	6.2	Blacktop	Good	Paved	Fair	0-4	2,900 to 2,950	40-55	Good	Rolling
Route 308	8.1	Blacktop	Good	Paved	Fair	0-2	4,300 to 5,900	30-55	Good	Hilly
Route 343	3.4	Blacktop	Fair	Paved	Fair	0-2	1,950 to 8,050	30-55	Good	Hilly
Route 376	14	Blacktop	Good	Paved	Good	2-5	5,350 to 21,800	30-55	Good	Flat

Bicycle Route Evaluations (con't)

	Length (miles)	Surface Type	Surface Quality	Shoulder Type	Shoulder Quality	Shoulder Width (feet)	Traffic Level AADT or ADT	Speed Limit (mph)	Bicyclist Comfort	Grade
COUNTY HIGHWAYS										
CR 3 Amenia	1	Blacktop	Fair	None			1,367 to 1,804	30-55	Good	Rolling
CR 4 Amenia, Dover	4.3	Blacktop	Fair	None			539 to 1,057	40-55	Good	Rolling
CR 6 Dover	6.2	Blacktop	Good	None			668 to 3,308	40	Good	Rolling
CR 13 Clinton, Pleasant Valley	1.3	Blacktop	Good	None			903 to 1,261	30	Good	Hilly
CR 14 Clinton	8.2	Blacktop	Good	None			279 to 3,433	30	Good	Hilly
CR 21 Dover, LaGrange, Union Vale	18.7	Blacktop	Fair	Unpaved	Bad	2-3	1,667 to 11,609	40-55	Fair	Hilly
CR 27 East Fishkill	1.5	Blacktop	Good	Paved	Fair	4-6	4,386 to 10,302	40	Good	Flat
CR 28 East Fishkill, Wappingers Falls	6.2	Blacktop	Fair	Unpaved	Bad	2-3	4,338 to 10,920	40	Fair	Hilly
CR 29 East Fishkill	1	Blacktop	Fair	Paved	Bad	0-2	7294	40	Fair	Flat
CR 31 East Fishkill	2.3	Blacktop	Fair	Paved	Bad	0-4	9,885 to 10,645	45	Fair	Rolling
CR 33 East Fishkill, LaGrange	3	Blacktop	Good	None			4,634 to 4,638	45	Good	Rolling
CR 34 Fishkill, Wappingers Falls	2.1	Blacktop	Good	Paved	Fair	0-1	617 to 10,970	35-55	Good	Rolling
CR 37 Hyde Park	1.4	Blacktop	Fair	None			1,773 to 1,831	40	Good	Rolling
CR 39 Hyde Park	3.5	Blacktop	Fair	None			1,989 to 2,694	40	Good	Rolling
CR 40 Hyde Park	2.5	Blacktop	Fair	None			1,959 to 4,469	45	Good	Rolling
CR 40A Hyde Park	1.1	Blacktop	Poor	None			8021	40	Fair	Flat
CR 41 Hyde Park, Pleasant Valley	7.8	Blacktop	Poor	None			9,356 to 9,387	30-55	Fair	Rolling
CR 44 LaGrange	0.7	Blacktop	Good	Unpaved	Bad	0-2	5,055 to 13,208	40	Bad	Flat
CR 49 LaGrange	3	Blacktop	Good	Unpaved	Bad	2-6	3,462 to 11,785	40	Fair	Flat
CR 53 Milan, Stanford	5.9	Blacktop	Fair	None			518	55	Good	Hilly
CR 75 Poughkeepsie	1.2	Blacktop	Fair	None			8,352 to 16,751	30-40	Fair	Hilly
CR 77 Poughkeepsie	3.7	Blacktop	Bad	Paved	Bad	1-5	11,045 to 18,774	40	Bad	Flat
CR 78 Red Hook	0.7	Blacktop	Good	None			233 to 2,489	30-40	Good	Rolling

Bicycle Route Evaluations (con't)

Evaluations of Proposed Routes	Length (miles)	Surface Type	Surface Quality	Shoulder Type	Shoulder Quality	Shoulder Width (feet)	Traffic Level AADT or ADT	Speed Limit (mph)	Bicyclist Comfort	Grade
CR 93 Wappinger	4.6	Blacktop	Fair	Paved	Fair	0-3	4,540 to 18,528	40	Fair	Rolling
CR 94 Wappinger	4.8	Blacktop	Fair	Unpaved	Bad	0-2	5,661 to 9,389	40	Good	Flat
CR 104 Wappinger	3	Blacktop	Very Good	Paved	Good	2-3	8,186 to 14,499	40	Very Good	Flat
LOCAL ROADS										
Town of Dover										
Maple Ln.	0.8	Blacktop	Good	None			N/A	30	Good	Flat
Town of East Fishkill										
Lake Walton Rd.	3.6	Blacktop	Fair	None			N/A	40	Good	Flat
Town of Poughkeepsie										
Boardman Rd.	1.8	Blacktop	Fair	Chip Stone	Bad	0-8	3534	30	Good	Flat
Burnett Blvd.	0.1	Blacktop	Good	None			N/A	30	Good	Flat
College Ave.	0.2	Blacktop	Fair	None			N/A	30	Good	Flat
Cottage Rd.	0.5	Blacktop	Good	None			N/A	30	Good	Hilly
Creek Rd.	0.7	Blacktop	Bad	Paved	Bad	0-3	N/A	40	Fair	Rolling
Fairmont Rd.	0.2	Blacktop	Bad	None			N/A	30	Good	Flat
Manchester Rd.	0.5	Blacktop	Good	None			N/A	30	Good	Flat
Old Post Rd.	0.7	Blacktop	Fair	None			N/A	30	Good	Hilly
Overocker Rd.	1.3	Blacktop	Good	None			N/A	30	Good	Flat
Pendell Rd.	0.4	Blacktop	Fair	None			N/A	30	Good	Rolling
Sheafe Rd.	2.9	Blacktop	Good	None			N/A	30	Good	Rolling
Spring Rd.	0.7	Blacktop	Good	None			N/A	30	Good	Flat

Bicycle Route Evaluations (con't)

Evaluations of Proposed Routes	Length (miles)	Surface Type	Surface Quality	Shoulder Type	Shoulder Quality	Shoulder Width (feet)	Traffic Level AADT or ADT	Speed Limit (mph)	Bicyclist Comfort	Grade
Town of Wappinger										
Main St.	0.6	Blacktop	Bad	None			N/A	30	Good	Hilly
City of Beacon										
Beekman St.	0.5	Blacktop	Very Good	None			N/A	30	Good	Hilly
Verplanck Ave.	1	Blacktop	Bad	None			7,229 to 7,238	30	Good	Rolling
LOCAL ROADS										
City of Poughkeepsie										
Brookside Ave.	0.3	Blacktop	Good	None			N/A	30	Good	Flat
Davis Pl.	0.2	Blacktop	Fair	None			N/A	30	Good	Flat
Dean Pl.	0.1	Blacktop	Fair	None			N/A	30	Good	Flat
Delafield St.	0.5	Blacktop	Fair	None			N/A	30	Good	Flat
Forbus St.	0.7	Blacktop	Fair	None			2,756 to 3,962	30	Good	Flat
Franklin St.	0.1	Blacktop	Good	None			N/A	30	Good	Flat
Fulton Ave.	0.5	Blacktop	Fair	None			9937	30	Good	Flat
Garden St.	0.1	Blacktop	Good	None			N/A	30	Good	Flat
Gerald Dr.	0.1	Blacktop	Fair	None			N/A	30	Good	Hilly

Bicycle Route Evaluations (con't)

	Length (miles)	Surface Type	Surface Quality	Shoulder Type	Shoulder Quality	Shoulder Width (feet)	Traffic Level AADT or ADT	Speed Limit (mph)	Bicyclist Comfort	Grade
Grand Ave.	0.8	Blacktop	Fair	None			N/A	30	Good	Flat
Hooker Ave.	2	Blacktop	Bad	None			14,017 to 17,754	30	Fair	Flat
Jefferson St.	0.2	Concrete	Fair	None			N/A	30	Good	Flat
Lincoln St.	0.4	Blacktop	Fair	None			N/A	30	Fair	Flat
Little George St.	0.05	Blacktop	Bad	None			N/A	30	Bad	Flat
Livingston St.	0.05	Blacktop	Good	None			N/A	30	Fair	Flat
Main St.	2.75	Blacktop	Fair	None			5,375 to 24,659	30	Fair	Flat
Mansion St.	0.5	Blacktop	Fair	None			1,674 to 6,281	30	Fair	Flat
Market St.	0.6	Blacktop	Fair	None			7,159 to 7,871	30	Fair	Flat
Mill St.	0.05	Blacktop	Fair	None			N/A	30	Fair	Flat
Montgomery St.	0.6	Blacktop	Fair	None			N/A	30	Fair	Flat
Mt. Carmel Pl.	0.3	Blacktop	Good	None			N/A	30	Good	Flat
N Bridge St.	0.2	Blacktop	Fair	None			N/A	30	Fair	Flat
N Clinton St.	0.7	Blacktop	Fair	None			N/A	30	Fair	Rolling
N Clover St.	0.1	Blacktop	Good	None			N/A	30	Fair	Flat
Rinaldi Blvd.	0.3	Concrete	Fair	None			N/A	30	Good	Flat
South Ave.	1.2	Blacktop	Fair	None			4787	30	Fair	Hilly
S Clinton St.	0.4	Blacktop	Fair	None			N/A	30	Fair	Flat
S Clover St.	0.2	Blacktop	Fair	None			N/A	30	Fair	Flat
S Perry St.	0.2	Blacktop	Fair	None			1344	30	Fair	Flat
Taft Ave.	0.05	Blacktop	Good	None			N/A	30	Fair	Flat
Union St.	0.05	Blacktop	Good	None			N/A	30	Fair	Flat
Verazzano Blvd.	0.3	Blacktop	Good	None			N/A	30	Good	Flat

Bicycle Route Evaluations (con't)

	Length (miles)	Surface Type	Surface Quality	Shoulder Type	Shoulder Quality	Shoulder Width (feet)	Traffic Level AADT or ADT	Speed Limit (mph)	Bicyclist Comfort	Grade
City of Poughkeepsie										
Washington St.	0.2	Blacktop	Good	None			N/A	30	Fair	Flat
Wilbur Blvd.	2	Blacktop	Fair	None			N/A	30	Good	Flat
PATHS										
Manchester Rd.	0.05	Concrete	Fair	None			N/A	None	Fair	Flat
Wilbur Blvd.	1	Blacktop	Fair	None	Fair	5	N/A	None	Fair	Rolling
Fieldwork completed Summer, 1993										

Appendix D - 1993 Bicyclist Survey

Dutchess County Department of Planning

Bicyclist Survey

The responses from this survey will be used to help formulate a bicycle plan and advocacy strategy for Dutchess County

Commuting

1. Do you commute to work or school by bicycle? Yes ____ No ____ (if no, go to 2.)

   a. How many miles on average each way? _____

   b. How many days a week on average do you commute? _____

   c. What is your current route ? _____

   d. What is your ideal route? _____

   e. Are there any specific troubles or trouble spots that inhibit your commuting by bicycle _____

2. What would improve your commute, or convince you to begin commuting to work or school? (Please rank in order 1-9, 1 being the most important, 9 being least.)

   __Separate Bike Paths (See Definitions
   __Separate Bike Lanes (See Definitions)
   __Wider Shoulders on existing roads
   __Bicycle Parking/Racks/Lockers
   __Showers at Work/School
   __Bicycle Sensitive Traffic Signals
   __Bicycle Friendly Mass Transit (i.e. Bicycle racks on Buses and Trains
   __Improved Road Surface Quality
   __Driver Education
   __Other _____

Errands

1. Do you use your bicycle for errands (shopping, appointments, etc.)? Yes ___ No ___ (If no, go to 2.)

   a. How many miles on average each way? ___

   b. How many days a week on average do you use your bicycle for errands? _____

   c. What is your current route(s) _____

   d. What is your ideal route(s)? _____

   e. Are there any specific troubles or trouble spots that inhibit you doing errands by bicycle? _____

2. What would improve your trip(s) or convince you to begin using your bike for errands? (Please rank in order 1-9, 1 being the most important, 9 being the least.)

   __Separate Bike Paths (See Definitions)
   __Separate Bike Lanes (See Definitions)
   __Wider Shoulders on existing roads
   __Bicycle Parking/Racks/Lockers
   __Showers at Destination
   __Bicycle Sensitive Traffic Signals
   __Bicycle Friendly Mass Transit (i.e. Bicycle racks on Buses and Trains
   __Improved Road Surface Quality
   __Driver Education
   __Other _____

Recreation

1. Do you use your bicycle for recreational riding? Yes ____ No ____ (If no, go to 4.)

   a. How many miles per week on average do you bicycle for recreation? _____

   b. How many times per week on average do you bicycle for recreation? _____

   c. What are your preferred roads to ride on for recreation? _____

   _____

   d. Are there any specific troubles or trouble spots that inhibit your recreational riding of your bicycle?

   _____

2. What would improve your recreational routes/riding? (Please rank in order 1-7, 1 being the most important, 7 being the least.)

   __Separate Bike Paths (See Definitions)
   __Separate Bike Lanes (See Definitions)
   __Wider Shoulders on existing roads
   __Bicycle Parking/Racks/Lockers
   __Bicycle Sensitive Traffic Signals
   __Improved Road Surface Quality
   __Driver Education
   __Other _____

3. What additional roads would you like to ride on for recreation, but currently do not? (Go to IV.)

   _____

4. If you currently do not ride your bicycle for recreational purposes, what improvements would get you to ride your bicycle for recreation? (Please rank in order 1-7, 1 being the most important, 7 being the least.)

   __Separate Bike Paths (See Definitions)
   __Separate Bike Lanes (See Definitions)
   __Wider Shoulders on existing roads
   __Bicycle Parking/Racks/Lockers
   __Bicycle Sensitive Traffic Signals
   __Improved Road Surface Quality
   __Driver Education
   __Other

Comments

If you have any other general comments or suggestions, please write here, include other pages if necessary.

_____

_____

_____

_____

Thank you for completing this survey. Responses will be compiled and used to help formulate a bicycle plan and advocacy strategy for Dutchess County. Please return survey to: Dutchess County Department of Planning, 27 High Street , Poughkeepsie, New York 12601. If you have questions or would like to provide further information, please contact Karl Dinkelspiel or Kealy Salomon at the Planning Department (914) 485-9681.

Definitions

Bike Path - A road or path physically separated from motorized traffic by open space or barrier and exclusively for use by non-motorized forms of transportation.

Bike Lanes - A portion of roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of cyclists.

Optional

Name: _____

Address: _____

Telephone #:

Appendix E - Illustrative Costs

There is limited information available about costs for bicycle and pedestrian facilities, but the costs for these facilities are low when compared with highway construction costs.

Guidelines prepared by NYSDOT-Bicycle and Pedestrian Program in 1994 gave "order of magnitude" costs for shoulder paving of $15,000 to $20,000 per mile and construction on separate rights-of-way between $150,000 and $350,000 in urban areas and $75,000 per mile in rural areas. Signing, striping and stencils can add between $2,500 to $5,000 per mile.

The NYSDOT publication also included additional information from NYSDOT and Florida (reproduced on the next two pages) that can be used to gauge rough costs, but there is no substitute for project-specific engineering estimates.

Unit Costs for Bicycle and Pedestrian Facilities

Bicycle Facilities	Unit Costs
Bicycle (Standard)	$150
Bicycle (Handicapped)	$1,500
Bike Lockers (For 2 Bicycles)	$1,000
Bike Path Per Mile (10 ft. Width) R & R Conversion	$125,000
Bike Path Per Mile, Resurfacing Only	$30,000
Bike Lane Per Mile (4 ft. Width-2 Sides) Pavement Extension	$185,000
Bike Lane Per Mile, Resurfacing Only	$25,000
Wide Curb Lane Per Mile (Add 2 Sides) Pavement Extension	$100,000
Wide Curb Lane Per Mile, Resurfacing Only	$15,000
Paved Shoulders Per Mile (4ft. Width-2 Sides) Rural	$100,000
Paved Shoulders Per Mile Resurfacing Only	$25,000
Sidewalks Per Mile (4 Inch Depth)	
4 ft. Width-2 Sides	$35,000
5 ft. Width-2 Sides	$45,000
6 ft. Width-1 Sides	$52,800
Pedestrian Overpass with Handicap Ramps (Per Square Foot)	$300
Pedestrian Bridge (Flat, Per Square Foot) On Existing Bridge	$100
Brickwork (Per Square Yard)	$45
Sodding Area/Final Dressing (Per Square Foot)	$2
"Walk/Don't Walk" Signal System	
Signalhead (Each)	$350
Activator (Each)	$70
Two Corners (Four of Each Unit Above)	$1,800
Four Corners (Eight of Each Unit Above)	$3,600
Raised Island/Refuge Island (Porkchop)	
Type "D" curb (Per Linear Foot)	$7.50
4 inch Sidewalk Fill (Per Square Yard)	$15.00
Handicap Curb Ramp (Concurrent With Construction)	$-0-

Source: Florida Department of Transportation, Tallahassee, Florida, 1993.

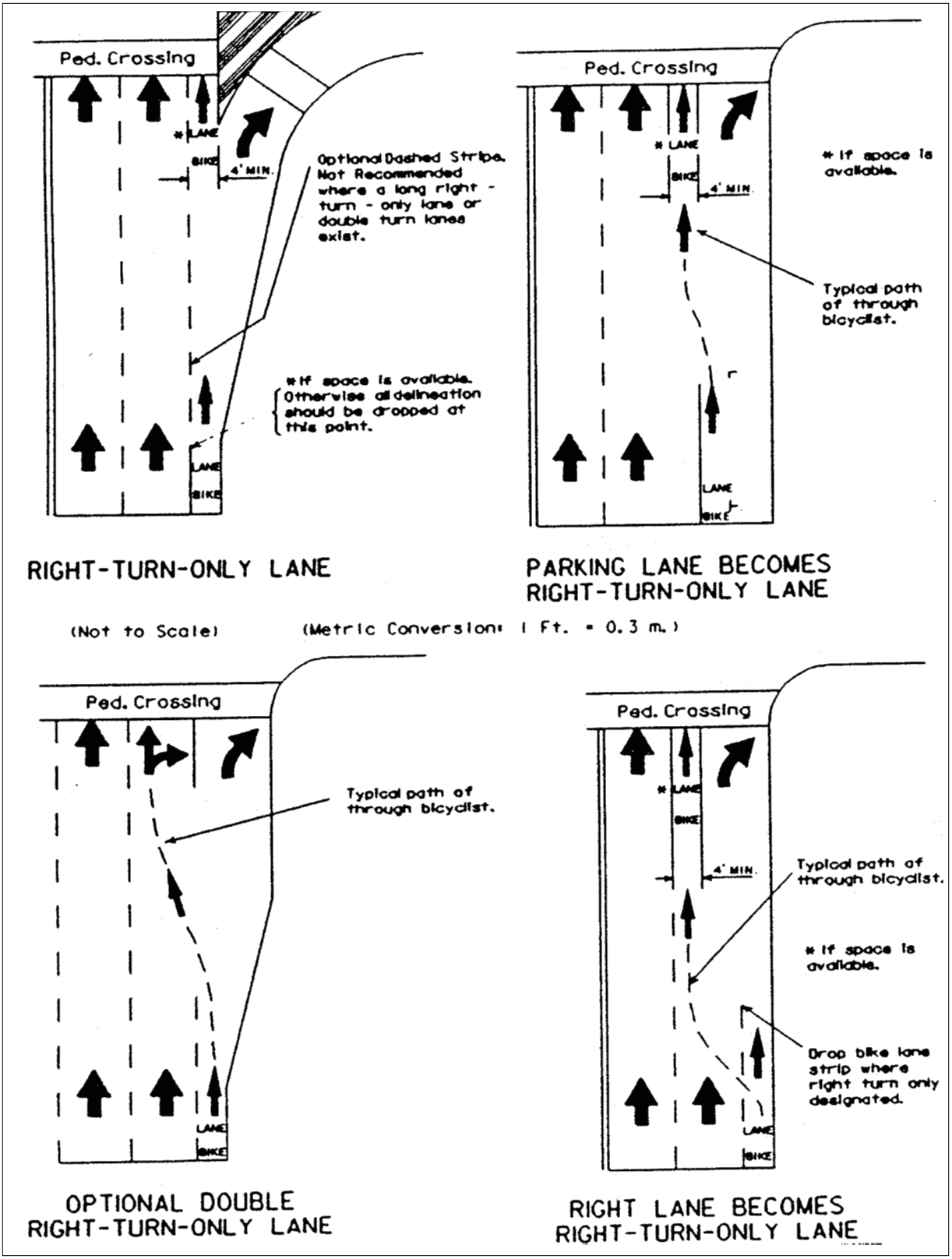
NYSDOT Unit/Item Cost Estimates For Pedestrian/Bicycle Facilities

(Since Cost Vary Statewide, Use Only For Sketch Planning Purposes)

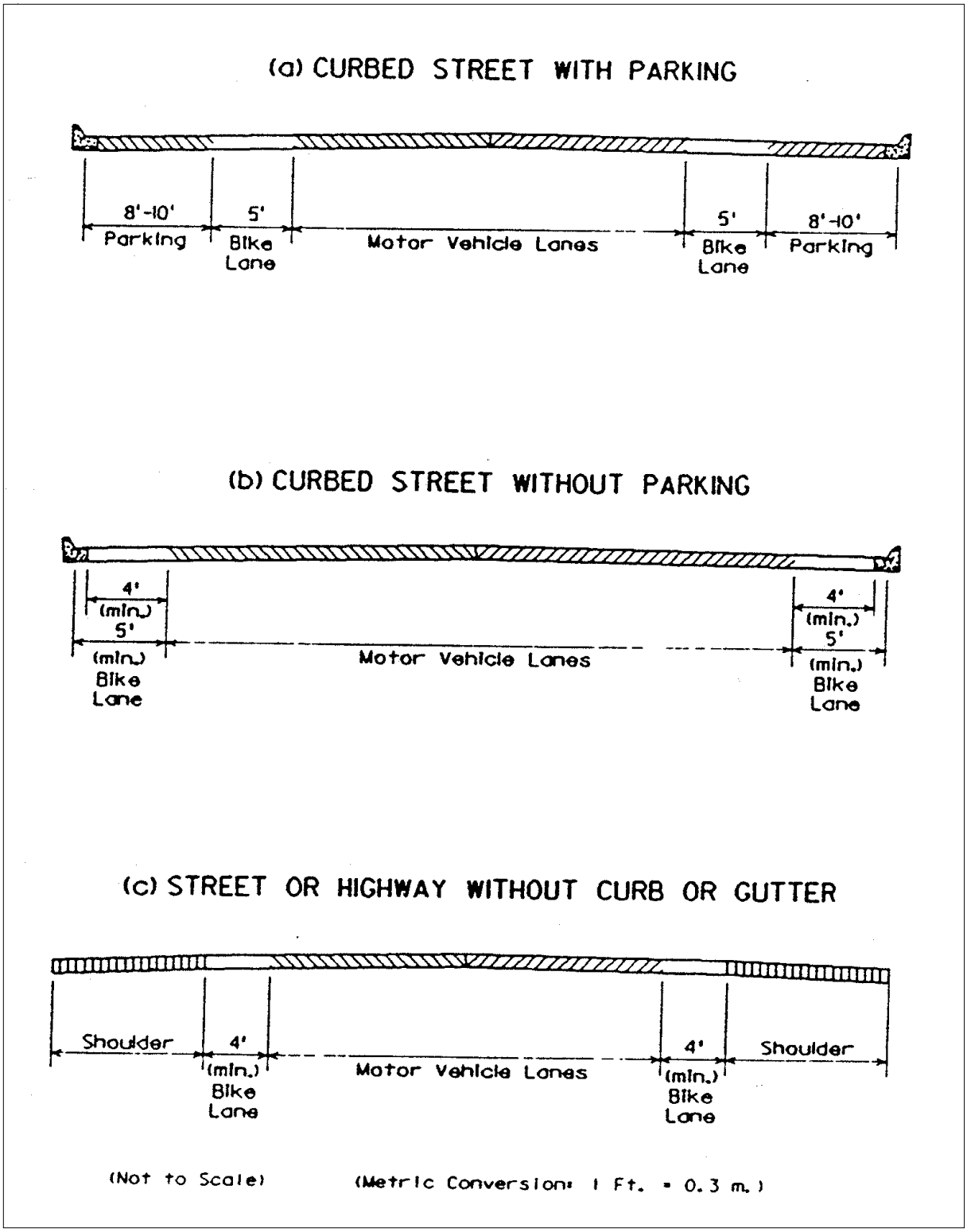
Curb Ramps	$ 1,500 Per Corner (2 each)
Signs	$ 200 Each (average size)
Concrete Sidewalk	$ 200 Per Square Yard
Markings & Stencils	$ 0.50 Per Linear Foot
Granite Curbing	$ 20 Per Linear Foot
Trees	$ 500 Each
Path Construction	$ 15 Per Linear Foot
Bicycle Lockers	$ 450 to 3,500 (based on design)
Bicycle Racks	$ 60 to 900 (based on design)
Maps/Pamphlets	$ 0.25 to 2 each

Source: NYSDOT *Bicycle/Pedestrian Program, and Landscape Architecture Bureau, Main Office, Albany, New York* 1994.

Appendix F - Typical Bicycle Lane Designs



Bicyle Lanes Approaching Motor Vehicles Right-Turn-Only Lanes.



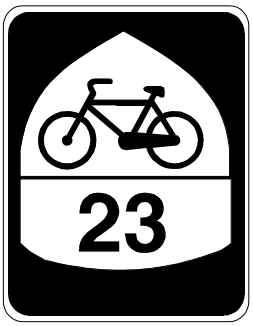
Typical Bicycle Lane Cross Sections.

Source: From AASHTO Guide for the Development of Bicycle Facilities, Copyright 1991 by the American Association of State Highway and Transportation Officials, Washington, D.C. Used by Permission.

Appendix G - Bicycle and Pedestrian Signs

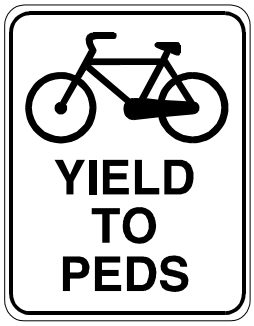
D11-1
24"x18"

M1-8
18"x24"



M1-9
18"x24"

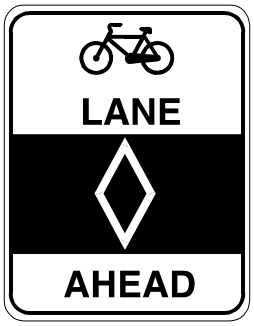
R9-5
12"x18"



R9-6
12"x18"

R9-7
12"x18"

R9-8
12"x18"



R3-16
24"x30"

R3-17
24"x30"

R5-6
24"x24"

R5-3
24"x24"

W11-1
30"x30"

W8-10

Roadway Signs
30"x30"
24"x18"

Bicyle Trail Signs
18"x18"
12"x9"

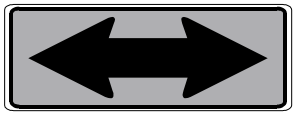
W1-1
18"x18"

W1-2
18"x18"

W1-4
18"x18"

W1-5
18"x18"

W1-6
24"x12"



W1-7
24"x12"

Source: Manual of Unigorm Traffic Control Devices,NYSDOT, 1994

Appendix H - Bicycle Network Routes

State Highways

Route 9	Putnam County to South Avenue (Poughkeepsie) and Delafield Street (Poughkeepsie) to Columbia County.
Route 9D	Entire corridor.
Route 9G	Entire corridor.
Route 22	Putnam County to Route 55 and CR 81 (Amenia) to Columbia County.
Route 44	Connecticut to Overocker Road (Poughkeepsie).
Route 44A	Entire corridor.
Route 52	Newburgh-Beacon Bridge to Route 216.
Route 55	Connecticut to Burnett Boulevard (Poughkeepsie).
Route 82	Entire corridor.
Route 113	Entire corridor.
Route 115	Entire corridor.
Route 199	Entire corridor.
Route 216	Entire corridor.
Route 308	Rhinecliff to Route 199.
Route 343	Entire corridor.
Route 376	Entire corridor.

County Highways

Town of Amenia

CR 3	CR 4 to CR 81.
CR 81	CR 3 to Harlem Valley Rail Trail.

Town of Clinton

CR 13	Route 82 (Pleasant Valley) to CR 14.
CR 14	CR 13 to Route 9G.
CR 17	Route 115 to CR 13.

Town of Dover

CR 4	CR 6 to CR 3.
CR 6	Route 55 to CR 4.

Town of East Fishkill

CR 27	Interstate 84 to Route 52.
CR 29	Route 376 to CR 33.
CR 31	Route 52 to Route 82.

Town of Hyde Park

CR 16	CR 41 to CR 14.
CR 37	Route 9 to Route 9G.
CR 40A	Route 9 to Route 9G.
CR 41	Route 9 to Route 9G.

Town of LaGrange

CR 21	CR 49 to Route 55 (Union Vale).
CR 43	Entire corridor.
CR 44	Entire corridor.
CR 46	Entire corridor.
CR 47	Entire corridor.
CR 49	Entire corridor.

Town of Lloyd (Ulster County)

CR 15	Entire corridor.
CR 22	Entire corridor.
CR 108	Route 9W to Route 44/55.

Town of Milan

CR 53	Route 82 (Stanford) to Route 199.

Town of Pleasant Valley

CR 41	Entire corridor.

Town of Poughkeepsie

CR 74	Entire corridor.
CR 75	Entire corridor.
CR 77	Entire corridor.

Town of Red Hook

CR 78	Tivoli to Route 9G.

Town of Rhinebeck

CR 85	Fishing Grounds Road to Rhinecliff.
CR 103	Route 308 to Route 199.

Town of Wappinger

CR 28	New Hamburg Station to Route 82.
CR 93	Route 9 to CR 94.
CR 94	Route 376 to CR 28.
CR 104	Entire corridor.

Town Roads

Town of Dover

Maple Lane	Route 22 to CR 6.

Town of East Fishkill

Lake Walton Road	Route 376 to Route 82.

Town of Lloyd (Ulster County)

Haviland Road	Entire corridor.
Tillson Avenue	Route 9W to Vineyard Avenue.

Town of Poughkeepsie

Boardman Road	Entire corridor.
Burnett Boulevard	Overocker Road to Manchester Road.
College Avenue	Fairmont Road to Raymond Avenue.
Cottage Road	Route 9G to Creek Road.
Creek Road	Little George Street to Cottage Road.
Fairmont Road	Manchester Road to College Avenue.
Manchester Road	Burnett Boulevard to Fairmont Road.
Overocker Road	Route 44 to Burnett Boulevard.
Old Post Road	Route 9 to Route 9.
Pendell Road	Route 9G to Creek Road.
Sheafe Road	Main Street to Old Post Road.
Spring Road	Route 9 to CR 77.

Town of Wappinger

Main Street	CR 28 to Sheafe Road.

Town of Rhinebeck

Mill Road	Entire corridor.

City Roads

City of Beacon

Beekman Street	Railroad Station to Route 9D.
Verplanck Avenue	Route 9D to Route 52.

City of Poughkeepsie

Brookside Avenue	Verazzano Boulevard to Garden Street.
Cedar Avenue	Entire corridor.
Davis Street	Main Street to Poughkeepsie Railroad Station.
Dean Place	Lincoln Street to South Avenue.
Delafield Street	Route 9 to Verazzano Boulevard.
Forbus Street	Hooker Avenue to Fulton Street.
Franklin Street	Lincoln Avenue to South Avenue.
Fulton Avenue	Forbus Street to Raymond Avenue.
Garden Street	Brookside Avenue to Route 9G.
Gerald Street	Mid-Hudson Bridge Overpass to Rinaldi Boulevard.
Grand Avenue	Hooker Avenue to Main Street.
Hooker Avenue	South Hamilton Street to Route 376.
Jefferson Street	Montgomery Street to Perry Street.
Lincoln Avenue	Livingston Street to Jefferson Street.
Little George Street	Creek Road to Salt Point Turnpike.
Livingston Street	Lincoln Avenue to South Street.
Main Street	Waryas Park to Route 44.
Mansion Street	Bridge Street to N. Hamilton Street.
Market Street	Montgomery Street to Mansion Street.
Mill Street	Mt. Carmel Street to N. Clover Street.
Montgomery Street	Jefferson Street to Hooker Avenue.
Mount Carmel Place	Verazzano Boulevard to Delafield Street.
North Bridge Street	Main Street to Mansion Street.
North Clover Street	Main Street to Mill Street.
North Clinton Street	Route 44/55 (West) to Route 9G.
Rinaldi Boulevard	Gerald Drive to Main Street.
South Avenue	Route 9 to Market Street.
South Clinton Street	Hooker Avenue to North Clinton Street.
South Clover Street	Union Street to Clover Street.
South Perry Street	Route 44/55 (East) to Main Street.
Taft Avenue	Main Street to Fairmont Avenue.
Verazzano Boulevard	Delafield Street to Brookside Avenue.
Union Street	Jefferson Street to South Clover Street.
Washington Street	Parker Ave (9G) to Route 44/55 (West).
Wilbur Boulevard	Spackenkill Road to Hooker Avenue.

Paths

Manchester Road	Manchester Road to Overocker Road.
Wilbur Boulevard	South end of Wilbur Boulevard.

Rail-Trails

Harlem Valley Rail Trail	Millerton to Wassaic hamlet.
Rhinebeck Rail Trail	Rhinebeck Dock to Old Stone Church.
Maybrook Rail Trail (Interim)	Creek Road (Poughkeepsie) to Route 376 (East Fishkill).
Highland Rail Trail	Railroad Bridge to Route 299.