

APPENDIX A  
REFERENCES

American Association of State Highway and Transportation Officials. "Guide for the Development of Bicycle Facilities." Washington , D.C., August 1991.

Creighton Manning, Inc. and Clough, Harbour & Associates, 2020 Vision, A Transportation Plan for Orange County, New York. Goshen, New York, 1994 & 1998.

Federal Highway Administration. "Selecting Roadway Design Treatments to Accommodate Bicycles." Washington, D.C. 1994

Florida Department of Transportation. " Walkable Communities. June, 1993.

Florida Department of Transportation. Florida Pedestrian Safety Plan. February, 1992

Genesee Transportation Council. "Bicycle and Pedestrian Action Plan." Rochester Metropolitan Area, New York, February 1996.

Institute of Transportation Engineers. Design of Pedestrian Facilities." November, 1993.

"Intermodal Surface Transportation Efficiency Act, 1991."

New York State Department of Motor Vehicles. "Summary of Motor Vehicle Accidents." 1992, 1993, 1994, 1995.

New York State Department of Transportation, "Bicycle and Pedestrian Planning." September 1994.

New York State Department of Transportation. "Highway Design Manual."

New York State Department of Transportation. "Pedestrian and Bicycle Facility Scoping Guide." March, 1995.

New York State Department of Transportation-Bicycle and Pedestrian Program. Sustainable Transportation for New York State: The 1995 Statewide Bicycle and Pedestrian Plan. March 1995

New York State Department of Transportation. Region 8. 21st Century Mobility "Moving People and Goods" The Transportation Plan for the Hudson Valley. June 1992, amended January 1996.

Poughkeepsie-Dutchess County Transportation Council. Bicycle and Pedestrian Plan. Poughkeepsie, New York, March 1996.

Statewide Bicycle Advisory Council. "Sharing the Road. New York State Bicycle Laws."

The Bicycle Federation of America. "The Bicycle Advocates Action Kit." Washington, D.C., 1993.

U.S. Department of Transportation, The National Bicycling and Walking Study. Transportation Choices for a Changing America. Washington, D.C.: U.S. Department of Transportation, Publication No. FHWA-PD-94-023.

U.S. Department of Transportation. "Moving America-New Directions, New Opportunities. A Statement of National Transportation Policy, Strategies for Action." Washington, D.C.: U.S. Department of Transportation, February, 1990.

Note: Most Federal, State and local transportation funds can be used for bicycle and pedestrian programs and projects.

## Appendix B

### DEFINITIONS

**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:** 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:** A path completely separated from vehicular traffic and within an independent right-of-way or the right-of-way of another facility. Paths separated from vehicles, but shared by both bicycles and pedestrians are included in this definition.

**Bicycle route:** A segment of a system of bikeways designated by the jurisdiction having authority with appropriate directions 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.

**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 NOCTC.

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

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

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

**Long Range Plan(LRP):** The long range plan for NOCTC is 2020 Vision.

**Metro-North Railroad:** An operating affiliate of the Metropolitan Transportation Authority(MTA) that provides rail service to Orange County and others. Metro-North contracts with NJ Transit to provide the trains.

**MPO:** Metropolitan planning organization. A 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(trail):** 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.

**Non-attainment Area:** Geographic area designated by the EPA where the national ambient air quality standards have been exceeded.

**NOCTC:** Newburgh-Orange County

Transportation Council is the MPO for the City of Newburgh metropolitan area that covers Orange County. The NOCTC is responsible for adopting the long-range transportation plan, the Transportation Improvement Program and an annual work program.

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

**OCDPW:** Orange County Department of Public Works. It is charged with the responsibility for county highway, bridge and building facilities.

**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 National Ambient Air Quality Standards.

**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 Plan. 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 telecommuting

**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.

**Trail:** A separated, soft or paved surface(stone dust, natural or other surface) designed for one or more uses.

**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.

## APPENDIX C

### FUNDING SOURCES

There are a variety of funding sources for building bicycle and pedestrian facilities. Several of the funding sources are part of the 1998 Transportation Equity Act of the 21st Century (TEA 21). The use of the federal funds must be consistent with this plan and the NOCTC long range plan, 2020 Vision.

National Highway System (NHS) funds 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) funds 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. The legislation calls for "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) funds 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. The bicycle projects are principally for transportation rather than recreation, and demonstrate a positive impact on existing traffic 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 responsible for administering the funds. Projects should be transportation related.

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

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

Federal Transit Funding allows 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 for the NHS, STP, CMAQ, and Scenic Byways programs is 80 percent with 20 percent match from state or local funds. Federal Lands projects are federally funded at 100 percent and FTA funding is 80 percent federal and 20 percent non-federal. New York State may fund half of the non-federal portion, leaving 10 percent for local match.

#### OTHER SOURCES

New York State Clean Water/Clean Air Bond Act funds can be used for development of the Hudson Valley Greenway Trail System including walkways and bikeways of various materials and intermodal storage areas for bicycles. Applicants can be a municipality or a not-for-profit corporation. They must provide the required match and will receive reimbursement from the State for money spent on the project.

New York State Greenway Small Grants Program may fund community trail planning, design, construction, mapping, intermodal trailhead amenities and signage. Applicants can be a municipality or a not-for-profit corporation. The project must fulfill the Greenway principles. Greenway will reimburse the applicant for its expenses but the applicant must demonstrate that it has the required matching funds.

**Appendix D  
Projects Identified in the NOCTC TIP**

	Project dimension	Project costs	Improvement type	TIP Program Category
Heritage Trail: Museum Village to the Village of Harriman: Multi-use trail for bicycle and pedestrian transportation. Pin# 875597	3.5 mi.	\$325,000	Bicycle & Pedestrian	I
Heritage Trail: Chester Railroad Station to Museum Village: Multi-use trail for bicycle and pedestrian transportation. Pin# 875597	4 mi.		Bicycle & Pedestrian	I
Heritage Trail Stage I: Hartley Road to downtown Middletown: Study and construct a multi-use trail for bicycle and pedestrian transportation. Pin# 875598	3.5 mi.	\$204,000 STP recomm. \$101,000	Bicycle & Pedestrian	I
Heritage Trail Bikeway: Downtown Middle-town to Howells on former railroad ROW for bicycle/pedestrian trail/path. Pin# 875705	2.7 mi.	\$866,000	Bicycle & Pedestrian	I
Route 208: Rte 17M--Washingtonville Includes resurfacing, shoulder rehabilitation, drainage improvements, guide rail improve. Pin# 848720	7.4 mi.	\$5,861,000	Resurface & shoulders	I
Route 208: Rte 17K--Village of Walden Resurface the pavement and shoulders, drainage and guide rail improvements. Pin# 848721	2.61 mi.	\$2,187,000	Resurface & shoulders	I
Route 208: Village of Walden to Ulster County Line Resurface the pavement, make shoulder repairs, drainage improvements, guide rail and sign replacements where necessary. Pin# 848722	2.68 mi.	\$2,810,000	Resurface & shoulders	I

**TIP Program Category**

I = Programed.

II = High Priority, will be considered in the next TIP cycle.

III = Will be considered in future cycles.



Proposed Bicycle and/or Pedestrian Facilities				
Proposed Project	Project Dimension	Cost	Improvement type	TIP Priority Category
<b>Delaware and Hudson Canal Towpath:</b> City of Port Jervis to Sullivan County Line: Inventory existing conditions of the towpath, clear site of trees, prepare towpath for black-topping, restore or build bridge crossings install security fencing and signs.	12 mi.	\$1,500,000	Bicycle & Pedestrian (may include other uses)	II
<b>Maybrook Branch Rail Trail: Village of Maybrook to the Ulster County Line:</b> Purchase right-of-way, prepare site for paving, restore bridge crossings, install security fencing, and put up safety and information signs.	6.8 mi.	\$850,000	Bicycle & Pedestrian	III
<b>Wallkill Valley Rail Trail:</b> Village of Walden to the Ulster County Line: Prepare the site for surfacing with black top, restore any bridge crossings, install security fencing, and put up safety and information signs.	2.7 mi.	\$337,500	Bicycle & Pedestrian	II
<b>Route 9W corridor: RBR</b> Rockland County Line to the Ulster County Line: Install bike route signs.  Make shoulder and drainage improvements where they are feasible and necessary.	23.23 mi.	TBD signs \$200 @ (average size)	Bicycle	II  III
<b>Route 209 highway corridor:</b> City of Port Jervis to the Sullivan County Line: Widen the shoulders to a minimum 4 feet, rebuild the drainage ways and install bicycle route signs.	12.07 mi.	TBD signs \$200 @ (average size)	Bicycle	II
<b>State Bike Route 17:</b> City of Newburgh via Route 207 to Village of Goshen via Route 17M/6 to Middletown, via Route 6 to PortJervis via Route 97 along the Delaware R. Improvements to be determined.	54.5 mi.	TBD	Bicycle	II
<b>Route 42 corridor: RBR</b> Sparrowbush to the Sullivan County Line: Improve shoulders for bicycles and install appropriate signs.	8 Mi.	TBD signs \$200 @ (average size)	Bicycle	II
<b>Route 211: RBR</b> Intersection of Route 209 to the City of Middletown: Improve shoulders to a minimum of 4(four) feet, and install signs.	11 mi.	TBD signs \$200 @ (average size)	Bicycle	II

TBD – to be determined      RBR – Regional Bicycle Route

Proposed Project	Project Dimension	Cost	Improvement type	TIP Priority Category
<b>Route 302: RBR</b> Route 17M to Route 52: Improve shoulders to a minimum of 4(four) feet. Install signs. (see Pine Bush Rail Trail)	10.18 mi.	TBD signs \$200 @ (average size)	Bicycle	III
<b>Route 94 &amp; 17A: RBR</b> New Jersey State Line to Village of Florida to Route 17M: Widen and pave shoulders to minimum of 4(four) feet and install signs. (see Pine Island Rail Trail)	14.7 mi.	TBD signs \$200 @ (average size)	Bicycle	III
<b>Route 17A: RBR</b> Village of Warwick to Orange County Park: Widen and pave shoulders to minimum of 4(four) feet and install signs.	1.72 mi.	TBD signs \$200 @ (average size)	Bicycle	III
<b>Route 17K: RBR</b> Bullville to Rte. 9W City of Newburgh Improve shoulders to a minimum of 4(four) feet and install appropriate signs.	22.12 mi.	TBD signs \$200 @ (average size)	Bicycle	III
<b>Route 52: RBR</b> Pine Bush to the City of Newburgh Improve shoulders to a minimum of 4(four) feet and install appropriate signs.	7.7 mi.	TBD signs \$200 @ (average size)	Bicycle	III
<b>Route 32: RBR</b> City of Newburgh to Route 17 and connecting via Old Route 17 to the Heritage Trail and the Metro–North rail station at Tuxedo. Improve the shoulders where necessary to a minimum of 4(four)feet and install signs.	11.48 mi.	TBD signs \$200 @ (average size)	Bicycle	III
<b>Palisades Interstate Parkway Bike Path:</b> George Washington Bridge to the Bear Mountain Bridge: Two lane bicycle path separate from automobile travel way.	4 mi. in Orange County	\$500,000	Bicycle	III
<b>Pine Island Branch of ERIE Railroad:</b> Village of Goshen to New Jersey Line via Florida and Pine Island: Purchase right-of-way, improve the surface for paving, rebuild bridge crossings, install security fencing and signs.	14mi.	\$1,750,000	Bicycle & Pedestrian (other uses possible)	III
<b>Mount Hope section of the former ERIE Railroad ROW:</b> Howells to Village of Otisville: Purchase ROW, improve surface for paving, rebuild any bridge crossings, install security fencing and signs.	7 mi.	\$852,273	Bicycle & Pedestrian (other uses are possible)	III

Proposed Project	Project Dimension	Cost	Improvement type	TIP Priority Category
<b>Pine Bush Branch of ERIE Railroad ROW:</b> Pine Bush to City of Middletown: Purchase right-of-way from private owners, improve surface for paving, rebuild bridge crossings, install security fencing and signs.	14 mi.	\$1,750,000	Bicycle & Pedestrian (other uses possible)	III
<b>Former NY Ontario &amp; Western Railroad ROW</b> City of Middletown to Village of Cornwall: Purchase ROW from private owners, improve surface for paving, rebuild bridge crossings, install security fencing and signs.	22.7 mi.	\$2,841,000	Bicycle & Pedestrian (other uses possible)	III
<b>Former Newburgh Branch of ERIE Railroad:</b> Heritage Trail near Chester to Vails Gate via Village of Washingtonville: Purchase right-of-way, improve surface for paving, rebuild bridge crossings, install security fencing and signs.	13.6 mi.	\$1,705,000	Bicycle & Pedestrian (other uses possible)	III
<b>Countywide Bicycle Improvements Contract:</b> Construct bicycle improvements (bikeways, bicycle parking, intermodal connections, bike racks on buses)	—	\$350,000 AP	Bicycle safety, access, economic, mobility benefit	II
<b>Countywide sidewalk contract:</b> Construct sidewalks along State, County and local highways including crosswalks, school crossings, and related pedestrian facilities.	—	\$500,000 AP	Pedestrian safety, access, mobility economic benefit	II
<b>Bicycle/pedestrian structures contract:</b> Construct bicycle and pedestrian bridges, underpasses, and other structures.	—	\$350,000 AP	Safety, access, mobility, economic benefit	II
<b>Bicycle/pedestrian Safety Education &amp; Promotion Program:</b> Provide grants to municipalities, schools, media, etc., for safety education and public service information. Maps and publication development will be included.	—	\$250,000 AP	Safety education	II
<b>Bicycle/pedestrian signals, pavement marking and signage contract:</b> Traffic operation and safety improvements.	—	\$150,000 AP	Safety, access benefit	II
<b>Drainage structures (sewer grates, catch basins):</b> Replace all drainage structures along state with bicycle friendly facilities.	—	TBD AP	bicycle safety, access, maintenance benefit	II
<b>Catskill Aqueduct Trailway Study:</b> Study feasibility of using right-of-way for bicycle/pedestrian facility.	13.6 mi. in Orange County	TBD	Bicycle and pedestrian	II

AP—Annual Program

APPENDIX E

BICYCLE AND PEDESTRIAN SIGNS



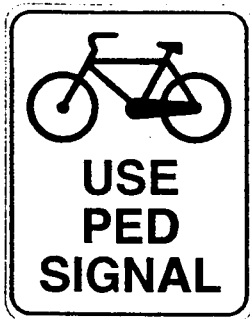
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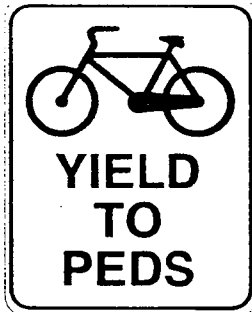
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M1-9  
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R9-5  
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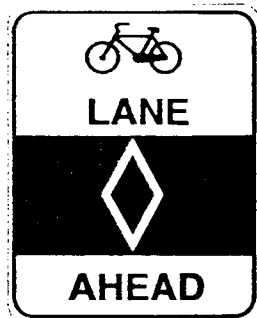
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R9-8  
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R3-16  
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R3-17  
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R5-6  
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R5-3  
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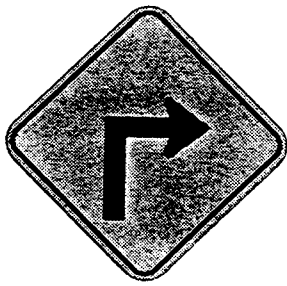
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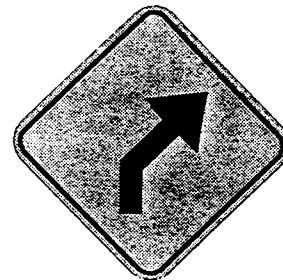
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Roadway Signs  
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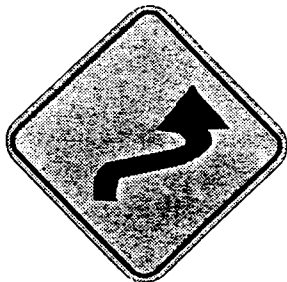
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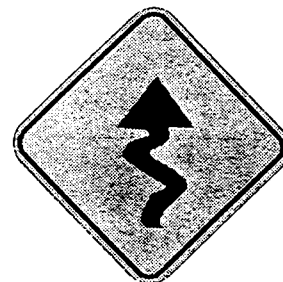
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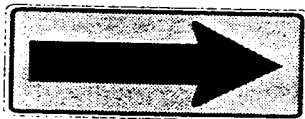
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