Walk Bike Dutchess

The Pedestrian & Bicycle Plan for Dutchess County, New York

Effective March 27, 2014

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Poughkeepsie-Dutchess County Transportation Council (2013-2014)

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Thank you to everyone who helped with this Plan!

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ADOPTION OF THE POUGHKEEPSIE-DUTCHESS COUNTY TRANSPORTATION COUNCIL (PDTC) BICYCLE AND PEDESTRIAN PLAN: WALK BIKE DUTCHESS

WHEREAS, the Poughkeepsie-Dutchess County Transportation Council has been designated by the Governor of the State of New York as the Metropolitan Planning Organization responsible, together with the State, for the comprehensive, continuing, and cooperative transportation planning process for the Dutchess County portions of the Poughkeepsie-Newburgh NY-NJ and New York-Newark NY-NJ-CT Urbanized Areas; and,

WHEREAS, the federal surface transportation programs that are the responsibility of the Poughkeepsie-Dutchess County Transportation Council are authorized by the Moving Ahead for Progress in the 21st Century Act (MAP-21) (Pub. L. 112-141, July 6, 2012); and,

WHEREAS, the Poughkeepsie-Dutchess County Transportation Council adopted a long-range, multi-modal metropolitan transportation plan entitled Moving Dutchess that meets current federal requirements for transportation planning; and

WHEREAS, as recommended in Moving Dutchess, the Poughkeepsie-Dutchess County Transportation Council has prepared an update to the 1996 Bicycle and Pedestrian Plan to address new federal and State requirements, recent sidewalk and trail improvements, and growing interest in walking and bicycling safety and access; and,

WHEREAS, Walk-Bike Dutchess is a product of a cooperative and comprehensive planning process of the Poughkeepsie-Dutchess County Transportation Council and recommends a variety of project ideas to improve walking and bicycling across Dutchess County; and,

WHEREAS, Walk-Bike Dutchess was developed in collaboration with member agencies and in collaboration with a Bicycle-Pedestrian Advisory Committee; and

WHEREAS, Walk-Bike Dutchess was developed in accordance with the Poughkeepsie-Dutchess County Transportation Council's public involvement procedures, with a 30-day public comment period held from January 15-February 14, 2014; now therefore be it

RESOLVED, that Walk-Bike Dutchess is hereby adopted by the Poughkeepsie-Dutchess County Transportation Council; and,

CERTIFICATE, the undersigned, duly qualified and Secretary of the Poughkeepsie-Dutchess County Transportation Council, certifies that the foregoing is a true and correct copy of a resolution adopted on March 27, 2014.

Date 27 2014

By William J. Gorton, P.E., Secretary
Poughkeepsie-Dutchess County Transportation Council
Walk Bike Dutchess

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Executive Summary

Walking and bicycling are increasingly being recognized as important elements of a complete transportation system. In Dutchess County, a number of recent projects have improved conditions for walking and bicycling. The Dutchess Rail Trail was completed and connected to the Walkway Over the Hudson, creating more than 13 miles of continuous shared-use trail. The first shared-lane markings (sharrows) in the County were installed in the City of Beacon, followed by the Village of Pawling and the Town of Amenia, increasing awareness (by both bicyclists and drivers) of bicyclists’ right to ride in the travel lane. And the Town of Fishkill adopted the first Complete Streets policy in the County, affirming the Town’s commitment to provide safe, comfortable, and convenient travel for all users—whether on foot, bicycle, in a bus or in a car—in the planning, design, and operation of its streets.

Dutchess County residents and visitors value walking and bicycling. The success of the Walkway (over 700,000 annual users and $24 million in economic impact each year in Dutchess and Ulster counties), the popularity of the Dutchess and Harlem Valley Rail Trails, and the investments occurring in some of our most walkable village and city centers demonstrate the power of walk- and bicycle-friendly communities.

The Walk-Bike Dutchess survey, which received over 1,300 responses, clearly demonstrates residents’ desire to walk and bicycle: When asked, “If equally good facilities existed, how would you prefer to travel (by bicycle, walking, public transit, or car)?” close to 60 percent would prefer to walk, bike, or take transit to local errands or shopping, and over 60 percent of respondents said they would prefer to walk, bike, or take transit to work. Almost 70 percent would prefer to walk, bike, or take transit to school, and over 85 percent would prefer to walk, bike, or take transit to parks and recreation.

However, many communities currently lack the sidewalks, shared-use paths, paved road shoulders, and other facilities that allow safe walking and bicycling for these everyday trips. Almost 50 percent of those who responded to the survey were somewhat or very dissatisfied with how their community is designed for walking, and almost 70 percent were somewhat or very dissatisfied with how their community is designed for bicycling.
Given the growing awareness of walking and bicycling as important elements of sustainable communities and quality of life, the Plan establishes this vision: **In Dutchess County, walking and bicycling will be part of daily life, providing safe and convenient transportation and recreation.**

The Plan aims to address the gap between our desire to make walking and bicycling part of everyday life, and the current limitations of our built environment—specifically in centers such as our cities, villages, town centers, and hamlets. The Plan is intended to serve as a resource for municipalities by summarizing design guidelines, analyzing data, highlighting best practices, recommending projects, and identifying funding sources and implementation steps to make walking and bicycling safer, more convenient forms of transportation and recreation in Dutchess County.

The Poughkeepsie-Dutchess County Transportation Council (PDCTC) developed the Plan in coordination with a Bicycle-Pedestrian Advisory Committee (BPAC) made up of residents as well as representatives from municipalities, County departments, NYSDOT-Region 8, and local organizations. It builds upon the first Bicycle and Pedestrian Plan for the County, completed in 1996, and Moving Dutchess, the long-range Metropolitan Transportation Plan completed in 2011. It is also consistent with the Centers and Greenspaces strategy developed by the County Planning Department.

The Plan recommends over one hundred specific projects to make walking and bicycling a safer, more convenient part of everyday life in our county. These include new sidewalks and crosswalks; road shoulder improvements; shared-use paths and trails; sharrows, bicycle lanes, and bicycle boulevards; traffic calming; specific studies; and others. These recommendations were developed through a review of previous plans, an analysis of issues by the BPAC, and suggestions by municipal officials, the public, and staff from NYSDOT-Region 8, Dutchess County Public Works, and Dutchess County Planning and Development. A 30-day public comment period was held from January 15 to February 14, 2014 and 14 comments were received. Please see Appendix A for a
**Executive Summary**

Effective March 27, 2014

summary of the comments and the public outreach methods used for the Plan. Below is a sample of the project recommendations, organized by location:

- **Amenia & North East**: Extend the Harlem Valley Rail Trail south to the Wassaic hamlet and north to Columbia County.

- **Beacon**: Install additional bicycle parking along Main Street and at key destinations.

- **East Fishkill**: Install sidewalks on Route 376 and Route 82 to connect the Dutchess Rail Trail to the Hopewell recreation center, library, Town Hall, and Gayhead Elementary School.

- **Hyde Park**: Develop a demonstration project for bicycle lanes on a County road, using St. Andrews Road (CR 40A).

- **Pawling**: Install sidewalks on Route 22, Reservoir Road, and Wagner Drive to connect the Village of Pawling to the Pawling Middle/High School campus.

- **Pleasant Valley**: Fill sidewalk gaps and improve pedestrian crossings on Main Street (Route 44) in the Town Center.

- **Poughkeepsie** (City): Implement the City’s bicycle route network with sharrows, bicycle lanes, bicycle boulevards, or simply as shared lanes.

- **Poughkeepsie** (City & Town): Redesign the Smith Street/Creek Road/Little George Street intersection and install sidewalks along Creek Road to improve walking access to Dutchess Community College.

- **Red Hook**: Widen shoulders on Route 199 between Route 9G and the Village line to improve bicycle access between the Town, Bard College, and the Village of Red Hook.

The Plan’s five Planning Area chapters (Upper and Lower Hudson; Upper and Lower Taconic; and Harlem Valley) each include a list of project recommendations and details. In addition to these specific project recommendations, the Plan includes a series of county-wide recommendations related to engineering practices, education, encouragement, enforcement, evaluation, policy, and personnel.

Funding for implementation is a critical constraint. While the Plan does identify potential funding sources, it does not provide any funding. Given this limitation, **the project ideas should be recognized as recommendations only**. They are intended to help municipalities and other agencies identify priorities, refine project ideas, and develop applications for federal, state, and other funding programs. Since the facility owner(s) will ultimately decide whether or not to implement a project, the Plan cannot and is not intended to require specific action by any municipality or agency.

The Plan sets ambitious goals to improve walking and bicycling in Dutchess County. Long-term goals (for 2040) include:

- Double the length of shared-use path in the county, from 25 to 50 miles.
- Build over 50 miles of sidewalks (from 435 to 486 miles).
- Install 20 miles of on-street bicycle facilities (bicycle lanes, sharrows, and bicycle boulevards).
- Add bicycle parking racks at 500 key destinations.
Walk Bike Dutchess

- Increase walking trips from 8.5 percent of all trips to 15 percent.
- Increase bicycle trips from less than 1 percent of all trips to 5 percent.
- Pass a Complete Streets policy in each municipality in the county.
- Increase the number of Walk to School Day and Bike to School Day events from 4 per year to 20.

With concerted efforts by municipal leaders, County and State staff, and residents, coupled with federal and State funding support, these goals are achievable – and we will help make walking and bicycling a part of everyday life in Dutchess County.
Chapter 1: Introduction

A lot has changed since the Poughkeepsie-Dutchess County Transportation Council (PDCTC) published its first Bicycle and Pedestrian Plan in 1996. The Dutchess Rail Trail, which was discussed as a possibility in the 1996 Plan (as the Maybrook Corridor), was completed in 2013, and now includes more than 13 miles of paved shared-use trail for walking and bicycling. The Walkway Over the Hudson, which was also mentioned in the 1996 Plan (as the Poughkeepsie Railroad Bridge), was completed in 2009 and connects the Dutchess Rail Trail to the Hudson Valley Rail Trail in Ulster County. And the Harlem Valley Rail Trail, shown as proposed in the 1996 Plan, now includes over ten miles in the eastern part of Dutchess County, with additional sections planned. These trails have proven to be extremely popular, providing residents of all backgrounds with opportunities to walk and bicycle in a pleasant, traffic-free environment.

At the same time, walking and bicycling for transportation have gained prominence as healthy, economical, and carbon-free alternatives to driving, and creating walkable, bikeable places is a top economic development strategy for communities looking to become more vibrant and attractive.

Pedestrian and bicycle planning is changing rapidly, with new designs and facility types to serve the needs of people of various abilities and comfort levels, particularly the ‘interested but concerned’ who want to bicycle for transportation but don’t feel comfortable sharing a travel lane with motor vehicles. In Dutchess County, we now have a great opportunity to build on the popularity of the rail trails and the increasing desire for alternatives to driving by developing networks of ‘Complete
Walk Bike Dutchess

Streets1 that make it possible for all of us to walk and bicycle safely to local destinations such as schools and colleges, shops and offices, parks and trails, libraries and community centers, and train stations and bus stops.

This Plan update accounts for new facilities and programs, evolving design standards and best practices, new legislation, and recent research and data. The intent of the Plan is to establish a vision for the county and serve as a resource for local municipalities. The update is also a recommendation of Moving Dutchess, the PDCTC’s Metropolitan Transportation Plan that was approved in 2011.

A. Why is Walking and Bicycling for Transportation Important?

The PDCTC’s mission is to provide the resources (funding) and tools (planning) necessary to build and maintain a transportation system that promotes the safe and efficient movement of people and goods in a sustainable manner. Walking and bicycling are key parts of a complete transportation system. In communities with connected networks of walking and bicycling infrastructure—sidewalks and crossings, bicycle lanes and shared-use paths, in addition to shared lanes and roadway shoulders—people can choose to walk and bike for transportation: for trips to school, work, shopping, visiting friends, and errands. Walking and bicycling become integrated into daily life, rather than solely a recreational activity. Several trends support an increased focus on walking and bicycling for transportation:

- Aging population: Across the country, the number of older adults is growing—fast. In Dutchess County, 6.4 percent of the population (almost 19,000 residents) is over age 75. This has increased from 5.0 percent (13,000 residents) in 1990 and 5.5 percent (15,000 residents) in 2000. Estimates show that county residents aged 75 and older are expected to represent 7.5 percent of the population by 2025 and almost 10 percent (over 32,000 people) by 2040.2 These older adults want to live in communities that are safe and accessible by walking. In fact,

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1 Complete Streets is a term used to describe streets that are designed, maintained, and operated to enable safe access for all: people walking, bicycling, taking transit, and driving; people of all ages and abilities. For more information, see [http://www.smartgrowthamerica.org/complete-streets](http://www.smartgrowthamerica.org/complete-streets) and [https://www.dot.ny.gov/programs/completestreets](https://www.dot.ny.gov/programs/completestreets).

2 Cornell University Program on Applied Demographics: [http://pad.human.cornell.edu/counties/projections.cfm](http://pad.human.cornell.edu/counties/projections.cfm)
the AARP has been a leading proponent of Complete Streets policies at the national level.

- Younger adults’ decreasing interest in driving: Research shows that the average miles driven by young people (16-35 years old) in the U.S. decreased by 23 percent between 2001 and 2009, and the share of young people without a driver’s license increased from 21 percent in 2000 to 26 percent in 2010.³ Instead of driving, young adults are increasingly walking, bicycling, and taking transit, and they are choosing communities that make it easy to do so.

- Rising obesity levels: Childhood obesity in the U.S. has more than tripled over the past 30 years. Many chronic diseases (including diabetes, heart disease, asthma and cancer) are linked to obesity and overweight. In Dutchess County, 30 percent of adults are overweight and almost 31 percent are obese; for children, about 17 percent are overweight and 19 percent are obese.⁴ A higher percentage of our children are overweight and obese than the national average, for both boys and girls of all ages. Regular physical activity such as walking and bicycling is critical to maintaining a healthy weight and improving health.

- Escalating fuel prices and uncertainty: Across the country, gasoline prices have increased sharply in the last decade, from an average of about $1.50 a gallon in 2000 to over $3.50 a gallon in 2011.⁵ In the northeast, prices are even higher: currently close to $4.00 a gallon. It is unlikely that the cost of gas will go down significantly; in fact, long-term projections show it will keep climbing. Increasing costs, as well as potential interruptions in the fuel supply, whether due to natural disasters or national and international events, highlight the importance of non-motorized transportation.

- Growing centers: In every decade between 1920 and 2000, suburbs grew faster than urban centers. Recently, this trend has switched: urban areas are now growing faster than suburbs.⁶ This is due to many factors, including the aging population, rising fuel prices, the tightening housing market, and an increasing desire by many for the amenities of urban or village living— including the ability to walk and bike between everyday destinations.

- Increasing environmental concerns: It is clear that our transportation choices affect our natural environment, from air quality to climate change. The projected increased frequency of floods and other extreme weather events raises the importance of reducing our impact on the environment and creating resilient transportation systems that provide options, such as walking and bicycling, that don’t require fuel or power and can function even during major storms.⁷

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⁴ Dutchess County Department of Health, Community Health Assessment 2010-2013
All of us want safe and convenient transportation options. Creating communities where it is safe and pleasant to walk and bicycle is a matter of social equity, because it provides options for all of us—young, old, those of us with disabilities, those without a car, and those who prefer not to drive.

B. Why Invest in Walking and Bicycling?

Building and maintaining walking and bicycling infrastructure bestows numerous benefits on our local economy, our communities, our health, and our environment.

Economic Benefits
Research has documented a number of economic benefits related to investing in walking and bicycling. First, walking and bicycling infrastructure projects create 11-14 jobs per $1 million spent, compared to 7 jobs per $1 million spent on road repair projects.8 Second, real estate is worth more in walkable communities: places with good walkability command about $7/square foot more in retail rents, $9/square foot more in office rents, and over $81/square foot more in residential sales value, compared to places with fair walkability.9

According to a survey by the National Association of Realtors, 77 percent of Americans consider having sidewalks and places to take a walk one of their top priorities when deciding where they’d like to live.10

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Walk Bike Dutchess

Third, walking and bicycling infrastructure generates tourism. Bicycling is now the second-most common form of outdoor recreation in the U.S. and the third-most popular vacation activity, with 60 million people taking over 2.6 billion bike outings per year. Americans spend more on bicycling gear and trips ($81 billion) than they do on airplane tickets and fees ($51 billion). Locally, the Walkway Over the Hudson has demonstrated the economic benefits of walking and bicycling projects: nearly half of the Walkway’s 700,000 annual visitors come from outside the region, and the Walkway generates more than $24 million in new economic impact each year in Dutchess and Ulster Counties.

Community Benefits
Studies show that people walking and bicycling spend more per week or month in local commercial districts compared to those who drive. This is in large part because it is easy to stop in at a local shop and make a purchase when passing by on foot or bicycle. Walkable and bikeable places create a sense of community: you’re more likely to greet a neighbor on the street when you’re walking or on a bicycle, rather than isolated in a car.

Health Benefits
According to a report by the State Comptroller, New York spent an estimated $11.8 billion on obesity-related costs in 2011, including treatment for conditions like diabetes, asthma, and heart disease. The U.S. Department of Health and Human Services’

12 Walkway Over the Hudson, 2012.
14 Soaring Health Care Costs Highlight Need To Address Childhood Obesity, Office of the State Comptroller, October 2012.
Physical Activity Guidelines recommend at least 2.5 hours of exercise per week (30 minutes, five times a week) for adults, and 60 minutes per day for kids. According to the Dutchess County Department of Health, 18.5 percent of County adults engage in no leisure-time physical activity. Walking and bicycling are easy, low-cost ways to increase physical activity and improve health. Walking 30 minutes a day, five days a week can halve the risk of heart disease and diabetes, and burn fat, strengthen muscles, build bone mass, lower blood pressure, improve balance, and reduce the risk of Alzheimer’s disease. Regular physical activity also improves mental health and reduces stress.

Environmental Benefits
Nationwide, half of all trips are three miles or shorter (less than a 20 minute bike ride), and one out of four trips is less than one mile (a 20 minute walk or five minute bike ride). However, most of these short trips are taken by car. If just some of these short trips were taken by foot or bicycle, traffic congestion would be lessened, air quality could improve, and our reliance on fossil fuels would be reduced.

C. Plan Purpose
The goal of this Plan is to provide a long-term (20-year) vision for walking and bicycling in Dutchess County. To this end, it includes an analysis of current walking and bicycling travel data, crashes, facilities, and programs, as well as specific performance measures and a series of County-wide recommendations.

The Plan is also intended to be a resource for local municipalities. In order to provide detailed information at the local level, the Plan divides the county into five Planning Areas: the Upper and Lower Hudson, Upper and Lower Taconic, and Harlem Valley (see Map 1). These Planning Areas are consistent with those used in Moving Dutchess, the PDCTC’s long-range transportation plan (with one change—moving Pawling to the Harlem Valley). The Design Guidelines, Funding and Implementation, and Planning Area chapters (which include local data and priority walking and bicycling improvements) can be used by municipalities

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16 Dutchess County Department of Health, Community Health Assessment 2010-2013.
17 National Household Travel Survey, 2009.
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Map created May 2014

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Map created May 2014
to apply current design principles, identify funding opportunities, and implement projects.

The Bicycle-Pedestrian Advisory Committee (BPAC) that assisted with the plan developed the following vision for our County:

**In Dutchess County, walking and bicycling will be part of daily life, providing safe and convenient transportation and recreation.**

To achieve this goal, we must make walking and bicycling possible for everyone: older adults and children; those of us with mobility limitations as well as the able-bodied. Sidewalks and paths must be accessible to those in strollers and wheelchairs and those with canes or walkers. Bicycle facilities must serve the ‘interested but concerned’ who want to bicycle but also want to feel safe and comfortable. Sidewalks, paths, and other facilities should provide access to local destinations and enable many types of trips to be made by foot or bicycle: local shopping and errands, trips to school and work, as well as recreational outings.

**D. Plan Organization**

The Plan is organized into seven chapters. The remaining chapters are as follows:

- Chapter 2: Federal, State, and Local Guidance- This chapter reviews relevant policies and plans, including recommendations from local plans (organized by the five Planning Areas).
- Chapter 3: Design Guidelines- This chapter provides descriptions and detailed guidance for the location and design of various walking and bicycling facilities.
- Chapter 4: Dutchess County Overview- This chapter reviews current demographic and transportation data, inventories existing walking and bicycling facilities, reviews crash data, and describes current walking and bicycling programs in the county.
- Chapters 5.1-5.5: Planning Area Overviews- These five chapters each focus on one planning area, and review key factors that influence walking and bicycling (land use, demographics, and existing facilities); analyze walking and bicycling patterns; and identify project recommendations to improve conditions for walking and bicycling.
- Chapter 6: County-Wide Recommendations- This chapter recommends projects and programs to be implemented at the county level based on the ‘Five E’s’ of engineering, education, encouragement, enforcement, and evaluation/planning, as well as local policies/plans and personnel, and sets short and long-term performance measures.
- Chapter 7: Implementation and Funding- This chapter provides steps to help municipalities undertake a local bicycle and/or pedestrian plan and to implement local projects. It includes descriptions of a variety of funding sources and an online cost estimation tool.

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18 In 2005, the Portland, OR Bicycle Coordinator identified four categories of cyclists based on their attitude towards bicycling for transportation and estimated their percentage of the population: strong & fearless (0.5%); enthused & confident (7%); interested but concerned (60%); no way no how (33%). The original article is online at [http://www.portlandoregon.gov/transportation/article/237507](http://www.portlandoregon.gov/transportation/article/237507).
The Appendices at the end of the Plan include additional tools and resources.

E. PDCTC Background

Established in 1982, the PDCTC serves as the designated Metropolitan Planning Organization (MPO) for Dutchess County. Federal regulations require that Urbanized Areas (U.S. Census defined metropolitan areas with over 50,000 people) be represented by a MPO, which is responsible for ensuring that Federal highway and transit funds are committed through a locally driven, comprehensive transportation planning process. The PDCTC includes representatives from local municipalities, the New York State Department of Transportation, and the Metropolitan Transportation Authority. More information can be found at www.dutchessny.gov/pdctc.htm.
Chapter 2: Federal, State, and Local Guidance

Interest in pedestrian and bicycle planning has increased substantially since the 1996 Bicycle & Pedestrian Plan. This chapter reviews guidance and previous plans at the federal, State, County, and local level, as well as local comprehensive plans and codes.

A. Federal

In 2010, US Secretary of Transportation Ray LaHood signed a new USDOT Policy Statement on Bicycle and Pedestrian Accommodation which states that: “The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.” The policy statement recommends that other agencies and organizations adopt similar policy statements, and:

- Consider walking and bicycling as equals with other transportation modes
- Ensure that there are transportation choices for people of all ages and abilities, especially children
- Go beyond minimum design standards
- Integrate bicycle and pedestrian accommodation on new, rehabilitated, and limited-access bridges
- Collect data on walking and biking trips
- Set mode share targets for walking and bicycling and tracking them over time
- Remove snow from sidewalks and shared-use paths
- Improve non-motorized facilities during maintenance projects

The 2012 federal transportation bill, Moving Ahead for Progress in the 21st Century (MAP-21), continues the eight planning factors of the previous bill, SAFETEA-LU. Section 5303 of the bill states that the metropolitan planning process shall provide for consideration of projects and strategies that will support economic vitality, increase safety, increase security, increase accessibility and mobility, protect and enhance the environment and improve quality of life, enhance connectivity across and between modes, promote efficient system management, and emphasize preservation of the existing system. Walking and bicycling infrastructure directly supports these goals.

The Americans with Disabilities Act of 1990 (ADA) aims to prevent discrimination against individuals with disabilities, including by making public rights-of-way accessible to all people. The U.S. Access Board developed detailed Public Right of Way Accessibility Guidelines (PROWAG) such as minimum sidewalk widths, maximum grades and slopes, and standards for curb ramps and crossings beginning in 1992, with revisions in 2005 and 2011. These guidelines continue to evolve based on research and best practices.
B. State

New York State’s *Complete Streets Act (2011)* states that “For all State, county, and local transportation facilities that receive both federal and state funding and are subject to Department of Transportation oversight, the department or agency with jurisdiction over such facilities shall consider the safe travel on the road network by all users of all ages, including motorists, pedestrians, bicyclists, and public transportation users through the use of complete street design features in the planning, design, construction, reconstruction, restriping and rehabilitation.” The law exempts resurfacing, maintenance, and pavement recycling projects as well as roads where walking and bicycling is prohibited by law. It also provides exemptions for situations when the cost would be disproportionate to need (based on land use context, traffic volumes, population density, or other factors) or where there is demonstrated lack of need based on the above factors or demonstrated lack of community support.

New York State’s *Smart Growth Public Infrastructure Policy Act (2010)* requires that state infrastructure spending meet ten specific smart growth criteria. These include: using, maintaining or improving existing infrastructure; locating projects in municipal centers or areas designated for infill development; protecting open space; fostering mixed land use and compact development; improving transportation choices; coordinating between State and local agencies; participating in community-based planning; ensuring predictability in codes; and promoting sustainability. The Act applies to projects approved, undertaken, supported or financed by State agencies or authorities, including through grants, awards, loans and assistance programs.
NYSDOT established a new **Pedestrian and Bicycle Policy** in 2010 which updated its 1996 policy. The policy states that NYSDOT will promote pedestrian and bicycle travel for all persons on the State transportation system. NYSDOT’s guidance states that the policy will be addressed in all planning, programming, scoping, design, construction, maintenance, operations, permits, and education and outreach programs. The objectives listed include promoting development of walking and bicycling networks; increasing the number of pedestrian and bicycle trips; reducing pedestrian and bicycle fatalities and serious injuries; and integrating walking and bicycling as viable modes for connectivity, smart growth, and transit oriented development.

In 2010, NYSDOT drafted an **ADA Transition Plan** based on an ADA inventory of sidewalks, crosswalks, and curb ramps on State roads. The plan identifies intersections and sidewalk segments on State roads that are not fully ADA accessible. In Dutchess County, NYSDOT identified a total of 78 locations-- 39 intersections and 39 sidewalk segments-- that are not ADA accessible. These are listed in **Appendix C to Moving Dutchess**. According to the plan, 90 percent of the 43 miles of NYSDOT sidewalks in the county comply with ADA. The next phase of NYSDOT’s plan will include a prioritized list of improvements. NYSDOT expects to comply with ADA statewide by March 2027. ADA improvements in Dutchess County are currently planned to be completed by 2018.

The **New York Statewide Trails Plan** (2010) establishes a vision of statewide trails networks including shared-use trails (such as rail trails), hiking trails, mountain bike trails, bicycle routes, and water trails to provide recreational opportunities; connect parks, forests, open spaces, historic and cultural sites, public facilities, communities, and neighborhoods; attract economic opportunities; provide for alternative means of transportation; support tourism; promote residents’ health and well-being; and enhance quality of life. Within Dutchess County, the network includes the Hudson River, the Dutchess Rail Trail, Harlem Valley Rail Trail (and extensions north and south), Walkway Over the Hudson, Appalachian Trail, the proposed Greenway Trail along the Hudson River, and a proposed east-west rail trail (using Metro-North’s Beacon Line) into Putnam County. The plan describes trail types; outlines trail needs, trends, and benefits; and includes design standards for trail development.

NYSDOT’s **Strategic Highway Safety Plan** (SHSP) is intended to promote practices that will reduce fatal and injury crashes. The 2010 SHSP includes objectives, performance measures, and strategies for seven emphasis areas, based on crash data: driver behavior, pedestrians, large trucks, motorcycles, highways, emergency medical services, and traffic safety information systems. To reduce pedestrian and bicycle fatalities, the SHSP calls for several strategies:

- Promote public awareness of pedestrian and bicycle safety issues and provide education and training for pedestrians, bicyclists and motorists
- Develop and implement engineering solutions to pedestrian and bicycle safety problems
Walk Bike Dutchess

Chapter 2: Federal, State and Local Guidance

- Increase enforcement in documented high pedestrian crash locations, using tools such as electronic crash reporting to identify real-time hot spots
- Reconvene the New York State Bicycle and Pedestrian Safety Advisory Council

The SHSP specifically encourages MPOs (such as the PDCTC) and communities to implement pedestrian and bicycle safety programs and for schools to participate in Walk to School programs, Walking School Bus, Rolling School Bus, bicycle rodeos, and Safe Routes to School programs. Bicycle maps, safety brochures, and media campaigns are also encouraged. In terms of engineering, the SHSP encourages Safe Routes to School projects; sidewalk, crosswalk, and shoulder improvements; bicycle lanes, shoulders and multi-use trails; and pedestrian countdown timers, particularly at high-crash locations. It also encourages MPOs and local communities to develop bicycle plans. It highlights New York City’s Safe Routes to Transit and Safe Streets for Seniors programs, and the Capital District Transportation Committee’s (CDTC) ‘Capital Coexist’ bicycle education campaign.

The Governor’s Traffic Safety Committee’s (GTSC) Highway Safety Strategic Plan (HSSP) is similar to the SHSP, but focuses more on behavioral approaches to safety. The 2013 HSSP includes a focus area on Pedestrian, Bicycle, and Wheel-Sport Safety. To reduce pedestrian and bicycle injuries and fatalities, the HSSP emphasizes public awareness, promoting a “Share the Road” message; safety education, particularly to youth; expanding bicycle rodeos and helmet distribution and fitting programs; and developing community-based coalitions to focus on pedestrian and bicycle safety.

C. Region/Mid-Hudson Valley

The Mid-Hudson Region Economic Development Council’s Strategic Plan, adopted in November 2011, supports increasing walking and bicycling as part of a strategy to develop a green economy. The Plan recommends rewarding projects that address sustainable practices, including those that “promote reduction of transportation demand; shifting from single-occupant vehicles to reliance on transit, ride sharing/car pooling, and alternative modes of transportation such as biking and walking; using hybrid vehicles or non-fossil fuels in vehicles; and reducing fuel consumption” (page 46, Goal X, Strategy C).

The Mid-Hudson Regional Sustainability Plan (2013) was developed by the Mid-Hudson Planning Consortium, a group of Hudson Valley counties, local governments, and other organizations, to promote economic development, environmental sustainability, and quality of life in the context of climate change. The Plan emphasizes the role of transportation in creating more sustainable communities: one of the Plan’s objectives is to create more ‘complete communities’ where residents can access jobs, services, schools, recreation, and

The Regional Sustainability Plan prioritizes non-motorized transportation (source: hudsonvalleyregionalcouncil.org).
open space without having to drive (Objective TL2, page 4-21). This involves investing in sidewalks, crosswalks, bike lanes, and other non-motorized infrastructure to create Complete Streets. One of the Plan’s high-priority initiatives for implementation is to improve streets, sidewalks and trails to promote non-motorized transportation (page 4-33).

The Hudson Valley Regional Council’s Comprehensive Economic Development Strategy (CEDS) analyzes the region’s strengths, weaknesses, opportunities, and threats and establishes goals and strategies related to economic development. The CEDS supports the vision of the Mid-Hudson Regional Sustainability Plan, including clustering development in existing centers to reduce automobile dependency, improve the environment, and foster economic development.

D. Dutchess County

The PDCTC’s 1996 Bicycle and Pedestrian Plan was the first bicycle and pedestrian plan for Dutchess County. It includes a description of existing conditions, results of a bicyclist survey, a discussion of major issues, and a series of recommendations, including a detailed inventory of characteristics and needs along existing and potential bicycle routes on State and County roads and local streets.

Major issues identified in the Plan include the following, organized by the ‘Four E’s’ of Encouragement, Education, Enforcement, and Engineering:

• Encouragement: pedestrian and bicycle access via walking and bicycling facilities and transit accommodation; safety via adequate facilities, lighting, patrols, signage, and bicycle storage; bicycle parking at major destinations and high-use areas; workplace incentives and facilities (showers, lockers) and information about potential routes; and signs for bicycle routes and crosswalks.

• Education: education in schools and for drivers about the rules of the road and bicycle and pedestrian safety.

• Enforcement: police enforcement of existing vehicle and traffic laws affecting walking and bicycling, and local police bicycle patrols.

• Engineering: facilities including road shoulders; wide curb lanes; bicycle lanes; bicycle paths and multi-use paths; sidewalks; traffic calming features; pedestrian signals and right turn on red restrictions; and bus shelters, lighting, landscaping, and seating. This section also discusses drainage grates, railroad crossings, sidewalk surfaces, and maintenance; pedestrian signals and signal detection of bicycles; signage and pavement markings; and bicycle parking.

The 1996 Plan’s recommendations include the following:

• Bicycle Network: the Plan includes maps and lists of recommended bicycle routes connecting residential areas to activity centers and employment destinations. Recommendations for these routes include a minimum shoulder width of four feet in rural and suburban areas, a 14 foot curb lane in urban areas, and bicycle lanes and/or separate paths on some State roads. The proposed bicycle networks for the County, City of Poughkeepsie, and City of
Beacon are shown in Maps 2 and 3. Cities, Towns, and Villages are recommended to develop their own routes for local trips.

- Pedestrian Zones: the Plan includes maps of Pedestrian Zones in cities, villages, hamlets, and activity centers. Recommendations for these zones include a complete sidewalk network connecting community uses, crosswalks at all major intersections, curb ramps, pedestrian signals, buffer zones, traffic calming, and lighting and other amenities.

- Land Use Strategies: the Plan recommends compact, mixed-use development within a ten minute walk of key community destinations to support walking and bicycling.

- Bicycle and Pedestrian Strategies: the Plan includes strategies related to education and safety, specific pedestrian and bicycle strategies, and project recommendations for routes identified in the bicycle network, bridges, paths, and local streets.

The Plan states that the recommendations will be considered as part of the PDCTC’s review of proposed transportation projects, and that all projects included on the Transportation Improvement Program (TIP) should be evaluated for inclusion of walking and bicycling facilities. In particular, the roads identified on the Bicycle Network should be considered priorities and proposed projects on those roadways should include walking and bicycling facilities as recommended in the Plan.

Several of the 1996 Plan’s recommendations have been implemented: the Planning Department now maintains a GIS-based sidewalk inventory; sidewalks have been built and upgraded in many designated centers; and the PDCTC has conducted a series of sidewalk inventory projects in collaboration with municipalities.

The County Division of Public Transit has installed bike racks on all its buses and began a program to provide bicycle parking racks to municipalities. Access to the Mid-Hudson Bridge walkway was improved with the Gerald Drive ramp. Finally, the Dutchess Rail Trail and Walkway Over the Hudson have been completed and connected.

Greenway Connections, developed by the Dutchess County Department of Planning and Development, describes the Greenway Compact program, a State-sponsored, voluntary partnership between the Hudson River Valley Greenway Communities Council and local governments to protect natural and cultural resources, foster economic development, improve public access and trails systems, support regional planning, and promote heritage and environmental education. Greenway Connections envisions an integrated system of ‘greenways’: scenic roads and streets, bicycle and transit routes, open space corridors, waterways, and sidewalks linked to trails throughout Dutchess County and the region. Communities that join the Greenway Compact are eligible for State grants, planning assistance, and other benefits.
1996 Bicycle and Pedestrian Plan
City of Poughkeepsie
Bicycle Network

1996 Bicycle and Pedestrian Plan
City of Beacon
Bicycle Network

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Map created May 2014
Greenway Connections encourages compact, walkable centers and a network of connected streets and trails that encourage walking and bicycling. It also includes a series of Greenway Guides with specific design recommendations for land development. The following Greenway Guides specifically discuss walking and bicycling infrastructure:

**Walkable Communities:** This guide discusses four steps to creating a walkable community: photograph/videotape your streets; observe and talk to seniors and kids; inventory and map all pedestrian features and obstacles; and develop and agree on a list of priority projects. It also provides guidelines for sidewalk design, sidewalk locations, crosswalks, and traffic speeds and signals.

**Commercial Strip Redevelopment:** This guide outlines “seven steps to retrofit the strip,” including building sidewalks and crosswalks to connect shared parking, transit, stores and housing; providing street trees and landscaping; moving buildings to the street frontage; and encouraging a mix of uses to build a walkable neighborhood.

**Highways into Greenways:** This guide provides guidance for scenic streets in centers. Recommendations include sidewalks behind planting strips with rows of street trees; narrow lanes for slow speeds; planted medians where possible; frequent, boldly marked crosswalks; on-street parking, continuous storefronts along sidewalks; parking lots toward the side or rear of buildings; pedestrian-scale signs and lighting; and speed limits under 30 miles per hour.

**Street Trees:** This guide states that “Street trees along a main commercial street are perhaps the single most effective physical addition to make sidewalks seem welcoming and more walkable.” It recommends placing trees between the sidewalk and curb, 20-30 feet apart in centers with slow speed limits and 30-40 feet apart (and slightly back from the road) on higher-speed roads. It states that in addition to providing protection from traffic for walkers, street trees help slow vehicle speeds by narrowing the driver’s field of vision.

**Centers and Greenspaces:** This guide emphasizes protection of open space and agricultural land through focusing development in mixed-use centers that support walking, bicycling, and transit. It encourages municipalities to identify Greenspaces for protection and priority growth areas (land in or adjacent to existing centers, or strip districts for conversion into new centers) for development. Ideally, each major center should have the following within a half-mile walking radius: sidewalks, transit service, and a mix of housing, stores, jobs, parks, schools, and civic uses.
**Slower, Safer Streets:** This guide promotes narrow streets for cities, villages, and hamlet centers, with buildings close to the street, sidewalks and crosswalks, street trees, on-street parking, and tight corner radii to slow vehicle speeds. It includes recommended sections for various local street types.

**Building Bicycle Networks:** This guide describes various bicycle facilities, including shared lanes and shared-lane use markings, road shoulders, bicycle lanes, bicycle boulevards, shared-use paths, and bicycle parking.

**Moving Dutchess,** the PDCTC’s 2011 Metropolitan Transportation Plan (MTP), includes data, performance measures, and recommendations related to walking and bicycling. The data related to walking and bicycling has been incorporated and expanded in this Plan. One of the MTP’s ten goals is to increase bicycling and walking to reduce traffic, improve operations, and promote sustainable development. Other goals relate to improving safety, reducing traffic congestion, increasing transit ridership, promoting smart growth, and increasing public participation in transportation planning. The MTP includes specific objectives and performance measures to support these goals. The performance measures related to walking and bicycling have been modified and expanded upon for this Plan (see Chapter 6). The MTP’s recommendations related to walking and bicycling are listed in Appendix A.

### E. Local Plans

The PDCTC and Dutchess County Department of Planning and Development have produced or assisted with many local studies related to walking and bicycling since the 1996 Bicycle and Pedestrian Plan. Recommendations from each are summarized briefly below, organized by Planning Area. Most of the published studies are available on the [PDCTC website](http://www.pdctc.org).

#### 1. Lower Hudson

The **Poughkeepsie Transportation Strategy** (1997) focused on the waterfront, city center, and northside. Key goals included:

- **City Center:** Redesign the arterials to more walkable boulevards; and restore two-way circulation on Market Street.
- **Northside:** Improve sidewalks, crosswalks, and landscaping along Smith and Cottage Streets.
- **Waterfront:** Extend the park and promenade north to the Fallkill Creek with Greenway linkages north and south [partially...
implemented]; build a direct path between the railroad station and the waterfront; and create a waterfront walking district around the train station with connections to Mount Carmel, lower Main Street, and the bridges.

The Route 9 Land Use and Transportation Study (2007) focused on pedestrian safety, traffic growth, and future development around Route 9 near Marist College. The study recommended the following improvements:

- Design and construct a pedestrian bridge over Route 9 between Fulton Street and Beck Place to link Marist College west and east campus complexes. Remove the Donnelly Hall crosswalk and maintain at-grade crossings at other signalized intersections. [A pedestrian underpass was constructed in 2011.]
- Construct a sidewalk and/or separated path on the west side of Route 9 from the Marist north gate to Quiet Cove Park.
- Construct a multi-use trail on the CSX West Branch (east of Route 9, near Route 9G and West Cedar Street).
- Build a continuous Hudson River Greenway trail along the waterfront in Poughkeepsie and Hyde Park.
- Use the main CSX right-of-way for a non-motorized, multiuse trail connection to the Dutchess Rail Trail at Morgan Lake and to the Walkway Over the Hudson.
- Extend sidewalks on the north side of Fulton Street east to Route 9G.

The CR 93 (Myers Corners Rd/Middlebush Rd) Corridor Management Plan (CMP) (2011) recommended the following to improve conditions for walking and bicycling:

- A five foot sidewalk with a five foot landscaped buffer on one side of CR 93 (on the north side between Route 9D and Ketcham High School, and on the south side between the school driveway and Route 376).
- A five foot sidewalk with a five foot landscaped buffer on Route 9D.
- Crosswalks at major intersections.
- Five foot paved shoulders on both sides of the street for its entire length.
- Incorporation of a sidewalk and shoulders on the culvert over the Lake Oniad Stream, when replaced.
Walk Bike Dutchess

- A future connection to the Dutchess Rail Trail from CR 93 via a sidewalk and wider shoulders on Route 376 and on the bridge over Sprout Creek.
- Modify the Town of Wappinger’s Zoning Law to require consideration of sidewalks and other walking infrastructure in all site plans, particularly in commercial areas.

The Wappingers Falls Transportation Plan (2001) studied traffic volumes and speeds, truck traffic, and the walking environment on Route 9D and on Route 9 from Old Hopewell Road (CR 28) to Route 9D. Recommendations included high-visibility crosswalks at key intersections, bulbouts at several intersections on East Main Street, and new sidewalks along portions of Route 9, 9D, and Mesier Avenue.

The Village of Wappingers Route 9 Planning Study (2011) aimed to improve pedestrian access and safety along Route 9 and to integrate the Route 9 corridor with the Village center. Design concepts were prepared for the Route 9 Corridor, the East Main Street/Route 9 intersection, and the East Main Street/South Avenue (Route 9D) intersection. Relevant recommendations for each area included:

- **Route 9 Secondary Street System:** Promote walkable, mixed-use development east of Route 9 and work with developers to help fund a secondary street system.
- **East Main Street Gateway** (East Main Street/Route 9): Make the intersection more pedestrian-friendly by striping high-visibility crosswalks on all legs of the intersection, narrowing the travel lanes to allow for a planted median and pedestrian refuge islands, adding street trees, removing the right turn slip lane at the north-west corner, and extending the curb to shorten the crossing and improve safety.
- **Village Center Gateway** (East Main Street/South Avenue (Route 9D): Improve pedestrian safety and calm traffic by narrowing the intersection along the northern edge. Add on-street parking on one side of East Main Street to further calm traffic and provide parking for nearby businesses.

The design concepts and recommendations were incorporated into the Village’s Downtown and Waterfront Revitalization Strategy, which was adopted in March 2011.

[The proposed Village Center Gateway in Wappingers Falls.]

Chapter 2: Federal, State and Local Guidance

Effective March 27, 2014

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The *Fishkill Traffic Analysis* (2006) focused on congestion around Route 52, the use of local streets to avoid congested areas, speeding on residential streets, and safety. It recommended enhancing Rapalje Road with sidewalks, lighting and other streetscape improvements, reduced lane widths, and a speed table to reduce speeds. However, property owners on Rapalje Road were opposed to the installation of sidewalks.

The *Beacon Transportation Linkages Program Final Report* (2008), prepared by BFJ Planning, focused on linking the City’s waterfront, including the train/bus/ferry station, DIA:Beacon, and Denning’s Point, to Main Street with walking and bicycling facilities. Its recommendations included providing bicycle lanes or signage and stencils on shared roadways; installing bicycle racks; creating a shared-use trail on some of the Beacon (Maybrook) rail line right of way; providing wayfinding signs; creating new pedestrian connections near City Hall, between Red Flynn Drive and the waterfront trail, and from Beekman Street to the Hudson River Trail; and creating new street connections with sidewalks between Beekman Street and Dennings Avenue and between Dennings Avenue and Tioranda Avenue (along the Beacon (Maybrook) rail line tracks).

2. Upper Hudson

The *Albany-Post Road (Route 9) Corridor Management Plan* (2006), led by NYSDOT and the Town of Hyde Park, identified strategies to improve safety and operations along Route 9 while maintaining Hyde Park’s historic character and encouraging more walking and bicycling. Recommendations included:

- Establish standard features for intersections, including stop bars, crosswalks, pedestrian countdown heads and push buttons (at signalized intersections), and pedestrian-scale street lighting.
- Improve shoulder pavement markings on Route 9.
- Improve key Route 9 intersections by adding right turn lanes on side streets, reducing corner radii, and prohibiting right turns on red.
- Longer term, use raised crosswalks and bulb-outs at intersections, add on-street parking in the Town center, and upgrade signals.
- Develop a contiguous sidewalk system on Route 9 through the Town center.

The Plan included proposed roadway sections for the Town Center with 11 foot travel lanes, wider sidewalks, a planted median with pedestrian refuges, and on-street parking.

The *Hyde Park Recreational Trails & Community Recreation Conceptual Master Plan* (2009) provided concepts and plans for trails, recreational spaces, and bicycle routes. Goals included establishing a contiguous trail corridor linking parks and open space, improving and encouraging walkable routes to schools, and establishing bikeways to create greenway connections. The Plan identifies potential Bicycle Routes on Route 9, Route 9G, Salt Point Turnpike (Route 115), Quaker Lane (CR 16), North Cross Road (CR 37), St. Andrews Road (CR 40A), and East Market Street/Crum Elbow Road (CR 41) based on pavement width, shoulders, and connections to parks and regional trails. Other recommendations include:
Walk Bike Dutchess

• Upgrade the pedestrian connection between FDR and Vanderbilt.
• Provide a pedestrian bridge connecting Hackett Hill Park to Pinewoods Park.
• Institute bikeway routes along roadways where feasible (consider colored lanes, signage and posted speed limits). Create rest stops with bike racks.
• Create more pedestrian-friendly environments at high-traffic zones and intersections (e.g. crosswalks, bulb-outs, and traffic calming measures).
• Construct sidewalks in the hamlet center business district along Route 9 and in residential neighborhoods within a half-mile of schools.

The Hyde Park Town Center Pedestrian Study (2013) included an inventory of existing sidewalks and recommendations for sidewalk improvements, land use, and street design. Short-term priorities focus on strengthening the Town center sidewalk system, adding crosswalks, minimizing curb cuts, and considering curb extensions, on-street parking, and other traffic calming treatments. Other recommendations include extending sidewalks on Route 9, retrofitting the shopping plazas south of Pinewoods Road, extending sidewalks on Route 9G in Haviland, and updating the Town’s zoning ordinance.

The Village of Rhinebeck Sidewalk Study (2011) included an inventory of existing sidewalks and recommendations to improve walking access within the Village center, to public facilities (library and schools), and to the Village center from the north and south. Recommendations included reconstructing deficient sidewalks on Route 9, Market Street, and several local streets; redesigning the

Four Corners intersection; adding crosswalks at several locations across Route 9 and Market Street; and adding sidewalks and crosswalks to Livingston Elementary School, Rhinebeck High School, the Starr Library, Town Park, Northern Dutchess Hospital, and the County Fairgrounds.

The Historic Crossroads design from the Hyde Park Town Center Pedestrian Study includes a corner park, mixed-use buildings, rear shared parking lots, improved sidewalks and crosswalks, on-street parking and street trees.

3. Lower Taconic

The LaGrange Town Center Plan focused on the area along Route 55 between Freedom Road and Stringham Road. It recommended redesigning Route 55 with roundabouts at Freedom Road and
Stringham Road, sidewalks, a landscaped median, bicycle lanes, on-street parking, street trees, and an interconnected street system south of Route 55, designed to allow people to park once and walk to civic and commercial destinations. The Illustrative Plan was included in the Town’s 2005 Comprehensive Plan (as Figure 3.4-2). Three roundabouts (at Freedom Road, the Freedom Business Center/LaGrange Town Square, and the Arlington High School entrance), a sidewalk on the north side of Route 55 and the east side of Stringham Road, and a landscaped median have been incorporated into a NYSDOT project to redesign Route 55.

The Hopewell Hamlet Pedestrian Plan (2002) sought to improve pedestrian safety in and connections to East Fishkill’s principal commercial area. The Plan included an analysis of existing conditions, focusing on pedestrian safety and access, community aesthetics, and facility maintenance. Specific recommendations included:

- Install warning devices on Route 82 and 376 to alert approaching drivers to the presence of people walking.
- Install crosswalks across Route 82 and 376 at major street intersections.
- Redesign Route 376 into a boulevard.
- Construct new or rebuilt sidewalks on Route 82 and Route 376.
- Consider a roundabout at Route 82 and Trinka Lane.
- Add a new pedestrian connection to the Dutchess Rail Trail, including a multi-use path between the Dutchess Rail Trail and Red Wing Park.

4. Upper Taconic

The CR 71 (West Road) Sidewalk Feasibility Study (2010) analyzed the feasibility of constructing sidewalks along West Road in the Town of Pleasant Valley. The report separated the corridor into three segments and identified constraints such as right-of-way, slopes, wetlands, sight distance, and existing utilities. For each segment, three options were evaluated: a shared-use path, sidewalks, or shoulder improvements. Crosswalks, signage, speed reduction strategies, unit cost estimates, and potential funding sources were also discussed. The report concluded that sidewalks...
were most appropriate for the segment from Main Street (Route 44) to Brookside Road, with a wide outside travel lane or widened shoulders for bicycling; a sidewalk and widened shoulders or a shared-use path should be considered for the segment from Brookside Road to Robert Lane; and improvements on the segment from Robert Lane to Salt Point Turnpike (Route 115) should be coordinated with the others to provide a continuous network.

*Pleasant Valley’s Comprehensive Plan (2009)* includes several illustrative sketch plans for existing hamlets. The *Pleasant Valley Hamlet Illustrative Sketch Plan* (page 35) proposes curb extensions and high-visibility crosswalks on Main Street (Route 44) at North Avenue and other key crossing locations; improved sidewalks with a buffer strip and additional street trees; improved shoulders for bicycling; sidewalks on West Road to the elementary school, on North Avenue to the apartments, and on South Road as development occurs; and a potential walkway along Wappinger Creek. The *Washington Hollow Hamlet Illustrative Sketch Plan* (page 37) proposes infill development at the Route 44/82 intersection as well as sidewalks, curb extensions and high-visibility crosswalks, street trees, on-street parking, and a central green space to create a walkable hamlet center. The *Salt Point Hamlet Illustrative Sketch Plan* (page 39) includes sidewalks along Salt Point Turnpike, narrowing the intersection of Salt Point Turnpike and Hibernia Road to reduce speeds, and a trail along the Little Wappinger Creek.

5. **Harlem Valley**

The *Route 22 Corridor Management Plan* (2002) covered the entire length of Route 22 in Dutchess County, and offered transportation and land use recommendations for each community. Recommendations included:

- Add walking/bicycling connections between the following: Dover Plains and the Tally Ho Mobile Home Park in Dover; the Amenia hamlet and Maplebrook School in Amenia; Poplar Hill Road (CR 4) and the Tenmile River Metro-North station via Sinpatch Road (CR 5) in Amenia; Route 343 and the Harlem Valley Rail Trail along Mechanic Street in Amenia; and Route 22 at Quaker Hill Road (CR 67) to the Pawling Metro-North station, via Main Street.
- Improve safety at the Route 22 intersections with Dover High School, the Food Town
F. Local Comprehensive Plans

The local comprehensive plan serves as the long-range vision for a community. As such, the comprehensive plan can provide important guidance on a community’s goals and values, including the role of walking and bicycling in creating a complete transportation system. Planning Department staff reviewed the available comprehensive plans for all municipalities in the county and inventoried what each plan says about walking and bicycling. Overall, 25 of the 30 municipalities discuss walking generally and 25 discuss bicycling generally; 17 include specific recommendations related to improving conditions for walking, and 12 include specific recommendations related to improving conditions for bicycling.

A table summarizing these findings and highlighting best practice language from the plans is included below.

G. Local Codes

While the comprehensive plan outlines a community’s vision, the municipal code details specific requirements and laws to implement that vision. Staff reviewed the local codes of all 30 Dutchess County municipalities related to sidewalk requirements, maintenance, and liability, as well as bicycling laws and Complete Streets policies. Overall findings are summarized below (note that some codes do not specify maintenance responsibilities or other issues). Information related to maintenance practices based on a survey of local Highway Superintendents can be found in Chapter 4.

Zoning Purposes:
- Almost half (14) of the local zoning codes state that part of the purpose of zoning is to encourage walking, while five of the municipalities’ codes state that part of the purpose of zoning is to encourage bicycling.

Sidewalk Locations:
- 15 municipalities’ codes (50 percent) require sidewalks on all streets, unless waived by the Planning Board.
- 8 municipalities’ codes (27 percent) require sidewalks only on certain streets or in certain areas.
- 13 municipalities’ codes (43 percent) leave the decision of whether to require sidewalks (or sidewalks in areas beyond those specified) up to the Planning Board.

Maintenance:
- 8 municipalities’ codes (27 percent) specifically require property owners to maintain adjacent sidewalks.
- 6 of those 8 municipalities’ codes (20 percent) provide for a lien or charge to be assessed to the property owner if they do not repair sidewalks within a reasonable period.
- 20 municipalities’ codes (67 percent) specifically require property owners to remove snow and ice from adjacent sidewalks.
- 10 of those 19 municipalities’ codes (33 percent) provide for a lien or charge to be assessed to the property owner if they do not remove snow and ice within a reasonable period.
Liability:
- 21 municipalities’ codes (70 percent) require prior written notice of a sidewalk defect and a failure to respond in order for the municipality to assume liability.
- 4 municipalities’ codes (13 percent) state that the adjacent property owner may be liable for defects in the sidewalk.

Bicycling on Sidewalks:
- 3 municipalities’ codes (10 percent) prohibit bicycling on some or all sidewalks.

Complete Streets:
- Currently, only the Town of Fishkill has a Complete Streets policy. However, it has not yet been incorporated into the Town code (see Chapter 7 for more information).

A table summarizing these findings is included below.
<table>
<thead>
<tr>
<th>Municipality</th>
<th>Date of Plan</th>
<th>Link (if online)</th>
<th>General language about walking?</th>
<th>General language about bicycling?</th>
<th>Specific recommendations for walking?</th>
<th>Specific recommendations for bicycling?</th>
<th>Best Practice language</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Beacon</td>
<td>2007</td>
<td><a href="http://www.cityofbeacon.org/files/comprehensive-plan-adopted-2007dec.pdf">http://www.cityofbeacon.org/files/comprehensive-plan-adopted-2007dec.pdf</a></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Continue to develop a continuous Fishkill Creek Trail... Coordinate with neighboring municipalities to enhance access and linkages to and provide for continuation of the trail (p.96).</td>
</tr>
<tr>
<td>City of Poughkeepsie</td>
<td>1998</td>
<td><a href="http://www.citypoughkeepsie.com/download/121/">http://www.citypoughkeepsie.com/download/121/</a></td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td>Main Street should function as a traditional downtown, with its primary role as a central business corridor, easily accessible to and navigable by pedestrian and vehicular traffic (p.2-2).</td>
</tr>
<tr>
<td>Town of Amenia</td>
<td>2007</td>
<td><a href="http://www.ameniany.gov/docs/doc_download/576-comprehensive-plan-update-7-20-07.html">http://www.ameniany.gov/docs/doc_download/576-comprehensive-plan-update-7-20-07.html</a></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Prepare a “Detailed Pedestrian Access Master Plan” for new, reconstructed and/or improved sidewalks and existing crosswalks. The Plan should include existing uses, development patterns, and traffic patterns supportive of sidewalks and crosswalks (p.27).</td>
</tr>
<tr>
<td>Town of Beekman</td>
<td>2011</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td>Install bicycle parking facilities at the Hopewell Junction commercial area, Town Hall, the town park-and-ride lots and town recreational areas such as the Hopewell Recreation Area (p.56).</td>
</tr>
<tr>
<td>Town of Clinton</td>
<td>2012</td>
<td><a href="http://www.townofclinton.com/wp-content/uploads/0Introduction.pdf">http://www.townofclinton.com/wp-content/uploads/0Introduction.pdf</a></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Where streams and other waterways traverse the Town, pedestrian rights-of-way should be sought, and public pathways developed. This is particularly appropriate where such waterways provide linkages between the Neighborhoods, Hamlets, Town Center and Business Districts (p. 74).</td>
</tr>
<tr>
<td>Town of Dover</td>
<td>1993</td>
<td><a href="http://townofdoverny.us/uploads/0Introduction.pdf">http://townofdoverny.us/uploads/0Introduction.pdf</a></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>Just as a network of roads is necessary to an area, a network of trails linking open spaces, recreation areas and community facilities is necessary for pedestrian movement, recreational activities, and a coordinated approach to link various land uses in a community. Trails can serve the following purposes: Link parts of Town and Village; link areas to Rail Trail; link Village Center to adjacent areas; link stream corridors; link the Village with Rudd Pond; Utility Corridors; Encourage multiple-use trails in and around the village (p.74).</td>
</tr>
<tr>
<td>Town of East Fishkill</td>
<td>2002</td>
<td><a href="http://www.eastfishkillny.org/sites/default/files/2002%20Master%20Plan.pdf">http://www.eastfishkillny.org/sites/default/files/2002%20Master%20Plan.pdf</a></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Amend the Zoning and Subdivision regulations to require that all new site plan and subdivision applications include provisions for “complete streets” with sidewalks, pedestrian paths and, where appropriate, bicycle lanes. Sidewalks should be provided where density is appropriate (generally ½ acre lots or smaller), where they connect people with destinations and can provide a pleasant experience, and where they link to other sidewalks (p.18).</td>
</tr>
<tr>
<td>Town of Fishkill</td>
<td>2009</td>
<td><a href="http://www.fishkill-ny.gov/pdfs/2009%20Comprehensive%20Plan/TOP%20Comprehensive%20Plan%20%20Adopted%209-23-09.pdf">http://www.fishkill-ny.gov/pdfs/2009%20Comprehensive%20Plan/TOP%20Comprehensive%20Plan%20%20Adopted%209-23-09.pdf</a></td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Where streams and other waterways traverse the Town, pedestrian rights-of-way should be sought, and public pathways developed. This is particularly appropriate where such waterways provide linkages between the Neighborhoods, Hamlets, Town Center and Business Districts (p. 74).</td>
</tr>
<tr>
<td>Town of Hyde Park</td>
<td>2005</td>
<td><a href="http://www.hydeparkny.us/Zoning/FinalComprehensivePlan7-11-05.pdf">http://www.hydeparkny.us/Zoning/FinalComprehensivePlan7-11-05.pdf</a></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td>Just as a network of roads is necessary to an area, a network of trails linking open spaces, recreation areas and community facilities is necessary for pedestrian movement, recreational activities, and a coordinated approach to link various land uses in a community. Trails can serve the following purposes: Link parts of Town and Village; link areas to Rail Trail; link Village Center to adjacent areas; link stream corridors; link the Village with Rudd Pond; Utility Corridors; Encourage multiple-use trails in and around the village (p.74).</td>
</tr>
<tr>
<td>Town of LaGrange</td>
<td>2005</td>
<td>n/a</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td>Just as a network of roads is necessary to an area, a network of trails linking open spaces, recreation areas and community facilities is necessary for pedestrian movement, recreational activities, and a coordinated approach to link various land uses in a community. Trails can serve the following purposes: Link parts of Town and Village; link areas to Rail Trail; link Village Center to adjacent areas; link stream corridors; link the Village with Rudd Pond; Utility Corridors; Encourage multiple-use trails in and around the village (p.74).</td>
</tr>
<tr>
<td>Town of Milan</td>
<td>2007</td>
<td>n/a</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Just as a network of roads is necessary to an area, a network of trails linking open spaces, recreation areas and community facilities is necessary for pedestrian movement, recreational activities, and a coordinated approach to link various land uses in a community. Trails can serve the following purposes: Link parts of Town and Village; link areas to Rail Trail; link Village Center to adjacent areas; link stream corridors; link the Village with Rudd Pond; Utility Corridors; Encourage multiple-use trails in and around the village (p.74).</td>
</tr>
<tr>
<td>Town of North East</td>
<td>1992</td>
<td>n/a</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Just as a network of roads is necessary to an area, a network of trails linking open spaces, recreation areas and community facilities is necessary for pedestrian movement, recreational activities, and a coordinated approach to link various land uses in a community. Trails can serve the following purposes: Link parts of Town and Village; link areas to Rail Trail; link Village Center to adjacent areas; link stream corridors; link the Village with Rudd Pond; Utility Corridors; Encourage multiple-use trails in and around the village (p.74).</td>
</tr>
<tr>
<td>Municipality</td>
<td>Date of Plan</td>
<td>Link (if online)</td>
<td>General language about walking?</td>
<td>General language about bicycling?</td>
<td>Specific recommendations for walking?</td>
<td>Specific recommendations for bicycling?</td>
<td>Best Practice language</td>
</tr>
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<td>--------------------------------------</td>
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<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Town of Pawling</td>
<td>2012</td>
<td><a href="http://www.pawling.org/Pages/PawlingNY_CommPlan/1%20Adopted%20Pawling%20CPU%20071112.pdf">http://www.pawling.org/Pages/PawlingNY_CommPlan/1%20Adopted%20Pawling%20CPU%20071112.pdf</a></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>The metropolitan transportation plan promotes completion of a Greenway Trail along the unused railbed from Hopewell Junction through Pawling and then south to the Putnam County line (p.75).</td>
</tr>
<tr>
<td>Town of Pine Plains</td>
<td>2004</td>
<td><a href="http://pineplains.ny.gov/content/Generic/View/7-field-documents/content/Documents/File/536.pdf">http://pineplains.ny.gov/content/Generic/View/7-field-documents/content/Documents/File/536.pdf</a></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Use techniques such as... street trees, delineated pedestrian islands, and &quot;bulb-outs&quot; of sidewalks in order to work with NYS DOT and the Pine Plains Highway Dept to implement traffic calming (p.58).</td>
</tr>
<tr>
<td>Town of Pleasant Valley</td>
<td>2009</td>
<td><a href="http://pleasantvalley.ny.gov/comprehensive-plan/">http://pleasantvalley.ny.gov/comprehensive-plan/</a></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>There are a number of potential trail projects in the Town. An abandoned rail spur splits off from the Maybrook line at Morgan Lake, passes Peach Hill, and continues into the Town of Hyde Park and on to Pleasant Valley where it meets West Road Elementary School and the adjacent Redl Park (p.44-45).</td>
</tr>
<tr>
<td>Town of Poughkeepsie</td>
<td>2007</td>
<td><a href="http://www.townofpoughkeepsie.com/supervisor/poughkeepsietownplanadopted092607.pdf">http://www.townofpoughkeepsie.com/supervisor/poughkeepsietownplanadopted092607.pdf</a></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Adopt zoning regulations about the inclusion of pedestrian amenities such as sidewalks, public recreational facilities, benches, bike racks, and crosswalks as part of the review process (Section 5.4).</td>
</tr>
<tr>
<td>Town of Red Hook</td>
<td>1993</td>
<td>n/a</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td>Requir[e] safe pedestrian access in the design of all commercial sites, and further require service roads, combined parking areas, and strong pedestrian linkages between individual establishments within areas of concentrated business activity (p.14).</td>
</tr>
<tr>
<td>Town of Rhinebeck</td>
<td>2009</td>
<td><a href="http://www.greenplan.org/GREENPLAN_Website/Our_Work/Documents/Rhinebeck/The%20Rhinebeck%20Plan%20Completed.pdf">http://www.greenplan.org/GREENPLAN_Website/Our_Work/Documents/Rhinebeck/The%20Rhinebeck%20Plan%20Completed.pdf</a></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td>Create a Planned Development Overlay (PDD) District in Stanfordville. The overlay district could be used as a tool to encourage the development of a walkable mixed-use center, concentrating future development south of Town Hall (p.42).</td>
</tr>
<tr>
<td>Town of Union Vale</td>
<td>2001</td>
<td><a href="http://www2.marist.edu/UnionVale/HDAMaster.htm">http://www2.marist.edu/UnionVale/HDAMaster.htm</a></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town of Wappinger</td>
<td>2010</td>
<td><a href="http://www.townofwappinger.us/pdf/comp_plan/Wappinger%20Comp%20Plan%2010-9-27.pdf">http://www.townofwappinger.us/pdf/comp_plan/Wappinger%20Comp%20Plan%2010-9-27.pdf</a></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Develop a staged Pedestrian and Bikeway Master Plan that inventories and evaluates existing and potential facilities and improvements. Review and expand requirements for the provision of sidewalks in conjunction with new commercial development (p.59).</td>
</tr>
<tr>
<td>Town of Washington</td>
<td>2012 (Draft)</td>
<td><a href="http://comp.washingtonny.org/wp-content/uploads/Comp-Plan-Final-Version_2.pdf">http://comp.washingtonny.org/wp-content/uploads/Comp-Plan-Final-Version_2.pdf</a></td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>The best means to reduce congestion in the Village is to support and promote alternative forms of transportation, namely pedestrian and bicycle... There are some areas that remain un-sidewalked or where there are missing connections. The Village should look to solidify this network by extending existing sidewalks and by providing new sidewalks where connections are missing (p.28).</td>
</tr>
<tr>
<td>Municipality</td>
<td>Date of Plan</td>
<td>Link (if online)</td>
<td>General language about walking?</td>
<td>General language about bicycling?</td>
<td>Specific recommendations for walking?</td>
<td>Specific recommendations for bicycling?</td>
<td>Best Practice language</td>
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</tr>
<tr>
<td>Village of Millerton</td>
<td>1992</td>
<td>n/a (Note: combined Comprehensive Plan with Town of North East)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Village of Red Hook</td>
<td>n/a</td>
<td>[Plan not available for review]</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village of Rhinebeck</td>
<td>1993</td>
<td>n/a</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village of Tivoli</td>
<td>2005</td>
<td>n/a</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>We envision Tivoli as a village in which walking and other low-impact forms of transportation take precedence over the automobile. To achieve this we propose to... Promote Tivoli as a biking-friendly village by: Designating bike paths through Tivoli Bays to Bard College, installing bike racks in front of village buildings and businesses, and exploring other opportunities for bike paths (p.5).</td>
</tr>
<tr>
<td>Village of Wappingers Falls</td>
<td>2001</td>
<td><a href="http://www.greenplan.org/GREENPLAN_Website/Our_Work_Documents/Wappingers%20Falls/Wappingers%20Falls%202001%20Plan.pdf">http://www.greenplan.org/GREENPLAN_Website/Our_Work_Documents/Wappingers%20Falls/Wappingers%20Falls%202001%20Plan.pdf</a></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Create an Alternative Transportation Committee consisting of interested volunteers from the community. The Committee’s task would be to develop and promote programs that support, increase and facilitate transit (bus), rideshare (carpooling and vanpooling), pedestrian, and bicycle transportation to minimize vehicular traffic volume (p.5.10). All Village actions that may affect traffic and circulation should be guided by the basic principle of “pedestrians first” (p.5.11).</td>
</tr>
</tbody>
</table>

Total                  | 25           | 25                      | 17                             | 12                               |                                        |                                        |                                                                                      |

Percentage of all municipalities | 83%          | 83%                     | 57%                            | 40%                              |                                        |                                        |                                                                                      |
## DUTCHESS COUNTY MUNICIPALITIES

### Local Codes Inventory

<table>
<thead>
<tr>
<th>Zoning Purposes: Encourage Walking</th>
<th>City of Beacon</th>
<th>City of Poughkeepsie</th>
<th>Town of Amenia</th>
<th>Town of Beekman</th>
<th>Town of Clinton</th>
<th>Town of Dover</th>
<th>Town of East Fishkill</th>
<th>Town of Fishkill</th>
<th>Town of Hyde Park</th>
<th>Town of LaGrange</th>
<th>Town of Milan</th>
<th>Town of North East</th>
<th>Town of Pleasant Valley</th>
<th>Town of Poughkeepsie</th>
<th>Town of Red Hook</th>
<th>Town of Rhinebeck</th>
<th>Town of Stanford</th>
<th>Town of Unionvale</th>
<th>Town of Wappinger</th>
<th>Village of Fishkill</th>
<th>Village of Millbrook</th>
<th>Village of Millerton</th>
<th>Village of Red Hook</th>
<th>Village of Rhinebeck</th>
<th>Village of Wappingers Falls</th>
<th>Total Number</th>
<th>Overall Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>14</td>
</tr>
<tr>
<td>Zoning Purposes: Encourage Bicycling</td>
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~: On Main Street only.
^: Separate policy; not yet in Town Code.
Chapter 3: Design Guidelines

This chapter provides design guidance for walking and bicycling facilities based on national and state manuals, the Greenway Guides, other best practices, and input from NYSDOT-Region 8 and the Dutchess County Department of Public Works (DCDPW). Design details will depend on the specific site and context, as well as the project’s funding source. Since standards change over time, consult NYSDOT and DCDPW as well as references such as those listed at the end of the chapter for current guidance.

A. Sidewalks
Sidewalks provide a dedicated space for people to walk and dramatically increase safety for people walking along a street. They also add to quality of life by providing space for people to sit outdoors, children to play, and residents to interact.

Locations
- Both sides of the street along central circulation streets, in commercial districts, near schools, and in residential areas with more than four units per acre.
- At least one side of the street in residential areas with one to four units per acre.
- Optional: One side of the street or wide shoulders in areas with less than one unit per acre.

Design
- Width: Typically five foot minimum exclusive of curb; wider in town center, village, and hamlet commercial areas, or other high-use areas.

‘Streets’ versus ‘Roads’: We use the term ‘street’ to refer primarily to local streets in centers (cities, villages, town centers, and hamlets) that provide access to stores, housing, and other community uses. Streets are characterized by relatively slow speeds, short blocks with sidewalks and crosswalks, on-street parking, street trees, close building setbacks, and a mix of travel types, including walking, bicycling, and transit. Roads are typically located outside of centers in rural or suburban areas and are characterized by higher speeds, more limited access, and widely-spaced intersections for efficient travel between centers. Roads often include shoulders for walking and bicycling; some include sidewalks. Roads include most County and State roads, although they should conform to street standards as they pass through centers.

1 Dutchess County Department of Planning & Development; Greenway Guide B2: Walkable Communities

2 Ibid.
Chapter 3: Design Guidelines

- **Buffer:** Provide a buffer between the curb and sidewalk where possible to separate people from traffic and provide room for street trees, signs, utilities, lighting, and snow storage. A five to eight foot buffer is recommended; it buffer could be wider based on traffic volume and/or speed.

- **Curbs:** Recommended on all sidewalks to provide a physical barrier between vehicle traffic and people walking. Drainage can be provided through inlets or gaps in curbs. If a curb is not feasible, provide a buffer.

- **Surface/Materials:** Concrete is the most durable and stable. Bluestone or brick pavers may be appropriate in historic areas.

- **Driveways:** Continue the sidewalk material across driveways to alert drivers to the presence of the sidewalk and potential people walking. Slope driveways down to the street, rather than sloping the sidewalk at the driveway.

- **Utilities:** Ensure that utility poles, street lights, and other objects do not interfere with sidewalks. On streets where sidewalks may be installed in the future, place utility poles outside the future sidewalk location.

**Bicycling on Sidewalks:** In most cases, bicycling on the sidewalk is less safe than riding on the street. Motorists exiting or entering driveways and intersections do not expect a person bicycling on the sidewalk, and have little room to stop. People walking on the sidewalk may stop or change direction abruptly. Bicycling visibly and predictably on the street, in the same direction of traffic, is typically recommended.

Sidewalks that cross driveways should be level and clearly designed as a sidewalk rather than part of the driveway, similar to these in the Village of Fishkill and Town of Poughkeepsie (top image source: Accessible Sidewalks and Street Crossings, FHWA).
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Accessibility³

The US Access Board provides detailed accessibility guidelines for streets and sidewalks. See their website or contact NYSDOT or DCDPW for current standards.

- Grade (Running Slope): The running slope for a sidewalk should not exceed the grade of the adjacent street. Generally, limit running slope to no more than five percent.

- Cross-Slope: Maximum cross-slope of two percent. This includes sidewalks across driveways.

- Flare Slope: Maximum flare slope of ten percent for driveway crossings and curb ramps.

- Surface texture: Surfaces should be relatively smooth, yet slip-resistant.

- Openings/Gaps: Restrict grate openings and other gaps to less than a half-inch sphere (so a cane tip cannot slip through).

- Curb Ramps: Provide curb ramps at all intersections and mid-block crossings with sidewalks. For new construction, provide a ramp for each crosswalk, perpendicular to the curb and aligned with the crosswalk. Construct curb ramps to be flush with the street, and provide a level landing at the top and bottom of the ramp.

- Detectable Warnings: Provide detectable warnings at all transition points between the sidewalk and street, such as at the bottom of curb ramps, the edge of a raised crosswalk, and borders of medians, pedestrian refuge islands, railroad crossings and train boarding platforms.

- Alternate Routes: In construction zones, provide an alternate accessible route if needed.

³ United States Access Board, Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (2011); FHWA, Accessible Sidewalks and Street Crossings-An Informational Guide. FHWA-SA-03-01
Drawing 1: Sidewalks
B. Marked Crosswalks
Marked crosswalks alert drivers to locations where pedestrians may cross and encourage people to cross in a consistent location. People walking may cross at any leg of an intersection unless specifically prohibited, even if the crosswalk is not marked.

Locations
- At intersections: On all legs of intersections with significant walking activity, unless there is an engineering reason to limit access.
- At all crossings with pedestrian-activated signals.
- Mid-block: At selected high-use mid-block crossings. Supplement these crosswalks with signs, traffic calming elements, and lighting to ensure the person crossing is visible.
- The location of any crosswalk should balance convenience for people walking (since if it is not convenient, it will not be used) with visibility to drivers, who must be able to see people crossing in time to slow down and yield. For crossings not controlled by a traffic signal or Stop or Yield sign, an engineering study can help determine the best crosswalk location.

Design
- Length: As short as possible. Small corner radii (tight corners) help shorten crosswalks and slow turning traffic. Curb extensions can be used to shorten crosswalks and increase the visibility of people crossing, and their view of traffic. Consider the turning radius of trucks and buses where appropriate to insure that they can turn the corner without encroaching on the curb ramp.
- Width: Typically 6 to 10 feet wide, depending on the width of the adjacent sidewalks and amount of walking activity.
- Marking: High-visibility ‘continental’ (preferred) or ‘ladder’ crosswalk striping is recommended.
- Install advance stop lines (at least four feet back) at signalized or stop-controlled crosswalks. Install advance yield lines (20 to 50 feet back) at uncontrolled crosswalks.
- Material: Inlay tape or thermoplastic is recommended, because they last longer and are more reflective and slip-resistant than paint. Crosswalks should be smooth, slip-resistant, and highly visible, especially at night.

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• Raised crosswalks may be useful to reduce vehicle speeds at crosswalks. They are most effective at locations with consistent walking activity, so that drivers see people crossing and understand why it is important to reduce their speed. See Traffic Calming for additional options.

**Signage**

• To alert drivers of mid-block crosswalks, install advance pedestrian crossing signs in advance of the crosswalk and pedestrian crossing location signs at the crosswalk.

• At uncontrolled multi-lane approaches, “Yield Here to Pedestrians” signs can be used to encourage drivers to yield before the crosswalk.

• In-street “Yield to Pedestrians in Crosswalk” signs can be placed just outside an uncontrolled mid-block crosswalk to encourage drivers to yield. These generally function best on low-speed streets at high-use crosswalks.

• A pedestrian crossing sign with a flashing light or ‘beacon’ can be used to draw drivers’ attention to a crosswalk at an uncontrolled location. Overhead flashing lights or in-pavement lights (activated by the person crossing) can also increase yielding, especially at night.

• At signalized intersections, a “Turning Vehicles Yield to Pedestrians” overhead sign may be used to alert drivers to their responsibility to yield to people crossing in the crosswalk.

• Consult the Manual on Uniform Traffic Control Devices (MUTCD) and the NYS supplement to the MUTCD for appropriate sign usage.

**What about School Areas?** The MUTCD provides standards for crosswalks, signals, and signs near schools (see Part 7). Install warning signs in advance of and at all marked school crosswalks at mid-block locations. At school-area crossings where a school speed limit is established and students must cross the street to get to school, adult crossing guards should be present to help children cross and to ensure that drivers yield to people in the crosswalk.  


6 New York State [Vehicle and Traffic Law, Article 27, Section 1151](http://www.leg.state.ny.us/Law/Current code/Article_27)
Sidewalks and Crosswalks in Parking Lots:
Designing parking lots to support convenient walking access increases safety and can bring more foot traffic to a business. Ideally, buildings should be located along the street with parking to the rear or side. If parking in front of the building is necessary, include a complete system of sidewalks, crosswalks, and ramps between the street and the business’ front door. A local example is the Stop and Shop on Route 9 in Hyde Park. It includes sidewalks, curb ramps and crosswalks leading from Route 9 through a landscaped area in the center of the parking lot to the front entrance. The sidewalk area includes benches and lighting. There is also a bus stop shelter adjacent to the store.

The Hyde Park Stop & Shop provides sidewalks, crosswalks, and bus stop shelters for shoppers arriving on foot.
Drawing 2: Marked Crosswalks
C. Paved Shoulders
Paved shoulders provide space for people to walk in areas where sidewalks or paths are not feasible. Shoulders may also be used by people on bicycles and other vehicles (such as for deliveries or parking). Bicyclists ride in the same direction as adjacent traffic and must obey signs and signals, just like other vehicles. People walk facing traffic.

Locations
- For walking, paved shoulders may be appropriate in rural areas where sidewalks or paths are not feasible.
- For bicycling, paved shoulders are most applicable on higher-speed and higher-volume rural or suburban roads where sharing the travel lane with vehicles is not desirable. Paved shoulders are also useful on uphill grades where bicyclists’ speeds are significantly lower than that of motor vehicles, on downhill grades, and around curves.

- Bicyclists are not required to ride in the shoulder, and may prefer the travel lane to avoid fixed or moving obstacles, debris or hazards, or to prepare for a left turn.

Design
- Width: For bicycle use, recommended minimum width is four feet; five feet if there’s a curb, guardrail, or other barrier; and six feet or wider on segments with significant grades, high speeds, high volumes, or a high percentage of trucks or buses. Six foot shoulders are desirable for walking.7

Should We Install Rumble Strips?
Rumble strips are not recommended adjacent to shoulders used for bicycling unless there is a documented run-off-the-road problem and the rumble strips are specifically designed to minimize impacts on bicycling. Otherwise, rumble strips can prevent a bicyclist from moving out of the shoulder to avoid debris, poor pavement, or other hazards, or to make a left turn. They can also damage a bicycle or cause a bicyclist to lose control and fall. Bicycle-friendly rumble strips have significant gaps (a minimum 12 feet gap every 40 to 60 feet is recommended), shallow cuts (0.375 inches), and leave at least 4 feet of clear paved width in the shoulder (5 feet if there is a guard rail, curb, or other obstacle). See the League of American Bicyclists’ Bicycle and Rumble Strips report for more information.

D. Shared-Use Paths

Shared-use paths provide a separate right of way for two-way walking and bicycling. Other uses may include skateboarding, rollerblading, pushing children in strollers, running, and walking dogs. Paths should be considered supplementary to the street network; they are not a substitute for access via streets and sidewalks.

Location

- Shared-use paths function best when they have a separate right of way, as with a rail trail.

- In areas with few intersections and driveways, paths may be appropriate along a roadway, set back from the street (a ‘sidepath’).

- Shared-use paths work best where there are fewer than five intersections or driveways per mile. Unless indicated otherwise, shared-use path users are required to yield or stop at all intersecting streets and driveways.

Design

- Width: Typically 10 feet minimum; 11 to 14 feet if there are more than 300 peak hour users, 30 percent or more pedestrians, or steep grades or curves.

- Buffer: For sidepaths, a minimum five foot buffer is recommended to separate path users from traffic. This can be a landscaped area, drainage swale, or other buffer. A wider buffer may be appropriate based on adjacent roadway speeds and other conditions. In areas where a five foot buffer is not possible, a physical barrier is recommended.

- Striping: Consider solid striping to discourage passing at approaches to intersections and in areas with limited visibility (such as around curves).

- Clear distance: Two foot minimum graded area on both sides of the path, clear from trees, poles, walls, fences, or other obstructions is recommended; three to five feet is preferred.

- Materials: Typically, a hard, smooth, and durable pavement is recommended, such as cement or asphalt. Stone dust may be appropriate in some cases. No curb is needed.

- Intersections:
  - Design the path to intersect streets at 90 degrees.

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8 Ibid.
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- Mark crossings with high-visibility crosswalks and advance stop or yield lines, as appropriate.
- Assign right of way to the higher-volume approach (street or path). Use the least restrictive effective control (e.g., yield instead of stop) for the lower-volume approach, based on sight distance, speeds, volumes, and other factors.
- Enhance visibility with signage, pavement markings, and lights as needed.
- Consider traffic calming elements such as raised crossings, speed cushions, crossing islands, and curb extensions to reduce speeds at the intersection.

- For sidepaths, driveways and uncontrolled intersections can create safety issues, as drivers do not expect (and do not look for) people bicycling in the opposite direction of traffic. Design intersections to reduce speeds and ensure adequate sight distance on the street and path, and continue the path surface across driveways/intersections to enhance drivers’ awareness of potential path users.

- Accessibility: Shared-use paths should be accessible to all users. Grades of no more than five percent and cross-slope of no more than two percent are recommended, per ADA guidelines. One percent cross-slope is recommended for drainage.
Drawing 4: Shared Use Paths
E. Shared-Lane Markings (‘Sharrows’)

A Shared-Lane Marking or ‘sharrow’ can be used to indicate a narrow shared lane, where motorists have to leave the lane to pass a person on a bicycle. Sharrows highlight bicyclists’ right to ride in the travel lane, away from hazards such as the ‘door zone’ of parked vehicles. Bicyclists must obey signs and signals, just like other vehicles.

Location

- Bicycle riders may comfortably share lanes with motor vehicles on hamlet, village and city streets with average speeds below 30 mph, and on rural roads with fewer than 1,000 vehicles/day and speeds below 50 mph. Design streets in hamlets, villages and cities for speeds below 30 mph to safely accommodate people on bicycles. By law, bicyclists may use the full lane if needed to avoid debris, bad pavement, parked vehicles, other obstacles, or to make a left turn.

- Sharrows are appropriate on streets with speed limits up to 35 mph and no shoulders (or inadequate shoulders). They are typically used on narrow lanes, defined by NYSDOT as lanes with less than 14 feet of usable width or less than 26 feet of usable width with a marked on-street parallel parking lane.

Design

- Placement: Place sharrows in the center of the effective lane. If there is no on-street parking, this is the center of the actual lane. If there is on-street parking, this is the lane width between the door zone and 1.5 feet from the left edge of the lane.

- Spacing: Place sharrows at regular intervals approximately 250 feet apart, as well as immediately before and after intersections and at conflict points.

- Signage:
  - Supplement sharrows with a Narrow Lane assembly consisting of the Bicycle warning sign and an “In Lane” plaque to alert motorists to the presence of bicycles in the travel lane.
  - The Narrow Lane assembly can be used on any street with narrow lanes where side-by-side travel of vehicles and bicycles within the lane is not possible.
  - Any shared street can be supplemented with Bicycle warning signs to alert motorists to the presence of people on bicycles.
F. Bicycle Lanes
Bicycle lanes provide a dedicated on-street space for bicycling. People on bicycles ride in the same direction as adjacent traffic and must obey signs and signals, just like other vehicles. New York State’s Vehicle and Traffic law states that when a usable bicycle lane exists, bicyclists shall ride in the bike lane, but they may use the travel lane if needed to avoid debris, bad pavement, parked vehicles, other obstacles, to pass other bicyclists, or to make a turn.

Location
- Bicycle lanes are useful on village, city, or suburban streets where people on bicycles travel at significantly different speeds than other traffic, especially streets with speeds over 30 mph or more than 10,000 vehicles per day.
- On two-way streets, provide bicycle lanes on both sides of the street. On streets with a substantial grade, a bike lane could be provided in the uphill direction (where bicyclists’ speeds are significantly slower than vehicles) and sharrows provided in the downhill direction (where bicyclists’ speeds are more similar to vehicles).
- On one-way streets, the bicycle lane is typically on the right side only, unless a left-side bike lane reduces conflicts (such as a street with heavy right turns, on-street parking, deliveries, etc.).

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- Avoid marking bicycle lanes adjacent to front-in angled parking, since drivers backing out will have limited visibility of people on bicycles. Bike lanes may be used adjacent to back-in angled parking.

**Design**

- Width: Typically four feet minimum if there is no curb or on-street parking; five feet minimum if there is a curb or on-street parking; and six feet or wider if there are more than 30 trucks or buses per hour or speeds over 45 mph.

- Marking: Separate the bike lane from the adjacent lane with a stripe, or a two to three foot painted buffer (creating a buffered bicycle lane). Mark with a bicycle symbol after each intersection. Additional markings may be used on intersection approaches and as needed.

- Protected Bike Lanes: A bike lane can be protected by a physical barrier such as bollards, planters, parking, or a curb. Physically-separated bike lanes are called ‘protected bike lanes’ or sometimes ‘cycle tracks’.

- Signs: Bike Lane signs may be used to supplement pavement markings.

- Color: Green-colored pavement can be used to highlight the bicycle lane and/or its extension through intersections.

- Design intersections carefully to accommodate turns. Typically, bike lane lines are not extended through an intersection. In complex intersections, bike lane lines may be dashed through the intersection.

  - Approaching intersections without a right-turn-only lane, the bike lane lines can be dashed to indicate the potential for turns across the bike lane.

  - Approaching intersections with a right-turn-only lane, place the bike lane to the left of the right-turn-only lane. Dash the bike lane lines through the merge area and continue with solid lines before the intersection. Signs can be used to remind merging motorists to yield to people on bicycles.

  - If a through lane becomes a right-turn-only lane, drop the bike lane and re-introduce it to the left of the right-turn-only lane. In this case, people on bicycles merge across the travel lane and must yield to motorists.

  - Bicyclists may turn left by merging left and turning with motor vehicles, or by proceeding straight, stopping at the far side corner of the intersection, and crossing with cross-traffic on the right side of the lane (or as a pedestrian in the crosswalk).

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11 Ibid.

Bicycle lanes can be protected from motor vehicle traffic with parking, bollards, planters, or curbs (sources: BikeAroundBend.com; ResetSanFrancisco.org).
A bicycle left-turn lane can be used to accommodate high volumes of left-turning bicycles. A bicycle left-turn lane would be placed to the right of a left-turn-only lane.

Bicycle lanes are terminated before roundabouts. People on bicycles may use the roundabout as a vehicle, or cross in crosswalks as a pedestrian. Ramps may be provided at complex roundabouts to allow people on bicycles to access an adjacent sidewalk or path.

A Bike Box provides space for bicyclists to wait in front of motor vehicles at a red light. They make people on bicycles more visible and prevent them from being cut off by right-turning drivers. They are often colored green for visibility.

**What About Wide Curb Lanes?**

In the past, wide curb lanes of 14 feet were recommended to accommodate both motor vehicles and bicycles. However, wide lanes often encourage higher speeds, which decrease safety. On higher-volume and/or higher-speed streets, bicycle lanes or paved shoulders are preferred, based on the guidance outlined above.

**What is a Bike Route?**

Bike routes are signed routes on shared streets. Signed bike routes are typically used to direct people on bicycles to preferred streets based on continuity, access to destinations, traffic volume, shoulder width, or other features. However, a bike route does not necessarily have standard features. It is considered a designation, not a facility type.
Drawing 6: Bike Lanes
G. Bicycle Boulevards
Bicycle Boulevards are bicycle-priority streets, shared with low-speed, local traffic. As on all streets, bicyclists must obey signs and signals, just like other vehicles.

Location\(^{12}\)
- Bicycle Boulevards are typically low-speed (25 mph or slower), low-volume (less than 3,000 vehicles/day) residential streets parallel to a major street.
- Bicycle Boulevards work best when they are part of a network, connecting people to destinations while avoiding traffic on major streets.

Design
- Identify a bicycle boulevard with distinctive signs and pavement markings.
- Reduce vehicle speeds and cut-through traffic with traffic calming treatments such as traffic diverters, neighborhood traffic circles, chokers (or ‘neckdowns’), and others.
- Prioritize bicycle travel by limiting the use of stop signs on the Bicycle Boulevard. Reorient stop signs to stop cross-traffic instead of the Bicycle Boulevard where feasible.

12 Ibid.
Drawing 7: Bicycle Boulevards
H. Bicycle Parking
Bicycle parking is critical, since people are much more likely to ride to a destination if there is a convenient, secure place to lock their bike. There are two main types of bike parking: short-term and long-term. Best practice bicycle parking codes are provided in Appendix B.

Location
- Provide short-term parking at public facilities, shops, restaurants, parks, and other destinations where bikes will be parked for up to two hours.
- Provide long-term parking at offices, housing complexes, transit stations, schools, and other destinations where the bike will be parked for more than two hours.
- Provide signs to direct bicyclists to parking.

Design\[13\]
- ‘Inverted U’ bicycle racks are recommended for short-term parking. A cross-bar can be added for additional security.
- Locate the racks in a convenient, visible location as close to the building entrance as practical. Racks can be covered to provide protection from weather.
- Ensure that bicycle parking does not restrict access for people on sidewalks or near building entrances. If the racks are adjacent to on-street parallel parking, place them near the ends of the parking spaces so they do not interfere with people getting in and out of cars.
  - When perpendicular to a building wall, place racks at least four feet from the wall to allow the frame and at least one wheel to be locked securely to the rack.
  - When parallel to a building wall, place racks at least three feet from the wall.
  - When aligned side by side, place racks at least three feet from each other.
  - When aligned end-to-end, place racks at least eight feet apart.
  - When parallel to a curb, place racks at least two feet from the back of the curb.
  - When perpendicular to a curb, place racks at least three feet from the back of the curb.

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Walk Bike Dutchess

Chapter 3: Design Guidelines

• Features of a good bicycle rack include:
  o Stable structure and permanent foundation that is securely anchored in the ground.
  o Supports the bicycle at two points above its center of gravity.
  o Design that prevents the bicycle from tipping over.
  o Ability to support a variety of bicycle sizes and frame shapes.
  o Accommodates high-security U-shaped bike locks.
  o Space to secure the frame and one or both wheels to the rack.
  o Keeps bicycle wheels on the ground.
  o Contains no sharp edges or protruding elements.

• A secure, sheltered facility is best for long-term parking. At a minimum, this could be a covered bike rack area. Where possible, provide an enclosed, locked or monitored facility, such as a bicycle cage, bicycle lockers, or a bicycle room (such as in a parking garage). These areas should be well-lit and easy to find.

What about Bike Sharing?
Bike sharing programs are spreading rapidly across many cities. They allow low-cost, short-term use of public bicycles for a variety of trips. Recent systems include automated kiosks and electronic tracking of the bicycles. The most successful programs have many stations; are supported by an extensive network of bicycle lanes, paths, and bike parking; and incorporate substantial marketing and education for bicyclists and motorists on how to safely share the road.

Bicycle corrals provide on-street bike parking, typically in a converted parking space protected by curbing, bollards, planters or other structures (sources: nyc.gov; BostonBikes.org).
I. Traffic Calming

By itself, lowering a speed limit is unlikely to reduce speeding. Drivers generally base their speed on what feels comfortable or safe given the design of the street. The width of the lanes, horizontal and vertical curvature, shoulder width, and presence of buildings, street trees, and sidewalks affect speeds much more than speed limit signs.

Changing the street’s characteristics to narrow the perceived width can change drivers’ perception of a safe speed and help reduce speeding. Street design and traffic calming elements can be used to slow speeds to under 30 mph in centers and under 20 mph in areas with substantial walking activity. Consider specific treatments on a case-by-case basis, balancing the needs of all road users.

- Narrow lanes: In centers with lower speed limits and a low volume of trucks and buses, ten foot lanes are often sufficient. Eleven foot lanes can be used where there are more trucks and buses.

- On-street parking: The ‘friction’ of vehicles entering and exiting parking spaces and people getting in and out of vehicles reduces speeds. On-street parking also provides a buffer between people on the sidewalk and moving traffic.

- Street trees: A consistent line of trees gives a street a sense of enclosure, reducing travel speeds. Trees also increase comfort for people walking. Street trees are most effective when placed between the sidewalk and the street. Consider spacing trees 20 to 30 feet apart in centers and 30 to 40 feet apart on higher-speed roads. Ensure that trees do not obstruct visibility for vehicles entering the street or people entering a crosswalk.

- Continuous storefronts: Streets with buildings set close to the sidewalk and parking at the side or rear of the lot provide a sense of enclosure and tend to reduce speeds.

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14 Dutchess County Department of Planning & Development; Greenway Guide E5: Street Trees
Walk Bike Dutchess

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Effective March 27, 2014

- **Road Diets:** Road diets involve reducing the number and/or width of travel lanes to slow speeds and provide space for other elements. A typical road diet converts a four lane street into two through lanes with center left turn pockets and bicycle lanes. Wider sidewalks, a landscaped buffer, a raised median, or on-street parking could also be added.

- **Curb Extensions:** Extending the curb at an intersection or mid-block crossing shortens the distance a person has to cross, makes pedestrians and drivers more visible to each other, and narrows the street, slowing speeds. Curb extensions can also provide space for a bus stop, signs and street furniture. Curb extensions are only feasible where there is on-street parking. They should not extend into the travel lane or shoulder.

- **Raised Crosswalks or Intersections:** Creating a raised crosswalk or raised intersection slows approaching vehicles and enhances the crossing(s), encouraging drivers to yield to people crossing. They are best used in areas with consistent walking activity.

- **Roundabouts:** Modern roundabouts are designed to slow speeds and minimize conflicts at intersections, while reducing delay compared to stop signs or signals. Drivers yield to circulating traffic. The location and design of roundabouts must carefully consider access by foot and on bicycles, with particular sensitivity to the elderly, children, and persons with certain disabilities. Single-lane roundabouts are greatly preferred; if multiple lanes are expected to be needed, the roundabout could be designed to be expanded in the future. Locate crosswalks to minimize the crossing distance. See Section F above regarding bicycle lanes at roundabouts.

- **Neighborhood traffic circles:** Installing mini-traffic circles at intersections on low-volume residential streets can reduce speeds substantially. They also increase safety by eliminating left turns (drivers making a left turn drive around the circle). Stop signs are not needed; all traffic yields to traffic in the circle.

- **Raised medians:** A raised median visually narrows the street, particularly if it is landscaped, such as with street trees. At crossings, a median can serve as a refuge island for people crossing, if it is at least six feet wide. Raised medians are especially useful on high-volume multi-lane streets. They can also serve as a gateway to a hamlet, village, or Town center, often in combination with curb extensions, landscaping, and other features.

- **Pavement markings:** A painted stripe, hatching pattern, or colored pavement can visually narrow the lane and reduce speeds.

**Simple pavement markings in the Town of Poughkeepsie help slow speeds (source: Google maps).**
J. **Street Amenities**
Amenities such as lighting, landscaping, and street furniture add comfort and beauty to a street.

- **Pedestrian-scale lighting:** Lighting in walkable areas should be 10 to 15 feet tall and spaced approximately four times the height (e.g., 40 to 60 feet). Use fixtures that direct light downwards and include full shielding to reduce glare and sky glow.\(^\text{15}\)

- **Landscaping:** A landscaped buffer with grass, plantings or street trees between the sidewalk and street increases comfort for people walking and makes the street more attractive. Planters, hanging flower baskets, and other landscaping can also be effective. When planning landscaping, ensure adequate sight distance for vehicles entering the street and people entering a crosswalk.

- **Street Furniture:** Bus stop shelters (with seating), benches, bicycle parking racks, water fountains, newspaper racks, and trash cans add to a comfortable and attractive street. Place elements carefully to avoid blocking the sidewalk or reducing visibility.

\(^{15}\) Dutchess County Department of Planning & Development; [Greenway Guide](#)

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**What is a ‘Stair Channel’?**
Stair channels, sometimes called bicycle ramps, are narrow channels along the side or center of a stairway that allow a bicycle to be rolled up or down the stairs. They can be incorporated into a stairway design or used to retrofit a stairway to accommodate bicycles. However, care must be taken to ensure that handrails along the stairs are still useable, and that the handrails do not prevent use of the stair channel.

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**Planters, benches, and other amenities in the Village of Rhinebeck create a welcoming, comfortable streetscape.**

**Stair channels can be integrated into the stair design or added later as a retrofit (sources: StreetsBlog.net; Fred Schaeffer).**
K. Bus Stops

In areas with transit service, bus stops are an integral part of the walking environment. Design stops to encourage walking (and bicycling) between the bus stop and nearby destinations.

- Provide convenient walking access to the bus stop with sidewalks, curb ramps, and crosswalks.

- Install bus stop shelters or benches and map/schedule kiosks at stops with high ridership and those serving elderly or disabled patrons to increase passengers’ comfort and protection from weather.

- Install sheltered bike parking at or near bus stops serving key destinations.

- Design bus stops so that bus drivers can deploy the wheelchair lift or ramp, preferably directly onto a sidewalk.

- A ‘bus bulb’, which is a curb extension at the bus stop location, allows the bus to easily re-enter traffic and provides space for bus stop shelters and other amenities. Bus bulbs work only on streets with on-street parking.
L. Traffic Signals
Design and operate traffic signals to support access for people on foot and on bicycles.

Pedestrian Signal Location:
- Provide pedestrian signals at all signalized intersections with walking activity. See the MUTCD for guidance.
  - Fixed-time (non-actuated) pedestrian signals, which provide a walk interval during every signal cycle, are appropriate in areas with consistent walking activity during most of the day.
  - Actuated pedestrian signals, which require the user to push a button, are appropriate in areas with intermittent walking activity.

Pedestrian Signal Design:16
- All pedestrian signals with a clearance interval (Flashing Don’t Walk phase) of more than seven seconds should include a countdown timer that shows the number of seconds left to cross.

Pedestrian Signal Timing:17
- Keep signal cycles short to reduce wait time for people crossing, including those on bicycles and in vehicles.
- Time pedestrian signals based on a walking speed of 3.5 feet per second, or 3.0 feet per second if a significant proportion of the people crossing are elderly or mobility-impaired.

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Consider the following signal timing features to increase safety for people walking:

- A protected left turn phase (allowing only left-turning vehicles to proceed) reduces crashes between left-turning vehicles and people crossing by 90 percent.

- A leading pedestrian interval begins the WALK signal at least three seconds before parallel vehicles get a green signal, allowing people to start crossing first, making them more visible to motorists and increasing yielding. This is especially useful where there are two turning lanes.

- Prohibiting right turns on red reduces conflicts between right-turning vehicles and people in the crosswalk in front of the vehicle. This is useful at locations or during specific times with significant walking activity and many right-turn conflicts.

- An exclusive pedestrian phase lets people to cross in any crosswalk while all vehicles have a red signal. This can be helpful at intersections with very high numbers of people crossing and many conflicts with turning vehicles. However, it lengthens the signal cycle, increasing wait time for walkers and vehicles, and may result in people crossing against the signal. A pedestrian ‘scramble’, which allows diagonal crossings, must be signed.

- A pedestrian hybrid beacon or ‘HAWK’ can be used to assist people crossing at an un-signalized crosswalk, while minimizing delay for vehicles. It is a pedestrian-actuated signal: when a person pushes the pushbutton, drivers see a flashing yellow, then a steady yellow, and then a red light, during which people crossing are given the WALK signal. During the ‘flashing don’t walk’ phase, drivers see a flashing red light, meaning they must stop first and only proceed if the crosswalk is clear. When not activated by a pedestrian, the signal is dark.
• ‘Smart’ signals detect people waiting to cross, trigger the WALK signal, and can extend the crossing time if needed based on the speed of the person detected in the crosswalk.

**Signal Timing for Bicyclists.**

- At actuated signals, detectors may be able to be adjusted to be sensitive to bicycles, so that a bicycle rider waiting at the signal will receive a green light. At actuated signals that can detect bicycles, a bicycle symbol can be marked on the pavement to show people where to position their bicycle to be detected.
  - Diagonal quadrupole inductive loops have a larger magnetic field than conventional loops and are more sensitive to bicycles. Alternatives such as video, infrared, or radar/microwave detection can be effective at detecting both moving and stopped bicycles, and are more flexible than inductive loops. However, video detection can be affected by lighting and weather conditions.

- Adjust signal timing as needed so that bicyclists starting at the intersection from a stop can clear the intersection. Consider longer minimum green times at wide crossings and in areas with young people on bicycles, such as near schools. Some signals with bicycle detection can be programmed to provide a longer minimum green when a bicycle is detected.

- Adjust signal timing as needed so that a person approaching the intersection on a bicycle at the end of the green interval can clear the intersection before the green signal for cross-traffic begins. A longer all-red interval may be needed. Some signals with bicycle detection can be programmed to provide a longer green extension time when a bicycle is detected.

- A bicycle signal, exclusively for bicyclists, may be appropriate at path crossings or other high-use bicycle crossings.

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M. Maintenance

Consistent maintenance is critical to ensure safe access for people walking and bicycling. Local ordinances often require property owners to maintain adjacent sidewalks and remove snow within a reasonable period. However, sidewalks and other facilities are far more likely to be well-maintained if the municipality or road owner provides this service (see Chapter 4 for best practice local policies). Prioritize maintenance on streets in designated centers and outlying roads with significant bicycle use.

- Maintain walking and bicycling facilities to be free of debris and have a smooth surface. This requires regular sweeping and surface repairs, as well as vegetation mowing, trimming and root control.
- Clear snow and ice from sidewalks and road shoulders.
- Mark crosswalks regularly to ensure visibility and reflectivity. Use durable materials (such as inlay tape or thermoplastic) to reduce maintenance.
- Extend pavement overlays over the entire roadway, including the full width of the shoulder, to avoid creating an edge.
- Limit the use of chip seal, as it creates a rough surface for bicycling. When necessary, use a fine mix chip seal and sweep the roadway afterwards. Notify the public of chip sealing projects ahead of time (via a website or other methods) so people traveling by bicycle can plan detours if needed.
- Pave unpaved public roads and driveways back from the road (30 feet and 10 feet are recommended, respectively) to prevent gravel from spilling onto the roadway.
- Design drainage to prevent ponding of water and ice at the base of curb ramps. Clear drainage inlets regularly to prevent build-up of leaves and other materials.
- Use bicycle-friendly drainage grates, with openings perpendicular to the direction of travel and small enough to prevent a wheel from entering. Minimize gaps between the grate and its frame to one inch or less.
- Maintain streets such that surface grates and utility covers are flush with the street surface.

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19 Ibid.
Who Owns the Streets?
The State Department of Transportation (NYSDOT) is responsible for State roads (identified on maps and on the road by a white shield with the State Route number in black) and intersections with State roads. Sidewalks on State roads may be installed by the municipality or property owner (with a permit from NYSDOT), or by NYSDOT as part of a capital project. Typically, sidewalks on State roads are owned by NYSDOT but maintained by the municipality (which often passes this responsibility to the adjacent property owner).

The County Department of Public Works (DPW) is responsible for County roads (identified on maps and on the road by a blue shield with the County Road (CR) number in yellow). Sidewalks on County roads may be installed by the municipality or property owner (with a permit from County DPW), or by County DPW. Sidewalks on County roads are maintained by the municipality (which often passes this responsibility to the adjacent property owner).

Municipalities are responsible for local streets and sidewalks. Street ownership and maintenance responsibilities should be verified with local agencies as part of any planning process.
Walk Bike Dutchess

Chapter 3: Design Guidelines

Additional Guidance

- Street Design
  - Greenway Connections and Greenway Guides
  - NACTO Urban Streets Design Guide

- Walking Facilities
  - NYSDOT Highway Design Manual, Chapter 18
  - WalkingInfo.org
  - FHWA Guide for Maintaining Pedestrian Facilities for Enhanced Safety

- Accessibility
  - US Access Board

- Bicycling Facilities
  - NACTO Urban Bikeway Design Guide
  - NYSDOT Highway Design Manual, Chapter 17
  - BicyclingInfo.org

- Bicycle Parking
  - APBP Bicycle Parking Guidelines
  - PDCTC Bicycle Parking guidelines

- Signs, Signals, and Pavement Markings
  - Manual on Uniform Traffic Control Devices (MUTCD)
  - New York State Supplement to the MUTCD
  - NYSDOT Shared-Lane Marking (SLM) Policy

- NYS Association of Metropolitan Planning Organizations Fact Sheets
Chapter 4: Dutchess County Overview

This chapter summarizes demographic and travel data, reviews existing walking, bicycling, and transit facilities in the county, analyzes crash data and patterns, and highlights existing walking and bicycling-related programs in the county.

A. Demographics

According to the 2010 Census, Dutchess County is home to 297,488 people. The Town of Poughkeepsie has the largest population, with 44,090 persons, followed by the City of Poughkeepsie, with 31,045 persons. These two municipalities account for over a quarter of the County’s total population.

In terms of residential density, the City of Poughkeepsie is the densest municipality in the county, with over 5,400 residents per square mile (gross), followed by the Village of Wappingers Falls, the City of Beacon, and the Village of Fishkill (see below and Map 4).

As discussed in Moving Dutchess, the PDCTC’s 2011 Metropolitan Transportation Plan, the County’s minority population (African-American, Asian, American Indian/Alaskan Native, and Native Hawaiian/Pacific Islander) is just under 41,000 people, or about 13.8 percent of the total population. The Cities of Poughkeepsie and Beacon, Towns of Hyde Park, Fishkill, Poughkeepsie, and Wappinger, and Villages of Fishkill and Wappingers Falls all have Census block groups with above-average minority populations, and the City of Poughkeepsie also has block groups that are over 50 percent minority population.

The County’s Hispanic population is over 31,250 persons, or 10.5 percent of the population. Block groups with above-average Hispanic populations are found in the Cities of Beacon and Poughkeepsie, Towns of Amenia, Beekman, Dover, Hyde Park, Fishkill, Pawling, Poughkeepsie, and Wappinger, and Villages of Fishkill, Millerton, Pawling, and Wappingers Falls; the City of
Poughkeepsie also has a block group with over 50 percent Hispanic population.

*Moving Dutchess* also reports that between 7.4 and 8.6 percent of the County’s population lives in poverty. The Cities of Beacon and Poughkeepsie have higher poverty rates than the county average.

### B. National and State Travel Data

According to the Alliance for Biking & Walking’s 2012 Benchmarking Report, *Bicycling and Walking in the United States*, nationally, walking accounts for 10.5 percent of all trips and 2.9 percent of commute trips, and bicycling accounts for 1.0 percent of all trips and 0.6 percent of commute trips. These percentages have been fairly consistent since the year 2000, though bicycling to work has increased slightly. Combined, walking and bicycling account for 11.5 percent of trips, but 14 percent of all traffic fatalities. While men and women are equally likely to walk, men are more likely than women to bicycle. In terms of age, children under age 16 account for a large share of bicycle trips compared to their portion of the population.

New York State ranks third out of all 50 states for its level of walking and bicycling to work (2nd for walking and 24th for cycling). However, most of this is concentrated in New York City, which ranks fifth out of the 51 largest cities for its level of walking and bicycling trips. On average, States spend only 1.6 percent of their federal transportation dollars on bicycling and walking. New York State ranks 37th out of 50 states for its per capital funding for bicycle and pedestrian transportation ($1.59 per capita, or 1.8 percent of the state’s federal transportation dollars).
In terms of planning, the number of states with pedestrian and bicycle master plans has increased sharply since 2005. New York State has pedestrian, bicycle, and trails master plans, as well as published goals to increase walking and bicycling and decrease pedestrian and bicycle fatalities. It also has a Complete Streets policy (described in Chapter 2). However, New York State’s ‘safe passing’ law does not specify a safe passing distance, and the State has a mandatory bike lane use law (prohibiting cyclists from full use of the roadway if a designated bicycle lane exists). Bicycle enforcement is not required as part of State police academy training, although it is part of continuing training for officers. The State’s drivers’ test includes a few test questions related to walking, but none related to bicycling. See Appendix B for State Vehicle & Traffic Law related to walking and bicycling.

C. Dutchess County Travel Survey Data

The Census Bureau’s annual American Community Survey (ACS) collects limited information about walking and bicycling, focusing on trips to work. County-wide, four percent of the working population (about 5,800 people) walks to work. This is unchanged since the 2000 Census. The highest rates of walking to work appear in Arlington (in the Town of Poughkeepsie), the Town of Red Hook, and the Villages of Millbrook, Pawling, and Rhinebeck. County-wide, it is estimated that 0.4 percent of the working population, or about 400 people, bicycle to work. This percentage is slightly higher than the 2000 Census. There is insufficient data on bicycling to work by municipality. Detailed tables showing the Census data are included in Appendix C.

According to the 2009 National Household Travel Survey (NHTS), 84 percent of all surveyed trips in Dutchess County were made by personal vehicle, while 9 percent were made on foot, 4 percent by transit or school bus, 1 percent by bicycle, and 1 percent by train. Of trips to work, 77 percent were drive-alone, 8 percent were by carpool, 5 percent were by public transit, and 4 percent by foot. Five percent of workers work at home.

The 2009 NHTS also provides data on why Dutchess County residents travel. The return trip home, whether from shopping, work, or other activities, represents 38 percent of all trips. Other trip purposes include shopping (14 percent), social/recreational (14 percent), family business (9 percent), and eating out (6 percent). The trip to work represents only 9 percent of all trips.

Trip distances vary by purpose. The 2009 NHTS estimated that county residents traveled an average of 17.7 miles for social/recreational purposes and 17.2 miles to commute, whereas trips to school, shopping, or for family business were fewer than 10 miles. Measured as a whole, the average trip length in Dutchess County was 11.2 miles. On average, walking trips averaged 0.7 miles and bicycling trips averaged 1.1 miles.

Finally, the New York Metropolitan Transportation Council (NYMTC)’s 2010-2011 Regional Household Travel Survey included 463 Dutchess County residents. Based on this data, 86 percent of all trips taken by County residents are by automobile, while 6 percent are by walking and other non-motorized modes. 1 Non-motorized trips include walking, bicycle, wheelchair, mobility scooter, skates, skateboard, kick scooter, Segway, and others.

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1 Non-motorized trips include walking, bicycle, wheelchair, mobility scooter, skates, skateboard, kick scooter, Segway, and others.
shared rides and taxi trips. Ten percent of non-motorized trips in the county are work-related, while 90 percent are non-work trips. Non-motorized trips average about 20 minutes in duration and 0.4 miles in distance.

D. Local Data

In addition to the NHTS and Census, we have local data on how many people walk and bicycle.

1. Pedestrian and Bicycle Counts
The number of people walking and bicycling at various locations around the county was counted in September 2012 and January, May, July, and September 2013. Counts were done for two hours on a weekday evening and/or a Saturday afternoon. Over 1,100 pedestrians and 175 bicyclists were counted at the busiest locations, though volumes ranged widely. On average, 25 percent of people on bicycles were female and 75 percent were male, while pedestrians were about equally split. Maps 5-9 show the locations and number of people counted.

The highest-volume locations included:
1. City of Poughkeepsie, Walkway Over The Hudson (weekend): 1,108 pedestrians/123 bicyclists
2. Village of Rhinebeck, Market Street at Mill Street (Route 9) (weekend): 959 pedestrians/10 bicyclists
3. Village of Pawling, Charles Colman Boulevard north of Main Street (weekday): 497 pedestrians/3 bicyclists
4. Town of Poughkeepsie, Raymond Avenue at Collegeview Avenue (weekend): 490 pedestrians/4 bicyclists
5. City of Beacon, Main Street east of Cross Street (weekend): 436 pedestrians/20 bicyclists
6. Village of Red Hook, Market Street at Broadway (weekend): 435 pedestrians/42 bicyclists
7. City of Beacon, Main Street west of Fishkill Avenue (weekend): 396 pedestrians/44 bicyclists
8. City of Poughkeepsie, Main Street west of N. Cherry Street (weekday): 307 pedestrians/72 bicyclists
9. Village of Fishkill, Main Street west of Church Street (weekend): 294 pedestrians/2 bicyclists
10. Town of Wappinger, Dutchess Rail Trail at Diddell Road (weekend): 67 pedestrians/187 bicyclists

The Market St/Mill St intersection in the Village of Rhinebeck is the second-most active location in the county, based on counts of people walking.
City of Poughkeepsie

Pedestrian Counts

Weekday
Weekend

Bicycle Counts

Weekday
Weekend

Note: Counts were not conducted during all time periods at some locations.
Lower Hudson & Lower Taconic Pedestrian Counts

This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

Map created May 2014

Note: Counts were not conducted during all time periods at some locations.
This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

Count location

Bicycle Volume

Note: Counts were not conducted during all time periods at some locations.
In August 2012, Parks & Trails New York, the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP), and the New York State Trails Council organized volunteer counts on trails throughout the State, including the Harlem Valley Rail Trail trailhead in the Village Millerton. At this location, 380 people were counted on the trail over five two-hour weekday periods, for an average of 76 people per two-hour period. Based on this data, an estimate of almost 125,000 annual users was developed. This is likely a low estimate, since counts were not done on a weekend. About half of those counted were on foot, and the other half were on bicycles. Over 70 percent of bicyclists were wearing helmets.

2. Walk-Bike Dutchess Survey

The Walk-Bike Dutchess Survey was distributed to county residents in spring 2013 (March 1 -April 15). It was primarily distributed online via SurveyMonkey, though paper copies were also made available. The survey resulted in 1,319 total respondents, with responses from every municipality in the county except the Village of Millerton. Most respondents were between age 35 and 64, though 14 percent were under age 35 and 16 percent were 65 or older. Respondents primarily identified as White; two percent identified as Black/African-American, two percent identified as Hispanic/Latino, and three percent identified as another race/ethnicity. About equal numbers of males and females responded. Over 97 percent of respondents said they have access to an automobile.

Most respondents walk frequently: 27 percent walk every day, almost 40 percent walk at least five days per week, and more than 60 percent walk at least three days per week. Eight percent walk rarely or never. In comparison, about 30 percent of respondents ride a bicycle three or more days per week and 45 percent ride at least one to two days per week, while 25 percent ride a few times per month or on weekends, and 30 percent ride rarely or never.

People reported walking and bicycling for similar reasons. The most common responses were health/exercise (94 percent) and it’s pleasant/fun (over 80 percent), followed by environmental benefits (over 55 percent). Close-by destinations, to be with family/friends, and economic benefits were cited by over 35 percent of respondents.

Trip purposes were also fairly consistent. The largest number of respondents said they walk or bicycle for exercise (68-81 percent), followed by to enjoy their community/be outside (nearly 60 percent), and to go to a park or recreational area (about 35 percent). For walkers, these were followed by walking their pet, errands and shopping, and visiting family and friends (35, 31, and 22 percent). Twelve percent walk to get to work and eleven...
percent to get to the bus or train. For those who bicycle, errands/shopping, visiting family/friends, and to/from work were cited by about 15 percent of respondents.

The most common factor that prevents people from walking and bicycling is inadequate sidewalks and road shoulders, followed by too much traffic and poor pavement condition. For walkers, the next most common factors were not feeling safe, and inconsiderate drivers. Potential walkers also cited the time/distance to walk and unpleasant walking environments. For bicyclists, inconsiderate drivers and too few bicycle paths were also top concerns, followed by not feeling safe and lack of safe bicycle parking.

According to respondents, the best places for walking in Dutchess County are (in order of popularity): rail trails, parks (national, state, and local), the Walkway Over the Hudson, local neighborhoods, and college campuses. For bicycling, the most common response was rail trails, followed by the Walkway Over the Hudson, parks, residential neighborhoods, and low-traffic streets.

When asked about the most problematic areas for walking, Route 9 was mentioned most often, followed by Route 44, Route 9G, and Route 55. Comments included concerns about safety, lack of sidewalks, narrow shoulders, and poor crossings. When asked about the most problematic areas for bicycling, Route 9 was mentioned most often, followed by Routes 9G and 9D, with concerns about narrow shoulders, poor pavement, heavy traffic, high speeds, and inconsiderate drivers.

The most important criteria respondents consider when choosing where to walk is the safety of the route, followed by scenic, good sidewalk or pavement quality, and the existence of a trail or path. For bicycling, respondents prioritize pavement quality, wide shoulders, the existence of a trail or path, and low traffic, followed by safety and scenic character.

When asked, “If equally good facilities existed, how would you prefer to travel? (by bicycle, walking, public transit, or car),” over 80 percent said they would prefer to walk or bike to parks/recreation; over 70 percent would prefer to walk or bike to the gym/exercise; almost 60 percent would prefer to walk or bike to school; and 55 percent would prefer to walk or bike to local errands or shopping. Almost half of respondents would prefer to walk or bike to work and to the bus or train.

While almost 60 percent of respondents said there are many places to go within walking distance of their home, less than half said stores are within walking distance, and only 30 percent said it is easy to walk to a bus stop or train station from their home.

Only 12 percent of respondents are very satisfied with how their community is designed for walking, while 39 percent are somewhat satisfied. Almost 50 percent are somewhat or very dissatisfied. In terms of community design for bicycling, only 5 percent of respondents are very satisfied, 27 percent are somewhat satisfied, and almost 70 percent are somewhat or very dissatisfied.

When asked about the most important improvements to be made, the most common responses were add bicycle lanes and/or shared
3. **Census Data: Who is Likely to Walk and/or Bicycle for Transportation?**

Based on the Census Bureau’s 2007-2011 American Community Survey (ACS) five-year estimates, 2010 Census data for Dutchess County, and other sources, we can estimate some of the key groups that are likely to walk or bicycle for transportation:

- **Young People:** 19 percent of the county population is under age 16. This represents about 56,800 people who are too young to drive. Additionally, workers under age 25 are four to five times more likely to walk to work than are older workers. The median age of workers who walk to work is 28 years, compared to 44 years for workers overall.

- **Older People:** More than 6 percent of the county population is over age 75. This is another sub-group that often desires and appreciates alternatives to driving, including walking. Combined, these young people and older persons represent over one quarter of the county’s population.

- **Non-Drivers:** Approximately 12 percent of county residents aged 16 and over do not have a driver’s license. This represents close to 30,000 persons who would benefit from improvements to walking and bicycling options. These non-drivers likely include some of the disabled population, as well as older adults.

- **Racial and Ethnic Minorities:** In Dutchess County, Asian workers and Hispanic/Latino workers are twice as likely to walk to work as non-Hispanic/Latino whites. African-American workers are

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2 NYSDMV, 2011.
slightly more likely to walk to work compared to non-Hispanic/Latino whites.

- Zero- and One-Vehicle Households: Workers in Dutchess County households without a vehicle are approximately 7 times more likely to walk to work than the overall population, while those in households with one vehicle are approximately 1.5 times more likely to walk to work. Zero- and one-vehicle households make up 39 percent of all households in the county (8 percent and 31 percent, respectively). This varies dramatically by municipality: approximately 66 percent of City of Poughkeepsie households have zero or one vehicle, as well as 68 percent of Village of Millbrook households, 59 percent of Village of Rhinebeck households, and over half of households in the Villages of Red Hook, Millerton, Tivoli, and Wappingers Falls.

- Lower-Income Persons: In Dutchess County, people who walk to work have median earnings of about $11,000, compared to $40,000 for workers overall. This dramatic difference in median earnings could be partly due to part-time workers, including college students, young people, and some older adults.

- Disabled Persons: According to the 2009-2011 ACS three-year estimates, 13 percent of county residents (about 36,700 persons) classify themselves as disabled and 6 percent (about 18,500 persons) classify themselves as having an ambulatory difficulty. While there are many types of disabilities, disabled persons often have difficulty driving and are more likely to need alternatives. Those with ambulatory difficulties may use wheelchairs, walkers, or other mobility devices and benefit from accessible pedestrian environments.

4. Transit Ridership Data
People who take the bus or train often walk and sometimes ride a bicycle to their stop or station. There are four major transit systems in the county: the County's LOOP bus, with over 450,600 annual riders in 2012; the City of Poughkeepsie bus, with over 403,300 annual riders in 2012; Metro-North Railroad, with approximately 6,150 average weekday and 8,500 average weekend inbound (towards New York City) boardings from Dutchess County stations in 2012; and Amtrak, with over 114,000 boardings at Dutchess County stations in 2010. Ridership by route/station is shown in the tables below.
Chapter 4: Dutchess County Overview

### LOOP Annual Ridership

<table>
<thead>
<tr>
<th>Route</th>
<th>Annual Ridership (2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route A (Beacon – Poughkeepsie)</td>
<td>141,046</td>
</tr>
<tr>
<td>Route B (Beacon – Poughkeepsie)</td>
<td>126,468</td>
</tr>
<tr>
<td>Route C (Poughkeepsie – Tivoli)</td>
<td>60,231</td>
</tr>
<tr>
<td>Route D (Poughkeepsie – Dover)</td>
<td>29,825</td>
</tr>
<tr>
<td>Route E (Poughkeepsie – Pawling)</td>
<td>22,196</td>
</tr>
<tr>
<td>Route F (Beacon – Hopewell Junction)</td>
<td>34,195</td>
</tr>
<tr>
<td>Route G (Beacon)</td>
<td>318(^3)</td>
</tr>
<tr>
<td>RailLink (Beacon, New Hamburg, &amp; Poughkeepsie)</td>
<td>20,417</td>
</tr>
<tr>
<td><strong>System Total</strong></td>
<td><strong>450,612</strong></td>
</tr>
</tbody>
</table>

### City of Poughkeepsie Bus Ridership

<table>
<thead>
<tr>
<th>Route</th>
<th>Annual Ridership (2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galleria Mall</td>
<td>71,877</td>
</tr>
<tr>
<td>Main Street</td>
<td>116,980</td>
</tr>
<tr>
<td>Northside</td>
<td>103,744</td>
</tr>
<tr>
<td>Southside</td>
<td>71,857</td>
</tr>
<tr>
<td>Shopper’s Special</td>
<td>25,732</td>
</tr>
<tr>
<td>Special</td>
<td>13,136</td>
</tr>
<tr>
<td><strong>System Total</strong></td>
<td><strong>403,326</strong></td>
</tr>
</tbody>
</table>

### Metro-North Average Daily Inbound Boardings (2012)

<table>
<thead>
<tr>
<th>Line</th>
<th>Station</th>
<th>Average Weekday Boardings</th>
<th>Average Weekend Boardings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hudson</td>
<td>Poughkeepsie</td>
<td>1,824</td>
<td>3,328</td>
</tr>
<tr>
<td></td>
<td>New Hamburg</td>
<td>1,029</td>
<td>989</td>
</tr>
<tr>
<td></td>
<td>Beacon</td>
<td>2,524</td>
<td>2,933</td>
</tr>
<tr>
<td></td>
<td><strong>Total (3 stations)</strong></td>
<td><strong>5,377</strong></td>
<td><strong>7,250</strong></td>
</tr>
<tr>
<td>Harlem</td>
<td>Wassaic</td>
<td>259</td>
<td>663</td>
</tr>
<tr>
<td></td>
<td>Tenmile River</td>
<td>26</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Dover Plains</td>
<td>120</td>
<td>131</td>
</tr>
<tr>
<td></td>
<td>Harlem Valley-Wingdale</td>
<td>117</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>Appalachian Trail</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Pawling</td>
<td>250</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td><strong>Total (6 stations)</strong></td>
<td><strong>772</strong></td>
<td><strong>1,209</strong></td>
</tr>
<tr>
<td><strong>Dutchess County Total</strong></td>
<td><strong>6,149</strong></td>
<td><strong>8,459</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Amtrak Annual Ridership (2010)

<table>
<thead>
<tr>
<th>Station</th>
<th>Annual Boardings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poughkeepsie</td>
<td>37,294</td>
</tr>
<tr>
<td>Rhinecliff</td>
<td>77,345</td>
</tr>
<tr>
<td><strong>County Total</strong></td>
<td><strong>114,639</strong></td>
</tr>
</tbody>
</table>

3 Route G was introduced in late November 2012; data includes the first six months of 2013.

5. **Recreational Trips**

Many county residents walk or bicycle for recreation and exercise. While only limited data on these trips is available, the success of recent walking and bicycling-related projects and events speaks to the demand for walking and bicycling infrastructure. For example:

- The [Walkway Over the Hudson](http://www.walkway.org) estimates that more than 700,000 people visit the pedestrian/bicycle bridge every year. About half of these visitors come from outside the region.

- [Bike New York](http://www.bikenewyork.org) organizes an annual [Discover the Hudson Valley Ride](http://www.bikenewyork.org/discover-the-hudson-valley-ride), a one-day ride with route options of between 15 and 100 miles, starting and ending at Waryas Park in Poughkeepsie. Approximately 1,500 riders participate.
Walk Bike Dutchess

- The Harlem Valley Rail Trail Association and others organize a Harlem Valley Rail Ride, a one-day ride with options of between 25 and 100 miles, beginning and ending in Millerton. All the routes include portions on the Harlem Valley Rail Trail. Approximately 1,200 riders participate.

- Parks & Trails New York’s Cycling the Hudson Valley bike tour (also known as the Great Hudson Valley Pedal), an organized 6-day, 200 mile bicycle tour from Albany to New York City, brings close to 200 participants through Dutchess County. Riders pass through Red Hook, Rhinebeck, Hyde Park, Poughkeepsie, Wappinger, and Fishkill.

- The Mid-Hudson Bicycle Club organizes an annual century and half-century ride, often in Dutchess County. Approximately 100 riders participate.

- Dutchess County Tourism has produced a series of recreational bicycle tours, which are being updated to incorporate the completed Dutchess Rail Trail and Walkway Over the Hudson.

E. Existing Facilities

1. Walking Facilities

Sidewalks: There are currently approximately 435 linear miles of sidewalks in the county. This includes about 370 miles of public sidewalks and 65 miles of private sidewalks (such as in residential developments, at colleges and office parks). The City of Poughkeepsie has the most extensive sidewalk system, with 115 miles, or over 26 percent of all sidewalks in the county. The Town of Poughkeepsie has 90 miles, and City of Beacon has 56 miles.

Recreational Trails: There are approximately 300 miles of publicly accessible hiking and walking trails in the county. This includes 25 miles of the Appalachian Trail in Beekman, Pawling, and Dover, approximately 10 miles in the Hyde Park Trail System, and over 70 miles in the Hudson River Valley Greenway Trail network (including riverside trails, countryside corridors such as the Harlem Valley Rail Trail, and connector trails), as well as trails in numerous state, County, and local parks. The County’s Healthy Communities Trail

Sidewalks in Millbrook provide access to local shops and restaurants.
Map Series includes maps of nearly 70 trail systems throughout the county.

2. Shared-Use Paths/Rail Trails
There are three main shared-use paths in the county, currently totaling about 25 miles:

- The Harlem Valley Rail Trail, from the Wassaic train station in Amenia to Chatham in Columbia County (46 miles). As of 2012 the trail is open in Dutchess County between the Wassaic station and Main Street (Route 44) in the Village of Millerton (10.7 miles), as well as in Columbia County between Under Mountain Road in the Town of Ancram and Copake Falls Station (4 miles). The 8-mile section from Main Street in the Village of Millerton to Under Mountain Road is in development.

- The Dutchess Rail Trail, between the Walkway Over the Hudson in Poughkeepsie and Hopewell Junction in East Fishkill (13.25 miles). The trail was completed in 2013 with a 1.6 mile connection between Old Manchester Road and Overocker Road in the Towns of Poughkeepsie and LaGrange (including a bridge over Route 55) and a one-mile connection between the Walkway and Morgan Lake.

- Walkway Over the Hudson, a State Historic Park between Poughkeepsie and Highland in Ulster County (1.3 miles; about 1 mile in Dutchess County). The Walkway Loop Trail (3.6 miles) connects the Walkway and the path on the Mid-Hudson Bridge with existing sidewalks and local streets and provides links to adjacent rail trails.

The Wilbur Boulevard path in the Town of Poughkeepsie is used by people walking, running and bicycling, but is not considered a true shared-use path because it is not accessible per ADA standards. Shorter shared-use paths exist in various locations, and many recreational paths exist in parks.

3. Bicycling Facilities
Bicycle Lanes: There are currently no bicycle lanes in the county, with the exception of short stretches on State Bicycle Routes approaching right-turn pockets at intersections. In these instances, the shoulder transitions to a bicycle lane through the intersection to prevent bicyclists from being cut off by right-turning traffic (for example, on Route 9 northbound near Marist College).
Walk Bike Dutchess

Chapter 4: Dutchess County Overview

Effective March 27, 2014

Shared-Lane Markings: In 2013, the first shared-lane markings (SLMs or ‘sharrows’) in Dutchess County were installed in the City of Beacon on Main Street between North Avenue (Route 9D) and East Main Street. Soon after, sharrows were installed in the Village of Pawling on Charles Colman Boulevard between West Main Street and Union Street and on West and East Main Street between Dutcher Avenue and Coulter Avenue. Later in 2013, the Town of Amenia marked sharrows on Mechanic Street between the Harlem Valley Rail Trail and East Main Street.

These include:

1. NYS Bicycle Route 9: Signed route between NYC and Rouses Point, NY; then joins Quebec Route 223 and follows the Richelieu Valley and the Chamblay Canal Towpath to Montreal (340 miles). 53 miles of the route are in Dutchess County on State, County, and local roads in Fishkill, Wappinger, Poughkeepsie (Town and City), Hyde Park, Rhinebeck, and Red Hook.

2. NYS Bicycle Route 17: Signed route between Lake Erie and Wappinger. It connects with Bicycle Route 9 at the intersection on Route 9D and Middlebush Road (CR 93) in the Town of Wappinger, and crosses the Newburgh-Beacon Bridge.

3. NYS Bicycle Route 199: Signed route along Route 199 from Route 32 in Ulster County, over the Kingston-Rhinecliff Bridge, to Route 308 in Milan.

4. NYS Bicycle Route 308: Signed route along Route 308 from Route 9 in Rhinebeck to Route 199 in Milan.

NYSDOT has proposed an extension of NYS Bicycle Route 199, as well as an extension of NYS Bicycle Route 22 through Dutchess and Putnam counties (it is currently a signed route through Columbia County, from New Lebanon to Ancram). In addition, NYSDOT has identified future potential State Bicycle Routes on Routes 44, 52, 55, and 82. These are described in the relevant Planning Area chapters.

Bicycle Routes: NYSDOT has four signed State Bicycle Routes in the county. These routes typically use existing State, County, and local roads and accommodate bicyclists on shared travel lanes and/or shoulders. They are intended for experienced adult bicyclists.

NYSDOT has proposed an extension of NYS Bicycle Route 199, as well as an extension of NYS Bicycle Route 22 through Dutchess and Putnam counties (it is currently a signed route through Columbia County, from New Lebanon to Ancram). In addition, NYSDOT has identified future potential State Bicycle Routes on Routes 44, 52, 55, and 82. These are described in the relevant Planning Area chapters.

Some local bicycle routes have been developed. The City of Poughkeepsie developed a bicycle route network which is outlined in City Code Chapter 15, Article V. However, the routes are not
signed, and no physical changes to the streets have been made to better accommodate bicycling. The Red Hook and Rhinebeck Greenway Committees developed a Historic District Bike/Hike Trail, which includes two bicycle route loops. Signs have been installed along the routes, but no physical changes to the streets have been made to better accommodate bicycling. Map 10 shows existing rail trails, sharrows, and bicycle routes, as well as potential State Bicycle Routes and rail trail concepts.

Bicycle Parking: Bicycle parking exists at various destinations, but there is currently no centralized source of information regarding the location, type, or condition of the parking. A bicycle parking inventory has been developed as part of this Plan and is included in Appendix E.

4. Transit-Bicycle Accommodation

As of 2012, all LOOP buses and 75 percent of the City of Poughkeepsie buses have bicycle racks on the front of the buses. The racks carry two bicycles each. LOOP plans to install racks that hold three bicycles on new buses. Metro-North allows bicycles on board during off-peak hours only (as shown on timetables), and requires a permit. Tandems and motorized bicycles are not permitted. Folding bicycles are allowed on all trains without a permit, but must remain folded.

Amtrak allows folding bicycles onboard all trains, and full-size bicycles on trains with ‘walk-on bicycle service’ only. However, none of Amtrak’s routes in New York State currently have this service. On some routes, full-size bicycles can be checked as baggage in a bicycle box. Tandem and recumbent bicycles are not allowed.

5. Bridges

The three bridges across the Hudson in Dutchess County all accommodate bicycling and/or walking. The Kingston-Rhinecliff Bridge has wide (8 foot) shoulders for bicycling and is part of State Bicycle Route 199. However, walking is prohibited on this bridge. The Mid-Hudson Bridge includes a walkway on the north side (accessed primarily from Gerald Drive in Poughkeepsie), though bicyclists are encouraged to walk (rather than ride) their bicycles on the walkway. The Newburgh-Beacon Bridge includes a separated walkway/bikeway for both walking and bicycling on the south side of the south span, with access from Route 9D.
This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

Map created May 2014

Note: Potential Rail Trail alignments are conceptual.
F. Safety Data

Five years of crash data, from 2007 to 2011, were analyzed to determine trends in pedestrian and bicycle crashes. The data are from NYSDOT’s ALIS (Accident Location Information System) database of crashes reported to NYSDMV. They do not include unreported crashes, though some are classified as ‘non-reportable’, meaning they caused less than $1,000 in property damage and did not result in an injury or fatality.

‘Crash’ versus ‘Accident’: Planners and safety advocates increasingly use the term ‘crash’ instead of ‘accident’ because most crashes are not really accidental--they can be attributed to specific contributing factors such as limited visibility, excess speed, distraction, or simply poor judgment that can be addressed through education, enforcement, and engineering.

1. Pedestrian Crashes

There were a total of 377 reported crashes involving pedestrians over the five-year period; 288 (76 percent) resulted in an injury and nine (2 percent) were fatal. In 2011, there were 86 reported crashes involving pedestrians. This is a decrease from a high of 95 crashes in 2010, but an increase from the previous three years (see tables in Appendix F). Overall, pedestrian crashes appear to be increasing over the period. Other findings include:

- Season: Except for winter, which has 16 percent of the pedestrian crashes, crashes are distributed fairly evenly across the seasons.

- Weather: Clear is the predominant weather type (62 percent of crashes), followed by cloudy (23 percent) and rain (11 percent).

- Light condition: Daylight is predominant, with 64 percent of crashes; dark road-lighted (a dark street with streetlights) accounts for 20 percent of pedestrian crashes, and dark road-unlighted accounts for 10 percent.

- Intersection/Non-Intersection: 63 percent of pedestrian crashes are at non-intersection locations, such as mid-block crossings or driveways. 36 percent are at intersections.

- Time of day: Pedestrian crashes are most common between 4:00 pm and 8:00 pm. This represents the after-school and work period, and also the transition to darkness, especially in the fall and winter.

- Road type: One-third of pedestrian crashes occur on City streets. These include only streets in the cities of Poughkeepsie and Beacon. State roads are the next most common, with 21 percent of crashes, followed by Town roads, with 16 percent.

- Crash rates (per 1,000 population): For the county overall, there are 0.25 pedestrian crashes per 1,000 population. By municipality, the Village of Fishkill has the highest rate, with 1.01. This is likely due to the amount of traffic (and crashes) on Main Street/Hopewell Avenue (Route 52), Route 9, and Merritt Boulevard, and the Village’s small population. The City of Poughkeepsie has the second highest rate, with 0.91, followed by the Village of Millerton, with 0.63 (see Map 11).

Pedestrian Crash Rate (Crashes per 1,000 Population)

- 0.00 - 0.10
- 0.10 - 0.20
- 0.20 - 0.30
- 0.30 - 1.01

This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

Map created May 2014
Walk Bike Dutchess

- Collision factor: 24 percent of pedestrian crashes are attributed to error/confusion by the person walking. Driver inattention accounts for 18 percent. Drivers’ failure to yield right of way accounts for nine percent of crashes, while pedestrians’ failure to yield right of way accounts for two percent of crashes.

- Age: The 16-24 year old age group is dramatically over-represented: they account for 22 percent of pedestrian crashes, but only 14 percent of the county population.

- Gender: 53 percent of pedestrians involved in crashes are men; 44 percent are women (the gender of the remaining 3 percent is unknown).

2. Bicycle Crashes

There were a total of 194 reported crashes involving bicyclists over the five-year period; 119 (32 percent) resulted in an injury and four (1 percent) were fatal. In 2011, there were 41 reported crashes involving bicyclists. This is a decrease from a high of 50 crashes in 2010, but an increase from 2007 and 2009 (see tables in Appendix F). Overall, bicycle crashes appear to be increasing over the period. Other findings include:

- Season: Over 60 percent of bicycle crashes occur in the spring and summer. Winter accounts for 15 percent of crashes.

- Weather: Clear is the predominant weather type, with 77 percent; followed by cloudy (16 percent) and rain (5 percent).

- Light condition: Daylight is predominant, with 79 percent of crashes; dark road-lighted (a dark street with streetlights) is second, with 14 percent. Dusk represents 3 percent of crashes.

- Intersection/Non-Intersection: 52 percent of bicycle crashes are at non-intersection locations—this could be trying to cross mid-block, or hit on the street (e.g. a sideswipe or rear end). 47 percent of crashes occur at intersections.

- Time of day: Bicycle crashes are most common between 4:00 pm and 8:00 pm, with 12:00 pm to 4:00 pm a close second. This includes both weekday and weekend afternoons and evenings.

- Road type: One-quarter of bicycle crashes are on City streets. These include only streets in the cities of Poughkeepsie and Beacon. State roads and State/Town road intersections are the next most common, with 17 percent of crashes, followed by Town roads, with 10 percent.

- Crash rates per 1,000 population: For the county overall, there are 0.13 bicycle crashes per 1,000 population. By municipality, The Village of Fishkill has the highest rate, with 0.46 (due to its small population compared to the amount of traffic and crashes on Main Street/Hopewell Avenue (Route 52), Route 9, and Merritt Boulevard), followed by the City of Poughkeepsie and Village of Rhinebeck, both with 0.38 (see Map 12).

- Collision factor: 27 percent of bicycle crashes are attributed to error/confusion by the person bicycling. Driver inattention accounts for 22 percent. Drivers’ failure to yield right of way accounts for ten percent of crashes, while bicyclists’ failure to yield right of way accounts for eight percent of crashes.

- Age: The 10-15 and 16-24 year old age groups are dramatically over-represented in bicycle crashes, compared to their percent

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Map created May 2014
of the county population. 10-15 year olds account for 17 percent of crashes but eight percent of the population, while 16-24 year olds account for 26 percent of crashes but 14 percent of the population.

- Gender: Almost 80 percent of those involved in bicycle crashes are men. This likely reflects the population riding on the road.

3. **High-Crash Corridors**

Using the five years of crash data, we identified street segments with concentrations of bicycle and/or pedestrian crashes. We then calculated a crash rate per mile for those segments. Maps 13, 14, and 15 show the high-crash corridors, coded by the number of bicycle and pedestrian crashes per mile.

High-crash locations reflect areas with the most people walking and bicycling. All of the highest-crash corridors for pedestrians are in the City of Poughkeepsie, with the exception for a portion of Main Street that extends into the Town of Poughkeepsie. The highest crash rate is almost 26 crashes per mile on Mansion Street. The highest number of crashes is on a 2.2-mile segment of Main Street, which had 43 reported pedestrian crashes over the five-year period.

The highest-crash corridors for bicyclists are all in the City and/or Town of Poughkeepsie. The highest crash rate is 17 crashes per mile on Hamilton Street. The highest number of crashes is on a 2.6-mile segment of Main Street, which had 20 reported bicycle crashes over the five-year period.

While the concentrations of crashes reflect areas with significant levels of walking and bicycling, the seriousness of those crashes is typically related to vehicle speed. Research has shown that higher vehicle speeds are strongly associated with pedestrian crashes and more serious pedestrian injury. A person hit by a vehicle traveling at 20 mph has a 95 percent survival rate, but when speeds increase to 30 mph, pedestrian survival rates fall to 60 percent; at 40 mph, the survival rate is only 20 percent; and when hit by a vehicle traveling at 50 mph, a person on foot is almost certain to die.

![Slower speeds are safer](source: Killing Speed and Saving Lives, UK Department of Transportation).

**G. Americans with Disabilities Act (ADA)**

The Americans with Disabilities Act of 1990 (ADA) requires state and local governments to make their programs and services accessible to persons with disabilities. This includes removing any physical barriers from public facilities, including sidewalks.
High Crash Corridors (2007-2011)
Hyde Park, Poughkeepsie, Wappinger, Wappingers Falls

This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

Pedestrian Crash
- Red circle
- Green circle

Bicycle Crash
- Blue circle
- Green circle

Pedestrian Crashes Per Mile
- 1-10
- 10-15
- 15-26

Bicycle Crashes Per Mile
- 1-3
- 3-5
- 5-17

Map created May 2014
The ADA requires public entities with fifty or more employees to identify barriers that may limit accessibility for persons with disabilities, and to develop a transition plan describing how the identified barriers will be addressed.

In 2010, NYSDOT completed an ADA compliance inventory of sidewalks, crosswalks, and curb ramps on State roads. A draft ADA plan was released in December 2010. The plan identifies intersections and sidewalk segments on State roads that are not yet fully ADA accessible.

In Dutchess County, NYSDOT identified a total of 78 locations that are not ADA accessible, including 39 intersections and 39 sidewalk segments. These include portions of Routes 9, 9D, 44, 52, 55, 82, 113, 199, 308, 343, and 376 (see Moving Dutchess, Appendix C for details). According to NYSDOT's Draft ADA Plan, 90 percent of the 43 miles of NYSDOT sidewalks in the county comply with ADA. The next phase of the Plan will include a prioritized list of improvements. NYSDOT expects to comply with ADA statewide by March 2027. ADA improvements in Dutchess County are currently planned to be completed by 2018.

The City of Poughkeepsie developed an ADA Transition Plan in 1992 based on an inventory of City-owned facilities (buildings, parks, fire houses, etc.). The Transition Plan also includes an inventory of crosswalks at approximately 400 intersections. Each location is rated based on whether it requires a curb ramp, detectable warnings, updated geometry and/or updated alignment. The plan prioritizes ramp improvements first at crosswalks along accessible routes serving public entities, second at crosswalks along accessible routes serving places of public assembly and business, and third, all remaining crosswalks.

The City’s plan states that all street corners which are integral with street paving or repair programs shall have construction of accessible curb ramps incorporated within the scope of paving or repair programs. Since the 1992 plan, the City has incorporated many of the ramp improvements into sidewalk and street projects. As of 2012, NYSDOT and the City of Poughkeepsie are the only two agencies in the county that are known to have conducted a comprehensive ADA evaluation of their walking infrastructure.

### H. Existing Walking & Bicycling Programs

#### 1. Safety Programs

The Dutchess County Traffic Safety Board (TSB) promotes bicycle safety through presentations to local organizations, bicycle rodeos at schools, and helmet check events, as well as distribution of bicycle helmets, reflective materials, and educational materials. Pedestrian safety focuses on educational programs for youth groups and other organizations. Key awareness, education, and enforcement programs include:

- Approximately 20-25 bicycle rodeos and bicycle helmet safety presentations per year, in coordination with schools, municipal recreation programs, church groups, bicycle shops, and other community organizations. The TSB distributes about 200 bicycle helmets each year.
- Pedestrian safety programs for youth groups and other organizations.
2. **Senior Programs**

The County’s [Office for the Aging](#) recreation program includes Senior Walking/Bicycling Groups. These groups began in 2011 and provide a different meet-up location every weekday morning for seniors who want to walk or bicycle with a group. Several of the groups have volunteer coordinators. Locations include the Walkway Over the Hudson, the Dutchess Rail Trail, and the Harlem Valley Rail Trail.

3. **School Programs**

The federal Safe Routes to School (SRTS) program (incorporated into the [Transportation Alternatives Program](#) in 2013) provides funding for infrastructure, enforcement, education, encouragement and evaluation programs that make it safer for students in grades K-8 to walk and bicycle to school. In Dutchess County, the Town of Poughkeepsie received Safe Routes to School funding in 2008 to construct sidewalks, mark crosswalks, and monitor and enforce speeds around Violet Avenue Elementary School. In 2012, the City of Beacon received SRTS funding to

- **Selective Traffic Enforcement Program (STEP):** Support of targeted enforcement to reduce aggressive driving, speeding, and other unsafe driving behaviors.

- **School Bus Safety Awareness:** Distribution of school bus safety video, teaching guides, and educational materials for school children; School Bus Driver of the Year award and driver skills rodeo; and promotion of Operation Safe Stop to educate the public about stopping for school buses.

- **Distribution of brochures and educational materials, press releases, and events.**

---

*Participants at a bicycle rodeo learn the importance of wearing a helmet.*

*Violet Avenue Elementary School students celebrate Walk to School Day (source: hpscd.org).*
replace deteriorated sidewalks and curbs and install ramps, crosswalks and signs on Liberty Street to improve safety for students walking to J.V. Forrestal Elementary School. The project also includes pedestrian and bicycle safety education, encouragement, and enforcement programs.

The National Center for Safe Routes to School coordinates an annual Walk to School Day (in October) and Bike to School Day (in May). Forrestal Elementary School in Beacon organized a Walk to School Day event in 2012 in coordination with the school’s Parent-Teacher-Student Organization. Violet Avenue Elementary held a walk to School Day event in 2013 using the sidewalks funded through the SRTS program. The Poughkeepsie Day School has held several Bike to School Day events. The school encourages students who live within five mile of school to commute by bicycle by educating them about safe bicycling techniques, providing route maps, organizing morning meeting locations, and hosting a breakfast reception for students who rode to school that day.

Other local schools have bicycling and walking programs. For example:

- Parents at Chancellor Livingston Elementary School in Rhinebeck organize a ‘Walking Wednesday’. Parents wait at specified corners for students to gather, and walk with them in a group to school.

- Chancellor Livingston teacher Barbara Rizzolo organizes an annual ‘Bike the Rail Trail’ event for all third graders at the school. Teachers, administrators, and parents join the students for a 16-mile ride on the Harlem Valley Rail Trail. County Sheriff’s officers monitor the trail crossings and teachers emphasize helmet use and safe bicycling. During the year, teachers integrate the trail ride into lessons about science, nutrition and physical activity.

- Poughkeepsie Middle School used to have a Safe Passage Home program. Working with adult volunteers and staff from the City Police Department and County Office of Probation, the school district identified key walking corridors through the city for students walking home. Volunteers stood at key crosswalks to ensure that students could walk home without being bullied or threatened.

Local school district policies related to walking and bicycling to school are summarized in the table below.
<table>
<thead>
<tr>
<th>School District</th>
<th>Transportation Policies (if online)</th>
<th>Wellness Policy (if online)</th>
<th>Allow Students to Walk to School*</th>
<th>Allow Students to Bike to School*</th>
<th>District Transportation Practices*</th>
<th>Best Practice Policy Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arlington Central School District</td>
<td>Policies 8410-8411: <a href="http://policy.microscribepub.com/cgi-bin/on_popup.js?clientID=293865151&amp;depth=8&amp;infobase=arlington.nfo&amp;record=%7BF67%7D&amp;sofpage=P&amp;l_tocframe">link</a></td>
<td>Policy 5425 and 5425-R: <a href="http://policy.microscribepub.com/cgi-bin/on_popup.js?clientID=324531369&amp;query=5425&amp;depth=8&amp;headingewithtitle=nof&amp;ltsuperheading=on&amp;infobase=arlington.nfo&amp;record=%7BFE7%7D&amp;sofpage=P&amp;l_frame">link</a></td>
<td>Y</td>
<td>Y</td>
<td>The District currently provides busing for all students, though some choose to walk or bike to school.</td>
<td>Student Bicycle Use (Policy 5453): Students are permitted to ride bicycles to school. During the school day bicycles may be used on school grounds only for direct transportation between home, school, and work. Bicycles must be parked and locked in the designated rack areas.</td>
</tr>
<tr>
<td>Beacon City School District</td>
<td>Policies 5710-5720: <a href="http://www.beaconcity12.org/files/436557/beacon%20city%20sd%20policy%20manual%20revised%209-20-13.pdf">link</a></td>
<td><a href="http://beaconcity12.org/files/filesystem/Beacon_City_School_District_Wellness_Policy.pdf">link</a></td>
<td>Y</td>
<td>Y</td>
<td>District policy reflects State law, which requires busing for all students who live outside the City limits. When requested, busing will also be provided to students who live in the City but more than 1.5 miles from their school.</td>
<td>Busing is provided for all District students who live outside the City limits. When requested, busing will also be provided to students who live in the City but more than 1.5 miles from their school.</td>
</tr>
<tr>
<td>Dover Union Free School District</td>
<td>Policies not found on website <a href="http://www.doverschools.org/">link</a></td>
<td><a href="http://www.doverschools.org/page.cfm?p=3527">link</a></td>
<td>Y</td>
<td>Y</td>
<td>District policy reflects State law, which requires busing for all K-8 students living more than 2 miles from school and 9-12th grade students living more than 3 miles from school. In practice the District buses almost all students outside the hamlet of Dover.</td>
<td>Busing is provided for all students, though students may walk or bike if they prefer.</td>
</tr>
<tr>
<td>Hyde Park Central School District</td>
<td>Policies 8410-8414: <a href="http://www.boarddocs.com/ny/hpcsd/Board.nsf/goto?open&amp;id=92NQZ76B564E">link</a></td>
<td>See Policies 5405 and 5405-R: <a href="http://www.boarddocs.com/ny/hpcsd/Board.nsf/goto?open&amp;id=8ZMMWZ5D4F16">link</a></td>
<td>Y</td>
<td>Y</td>
<td>Students are allowed to walk or bike to school with permission from their parent. Students in grades K-8 may be required to walk if they live less than 0.5 miles from school; students in grades 9-12 may be required to walk if they live less than 1.0 mile from school.</td>
<td>Students are allowed to walk or bike to school with permission from their parent. Students in grades K-8 may be required to walk if they live less than 0.5 miles from school; students in grades 9-12 may be required to walk if they live less than 1.0 mile from school.</td>
</tr>
<tr>
<td>Millbrook Central School District</td>
<td>Policies being updated, District Goals: <a href="http://www.millbrookeducation.org/BOE/policy">link</a></td>
<td>Not found online; pdf of 2006 Wellness Policy (#5401) provided by Cornell Cooperative Extension staff.</td>
<td>Y</td>
<td>Y</td>
<td>Busing is provided for all students, but they may walk or bike with written permission from a parent. The Millbrook Central School District will... encourage active transportation to/from schools by assessing the safest routes for students to walk or bike to school, and by installing bike racks at school buildings.</td>
<td>Busing is provided for all students, but they may walk or bike with written permission from a parent. The Millbrook Central School District will... encourage active transportation to/from schools by assessing the safest routes for students to walk or bike to school, and by installing bike racks at school buildings.</td>
</tr>
<tr>
<td>Pawling Central School District</td>
<td>Policies 8410 and 8410-R: <a href="http://www.pawlingschools.org/board_education.cfm?udspage=1417363">link</a></td>
<td><a href="http://www.pawlingschools.org/webpages?welness/">link</a></td>
<td>Y</td>
<td>Y</td>
<td>Wellness Guidelines, Section VIII.B. Policy Review. Assessments of each school’s existing nutrition and physical activity environments, policy and guidelines will be performed every three years to help review policy compliance, assess progress, and determine areas in need of improvement. As part of that review, the District will review our wellness policy and guidelines; provision of an environment which supports healthy eating and physical activity; and nutrition and physical education program elements. The District, and individual schools within the District, will, as necessary, revise the wellness policy and guidelines and develop work plans to facilitate their implementation.</td>
<td>Wellness Guidelines, Section VIII.B. Policy Review. Assessments of each school’s existing nutrition and physical activity environments, policy and guidelines will be performed every three years to help review policy compliance, assess progress, and determine areas in need of improvement. As part of that review, the District will review our wellness policy and guidelines; provision of an environment which supports healthy eating and physical activity; and nutrition and physical education program elements. The District, and individual schools within the District, will, as necessary, revise the wellness policy and guidelines and develop work plans to facilitate their implementation.</td>
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<td>Wellness Policy (if online)</td>
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</tr>
<tr>
<td>Pine Plains Central School District</td>
<td>Policy 5710: <a href="http://www.pccsd.org/policies.cfm?pid=404">http://www.pccsd.org/policies.cfm?pid=404</a></td>
<td>Policy 5661: <a href="http://www.pccsd.org/policies.cfm?pid=1914&amp;searchwords=">http://www.pccsd.org/policies.cfm?pid=1914&amp;searchwords=</a></td>
<td>Y</td>
<td>Y</td>
<td>Busing is provided to all students, but some students walk. Individual schools may require written permission from parents to allow walking or biking to school.</td>
<td>District Wellness Policy: This district has established a Wellness Committee... to develop the district’s proposed local Wellness Policy, making such policy recommendations for review and adoption by the Board of Education. The district’s Wellness Committee includes, but is not limited to, a representative from each of the following groups: (a) parents, (b) students, (c) the district’s food service program, (d) school administrators and (e) members of the public. The district Wellness Committee will assess current activities, programs and policies available in the district; identify specific areas of need within the district; develop the policies; and provide mechanisms for implementation, evaluation, revision and updating of the policy.</td>
</tr>
<tr>
<td>Poultneyville City School District</td>
<td>Policy 8410: <a href="http://policy.microscribepub.com/cgi-bin/on_hipdf?clientid=224534751&amp;depth=86&amp;infobase=pougkeepsie.info&amp;record=%7B81A7%7D&amp;softpage=PL_tocframe">http://policy.microscribepub.com/cgi-bin/on_hipdf?clientid=224534751&amp;depth=86&amp;infobase=pougkeepsie.info&amp;record={81A7}&amp;softpage=PL_tocframe</a></td>
<td>Policy 1510 and 1510-R: <a href="http://policy.microscribepub.com/cgi-bin/on_hipdf?clientid=114469358&amp;depth=86&amp;infobase=pougkeepsie.info&amp;record=%7B1217%7D&amp;softpage=PL_frame">http://policy.microscribepub.com/cgi-bin/on_hipdf?clientid=114469358&amp;depth=86&amp;infobase=pougkeepsie.info&amp;record={1217}&amp;softpage=PL_frame</a></td>
<td>Y</td>
<td>Y</td>
<td>Busing is provided for pre-K, K, and special needs students. Other students may take the City bus.</td>
<td>Wellness Policy Section IV. Monitoring and Policy Review: Each school will conduct a baseline assessment of its nutrition and physical activity policies. The results of those school-by-school assessments will be compiled at the district level to identify and prioritize needs. Assessments will be repeated every three years to help review policy compliance, assess progress, and determine areas in need of improvement.</td>
</tr>
<tr>
<td>Red Hook Central School District</td>
<td>Policy 8410-8411: <a href="http://www.redhookcentralschools.org/domain/40">http://www.redhookcentralschools.org/domain/40</a></td>
<td>Policy 9591: <a href="http://www.redhookcentralschools.org/cms/lib/BO1/NY01000233/Centricity/Domain/40">http://www.redhookcentralschools.org/cms/lib/BO1/NY01000233/Centricity/Domain/40</a></td>
<td>Y</td>
<td>Y</td>
<td>Busing is not provided for students who live in the Village of Red Hook and attend school within the Village.</td>
<td>Section 1510-R Wellness Regulation. C. Safe Routes to School. The School District’s Safety and Security Office will assess safe routes to and from school as necessary and to the extent possible, make needed improvements to make it safer and easier for students to walk and bike to school. When appropriate, the Safety and Security Office will work together with local public works, public safety, and police departments in those efforts.</td>
</tr>
<tr>
<td>Rhinebeck Central School District</td>
<td>Policy 8410: <a href="http://www.rhinebeckcsd.org/policies.cfm?pid=251">http://www.rhinebeckcsd.org/policies.cfm?pid=251</a></td>
<td>Policy 5410: <a href="http://www.rhinebeckcsd.org/policies.cfm?pid=12116&amp;searchwords=wellness">http://www.rhinebeckcsd.org/policies.cfm?pid=12116&amp;searchwords=wellness</a></td>
<td>Y</td>
<td>Y</td>
<td>The District provides busing to all 6th - 12th grade students who live more than 1 mile from school, and to K-5th grade students who live more than 0.3 mile from school. Students are allowed to walk and bike to school at their parent’s discretion. There are bike racks at schools.</td>
<td>Wellness Policy Section IV. Monitoring and Policy Review: Each school will conduct a baseline assessment of its nutrition and physical activity policies. The results of those school-by-school assessments will be compiled at the district level to identify and prioritize needs. Assessments will be repeated every three years to help review policy compliance, assess progress, and determine areas in need of improvement.</td>
</tr>
<tr>
<td>Spackenkill Union Free School District</td>
<td>Specific policies not found, related policies in Section 8114: <a href="http://www.boarddocs.com/sufsd/Board.nsf/goto?open&amp;Id=86KMPF7C17D6">http://www.boarddocs.com/sufsd/Board.nsf/goto?open&amp;Id=86KMPF7C17D6</a></td>
<td>Policy 5137: <a href="http://www.boarddocs.com/sufsd/Board.nsf/goto?open&amp;Id=86KMPF7C17D6">http://www.boarddocs.com/sufsd/Board.nsf/goto?open&amp;Id=86KMPF7C17D6</a></td>
<td>Y</td>
<td>Y</td>
<td>Busing is provided for students who live 0.50 mile or more from the elementary school, 0.75 mile or more from the middle school, and 1 mile or more from the high school.</td>
<td>Local Wellness Policy (#5900): All students will have support and encouragement to be physically active on a regular basis... Schools will provide information to parents to help them promote and incorporate physical activity and healthy eating into their children’s lives.</td>
</tr>
<tr>
<td>Wappingers Central School District</td>
<td>Policy 8410: <a href="http://www.boarddocs.com/ny/wcsd/Board.nsf/goto?open&amp;Id=87WTKG02DE48">http://www.boarddocs.com/ny/wcsd/Board.nsf/goto?open&amp;Id=87WTKG02DE48</a></td>
<td>Policy 5900: <a href="http://www.boarddocs.com/ny/wcsd/Board.nsf/goto?open&amp;Id=87WTKG02DE48">http://www.boarddocs.com/ny/wcsd/Board.nsf/goto?open&amp;Id=87WTKG02DE48</a></td>
<td>Y</td>
<td>Y</td>
<td>The District provides busing for every student in the district. If any student is not going to take the bus, they need written permission from the parent.</td>
<td>Local Wellness Policy (#5900): All students will have support and encouragement to be physically active on a regular basis... Schools will provide information to parents to help them promote and incorporate physical activity and healthy eating into their children’s lives.</td>
</tr>
<tr>
<td>Webutuck Central School District</td>
<td>Currently being updated: <a href="http://www.webutuckschools.org/pages/Webutuck_CSD/Policy_Pages">http://www.webutuckschools.org/pages/Webutuck_CSD/Policy_Pages</a></td>
<td>Currently being updated; not available.</td>
<td>no policy</td>
<td>no policy</td>
<td>This is a rural district, so all children are bused to school. According to District staff, no students walk or bike to school, so there is no specific policy, but there is also no prohibition.</td>
<td></td>
</tr>
</tbody>
</table>
Colleges in Dutchess County also promote walking and bicycling:

- **Bard College** has several programs to support bicycling, including a celebration of National Bike Month every May, a guided bike ride to the Village of Red Hook for incoming students, and maps of recommended cycling routes to the Villages of Red Hook and Tivoli.

- **Marist College** has worked to educate students about pedestrian safety and has established enforcement policies involving disciplinary action for students who violate traffic laws. Marist also worked with NYSDOT on the pedestrian underpass under Route 9. Marist currently does not have any bicycle programs in place, but is working on establishing a bike rental program on campus.

- In 2005, Vassar College started a ‘pink bikes’ program, which allows students to use a school-owned bicycle for the school year for a small deposit (refunded unless the bicycle is stolen or damaged).

4. **Law Enforcement Programs**

The Dutchess County Sheriff’s Office has a Bicycle Unit consisting of officers who are trained to patrol areas by bicycle where it is impractical to use motorized vehicles, such as village and business areas, rail trails, and special events. The unit has also conducted bicycle safety presentations. However, there is currently little funding for the Unit. Similarly, the Town of Poughkeepsie has bicycle officers, but they are not often used aside from special events. Other local police agencies may also use bicycle patrols.

5. **Recreational Programs**

- Since 2006, the Town of Hyde Park, in coordination with the National Park Service, County Department of Health, Scenic Hudson, and the Winnikee Land Trust has organized an annual **Hyde Park Healthy Trails ‘Walkabout’ Program**. The program promotes use of the trails in Hyde Park by providing brochures with maps, safety information, and a checklist. Those who walk at least five of the Town’s eleven trails earn a free patch, which is different every year.

- The **Walkway Over the Hudson** hosts a number of walking, running, and other events every year. On January first, the Walkway holds an annual ‘First Day Hike’ along with other State parks across the country. First Day Hikes aim to promote physical activity through the use of national, State, and local
parks. Participants can choose either a 1.2 or 2.4-mile guided group walk on the Walkway, and are entered to win raffle prizes. During the winter, the Walkway holds a Fitness Challenge to encourage people to remain active during the colder months. Participants who walk, run, or bike on the Walkway for at least 30 minutes twice a week are eligible to enter a contest for prizes.

- The Mid-Hudson Bicycle Club, founded in 1966, organizes recreational rides throughout the county and surrounding area, as well as other activities.

I. Maintenance Practices

1. Highway Superintendent Survey

A survey of local highway superintendents found the following sidewalk maintenance practices:

- 5 of the 14 municipalities that responded maintain public sidewalks (Towns of Amenia and Poughkeepsie, and Villages of Millbrook, Pawling, and Red Hook).

- 5 of the 14 municipalities that responded remove snow and ice from public sidewalks (City of Beacon, Towns of Amenia and Poughkeepsie, and Villages of Millbrook and Pawling).

- 3 of the 14 municipalities that responded plan for sidewalk repairs by developing a Sidewalk Maintenance Plan or incorporating maintenance costs into their annual Capital Program (Villages of Millbrook, Pawling, and Rhinebeck).

Respondents suggested several ways to improve sidewalk maintenance:

- Partnerships with local businesses, schools, civic groups and property owners to share the cost and responsibilities of sidewalk maintenance and snow removal.

- Sharing labor and equipment with the County and NYSDOT to assist with repairs of sidewalks located on County and State roads.

- Business Improvement Districts to provide a more predictable annual revenue stream to better finance routine and unpredictable snow removal expenditures.
2. **Best Practices**

The following best practices were identified through code reviews, the highway superintendents’ survey, and discussions with municipal staff:

*Sidewalk Improvement Plan - Village of Millbrook*: For more than ten years the Millbrook Highway Department has assumed responsibility for maintaining and repairing all sidewalks in the Village, including snow plowing, shaving sidewalks to remove trip hazards, and replacing segments where needed. The cost is programmed into the Village budget each year based on a Sidewalk Improvement Plan. According to the Highway Superintendent, residents, particularly seniors, are grateful for this service. By taking responsibility for the condition of sidewalks, the Village ensures that sidewalks are maintained consistently and in a timely manner.


*Snow Removal - City of Beacon*: After heavy snowfall, the City removes snow from sidewalks on both sides of Main Street for its entire length.
Introduction to the Planning Area Chapters

Project Development

Each of the five Planning Area chapters that follow includes a list of Project Recommendations. These were developed through several means:

- A review of local plans and previous studies
- Analysis of maps and identification of issues by the Bicycle-Pedestrian Advisory Committee (BPAC)
- Suggestions from members of the public via a public survey, phone calls, and emails
- Ideas and feedback from municipal officials
- Ideas and feedback from Dutchess County Public Works, Dutchess County Planning, and NYSDOT-Region 8 staff.

While attempts were made to be thorough, there may be other worthy ideas that have not been included. See Appendix A for a summary of public outreach methods used for the Plan.

The BPAC reviewed the project ideas by Planning Area in small groups, and rated each according to its contribution to the following:

- Providing access to key destinations
- Creating connections between existing facilities
- Improving safety
- Increasing local walking/bicycling activity and local economic benefit
- Serving under-served populations
- The project’s level of local support
- Multi-agency coordination needed
- Feasibility to fund and implement.

While these scores were not explicitly used in the Plan, they helped to identify key concepts and priorities.

BPAC members use maps to develop project recommendations.

Organization

The recommendations are described in each of the Planning Area chapters, listed in a spreadsheet in Appendix I, and shown in a series of maps. They are organized by Planning Area and then by timeframe (short: within five years; medium: five to ten years; or long: more than ten years). The timeframes are based primarily on
the feasibility/complexity of each project, with some adjustments to account for local priorities.

Within each timeframe, the recommendations are sorted by the responsible or ‘lead’ agency: the municipality, County, NYSDOT, or a combination. Since there are more recommendations in the Lower and Upper Hudson Planning Areas, recommendations in those areas are grouped first by timeframe and then by municipal location. Walking and bicycling-focused projects are not separated, since many projects include elements that address both walking and bicycling.

**Implementation**

As noted above, each description includes one or more lead agencies. These agencies were identified based on ownership of the relevant street(s) and/or facility. Other partners are listed in Appendix I.

The projects listed in this Plan are recommendations only. **This Plan is intended to provide guidance; it cannot and is not intended to require specific action by any municipality or agency.** The recommendations in the Plan are provided to help municipalities and other agencies identify priorities, refine project ideas, and develop funding applications. The facility owner(s) will ultimately decide whether or not to implement a project, in coordination with partners. The project elements, timeframe, and other details included in this Plan will likely change as each project is more fully developed. Implementation of all the recommended projects may not be feasible, based on current funding levels and competing transportation needs.
Chapter 5.1: Lower Hudson

For this Plan, the Lower Hudson is defined as the southwestern communities along the Hudson River: the Towns of Poughkeepsie, Wappinger, and Fishkill; the Cities of Poughkeepsie and Beacon; and the Villages of Wappingers Falls and Fishkill. The Lower Hudson represents about 90 square miles and 140,773 people—almost half the county’s total population. It is the most urban part of the county, with the most concentrated development pattern, highest proportion of zero-vehicle households, and the most extensive transit service (see Map 16, Lower Hudson Overview).

Three key factors that influence walking and bicycling—land use (residential density and destinations), demographics, and non-motorized facilities (including transit) — are discussed below. Local walking and bicycling patterns, including crash data, is presented, and issues are identified. Finally, a set of priority projects to improve conditions for walking and bicycling is described.

A. Walking and Bicycling Factors

1. Land Use

Residential Patterns
The City of Poughkeepsie, with over 5,700 persons per square mile, is the most densely developed municipality in the county, followed by the Village of Wappingers Falls (over 4,600 persons/square mile), City of Beacon (3,200 persons/square mile), and Village of Fishkill (2,600 persons/square mile). The Town of Poughkeepsie ranks 7th (1,700 persons/square mile) and the Town of Wappinger and Town of Fishkill rank 10th and 11th, respectively, each with around 800 persons/square mile. This concentrated population pattern makes walking and bicycling for transportation practical and attractive.

Centers & Destinations
Lower Hudson centers, as designated by the Dutchess County Department of Planning and Development, are shown on Maps 17-19, Lower Hudson Centers. Key destinations for walking and bicycling include:

- Beacon Main Street
- Beacon train station, waterfront, Long Dock Beacon, and DIA: Beacon
- Mount Beacon
- Village of Fishkill Main Street business district
- Fishkill Creek
- Fishkill Town Hall and recreation fields
- Village of Wappingers Falls businesses, Grinnell library, and Mesier Park
- Newburgh-Beacon Bridge
- Hudson Highlands State Park (Route 9D Trailheads)
- New Hamburg train station
- Route 9 shopping
- Wappinger Town Hall
- Dutchess Stadium (seasonal)

1 2010 Census and Dutchess County GIS.
Map created May 2014

This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

School
K-12
Elementary/Middle
Middle/High
College

Major Employer
Retail Center
Hospital
Train Station

Paved Shoulder Width*
>= 4 ft
2 - 4 ft
< 2 ft
Biking/Walking Prohibited

Road Type
Local
County
State
U.S.
Interstate

Commuter Rail Line
State Bicycle Route
Shared Use Path/Rail Trail
Recreational Trail
Park

* Paved width based on available data. May not reflect usable width.
This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

1 inch = 0.3 miles

Map created May 2014

Lower Hudson Centers - City/ Town of Poughkeepsie
This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

Lower Hudson Centers - Wappinger/Fishkill/Poughkeepsie

Road Type
- County
- State
- U.S.
- Interstate

Paved Shoulder Width*
- > 4ft
- 2 - 4ft
- < 2ft
- Biking/Walking Prohibited

School
- K-12
- Elementary/Middle
- Middle/High
- College

Grocery Store
- Municipal Hall
- Library
- Post Office
- Train Station
- Dutchess Stadium
- Hospital
- Major Employer
- Retail Center

Sidewalk
- Bus Route
- Commuter Rail Line
- State Bicycle Route
- Recreational Trail
- Park

Emerging

Existing

* Paved width based on available data. May not reflect usable width.
This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

Map created May 2014
Beacon’s Main Street is a popular destination for shopping, dining, and other activities.

City and Town of Poughkeepsie

- Poughkeepsie City Center: business district, County and City offices, Civic Center, Bardavon Theater, shops and restaurants, Adriance Library
- Poughkeepsie train station and waterfront
- Walkway Over the Hudson and Dutchess Rail Trail
- Arlington: Vassar College, Raymond Avenue and surrounding businesses
- Route 44 shopping: Adams Fairacre Farms, Dutchess Plaza
- Dutchess Community College
- Marist College
- Route 9 shopping: Galleria Mall, South Hills Mall; Kohl’s, Poughkeepsie and Hudson Plazas
- Poughkeepsie Town Hall

- Vassar Brothers and St. Francis Hospitals
- Mt. Carmel/Little Italy

2. Demographics

Age

Young people and older people are both less likely to drive, and therefore more likely to walk (both young and old) or bicycle (young people) for transportation. The City of Poughkeepsie, Town of Wappinger, and Village of Wappingers Falls have slightly higher percentages of young residents (under 16) than the county average, while the Town and Village of Fishkill have slightly higher percentages of older residents (over 74). The City of Poughkeepsie and Village of Wappingers Falls have higher than average percentages of these young and older groups combined.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Population</th>
<th>% Under 16</th>
<th>% 16 - 74</th>
<th>% Over 74</th>
<th>% Under 16 + Over 74</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/Beacon</td>
<td>14,599</td>
<td>17</td>
<td>77</td>
<td>6</td>
<td>23</td>
</tr>
<tr>
<td>C/Poughkeepsie</td>
<td>31,045</td>
<td>17</td>
<td>73</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>T/Fishkill</td>
<td>20,878</td>
<td>17</td>
<td>75</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>T/Poughkeepsie</td>
<td>44,090</td>
<td>18</td>
<td>75</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td>T/Wappinger</td>
<td>22,468</td>
<td>20</td>
<td>75</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>V/Fishkill</td>
<td>2,171</td>
<td>16</td>
<td>75</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>V/Wappingers Falls</td>
<td>5,522</td>
<td>20</td>
<td>73</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>Dutchess County</td>
<td>297,488</td>
<td>19</td>
<td>75</td>
<td>6</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2010 U.S. Census. Table QT-P1: Age Groups & Sex; Table QT-P2: Single Years of Age & Sex. Town populations exclude populations of Cities and Villages, except that the Towns of Poughkeepsie and Wappinger include their portions of the Village of Wappingers Falls population.
**Walk Bike Dutchess**

**Income**

Lower-income households are also more likely to walk and bicycle for transportation. Overall, household incomes in the Lower Hudson cities and villages are lower than the county average, while incomes in the Towns are similar to the county average. The Cities of Beacon and Poughkeepsie and the Villages of Fishkill and Wappingers Falls all have higher percentages of low-income households (defined here as under $25,000 per year) than the County overall.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Households</th>
<th>% less than $25,000</th>
<th>% $25,000 - 50,000</th>
<th>% Over $50,000</th>
<th>Median Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/Beacon</td>
<td>5,570</td>
<td>25%</td>
<td>20%</td>
<td>55%</td>
<td>$60,132</td>
</tr>
<tr>
<td>C/Poughkeepsie</td>
<td>13,044</td>
<td>36%</td>
<td>23%</td>
<td>42%</td>
<td>$39,061</td>
</tr>
<tr>
<td>T/Fishkill</td>
<td>8,553</td>
<td>12%</td>
<td>19%</td>
<td>70%</td>
<td>$78,651</td>
</tr>
<tr>
<td>T/Poughkeepsie</td>
<td>15,050</td>
<td>16%</td>
<td>19%</td>
<td>66%</td>
<td>$68,481</td>
</tr>
<tr>
<td>T/Wappinger</td>
<td>9,941</td>
<td>12%</td>
<td>19%</td>
<td>69%</td>
<td>$75,201</td>
</tr>
<tr>
<td>V/Fishkill</td>
<td>1,111</td>
<td>20%</td>
<td>30%</td>
<td>50%</td>
<td>$69,958</td>
</tr>
<tr>
<td>V/Wappingers Falls</td>
<td>2,255</td>
<td>20%</td>
<td>30%</td>
<td>50%</td>
<td>$49,935</td>
</tr>
<tr>
<td>Dutchess County</td>
<td>107,151</td>
<td>16%</td>
<td>19%</td>
<td>65%</td>
<td>$71,125</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2007-2011 American Community Survey 5-Year Estimates, Table B1101_1, B19013, & B19001 (Households, Median Household Income, and various income brackets).

Vehicle Ownership

Households without a vehicle, or with one vehicle, are much more likely to seek alternative transportation. The percentage of zero- and one-vehicle households for each municipality is shown below. The Cities of Poughkeepsie and Beacon and Villages of Fishkill and Wappingers Falls have higher percentages of zero-vehicle households than the county average, while all Lower Hudson municipalities except for the Town of Wappinger have higher than average percentages of one-vehicle households.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Households</th>
<th>% Zero-Vehicle</th>
<th>% One-Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/Beacon</td>
<td>5,570</td>
<td>10 (+/- 3%)</td>
<td>41 (+/- 4%)</td>
</tr>
<tr>
<td>C/Poughkeepsie</td>
<td>13,044</td>
<td>27 (+/- 3%)</td>
<td>39 (+/- 3%)</td>
</tr>
<tr>
<td>T/Fishkill</td>
<td>8,553</td>
<td>7 (+/- 3%)</td>
<td>34 (+/- 4%)</td>
</tr>
<tr>
<td>T/Poughkeepsie</td>
<td>15,050</td>
<td>8 (+/- 2%)</td>
<td>34 (+/- 3%)</td>
</tr>
<tr>
<td>T/Wappinger</td>
<td>9,941</td>
<td>5 (+/- 3%)</td>
<td>30 (+/- 3%)</td>
</tr>
<tr>
<td>V/Fishkill</td>
<td>1,111</td>
<td>11 (+/- 6%)</td>
<td>38 (+/- 7%)</td>
</tr>
<tr>
<td>V/Wappingers Falls</td>
<td>2,255</td>
<td>11 (+/- 5%)</td>
<td>40 (+/- 10%)</td>
</tr>
<tr>
<td>Dutchess County</td>
<td>107,151</td>
<td>8 (+/- 1%)</td>
<td>31 (+/- 1%)</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2007-2011 American Community Survey 5-Year Estimates, Table B08201: Means of Transportation to Work by Vehicles Available. Italics indicate that estimate should be used with caution because sampling error is between 12 and 40 percent of the estimate. Data for the Towns includes data for their respective Village(s).

Disabilities

Persons with physical disabilities often have difficulty driving and are more likely to need alternatives. Those with ambulatory difficulties may use wheelchairs, walkers, or other mobility devices and benefit from accessible pedestrian environments. Of the four Lower Hudson municipalities for which disability data is available, the City of Poughkeepsie has a higher percentage of disabled residents than the county average, while the Town of Fishkill has a
higher than average percentage of residents with an ambulatory difficulty.

### Disability Characteristics

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Population</th>
<th>% Disabled</th>
<th>% With an Ambulatory Difficulty</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/Poughkeepsie</td>
<td>31,045</td>
<td>16 (+/- 2%)</td>
<td>6 (+/- 2%)</td>
</tr>
<tr>
<td>T/Fishkill</td>
<td>20,878</td>
<td>12 (+/- 3%)</td>
<td>8 (+/- 2%)</td>
</tr>
<tr>
<td>T/Poughkeepsie</td>
<td>44,090</td>
<td>9 (+/- 2%)</td>
<td>5 (+/- 1%)</td>
</tr>
<tr>
<td>T/Wappinger</td>
<td>22,468</td>
<td>9 (+/- 2%)</td>
<td>5 (+/- 1%)</td>
</tr>
<tr>
<td>Dutchess County</td>
<td>297,488</td>
<td>13 (+/- 1%)</td>
<td>6 (+/- 1%)</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2010 Census, and 2009-2011 American Community Survey 3-Year Estimates, Table S1810: Disability Characteristics. Italics indicate that estimate should be used with caution because sampling error is between 12 and 40 percent of the estimate.

### 3. Walking & Bicycling Facilities

An inventory of walking and bicycling facilities was made based on current maps and data available. Sidewalks, recreational trails, and shared use paths are shown on the Centers maps.

**Walking Facilities**

The Lower Hudson has approximately 330 miles of sidewalks, which represents over 75 percent of the sidewalks in the county. The majority are in the City and Town of Poughkeepsie and the City of Beacon. When considered on a per-resident basis, the Village of Fishkill has the most sidewalks per resident, followed by the City of Poughkeepsie, City of Beacon, and Village of Wappingers Falls. Sidewalk mileage by municipality and per resident is shown below.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Sidewalks (miles)*</th>
<th>Sidewalk Feet per Resident</th>
<th>County-wide Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/Beacon</td>
<td>54.6</td>
<td>19.8</td>
<td>6</td>
</tr>
<tr>
<td>C/Poughkeepsie</td>
<td>117.2</td>
<td>19.9</td>
<td>5</td>
</tr>
<tr>
<td>T/Fishkill</td>
<td>26.5</td>
<td>6.7</td>
<td>14</td>
</tr>
<tr>
<td>T/Poughkeepsie</td>
<td>92.9</td>
<td>11.1</td>
<td>11</td>
</tr>
<tr>
<td>T/Wappinger</td>
<td>10.0</td>
<td>2.4</td>
<td>19</td>
</tr>
<tr>
<td>V/Fishkill</td>
<td>8.8</td>
<td>21.4</td>
<td>3</td>
</tr>
<tr>
<td>V/Wappingers Falls</td>
<td>19.0</td>
<td>18.2</td>
<td>7</td>
</tr>
<tr>
<td><strong>Dutchess County</strong></td>
<td><strong>434.1</strong></td>
<td><strong>7.7</strong></td>
<td><strong>n/a</strong></td>
</tr>
</tbody>
</table>

Sources: Dutchess County GIS, and U.S. Census Bureau, 2010 U.S. Census. * Includes private sidewalks (such as in residential developments, at colleges and offices).

Major recreational trails in the Lower Hudson include:
1. Hudson Highlands Trails, Town of Fishkill: 12.3 miles
2. Wappinger Greenway Trail, Towns of Poughkeepsie and Wappinger and Village of Wappingers Falls: 8.0 miles (includes portions on sidewalks)
3. Stony Kill Farm trails, Town of Fishkill: 5.2 miles
4. Vassar College and Farm trails, Town of Poughkeepsie: 4.8 miles
5. Bowdoin Park trails, Town of Poughkeepsie: 4.4 miles
6. Locust Grove trails, Town of Poughkeepsie: 3.7 miles

**Shared-Use Paths**

Two of the county’s major shared use paths are in the Lower Hudson: the Dutchess Rail Trail in the Towns of Poughkeepsie and Wappinger (13.25 miles), and the Walkway Over the Hudson in the City of Poughkeepsie (1.3 miles, partly in Ulster County). There is
Walk Bike Dutchess

The Village of Fishkill has the most sidewalk miles per resident of all municipalities in the Lower Hudson.

Bicycling Facilities
The only on-street bicycle facilities in the Lower Hudson are shared-lane markings (sharrows) in the City of Beacon on Main Street between Route 9D and East Main Street. These were the first sharrows in the county.

Two of NYSDOT’s signed State Bicycle Routes (SBR) pass through the Lower Hudson. SBR 9 passes through Fishkill, Wappinger, and the Town and City of Poughkeepsie using portions of Route 9, Middlebush Road, Route 9D, Vassar Road, Route 376, and local streets and continues north to Hyde Park, Rhinebeck, and Red Hook. SBR 17 connects with Bicycle Route 9 at the intersection on Route 9D and Middlebush Road in the Town of Wappinger, and follows Route 9D to the Newburgh-Beacon Bridge, which it crosses into Orange County.

NYSDOT also has several proposed State Bicycle Routes which connect to the area:

- Proposed SBR 44, along Route 44 between SBR 9 in the City of Poughkeepsie and a proposed SBR 22 in the Town of Amenia.
- Proposed SBR 55, along Route 55 between the proposed SBR 44 in the Town of Poughkeepsie and a proposed SBR 22 in the Town of Pawling.
- Proposed SBR 52, along Route 52 between Route 9D in Beacon and Putnam County.
- Proposed SBR 82, along Route 82 between a proposed SBR 199 in Pine Plains and the proposed SBR 52 in Fishkill.

Bicycle parking is provided at several of the area’s key destinations, including the three colleges, the Poughkeepsie and Beacon train stations, Beacon’s Main Street, the Walkway Over the Hudson, Poughkeepsie’s Adriance Library, and several schools, parks, restaurants and retail stores. A list of bicycle parking locations is included in Appendix G.

Transit Service
Most of the transit service in the county is in the Lower Hudson. Most bus trips, and many train trips, involve a walking (or in some cases, bicycling) trip on one or both ends—to get to the stop or station, and to get from the stop or station to a final destination.
WALK BIKE DUTCHESS

LOOP has four regular fixed routes that primarily serve the Lower Hudson:

- Route A (Beacon - Poughkeepsie) had annual ridership of 141,000 (2012)
- Route B (Beacon - Poughkeepsie) had annual ridership of 126,500 (2012)
- Route F (Poughkeepsie - Hopewell Junction) had annual ridership of 34,200 (2012)
- Route G (Beacon) began service in Fall 2012; ridership for the first six months of 2013 was 1,318.

In addition, LOOP’s three RailLink lines, which serve the Poughkeepsie, New Hamburg, and Beacon Metro-North stations, had a combined annual ridership of 20,400 (2012).

The City of Poughkeepsie’s bus system serves about 1,100 people a day on six routes. In 2012, annual ridership for the system as a whole was over 403,300. All of its routes serve the City of Poughkeepsie. The Southside and Galleria routes extend to shopping destinations on Route 9 in the Town of Poughkeepsie, while the Main Street and Shoppers Special routes extend to shopping destinations on Route 44 and Vassar College in the Town of Poughkeepsie. The Northside route serves Marist College, DCC, and the CIA, while the Special route is designed for Poughkeepsie Middle and High School students. The Main Street, Special, and Shoppers Special all serve the Poughkeepsie train station. The Main Street route serves over 110,000 people annually, while the Northside route serves approximately 104,000 people annually.

Metro-North’s three stations in the Lower Hudson (Poughkeepsie, New Hamburg, and Beacon) serve over 5,300 people on an average weekday and over 7,200 people on an average weekend (see Chapter 4 for ridership by station).

B. Walking & Bicycling Data

Based on the Lower Hudson’s demographics, vehicle ownership patterns, transit service, and relatively close-knit residential patterns, we can expect relatively high rates of walking and bicycling compared to other areas of the county. While Census data at the municipal level is limited, estimates of walking to work are available for several municipalities and Census-Designated Places. According to these estimates, up to 21 percent of Arlington residents, 9 percent of Town of Poughkeepsie residents, 7 percent of City of Poughkeepsie residents, and 2 percent of Town of Wappinger residents walk to work.
Count Data
Counts of people walking and bicycling were conducted at up to 25 locations in the Lower Hudson in September 2012 and January, May, July, and September of 2013. The location with the most combined walking and bicycling activity was in the City of Poughkeepsie on the Walkway Over the Hudson, with 1,231 people counted on a September 2013 weekend from 12-2 pm. The highest pedestrian count was also in the City of Poughkeepsie on the Walkway Over the Hudson, with 1,108 pedestrians counted on a September 2013 weekend from 12-2 pm. The highest bicycle count was in the Town of Wappinger on the Dutchess Rail Trail south of Diddell Road, with 187 bicyclists counted on a September 2013 weekend from 12-2 pm.

The count volumes are detailed in Appendix J and illustrated in Maps 5-9 (in Chapter 4).

Walk-Bike Dutchess Survey Data
The Walk-Bike Dutchess survey resulted in 470 respondents from the Lower Hudson. According to the survey, 65 percent of respondents walk at least three days per week, while close to half bike at least one to two days per week. Most respondents say they walk or bicycle for exercise and to enjoy their community and be outside.

When asked, “If equally good facilities existed, how would you prefer to travel?”, 85 percent said they would prefer to walk or bike to parks/recreation, over 70 percent would prefer to walk or bike to the gym/exercise, over 60 percent would prefer to walk or bike to school, and over 50 percent would prefer to walk or bike to local errands/shopping, work, and to the bus or the train.

Over 65 percent of respondents said there are many places to go within walking distance of home and 60 percent said there are stores within walking distance of their home, while about 40 percent said it is easy to walk to a bus or train stop from home. Over 50 percent said they are satisfied with how their community is designed for walking, but only about 30 percent are satisfied with how their community is designed for bicycling. Concerns related to walking include a lack of adequate road shoulders and sidewalks, while concerns for bicycling include inadequate road shoulders and bicycle paths. According to respondents, the best locations for walking in the area include the Dutchess Rail Trail, Walkway Over the Hudson, parks, and local neighborhoods. The best location for bicycling was the Dutchess Rail Trail. Particularly problematic areas for walking include Route 9, followed by Route 44, Spackenkill Road, and Route 9D. Difficult bicycling locations

The Walkway Over the Hudson was cited by survey respondents as one of the best places for walking in the area.
include Route 9, Route 9D, and streets in the City of Poughkeepsie. When asked “What are the most important improvements to be made?” the most common responses included adding bicycle lanes and/or shared lane markings, adding more rail trails/shared-use paths, increasing the width of road shoulders, and adding sidewalks. Respondents stated that bicycle racks are most needed at stores, parks, and sidewalks adjacent to local destinations. Respondents said that future projects should focus on include completing missing pieces to create longer continuous walkways and bikeways, followed by maintaining existing walking and bicycling facilities, and focusing on safety by addressing crash locations.

Charts showing the survey results for the Lower Hudson are included in Appendix F.

Crash Patterns

Five years of crash data, from 2007 to 2011, were analyzed to determine trends in pedestrian and bicycle crashes. First, pedestrian and bicycle crash rates per 1,000 population were calculated for each municipality. The Lower Hudson rates are shown below. The Villages of Fishkill and Wappingers Falls, and City and Town of Poughkeepsie all exceed the county-wide average for both pedestrian and bicycle crashes. The Village of Fishkill’s high rates are in part due to its small population compared to the amount of traffic and crashes on Main Street (Route 52), Route 9, and Merritt Boulevard. Maps 11 and 12 (in Chapter 4) show all municipalities’ crash rates.

Second, using the same data, high-crash corridors were identified. These are road segments with concentrations of bicycle and/or pedestrian crashes and a high crash rate per mile. The top ten high-crash corridors for pedestrians and bicyclists are shown in the tables below and in Maps 13-15 (in Chapter 4). All pedestrian and bicycle crashes in the Lower Hudson are shown in Map 20.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Pedestrian Crashes</th>
<th>Bicycle Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Annual Rate (per 1,000 pop.)*</td>
</tr>
<tr>
<td>V/Fishkill</td>
<td>11</td>
<td>1.01</td>
</tr>
<tr>
<td>C/Poughkeepsie</td>
<td>149</td>
<td>0.91</td>
</tr>
<tr>
<td>V/Wappingers Falls</td>
<td>9</td>
<td>0.33</td>
</tr>
<tr>
<td>T/Poughkeepsie</td>
<td>62</td>
<td>0.29</td>
</tr>
<tr>
<td>T/Fishkill</td>
<td>16</td>
<td>0.16</td>
</tr>
<tr>
<td>C/Beacon</td>
<td>12</td>
<td>0.15</td>
</tr>
<tr>
<td>T/Wappinger</td>
<td>21</td>
<td>0.19</td>
</tr>
<tr>
<td>Dutchess County</td>
<td>377</td>
<td>0.25</td>
</tr>
</tbody>
</table>

*Village populations have been subtracted from those of towns to avoid double counting.
Source: Accident Location Information System (ALIS), NYSDOT.

For pedestrian crashes, nine of the top ten high-crash corridors are in the City of Poughkeepsie, and one is in both the City and Town of Poughkeepsie. The highest crash rate is almost 26 crashes per mile on Mansion Street. The highest number of crashes is on a 2.2-mile segment of Main Street, which had 43 reported pedestrian crashes over the five-year period.

For bicycle crashes, four of the top ten high-crash corridors are in the City of Poughkeepsie, three are in the Town of Poughkeepsie, and three are in both the City and Town. The highest crash rate is 17 crashes per mile on Hamilton Street. The highest number of
Lower Hudson
Pedestrian and Bicyclist
Crashes (2007-2011)

Source:
New York State Accident Location Information System (ALIS).

1 inch = 1.1 miles

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Map contents and data are subject to change.
Map created May 2014
crashes is on a 2.6-mile segment of Main Street, which had 20 reported bicycle crashes over the five-year period.

### Pedestrian High-Crash Corridors

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Road Segment</th>
<th>Length (miles)</th>
<th>Crashes</th>
<th>Crashes per Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 C/Poughkeepsie</td>
<td>Mansion St: Columbus Dr to Conklin St</td>
<td>0.2</td>
<td>5</td>
<td>25.8</td>
</tr>
<tr>
<td>2 C/Poughkeepsie</td>
<td>South Cherry St: Main St to Forbus St</td>
<td>0.4</td>
<td>9</td>
<td>23.0</td>
</tr>
<tr>
<td>3 C/Poughkeepsie</td>
<td>South Clinton St: Main St to Church St/Rte 44</td>
<td>0.2</td>
<td>5</td>
<td>22.9</td>
</tr>
<tr>
<td>4 C/Poughkeepsie</td>
<td>Montgomery St: South Ave to Hooker Ave</td>
<td>0.3</td>
<td>7</td>
<td>22.1</td>
</tr>
<tr>
<td>5 C/Poughkeepsie</td>
<td>Worrall Ave/Rte 115: King St to Mack Rd</td>
<td>0.3</td>
<td>5</td>
<td>19.7</td>
</tr>
<tr>
<td>6 C/Poughkeepsie</td>
<td>Main St: N Water St to Fowler Ave</td>
<td>2.2</td>
<td>43</td>
<td>19.4</td>
</tr>
<tr>
<td>7 C/Poughkeepsie</td>
<td>Church St/Rte 44 eastbound: Jefferson St to Fountain Pl</td>
<td>1.3</td>
<td>24</td>
<td>19.2</td>
</tr>
<tr>
<td>8 C/Poughkeepsie</td>
<td>Columbus Dr: Mansion St to Union St</td>
<td>0.2</td>
<td>4</td>
<td>16.1</td>
</tr>
<tr>
<td>9 C/Poughkeepsie</td>
<td>Academy St: Main St to Franklin St</td>
<td>0.4</td>
<td>7</td>
<td>15.7</td>
</tr>
<tr>
<td>10 C/Poughkeepsie</td>
<td>North Clinton St: Cottage St to W Maple St/Rte 44 westbound</td>
<td>0.4</td>
<td>6</td>
<td>15.1</td>
</tr>
</tbody>
</table>

**Source:** Accident Location Information System (ALIS), NYSDOT and Dutchess County GIS.

### Bicycle High-Crash Corridors

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Road Segment</th>
<th>Length (miles)</th>
<th>Crashes</th>
<th>Crashes per Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 C/Poughkeepsie</td>
<td>Hamilton St: Thompson St to Church St/Rte 44 eastbound</td>
<td>0.4</td>
<td>6</td>
<td>17.0</td>
</tr>
<tr>
<td>2 T/Poughkeepsie</td>
<td>Collegeview Ave: Raymond Ave/Rte 376 to Fairmont Ave</td>
<td>0.2</td>
<td>3</td>
<td>16.1</td>
</tr>
<tr>
<td>3 T/Poughkeepsie</td>
<td>Fairmont Ave: Main St to Collegeview Ave</td>
<td>0.3</td>
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<td>15.7</td>
</tr>
<tr>
<td>4 C/Poughkeepsie</td>
<td>Catherine St/Academy St: Mansion St to Franklin St</td>
<td>0.8</td>
<td>7</td>
<td>8.7</td>
</tr>
<tr>
<td>5 C/ and T/Poughkeepsie</td>
<td>Maple St/Rte 44 westbound: Flannery Ave to Springside Ave</td>
<td>0.5</td>
<td>4</td>
<td>8.2</td>
</tr>
<tr>
<td>6 C/ and T/Poughkeepsie</td>
<td>Main St: Clover St to Burnett Blvd</td>
<td>2.6</td>
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<tr>
<td>7 C/ and T/Poughkeepsie</td>
<td>Church St/Rte 44 eastbound: Jefferson St to S Grand Ave</td>
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<td>8 C/Poughkeepsie</td>
<td>Washington St/North Rd: W Cedar St to Mill St</td>
<td>0.9</td>
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<td>Smith St: Weed St to Thompson St</td>
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<td>3</td>
<td>5.2</td>
</tr>
<tr>
<td>10 T/Poughkeepsie</td>
<td>Rte 9: Field Ct to Van Siclen Dr</td>
<td>0.8</td>
<td>4</td>
<td>5.0</td>
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</tbody>
</table>

**Source:** Accident Location Information System (ALIS), NYSDOT and Dutchess County GIS.
C. Key Needs/Issues

The Bicycle-Pedestrian Advisory Committee identified the following needs in the Lower Hudson:

- Improve the safety of walking and bicycling on Beacon’s Main Street—reduce the danger of bicyclists being hit by car doors, and increase driver yielding to people at crosswalks.
- Create a walking and bicycling connection between the Beacon waterfront, Madam Brett Park, and Main Street.
- Create consistent wide shoulders on Route 9D.
- Implement the Beacon Loop Trail and Hudson Highlands Fjord Trail (a path from Beacon to the Putnam County line, ultimately linking to Cold Spring).
- Implement the Fishkill Creek Greenway & Heritage Trail.
- Provide facilities for bicycling in the City of Poughkeepsie.
- Improve safety for bicycling in Arlington (Town of Poughkeepsie).
- Make Route 376 south of Red Oaks Mill better for walking and bicycling.
- Provide bicycle parking at public buildings, commercial destinations, and throughout the City of Poughkeepsie, and provide bike lockers at train stations.
- Upgrade traffic signals to respond to bicycles.
- Educate people about how to safely share the road when driving, walking, and bicycling.

In terms of safety, key corridors for pedestrian safety improvements include a number of streets in the City of Poughkeepsie: Main Street, the Arterials, Hamilton Street, Smith Street, South Cherry Street, Montgomery Street, Academy Street, North and South Clinton Street, Mansion Street, Worrall Avenue, and others as listed above. Main Street (Route 52) in the Village of Fishkill; Main Street in the City of Beacon; and Route 9 near Spackenkill Road in the Town of Poughkeepsie, north of Myers Corners Road in the Village of Wappingers Falls, and near the Village of Fishkill also had clusters of pedestrian crashes.

Key corridors for bicycle safety improvements include a number of streets in the City of Poughkeepsie: Main Street, the Arterials, Catherine/Academy Street, Hamilton Street, and others as listed above. There are also clusters of bicycle crashes on Fairmont Avenue in Poughkeepsie, on Route 9 near Beechwood Avenue in Poughkeepsie, on Route 9 in the Village of Wappingers Falls, and on Main Street (Route 52) in the Village and Town of Fishkill.

D. Lower Hudson Project Recommendations

Based on the needs and issues identified above, previous plans, and input from the Bicycle-Pedestrian Advisory Committee, municipal officials, members of the public, and staff from NYSDOT-Region 8, Dutchess County Public Works, and Dutchess County Planning, the following project ideas are recommended to improve walking and bicycling in the Lower Hudson. They are organized by timeframe (short, medium, and long-term), and then by location and project lead (municipalities, County, and State). They are also shown in Maps 21-27 and listed in Appendix I. As noted previously, the facility owner(s) will ultimately decide whether or not to implement a project. The Plan cannot and is not intended to require specific action by any municipality or agency.
Walk Bike Dutchess

Short-Term Recommendations (within 5 years)

A. City of Beacon and Town and Village of Fishkill

LH-1. Beacon Bicycle Parking [C/Beacon; Short-Term]
Issue: There is insufficient or non-existent bicycle parking at key destinations in Beacon.
Improvements:
- Install bike parking at destinations in Beacon including City Hall, the Beacon Visitor's Center, Post Office, Library, Dutchess County Building, DIA-Beacon, Beacon High School, and along Main Street, as well as recreational areas such as the park at the base of Mount Beacon, University Settlement Camp, Madam Brett Park, and Riverfront Park.
- Work with MTA to provide bicycle lockers at the Beacon train station.

LH-2. Beekman Road – South Avenue Sharrows [C/Beacon; Short-Term]
Issue: There are no designated bicycle facilities between Beacon’s Main Street and the waterfront or destinations in the southern part of the city.
Improvements:
- Mark sharrows on Beekman Street and Red Flynn Drive between Route 9D and the Beacon train station and ferry dock (about 0.7 miles).
- Mark sharrows on South Avenue between Main Street and Dennings Avenue, and on Dennings Avenue to the rail line (about 1.3 miles).

LH-3. I-84/Route 9D Intersection Pedestrian Safety Improvements [NYSDOT; Short-Term]
Issue: The southwest leg of the Route 9D/I-84 intersection includes the exit/entrance to the Newburgh-Beacon Bridge walkway/bikeway. There are conflicts between traffic turning right from the I-84 exit onto Route 9D across the entrance/exit to the walkway/bikeway and people in the crosswalk.
Improvements:
- Improve visibility by clearing vegetation near the intersection and relocating the fence at the northwest corner of the intersection.
- Consider supplemental signage to encourage turning drivers to yield to people in the crosswalk.
- Add a leading pedestrian interval to allow people on foot to start crossing before vehicles get a green signal.
Walk Bike Dutchess

LH-4. Newburgh-Beacon and Mid-Hudson Bridge
Walkway/Bikeway Hours [NYSBA; Short-Term]
Issue: The walkway/bikeway on the Newburgh-Beacon Bridge and the walkway on the Mid-Hudson Bridge are open from ‘dawn’ until ‘dusk’ only, making them inaccessible for early morning or evening trips. Additionally, specific hours are not posted, making it difficult to plan a trip.
Improvements:
• As a first step, set specific opening and closing hours. These could vary by season, similar to the Walkway Over The Hudson’s hours. The hours should be posted online and on the bridges.
• Longer-term, extend the walkway/bikeway hours, ideally to 24 hours. Install lighting or other measures as needed for security.

LH-5. Merritt Boulevard Safety Assessment [T/Fishkill, V/Fishkill; Short-Term]
Issue: Merritt Boulevard east of Route 9 is a high-crash corridor for pedestrians and the Merritt Boulevard/Route 9 intersection is one of the highest-crash locations for vehicles in the county.
Improvements:
• Analyze crash data at the intersection and along the corridor to determine key crash factors.
• Conduct a safety assessment to identify potential improvements to reduce crashes on this corridor.

B. City and Town of Poughkeepsie

LH-6. Main Street Pedestrian & Bicycle Safety Assessment [C/Poughkeepsie; Short-Term]
Issue: Main Street in the City of Poughkeepsie has more pedestrian and bicycle crashes than any other street in the county (in part due to the amount of walking and bicycling on the street). Based on State crash data, over a five-year period there were 27 reported pedestrian crashes and 14 reported bicycle crashes on a 1.3-mile segment of Main Street between Market Street and the City line. It is likely that many more crashes were unreported.
Improvement:
• Conduct a comprehensive safety assessment focused on walking and bicycling on Main Street between Market Street and the City line. Analyze crash patterns; evaluate vehicle operations, signal timing, and accessibility; and observe interactions between people in vehicles, on bicycles, and on foot. Determine short-term, low-cost improvements (such as signal timing, crosswalk striping, signage, and education) as well as longer-term changes to increase safety.

LH-7. Walkway Over the Hudson Pedestrian Access Improvements – Phase 1 [C/Poughkeepsie; Short-Term]
Issue: Access by foot to the Walkway Over the Hudson should be improved to increase safety and encourage walking between the Walkway and surrounding neighborhoods.

A safety assessment could improve safety for the many people who walk and bicycle on Main Street in the City of Poughkeepsie.
Walk Bike Dutchess

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Improvements:

- Review the walking routes identified on the Greater Walkway Region map and determine improvements needed to streets and intersections to provide safe access for people on foot and on bicycle.
- Improve pedestrian crossings with high-visibility crosswalks, signage, curb ramps (where needed), and stop bars (where applicable) at the following locations:
  - Parker Avenue & Fairview Avenue/N. Hamilton Street: mark crosswalks on all legs and install pedestrian signals.
  - Crossing Brookside Avenue at Garden Street: extend the existing curb along the north side of Brookside, create a curb extension at the northwest corner, and mark a crosswalk across Brookside.
  - Crossing Parker Avenue to the Walkway entrance near Garden Street: mark a high-visibility crosswalk and consider traffic calming, such as a speed table. Consider using the railroad spur between Garden Street and Parker Avenue as a pedestrian connection to the Walkway.
  - Crossing Parker Avenue at Washington Street: mark a high-visibility crosswalk.
  - Crossing Washington Street at Taylor Avenue: mark a high-visibility crosswalk and install curb ramps.
  - Crossing Taylor Avenue at Washington Street: mark a high-visibility crosswalk.
  - Crossing Clark Street at Washington Street: mark a high-visibility crosswalk.
  - Crossing Washington Street at Clark Street: mark a high-visibility crosswalk and install curb ramps.
  - Consider a sidewalk 'bus bulb' (curb extension) or widened sidewalk with a bus stop shelter on Washington Street near Parker Avenue.
  - Install a bicycle rack near the stairs to the Walkway on Washington Street and consider adding a bicycle ramp or 'stair channel' to enable people to roll their bicycles up the stairs to the Walkway.

LH-8. City of Poughkeepsie Bicycle Route Implementation
[C/Poughkeepsie; Short/Medium-Term]

Issue: The City of Poughkeepsie developed a bicycle route network in 2006, which is codified in City Code Chapter 15, Article V. However, the routes are not signed, and no physical changes to the streets have been made to better accommodate bicycling.

Improvements:

- Implement the city’s nine bicycle routes (detailed below) in coordination with street repaving and other planned projects. Mark streets as bicycle boulevards, with bicycle lanes or sharrows, or maintain as shared lanes, as appropriate (see Appendix K). Consider changes as noted in
route descriptions below and shown in Map 28. Identify the routes with wayfinding signs.

- Install bicycle racks at destinations along the routes, including racks and lockers at the Poughkeepsie train station.

**North-South Bicycle Route**
- Implement the North-South Bicycle Route (on Academy Street-Catherine Street-Cottage Street-N Hamilton Street).
- Alter the route to use Cannon Street and Hamilton Street to avoid the one-way segments on Catherine Street and Cottage Street, and extend to meet the Dutchess Rail Trail on Fairview Avenue.

**Vassar College Bicycle Route**
- Implement the Vassar College Bicycle Route (on College Avenue-West College Avenue-Circular Road).
- Consider altering the route to extend the College Avenue segment to Raymond Avenue, include Park Avenue to connect College Avenue to Hooker Avenue, and use Degarmo Place instead of West College Avenue and Circular Road.

**Cherry-Cannon Bicycle Route**
- Implement the Cherry-Cannon Bicycle Route (on Kimball Road-Marian Avenue-Cherry Street-Cannon Street).

**Northside Bicycle Route**
- Implement the Northside Bicycle Route (on Mansion Street-N Bridge Street-Mill Street-Davies Place).
- Consider altering the route to use Washington Street to Verazzano/Mill Street to avoid the one-way segment on Mill Street.

**Southside-Waterfront Bicycle Route**
- Implement the Southside-Waterfront Bicycle Route (Waryas Park/Main Street-Rinaldi Boulevard-Pine Street/Pine Street Extension-Columbia Street-Young Street-Reade Place-Lincoln Avenue-Livingston Street-S Hamilton Street-Platt Street-Loockerman Avenue-Yates Boulevard-Kimball Road-Bancroft Road-Ferris Lane-Thornwood Dr-Monell Avenue).
- Consider altering the route to use Columbia Street to Lincoln Avenue and Dean Place to South Avenue to Livingston Street instead of Young Street and Reade Place to avoid the one-way segment on Livingston Street. Also consider simplifying the route to remove Kimball Road and Bancroft Road and connect Yates Boulevard and Ferris Lane instead.

**City Transect Bicycle Route**
- Implement the City Transect Bicycle Route (on Hooker Avenue-Montgomery Street-Jefferson Street-South Perry Street-Union Street-Clover Street-Mill Street-Mt. Carmel Place-Delafield Street).

**Fallkill Bicycle Route**
- Implement the Fallkill Bicycle Route (on High Street-Elm Place-Zimmer Avenue-Garden Street-Brookside Avenue-Verazzano Boulevard-Lower Mill Street).
- Consider simplifying the route to use Garden Street
between Mansion Street and Parker Avenue (instead of High Street, Elm Place, and Zimmer Avenue), and connect to the Walkway entrance off of Parker Avenue.

- Remove the sign at the west end of Montgomery Street directing bicyclists from State Bike Route 9 to the Mid-Hudson Bridge access ramp on Gerald Drive. Instead, install signs directing people on bicycles to the Walkway Over the Hudson.

**School Connector Bicycle Route**
- Implement the School Connector Bicycle Route (on Worrall Avenue-Innis Avenue-King Street-Corlies Avenue).

**Smith Street Bicycle Route**
- Implement the Smith Street Bicycle Route (on Smith Street-Creek Road).
- Extend the route to reach the DCC entrance on Creek Road to provide access between the college, the Dutchess Rail Trail at Morgan Lake, and destinations on Smith Street.

**LH-9. Beechwood Avenue Traffic Calming and Sidewalk**

[C/Poughkeepsie, T/Poughkeepsie; Short/Medium-Term]

Issue: Beechwood Road is a key connection between the south side of the City of Poughkeepsie and retail on Route 9, but does not provide safe walking access. There are sidewalks on both sides of the street from Hooker Avenue to about halfway between Alden Road and St. Joseph’s Drive, but no sidewalks from that point to Route 9. Concrete curbs exist only between Hooker Avenue and St. Anna Drive. Speeds on Beechwood Road are relatively high on the southern portion of the street (85th percentile speeds are 42-44 miles per hour), and the sharp curve and hill near the curve limit visibility.

Improvements:
- Mark shoulders or edge lines to slow vehicles and provide some space for walking.
- Consider other traffic calming improvements to reduce speeds and improve safety for people walking.
- Longer-term, extend the sidewalk at least on one side of the street to Route 9 (about 0.8 miles).

**LH-10. Hooker Avenue Sidewalks and Crosswalks**

[T/Poughkeepsie, C/Poughkeepsie; Short/Medium-Term]

Issue: There are continuous sidewalks on Hooker Avenue west of Wilbur Avenue. However, the sidewalk on the north side of Hooker Avenue does not continue east of Wilbur Avenue, and there is no crosswalk at Wilbur Avenue to connect it to the sidewalk on the south side of Hooker, which continues east until just past Austin Court. In addition, there are no sidewalks on Hooker Avenue between Raymond Avenue (Route 376) and just west of Austin Court. Sidewalks along this segment would connect Vassar College, the Vassar Farm, and the Arlington neighborhood to the shops, restaurants, and residential areas along Hooker Avenue.

Improvements:
- In the short term, install a crosswalk across Hooker Avenue on the west side of Wilbur Boulevard. Install a ramp, signage, and other elements as needed.
- In the short term, extend the existing sidewalk on the south side of Hooker Avenue from east of Austin Court to the crosswalk on the east side of Raymond Avenue (about 0.2 miles).
• In the medium-term, extend the existing sidewalk on the north side of Hooker Avenue from Wilbur Boulevard east to the crosswalk at Raymond Avenue (about 0.6 miles).

A crosswalk across Hooker Avenue at Wilbur Boulevard would connect the sidewalks on the north and south sides (source: Bing maps).

LH-11. Arlington Middle School Safe Routes to School Plan
[T/Poughkeepsie, NYSDOT; Short-Term]
Issue: There are sidewalks, crosswalks and ramps across Routes 44 and 55 near Arlington Middle School (at 601 Dutchess Turnpike), but students dart across Route 55, Main Street and Route 44 from residential neighborhoods south of the school.
Improvements:
• Work with the Arlington School District and Town of Poughkeepsie to develop a Safe Routes to School Plan, defining a recommended walking and bicycling route to the school, and implement sidewalk and crossing improvements, as well as signage and signal timing adjustments along the designated route(s) as needed.
• Incorporate education, enforcement and encouragement strategies to improve safety for students walking or bicycling to school.

LH-12. Collegeview Avenue/Fairmont Avenue Intersection Safety
[T/Poughkeepsie; Short-Term]
Issue: This intersection is stop-controlled on Fairmont Avenue, though drivers often pull into the intersection to better see through traffic on Collegeview Avenue, which is uncontrolled. There is no marked crosswalk connecting the sidewalks across Fairmont, and drivers often fail to yield to people crossing.
Improvements:
• Mark a high-visibility crosswalk across Fairmont Avenue at Collegeview Avenue.
• Consider an all-way stop at the Fairmont Avenue/Collegeview Avenue intersection.
• Install in-street pedestrian style "Yield to Pedestrians" signs at uncontrolled crosswalks along Collegeview Avenue.

LH-13. Mid-Hudson Bridge (Route 44/55) Pedestrian Walkway Access
[NYSBA, NYSDOT, C/Poughkeepsie; Short-Term]
Issue: Access to the Mid-Hudson Bridge’s walkway (along the north side of the bridge) is provided via a ramp off of Gerald Drive (owned by the NYS Bridge Authority), but there is insufficient signage to direct people to the ramp. There are also sidewalks (owned by the City of Poughkeepsie) on the north and south sides of the bridge between the Route 9 ramps, but no marked
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crosswalks across the ramps or signs to alert drivers of potential people crossing.

Improvements:

- Increase awareness of pedestrian access to the Mid-Hudson Bridge walkway via the ramp at Gerald Drive. Add Walkway Loop Trail signage.
- Remove the sidewalk between the Route 9 ramps on the south side of the bridge, since the bridge’s south side walkway is closed.
- Add signage, high-visibility crosswalks, and other pedestrian safety improvements at the Route 9 ramps on the north side of the bridge, or remove the north sidewalk and install signs directing people to the Gerald Drive ramp instead.

C. Town of Wappinger and Village of Wappingers Falls

LH-14. New Hackensack Road (CR 104) Shoulder Improvements

[Dutchess County; Short-Term]

Issue: Wappinger’s Comprehensive Plan recommends consideration of a bicycle facility on portions of New Hackensack Road (CR 104) and Widmer Road near Route 9.

Improvement:

- Evaluate the feasibility of adding wider shoulders (four foot minimum) along New Hackensack Road and Widmer Road and implement where feasible.

LH-15. Wappingers Falls Mill Street – Market Street Curb Extensions

[V/Wappingers Falls, NYSDOT; Short-Term]

Issue: Traffic (including large trucks) speeds through Main Street (Route 9D) between the curb extensions at the library (at Spring Street) and the curve up Main Street to the west. The street feels wide, the crossings at the Mill Street intersection are long, and many drivers don’t yield to people on foot crossing Main Street.

Improvements:

- Install curb extensions at the Market Street corners (two); Mill Street corners (two); and in front of the Knights of Columbus building (just west of Wheel & Heel bike shop), while accommodating turning vehicles.
- Stripe new shorter crosswalks across Main Street on both sides of Mill Street, across Mill Street, and across Market Street.
- Continue enforcement and education efforts to improve pedestrian safety on East Main Street.

Curb extensions on Main Street in Wappingers Falls would shorten crossings and improve safety (source: Google maps).
LH-16. **Wappingers Falls Route 9 and Village Center Crosswalks**  
[V/Wappingers Falls, NYSDOT; Short-Term]  
Issue: Pedestrian access across Route 9 between the Village center and shopping and residential areas east of Route 9 is difficult, and crash data indicates it is a problem. Safety for people crossing East and West Main Street (Route 9D) is also a concern. The *Wappingers Falls Transportation Plan* and *Moving Dutchess* recommended a number of crosswalks to improve access for people walking between locations in the Village.  
Improvements:  
- Consider high-visibility crosswalks, signage, and other pedestrian crossing improvements at the following locations:  
  - Route 9/New Hackensack Road (CR 104), on the north side of New Hackensack Road (CR 104) and across New Hackensack Road (CR 104).  
  - Across Route 9 at McDonalds/Planet Fitness (between East Main Street and Wenliss Terrace)  
  - West Main Street (Route 9D)/School Street  
  - West Main Street (Route 9D)/Convent Avenue (existing crosswalk)  
  - East Main Street/West Main Street, with curb extensions on the west side and southeast corner.

**Medium-Term Recommendations (5 to 10 years)**

A. **City of Beacon and Town and Village of Fishkill**

LH-17. **Hudson Highlands Fjord Trail**  
[C/Beacon, T/Fishkill; Medium-Term]  
Issue: Many people walk in the shoulder along Route 9D to access Breakneck Ridge and other hiking trails. There are many conflicts between the people walking and cars, motorcycles, and other vehicles.  
Improvement:  
- Create a nine-mile separated path or trail along Route 9D or the Hudson River shore, connecting the Beacon train station to the Village of Cold Spring train station in Putnam County and providing access to Hudson Highlands State Park, Little Stony Point, and Mount Beacon.

LH-18. **Beacon Train Station Pedestrian Access**  
[C/Beacon; Medium-Term]  
Issue: There is inadequate access for people walking between residential areas near Route 9D and the Beacon train station, and between the train station and Riverfront Park.  
Improvements:  
- Provide a sidewalk on the northwest side of Beekman Street to complete the gap between West Main Street and the existing sidewalk south of River Street, in conjunction with new...
residential development and as illustrated in the City’s new Linkage zoning district plan (about 0.2 miles).

- Create a new sidewalk or path south of City Hall between Beekman Street and Wolcott Avenue/Route 9D to connect the train station and Main Street, as illustrated in the City’s new Linkage zoning (about 0.1 miles).
- Consider a formal path or sidewalk connection between Ferry Street and Wolcott Avenue/Route 9D, complete with stairs, handrails, and signage.
- Create a sidewalk or path along Red Flynn Drive between the Beacon ferry dock and Riverfront Park (about 0.15 miles).

LH-19. University Camp Pedestrian Access  
[C/Beacon; Medium-Term]

Issue: There is limited access for walking between Mount Beacon Park (on Route 9D at Howland Avenue) and the University Settlement Camp (on Route 9D near Craig House Lane). There are sidewalks along the west side of Route 9D, but no sidewalk on the east side south of Hillside Road, and no crosswalks across Route 9D. Note that Route 9D in this area is a City street, not a State highway.

Improvements:
- Install a sidewalk on the east side of Route 9D from Hillside Road to the University Settlement Camp near Craig House Lane (about 0.4 miles).
- Alternatively, mark crosswalks at appropriate crossing locations across 9D.

LH-20. Fishkill Creek Greenway and Heritage Trail  
[C/Beacon, T/Fishkill, V/Fishkill; Medium-Term]

Issue: The Fishkill Creek serves as a potential transportation and recreational corridor, linking the Hudson River to destinations in the south and east parts of Beacon, the Village and Town of Fishkill, and the Beacon Loop Trail and future Hudson Highlands Fjord Trail. There is also an inactive rail line parallel to the creek.

Improvements:
- Create a path along the Fishkill Creek, either immediately adjacent to the Creek (based on the Fishkill Creek Greenway and Heritage Trail Master Plan) or as a rail trail using the Beacon (Maybrook) rail line right of way, or some combination (4.3 miles from the Beacon train station to the Fishkill Town line).
- Connect with the Hudson River Greenway Trail.
- Extend the trail into the Town and Village of Fishkill.
  - Create a path along the railroad/utility right of way with a connection to Jackson Street and a crossing over Route 9 to provide safe access for people walking and bicycling between the west side of Route 9 and Sarah Taylor Park.
  - Consider a pedestrian-bicycle bridge across the Fishkill Creek to connect Sarah Taylor Park and Merritt Boulevard.
  - Consider a path from the end of Jackson Street or Blodgett Road over the Fishkill Creek to the end of Merritt Boulevard to connect to Westage Business Center.
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- Connect to the Dutchess Rail Trail in Hopewell Junction.
- East of Hopewell Junction, a continuation of this trail could use the Maybrook rail line (as proposed when Metro-North purchased the Beacon line in 1995).

LH-21. Tioronda Avenue – Madam Brett Park Sidewalk

[C/Beacon; Medium-Term]

Issue: There are inadequate sidewalks or paths linking Madam Brett Park to the center of Beacon.

Improvements:
- Mark a crosswalk on the east side of the Tioronda Avenue/Wolcott Avenue intersection.
- Install a sidewalk or path on one side of Tioronda Avenue between Wolcott Avenue and South Avenue. A path could continue south on South Avenue under the rail line and west to Madam Brett Park (about 0.8 miles to South Avenue; about 1.0 mile to Madam Brett Park).

LH-22. Route 9D Shoulder Improvements

[NYS DOT; Medium-Term]

Issue: Shoulders on the uncurbed sections of Route 9D are inconsistent and quite narrow in some areas, considering the volume and speed of traffic.

Improvement:
- Create wider shoulders for bicycling along Route 9D in Wappinger and Fishkill, including between Beacon and the Bear Mountain Bridge.

LH-23. Town of Fishkill Route 52 Sidewalk

[T/Fishkill, NYS DOT; Medium-Term]

Issue: Route 52 connects the Fishkill Town Hall, Town Recreation Center, a Town park and commercial and residential areas to the Village of Fishkill. However outside of the Village, it lacks sidewalks.

Improvements:
- Install a sidewalk on the north side of Route 52 from near Jeannette Drive, under I-84, to the existing sidewalk west of Blodgett Road (about 1 mile).
- Install a sidewalk on Geering Way and Central Hudson Way from Route 52 to Geering Park (about 0.3 miles).

A sidewalk along Route 52 in Fishkill would connect residents to the Town Hall, retail, a Town park, and the Village (source: Google maps).
Walk Bike Dutchess

LH-24. Dutchess Stadium – Route 9D Sidewalk Extension
[T/Fishkill, NYS DOT; Medium-Term]

Issue: There is limited access for walking to Dutchess Stadium from Beacon.

Improvements:
- Extend the sidewalk on Route 9D north from I-84 to Dutchess Stadium, connecting to the sidewalk on the northwest side of 9D at Brockway Road (about 0.8 miles).
- Provide a sidewalk connecting the ramp at the southeast corner of the Route 9D/stadium entrance intersection to the stadium entrance.
- Add crosswalks where needed to connect sidewalk segments.

B. City and Town of Poughkeepsie

LH-25. Dutchess Community College Walking & Bicycling Access
[C/Poughkeepsie, T/Poughkeepsie; Medium-Term]

Issue: Safety for people walking along Creek Road to Dutchess Community College is a concern. In addition, residents of the Lakeview Arms senior housing development (across Creek Road from Morgan Lake) have no sidewalks along or designated crossing across Creek Road. There are no shoulders on Creek Road between Smith Street and just south of Morgan Lake (shoulder widths between Morgan Lake and Pendell Road are typically four feet or greater).

Improvements:
- Redesign the Smith Street/Creek Road/Little George Street Intersection into a roundabout to slow speeds, improve safety, and reduce congestion (as analyzed for the City by Hudson Valley Engineering Associates in 2006). Incorporate sidewalks and crosswalks across all legs of the roundabout.
- Install a sidewalk along Creek Road from Smith Street to the DCC entrance (at the crosswalk between the parking lot and Hudson Hall), including an extension of the sidewalk on the north side of Smith Street to Creek Road, and possibly extending on Creek Road to Cottage Road (about 1 mile; 1.4 miles to Cottage Road).
- Install crosswalks, pedestrian-activated signals, and other improvements to help people safely cross Smith Street and Creek Road.
- Improve safety for people bicycling between the Dutchess Rail Trail at Morgan Lake and Creek Road. In particular, improve sight distance for left turns onto Creek Road.

A sidewalk along Creek Road to Dutchess Community College would provide safe access for students and others who currently walk along the road.
LH-26. Poughkeepsie Waterfront Greenway Trail  
[C/Poughkeepsie, T/Poughkeepsie; Medium-Term]  
Issue: The concept of a continuous greenway trail along the Hudson River has been proposed for many years. In Poughkeepsie, there are segments through Longview Park, Waryas Park, and in front of Shadows on the Hudson, but several key gaps remain.  
Improvement:  
• Work with property owners to complete the Poughkeepsie Waterfront Greenway Trail from Quiet Cove Park at the Hyde Park Town line south to the Locust Grove Historic Site. Include connections to the Walkway elevator and around Kaal Rock Point, consistent with the City’s 1998 Comprehensive Plan and other planning efforts.

LH-27. Waryas Park/Waterfront Walkways  
[C/Poughkeepsie; Medium-Term]  
Issue: The Poughkeepsie waterfront includes numerous destinations: Waryas Park, Upper Landing Park, the Walkway Over the Hudson, the Mid-Hudson Children’s Museum, the Poughkeepsie train station, and lower Main Street. To facilitate walking between these destinations, a system of clear walkways and crossings is needed.  
Improvements:  
• Improve the walkways through Waryas Park to connect Main Street and the train station with the Walkway elevator.

LH-28. Walkway Over the Hudson Pedestrian Access Improvements – Phase 2  
[C/Poughkeepsie; Medium-Term]  
Issue: Intersections near the Walkway Over the Hudson should be improved to increase pedestrian safety and encourage walking between the Walkway and surrounding neighborhoods.  
Improvements:  
• Redesign the Washington Street/Brookside Avenue/Verazzano Boulevard/North Bridge Street intersection to extend the curb at the northwest corner, narrowing the intersection and reducing the crossing distance. Mark high-visibility crosswalks and stop bars on all legs of the intersection, and install pedestrian signals. In the short-term, a temporary redesign could be completed using paint, planters or other flexible materials. Emphasize the “Stop Here on Red” signage on the Verrazano approach and the right turn on red restriction for southbound Washington Street. Add Walkway signs to direct people walking through the intersection.
• Redesign the Mill Street/Verazzano Boulevard/Mt. Carmel Place would shorten this long crossing and improve safety.
Walk Bike Dutchess

Place intersection to extend the curb at the southwest corner, reducing the crossing distance and removing the non-standard crosswalk, and install high-visibility crosswalks and pedestrian signals for all legs of the intersection. In the short-term, a temporary redesign could be completed using paint, planters or other flexible materials.

LH-29. Fulton Street Sidewalk Extension  
[T/Poughkeepsie; Medium-Term]

Issue: There is a sidewalk on the north side of Fulton Street between Children’s Way and the Violet Avenue Elementary School entrance near Route 9G, and on both sides of Fulton Street between Route 9 and just east of the shopping center. However, there is no sidewalk between the shopping center and Children’s Way, or between the school entrance and sidewalk on Route 9G. Improvements:

- Extend the sidewalk on one or both sides of Fulton Street from the Mid-Hudson shopping center (across from Beck Place) east to Children’s Way to connect to the sidewalk to Violet Avenue Elementary School (about 0.4 miles).
- Extend the sidewalk on the north side of Fulton Street from the elementary school entrance to Route 9G, and provide a crosswalk to connect to the sidewalk on the east side of Route 9G.

LH-30. Wilbur Boulevard Path Improvements  
[T/Poughkeepsie; Medium-Term]

Issue: The path along Wilbur Boulevard (about 1.4 miles long) provides access between Hooker Avenue, Spratt Park and residential areas, but it is narrow (about eight feet wide) and hilly, making it unsuitable for shared use by people walking and bicycling. Additionally, the path ends without warning in the southbound direction at a tree. People on bicycles are forced to exit the path going against traffic on Wilbur Boulevard. Improvements:

- Widen the path to at least 12 feet.
- To the extent practicable, upgrade the path to meet ADA standards.

The Wilbur Boulevard path ends without any transition to or from the adjacent street (source: Google maps).

- Improve driveway and intersection crossings based on current design standards.
- Provide a transition between the southern end of the path and Wilbur Boulevard for access to Spackenkill Road. Consider signage, pavement markings, and other elements to direct people on bicycles between the street and the path and to alert drivers of their presence.
- Provide a crossing and signage at Croft Road (at the existing gap in the guard rail) to direct bicyclists to Todd Middle School. Consider a pedestrian/bicycle-activated flashing

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light at the crossing, similar to one installed on North Grand Avenue in the Town of Poughkeepsie at the Dutchess Rail Trail crossing.

LH-31. **Zack’s Way – Boardman Road Walking-Bicycling Connection**  
[T/Poughkeepsie; Medium-Term]

Issue: Zack’s Way and Boardman Road provide access between the Arlington neighborhood, Vassar College, local schools (Our Lady of Lourdes and Poughkeepsie Day School), and the planned Arlington Library at the south end of Boardman Road. Local school running teams also use this route. However, there are no sidewalks or marked shoulders on these roads. There are easements for a future path along several properties on the west side of Boardman Road, including Our Lady of Lourdes High School, the planned library, and the parcel nearest Spackenkill Road.

Improvements:
- Create a shared-use path along the west side of Zack’s Way/Boardman Road between Hooker Avenue/New Hackensack Road (Route 376) and Spackenkill Road (Route 113) (about 1.7 miles).
- Alternatively, consider a sidewalk and marked bicycle lanes on Zack’s Way/Boardman Road between Hooker Avenue/New Hackensack Road (Route 376) and Spackenkill Road (Route 113).
- Connect the path or sidewalk and bicycle lanes to recommended walking and bicycling facilities on Hooker Avenue.
- Improve the traffic signal at Zack’s Way and New Hackensack Road to detect bicycles, if feasible.

LH-32. **Dutchess Rail Trail – Overocker Road Trailhead Access**  
[T/Poughkeepsie; Medium-Term]

Issue: The Dutchess Rail Trail crosses Overocker Road one-quarter mile east of Burnett Boulevard, and the Poughkeepsie Town Hall and Elks Lodge are on Overocker Road between Burnett Boulevard and the Rail Trail. However, there is no sidewalk on Overocker Road, no sidewalk the east side of Burnett Boulevard (between Overocker Road and Route 44) and crosswalk across Overocker Road on Burnett Boulevard.

Improvements:
- Install a sidewalk or shared-use path along the north side of Overocker Road between Burnett Boulevard and the Dutchess Rail Trail (about 0.25 miles).
- Install a sidewalk or shared-use path along the east side of Burnett Boulevard from Overocker Road to Route 44 (about 0.25 miles).
- Mark a crosswalk across Overocker Road at Burnett Boulevard to connect to new sidewalks on Overocker Road and Burnett Boulevard.
- Designate a bicycle route from Fairmont Avenue to the Rail Trail using Manchester Road (parallel to Route 55 on the south side), the path and crossing at Burnett Boulevard (between Manchester Road and Route 55), and Overocker Road. Connect to State Bike Route 9 at Hooker Avenue via Collegeview Avenue and Raymond Avenue, or Collegeview Avenue, Raymond Avenue, College Avenue and DeGarmo Place.
- Review the signal detection (southbound) and timing at the Route 55/Burnett Boulevard intersection and make improvements as needed to better accommodate people on bicycles.
• Add wayfinding signage to assist people bicycling along the route.

LH-33. Innis Avenue (CR 75) – Salt Point Turnpike (Route 115) Sidewalk Connections

[T/Poughkeepsie, Dutchess County, NYSDOT; Medium-Term]

Issue: The sidewalk network on Innis Avenue north of Arnold Road includes several gaps (such as just north of Jackman Drive south) as well as locations where the sidewalk switches sides of the street without a marked crosswalk (such as at Lindbergh Place and at Jackman Drive north). In addition, there are no sidewalks on either side north of the commercial plaza at Jackman Drive north.

Improvements:
- Fill sidewalk gaps along Innis Avenue north of Arnold Road to create a continuous network (about 0.3 miles) and extend sidewalks from Jackman Drive north to Salt Point Turnpike (about 0.35 miles).
- Extend the sidewalk on the south side of Salt Point Turnpike (Route 115) from Hudson Avenue to Innis Avenue (about 0.2 miles).
- Mark high-visibility crosswalks to connect sidewalks on opposite sides of the street and provide other crossing improvements as needed.

LH-34. Route 44 Sidewalks & Shoulders

[T/Poughkeepsie, NYSDOT; Medium-Term]

Issue: People in Arlington walk and bike to the shopping on Route 44, but sidewalks are inconsistent and the shoulder is inadequate, especially given the speed and volume of traffic.

Improvements:
- Provide consistent sidewalks on both sides of Route 44 between Raymond Avenue and Overlook Road, particularly between Longview Road and Overlook Road, and possibly extend to DeGarmo Road (CR 43) (about 0.4 miles; 0.7 miles to DeGarmo Road).
- Provide consistent four foot minimum shoulders for bicycling on Route 44.
- Provide crosswalks and pedestrian signals on all legs of the Route 44/Cherry Hill Drive intersection and the Route 44/Burnett Boulevard intersection, if feasible.
- Adjust signal timing as needed to allow sufficient time for people to cross intersections.

LH-35. Marist – Quiet Cove Sidewalk

[T/Poughkeepsie, NYSDOT; Medium-Term]

Issue: There are sidewalks on both sides of Route 9 near Marist College, but to the north, the west side sidewalk stops halfway between Marist’s north entrance and Winslow Gate Road, making it difficult to walk to Quiet Cove Riverfront Park. The sidewalk on the east side continues to Hudson View Drive, but there is no crosswalk.

Improvement:
- Construct a sidewalk or separated path on the west side of Route 9 between Marist’s north gate and Quiet Cove Park (about 0.3 miles) consistent with recommendations in the Route 9 Land Use and Transportation Study, and connect to the Greenway Trail as well as future sidewalks along Route 9 in Hyde Park.
LH-36. Spackenkill Road Sidewalks & Shoulders
[T/Poughkeepsie, NYSDOT; Medium-Term]
Issue: Spackenkill Road (Route 113) provides access to several schools and the proposed Arlington Library on Boardman Road. However, there are no sidewalks east of Croft Road, and in areas the shoulders are narrow or concave (for drainage).
Improvements:
• Extend the sidewalk on Spackenkill Road (Route 113) from Croft Road to Boardman Road to provide access between destinations on Route 9 and Spackenkill High School, Oakwood Friends School, and schools on Boardman Road (about 1.75 miles).
• Provide consistent four foot minimum shoulders on Spackenkill Road, particularly near Wilbur Boulevard.

LH-37. Red Oaks Mill Sidewalks & Crosswalks
[T/Poughkeepsie, NYSDOT; Medium-Term]
Issue: Red Oaks Mill, centered at the intersection of New Hackensack Road (Route 376), Spackenkill Road (Route 113), and Vassar Road (CR 77), has no crosswalks, no sidewalks, and no shoulders. People must walk in the weeds or the travel lane.
Improvements:
In coordination with an operational and safety assessment of the Red Oaks Mill area:
• Add sidewalks along New Hackensack Road (Route 376) between Hogan Drive and Old Mill Road, at least on the east side (about 0.2 miles).
• Provide sidewalks on Vassar Road (CR 77) from Spackenkill Road (Route 113) through the commercial area (about 0.3 miles).

• Consider a sidewalk on Spackenkill Road between Boardman Road and Vassar Road (about 0.9 miles).
• Add crosswalks and pedestrian signals at the intersection.

The Red Oaks Mill commercial area has no sidewalks or crosswalks (source: Google maps).

C. Town of Wappinger and Village of Wappingers Falls

LH-38. Myers Corners Road/Middlebush Road (CR 93) Walking & Bicycling Access
[Dutchess County, T/Wappinger, NYSDOT; Medium-Term]
Issue: Myers Corners Road/Middlebush Road (CR 93) connects the Wappinger Town Hall, six schools, residential areas, commercial centers, and the Dutchess Rail Trail (just east of CR 93 crossing Route 376). In addition, the section between Route 9D and Route 9 is part of State Bike Route 9. However, it has no sidewalks, minimal shoulders between Route 9D and Route 9, minimal shoulders
between Degarmo Hills Road and Route 376, and poor pavement
in areas.

Improvements: Consistent with the recommendations in the CR 93
(Myers Corners Road/Middlebush Road) Corridor Management
Plan:

- Add paved shoulders on Middlebush Road (CR 93) between
  Route 9D and Route 9 and improve pavement.

- Add paved shoulders on Myers Corners Road (CR 93) between
  Degarmo Hills Road and Route 376.

- Evaluate the feasibility of installing a sidewalk with a
  landscaped buffer on one side of CR 93: on the north side
  between Route 9D and the Ketcham High School driveway,
  and on the south side between the high school driveway
  and Route 376 (about 4.5 miles).

- Incorporate shoulders as part of the replacement of the
  culvert over the Lake Oniad Stream (just east of Kent Road).

- Create a connection between Myers Corners Road and the
  Dutchess Rail Trail via a sidewalk and/or wider shoulders on
  Route 376 and on the bridge over Sprout Creek (about 0.35
  miles).

- Evaluate the feasibility of installing a sidewalk on Route 9D
  between Middlebush Road and the existing sidewalks on
  Route 9D in the Village of Wappingers Falls (about 0.2
  miles).

- Evaluate marking crosswalks at key intersections along CR
  93 such as Route 9D, Major McDonald Way, Old Route 9,
  Losee Road, Spook Hill Road, Blackthorn Loop West,
  Ketcham High School driveway, Kent Road, Laerdal
  Driveway East, and DeGarmo Hills Road, in coordination
  with other improvements.

& Bicycling Access

[Dutchess County, T/Wappinger; Medium-Term]

Issue: There is limited walking or bicycling access to the New
Hamburg train station from the Town of Wappinger. There are
minimal shoulders on Old Hopewell and New Hamburg Roads (CR
28) and substantial traffic. At the same time, parking at the train
station is limited, so alternatives to driving are needed. There is
bus service along CR 28 but poor pedestrian access to it. The
Town’s Comprehensive Plan recommends consideration of a
bicycle facility on Old Hopewell Road.

Improvements:

- Evaluate the feasibility of installing a sidewalk, path, or
  wider shoulders (four foot minimum) along Old
  Hopewell/New Hamburg Road (CR 28) from Route 9 or
  Route 9D to the New Hamburg train station (about 1.25
  miles from Route 9D; 2.3 miles from Route 9).

- Add appropriate signs to increase driver awareness of
  people walking and bicycling.

LH-40. Creek Road (CR 91) Shared-Use Path Evaluation

[Dutchess County; Medium-Term]

Issue: Walking and bicycling access between the New Hamburg
train station and the Village of Wappingers Falls is limited. The
most direct route is along Creek Road (CR 91) and Market Street.
However, the creek side lane of Creek Road is unstable, making a
two-way road with wider shoulders or sidewalks infeasible.

Improvement:

- Evaluate the feasibility of converting Creek Road (CR 91) to
  one way southbound with a shared-use, two-way
walking/bicycling path on the creek side. The path could be part of the Wappinger Greenway Trail.

**LH-41. Route 376 Shoulder Improvements**  
**[NYSDOT; Medium-Term]**

Issue: In the Lower Hudson, Route 376 provides access between Arlington and Vassar College, Red Oaks Mill, New Hackensack, and the Dutchess Rail Trail. In addition, the Town of Wappinger’s Comprehensive Plan recommends consideration of a bicycle facility on Route 376. While shoulders are generally wide, there are portions with narrow shoulders, and shoulders are not consistently maintained.

Improvements:
- Widen shoulders along Route 376 between Cedar Valley Road and Red Oaks Mill Road (CR 44) where feasible.
- Improve shoulder maintenance, including pavement repair and brush clearing, particularly between Spackenkill Road (Route 113) and Myers Corners Road (CR 93).

**LH-42. Wappingers Falls Route 9/East Main Street Village Gateway**  
**[NYSDOT, V/Wappingers Falls; Medium-Term]**

Issue: The entrance to the Village center at the Route 9/East Main Street intersection discourages walking due to the right turn slip lane and lack of a crosswalk on the north side of East Main Street. The Village’s Local Waterfront Revitalization Strategy recommends creating a more pedestrian-friendly gateway to the Village center on East Main Street/Route 9.

Improvements:
- Remove the right turn slip lane at the northwest corner of the intersection and extend the curb to shorten the crossing and reduce conflicts between vehicles and people walking.
- Add a high-visibility crosswalk with a pedestrian refuge island across Route 9 on the north side of East Main Street.
Long-Term Recommendations (10+ years)

A. City of Beacon and Town and Village of Fishkill

LH-43. South Avenue Bridge [C/Beacon; Long-Term]
Issue: There is no connection between Madam Brett Park (on the north side of Fishkill Creek) and South Avenue (on the south side of the creek).
Improvement:
- Reconstruct the South Avenue Bridge across the Fishkill Creek to allow access by people walking and bicycling, as well as driving. This could provide a connection to the Hudson Highlands Fjord Trail via the Slocum Road subdivision to Route 9D.

LH-44. Beacon – Fishkill Waterfront Greenway Trail [C/Beacon, T/Fishkill; Long-Term]
Issue: There is no access to the Hudson River by foot in the City of Beacon or the Town of Fishkill north of Beacon’s Riverfront Park.
Improvement:
- Create a shared-use Greenway Trail along the waterfront from the Beacon train station to the Newburgh-Beacon Bridge access road and north into the Town of Fishkill.

LH-45. DIA: Beacon – Dennings Avenue Trail Link [C/Beacon; Long-Term]
Issue: There is no way to walk to the DIA museum from the south.
Improvement:
- Work with DIA to develop a walking trail or path from Dennings Avenue to DIA for visitors coming from Dennings Point. A loop could be created between the Beacon train station, along the Klara Sauer Trail to Dennings Point, and DIA.

B. City and Town of Poughkeepsie

LH-46. Market Street Walking & Bicycling-Friendly Two-Way Conversion [C/Poughkeepsie, Long-Term]
Issue: Market Street, in the heart of Poughkeepsie’s downtown, is one-way between Church Street (Route 44/55 eastbound) and Mill Street (Route 44/55 westbound). This contributes to driver confusion and excess circulation, and the three wide lanes contribute to higher speeds and often a failure to yield to people at crosswalks. Crossing at the west leg of the Market Street/Mill Street intersection is prohibited, but many people cross there since it connects directly to Poughkeepsie City Hall. The excess

Converting Market Street to two-way circulation would improve access to the City Center by walking, bicycling, and driving (source: Google maps).
Walk Bike Dutchess

street capacity could be used to make the street more pedestrian- and bicycle-friendly.

Improvements:

- Redesign Market Street to allow two-way traffic between Church Street and Mill Street, consistent with the City of Poughkeepsie Transportation Strategy.
- Incorporate pedestrian crossing improvements, including marking a crosswalk across the west leg of Mill Street (Route 44/55 westbound).
- As part of the redesign, consider a ‘road diet’ to reduce the number of lanes and add on-street parking and bicycle facilities such as buffered bike lanes.

LH-47. Poughkeepsie Arterial Redesign

[C/Poughkeepsie, NYSDOT; Long-Term]

Issue: Routes 44/55 eastbound and westbound (known as the ‘arterials’) are three-lane, one-way streets through the center of the city. They are posted with a 30 mile per hour speed limit, but speeds are typically much higher due to the streets’ design. Though there are continuous sidewalks along both streets, it is uncomfortable to walk along them due to the speed and volume of traffic and the minimal buffer between traffic and the sidewalk.

Improvements:

- Conduct a planning study to analyze ways to redesign the eastbound and westbound Route 44/55 arterials (Mill Street-West Maple Street and Church Street-West Baker Street-Haight Avenue) into pedestrian-friendly boulevards.
- Reconfigure the curve behind the Civic Center to slow traffic, reduce weaving, and shorten the crossing distance at Main Street, as recommended in the City of Poughkeepsie Transportation Strategy.

LH-48. Sheafe Road Sidewalk

[T/Poughkeepsie, Long-Term]

Issue: Sheafe Road provides access to Bowdoin Park, the Sheafe Road Elementary School, residential neighborhoods, and a local baseball park, as well as Route 9 and the New Hamburg train station (via Channingville Road and Main Street). However, it has no sidewalks and speeds are relatively high (85th percentile speeds are about 44 miles per hour).

Improvements:

- As a first step, provide a sidewalk between the elementary school (Delavergne Avenue) and the baseball park just north of Cottam Hill Road (about 0.5 miles).
- As a second phase, extend the sidewalk south to Bowdoin Park (about 0.58 miles).
- Long-term, consider access to the New Hamburg train station.

LH-49. CSX West & East Branch Trail

[T/Poughkeepsie, Dutchess County; Long-Term]

Issue: The west and east branches of the CSX rail line in Poughkeepsie are inactive and could be acquired and converted to shared-use non-motorized trails to link the numerous destinations in the area. This would be a major project that would require substantial funding.

Improvements:

- Construct a multi-use trail on the CSX West Branch (near Route 9 and Marist College, between Kittredge Place and Winslow Gate Road) (about 1.7 miles).
- Consider developing a secondary street along the CSX East Branch to connect the Hudson River Psychiatric Center property to Fulton Street and Parker Avenue, as
C. Town of Wappinger and Village of Wappingers Falls

LH-50. Imperial Boulevard Walking- & Bicycle-Friendly Street Extension [T/Wappinger, V/Wappingers Falls, Dutchess County, NYSDOT; Long-Term]

Issue: There is a lack of good walking and bicycling connections among the residential complexes, shopping plazas, DCC, DMV, Hannaford, and other destinations on the east side of Route 9 in Wappinger.

Improvement:
- Add a slow-speed pedestrian- and bicycle-friendly street (such as a bicycle boulevard with sidewalks) east of Route 9 between Myers Corners Road and New Hackensack Road, using Imperial Boulevard and the area behind Hannaford, west of Marshall Road (about 0.8 miles). This is consistent with recommendations for a north-south secondary street with other street connections in the CR 93 (Myers Corners Road/Middlebush Road) Corridor Management Plan, the Village of Wappingers Falls Route 9 Study, and the Town of Wappinger’s Comprehensive Plan.

LH-51. Route 9, 9D and Mesier Avenue Sidewalks [NYSDOT, T/Wappinger, V/Wappingers Falls, T/Poughkeepsie; Long-Term]

Issue: The sidewalk systems along Routes 9 and 9D are incomplete, limiting walking access to shopping and other destinations.

Improvements:
- Install continuous sidewalks at the following locations:
Walk Bike Dutchess

- Along the east side of Route 9 between shopping plazas near Myers Corners Road and Vassar Road (CR 77) (about 1.7 miles)
- Along the west side of Route 9 between Mesier Avenue and IBM Road (about 3.4 miles)
- Route 9D between the Village line and Route 9 (about 0.6 miles)
- Mesier Avenue between Liss Road and Route 9 (about 0.1 miles)

• Install a pedestrian walkway or bridge on Route 9 over the Wappinger Lake as part of the Wappinger Greenway Trail.
**Walk Bike Dutchess** Project Recommendations: City of Beacon*

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*For project descriptions, see **Walk Bike Dutchess, Chapter 5.1**

1Short = within 5 years; Medium = 5-10 years; Long = 10+ years

Project sponsors must fully define project scope and develop project cost estimates.
Walk Bike Dutchess 2014
Project Recommendations by Municipality:
FISHKILL

www.dutchessny.gov/WalkBikeDutchess

This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change. Map created June 2014.

For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
### Project Recommendations: Town of Fishkill*

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Walk Bike Dutchess 2014
Project Recommendations by Municipality:
VILLAGE OF FISHKILL

For project specifics, see:
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*For project descriptions, see [Walk Bike Dutchess, Chapter 5.1](#)

¹Short = within 5 years; Medium = 5-10 years; Long = 10+ years

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Walk Bike Dutchess 2014
Project Recommendations by Municipality:
CITY OF POUGHKEEPSIE

www.dutchessny.gov/WalkBikeDutchess

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For project specifics, see:
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Map 24
<table>
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<th>Timeframe</th>
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Walk Bike Dutchess 2014
Project Recommendations by Municipality: Poughkeepsie

www.dutchessny.gov/WalkBikeDutchess

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For project specifics, see:
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### Project Recommendations: Town of Poughkeepsie

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<td>Collegeview Avenue/Fairmont Avenue Intersection Safety</td>
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<td>Vassar College, Poughkeepsie Public Library District, Our Lady of Lourdes High School, Poughkeepsie Day School</td>
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<td>C/Poughkeepsie; T/Poughkeepsie</td>
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<td>T/Wappinger; T/Poughkeepsie</td>
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Project Recommendations by Municipality: WAPPINGER

Walk Bike Dutchess 2014

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**Walk Bike Dutchess**  Project Recommendations: Town of Wappinger*

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<tr>
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<td>Myers Corners/Middlebush Road (CR 93) Walking &amp; Bicycling Access</td>
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<td>Route 9D Shoulder Improvements</td>
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<td>Imperial Boulevard Walking- &amp; Bicycle-Friendly Street Extension</td>
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<td>T/Wappinger, V/Wappingers Falls, Dutchess County, NYSDOT</td>
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Walk Bike Dutchess 2014
Project Recommendations by Municipality:
VILLAGE OF WAPPINGERS FALLS

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**Walk Bike Dutchess** Project Recommendations: Village of Wappingers Falls*

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<td>V/Wappingers Falls</td>
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<td>T/Wappinger; V/W</td>
<td>Imperial Boulevard Walking- &amp; Bicycle-Friendly Street Extension</td>
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Chapter 5.2: Upper Hudson

For this Plan, the Upper Hudson is defined as the northwestern communities along the Hudson River: the Towns of Red Hook, Rhinebeck and Hyde Park, and the Villages of Tivoli, Red Hook, and Rhinebeck. The Upper Hudson represents about 115 square miles and 40,438 people—about 14 percent of the county’s total population. It is characterized by a mix of suburban and rural land use patterns interspersed with walkable villages and hamlets (see Map 29, Upper Hudson Overview).

Three key factors that influence walking and bicycling—land use (residential density and destinations), demographics, and non-motorized facilities (including transit) —are discussed below. Local walking and bicycling patterns, including crash data, is presented, and issues are identified. Finally, a set of priority projects to improve conditions for walking and bicycling is described.

A. Walking and Bicycling Factors

1. Land Use

Residential Patterns
The Villages of Red Hook and Rhinebeck are the 5th and 6th most densely developed municipalities in the County, each with about 1,800 persons per square mile. The Village of Tivoli and Town of Hyde Park are slightly above the county average, with 540 and 720 residents per square mile, respectively, while the Towns of Red Hook and Rhinebeck are less dense than the county average, with about 240 and 130 residents per square mile, respectively. The more concentrated population pattern of the Villages makes walking and bicycling for transportation practical and attractive in those areas.

Centers & Destinations
Upper Hudson centers, as designated by the Dutchess County Department of Planning and Development, are shown on Maps 30-31, Upper Hudson Centers. Key destinations for walking and bicycling include:

- Rhinebeck Village center
- Hyde Park Town center on Route 9
- Red Hook Village center
- Town of Red Hook South Broadway/Hardscrabble Plaza
  - Staatsburg hamlet
  - Rhinecliff hamlet and train station
  - Tivoli Village center
  - Haviland hamlet
  - Commercial plazas on Routes 9 & 9G
  - Culinary Institute of America (CIA)
  - Bard College in Red Hook
  - Red Hook High School
  - FDR High School in Hyde Park
  - Rhinebeck High School
  - East Park (East Market St/Route 9G)
  - Historic sites, parks, and trails

The Tivoli Village center is a pleasant walking destination.
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Map created May 2014
Map created May 2014

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2. Demographics

Age
Young people and older people are less likely to drive, and therefore more likely to walk (both young and old) or bicycle (young people) for transportation. The Upper Hudson communities all have lower percentages of young people (under 16) than the county average, while the Town and Village of Rhinebeck and the Village of Red Hook have substantially higher percentages of older people (over 74). The Town and Village of Rhinebeck also have higher than average percentages of these young and older groups combined.

### 2010 Population by Age Group

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Population</th>
<th>% Under 16</th>
<th>% 16 - 74</th>
<th>% Over 74</th>
<th>% Under 16 + Over 74</th>
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<td>T/Hyde Park</td>
<td>21,571</td>
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<td>77</td>
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<td>T/Red Hook</td>
<td>8,240</td>
<td>16</td>
<td>79</td>
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<tr>
<td>T/Rhinebeck</td>
<td>4,891</td>
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<td>71</td>
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<tr>
<td>V/Red Hook</td>
<td>1,961</td>
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<td>71</td>
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<td>V/Rhinebeck</td>
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<td>15</td>
<td>69</td>
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<tr>
<td>V/Tivoli</td>
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<td>16</td>
<td>79</td>
<td>5</td>
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<tr>
<td>Dutchess County</td>
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<td>75</td>
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### 2010 Population by Age Group

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<thead>
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<th>Municipality</th>
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<td>79</td>
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<tr>
<td>Dutchess County</td>
<td><strong>297,488</strong></td>
<td>19</td>
<td>75</td>
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Sources: U.S. Census Bureau, 2010 U.S. Census. Table QT-P1: Age Groups & Sex; Table QT-P2: Single Years of Age & Sex. Town populations exclude populations of Villages.

Income
Lower-income households are also more likely to walk and bicycle for transportation. Overall, household incomes in the Upper Hudson tend to be a bit lower than the county average. The Town of Rhinebeck and the Villages of Red Hook, Rhinebeck and Tivoli all have higher percentages of low-income households (defined here as under $25,000 per year) than the county as a whole. All of the Upper Hudson municipalities have lower median household incomes than the county as a whole.

### Household Income

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<th>Municipality</th>
<th>Total Households</th>
<th>% less than $25,000</th>
<th>% $25,000 - $50,000</th>
<th>% Over $50,000</th>
<th>Median Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Hyde Park</td>
<td>7,826</td>
<td>14%</td>
<td>21%</td>
<td>65%</td>
<td>$69,150</td>
</tr>
<tr>
<td>T/Red Hook</td>
<td>3,761</td>
<td>15%</td>
<td>24%</td>
<td>61%</td>
<td>$70,984</td>
</tr>
<tr>
<td>T/Rhinebeck</td>
<td>3,177</td>
<td>20%</td>
<td>11%</td>
<td>73%</td>
<td>$68,832</td>
</tr>
<tr>
<td>V/Red Hook</td>
<td>853</td>
<td>26%</td>
<td>25%</td>
<td>49%</td>
<td>$49,196</td>
</tr>
<tr>
<td>V/Rhinebeck</td>
<td>1,195</td>
<td>22%</td>
<td>17%</td>
<td>61%</td>
<td>$65,027</td>
</tr>
<tr>
<td>V/Tivoli</td>
<td>411</td>
<td>23%</td>
<td>25%</td>
<td>51%</td>
<td>$48,750</td>
</tr>
<tr>
<td>Dutchess County</td>
<td><strong>107,151</strong></td>
<td>16%</td>
<td>19%</td>
<td>65%</td>
<td><strong>$71,125</strong></td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2007-2011 American Community Survey 5-Year Estimates, Tables B1101_1, B19013, & B19001 (Households, Median Household Income, and various income brackets). Data for the Towns includes data for their respective Village(s).

Vehicle Ownership
Households without a vehicle, or with one vehicle, are much more likely to seek alternative transportation. The percentage of zero- and one-vehicle households for each municipality is shown below. The Villages of Tivoli and Red Hook have higher percentages of zero-vehicle households than the county average, while the Town of Rhinebeck and Villages of Rhinebeck, Red Hook, and Tivoli have higher than average percentages of one-vehicle households.
Zero- and One-Vehicle Households

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Households</th>
<th>% Zero-Vehicle</th>
<th>% One-Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Hyde Park</td>
<td>7,826</td>
<td>4 (+/- 1%)</td>
<td>31 (+/- 4%)</td>
</tr>
<tr>
<td>T/Red Hook</td>
<td>3,761</td>
<td>4 (+/- 2%)</td>
<td>30 (+/- 5%)</td>
</tr>
<tr>
<td>T/Rhinebeck</td>
<td>3,177</td>
<td>7 (+/- 3%)</td>
<td>39 (+/- 6%)</td>
</tr>
<tr>
<td>V/Red Hook</td>
<td>853</td>
<td>14 (+/- 6%)</td>
<td>38 (+/- 8%)</td>
</tr>
<tr>
<td>V/Rhinebeck</td>
<td>1,195</td>
<td>7 (+/- 3%)</td>
<td>52 (+/- 11%)</td>
</tr>
<tr>
<td>V/Tivoli</td>
<td>411</td>
<td>9 (+/- 5%)</td>
<td>43 (+/- 13%)</td>
</tr>
</tbody>
</table>

**Dutchess County**

107,151 8 (+/- 1%) 31 (+/- 1%)

Source: U.S. Census Bureau, 2007-2011 American Community Survey 5-Year Estimates, Table B08201: Household Size By Vehicles Available. Italics indicate that estimate should be used with caution because sampling error is between 12 and 40 percent of the estimate. Data for the Towns includes data for their respective Village(s).

Disabilities

Persons with physical disabilities often have difficulty driving and are more likely to need alternatives. Those with ambulatory difficulties may use wheelchairs, walkers, or other mobility devices and benefit from accessible pedestrian environments. Disability data is only available for the Town of Hyde Park. The Town’s share of disabled residents and residents with an ambulatory difficulty is slightly higher than the county average.

3. Walking & Bicycling Facilities

An inventory of walking and bicycling facilities was made based on current maps and data available. Sidewalks, recreational trails, and shared use paths are shown on the Centers map.

Walking Facilities

The Upper Hudson has approximately 41 miles of public sidewalks. The majority are in the Town of Hyde Park and Village of Rhinebeck. When considered on a per-resident basis, the Village of Rhinebeck has the most sidewalks per resident (and ranks second county-wide), followed by the Village of Red Hook, which ranks ninth in the county. Sidewalk mileage by municipality and per resident is shown below.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Sidewalks (miles)*</th>
<th>Sidewalk Feet per Resident</th>
<th>County-wide Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Hyde Park</td>
<td>11.2</td>
<td>2.7</td>
<td>17</td>
</tr>
<tr>
<td>T/Red Hook</td>
<td>7.8</td>
<td>5.0</td>
<td>15</td>
</tr>
<tr>
<td>T/Rhinebeck</td>
<td>2.0</td>
<td>2.2</td>
<td>22</td>
</tr>
<tr>
<td>V/Red Hook</td>
<td>6.0</td>
<td>16.2</td>
<td>9</td>
</tr>
<tr>
<td>V/Rhinebeck</td>
<td>10.8</td>
<td>21.4</td>
<td>2</td>
</tr>
<tr>
<td>V/Tivoli</td>
<td>3.2</td>
<td>14.9</td>
<td>10</td>
</tr>
</tbody>
</table>

**Dutchess County**

434.1 7.7 n/a

Sources: Dutchess County GIS, and U.S. Census Bureau, 2010 U.S. Census.
* Includes private sidewalks (such as in residential developments, at colleges and offices).
Walk Bike Dutchess

The Upper Hudson has approximately 49 miles of trails. Major recreational trails in the area include:

1. Mills/Norrie State Park: 15.8 miles (trails/internal roads).
2. Tivoli Bay trails in Red Hook: 7.9 miles.
3. Hyde Park trail system (FDR to Top Cottage): 7 miles.
4. Hyde Park River Trail: 3.4 miles.
5. Ferncliff Trails in Rhinebeck: 3.2 miles.
6. Montgomery Place trails in Red Hook: 3 miles.
8. Poet’s Walk Park in Red Hook: 1.9 miles.
10. Wilderstein trails in Rhinebeck: 1.4 miles.
13. Father’s Trail in Red Hook: 1 mile.

Shared-Use Paths
There is a network of shared-use paths on the Bard College campus, including along the west side of Annandale Road (CR 103).

Bicycling Facilities
There are currently no on-street bicycle facilities in the Upper Hudson. However, three of NYSDOT’s signed State Bicycle Routes (SBR) pass through the area: SBR 9 passes through Hyde Park, Rhinebeck, and Red Hook on Route 9; SBR 199 crosses over the Kingston-Rhinecliff Bridge from State Bike Route 32 in Ulster County and connects to SBR 308 in Milan via Routes 9G and 199; and SBR 308 extends on Route 308 between Route 9 in Rhinebeck and Route 199 in Milan. SBR 199 and 308 connect to SBR 9 (in Red Hook and Rhinebeck, respectively).

In addition, the Rhinebeck and Red Hook Historic District Bike/Hike Trails are two signed routes on County and local roads connecting historic attractions in the two Towns. Loop A is a 10.5 mile route between the Village of Rhinebeck and hamlet of Rhinecliff. Loop B is a 10.9 mile route from the Village of Rhinebeck north into Red Hook.

Bicycle parking is provided at some of the area’s key destinations, including the Hyde Park Town Hall, Red Hook Town and Village Hall, Starr Library in Rhinebeck, Bard College, and several commercial locations in the Village of Red Hook. A list of bicycle parking locations is included in Appendix G.
**Transit Service**
Most bus trips, and many train trips, involve a walking (or in some cases, bicycling) trip on one or both ends—to get to the stop or station, and to get from the stop or station to a final destination.

There is limited transit service in the Lower Hudson. LOOP’s Route C primarily serves the Upper Hudson, with service between Poughkeepsie, Hyde Park, Rhinebeck, Red Hook, and Tivoli. It had annual ridership of approximately 60,000 in 2012. The City of Poughkeepsie’s Northside bus route extends to the CIA and Stop and Shop in Hyde Park. The Northside route served over 103,000 people in 2012. The Amtrak station in Rhinecliff served over 150,000 riders in 2010.

**B. Walking & Bicycling Data**
Based on the Upper Hudson’s older population, somewhat lower vehicle ownership rates, and concentrations of population and sidewalks in Village centers, balanced by limited transit service, we can expect moderate rates of walking and bicycling in this area. While Census data at the municipal level is limited, estimates of walking to work for four Upper Hudson municipalities are available. According to these estimates, approximately 10 percent of Town of Red Hook residents, 6 percent of Town of Rhinebeck residents, 4 percent of Town of Hyde Park residents, and 10 percent of Village of Rhinebeck residents walk to work. This compares to 4 percent of working residents county-wide.

**Count Data**
Counts of people walking and bicycling were conducted at up to six locations in the Upper Hudson in September 2012 and January, May, July, and September of 2013. The highest pedestrian count was in the Village of Rhinebeck at the intersection of Route 9 and Market Street, with 959 pedestrians counted on a September 2013 weekend from 12-2 pm. The highest bicycle count was in the Village of Red Hook at the intersection of Market Street and Broadway, with 42 bicyclists counted on a September 2013 weekend from 12-2 pm. The count volumes are detailed in Appendix J and illustrated in Maps 5-9 (in Chapter 4).

**Walk-Bike Dutchess Survey Data**
The Walk-Bike Dutchess survey resulted in 261 responses from the Upper Hudson. According to the survey, 65 percent of respondents walk at least three days per week, while over 40 percent bike at least one to two days per week. The most common purpose for walking and bicycling is exercise, followed enjoy to the community and be outside. According to respondents, the best locations for walking include parks, Poet’s Walk trails, the Walkway Over the Hudson, and rail trails, while the most popular for bicycling is the rail trails. Problematic areas for walking and bicycling include Route 9, Route 9G, and Route 199.

When asked “If equally good facilities existed, how would you prefer to travel?” over 80 percent said they would prefer to walk or bike to parks/recreation, over 70 percent would prefer to walk...
or bike to the gym/exercise, about 60 percent would prefer to walk or bike to school and local errands/appointments, and half would prefer to walk or bike to work.

Almost 70 percent of respondents said there are many places to go within walking distance of their home, while less than half said stores are within walking distance and 30 percent said it is easy to walk to a bus stop or train station. About 60 percent said they are very or somewhat satisfied with how their community is designed for walking, while less than 35 percent are very or somewhat satisfied with how their community is designed for bicycling.

When asked “What are the most important improvements to be made?” the most common responses included increasing the width of road shoulders, adding bicycle lanes and/or shared lane markings, adding more rail-trails/shared use paths, and adding more sidewalks. Respondents noted that bicycle parking is needed at stores, town halls and other municipal facilities, on sidewalks near local destinations, and at parks. Respondents said that future projects should focus on completing missing pieces to create longer continuous walkways and bikeways.

Charts showing the survey results for the Upper Hudson are included in Appendix F.

**Crash Patterns**

Five years of crash data, from 2007 to 2011, were analyzed to determine trends in pedestrian and bicycle crashes. First, pedestrian and bicycle crash rates per 1,000 population were calculated for each municipality. The Upper Hudson rates are shown below. None of the Upper Hudson municipalities exceed the county-wide average pedestrian crash rate, but the Villages of Rhinebeck and Red Hook and the Town of Rhinebeck exceed the county-wide average bicycle crash rate. However, these rates are based on a small number of bicycle crashes. Maps 11 and 12 (in Chapter 4) show all municipalities’ crash rates.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Pedestrian Crashes</th>
<th>Bicycle Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Annual Rate (per 1,000 pop.)*</td>
</tr>
<tr>
<td>T/Hyde Park</td>
<td>26</td>
<td>0.24</td>
</tr>
<tr>
<td>V/ Rhinebeck</td>
<td>3</td>
<td>0.23</td>
</tr>
<tr>
<td>V/Red Hook</td>
<td>2</td>
<td>0.20</td>
</tr>
<tr>
<td>V/Tivoli</td>
<td>1</td>
<td>0.18</td>
</tr>
<tr>
<td>T/Red Hook</td>
<td>6</td>
<td>0.15</td>
</tr>
<tr>
<td>T/Rhinebeck</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Dutchess County</strong></td>
<td><strong>377</strong></td>
<td><strong>0.25</strong></td>
</tr>
</tbody>
</table>

*Village populations have been subtracted from those of Towns to avoid double counting.

Source: Accident Location Information System (ALIS), NYSDOT.

Second, using the same data, high-crash corridors were identified. These are road segments with concentrations of bicycle and/or pedestrian crashes and a high crash rate per mile. There was one high-crash corridor for pedestrians and one for bicyclists in the Upper Hudson:

- Pedestrian: Hyde Park, Route 9 between Market Street and south of St. Andrews Road: 2.5 miles; 13 crashes; 5.2 crashes/mile.
Walk Bike Dutchess

- Bicycle: Hyde Park, Route 9 between Rogers Place and south of St. Andrews Road: 1.7 miles; 3 crashes; 1.8 crashes/mile.

High-crash corridors in the Upper Hudson are shown in Map 14 (in Chapter 4). All pedestrian and bicycle crashes in the Upper Hudson are shown in Map 32.

C. Key Needs/Issues

The Bicycle-Pedestrian Advisory Committee identified the following needs in the Upper Hudson:

- Provide sidewalks, crosswalks, benches, and other walking facilities.
- Improve the consistency of road shoulder widths and shoulder maintenance.
- Install bike racks and other facilities for bicycling.
- Create better routing and signage for people on bicycles.
- Publicize the bike racks on LOOP buses and provide better bus stop signage.

In terms of safety, key corridors/hot spots include Route 9 between Market Street and St. Andrews Road in Hyde Park for walking and bicycling. There is also a cluster of bicycle and pedestrian crashes in the Village of Rhinebeck.

D. Upper Hudson Project Recommendations

Based on the needs and issues identified above, previous plans, and input from the Bicycle-Pedestrian Advisory Committee, municipal officials, members of the public, and staff from NYSDOT-Region 8, Dutchess County Public Works, and Dutchess County Planning, the following project ideas are recommended to improve walking and bicycling in the Upper Hudson. They are organized by timeframe (short, medium, and long-term) and then by project lead (municipalities, County, and State). They are also shown in Maps 33-38 and listed in Appendix I. As noted previously, the facility owner(s) will ultimately decide whether or not to implement a project. The Plan cannot and is not intended to require specific action by any municipality or agency.

Short-Term Recommendations (within 5 years)

A. Town of Hyde Park

UH-1. Hyde Park Sidewalk and Crosswalk Improvements

[THyde Park, NYSDOT; Short-Term]

Issue: As detailed in the Hyde Park Town Center Pedestrian Study (2013), sidewalks to key destinations need repair, and gaps in the sidewalk system should be filled.

Improvements:

- Repair the west side sidewalk on Route 9 (Albany Post Road) at the entrance to Town Hall.
- Repair the west side sidewalk just south of the Main Street intersection in front of the Town Library.
- Repair the east side sidewalk between Crumwold Place and West Plaza Way.
- Install a sidewalk on the east side of Route 9 between the commercial properties south of Park Plaza to Van Dam Road (about 0.15 miles).
- Install a sidewalk on the east side of Route 9 between Calmer Place and Terwilliger Road to connect the...
Upper Hudson Pedestrian and Bicyclist Crashes (2007-2011)

This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

Map created May 2014

Source: New York State Accident Location Information System (ALIS).

1 inch = 1.6 miles
Consistent sidewalks and crosswalks on Route 9 in Hyde Park would improve pedestrian access and safety.

- Install a sidewalk on the west side of Route 9 between Calmer Place and South Drive (about 0.15 miles).
- Install/repair sidewalks on side streets from E. Market to Harvey Street.
- Install a sidewalk on East Market Street (CR 41) from just east of Route 9 to Church Street and the rear entrance to Pinewoods Park (about 0.2 miles).
- Install a sidewalk on the north side of Pine Woods Road from Route 9 to the main entrance to Pinewoods Park to provide safe walking access to the Park for residents on the west side of Route 9 (about 0.1 miles).
- Reconstruct sidewalk sections on Main, Harvey, and Albertson Streets, and repair poor/unusable sidewalk sections on Route 9.
- Minimize curb cuts, combine driveways whenever possible, and require sidewalks to continue across all driveways, rather than be interrupted at each entrance and exit drive.
- Mark high-visibility crosswalks at the following locations:
  - On Route 9 at the Boice Road/Harvey Street intersection, and on Boice Road and Harvey Street.
  - On the following side streets (north to south): Main Street, Kirchner and Parker Avenues, Fuller Lane, Crumwold Place, Mansion Drive, Rogers Place, Watson and Caywood Place, Van Dam Road, Horseshoe Drive, and Calmer Place.
  - On many of the commercial driveways on the east side of Route 9, to connect to existing sidewalks.
  - On Route 9G at Haviland Road, Smith Court, and Creek Road.
- Where feasible, widen landscaped buffers on sidewalks along Route 9 between Park Plaza and St. Andrews Road to provide space for lighting and street trees.
- Improve key Route 9 intersections, such as East/West Market Street and Rogers Place/Park Plaza, by marking high-visibility crosswalks on all legs, adding curb extensions, prohibiting right turns on red, installing pedestrian-scale street lighting.
- Consider installing signalized pedestrian crossings at Pinewoods Park and Hackett Hill Park and/or a pedestrian bridge across East Market Street between Pinewoods Park and Hackett Hill Park.
Chapter 5.2: Upper Hudson

**UH-2. Route 9 Sidewalk Extension South to Stop & Shop**

[Hyde Park, NYSDOT; Short-Term]

**Issue:** There are no sidewalks on the east or west side of Route 9 between Calmer Place and the new Stop and Shop just north of St. Andrews Road. A sidewalk extension is planned from Calmer Place to South Dr/Terwilliger Road (as noted in UH-1).

**Improvements:**
- Install sidewalks or paths on both sides of Route 9 from Calmer Place (or South Dr/Terwilliger Road) to St. Andrews Road, consistent with the Hyde Park Town Center Pedestrian Study recommendations (about 1 mile).
- Install street lights along Route 9, especially near the drive-in (south of Terwilliger Road).
- Install a crosswalk with lights at Calmer Place or Watertower Road.

**UH-3. Haviland Road Sharrows/Signage**

[Hyde Park; Short-Term]

**Issue:** Haviland Road provides access between residential areas, the Haviland Junior High School, and Smith Elementary and other destinations on Route 9G. It has a 30 mph speed limit, 85th percentile speeds of about 39 mph, and average daily traffic of about 2,100 vehicles. The road is not striped but serves as two lanes, each about 10-11 feet wide.

**Improvement:**
- Install sharrows and/or signage to alert drivers to the presence of bicyclists in the lane (about 1.6 miles from Route 9G to Cream Street).

**UH-4. Greenfields Park – Top Cottage Pedestrian Connection**

[Hyde Park, Dutchess County; Short-Term]

**Issue:** There is no designated pedestrian crossing between the residential area west of Cream Street (CR 39), which connects to the Hyde Park Trail at Top Cottage at the end of Valkill Drive and to the Vanderbilt site via marked trails, and Greenfields Park.

**Improvements:**
- Evaluate the feasibility of installing a crosswalk and signage to cross Cream Street (CR 39) to Greenfields Park.
- Coordinate the crossing with the proposed trail easement between Greenfields Park and Top Cottage (as shown in Hyde Park’s Recreational Trails & Community Recreation Conceptual Master Plan).

**UH-5. Rhinebeck Village Center Sidewalk Improvements**

[Rhinebeck, NYSDOT; Short-Term]

**Issue:** As detailed in the Village of Rhinebeck Sidewalk Study, sidewalks to key Village destinations need repair, and gaps in the sidewalk system should be filled.

**Improvements:**
- Complete repairs or replacement of deficient sidewalks on Route 9 (Montgomery/Mill Street), Route 308 (West-East Market Street)
and in front of the Beekman Arms (at the Market Street/Mill Street intersection).

- Reconstruct sidewalks on Chestnut Street, Livingston Street, South Street, Center Street, Mulberry Street, Route 9 (Montgomery and Mill Streets), and East Market Street.
- Mark crosswalks at several locations across Route 9 and Market Street.
- Reconstruct sidewalks on West Market Street to the Starr Library and Town Park.
- Construct/reconstruct sidewalks on South Parsonage Street and Mill Street to connect to the Village center (about 0.1 mile of new sidewalk on South Parsonage Street).

UH-6. **Red Hook – Route 9 Sidewalk Extension**  
[T/Red Hook, NYSDOT; Short-Term]

Issue: Route 9 (South Broadway) between the Red Hook Town Hall (south of Firehouse Lane) and the Hannaford supermarket (at Rokeby Road/Hannaford Drive) has sidewalks on the west side, but not on the east side. There are sidewalks from Route 9 into the Hannaford supermarket.

Improvements:
- Install sidewalks on the east side of Route 9 between the Red Hook Town Hall and the Hannaford supermarket (about 0.6 mile).
- Mark a high-visibility crosswalk at Old Farm Road and install appropriate signage to encourage drivers to yield to people crossing.

UH-7. **Amherst Road/Firehouse Lane – Route 9 Intersection Realignment**  
[V/Red Hook, NYSDOT; Short-Term]

Issue: The Route 9 (South Broadway) and Amherst Road/Fire House Lane intersection is offset, making it difficult for people driving, walking, and bicycling to know who has the right of way from the opposing street. It is also difficult to access Route 9 from the cross-streets. Moreover, the proposed Hoffman housing development (96 residential units on Old Farm Road) will add traffic onto Route 9 at this intersection.

Improvements:
- Analyze the possibility of converting the intersection of Fire House Lane/Amherst Road at Route 9 to a standard four-way intersection by moving Fire House Lane to the north and install a traffic signal at the intersection.
- Incorporate pedestrian and bicycle safety improvements at the intersection.

UH-8. **Tivoli Sidewalk and Crosswalk Repair**  
[V/Tivoli; Short/Medium-Term]

Issue: Sidewalks and crosswalks in the Village center need repair.

Improvements:
- Repair existing sidewalks on Montgomery Street, Spring Street, Pine Street and North Road.
- In coordination with the planned replacement of the bridge over the Stony Creek, repair the sidewalk on Broadway (CR 78) east of Montgomery Street/North Road, and extend the sidewalk to connect to Route 9G (about 0.3 miles).
- Repair/reset the brick crosswalks at the four corners intersection of Broadway (CR 78), North Road and Montgomery Street.
UH-9. **Tivoli Bays Bicycle Connection**  
*T/Red Hook, Bard College; Short-Term*

Issue: The Tivoli Bays Wildlife Management Area access road, which connects Kidd Lane and Robbins Road, provides a potential bicycle connection between the Village of Tivoli and the Bard campus, and an alternate to Route 9G.

Improvements:

- Develop a bicycle connection between the Village of Tivoli and Bard College using the Tivoli Bays Wildlife Management Area access road. Make surface and other improvements as needed for people to safely bicycle on the access road (Note: this would be for daytime use only, since no lighting is allowed in the wildlife management area).
- Install signs to identify the access road as part of the Village to Village (Tivoli to Red Hook) walking/bike trail.

UH-10. **Red Hook Route 199 Shoulder Improvements**  
*NYS DOT, T/Red Hook; Short-Term*

Issue: Route 199 provides access between Route 9G and the Village of Red Hook, as well as Red Hook High School and Linden Avenue Middle School. It is also part of State Bike Route 199. Students and others often walk along Route 199 between the residential development off of Meadow Drive and the High School and Village. Although there are areas with wide shoulders, traffic is heavy and fast and there have been fatalities along this road. Bicycle improvements are needed for Red Hook High School and Bard students and faculty who ride on Route 199, as well as for recreational riders.

Improvements:

- Widen the shoulders on Route 199 to at least four feet between Route 9G and Meadow Drive (wider where feasible), and six feet between Meadow Drive and the Village line.
- Install appropriate signage to increase drivers’ awareness of people on bicycles.

UH-11. **Red Hook Route 9/199 Intersection Evaluation**  
*NYS DOT, V/Red Hook; Short-Term*

Issue: The traffic signal timing at the Route 9/Route 199 intersection includes a pedestrian-only phase, where everyone on foot crosses at one time while other traffic is stopped. This is only activated when a person pushes the button to cross. This phasing increases the wait time for everyone and may reduce yielding at nearby crosswalks on Route 9 at Prince Street, Fraleigh Street, and Laura Lane (due to driver impatience after waiting through a long signal).

Improvements:
• Evaluate changing the Route 9/Route 199 signal timing to incorporate a standard pedestrian crossing, where people cross with parallel traffic. This would reduce the wait both for people in vehicles and on foot. A leading pedestrian interval could be added to the signal timing to give walkers a head start before other traffic, and right turns on red could be restricted to reduce conflicts between vehicles and people in the crosswalk.

• Evaluate the feasibility of adding curb extensions and removing some parking spaces to increase the visibility of people crossing, increase yielding, and shorten crossing distances on Route 9 at Route 199 (as shown in the Intermunicipal Task Force’s illustrative plans), as well as at Prince Street, Fraleigh Street, and Laura Lane/Morgans Way, while maintaining truck access through the Village.

• Install crosswalk warning signs as appropriate to encourage drivers to yield to people crossing.

**UH-12. Red Hook Linden Avenue (CR 79) Sidewalk/Path**

**[T/Red Hook, Dutchess County; Short/Medium-Term]**

Issue: There is a sidewalk on Linden Avenue (CR 79) between West Market Street and the Town Recreation Park, but the section between the Recreation Park and Rockefeller Lane, which serves the park, Mill Road Primary School and the Linden Acres neighborhood has narrow shoulders and no sidewalks, limiting access for people on bike and on foot. Additional Town recreation fields under construction near Linden Acres will connect to Linden Avenue and increase the need for walking and bicycle access. Improvements:

• Add bicycle lanes on Linden Avenue (CR 79) or construct a shared-use path on the west side of the street between the Recreation Park and Knox Road (about 0.6 miles).

• Install signs to identify Linden Avenue as part of the Village to Village (Tivoli to Red Hook) walking/bike trail.

• Provide a sidewalk and bicycle lane or path across the bridge over the Saw Kill Creek when it is replaced.

• Consider additional traffic control devices (signals or signs) where appropriate.

• In the medium-term, consider extending the sidewalk on the east side of Linden Avenue from the Recreation Park to Rockefeller Lane (about 1.15 miles).

**Medium-Term Recommendations (5 to 10 years)**

**A. Town of Hyde Park**

**UH-13. Haviland Sidewalks**

**[T/Hyde Park, NYSDOT; Medium-Term]**

Issue: The lack of sidewalks on Route 9G and Haviland Road in the Haviland hamlet (between Creek Road and Crum Elbow Road), particularly near Haviland Road, makes it difficult to walk between schools, shopping, and residential areas. Improvements:

• Install a sidewalk on the east side of Route 9G between the Hyde Park trail (near Valkill Park Road) and Smith Court (about 0.8 miles).

• Install a sidewalk on Haviland Road between Route 9G and Haviland Middle School (about 0.15 miles).
• Install pedestrian signals and signage as needed to help students safely walk to Smith Elementary and Haviland Middle School.
• Provide signage and a map at the Hyde Park Trail on Route 9 (at the FDR Estate) showing the trail connection to Route 9G.

**UH-14. Route 9 Vanderbilt – Norrie Unpaved Trail**  
* [T/Hyde Park; Medium-Term]

Issue: There are no sidewalks along Route 9 in Hyde Park north of Sherwood Place (at the south border of the Vanderbilt site).

Improvement:
• Create an unpaved trail along Route 9 between the Vanderbilt Mansion and Norrie-Mills State Park (at Old Post Road in Staatsburg), potentially crossing the existing Dutchess County Water and Wastewater Authority waterline, as referred to in the Town’s *Recreational Trails & Community Recreation Conceptual Master Plan*.

**UH-15. Route 9 Sidewalk Extension – Quiet Cove Park to Stop & Shop**  
* [T/Hyde Park, NYSDOT; Medium-Term]

Issue: There are no sidewalks on the east or west side of Route 9 between Hudson View Drive (north of Marist College) and the Stop & Shop just north of St. Andrews Road. Sidewalk extensions are proposed in Poughkeepsie between Marist College and Quiet Cove Park, as well as in Hyde Park south to St. Andrews Road.

Improvements:
• Install sidewalks on Route 9 between Quiet Cove Park and St. Andrews Road (about 2 miles).
• Coordinate with the recommended sidewalk or path connection between Marist College and Quiet Cove Park, and with the recommended sidewalk extension on Route 9 south to St. Andrews Road.
• Alternatively, provide a connector street with sidewalks between the Hudson River Greenway Trail, through the north CIA campus, to Stop and Shop.

**UH-16. West Market Street (CR 41) – River Road Sidewalk**  
* [T/Hyde Park, Dutchess County; Medium-Term]

Issue: There is limited walking access between the Town center and the Riverfront Park and Hyde Park Trail.

Improvement:
• Evaluate the feasibility of providing a sidewalk, path, or widened shoulders on West Market Street (CR 41) and River Road between Route 9 and the Riverfront Park (about 0.6 miles).

**UH-17. Pine Woods Road Bicycle Access**  
* [T/Hyde Park; Medium-Term]

Issue: Pine Woods Road, between Route 9 and East Market Street, provides access to the Town Center and Pinewoods Park. However, it has no marked shoulders.

Improvements:
• Mark bicycle lanes, sharrows, or install a shared-use path along Pine Woods Road (about 0.6 miles).
• Add appropriate bicycle-related signage along the road.

**UH-18. Creek Road Shoulders & Signage**  
* [T/Hyde Park; Medium-Term]

Issue: Creek Road provides access to Town soccer and baseball fields, the County Emergency Response Center, the Eleanor Roosevelt Val-Kill site, and the Farm Lane Trail. The Town road...
portion (north of East Dorsey Lane) has no paved shoulders, as well as relatively high speeds and a high percentage of trucks. Improvements:
- Evaluate the feasibility of adding paved shoulders on Creek Road between East Dorsey Lane and Route 9G, and install where feasible.
- Add appropriate bicycle-related signage along the road.

**UH-19. East Dorsey Lane Shoulders & Signage**  
**[T/Hyde Park; Medium-Term]**

Issue: East Dorsey Lane provides access to the Town’s Beck Park and Town soccer and baseball fields on Creek Road. The Town road portion (between Dutchess Hill Road (CR 40) and Cream Street (CR 39)) has no marked shoulders and many curves. Improvements:
- Evaluate the feasibility of adding paved shoulders on East Dorsey Lane between Dutchess Hill Road (CR 40) and Cream Street (CR 39), and install where feasible.
- Add appropriate bicycle and pedestrian-related signage along the road.

**UH-20. St. Andrews Road (CR 40A) Bicycle Lanes Demonstration Project**  
**[Dutchess County, T/Hyde Park; Medium-Term]**

Issue: St. Andrews Road provides access between Route 9 and Route 9G to the Stop & Shop, the FDR site, and Val-kill, and provides an alternate to West Dorsey Lane for access to the CIA. It is a wide road with high speeds, and sufficient right of way for bicycle lanes. Improvements:
- Install bicycle lanes on St. Andrews Road between Route 9 and Route 9G as a demonstration project (about 1.2 miles).
- Add appropriate bicycle-related signage and markings along the road, particularly at intersections.
- Conduct outreach to educate people about the bicycle lanes and determine their effectiveness.

**UH-21. South Quaker Lane (CR 16) Shoulder Improvements**  
**[Dutchess County; Medium-Term]**

Issue: South Quaker Lane (CR 16) provides access to BOCES (on Salt Point Turnpike) and serves as a north-south alternative to busier streets. However, shoulders are typically less than two feet wide. Improvements:
- Provide wider shoulders where feasible on South Quaker Lane (CR 16) between Salt Point Turnpike and Crum Elbow Road/Netherwood Road (CR 41).
- Add appropriate bicycle-related signage along the road.
B. **Towns of Rhinebeck and Red Hook**

**UH-22. Rhinebeck Village Sidewalk Extensions & Repairs**  
[V/Rhinebeck, NYS DOT; Medium-Term]

Issue: As detailed in the *Village of Rhinebeck Sidewalk Study*, sidewalks within the Village center need repair, gaps should be filled, and sidewalk extensions are needed to connect to key destinations.

Improvements:

- Install new or reconstructed sidewalks on Platt Avenue, Chestnut Street, Livingston Street, South Street, Mulberry Street, North Parsonage Street, and Beech Street (about 1.2 miles of new sidewalk).
- Install new sidewalks on Route 9 (Montgomery Street) past the Northern Dutchess Hospital and the County Fairgrounds to the Village line (about 0.6 miles).
- Install new sidewalks and crosswalks on Knollwood Road and South Parsonage Street to Livingston Elementary School (about 0.5 miles).
- Install a new sidewalk and crosswalks on South Parsonage Street to Rhinebeck High School.

**UH-23. Tivoli Sidewalk to the Hudson River**  
[V/Tivoli, Duchess County; Medium-Term]

Issue: Pedestrian safety concerns and a potential riverfront park increases the need for a safe sidewalk connection on Broadway (CR 78).

Improvements:

- Reset/repair the historic slate walk on Broadway (CR 78).
- Install a sidewalk down Broadway (CR 78) to Friendship Street, based on the results of an engineering feasibility study (about 0.5 miles).

**UH-24. Red Hook/Rhinebeck Bicycle Route Implementation & Bicycle Boulevard Demonstration Project**  
[T/Red Hook, T/Rhinebeck, V/Red Hook, V/Rhinebeck; Medium-Term]

Issue: The Red Hook and Rhinebeck Greenway Committees, working with the Winnakee Land Trust, Hudson River Valley Greenway and others, developed a Historic District Bike/Hike Trail which includes two loop bicycle routes. Signs have been installed along the routes, but no physical changes to the streets have been made to better accommodate bicycling.

Improvements:

- Implement the bicycle routes outlined in the *Red Hook/Rhinebeck Historic District Bike/Hike Trail map*, which include Mill Street, Parsonage Street, South Street, Mulberry Street, and Montgomery Street in the Village of Rhinebeck; Mill Road, Morton Road, Rhinecliff Road, Ryan Road, River Road, and Astor Dr, Old Post Road, Hook Road, and Middle Road in the Town of Rhinebeck; and Middle Road, River Road, and Rokeby Road in the Town of Red Hook. Consider including Benner Road into the Village of Red Hook. Mark
Walk Bike Dutchess

There is no crosswalk, sidewalks, or traffic control at Bard’s main entrance on Route 9G (source: Bing maps).

Chapter 5.2: Upper Hudson

streets with bicycle lanes, sharrows, as bicycle boulevards, or maintain simply as shared lanes, as appropriate.

- Develop a demonstration project for a Bicycle Boulevard on one or more of the local streets on the route, such as Parsonage Street, South Street, and/or Mulberry Street in the Village of Rhinebeck (about 1.3 miles total).

UH-25. Tivoli – Clermont Shared-Use Path

[V/Tivoli, T/Red Hook; Medium-Term]

Issue: Woods Road provides a north-south connection between the Village of Tivoli and Clermont State Park, but it has no sidewalks and no marked shoulders.

Improvement:
- Evaluate the feasibility of constructing a shared-use walking and bicycling path along Woods Road from Broadway (CR 78) in Tivoli to the Clermont State Historic Site.


[NYS DOT, Bard College; Medium-Term]

Issue: Bard College has property on both sides of Route 9G at its main entrance at Entrance Road/Sands Road, including a restaurant and Alumni-ae Center. The speed limit on Route 9G has been reduced to 45 mph but there are narrow shoulders, no sidewalks, and no crosswalk for the students, faculty and staff who cross the road.

Improvements:
- Install a marked crosswalk across Route 9G with a flashing beacon; evaluate the feasibility of a pedestrian-actuated signal or a HAWK beacon.
- Widen the shoulders on Route 9G in this area.
- Implement traffic calming measures as appropriate.

UH-27. Route 9G Shoulder Improvements

[NYS DOT; Medium-Term]

Issue: Route 9G provides access to the Village of Tivoli, Bard College, parks, and the East Park and Haviland centers in Hyde Park, with schools, retail centers, and recreational areas. A portion of it (in the southern part of Red Hook) is also part of State Bike Route 199. However, there have been a number of bicycle-vehicle crashes on Route 9G. Improvements are particularly needed for Red Hook and Bard students and Bard faculty who commute on 9G, as well as recreational riders.

Improvements:
- Widen the shoulders on Route 9G between Tivoli and Hyde Park to a consistent four foot minimum, and wider where feasible.
- Install appropriate bicycle-related signage to encourage safe sharing of the road, and to identify Route 9G as part of the Village to Village (Tivoli to Red Hook) walking/bike trail.
Chapter 5.2: Upper Hudson

UH-28. Route 9 Shoulder Improvements  [NYSDOT; Medium-Term]
Issue: Route 9 in Hyde Park, Rhinebeck and Red Hook is a part of State Bike Route 9 and provides access to the Town and Village centers in Hyde Park, Rhinebeck, and Red Hook. However, there have been a series of bicycle-vehicle crashes on Route 9, and the segment between Route 40A and Rogers Place is shown as a high-crash corridor in this Plan. Shoulder widths on Route 9 north of the City of Poughkeepsie are typically four feet or more, but there are limited to no shoulders through much of the Village of Red Hook, the Village of Rhinebeck, and the Hyde Park Town Center.

Improvements:
- Outside of Town and Village centers, provide consistent shoulders of at least four feet on Route 9.
- Install appropriate bicycle-related signage to encourage safe sharing of the road.

Long-Term Recommendations (10+ years)

UH-29. Hyde Park Town Center Redesign  [T/Hyde Park; Long-Term]
Issue: The Hyde Park Town Center, along Route 9 south of Pine Woods Road, lacks a connected sidewalk system and is currently dominated by parking lots.

Improvements:
- Consistent with the Hyde Park Town Center Pedestrian Study recommendations, pursue a series of new infill buildings with an integrated street, storefront, and sidewalk system to retrofit and connect the two adjacent shopping plazas south of Pine Woods Road. Install consistent street trees along sidewalks, and consider on-street parking in the Town Center.

UH-30. Hyde Park Historic Crossroads Redesign  [T/Hyde Park; Long-Term]
Issue: Hyde Park’s historic crossroads at Route 9 and Market Street is the civic center of the Town, but empty lots, front-yard parking, and an incomplete sidewalk system limit its potential as a walkable destination.

Improvements: Consistent with the Hyde Park Town Center Pedestrian Study recommendations:
- Fill in gaps with mixed-use buildings.
- Place shared parking lots to the rear of new buildings.
- Repair and extend sidewalk system using bold or textured crosswalks.
- Add on-street parking and street trees next to the curb to slow traffic and protect people who are walking.

UH-31. Village of Rhinebeck Four Corners Redesign  [V/Rhinebeck; Long-Term]
Issue: The ‘four corners’ intersection of Market Street (Route 308) and Montgomery/ Mill Street (Route 9) is the heart of the Village of Rhinebeck and is one of the highest-pedestrian areas in the county. However, it has long crosswalks and the exclusive pedestrian signal phase is not clearly communicated.

Improvements: Consistent with the Village of Rhinebeck Sidewalk Study recommendations:
- Add curb extensions at each corner to shorten crossing distances and increase pedestrian safety and visibility.
- Realign the crosswalk at the northern leg so that it is perpendicular to the near street curb.
- Add pavement markings and signs to encourage pedestrians to cross diagonally, consistent with the traffic signal timing.
Walk Bike Dutchess

• Add diagonal parking on West Market Street to calm traffic.
• Provide additional shade trees, landscaping, and sitting places.
• Enhance the central green in front of the Beekman Arms hotel and add a patio and rear walkway at the Beekman Arms to activate the green.

The Rhinebeck Village Center design concept includes curb extensions and shortened crosswalks, diagonal parking, trees and landscaping, and a central green.

UH-32. Hudson River Greenway Trail

[T/Red Hook, T/Rhinebeck, T/Hyde Park; Long-Term]

Issue: The concept of a continuous greenway trail along the Hudson River has been proposed for many years. In the Upper Hudson, many gaps remain.

Improvements:
• Work with property owners to build a continuous Greenway Trail along the Hudson River.
• Incorporate river access points into the Hudson River Greenway Trail.
• In Hyde Park, repair pedestrian bridges along Hudson River Greenway Trail routes at Crum Elbow Point, Dominican Camp, and Staatsburgh.

UH-33. Hucklebush Rail Trail

[Towns, Dutchess County; Long-Term]

Issue: The Hucklebush rail line is inactive and could be acquired and converted to a shared-use trail to connect communities in the Upper Hudson and link to the Harlem Valley Rail Trail. This would be a major project that would require substantial funding.

Improvement:
• Create a rail trail on the former Hucklebush Rail Line between Rhinecliff and the Harlem Valley Rail Trail in Millerton passing through Rhinebeck, Red Hook, Milan, Columbia County, Pine Plains, and North East (about 32 miles).
Project Recommendations by Municipality:
HYDE PARK

Walk Bike Dutchess 2014

For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
## *Walk Bike Dutchess* Project Recommendations: Town of Hyde Park*

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*For project descriptions, see *Walk Bike Dutchess, Chapter 5.2*

<sup>1</sup>Short = within 5 years; Medium = 5-10 years; Long = 10+ years

Project sponsors must fully define project scope and develop project cost estimates.
Map 34

Walk Bike Dutchess 2014
Project Recommendations by Municipality: RHINEBECK

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For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf

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## Walk Bike Dutchess Project Recommendations: Town of Rhinebeck*

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For project specifics, see: http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
### Project Recommendations: Town of Red Hook*

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Walk Bike Dutchess 2014
Project Recommendations by Municipality:
VILLAGE OF RED HOOK

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## Project Recommendations: Village of Red Hook*

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<td>Upper Hudson</td>
<td>UH-28</td>
<td>T/Hyde Park; T/Rhinebeck; V/Rhinebeck; T/Red Hook; V/Red Hook</td>
<td>Route 9 Shoulder Improvements</td>
<td>Medium</td>
<td>NYS DOT</td>
<td></td>
</tr>
<tr>
<td>Upper Hudson</td>
<td>UH-33</td>
<td>T/Rhinebeck; V/Rhinebeck; T/Red Hook; V/Red Hook, T/Milan, T/Pine Plains, T/North East, V/Millerton</td>
<td>Hucklebush Rail Trail</td>
<td>Long</td>
<td>Towns, Dutchess County</td>
<td>Rail owner</td>
</tr>
</tbody>
</table>

*For project descriptions, see [Walk Bike Dutchess, Chapter 5.2](#).

\(^1\)Short = within 5 years; Medium = 5-10 years; Long = 10+ years

Project sponsors must fully define project scope and develop project cost estimates.
Walk Bike Dutchess 2014
Project Recommendations by Municipality:
VILLAGE OF TIVOLI

This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change. Map created June 2014.

For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
### Project Recommendations: Village of Tivoli*

<table>
<thead>
<tr>
<th>Planning Area</th>
<th>Project Code</th>
<th>Location</th>
<th>Project Name</th>
<th>Timeframe¹</th>
<th>Lead</th>
<th>Other Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Hudson</td>
<td>UH-27</td>
<td>T/Hyde Park; T/Clinton; T/Rhinebeck; T/Red Hook; V/Tivoli</td>
<td>Route 9G Shoulder Improvements</td>
<td>Medium</td>
<td>NYSDOT</td>
<td></td>
</tr>
<tr>
<td>Upper Hudson</td>
<td>UH-25</td>
<td>T/Red Hook; V/Tivoli</td>
<td>Tivoli - Clermont Shared-Use Path</td>
<td>Medium</td>
<td>V/Tivoli, T/Red Hook</td>
<td>NYS Parks</td>
</tr>
<tr>
<td>Upper Hudson</td>
<td>UH-8</td>
<td>V/Tivoli</td>
<td>Tivoli Sidewalks and Crosswalk Repair</td>
<td>Short/Medium</td>
<td>V/Tivoli</td>
<td></td>
</tr>
<tr>
<td>Upper Hudson</td>
<td>UH-23</td>
<td>V/Tivoli</td>
<td>Tivoli Sidewalk to the Hudson River</td>
<td>Medium</td>
<td>V/Tivoli, Dutchess County</td>
<td></td>
</tr>
</tbody>
</table>

*For project descriptions, see [Walk Bike Dutchess, Chapter 5.2](#) ¹Short = within 5 years; Medium = 5-10 years; Long = 10+ years

Project sponsors must fully define project scope and develop project cost estimates.
Chapter 5.3: Lower Taconic

For this Plan, the Lower Taconic is defined as the four south-central communities along the Taconic State Parkway: the Towns of LaGrange, Union Vale, Beekman, and East Fishkill. The Lower Taconic represents about 166 square miles and 64,250 people—just over 20 percent of both the county’s total land area and population. It is characterized by a mix of suburban and rural land use interspersed with more concentrated development in hamlets such as Poughquag in Beekman and Lagrangeville in LaGrange. The area has had rapid population growth during the past twenty years, but retains low to average population density and high rates of auto ownership (see Map 39, Lower Taconic Overview).

Three key factors that influence walking and bicycling—land use (residential density and destinations), demographics, and non-motorized facilities (including transit) — are discussed below. Local walking and bicycling patterns, including crash data, is presented, and issues are identified. Finally, a set of priority projects to improve conditions for walking and bicycling is described.

A. Walking and Bicycling Factors

1. Land Use

Residential Patterns
The Towns of East Fishkill, Beekman, and LaGrange rank 15th, 16th, and 17th of the county’s 30 municipalities based on residential density, with between 400 and 500 persons per square mile (just over the county average of 370). The Town of Union Vale is much less dense, with only 130 residents per square mile. These spread-out population patterns tend to make walking and bicycling for transportation less practical and attractive.

Centers & Destinations
Lower Taconic centers, as designated by the Dutchess County Department of Planning and Development, are shown on Map 40, Lower Taconic Centers. Key destinations for walking and bicycling include:

- Hopewell Junction hamlet in East Fishkill (including the Dutchess Rail Trail Hopewell Depot Trailhead)
- Fishkill Plains hamlet, including Van Wyck Junior High School and Fishkill Plains Elementary in East Fishkill
Walk Bike Dutchess

- John Jay High School and recreation park on Route 52 in East Fishkill
- Arlington High School/Freedom Plains hamlet/LaGrange Town Center
- LaGrangeville hamlet and post office
- Manchester center, including the Dutchess Rail Trail LaGrange Trailhead (adjacent to Old Manchester Rd in LaGrange)
- Dutchess Rail Trail access adjacent to Gold’s Gym on Titusville Rd in LaGrange
- Poughquag hamlet, including Beekman Library and Town Recreation Area in Beekman
- Verbank hamlet and post office in Union Vale
- Tymor Park in Union Vale

2. Demographics

Age
Young people and older people are less likely to drive, and therefore more likely to walk (both young and old) or bicycle (young people) for transportation. The Lower Taconic communities all have higher percentages of young people (under 16) than the county average, and except for Union Vale, have lower percentages of older people (over 74). The Towns of Union Vale, East Fishkill, and LaGrange have a higher than average percentage of these young and older groups combined.

### 2010 Population by Age Group

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Population</th>
<th>% Under 16</th>
<th>% 16 - 74</th>
<th>% Over 74</th>
<th>% Under 16 + Over 74</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Beekman</td>
<td>14,621</td>
<td>21</td>
<td>76</td>
<td>3</td>
<td>24</td>
</tr>
<tr>
<td>T/East Fishkill</td>
<td>29,029</td>
<td>23</td>
<td>73</td>
<td>4</td>
<td>27</td>
</tr>
<tr>
<td>T/LaGrange</td>
<td>15,730</td>
<td>22</td>
<td>73</td>
<td>5</td>
<td>27</td>
</tr>
<tr>
<td>T/Union Vale</td>
<td>4,877</td>
<td>22</td>
<td>72</td>
<td>7</td>
<td>29</td>
</tr>
<tr>
<td>Dutchess County</td>
<td>297,488</td>
<td>19</td>
<td>74</td>
<td>6</td>
<td>25</td>
</tr>
</tbody>
</table>

Sources: U.S. Census Bureau, 2010 U.S. Census. Table QT-P1: Age Groups & Sex; Table QT-P2: Single Years of Age & Sex.

Income
Lower-income households are also more likely to walk and bicycle for transportation. Household incomes in the Lower Taconic tend to be higher than the county average. All four Towns have lower percentages of low-income households (defined here as under $25,000 per year) and higher median household incomes than the county overall.

### Household Income

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Households</th>
<th>% less than $25,000</th>
<th>% $25,000 - $50,000</th>
<th>% Over $50,000</th>
<th>Median Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Beekman</td>
<td>4,218</td>
<td>7%</td>
<td>16%</td>
<td>78%</td>
<td>$88,950</td>
</tr>
<tr>
<td>T/East Fishkill</td>
<td>9,317</td>
<td>9%</td>
<td>15%</td>
<td>75%</td>
<td>$94,343</td>
</tr>
<tr>
<td>T/LaGrange</td>
<td>5,208</td>
<td>8%</td>
<td>11%</td>
<td>81%</td>
<td>$99,830</td>
</tr>
<tr>
<td>T/Union Vale</td>
<td>1,688</td>
<td>14%</td>
<td>11%</td>
<td>74%</td>
<td>$79,333</td>
</tr>
<tr>
<td>Dutchess County</td>
<td>107,151</td>
<td>16%</td>
<td>19%</td>
<td>65%</td>
<td>$71,125</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2007-2011 American Community Survey 5-Year Estimates, Tables B1101_1, B19013, & B19001 (Households, Median Household Income, and various income brackets).
Vehicle Ownership
Households without a vehicle, or with one vehicle, are much more likely to seek alternative transportation. The percentage of zero- and one-vehicle households for Lower Taconic municipalities is shown below. Beekman, LaGrange, and East Fishkill all have very low percentages of both zero- and one-vehicle households compared to the county average. Union Vale’s percentage of one-vehicle households is also lower than the County average.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Households</th>
<th>% Zero-Vehicle</th>
<th>% One-Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Beekman</td>
<td>4,218</td>
<td>2 (+/- 1%)</td>
<td>17 (+/- 5%)</td>
</tr>
<tr>
<td>T/East Fishkill</td>
<td>9,317</td>
<td>2 (+/- 1%)</td>
<td>17 (+/- 3%)</td>
</tr>
<tr>
<td>T/LaGrange</td>
<td>5,208</td>
<td>2 (+/- 1%)</td>
<td>19 (+/- 4%)</td>
</tr>
<tr>
<td>T/Union Vale</td>
<td>1,688</td>
<td>6 (+/- 4%)</td>
<td>19 (+/- 6%)</td>
</tr>
<tr>
<td>Dutchess County</td>
<td>107,151</td>
<td>8 (+/- 1%)</td>
<td>31 (+/- 1%)</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2007-2011 American Community Survey 5-Year Estimates, Table B08201: Household Size By Vehicles Available. Italics indicate that estimate should be used with caution because sampling error is between 12 and 40 percent of the estimate.

Disabilities
Persons with physical disabilities often have difficulty driving and are more likely to need alternatives. Those with ambulatory difficulties may use wheelchairs, walkers, or other mobility devices and benefit from accessible pedestrian environments. Disability data is only available for the Town of East Fishkill. The Town’s share of disabled residents is slightly lower than the county average and its share of residents with an ambulatory difficulty is similar to the county average.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Population</th>
<th>% Disabled</th>
<th>% With an Ambulatory Difficulty</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/East Fishkill</td>
<td>29,029</td>
<td>11 (+/- 2%)</td>
<td>6 (+/- 2%)</td>
</tr>
<tr>
<td>Dutchess County</td>
<td>297,488</td>
<td>13 (+/- 1%)</td>
<td>6 (+/- 1%)</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2010 Census, and 2009-2011 American Community Survey 3-Year Estimates, Table S1810: Disability Characteristics. Italics indicate that estimate should be used with caution because sampling error is between 12 and 40 percent of the estimate.

3. Walking & Bicycling Facilities
An inventory of walking and bicycling facilities was made based on current maps and data available. Sidewalks, recreational trails, and shared use paths are shown on the Centers map.

Walking Facilities
The Lower Taconic has approximately 20 miles of sidewalks. The majority are in the Town of East Fishkill. Minor sidewalk systems are located in some of the hamlets and larger residential and commercial properties. When considered on a per-resident basis, the Town of East Fishkill has the most sidewalks per resident in the Lower Taconic, but ranks 21st out of the 30 municipalities in the county. Sidewalk mileage by municipality and per resident is shown below.
Walk Bike Dutchess

Chapter 5.3: Lower Taconic

Sidewalks on segments of Route 55 in LaGrange provide access to transit and commercial buildings (source: Google maps).

Shared-Use Paths

Portions of the Dutchess Rail Trail run through both the Town of LaGrange (approximately 3 miles) and the Town of East Fishkill (approximately 2.5 miles, from the Town line to Hopewell Junction).

Bicycling Facilities

There are currently no on-street bicycle facilities in the Lower Taconic. However, NYSDOT has several proposed State Bicycle Routes (SBR) which connect to the area:

- Proposed SBR 55, along Route 55 between a proposed SBR 44 in the Town of Poughkeepsie and a proposed SBR 22 in the Town of Pawling.
- Proposed SBR 52, along Route 52 between Route 9D in Beacon and Putnam County.
- Proposed SBR 82, along Route 82 between a proposed SBR 199 in Pine Plains and the proposed SBR 52 in Fishkill.

Bicycle parking is provided at some destinations in the area, including the East Fishkill Depot Museum and McDonald’s in Fishkill Plains. A list of bicycle parking locations is included in Appendix G.

The Lower Taconic has approximately 38 miles of unpaved trails. Major recreational trails in the area include:

1. Appalachian Trail: 16 miles
   - Town of East Fishkill: 8.5 mile segment
   - Town of Beekman: 7.5 mile segment
2. Tymor Park in Union Vale: 7.5 mile trail network
3. James Baird State Park in LaGrange: 6.2 mile trail network
4. Red Wing Nature Trails in LaGrange: 4.2 mile nature trail

Table: Sidewalks by Municipality

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Sidewalks (miles)*</th>
<th>Sidewalk Feet per Resident</th>
<th>County-wide Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Beekman</td>
<td>0.4</td>
<td>0.1</td>
<td>28</td>
</tr>
<tr>
<td>T/East Fishkill</td>
<td>11.7</td>
<td>2.1</td>
<td>23</td>
</tr>
<tr>
<td>T/LaGrange</td>
<td>6.7</td>
<td>2.3</td>
<td>21</td>
</tr>
<tr>
<td>T/Union Vale</td>
<td>1.0</td>
<td>1.1</td>
<td>26</td>
</tr>
<tr>
<td>Dutchess County</td>
<td>434.1</td>
<td>7.7</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Sources: Dutchess County GIS and U.S. Census Bureau, 2010 U.S. Census.
* Includes private sidewalks (such as in residential developments, at colleges and offices).
Transit Service
Most bus trips, and many train trips, involve a walking (or in some cases, bicycling) trip on one or both ends—to get to the stop or station, and to get from the stop or station to a final destination.

There is limited transit service in the Lower Taconic. LOOP’s Route E primarily serves the Lower Taconic, with service along Route 55 between Poughkeepsie, LaGrange, Union Vale, and Beekman, continuing to Pawling. It had annual ridership of approximately 22,200 in 2012. Route F provides service between Beacon, Fishkill, and Hopewell Junction. It provided approximately 34,200 rides in 2012.

B. Walking & Bicycling Data

Based on the Lower Taconic’s high vehicle ownership rates, limited transit service, and limited sidewalks, we can expect low rates of walking and bicycling in this area. Unfortunately, Census data at the municipal level is limited, and there is insufficient data to provide estimates of walking to work for any of the Lower Taconic municipalities. However, given the area’s high percentage of young people, there is likely demand for more walking and bicycling infrastructure.

Count Data
Counts of people walking and bicycling were conducted on Route 82 west of Church Street in Hopewell Junction (Town of East Fishkill) in July and September 2013. Over a two-hour period, 5 pedestrians and 9 bicyclists were counted in July and 2 pedestrians and 14 bicyclists were counted in September at this location. The count volumes are detailed in Appendix J and illustrated in Maps 6-7 (in Chapter 4).

Walk-Bike Dutchess Survey Data
The Walk-Bike Dutchess survey resulted in 154 responses from the Lower Taconic. According to the survey, over 50 percent of respondents walk at least three to four times per week, while over 40 percent bicycle at least one to two times per week. The most common reason for walking or bicycling is health/exercise, followed by to enjoy the community and be outside.

Favorite walking locations for Lower Taconic residents include rail trails, parks, the Walkway Over the Hudson, and residential neighborhoods. Over 75 percent of respondents cited the Dutchess Rail Trail as the best location for bicycling. According to respondents, problematic areas for walking and bicycling include Routes 55 and 82, and other roads with narrow shoulders, such as Noxon Road and Titusville Road.
When asked, “If equally good facilities existed, how would you prefer to travel?” about 70 percent said they would prefer to walk or bicycle to parks/recreation and the gym/exercise, and over 40 percent said they would prefer to walk or bicycle to work, school, and local errands.

However, more than 70 percent said they are dissatisfied with how their community is designed for bicycling, and over 60 percent said they are dissatisfied with how their community is designed for walking.

When asked “What are the most important improvements to be made?” the most common responses included adding more rail trails/shared use paths, increasing the width of road shoulders, and adding bicycle lanes and/or shared lane markings. Respondents said that future projects should prioritize completing missing sections to create longer continuous walkways and bikeways.

Charts showing the survey results for the Lower Taconic are included in Appendix F.

**Crash Patterns**

Five years of crash data, from 2007 to 2011, were analyzed to determine trends in pedestrian and bicycle crashes. First, pedestrian and bicycle crash rates per 1,000 population were calculated for each municipality. The Lower Taconic rates are shown below. None of the Lower Taconic municipalities exceed the county-wide average pedestrian or bicycle crash rate. However, the area’s low crash rates likely reflect low rates of walking and bicycling. Maps 11 and 12 (in Chapter 4) show all municipalities’ crash rates.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Pedestrian Crashes</th>
<th>Bicycle Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count (per 1,000 pop.)</td>
<td>Count (per 1,000 pop.)</td>
</tr>
<tr>
<td>T/Lagrange</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>T/Union Vale</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>T/Beekman</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>T/East Fishkill</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td><strong>Dutchess County</strong></td>
<td><strong>377</strong></td>
<td><strong>194</strong></td>
</tr>
</tbody>
</table>

**Crash Rates per Population**

Second, using the same data, high-crash corridors were identified. These are road segments with concentrations of bicycle and/or pedestrian crashes and a high crash rate per mile. There was one high-crash corridor for pedestrians and one for bicyclists in the Lower Taconic:

- **Pedestrian:** Town of East Fishkill, Route 376/Hillside Lake Road (CR 29/CR 33) between Robinson Lane and Flanders Road: 1.5 miles; 4 crashes; 2.8 crashes/mile.
- **Bicycle:** Town of East Fishkill, Route 82 between Old Hopewell Road (CR 28) and Beekman Road (CR 9): 2.4 miles; 5 crashes; 2.1 crashes/mile.

High-crash corridors in the Lower Taconic are shown in Map 15 (in Chapter 4). All pedestrian and bicycle crashes in the Lower Taconic are shown in Map 41.
Lower Taconic
Pedestrian and Bicyclist
Crashes (2007-2011)

Source:
New York State Accident Location Information System (ALIS).

1 inch = 1.4 miles

Pedestrian Crash
Bicycle Crash
C. Key Needs/Issues

The Bicycle-Pedestrian Advisory Committee identified the following needs in the Lower Taconic:

- Build walking and bicycling facilities, especially on high-traffic roads through residential areas.
- Create or widen road shoulders, particularly on higher-volume roads.
- Improve shoulder maintenance.
- Provide connectivity to regional destinations (e.g., the Dutchess Rail Trail and Walkway Over the Hudson).

In terms of safety, key corridors/hot spots include Route 376/Hillside Lake Road in Fishkill Plains for walking and Route 82 near Hopewell Junction for bicycling. There is also a cluster of pedestrian crashes on Route 52 west of Palen Road (CR 31) in East Fishkill, and a cluster of pedestrian and bicycle crashes near Route 55 in Freedom Plains.

D. Lower Taconic Project Recommendations

Based on the needs and issues identified above, previous plans, and input from the Bicycle-Pedestrian Advisory Committee, municipal officials, members of the public, and staff from NYS DOT-Region 8, Dutchess County Public Works, and Dutchess County Planning, the following project ideas are recommended to improve walking and bicycling in the Lower Taconic. They are organized by timeframe (short, medium, and long-term) and then by project lead (municipalities, County, and State). They are also shown in Maps 42-45 and listed in Appendix I. As noted previously, the facility owner(s) will ultimately decide whether or not to implement a project. The Plan cannot and is not intended to require specific action by any municipality or agency.

Short-Term Recommendations (within 5 years)

LT-1. **Flint Road – Fountains at Millbrook Crosswalk**  
[T/Union Vale; Short-Term]

Issue: Residents, visitors and employees at The Fountains senior housing in Union Vale cross Flint Road between buildings. However, there is no crosswalk or pedestrian-related signs on the street.

Improvements:
- Mark a crosswalk across Flint Road to The Fountains senior living residence.
- Provide appropriate pedestrian-related signage.

LT-2. **Verbank Route 82 Crosswalk & Speed Evaluation**  
[T/Union Vale, NYS DOT; Short-Term]

Issue: Traffic speeds on Route 82 in Verbank create safety issues for people walking in the hamlet. Families have trouble crossing Route 82 to get to the local park.

Improvements:
- Consider a high-visibility crosswalk and/or other improvements to increase safety for people crossing Route 82 to Godfrey Park.
- Evaluate extending the 45 mile per hour speed limit on Route 82 (currently between North Clove Road and Camby Road) through the hamlet of Verbank to Milewood Road/Verbank Village Road or further south.
LT-3. **Route 82 Shoulder Improvements**  
**[NYS DOT; Short-Term]**

Issue: The shoulders on Route 82 east of Hopewell Junction are narrow and pavement quality is an issue.

Improvements:
- Widen shoulders on Route 82 east of Hopewell Junction in East Fishkill, LaGrange and Union Vale to a consistent four foot minimum and improve shoulder pavement quality.
- Consider signage and other bicycle safety improvements on Route 82, particularly in Hopewell Junction (between Old Hopewell Road and Beekman Road).

LT-4. **Route 376 Shoulder and Roadway Improvements**  
**[NYS DOT; Short-Term]**

Issue: In the Lower Taconic, Route 376 provides access to the Dutchess Rail Trail, Fishkill Plains, and Hopewell Junction. However, the segment between Hillside Lake Road (CR 29) and Secor Lane has narrow shoulders, and some segments are in poor condition.

Improvements:
- Widen shoulders between Hillside Lake Road (CR 29) and Secor Lane to a consistent four foot minimum.
- Improve road and shoulder maintenance, including pavement repair and brush clearing.

**Medium-Term Recommendations (5 to 10 years)**

LT-5. **Beekman Town Center Sidewalks & Traffic Calming**  
**[T/Beekman, NYS DOT; Medium-Term]**

Issue: The Beekman Town Center, along Route 55 at Beekman Road/Clove Valley Road (CR 9) and extending southeast to Sunrise Drive, includes a grocery store, post office, and Town library and sports fields. However, Route 55 is currently characterized by high speed traffic and there are no sidewalks in the area. Beekman’s Comprehensive Plan recommends traffic calming and a system of sidewalks through the Town Center.

Improvement:
- Add sidewalks and traffic calming measures on Route 55 in the Beekman Town Center, along with mixed-use development and community space, as described in the Town’s Comprehensive Plan (about 0.7 miles from Beekman Road to Palmer Circle).

LT-6. **Hopewell Junction Hamlet Sidewalks**  
**[T/East Fishkill, NYS DOT; Medium-Term]**

Issue: There are few sidewalks in the Hopewell Junction hamlet, and no sidewalk connections between the Dutchess Rail Trail and the post office, library, Town Hall, school, and other local destinations. Gayhead Elementary School’s safety evacuation meeting place is the Town Hall, but there is no safe way for the students to walk there.

Improvements:
- Install sidewalks and fill sidewalk gaps on Route 376 between the Dutchess Rail Trail and the Hopewell recreation center, Town library and Town Hall, and extending to the Hopewell Garden apartments and the Gayhead Elementary School entrance (off of Entry Road) (about 1.5 miles).
- Install sidewalks on the south side of Route 82 from Route 376 west to Trinka Lane (about 0.3 miles).
- Install crosswalks across Route 82 and 376 at major intersections. Add signage, flashing beacons, or other
warning devices as needed to alert approaching drivers to the presence of people crossing.

- Add a sidewalk, path or trail between the Dutchess Rail Trail and Red Wing Town Park, along Route 82 and Old Farm Road (about 0.65 miles).
- Provide a paved path between the Unity Plaza shopping center and the Hopewell Glen housing development on Fishkill Road, using the existing trail behind the plaza (about 0.1 miles). Install a pedestrian/bicycle bridge over the MTA rail line and Fishkill Creek.
- Coordinate sidewalks, crosswalks, and other walking-related improvements with NYSDOT’s planned roundabouts on Route 82.

LT-7. Van Wyck Junior High/Fishkill Plains Elementary – Dutchess Rail Trail Connections  
[T/West Fishkill, NYSDOT, Dutchess County; Medium-Term]

Issue: There are no pedestrian connections between the Dutchess Rail Trail and Van Wyck Junior High School on Route 376 or Fishkill Plains Elementary on Lake Walton Road, and shoulders on Lake Walton Road are minimal. Moving Dutchess recommends improving access for people walking near the Junior High School. Improvements:

- Evaluate the feasibility of installing a sidewalk on Route 376 between the Dutchess Rail Trail and Van Wyck Junior High School (on the north side of the Route 376/Hillside Lake Road (CR 29) intersection) (about 0.85 miles).
- Evaluate potential crosswalk locations near Van Wyck Junior High School on Route 376.

- Provide a wider shoulder (four foot minimum) and consider a sidewalk on Lake Walton Road between the rail trail and Route 376.
- Extend wider shoulders south of the rail trail on Lake Walton Road where feasible.
- Incorporate sidewalks and signalized pedestrian crossings into planned improvements at the Route 376/Lake Walton Road intersection.
- Consider safety improvements and improve shoulders at the Hillside Lake Road (CR 29)/Route 376 intersection.
LT-8. **LaGrange Town Center Sidewalk Connections**  
*T/LaGrange, NYSDOT; Medium-Term*

Issue: Insufficient sidewalks and crossings make it difficult for students and residents in the LaGrange Town Center (Freedom Plains hamlet) to access the high school, middle school, and adjacent retail, shops, and recreational facilities. NYSDOT recently began a project that will include three roundabouts on Route 55, a landscaped median, and sidewalks on the north side of Route 55 (between Freedom Road and Stringham Road), the south side of Route 55 (between Stringham Road and the connector street across from Skidmore Road), the west side of the extension of Dr. Fink Road (between Route 55 and Dr. Fink Road), and the east side of Stringham Road to the Hannaford supermarket. Earlier plans prepared by the County Planning Department for the LaGrange Town Center included bicycle lanes and sidewalks on both sides of Route 55 between Freedom Road and Stringham Road.

Improvements:
- Extend the planned sidewalks on both sides of Route 55 to connect the businesses around Freedom Road to at least Stringham Road (about 0.6 miles).
- Install a sidewalk on Regnault Lane (in front of Arlington High School) between the school entrance and Dr. Fink Road, and install a sidewalk on Dr. Fink Road between Regnault Lane and Freedom Road (about 0.5 miles).
- Extend the planned sidewalk on Stringham Road to connect the Hannaford supermarket to LaGrange Middle School and Stringham Park south of Todd Hill Road (about 1 mile).
- Provide a sidewalk along the connector street between the Daily Planet Diner (at Route 55 and Skidmore Road) and the Hannaford supermarket (about 0.2 miles).

LT-9. **Route 55 Shoulder Improvements**  
*NYSDOT; Medium-Term*

Issue: Route 55 is a major east-west connection between Poughkeepsie and Pawling through the Lower Taconic. However, shoulder widths on Route 55 vary.

Improvement:
- Provide consistent wide shoulders (six feet where feasible) along Route 55 between Poughkeepsie and Pawling.

**Long-Term Recommendations (10+ years)**

LT-10. **Dutchess Rail Trail – Putnam Trailway Connection**  
*Towns, Dutchess County; Long-Term*

Issue: The rail line between Hopewell Junction and Putnam County is in poor condition and is used infrequently (to transfer rail cars). It could be acquired and converted to a shared-use path.

*The former Maybrook rail line extends southeast from Hopewell Junction to Putnam County (source: Google maps).*
trail to connect the Dutchess Rail Trail to rail trails in Putnam and Westchester counties. This would be a major project that would require substantial funding.

Improvement:

- Work with MTA/Metro-North to create a rail trail along the former Maybrook railroad line from Hopewell Junction through Beekman and Pawling to Putnam County, connecting the Dutchess Rail Trail to the Putnam County Trailway and the North County Trailway in Westchester (about 15 miles).
Walk Bike Dutchess 2014
Project Recommendations by Municipality:
BEEKMAN

For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
**Walk Bike Dutchess** Project Recommendations: Town of Beekman*

<table>
<thead>
<tr>
<th>Planning Area</th>
<th>Project Code</th>
<th>Location</th>
<th>Project Name</th>
<th>Timeframe&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Lead</th>
<th>Other Partners</th>
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<tbody>
<tr>
<td>Lower Taconic</td>
<td>LT-5</td>
<td>T/Beekman</td>
<td>Beekman Town Center Sidewalks &amp; Traffic Calming</td>
<td>Medium</td>
<td>T/Beekman, NYSDOT</td>
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<tr>
<td>Lower Taconic</td>
<td>LT-9</td>
<td>T/LaGrange; T/Union Vale; T/Beekman</td>
<td>Route 55 Shoulder Improvements</td>
<td>Medium</td>
<td>NYSDOT</td>
<td></td>
</tr>
<tr>
<td>Lower Taconic</td>
<td>LT-10</td>
<td>T/East Fishkill, T/Beekman; T/Pawling</td>
<td>Dutchess Rail Trail - Putnam Trailway Connection</td>
<td>Long</td>
<td>Towns, Dutchess County</td>
<td>MTA</td>
</tr>
</tbody>
</table>

*For project descriptions, see [Walk Bike Dutchess, Chapter 5.3](#)

<sup>1</sup>Short = within 5 years; Medium = 5-10 years; Long = 10+ years

Project sponsors must fully define project scope and develop project cost estimates.
Walk Bike Dutchess 2014
Project Recommendations by Municipality:
EAST FISHKILL

www.dutchessny.gov/WalkBikeDutchess

This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change. Map created June 2014.

For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
## Project Recommendations: Town of East Fishkill*

**Walk Bike Dutchess**

<table>
<thead>
<tr>
<th>Planning Area</th>
<th>Project Code</th>
<th>Location</th>
<th>Project Name</th>
<th>Timeframe&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Lead</th>
<th>Other Partners</th>
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<tbody>
<tr>
<td>Lower Taconic</td>
<td>LT-4</td>
<td>T/East Fishkill</td>
<td>Route 376 Shoulder and Roadway Improvements</td>
<td>Short</td>
<td>NYSDOT</td>
<td>Toll Brothers, Unity Plaza, MTA</td>
</tr>
<tr>
<td>Lower Taconic</td>
<td>LT-6</td>
<td>T/East Fishkill</td>
<td>Hopewell Junction Hamlet Sidewalks</td>
<td>Medium</td>
<td>T/East Fishkill, NYSDOT</td>
<td>Toll Brothers, Unity Plaza, MTA</td>
</tr>
<tr>
<td>Lower Taconic</td>
<td>LT-7</td>
<td>T/East Fishkill</td>
<td>Van Wyck Junior High/Fishkill Plains Elementary - Dutchess Rail Trail Connections</td>
<td>Medium</td>
<td>T/East Fishkill, NYSDOT, Dutchess County</td>
<td>Wappingers Central School District</td>
</tr>
<tr>
<td>Lower Taconic</td>
<td>LT-3</td>
<td>T/East Fishkill; T/LaGrange; T/Union Vale</td>
<td>Route 82 Shoulder Improvements</td>
<td>Short</td>
<td>NYSDOT</td>
<td></td>
</tr>
<tr>
<td>Lower Taconic</td>
<td>LT-10</td>
<td>T/East Fishkill, T/Beekman; T/Pawling</td>
<td>Dutchess Rail Trail - Putnam Trailway Connection</td>
<td>Long</td>
<td>Towns, Dutchess County</td>
<td>MTA</td>
</tr>
</tbody>
</table>

*For project descriptions, see [Walk Bike Dutchess, Chapter 5.3](#).

<sup>1</sup> Short = within 5 years; Medium = 5-10 years; Long = 10+ years

Project sponsors must fully define project scope and develop project cost estimates.
Walk Bike Dutchess 2014
Project Recommendations by Municipality: LA GRANGE

www.dutchessny.gov/WalkBikeDutchess

This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change. Map created June 2014.

For project specifics, see: http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
### Walk Bike Dutchess Project Recommendations: Town of LaGrange*

<table>
<thead>
<tr>
<th>Planning Area</th>
<th>Project Code</th>
<th>Location</th>
<th>Project Name</th>
<th>Timeframe</th>
<th>Lead</th>
<th>Other Partners</th>
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<tbody>
<tr>
<td>Lower Taconic</td>
<td>LT-3</td>
<td>T/East Fishkill; T/LaGrange; T/Union Vale</td>
<td>Route 82 Shoulder Improvements</td>
<td>Short</td>
<td>NYSDOT</td>
<td></td>
</tr>
<tr>
<td>Lower Taconic</td>
<td>LT-8</td>
<td>T/LaGrange</td>
<td>LaGrange Town Center Sidewalk Connections</td>
<td>Medium</td>
<td>T/LaGrange, NYSDOT</td>
<td>Arlington School District</td>
</tr>
<tr>
<td>Lower Taconic</td>
<td>LT-9</td>
<td>T/LaGrange; T/Union Vale; T/Beekman</td>
<td>Route 55 Shoulder Improvements</td>
<td>Medium</td>
<td>NYSDOT</td>
<td></td>
</tr>
<tr>
<td>Lower Hudson</td>
<td>LH-41</td>
<td>T/Wappinger; T/Poughkeepsie; T/LaGrange</td>
<td>Route 376 Shoulder Improvements</td>
<td>Medium</td>
<td>NYSDOT</td>
<td></td>
</tr>
</tbody>
</table>

*For project descriptions, see [Walk Bike Dutchess, Chapter 5.3](#)

1Short = within 5 years; Medium = 5-10 years; Long = 10+ years

Project sponsors must fully define project scope and develop project cost estimates.
Walk Bike Dutchess 2014
Project Recommendations by Municipality:
UNION VALE

www.dutchessny.gov/WalkBikeDutchess

For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
**Walk Bike Dutchess** Project Recommendations: Town of Union Vale*

<table>
<thead>
<tr>
<th>Planning Area</th>
<th>Project Code</th>
<th>Location</th>
<th>Project Name</th>
<th>Timeframe&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Lead</th>
<th>Other Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Taconic</td>
<td>LT-1</td>
<td>T/Union Vale</td>
<td>Flint Road - Fountains at Millbrook Crosswalk</td>
<td>Short</td>
<td>T/Union Vale</td>
<td>Fountains at Millbrook</td>
</tr>
<tr>
<td>Lower Taconic</td>
<td>LT-2</td>
<td>T/Union Vale</td>
<td>Verbank Route 82 Crosswalk &amp; Speed Evaluation</td>
<td>Short</td>
<td>T/Union Vale, NYS DOT</td>
<td></td>
</tr>
<tr>
<td>Lower Taconic</td>
<td>LT-3</td>
<td>T/East Fishkill; T/LaGrange; T/Union Vale</td>
<td>Route 82 Shoulder Improvements</td>
<td>Short</td>
<td>NYS DOT</td>
<td></td>
</tr>
<tr>
<td>Lower Taconic</td>
<td>LT-9</td>
<td>T/LaGrange; T/Union Vale; T/Beekman</td>
<td>Route 55 Shoulder Improvements</td>
<td>Medium</td>
<td>NYS DOT</td>
<td></td>
</tr>
</tbody>
</table>

*For project descriptions, see [Walk Bike Dutchess, Chapter 5.3](#).

<sup>1</sup>Short = within 5 years; Medium = 5-10 years; Long = 10+ years

Project sponsors must fully define project scope and develop project cost estimates.
Chapter 5.4: Upper Taconic

For this Plan, the Upper Taconic is defined as the north-central communities along the Taconic State Parkway: the Towns of Milan, Pine Plains, Stanford, Washington, Pleasant Valley, and Clinton, and the Village of Millbrook. The Upper Taconic represents about 247 square miles and 27,400 people: over 30 percent of the county’s land area but only 9 percent of the county’s total population. It is the most rural of the five planning areas, with low population density and low rates of growth (see Map 46, Upper Taconic Overview).

Three key factors that influence walking and bicycling— land use (residential density and destinations), demographics, and non-motorized facilities (including transit)— are discussed below. Local walking and bicycling patterns, including crash data, is presented, and issues are identified. Finally, a set of priority projects to improve conditions for walking and bicycling is described.

A. Walking and Bicycling Factors

1. Land Use

Residential Patterns
The Village of Millbrook is the 12th most densely populated municipality in the county with about 750 persons per square mile (double the county average of 370). However, the Upper Taconic towns have some of the lowest densities in the county: Washington, Milan, Stanford and Pine Plains all have between 60 and 80 residents per square mile, and the Town of Clinton has about 110 residents per square mile. The Town of Pleasant Valley is also below the county average with about 290 residents per square mile. These spread-out population patterns tend to make walking and bicycling for transportation less practical and attractive.

Centers & Destinations
Upper Taconic centers, as designated by the Dutchess County Department of Planning and Development, are shown on Map 47, Upper Taconic Centers. Key destinations for walking and bicycling include:

- Village of Millbrook
- Pleasant Valley Town Center
- Pine Plains Town Center
- Salt Point hamlet in Pleasant Valley
- Schools including Millbrook High School, Stissing Mountain Middle and High Schools, and elementary schools in Pleasant Valley, Millbrook and Pine Plains.

2. Demographics

Age
Young people and older people are less likely to drive, and therefore more likely to walk (both young and old) or bicycle (young people) for transportation. The Upper Taconic communities have similar percentages of
young people (under 16) to the county as a whole, but the Village of Millbrook has substantially higher percentages of older people (over 74). The Village of Millbrook and the Towns of Clinton, Washington, and Pine Plains also have higher than average percentages of these young and older groups combined.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Population</th>
<th>% Under 16</th>
<th>% 16 - 74</th>
<th>% Over 74</th>
<th>% Under 16 + Over 74</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Clinton</td>
<td>4,312</td>
<td>19</td>
<td>74</td>
<td>7</td>
<td>26</td>
</tr>
<tr>
<td>T/Milan</td>
<td>2,370</td>
<td>19</td>
<td>75</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>T/Pine Plains</td>
<td>2,473</td>
<td>18</td>
<td>74</td>
<td>8</td>
<td>26</td>
</tr>
<tr>
<td>T/Pleasant Valley</td>
<td>9,672</td>
<td>20</td>
<td>75</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>T/Stanford</td>
<td>3,823</td>
<td>18</td>
<td>78</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>T/Washington</td>
<td>3,289</td>
<td>18</td>
<td>74</td>
<td>8</td>
<td>26</td>
</tr>
<tr>
<td>V/Millbrook</td>
<td>1,452</td>
<td>17</td>
<td>69</td>
<td>13</td>
<td>31</td>
</tr>
<tr>
<td><strong>Dutchess County</strong></td>
<td><strong>297,488</strong></td>
<td><strong>19</strong></td>
<td><strong>74</strong></td>
<td><strong>6</strong></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>

**2010 Population by Age Group**

Source: U.S. Census Bureau, 2010 U.S. Census. Table QT-P1: Age Groups & Sex; Table QT-P2: Single Years of Age & Sex. Town populations exclude populations of Villages.

**Income**

Lower-income households are also more likely to walk and bicycle for transportation. Household incomes in the Upper Taconic tend to be higher than the county average, with the exception of the Village of Millbrook, which has a higher percentages of low-income households (defined here as under $25,000 per year) than the County average.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Households</th>
<th>% less than $25,000</th>
<th>% $25,000 - $50,000</th>
<th>% Over $50,000</th>
<th>Median Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Clinton</td>
<td>1,606</td>
<td>9%</td>
<td>14%</td>
<td>76%</td>
<td>$91,968</td>
</tr>
<tr>
<td>T/Milan</td>
<td>930</td>
<td>11%</td>
<td>20%</td>
<td>70%</td>
<td>$71,167</td>
</tr>
<tr>
<td>T/Pine Plains</td>
<td>913</td>
<td>12%</td>
<td>21%</td>
<td>67%</td>
<td>$65,539</td>
</tr>
<tr>
<td>T/Pleasant Valley</td>
<td>3,634</td>
<td>14%</td>
<td>20%</td>
<td>67%</td>
<td>$75,650</td>
</tr>
<tr>
<td>T/Stanford</td>
<td>1,537</td>
<td>13%</td>
<td>18%</td>
<td>69%</td>
<td>$68,168</td>
</tr>
<tr>
<td>T/Washington</td>
<td>1,939</td>
<td>16%</td>
<td>18%</td>
<td>60%</td>
<td>$67,673</td>
</tr>
<tr>
<td>V/Millbrook</td>
<td>715</td>
<td>20%</td>
<td>26%</td>
<td>54%</td>
<td>$59,844</td>
</tr>
<tr>
<td><strong>Dutchess County</strong></td>
<td><strong>107,151</strong></td>
<td><strong>16%</strong></td>
<td><strong>19%</strong></td>
<td><strong>65%</strong></td>
<td><strong>$71,125</strong></td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2007-2011 American Community Survey 5-Year Estimates, Tables B1101_1, B19013, & B19001 (Households, Median Household Income, and various income brackets).

Data for the Towns includes data for their respective Village(s).

**Vehicle Ownership**

Households without a vehicle, or with one vehicle, are much more likely to seek alternative transportation. The percentage of zero- and one-vehicle households each municipality is shown below. Millbrook and Washington have slightly higher percentages of zero-vehicle households and significantly higher percentages of one-vehicle households than the county average. This may be related to the higher proportion of older adults in these municipalities.
Disabilities
Persons with physical disabilities often have difficulty driving and are more likely to need alternatives. Those with ambulatory difficulties may use wheelchairs, walkers, or other mobility devices and benefit from accessible pedestrian environments. Unfortunately, disability data is not available for any of the Upper Taconic municipalities.

3. Walking & Bicycling Facilities
An inventory of walking and bicycling facilities was made based on current maps and data available. Sidewalks, recreational trails, and shared use paths are shown on the Centers map.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Households</th>
<th>% Zero-Vehicle</th>
<th>% One-Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Clinton</td>
<td>1,606</td>
<td>UNR</td>
<td>23 (+/- 6%)</td>
</tr>
<tr>
<td>T/Milan</td>
<td>930</td>
<td>UNR</td>
<td>30 (+/- 9%)</td>
</tr>
<tr>
<td>T/Pine Plains</td>
<td>913</td>
<td>UNR</td>
<td>22 (+/- 6%)</td>
</tr>
<tr>
<td>T/Pleasant Valley</td>
<td>3,634</td>
<td>UNR</td>
<td>29 (+/- 6%)</td>
</tr>
<tr>
<td>T/Stanford</td>
<td>1,537</td>
<td>UNR</td>
<td>33 (+/- 8%)</td>
</tr>
<tr>
<td>T/Washington</td>
<td>1,939</td>
<td>12 (+/- 5%)</td>
<td>43 (+/- 8%)</td>
</tr>
<tr>
<td>V/Millbrook</td>
<td>715</td>
<td>10 (+/- 5%)</td>
<td>57 (+/- 6%)</td>
</tr>
<tr>
<td><strong>Dutchess County</strong></td>
<td><strong>107,151</strong></td>
<td><strong>8 (+/- 1%)</strong></td>
<td><strong>31 (+/- 1%)</strong></td>
</tr>
</tbody>
</table>

Sources: U.S. Census Bureau, 2007-2011 American Community Survey 5-Year Estimates, Table B08201: Household Size By Vehicles Available. Italics indicate that estimate should be used with caution because sampling error is between 12 and 40 percent of the estimate. UNR denotes unreliable data. Data for the Towns includes data for their respective Village(s).

Walking Facilities
The Upper Taconic has approximately 18 miles of sidewalks, mainly in the Town of Pleasant Valley, Village of Millbrook, and Town of Pine Plains. When considered on a per-resident basis, the Village of Millbrook has the most sidewalks per resident, and ranks fourth in the county. Sidewalk mileage by municipality and per resident is shown below.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Sidewalks (miles)*</th>
<th>Sidewalk Feet per Resident</th>
<th>County-wide Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Clinton</td>
<td>0.0</td>
<td>0.1</td>
<td>30</td>
</tr>
<tr>
<td>T/Milan</td>
<td>0.0</td>
<td>0.1</td>
<td>29</td>
</tr>
<tr>
<td>T/Pine Plains</td>
<td>4.8</td>
<td>10.2</td>
<td>12</td>
</tr>
<tr>
<td>T/Pleasant Valley</td>
<td>5.5</td>
<td>3.0</td>
<td>16</td>
</tr>
<tr>
<td>T/Stanford</td>
<td>1.0</td>
<td>1.4</td>
<td>25</td>
</tr>
<tr>
<td>T/Washington</td>
<td>0.6</td>
<td>0.9</td>
<td>27</td>
</tr>
<tr>
<td>V/Millbrook</td>
<td>5.5</td>
<td>20.1</td>
<td>4</td>
</tr>
<tr>
<td><strong>Dutchess County</strong></td>
<td><strong>434.1</strong></td>
<td><strong>7.7</strong></td>
<td><strong>n/a</strong></td>
</tr>
</tbody>
</table>

Sources: Dutchess County GIS, and U.S. Census Bureau, 2010 U.S. Census. * Includes private sidewalks (such as in residential developments, at colleges and offices).

The Upper Taconic has approximately 39 miles of trails. Major recreational trails in the area include:

1. Cary Institute of Ecosystem Studies & Campus Trails in Washington: 8.0 miles
2. Taconic Hereford Multiple Use Area in Pleasant Valley: 6.8 miles
3. Stissing Multiple Use Area Trails (Towns of Pine Plains and Stanford): 6.0 miles
Sidewalks connect destinations along Main Street in the Pleasant Valley Town Center.

4. Buttercup Sanctuary Trails in Stanford: 5.0 miles
5. Stissing Mountain Trails (Towns of Pine Plains and Stanford): 4.2 miles
6. Thompson Pond Preserve Trails in Pine Plains: 3.4 miles
7. Innisfree Trails (Towns of Pleasant Valley and Washington): 2.6 miles

Shared-Use Paths
No shared-use paths were identified in the Upper Taconic.

Bicycling Facilities
There are currently no on-street bicycle facilities in the Upper Taconic. However, two of NYSDOT’s signed State Bicycle Routes (SBR) connect to the area: SBR 199 connects to SBR 308 at the intersection of Route 199 and Route 308 on the western border of Milan. Both SBR 199 and 308 connect to SBR 9 (in Red Hook and Rhinebeck, respectively).

In addition, NYSDOT has several proposed State Bicycle Routes in the area:
- An extension of SBR 199 along Route 199, between Route 308 on the western border of Milan and a proposed SBR 22 in the Town of Northeast.
- Proposed SBR 82, along Route 82 between the proposed SBR 199 in Pine Plains and a proposed SBR 52 in Fishkill.
- Proposed SBR 44, along Route 44 between SBR 9 in the City of Poughkeepsie and a proposed SBR 22 in the Town of Amenia.

Bicycle parking is provided at locations including the Seymour Smith Elementary and Stissing Mountain Middle and High schools in Pine Plains and the Millbrook Free Library and Marona’s Market in the Village of Millbrook. A list of bicycle parking locations is included in Appendix G.

Transit Service
Most bus trips, and many train trips, involve a walking (or in some cases, bicycling) trip on one or both ends—to get to the stop or station, and to get from the stop or station to a final destination.

There is limited transit service in the Upper Taconic. LOOP’s Route D provides service on Routes 44 and 343 between Poughkeepsie, Pleasant Valley, Millbrook, and Dover. It had annual ridership of approximately 29,800 in 2012.

B. Walking & Bicycling Data
Based on the Upper Taconic’s low population density, limited transit service, and limited sidewalks, we can expect low rates of walking and bicycling in this area. While Census data at the municipal level is limited, estimates of walking to work are available for three Upper Taconic municipalities. According to these estimates, approximately 5 percent of Town of Clinton
residents, 7 percent of Town of Stanford residents, and 13 percent of Village of Millbrook residents walk to work. This compares to 4 percent of working residents county-wide.

**Count Data**
Counts of people walking and bicycling were conducted in the Town of Pleasant Valley and the Village Millbrook in July and September 2013. On Main Street east of North Avenue in Pleasant Valley, 35 pedestrians and 7 bicyclists were counted in July and 12 pedestrians and 2 bicyclists were counted in September. On Franklin Avenue east of Church Street in Millbrook, 79 pedestrians and 3 bicyclists were counted in July and 95 pedestrians and 1 bicyclist were counted in September. The count volumes are detailed in Appendix J and illustrated in Maps 8-9 (in Chapter 4).

**Walk-Bike Dutchess Survey Data**
The Walk-Bike Dutchess survey resulted in 105 responses from the Upper Taconic. According to the survey, half of respondents walk at least three to four days per week, while about 45 percent bike at least one to two days per week. Most respondents said they walk and or bicycle for exercise, followed by to enjoy their community and be outside.

Favorite locations for walking include rail trails, parks, and the Walkway Over the Hudson, while for bicycling, respondents overwhelmingly prefer the rail trails. When asked, “If equally good facilities existed, how would you prefer to travel?” more than 80 percent said they would prefer to walk or bike to parks/recreation, 65 percent said they would prefer to walk or bike to the gym/exercise, and over half said they would prefer to walk or bike for local errands. However, over 75 percent of residents reported that they are dissatisfied with how their community is designed for bicycling, and over 60 percent are dissatisfied with how their community is designed for walking.

Top issues residents encounter while walking and bicycling are a lack of sidewalks and bike paths, and inadequate road shoulders. According to respondents, particularly problematic places for walking and bicycling include Route 44 and Route 82. When asked “What are the most important improvements to be made?” the most common response was to increase the width of road shoulders, followed by add more rail trails/shared use paths, and add bicycle lanes and/or shared lane markings. Respondents said that future projects should prioritize completing missing sections to create longer continuous walkways and bikeways, followed by improving safety.
Walk Bike Dutchess

by focusing on existing and potential crash locations, and maintaining existing walking and bicycling facilities. Charts showing the survey results for the Upper Taconic are included in Appendix F.

Crash Patterns

Five years of crash data, from 2007 to 2011, were analyzed to determine trends in pedestrian and bicycle crashes. First, pedestrian and bicycle crash rates per 1,000 population were calculated for each municipality. The Upper Taconic rates are shown below. The Village of Millbrook exceeds the county-wide average pedestrian crash rate, and the Town of Pleasant Valley is just below the county-wide average bicycle crash rate. However, these rates are based on a small number of crashes. Maps 11 and 12 (in Chapter 4) show all municipalities’ crash rates.

Second, using the same data, high-crash corridors were identified. These are road segments with concentrations of bicycle and/or pedestrian crashes and a high crash rate per mile. There were no high-crash corridors for pedestrians, but there was one high-crash corridor in the Upper Taconic for bicyclists:

- Bicycle: Pleasant Valley, Route 44 between Timothy Heights and Pine Hill Road/Lake Shore Drive: 2.2 miles; 4 crashes; 1.8 crashes/mile.

High-crash corridors in the Upper Taconic are shown in Map 15 (in Chapter 4). All pedestrian and bicycle crashes in the Upper Taconic are shown in Map 48.

C. Key Needs/Issues

The Bicycle-Pedestrian Advisory Committee identified the following needs in the Upper Taconic:

- Extend the Harlem Valley Rail Trail.
- Provide sidewalks along Route 22 to connect to shopping areas.
- Improve safety for people crossing Route 22 by foot and bike.
- Increase paved shoulders to four feet or more where possible.
- Educate bicycle riders about the rules of the road.
- Educate drivers about sharing the road, including how to pass bicyclists safely.
- Enforce laws to increase safety.

In terms of safety, key corridors/hot spots include Route 44 in the Pleasant Valley hamlet for walking and bicycling.

Crash Rates per Population

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Pedestrian Crashes</th>
<th>Bicycle Crashes</th>
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<tr>
<td></td>
<td>Count</td>
<td>Annual Rate (per 1,000 pop.)*</td>
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<tr>
<td>T/Pleasant Valley</td>
<td>6</td>
<td>0.12</td>
</tr>
<tr>
<td>T/Clinton</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
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<td><strong>0.25</strong></td>
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*Village populations have been subtracted from those of Towns to avoid double counting.

Source: Accident Location Information System (ALIS), NYSDOT.

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221
Upper Taconic
Pedestrian and Bicyclist
Crashes (2007-2011)

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Map contents and data are subject to change.

Source:
New York State Accident Location Information System (ALIS).

1 inch = 1.7 miles

Map created May 2014
D. Upper Taconic Project Recommendations

Based on the needs and issues identified above, previous plans, and input from the Bicycle-Pedestrian Advisory Committee, municipal officials, members of the public, and staff from NYS DOT-Region 8, Dutchess County Public Works, and Dutchess County Planning, the following project ideas are recommended to improve walking and bicycling in the Upper Taconic. They are organized by timeframe (short, medium, and long-term) and then by project lead (municipalities, County, and State). They are also shown in Maps 49-55 and listed in Appendix I. As noted previously, the facility owner(s) will ultimately decide whether or not to implement a project. The Plan cannot and is not intended to require specific action by any municipality or agency.

**Short-Term Recommendations (within 5 years)**

**UT-1. Pleasant Valley Town Center Sidewalks and Shoulders**

[T/Pleasant Valley, Dutchess County, NYS DOT; Short-Term]

_issue:_ Pleasant Valley’s Comprehensive Plan calls for improvements to pedestrian and bicycle circulation systems to enable residents to safely and comfortably walk to destinations in the central hamlet areas. In the Pleasant Valley hamlet/Town Center (centered on Main Street (Route 44) and North Avenue (CR 72)), the Plan recommends improved sidewalks with buffers and street trees, curb extensions and additional crosswalks at intersections, sidewalks on South Road as significant development occurs, and shoulder improvements to encourage bicycling.

**Improvements:**

- Extend sidewalks on Main Street to fill gaps through the Town Center (about 0.1 miles). Where possible, include a landscaped buffer and street trees.
- Improve intersection crossings and signage in the Town Center. In particular, improve the visibility of crosswalk warning signs on Main Street near the Post Office and at West Road (CR 71) by trimming trees and using high-visibility colors.
- Consider constructing curb extensions at key intersections including Main Street/North Avenue (CR 72) to reduce crossing distance and make people crossing more visible.

**Installing curb extensions at the Main Street/North Avenue intersection in Pleasant Valley would reduce crossing distance and increase the visibility of people crossing (source: Google maps).**

- Provide high-visibility crosswalks in the A&P parking lot, including on Station Road, and trim bushes at the North Avenue exit to improve visibility.
- Improve drainage at the crosswalk near the Post Office (on Main Street between North Avenue and Quaker Hill Road).
• Provide a crosswalk across North Avenue at Martin Road or Ravine Road to connect the housing on the west side of North Avenue to the sidewalk on the east side.
• Consider a sidewalk on South Avenue (CR 47) between Main Street and the ball fields at Cady Recreation Park as development occurs (about 0.4 miles).
• Widen shoulders to four feet on North Avenue (CR 72) to Ravine Road; on Sherow Road; on Salt Point Turnpike; and on Route 44 to Traver Road.

**UT-2. Salt Point Turnpike (Route 115/CR 17) Sidewalks and Shoulders [T/Clinton, Dutchess County, NYSDOT; Short/Medium-Term]**

Issue: Salt Point Turnpike (CR 17) provides access to the Friends Park, Clinton Historical Society, Stewart’s Shop, a school, and local businesses. However it is narrow and curving and there are no sidewalks or shoulders sufficient for walking, limiting pedestrian access along the road.

Improvements:
• In the short-term, construct a sidewalk or path along the south side of Salt Point Turnpike between the Stewart’s shop and Park View Drive in the Clinton Corners hamlet (about 0.3 miles).
• In the medium-term, evaluate the feasibility of constructing a sidewalk or path along Salt Point Turnpike from Park View Drive to the post office in the Clinton Corners hamlet (about 0.7 miles).
• If the Clinton Corners hamlet becomes more pedestrian-oriented, consider pursuing a speed limit reduction on Salt Point Turnpike.

• Widen shoulders along Salt Point Turnpike in the Towns of Clinton, Pleasant Valley, and Stanford (Route 115 west of the Taconic; CR 17 east of the Taconic) to a four foot minimum.

**UT-3. Milan – Route 199 Shoulder Improvements [NYSDOT; Short-Term]**

Issue: Residents bicycle and walk on Route 199 to access the Town of Milan Recreation Park (off of South Road/Cold Spring Road) and Town Hall (at Wilcox Circle). However, the shoulder pavement is in poor condition and shoulder widths are minimal.

Improvement:
• Repave Route 199 to provide four foot minimum shoulders and improve pavement condition.

**UT-4. Route 44 Shoulder Improvements [NYSDOT; Short-Term]**

Issue: Route 44 serves as a key east-west connection used for bicycling. However, shoulders are narrow in places.

Improvements:
• Maintain consistent wide shoulders (four feet minimum; six feet where feasible) on Route 44 through Pleasant Valley and Washington.
• Install appropriate signage to increase safe sharing of the road.

**Medium-Term Recommendations (5 to 10 years)**

**UT-5. Pine Plains Town Center Sidewalks [T/Pine Plains, NYSDOT; Medium-Term]**

Issue: The Town of Pine Plains is currently working with the PDCTC on an assessment of sidewalk locations and conditions. The
assessment will identify key gaps in the sidewalk network, areas where sidewalks are in poor condition, and improvements needed to make the Town Center more accessible by walking.

Improvement:
- Improve sidewalks, crosswalks, and other walking facilities in the Pine Plains Town Center, based on the sidewalk assessment under development. This could include extending or improving sidewalks on Route 199, Route 82, and other streets; improving crossings at key intersections; improving pedestrian safety and access to destinations such as the Elementary School and High School; and incorporating amenities such as pedestrian-scale lighting.

UT-6. Pine Plains Trails & Bikeways

[T/Pine Plains; Medium-Term]

Issue: The Town of Pine Plains’ Comprehensive Plan calls for a bikeway plan to designate streets and trails that offer safe and convenient bicycle access between residential areas, the Town center, and recreational areas. The Town’s Trails/Bikeway Committee is developing a trails and bikeway plan to improve conditions for bicycling in the Town.

Improvement:
- Improve trails and develop a network of bicycle facilities in Pine Plains, based on the Town’s Trails and Bikeway Concept Plan (under development). This may include on-road facilities as well as rail trails.

UT-7. West Road (CR 71) Sidewalk or Shared-Use Path

[T/Pleasant Valley, Dutchess County; Medium-Term]

Issue: Pleasant Valley’s Comprehensive Plan recommends extending a sidewalk on at least one side of West Road past the school. As detailed in the CR 71 (West Road) Sidewalk Feasibility Study, West Road (CR 71) connects the Pleasant Valley Town Center to multi-family and single-family homes, the West Road Intermediate School and playing fields, the planned Redl Park, and offices. However, there are no sidewalks, minimal shoulders, and vehicle speeds are high. Constraints along the corridor include right-of-way, slopes, wetlands, sight distance, and existing utilities.

Improvements:
- Extend the sidewalk along the northeast side of West Road to Brookside Road (about 0.5 miles).
- Evaluate the feasibility of adding a high visibility crosswalk across the western leg of the West Road/Route 44.
Walk Bike Dutchess

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effective march 27, 2014

A sidewalk along West Road would connect the West Road School, apartments, and offices to the Town Center.

UT-8. Washington Hollow Sidewalks and Crosswalks
[T/Pleasant Valley, NYSDOT; Medium-Term]

Issue: Pleasant Valley’s Comprehensive Plan includes an illustrative sketch plan for the Washington Hollow hamlet (at Route 44/Route 82) and recommends improved sidewalks and crosswalks, curb extensions, traffic calming, and street trees.

Improvement:

• Create a walkable hamlet center with sidewalks (about 0.5 mile), curb extensions and high-visibility crosswalks, street trees, on-street parking, and a central green space, consistent with the Illustrative Sketch Plan in the Town’s Comprehensive Plan.

UT-9. Stanford Walkable Town Center
[T/Stanford, Dutchess County, NYSDOT; Medium-Term]

Issue: The Stanford Town Center (Stanfordville and Bangall hamlets) includes a library, post office, Town Hall, and recreation park within about a mile. Moving Dutchess recommends installing sidewalks as the Town Center develops.

Improvements:

• Evaluate walking and bicycling patterns and needs in the Stanfordville and Bangall hamlets, including segments of Route 82, Bulls Head Road (CR 19), Hunns Lake Road (CR 65), and Bangall Amenia Road (CR 86).

• Install sidewalks on Route 82 in the Town Center as it develops (about 0.9 miles).

intersection, and provide pedestrian signals for all crossings at the intersection.

• Install a crosswalk at Charles Street to connect the offices on the south side of West Road to the sidewalk.

• Provide a sidewalk or shared-use path on the north side of West Road from Brookside Road to Robert Lane (about 0.6 miles).

• Extend the sidewalk along the east side of the school driveway and mark a crosswalk across West Road to connect to the sidewalk/path.

• Add a sidewalk/path from West Road into Redl Park when it is developed.

• Mark high-visibility crosswalks to connect the Country Commons apartments to the park site, and to connect the housing on the north side of West Road to the school.

Install signage, striping and lighting to highlight the crosswalks.

• Coordinate improvements between Robert Lane and Salt Point Turnpike with the facility between Brookside Road and Robert Lane to provide a continuous network.

• Widen shoulders to at least four feet to accommodate bicycling (if a shared-use path is not provided), where feasible.

• Pursue a reduced speed limit for the corridor, based on guidance from DPW and NYSDOT.
• Consider traffic calming on portions of Route 82 and Hunns Lake Road (CR 65).
• Consider signage, lighting, and other safety improvements.

**UT-10. Millbrook Sidewalk Improvements**  
**[V/Millbrook; Medium-Term]**

Issue: The Village of Millbrook has a good sidewalk network, but there are some gaps and some sidewalk segments that should be improved. The Village has been implementing a sidewalk improvement plan which includes shaving sidewalks to remove trip hazards and replacing segments where needed.

Improvement:

• Inventory the Village sidewalk network to identify sidewalk gaps and segments needing improvement. Continue to install new sidewalks and curbing and replace or improve segments as needed.

**UT-11. Millbrook Bicycle Network**  
**[V/Millbrook; Medium-Term]**

Issue: There are no dedicated bicycle paths or on-street bicycle facilities in Millbrook. The Village’s Comprehensive Plan and Moving Dutchess recommend developing bicycle paths, particularly between the Bennett complex (north of Route 343 near Franklin Avenue) and the Village center.

Improvements:

• Develop a bicycle path or on-street bicycle connection between the Bennett site and the Millbrook Village center (about 0.7 miles), in coordination with development of the Bennett site.
• Evaluate other Village streets for potential bicycle boulevards, sharrows, or bicycle lanes, as appropriate, to create a bicycle network.

**Long-Term Recommendations (10+ years)**

**UT-12. Salt Point Hamlet Sidewalks**  
**[T/Pleasant Valley, NYSDOT; Long-Term]**

Issue: Pleasant Valley’s Comprehensive Plan includes an illustrative sketch plan for the Salt Point hamlet (at Salt Point Turnpike and Hibernia Road) and recommends sidewalks and street trees along a portion of Salt Point Turnpike and Hibernia Road in the hamlet to improve safety for people walking.

Improvements:

• Provide sidewalks along Salt Point Turnpike (Route 115) in the Salt Point hamlet where feasible (about 0.3 miles between Cottage Street (south) and Clinton Hollow Road (CR 18)), consistent with the Illustrative Sketch Plan in the Town’s Comprehensive Plan.
• Consider re-aligning the Salt Point Turnpike/Hibernia Road intersection to improve safety and visibility.

**[Towns, Dutchess County; Long-Term]**

Issue: There are unused railroad lines between Stanford and Pine Plains which could be acquired and converted to a shared-use trail, as recommended in Moving Dutchess. This would be a major project that would require substantial funding.

Improvement:

• Explore the feasibility of constructing a rail trail between Stanford and Pine Plains using railroad right of ways (about 9 miles).
Walk Bike Dutchess 2014
Project Recommendations by Municipality:
CLINTON

www.dutchessny.gov/WalkBikeDutchess

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For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
## Project Recommendations: Town of Clinton*

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*For project descriptions, see [Walk Bike Dutchess, Chapter 5.4](#).

\(^1\)Short = within 5 years; Medium = 5-10 years; Long = 10+ years

*Project sponsors must fully define project scope and develop project cost estimates.*
Walk Bike Dutchess 2014
Project Recommendations by Municipality:
MILAN

www.dutchessny.gov/WalkBikeDutchess

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**Walk Bike Dutchess** Project Recommendations: Town of Milan*

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Walk Bike Dutchess 2014
Project Recommendations by Municipality:
PINE PLAINS

For project specifics, see:
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**Walk Bike Dutchess** Project Recommendations: Town of Pine Plains*

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Walk Bike Dutchess 2014
Project Recommendations by Municipality:
PLEASANT VALLEY

www.dutchessny.gov/WalkBikeDutchess

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## Walk Bike Dutchess  Project Recommendations: Town of Pleasant Valley*

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Project sponsors must fully define project scope and develop project cost estimates.
Walk Bike Dutchess 2014
Project Recommendations by Municipality: VILLAGE OF MILLBROOK

www.dutchessny.gov/WalkBikeDutchess

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For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
### Walk Bike Dutchess Project Recommendations: Village of Millbrook*

<table>
<thead>
<tr>
<th>Planning Area</th>
<th>Project Code</th>
<th>Location</th>
<th>Project Name</th>
<th>Timeframe¹</th>
<th>Lead</th>
<th>Other Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Taconic</td>
<td>UT-10</td>
<td>V/Millbrook</td>
<td>Millbrook Sidewalk Improvements</td>
<td>Medium</td>
<td>V/Millbrook</td>
<td></td>
</tr>
<tr>
<td>Upper Taconic</td>
<td>UT-11</td>
<td>V/Millbrook</td>
<td>Millbrook Bicycle Network</td>
<td>Medium</td>
<td>V/Millbrook</td>
<td></td>
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<tr>
<td>Upper Taconic</td>
<td>UT-4</td>
<td>T/Pleasant Valley; T/Washington; V/Millbrook</td>
<td>Route 44 Shoulder Improvements</td>
<td>Short</td>
<td>NYS DOT</td>
<td></td>
</tr>
</tbody>
</table>

*For project descriptions, see [Walk Bike Dutchess, Chapter 5.4](#).

¹Short = within 5 years; Medium = 5-10 years; Long = 10+ years

Project sponsors must fully define project scope and develop project cost estimates.
Chapter 5.5: Harlem Valley

For this Plan, the Harlem Valley is defined as the communities along the eastern border of the county: the Towns of North East, Amenia, Dover, and Pawling, and the Villages of Millerton and Pawling. The Harlem Valley represents about 186 square miles and 24,630 people—accounting for 23 percent of the county’s land area, but only 8 percent of the county’s total population. It is characterized low density and rural land use, with pockets of density in villages and hamlets (see Map 56, Harlem Valley Overview).

Three key factors that influence walking and bicycling—land use (residential density and destinations), demographics, and non-motorized facilities (including transit) — are discussed below. Local walking and bicycling patterns, including crash data, is presented, and issues are identified. Finally, a set of priority projects to improve conditions for walking and bicycling is described.

A. Walking and Bicycling Factors

1. Land Use

Residential Patterns
The Villages of Millerton and Pawling are the 8th and 9th most densely populated municipalities in the county, with about 1,600 and 1,200 persons per square mile, respectively. However, the four Harlem Valley towns are all quite low density: the Towns of Dover and Pawling each have about 150 residents per square mile, the Town of Amenia has about 100 residents per square mile, and the Town of North East is the least dense in the county, with fewer than 50 residents per square mile. This spread-out population pattern tends to make walking and bicycling for transportation less practical and attractive.

Centers & Destinations
Harlem Valley centers, as designated by the Dutchess County Department of Planning and Development, are shown on Map 57, Harlem Valley Centers. Key destinations for walking and bicycling include:

- Village of Millerton: restaurants, shops, movie theater, library, North East Community Center, McEnroe Farm
- Village of Pawling, including the Village Green, Pawling Metro-North train station, Pawling Elementary School, and the Trinity Pawling School.
- Amenia hamlet
- Webutuck High School and Elementary School in Amenia
- Dover Plains hamlet, including Dover Elementary School, Stone Church, Crown Maple, and Dover Plains Metro-North train station
- Wassaic hamlet, including the Wassaic Metro-North train station
- Wingdale hamlet, including the
Harlem Valley Overview

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Map created May 2014

1 inch = 2.3 miles
This map is intended for planning purposes only. The PDCTC shall not be held liable for any misuse or misrepresentation of this information. Map contents and data are subject to change.

Harlem Valley Centers - Amenia

- School
- Elementary
- Middle/High
- Grocery Store
- Municipal Hall
- Library
- Community/Senior Center
- Post Office
- Train Station
- Major Employer

Road Type
- County
- State
- U.S.

Center
- Existing
- Emerging

Sidewalk
- Bus Route
- Commuter Rail Line
- Shared Use Path/Rail Trail
- Future Shared Use Path/Rail Trail
- Trail Head
- Recreational Trail
- Park
- Paved Shoulder Width*
- >= 4ft
- 2 - 4ft
- < 2ft
- Biking/Walking Prohibited

* Paved width based on available data. May not reflect usable width.

Map created May 2014
Walk Bike Dutchess

Harlem Valley-Wingdale Metro-North train station, Dover High School and Wingdale Elementary School
• Town of Pawling: Lakeside Park and Murrow Park
• Harlem Valley Rail Trail
• Ten Mile River Metro-North train station in Amenia
• Appalachian Trail and Appalachian Trail Metro-North train station
• Retail centers along Route 22

2. Demographics

Age
Young people and older people are less likely to drive, and therefore more likely to walk (both young and old) or bicycle (young people) for transportation. Compared to the county as a whole, the Harlem Valley communities have about average percentages of young people (under age 16), while the Town of Amenia and Village of Pawling have slightly higher percentages of older people (over age 74). The Town of Pawling has a slightly higher than average percentage of these young and older groups combined.

Income
Lower-income households are also more likely to walk and bicycle for transportation. Household incomes in the Harlem Valley tend to be a bit lower than the county average, with the exception of the Town of Pawling. The Town of Amenia and the Village of Millerton have slightly higher percentages of low-income households (defined here as under $25,000 per year) than the county average.
Vehicle Ownership

Households without a vehicle, or with one vehicle, are much more likely to seek alternative transportation. The percentage of zero- and one-vehicle households for the four Harlem Valley Towns is shown below. The Town of Pawling has lower percentages of zero-vehicle households than the county average, while the Village of Pawling has higher percentages. The Towns of Amenia and North East and the Villages of Pawling and Millerton all have higher percentages of one-vehicle households compared to the county average.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Total Households</th>
<th>% Zero-Vehicle</th>
<th>% One-Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Amenia</td>
<td>1,741</td>
<td>UNR</td>
<td>32 (+/- 10%)</td>
</tr>
<tr>
<td>T/Dover</td>
<td>3,343</td>
<td>UNR</td>
<td>28 (+/- 6%)</td>
</tr>
<tr>
<td>T/North East</td>
<td>1,107</td>
<td>UNR</td>
<td>36 (+/- 9%)</td>
</tr>
<tr>
<td>T/Pawling</td>
<td>3,048</td>
<td>4 (+/- 2%)</td>
<td>26 (+/- 5%)</td>
</tr>
<tr>
<td>V/Millerton</td>
<td>296</td>
<td>8 (+/- 6%)</td>
<td>44 (+/- 16%)</td>
</tr>
<tr>
<td>V/Pawling</td>
<td>933</td>
<td>10 (+/- 6%)</td>
<td>33 (+/- 8%)</td>
</tr>
<tr>
<td><strong>Dutchess County</strong></td>
<td><strong>107,151</strong></td>
<td><strong>8 (+/- 1%)</strong></td>
<td><strong>31 (+/- 1%)</strong></td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2007-2011 American Community Survey 5-Year Estimates, Table B08201: Household Size By Vehicles Available. Italics indicate that estimate should be used with caution because sampling error is between 12 and 40 percent of the estimate. UNR denotes unreliable data. Data for the Towns includes data for their respective Village(s).

Disabilities

Persons with physical disabilities often have difficulty driving and are more likely to need alternatives. Those with ambulatory difficulties may use wheelchairs, walkers, or other mobility devices and benefit from accessible pedestrian environments.

Unfortunately, disability data is not available for any of the Harlem Valley municipalities.

3. Walking & Bicycling Facilities

An inventory of walking and bicycling facilities was made based on current maps and data available. Sidewalks, recreational trails, shared use paths, and transit routes are shown on the Centers map.

Walking Facilities

The Harlem Valley has approximately 27 miles of sidewalks. The majority are in the Town of Amenia and Village of Pawling. When considered on a per-resident basis, the Village of Millerton has the most sidewalks per resident and ranks first in the county, followed by the Village of Pawling, which ranks eighth county-wide.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Sidewalks (miles)*</th>
<th>Sidewalk Feet per Resident</th>
<th>County-wide Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/Amenia</td>
<td>8.0</td>
<td>9.5</td>
<td>13</td>
</tr>
<tr>
<td>T/Dover</td>
<td>4.2</td>
<td>2.5</td>
<td>18</td>
</tr>
<tr>
<td>T/North East</td>
<td>0.7</td>
<td>1.8</td>
<td>24</td>
</tr>
<tr>
<td>T/Pawling</td>
<td>2.6</td>
<td>2.3</td>
<td>20</td>
</tr>
<tr>
<td>V/Millerton</td>
<td>3.9</td>
<td>21.6</td>
<td>1</td>
</tr>
<tr>
<td>V/Pawling</td>
<td>7.6</td>
<td>17.0</td>
<td>8</td>
</tr>
<tr>
<td><strong>Dutchess County</strong></td>
<td><strong>434.1</strong></td>
<td><strong>7.7</strong></td>
<td><strong>n/a</strong></td>
</tr>
</tbody>
</table>

Source: Dutchess County GIS and U.S. Census Bureau, 2010 U.S. Census.

* Includes private sidewalks (such as in residential developments, at colleges and offices).
Chapter 5.5: Harlem Valley

**Walk Bike Dutchess**

The Village of Millerton has more sidewalks per resident than any other municipality in the county.

The Harlem Valley has approximately 45 miles of unpaved trails. Major recreational trails in the area include:

1. Appalachian Trail: 12 miles in Dover and Pawling
2. Pawling Nature Reserve Trails: 8 miles in Dover and Pawling
3. Wassaic State Multiple Use Area trails in Amenia: 6.6 miles
4. Lakeside Park and Murrow Park in Pawling: 6 miles

**Shared-Use Paths**
The Harlem Valley Rail Trail extends from Main Street in Millerton south through Amenia to the Wassaic Metro-North station, a distance of 10.7 miles. The trail is planned to continue north to Chatham in Columbia County. An extension south into the hamlet of Wassaic is also planned.

**Bicycling Facilities**
There are three on-street bicycle facilities in the Harlem Valley, all shared-lane markings (sharrows): in the Village of Pawling on Charles Colman Boulevard between West Main Street and Union Street; in the Village of Pawling on West and East Main Street between Dutcher Avenue and Coulter Avenue, and in the Town of Amenia on Mechanic Street between the Harlem Valley Rail Trail and East Main Street.

NYSDOT has several proposed State Bicycle Routes (SBR) which connect to the area:

- An extension of SBR 22 south on Route 22 between Columbia County through Dutchess and Putnam counties.  
- An extension of SBR 199 along Route 199, between Route 308 on the western border of Milan and the proposed SBR 22 in the Town of Northeast.  
- Proposed SBR 44, along Route 44 between SBR 9 in the City of Poughkeepsie and the proposed SBR 22 in the Town of Amenia.  
- Proposed SBR 55, along Route 55 between the proposed SBR 44 in the Town of Poughkeepsie and the proposed SBR 22 in the Town of Pawling.

Bicycle parking is provided at some of the area’s key destinations, including the Harlem Valley Rail Trail trailheads in Millerton and Amenia, the Wassaic and Pawling Metro-North stations, and the Pawling and Dover Plains libraries. A list of bicycle parking locations is included in Appendix G.
**Transit Service**

Most bus trips, and many train trips, involve a walking (or in some cases, bicycling) trip on one or both ends—to get to the stop or station, and to get from the stop or station to a final destination.

There is moderate transit service in the Harlem Valley, particularly in Dover and Pawling. LOOP’s Route D provides service on Routes 44 and 343 between Poughkeepsie, Pleasant Valley, Millbrook, Dover Plains and the Tenmile River Metro-North station in Amenia. It had annual ridership of approximately 29,800 in 2012. LOOP’s Route E provides service along Route 55 between Poughkeepsie, LaGrange, Union Vale, Beekman, and the Village and Town of Pawling. It had annual ridership of approximately 22,200 in 2011.

Metro-North’s six stations in the Harlem Valley serve about 770 people on an average weekday and over 1,200 people on an average weekend (note that the Appalachian Trail station only operates on weekends). See Chapter 4 for ridership by station.

**B. Walking & Bicycling Data**

Based on the Harlem Valley’s relatively low density, average to high auto ownership, and modest transit service, balanced by the concentration of sidewalks in the Villages and the successful rail trail, we can expect moderate rates of walking and bicycling in this area. While Census data at the municipal level is limited, estimates of walking to work for three Harlem Valley municipalities are available: the Towns of North East and Pawling, and the Village of Pawling. According to these estimates, approximately 7 percent of Town of North East workers, 10 percent of Village of Pawling workers, and 4 percent of Town of Pawling workers walk to work. This compares to 4 percent of workers county-wide.

**Count Data**

Counts of people walking and bicycling were conducted at up to six locations in the Harlem Valley in January, May, July, and September 2013. The location with the most walking activity was in the Village of Pawling on Charles Colman Boulevard near Main Street, with 497 pedestrians counted on a May weekend from 12-2 pm. The most bicycle activity was on the Harlem Valley Rail Trail in the Village of Millerton, with 123 bicyclists counted on a September weekend from 12-2 pm. The count volumes are detailed in Appendix J and illustrated in Maps 8-9 (in Chapter 4).

**Walk-Bike Dutchess Survey Data**

The Walk-Bike Dutchess resulted in 42 responses from the Harlem Valley. According to the survey, nearly 70 percent of respondents walk at least three days per week and nearly 50 percent of respondents ride a bicycle at least three days per week. The purposes for walking and bicycling were consistent: the most common responses were for exercise and to be outside enjoying the community. According to respondents, the best location for...
walking in the area is Lakeside Park in Pawling, and the best location to bicycle is the Harlem Valley Rail Trail. Route 22 and Route 55 were cited as the most problematic locations for walking and bicycling, mostly due to traffic concerns. When asked, “If equally good facilities existed, how would you prefer to travel?” over 90 percent said they would prefer to walk or bicycle to parks/recreation, about 80 percent to the gym/exercise, over 75 percent to the bus or train, to school, and to local errands/appointments/shopping, and over 55 percent said they would prefer to walk or bicycle to work.

Over 60 percent of respondents said there are many places to go within walking distance of home, while just over 40 percent said stores are within walking distance of home, and less than 40 percent said it is easy to walk to a bus or train stop from home. Over half of respondents are either somewhat or very dissatisfied with how their community is designed for walking, while over 60 percent are either somewhat or very dissatisfied with how their community is designed for bicycling.

When asked “What are the most important improvements to be made?”, the most common responses included adding more rail trails and shared-use paths, increasing road shoulder widths, and adding bicycle lanes and/or shared lane markings. Respondents noted that bicycle parking is needed on sidewalks next to local destinations, as well as at municipal facilities, parks, stores, and bus stops/train stations. In order to prioritize improvements, respondents suggested focusing on completing missing pieces to create longer continuous walkways and bikeways, and improving safety by addressing likely crash locations.

Charts showing the survey results for each Planning area are included in Appendix F.

Crash Patterns
Five years of crash data, from 2007 to 2011, were analyzed to determine trends in pedestrian and bicycle crashes. First, pedestrian and bicycle crash rates per 1,000 population were calculated for each municipality. The Harlem Valley rates are shown below. The Village of Millerton greatly exceeds the county-wide average pedestrian crash rate (based on a small number of crashes), and the Town of Dover slightly exceeds the county-wide average pedestrian crash rate. The Town of Amenia and Village of Pawling exceed the county-wide average bicycle crash rate. However, these are both based on a small number of bicycle crashes. Maps 11 and 12 (in Chapter 4) show all municipalities’ crash rates.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Pedestrian Crashes</th>
<th>Bicycle Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Annual Rate (per 1,000 pop.)*</td>
</tr>
<tr>
<td>T/Amenia</td>
<td>2</td>
<td>0.09</td>
</tr>
<tr>
<td>T/Dover</td>
<td>11</td>
<td>0.25</td>
</tr>
<tr>
<td>T/North East</td>
<td>1</td>
<td>0.10</td>
</tr>
<tr>
<td>T/Pawling</td>
<td>1</td>
<td>0.03</td>
</tr>
<tr>
<td>V/Millerton</td>
<td>3</td>
<td>0.63</td>
</tr>
<tr>
<td>V/Pawling</td>
<td>2</td>
<td>0.17</td>
</tr>
<tr>
<td><strong>Dutchess County</strong></td>
<td><strong>377</strong></td>
<td><strong>0.25</strong></td>
</tr>
</tbody>
</table>

*Village populations have been subtracted from those of Towns to avoid double counting. Source: Accident Location Information System (ALIS), NYSDOT.
Second, using the same data, high-crash corridors were identified. These are road segments with concentrations of bicycle and/or pedestrian crashes and a high crash rate per mile. There were no high-crash corridors in the Harlem Valley for pedestrians, but there was one high-crash corridor for bicyclists:

- Bicycle: Amenia, Route 22 between Lake Amenia Road/Dunn Road and Cascade Road: 1.2 miles; 3 crashes; 2.5 crashes/mile.

High-crash corridors in the Harlem Valley are shown in Map 15 (in Chapter 4). All pedestrian and bicycle crashes in the Harlem Valley are shown in Map 58.

C. Key Needs/Issues

The Bicycle-Pedestrian Advisory Committee identified the following needs in the Harlem Valley:

- Provide sidewalks along Route 22 and other streets to improve walking access to shopping.
- Provide safe crossings across Route 22 for people on foot and bike.
- Extend the Harlem Valley Rail Trail.
- Increase enforcement of bicycle and pedestrian safety-related laws.

In terms of safety, key corridors/hot spots include the Village of Millerton and the hamlet of Dover Plains for walking and Route 22 in the hamlet of Amenia for bicycling.

D. Harlem Valley Project Recommendations

Based on the needs and issues identified above, previous plans, and input from the Bicycle-Pedestrian Advisory Committee, municipal officials, members of the public, and staff from NYSDOT-Region 8, Dutchess County Public Works, and Dutchess County Planning, the following project ideas are recommended to improve walking and bicycling in the Harlem Valley. They are organized by timeframe (short, medium, and long-term) and then by project lead (municipalities, County, and State). They are also shown in Maps 59-64 and listed in Appendix I. As noted previously, the facility owner(s) will ultimately decide whether or not to implement a project. The Plan cannot and is not intended to require specific action by any municipality or agency.

Short-Term Recommendations (within 5 years)

**HV-1. Harlem Valley Rail Trail Extension – Hamlet of Wassaic**  
[T/Amenia, Dutchess County; Short-Term]

Issue: There is no walking access between the Wassaic train station and the Wassaic hamlet. The Town is currently working on a ‘Trail to the Train’ project to extend the Harlem Valley Rail Trail to the hamlet.

Improvement:
- Extend the Harlem Valley Rail Trail from the railroad station south to the Wassaic hamlet (about 0.6 miles).

**HV-2. Dover Plains Route 22 Sidewalk and Crosswalk**  
[T/Dover, NYSDOT; Short-Term]

Issue: There is a sidewalk along the west side of Route 22 from the Dover Plains hamlet center to the grocery store (between Nellie Hill Road and Oniontown Road), but no designated crossing across
Harlem Valley
Pedestrian and Bicyclist
Crashes (2007-2011)

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Source:
New York State Accident Location Information System (ALIS).

1 inch = 2.4 miles
Route 22 or sidewalk to the post office and retail on the east side of Route 22.

Improvement:
- Extend the sidewalk on one side of Route 22 to the south and add a crosswalk across Route 22 between the grocery store and the Post Office, consistent with the Town’s Comprehensive Plan recommendations for pedestrian-friendly designs (about 0.25 miles).
- Coordinate sidewalk and crossing improvements with plans for a new grocery store on the east side of Route 22 south of the post office.

**HV-3. Harlem Valley Rail Trail Extension – Village of Millerton**

[T/North East, V/Millerton, Dutchess County; Short-Term]

Issue: In Dutchess County, the Harlem Valley Rail Trail currently ends (to the north) in Millerton. An extension to the north would connect the trail to existing segments in Columbia County, including one between Under Mountain Road and Copake Falls Station. The Town and Village have secured federal funding for this extension.

Improvements:
- Extend the Harlem Valley Rail Trail from the Village of Millerton to connect to other segments of the trail in Columbia County (8.25 miles).
- Explore potential trail connections between the Harlem Valley Rail Trail and Rudd Pond State Park (through Rudd Pond property) and the Taconic Ridge Trail (through the Henry Young Farm property).

**HV-4. Village of Pawling Sidewalk Study**

[V/Pawling; Short-Term]

Issue: The Village of Pawling does not have an inventory of its sidewalk locations or conditions. The sidewalk network should be inventoried to identify key gaps, areas where sidewalks are in poor condition, and improvements needed to make the Village more accessible by walking.

Improvement:
- Work with the PDCTC to conduct an inventory and study of walking infrastructure in the Pawling Village center, possibly including trail connections.

**HV-5. Route 22 Shoulder Improvements**

[NYSDOT; Short-Term]

Issue: Route 22 is a major north-south route used for bicycling. However, shoulder widths are narrow in places (e.g. in Dover Plains, and between Amenia and Millerton), and vehicle speeds are high.

Improvements:
- Widen shoulders on Route 22 where needed to provide safe access for bicycling.
- Install appropriate signage along Route 22 to encourage safe sharing of the road.
Walk Bike Dutchess

**Medium-Term Recommendations (5 to 10 years)**

**HV-6. Amenia Hamlet Sidewalks**  
**[T/Amenia, NYSDOT; Medium-Term]**

Issue: There is a lack of sidewalks to destinations near the Amenia hamlet, including the grocery store north on Route 22 and retail, and there have been several crashes around the Route 22/44/343 intersection.

Improvements:
- Extend sidewalks along Route 22 from the Amenia Town Hall north to the Freshtown shopping plaza (about 0.5 miles).
- Consider a future extension of sidewalks on Route 22 to Maplebrook School (off of Adams Drive) (about 0.5 miles).
- Provide a sidewalk on Route 44 to connect to the Beekman Park ball fields (about 0.1 miles).
- Review crash data to determine key issues and potential improvements. Based on the crash analysis, implement appropriate traffic calming measures, signage and/or other improvements in the hamlet.

**HV-7. Pawling Middle School/High School Sidewalk Connections**  
**[T/Pawling, V/Pawling, Pawling Central School District, Trinity-Pawling School, NYSDOT; Medium-Term]**

Issue: The lack of sidewalks to the Pawling Middle and High schools (north of Reservoir Road) prevents students from being able to safely walk to school. There are no sidewalks along the schools’ entry road (Wagner Drive), or along Reservoir Road or Route 22 near the schools, and no marked crosswalks. Traffic is heavy on Route 22 and on Reservoir Road before and after school. In addition, the school’s cross-country teams run along these roads.

Improvements:
- Install a sidewalk on Reservoir Road between Route 22 and the Middle and High schools at Wagner Drive (about 0.5 miles).
- Extend the sidewalk along Wagner Drive to connect to the existing sidewalks at the schools’ entrances (about 0.4 miles).
- Mark a crosswalk across Wagner Drive at Reservoir Road and across driveways on Wagner Drive as needed.
- Extend the existing sidewalk on the west side of Route 22 (which ends at the north boundary of the cemetery north of Coulter Avenue) to the pedestrian overpass and then to Reservoir Road along the east side of Route 22, or create a sidewalk on the east side of Route 22 between Coulter Avenue and Reservoir Road (about 0.4 miles).
• Mark crosswalks at the Route 22/Reservoir Road intersection as needed to connect the sidewalks on Route 22 and Reservoir Road.

HV-8. **Town of Pawling Route 22 Sidewalks**  
*[T/Pawling, NYSDOT; Medium-Term]*

Issue: There are no sidewalks on Route 22 except for a short section between Pine Drive/Coulter Avenue and the Trinity Pawling School, and only one designated crosswalk (at Pine Drive) for people who live on the east side of Route 22.

Improvements:
- In conjunction with the planned sewer extension project, construct sidewalks or a shared-use path along Route 22 between Quaker Hill Road/East Main Street and the Hannaford grocery store at Akindale Road, connecting to the senior housing at the Castagna development on Route 22 (about 1.3 miles).
- Create designated crossings on Route 22 at East Main Street/Quaker Hill Road (CR 67) with marked crosswalks and pedestrian signals.

HV-9. **Route 22 Hamlet Speed Evaluation**  
*[Towns, Dutchess County, NYSDOT; Medium-Term]*

Issue: Most of the hamlets in the Harlem Valley are situated along Route 22. Residents feel that speeds on Route 22 through some of the hamlets are too high.

Improvement:
- Evaluate posted speed limits in hamlets along Route 22 and work with the Dutchess County Department of Public Works and NYSDOT to reduce limits, enforce existing limits, or implement traffic calming treatments where needed.

HV-10. **West Dover Road (CR 20) Shoulders and Signage**  
*[Dutchess County; Medium-Term]*

Issue: West Dover Road provides connections to Lakeside Park, the Village of Pawling, and the Pawling train station. However, it has no paved shoulders.

Improvements:
- Add paved shoulders (four foot minimum) on West Dover Road (CR 20) between the apartments off of Kings Way and the Village line.
- Install appropriate signage to encourage safe sharing of the road.

**Long-Term Recommendations (10+ years)**

HV-11. **Silo Ridge – Harlem Valley Rail Trail Connection**  
*[T/Amenia; Long-Term]*

Issue: The Silo Ridge golf course property southwest of the Amenia hamlet is planned to be redeveloped with residential and other uses. The property is directly across Route 22 from the Harlem Valley Rail Trail, which connects into the center of the hamlet via Mechanic Street. However, there is not a direct connection between the property and the rail trail.

Improvement:
- As plans for development of Silo Ridge are finalized, develop a connection between the property and the Harlem Valley Rail Trail across Route 22.

HV-12. **Taconic DDSO – Tenmile River Station Sidewalk/Bicycle Connections**  
*[T/Amenia, Dutchess County; Long-Term]*

Issue: The Taconic Developmental Disabilities Service Office (DDSO) is planned to be closed. The large campus is near the
Walk Bike Dutchess

Tenmile River Metro-North train station and is likely to be redeveloped in the future. There are sidewalks within the campus, but no sidewalks (or bicycle facilities) connecting the campus to the train station.

Improvement:
- As plans for re-use of the Taconic DDSO facility are developed, integrate walking and bicycling connections between the DDSO and the Tenmile River train station, such as on Hillside Drive and Sinpatch Road (CR 105).

HV-13. Dover Trail Network [T/Dover; Long-Term]
Issue: The Town of Dover has several trail systems, including a portion of the Appalachian Trail and shorter trails in Boyce Park, Stone Church, the Roger Perry Nature Preserve, and Nellie Hill. However, the trails are not connected to each other or to destinations within the Town.

Improvement:
- Create a trail network in Dover, including a loop trail linking Nellie Hill with the center of Dover Plains, a continuous trail along the Ten Mile River, and a trail between Boyce Park and the Appalachian Trail.

HV-14. Holmes Hamlet Sidewalks & Shoulder Improvements [T/Pawling, Dutchess County, NYSDOT; Long-Term]
Issue: There are no sidewalks and minimal shoulders for people to walk or bicycle in the Holmes hamlet (centered at the Route 292/Holmes Road intersection).

Improvements:
- Evaluate the feasibility of installing sidewalks or walking paths along Route 292 and Holmes Road (CR 30) within about a half-mile of the Route 292/CR 30 intersection, and install where feasible.
- Increase shoulder widths where possible.

HV-15. Dutcher Avenue (CR 69) Shared-Use Path [T/Pawling, V/Pawling, Dutchess County; Long-Term]
Issue: Dutcher Avenue (CR 69) connects Route 55 and South Street with West Main Street in the center of the Village of Pawling. There are minimal shoulders and no sidewalks along the street. However, the east branch of the Croton River is just east of the road, and wetlands and floodplains border the east side and portions of the west side of the road.

Improvement:
- Evaluate the feasibility of constructing a shared-use path (such as an elevated boardwalk) along Dutcher Avenue (CR 69) between West Main Street in the Village of Pawling and Route 55 in the Town of Pawling (about 0.8 miles), and construct if feasible.

HV-16. Putnam Trailway – Harlem Valley Rail Trail Connection [T/Pawling, Dutchess County, NYSDOT; Long-Term]
Issue: The Putnam Trailway extends 12 miles from Baldwin Place (near Westchester County) to Brewster Village in Putnam County. It is currently not connected to the Dutchess Rail Trail (see recommendation LT-10) or the Harlem Valley Rail Trail.

Improvements:
- Work with Putnam County to create a bicycle connection between the Putnam Trailway in Carmel/Brewster and the Harlem Valley Rail Trail via the Maybrook rail line and/or Route 312 and Route 22.
• Alternatively, create an on-road signed bicycle connection using Old Route 6, John Simpson Road, Fair Street, and Route 311 to Route 22.
Walk Bike Dutchess 2014
Project Recommendations by Municipality:
AMENIA

www.dutchessny.gov/WalkBikeDutchess

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For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
### Project Recommendations: Town of Amenia*

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*For project descriptions, see [Walk Bike Dutchess, Chapter 5.5](#).

1. Short = within 5 years; Medium = 5-10 years; Long = 10+ years

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Walk Bike Dutchess 2014

Project Recommendations by Municipality: NORTH EAST

www.dutchessny.gov/WalkBikeDutchess

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For project specifics, see:
http://www.co.dutchess.ny.us/CountyGov/Departments/TransportationCouncil/bppappendixi.pdf
## Project Recommendations: Town of North East

### Planning Area | Project Code | Location | Project Name | Timeframe | Lead | Other Partners
---|---|---|---|---|---|---
Harlem Valley | HV-3 | V/Millerton; T/North East | Harlem Valley Rail Trail Extension - Village of Millerton | Short | T/North East, V/Millerton, Dutchess County | HVRTA
Harlem Valley | HV-5 | T/North East; T/Amenia; T/Dover; T/Pawling; V/Millerton; V/Pawling | Route 22 Shoulder Improvements | Short | NYSDOT |  
Harlem Valley | HV-9 | T/North East; T/Amenia; T/Dover; T/Pawling | Route 22 Hamlet Speed Evaluation | Medium | Towns, Dutchess County, NYSDOT |  
Upper Hudson | UH-33 | T/Rhinebeck; V/Rhinebeck; T/Red Hook; V/Red Hook; T/Milan; T/Pine Plains; T/North East; V/Millerton | Hucklebush Rail Trail | Long | Towns, Dutchess County | Rail owner

*For project descriptions, see  [Walk Bike Dutchess, Chapter 5.5](#)

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Walk Bike Dutchess 2014
Project Recommendations by Municipality:
VILLAGE OF MILLERTON

www.dutchessny.gov/WalkBikeDutchess

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## Project Recommendations: Village of Millerton*

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Walk Bike Dutchess 2014
Project Recommendations by Municipality: PAWLING

www.dutchessny.gov/WalkBikeDutchess

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Walk Bike Dutchess 2014

Project Recommendations by Municipality:
VILLAGE OF PAWLING

For project specifics, see:
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**Walk Bike Dutchess**  Project Recommendations: Village of Pawling*

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Project sponsors must fully define project scope and develop project cost estimates.
Walk Bike Dutchess

Chapter 6: County-Wide Recommendations

This chapter provides recommendations that can be implemented at a county-wide scale. They are organized by the ‘Five E’s’: Engineering, Education, Encouragement, Enforcement, and Evaluation & Planning, and also include recommendations related to Local Policies & Plans, and Personnel. Unless otherwise specified, recommendations are intended to be led by the PDCTC or appropriate County department.

A. Engineering

1. Create a County Road Maintenance Reporting System
   - Work with the County Department of Public Works (DPW) to establish a website, smart phone app, or other user-friendly system for residents to report maintenance needs on County roads and shared-use paths, and for DPW to record, respond to, and track the status of requested maintenance. This system could apply to walking and bicycling-related conditions as well as other safety or maintenance concerns.
     - Incorporate a feature to enable issues related to Town or State roads to be directed to the appropriate entity.
     - Maintenance issues on County roads can also be reported by emailing the County Department of Public Works or calling 845-486-2900.
   - Maintenance issues on State roads should be directed to the Hudson Valley Transportation Management Center (phone 914-864-5450). Bicycling and walking-related questions can be directed to the Bicycle and Pedestrian Section staff.

2. Incorporate Walking and Bicycling Facilities in Road Improvement and Maintenance Projects & Create a Public Schedule/Notification System
   - Encourage County DPW, New York State Department of Transportation (NYSDOT), and local municipalities to continue to incorporate walking and bicycling facilities into road improvement and maintenance projects where feasible. Prioritize streets in designated centers, those recommended for improvements in this Plan, and designated State Bike Routes.
     - Roadway reconstruction and rehabilitation projects: consider formal paved shoulders, sidewalks and crosswalks, and/or bicycle facilities, consistent with this Plan and in locations where the improvement can be accommodated within the existing right of way.
     - Bridge and culvert construction and rehabilitation projects: consider formal shoulders, sidewalks and crosswalks, consistent with this Plan.
Bridge projects provide opportunities to improve walking and bicycling access by installing wide shoulders or sidewalks.

- Resurfacing projects: incorporate wider shoulders where desired and feasible. Pave the shoulder to the maximum extent practicable.
- General maintenance: keep road shoulders as clear of vegetation and debris as possible to maximize accessibility and safety for people walking and bicycling.

- Work with DPW, NYSDOT, and local municipalities to provide a publicly-available and easily understood schedule of proposed road projects (such as on their website), so that residents can provide input and be aware of upcoming projects.

- Encourage coordination between DPW and PDCTC/County Planning staff at an early stage of project development to discuss, consider, and incorporate bicycling and walking improvements into project designs.

3. **Provide Facilities for Walking in Centers**

- Work with municipalities, County DPW, and NYSDOT to provide facilities for walking in designated centers. Consider sidewalks, marked crosswalks, pedestrian signals, other design features, and maintenance practices based on the guidance in Chapter 3 (Design Guidelines).
  - Sidewalks on County roads may be installed by the municipality or property owner (with a permit from County DPW), or by County DPW; however, the municipality is responsible for maintenance.
  - Sidewalks on State roads may be installed by the municipality or property owner (with a permit from NYSDOT), or by NYSDOT as part of a capital project. Sidewalks on State roads are owned by NYSDOT but maintained by the municipality.
  - On local streets, the municipality is responsible for improvements (including sidewalks) as well as maintenance. However, the municipality may require property owners to install sidewalks or other facilities as part of a land-use approval, and may require property owners to maintain sidewalks.

- County DPW should continue to work with municipalities to review speed limits on County roads in hamlets and evaluate potential reductions, in conjunction with traffic calming elements where appropriate.

4. **Provide On-Street Bicycle Facilities**

- Work with local municipalities, County DPW, and NYSDOT to provide and maintain on-street bicycle facilities on streets with significant bicycle use or potential use. The appropriate facility type and maintenance practices should be based on the guidelines in Chapter 3 (Design Guidelines). Demonstration
projects should be considered to test and evaluate bicycle lanes, sharrows, bicycle boulevards, and other facility types.

- Work with NYSDOT to evaluate and develop State Bicycle Routes on Routes 22, 44, 52, 55, and 82. Incorporate paved shoulders (minimum four feet) and other treatments as applicable.

**How Can a Speed Limit be Changed?**
Outside of Village and City boundaries, lowering a speed limit on a Town or County road requires a Town Board resolution requesting the change. The resolution is forwarded to County DPW for a recommendation and then forwarded to NYSDOT, which conducts an investigation and makes a final determination. Speed limits on State highways are set by NYSDOT, except that Villages and Cities may establish speed limits on State highways with written permission by NYSDOT. Villages, cities, and certain towns can set their own speed limits on all roads except State highways.

5. **Inventory Local Sidewalks, Crosswalks and Pedestrian Signals**

- Local municipalities, in coordination with PDCTC and NYSDOT as needed, should inventory and review conditions at existing sidewalks and crosswalks on their streets. The review should consider needs for sidewalk repair, crosswalk markings, pedestrian signal and traffic signal upgrades, curb ramps and other ADA improvements, and other features.

- Municipalities that do not have an ADA Transition Plan for their streets and sidewalks should develop one, identifying improvements needed to make all streets accessible per ADA standards and a timeframe for implementing those improvements.

6. **Upgrade Bicycle Detection at Traffic Signals**

- County DPW and municipalities should inventory actuated traffic signals on streets with significant bicycle use or potential use to determine if the signal detects bicycles, and if not, if it can be adjusted. Where detection is possible, a bicycle symbol may be marked on the pavement to show bicyclists where to position themselves to be detected. Signals that cannot be adjusted should be noted and bicycle detection incorporated if feasible when the signal is replaced or upgraded.

- In addition, the signal timing should be reviewed to determine if changes to the timing could better accommodate bicycle travel (such as extending the minimum green time, extension time, or all-red time).

Bicycle symbols marked over the loop detector alert bicyclists to the best place to wait to be detected (source: LA-Bike.org).
7. **Provide Bicycle Parking**

- Work with the County DPW-Buildings Division to install short-term and long-term bicycle parking at all county facilities, as appropriate, based on the guidelines in Chapter 3 (Design Guidelines).
- Work with Dutchess County Public Transit to provide bicycle racks, bus stop shelters, and other amenities to municipalities. In order to receive such amenities, a municipality must sign an agreement with County Transit agreeing to install, insure and maintain the amenities.
- Encourage municipalities to install bicycle parking at high-use locations. Provide technical assistance as needed.

B. **Education**

1. **Educate Roadway Users on Sharing the Road**

- Work with the County Traffic Safety Board, Health Department, and other partners to develop and distribute Share the Road materials to educate all roadway users about how to share the road safely. Information should include walking, bicycling, and driving laws, as well as safe walking, bicycling, and driving practices. Materials could include public service announcements, billboards, websites, educational brochures, posters, bumper stickers, as well as training programs. Use or adapt existing materials where possible.
  - **Examples**: Capital District Transportation Committee’s (CDTC) Capital Coexist campaign; GTSC’s Share the Road guides and Sharing the Road Safely brochure; Coexist NYS video and print tools.
- Incorporate Share the Road training and materials into Defensive Driving courses given to County employees.
- Work with the County Auto Center to consider installing “Share the Road” bumper stickers, “Watch for Bicyclists” driver side-view mirror stickers, or other awareness messages on County vehicles.
- Coordinate with local DMV offices to distribute educational materials, and consider screening Share the Road safety videos at DMV offices.
- Work with DMV to update the driver’s test, driver’s manual, and other materials to more fully incorporate bicycle laws and safety issues.
Chapter 6: County-Wide Recommendations

2. **Support Pedestrian Safety Training**
   - Work with the County Traffic Safety Board, Health Department, and other partners to develop and/or support pedestrian safety programs at schools, colleges, and other venues. These programs should include information about walking laws and safe walking practices, such as wearing reflective clothing at night. Focus on key audiences (based on crash data), such as teens/young adults and older adults, as well as non-English speakers.
   - In schools, incorporate pedestrian safety presentations into teacher training days or student assemblies, and provide teachers with materials to use in their classrooms. Use tools such as those on [FHWA’s pedestrian and bicycle safety webpage](#) and [NYSDOT’s Pedestrian Information and Education webpage](#).

3. **Support Bicycle Safety Training**
   - Work with the County Traffic Safety Board, Health Department, and other partners to develop and/or support bicycle safety programs, such as bicycle rodeos and skills clinics. These programs should include information about bicycle laws and safe bicycling practices, as well as basic bicycle maintenance and repair. Focus on key audiences (based on crash data) such as children, teens, and young adults, as well as specific programs for Spanish speakers and women.
     - **Example:** In 2012, [Bikeable Beacon](#) held two free “Bike for Transportation” classes for cyclists of all levels covering traffic rules, how to share the road, bike repairs, and other riding tips.
   - Develop a bicycle safety tips brochure to educate people about safe bicycling practices. Distribute to riders through bicycle shops and other bike retailers, bus drivers, rail trail heads, online, and at events. Use resources such as those from the [League of American Bicyclists](#) and others (see sample brochures on following pages).

4. **Develop Complete Streets Training**
   - Develop training for municipal staff and local boards (such as Highway Superintendents, Town Boards, Planning Boards, and School Boards) on the concept and application of Complete Streets. The training could include discussion of the New York State Complete Streets Act, examples of local policies, and how to implement Complete Streets at the local level. Use or adapt existing materials where possible (such as those from the County Planning Department’s [2013 short course on Complete Streets](#)).

5. **Encourage Community-Based Bicycle Education Programs**
   - Encourage local bike shops, community organizations, or others to develop local bicycle education and maintenance programs such as youth earn-a-bike programs, bicycle drivers’ education, and bicycle maintenance classes.
     - **Example:** [Recycle-A-Bicycle](#) (NYC); [Recycle-A-Bicycle](#) (GObike Buffalo)
Fitting Your Bicycle Helmet

Step 1 - Position helmet on your head so that there are 2 fingers of space from your eyebrow to the edge of the helmet.

Step 2 - Adjust straps so that the side of the "V" is just below your ears.

Step 3 - Tighten strap to allow for just 2 fingers to slide between chin and clasp. Yawn-open your mouth wide! The helmet should pull down on your forehead.

Step 4 - Final adjustment. Helmet should be snug, low and level.
**Share The Road**

**Bicycling Laws**

**One Person Per Bike**
Riding double is permitted only when carrying a child, age one or older, in an approved carrier or when riding on a tandem bicycle. Cyclists under age 14 must always wear a helmet.

**Use Hand Signals**
Use hand signals to indicate upcoming turns, lane changes, slowing, and stopping. New York law also requires each bicycle to be equipped with a bell or a horn.

**Earphones are Dangerous**
Using earphones while bicycling (or skating) on a public right-of-way (street or sidewalk) is illegal.

**Use Caution if Bicycling on Sidewalks**
Bikes are permitted on sidewalks except where local laws prohibiting bicycling on sidewalks have been established. Bicyclists on sidewalks must yield to pedestrians and all vehicular traffic (including at driveways). Remember, motorists do not anticipate vehicles traveling quickly on the sidewalk from either direction.

**Never Ride Against Traffic**
Motorists are not looking for bicyclists riding on the wrong side of the street. Ride with traffic to avoid accidents.

**Use Lights at Night**
Always use a strong light-colored headlight and a red taillight at night or when visibility is poor. Use bike reflectors and reflective clothing. See and be seen!

**Obey Traffic Signs and Signals**
Bicyclists must obey all local and state traffic rules. Bicyclists have the same rights, privileges and duties as operators of other vehicles. Remember, a bicycle is not a toy.
Bicycling Tips

**Scan the Road Behind**
Look over your shoulder regularly or use a mirror to monitor traffic. Although bicyclists have equal right to the road, be prepared to maneuver for safety.

**Ride in a Straight Line**
Avoid dodging between parked cars. Ride in a straight line at least three feet away from parked cars. Watch for a car pulling out of a parking space.

**Beware of Car Doors**
Be wary of parked cars. Motorists can unexpectedly open doors. Be particularly careful if you see a motorist in the car.

**Turning Left - 2 Options**
1. **AS A VEHICLE:** Signal your intentions in advance. Move to the left turning lane and complete the turn when it is safe.
2. **AS A PEDESTRIAN:** Ride to the far crosswalk, dismount & walk across.

**Lock Your Bike**
Lock the frame and rear wheel to a fixed object. If you have quick release wheels, lock the front wheel also.

**Use Appropriate Lane**
Avoid being in a right turn only lane if you want to go straight through an intersection. Move into the through lane early.

**Be Careful at Intersections**
Proceed with care at intersections and be alert for vehicles. Establish eye contact with motorists to ensure that they know you are on the roadway. Confirm that you are seen.

**Ride in a Straight Line**
Avoid dodging between parked cars. Ride in a straight line at least three feet away from parked cars. Watch for a car pulling out of a parking space.

**Scan the Road Behind**
Look over your shoulder regularly or use a mirror to monitor traffic. Although bicyclists have equal right to the road, be prepared to maneuver for safety.

**Beware of Car Doors**
Be wary of parked cars. Motorists can unexpectedly open doors. Be particularly careful if you see a motorist in the car.

**Turning Left - 2 Options**
1. **AS A VEHICLE:** Signal your intentions in advance. Move to the left turning lane and complete the turn when it is safe.
2. **AS A PEDESTRIAN:** Ride to the far crosswalk, dismount & walk across.
**Multi-Use Trails**

**Keep to the Right**
All trail users should keep to the right except when passing or turning left. Move off the trail to the right when stopping. Never block a trail.

**Be Alert**
Watch for hazardous conditions, such as poor pavement, fallen tree branches and other debris. Beware of slippery conditions caused by water, ice, loose gravel or sand.

**Dismount as Posted**
Dismount and walk across roadways or other posted locations. When choosing a ‘pedestrian style’ crossing across the flow of traffic, cross only when it is safe to do so.

**Be Careful at Crossings**
Look both ways. Cyclists: yield to through traffic at intersections, pedestrians have the right of way. Pedestrians: exercise caution. Be aware of stopping limitations of bicyclists and skaters.

**Signal to Others**
Cyclists: when approaching others, sound your bell or call out a warning, then pass safely on the left. Pedestrians: move to the right when someone is overtaking.

**Skaters Use Caution**
In-line skaters: know how to use your equipment safely. Follow travel, passing, and speed rules as per bicyclists. Do not perform trick skating maneuvers on trails.

**Stay on the Trail**
Keep on designated trails to protect parks, natural areas and yourself. Riding off the trail is dangerous.

**Be Visible**
Ensure your visibility at night by wearing light-colored clothing with reflective material. Outfit your bicycle with lights as you would for riding on the roads.
C. Encouragement

1. *Participate in National Bike Month/Bike to School Day/Bike to Work Day*
   - Work with Dutchess County Government (including the Health Department, Traffic Safety Board, and other partners) to develop a program for the annual National Bike to Work Day (in May). This program could serve as a model for other employers and jurisdictions.
   - Consider organizing a Dutchess County Government team to participate in the National Bike Challenge (May to September), to encourage County employees to bicycle for transportation and recreation.

2. *Support National Walk to School Day*
   - Work with schools to develop and support programs for the annual National Walk to School Day in October. Use resources available from the National Center for Safe Routes to School and Safe Routes to School National Partnership to promote walking events.

3. *Encourage Local Open Streets Projects*
   - Encourage municipalities to consider implementing an Open Street project on a local street in the summer. These projects encourage public use of streets by closing the street to motorized traffic on a specific day and programming activities, such as dance, bicycle repair workshops, food, and group exercise classes. More information is available on the Open Streets Project website.

D. Enforcement

1. *Support Police Officer Training*
   - In coordination with the County Sheriff’s Office and local police departments, provide information and training to officers on walking and bicycling laws.
     - Example: CDTC’s Continuum of Training for Pedestrian and Bicycle Safety for Law Enforcement program.
2. **Encourage Targeted Enforcement Campaigns**
- Encourage the County Sheriff’s Office and local police departments to promote targeted enforcement of key pedestrian and bicycle safety laws, such as people on foot and on bicycles obeying traffic signals, bicyclists riding in the same direction as traffic, and drivers yielding to people in crosswalks, as well as speed limits and cell phone/electronic device laws. Prioritize high-crash corridors or intersections based on crash data.

3. **Encourage Bicycle Patrols**
- Encourage the County Sheriff’s Office and local police departments to use bicycle patrols in villages and other centers, on rail trails, and for special events. These patrols should be trained to model safe bicycling practices and educate roadway users on how to share the road safely by talking with people on the street and assisting at bicycle rodeos and other events.

E. **Evaluation & Planning**

1. **Conduct Annual Pedestrian and Bicycle Counts**
- Work with volunteers and local organizations to conduct annual counts of people walking and bicycling in accordance with the [National Bicycle and Pedestrian Documentation Project guidelines](#). Prioritize high-crash locations, locations with new facilities (for pre/post data), and high-use areas. Use data to prioritize improvements and track walking and bicycling patterns across locations and over time.
- Work with the PDCTC’s traffic count contractor to incorporate automated bicycle counts at select locations into the PDCTC’s annual traffic count program, if feasible. Use data to prioritize improvements and identify patterns in bicycling across locations and over time.

2. **Continue PDCTC Pedestrian and Bicycle Planning**
- Continue to conduct local sidewalk inventories/improvement strategies in coordination with municipalities, similar to the [Village of Rhinebeck Sidewalk Study](#) and [Hyde Park Town Center Pedestrian Study](#).
- Continue to assist municipalities with planning and technical guidance to create on- and off-street bicycle facilities.
  - Develop a pilot Safe Routes to School (SRTS) study, working with a local municipality and school district. If successful, offer SRTS studies to other municipalities/schools. A first step could include developing a series of maps showing walking infrastructure within two miles of all elementary and middle schools (grades K-8).
  - Develop a pilot Safe Routes to Transit study, working with a local municipality and Dutchess County Public Transit. If successful, offer similar studies to other municipalities.

*Walkway Ambassadors count people walking and bicycling (source: Susanne O’Neil, Walkway Over the Hudson).*
3. **Incorporate Walking and Bicycling Elements in Road Safety Assessments**
   - Incorporate walking and bicycling safety elements, including FHWA’s Proven Safety Countermeasures, into the PDCTC’s Road Safety Assessments. Refer to FHWA’s Pedestrian Road Safety Audit Guidelines and Bicycle Road Safety Audit Guidelines.
   - Consider conducting Bicycle Road Safety Audits and/or Pedestrian Road Safety Audits on high-crash corridors (see maps in Chapter 4), in coordination with local municipalities, enforcement, and other stakeholders.

4. **Analyze Pedestrian and Bicycle Crash Data**
   - Analyze pedestrian and bicycle crash patterns using tools such as the ALIS database developed by NYSDOT, NYSDMV, and the NYS Office of Information Technology Services, the PEDSAFE Countermeasure Selection System and the BIKESAFE Countermeasure Selection System. Use at least five years of data to identify high-crash corridors and intersections. Where possible, use pedestrian and bicycle count data to develop crash rates (crashes per the number of people walking or bicycling).

5. **Encourage Local Bicycle Friendly Community Assessments**
   - Encourage municipalities that have made substantial progress in supporting bicycling to pursue recognition through the League of American Bicyclists’ Bicycle Friendly America program. The program incorporates a self-assessment and outside review with detailed suggestions for improvement.
   - Encourage all municipalities to use the application as a self-assessment tool.

6. **Encourage Local Walk Friendly Community Assessments**
   - Encourage municipalities that have made substantial progress in supporting walking to pursue recognition through the Pedestrian and Bicycle Information Center’s Walk Friendly Communities program. The program incorporates a self-assessment and outside review with detailed suggestions for improvement.
   - Encourage all municipalities to use the application as a self-assessment tool.

7. **Track Progress with Performance Measures**
   - Monitor progress towards walking- and bicycling-related goals through the use of performance measures (see the end of this chapter). Review and track the performance measures as part of every update to the PDCTC’s long-range transportation plan, and revise as needed.

F. **Local Policies & Plans**

1. **Adopt a County Complete Streets Policy**
   - Work with the County Planning Board, DPW and other County departments, and the County Legislature to develop and adopt a Complete Streets policy for County roads.
   - Encourage municipalities to adopt local Complete Streets policies, either as a stand-alone policy or as part of their Comprehensive Plan.

2. **Promote Local Sidewalk and Bicycle Plans**
   - Work with municipalities to incorporate local sidewalk plans into their Comprehensive Plan and/or an Official Map. Sidewalk plans show priority locations for future sidewalks, to
be implemented in coordination with future development, road work, or as stand-alone projects.

- Work with municipalities to incorporate local bicycle plans into their Comprehensive Plan and/or an Official Map. Bicycle plans show priority locations for bicycle facilities, such as bike lanes, shared-lane use markings, bicycle boulevards, wide paved shoulders, shared-use paths, and bicycle parking, to be implemented in coordination with future development, road work, or as stand-alone projects.

- Encourage municipalities to consider designating certain sub-areas as School Zones, Senior Zones, or Slow Zones, as appropriate. Streets within these areas would receive traffic calming, lower speed limits, signage, and other treatments to increase safety for people walking and bicycling.
  - Example: New York City’s Neighborhood Slow Zones program.

3. **Encourage Local Code Review**

- Encourage municipalities to review and revise their zoning codes, subdivision ordinances, and other local codes to incorporate best practices relating to sidewalk construction, maintenance, and snow removal, as well as provision of bicycle parking.

G. **Personnel**

1. **Establish a Permanent Bicycle-Pedestrian Advisory Committee**

- Establish a Bicycle-Pedestrian Advisory Committee (BPAC) as a regular committee of the PDCTC. The BPAC would serve as a forum for sharing information related to walking and bicycling, such as current projects and funding opportunities, and providing input on projects, programs and policies. It would not be an advocacy organization. Members could be officially appointed by elected officials, agencies, and stakeholder organizations, and/or selected via an application process. The BPAC should meet at least quarterly.

As of 2013, over 600 local governments and 27 states have Complete Streets policies (source: CompleteStreets.org).
Walk Bike Dutchess

2. **Convene an Inter-Departmental Complete Streets Committee**
   • Create a committee with representatives from the County Departments of Planning and Development, Public Works (including Parks), and Health; Office for the Aging, Division of Public Transit; Traffic Safety Board; and others as needed to coordinate walking and bicycling-related initiatives in County government.
   • Encourage the County to designate a staff person as the Complete Streets Coordinator, and when appropriate, create a dedicated position. This person would coordinate the Complete Streets Committee and serve as a liaison between County departments and with local municipalities, NYSDOT, and others to promote walking and bicycling in the county. Municipalities could also consider designating a person to serve as a local Complete Streets Coordinator.

3. **Create a Dutchess Rail Trail Ambassador or Advocacy Program**
   • County DPW-Parks should develop a Trail Ambassador or Advocacy program for the WRS Dutchess Rail Trail, similar to existing programs for the Walkway Over the Hudson and the Harlem Valley Rail Trail. This program could educate users about the trail and proper trail use/etiquette, note maintenance issues or other concerns requiring follow-up, and provide this information to County DPW-Parks or the appropriate entity.
   • Similar programs could be instituted for local trails by municipalities and other trail owners.
     - **Example:** The *Hudson Valley Rail Trail Association* in Ulster County implemented a Trail Courtesy program to encourage safe sharing of the trail. On designated weekends, Trail Courtesy ‘info stops’ are set up, where volunteers stop trail users, give them cards with safety tips for walking and bicycling, and explain the trail rules. In addition, signs with safety rules were installed at all trailheads and along the trail.

H. **Performance Measures**

*Moving Dutchess* includes objectives and performance measures to support goals of increasing walking and bicycling and improving pedestrian and bicycle safety. These measures were expanded upon to create a fuller set of goals for walking and bicycling addressing engineering, education and encouragement, and enforcement, as well as local policies. For each performance measure, the existing status is listed, as well as a short-term and longer-term goal. These measures will be incorporated into the PDCTC’s next metropolitan transportation plan.
## Walk Bike Dutchess: Performance Measures

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>Data Source</th>
<th>2013 Status</th>
<th>2020 Goal</th>
<th>2040 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BP1 Build Infrastructure for Walking and Bicycling</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>~ Miles of major paved shared-use paths</td>
<td>County GIS</td>
<td>25</td>
<td>33</td>
<td>50</td>
</tr>
<tr>
<td>~ Miles of sidewalk</td>
<td>County GIS</td>
<td>435</td>
<td>440</td>
<td>486</td>
</tr>
<tr>
<td>* Miles of on-street bicycle facilities (bike lanes, sharrows, bicycle boulevards)</td>
<td>Google Earth</td>
<td>1</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>* Number of bicycle parking rack locations</td>
<td>County GIS database</td>
<td>100</td>
<td>200</td>
<td>600</td>
</tr>
<tr>
<td><strong>BP2 Increase Trips Made by Walking and Bicycling</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>~ Percentage of all trips made by walking (most recent year)</td>
<td>NHTS/NYS DOT¹</td>
<td>8.5% (2009)</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>~ Percentage of all work trips made by walking (most recent 5-year estimate)</td>
<td>Census ACS²</td>
<td>4% (2007-2011 data)</td>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td>~ Percentage of all trips made by bicycle (most recent year)</td>
<td>NHTS/NYS DOT¹</td>
<td>0.7% (2009)</td>
<td>1.5%</td>
<td>5%</td>
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<tr>
<td>~ Percentage of all work trips made by bicycle (most recent 5-year estimate)</td>
<td>Census ACS²</td>
<td>0.4% (2007-2011 data)</td>
<td>0.8%</td>
<td>3%</td>
</tr>
<tr>
<td>* Increase in pedestrian volumes at key count locations (since 2013)</td>
<td>PDCTC count data³</td>
<td>0%</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td>* Increase in bicycle volumes at key count locations (since 2013)</td>
<td>PDCTC count data³</td>
<td>0%</td>
<td>50%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>BP3 Increase Accessibility of Walking and Bicycling Infrastructure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>~ Number of non-ADA compliant sidewalk segments on State highways</td>
<td>NYSDOT⁴</td>
<td>39</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>~ Number of non-ADA compliant intersections on State highways</td>
<td>NYSDOT⁴</td>
<td>39</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>~ Percentage of LOOP bus fleet with bicycle racks</td>
<td>Dutchess County Transit</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>* Number of municipalities with an ADA Transition Plan</td>
<td>Municipal information</td>
<td>1</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td><strong>S1 Improve Safety for People Walking and Bicycling</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>~ Average annual pedestrian-vehicle crashes (most recent five years)</td>
<td>ITSMR/GTSC⁵</td>
<td>87 (2007-11 data)</td>
<td>75</td>
<td>55</td>
</tr>
<tr>
<td>~ Average annual bicycle-vehicle crashes (most recent five years)</td>
<td>ITSMR/GTSC⁵</td>
<td>38 (2007-11 data)</td>
<td>35</td>
<td>25</td>
</tr>
<tr>
<td><strong>P1 Pass Complete Streets Policies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Number of municipalities with Complete Streets Policies</td>
<td>Municipal information</td>
<td>1</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td><strong>ED1 Educate and Encourage People to Walk and Bicycle</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Annual number of bicycle and pedestrian safety training events</td>
<td>DC Traffic Safety Board</td>
<td>12</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>* Annual number of Walk to School Day and Bike to School Day events (or similar)</td>
<td>walkbiketoschoool.org registry</td>
<td>4</td>
<td>8</td>
<td>20</td>
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<tr>
<td><strong>ENF1 Enforce Pedestrian, Bicycle, and Vehicle Laws</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Number of police agencies conducting targeted enforcement of pedestrian and/or bicycle safety laws</td>
<td>Local police agencies</td>
<td>0</td>
<td>5</td>
<td>13</td>
</tr>
</tbody>
</table>

* Adapted from a performance measure in Moving Dutchess (the PDCTC’s long-range transportation plan).

* New performance measure (not included in Moving Dutchess).

¹ NHTS is the National Household Travel Survey. NYSDOT summarizes and publishes key tables from the NHTS data on their website (https://www.nysdot.gov/divisions/policy-and-strategy/darb/dai-unit/ttss/nhts/key-tables).

² The 5-year Census American Community Survey (ACS) estimates have a margin of error; the percentage stated is the midpoint of the estimate.

³ Future calculations could average the most recent 3 years of data, or be based on a linear trendline.

⁴ Goals are based on NYSDOT’s stated goal to repair all non-ADA compliant locations in Dutchess County by 2018.

⁵ The Institute for Traffic Safety Management and Research (ITSMR), based at SUNY-Albany, prepares annual summaries of crash data for New York counties. Short-term goals incorporate goals from NYSDOT’s Strategic Highway Safety Improvement Program.
Chapter 7: Implementation and Funding

This chapter outlines key steps for municipalities and other agencies to take to implement the recommendations outlined in this Plan. It also highlights potential funding sources for walking and bicycling projects. Funding sources are organized into several categories: Local, Private, County, State/Regional, and Federal.

A. Implementation

This plan provides project recommendations for implementation by a variety of agencies: NYSDOT, Dutchess County, cities, towns, and villages, property owners such as schools and colleges, and other partners. Implementation steps will vary based on the agencies involved and the specific project. This section is intended primarily for municipalities interested in pursuing local walking and bicycling improvements.

At the local level, implementation of walking and bicycling projects is most effective when it is part of a larger planning effort. This could include the following steps:

1. Designate a Local Leader and Committee & Establish a Shared Vision
2. Assess Existing Conditions
3. Review Maintenance Practices
4. Review Local Planning Tools
5. Plan the Network and Identify Specific Improvements
6. Prioritize Improvements and Choose a First Project
7. Seek Funding and Implement the Project

Each of these steps is discussed below.

1. Designate a Local Leader or Committee & Establish a Shared Vision

Implementation depends on strong leadership. Determine the appropriate person to coordinate local walking and bicycling initiatives. Ideally, this would be an elected official or municipal staff person who can help coordinate various departments within the municipality.

A committee with representatives from key Departments, Boards, and local organizations can be instrumental in coordinating the implementation of projects. A committee should be small enough to be efficient. It could include just a few members, with additional representatives as needed for specific projects.

Consider members from the Supervisor’s or Mayor’s office; City Council, Town or Village Board; Public Works or Highway Department; Planning Board; and Recreation or Parks Department, as well as relevant local organizations, such as walking or bicycling clubs, school groups, parks/trails groups, health-related, senior-focused, safety, or environmental groups. A local police liaison may also be helpful.

One of the first tasks this committee should consider is to establish a shared vision or set of goals for the community. This vision will help the group focus its efforts and determine priorities.
Example: Village of Rhinebeck Pedestrian Task Force
When the Village of Rhinebeck undertook a sidewalk study in partnership with the PDCTC, it created a Task Force to assist Village and County staff. The Task Force included local residents and business owners who formed committees focused on Construction and Finance, Trees and Sidewalks, Public Outreach, Research, and the Village Code. The Task Force Chair served as the liaison between the Task Force, Village, and the County. The Mayor and Village Trustees also provided input throughout the planning process.

2. Assess Existing Conditions

Creating and maintaining walking and bicycling facilities requires understanding what you have and what condition it is in. The maps and data in this Plan can assist with this assessment. Additional assessment tools are available from many sources, such as WalkingInfo.org and BicyclingInfo.org. An assessment can be focused on a specific area of concern, or a broader, community-wide assessment.

When doing an assessment, seek input from a variety of people of all ages and abilities (including teens, seniors, and others who do not drive) as well as key agencies such as those listed in Step #1.

Example: Hyde Park Town Center Pedestrian Study
The PDCTC worked with the Town of Hyde Park to assess sidewalk conditions in the Town Center. This included designating a study area within the Town, walking all of the streets, and collecting data on where sidewalks exist, their condition, material, any issues (broken or missing pieces, uneven surfaces, obstructions, etc). Crosswalk, curb ramp, and pedestrian signal locations were also collected, as well as data on sidewalk buffers and accessibility. The data was used to identify and prioritize locations for new sidewalks and replacement of existing sidewalks.

3. Review Maintenance Practices

Maintaining existing facilities is as important as building new ones. Therefore, the assessment should include a discussion of current
maintenance practices with the local Highway or Public Works Department. Questions could include the following:

- What is the process used to identify and fix failing sidewalks?
- Do crews trim vegetation that obstructs sidewalks?
- Is snow removed from sidewalks? What happens when it is not?
- Are street edges and road shoulders swept regularly?
- What are other typical maintenance practices?
- How effective are these practices?
- What adjustments could be made?
- What equipment is needed to better maintain walking and bicycling facilities?
- Is there a simple way for residents to submit maintenance requests for local streets? How are these requests tracked and responded to?

Based on this discussion, identify opportunities for improving maintenance practices, and consider establishing a maintenance program including written policies, inspection criteria, a public reporting website and/or phone number, and a tracking system.

See Chapter 4 for a discussion of sidewalk maintenance practices in Dutchess County municipalities.

**Example: City of Ithaca Local Sidewalk Policy**

In 2013, the City of Ithaca established a new policy to support sidewalk maintenance and installation. It divides the city into five Sidewalk Improvement Districts (excluding Cornell University, which is responsible for its own sidewalks). All lots in each district, even tax-exempt properties, are assessed. One- and two-family homes pay a low flat rate, while other lots are assessed based on street frontage and square footage. The funds collected are used by the City to improve sidewalks in that District. This distributes the cost of sidewalk improvements fairly among all properties rather than just the adjacent owner(s), and provides a consistent funding stream sufficient to finance all sidewalk work in the city each year. More information is available on the City of Ithaca’s website.

In the winter, property owners are responsible for clearing snow and ice from adjacent sidewalks, but Ithaca encourages those who need help to hire a youth through the City’s Youth Employment Service. The City’s Office for the Aging also has a program for volunteers to help those who are unable to remove snow.
4. **Review Local Planning Tools**

In addition to understanding current maintenance practices, it is helpful to understand how local planning tools (such as the comprehensive plan, zoning code, subdivision regulations, street regulations and sidewalk codes, and the site plan review and approvals process) relate to walking and bicycling. A Complete Streets policy can also be helpful to ensure that local streets are designed, maintained, and operated to serve people on foot and bike as well as in vehicles.

**a. Comprehensive Plan**

The Comprehensive Plan may provide support for improving conditions for walking and bicycling. Other documents and planning decisions should be consistent with the Comprehensive Plan.

Review the vision, goals and objectives, current and projected data, and maps of the transportation network to find elements related to walking and bicycling. You may decide that the Plan could be improved in these areas. This could be done as part of an update to the Comprehensive Plan, or a separate bicycle and/or pedestrian plan can be developed and adopted as a supplement to the Comprehensive Plan. In either case, the document should incorporate a vision statement, assessment of existing conditions, network plan and priority projects, as well as specific performance measures to track progress. An Official Map can also be used to document the network and identify project locations.

**b. Zoning Code**

The Zoning Code directly affects how a community develops: what type of development is allowed and where, what it looks like, and how it accommodates various kinds of travel, including walking and bicycling. Review the code, and look for elements that support walking and bicycling:

- **Walkable Districts**: encourage development in compact centers (typically a half-mile radius) either in existing developed areas or new areas.
- **Mixed Use Zones and Buildings**: create zones where retail, office, residential and other uses are combined. This supports walkable neighborhoods and centers.
- **Design Guidelines**: establish clearly defined street, streetscape and public space criteria to ensure that new projects accommodate walking and bicycling.
- **Sidewalk Requirements and Standards**: indicate where sidewalks are required and their design features.
- **Bicycle Parking Requirements**: indicate where bicycle parking is required, what amount should be provided, and its design features. Best practice bicycle parking codes are summarized in Appendix C.

Based on this review, identify where updates to the zoning code are needed.
Example: Town of Hyde Park Zoning Updates
In order to implement the recommendations of the Hyde Park Town Center Pedestrian Study, the Town of Hyde Park decided to update its zoning code. The code will be revised to require sidewalks for new commercial development along Route 9, create standards for sidewalk materials and width, and require pedestrian-scale lighting and trees. In addition, the Town is developing form-based zoning\(^1\) for two intersections that were identified to be redesigned. The form-based zoning is intended to clarify the desired layout of sites and structures and help promote walkable and bikeable redevelopment.

c. Subdivision Regulations
New subdivisions provide an opportunity to create street systems that support walking and bicycling and minimize short-distance trips by motor vehicles. Review the local subdivision regulations to ensure that they include the following elements:

- Connected street networks: ideally, streets should be part of a grid system. This distributes traffic and provides options for people who want to walk or bicycle. If cul-de-sacs are allowed, consider requiring ‘cut-through’ connections for walking and bicycling.

- Walking network requirements: Sidewalks and/or walking trails should be required where appropriate.

- Bicycling network requirements: Streets should accommodate bicycling, whether on slow-speed shared streets, on-street bicycle lanes, or separate bicycle paths.

d. Site Plan Review/Approvals Practices
Site Plan review is a critical tool for building a walkable and bikeable community. Talk to the local Planning Board to understand what they look for in site plans, and make sure that the following elements are considered, as appropriate:

- Placement of buildings and parking: In centers and other commercial areas, place buildings close to the street, with parking to the side or rear, to create a more inviting environment for people walking.

- Access management: Limit the number of driveways for each site. This reduces conflict points between vehicles and people walking or bicycling. Consider sharing access and parking with adjacent sites.

- Sidewalks and curb ramps: Ensure that the site is accessible by those on foot.

- Street trees and landscaped buffers: Trees and a landscaped buffer between the sidewalk and curb increase comfort and safety for people walking along the site.

- Utility placement: Ensure that utility poles, street lights, and other objects do not interfere with sidewalks. On roads where shoulders could be widened or sidewalks installed in the future, place utility poles outside the future sidewalk or shoulder location.

\(^1\) Form-based zoning focuses on how buildings look (their size, architecture, and relationship to the street and other public space) rather than the use they contain. They rely heavily on diagrams and images to convey the desired character of a street and district.
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- Bicycle access and parking: Ensure that the site is accessible by those on bicycle. This includes providing convenient, secure bicycle parking.

- Transit connections: Ensure that buses can access the site. This may include designating a bus stop or pull-off location, and reviewing widths and design of interior streets with the County Public Transit Division.

The Planning Board should emphasize these priorities with applicants early in the process so that walking and bicycling elements can be incorporated. If a Board consistently prioritizes high-quality access for people to walk, bicycle, and use transit, the development community will know what to expect and their site plans will reflect that understanding.

e. Consider a Complete Streets Policy

New York State passed a Complete Streets Act in 2011, but it only applies to transportation facilities that receive both federal and state funding and are subject to NYSDOT oversight (see Chapter 2 and the NYSDOT Complete Streets webpage for more details). A local Complete Streets policy would apply to all local streets and would formalize a community’s intent to consider all types of transportation in street improvements and development projects. In New York State, 44 towns and villages and six counties have Complete Streets policies as of 2012, and another ten municipalities are working on policies. A number of resources, including best practice policies, are available on the National Complete Streets Coalition’s website.

Example: Town of Fishkill Complete Streets Policy

In 2013, the Town of Fishkill adopted a Complete Streets policy (via Resolution 2013-196). The policy affirms the Town’s commitment to creating a comprehensive, integrated transportation network that serves all users, including pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, seniors, children, youth, and emergency vehicles. The policy calls for Complete Streets infrastructure to be incorporated into all planning, funding, design, approval, and implementation processes for any construction, reconstruction, retrofit, maintenance, operations, alteration, or repair of streets, unless a specific exemption is approved by the Highway Superintendent or Town Engineer. The policy is intended to be incorporated into the Town’s zoning code, subdivision regulations, and highway/street standards.

Complete Streets are safe and accessible by people of all ages and abilities, whether on foot, bicycle, on transit, or in cars (source: AARP).
5. **Plan the Network and Identify Specific Improvements**

Based on the assessment (Step #2), identify gaps in access to key destinations such as schools, municipal buildings, commercial areas, parks, libraries, community centers, transit stops, and employment locations. These gaps may be missing sidewalk links, high-volume streets that are not bicycle-friendly, or intersections that are difficult to cross safely.

Use maps to plan a network of walking and bicycling facilities to connect common destinations. Make sure to consider any planned development areas or destinations. You may want to start with a small area, focusing on a few missing links, rather than the entire municipality. Or, you can identify a more complete network as part of a larger-scale planning effort. Consider adopting a Sidewalk Master Plan, Bicycle Master Plan, and/or Official Map showing priority locations for future walking and bicycling facilities, to be implemented in coordination with future development, road work, or as stand-alone projects.

Determine what improvements are needed to complete the network. The specific improvements will vary for each location. Make sure to coordinate with the road owner (municipal Highway Department for local streets; County Public Works Department for County roads; and NYSDOT for State roads) to identify the best treatment for each location. The maps, design guidelines, and lists of project recommendations in this Plan are a good place to start.

When thinking about improvements, consider all five E’s: engineering, education, encouragement, enforcement, and evaluation. Engineering-related improvements such as new sidewalks or bike lanes often dominate discussions. Incorporating the other E’s provides a multi-pronged and often more effective approach. Education can include training on safe walking practices and bicycling skills; encouragement can include events to inspire people to walk or bike for transportation; enforcement can include targeted campaigns to raise awareness of existing laws; and evaluation includes using tools to determine the effectiveness of other strategies. See the County-wide Recommendations in Chapter 6 for ideas.

**Example: City of Poughkeepsie Bicycle Route System**

In 2006, the City of Poughkeepsie planned a Bicycle Route System. City planners identified routes to connect residential areas to schools, parks, commercial areas, colleges, and the train station, as well as the planned Dutchess Rail Trail and Walkway Over the Hudson. The Engineering Department helped assess the existing conditions and suggested appropriate improvements. The intended improvements varied by street segment: on some streets, almost no engineering improvements would be needed. On busier streets, bike lanes or sharrows could be appropriate. The intent was to coordinate improvements with the Engineering Department’s planned road work. The routes are codified in City Code Chapter 15, Article V and shown in Map 28 (in Chapter 5.1), but as of this Plan, no bicycle facilities have been created.

6. **Prioritize Improvements and Choose a First Project**

The list of needed improvements may seem overwhelming. It is important to prioritize the projects so that you have agreement on what is most important. The prioritization can incorporate factors such as access to key destinations, connections to existing facilities, safety, and needs of the population served, as well as
practical issues such as local support, coordination required, and ability to implement (see Appendix L for a sample prioritization method).

Make sure to discuss the projects with the road owner (municipal Highway Department for local streets; County Public Works Department for County roads; and NYSDOT for State roads) so that you can coordinate implementation with their schedule for any planned road work.

When choosing a first project, consider selecting something relatively small or simple first, in order to build capacity within the group and gain momentum. Achieving a few small successes will encourage the group to continue its work.

Example: Village of Rhinebeck Sidewalk Improvement Strategy
After completing a sidewalk inventory, identifying needed improvements, and surveying residents about their needs and priorities, the Village (working with the PDCTC and Planning Department) established a three-phased approach to the improvements. The first priority projects included improvements within two blocks of the Village Center as well as connections to the elementary and high school. The second priority projects focused on the area within a quarter-mile of the Village Center, access to the library and park, and connections to the southern part of the Village. The third priority projects included those within a half-mile of the Village Center, as well as access to the hospital and County fairgrounds.

The Rhinebeck Sidewalk Improvement Strategy includes first- (red), second- (yellow), and third- (blue) priority locations.
B. Cost Estimates

Cost estimates require a detailed understanding of the project context and components. However, cost estimating tools can provide planning-level estimates. **NYSDOT’s Quick Estimator Reference** is an Excel-based tool for estimating costs of various improvements. It does not include costs related to acquiring right-of-way, relocating utilities, or altering drainage structures. The Downstate NY tab is most applicable to Dutchess County. Current unit cost estimates from the tool are listed below (see the tool itself for more details). Cost estimates for items not listed in the tool could be provided by NYSDOT Region 8, the County Department of Public Works, or local highway or engineering departments. In addition, the Pedestrian and Bicycle information Center has developed a national database of pedestrian and bicycle infrastructure costs which is available as both a pdf report and an Excel spreadsheet. This database includes cost estimates for over 70 items including walking facilities, bicycle facilities, traffic calming treatments, streetscape amenities, signals, signs and striping.

**NYSDOT Quick Estimator Reference cost estimates:**
- Sidewalk (5 feet wide): $74 per linear foot
- Shared-use path (10 feet wide): $185 per linear foot
- Curb ramp: $1,900 each
- Marked crosswalk: $1,918 each
- Concrete curb: $73 per linear foot
- Asphalt paved snow storage area (adjacent to sidewalk): $18.50 per square foot
- Raised crosswalk: $15,000 each

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**How can the PDCTC and Dutchess County Department of Planning & Development help you?**

The PDCTC and Planning Department can assist you in a number of ways:

- **Site Plan Review:** Planning staff is happy to meet with local Boards and/or developers to discuss site plans. We encourage having these conversations early in the process, so that recommendations can be incorporated.

- **Mapping/GIS:** The Planning Department’s GIS and Mapping Division can create maps of local sidewalks, trails, or other facilities for local planning purposes. The County’s [mapping applications](#) provide parcel ownership, dimensions, aerial photographs, and other information.

- **Urban Design:** The Planning Department can create images to communicate development concepts or alternative site plans.

- **Community Development Block Grants (CDBG) Funds:** The Planning Department’s Community Development Division can provide guidance and feedback on potential applications for CDBG funding.

- **Local Studies:** The PDCTC often works with municipalities on local studies, such as sidewalk inventories, safety studies, or other plans.

- **Technical Assistance and Data:** The [County Planning Federation](#) hosts short courses on technical subjects. PDCTC staff can provide guidance on bicycle and pedestrian planning and assist with traffic count and crash data. The [PDCTC traffic count webpage](#) includes a searchable application with traffic volumes, speeds, and vehicle types for State, County, and many local roads.

- **Funding Sources:** PDCTC staff can provide guidance about various funding programs, such as those listed below.
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• Mini-roundabout (for low-speed urban environments): $175,000 each
• Small sign: $171 each
• Radar speed sign (solar powered): $9,000 each
• Pedestrian push-button (on existing signal): $2,445 each
• New pedestrian signals with push-buttons (2 per crossing): $7,500 per crossing
• Work zone traffic control: 5 percent of construction cost (based on project complexity)
• Incidentals, inflation, and contingency: 20 percent of construction cost (estimated)
• Survey: 10 percent of total construction cost (estimated)
• Design: 5-15 percent of total construction cost (based on project complexity)
• Construction Inspection: nine percent of total construction cost (estimated)

Other unit cost estimates:
• Bicycle parking rack (inverted U rack only; not including installation): $100 each
• Paved shoulder (6-8 feet wide, full depth, including excavation, sub-base and asphalt): $40-55 per linear foot
• Paved shoulder (4 feet wide, full depth, including excavation, sub-base and asphalt): $35 per linear foot
• Resurfaced asphalt shoulder (4 feet wide, 1.5 inch depth): approximately $4 per linear foot
• Sidewalk grass buffer (5 feet wide): $32 per linear foot
• Epoxy pavement stripes: $3.50 per linear foot if less than 1,000 feet; $1.00 or less per linear foot if 20,000 feet or more.
• Pavement symbols: $200 each
• New traffic signal with pedestrian signals and push buttons: $150,000 per intersection (based on multi-lane roadways)

The costs listed above are current as of the writing of this Plan but may change in future years. Costs related to right-of-way, drainage, and utility work can vary substantially and may affect the feasibility of a project.

C. Funding Sources

There are a variety of funding sources for walking and bicycling projects, ranging from local municipal funds to federal transportation funds. However, funding programs change often. PDCTC staff, NYSDOT-Region 8 staff, and local grant writers are good resources for current funding opportunities.

1. Local Funds

Although local resources are often limited, local funds are more flexible and require less reporting and administrative work than federal funds. Many municipalities find that it is less expensive to use local funds than federal funds. Local funding mechanisms include the following:

• General Fund/Discretionary Funds: Local general funds are the most flexible funding source, but may also be the most limited. The municipality will need to weigh the project against other local priorities.

2 Bicycle rack estimate based on quotes from suppliers; other estimates from NYSDOT-Region 8.
• **CHIPS** (Consolidated Local Street and Highway Improvement Program): Municipalities receive CHIPS funding annually from NYSDOT based on their local roadway mileage. CHIPS funds can be used for construction and repair of streets, bridges, and other local facilities. This includes bike lanes, shoulder improvements, sidewalks, shared-use paths, and traffic calming projects. Capital projects must be paid for by the municipality and then reimbursed by NYSDOT. Some municipalities use CHIPS funds to purchase maintenance equipment such as sidewalk snowplow machines.

• Local Bond: The municipality could pursue a local bond to fund walking or bicycling improvements.

2. **Private Funds**

Some foundations and private non-profit organizations provide funding for walking and bicycling projects.

**Foundations**
- Health-related foundations such as the Robert Wood Johnson Foundation are increasingly interested in ‘active living’ and the built environment.
- The Foundation Center website has a national database of grant-makers and grants as well as other tools for grant-seekers.

**Development Conditions of Approval:** Some walking and bicycling improvements can be funded through a condition of approval on proposed development projects. When the local Planning Board reviews plans for a proposed project, it can require the developer to construct or provide funding for construction of certain improvements (such as sidewalks, trails, bicycle facilities or bike parking) as part of the project. This is most effective when the improvements are detailed in the local Comprehensive Plan, Town Code, a local bicycle and pedestrian plan, or a specific plan for the area.

**Public-Private Partnerships**
- Bus stop shelters or benches may be funded through the sale of advertising space.
- Local business owners or Business Improvement Districts (BIDs) that understand that increased walking and bicycling is good for business may be willing to fund projects for sidewalk improvements, bus stop amenities, or bicycle racks.
- Service organizations may wish to participate in an ‘adopt a bus stop’ or similar maintenance program.
- In many communities, citizen groups have been formed to raise money for walking and bicycling improvements.

**Non-Profit organizations**
- The Hudson River Valley Greenway provides grants to municipalities and partner organizations. Grants are provided on a reimbursement basis and require a local match.
  - The Greenway Communities Grant Program provides funding (approximately $5,000-$10,000) to designated ‘Greenway Communities’ for projects related to community planning, economic development, natural resource protection, cultural resource protection, scenic resource protection, and open space protection.
  - The Greenway Conservancy Small Grants Program funds trail planning, construction, amenities, and education and interpretation projects.
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**Example: Beacon Main Street Sharrows**
BeaconArts applied for a Greenway Conservancy Small Grant in partnership with the City of Beacon, Scenic Hudson, Beacon Streets, Peoples Bicycle, and Bike Beacon. The $2,600 grant funded sharrows on Main Street and signs. The local match of about $6,400 covered bicycle parking racks and installation, design of a Beacon Loop Trail logo, and a bicycle education program.

![Hudson River Valley Greenway](Image)

*Dutchess County is a Greenway Compact County, and as of January 2014, 29 of its 30 municipalities were Greenway Compact Communities (source: HudsonGreenway.ny.gov).*

**Example: Harlem Valley Rail Trail Association (HVRTA)**
The HVRTA used a Capacity Building Grant to develop and send a mailing to every household in Columbia County, where a new trail is being developed. The mailing resulted in 197 new members, 21 new volunteers, and thousands in donations.

**Parks & Trails New York**
- Growing the Grassroots Capacity Building Grants provide funding (up to $3,000) and ongoing technical assistance to help non-profit park and trail stewardship organizations become stronger and more effective. Grants cannot be used for construction, maintenance, or infrastructure.

**Bikes Belong Foundation**
- Community Partnership Grants provide funding to partnerships between local agencies, organizations, and businesses to increase bicycling in their community. Fundable projects include bike paths, bike lanes, rail trails, mountain bike trails, bike parking, BMX facilities, and large-scale bicycle advocacy initiatives. Awards range up to $10,000 and require a local match and other funding sources.

**Growing the Grassroots Grants 2009-2012**

*Parks & Trails New York has provided capacity building grants to almost 50 organizations since 2009 (source: ptny.org).*

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- The Rails-to-Trails Conservancy does not provide funding, but has an overview of funding sources for rail trails and greenways on its website.

- The Hudson River Foundation’s Hudson River Improvement Fund provides grants for projects that enhance public access to the Hudson River, including trails.

- The Citizens’ Institute on Rural Design (CIRD) holds an annual competitive opportunity to host an intensive, two-and-a-half day design workshop focused on rural design and planning. The workshop includes a $7,000 stipend and in-kind technical assistance and design expertise, capacity building conference calls and webinars on key rural design and planning topics, and web-based access to a wide range of rural design resources.

- The Fields Pond Foundation provides grants to community-based nature and land conservation organizations to involve local residents in conservation issues in the six New England states and New York State. Priorities include land acquisition for conservation and project grants for trail-making and other enhancement of public access to lands, rivers, and coastlines.

- Advocacy Advance provides funding for walking and bicycling advocacy organizations.
  - Capacity Building Grants support the development and professionalization of state and local advocacy organizations to increase rates of biking and walking.
  - Rapid Response Grants help state and local organizations take advantage of unexpected opportunities to win, increase, or preserve funding for biking and walking. There is no deadline or formal grant cycle for Rapid Response Grants.

- The Alliance for Biking & Walking website lists grants available to its members to promote walking and bicycling.

3. County Programs

- PDCTC Unified Planning Work Program (UPWP): The PDCTC receives federal transportation planning funds which it programs each year in its UPWP. The UPWP typically includes funding for community transportation planning assistance as well as specific local projects, such as sidewalk studies. Please contact PDCTC staff to discuss potential opportunities for planning assistance.

- The County Planning Department also provides local planning assistance, including mapping and GIS, urban design, and site...
plan review. Contact the Planning Department for more information.

- Community Development Block Grants (CDBG): These are federal funds from the U.S. Department of Housing and Urban Development which are administered by the Planning Department’s Community Development and Housing Division. Eligible activities include economic development and infrastructure improvements (such as sidewalk construction, road work, and drainage) in areas defined as low and moderate income, or in some cases to benefit disabled persons or the elderly. See the Planning Department’s Community Development & Housing Division website and e-newsletter for more information.

- The County Department of Public Works (DPW) maintains all County roads. DPW may be able to incorporate walking or bicycling-related elements into a project or coordinate with a municipality to incorporate those elements. Projects are typically scheduled several years out, so early conversations will be the most productive.

4. State/Regional Funds

- New York State Department of Transportation (NYSDOT)
  - The Multi-Modal Program provides reimbursement funding for capital projects related to five specific modes: rail, port, ferry, airport, and State and local highways and bridges. Projects are nominated by the Governor or a State Legislator and must be approved by a State Committee and determined to be eligible by NYSDOT.

  - In addition to CHIPS funding and the Multi-Modal Program, NYSDOT provides or authorizes federal and State funding for transportation projects under various programs. When using federal funds, project sponsors must work with NYSDOT’s Local Projects Unit to ensure that the federal-aid process is followed correctly. These projects are sometimes referred to as locally-administered federal-aid projects. State funds are typically applied to projects on State roads. See the Federal Funding section for more information.

- The Governor’s Traffic Safety Committee (GTSC) provides funding to police agencies for safety-related programs. Funding is coordinated through the County’s Traffic Safety Board.
  - Police Traffic Services (PTS) funds targeted enforcement based on crash data.
  - General Highway Safety Grants provide funding to municipalities and non-profit agencies to address safety issues based on local ticket and crash data. Issues may include pedestrian and bicycle safety.

- Section 402- State and Community Highway Safety Grant Program: Section 402 funds are federal funds but are administered by GTSC at the State level. They are intended to improve driver behavior and reduce deaths and injuries from motor vehicle-related crashes. Funds can be used by municipalities or non-profit organizations for pedestrian and bicycle safety education, outreach, and trainings, as well as traffic law enforcement programs. Funding applications must be endorsed by the County’s Traffic Safety Board.
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- **New York State Department of Environmental Conservation (DEC)**
  - The DEC has a variety of grant programs. Its program for the Hudson River Estuary aims to improve access to the Hudson River Estuary and its tributaries, which includes developing plans and projects to provide recreational and visual access, particularly for Environmental Justice neighborhoods.

- **New York State Energy Research and Development Authority (NYSERDA)** has some funding programs related to Livable Communities and Sustainable Transportation. It typically partners with NYSDOT on these programs.
  
  *Example: GObike Buffalo*, a non-profit organization in Buffalo, used NYSERDA funds (along with other sources) to convene a Complete Streets coalition which worked with the City to implement Complete Streets. The coalition also organized a two-day summit and a neighborhood outreach campaign consisting of a website, videos, ads, and a petition.

- **The New York Department of State (DOS) Local Waterfront Revitalization Program (LWRP)** provides funding and technical assistance to communities along a waterway (including the Hudson River and other designated rivers, lakes, and creeks) to create a Local Waterfront Revitalization Plan. Funding is also available to implement elements of the plan once it is adopted. Many LWRPs include waterfront trails or walkways and other walking and bicycling-related elements.
  
  *Example: The City of Binghamton* used LWRP funds to implement the City’s portion of trails within the Two Rivers Greenway regional trail system.

- **The New York State Office of Parks, Recreation, and Historic Preservation (OPRHP)** Environmental Protection Fund (EPF) Municipal Grant program funds the acquisition, planning, development, and improvement of parks, historic properties, and heritage areas.

- **The New York State Office of Community Renewal’s New York Main Street Program** provides funding and technical assistance to strengthen the economic vitality of traditional main streets and neighborhoods. The program provides funds to local governments, business improvement districts and not-for-profit organizations for building renovation and streetscape enhancements such as street trees, street furniture, and signage in historic downtowns, mixed-use neighborhood commercial districts and village centers.

- Economic development programs are another potential source of funding. The **Consolidated Funding Application (CFA)** is intended to be used to implement the economic development strategies developed by the **Regional Economic Development Councils**. Some of the Mud-Hudson’s strategies include promoting alternative transportation, linking urban centers via greenways, and encouraging transit-oriented waterfront projects.
5. Federal Funds

Most federal transportation funding originates from the federal transportation law in effect at the time. Moving Ahead for Progress in the 21st Century (MAP-21) was enacted in 2012. To be eligible for federal transportation funding, a project must be consistent with the area’s current long-range transportation plan, such as Moving Dutchess (2011) and meet the funding program’s criteria. If federal funding is available, the PDCTC will issue a call for projects and its Technical Committee will review applications to determine which projects should be added to the Transportation Improvement Program (TIP), the capital program of federally-funded projects. The PDTC’s Executive Committee must approve the TIP. It then becomes part of the official State Transportation Improvement Program (STIP).

Most federal transportation funding is distributed through NYSDOT-Region 8. Programs are typically reimbursement programs and require a local match. See the PDCTC’s Federal Highway Funding webpage for more information.

Federal transportation programs relevant for walking and bicycling projects include:

- **Surface Transportation Program (STP):** These funds may be used for the construction of bicycle transportation facilities, pedestrian walkways, ADA improvements, or transit capital projects, as well as non-construction projects related to safety, such as brochures, public service announcements, and route maps. Projects must be located on a Federal-aid eligible facility.

- **National Highway Performance Program (NHPP):** These funds may be used to construct walking and bicycling facilities on land adjacent to any highway on the National Highway System (NHS). In Dutchess County, the current NHS covers approximately 240 centerline miles of State highways, including I-84, the Taconic State Parkway, and Routes 9, 9D, 22, 44, 52, 55, 82, and 199 (partial).

- **Transportation Alternatives Program (TAP):** This program provides funding for the planning, design, and construction of on- and off-road walking and bicycling facilities, including sidewalks, signals, ADA improvements, trails, Safe Routes to School projects, traffic calming, and other projects.
• **Highway Safety Improvement Program (HSIP):** HSIP funds can be used to improve a hazardous street location or feature or address a safety problem. The project must be consistent with the State’s Strategic Highway Safety Plan (SHSP) and be part of a data-driven, strategic approach. Improvements may include sidewalks, crosswalks and street crossing improvements, shoulder improvements, pedestrian countdown signals, training or education, or other projects.

• **Recreational Trails Grant Program** (administered by the NYS Office of Parks, Recreation and Historic Preservation): Under MAP-21, the Recreational Trails Program is no longer guaranteed but rather must be opted-in by the State each year. The program funds trails for walking, hiking, bicycling, inline skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding and four-wheel driving.

• **FTA Section 5307 Urbanized Area Formula Program** ‘enhancement’ funds (administered by the Federal Transit Administration): In urbanized areas with populations under 200,000, at least one percent of Section 5307 funds must be used for transit enhancements. This can include walking and bicycling access improvements such as bus stop shelters, benches, bicycle parking racks, ADA upgrades, and other amenities.

**Other Federal Funding Programs:**

• The [Environmental Protection Agency (EPA) Smart Growth Implementation Assistance program](https://www.epa.gov/region8/active-living) provides technical assistance to local governments and non-profit partners in either policy analysis or public participation processes related to implementing Smart Growth strategies.

• The [National Park Service’s Rivers, Trails and Conservation Assistance Program](https://www.nps.gov/mnrp) provides funding to help community groups, non-profits, and state and local governments plan and design projects that promote access to parks, trails, rivers, and other destinations.

• The federal [grants.gov website](https://grants.gov) has a database of federal grant programs that can be searched by keyword, category, agency, and other parameters. Consider non-traditional sources. For example, the Centers for Disease Control (CDC) has had funding in the past for ‘active living’ projects through their Community Transformation Grant program.