

## BUILDING BICYCLE NETWORKS

**Develop local and regional Bicycle Plans, establishing a network of bicycle facilities to safely connect bicyclists of all abilities to schools, jobs, shopping, transit, parks, and other destinations.**

Nationwide, half of all trips are 3 miles or shorter, less than a 20 minute bike ride, and one out of four trips is less than one mile, a 5 minute bike ride. Building bicycle networks makes many trips possible by bike - the most efficient self-powered vehicle ever invented. Bicycling benefits our health and reduces pollution, car traffic, and our dependence on oil.

Under New York State's Vehicle and Traffic Law (Article 34, Section 1231), "Every person riding a bicycle ... upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a vehicle." The Complete Streets Act of 2011 requires that bicyclists' needs be considered in the planning, design, construction, reconstruction, re-striping and rehabilitation of roads that receive federal and state funding. Except where expressly prohibited, bicyclists may ride on all streets and should be accommodated.

Five types of bicycle facilities should be considered based on the land use context, character of the road, and potential users' needs. All facilities should have smooth pavement and be swept regularly to remove debris. A system of 'wayfinding' signs is helpful to direct cyclists to connecting bicycle facilities and nearby destinations.

### Shared Lanes

Shared lanes are appropriate in centers on streets with average speeds below 30 mph, and on rural roads with fewer than 1,000 vehicles per day and speeds below 50 mph.

- Streets in hamlets, villages, and cities should be designed for speeds below 30 mph to safely accommodate bicyclists.
- 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.
- A Shared-Lane Marking (or "sharrow") can be used to indicate a narrow shared lane, where motorists may have to leave the lane to pass a bicyclist. Sharrows are appropriate on streets with speed limits up to 35 mph.

### Paved Shoulders

Paved shoulders allow bicyclists to ride separately from motor vehicles. Bicyclists travel in the same direction as traffic in the adjacent lane. Shoulders should be a minimum of 4 feet wide; 5 feet if there's a curb; and 6 feet or wider on segments with a grade over 5%, speeds over 50 mph, more than 10,000 vehicles per day, or more than 30 trucks or buses per hour.



*The vast majority of bicycle facilities in Dutchess County are shared lanes, where bicyclists typically ride on the right side of the right-most travel lane.*



*Sharrows highlight bicyclists' right to ride in the travel lane, away from hazards such as the "door zone" of parked vehicles.*



*Paved shoulders are most applicable on higher-speed and higher-volume rural roads.*

## Bicycle Lanes

Bicycle lanes provide a dedicated on-road space just for bicyclists. They are useful on village, city or suburban streets where bicyclists travel at significantly different speeds than other traffic, especially those with speeds over 30 mph or more than 10,000 vehicles per day.

- Bike lanes should be a minimum of 4 feet wide if there is no curb or on-street parking; 5 feet if there is a curb or on-street parking; and 6 feet if there are more than 30 trucks or buses per hour or speeds over 45 mph.
- Separate the bike lane from the adjacent lane with a stripe or a 2- to 3-foot painted buffer. Mark with a bicycle symbol.



*Intersections must be designed carefully to accommodate turns; see Sources below for detailed design guidance.*



*Identify a bicycle boulevard with distinctive signs and pavement markings.*

## Bicycle Boulevards

Bicycle boulevards are bicycle-priority streets. They are typically low-speed (25 mph or slower) residential streets parallel to a major street, designed to connect bicyclists to destinations while avoiding traffic on major streets.

- Reduce speeds and cut-through traffic with traffic calming treatments.
- Limit the use of stop signs on the Bicycle Boulevard to allow continuous travel.



*A bike lane can be protected with bollards, planters, or a curb, creating a "cycle track".*

## Shared-Use Paths

Shared-use paths function best when they have a separate right of way, as with a Rail Trail. In some cases, they run along a roadway, set back from the road (a "sidepath"). Shared-use paths separate bicyclists from the roadway and serve two-way pedestrian and bicycle travel.

- Shared-use paths should be a minimum of 10 feet wide, or 11 to 14 feet wide if there are more than 300 peak hour users, 30% or more pedestrians, or steep grades or curves.
- Shared-use paths work best if there are fewer than 5 intersections or driveways per mile. Install yield or stop signs for the lower volume approach (path or road) at intersections.
- Sidepaths should have at least a 5 foot buffer from the roadway. Driveways and uncontrolled intersections can create safety issues, as drivers do not expect bicyclists riding in the opposite direction of traffic.



*Shared-use paths should be paved, but they do not require a curb. Consider a centerline stripe at intersection approaches and in areas with limited visibility (such as around curves).*

## A Note about Sidewalks

In most cases, riding on sidewalks is less safe than riding on the road. Motorists exiting or entering driveways and intersections do not expect a bicyclist on the sidewalk, and have little room to stop. Pedestrians may stop or change direction abruptly. Riding visibly and predictably on the road, in the same direction as traffic, is typically recommended.

## Bicycle Parking

Short-term parking (such as at shops, restaurants, or parks) should be provided by bicycle racks. "Inverted U" racks are recommended. They should be in a convenient, visible location near the entrance. Long-term parking (such as at offices, transit stations, or schools) should be provided by a secure, sheltered facility - a bicycle cage, lockers, or a bicycle room (such as in a parking garage).



*Bicycle parking is critical - people are more likely to ride to a destination if there is a convenient, secure place to lock their bike.*

### Sources:

- AASHTO Guide for the Development of Bicycle Facilities (4th edition): [https://bookstore.transportation.org/Item\\_details.aspx?id=1943](https://bookstore.transportation.org/Item_details.aspx?id=1943)
- NACTO Urban Bikeway Design Guide: <http://nacto.org/cities-for-cycling/>
- Pedestrian and Bicycle Information Center: <http://www.bicyclinginfo.org/>
- Poughkeepsie-Dutchess County Transportation Council: <http://www.dutchessny.gov/pdctc.htm>