

Pattern 7: Natural Environment

“The landscape features of the city: the vegetation or the water, were often noted with care and with pleasure...[People] were sharply aware of the few green oases in their surroundings.”

Kevin Lynch, *The Image of the City*



Achieving a sense of connection with nature is important to most individuals, and hence to communities. New Jersey residents are fortunate to have numerous forested areas, rivers and streams, and the Atlantic coastline close at hand, despite the intense development of much of the state. Local planning for natural resources, open space, and conservation is often done through Master Plan elements such as an Open Space, Conservation, or Recreation plan. However, the Land Use and Circulation Elements also play a role in defining and providing access to these destinations. Local planning can also help address the environmental impacts of transportation systems—which are often extensive—through sensitive design of facilities and consideration for wildlife habitats.

Mobility and Community Form Principles

Three principles for environmentally-friendly local transportation planning are:

- Access,
- Sensitivity, and
- Boundaries.

Access:

Provide for pedestrian and bicycle access to beaches, rivers, streams, meadows, and forests.



Access to nature can take many different forms: a woodland path, an urban greenway, a bike trail along the Delaware River, or a scenic lookout area along a major highway. Opportunities can be found in most municipalities to enhance local access and recreational opportunities in natural areas. Walking and bicycling are among the most enjoyable ways to reach and explore the natural areas of a community.

Often, however, the lack of pedestrian access routes or suitable bicycle facilities inhibits the choice of these low-impact travel modes, or makes it necessary to start out by car. By planning for the creation of a strong network of bike paths, multi-use trails, and greenways, a municipality can begin to address these issues while strengthening local mobility for other types of trips as well.

Just as connectivity is important for roadways, walking and cycling routes are enhanced through networks within the community and by being connected to regional systems and other communities. For example, New Jersey is fortunate to be a key link in the East Coast Greenway, a Maine to Florida bicycle “super highway” that forms a north-south backbone and connects with many local and regional trails.

Greenways are corridors of protected open space managed for conservation and recreation purposes that often follows natural land or water features. Greenways often provide the opportunity to bicycle through open space, forested areas, or wildlife preserves. They may incorporate local parks, historic sites, nature centers, or bird-watching areas. Local governments are encouraged to participate in the numerous regional trail projects underway in New Jersey, working with neighboring communities, county governments and other trail sponsors.



The South Mountain Reservation, a remarkable Olmsted-designed nature preserve in densely populated Essex County, is difficult to reach by bicycle; past planning has emphasized auto access.

The Circulation Element can be used to identify a future network of trail facilities, as the City of Bordentown did in a recent update. Improving local connections to established regional greenways and trails, such as the Delaware and Raritan Canal towpath (a part of the East Coast Greenway), is another strategy for expanding local opportunities for natural recreation. Rail-to-trail conversions of abandoned railroad rights of way are another important opportunity. From the perspective of transportation access, it is important that bike trails and greenways connect with routine travel destinations, such as neighborhoods, schools, parks, business centers, shopping areas, and transit stops.



This composite boardwalk provides an environmentally-sensitive, safe, enjoyable place from which residents and visitors can enjoy views of the ocean, dunes, and wildlife at the Jersey Shore.

Access to water is also a fundamental human desire that the transportation system can either help support or impede. Previous eras saw the construction of major roadways along many of the state's rivers and close to the Atlantic shoreline. In many instances, these facilities now form a barrier, inhibiting pedestrian and bicycle access to waterfronts. Many municipalities are currently seeking to reverse these patterns and establish ready access to and along waterfronts. Pedestrian-friendly waterfront redevelopment projects are included in numerous urban revitalization plans around the state. For example, Newark is planning a continuous riverfront park along the Passaic River that will include pedestrian and bicycle connections to nearby neighborhoods and activity centers. At Exchange Place, Jersey City has a series of wide boardwalks that provide views of both urban skylines and the Hudson River.

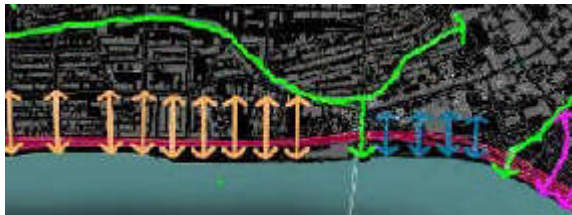


“Higher income groups always have access to nature at beach houses, lake cabins, mountain chalets, on vacations...Parks allow the rest of society that contact as well.”

– Enrique Peñalosa

Route 29 Boulevard Concept for Trenton

The freeway section of Route 29 between the Lower Ferry Bridge and Parkside Avenue serves as a restrictive barrier between the City of Trenton and the Delaware River, a key ecological and recreational resource. NJDOT is working with the City of Trenton on a new concept for the roadway and waterfront that would reduce this barrier effect. A proposed urban boulevard would lower traffic speeds and shift the road’s alignment away from the river, allowing for the creation of a linear waterfront park. The proposed park would provide unprecedented access to the river in this area of the state capital.



Sensitivity:

Design roads, bridges, and other transportation facilities in a harmonious, environmentally sensitive manner, preserving scenic landscapes and natural terrain and protecting water sources.

Environmental sensitivity is another important principle for community transportation facilities. Roads, trails, and other transportation features can be planned and designed to minimize disruption to scenic landscapes and natural habitats. Using development regulations, municipalities can also act to preserve treasured landscapes for the enjoyment of all types of road users.

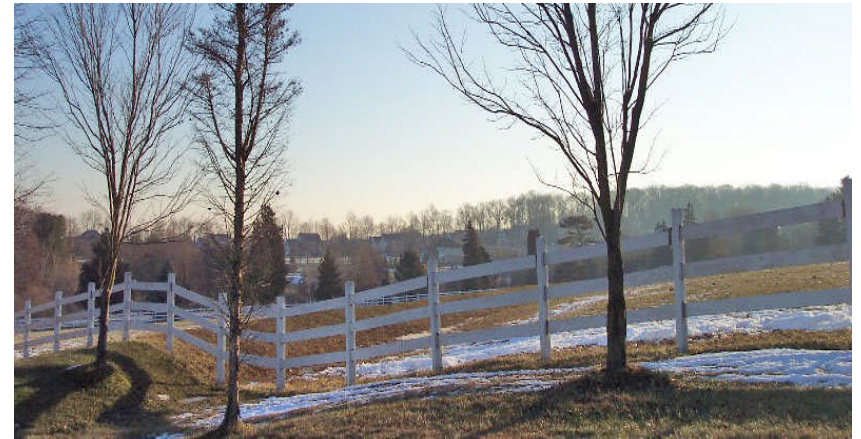


Scenic vistas, such as this farm view along Route 57 in Warren County, underscore the importance of context-sensitive roadway design as well as conservation-based approaches to local land use planning.

Several county and local governments in New Jersey have scenic roads programs that encourage the identification and preservation of exemplary roadside views. Preservation of a scenic road may entail modified design treatments to maintain the existing appearance following reconstruction. For instance, Monmouth County has adopted design guidelines for the county's scenic roadways. The guidelines allow for reduced roadway width, special guiderail treatments, and other context-sensitive features, as well as providing for the preservation of landmark trees. Tewksbury Township in Hunterdon County also has an extensive scenic roads program. NJDOT administers a State Scenic Byway Program that provides for formal designation of qualifying scenic roads, which then become eligible for special assistance.

A number of techniques are available to limit the visual impacts of new development along scenic roads. Scenic Corridor Overlay zoning ordinances are one approach. Municipalities have used scenic overlays to restrict height and placement of buildings, commercial signs and outdoor advertising, regulate the design of commercial parking lots, require landscape buffers for developments, and protect specific landscape features, such as mature tree stands and hedgerows. Rural Highway Zoning is a related technique that aims to retain the traditional rural appearance of a highway corridor through site planning and use of vernacular architecture.

Air and water quality are also heavily affected by local land use and transportation choices. Low-density, automobile-dependent development generates additional miles of vehicular travel, gasoline consumption, and air pollution when compared to the more sustainable mixed-use, center-based community forms discussed elsewhere in this guide. Auto-oriented development also multiplies the amount of hard, impervious surfaces that can collect oil, solvents, and other contaminants. These contaminants are then washed into streams or other bodies of water. The New Jersey Department of Environmental Protection has developed municipal stormwater guidelines, as well as model ordinances and training programs, to assist communities in managing stormwater and nonpoint source pollution on their local roads.



This scenic view from County Road 513 in Alexandria Township was preserved through conservation zoning. Homes were built on a remote portion of the parcel, with the remaining land preserved as open space.



These photos illustrate two very different landscape treatments along the Rahway River in Essex County. The pedestrian bridge on the right suits the natural context better than the utilitarian design on the left. (Images courtesy of Main Street South Orange, Inc.)

Boundaries:

Plan transportation corridors that help define urban edges, reinforce natural boundaries, and protect fragile wildlife habitats.

Many of New Jersey's major transportation corridors are relatively fixed in place, constrained by existing settlements. However, as faster-growing suburban areas add or improve their local road networks, they have an opportunity to reinforce and strengthen natural features through the careful placement and design of new facilities. Transportation corridors, integrated with compact land uses, can help to define community growth boundaries and reinforce the integrity of natural wildlife habitats, which often form natural corridors of their own. Compact community forms—with defined centers and edges—allow for the creation of protective greenbelts that can support fragile ecosystems. Through regional as well as local planning, these compact towns and villages can be arranged around underlying natural features and connected with relatively low-impact local roads and transit routes.

Where transportation corridors cause unavoidable disruption to wildlife habitats, mitigation measures can be considered. Wildlife underpasses, for example, can be used to connect separated habitats, prevent collisions with animals and enhance wildlife movement.



Brown steel guiderail on Pond Road in Freehold Township blends into the landscape. Image source: Monmouth County, Design Guidelines for Monmouth County's Scenic Roads

State Scenic Byways Program

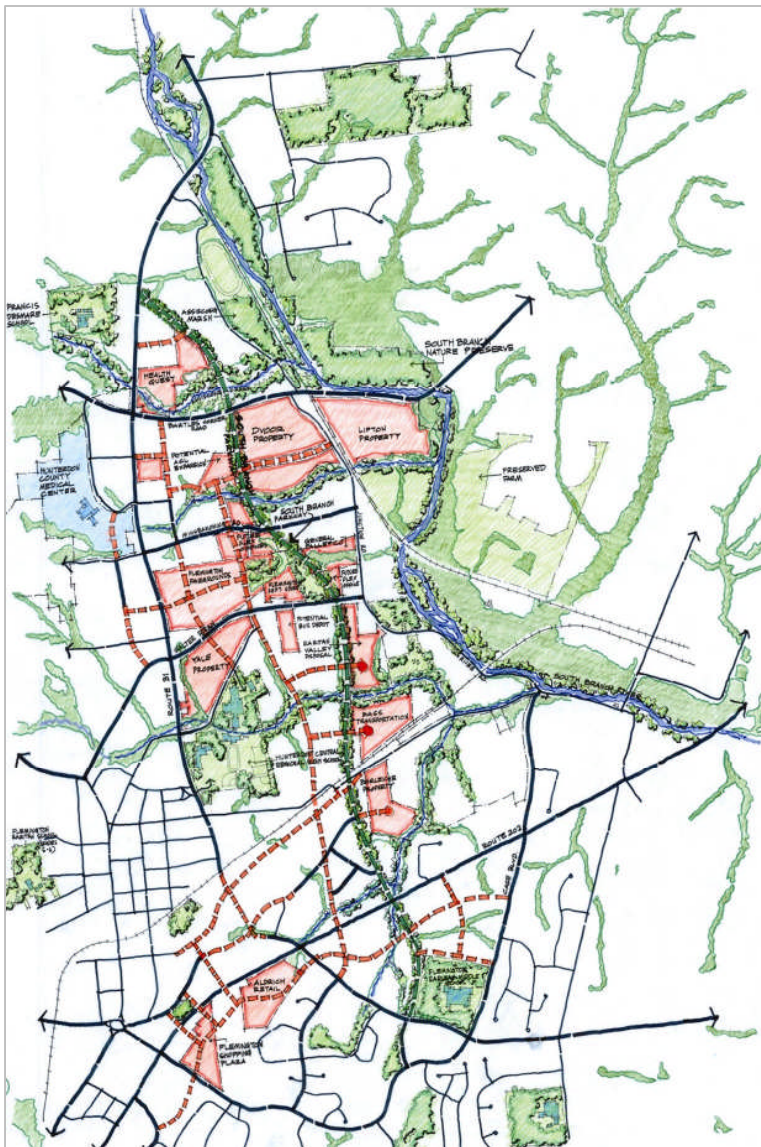
A Scenic Byway is a transportation route with particular scenic, historic, cultural, or recreational qualities. The National Scenic Byways program, administered by the U.S. Department of Transportation, recognizes certain roads as national Scenic Byways or All-American Roads based on their intrinsic qualities. For a corridor to qualify as a scenic byway, it must have one or more of six intrinsic qualities: scenic, natural, historic, cultural, archaeological, and recreational.

New Jersey has a complementary State Scenic Byway Program that was begun in 1996 and is administered by the NJDOT, NJ Department of Environmental Protection, NJ Commerce Office of Travel and Tourism, and NJ Office of Smart Growth. Several corridors have been designated to date, including the Delaware River Scenic Byway (along Route 29 from Trenton to Frenchtown), the Millstone Valley Byway (25 miles between Kingston and Millstone), and the Southern Pinelands Natural Heritage Trail, which meanders through 16 Pinelands municipalities.

Designation as a scenic byway provides numerous benefits to the communities along these corridors. They receive technical assistance, consideration for financial assistance, and help in planning for scenic protection and managed growth from various state agencies. Furthermore, the increased recognition correlates with an increase in tourism for the area. Nature-based tourism, often combined with visits to local farms, antique shops, and other attractions, can play an important role in the economy of towns and villages along a Scenic Byway.



Tuckahoe River viewed from Aetna Road in Corbin City, part of the Southern Pinelands Natural Heritage Trail. Image source: New Jersey Pinelands Commission. Photo by Barry Brady.



NJDOT is working with Hunterdon County and local stakeholders to develop a scaled-down, context-sensitive “South Branch Parkway” near Flemington Borough in place of the bypass originally planned for the area. The two-lane parkway will improve network connectivity near Route 31, while being sensitive to the region’s history and environmental resources. A greenway corridor will help to preserve and celebrate the South Branch River and acres of protected open space that extend for 22 miles.



Environmental mitigation for the NJDOT Nacote Creek Bridge replacement project included creating a nesting habitat for diamondback terrapins. An abandoned roadway segment has also been reclaimed as an upland habitat.

Resources for Natural Environment

America's Byways. Federal Highway Administration. www.byways.org

Biking in New Jersey, NJDOT. <http://www.state.nj.us/transportation/commuter/bike/>

Context Sensitive Solutions Resource Center. www.contextsensitivesolutions.org

Garden State Greenways, New Jersey Conservation Foundation, (interactive mapping tool for coordination among trail planning efforts).

www.gardenstategreenways.org/index.htm

Green Acres Program, New Jersey Department of Environmental Protection. <http://www.state.nj.us/dep/greenacres/>

Growing Greener: Putting Conservation into Local Plans and Ordinances. Randall Arendt, Natural Lands Trust, 1999

Making the Land Use, Transportation, Air Quality Connection. 1000 Friends of Oregon. www.friends.org/resources/lutraq.html

A Model Ordinance for the Protection of Natural, Cultural, and Historic Resources in Major Subdivisions, Hunterdon County, NJ Environmental Toolbox Committee, 2005

New Jersey Bicycle and Pedestrian Resource Project, www.njbikeped.org

New York-New Jersey Trail Conference

www.nynjtc.org/contact.html

Preserving Community Character in Hunterdon County: A Community Design Handbook. The Hunterdon County Planning Board, December 1999. www.co.hunterdon.nj.us/pdf/hcpb/CommunityDesignBook.pdf

Project for Public Spaces. www.pps.org

Rails to Trails Conservancy. www.railtrails.org

Rural by Design: Maintaining Small Town Character. Randall Arendt, American Planning Association Planners Book Service, 1994. Scenic America, www.scenic.org

“Sign Control on Rural Corridors: Model Provisions and Guidance.” University of Georgia Land Use Clinic, School of Law and College of Environmental Design, 2003.

Trails for the Twenty-First Century: Planning, Design, and Management. Charles A. Flink et al, Island Press, 2001.

Trust for Public Land. www.tpl.org