

Appendix B - Mitigating Adverse Environmental Impacts of Transportation Improvements

The thirteen county NJTPA region is made up of diverse ecological resources from the lush environment of the Highlands to fragile wetlands to farmlands of rural Central New Jersey to the unique Pinelands to the New Jersey Meadowlands to historic parks to the miles of exceptional coast line and barrier islands found on the Jersey shore. One of the goals identified in Plan 2045 is to “protect and improve the quality of natural ecosystems and the human environment.” Reflecting this goal, the NJTPA’s planning and project development programs are designed to consider the negative impacts that transportation investments can have on both the human and natural environments, and focus specifically on avoiding impacts when possible. When impacts cannot be avoided, efforts are made to minimize and or mitigate impacts.

Considering the complexity and diversity of the environment across the region, the NJTPA uses readily available published environmental inventories to identify protected landscapes and historical features. The NJTPA also conducts site visits and coordinates with review and permitting agencies. Beginning at the early stages in the planning process and continuing throughout, this information is used in part as a contextual backdrop for the identification of transportation needs, and later as an important factor in prioritizing and selecting the most appropriate transportation improvement strategies for specific locations. Early consideration of environmental impacts also helps address National Environmental Policy Act (NEPA) requirements more effectively than if such issues would be left for consideration later in the project development process.

Environmental mitigations during project development are established in consultation with numerous federal, state and local agencies as well as interested parties responsible for and interested in environmental stewardship, including:

- New Jersey Department of Environmental Protection
- Division of Land Use Regulation Freshwater Wetlands Stream Encroachment Coastal Regulation Tidelands Management
- N. J. Highlands Council
- Delaware & Raritan Canal Commission
- Bureau of Dam Safety and Flood Control
- Division of Fish and Wildlife Office of Historic Preservation Green Acres Program
- Bureau of Air Quality Planning Division of Parks and Forestry Division of Water Quality
- New Jersey Department of Transportation, Bureau of Environmental Program Resources
- NJ TRANSIT
- New Jersey Office of Planning Advocacy
- Federal Highway Administration, Environmental Coordinator

- Federal Transit Administration
- U.S. Environmental Protection Agency
- U.S. Army Corp of Engineers
- U. S. Coast Guard
- All NJTPA Member Agencies and municipalities, as appropriate

The specific types of environmental mitigation activities implemented are ultimately determined by the governing regulatory authority and are dependent upon the resource being impacted and the severity of that impact. Among the key environmental areas of concern to the NJTPA are the following:

Regional Air Quality/Non-attainment and Maintenance Areas

Air quality is a regionally scaled environmental issue, with the NJTPA seeking attainment and maintenance of the National Ambient Air Quality Standards throughout northern New Jersey. Mitigation activities are applicable throughout the region, represented throughout this plan by the emphasis on Smart Growth, support for public transit, walking and biking, limiting the addition of new highway capacity, planning for increased alternatively fueled vehicles, and support for a variety of Transportation Demand Management (TDM) and highway operational improvement initiatives. These approaches seek to significantly curb the growth in vehicle miles traveled and reduce vehicular pollutant emissions, including greenhouse gas emissions in accordance with the New Jersey Global Warming Response Act of 2007.

Water Quality Management Planning Areas

The establishment of Water Quality Management Planning Areas by the State, including the New Jersey Highlands and New Jersey Meadowlands, supports the preservation and protection of the quality of the region's precious water resources. Mitigation within these areas focuses on growth management and protecting, preserving and repairing critical areas such as wetlands and open water features.

Freshwater Wetlands, Lakes, Rivers and Streams

To preserve and protect the ecological integrity of the region's wetlands, the NJTPA and its member agencies seek to avoid disruptive transportation improvements located within identified wetland areas. Where disruption is unavoidable, projects are developed and designed to be consistent with the requirement of the New Jersey Department of Environmental Protection's Freshwater Wetlands Protection Act. That is, proposed projects seek to minimize adverse impacts to the maximum extent practical and include, or are accompanied by, appropriate mitigation measures. Applicable mitigation techniques are ultimately determined with the New Jersey Department of Environmental Protection, New Jersey Department of Transportation, and NEW JERSEY TRANSIT. Examples of common mitigation techniques that may be applied in these areas include:

- Minimizing adverse environmental impacts and restoring temporarily impacted areas to

- preconstruction conditions;
- Transportation facility design that minimizes the “footprint” of new impervious surfaces;
- The creation of new wetland areas at ratios established by the permitting agency;
- The restoration or rehabilitation of damaged wetlands again at a ratio ranging up to 1-acre of disturbance to 3-acres of enhancement; or
- If available, the purchase of wetland credit acres from an existing wetland mitigation bank within the same watershed.

New Jersey Coastal Areas

Protection of New Jersey’s remarkable coastal areas is addressed by the Coastal Area Facility Review Act (CAFRA) or the Waterfront Development Law. The CAFRA jurisdictional area begins where the Cheesquake Creek enters Raritan Bay in Old Bridge, Middlesex County. It extends south along the coast around Cape May, and then north along the Delaware Bay ending at the Kilcohook National Wildlife Refuge in Salem County. The inland limit of the CAFRA area follows an irregular line drawn along public roads, railroad tracks, and other features. The Waterfront Development Law generally regulates all development within 500 feet of any tidal water body.

Avoiding damage to these areas is preferable, but sometimes a transportation project is warranted within the CAFRA zone or adjacent to any tidal water body. To mitigate negative impacts, techniques can include monetary contributions or designating compensation land for the loss of resources. To offset for removal of vegetation or addition of impervious surfaces, Conservation Easement/Restrictions protecting other areas from future development may be executed.

Designated “Green Acres” Areas

Properties designated under the state Green Acres program represent historic, scenic, and recreational open spaces acquired and owned by the State to be preserved for public use and enjoyment. Where any Green Acres property is encumbered by the construction of a roadway, bridge or other transportation project, mitigation must provide replacement land of equal or greater value, provide parkland improvements, provide funds for the acquisition of land for recreation and/or conservation purposes or provide another type of monetary compensation.

Forested Areas

Forested parts of the region include those in the Pine Barrens of the Pinelands Preservation Area as well as the Highlands. Avoiding disturbance of these natural areas is most desirable to preserve water and wildlife resources. Where transportation improvements do have negative impacts, such impacts should be minimized and mitigated. Mitigation practices within forest areas include the replacement of upland forest with forest of equal ecological value and function. Forest replacement may be achieved by either onsite plantings or if onsite plantings are not feasible offsite plantings within preservation or planning areas may be permitted. If neither option is feasible, payment into a fund dedicated the purchase of upland forest may be allowed

Flood Hazard Areas

State designated Flood Hazard Areas identify locations with significant risk of flooding, particularly during hurricanes or other major storms. Transportation projects and land development can change natural drainage and create new paths for runoff, with potentially dangerous consequences. Any development within a regulated flood hazard zone is required to take all reasonable measures necessary to minimize adverse environmental impacts resulting from the construction of the proposed project. Building in and maintaining effective drainage systems, including ditches, culverts, and catch basins are critical in infrastructure improvements and maintenance. Other mitigation techniques include restoring temporarily disturbed vegetation with vegetation of equal or higher quality, restoring all habitats, restoring all land and water features to their pre-construction condition, and preventing sedimentation and erosion to the greatest extent possible.

Historic Districts and Sites

The historic and aesthetic value of northern New Jersey's built environment is also recognized as key to the quality of life of the region's residents. Where transportation improvements are developed which may impact on such resources, appropriate mitigation and design elements should be addressed. Section 106 of the National Historic Preservation Act (NHPA) requires all federal agencies to take into account the effects of their undertakings on historic properties. All properties listed or eligible for inclusion into the National Register and/or State Register are protected by the New Jersey Historic Preservation Office. Typically mitigation activities include the preservation and documentation of these assets along with context-sensitive design of new or renovated infrastructure to complement existing streetscape or architectural features as closely as possible.

Rare, Threatened and Endangered Species

New Jersey's ecosystem provides habitat to nearly hundreds of wildlife species and in an effort to help protect these species, the NJDEP has surveyed the entire State and delineated potential critical habitats. A significant portion of this critical habitat is protected from development through the establishment of Wildlife Management Areas (WMA) and the enforcement of the various State regulations. In the event that a planned transportation project will encumber identified critical habitat, various mitigation measures are immediately triggered. These mitigation measures included possible realignment of the entire facility or portion thereof or the establishment of new habitat either on or off site.

Soil Erosion and Sediment Control

To reduce soil erosion and sedimentation during and upon construction completion, the majority of NJTPA's transportation improvement projects require compliance with the New Jersey Soil Erosion and Sediment Control Act of 1975. The local Soil Conservation District is responsible for reviewing and certifying all Soil Erosion and Sediment Control Plans prior to any construction activities. Certification of a Soil Erosion and Sediment Control Plan ensures that the proper soil stabilizing techniques have

been fully incorporated into the project design.

To minimize unavoidable soil displacement occurring during construction and prevent future soil erosion, the Soil Erosion and Sediment Control Act requires that all steep slopes (slopes exceeding 15%) be stabilized, silt fencing securing the project area be installed, all temporarily disturbed areas be re-vegetated and storm water runoff be properly collected and conveyed.

Storm water Management

Non-point pollution or uncontrolled and untreated storm water runoff from paved and other impervious surfaces carries pollutants into surface and ground waters, with negative effects on aquatic life, drinking water, and recreational resources. Additionally, fast moving surface runoff erodes stream banks, channeling meandering streams into fast moving torrents during storm events. The NJ DEP's storm water management rules (N.J.A.C. 7:8) regulate discharges of pollutants to surface and ground water by controlling the construction of impervious surfaces. These include paved roads and paths, parking facilities, and other development. In addition to limits on impervious surfaces, additional strategies are required to control and treat storm water in order to mitigate its potential impacts. Increasingly, "Green Infrastructure" such as pervious surfaces and the use of natural landscaping that encourage absorption of storm water at the source rather than channeling it elsewhere are encouraged where feasible. Many communities, such as Hoboken and Newark, are adopting these practices.

Environmental Justice

With 566 municipalities, New Jersey is the most densely-populated state in the United States. Executive Order 12898 entitled "Federal Actions to Address Environmental Justice on Minority Populations and Low-Income Populations," institutionalizes a mechanism whereby all projects must proactively address environmental and community concerns and to ensure that these communities are not disproportionately impacted by environmental hazards. The United States Environmental Protection Agency (EPA) defines environmental justice as: "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."