

X. TRANSPORTATION PLANNING AND THE ENVIRONMENT

Over the years, the perception the general public has been that there has not been enough consideration given by state and local governments in developing the Commonwealth's roadway and bridge network. However, this perception has largely been replaced by the reality that environmental considerations play a large role in the shaping of improvements to our roadways, bridges and airports.

In this section, we will describe will review how environmental issues are considered in the region's transportation planning process. The emphasis is on those environmental issues that are being addressed issues

Geographic Information Systems

As a comprehensive planning organization, the Merrimack Valley Planning Commission has a wide array of environmental GIS database layers available for use in conducting transportation planning in the region as well as for other planning purposes. Selected environmental layers in the GIS database are shown below:

Streams & Water bodies	200 ft Rivers Protection Act
National Wetlands Inventory	Off-Road Public Trails
Regional Open Space Layer	Certified Vernal Pools
Areas of Critical Environmental Concern	Potential Vernal Pools
Estimated Habitats for Rare Wildlife	BioMap Core Habitat
BioMap Supporting Natural Landscapes	Priority Habitats for Rare Species
FIRM Floodplain (100 & 500yr)	Aquifers
Major Watershed Boundaries	Soils
Geological Features (subsurface)	State Land Use
USGS Contours	Water District Protection Zones

Using these and other available data GIS layers, MVPC staff can quickly assess the potential impacts that proposed transportation projects could have on the natural and scenic environments. Such datalayers were used in completing the analysis of the potential environmental impacts of improvements proposed in the Route I-93 Corridor Traffic Study and are being used in the MVPC's Route 114 Corridor Study in North Andover and Lawrence.

Massachusetts Environmental Policy Act (MEPA)

The Massachusetts Environmental Policy Act was established to ensure that the potential environmental impacts of private and public projects are reviewed and evaluated. Any project that requires a permit, assistance or land from a state agency is covered by this legislation. The Act is administered by the MEPA Unit within the Executive Office of Environmental Affairs and requires that project proponents take all feasible measures to avoid, minimize, and mitigate damage to the environment that is identified.

The MEPA Unit has established thresholds in the following categories that, if exceeded in a proposed development or project, trigger the preparation of certain environmental review

documents. Project proponents must prepare an Environmental Notification Form (ENF), which is a detailed description of their proposal, including any environmental thresholds that would be reached and trigger a more detailed impact analysis, such as an Environmental Impact Report (EIR). The information provided in these documents is used by state permitting agencies as well as local governments in permitting projects:

Land	Rare Species
Wetland, Waterways and Tidelands	Water
Wastewater	Transportation
Energy	Air
Solid and Hazardous Waste	Historical and Archeological Resources
Areas of Critical Environmental Concern	

All roadway and bridge transportation projects that are to be advertised by the MassHighway Department are also subject to review under this act. Listed below are those transportation thresholds established by MEPA.

An ENF is required for projects that have the following transportation impacts:

- Construction of a new roadway one-quarter or more miles in length; or widening of an existing roadway by four or more feet for one-half or more miles.
- Widening or maintenance of a roadway or its right-of-way that will alter the bank or terrain located ten more feet from the existing roadway for one-half or more miles, unless necessary to install a structure or equipment;
- Cutting five or more living public shade trees of 14 or more inches in diameter at breast height;
Eliminating 300 or more feet of stone wall.
- Generation of 2,000 or more new trips on roadways providing access to a single location.
- Generation of 1,000 or more new trips on roadways providing access to a single location and construction of 150 or more new parking spaces at a single location.
- Construction of 300 or more new parking spaces at a single location.

An EIR is required in the following cases:

- Construction of a new roadway two or more miles in length; or
Widening of an existing roadway by one or more travel lanes for two or more miles.
- New interchange on a completed limited access highway.
- Generation of 3,000 or more of new trips on roadways providing access to a single location.
- Construction of 1,000 or more new parking spaces at a single location.

Over the years, the MEPA process has been vital in both shaping the development of projects and proposals and ensuring that their impacts on the environment are adequately analyzed and mitigated. This has been especially true in the planning and development of road projects.

Traffic Noise

The Merrimack Valley region contains over 14% of the total mileage of interstate roadways in Massachusetts. In addition, there are over 150 miles of other arterial roads. These types of roadway usually carry large traffic volumes traveling at high speeds. These two factors, combined with the proximity of the roadways to residential areas create situations where many residents are exposed to a high level of background traffic noise.

Local officials and residents from many Valley communities have expressed concern over noise levels. In recent years, MVPC has received requests for assistance in dealing with perceived noise problems from virtually every community in the region that has an interstate highway running through it.

Two sections of I-93 in Methuen have been identified by MassHighway as being eligible for what is known as Type II Noise Remediation. Type II barriers are installed to correct an existing noise problem along what are usually arterial and interstate roadways. The two sections of I-93 in Methuen were identified by MassHighway as part of their Type II Noise Barrier Implementation Plan. In this plan, MassHighway used monitors and models to identify locations that exceeded noise level thresholds.

MassHighway has developed a project to erect noise barriers along Route I-93 northbound in Andover from Dascomb Road north. This is in fact a Type I noise abatement project, which is one where noise remediation is provided in connection with the construction of a roadway or bridge project. For this section of I-93, the project being remediated is the widening that took place as part of the project to facilitate the use of the break down lanes as travel lanes during peak travel periods.

Given the level of potential exposure of residents in the region to roadway noise and the numerous requests for technical assistance that MVPC staff has received on this issue, the Merrimack Valley MPO has included a task to obtain and apply noise modeling software in the region. MVPC will work in cooperation with MassHighway as part of this effort, which is intended to identify those areas that might now be eligible for Type II noise remediation projects.

Stormwater Runoff

Runoff from heavily traveled roadways often carries deposits of gasoline, motor oil or heavy metals that have been deposited. In addition, the sediments from roadway construction projects can carry other pollutants. Left untreated, these pollutants make their way into the groundwater or surface water resources, often impacting public drinking water supplies. This form of non-point source of pollution has been attributed to cause over 20% of the impairment of all lakes and over 40% of the impairment of estuaries. While not all of the pollution is from roadways, it constitutes a significant part of the problem. In the Merrimack Valley region, stormwater runoff has been identified as a major contributor to the pollution in the Merrimack River that has forced the closing of clam flats.

Treatment of this stormwater runoff using Best Management Practices offers the potential of significantly reducing pollution in the Merrimack River as well as all the smaller rivers and

creeks in the Valley. MVPC staff therefore has made a commitment to assist communities in addressing their stormwater problems. Much of this work has entailed identifying and mapping stormwater drains and outfall pipes. MVPC will continue to assist communities in addressing this problem and tasks will be included in the Merrimack Valley MPO's Unified Planning Work Program to continue this effort.

Related to the impacts on the environment caused by stormwater runoff, MVPC has sponsored a number of workshops designed to promote Limited Impact Development and Open Space Design. MVPC has worked in collaboration with the Green Neighborhoods Alliance to assist communities in drafting Open Space Residential Design (OSRD) bylaws. OSRD is a technique to build new housing and desirable neighborhoods while maximizing the amount of preserved open space and thereby reducing the amount of impermeable surface generated through the development process. In this way, the amount of stormwater runoff is significantly reduced. MVPC's environmental and GIS staff began assisting the Newbury Planning Board on the preparation of the natural resources element of the new town master plan.

Regional Natural Hazards Mitigation Plan

While the above discussions regarding noise pollution, stormwater runoff and MEPA e focused on how the transportation network impacts the environment, the Regional Natural Hazards Mitigation Plan will examine the potential impact that the environment can have on the region's transportation network. One of the key considerations of this analysis will be the ability of the region's transportation network to withstand severe natural events such as flooding, earthquakes.

MVPC has begun preliminary work in developing this plan, which is being funded by the Massachusetts Emergency Management Agency (MEMA). Details of the 18-month project were outlined at a workshop for municipal officials such as emergency managements directors, police and fire officials, public works personnel, city and town engineers and municipal planners. The goal of the plan is to help municipalities reduce or eliminate the long-term risks to human life and property from natural hazards. This will include identifying transportation facilities such as roadways and bridges that would be at risk in the event of a flood or earthquake or other natural disaster. As part of this effort, MVPC would also be inventorying and mapping of each community's natural hazard areas and critical facilities at risk.

When the plan is completed, communities in the MVPC region will become eligible for various state and federal hazard mitigation project grants to address problem locations.

Coordination with Environmental Resource Agencies

As noted in the Introduction section of this document, one of the Planning Factors identified in SAFETEA-LU is to protect and enhance the environment, promote energy conservation, and improve quality of life. To ensure that MPOs around the nation are considering environmental and land use issues in their plans, USDOT included a provision in SAFETEA-LU to have them consult with land use management and environmental protection agencies.

On January 24, 2007, MVPC Environmental and Transportation staff met with representatives from four environmental resource management agencies with holdings in the Valley and environmental advocacy groups active in the region. MVPC staff presented information on the location of key transportation projects identified in the region's TIP and draft 2007 Regional Transportation Plan that could impact open space, waterways and wetlands resources in the Valley. The officials from the environmental groups expressed their concern over specific projects and the desire for greater input into the project development process.

Recommendations:

- Continue to collect data on the location of stormwater facilities in the Valley and conduct stormwater runoff studies to identify areas where stormwater treatment improvements are needed
- Continue dialogue with Environmental resource management agencies and environmental groups established at January 24
- Work with MHD in identifying those locations along arterial roadways that are eligible for Type II Noise Abatement.
- Implement roadway and bridge improvement projects at locations identified as part of the Regional Multi Hazard Mitigation Plan