The NYSDOT Environmental Initiative  
Guidelines and Procedures for a New Paradigm

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ABSTRACT

Public works agencies have an obligation to enhance the environment as opportunities arise. The New York State Department of Transportation (NYSDOT) has developed an Environmental Initiative whose purpose is to use the organizational strengths of the Department to make an affirmative contribution to the environment. The Environmental Initiative is a paradigm shift applicable to all DOTs. Conventional reactive regulatory compliance can reduce unnecessary environmental damage and sometimes gain grudging regulatory agency cooperation; however, it is not a positive, satisfying way of doing the people’s work.

Through proactive actions, NYSDOT has become an important part of the State’s environmental solution (often at little or no additional cost) and has changed its working relationships with environmental agencies and groups. As these agencies and groups have become partners, instead of adversaries, permit approval times have improved, mitigation costs have declined, morale has improved and cost effective environmental benefits are being realized. This paper describes procedures for bringing the engineering capabilities of a DOT to bear on the environmental stewardship responsibilities shared by all governmental organizations. Additional information is available on the NYSDOT web site, www.dot.state.ny.us.
INTRODUCTION

As with most DOTs, strict regulatory compliance had long been a part of the culture at the New York State Department of Transportation (NYSDOT). While this reactive approach did reduce unnecessary environmental damage and at times gained grudging regulatory agency cooperation, it was not a satisfying way of doing the people’s work. We believed that we should use our organizational strengths to make an affirmative contribution to the State’s environment and find more positive ways to work with the environmental community to everyone’s benefit. We wanted to do more than just streamline an adversarial process or “green up” a few projects. We wanted a new paradigm. During the last year, NYSDOT has taken these ideas and, under our Environmental Initiative, have literally changed the way we do business.

Background

State and federal environmental regulations require that environmental considerations be addressed in transportation decision making, plans and programs. TEA-21 reinforces these environmental considerations. Most transportation capital and maintenance projects have the potential to affect natural and human-made resources in both positive and negative ways. DOTs must ensure full and objective consideration of all reasonable alternatives that avoid adverse impacts to the environment and communities. Where adverse impacts are unavoidable, the project proponent must identify the impacts and incorporate measures to mitigate impacts to the maximum extent practicable.

However, regulatory compliance is only part of a public agency’s responsibility. While this approach is helpful in avoiding environmental impacts, most often it is only reactive and it fails to take full advantage of a DOT’s considerable ability to enhance the environment. As New York State’s largest public works agency, NYSDOT has affirmed its obligation and responsibility to the people of New York to protect, improve and enhance the environment, especially when this can often be done for little or no additional cost. The Department is now using its organizational strengths and its employees’ personal sense of environmental stewardship to contribute affirmatively to the State’s environment and to proactively partner with communities to improve the environment.

NYSDOT’S ENVIRONMENTAL INITIATIVE

NYSDOT’s Environmental Initiative began in April 1998 with the creation of the Environmental Initiative Statement (see www.dot.state.ny.us). Following some kickoff activities throughout the summer of 1998, the Initiative was formally announced by Governor George Pataki on October 20, 1998. Since that time, NYSDOT has undertaken deliberate actions and adopted a much more proactive approach to addressing environmental matters.
A major premise of the Environmental Initiative is that partnerships work better than contention. NYSDOT has joined with environmental agencies in a common purpose to advance State environmental programs. The effort is paying off. With the trust and understanding that comes from shared goals and tangible results, NYSDOT now enjoys greatly improved relationships with environmental agencies and groups. We now tend to be viewed as part of the solution instead of part of the problem - and get treated accordingly.

By moving beyond adversity, the Environmental Initiative provides a more positive, satisfying and effective means of achieving public purposes. It also helps environmental agencies with the “bricks and mortar” dimensions of their mission while giving them a better understanding of NYSDOT capabilities and limitations.

There is a tremendous reservoir of environmental commitment and sensitivity within NYSDOT that was waiting to be released. By creating a culture that taps into this public service ethic, partnerships with other public agencies and concerned environmental groups were easy to achieve. Partnerships founded on the basis of a shared environmental ethic allow for a much more efficient delivery of both transportation and environmental services than the old command, control and enforcement paradigm.

**NYSDOT’s Environmental Initiative has five major objectives:**

- *Promote and strengthen an environmental ethic throughout the Department.*
  
  Staff should feel a responsibility to leave our project sites in better condition than we found them and look for opportunities to enhance New York’s environment.

- *Advance State environmental policies and objectives with NYSDOT resources.*
  
  Advance environmental policies as part of the Department’s normal work. Fund environmental benefit projects including: stormwater retrofits, wetland restorations, habitat enhancements, recreational access, informational signs, landscaping and environmental research.

- *Partner with others to construct environmental enhancements.*
  
  Pursue opportunities for joint development and incorporate environmental elements or facilities funded by other agencies, municipalities or environmental groups into NYSDOT construction and maintenance projects. NYSDOT provides design and construction engineering support.

- *Pilot new environmental protection and enhancement methods.*
  
  Implement new and innovative environmental protection and enhancement methods.
Cooperatively research and pilot new methods to: reduce environmental toxins, improve air quality, increase the use of recycled materials, etc.

- *Strengthen relationships with environmental agencies, organizations and local municipalities.*

Improve communications, streamline permitting, share program information and conduct joint training. Gain their confidence in NYSDOT’s ability to self regulate.

To further these objectives, NYSDOT is now doing environmental work in support of its corporate environmental ethic utilizing existing State and federal funds (see the NYSDOT web site, [www.dot.state.ny.us](http://www.dot.state.ny.us), for detailed information on federal funding options). This provides real environmental protection and enhancement, while advancing a shift in attitudes within NYSDOT and providing a basis for more positive interaction with external partners.

**ELEMENTS OF THE ENVIRONMENTAL INITIATIVE**

**Guidelines**

Through active integration of environmental concerns into the Department's daily operations and coordination with regulatory agencies, environmental groups, municipalities and concerned citizens, this Initiative is attaining the goals set forth above.

*Within the context of the Department's procedures and this Initiative, it is now the practice of NYSDOT to:*

- Coordinate and communicate closely with State and federal resource agencies to identify opportunities to advance State and federal environmental policies, programs and objectives,
- Ensure that all necessary steps are taken in planning, design and construction to avoid and minimize adverse effects of transportation projects and operations on important elements of the environment and adjacent communities,
- Proactively plan, design, construct and maintain transportation projects in an environmentally sound manner using context sensitive design to meet transportation needs while at the same time protecting, conserving, restoring or enhancing important natural and man-made resources. Context sensitive design is the proactive approach to design that looks at the project within the context of its site, while gathering and including the public’s input throughout the design process,
- Incorporate into DOT capital and maintenance projects specific design features or facilities to mitigate unavoidable adverse impacts to the environment,
Consider and implement, as appropriate, measures to enhance natural and man-made resources above and beyond project-specific permit and mitigation requirements,

- Incorporate, where practicable, environmental projects funded by local agencies or groups into ongoing NYSDOT projects as “Environmental Betterments,”
- Promote an environmental and context sensitive design ethic within all Department organizations.

**Procedures**

*Action Plans to Implement the Environmental Initiative*

All Region and Main Office program areas are responsible for identifying and implementing specific actions in their areas of responsibility to incorporate the Environmental Initiative into their operating and business practices. All Regions and Main Office program areas have developed these Environmental Initiative Action Plans based on the goals and objectives of the Initiative and recommendations from NYSDOT’s Environmental Analysis Bureau (EAB). The intent of each plan is to identify and define discreet tasks, develop schedules for accomplishing these tasks and assign responsibility for each task to ensure completion. Progress on these plans is tracked monthly.

*Coordination and Communication with Other Agencies*

NYSDOT Regional Directors meet regularly with their counterpart New York State Department of Environmental Conservation (NYSDEC) Regional Directors to:

- discuss progress under the Environmental Initiative,
- review NYSDOT’s five-year capital construction and annual maintenance program,
- identify opportunities to improve resource protection and enhancement practices,
- exchange lists of contact people.

NYSDOT Regional Landscape/Environmental Managers meet monthly, or as mutually agreed upon, with their NYSDEC counterparts to:

- discuss progress under the Environmental Initiative,
- identify specific opportunities to include resource protection and enhancement practices in NYSDOT projects,
- update lists of contact people.

NYSDOT Regions meet as needed with NYSDEC to progress individual projects through existing project development and permit review processes.
NYSDOT Regions are encouraged to establish similar meetings with other State and federal resource agencies, as appropriate, with coordination assistance by NYSDOT’s Environmental Analysis Bureau.

Public Involvement

NYSDOT’s Regional Planning and Program Management and Regional Design Groups take leadership roles in expanding use of existing project planning and development processes to communicate with, solicit and encourage input from municipalities, environmental interest groups, citizens groups, corporations and the general public to assure early and full consideration of environmental and community concerns and innovative context sensitive solutions in transportation projects.

Joint Development

NYSDOT Regional Design Groups look for opportunities for joint development with municipalities, other agencies and private developers whereby design, construction, land acquisition and maintenance responsibilities can be mutually and equitably shared. For example, a combined stormwater management facility (e.g., an extended detention basin) might be sized and constructed to serve the stormwater needs of both NYSDOT (for highway drainage) and of an adjoining land owner, such as another State agency, a municipality or a corporate owner. NYSDOT, might cover the design and construction costs if the public or private owner provides the land for the facility and agrees to maintain it.

Environmental Betterments

Specific environmental elements or facilities requested and funded by others (e.g., municipalities, other agencies, environmental groups) will, wherever practicable, be incorporated in NYSDOT capital and maintenance projects as “Environmental Betterments.” These elements or facilities may include, but not be limited to, landscaping, park amenities, historic building preservation, noise barriers, created wetlands, stream restorations, stormwater basins, habitat improvements and new municipal sanitary sewer lines, storm sewer lines and water mains that provide an environmental benefit.

These Environmental Betterments take advantage of the “economies of scale” possible on large public works projects and should cost the sponsors less than individual projects designed, constructed and let by themselves.

As part of the Department’s proactive public outreach effort, NYSDOT invites local municipalities, environmental groups and agencies to combine their funded and designed environmental elements or facilities with ongoing NYSDOT projects. The Department will provide added design services to assure that the “Environmental Betterment” work is appropriately integrated into the transportation project plans and
specifications. The Department may provide contract letting and construction inspection of the Environmental Betterment work at no charge to the municipality, other agency or environmental group.

Context Sensitive Design

An essential element in the implementation of the Environmental Initiative is context sensitive design. Context sensitive design strives to provide a product that is in harmony with the community because it considers the environmental, scenic, historic and natural resources of the area. Projects that recognize community goals are designed, built and maintained with minimal disruption to the community, add value and are sustainable as context sensitive projects. The NYSDOT Design Division will be developing written internal guidance on context sensitive design as it relates to the Environmental Initiative.

Capital Program Update Process

The Environmental Initiative has been identified as a component of the Department’s annual Capital Program Update process. Regional Planning and Program Managers are required to include Environmental Initiative projects on their updated capital transportation program. Regions are requested to identify those projects that have environmental or context sensitive design work which goes above and beyond regular mitigation or permit requirements. Any external coordination that has occurred with outside agencies or interested groups is also identified.

Evaluation and Reporting Measures

Environmental Initiative activities are tracked at both the project and program level statewide. Utilizing the Department’s automated Project and Program Management Information System (P/PMIS), program managers select Environmental Initiative attributes for any particular project as part of a general work type. This allows for the tracking and management of Environmental Initiative work related to the Department’s capital construction program and maintenance activities.

Funding

State and federal highway funds continue to be used for project-specific avoidance, minimization, mitigation and enhancement efforts. They may also be used to advance this Environmental Initiative consistent with State and federal funding programs.

Other State agencies, municipalities and non-governmental organizations should be invited to provide funding for “Environmental Betterments” for inclusion in Department transportation projects.
More information on funding options is available on the NYSDOT web site at www.dot.state.ny.us. Refer to the Environmental Initiative Engineering Instruction for FHWA’s (Federal Highway Administration) federal funding table listing details related to funding options for various Environmental Initiative related enhancements.

**Master Plan Implementation**

The Environmental Initiative also plays a role in implementing the Department’s 1998 State Transportation Master Plan, “The Next Generation: Transportation Choices for the 21st Century.” For example, several needs were identified by Regional NYSDOT offices that relate to environmental processing, including better coordination with outside agencies, a proactive approach to public outreach and presenting a more positive image of the Department. The Initiative directly addresses these needs and will indirectly improve the Department’s image, while improving the quality of life for New York State residents.

**Inclusion into Department Guidance Documents**

All Divisions and Bureaus are now incorporating into their respective manuals appropriate guidance to support the Environmental Initiative. For example, the NYSDOT’s Design Procedure Manual, Appendix B, already includes guidance on documenting Environmental Initiative actions in the design approval documents.

**Examples of Environmental Initiative Practices, Features, Programs and Activities**

The following are examples of practices or features that should be incorporated into NYSDOT capital and maintenance projects, as appropriate:

- the practice of context sensitive design,
- street ambience enhancements (e.g., benches, decorative paving, bollards, period lighting fixtures),
- restoration of historic highway related features (e.g., historic lighting fixtures, stone walls, guide rails),
- measures to retain the integrity of historic parkways and bridges,
- increased wild flower plantings,
- additional landscaping to enhance the appearance of noise barriers,
- increased landscape plantings to improve roadside appearance and streetscapes,
- new or rehabilitated fishing access and trail head parking areas,
- new or rehabilitated bikeways and bike paths,
- new or rehabilitated boat and canoe launch sites,
- new or rehabilitated historic markers and interpretive signing,
- increased signing of important waterways and watersheds,
- new or rehabilitated scenic overlooks,
- retrofits of existing highway drainage systems with created wetlands and
stormwater management facilities,
- soil bio-engineered stream banks,
- plantings, boulders, deflectors and other techniques to improve fisheries habitat,
- culverts for wildlife crossings,
- new or rehabilitated wildlife viewing sites,
- wildlife habitat improvements,
- mitigation and enhancement for past wetland impacts,
- restored and enhanced wetlands,
- acquisition of endangered species habitat,
- acquisition for preservation of regionally important wetlands and upland habitat,
- acquisition of scenic easements,
- improvements to highway entrances of public parks, wildlife management areas, and historic sites and
- replacement of fixed-time traffic signals with vehicle activated signals

The following are examples of some of the practices and programs that should be considered to improve NYSDOT’s current environmental performance:

- continue to identify improved ways to use deicing materials and abrasives,
- improve efforts to sweep/collect/recycle the roadside abrasives in the spring,
- continue efforts to reduce herbicide use,
- clean up wastes previously generated at NYSDOT projects and facilities,
- encourage and implement Transportation Demand Management, Transportation System Management and Intelligent Traffic System practices,
- encourage alternatives to single occupancy vehicle commuting,
- expand Ozone Alert Day initiatives,
- promote alternative fueled vehicles,
- increase support for mass transit,
- pilot and promote the use of recycled tires in highway embankments; glass, plastics and aggregate in pavements; and plastic, rubber and aggregate in noise walls,
- preserve historic structures and
- promote State bike routes and greenways

The following are some examples of technology transfer and data sharing activities with other local, State and federal resource and highway agencies to advance environmental stewardship in the transportation industry:

- provide and/or participate in joint training,
- share standard details, specifications, and best management practices,
- share guidance manuals and handbooks,
- conduct joint research and share results,
- exchange GIS data sets,
- identify agency points of contact and subject matter experts,
- exchange staff phone numbers and e-mail addresses and
RESULTS

In adopting this ethic, NYSDOT has joined with environmental agencies in a common purpose. With the trust and understanding that comes from shared goals, NYSDOT is forging productive relationships with environmental agencies and groups. We have become part of the solution instead of part of the problem.

The Environmental Initiative is a public service ethic that has provided a basis for NYSDOT staff to realize some of their larger responsibilities. As such, there is a strong community and public outreach component to the Environmental Initiative that improves upon current public involvement methods by providing a basis for positive interaction. NYSDOT staff consult with local municipalities and environmental agencies on a regular basis to determine what environmental enhancements can and should be incorporated into Departmental work. This, in turn, has improved communications in all regards.

Precise dollar amounts are difficult to track. The Initiative has probably already saved real dollars. Administrative (permit application) costs are down, punitive “mitigation” costs (e.g., those associated with blasting solid rock for wetland creation) are down and, while project costs are up slightly, project development time is down. On a Statewide perspective, the overall costs of environmental enhancements is reduced by the economies of scale associated with incorporation of enhancements into those situations where they can be progressed most efficiently.

The Initiative has also clearly resulted in significant intangible benefits in the form of improved morale. Since it’s “OK to be green,” designers enjoy more freedom and flexibility in their work and NYSDOT has stronger, more positive working relationships with external agencies, local municipalities and other environmental groups. These improved relationships result in avoided costs by reducing delay, litigation, frustrating do-overs and wasted effort arguing contentious issues. By working together at the start, projects are accomplished in a more timely and productive manner for all concerned.

CONCLUSION

NYSDOT’s Environmental Initiative is more than just an effort to incorporate environmental features into a project, streamline a regulatory process or improve interagency communications. It is a public service ethic that provides a philosophical basis for accomplishing all these things and more. It is about a public agency taking pride in embracing its larger responsibilities.

NYSDOT’s framework can be adapted to any state and strengthens best practices from any source. While specific projects may bring incremental improvements, a progressive ethical framework can be the basis for continuing progress for all DOTs.