stewardship

n. - to act as a steward; act of administering for others

AASHTO Center for Environmental Excellence

Best Practices in Environmental Stewardship Competition

Promoting Environmental Excellence in Transportation
The Florida Keys’ rarest mammal, the diminutive Key deer, resides in red mangroves on Big Pine Key and is being protected a multi-faceted strategy for reducing deer mortality along that section of U.S. Route 1. (See page 11)

Photo by Phil Frank, courtesy of the U.S. Fish and Wildlife Service’s National Image Library.
This report is sponsored by the American Association of State Highway and Transportation Official's (AASHTO) Center for Environmental Excellence. The center has been developed in cooperation with the Federal Highway Administration to promote environmental stewardship and to encourage innovative ways to streamline the transportation delivery process. The center is designed to serve as a resource for transportation professionals seeking technical assistance, training, information exchange, partnership-building opportunities, and quick and easy access to environmental tools.

The work of the center is overseen by an advisory board comprised of the following members:

- Carlos Braceras, Utah Department of Transportation — Chair
- George Gerstle, Colorado Department of Transportation
- James Byrnes, Connecticut Department of Transportation
- Gail D'Avino, Georgia Department of Transportation
- Neil Pedersen, Maryland Department of Transportation
- Donna Allen, Minnesota Department of Transportation
- Gary McVoy, New York Department of Transportation
- Len Sanderson, North Carolina Department of Transportation
- Tim Hill, Ohio Department of Transportation
- Charlie Howard, Washington State Department of Transportation
- Ken Leonard, Wisconsin Department of Transportation

and is directed by Kris Hoellen of AASHTO.
Dear Colleagues:

I am pleased to present to you the winners of the first AASHTO Center for Environmental Excellence Best Practices in Stewardship Competition. The intent of this competition was not only to showcase exemplary state DOT efforts at fostering environmental stewardship, but also to demonstrate the initiatives DOTs are undertaking to institutionalize these programs. Hence, we structured this competition to identify best practices in stewardship at the project, program, and institutional levels.

We received 75 applications from 32 states. My only regret is that in this report we have room to highlight only a few of these winning entries. I therefore encourage you to visit the center’s web site at www.environment.transportation.org to view all 75 entries. Here you will find entries describing projects and programs positively impacting both the urban and rural environments, along with the natural and human communities. By sharing these success stories our goal is to enhance the professional understanding of what factors are necessary to successfully develop environmentally sensitive programs and projects.

In closing, we are very proud of all the state DOTs that submitted proposals in this competition. Environmental stewardship represents a commitment on the part of state DOT officials to incorporate environmental considerations into agency activities, to develop institutional mechanisms that will provide continuity over time, and to develop long-standing relationships with partner agencies and groups that are based on trust and good practices. The impressive examples of environmental stewardship submitted as part of this competition shows that state DOTs are becoming national leaders in inserting environmental excellence into their missions.

Sincerely,

John Horsley
Executive Director
AASHTO
1. A VTrans Wildlife Crossing Team.
2. Colorado’s I-25 Programmatic Agreement allows major improvements to the I-25 corridor in El Paso County, while minimizing the impact on the Preble Meadow Jumping Mouse’s habitat.
3. Vermont deer are one of many species benefiting from wildlife crossings.
4. The reconstruction of the Route 146 Urban Parkway Corridor in Massachusetts included the restoration of an historic lenticular bridge.
5. Maryland SHA engineers approach project development in part by looking for ways a road project can connect with the past and the future of communities, such as historic Burkittsville, Maryland.
Introduction: The Process

National Award Winners
Institutional Category:
North Carolina DOT: Environmental Leadership

Program Category:
Colorado DOT: Shortgrass Prairie Initiative

Project Category:
Florida DOT: U.S. 1 Key Deer Wildlife Crossings

Semi-Finalists
Institutional Category:
Florida DOT: Efficient Transportation Decision Making
Maryland DOT: Thinking Beyond the Pavement

Program Category:
Minnesota DOT: Aesthetic Design Guidelines for Highway Corridor Development
Vermont DOT: VTrans Wildlife Crossing Team

Project Category:
Colorado DOT: I-25 Programmatic Agreement
Massachusetts DOT: Route 146 Urban Parkway Corridor
New Jersey DOT: Route 57 Corridor Scenic Preservation

Additional Observations on State DOT Environmental Stewardship Efforts
Bridge construction in Vermont takes habitat connectivity beyond compliance, and has fostered a sense of trust and understanding between the Vermont Agency of Transportation and the state’s Department of Fish and Wildlife. Photo courtesy of the Vermont Agency of Transportation.
introduction: the process
Best Practices in Stewardship

Competition

Introduction

Protecting natural and human resources has been an important policy goal in the United States for many years. Not only has this policy become incorporated into the regulatory framework that influences how we build the nation’s infrastructure, but in many ways it influences the way we define our problems and how we identify potential solutions.

State departments of transportation (DOTs) have been key players in many facets of the national effort to protect the natural and human environment. This is not surprising given the significant impact transportation systems have on how we organize our communities and conduct our lives on a daily basis. Historically, state DOT environmental efforts focused almost exclusively on how to avoid or mitigate environmental and community impacts associated with individual projects. Today, DOTs recognize that their customers demand not only an efficient transportation system, but one that also protects and, most importantly, enhances the natural and human environments.

In recognition of these important state DOT initiatives, and as a means of disseminating best practices, AASHTO announced in Spring 2003, a national competition for state DOTs to showcase their best practices in environmental stewardship. This report presents results of this national competition. State DOTs were requested to submit examples of environmental stewardship efforts in any of the following three areas:

Institutionalization or Organizational Change — Efforts made to make permanent the changes in attitudes and organizational structure that help institutionalize environmental stewardship in an agency’s program of activities. Examples include organizational decision support structures; changes in mission statements, policies and design procedures; use of environmental quality assurance and control procedures; use of performance measures to track environmental improvement; and environmental management systems.

or

Programmatic Approaches — Organizational policies and programs that illustrate environmental stewardship throughout a program or function, i.e., applying to multiple projects. Examples include programmatic agreements with resource or other partner agencies with respect to handling environmental issues, programmatic design criteria for environmentally sensitive projects, and organization-wide data collection and analysis capabilities that focus on systematically avoiding environmentally sensitive areas.

or

Project-oriented Activities — Collaborative efforts to plan, design, or construct a major project that reflects the environmental stewardship ethic. The project should be illustrative of the type of design and construction practice that is now being used by the agency or being adopted, possibly as a result of the project nominated. Examples include projects with context sensitive-solutions, restoring or enhancing historic and/or cultural features, and developing wildlife passages and/or nesting structures.

The state DOT examples described in the following pages represent significant commitment to environmental stewardship. In each case, the expert panel that chose the 10 semi-finalists felt that the state DOT was going beyond normal business procedures in fostering environmental stewardship. As noted by one of the panel reviewers, “environmental stewardship means leaving the community/environment much better off than it was before the program or project was undertaken, not just from the perspective of transportation improvement.” Each of the 10 semi-finalists reflected such an impact.

In addition, the three semi-finalists in the institutional category go beyond simply considering environmental stewardship in project and program
development. These three applications represent a fundamentally different way of doing business, one that has been institutionalized in the daily activities of the agency. To accomplish this requires vision, leadership, perseverance, and resources.

**The Process**

A solicitation was sent to all state DOTs seeking best case examples of environmental stewardship. Nominations were sought for projects/programs/institutional initiatives affecting the natural, human-made, and/or social environment.

Seventy-five applications were received from 32 states and the District of Columbia. Each of these applications represented a substantive effort on the part of a state transportation agency to seriously incorporate an environmental stewardship ethic into its projects, programs and services. An expert review panel evaluated each application on the basis of the following criteria:

- To what extent does the institutional/program/project effort improve environmental conditions and quality of life, when possible, not just represent an effort to comply with regulations?

- To what extent are partnerships among public, private and non-governmental organizations developed for careful management of environmental resources and values?

- To what extent are environmental stewardship attitudes, ethics, and/or behavior by agency staff reflected in the effort?

- To what extent does the effort reflect wise choices based on understanding the consequences to the natural, human, and/or social environment?

- To what extent does the effort fulfill environmental stewardship responsibilities for succeeding generations, that is, moving toward a cost-effective and environmentally sustainable future?

- To what extent does the effort reflect the integration of environmental values within the “core business value” of the agency?

The expert review panel represented a partnership of national agencies and key transportation stakeholders concerned with these issues. The team (listed on the following page) — in addition to state DOTs — includes representatives from the Environmental Protection Agency, the Federal Highway Administration, the Fish and Wildlife Services, non-governmental organizations, state resource agencies, and a metropolitan planning association.

The panel convened over a two-day period to narrow the field from 75 applications to 10 finalists. Four finalists were selected from the project category; four were selected from the program category; and three were selected from the institutional category. The 10 finalists were then invited to attend the AASHTO annual meeting in Minneapolis, Minnesota, to present their entries and to compete with the other finalists. Summary information on those 10 finalists can be found on the following pages.

The final competition was conducted as a peer review. Each finalist was given the opportunity to present his/her entry and to answer questions. Afterwards several rounds of balloting, three award winners were selected, one from each of the three application categories.

The three winners of AASHTO’s first competition in Environmental Stewardship are:

- **Institutional Category:** North Carolina DOT for its Environmental Leadership Entry

- **Program Category:** Colorado DOT for its Shortgrass Prairie Initiative

- **Project Category:** Florida DOT for its U.S. 1 Key Deer Wildlife Crossings, Big Pine Key Project.

The three award winners, along with all of the entries received in this competition demonstrate that environmental stewardship can occur at many levels within a DOT, with the optimum level being the institutionalization of environmental stewardship into a DOT’s core business value.
The Blue Ridge Parkway in North Carolina curves past bunches of pink rhododendron at Linn Cove Viaduct. Photo by Hugh Morton, courtesy of the National Scenic Byways Program.
national award
winners
North Carolina's Great Dismal Swamp.
Photo by S. Bournique, courtesy of the U.S. Fish and Wildlife Service’s National Image Library.
Environmental Leadership

The North Carolina Department of Transportation (NCDOT) has institutionalized environmental stewardship throughout the agency by adopting environmental stewardship policies, changing organizational structure, conducting strategic planning, making process improvements, and partnering with key environmental constituencies. In particular, the NCDOT has created the first ever position of Deputy Secretary for Environment, Planning, and Local Government Affairs, and the first environmental committee on the Transportation Board with one member designated to represent environmental issues. It has also established an Environmental Stewardship Policy, included environmental stewardship in the DOT’s strategic plan, and created an Office of Environmental Quality. DOT officials have worked cooperatively with numerous environmental and other agencies to implement this initiative, including the state’s environmental agency, U.S. Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, N.C. Wildlife Resources Commission, and the N.C. Department of Cultural Resources.

An excellent example of how environmental stewardship has been institutionalized in the DOT is the Ecosystem Enhancement Program (EEP). Begun in 2002, this effort has developed a watershed assessment methodology that will be used to proactively identify compensatory mitigation resources. Not only will compensatory wetland mitigation be “de-coupled” from individual permits and reviews, making the process more efficient, the provision of such mitigation will now be done in a more ecologically responsible and efficient manner as well.

As noted by NCDOT officials, “NCDOT’s ability to partner with stakeholders to create common goals and creatively share resources to achieve them serves as a national model... leadership has identified specific (environmental stewardship) goals and objectives for these partnerships... the EEP effort provides accountability in improving the health of the natural environment...”

Review Panel Comments

“... an excellent example of explicit environmental stewardship integrated into a DOT’s business philosophy....identified goals and objectives, with an emphasis on environmental stewardship.... this is a big organization, with big issues, with big results... the effort represents a strong organizational commitment to change... the ecosystem enhancement program is a pro-active effort to identify from a watershed perspective a more ecologically successful mitigation strategy... this effort is characterized by extensive partnerships with other governmental agencies as well as with the environmental community...”

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The Colorado Department of Transportation’s Shortgrass Prairie Initiative seeks to preserve large tracts of prairie inhabited by species in decline, including grassland birds, the prairie dog (above), the burrowing owl, the swift fox, and the ferruginous hawk.

Photo by Ron Singer, courtesy of the U.S. Fish and Wildlife Service’s National Image Library.
Shortgrass Prairie Initiative

The Colorado Department of Transportation (CDOT) collaborated with FHWA, the USFWS, state natural resource agencies, and The Nature Conservancy to identify a strategy for mitigating the anticipated impacts to the state’s shortgrass prairie ecosystem of CDOT projects identified in the state’s transportation plan. A formal memorandum of understanding has been signed, and a biological assessment of the affected ecosystem has been completed. The focus of this initiative is to offset potential permanent habitat loss though large-scale habitat protection. Conservation easements and perpetual management agreements will be used to conserve no less than 15,000 and likely around 50,000 acres of the ecosystem, protecting 36 species and six aggregated habitat types. The outreach effort in developing this program included not only state/local agencies and environmental groups, but also organizations such as the Farm Bureau and the Colorado Cattleman’s Association that have traditionally been skeptical about such initiatives.

As noted by CDOT officials, “agency partners felt that the project-by-project Section 7 consultation process takes a great deal of time and resources that might be better invested towards proactive species conservation... by contributing to multi-species recovery in an integrated and comprehensive fashion, the partners will aid in the recovery of listed species, alleviate the need for additional listings under the Endangered Species Act (ESA), and by early compliance with the ESA, improve the predictability of scheduling the project development process...”

Review Panel Comments

“This impressive initiative is a proactive, forward-looking effort to foster environmental stewardship at the state level... strong partnerships with the environmental community serve as the foundation of its success... the program has been spearheaded by the DOT well in advance of any transportation project — showing great foresight not only for environmental stewardship, but also for making the project development process more effective... the initiative results in both financial and natural resource savings, and will have a long-term beneficial impact on ecosystems in Colorado...”

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NATIONAL AWARD WINNER: PROJECT CATEGORY

Key Deer.
Photo by Ray I. Doan Fine Art Photography.
U.S. 1 Key Deer Wildlife Crossings, Big Pine Key

The Key deer are found primarily on Big Pine Key, a part of the Florida Keys traversed by a 3.5 mile section of U.S. 1. Over half of the road kills of the Key Deer in the early 1990’s were occurring along this section of U.S. 1. The Florida DOT (FDOT) initiated a study in 1993 to determine the best way of protecting the Key Deer on this highway while enhancing the deer habitat, even though no highway improvement project was programmed for this site. Over a period of 10 years, the FDOT worked closely with federal and state environmental agencies, local officials, and environmental groups (e.g., the Key Deer Protection Alliance) to identify a multi-faceted strategy for reducing deer mortality. This strategy has included the construction of two underpasses, fencing along U.S. 1, installation of deer guards at the four roads intersecting U.S. 1, and the creation of a travel corridor parallel to the fencing. On-going research is being undertaken to determine the overall effectiveness of this strategy. Not only will this effort result in reduced motor vehicle-Key Deer crashes, it will also produce habitat-enhancing benefit to an endangered species.

As noted by FDOT officials, “this effort was initiated primarily for the purpose of benefiting an endangered species; there was no regulatory requirement to implement the project. It was done in the absence of any roadway improvement project... environmental needs led the project... the FDOT initiative resulted in improved trust and strengthened the relationship between the federal and state Fish and Wildlife agencies and the DOT...”

Review Panel Comments

“An outstanding example of a DOT that persevered over many years in developing a habitat protection plan... by taking responsibility for habitat protection, the DOT has adopted a strong commitment to environmental stewardship... given that U.S. 1 was the responsibility of the DOT, they took the time and spent the money on this effort even though there was no FDOT highway improvement, this is perhaps the best statement of what environmental stewardship is all about... the DOT is conducting research on the results of the habitat protection effort to identify better ways of doing so in the future...”

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semi-finalists
Find a Florida Everglades photo

SEMI-FINALIST: INSTITUTIONAL CATEGORY
Efficient Transportation Decision Making (ETDM), Protecting Florida's Environment

The Florida Department of Transportation (FDOT) has developed a multi-agency, multi-jurisdictional process that uses interagency teams and a statewide GIS database along with a web-based communication strategy to coordinate project reviews. The ETDM process has been institutionalized within the FDOT and is currently being implemented throughout the state. This process allows state and local officials to identify critical issues in as early as the planning phase so that a better understanding of the sensitivity of environmental issues can be obtained. More than 50 representatives from 28 agencies worked to develop this process, with agency operating agreements and a procedures manual now serving as the foundation of the process activities. Although the ETDM process is intended to streamline the project decision process, FDOT officials clearly state that the ultimate benefit of this process is better decisions.

FDOT officials noted, “the linchpin of the ETDM process is the partnership of FDOT with local, state, and federal agencies and with the public to ensure that transportation decisions are balanced with social, land use, and ecosystem preservation decisions. ETDM integrates environmental resource evaluation, environmental permitting, and the planning process...”

Review Panel Comments

“This effort represents a state-of-the-art application of information technology and institutional strategies to foster environmental stewardship statewide... interagency partnerships and coordination are outstanding... the use of the statewide decision support system allows state and local officials to identify environmentally sensitive areas and to screen projects with potentially significant impacts... the result of this multi-million dollar DOT commitment to environmental stewardship is better decisions.”

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The Canal Parkway in Cumberland, Maryland, is an example of how a road project is viewed as a partnership between the community and the Maryland State Highway Administration in its planning process. Photo courtesy of the Maryland State Highway Administration.
Thinking Beyond the Pavement

The Maryland State Highway Administration (SHA) adopted a new Context-Sensitive Solutions approach toward highway project development that captured the broader effects of transportation safety and mobility decisions on community needs, land-use decisions, and cumulative impacts on a community’s quality of life. This approach, previously called Thinking Beyond the Pavement, has been used in over 50 projects, and has been institutionalized within the SHA’s business plan. The basic foundation for this effort was to give participating communities a clear understanding of the choices involved in the transportation project development process and how these choices affect community character. In addition, this initiative has resulted in the road project being viewed as a partnership between the community and the SHA, not as the result of a remote, bureaucratic decision. SHA engineers now begin project development by understanding the overall environment-political, social, natural, and economic — and look for ways a road project can connect with the past and the future of the community. A good example of this process is the drainage and streetscape project undertaken in the historic district of Burkittsville. When previously unknown archaeological features were uncovered during construction, the project was modified to incorporate the historic features into the project design. Extensive public outreach and interagency coordination characterized this process.

As noted in the application, “the SHA replaced what is essentially a ‘cookie cutter’ approach to roadway design work with a method that better reflected each community’s unique character and living environment... the resulting highway projects are having an unprecedented impact on older communities, enabling the recycling of older buildings and communities around safer multi-modal highways... It means that designers willingly and openly seek the flexibility necessary to achieve a balanced outcome that respects the imperatives of both technical functionality and context sensitivity...”

Review Panel Comments

“A stellar example of how the concept of ‘community’ can be brought into transportation decision making... an outstanding example of collaboration at many levels of government that resulted in proven cases of enhancing community character... a mature demonstration of a statewide commitment to environmental and community stewardship... the streetscape project in Burkittsville is an excellent example of community involvement and respect for community values...”

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SEMI-FINALIST: PROGRAM CATEGORY
Aesthetic Design Guidelines for Highway Corridor Development

The Minnesota Department of Transportation (MnDOT) has developed *Aesthetic Design Guidelines for Highway Corridor Development* as part of its overall context sensitive design approach toward project development. These guidelines are a culmination of two decades’ worth of effort on the part of the DOT to integrate aesthetic qualities into project design. The community is an active player in defining the aesthetic values that should be associated with a project. A multidisciplinary aesthetic design committee, consisting of MnDOT representatives and local community representatives, reviews important aesthetic design issues and recommends appropriate design solutions. An example is provided in the application where 11 cities and three counties participating in a corridor study selected a hierarchy of aesthetic design solutions that related to alignment, architectural treatments, and landscape treatments.

As noted by MnDOT officials, “the use of this tool guarantees a basic design that responds to the importance of aesthetics and visual quality as an important part of every challenge in highway design, so that all solutions bring about harmony with the man-made or natural project setting... MnDOT’s commitment to visual quality, which is reflected in the *Aesthetic Design Guideline* documents, has contributed to projects that have been recognized nationally and internationally as models of what society expects of public agencies fulfilling their mission...”

Review Panel Comments

“This program is an amazing application of project design objectives that fall outside of the traditional perspective... a mature program that has made a real design difference... emblematic of a cultural change within the organization... this program puts Mn/DOT ahead of the pack in the consideration of aesthetic values from a programmatic perspective...”

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This Highway overpass reflects the Minnesota Department of Transportation’s context-sensitive *Aesthetic Design Guidelines for Highway Corridor Development*. Photos courtesy of MnDot.
VTrans Wildlife Crossing Team

The Vermont Agency of Transportation (VTrans) has identified wildlife crossings and habitat connectivity as important considerations in project development. To accomplish this, an interdisciplinary team has been formed to develop procedures and collect field data on wildlife crossing locations. Strong partnerships with the state Department of Fish and Wildlife (DFW) and with a non-profit habitat monitoring organization have been key to the success of this effort. To date, a data-gathering protocol has been developed, and substantive training of VTrans engineers has occurred. This training has not only included increasing DOT awareness of habitat protection, but has also focused on different designs for effective wildlife crossings. Importantly, the wildlife crossings program is being designed for multiple species. Incorporating the assessment of wildlife crossings into the project development process is considered by agency officials as a long-term organizational commitment to environmental stewardship.

As noted by Agency officials, “we would like to take habitat connectivity beyond compliance, and incorporate it into projects where it is environmentally appropriate... in addition to develop a useful planning tool, this program has provided immediate success in fostering a sense of trust and understanding between two state agencies — VTrans and DFW. This in and of itself has been worth the investment that has gone into this project.”

Review Panel Comments

“Although this initiative is in its early stages, it is a clear indication of a strong environmental stewardship ethic within the DOT... it is proactive, programmatic, and strongly founded on partnerships... the approach is transferable to other states... the multi-species focus represents an important focus of such an effort... the application of applied science to issues that are beyond the traditional focus of DOTs on their right-of-way, and yet which are strongly affected by that right-of-way, is exemplary...”

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SEMI-FINALIST: PROJECT CATEGORY

Photo courtesy of the U.S. Fish and Wildlife Service's National Image Library.
I-25 Programmatic Agreement

The Colorado Department of Transportation (CDOT) is looking at major improvements to the I-25 corridor in El Paso County, including some roads on new alignment. Each of the expected projects would have a site-specific impact on the Preble Meadow Jumping Mouse habitat — a federally listed threatened species. Although site-specific mitigation is available, the CDOT worked with FHWA and the USFWS to design a conservation package that included, 1) on-site restoration and enhancement of habitat within or near disturbance areas; 2) off-site actions to restore habitat linkages, permanently protecting 50 acres of habitat within two corridors; 3) monitoring of conservation efforts to determine the success of restoring habitat connectivity; and 4) conducting research to determine the effectiveness of design changes in culverts that would allow them to serve as small mammal ledges.

As noted by CDOT officials, “the I-25 Programmatic Agreement is not merely a mitigation agreement. By basing the mitigation approach to the recovery goals for the species, CDOT is moving beyond merely mitigating for its impacts to the mouse…. By using mitigation to further species recovery instead of merely offsetting project impacts, CDOT will help to ensure the long-term survival of the Preble Meadow Jumping Mouse, and play an active role in the long-term goal of delisting the species.”

Review Panel Comments

“This proactive mitigation effort goes above and beyond what DOT’s have traditionally done to handle project impacts — this was an effort to enhance, not just mitigate... CDOT officials have clearly left the environment much better off than they found it... this effort is a wonderful example of the need to adopt a more systematic perspective on the impact of road development on habitats and species survival, especially considering the need for habitat connectivity... the commitment to monitoring and research is exemplary...”

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SEMI-FINALIST: PROJECT CATEGORY

Photo courtesy of Lamson Engineering Corporation, Newton, Massachusetts.
The Route 146 Urban Parkway Corridor: A Model for Environmental Stewardship

The reconstruction of Route 146 — a major highway serving Worcester, Massachusetts — was originally planned to be a typical highway improvement project, adding lanes in capacity constrained sections and improving interchanges. However, through an extensive public involvement process, the Massachusetts Highway Department (MassHighway) realized that the corridor improvement needed to be more than that. The department — in cooperation with public and environmental groups — determined that the corridor improvement should be linked to the history of the Blackstone River Valley, should repair damaged landscapes, and provide visible public interpretation of the cultural history of the corridor. With this as a point of departure, the design began to take the form of an urban historic parkway. Environmental stewardship is incorporated into the parkway concept through the construction of a bikeway through the corridor, the preservation of historic buildings, detailing of architectural features to promote regional identity, restoration of historic bridges, and restoration of disturbed landscapes.

As noted by MassHighway officials, “this project represents a substantial commitment to local environmental stewardship... and will provide a lasting transformation of this industrial corridor, while preserving its historic character... many of the design details — lighting, wall rustication, railing design, and finishes — are being used as standard alternatives for projects in culturally significant locations throughout the state...”

Review Panel Comments

“An urban example of environmental stewardship that involves multimodal considerations and strong involvement of urban interests... a broad participation of local governments and environmental and historic organizations was important for the overall success of this effort... the transportation agency devoted considerable resources in order to integrate this project into the natural environment and surrounding community...”

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SEMI-FINALIST: PROJECT CATEGORY

Historic Karrsville Schoolhouse in Warren County, New Jersey, dates from the mid-1800s. Photos by Cate Oakley, Mayor, Township of Mansfield, New Jersey.
Route 57 Corridor
Scenic Preservation

In 2000, the New Jersey Department of Transportation (NJDOT) funded a corridor study along Route 57 in Warren County with the intent of identifying the investments required to meet the transportation needs of the corridor. Working closely with the state’s Office of Smart Growth and with local governments, NJDOT concluded that there was no need to widen the state highway. Instead, NJDOT officials initiated a scenic preservation effort in partnership with New Jersey’s Department of Environmental Protection and Department of Agriculture (with respect to farmland preservation). In FY 2002, the NJDOT programmed $1 million to acquire landscape parcels, scenic easements, or farmland easements within the Route 57 corridor. An additional $5 million was programmed in FY 2003, with the conditions that Warren County would put $1 million of its own funds into the program, and that the county would work with state agencies to help local governments plan on how they want to grow.

NJDOT officials noted, “the goal of this effort is to preserve the existing environmental and scenic properties of the Route 57 corridor. Scenic preservation not only preserves the land itself, but also prevents the possibility of poorly managed new development along the existing corridor... by investing today, the DOT will reduce the amount of problems that might occur in the future resulting from haphazard development without the foresight of smart growth.”

Review Panel Comments

“Outstanding example of how transportation planning can respect rural and historic resources, while recognizing Smart Growth principles... visionary leadership leading to viable and effective environmental stewardship in this corridor... active partnerships with state agencies and local governments... once the need for highway capacity expansion was not shown in the planning effort, the NJDOT did not walk away from the process; instead, DOT officials spearheaded an effort to promote a community vision for its future that integrated transportation, environmental, cultural, and economic development goals.”

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During a drainage and road improvement project, Maryland SHA project officials worked closely with town officials in Burkittsville, Maryland, to include textured concrete road surfaces, historically sensitive lighting fixtures, and patterned brick sidewalks in the overall design.
additional observations on state dot environmental stewardship efforts

In reviewing the 75 nominations that were submitted in response to this solicitation, the expert panel made several general observations concerning the characteristics of environmental stewardship adopted by many state DOTs. The characteristics described on the following pages clearly illustrate the different elements of best practice in environmental stewardship that taken together provide a good picture of the progress being made by state DOTs.
Environmental Stewardship Helps Achieve Consensus on Difficult Projects

Kentucky Transportation Cabinet
Crossing Pine Mountain

Improving U.S. 119 over Pine Mountain had been studied for over 40 years. The two-lane road meandered for over 7.7 miles gaining over 1,700 feet in elevation before winding down the other side of the mountain. With a very high crash rate and increasing volumes, something had to be done. Community trust in the DOT was almost non-existent given the large number of studies that had been undertaken, but with very little action resulting. In order to move forward with a project, the DOT developed a partnership with 41 community residents, officials, environmental professionals, and other stakeholders. A task force consisting of these groups was formed and by designing improvements that clearly improved safety, but doing so in an environmentally acceptable way, within nine months, the task force was able to recommend an improvement strategy for the road. Environmental enhancement features included:

- Restoration of streams;
- Creation of scenic overlooks;
- Use of special stone materials on structures;
- Banning the use of fill in sensitive watershed areas;
- Purchase of property for a nature preserve;
- Use of native vegetation in landscaping; and
- Substantive effort at erosion control during construction.

The project development process has been so successful that it is now considered a benchmark against which other projects in Kentucky can be measured.

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Environmental Stewardship Can Help Enhance Historical Resources

Michigan DOT
M-43: A Context-Sensitive Success Story
This project involved road reconstruction and widening through an historic district in Kalamazoo, Michigan. Capacity and safety issues had plagued this road for some time and transportation officials had developed plans for the road that created a great deal of controversy. Working with key constituencies and stakeholders, MDOT was able to improve M-43 in a way that not only fostered mobility and safety, but also enhanced the historic character of the surrounding community. Key principles that guided this effort included: delineation of project objectives with community involvement, clear and on-going communication concerning project objectives both internally and externally, inclusion of community members throughout project implementation activities, and clear definition of roles and responsibilities internally at MDOT as the project proceeds through various phases.

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Maryland State Highway Administration
Streetscape Project in Burkittsville, Maryland
What started out as a simple drainage and road improvement project has turned into a national role model for context-sensitive solutions. The original road design had included textured concrete road surfaces, historically sensitive lighting fixtures, and patterned brick sidewalks. During road construction in this early 19th-century town, previously unknown archaeological features were uncovered, including a wooden water delivery structure, portions of a stone gutter system, cobbled streets, and a cobble stone wagon stand. Given these features, SHA project officials worked closely with town officials to incorporate these features into the final design of the project. The completed project has not only improved the movement of people and vehicles in Burkittsville, but the community itself has expressed great appreciation to the SHA for its handling of the historic and social context within which the project occurred.

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Environmental Stewardship Means Going Beyond Just Satisfying Regulations

Kentucky Transportation Cabinet
“Gateway to Bowling Green,” The Cemetery Road Project
The project is the widening and partial realignment of 2.42 miles of KY234 (Cemetery Road) including a new interchange with I-65. Tremendous opposition was expressed from the Cemetery Road community. They did not want a new interchange in their neighborhood. Through meetings with city officials and with the public, DOT officials developed the first multipurpose bike and pedestrian path in Bowling Green, the first segment in a Greenbelt Plan for the city. Access control management combined with the newly established Planning and Zoning Overlay District were used to control the commercial development of the area. The project included an extensive landscape plan on the new alignment. Additional aesthetics to the project included mast arm signal poles, white decorative fencing at the interchange, a limestone facade on the new bridge, and decorative roadway lighting. All plans and ideas were developed with the cooperative partnering of key players throughout the project.

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New Mexico DOT
U.S. 70 Hondo Valley Reconstruction Project
This project was a reconstruction of U.S. 70 in Hondo Valley in southeastern New Mexico. Because the project was identified as a high-priority project for the state, DOT officials decided to use a design-build approach. The project, however, was highly controversial and received strong opposition from local residents within the Hondo Valley. An extensive public outreach effort was used to involve the community in the project and to ensure environmental sensitivity and context-sensitive design and construction. Efforts included:

➢ Reaching out to form partnerships with special interest groups;
➢ The integration of design, environmental, public involvement, and construction into a single team;
➢ Full time, onsite environmental monitoring and oversight;
➢ Development and implementation of a substantial community enhancement program; and
➢ Development of a Visual Impact Mitigation Plan that integrates visual aspects of the project (e.g., retaining walls, slope stabilization, re-vegetation, and tree replacement) with both natural and historic features within the valley.

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Texas DOT
U.S. 77/83 Los Tomates Expressway Extension
This $17 million project involved extending a two-mile, four-lane, divided, elevated expressway to access the new General Service Administration (GSA) Border Complex on the U.S. side of a bridge to Mexico. It included construction of frontage roads and the improvement of a major intersection. The project included provisions to address sensitive environmental, wetlands, and historical requirements. The project proactively embraced and enhanced the surrounding environment by:

▪ Relocating/constructing a new 47-acre park to replace existing 20-acre Lincoln Park;
▪ Building a neighborhood pocket park to replace the old park, with a hike and bike trail connecting parks;
▪ Relocating the levee, enabling more land for park and wildlife corridors;
▪ Dedicating 175 acres along the Rio Grande river to the U.S. Fish and Wildlife Service Reserve for the continuance of a wildlife corridor;
▪ Constructing an earth noise barrier wall and cat tunnel to protect wildlife habitat;
▪ Incorporating traditional architecture in column design; and
▪ Relocating (recycling) almost 100 historical sable palm trees.

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Environmental Stewardship Depends on Building Internal Capability

**Michigan DOT**  
**Aesthetic Project Opportunity Inventory**

The Michigan Department of Transportation (MDOT) Aesthetic Project Opportunities Inventory identified more than 2,000 potential aesthetic improvement projects along 9,725 miles of U.S., interstate, and Michigan roads in the state’s trunkline system. The inventory, initiated in 2000 and completed in 2001, identified seven primary types of aesthetic project opportunities: 1,491 landscape treatments (Aesthetic, Environmental, Functional) 261 structure removal or improvement, 102 streetscaping projects, 100 vegetation management projects, 98 scenic corridor management projects, 73 scenic easements, and 31 scenic turnouts. GIS-mapping techniques were used to locate aesthetic project opportunities. Guidelines to prioritize projects that have the potential to yield the greatest environmental benefits are currently being developed. Efforts to design a web site to share the inventory with a broader audience are also under way. MDOT officials believe that encouraging community and agency involvement in the planning and implementation of aesthetic projects can help promote a sense of stakeholder ownership and contribute to the long-term success of such projects.

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**Ohio DOT**  
**Archaeological Data Recovery**

In 2001, the Ohio Department of Transportation’s (ODOT) Office of Environmental Services (OES) developed and initiated a process to streamline archaeological data-recovery activities. This process includes taking the archaeological reviewer from the Ohio State Historic Preservation Office (OSHPO) to project sites during the data recovery field work. At this time, the ODOT archaeological staff, the OSHPO archaeologist and the consultant team would review what was being recovered from the site or sites in question. This information would then be reviewed against research questions developed as part of an approved data recovery plan. By meeting regularly in the field with OSHPO, ODOT has benefited with more timely reviews and approvals and a better understanding of OSHPO’s goals and objectives.

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Oregon DOT
Integrating Environmental Excellence
The Oregon DOT has instituted several policy and process changes that were designed to enhance project
delivery while at the same time improve environmental stewardship. The types of improvements have
included:

- Apply the first tier of the NEPA process (Location EIS) to concepts still in the system-planning process;
  protective right-of-way acquisition can be made on the basis of a Location EIS.

- Use interagency concurrence points on purpose and need, range of alternatives, criteria for selection,
  and preferred alternative so that interagency coordination is assured.

- Develop an “environmental baseline report” as part of the evaluation of existing conditions.

The intent of all these initiatives is to put environmental information and decision legitimacy early in the
process, and to assure that a flow of communication occurs throughout project development.

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Environmental Stewardship Can Occur At Many Different Levels

**Minnesota DOT**

**Great River Development Study: A Corridor Management Plan for Minnesota’s National Scenic Byway Following the Mississippi River**

This study encompassed an area along the Minnesota bank of the Mississippi River from Canada to Iowa, extending a quarter of a mile from the existing Great River Road, the land between the road and the river, and land quarter of a mile on the other side of the river. A consortium of 10 states in the 1930’s developed a partnership to develop and enhance the Great River Road that paralleled the Mississippi River. The Minnesota DOT offered to conduct a corridor management study of the Great River Road for the state agency representing Minnesota in this consortium. The effort was massive; development of a GIS database of over 6,000 recreation, river, cultural and transportation resources; conducting tourist surveys; holding community meetings; establishing an advisory committee with key stakeholders; and the creation of a multi-disciplinary team with wide latitude to develop recommendations that made sense. The study devoted considerable energy identifying and then guiding careful management of environmental resources and values.

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Environmental Stewardship Means Educating the Public About Important Resources

Texas DOT
Drive Clean Across Texas
This program is the first of its kind statewide outreach and public education campaign aimed at improving air quality. The campaign uses printed materials, billboards, television public announcements, radio advertisements and a web site to get the clean air message to all parts of the state. The campaign is sponsored by the Texas DOT and the Texas Commission on Environmental Quality with support from the Texas Department of Safety and the Texas Department of Health. The focus of the campaign is to change the attitudes and behavior of the citizens of Texas with respect to improving air quality. It is expected that television spots will reach 90 percent of the target audience seeing the message at least five times; radio advertising will reach 65 percent of the target audience hearing the message at least seven times; and outdoor advertising will be seen by people in between 125,000 and 200,000 vehicles per day in the major markets.

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North Carolina DOT
River Basin Environmental Stewardship Program
The NCDOT began a partnership with the state’s Department of Environment and Natural Resources in 1996 to encourage the state’s citizens to be good stewards of the state’s river basins. The NCDOT has placed informational signs on all major highways and river crossings identifying which of the 17 river basins the traveler is currently in. Each of the signs also has a toll-free number connecting to the DENR where additional information on the river basins can be obtained. The state transportation map has also been changed to include an inset that shows the 17 river basins in the state. Surveys of the state’s citizens indicate that close to 70 percent of the respondents have seen a river basin sign.

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Environmental Stewardship Means Monitoring Agency Action
Ensure Policies and Program Direction
Are Carried Out

Maryland State Highway Administration
U.S. 113 Relocation and the National Pollutant Discharge
Elimination System (NPDES) Program

The reconstruction of U.S. 113 in eastern Maryland involved crossing three environmentally sensitive streams. As part of the Corps of Engineers permit, the State Highway Administration was required to provide an environmental monitor (EM), a full-time, third-party professional, with responsibility for environmental expertise and regulatory oversight during construction. The presence of the EM resulted in minimal wetland impact from clearing, restoration of soil structure to allow for successful re-vegetation of wetland areas, minimal upstream disturbance, changes in drainage design that provided improved water quality, an improved design of a fish ladder, and more effective floodplain restoration.

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Maryland State Highway Administration
The National Pollutant Discharge Elimination System (NPDES)
Stormwater Program

The NPDES Stormwater Program is an Environmental Protection Agency (EPA) mandated program, which focuses on reducing point and non-point pollution associated with storm water. In January 1999, the federally mandated NPDES Municipal Separate Storm Sewer System (MS4) Permit was issued to SHA, making it one of the first state transportation agencies to be regulated under a statewide NPDES program. The NPDES team was created to include experts in state-of-the-art information technology, fieldwork, NPDES regulations, environmental engineering, ecosystems, public relations, and SHA systems. For the construction program, SHA has implemented a six-layer system that includes independent quality assurance ratings for each project. Certified quality assurance inspectors inspect projects biweekly and rate the sediment controls on a letter grade scale. Projects can be shut down based on these inspections. SHA’s goal is to have 95 percent of its projects rate at an A or B grade.

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