

Successes In Stewardship

Celebrating 10 Years

February 2012

Showcasing the 2011 Environmental Excellence Award Winners

The Federal Highway Administration (FHWA) recently announced the 2011 Environmental Excellence Award recipients, whose transportation-related projects reflect the Agency's commitment to promoting environmental stewardship and streamlining project delivery. Since the mid-1990s, FHWA has recognized projects that exemplify environmental excellence and apply innovative solutions to improve transportation decisionmaking and project implementation. This issue of *Successes in Stewardship* outlines the Environmental Excellence Awards criteria, highlights the 2011 award recipients, and describes two of the award-winning projects.

Awards Criteria

The Environmental Excellence Awards honor individuals, teams, processes, or projects that have used FHWA funds to pursue environmental stewardship, while addressing transportation needs, shortening project delivery times, and applying innovative techniques and technologies to address environmental issues in transportation.

Every two years, FHWA solicits nominations from agencies, companies, and individuals for environmental streamlining efforts that meet specific criteria in a given award category. Nominators provide details about how the nominee demonstrates environmental leadership, streamlining, and stewardship in delivering transportation projects. FHWA accepts nominations for the Environmental Excellence Awards in the following categories: Air Quality Improvement and Global Climate Change; Context Sensitive Solutions; Cultural and Historical Resources; Ecosystems, Habitat, and Wildlife; Environmental Leadership; Environmental Research; Environmental Streamlining; Nonmotorized Transportation; Recycling and Reuse; and Wetlands, Watersheds, and Water Quality.

For each awards cycle, FHWA chooses a panel of experts from the research, government, and academic communities to evaluate nominated projects. The experts who choose the award recipients look for entries that go above and beyond routine practices when promoting environmental awareness through:

- Fostering interagency cooperation;
- Establishing partnerships;
- Building multi-faceted transportation solutions; and
- Considering local conditions.

Visit the [Environmental Excellence Awards application website](#) for more details about specific criteria for each award category, nominations, and nomination information.

Award Recipients

The box above lists the recipients of the 2011 Environmental Excellence Awards. To read about each of the winning projects in detail, visit the [2011 Environmental Excellence Awards website](#). Two of these award-winning projects are described below.

2011 Environmental Excellence Award Recipients

- Air Quality Improvement and Global Climate Change: [Portland Streetcar Loop Project](#)
- Context Sensitive Solutions: [New York Route 347 Project](#)
- Cultural and Historical Resources: [New Mississippi River Bridge Project](#)
- Ecosystems, Habitat, and Wildlife: [North Carolina Wetland Assessment Method](#)
- Ecosystems, Habitat, and Wildlife: [Washington Connected Landscapes Project: Statewide Analysis](#)
- Environmental Leadership: [Paul Wagner](#)
- Environmental Research: [GIS-based Wetland and Stream Predictive Models](#)
- Environmental Streamlining: [I-90 Snoqualmie Pass East Project](#)
- Nonmotorized Transportation: [Bizz Johnson Trail Bridge No. 9 Repair Project](#)
- Nonmotorized Transportation: [Delta Ponds Bridge](#)
- Recycling and Reuse: [Wilkes County Rest Area](#)
- Wetlands, Watersheds, and Water Quality: [Russell W. Peterson Urban Wildlife Refuge](#)



Ground-level and aerial schematics depict planned bicycle and pedestrian paths, green medians, and visible crosswalks along a 15-mile stretch of New York Route 347. (Courtesy of NYSDOT)

Excellence in Context Sensitive Solutions: New York Route 347 Project

The New York State Department of Transportation (NYSDOT) plans to reconstruct a 15-mile stretch of New York Route 347, which spans three municipalities along Long Island's north shore. NYSDOT partnered with local municipalities, interest groups, and community members to develop a Vision Plan for the New York Route 347 Project. Moving away from the currently designed limited-access highway, the Vision Plan for Route 347 outlines project goals to manage congestion, and make the corridor more accessible to residents in the local communities via multimodal greenways. The Vision Plan incorporates stakeholder input on improvements in safety and mobility for the area while also improving the quality of life for local residents by creating more green and walkable spaces. Instead of applying a uniform design for the entire corridor, NYSDOT worked with local stakeholders and members of the public to create context sensitive designs that evoke the character of each of the three communities while addressing the needs of all roadway users, including pedestrians and bicyclists.

The reconstructed Route 347 will have elements that intend to make the corridor safer for all roadway users and enhance the landscape through which the corridor passes. These features include reduced speed limits on the roadway, shorter and more visible crosswalks, and dedicated rights-of-way for bicyclists and pedestrians along the roadway. To enhance the pedestrian and bicyclist experience, the project incorporates rest stops and space for nonmotorized transportation users to enjoy the surrounding natural environment. Finally, the project includes the installation of bus shelters and bus pullouts to improve safety and service for transit users. These improvements will help make the Route 347 corridor safer, while reflecting the needs of the communities.

The extensive collaboration on the Route 347 Vision Plan has led to a design that will enhance safety and promote bicycling, walking, and transit. NYSDOT and its local partners are hopeful that the reconstructed Route 347 will improve the area's overall livability and sustainability.

Excellence in Environmental Research: GIS-based Wetland and Stream Predictive Models

Collecting field data is a necessary, but time-consuming and resource-intensive step in developing environmental studies that comply with the National Environmental Policy Act. Typically, environmental protection specialists gather field data on wetlands and streams and combine it with datasets from the National Wetland Inventory (NWI) and the U.S. Geological Survey (USGS) to model how transportation projects may impact those ecological systems. However, field-generated Geographic Information System (GIS) data layers are not always consistent, and the data accuracy for different land areas and scales is not always known. Because of these acknowledged problems, the North Carolina Department of Transportation (NCDOT) and the North Carolina Division of Water Quality (NCDWQ) concluded that existing datasets provide insufficient information to make precise predictions. To improve the quality of the analyses, NCDOT partnered with NCDWQ to develop GIS-based models for determining stream and wetland impacts. The resulting GIS-based models not only streamlined the impacts analysis process but also spurred the development of alternative design projects.



NCDOT and NCDWQ use LiDAR technology to develop maps such as this one to delineate wetlands and streams. (Courtesy of NCDOT)

NCDOT and NCDWQ developed two GIS-based predictive models using Light Detection and Ranging, or LiDAR, technology. GIS analysts used LiDAR to remotely delineate wetlands into topographic data, replacing the need for data

collection in the field. This data is then used to delineate stream and wetland locations. To determine the accuracy of the GIS model-created topography, GIS analysts compared the LiDAR-predicted wetland and stream impacts against analyses performed with NWI and USGS datasets. The analysts also conducted random field sampling to calibrate and validate the model's estimated stream and wetland impacts. By making these comparisons, NCDOT and NCDWQ confirmed that the GIS models were able to identify most wetlands and streams without any significant omissions.

NCDOT and NCDWQ staff have used these GIS models in the early project planning stages to consider alternative design scenarios for pilot projects including the North Carolina Carthage Bypass and the Kinston Bypass. By replacing field delineations of wetlands and streams with GIS-based analyses, NCDOT and NCDWQ can save a significant amount of time that would otherwise have been spent in the field, thus streamlining the environmental review process. The pilot project models mark the beginning of a larger effort on the part of NCDOT and NCDWQ to produce up-to-date GIS data layers that other agencies and the public will be able to use in environmental protection analyses. This project is an example of how agencies can use advanced technology to shorten the environmental review process.

Fostering a Sustainable Transportation System

With its Environmental Excellence Awards, FHWA hopes to inspire transportation agencies across the country to integrate the principles of environmental stewardship and streamlining into new transportation projects. Transportation planning typically addresses safety, multimodal transportation, mobility, and the environment in project development. The award recipients have gone beyond this approach by carefully considering how to incorporate sustainable practices as well as the concerns of local stakeholders into the design of transportation projects. By creating cross-organizational partnerships and using innovative technologies early in the project development process, the award recipients are leading the way to develop "greener" transportation infrastructure that serves both human and environmental needs.

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Look What's New!

- On December 16, 2011, FHWA issued guidance on the process to address Environmental Justice during the National Environmental Policy Act (NEPA) review, including documentation requirements. This supplements existing guidance on compliance with the principles of Environmental Justice. [Click here](#) to read the document.
- FHWA recently launched the [Sustainable Highways Program website](#). The Sustainable Highways Program supports programs and activities conducted across FHWA to facilitate balanced decisionmaking among environmental, economic, and social values.

Successes in Stewardship is a Federal Highway Administration newsletter highlighting current environmental streamlining and stewardship practices from around the country. To subscribe, visit http://environment.fhwa.dot.gov/sis_registration/Register.aspx or call (617) 494-2092.