



ENHANCING THE ENVIRONMENT—Part 2

by M. Myint Lwin, Federal Highway Administration

The Federal Highway Administration (FHWA) is committed to preserving and enhancing the environment through research and stewardship. In the previous issue of *ASPIRE*,™ I reviewed the accomplishments following the passage of the National Environmental Policy Act. In this issue, I explore the opportunities for research, development, deployment, and education for enhancing the natural and built environment.

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy For Users (SAFETEA-LU)

SAFETEA-LU contains several provisions on environmental planning, research, and education. FHWA is working with its partners at all levels to share research results and promote environmentally sound practices. The states have learned from experience that incorporating environmentally responsive technologies and practices early in the project development process saves project costs and time. The following research programs can help address issues dealing with meeting the environmental goals of “Green Highways and Bridges.”

State Planning and Research Program

The State Planning and Research (SP&R) Program is intended to solve problems identified by the states. State Departments of Transportation (DOTs) are encouraged to establish research, development, and training programs that anticipate and address transportation concerns before they become critical problems. High priority is given to applied research on state or regional problems, transfer of technology, and research for setting standards and specifications. The state DOTs have used SP&R funds for substantial research into regional environmental issues. For example, an ongoing research project at the state level is the “Investigation

of Stormwater Quality Improvements Utilizing Permeable Pavement and/or Porous Friction Courses.” The research is sponsored by the Texas DOT using SP&R funds. Research that contributes to “Green Highways and Bridges” will meet the purpose of the SP&R Program.

Section 505 of Title 23, USC establishes a set-aside of 2% of the sums apportioned to a state each fiscal year for state planning and research activities. Furthermore, the states must allocate 25% of the set-aside for research, development, and technology transfer activities. In FY 2006, the set-aside amounted to about \$600 million, providing about \$150 million for the SP&R Program.

Surface Transportation-Environmental Cooperative Research Program

SAFETEA-LU SEC 5207 establishes the Surface Transportation-Environmental Cooperative Research Program (STEP). STEP is intended to improve understanding of the complex relationship between surface transportation, planning, and the environment. The program is authorized at \$16.875 million per year for FY 2006 through FY 2009 and is administered by the Federal Highway Administration (FHWA).

Research is being proposed and conducted in the areas of planning, air quality, noise abatement, wetlands, vegetation management, wildlife connectivity, brownfields, and stormwater. Other proposed research would examine tools such as the geographic information systems (GIS) and global positioning systems (GPS) to better map important ecosystem features, including wildlife corridors and invasive plants; and to improve the ability to recognize and address environmental concerns very early in the process of project planning and development. Research ideas in the areas of “green bridges” for enhancing the environment are welcome from the bridge engineering community.

Center for Environmental Excellence

SAFETEA-LU SEC 5309 establishes a Center for Environmental Excellence for promoting and supporting strategic national surface transportation programs and activities relating to the work of the state DOTs in environmental areas. The center is funded at \$1.25 million per year for FY 2006 through FY 2009.

The American Association of State Highway and Transportation Officials (AASHTO) has been selected on a competitive basis as the Center for Environmental Excellence with the responsibility for program administration. The center has been provided \$3.1 million in funding over the next three years to provide technical assistance, information sharing of best practices, and training in the use of tools and decision-making processes that can assist states in planning and delivering environmentally sound surface transportation projects. With the SAFETEA-LU funding, AASHTO actively promotes environmental excellence in transportation by providing a wide variety of services aimed at defining the state-of-the-art in environmental protection, restoration, and enhancement while



All photos: Shutterstock.



promoting innovative techniques that maximize the efficiency, reliability, and consistency of delivering environmentally sound transportation projects and programs. AASHTO serves as an important resource for AASHTO member states and their partners seeking technical assistance, training, information exchange, partnership-building opportunities, and quick and easy access to environmental management tools. For detailed information about the center, visit <http://environment.transportation.org/center/about>.

The AASHTO Center for Environmental Excellence maintains and updates the Transportation Environmental Research Ideas (TERI) database. TERI is the central storehouse of the AASHTO Standing Committee on Environment for tracking and sharing new transportation and environmental research ideas. Suggestions for new ideas are welcome from practitioners across the transportation and environmental community. Anyone can view the TERI database or suggest new research ideas. Members of subcommittees within AASHTO's Standing Committee on Environment (SCOE) have responsibility for regularly rating the ideas in TERI to provide a gauge of each research idea's merit for practitioners. TERI may be accessed at www.environment.transportation.org/teri_database.

TERI provides a timely, organized, and comprehensive list of research ideas to policy makers and researchers as they make choices in forums such as NCHRP's 25-25 and 8-36 research programs about research priorities. As the best research ideas in TERI are implemented, the Transportation Research Board's Research in Progress (RiP) database is updated to provide the latest information about the status of research ideas. After research is completed, one can search the U.S. Department of Transportation and Transportation Research Board's TRIS online catalogue to find information about final reports and other research products.

Call for Environmental Research Ideas

The AASHTO Center for Environmental Excellence issues annual "Call for Environmental Research Ideas" on transportation and environmental research through the TERI. The 2008 Call for Environmental Research Ideas was closed on April 23, 2008. The center will be working with the AASHTO's SCOE to select and refine a group of the best ideas listed in TERI. The call for research ideas was posted on the website: <http://www.transportation.org/?siteid=89> with information on the lists of focus areas and how to submit research ideas. This information will be useful in responding to future calls for research ideas. Priority research ideas will be developed into NCHRP-style problem statements and promoted by SCOE for inclusion in national research initiatives. Over the last 2 years, an estimated \$1.5 million in research originating from TERI ideas has been funded through NCHRP alone.

The bridge engineering community is encouraged to submit environmental research ideas that contribute to "green bridges" through TERI or other research organizations.

Additional Information

For additional information on the AASHTO center or to request advice, contact Shannon H. Eggleston, AASHTO's Director of Environmental Programs at (202) 624-5800, or environment@aaashto.org. Additional information on the environment program may also be obtained by contacting Fred Skaer, Office Director, FHWA Office of Project Development and Environmental Review at fred.skaer@dot.gov.

Summary

Congress finds that research, development, deployment, and education are critical to developing and maintaining a transportation system that meets the goals of safety, mobility, economic vitality, efficiency, equity, and environmental protection.

The AASHTO Center for Environmental Excellence is established to promote and support research and programs in the area of environment to assist states in planning and delivering environmentally sound projects.

FHWA works together with AASHTO and its customers and partners in promoting and supporting research, development, deployment, and education for advancing the state-of-the-art in environmental protection, restoration, and enhancement, and promoting innovative ideas and practices.

The bridge engineering community is encouraged to submit and promote environmental research ideas in the following topics in support of sustainability of the ecosystems and "green bridges" for protecting and enhancing the environment:

- Sustainable site selection and planning
- Wild life and ecosystems
- Enhance renewable resources
- Recycle depletable resources
- Water quality and wetlands
- Air quality
- Climate change and the accompanying effects
- Construction and preservation practices

Bridges and tunnels form major and important links in the surface transportation system. What we build and maintain today has consequence to the present and future generations. Our goals are to build and maintain bridges and tunnels that contribute to safety, mobility, economic vitality, efficiency, equity, and environmental protection. Our aim is to have clean air and water, and sustainable ecosystems for ourselves and our co-inhabitants for generations to come. Coordinated and integrated environmental research will lead us to an environmentally responsive surface transportation system, a greener earth, and a healthier global environment.

In the next issue of *ASPIRE*, we will explore the global efforts in contributing to "Green Highways and Bridges." The author invites readers to share ideas and suggestions, facts and figures, case studies, photographs, etc., on these topics by writing to him at myint.lwin@dot.gov.



U.S. Department of Transportation
Federal Highway Administration