

Office of PROJECT DEVELOPMENT & ENVIRONMENTAL REVIEW



U.S. Department of Transportation
Federal Highway Administration
Office of Planning, Environment and Realty

<http://www.fhwa.dot.gov/environment/>

The Federal Highway Administration's (FHWA) Office of Planning, Environment, and Realty offers research opportunities to improve transportation decision making and promote efficiency while protecting communities and the environment. The Office supports and conducts research that:

- Informs Decisions
- Reduces Environmental Impacts
- Enhances Quality of Life
- Accelerates Project Delivery
- Advances Planning

The following document highlights specific research activities in the Office of Project Development and Environmental Review. For more information, please visit: http://www.fhwa.dot.gov/hep/hep_research/.

OFFICE OF PROJECT DEVELOPMENT AND ENVIRONMENTAL REVIEW

FHWA's Office of Project Development and Environmental Review develops and implements programs and activities that advance environmental stewardship and streamlining for FHWA-funded projects, through the application of National Environmental Policy Act (NEPA) principles and the NEPA process.

Research Focus

The Office's research efforts focus on improving the NEPA process to ensure a balanced and streamlined approach to transportation decision making. Its research projects study how to protect and enhance human and natural resources, while also meeting the public's need for safe and efficient transportation improvements.

Research topics include:

- Accelerating project delivery
- Programmatic agreements
- Improving quality of environmental documents
- Threatened and endangered species
- Water quality

The objective of the Office's research is to identify methods that help its partners and customers to better plan projects, effectively evaluate and assess their overall impacts, and improve the identification and implementation of appropriate mitigation options. Methodologies and tools like Eco-Logical, mitigation banking, and regional programmatic efforts are examples of current focus areas that will be the subject of further study in the future.

The Office also aims for its research to help improve coordination and communication between the various State departments of transportation, their sister agencies, and the public, to ensure transparency, understanding of projects, and ultimately create new efficiencies in project review. **Staff Contact:** Deirdre Remley, 202-366-0524 or deirdre.remley@dot.gov.

FEATURED RESEARCH ACTIVITIES

e-NEPA Tool

The Office of Project Development and Environmental Review developed the e-NEPA collaboration tool, which enables State departments of transportation (SDOTs) and other transportation agencies to share documents, track comments, schedule tasks with participating agencies, and perform concurrent reviews for Environmental Impact Statements and Environmental Assessments. The national roll-out of the online e-NEPA tool followed a pilot phase in which five States tested the tool in real-time. FHWA retains rights to disseminate the tool to other federal agencies—such as the U.S. Army Corps of Engineers (USACE), the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service (FWS), the Advisory Council on Historic Preservation, and the U.S. Coast Guard (USCG)—to be adapted to their particular NEPA processes. The e-NEPA tool was also selected for an Every Day Counts initiative, and FHWA staff is currently presenting the tool to SDOTs across the country. **Staff Contact:** Kreig Larson, 202-366-2056 or kreig.larson@dot.gov.

Stochastic Empirical Loading and Dilution Model (SELDM)

The U.S. Geological Survey and FHWA coordinated to develop the SELDM as a replacement for the FHWA runoff-quality model developed in the 1980s and published in 1990. SELDM is calculating probability that established water quality criteria is higher with or without user-defined best management practices (BMPs). The model also calculates annual runoff loads and can be used to conduct a simple annual lake-loading analysis. It includes national data sets for highway-runoff quality, precipitation, stream-flow, runoff coefficients, and background water quality for use with the model. It uses Monte-Carlo methods to quantify the impacts of precipitation characteristics, stream-flow, estimated runoff quantity and quality, and BMPs on the probability distribution of receiving water concentrations. SELDM can transform disparate and complex scientific data into meaningful information about the risk for adverse effects of runoff on receiving waters, the potential need for mitigation measures, and the potential effectiveness of such management measures for reducing these risks. SELDM also helps users develop planning-level estimates of event mean concentrations, flows and loads from a highway site and an upstream or lake basin. **Staff Contact:** Susan Jones, 202-493-2139 or susan.jones@dot.gov.

Red Book

Transportation projects require multiple federal permits, approvals, and reviews, including considerations under NEPA, to ensure that projects are built in a safe and responsible manner and adverse impacts to the environment and communities are avoided, minimized, or mitigated. In 2013, a federal interagency working group undertook an effort to update a September 1988 handbook entitled “Applying the Section 404 Permit Process to Federal-Aid Highway Projects,” commonly referred to as the Red Book. The interagency workgroup consisting of FHWA, USACE, USCG, EPA, FWS, the Federal Railroad Administration (FRA), and the National Marine Fisheries Service (NMFS) worked to develop the revised Red Book that provides “how-to” guidance for federal agency field staff who review permit applications, and for Federal, State, and local agencies that fund or develop transportation projects, on synchronizing NEPA and other regulatory reviews such as USACE’s Regulatory review, USCG bridge permit reviews, and Endangered Species Act (ESA) consultations. The Red Book includes techniques that can support efficient and concurrent review processes. A PDF downloadable copy is available at: https://www.environment.fhwa.dot.gov/strmlng/Redbook_2015.asp. **Staff Contact:** Mike Ruth, 202-366-9509 or mike.ruth@dot.gov.