

# Successes **in** Stewardship

<http://www.environment.fhwa.dot.gov/strmlng/es4newsltrs.asp>

February 2009

## New Climate Change Initiatives for Reducing Greenhouse Gas Emissions and Growth in Vehicle Miles Traveled

During the last decade, global warming and climate variability have become major policy issues worldwide. In the United States, the transportation sector alone is currently responsible for approximately 28 percent of all greenhouse gas (GHG) emissions—the largest source after electricity generation. This percentage is forecast to remain high given the continued demand for gasoline, diesel fuel, and jet fuel ([http://www.fhwa.dot.gov/hep/climatechange/chapter\\_one.htm](http://www.fhwa.dot.gov/hep/climatechange/chapter_one.htm) = source).

With a new Administration in the White House and transportation reauthorization discussions underway, the Federal Highway Administration (FHWA) is focusing new attention on coordinating its policies, programs, and funding related to transportation, land use, and climate change to meet the agency's goal of reducing GHG emissions and growth in vehicle miles traveled (VMT).

In Fiscal Year 2009, FHWA and the US Department of Transportation (USDOT) introduced several new initiatives to address climate change and created a new Sustainable Transport and Climate Change team within the FHWA Office of Planning, Environment, and Realty. This issue of *Successes in Stewardship* highlights some of the exciting activities currently taking place at FHWA and USDOT.

### Transportation and Climate Change Clearinghouse Introduced at TRB

In light of the Transportation, Energy, and Climate Change spotlight theme for the Transportation Research Board (TRB) 88th Annual Meeting in January 2009, the USDOT Center for Climate Change and Environmental Forecasting selected TRB to introduce the Center's new Transportation and Climate Change Clearinghouse.

Designed to be a one-stop resource for information on transportation and climate change issues, the Clearinghouse facilitates peer-to-peer information-sharing and technical capacity-building among local, State, and Federal transportation practitioners, researchers, industry, and nongovernmental organizations. It also provides the transportation community with information related to:

- ◆ GHG inventories and forecasts.
- ◆ Methods and tools for analyzing transportation GHG impacts.
- ◆ Strategies for reducing transportation-related GHG.
- ◆ Potential impacts of climate change on transportation infrastructure.
- ◆ Approaches for integrating climate change considerations into transportation decision-making.



Clearinghouse graphic courtesy of USDOT

The Clearinghouse was funded by the National Cooperative Highway Research Program (NCHRP) and USDOT's Center for Climate Change and Environmental Forecasting. For more details, go to <http://climate.dot.gov/index.html>.

### New Interagency Working Group Focuses on GHG Emissions and Lower VMT

In June 2008, representatives from over 10 Federal agencies met to discuss partnership opportunities to reduce GHG emissions from transportation sources, specifically by coordinating Federal programs that influence land-use decisions to decrease the growth in VMT.

At this meeting, the agencies agreed to form an interagency working group with the mission of aligning Federal programs and resources to support stakeholders in achieving GHG reductions through land-use and transportation decisions. The working group has been meeting monthly since its inception to identify interagency activities that will support its mission and ultimately result in reduced growth in VMT of cars and trucks. A potential area of opportunity is the next highway reauthorization bill, which will be enacted once the current transportation funding bill, SAFETEA-LU (the Safe, Accountable, Flexible, Efficient Transportation Equity Act) expires September 30, 2009.

In December 2008, participants in the initial interagency meeting as well as new attendees reconvened for a briefing on the working group's activities and preliminary recommendations. Participants presented four focus areas for future work: integrated regional planning, intermodal gateway mobility planning, and two research areas, "green grid" energy systems and sustainable carbon reserve. They also provided other feedback to help guide the future work of the group.

Over the next several months, the working group will develop an interagency action plan to identify priority recommendations. The group and its member agency managers will meet again in the spring to discuss these priorities and future action.

## Assessing Climate Change Impacts on Transportation: Gulf Coast Study, Phase 2

In early 2008, USDOT released a report, *The Impacts of Climate Change and Variability on Transportation Systems and Infrastructure Gulf Coast Study, Phase 1*. Phase 1 assessed the vulnerabilities of transportation systems in the region in relation to potential changes in weather patterns and related impacts as well as the effect of natural land subsidence and other environmental factors. The geographic area that was covered included 48 contiguous counties in four states, running from Galveston, Texas, to Mobile, Alabama.

Phase 2 will begin later in 2009. USDOT will examine climate impacts on specific infrastructure within a selected area of the Gulf Coast region and will develop more definitive information and precise tools and guides for planners and engineers working at the State, regional, and local levels. Ultimately, the study will provide an engineering assessment, including the infrastructure's ability to withstand the impacts of climate change. This evaluation will help regional planners in preparing to adapt to potential climate impacts.

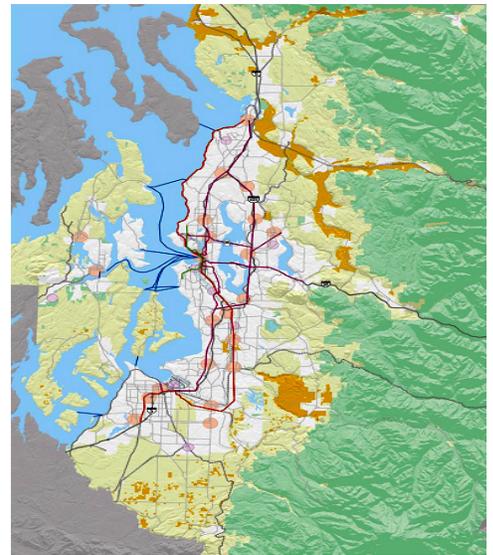
The study will also develop risk-assessment tools to assist Metropolitan Planning Organizations (MPOs) and other infrastructure investment decision-makers prioritize which resources and facilities need protection, accommodation, or relocation. As part of the study, USDOT is planning to work with one MPO in the Gulf Coast region to test and evaluate these tools.

## Using Models to Anticipate Climate Impacts on Transportation

The Puget Sound Regional Council (PSRC) is an MPO with jurisdiction over the four Washington State counties of King, Pierce, Snohomish, and Kitsap. In April 2008, in partnership with local government, business, and citizens, PSRC developed VISION 2040, a long-range growth-management, environmental, economic, and transportation strategy. A working group advises the PSRC Transportation Policy Board on implementing VISION 2040 and on updating the region's transportation plan, Transportation 2040, by 2010. These two plans are critical, since the regional population is forecast to increase by 1.7 million, with a corresponding influx of 1.2 million new jobs, by the year 2040.

PSRC developed criteria to evaluate metrics for VISION 2040 and Transportation 2040. Developing the data for these metrics requires a new set of modeling tools. PSRC is already integrating and testing several new models

- PSEF (Puget Sound Economic Forecaster), updated in 2006, forecasts the regional and county economy across 21 industrial sectors. It factors in labor force and unemployment rates and measures populations by age and household type. Revenue is integrated into this forecast to improve consistency and reduce duplication of effort.
- Geodatabase coordinates plans, programs, and projects to improve the accuracy of regional data and reduce duplication of effort.
- UrbanSim forecasts land use. It analyzes planning and urban development by incorporating the interactions among land use, transportation, and public policy.
- Activity-based models capture user decisions linked to mode, destination, time of day, and number of trips. New models will better test solutions by incorporating data about climate change, tolling, freight, operations, and demand management.



Map of the Puget Sound Region transportation network (courtesy of PSRC).

- EPA MOVES is a critical tool that will consider potential climate impacts for the Transportation 2040 plan. Emissions modeling will allow PSRC to analyze speed variations, changes in vehicle/fuel mix, corridor/subarea, and transportation and land-use strategies.

PSRC is currently working with FHWA to uncover other travel model improvements that PSRC could use to identify potential climate impacts in the region. Use of these models will guide PSRC in preparing a response to anticipated regional climate changes over the next 30 years.

### Contact Information

**Diane Turchetta**

FHWA Office of Human and Natural Environment  
1200 New Jersey Ave., SE  
Washington, DC 20590  
202-493-0158  
Diane.Turchetta@dot.gov

**Rob Ritter**

FHWA Office of Planning  
1200 New Jersey Ave., SE  
Washington, DC 20590  
202-493-2139  
Robert.Ritter@dot.gov

### Look What's New!

- Please visit the newly redesigned [FHWA Environmental Review Toolkit Homepage!](#) The new homepage features a new streamlined design and special features, including a new search function and a Section 4(f) topic area.
- The Winter 2009 edition of the [FHWA GIS in Transportation Newsletter](#) is now available on the [FHWA GIS in Transportation Website](#). Each issue highlights an application of GIS or geospatial technology from a State DOT, MPO, or other transportation agency. The Winter 2009 edition focuses on PennDOT's Road Condition Reporting System.
- The FHWA Peer Exchange Report entitled "Strategies and Approaches for Effectively Moving Complex Environmental Documents through the EIS Process" is now available on the [FHWA Environmental Review Toolkit](#).

*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](http://environment.fhwa.dot.gov/sis_registration/Register.aspx) or call 617-494-3259.