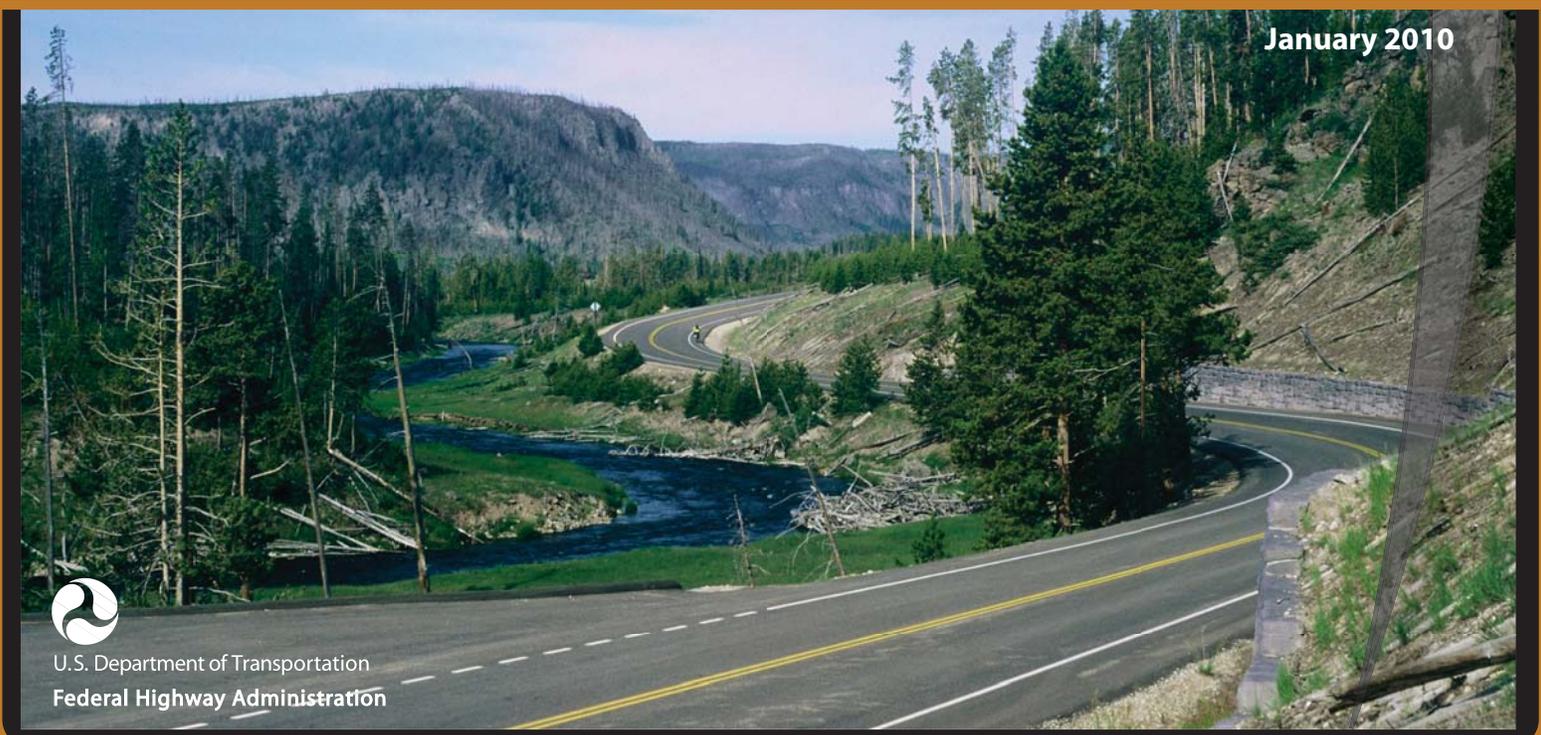




Federal Highway Administration Surface Transportation Environment and Planning Cooperative Research Program

Success Story: Metropolitan Travel Forecasting: Current and Future Initiatives



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Federal Highway Administration's (FHWA) Surface Transportation Environment and Planning Cooperative Research Program (STEP) Bulletin

Hot Topic: Metropolitan Travel Forecasting: Current and Future Initiatives

The FHWA uses the Surface Transportation Environment and Planning Cooperative Research Program (STEP) to conduct cutting-edge research in several areas of interest to the transportation community and the public-at-large. STEP research seeks to improve the understanding of the complex relationship between surface transportation, planning, environment and realty. This bulletin highlights research that is underway within the STEP to advance the metropolitan travel forecasting state of practice.

www.fhwa.dot.gov/HEP/STEP

STEP Research Success Story

The United States Department of Transportation (U.S. DOT) Federal Highway Administration's (FHWA) STEP funds research to advance the metropolitan travel forecasting state of practice.

STEP Research Introduction

The logo for the Travel Model Improvement Program (TMIP) features the letters 'TMIP' in a large, bold, blue, sans-serif font. The letters are slightly shadowed to the right, giving a 3D effect. Below the letters, the full name 'Travel Model Improvement Program' is written in a smaller, blue, sans-serif font.

Travel Model Improvement Program

As population growth increases in American urban cities, so do mobility needs and demands. Metropolitan planning organizations (MPOs) across the country are tasked with anticipating and meeting these growing needs and demands. Since the 1960s and 1970s, MPOs face more complex requirements and needs. During this timeframe MPOs focused on issues such as highway and transit system capacity expansions. They are now faced with issues such as: motor vehicle emissions and vehicle speeds, alternative land use policies, transportation policies, environmental justice, economic development, homeland security, and demographic changes to name a few. Additionally, local officials, state transportation

agencies, Federal agencies and the environmental community depend heavily on travel forecasts to assist in their planning processes.

STEP-funded efforts to advance the state of travel forecasting include the FHWA Travel Model Improvement Program (TMIP), and extensive outreach to stakeholders and partners to communicate the status of efforts to improve travel modeling/forecasting practices.

In addition, FHWA used STEP funding to support a collaborative research effort between FHWA, the Federal Transit Administration (FTA), the Office of the Secretary of Transportation, and the Transportation Research Board (TRB) to assess the travel forecasting state-of-the-practice. This effort resulted in a TRB report, titled *Metropolitan Travel Forecasting: Current Practice and Future Direction Special Report 288*.

STEP Research Success/Lessons Learned

The Metropolitan Travel Forecasting: Current Practice and Future Direction *Special Report 288*

The Metropolitan Travel Forecasting *Special Report 288* is one of the most important recent documents in the travel forecasting industry. The report, published in late 2007, includes assessments and recommendations for improvement in the current state-of-the-practice. It is designed for policy makers and officials who rely on the results of travel forecasting. The report identified shortcomings in travel forecasting models, obstacles to better practice, and actions needed to ensure the use of improved travel forecasting methods. It also acknowledged that no single approach will meet the needs of all MPOs due to the complexity of individual metropolitan regions. MPOs have taken different approaches to address these issues, including refining the traditional four-step travel demand modeling process to improve internal consistency, providing additional analysis capabilities, and redeveloping travel demand models wholesale to focus on individual traveler behavior.

This report includes specific recommendations to advance the state-of-practice and serves as a road map for future research collaborations. Recommendations include: developing and implementing new modeling approaches that are better suited to providing reliable forecasts for such applications as operational analyses, environmental assessments, evaluation of policy alternatives, and freight forecasts. In addition, the report references the need for increased Federal, State and regional collaboration to deliver better models, data series, and practice.

STEP Funding Improves the State-of-Practice Through FHWA's Travel Model Improvement Program (TMIP)

FHWA uses STEP funding to support the TMIP. The TMIP, which was developed in 1992, provides leadership in developing methods for forecasting transportation needs; promotes implementation of effective travel forecasting results in transportation decision-making via partnership with transportation agencies at local, regional and national levels; and provides value-added stewardship of travel forecasting practices. Outreach is an important component of the TMIP's efforts to advance the state-of-practice for travel forecasting. Outreach efforts include: a peer review program, conferences, workshops, newsletters, Web site, and an e-mail list that includes national and international stakeholders.

TMIP Peer Review Program

An example of the TMIP's outreach efforts is the TMIP Peer Review Program. A peer review is an objective assessment of a travel demand model with respect to state-of-practice and agency modeling goals. Peer reviews provide the modeling community with a method to gain insight and experience in the state-of-practice for travel demand modeling. The program gives transportation planning agencies the opportunity to have their model reviewed by experts from around the country. These travel modeling experts make recommendations on how to proceed with enhancements to ensure that the techniques being developed and implemented meet current and future needs. The peer review gives an agency the opportunity to address its current key modeling challenges and those expected to arise in the future due to growth or transportation policy changes. A written report is developed for each peer review. Please visit: http://tmip.fhwa.dot.gov/resources/peer_review.

A Snapshot of Travel Modeling Activities

In March 2008, FHWA conducted face-to-face interviews with five MPOs with proven track records of using travel model results to support the transportation planning process. The report summarizes how travel forecasting models and the resulting travel forecasts have been used in the regional planning process, and how the travel demand models are used to address emerging issues. The report also summarizes the levels of support the regions have dedicated to the travel forecasting process, and their plans for further enhancing this process. Please visit: <http://tmip.fhwa.dot.gov/resources/clearinghouse/browse/list/6/1276>.

A Travel Model Validation Practice Peer Exchange

A Travel Model Validation Practice Peer Exchange was held on May 9, 2008. TMIP initiated the exchange in response to the *NAS Report 288*. The exchange discussed current and improved travel model validation practices. A white paper summarized the Peer Exchange discussions and will provide direction for a planned update of the *TMIP Travel Model Validation and Reasonableness Checking Manual*. The white paper is available at: <http://tmip.fhwa.dot.gov/>.

TMIP Webinars

TMIP Webinars are an essential component of TMIP outreach. In FY 2009, TMIP hosted twelve Webinars. Webinar participants include representatives from Federal agencies, MPOs, State and local government, academia and the private sector. The estimated attendance for all Webinars is approximately 1,975 people (an average of 180 attendees per Webinar), and totals nearly 4,000 hours of professional development. For more information on the Webinars, please visit: <http://tmip.fhwa.dot.gov/webinars>.

TMIP Clearinghouse and E-mail Lists

The TMIP Clearinghouse on the TMIP Website is a comprehensive collection of material on travel demand forecasting and related subjects. The clearinghouse provides documentation and data to the travel model community. The TMIP Web site received an overhaul this past year. The email lists that TMIP maintains are also very popular with travel modelers. It provides a forum for professional discussions on travel modeling. The primary discussion list, *TMIP-L*, now has approximately 1,240 subscribers. Please visit: <http://tmip.fhwa.dot.gov/resources/clearinghouse> ;

Future Research Activities

FHWA is committed to improving and advancing the state-of-travel forecasting through funding future research programs such as STEP. Future research initiatives underway include updates to the current *Travel Model Validation and Reasonableness Checking Manual*, and supporting TRB in National Travel Forecasting Steering Committee (NTFSC) efforts. Additional forthcoming initiatives funded by STEP include the completion of the *Transferability of Travel Survey Data and Household Travel Data Simulation Tool*, and the development of *Global Climate Change: Public Planning Tools and Techniques*. The *Global Climate Change: Public*

Planning Tools and Techniques will develop analysis tools that will allow planners and policy makers in small-to-medium metropolitan areas to evaluate how land use, transportation infrastructure, and policy changes affect travel activity and Greenhouse Gas (GHG) emissions. The two phases of this project will be completed in 2010.

Conclusion

There is still a need for increased and streamlined coordination of MPOs, State transportation agencies, and the Federal Government to establish goals, responsibilities and means to improve travel forecasting techniques and practices. FHWA is using STEP funds to conduct research and foster research partnerships that continue address the Nation's need for improved travel forecasting.

Resources

Transportation Research Board (TRB). (2007). *Metropolitan Travel Forecasting: Current Practice and Future Direction* (TRB Special Report 288): <http://onlinepubs.trb.org/onlinepubs/sr/sr288.pdf>

Additional information regarding FHWA travel modeling research can be found at: <http://tmip.fhwa.dot.gov/>

“STEP: A Federal Research Program - Conducting Research that Links to Practice.”

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