



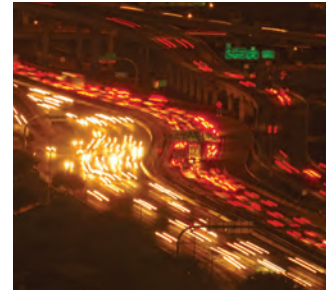
# The Travel Model *Improvement* Program

Fiscal Years 2008-2009 Report

*Helping Agencies Improve Their Planning Analysis Techniques*

**TMIP**

Travel Model Improvement Program



## CONTENTS

Introduction.....	1
Advancing the Practice.....	3
Who We Are .....	3
What We Do .....	3
Building Institutional Capacity.....	4
Technical Syntheses.....	4
Website and Clearinghouse.....	4
E-Communications .....	5
TMIP Connection.....	5
Web Knowledge and Information Exchange .....	5
Introduction to Urban Travel Demand Forecasting Course.....	6
Virtual Mentoring and Technical Support Center .....	6
Improving Analytical Methods to Advance the Practice.....	8
TRANSIMS.....	8
Ensuring the Quality of Technical Analysis .....	10
Peer Review Program.....	10
Peer Exchange Program .....	10
Snapshot of Travel Modeling Activities.....	11
Monitoring Progress.....	12
Synopsis of Activities .....	12
Conclusion .....	12
TMIP Staff .....	13
Federal Highway Administration .....	13
Texas Transportation Institute .....	13

## INTRODUCTION

The challenges confronting professionals in travel modeling have never been greater. Funding at the Metropolitan Planning Organization level is, like much public-sector funding, ever more tightly constrained. At the same time, the need for travel modeling as both a planning tool and a tool to evaluate environmental implications of large public investment projects is only increasing. Indeed, questions being asked by decision-makers have advanced beyond comparing the advantages of added-capacity projects to span such topics as evaluating environmental and societal impacts of projects and the effects of land use. Additional questions that models are asked to address include providing input for both high-level policy and detail-level operational decisions, testing what-if scenarios, and conducting sensitivity analyses. At the same time that the questions being asked are changing, so are factors that influence travel demand in the United States: the economic cycle, gas price changes, alternative fuel initiatives, and constantly evolving demographics are several examples.

Earlier in 2007, the Transportation Research Board released Special Report 288, *Metropolitan Travel Forecasting: Current Practice and Future Direction* (SR 288), which assessed the state of practice in travel demand forecasting and identified shortcomings, obstacles, and actions needed to improve it. Focused on travel demand modeling activities by Metropolitan Planning Organizations (MPOs), the report included a recommendation that the Federal Government provide leadership and resources for travel demand model development and implementation, and it validated the Travel Model Improvement Program (TMIP) as “an appropriate mechanism for advancing [SR 288] recommendations.” Moreover, SR 288 also recommended additional funding for TMIP to increase these activities.

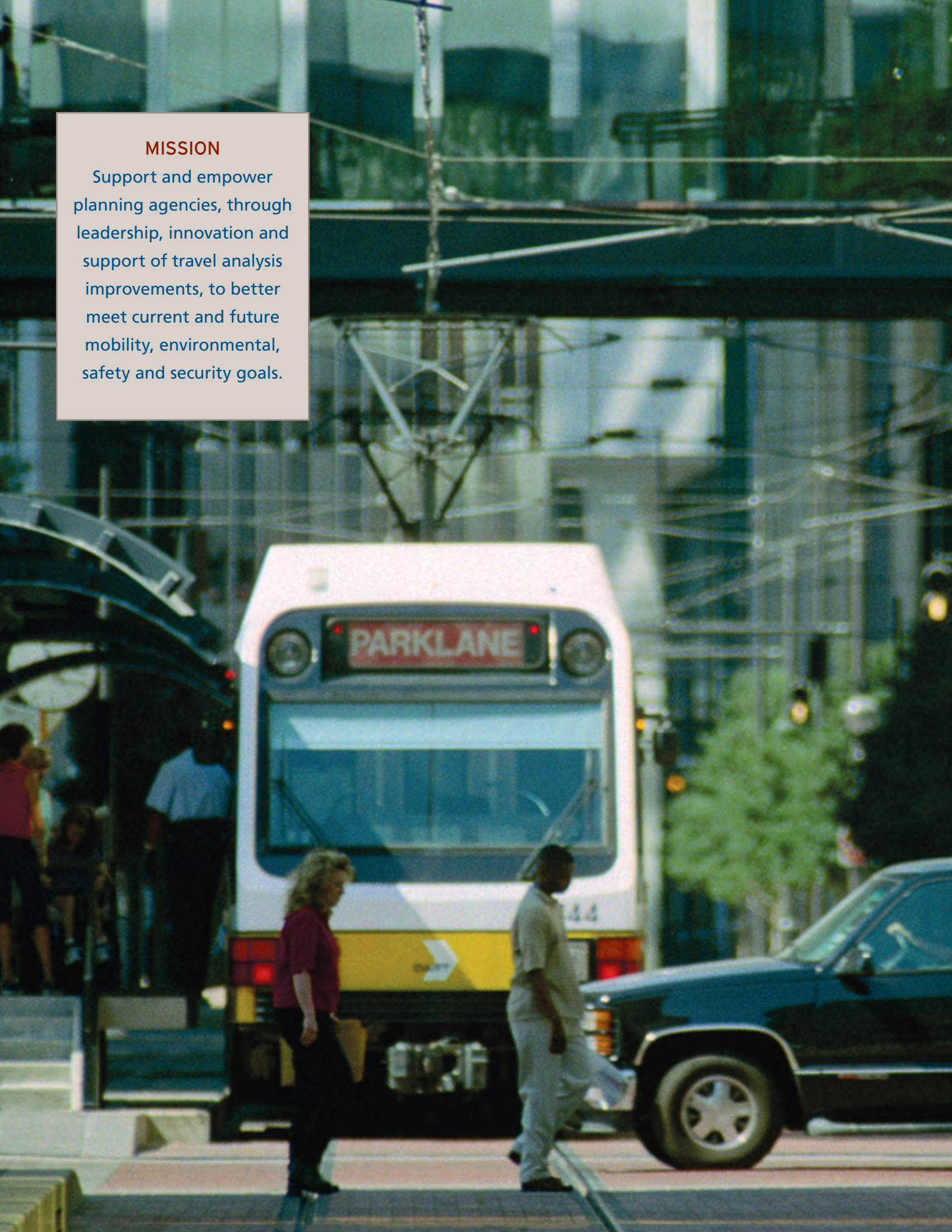
More recently, in September 2009, the United States Government Accountability Office (GAO) released a report called *Metropolitan Planning Organizations: Options Exist to Enhance Transportation Planning Capacity and Federal Oversight*. This report reiterated the need for expanding Federal investment in modeling and data gathering to better support the technical capability and travel forecasting reliability of MPOs. MPOs across the Nation have varying needs and varying resources and technical capabilities to meet those needs. The GAO report cites funding, staffing, authority, and technical capacity as the biggest challenges confronting MPOs.

It is within this challenging environment that TMIP operates, working to provide a professional forum for education, debate, and friendly challenges among professionals to keep improving the travel models to meet these changing needs. This report covers the period from October 1, 2007, to September 30, 2009 (Fiscal Years 2008 and 2009). The following pages detail various efforts by TMIP during that time period to serve the travel model professional community—and through it, the public—by providing tools, research, and various avenues for professional exchange.



## MISSION

Support and empower planning agencies, through leadership, innovation and support of travel analysis improvements, to better meet current and future mobility, environmental, safety and security goals.





## ADVANCING THE PRACTICE

### Who We Are

The Travel Model Improvement Program (TMIP) was established as a partnership by the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Office of the Secretary of Transportation (OST) and Environmental Protection Agency (EPA) to conduct research as well as deliver technical assistance and training to transportation planning professionals. In June 2002, TMIP updated its five-year strategic plan which represents a continuation of activities that had been the foundation of the program since its inception in 1994. These activities are: training, technical assistance, information sharing and research. Currently, TMIP is funded by the Federal Highway Administration's Office of Planning, Environment and Realty's Surface Transportation Environment and Planning Cooperative Research Program (STEP).

### What We Do

TMIP shares many of its objectives with other stakeholder groups and national organizations. TMIP works cooperatively with the Metropolitan Capacity Building Program (MCB), which is focused on enhancing the capabilities of State and local transportation staffs to meet planning requirements and needs. TMIP also works with the Association of Metropolitan Planning Organizations (AMPO) and the American Association of State Highway and Transportation Officials (AASHTO).

Over recent decades, travel demand modeling, as well as the planning activities to support it, has become increasingly important to evaluate the costs and benefits of transportation improvements. Travel demand models are also used as an input into air quality and noise analyses. As funding becomes increasingly hard to come by, the importance of these evaluative tools is increasing, along with the need to improve these tools.

The mission of TMIP is to support and empower planning agencies to better meet current and future mobility, environmental, safety, and security goals. In support of this mission, TMIP's primary goals are:

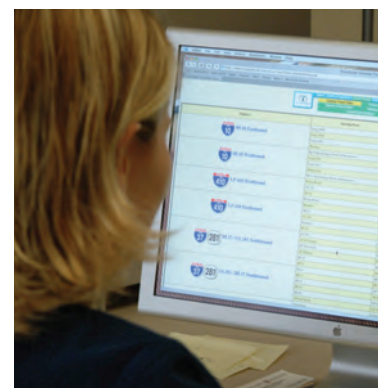
**Building Institutional Capacity** – TMIP helps planning agencies build their institutional capacity to develop and deliver travel related information to support transportation and planning decisions. Activities to support this goal include maintaining the resource clearinghouse and website, providing training and technical assistance, facilitating communication across the field, and conducting outreach.

**Improving Analytical Methods to Advance the Practice** – The second TMIP goal is to develop and improve analytical methods that respond to the needs of planning and environmental decision making processes. TMIP activities in this regard include identifying analytical needs, conducting research, and developing tools, techniques, and procedures.

**Ensuring the Quality of Technical Analysis** – TMIP develops mechanisms to ensure the quality of technical analysis used to support decision making and to meet local, State, and Federal program requirements. Toward this goal, TMIP provides support for Federal reviews and promotes exemplary practice.

Programs and activities in support of these goals are listed in the following sections.

*TMIP shares many of its objectives with other stakeholder groups and national organizations.*





## BUILDING INSTITUTIONAL CAPACITY

To meet the goal of increasing planning agencies' institutional capacity to perform travel-related technical analyses, TMIP provides various avenues to disseminate information on professional development activities for modeling, maintains a clearinghouse of resource information, sponsors different types of professional development opportunities, and conducts outreach including regular webinars by modeling professionals.

### Technical Syntheses

TMIP generates regular technical syntheses of recent discussion topics that generate significant interest on the TMIP email list. Topics covered over the current two-year period include:

- Multi-Year Master Transportation Networks (November 2007).
- Defining Traffic Analysis Zones (November 2007).
- Land Use Models (January 2008).
- Employment Data (February 2008).
- The Derivation of Initial Speeds in Travel Demand Models (July 2008).
- Timing of Household Travel Surveys (December 2008).
- Speed Adjustments Using Volume-Delay Functions (January 2009).
- Feedback Loops (August 2009).

### Website and Clearinghouse

TMIP maintains a website at <http://tmip.fhwa.dot.gov/> to provide the modeling community updates on relevant news, tools, and upcoming conferences. The TMIP website overall sees approximately 50,000 page visits per year. Online resources include:

- Professional development opportunities including upcoming conferences, webinars, and courses available through TMIP, partner agencies, and other organizations.
- Recommended reading list for people new to the profession.
- List of active model user groups that have been brought to TMIP's attention.
- Library of previous TMIP technical syntheses.
- Findings from the Peer Review and Peer Exchange programs.



TMIP maintains a website at <http://tmip.fhwa.dot.gov/> to provide the modeling community updates on relevant news, tools, and upcoming conferences.



- Back issues of the TMIP Connection newsletter.
- Searchable clearinghouse of more than 200 documents of potential interest to planners involved with travel demand modeling.

### E-Communications

Fostering community within the travel modeling profession is key to disseminating information, sharing best practices, and growing future expertise in the field. To this end, TMIP hosts several targeted email lists:

- The TMIP-L email list provides the main discussion forum for modeling professionals to share news and information about upcoming events related to modeling, to ask questions of fellow professionals, and to discuss current issues and practices. As of August 2010, there were 1,237 members on the list, located across the world. Membership representation includes public agencies, academicians, students, and private consultants. The TMIP format provides practitioners a unique opportunity to solicit input from a wide range of modeling professionals in an informal discussion environment. The discussion itself provides perspective on current issues and practices in the travel modeling community. Some of the issues discussed on TMIP-L that generate substantial interest and discussion are subsequently summarized in a technical synthesis provided on the TMIP website for future reference. Other issues being discussed become the basis for developing topics for the Virtual Mentoring seminars.
- TMIP-News, with 1,533 subscribers at the end of FY 2009, is a distribution-only list for TMIP program news.
- TRANSIMS-L is a list for the discussion of topics related to the TRANSIMS project. Subscribed to by 179 subscribers at the end of FY 2009, the list lets users post issues or questions related to using TRANSIMS software.
- The NewStartsForecasting list is intended to foster discussion related specifically to New/Small Starts transit projects. The number of subscribers was 355.
- ED-TMIP is a list devoted to discussing educational aspects of TMIP and is subscribed to by 69 individuals.

### TMIP Connection

Through the Spring of 2008, TMIP produced the TMIP Connection online newsletter, which was distributed through its TMIP email list. The newsletter, two issues of which were published during the period covered by this report, featured various highlights including upcoming professional development opportunities and articles on special topics. More recently, TMIP has disseminated briefer updates through regular email to the TMIP email list. TMIP-News publicizes upcoming webinar events, Virtual Mentoring and Technical Support Center office hours, and news items of interest to the travel demand modeling community.

### Web Knowledge and Information Exchange

TMIP's very successful Web Knowledge and Information Exchange (WKIE) is a web-delivered series on current topics of interest to the travel modeling community. Registrations often fill up quickly for each webinar. Many of the webinars have been successfully recorded and are available with a copy of the presentation on the TMIP website.

*TMIP helps planning agencies build their institutional capacity to develop and deliver travel related information to support transportation and planning decisions.*



*Through the Spring of 2008, TMIP produced the TMIP Connection online newsletter, which was distributed through its TMIP email list.*

WKIEs Held Between October 1, 2007, and September 30, 2009		
<b>October 24, 2007</b> Discussions on NHTS Data	<b>November 28, 2007</b> Travel Forecasting Modeling Activities in MPOs	<b>December 19, 2007</b> Case Studies of Activity-Based Models and TRANSIMS
<b>January 29, 2008</b> Highlights from the 2008 TRB Annual Meeting	<b>February 12, 2008</b> Shining a Light Inside the Black Box (1): Motivations and Data	<b>March 11, 2008</b> Shining a Light Inside the Black Box (2): Model Testing
<b>April 8, 2008</b> Shining a Light Inside the Black Box (3): Transportation Supply and Travel Distribution	<b>May 13, 2008</b> Shining a Light Inside the Black Box (4): Translating Results Into Insights for Decision Makers	<b>June 12, 2008</b> Household Travel Survey: Lessons Learne
<b>August 7, 2008</b> Scenario Testing	<b>September 25, 2008</b> Project Level Forecasting	<b>October 16, 2008</b> Travel Modeling Workshop Session 1: Introduction
<b>November 6, 2008</b> Travel Modeling Workshop Session 2: Data Set Preparation for Model Estimation	<b>November 13, 2008</b> Using Visualization Techniques to Communicate Transportation Planning Data	<b>December 2, 2008</b> American Community Survey 3 year Data Access
<b>December 5, 2008</b> American Community Survey Data Access Training	<b>December 11, 2008</b> Travel Modeling Workshop Session 3: Estimation of Non-Logit Models	<b>February 10, 2009</b> Travel Modeling Workshop Session 4: Estimation of Logit Models
<b>March 12, 2009</b> Travel Modeling Workshop Session 5: Disaggregate and Aggregate Validation and Calibration Procedures	<b>April 14, 2009</b> Travel Modeling Workshop Session 6: Advanced Topics in Discrete Choice Models	<b>May 7, 2009</b> Travel Modeling Workshop Session 7: Highway and Transit Assignment Processes
<b>June 9, 2009</b> Travel Modeling Workshop Session 8: Evaluation of Model Validation Results	<b>June 18, 2009</b> Activity Model Development Experiences	<b>July 16, 2009</b> Travel Modeling Workshop Session 9: Real Life Experiences in Model Development, Webinar Wrap-Up



### Introduction to Urban Travel Demand Forecasting Course

An introductory course is available that covers the traditional four-step modeling process. This course is aimed at Federal, State, local planners and engineers, and consultants who wish to gain a better understanding of the principles and applications of travel demand forecasting models. The introductory course addresses trip generation, trip distribution, mode choice, and trip assignment. Due to funding limitations this course was not offered as frequently during the two fiscal years as in previous years. Four classes were conducted during FY 2008 and FY 2009 as listed below:

- California, May 2008
- Louisiana, June 2008
- Texas, March 2009
- Arizona, March 2009

### Virtual Mentoring and Technical Support Center

The Virtual Mentoring and Technical Support Center (VMTSC) represents an effort by TMIP to expand the reach of the Mentoring Program by offering one-hour online virtual office sessions via the TMIP web conferencing system. Questions are solicited through the TMIP website and each office session provides a forum for real-time discussion of either submitted topics or a recent discussion topic from the TMIP email list.



The VMTSC was initiated in October of 2009 as a weekly opportunity to bring together less-experienced modelers with more-experienced mentors to discuss topics of interest. Over the course of FY 2009, the schedule was adjusted such that VMTSC sessions took place on a bi weekly basis. During FY 2009, 17 sessions were conducted. These sessions covered a wide variety of subjects and included formal presentations on occasion. Among the subjects presented and discussed were:

- Travel survey timing, size, structure, and breadth of data collected.
- Collection of non-transportation data as part of transportation surveys that would allow benchmarking of regional/national economic and demographic metrics.
- Collection and processing of travel time data.
- Congestion equilibrium traffic simulation.
- Procedures for developing freeway lane capacities.
- Model application and model improvements with particular emphasis on preparation of inputs, development of standard reporting of results, and management and maintenance of model runs.
- The need to add information on activity modeling to training courses.
- Transferability of model data and parameters.
- Implementation of dynamic traffic assignment (DTA) including presentation and discussion of results of DTA applications in a small urban area as well as a DTA program education and outreach activities.
- Overview of 2008 national household travel survey (NHTS) including status, data content, and products as well as user data tools.
- Uses of statewide models.
- Level of interest in activity modeling in medium-sized urban areas.
- Methods for summarizing and presenting travel model results.
- Benchmarking of travel model results.
- Uncertainty or error analysis of travel model results.

*TMIP actively works to develop and improve analytical methods that respond to the needs of planning and environmental decision making processes.*



## IMPROVING ANALYTICAL METHODS TO ADVANCE THE PRACTICE

*TRANSIMS is a transportation simulation tool box that incorporates tools for modeling networks and travel demand.*

Enactment of TEA-21 in 1998 drastically changed the funding of FHWA's research programs, thus, severely curtailing TMIP' research activities. However, TMIP actively works with FHWA internal and external partners to develop and improve analytical methods that respond to the needs of planning and environmental decision making processes. In FY 2008, three travel modeling related projects were funded via FHWA Office of Planning Broad Agency Announcement (BAA):

- Evaluate How Land Use, Transportation Infrastructure, and Policy Changes Affect Travel Activity and Greenhouse Gas (GHG) Emissions
- Deployment and Field Testing of a Method for Finding Consistent Multi-class Link and Route Flows
- Analysis of Advanced Modeling Practices: Costs, Benefits, and Opportunities

### TRANSIMS

TRANSIMS is a transportation simulation tool box that incorporates tools for modeling networks and travel demand. The technology emphasizes a person-based approach suitable for evaluating, multimodal systems in a dynamic context. The tool box is modular in that third party tools can be integrated into an analysis.



Sample heat map plot courtesy of Argonne National Laboratory TRACC

The technology is made available under an open source license with a share and share-alike provision. Version 4, updating the version released at the close of the commercialization effort, is in its seventh release. Collaborations with other efforts, notably Argonne National Laboratory, have yielded improvements in data visualization and the user interface. A major rewrite and release of Version 5 is planned to incorporate lessons learned from the deployment projects.

Support is currently provided via the project web-site, forums, wiki, email list, and source code repository. Training and technical assistance is available via collaborations within the community and also for-hire from private sector sources. Maintaining and improving the documentation resources is a current priority for the program.

Currently the program emphasizes deployment efforts for broad types of applications in two tiers of projects. Application studies are targeted to technology development and demonstration. These studies are limited to one year with a small team with funding levels below \$100,000. Deployment case studies are targeted towards analyses involving local planning issues. These studies are typically limited for eighteen months with a multidisciplinary team with funding levels below \$400,000. Deployment case studies also incorporate a peer review component to provide feedback to the agency sponsors.





Of the 22 projects funded to date, topics include congestion, management and operations, ITS, project programming, evacuation, mobile source emissions, transit, truck/freight analysis, site development, work zones, pricing, and visualization. Eleven of the projects developed and evaluated new methods. Several of the case study projects have been incorporated into further research efforts or planning applications. The following projects were awarded during fiscal years 2008 and 2009:

#### **FY 2008 Awards**

Case Study: Sacramento Congestion Study (DAYSIM Integration) (RSG)  
Case Study: Moreno Valley Freight Study (Moreno Valley)  
Case Study: Phoenix LRT Study (ASU)  
Case Study: Detroit Work Zone Study (WMU)  
Research: Integrating Network Simulation and Land Use (NJIT)  
Research: TRANSIMS Use for Small & Medium Areas (CCURPC)  
Research: TRANSIMS Use for Developments of Regional Impact (GA Tech)  
Research: TRANSIMS Model for University Campus (SUNY-Buffalo)  
Research: TRANSIMS Visualizer (University of UT)  
Research: TRANSIMS Safety evaluation module (UVA)

#### **FY 2009 Awards**

Case Study: Weather Incident Study (SUNY- Buffalo)  
Case Study: Seattle Ferry Terminal Congestion Study (RST)  
Case Study: Chicago Downtown Operations Study (IIT)  
Case Study: Columbus Activity Model Integration (AECOM)

*Deployment case studies  
also incorporate a peer  
review component to  
provide feedback to the  
agency sponsors.*



*TMIP supports peer reviews by assisting agencies in panel assembly, logistics, and funding for travel.*



## ENSURING THE QUALITY OF TECHNICAL ANALYSIS

Several TMIP activities are geared toward the development of mechanisms that address the quality of technical analysis in travel demand modeling. Toward this goal, TMIP provides support for TMIP-sponsored peer reviews and peer exchanges, as well as gathers and disseminates information on advances in travel demand practice.

### Peer Review Program

The Peer Review program provides an opportunity for planning agencies to invite a peer review panel to review their models to ensure that the technical processes they are applying meet standards of professional practice and meet Federal, State, or local planning requirements. TMIP supports peer reviews by assisting agencies in panel assembly, logistics, and funding for travel. Peer reviews conducted during the current two-year period include:

- Cache Metropolitan Planning Organization (August 26-27, 2008).
- Dixie Metropolitan Planning Organization (August 26-27, 2008).
- East Central Intergovernmental Association (October 22, 2008).
- Bi-State Regional Commission (October 23, 2008).
- Sacramento Area Council of Governments (November 17-18, 2008).
- Capital Area Metropolitan Planning Organization (June 11-12, 2009).
- Delaware Valley Regional Planning Commission (September 29, 2009).

In April 2009, the *TMIP Peer Review Program Evaluation* was released. The purpose of the evaluation, available on the TMIP website, was to understand the value of the Peer Review program to those host agencies that have held a review. Agencies implemented approximately 70 percent of peer panelists' recommendations. Major reasons for not implementing recommendations included lack of resources, risk in implementing strategies outside common state of practice, having higher priorities for the effort involved, and agency opinion concerning the appropriateness of the recommendation. Overall, despite the noted effort necessary ahead of the peer review, interviewees were very satisfied with their peer reviews and the peer review process. Significantly, interviewees said that the peer reviews helped build their staffs' modeling skills and help improve their travel demand model. Recommendations from the program evaluation included developing outreach materials to explain the peer review process and potential benefits to senior management, additional guidance and technical assistance in preparing for a peer review, providing panelists with agency constraints prior to meetings, more information on the justification for and implementation steps of recommendations, and continuing to develop materials and peer networks to facilitate improvements in travel demand modeling.

During the reporting period, TMIP worked on the document *Peer Review Process Guide: How to Get the Most Out of Your Peer Review* (released April 2010).

### Peer Exchange Program

As part of the Peer Exchange program, TMIP sponsors peer exchanges, which are facilitated discussions on a focused topic. The intent behind these exchanges is to disseminate techniques being used by those leading the profession in a particular



subject area. The information is conveyed not only to the participants, but also to others in the profession through the documentation of the peer exchange.

On May 9, 2008, TMIP conducted a peer exchange on *Travel Model Validation Practices*, in Washington, D.C. The general objective of this peer exchange was to respond to the findings of TRB Special Report 288, *Metropolitan Travel Forecasting: Current Practice and Future Direction*, which outlined various model validation issues with MPO models nationwide. The ultimate product of the Peer Exchange strives to ideally include providing practical advice and priorities to agencies on: types of validation to be considered, appropriate validation factors, the need for local or national validation benchmarks, prioritization of model validation efforts in a constrained resource environment, and proper documentation of validation. The ultimate goal is that the peer exchange results provide a framework for a planned update to TMIP's *Model Validation and Reasonableness Checking Manual*. The "Travel Model Validation Practices Peer Exchange White Paper" report is available at [http://tmip.fhwa.dot.gov/resources/peer\\_exchange](http://tmip.fhwa.dot.gov/resources/peer_exchange).

### Snapshot of Travel Modeling Activities

TRB Special Report 288, *Metropolitan Travel Forecasting: Current Practice and Future Direction* (2007), concluded that the demands on forecasting models have grown significantly in recent years as a result of new policy concerns, and that existing models are inadequate to address many of them. 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. In March 2008, FHWA and contractor staff visited five MPOs with proven track records of using travel model results to support the regional transportation planning process. The resulting report summarizes how travel demand models and the resulting travel forecasts have been generally employed in the planning process and specifically 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 the travel forecasting process. The full report, *A Snapshot of Travel Modeling Activities* is available at: [http://tmip.fhwa.dot.gov/resources/clearinghouse/docs/mpo/mpo\\_snapshot.pdf](http://tmip.fhwa.dot.gov/resources/clearinghouse/docs/mpo/mpo_snapshot.pdf)

*This report  
highlights a number of  
accomplishments that  
were achieved with  
limited funds.*

## MONITORING PROGRESS

### Synopsis of Activities

One way that TMIP measures the success of activities in support of its mission is by measuring participation in its various programs. The statistics below generally indicate increasing usage of the TMIP resources. An estimate for Year 2007 is provided as a benchmark.

*As part of the Peer Exchange program, TMIP sponsors peer exchanges, which are facilitated discussions on a focused topic.*

### TMIP Website

Fiscal year ending	Total Page Visits
2007	39,700**
2008	59,095
2009	47,311

*\*\*Estimate based on partial fiscal year data availability*

### TMIP-L Listserv

Fiscal year ending	Total subscribers	Total messages
2007	775	392
2008	1,070	568
2009	1,237	760

### TMIP-News Listserv

Fiscal year ending	Total subscribers	Total messages
2007	n/a	n/a
2008	0	n/a
2009	295	18

### TRANSIMS-L Listserv

Fiscal year ending	Total subscribers	Total messages
2007	n/a	n/a
2008	156	5
2009	179	149



## CONCLUSION

This report highlights a number of accomplishments that were achieved with limited funds. Approximately \$563,400 and \$495,000 were spent for FY 2008 and FY 2009 respectively. During the two-year time frame TMIP has worked within a challenging environment to provide a professional forum for education, debate, and friendly challenges among professionals to keep improving the travel models to meet changing needs. Though TMIP's three primary goals are (1) building institutional capacity, (2) improving analytical methods to advance the practice and (3) ensuring the quality of technical analysis, the majority of accomplishments during the two-year period were aimed at building institutional capacity. Unfortunately, limited funding curtailed the ability to further support the other two goals. Additional resources are needed to properly sustain and advance TMIP such that it can continue providing adequate leadership and resources for travel demand model development and implementation.





**TMIP is funded by the Federal Highway Administration's  
Office of Planning, Environment and Realty.**

**Gloria Shepherd**

Associate Administrator  
Office of Planning, Environment and Realty  
1200 New Jersey Ave. SE  
Washington DC 20590  
Phone: 202-366-0116

**James Cheatham**

Director  
Office of Planning  
1200 New Jersey Ave. SE  
Washington DC 20590  
Phone: 202-366-0106

**TMIP STAFF**

**Federal Highway Administration**

**Sarah Sun**

TMIP Outreach Manager  
1200 New Jersey Ave SE  
HEPP-30  
Washington DC 20590  
Phone: 202-493-0071  
Fax: 202-493-2198  
sarah.sun@dot.gov

**Brian Gardner**

Transportation Systems Performance Team Leader  
1200 New Jersey Ave SE  
HEPP-30  
Washington DC 20590  
Phone: 202-366-4061  
Fax: 202-493-2198  
brian.gardner@dot.gov

**Texas Transportation Institute**

**Gary Thomas**

Center for Professional Development  
3135 TAMU  
College Station TX 77843-3135  
Phone: 979-458-3263  
Fax: 979-845-6001  
g-thomas@tamu.edu

<http://tmip.fhwa.dot.gov>



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**TMIP**

Travel Model Improvement Program

<http://tmip.fhwa.dot.gov>