



The **Travel** Model  
*Improvement*  
Program

*Fiscal Year 2005 Annual Report*

October 31, 2005

Travel Model Improvement Program

FHWA

*Helping Agencies Improve Their Planning Analysis Techniques*

**TMIP**

Travel Model Improvement Program

## Executive Summary

This report covers activities of the Travel Model Improvement Program (TMIP) during fiscal year 2005. It also presents a look ahead at future TMIP directions and presents a summary of past TMIP funding.

TMIP has three goals. Under the first goal, *to help planning agencies build their institutional capacity to develop and deliver travel related information to support transportation and planning decisions*, TMIP continued to work with our partners such as the National Association of Regional Councils (NARC) and the Association of Metropolitan Planning Organizations (AMPO); sponsored six peer reviews and one peer exchange, provided five course offerings and five seminars; continued the Website, E-Mail List and Clearinghouse and produced three issues of the TMIP Newsletter.

For the second goal, *to develop and improve analytical methods that respond to the needs of planning and environmental decision making processes*, the “Research Needs Assessment” is being completed; an Urban Land Institute Panel met to address issues of the relationship between transportation and development; two additional applications of TRANSIMS have been initiated and TRANSIMS has been released under an open source license, two reports were completed on the American Community Survey and work continued on “Forecasting Person Travel by Time of Day.”

On the third goal, *develop mechanisms to ensure the quality of technical analysis used to support decision-making and to meet local, state, and federal program requirements*, the National Academy of Sciences study “Determination of the State of the Practice in Metropolitan Area Travel Forecasting” was initiated; technical support to EPA for the development of the new emissions model, MOVES, began and will continue on an ongoing basis; and the Federal Highway Administration (FHWA) continued to use the Certification Checklist of Travel Forecasting Methods in conducting certification reviews. For the future we are working on the implementation of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

## Introduction

Fiscal Year 2005 (FY 2005) was the 12<sup>th</sup> year for the TMIP. This third annual report describes the TMIP program and strategic plan goals and objectives, describes the actions taken to support those goals and attempts to assess our impact on the modeling community.

TMIP highlights for FY 2005 include:

- Remaining a pre-eminent resource for the modeling community
  - Increased traffic on our e-mail list
  - Clearinghouse more robust
- The TMIP Peer Review Program is a valuable asset to the modeling community
  - Fosters information sharing
  - Improves model development
- New legislation with language to implement overall support for TMIP
- Two new TRANSIMS applications and legislation to provide further funding.

TMIP follows its mission by acting on three strategic goals and their commensurate objectives. The TMIP mission is that:

*TMIP will . . .*

Do What?

*Support and empower planning agencies.*

How?

*Through leadership, innovation and support of planning analysis improvements.*

Why?

*To provide better information to support transportation and planning decisions.*

## **Funding and Support**

The TMIP activities discussed here are supported by a variety of sources. However, the FHWA Associate Administrator for Planning, Environment and Realty provides TMIP staff support and, through the FHWA Research Program, provides the primary source of funding for TMIP activities. Separate funding for TRANSIMS is provided by specific funding allocations in TEA-21 and SAFETEA-LU. For more information on funding see Appendix A.

## **Performance by Goal**

Each goal is addressed individually below, together with the actions and activities that are designed to meet that goal.

### ***Goal One “To help planning agencies build their institutional capacity to develop and deliver travel related information to support transportation and planning decisions.”***

In order to achieve this goal, TMIP employs a variety of outreach and training actions. In accordance with our strategic plan we:

- Provide information to transportation decision-makers, non-technical professionals, and other stakeholders on the value, role, useful applications, and limitations of travel forecasting;
- Develop and cultivate collaborative partnerships with other organizations concerned with improving travel analysis techniques;
- Promote organizational structures which support quality travel analysis activities;
- Identify and communicate the state of the practice in technical analysis and data collection and associated resource requirements;
- Deliver and communicate technical products and services to travel model users; and
- Promote planning technical analysis as a profession.

A variety of mechanisms are employed to provide and disseminate information including working with organizational partners to plan and present at conferences, promote and provide peer reviews, offer training, maintain a website, email list and modeling information clearinghouse, produce and distribute a newsletter and support peer exchanges.

### **Activities with Organizational Partners:**

TMIP funds in FY 2005 were used to work with and support national partners as well as some specific agency and academic partnerships. TMIP sponsored, showed and/or presented papers at five national conferences in FY 2005. The five conferences represent a broad spectrum of our client base including technical planners and decision makers at all agency levels. The conferences were:

- October 2004, Association of Metropolitan Planning Organizations (AMPO) Annual conference in San Antonio, Texas;
- January 2005, Transportation Research Board (TRB) Annual Conference in Washington, DC;
- March 2005, American Planning Association (APA) annual Conference in San Francisco, California;
- April 2005, TRB 2005 Transportation Planning Applications Conference in Portland, Oregon; and
- June 2005, National Association of Regional Councils (NARC) Annual Conference in Monterey, California.

In FY 2005 TMIP submitted an abstract to the Association of Collegiate Schools of Planning (ACSP) annual conference suggesting that a roundtable discussion be held on the subject of travel model education. The abstract was accepted and the ACSP annual meeting occurs late October 2005.

Also in 2005, FHWA continued partnership with METRO in Portland, Oregon as part of the TRANSIMS program. To develop TRANSIMS application guidance, METRO provided key staff expertise, sophisticated data analysis, and advanced computer resources. METRO has been a tremendous partner whose contributions to the practice of travel modeling cannot be overstated.

The partnership with the Virginia Polytechnic Institute (VPI) and the TRANSIMS program continued and grew through 2005. In addition to training course development and applied research with the Civil and Environmental School of Engineering, FHWA also held a series of discussions, joint presentations, and software development tasks with the Virginia Bio-Informatics Institute (VBI) located within the university (<https://www.vbi.vt.edu/>). The new relationship with VBI brings expertise in social network analysis, high-performance computing, and software development.

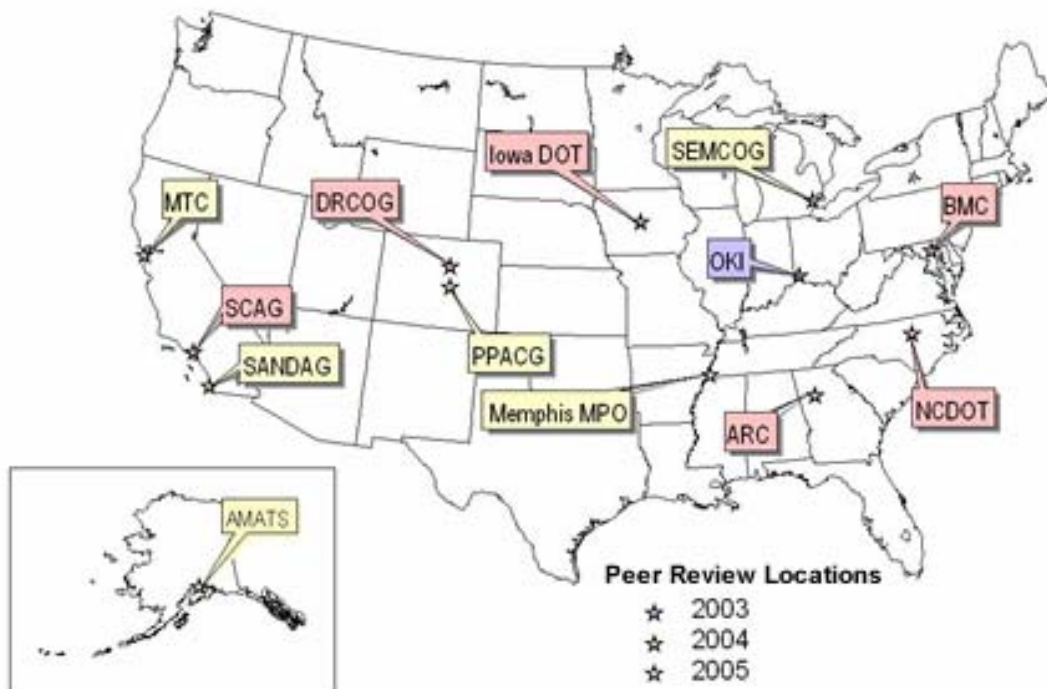
FHWA staff met with representatives of the State University of New York - Albany, the Syracuse Metropolitan Planning Council, and New York State Department of Transportation to discuss potential TRANSIMS research and training opportunities. These exploratory discussions provided a valuable networking opportunity and an understanding of the issues involved in further deployment of TRANSIMS. Based on our discussions we will provide additional documentation to early users of TRANSIMS.

### **Peer Reviews**

The TMIP peer review program provides the modeling community with a method to gain insight and experience in modeling issues. Furthermore, the practice of producing and posting a written report for each peer review, presenting the peer review program and results at conferences and publishing an annual synthesis of peer review issues and

recommendations for corrective action by the individual panels improves the state of the practice of travel demand forecasting. TMIP continued the Peer Review Program for a second year in FY05. Six peer reviews were held during FY 2005, one each at:

- Baltimore Metropolitan Council, Baltimore, MD
- Memphis Area Metropolitan Planning Organization, Memphis, TN
- Metropolitan Planning Commission, San Francisco, CA
- Pikes Peak Area Council of Governments, Colorado Springs, CO
- San Diego Association of Governments, San Diego, CA, and
- South Eastern Michigan Council of Governments, Detroit, MI



Most of the peer reviews were convened in the early stages of model development or update, where the requesting agencies sought consultation on anticipated or early developments of their model improvement work. One agency was further along in model development, and used the peer review panel to adjust model developments against the suggestions of the panel experts.

In FY 2005, FHWA also solicited specific agency feedback from recipients of reviews in years past. Respondents mentioned two significant outcomes of the peer reviews: model improvements based on panel recommendations, and increased model credibility. Each interviewee said that their agency used the peer panel recommendations to guide travel model enhancements.

## Training

During FY 2005 TMIP continued its tradition of hosting National Highway Institute (NHI) courses relevant to travel forecasting and offering one-day TMIP seminars in advanced modeling topics. In FY 2005 TMIP sponsored, hosted or offered:

- Introduction to Travel Demand Forecasting (4.5 day NHI course) three times at
  - Costa Mesa, California,
  - Asheville, North Carolina, and
  - Arlington, Virginia
- Estimating Regional Mobile Source Emissions (3.5 day NHI course) twice at
  - Little Rock, Arkansas, and
  - Albany, New York
- Activity and Tour-Based Modeling (TMIP Seminar),
- Forecasting Land-Use Activities (TMIP Seminar), and
- Travel Model Validation, Calibration and Reasonableness Checking (TMIP Seminar) three times each at
  - Denver, Colorado,
  - Chapel Hill, North Carolina, and
  - Fort Worth, Texas



Planners and modelers at all levels of expertise, across multiple agency levels and also from the private sector attend TMIP training. In FY 2005, 305 practitioners attended 13 TMIP courses and seminars. This represents an approximately 27 percent decrease in overall attendance, but a 31 decrease in offerings. Therefore, attendance increased very slightly from FY 2004 to FY 2005, but still declined from FY 2003.

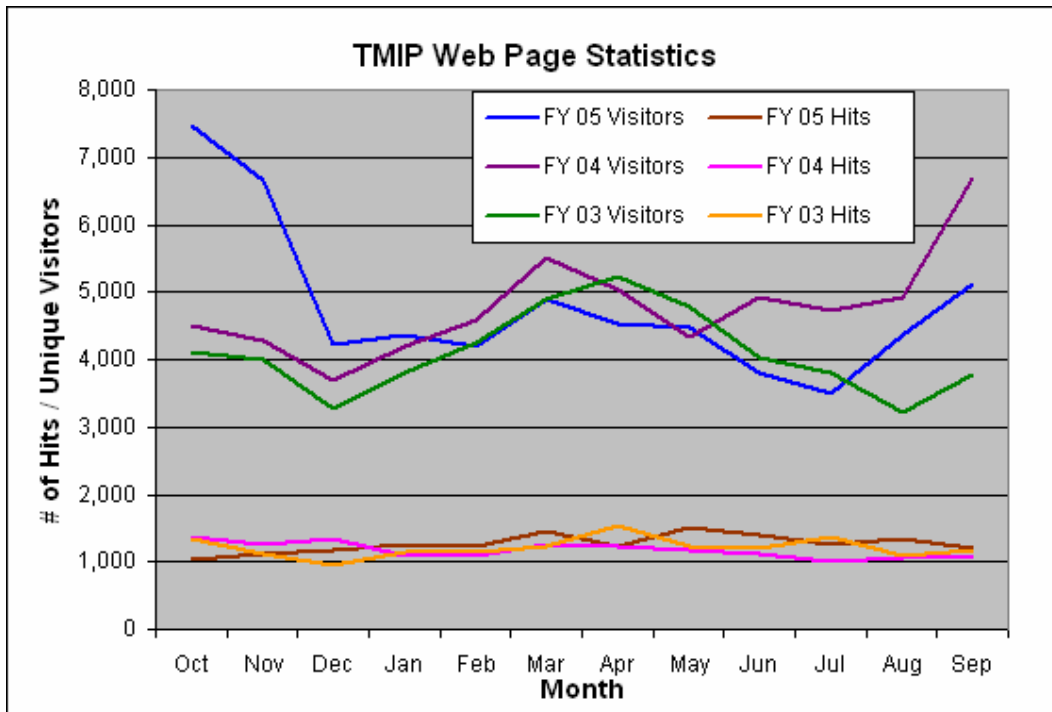
Course or Seminar	Presentations			Attendance		
	FY 05	FY 04	FY 03	FY 05	FY 04	FY 03
Introduction to Travel Demand Forecasting Course	2	6	7	48	121	149
Estimating Regional Mobile Source Emissions Course	2	3	2	33	51	38
Activity and Tour-Based Modeling Seminar	3	4	0	67	103	0
Forecasting Land-use Activities Seminar	3	3	3	82	71	85
Travel Model Validation, Calibration and Reasonableness Checking Seminar	3	3	3	75	73	85
TOTAL	13	19	13	305	419	357
AVERAGE				23	22	27

**Website, Email List and Clearinghouse,**

**Website**

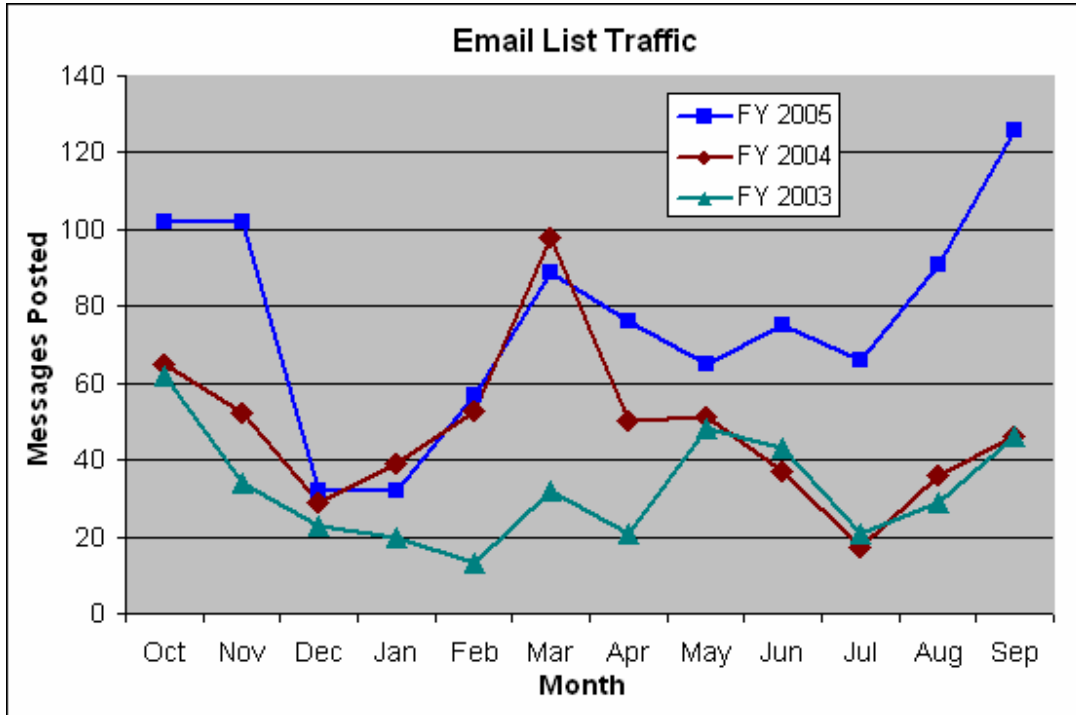
The TMIP website is our face to the community. The homepage consists of updated calendar items, recent additions to the website and news, and navigation to services, courses and conferences, TRANSIMS information, links, contacts, clearinghouse and email list.

In FY 2005 there were between 3700 and 5100 visitors to the website each month (closely tracking with past years performance) except for October which, continuing a spike from September 2004, saw about 7500 visitors. Visits to the homepage tracked roughly equally to previous years, at about 1000 hits per month.



### TMIP-L, the TMIP email list

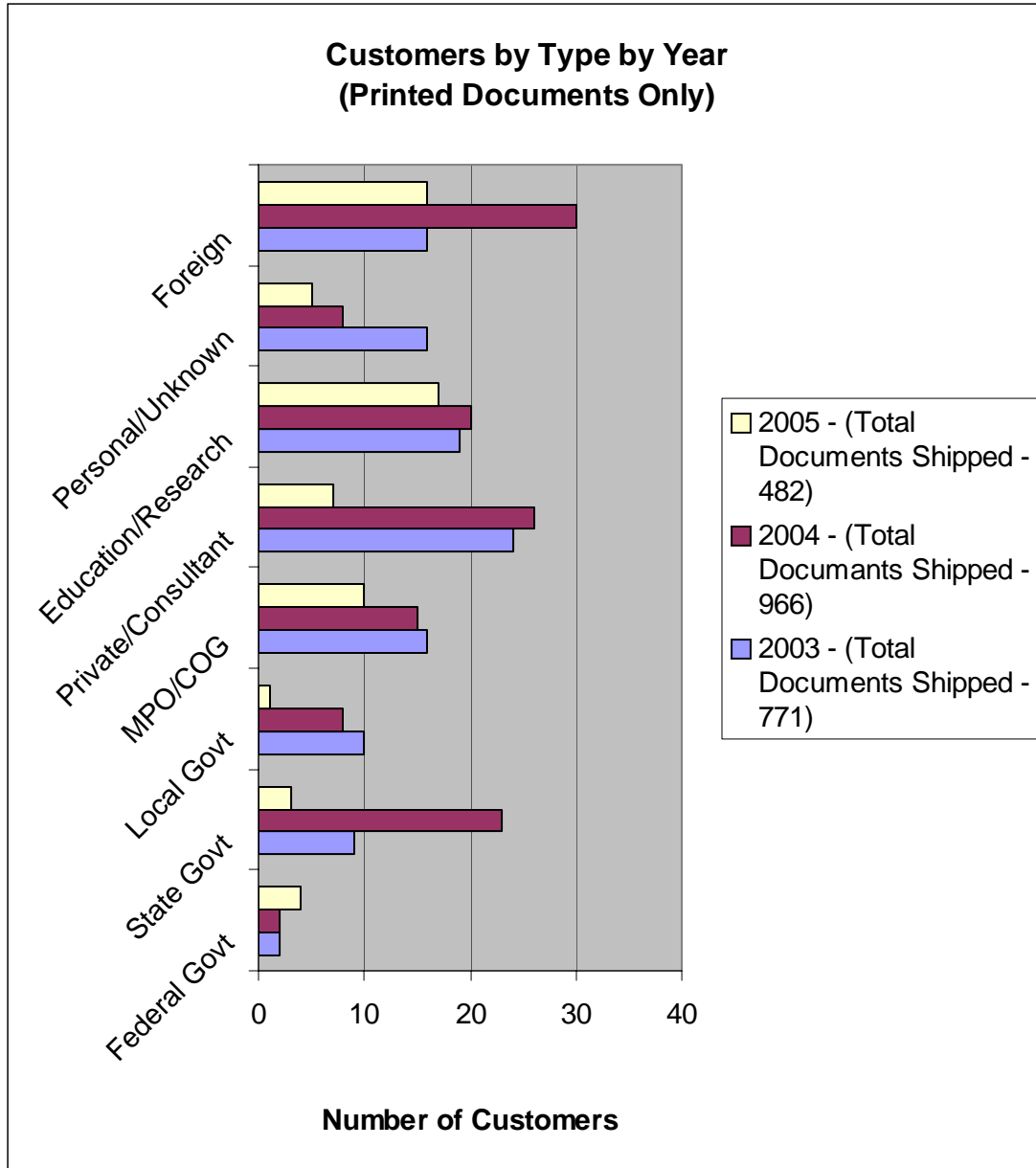
The TMIP email list is the scene of technical discussions, information exchange, job postings and course advertisements of interest to the travel model community. It currently boasts approximately 700 members, up from 533 at the same time in FY04, and sees between 30 and 130 postings and replies per month. The TMIP email list is hosted and archived by Texas Transportation Institute and is the source of the Hot Topics column in the *TMIPConnection* newsletter (discussed below).



### Clearinghouse

The TMIP clearinghouse experienced robust growth in FY 2005 chiefly due to the efforts of the Web Working Group. There are 326 documents and resources available in the TMIP clearinghouse (up from 275 in FY04). Despite title and content growth, both electronic visits and requests for documents were down in FY 2005 from FY 2004.





Below are two tables showing the ten most requested and most accessed documents, and how they ranked in previous years.

FY05 Top Clearinghouse Documents Shipped		Number Shipped	Rank FY04	Rank FY03
1.	Travel Demand Forecasting Self Instructional CD-ROM	41	1	2
2.	Integrated Transportation and Land Use Forecasting: Sensitivity Tests of Alternative Model Systems Configuration	21	5	8
3.	Third Oregon Symposium on Integrating Land Use and Transport	15	23	14

	Models (CD)			
4.	System of Activity-Based Models for Portland, Oregon, A	14	18	36
4.	Effects of Land Use and Travel Demand Management Strategies on Commuting Behavior, The	14	11	11
6.	Activity-Based Travel Forecasting Conference	13	11	11
6.	Model Validation and Reasonableness Checking Manual	13	3	1
8.	Data Collection and Modeling Requirements for Assessing Transportation Impacts of Micro-Scale Design	12	7	3
8.	Network-Optimized Congestion Pricing: A Parable, Model, and Algorithm	12	18	19
10.	Creating Synthetic Baseline Populations	11	15	10
10.	Computational Study of Routing Algorithms for Realistic Transportation Networks, A	11	26	NA
10.	Transfer Penalties in Urban Mode Choice Modeling	11	14	19
10.	Travel Survey Manual Appendices	11	26	26

<b>FY05 Top Web Documents Accessed</b>		<b>Rank FY04</b>	<b>Rank FY03</b>
1.	Urban Transportation Planning In the United States: An Historical Overview	1	1
2.	Model Validation and Reasonableness Checking Manual	3	4
3.	GIS in Transportation Planning & Case Studies	2	2
4.	Activity-Based Travel Forecasting Conference Proceedings	6	NA
5.	Quick Response Freight Manual: Final Report	4	6
6.	Nonresponse in Household Travel Surveys	NA	NA
7.	An Introduction to Panel Surveys in Transportation Studies	NA	NA
8.	Alternatives Analysis, Highway 101 Widening Project — Final Report	NA	NA
9.	Manual of Regional Transportation Modeling Practice for Air Quality Analysis	NA	NA
10.	Calibration of Traffic Forecasting Models in Small Urban Area	NA	NA

### **Web Working Group**

FY 2005 saw the development of a volunteer working group to review and recommend content for the TMIP Clearinghouse.

This group of 21 volunteers reviews content in their subject Clearinghouse categories and identifies documents to be updated or archived, links that needed to be updated or deleted, and suggests additional documentation and/or links.

## **TMIP Connection Newsletter**

TMIP produced three regular issues and one special edition of *TMIP Connection* in FY 2005. Newsletter topics included a wide range of subjects from policy (such as FHWA's vision for modeling and a report on the Checklist for Travel Forecasting Methods used in certification review); to activities (such as modeling sessions and workshops at the TRB annual meeting and peer exchanges); to tech transfer (on air quality, activity-based modeling, speed flow curves, model accuracy and uncertainty and others). The newsletter was shipped to 1277 people in FY 2005. Additionally, the web link to the newsletter is distributed electronically through the TMIP email list and FHWA planners, and notification is sent to our partners for mention in their newsletters.

## **Peer Exchanges.**

On December 16, 2004, a TMIP peer exchange on data transferability was held at the National Academy of Sciences' Keck Center in Washington, D.C. Several Transportation Research Board data and modeling committees joined TMIP in sponsoring the event.

The peer exchange reviewed past efforts in the "outcomes" category of transferable elements, particularly the use of national household travel survey data (1990 and 1995 NPTS) for trip generation rates, auto occupancies, trip length distributions, or distributions by time-of-day.

A list of potential variables that might better describe factors that influence behavior was developed and recommended for testing. The list includes:

- Detailed land use data
- Potential activities along paths to and from primary destinations
- Transportation system reliability (both transit and highway)
- Road condition
- Comfort and convenience factors
- Climate
- Distance to employment or shopping opportunities
- Ease of finding parking
- Bottle-neck facilities (bridges, tunnels)
- Safety perceptions, including social frictions
- Cultural variations and familiarity with English
- Process decisions influencing destination choices, time of day, etc.

Trip and tour generation models were considered to be the easiest to transfer, followed by time-of-day choice models. Mode choice model parameters and the relationships between them (such as the relative values of in-vehicle time to out-of-vehicle time) were also considered as transferable. There was considerable interest in testing whether or not travel time reliability would improve current models.

Several draft scopes of work for further research in transferability were developed during the peer exchange. These proposed projects will be forwarded to a variety of potential funding agencies, including NCHRP, the University Transportation Centers, and AASHTO Standing Committee on Planning.

The Summary Report for the Peer Exchange on Data Transferability can be found at:  
[http://tmip.fhwa.dot.gov/services/peer\\_exchange/reports.stm](http://tmip.fhwa.dot.gov/services/peer_exchange/reports.stm)

Another peer exchange; *Expert Forum on Road Pricing and Travel Demand Modeling* is scheduled for November 14 and 15, 2005 this forum is sponsored by Department of Transportation (DOT) and the proceedings can be found at:  
<http://tmip.fhwa.dot.gov/clearinghouse/docs/DOT-OST-P-001-06/>

***Goal Two: “To develop and improve analytical methods that respond to the needs of planning and environmental decision making processes”***

**Research Needs Assessment**

TMIP is conducting a needs assessment of urban travel forecasting method research through an assessment of documented practitioner needs, need prioritization, and a selective review of recent and current research. The resulting gap analysis is anticipated to help guide future investment in improving urban travel forecasting methods research.

A white paper, “Travel Demand Modeling: A Practitioner Needs Synthesis,” was completed. The paper outlines the potential gaps between three groups: academicians, practitioners, and policy makers. The paper also documents a review of conference proceedings, mailing list discussion, and other literature where further research and other needs were identified. The results of round table held with invited policy making participants at the National Association of Regional Councils meeting in 2004 was incorporated into the paper. It synthesizes these documented needs into one document. This document was completed in April 2005.

Efforts began and continue to prioritize the needs identified in the white paper. An internal review of these needs was conducted with experienced practitioners within the Texas Transportation Institute. This review revealed the ranging views of practitioners on singular topics and how needs vary by both regional population served and air quality attainment status. Plans were developed to extend the prioritization process to other stakeholders. This outreach will be conducted in fall 2005 and expected to be completed in winter 2006.

A select number of needs were identified on which to conduct brief, focused research reviews. Two draft research reviews were prepared and circulated. The topics of the first reviews dealt with and “Forecasting demographic data and other data that are assumed constant over time” and “Improving travel demand model sensitivity to traveler response from changes in travel costs.” Two additional research reviews will be prepared on “Practical methods for implementing model feedback” and “Develop methods to address non-recurring congestion effects.” The reviews will be completed in winter 2006.

**Urban Land Institute (ULI) Panel on the relationship between Land use and Transportation**

In 12/04 ULI convened a panel to address the relation between land use and transportation. The panel included representatives from both the public and private sectors, all of whom dealt with land use and transportation issues. Bill Eager of the TMIP Review Panel chaired the meeting. The panel concluded that transportation played a

significant role in land development decisions but was not the dominant factor. The panel report *Influence of Transportation Infrastructure on Land Use* can be found at <http://www.uli.org/AM/Template.cfm?Section=Home&CONTENTFILEID=6123&TEMPLATE=/CM/ContentDisplay.cfm>. Hard copies are available from Fred Ducca [fred.ducca@dot.gov](mailto:fred.ducca@dot.gov).

## **TRANSIMS**

The TRANSIMS program continued in FY 2005 supported by prior year (FY 2003) program funds. No additional program funds were provided by any of the continuing resolutions resulting in a slowing and temporary halt to the Portland case study effort. However, notable TRANSIMS-related studies were kicked off in FY 2005 by NJIT-Rutgers and also for the White House Area Transportation Study. The FHWA reauthorization, SAFETEA-LU, provides funding to support further deployment of TRANSIMS, training on the use of TRANSIMS and development of new applications of TRANSIMS. We are currently working on an implementation plan for the new TRANSIMS funding.

### **TRANSIMS Portland Case Study**

The Portland case study effort is divided into three related tracks. Track 1 implements the TRANSIMS router and microsimulator using the trip-based demand from METRO's current travel model. Track 2 implements a tour-based, full microsimulation. In FY 2005, Track 3 considered strategic implementation issues that include equilibrium criteria, skim building, and dynamic traffic assignment.

The Track 1 effort was completed in FY 2005 with the exception of the case study documentation. Key accomplishments during the year include:

- reduction of lost vehicles to less than one percent through network coding and software application improvements;
- implementing formal methods for equilibrating network supply with travel demand;
- link and screenline validation to within current practice tolerances;
- reducing the time and resources needed to develop an initial TRANSIMS data set using typically available data sources to less than one month.

The model design for Track 2 was completed, however the effort was temporarily halted in the implementation phase due to lack of funding. Key accomplishments in FY 2005 include:

- design of a tour-based, regional simulation model framework using disaggregate, agent-based methods throughout, including feedback;
- implementation and testing of population synthesis & location, activity generation, destination choice, tour mode choice, trip mode choice;
- validation of results for population synthesis, activity generation, destination choice, and tour mode choice.

Current efforts are focusing on documenting the overall effort to-date for the purposes of technology transfer to other sites and also the eventual resumption of the project.

## **Other TRANSIMS Accomplishments**

- FHWA and LANL completed a formal Request-For-Information and published the TRANSIMS source code under the NASA Open Source Agreement. An email discussion list was established to provide follow-up information and facilitate peer-exchanges.
- FHWA web published the “TRANSIMS Fundamentals” textbook and expanded the TRANSIMS-related materials on the TMIP web site.
- Outreach at TRB Annual Meeting and Planning Applications Conference.
- Additional studies using TRANSIMS to address street closings in the area of the White House and, through Rutgers University, to simulate traffic in central New Jersey.

## **TELUS**

The TELUS deployment continues. One major new application is occurring in New York. TELUS is being combined with an electronic STIP approval process to allow for automated approval of STIP projects and simultaneous updating of the TELUS database. Currently this has been implemented for highway projects and the TELUS team is working with FTA and NYMTC to include transit projects. TELUS has partnered with NARC and AMPO to promote TELUS nationwide.

## **American Community Survey**

Two reports were completed and added to the HEP Census webpage: <http://www.fhwa.dot.gov/planning/census/acs.htm>. One, on seasonality, showed little seasonal variability in journey-to-work data using the American Community Survey test data in Hampden County, Massachusetts. This report also raised problems of small sample sizes from multi-year accumulations of ACS, which restricts data availability at census tract level. The other paper describes the problems of using the Census Bureau’s Research Data Center which ultimately failed to provide adequate data access to accomplish additional research on ACS.

## **Forecasting Person Travel by Time-of-Day**

Work on this project in FY 2005 focused on case study application of the trip-based and activity-based methods in Denver, CO, and San Francisco County respectively. The evaluations for both methods include a future no-build scenario, a capacity-increase scenario, and a toll scenario. Initial applications identified a fundamental flaw requiring re-formulation of the basic methods. Additional delays were incurred due to the need to reconcile differences in basic model versions between scenarios for the trip-based case study. The model runs for all scenarios are complete and undergoing final QA/QC by the contractor who is currently revising the draft final report.

***Goal Three: “To develop mechanisms to ensure the quality of technical analysis used to support decision-making and to meet local, state, and federal program requirements”***

## **NAS Study**

The Federal Highway Administration, Office of the Secretary of Transportation and the Federal Transit Administration commissioned the TRB/National Research Council to

study the current state of the practice for metropolitan area travel forecasting. Along with determining the state of the practice, the study may identify actions needed to ensure that appropriate technical processes are being used for travel forecasting applications. A committee was appointed to conduct the study, chaired by Martin Wachs of the University of California at Berkeley. Committee members represent MPOs, state transportation agencies, consultants, and academia. The committee roster is at [http://trb.org/directory/comm\\_detail.asp?c=B0090](http://trb.org/directory/comm_detail.asp?c=B0090)

To provide current technical information, the committee commissioned a consulting firm, BMI-SG, a VHB Company, to conduct a web-based survey of all MPOs on their travel forecasting models and procedures. Fifty-seven percent of those MPOs surveyed responded by August 2005, including 86 percent of MPOs with one million or more population. A draft, interim report of the survey results is at <http://www.trb.org/publications/reports/BMI-SG-Sept2005-Draft.pdf>

The consultant is currently working to validate the survey data and to collect additional information through agency site visits and phone interviews.

The TRB/National research council anticipates making the final report available in the fall of 2006. This should be useful for practitioners concerned with travel forecasting model development and applications.

#### **Technical Support for MOVES Development**

TMIP is providing technical support for the development of MOVES, EPA's replacement for the Mobile model series. The purpose of the support is to ensure a smooth interface between the transportation models and the emissions models. An initial kickoff meeting was held in Ann Arbor, Michigan. Periodic meetings will be held as MOVES develops. The contractor for this effort is AECOM.

#### **Certification Checklist for Travel Forecasting Methods**

FHWA has been using the checklist for the last two years in conducting certification reviews. The checklist has proven very helpful to this process. By using the checklist, reviewers are able to assess the initial 'health' of the travel models without getting involved in lengthy and detailed technical analyses. MPO staffs have commented that the checklist provides support and justification for budget requests for improvements to travel models. The checklist does not substitute for an in depth analysis of a model or a peer review. However, the checklist does provide an initial diagnostic to determine whether a detailed model review is required. To access the checklist go to: <http://www.fhwa.dot.gov/planning/certcheck.htm>

#### **Lessons Learned and Future Directions**

We are currently reviewing the new FHWA reauthorization, SAFETEA-LU, to assess the overall impact on funding for travel modeling research and FHWA's overall research program. The legislation contains several sections related to modeling. It also provides for a more open involvement process for all of FHWA's research. We will provide further information in the future on the effect of SAFETEA-LU on TMIP.

## Appendix A

### Funding Retrospective

Funding for the TMIP has been drawn primarily from discretionary research funds allocated to the planning offices within FHWA and FTA.

Enactment of TEA-21 in 1998 drastically changed the funding of FHWA's R&T programs' severely curtailing TMIP activities the first few years of the Act. This trend continued throughout both fiscal year 2004 and fiscal year 2005 due to continuing resolutions in lieu of reauthorization. The continuing resolutions did not include additional funding for TRANSIMS during 2004 and 2005. SAFETEA-LU was passed towards the end of fiscal year 2005.

