

## **OREGON MODELING STEERING COMMITTEE**

**ODOT Human Resource Center**

**2775 19<sup>th</sup> Street SE, Salem OR**

**Wednesday, June 16, 2004**

**1:00-4:00 p.m.**

### **MINUTES**

#### **ATTENDANCE**

Richard Walker, Chair	Portland Metro
Richard Bjelland	OR Department of Housing & Community Services
Brian Dunn	OR Department of Transportation
William Upton	OR Department of Transportation
Mike Jaffe	Mid-Willamette Valley Council of Governments
Bud Reiff	Lane Council of Governments
Ali Bonakdar	Corvallis Area Council of Governments
Craig Anderson	Rogue Valley Council of Governments
Kim Hoovestol	Federal Highway Administration
Scott Drumm	Port of Portland
Rob Bertini	Portland State University
Michal Wert	MW Consulting

#### **Guests**

Becky Knudson	OR Department of Transportation
Carolyn Gassaway	OR Department of Transportation
Thanit Puthongsiripon	Oregon State University
Donald Helvie	Oregon State University

#### **INTRODUCTIONS**

Dick Walker asked for self-introductions for the benefit of new members and guests. Ali Bonakdar and Rob Bertini were welcomed as new members of the OMSC.

#### **2005 TRB PLANNING APPLICATIONS CONFERENCE**

Dick stated that Oregon is the host for the Transportation Research Board (TRB) conference in April 2005. It is a good opportunity to showcase what is being done in Portland and around the state for modeling innovation and applications. The conference is held every other year and presentations cover all aspects of modeling. There will be three concurrent tracks each day.

Postcard invitations to the conference and invitations to submit abstracts for the sessions were distributed. OMSC members were requested to take several postcards and display them in a public place or give them to anyone interested in participating. Dick stated

that there will be 5-10 student presentations and encouraged the universities to notify interested students to submit abstracts.

Michal Wert stated that Dick Walker, Jerri Bohard and she are working as a steering committee with Plans & Action to coordinate the conference. This is the first conference sponsored by the OMSC and she requested each OMSC member to identify five potential sponsors/exhibitors to contact to help cover the costs of the conference. She circulated a master mailing list for sign up. Following the meeting, Michal will send to each OMSC member a list of committed contacts and material that can be emailed to potential sponsors/exhibitors.

## **SUBCOMMITTEE REPORTS**

### **Technical Services Subcommittee – Bill Upton, Chair**

Bill Upton gave an update on the status of models being developed by ODOT:

- The Oregon Small Urban Model (OSUM) is done and it is being used successfully.
- JEM-in-R coding is almost complete and is being tested in Medford.
- County-level models are progressing and the Marion County model is about half complete.
- All components of the transitional statewide model are working and should be ready for test runs in July. The transitional model is one step short of a full second generation model.
- Air quality coding in R is done and being tested.

Dick stated that technical services is one of the services that the OMSC provides. ODOT's Transportation Planning Analysis Unit (TPAU) does a lot of work around the state for cities and counties. TPAU has been producing several model versions that can be personalized for a local area. For example, TPAU has applied Metro's Dora model in Medford. The OMSC provides a forum to easily share the model enhancements made by member agencies across the state. Model improvements in one location benefits everyone else.

Mike Jaffe stated that the code for running Mobile 6 air quality models should be the same for all MPOs but there may be some local tweaks, like freight mix. He asked where data will come from. At the testing stage the code was tested and input parameters were looked at. Everything was then run using the software that links the assignment data and Mobile 6. This seems to produce reasonable answers. MWVCOG is waiting for input data to run the model. Dick stated that Metro links Mobile 6 with an Oracle data base. It requires a different language for operations that is not very compatible with others.

Bill stated that Metro developed the structure and framework for air quality modeling and Ben Stabler/ODOT and Ray Jackson/MWVCOG coded the models to R. Brian Dunn stated that ODOT intends to run results and submit them to Vince Carrow/ODOT Environmental for interpretation. Because of organizational changes in ODOT, Brian

agreed to confirm the appropriate ODOT environmental staff to work with for Mobile 6 air quality modeling.

Bill stated that several training programs are underway:

- A class will be held next week by NTI on multi-modal model building.
- A class on Mobile 6 specifications, with a general air quality conformity component, was scheduled for June 2004 but will be rescheduled.
- Freight Planning 101 is being held in Boise and may be brought to Portland.

Rob Bertini offered that Portland State University will provide rooms and support to conduct classes, especially during the summer.

### **Performance Measures Subcommittee – Bud Reiff, Chair**

Bud Reiff stated that this project is sponsored by OMSC and funded with ODOT research monies. It came about in response to frustration with Transportation Planning Rule (TPR) issues, especially finding alternative vehicle miles traveled reduction measures. This is pure research, however, and will not directly propose changes to the TPR.

State and MPO plans were reviewed to catalog performance measures, a literature search was conducted, and state and MPO models were inventoried to define the types of model output. This activity provides a framework for thinking about performance measures. Task 2 includes developing performance measures for those not well covered, and testing and refining the measures. An expert panel was convened on April 19 through a conference call and Bud handed out a summary of the results of that call.

Different levels of performance measures are being developed. These include measures to determine how to implement the plans, measures to see if outcomes are consistent with policies, accessibility performance measures, and measures to evaluate operations and economic vitality. Reliability is an important issue for the public. Criteria includes such things as measures of impedance (multi-modal) and aggregate accessibility by several dimensions including user class (environmental justice). Several measures address safety but not many address security. There is considerable commonality among MPO and OTP plans and these will be identified. A draft set of performance measures will be completed soon and will be circulated to OMSC members for comment.

Task 3 will address how to test the measures. The expert panel will reconvene in July or August and TPAU will begin testing in the fall.

Ali Bonakdar asked if measures relate to plans or projects. Bud stated that they will help in the scenario selection process: implementation measures (detail) and outcome measures (how well is the plan doing to meet objectives).

Thanit Puthongsiripon asked how the measures address multiple and conflicting objectives. Bud stated that developing performance measures is a balancing effort. The proper weights for potentially conflicting policy areas need to be carefully defined.

## **Modeling Program Coordination Subcommittee – Mike Jaffe, Chair**

Mike Jaffe stated that the MPC Subcommittee met prior to the OMSC meeting. He stated that the committee concentrates primarily on travel demand modeling. It focuses on common modeling issues, and research and development that benefits all OMSC members. The subcommittee provides a forum to develop and share joint projects.

Mike gave a brief update on the status of Oregon models. He stated that Oregon has several scales of models – statewide, models for MPOs, intermediate models, County-level models, and Oregon small urban models used for small cities. Metro is looking at 2040 growth policies with different land use scenarios and need a model that is coarser in scale but gives immediate feedback to the Metroscope model and are developing a simplistic modeling tool. LCOG is developing a scheme to model its 2050 plan. Future year scenarios are well defined and LCOG is defining the best way to model these scenarios.

Metro is looking at EMM/2 and other software packages. The MPC talked about options and how different software packages will affect the overall modeling program.

Ali asked what model would be used to consider a scenario to add a new lane to I-5. Bill stated that the statewide model gives aggregate answers at a statewide level but not a fine level of detail in the urban area. If an urban model is used, it will provide no information at the statewide level but will provide detail at the local level. Urban models are more transportation focused and the statewide model includes land use and economics.

## **PROGRAM UPDATES**

### **Continuous Survey for Modeling in Oregon (COSMO) – formerly Longitudinal Panel Survey**

Becky Knudson stated that a new acronym was developed to be more descriptive of the statewide survey, which combines elements of longitudinal and continuous cross-section surveys. The work scope was prepared by PB Consult to include their recommendations on how to proceed regardless of cost. The total budget submitted is \$250,000, which is \$23,000 short of what ODOT has available to pay for the survey. The MPOs have agreed to proportionately cover the budget shortfall. The work scope proposes three pilot studies:

- Personal GPS units only for household members 16 and older
- Personal GPS units plus a diary and including follow-up phone calls
- Diary only

ODOT will use a contract amendment process to add COSMO to an existing contract. The target is to have the contract amendment in place is mid-July, surveys conducted in October and January, and the pilot completed by February. Survey instruments will be written before the 2005 fiscal year begins. One urban area will be selected and each pilot

will survey 100 people. It is the intent to get walking and transit information. The pilot will recommend the ultimate sample size and timing. The budget reflects two days per week but which days is not yet decided.

Michal circulated a list of the OMSC oversight subcommittee and its charge for the initial longitudinal panel survey process. It also included a second subcommittee recommended for product/process oversight for the COSMO. Recommended OMSC COSMO subcommittee members include:

- Bill Upton, ODOT
- Becky Knudson, ODOT
- Dick Walker, Metro
- Kyung-Hwa Kim, Metro
- Richard Bjelland, OHCS
- Staff support: Michal Wert, MW Consulting
- Consultant team: Joel Freedman/PB Consult, Johanna Zmud/NuStats, Keith Lawton/Keith Lawton Consulting

Rob requested that Jennifer Dill/PSU be added to the subcommittee. He stated that PSU has five handheld GPS units and PSU facilities are available if needed for the survey. Others interested in participating on the subcommittee should contact Michal at [mwert@teleport.com](mailto:mwert@teleport.com).

Mike cautioned that the OMSC should reflect on what did not work for the 1994 survey so that those problems can be avoided for COSMO.

### **Oregon Transportation Plan (OTP) Update**

Carolyn Gassaway, co-project manager for the OTP update, gave an overview of the OTP process. She stated that the existing OTP was unique as a multi-modal plan when it was adopted in 1992. It was one of the first in the nation to be adopted to address the Intermodal Surface Transportation Efficiency Act (ISTEA). ODOT is now undertaking the first comprehensive update of the OTP.

Four committees were formed to help update the plan:

- *Steering Committee* to oversee development and direction of the OTP update
- *Sustainability and Transportation Choices Policy Committee* to update and develop policies that support livable communities and the development of a sustainable transportation system
- *Mobility and Economic Vitality Policy Committee* to update and develop policies to increase the efficient intercity, interstate and international movement of people and goods and support economic vitality
- *Safety and Security Policy Committee* to develop or update policies to support the safety and security of the transportation system.

Committees include public and private members. All policy committees have had three meetings. Upon completion, the OTP update will be adopted by the Oregon

Transportation Commission (OTC). After the Steering Committee work is underway, staff will begin involving the OTC.

It was intended to have this process completed by the end of this year to begin public discussions early in 2005. It is taking longer than expected to develop a vision and is becoming more of a major plan update than simply a tweaking of the existing plan. A joint committee meeting will be held in July to begin discussion on system analysis. Public review of the draft updated plan is scheduled for next spring.

Fifteen working papers were prepared to provide background to the committees. The committees are talking about strategic challenges and trends and staff used that information to draft a vision. A working draft of the OTP Vision Picture, dated June 7, 2004, was provided to the OMSC. Copies of this information and the working papers is available on the OTP website at <http://www.odot.state.or.us/tdb/planning/OTPUpdate/>.

In response to a question, Carolyn stated that the Steering Committee will address funding in this update. A criticism of the existing OTP is that funding scenarios were not realistic. It is expected that the statewide model will provide useful information for the funding discussions.

Brian Dunn stated that TPAU is trying to avoid having technical tools drive the discussions and decisions but rather want them to support the discussions. It is important for the committees to discuss issues, and technical staff will define the most appropriate tools to use to provide analysis and information. Modeling and analysis tools now available will allow the committees to move from the traditional linear process of decision-making to an interactive and iterative process.

Michal stated that the OMSC formed a subcommittee to provide input and recommendations on use of the statewide model for the ODOT Economic & Bridge Options Report. It is expected that a similar subcommittee will be formed to support modeling for the OTP. After the July 9 joint committee meeting, a plan will be developed on how to apply modeling to the OTP update.

### **Phase 2 Freight Data Collection Effort**

Scott Drumm provided an overview of the Regional Freight Data Collection Program-Phase II. This is a regional data collection project, managed by the Port of Portland on behalf of the region. ODOT has been collecting data moving through the Region. There is good external information but not good information on where freight is moving within the region. He handed out a draft work scope for the project.

Elements of the project include:

- Review existing data
- Review and make recommendations for improving Metro's truck model
- Prepare preliminary list of data needs
- Develop data gathering methodology

- Collect data through surveys
- Collect vehicle classification counts
- Data synthesis and analysis
- Develop regional truck count program
- Prepare interface for querying data
- Prepare summary report
- Make formal presentations to select audiences

Data can be collected at major points fairly easily, such as Terminal 6 rail yards. Internal movement within the region, however, is more difficult. Trucks cannot simply be stopped while driving around the region.

No good truck count program currently exists. Part of the project is to define where truck counts should occur on the network, how they should be conducted, and how often. Cambridge Systematics (CSI) will do the work through an ODOT Region 1 flexible services contract. CSI has used a 24-hour video that counts in 15-minute segments and results have appeared positive in other applications.

Dick stated that Metro will take a hard look at its truck model to improve capabilities, to see how Metro model should be changed and what data needs to be collected.

Scott stated that there are several outstanding questions that need to be answered, such as: “How much of what types of freight move across I-5 between 8-5 each day?” and “How many trucks go from Washington County to the airport during pm peak hours?” This information is currently not available. A project this large has not been attempted before. The project will start as soon as contracts are signed and will take about 18 months to complete.

Rob stated that PSU is exploring funding options to upgrade 400 ramp meter detectors in the Portland area. At a small cost, all ramp detectors can be reconfigured to gather traffic count information. This upgrade could provide continuous truck counts at every ramp meter location on the mainline. Rob strongly encouraged OMSC members to make sure that the traffic detection capabilities in ramp metering equipment be set up to do counts when new ramp meters are installed.

### **Oregon State University (OSU) Origin-Destination (O-D) Data Collection with Global Position System (GPS) Technology**

Dr. Thanit Puthongsiriporn and Donald Helvie of OSU gave a presentation on the Portland Commodity Flow Data Collection Pilot Project. The project is funded by Transportation Northwest. It is being conducted by the Industrial and Manufacturing Engineering Department at OSU.

The objectives of the project are to collect freight transportation data and to evaluate the effectiveness of GPS technology for the collection of commodity flow data. The project will focus on Portland and is intended to improve the commodity flow model.

Very little is known about the localized movement of commodity flow in Portland. For the pilot project, the two targeted carriers make local deliveries and do terminal servicing. Different GPS tools were discussed but drivers were not interested in participating if it required any action on their part. To make sure that data is complete, it was decided to use a passive system. The GPS system units are left in the trucks during the pilot program and data is downloaded biweekly.

Data collected includes truck classification, routing, commodity type and tonnage and origin-destination (O-D). The company dispatch provided information on commodity type and tonnage. O-D was also provided by dispatch and an attempt is made to interpolate this data from truck data. Ten GPS units were installed in trucks operated by the two carriers. Data has been collected for five weeks so far.

The two carrier routes were charted. It was found that there is some overlap from truck routes but each truck pretty much services a particular zone. One of the carriers has a lift-gate truck and it goes all over the region. Information was analyzed for:

- Single truck-single day: route and *delivery* stops
- Single truck-single day: route and *duration* stops
- Between stop routes
- Between zone routes
- Density by TAZ
- Density by street

Dick stated that Rick Donnelly/PB Consult is investigating tour routing and number of stops on a trip and it would be useful for him and Thanit to discuss their approaches and findings. Donald stated that a PSU student also did paper on operations in Portland.

Question: What percent of the total market do these firms represent? Thanit noted that this is a pilot test and carriers for the next phase will be more carefully chosen.

Question: Was putting different GPS units in different trucks considered? Thanit stated that drivers were requested to use different units but were reluctant to use anything but passive devices.

Donald stated that it is hoped that delivery schedules can be predicted with this information. Rob noted that time of day deliveries is important.

Dick stated that it would be good to combine this with count data from the freeway system. It could provide routing information and stock density by zones. Slow spots in the system could be identified as choke points for delivery routes. Thanit stated that speeds were not yet plotted to see if trucks move more slowly in one place or another. He noted that it is important to make sure that carriers are anonymous. The data collected as part of the pilot will be useful to approach carriers for future projects to let them know the type of information that will be collected.

Scott stated that, in previous projects, it was difficult to get cooperation from the truckers because they get nothing in return. This project provides an opportunity to give something back to participating carriers.

Thanit stated that analysis has not been completed but cross-references data has been put together with commodity, speed and stops. Data is being collected but good information on distribution of goods remains to be answered. Ninety percent of deliveries for these two carriers is shipped from Portland to outside Portland.

Thanit noted that both carriers offer time guarantees. About fifty percent of clients require scheduled delivery and this number is increasing. Data shows that premium service is not necessarily efficient but clients appear to be willing to pay extra for the service.

Questions on the project should be sent to Dr. Thanit Puthongsiriporn at [thanit@or.st.edu](mailto:thanit@or.st.edu), Dr. David Porter at [david.porter@or.st.edu](mailto:david.porter@or.st.edu), or Donald Helvie at [helviedo@enr.or.st.edu](mailto:helviedo@enr.or.st.edu).

## **ANNOUNCEMENTS**

### **2005 Transportation Research Board (TRB) Planning Methods Conference**

Michal will circulate information to all OMSC members as background for their solicitation of sponsors/exhibitors.

### **2005 Oregon Modeling Symposium**

Bill stated that the next Modeling Symposium will be held 15-17 November 2005.

## **NEXT MEETING/AGENDA**

The next meeting is Wednesday, September 15, 2004, from 1:00-4:00 p.m. in Salem.

Agenda items include:

- Subcommittee Reports
  - Technical Services
  - Performance Measures
  - Modeling Program Coordination
  - COSMO
- Program Updates
  - Oregon Transportation Plan
- Announcements
  - 2005 TRB Planning Methods Conference

The meeting adjourned at 3:45 p.m.

## **MEETING HANDOUTS**

The following handout materials were provided at the OMSC meeting. For copies or more information, please contact Michal Wert at [mwert@teleport.com](mailto:mwert@teleport.com).

- Postcard general invitations and invitations to submit abstracts for the 2005 TRB Planning Methods Conference
- Background information for potential sponsors/exhibitors for the 2005 TRB Planning Methods Conference
- Summary: Performance Measures Expert Panel Conference Call, April 19, 2004
- Mission/membership for OMSC LPS Subcommittee and proposed mission/membership for COSMOS
- Oregon Transportation Plan Update: Committee Focus and Issues, Membership
- Working Draft – Oregon Transportation Plan Vision Picture, June 7, 2004
- Regional Freight Data Collection Project, Phase II – Draft Work Scope
- PowerPoint Presentation for Portland Commodity Flow Data Collection