

OREGON MODELING STEERING COMMITTEE
ODOT Materials Lab, 800 Airport Rd SE
Salem, OR
Wednesday, February 18, 2004
1:00-5:00 p.m.

MINUTES

ATTENDANCE

Keith Lawton, Chair	Portland Metro
Richard Bjelland	OR Department of Housing & Community Services
Jerri Bohard	OR Department of Transportation
Brian Dunne	OR Department of Transportation
William Upton	OR Department of Transportation
Bud Reiff	Lane Council of Governments
Kim Hoovestol	Federal Highway Administration
Scott Drumm	Port of Portland
Michal Wert	MW Consulting

Guests

Rick Donnelly	PB Consult
Becky Knudson	OR Department of Transportation
Dave Kavanaugh	OR Department of Transportation
Ray Jackson	Mid-Willamette Valley Council of Governments
Jennifer John	Portland Metro
Jean Alleman	Portland Metro

INTRODUCTIONS

Keith Lawton asked for self-introductions since several guests were present. Keith noted that the regular OMSC quarterly meeting was moved from March to February to allow a presentation by Rick Donnelly on the status of the Oregon statewide models.

ELECTION OF OFFICERS

Michal Wert reviewed the slate of officers recommended by the Long-Range Strategy Subcommittee. The following slate was accepted:

- Dick Walker, Chair
- Richard Bjelland, Vice-Chair
- Bill Upton, Technical Services Standing Subcommittee Chair
- Bud Reiff, Performance Measures Standing Subcommittee Chair

OMSC 2004 ANNUAL REPORT

Keith stated that a draft of the 2004 annual report was circulated with the agenda for this meeting. He complimented the OMSC on its successes over the past year and noted the following highlights:

- The Port of Portland joined the OMSC as a full member in 2003
- The Oregon modeling program continued to gain national recognition through the federally sponsored Travel Model Improvement Program (TMIP), with a case study on the FHWA website and a feature article in the TMIP newsletter.
- The results of the modeling and analysis of Oregon deficient bridges was the basis for a successful \$2.5 billion transportation funding package in the 2003 Legislature.
- Refinement of the Joint Estimation Model (JEM), coding in R, and application was a substantial task for Metro, ODOT and other MPOs.
- A framework for air quality emissions modeling was developed and coded in R.
- Intergovernmental agreements are being widely used among all MPOs and ODOT.
- Some significant research efforts are underway and a process to conduct the Longitudinal/Repeated Cross-Section Survey was agreed upon and initiated.
- Support of and coordination with the Portland State University (PSU) Center for Transportation was a major goal and is moving forward.
- Several training programs were held over the year.

Jerri Bohard noted a correction on page 7, Modeling Program Coordination Subcommittee, bullet 2, that, unlike many other organizations, state monies for modeling have remained relatively stable over the past year.

Other corrections or additions to the annual report should be sent to Michal Wert at mwert@teleport.com prior to the June meeting. A final copy of the report will be circulated with the agenda for the June meeting and a copy will be included on the ODOT website.

OMSC FY2004-05 WORK PROGRAM

Keith stated that the FY 2004-05 work program was also circulated with the agenda. General charges to the OMSC and its committees are high level and are similar to last year's work program. In drafting this work program, the Long-Range Strategy Committee tried to keep it doable and to focus on major tasks. Keith noted some of the highlights for FY 2004-05:

- Invite Portland State University (PSU) to become a member of the OMSC.
- Bend and Corvallis are recognized MPOs and should be invited to join the OMSC.
- Transition of EPA's Mobile 6 emissions model will be a large coordination effort.
- All current modeling technical documents need to be updated to reflect Integrated Analysis Guidelines.
- Complete development of all Oregon models in R code for consistency and compatibility.
- There are many requests to use the statewide model for high profile analyses.
- Several significant research efforts started in FY 2003-04 will be continued.

- The longitudinal/cross-section survey should be developed and tested for broad survey in FY2005-06.
- The OMSC is sponsoring the TRB Planning Applications Conference in Portland in April 2005.
- The 4th and final Oregon Modeling Symposium will be held in 2005.
- Most important is continued coordination and cooperation among all OMSC members

Keith stated that the Long-Range Strategy Subcommittee recommends that effort be made to focus the OMSC quarterly meeting discussion at a higher policy level. Fewer ad hoc subcommittees are proposed for FY 2004-05 with the intent of having more of the technical discussions occur in the Model Program Coordination Subcommittee and less at the quarterly OMSC meetings. Michal noted that a revised agenda format is also intended to help focus discussions on more policy-level topics.

Michal noted that the Long-Range Strategy Committee discussed whether inviting PSU to join the OMSC would raise objections from other universities who are not included. The Committee concluded that PSU is the only Oregon university with a specialized Center for Transportation and PSU has significant opportunity to partner with the OMSC members for training, outreach and research.

Jerri stated that Jim Strathman is a valuable member of the ODOT Research Advisory Committee and expressed concern that he not be overcommitted if PSU joins the OMSC. Michal noted that each OMSC member agency has two representatives – Jim Strathman may be the policy representative and Rob Bertini would probably be the technical representative. This should not cause undue burden on either member but the assignment of members will be the decision of PSU.

Corrections or additions to the FY 2004-05 work program should be sent to Michal Wert at mwert@teleport.com prior to the June meeting. A final copy of the work program will be circulated with the agenda for the June meeting and a copy will be included on the ODOT website.

SUBCOMMITTEE REPORTS

Technical Services Subcommittee – Bill Upton, Chair

No report.

Performance Measures Subcommittee – Bud Reiff, Chair

No report.

Longitudinal/Repeated Cross-Section Survey Subcommittee – Keith Lawton, Chair

Keith reported that the first phase of the survey will be conducted by PB Consult under its existing contract. This will include a literature survey, and developing and testing a survey instrument. Keith suggested that OMSC members think about how they can participate in both the survey process and with funding the survey. Funding will be

necessary for both the initial survey and as an on-going budget item. Metro and MWVCOG both are discussing funding for this on-going survey.

Modeling Program Coordination Subcommittee – Mike Jaffe, Chair

Ray Jackson stated that a meeting of the Modeling Program Coordination Subcommittee was held prior to the OMSC meeting. The air quality emissions modeling and the Joint Estimation Model in R projects are progressing well. Mike Jaffe will provide a more detailed report at the next quarterly meeting.

PROGRAM UPDATES

Oregon Transportation Plan (OTP) Update

Jerri stated that HDR Engineering was selected to assist ODOT for the OTP update. A meeting was held last week for all committee members to kick off the project. ODOT Director Bruce Warner introduced Oregon Transportation Commissioner (OTC) Gail Achterman who will chair the OTP Update Steering Committee. Other committees will be chaired by ODOT Division Managers. Speakers presented information on trends, sustainability, freight and passenger movement and intelligent transportation systems. Several papers were prepared by ODOT staff to provide background information on a variety of topics. A website is being developed and should be operational in a few weeks. It will include committee lists and copies of the background reports.

The OTP committees will meet several times over the next several months. Discussion is beginning on scenario modeling and performance measures. The project is scheduled for adoption by the OTC in Fall 2005.

ANNOUNCEMENTS

2005 Transportation Research Board (TRB) Planning Methods Conference

Michal circulated a copy of the postcard that was distributed at the TRB annual meeting in January announcing the Conference. The postcards went quickly and more will be printed to include a request for papers. She requested that OMSC members consider how they can help with the conference and who they can contact to sponsor different conference functions. A list of functions that can be sponsored at different contribution levels will be circulated to OMSC members in the next month or so.

2005 Oregon Modeling Symposium

Rick Donnelly stated that, at the TRB annual conference in January, it became evident that there are five modeling conferences in the first part of 2005, including the Oregon Modeling Symposium. Travel budgets continue to be restricted so it was recommended that the Symposium be moved to another date. The Doubletree Hotel is willing to schedule another date without penalty fees but the selection of dates is more limited.

Rick stated that it was originally proposed to piggyback a freight modeling conference for two days immediately following the symposium. This would be sponsored by the TRB Freight Committee and FHWA. Since the TRB committee was recently formed, he

suggested it will be difficult to pull both conferences together at the same time so only the land use-transport modeling symposium will be scheduled.

He said that the Hotel has several optional dates available if the symposium is two days instead of 2-1/2 and if it is held on a Thursday-Friday or a Friday-Saturday. There was concern that, although airfare is less with a Saturday overnight stay, a Friday-Saturday requires an entire weekend of personal time and people may be reluctant to give up this much personal time for a conference. It was agreed that Thursday-Friday would be the preferred time for the Symposium, with Friday-Saturday only if no other reasonable options are available. OMSC members will be notified as soon as the date is set.

OREGON1/OREGON2 STATUS

Bill Upton stated that ODOT has completed several applications of the first generation of the Transportation and Land Use Model Integration Program (TLUMIP) statewide model. The first generation of the model is called Oregon1 and the updated second generation is Oregon2. As a result of the success of these applications, there are many requests pending to use the statewide model. A summary of project requests and model improvements includes:

Committed:

- ***Second Generation Models*** - complete the original model set specified in the current PB Consult (PBC) contract. This contract is currently being amended to provide for additional time and funds for creating the grid system. The current schedule is June 30, 2005.
- ***Transition Model*** - the current PBC contract is being amended to allow for a transition model to be completed that will allow for analysis work to begin on several projects before the final Second Generation Model will be completed. The current schedule is June 30, 2004.
- ***Oregon Transportation Plan Update*** - PBC is under contract with HDR to do the analysis work on the OTP update. ODOT staff will assist PBC in this work. The schedule has not been set but work will most likely occur during summer of 2004.
- ***Region Planning Study for Jackson County*** - this work has not yet been completely scoped. The transitional model will be used for this project with a revised schedule for the summer of 2004.
- ***Linn/Benton Cross-County Commute*** - this project was identified about two years ago. It was reaffirmed in the last legislative session when a bill was passed for state agencies to review the jobs-housing balance and availability of affordable housing in the Corvallis area. There is a large movement of workers from east of I-5 to the west because of a variety of land use decisions made by different jurisdictions. The model will be used to shed light on the regional impacts of this imbalance. This work is behind schedule and should be completed this summer.
- ***Add Clark County Data*** - the data that is available in Clark County and the level it is represented in the statewide model is not consistent with that in Portland. The Portland/Vancouver area functions as one community and it is difficult for ODOT and Metro to accurately represent the interaction of these communities without

providing an equal level of complexity in the model for both areas. The schedule for this work is June 30, 2004.

- **4th Oregon Modeling Symposium** - this was originally scheduled for August 2004 and will be the final symposium showcasing development and implementation of TLUMIP and other modeling programs. At the recommendation of the Peer Review Panel, this will be held in 2005.

Not yet scheduled:

- **Oregon Transportation Investment Act (OTIA) III Support** – this program was approved by the 2003 Legislature to repair/replace deficient bridges throughout Oregon. As soon as the Project Management firm is selected for the OTIA III work, the firm will be engaged to develop a scope of work and schedule to use the model to provide support in defining performance measures, staging and priorities for implementation of the bridge program. This work should start in the summer of 2004 and will continue for an indefinite time.
- **Metro 2060 Plan** - assist Metro in the preparation of its 2060 region plan. The first stage will be the preparation of the model and support analysis tools. The second stage will be to test run the model concentrating on the Metro Region to make sure the model is functioning properly for the final stage of the work which is to do the actual modeling and analysis work. There will need to be a new level of partnering developed between ODOT and Metro to complete this work. It will use the Transition Model so the first stage will be completed by June 30, 2004. Stage two will take place during the next year ending about June 30, 2005. The final stage will start in the summer of 2005.
- **Columbia River Crossing** - this project would look at jobs-housing-economy issues on both sides of the Columbia River. Meetings are being scheduled to discuss and specify the work program. It is anticipated that this work will be completed in 2004.
- **Lane Council of Governments 2050 Plan** - this work is similar to the Metro 2060 plan. LCOG has requested that the statewide model be used to help develop its long range plan. This has not yet been scheduled.

Possible work on the horizon:

- **Mid-Willamette Valley COG 2050 Plan** - similar to the work for Metro and LCOG in developing their long range plan. No time frame set.
- **Test Case for an Area-wide Sustainability Plan** – there has been discussion with the National Policy Consensus Center staff at PSU to work through what a sustainability plan would look like for a small city in Oregon. The model would be used to analyze the economy, land use and transport.

Other related activities:

- **Longitudinal Panel Survey Test** - this work includes preparing a survey instrument and methodology, doing a sample test, analyzing the sample test results, developing a final survey instrument and methodology, and presenting the results. This work is scheduled to start soon and be completed by June 30, 2005.
- **An Assignment Model for JEM-in-R** - JEM-in-R is the model set that ODOT is developing for use in Metropolitan areas. The model is constructed in the R language

and is from the Joint Estimated Model work that was done using all of the survey data from the MPOs. All models now run outside of any proprietary software except for assignment. The work already completed on the assignment portion of the statewide model will be adapted for use in JEM-n-R. The schedule for this work is June 30, 2004.

Bill stated that ODOT went from no work with the statewide model to a large backlog. The program has come a long way in a short period of time. With the successes of the statewide model, it is timely to provide an update on the status of the first and second generation models.

Bill introduced Rick Donnelly, PB Consult, who is the project manager for the model development program. Rick provided a detailed PowerPoint presentation on the elements of the Oregon1 and Oregon2 models and the interim transition model. A copy of his slide presentation is available on the ODOT website at <http://www.odot.state.or.us/tddtpau/modeling.html>

Rick noted that there is a lot of work remaining on Oregon2 to be fully operational. In order to address the backlog of work generated by application of Oregon1, a transition model has been developed. The primary difference between the transition model and Oregon2 is that the transition model is an aggregate model and Oregon2 is very disaggregated. They operate at different levels of complexity in their abilities to drill down into the information and provide answers.

Rick reviewed the technical issues impacting progress on completion of Oregon2. He reviewed the individual modules:

- Economic and demographic (ED)
- Production allocation and activity interaction (PI)
- Household allocation (HA)
- Land development (LD)
- Person travel (PT)
- Commercial travel (CT)
- Transportation supply (TS)

ED - In response to questions, Rick noted that most of the activity for trade is from the north because the modeling “collar” around Oregon has more development and activity coming from Washington than the other undeveloped portions of states abutting Oregon. The modeling team is looking at how to more explicitly look at trade. There is not a lot of information on trade that goes through the state.

PI – Rick noted that this was formerly two models that were fused. It operates at the Beta zone level and there are economies of aggregation. He stated that it is important to know where products are exchanged: where they are produced, where they are consumed or somewhere in between.

HA – On question, Rick noted that HA does not directly address race and ethnicity. He stated that it is not clear what these parameters really mean as generations change and integrate. He stated that it probably deserves more consideration to think about effects of minority in-migration and generational changes.

LD – was based almost entirely on UrbanSim, adding more recent data. The model is constrained by the urban growth boundary and this needs to be released on a regular basis or the land prices in Portland become too high.

CT – this addresses transshipment. For many industries, products go to a distribution center instead of directly from production to consumer. Trip chaining is common, with businesses like UPS making multiple deliveries and pickups during the day.

Rick noted that an issue is that the modeling team underestimated how much time it takes the model to run. PT takes 20 hours to run and has to run through 35 years. The process cannot afford to take several months to run this component.

Rick noted that PB Consult tried to conduct short-term intensive training on Oregon1 but this was not especially effective. Doug Hunt will spend time in Oregon over the next year doing tutorials and this hands-on learning is expected to have better results.

Rick stated that Oregon2 has been built and tested. LD is the only module that has not been fully tested because of lack of data. The transitional model will be done by July. By Fall, the Oregon2 model should be ready for implementation. On question, Rick noted that Carl Batten of ECONorthwest built input-out information from IMPLAN with Oregon specification inputs.

Rick noted that a computer cluster will be moved to ODOT in a month or two. Clusters capable of running Oregon2 exist at Metro and at PSU but they are not readily available because of other commitments. PB Consult will maintain a cluster to complete development of Oregon2 and ODOT will have a cluster to use for the transitional model.

Michal stated that visualization is an important component of analysis and understanding of modeling results. She suggested that training include how to interpret and communicate modeling and analysis results to politicians and lay people. Rick noted that three people are necessary in the modeling and analysis continuum – a technical specialist to develop the information, an analyst who can interpret the information, and a storyteller who can communicate this information to non-technical people. These are rarely the same person.

Bill stated that, in Oregon, people who can tell the story and at the same time understand the basic modeling and analysis process are scarce. Although there are several technical people who understand the process, they need to develop the ability to talk knowledgably to policy-makers. Rick stated that these people exist in public policy programs and need to be integrated into the modeling program.

Bill noted that he is in the process of updating the Oregon Modeling Improvement Program (OMIP) Strategic Implementation Plan. The annual report tracks very well as a status report on the Strategic Plan and development of the modeling program in Oregon. Jerri recommended that the Strategic Plan be referenced in the annual report.

NEXT MEETING/AGENDA

The next meeting is Wednesday, June 16, 2004, from 1:00-4:00 p.m. in Salem.

Agenda items include:

- Subcommittee Reports
 - Technical Services
 - Performance Measures
 - Longitudinal Panel Survey/Repeated Cross-Section Survey
 - Modeling Program Coordination
- Program Updates
 - Oregon Transportation Plan Presentation
 - 2004 Research Proposals
- Announcements
 - 2005 Modeling Symposium
 - 2005 TRB Planning Methods Conference

The meeting adjourned at 4:45 p.m.