

OREGON MODELING STEERING COMMITTEE APPLICATIONS SUBCOMMITTEE

Corvallis Area Model Peer Review

Purpose

The Corvallis Area Metropolitan Planning Organization (CAMPO) model was completed about two years ago primarily to support development of the Corvallis Regional Transportation Plan (RTP). It was developed in a manner consistent with MPO transportation planning responsibilities established by the U.S. Federal Highway Administration (FHWA), the U.S. Federal Transit Administration (FTA), and the Oregon Transportation Planning Rule (TPR). Other purposes for which the model may be used include the preparation of subarea transportation studies, analysis of transportation system impacts for large-scale development proposals, evaluation of the effects of large-scale transportation projects, and analysis to support local transportation system plans.

The Applications Subcommittee of the Oregon Modeling Steering Committee (OMSC) was requested by the Oregon Department of Transportation (ODOT) Transportation Planning Analysis Unit (TPAU) to coordinate and conduct a peer review of the Corvallis travel forecasting model. The purpose of the peer review was to assess the functionality of the model for MPO work and local travel forecasting. The CAMPO model is the first peer-reviewed implementation of the Joint Estimation Model in R Code (JEMnR).

Peer Review Meeting

The all-day peer review was conducted on October 30, 2007 in Salem, OR. Peer Review Panel participants included:

- Bud Reiff, Lane Council of Governments, Chair
- Ray Jackson, Mid-Willamette Valley Council of Governments
- Kyung-Hwa Kim, Portland Metro
- Rich Arnold, PE, Oregon Department of Transportation
- John Gliebe, Portland State University
- Lei Zhang, Oregon State University
- Keith Lawton, KLC Consulting

Staff support included:

- Sam Ayash, Oregon Department of Transportation
- Bob Schulte, DKS Associates
- Michal Wert, MW Consulting

Presentation

A copy of the CAMPO Model Development Technical Documentation Report, dated November 7, 2006, was circulated to panel members prior to the meeting. Bob Schulte presented the process used to develop the report, including model structure, zone system

and networks, survey data, household and demographic submodels, trip generation model, trip distribution, mode choice, trip table development, and model validation.

Development of the model consisted primarily of calibrating and validating the JEMnR for the Corvallis area. JEMnR was estimated for the Portland area by Metro staff using household travel survey data from the combined 1994 Oregon Travel Behavior Survey, which includes survey data from several Oregon metropolitan areas. The model is more sophisticated than those typically developed for small metropolitan areas, with somewhat more demanding data requirements.

Discussion

The Peer Review Panel provided several suggestions on ways to make the model documentation report more ‘user friendly’ and complete. The panel had significant discussion on process and for clarification. They considered future model enhancements, additional observed data needed for future model enhancements, and caveats for use of the model. Details of this discussion are included in minutes from the meeting, available from TPAU.

Findings

The Peer Review Panel found the Corvallis travel forecasting model to be consistent with Oregon’s “Best Practices” Model Development Guidelines, and suitable for most MPO planning purposes. It is expected the model will be used for developing an RTP, local transportation system plans (TSPs), impact assessment of large scale development proposals, and assessment of major highway projects. The panel finds the model to be suitable for these purposes.

The model validation data consisted primarily of average weekday traffic volumes. The panel recommended that additional data be collected for transit model refinement and validation, that local travel behavior data be collected for travel related to Oregon State University, and that additional work be done to document Corvallis-specific model parameters. It is recommended that TPAU develop guidelines for appropriate uses of the Corvallis model, including limitations pending further refinement and validation of the non-auto networks and mode choice model parameters.

Submitted by Bud Reiff, Chair, OMSC Applications Subcommittee