

Oregon Modeling Steering Committee

Regional Models of Cooperation Case Study Series

Oregon Collaborative Approach to Transportation and Land-Use Modeling

The Oregon Modeling Steering Committee ([OMSC](#)) serves as a forum for MPOs, the Oregon Department of Transportation (ODOT), and other agencies to improve current and promote state-of-the-art transportation and land use modeling in Oregon. The OMSC's collaboration has led to many successes, including the development of a statewide model, a consistent statewide household travel survey, technical support, and training.

Motivation for Establishing the Collaboration

In the 1990s, ODOT and the state's MPOs faced new federal mandates in the form of Clean Air Act Amendments and the Transportation Equity Act for the 21st Century, in addition to the National Environmental Policy Act and related laws and regulations. To meet these mandates, ODOT created the Oregon Modeling Improvement Program ([OMIP](#)) in 1994 to address modeling resources, outreach, development, implementation, and data. In 1996, ODOT created the OMSC to oversee OMIP and provide technical support to MPOs with little funding and limited or no modeling staff, drawing upon lessons learned from the successful modeling practices developed by Metro, the Portland MPO. After the OMSC determined that incorporating elements of Metro's model into the smaller MPOs' models improved accuracy, the group developed the Joint-Estimated Model in R code (JEMnR) to serve as a template for all Oregon MPO models. The collaborative approach used by OMSC enables participating agencies to find common areas of policy and analysis and efficiently share data, information, and resources to increase the return on public resources.

Collaboration Structure

Originally, OMSC consisted of modelers and planners from ODOT and the state's four MPOs, including Metro, who worked together to develop JEMnR. Four additional MPOs in Oregon have joined the OMSC as they have been created by the 2000 and 2010 Census. The Southwest Washington Regional Transportation Council, the MPO from Vancouver, Washington, also participates in OMSC because of its proximity to the Portland area.

In addition to MPOs, other agencies joined as formal or informal partners to provide expertise on critical emerging needs, such as air quality, housing, energy consumption, and health. OMSC partners currently include eight MPOs; the Port of Portland; Oregon Housing and Community Services; the Oregon Health Authority; FHWA; the Oregon Departments of Transportation, Land Conservation and Development, Energy, and Environmental Quality; and the Oregon Transportation Research and Education Consortium (OTREC), a USDOT University Transportation Center based at Portland State University.

The OMSC includes subcommittees assigned to cover specific topics. The subcommittees meet several times a year and report to the full group during biannual meetings held in Salem. The Long-Range Steering Committee, which sets the agenda for OMSC meetings, includes senior staff from participating agencies and acts as the OMSC visioning body by considering topics to discuss, where the group focuses resources, and how to keep the partnership motivated and relevant over multi-year timeframes. The Modeling Program Coordination Subcommittee discusses technical information, such as how to improve transit choice modeling and incorporate



air quality analytical measures. The Oregon Modeling Users Group serves as an educational forum in which participants discuss tools, methods, and findings from their individual, multi-modal projects. The OMSC also includes short term ad-hoc committees, such as the recent Freight Subcommittee and the Health Subcommittee.

Collaboration Accomplishments

The JEMnR model framework represents one of OMSC's most significant accomplishments. The partners developed trip generation and mode choice elasticities that apply across all MPOs, but tailored destination choice to individual communities. For instance, OMSC's modelers modified the City of Eugene's model to include a generator for university trips because of their importance in the community. Smaller MPOs can turn off JEMnR features, such as modal alternatives, that are not available in their area. The JEMnR approach has reduced new model development time significantly and increased the robustness of small MPO travel demand models.

OMSC also played a vital role in funding, staffing, and scoping the statewide household travel survey, which is serving as an important asset to identify travel characteristics and initiate model enhancements. In 2009, when the state sought new household travel data, ODOT served as the project facilitator for their OMSC partners. Through a subcommittee devoted to the effort, the OMSC created a core survey that enabled the group to pool data from the entire state, while individual MPOs were allowed to add their own unique questions to the survey. The group also shared financing based on available resources to complete the project, which created cost efficiencies for each agency. Some MPOs traded funding for services while others received direct assistance from ODOT or other agencies. ODOT financed the survey for the rural, non-MPO areas across the state. As partners, all OMSC members have access to the full statewide survey database.

Challenges and Lessons Learned

One challenge the OMSC faces is that, because the group meets voluntarily and not by state mandate, the group lacks dedicated funding for its daily work. To address this gap, ODOT provides resources to facilitate and administer the group. To the extent possible, partner agencies contribute staff time, meeting facilities, and committee participation in OMSC activity.

The OMSC has also learned to leverage the group's university resources. The partnership itself plays an educational role by convening researchers from different backgrounds who help each other address new challenges. Portland State University (PSU), University of Oregon, Oregon Institute of Technology, and Oregon State University enhance this educational role through coordination with OMSC and OTREC.

Staff turnover poses another challenge. While the partnership includes people who have participated since its inception and provide the knowledge and motivation to champion the work, some have started to retire. To address this challenge, the OMSC recommends meeting in person to strengthen relationships, assist with identifying common ground, and learn fellow agencies' priorities firsthand. Because the group does not vote on its actions but rather discusses potential options for future action, members often respectfully pursue different paths while continuing to work together on areas of shared interest.

By collaborating through a common forum, the OMSC has achieved two decades of cost efficiencies and improved performance. These benefits will only increase as the partners begin to analyze and apply the pooled data from the statewide household travel survey and undertake common-ground projects in the future.

