Making sure transportation systems meet the needs of all users requires the best tools available. Thanks to sophisticated analytical methods, a statewide data collection program and visionary leadership, Oregon’s acclaimed modeling program supports the transportation decisions needed for a sustainable future. The Oregon Modeling Collaborative builds on this innovation by bringing together academics, public officials and private consultants to ensure our best thinkers work together to solve our toughest problems.

Through the Oregon Modeling Collaborative framework, practitioners connect with the tools needed to get the latest academic research into practice. Oregon already leads the nation in incorporating nonmotorized vehicles, land use and greenhouse gas emissions into transportation modeling. This comprehensive, coordinated approach puts better use to limited transportation resources.

Oregon Modeling Collaborative programs include research and model development, education and training, and outreach.

Research and Model Development
The OMC will regularly assess the needs of policymakers and practitioners to ensure academic research provides useful tools with practical applications. Current research activities include partnerships with the Oregon Department of Transportation, Portland Metro, and the TriMet transit district to develop:

- Better integration of economic, land use and travel demand models at the state and metropolitan scale;
- Bicycle and pedestrian models at the local level;
- Data collection, augmentation and distribution to the public;
- Enhanced capacity to estimate greenhouse gas emissions from passenger vehicles;
- Models of vehicle emissions and human exposure;
- Statewide freight demand models;
- Transit operations; and
- Safety and crash prediction models.
Education and Training

Because few university programs provide the education and training necessary to develop and use Oregon’s analytical tools, the OMC intends to attract students and professionals alike. With many practitioners nearing retirement, it is crucial to educate the next generation of workers. Equally important is training staff to bridge the gap between research and practice. Particularly in smaller cities and metropolitan planning organizations, small staffs and limited resources mean the latest models and analytical tools, even when available, might not find their way into practice.

Outreach

Oregon Modeling Collaborative members serve the larger community by offering technical assistance and outreach. Members serve on the Oregon Modeling Steering Committee, the Oregon Department of Transportation’s Policy Committee, the Oregon Department of Land Conservation and Development’s Target Rulemaking Advisory Committee, research committees of the Transportation Research Board and other state and national panels.

ACTIVE RESEARCH PROJECTS

- Revising a statewide transportation greenhouse gas emissions model
- Developing capability for advanced estimation and analysis of non-motorized travel
- Research and development for new modeling procedures, such as dynamic traffic assignment and trip-chain models (simulations)
- Refining and integrating land-use scenario models with continued development and applications in small urban areas
- Applying Statewide Integrated Model modules, such as the personal transport simulation module, to applications at the small city and urban area levels
- Enhancing the modeling tools available for freight and truck analysis