

Modeling Services at the Mid-Willamette Valley Council of Governments

The Mid-Willamette Valley Council of Governments (MWVCOG) maintains the travel demand model for the Salem urbanized area. This model is prepared using information from the SKATS Metropolitan Transportation Plan (MTP). The MTP itself is based on the latest adopted population and employment forecasts for the area, the latest adopted comprehensive land use plans of Salem, Keizer and Turner which informs the population and employment allocation, and the financially constrained project list for region covering the next 20+ years. Currently the base year is 2017 and the horizon year is 2043. The MTP is being updated with a scheduled adoption in May 2023, at which time the model base year will be 2022 and the horizon year 2050.

The travel model is used by MWVCOG in support of the development of the MTP, as well as for major project studies. A four-step model structure is used, with the coefficients estimated from the 2010 Household Activity Survey. Three time periods can be modeled: AM peak, PM peak and daily. Six modes of travel are considered and four are assigned: drive alone, drive with passenger, passenger, using transit, bicycling and walking. All but the latter two are assigned on the all-road network. Staff is considering future modifications to the model to assign bicycle trips using the methods developed by Portland Metro.

Uses of the model in the Salem-Keizer area include:

- Forecasting the future demand along the major roads
- Growth in demand along the major roads
- The future demand for transit services
- An estimate of the number of trips made by walking and bicycling
- Estimates of Vehicle Miles Traveled (VMT) Vehicle Hours Traveled and other measures of demand
- Understanding flows along a particular road segment or to/from a particular part of the area

Due to the nature of how the model was specified, and the data used to calibrate the output, roads that have a lower classification, i.e., local streets, are not explicitly modeled. The error in forecasting the future demand on those streets is too high and is too dependent on the nuances of how the network was coded. Similarly, the model should not be used for the following types of analysis:

- Adding a small development, whether commercial or residential
- Investigating changes to local streets or minor collectors

MWVCOG offers services to either run the SKATS model, supply data derived from the model, or to analyze the model results. These tasks include, but are not limited to, the following services:

- Select link analysis for roads
- Select zone analysis
- Output of model matrices
- Trip table output
- Other data processing of model output
- Printed or electronic maps and plots of land use or model output
- Summaries of land use assumptions
- Assistance in using the scripts
- Assistance in model output
- Custom model runs and documentation

Currently the SKATS model is implemented in custom scripts written in R. The trip tables produced are assigned with PTV's Visum software package. If requested, the underlying data will be provided in the shapefile format. Electronic maps are typically provided as PDFs, unless otherwise requested.

The SKATS travel demand model is available to qualified consultants who are working on major projects for a local jurisdiction in the Salem urbanized area. The package contains the trip tables and network for the base and horizon years ready for use. In most cases, the population and employment forecasts are not included. To obtain a model package with the base year employment, a signed copy of the Oregon Employment Department's Form 441 "Application for Confidential Information for Government Planning, is required. These forms require the consultant to be working with one of the local jurisdictions or agencies on a particular project. The documentation for the model is available on the MWVCOG website (as a PDF), or a printed copy may be ordered. Please contact staff to discuss this option.

Recent Modifications to the SKATS Model

MWVCOG staff have made the following modifications and updates to the SKATS model:

- Updated the coefficients to reflect the 2010 Household Travel Survey
- Developed a 2017 base year model using the revised coefficients
- Developed a 2043 horizon year model reflecting the projects from the financially constrained SKATS 2019-2043 Regional Transportation Systems Plan.

Previous SKATS Models

The previous models (2009-2035 and 2010-2035) are now considered deprecated and **should not** be used for planning studies, except for cases where prior arrangements have been made with MWVCOG staff.

Request for Modeling Services

Name:	
Organization:	
Address:	
City, State, ZIP	
Phone:	
Email:	

Selection	Service	Cost ¹
	Organization requesting Modeling Services is a Member of the MWVCOG	\$130/hr
	ODOT is requesting Modeling Services	\$146/hr
	Organization requesting Modeling Services is not a Member of the MWVCOG or ODOT	\$168/hr

Note: A minimum of two hours will be charged. This offer is dependent on staff availability.

For complex work, please contact staff to discuss project & needs. Otherwise, please specify the work that is requested.

Please fill out and return this page via email to: rjackson@MWVCOG.org or by mail to:

MWVCOG
 Model Service Request
 Attn: Raymond Jackson
 100 High St SE, Suite 200
 Salem OR 97301

An invoice will be sent after the request has been processed.

¹ Quoted costs are for the fiscal year from July 1, 2022 through June 30, 2023. Subject to change.