

# Puget Sound Regional Council's Model Conversion via Emme Modeller

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## Biographies:

Chris Johnson is a principal planner at the PSRC responsible for the ongoing development of the regional travel demand model. He has over 16 years of modeling experience and is currently leading the PSRC's transition from a trip-based to an activity-based travel demand model.

Craig Helmann is the Program Manager for Model Applications within the Data Systems and Analysis Department at PSRC. He has 14 years of experience in transportation planning and travel demand modeling.

## Purpose of Project:

The Puget Sound Regional Council (PSRC) maintains a fairly sophisticated trip based travel demand model that is run entirely within the Emme framework. There are approximately 200 different macros, all written with the Emme macro language that control all levels of the model from Trip Generation through final trip assignment. In between there are a series of gravity models for trip distribution, a nested logit mode choice model and time of day model that assess impacts of travel delay on time of day departure for 32 different time periods included in the model stream.

The PSRC is moving from a 1200 zone system to one with 4000 zones. Due to bank size and model run time considerations, we are looking at various ways to streamline our model. At the same time, we have a variety of young staff with extensive GIS and Python language skills that we would like to involve in our future modeling program who do not have a background in Emme. We have been debating a variety of approaches over the last several months to accomplish this and as luck would have it, Emme Modeller has come along at just the right time. Our proposal is simple – let's use the innovative dialog based model scripting and ability to move code easily into python that comes with Modeller to re-tool our trip based model while at the same time engaging our bright young staff in a new world of travel demand modeling.

## Results to Date:

We are in the midst of the model conversion right now. We have found the new tool boxes intuitive and easy to maneuver. The ability to test new assignment algorithms with just a few clicks of the mouse and a few inputs is amazing. Although we are still in the midst of the conversion, the rewards of Modeller are already apparent. We have motivated folks who want to learn about modeling no longer intimidated by layers of macros written in a script language they have never seen. Our model is already more transparent and we are finding new ways to improve its flow. By the end of this summer, we plan to have a fully functioning model completely re-written using Modeller.