

# 20<sup>th</sup> International Emme Users' Conference

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## CALL FOR PAPERS

Versatile Applications of EMME/2 and Enif: Seattle Experience

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**Title of the paper**

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I did my Masters at the University of Minnesota, Minneapolis. I have been with Parsons Brinckerhoff for 4.5 years now. My work is concentrated on travel demand modeling with emphasis on model applications. My other areas of interest are micro-simulation and traffic operations.

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**ABSTRACT** (500 words)

**Versatile Applications of EMME/2 and Enif: Seattle Experience**

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## Versatile Applications of EMME/2 and Enif: Seattle Experience

### ABSTRACT

Over the past few years of our modeling experience, EMME/2 has been used for a variety of modeling and post modeling applications. From traditional travel modeling/forecasting to fascinating mathematical exercises, the range of EMME/2 applications has been manifold. The advent of Enif, a complementary visual tool to EMME/2 has immensely increased the flexibility of EMME/2 and made the extent of these applications even broader. The combination of EMME/2 and Enif has been used as the primary modeling tool in the Seattle region for numerous highway projects and transit ridership forecasting projects for planning as well as specific analyses related to New Starts application. This paper attempts to share some of our interesting and insightful modeling experiences with EMME/2 and Enif over the past several years.

While the most common application of EMME/2 has been for the development of travel demand modeling/forecasting, EMME/2 capabilities have also been utilized for some interesting non-traditional applications. One such application was the development of unconstrained highway and transit models for the Puget Sound Region. The unconstrained models provided insights in assessing the full potential travel demand for highway and transit modes in the region. They provided a novel approach in addressing the region's transportation problems. EMME/2 was used extensively to investigate the impact of tolling/congestion pricing under circumstances like system optimal tolling and revenue maximization tolling. The results from these analyses were used to assist in determining an optimal tolling scheme to address congestion. Special EMME/2 techniques were developed to carry out the tolling procedures under different circumstances. Matrix Estimation (ME) process is another exciting feature of EMME/2 that has been significantly utilized. ME process has been implemented with great success in developing base year transit trip tables utilizing past survey data and current counts. On the post-modeling front, EMME/2 has been used extensively for development of intersection and corridor level volumes for micro-simulation analysis. Interfaces have been developed with Excel and other software to post process and transfer EMME/2 based output into micro-simulation packages.

Enif addressed the visual representation needs of EMME/2, which was a main drawback of EMME/2. Enif was not a mere fancy visual tool, but a powerful application that expanded the capabilities of EMME/2. Among the several applications of Enif included using it as a network analysis tool for setting up the desired networks, as an evaluation analysis tool to interpret the results and a communication tool to convey the network assumptions and results from various analyses.

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