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Bio: Matt Stratton is a Transportation Analyst at CMAP with 3 years of experience. Peter Vovsha is a Principal at PB with 28 years of experience. Ben Stabler is a Supervising Planner at PB with 10 years of experience. Kermit Wies is the Deputy Executive Director of Research and Analysis at CMAP with 26 years of experience.

Title: Implementation of CMAP's Activity-Based Model with EMME

Abstract: CMAP has recently developed an activity-based model (ABM) for highway pricing studies in order to answer policy questions that often cannot be addressed by trip-based models. CMAP contracted with Parsons Brinckerhoff to develop the first version of this model which is the first implementation of PB's CT-RAMP ABM modeling platform to integrate with EMME. The model uses EMME for network management, assignment, and skimming, as well as for treatment of trucks, external vehicles, and special generators that are not handled by the core CT-RAMP microsimulation model. The assignment and skimming processes developed for this project include a 17 class vehicle assignment (currently aggregated into 12 classes because of the EMME constraint) across 8 time-of-day periods. The large number of classes stems from the need to handle various pricing policies defined in terms of car occupancy and use of toll facilities or managed lanes. To reduce run times, assignment and skimming was set up in a distributed fashion across a cluster of 4 servers. Additionally, the skimming procedures took advantage of EMME's parallel traffic assignment module, which greatly reduced skimming run-times, freeing up time to add more global iterations to model runs. In addition, matrix data I/O is handled by model code to read and write directly to 8 databanks. This presentation will share the CMAP ABM implementation, including the demand models, distributed computing framework, and integration with EMME.