



CMAP's Activity-Based Model

Transportation Committee

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Background

Trip-Based Travel Demand Model

Perform Air Quality Conformity analyses

Assess Long-Range Plan scenarios

Evaluate the impacts of major transportation investments

Conduct small area traffic forecasts

Test policies/projects/programs for specific studies

Trip-Based Model Steps

Use household attributes to generate trip ends

Connect trip ends throughout the region to create origins and destinations for trips

Estimate the travel mode (auto vs. transit)

Assign trips to roadway and transit networks

But can the model tell me ...?

Activity-Based Model

Focus on individuals and their choices (value of time)

Individual's travel behavior is a result of their daily activities

Activity-based models contain more details

How the models compare

Trip-Based		Activity-Based
Household <i>(adults, children, workers, income)</i>	vs.	Individual <i>(age, work/school status, occupation)</i>
Trip	vs.	Activity Chain
Travel options <i>(auto, transit)</i>	vs.	Travel options <i>(auto, transit, walk, cycle, school bus, taxi)</i>

ABM Report

ABM Validation Report

Available from the CMAP Modeling page or directly at https://cmap-repos.github.io/cmap_abm_report

What's Next

What role is there for the ABM?

Considerations

- Needs more data
- Takes longer to run
- Requires more computing resources

Complement to the trip-based model

What can the ABM be used for?

- Studies looking at pricing strategies – managed lanes, congestion pricing, alternate transit fare structures
- Studies examining the impacts of policies on discrete populations
- Large multimodal project studies



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