

2015 TRB Planning Applications Conference Review



**MTMUG Meeting
September 2nd, 2015**

Conference Resources

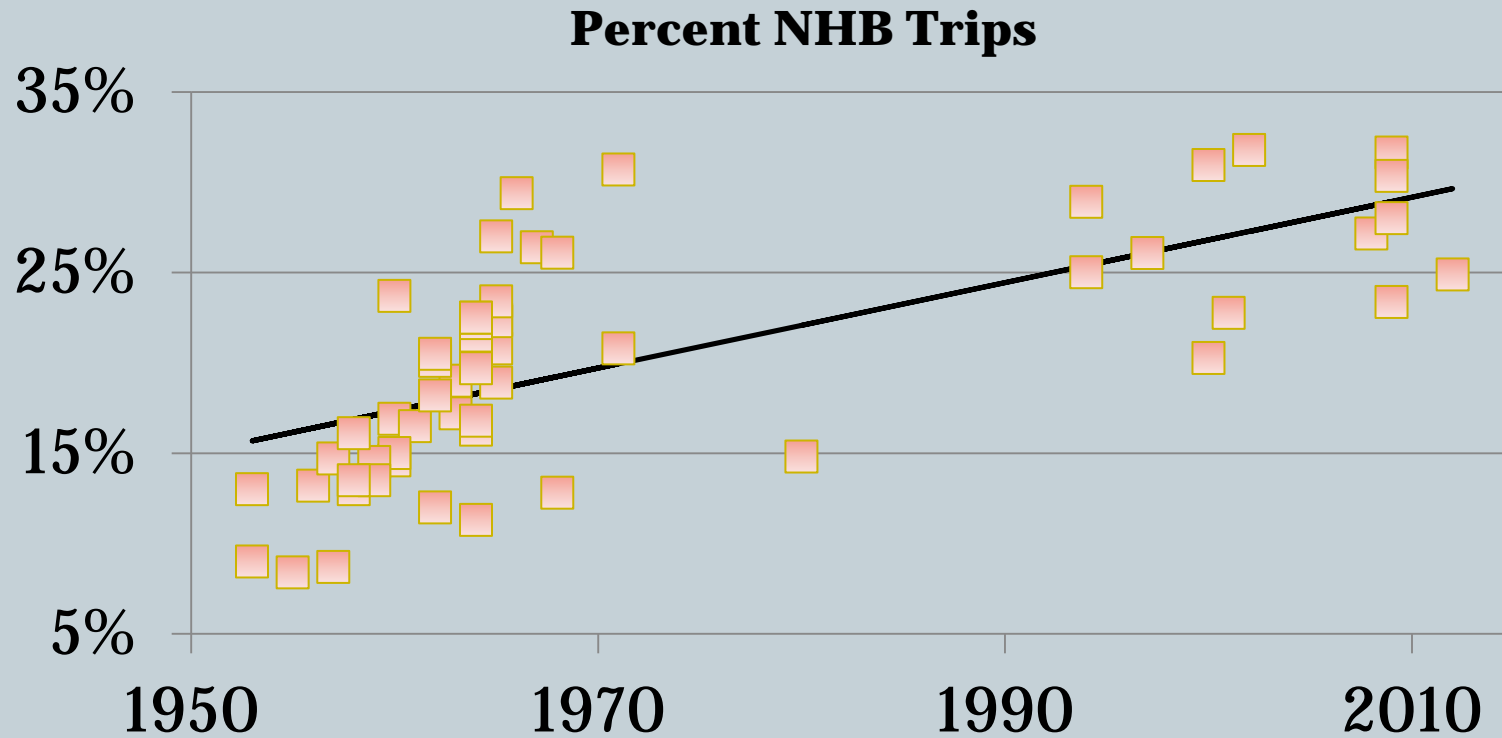


- **Main Website:** <http://trbappcon.org>
- **Final Program:** <http://trbappcon.org/2015conf/program.aspx>
- **Public Agency Fellowship:**
<http://trbappcon.org/2015conf/fellowship.aspx>

Noteworthy Presentations

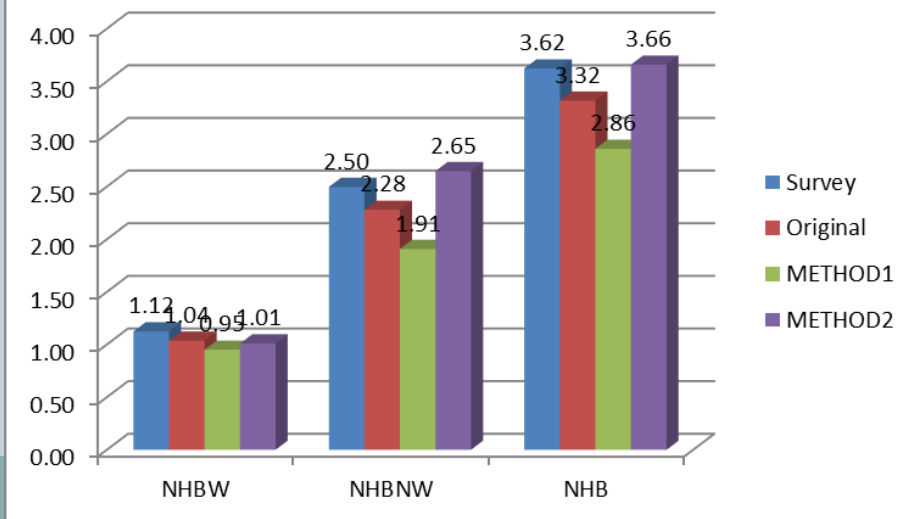
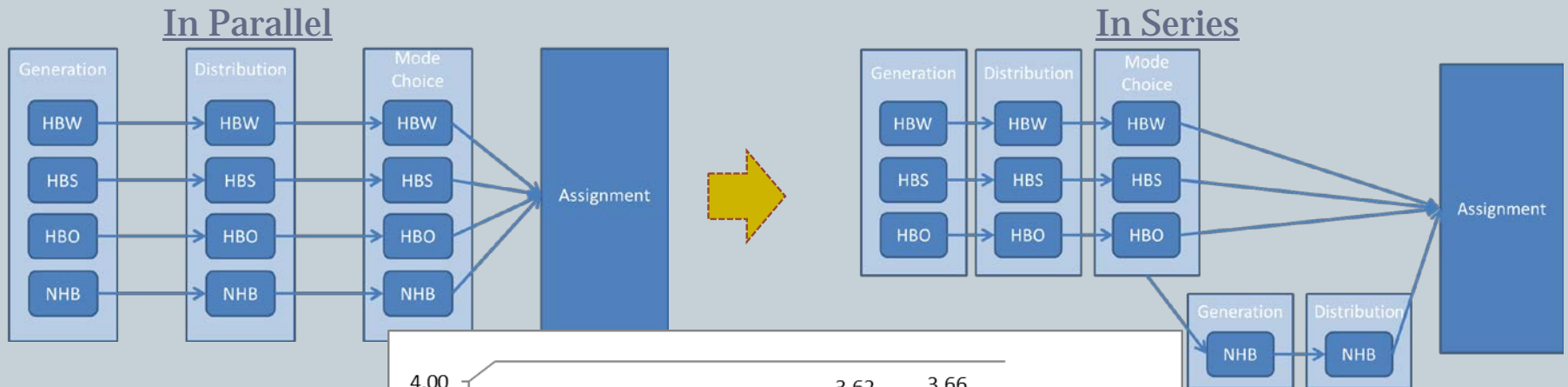


Trends in Complex Travel



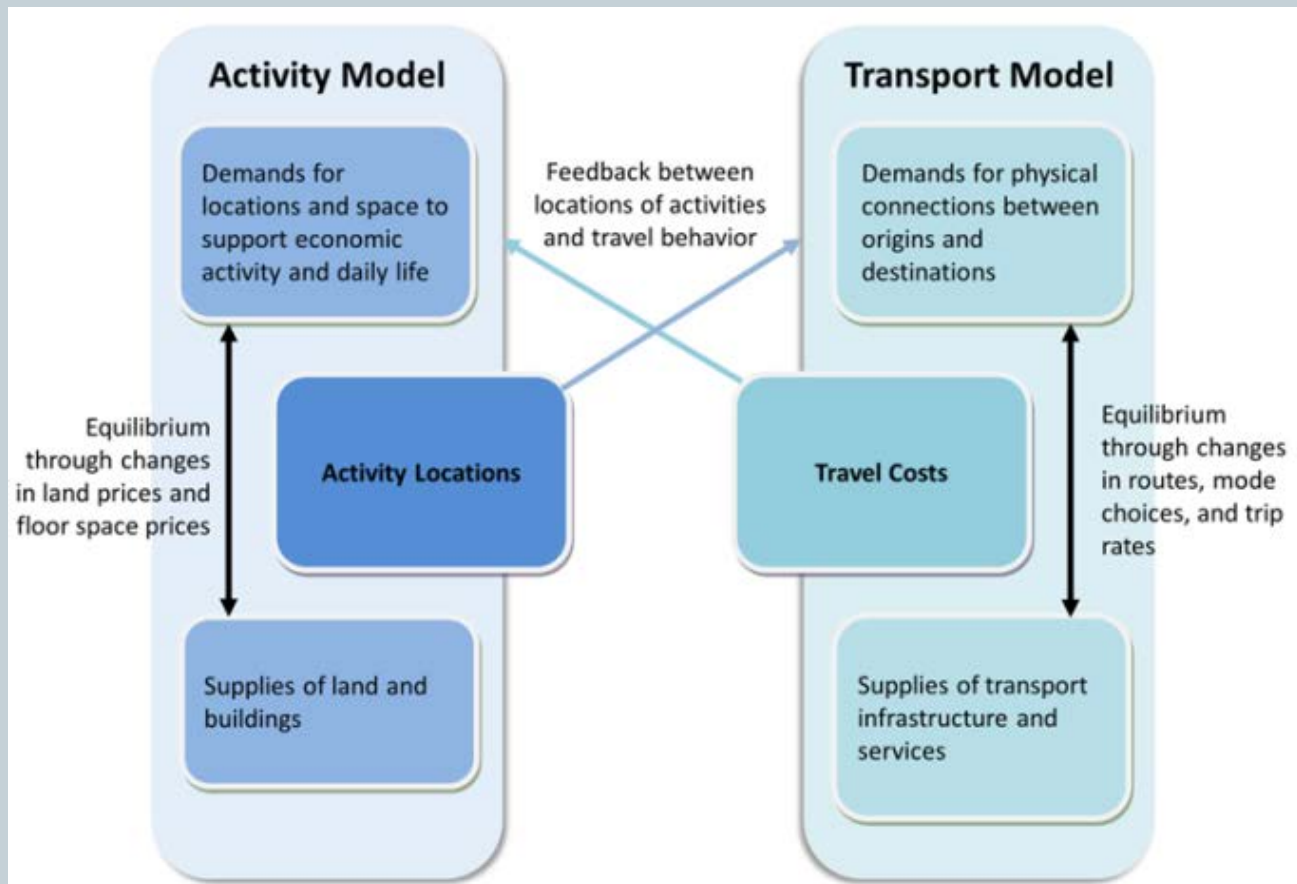
Noteworthy Presentations

Salt Lake City Application of New Methods for Improving Non-Home-Based Trips



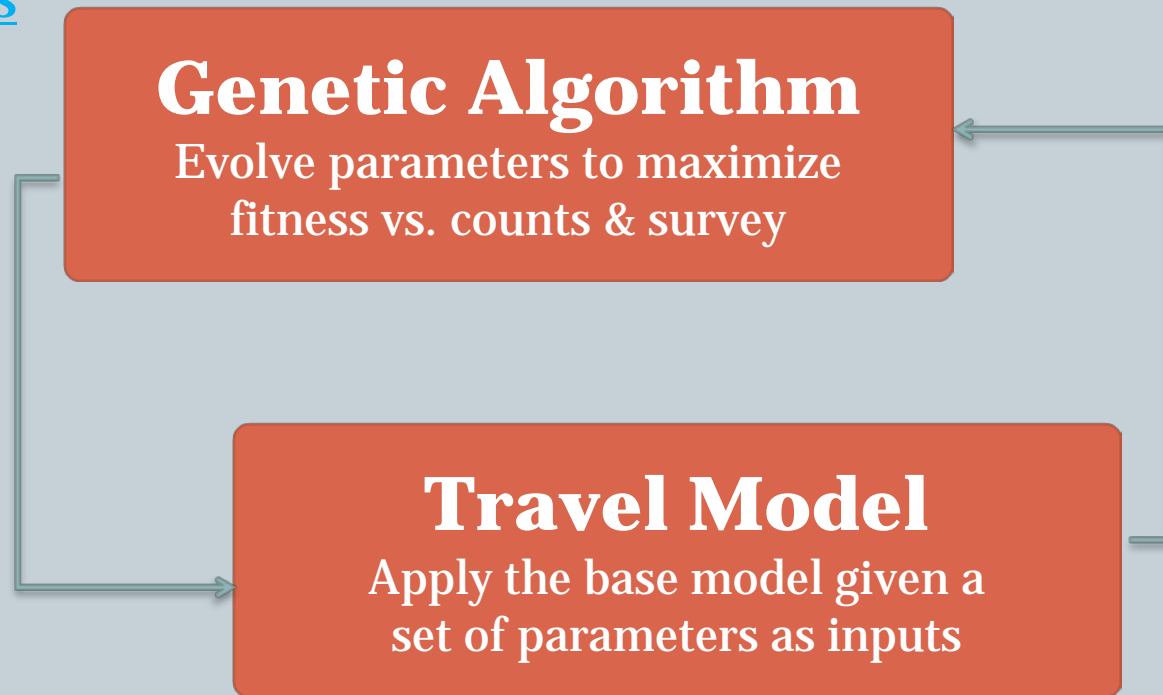
Noteworthy Presentations

Linking Rural Development and Transportation Using a Land Use-Transportation Decision Support Tool



Noteworthy Presentations

Simultaneous Travel Model Estimation from Survey Data and Traffic Counts

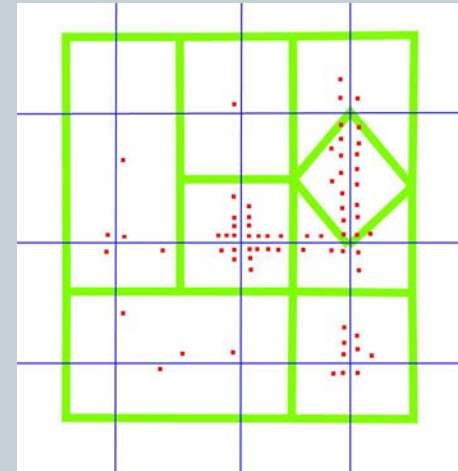
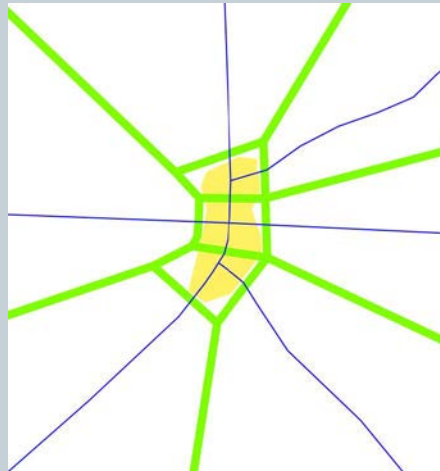
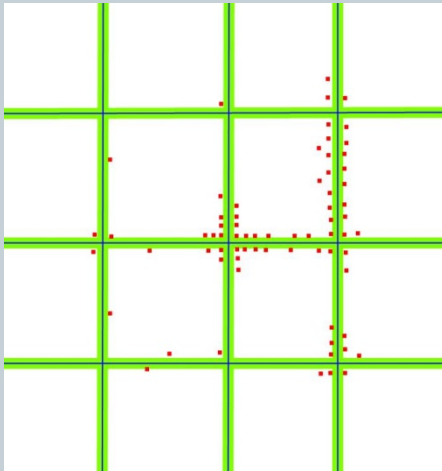


What if...
We didn't ignore traffic counts until the end?

Noteworthy Presentations



Developing Travelshed TAZ Using ArcGIS

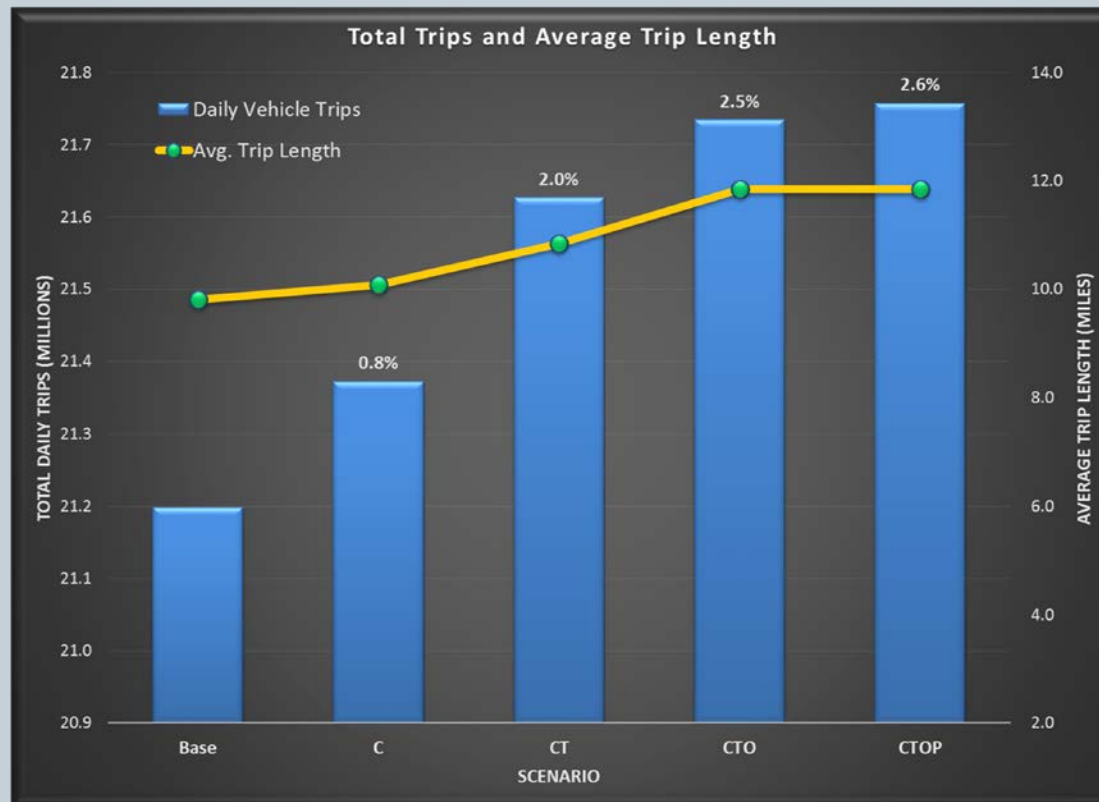


View road facilities and their catchment areas as akin to rivers and their basins in a hydrological system

Noteworthy Presentations



The Travel Impact of Autonomous Vehicles in Metro Atlanta through Activity-Based Modeling



Noteworthy Presentations



[Evaluation of Cellular-based Travel Data – Experience from Phoenix Metropolitan Region](#)

[Using Cellphone Origin-Destination Data for Regional Travel Model Validation](#)

[Preliminary Evaluation of Cellular Origin-Destination Data as a Basis for Forecasting Non-Resident Travel](#)

All three studies compared AirSage data with a travel demand model:

- ✦ AirSage data matched model (and counts) closely when aggregated
- ✦ Errors:
 - At TAZ level
 - In trip purpose
 - By time period
 - In travel mode
 - Various other errors that require cleanup
- ✦ Useful for validation (e.g., trip length distribution, external analysis, etc.)
- ✦ AirSage data has potential because of large samples, but is different than what modelers typically use.
 - AirSage and land use data need to be reconciled before it is really useful

Noteworthy Presentations



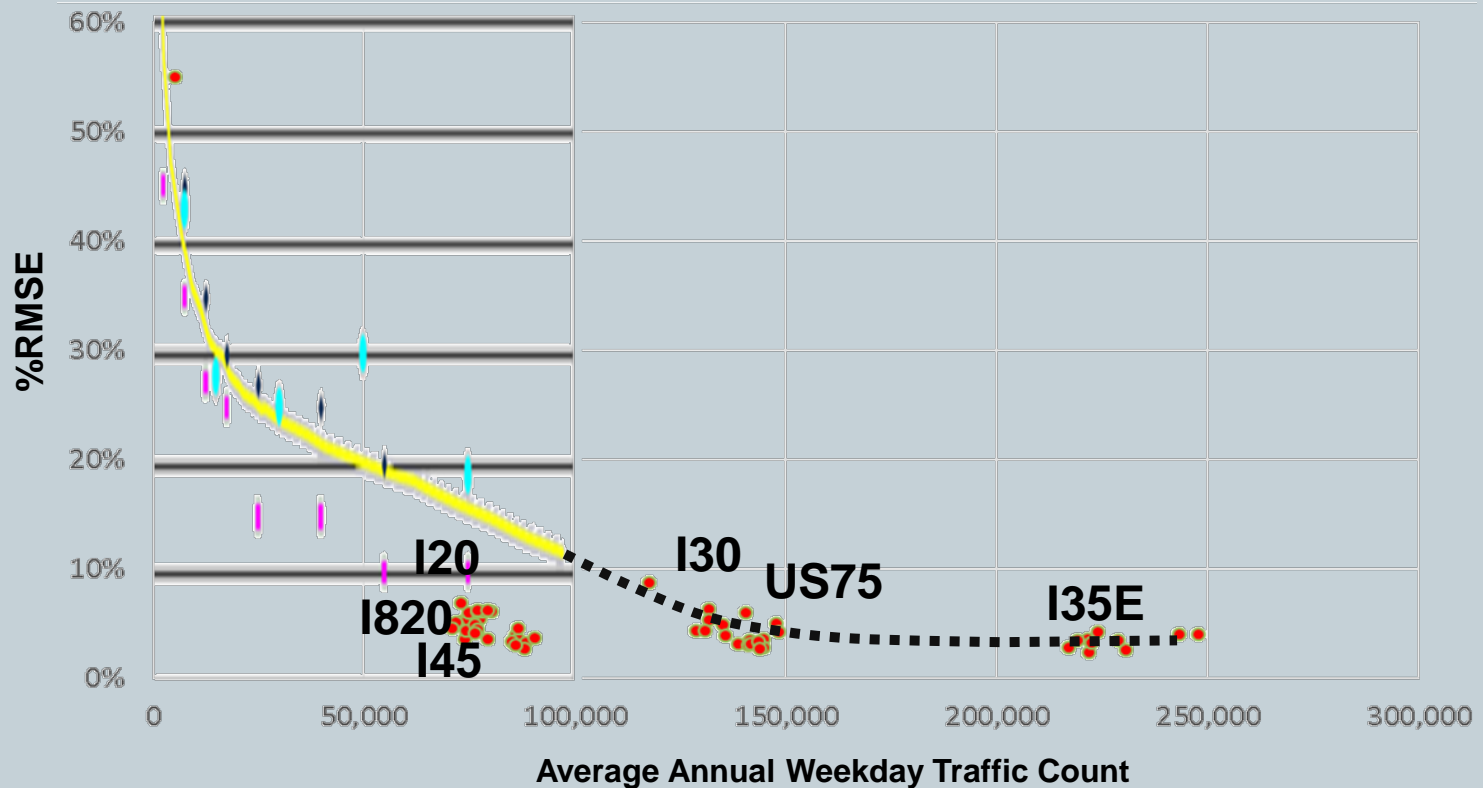
Better Trip Distribution Starts from Developing Travel Behavior Based Employment Categories (presentation not available)

- NAICS 2-digit codes typically used to group employment categories
- Yet, NAICS codes were not created for travel behavior
 - ✦ E.g., banks and bank corporate offices have similar codes but different travel behavior
- Proposed the following employment categories:
 - ✦ Industrial, Office, Service – low rate, Service – high rate, Retail

Noteworthy Presentations



Establishment of Freeway Link Volume Validation Targets based on Traffic Count Distributions in Dallas-Fort Worth Region



Noteworthy Presentations



[Selected Findings from the Application of Accelerated User Equilibrium Traffic Assignments to Regional Planning Models](#)

[How to Put “Best Practice” into Traffic Assignment Practice](#)

- Reviewed 5 best MPO models from the 30 largest MPOs
- Suggestions:
 - ✦ Tighter assignment convergence would improve stability of results (1×10^{-5})
 - ✦ Make sure travel times are accurate
 - ✦ Use counts for different time periods for validation
 - ✦ Use back-casting to check results
 - ✦ Feedback loops can improve travel times and many models stop too early
 - ✦ All models can be improved

Take Home Points



- No big data sources are to the point where they can replace travel surveys
 - But increasing model coverage and complexity is data hungry
- Increased model and data complexity is pushing the envelope for better data visualization
- Travel surveys were more abundant than I expected
- Dealing with NHB trips is a challenge

Take Home Points



- **Model validation tidbits:**
 - Back-casting is an important sensitivity test
 - Counts can vary by about 10% RMSE
- **tfresource.org is a useful and growing resource.**
<http://answers.tfresource.org> is the Q&A page.