

2015 TRB Planning Applications Conference Review



MTMUG Meeting
September 2nd, 2015

Conference Resources

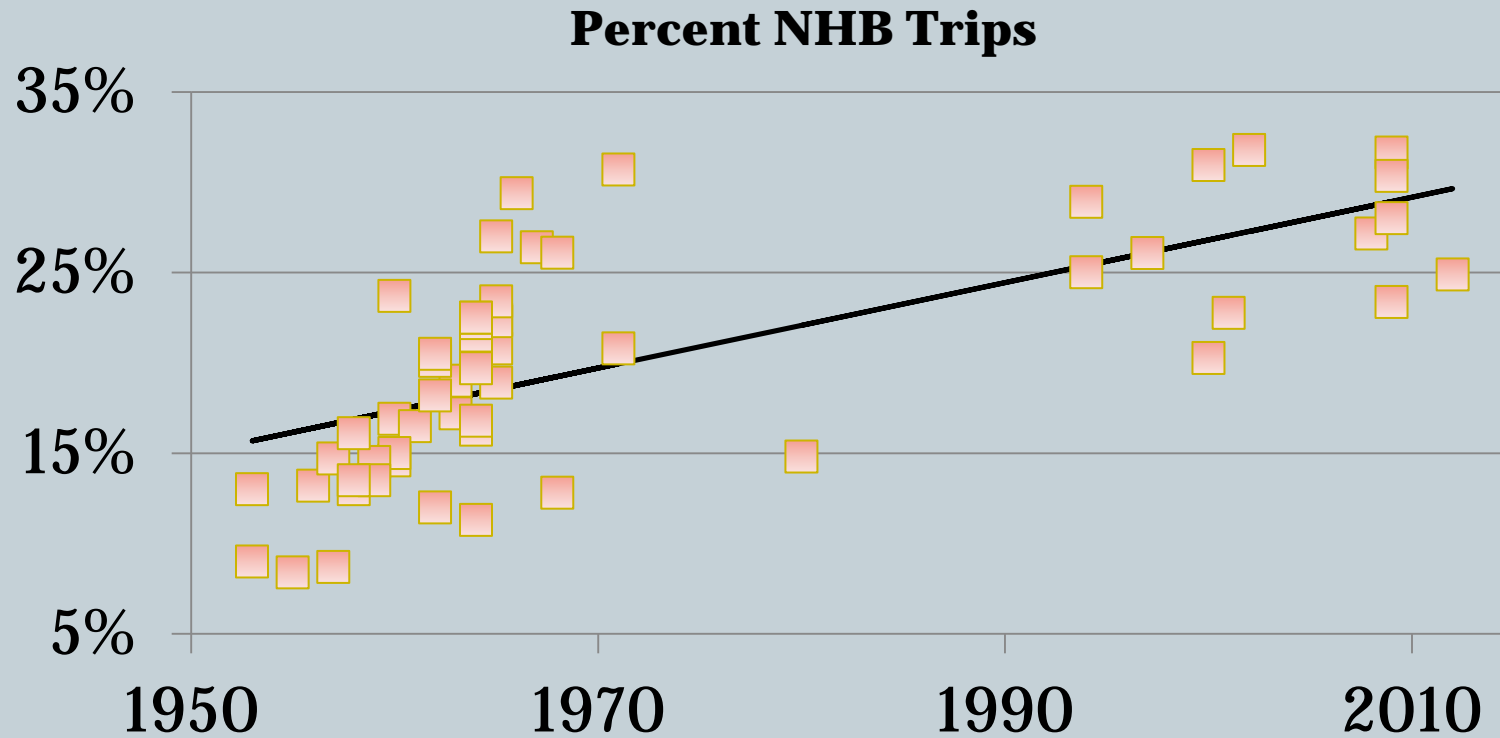


- **Main Website:** <http://trbappcon.org>
- **Final Program:** <http://trbappcon.org/2015conf/program.aspx>
- **Public Agency Fellowship:**
<http://trbappcon.org/2015conf/fellowship.aspx>

Noteworthy Presentations

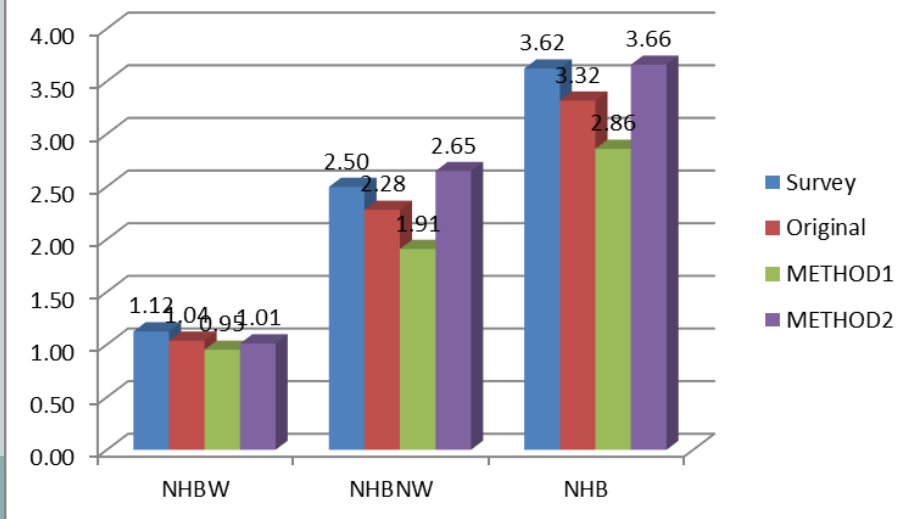
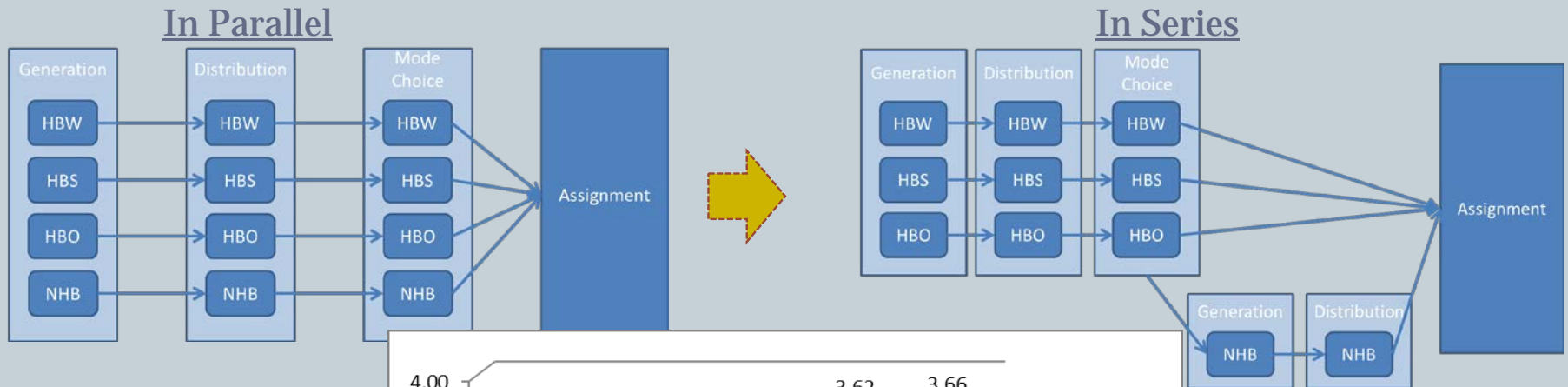


Trends in Complex Travel



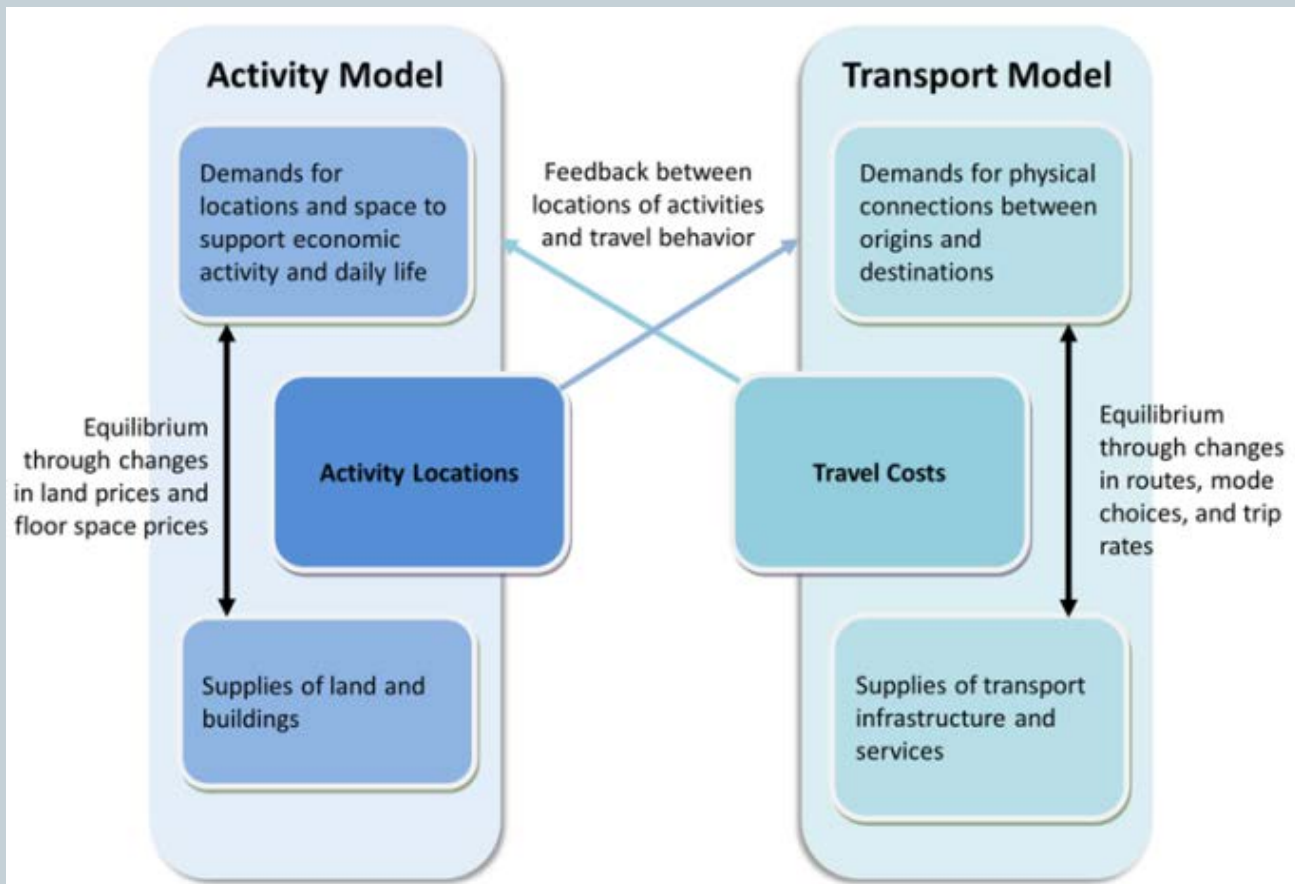
Noteworthy Presentations

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



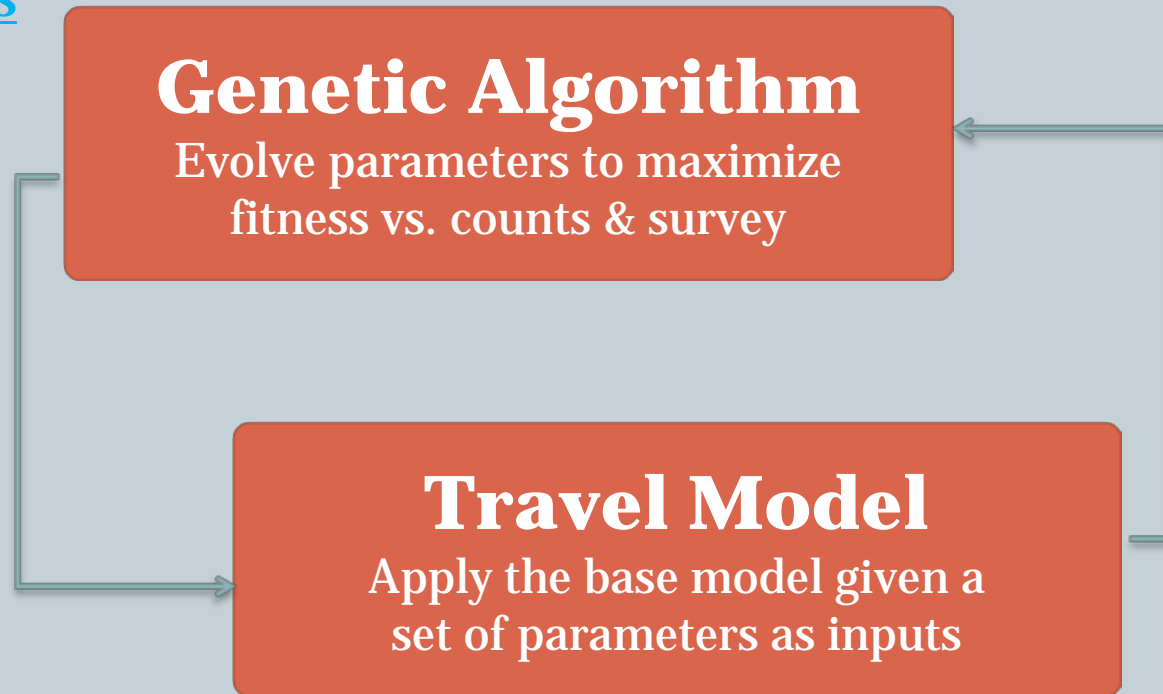
Noteworthy Presentations

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

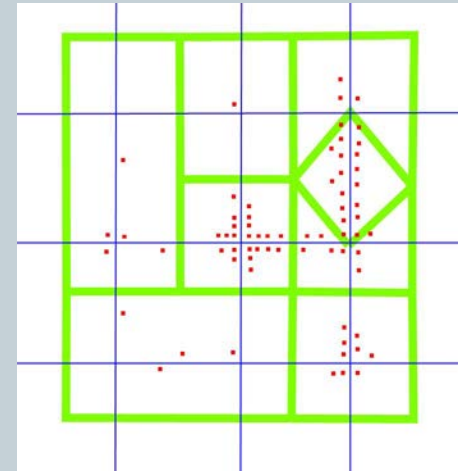
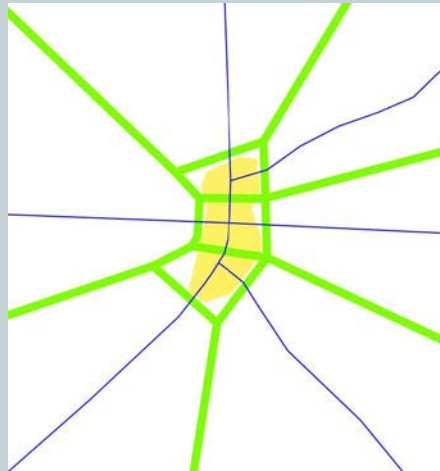
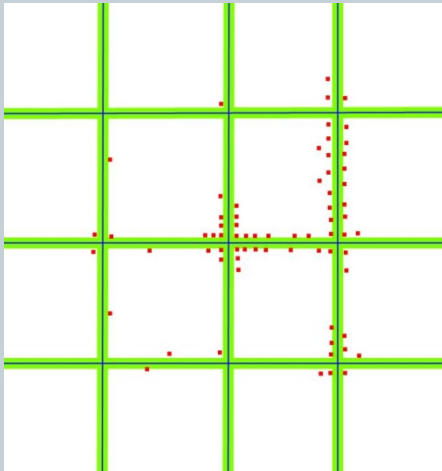


What if...
**We didn't ignore traffic counts
until the end?**

Noteworthy Presentations



Developing Travelshed TAZ Using ArcGIS

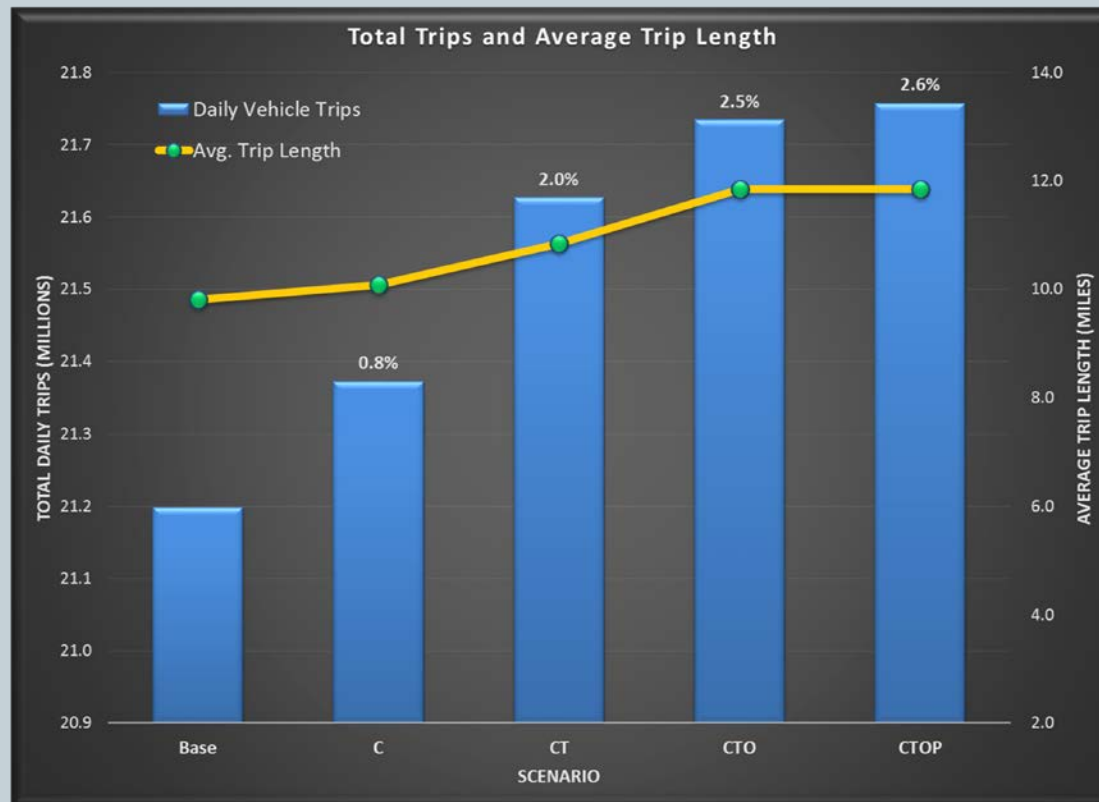


View road facilities and their catchment areas as akin to rivers and their basins in a hydrological system

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



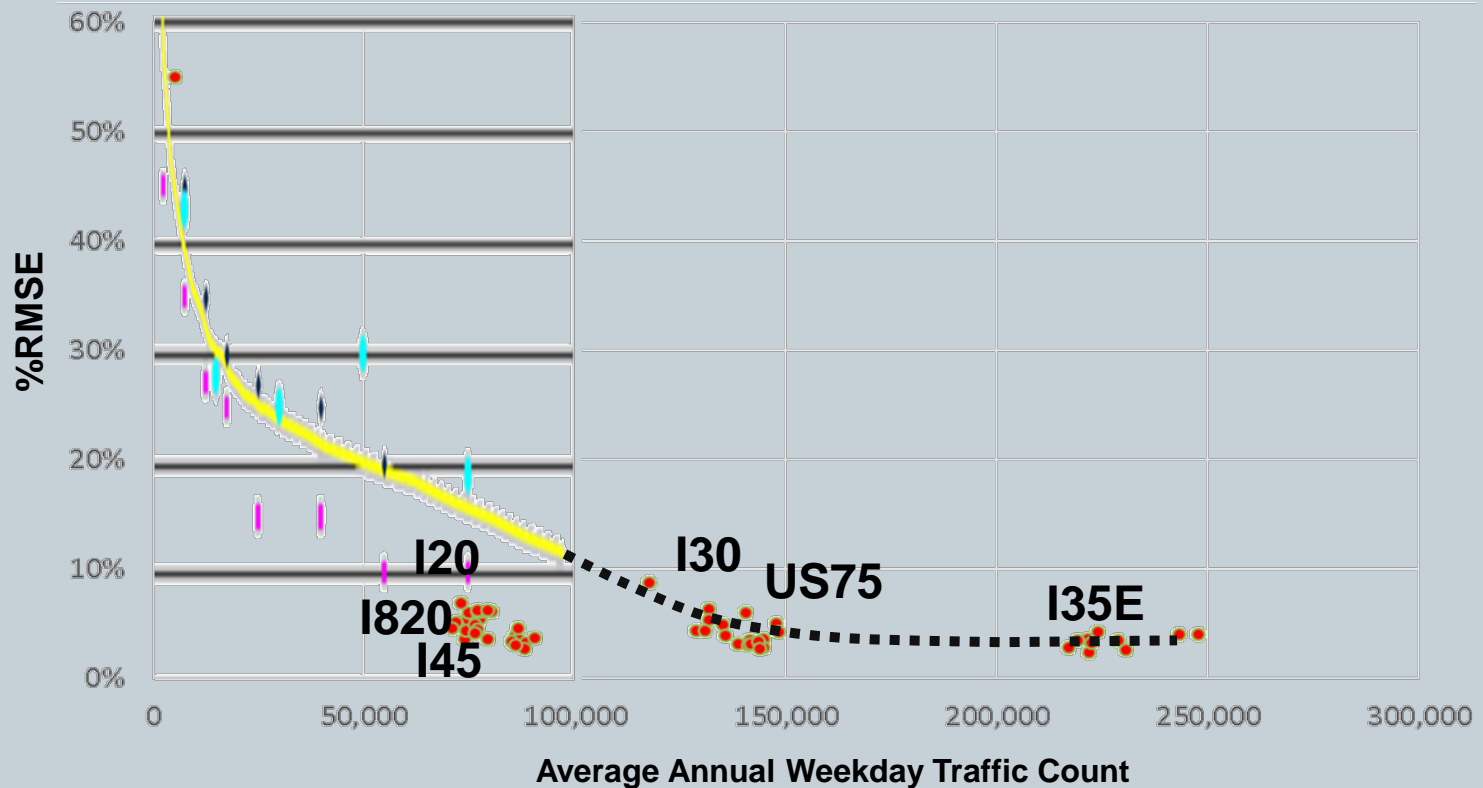
Better Trip Distribution Starts from Developing Travel Behavior Based Employment Categories (presentation not available)

- 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.