**NEW YORK STATE ASSOCIATION OF MPOs**
**MODELING WORKING GROUP**
**October 29, 2021**

**Conference Call**
**9:30 AM – 10:30 AM**

**MEETING NOTES**

## Participating

- SMTC, Jason Deshaies (Chair)
- AVAIL, Erika Corsi
- AVAIL, Eric Krans
- AVAIL, Catherine Lawson
- AVAIL, Alex Muro
- AVAIL, Adam Tobey
- BMTS, Leigh McCullen
- BMTS, Ashley Seyfreid
- CDTC, Andrew Tracy
- CS, Rich Denbow
- CS, Moby Khan
- CS, Nikhil Puri
- ECTC, Courtney Taylor
- FHWA, Sarah Sun
- GBNRTC, Matt Grabau
- GTC, Chris Tortora
- NYSDOT, Alan Warde
- OCTC, Lauren Burns Bennett
- OCTC, Zack Coleman
- UCTC, David Staas

## 1. Incorporating LOCUS LBS data into the OCTC Model

Lauren Burns, Nikhil Puri, and Moby Khan presented on OCTC's recent model update and the use of Location-Based Services (LBS) data. Lauren gave an overview and stated that OCTC did a model update because they are in an air quality maintenance area, which requires the MPO to have a current model, and they have had turnover of long-time modeling staff recently. OCTC hired CS to update the model.

OCTC's objectives for the new model are to have a network-based model that is sensitive to roadway capacity, can be used for air quality conformity and regional planning studies, can represent travel during different time periods, has daily validation against credible data sources using industry best practices, has an easy-to-use user interface (transition to

TranCAD), has reasonable population and employment forecasts relying on local knowledge, and has sensitivity to changes in network capacities, population and land use. Nikhil and Moby discussed model components, the model development process, inputs and data sources, and other details.

Moby discussed the model datasets and focused on the use of LOCUS LBS data, which was developed by CS. OCTC decided to use LOCUS because the sample size from the OCTC portion of NYMTC's household travel survey was small, as was the NHTS sample size. Moby and Nikhil also discussed the steps involved in model validation and calibration (see attached presentation slides).

Discussion and Q&A:

Q: Does CS collect the LOCUS data or do you get it from a provider?
A: CS purchases cell phone data from a provider and applies CS-developed algorithms to the data. Nikhil discussed the data and it's uses in more detail.

Q: Did CS use NPMRDS data during model development?
A: No. We did use some Google data.

Q: Does the model cover local roads?
A: No, but OCTC uses post processing steps for conformity purposes to determine emissions on local roads.

Q: When looking at external flows, what percent of the trips are captured by the LBS data?
A: There are more LBS trips compared to the counts, but it evens out when factoring in vehicle occupancy.

Q: The LBS data is a sample. What is the sample size?
A: If you look at the raw LBS data you get a very large sample size, approximately 80-85%. In order to apply the algorithms we need to have confidence in the data, which requires eliminating a large portion of the samples. Bringing the sample size even lower, to approximately 8%, results in a high confidence level, for example, looking at records over multiple days to help understand tours and stop patterns. It's important to note that the resulting dataset is still a larger sample size than a household travel survey.

Q: Does the model output speeds?
A: Yes, per time period.

Q: Is the LBS data representative?
A: Through prior research of LBS data we understand that there are some blocks of the population that are not as well represented as others. Some of the research into equity shows that there are high rates of cellphone ownership among low income and other groups of concern.

## 2. Update on NPMRDS Software Development

The AVAIL team discussed recent updates to the NPMRDS tool.

- Work continues on analyzing incident data and incorporating Transcom incidents into the tool. The team has grouped incidents into accidents, construction, and other. Alex showed incidents in map view and discussed changes.
- The team is working to understand the impact of these incidents on the network. They are doing a time fill for TMCs. They continue to work on a process for visualizing this, and are working on an algorithm to reflect the delay resulting from incidents.
- The longer range view is that each of the incidents is a non-recurring calculation, which makes it more difficult. There are not many methodologies available that use probe data to determine system effects from incidents.
- The team will bring incidents into the map view.
- Q: Jason asked if the algorithm searches only Transcom events based on time stamps or does it also search for incident data from other sources or find irregularities in the NPMRDS data?  A: Currently only Transcom data. They are also thinking about Waze data or other sources that may include non-reported incidents. They are focusing on getting an understanding of  reported incidents before addressing unreported incidents.

## 3. Next Meeting

The next MWG meeting will take place on December 3, 2021.