

**NYSAMPO/NYS DOT - Modeling Working Group
Meeting Notes
July 29, 2015, 10:30 AM to 2:30 PM
SUNY Albany Campus, Albany, NY**

ATTENDEES

Name	Organization	In-Person	Phone
Jim Sterbentz	BMTS		X
Chris O'Neill	CDTC	X	
Chris Bauer	CDTC	X	
Chris Tortora	GTC	X	
Ali Mohseni	NYMTC		X
Munnesh Patel	NYMTC		X
Abdus Salam	NYMTC		X
Jason Deshaies	SMTC		X
Michele Bager	NYS DOT	X	
Angel Canales	NYS DOT	X	
Jim Davis	NYS DOT	X	
Lynn Weiskopf	NYS DOT	X	
Catherine Lawson	UAlbany	X	
Alex Muro	UAlbany	X	
Eric Krans	UAlbany	X	
Colin Smith	RSG (NYSAMPO Support)	X	

MEETING NOTES

1. NPMRDS Project

Eric and his colleagues from AVAIL gave a recap of the presentation made at the recent NYSAMPO conference in Syracuse about the NPMRDS webtool project.

The NPMRDS data comes as records of five minute averages of travel time to traverse Traffic Messaging Channel (TMC) segments, which can be used to develop speeds using the length of TMC segment. Combining these data with volume data allows for the development of congestion indices. The NPMRDS data are an aggregated dataset from HERE provided to the state DOTs and MPOs by FHWA. HERE passenger data and ATRI truck data are included and can be combine those to get all travel.

The graphical user interface tool that AVAIL staff have developed for NYSDOT allows users to click on maps of the region, and display, for example, congestion using color ramps. The tool supports analysis of routes, i.e., groups of TMC segments connected together that form a complete route from point to point. For example, I-81 Southbound entering Syracuse from the North. Route level performance measures are available to the user including simple measures such as travel times and speeds, and derived indices such as the congestion index, planning time index, misery index.

The tool also visualizes data in graphs over time. The time frame currently available is January 2014 to February 2015, with more data being added as time goes on. The data show things like lower speeds in February due to snowy weather. Visualizing daily average speeds by day indicates specific days where speeds were much lower. The user can drill down by clicking on that day to show speeds by 5 minute increments, which in the demonstrated example shows lower speeds for a portion of the day. By comparing with the Transcom database, it was clear that the lower speeds were caused by an incident at that time.

Other charts show an average day in Syracuse, displaying month by month averages showing average speeds over course of the day. The example charts showed lower speeds in AM peak period. This happens consistently, indicating that the route is a reliable bottleneck. AVAIL is developing an approach to automatically identify bottlenecks. This type of analysis could be expanded upon to identify the routes that people take to avoid bottlenecks.

Another type of analysis that was discussed is to look for incidents in the Transcom database and compare those with the NPMRDS data. By looking at the time of the incident, the tool can display which TMCs were affected. Typically, those proximate to the incident are affected, while TMCs further away are not. The tool can display and quantify how far does impact of the incident spread over the road network.

Eric showed a summary dashboard with a table showing travel times by route for a set of routes within the Capital region. This is created in an automated way on a month by month basis, and is envisioned as a homepage dashboard for an MPO logging into the tool. The most recent month of data will always be a couple of months previous to the current date, so it is not real time but it is very up to date. It can include measures such as comparisons with last year's average. The user can then click into the route to get more detail. AVAIL are currently building the functionality to produce and navigate within this route dashboard to more detailed data.

Eric said that in the next month AVAIL will be rolling out accounts for each MPO. Each MPO administrator will be creating accounts for MPO staff. AVAIL will load the dashboard with a default set of routes, but individual users will be able to define custom routes formed from any TMCs with data in the NPMRDS dataset. NYSDOT is buying an additional API from HERE that allows access to the TMC codes to build routes more easily.

Michele asked if AVAIL has looked at integrating traffic volumes. Alex explained that AVAIL is working with the team doing linear referencing to combine in HPMS data but that only gives annual traffic. AVAIL is also looking at other ways to connect in volume data that is more temporally disaggregates, e.g. short counts. Jim explained that one aim of the linear referencing project is to support the integration of these data with other sources. They are also looking at the development of connections between the linear referencing system and MPO model networks. Jim said that they would like to get a point where all of the MPO models link to the linear referencing system.

Jim said that NYSDOT has purchased separately from HERE a feed of real time data (different from the NPMRDS as it does not include ATRI data for trucks but it is real time as opposed to monthly with about a two month delay). This comes via their Transcom contract. The tool that AVAIL is developing could also potentially be used to visualize the real time data in addition to the NPMRDS data. Kate explained that the real time data might only be good and/or relevant for certain areas, depending on the amount of data and its reliability.

Chris Bauer asked whether the truck data in the NPMRDS data could be displayed and analyzed separately. Kate said that yes, the truck data can be viewed separately, but that it is sparser than the HERE data which just means that users need to aggregate it over longer time periods. Jim said that one example analysis for trucks is to look at what happens during weather incidents, e.g. snow and ice, to see where trucks are struggling, e.g., certain hills, to use for winter maintenance planning.

Alex mentioned a couple of other possible types of analysis:

- Analysis of bottlenecks and incident locations: This involves looking at matching up Transcom data and then developing rating of incidents based on how long the incident creates affects above certain thresholds, and the size of its geographical footprint
- Project before and after analysis: the tools that form the core of the report card (MPO dashboard) showing route level analyses would also help with analyzing before and after a project, including effects during construction. This could help to validate the change and improvement from a project. Users could create custom time comparisons for two particular time periods to look at before and after a project.
- Moving route analysis: the route level analyses currently show analysis based on a consistent time for the entire route; AVAIL is also looking at a moving route tool, i.e., as if moving along the route to mirror the experience of someone driving the route.

AVAIL would like to talk to MPOs and see how the NPMRDS data match up with what they know about system operation, to answer questions like: are we learning something new? Are the data incorrect? AVAIL's focus over the next two months is on having the MPOs review the tool and the results to see whether it makes sense in comparison to what they know of the how the system operates

There are still questions on what the MAP 21 performance measure reporting requirements will be; these might be published by USDOT in October.

Jim asked the MPO reps if there is a planning problem that they would like to solve using the NPMRDS data that have not been discussed yet.

- Chris O'Neill mentioned using the data to calibrate volume delay functions in travel demand models to better represent speeds under congested conditions
- Chris Bauer suggested emergency planning, for example, what happens if there is an incident at a particular location
- Another suggestion was to help with routing traffic through construction zones: what is the best practice for different construction types, and on different facility types?

2. Trends in VMT Growth: Modeling and Planning Responses

- a. Chris O'Neill gave a short presentation showing the latest VMT time series data that showed a recent upturn in the trend after several years of decreases in total and per capita VMT. The working group discussed this in relation to recent changes in the economy and gas prices, and also discussed incorporating scenario testing into the planning process, as CDTC has done
- b. Colin Smith mentioned a recent study published by TRB, Strategic Issues Facing Transportation, Volume 6: The Effects of Socio-Demographics on Future Travel Demand,

published as NCHRP report 750 (<http://www.trb.org/Publications/Blurbs/171200.aspx>) which included the development of a scenario planning tool called Impacts 2050.

3. Freight Data: lessons learned from the CDTC Freight Plan and State Freight Plan development

- a. Colin Smith covered recent and ongoing work on freight data as part of the development of CDTC Freight Plan and the New York State Freight Plan. This included discussion of commodity flow data such as the FHWA's Freight Analysis Framework data and the Transearch databased that NYSDOT purchased for the state freight plan project. The presentation included an example set of maps and charts produced from the Transearch data for the state freight plan project.

4. Schedule of upcoming meetings.

- a. August 28 – Web-conference on NPMRDS Web-tools
- b. September 29 – Web-conference on NPMRDS Web-tools

Meeting notes prepared by Colin Smith (RSG)