Regional Transportation Technical Advisory Committee (RTTAC)
Modeling Subcommittee
Meeting Agenda

November 15, 2017 – 9:30 AM to 12:00 PM

Miami-Dade Transportation Planning Organization[1]
SPCC, 111 NW 1st Street, 10th floor Conference Room, Miami, Florida 33128

Remote Access:
https://global.gotomeeting.com/join/918633461
Voice: +1 (646) 749-3122; Access Code: 918-633-461

   I.   **Call to Order**

  II.   **Introductions** (10 minutes)

 III.   **Approval of the September 27, 2017 Meeting Summary*** (5 minutes)

  IV.   **Regional Household Survey Progress Update -** John Lafferty / Rosella Picado /Josh DeLaRosa (20 minutes)

   V.   **2045 Zonal Data Development** (30 minutes)

  VI.   **SERPM 8.0: Project Status** (30 minutes)

 VII.   **SERPM 8.0: Visitor Model Calibration Plan** (15 minutes)

VIII.   **Regional LRTP Status Updates** (as permitted) (10 minutes)

  IX.   **Brief Update on SMART Plan-Related STOPS Development Work** (10 minutes)

   X.   **RTTAC-MS Distribution List** (5 minutes)

  XI.   **Next Meetings (Establish 2018 Calendar)** (5 minutes)

 XII.   **Member Comments** (10 minutes)

XIII.   **Adjournment***

   *Action Item

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[1] Miami-Dade TPO is hosting the Florida District 6 meeting rotation.

Regional Transportation Technical Advisory Committee (RTTAC) Modeling Subcommittee

September 27, 2017 Meeting Summary

The following is a summary of the RTTAC Modeling Subcommittee (RTTAC-MS) meeting held on September 27, 2017.

MEETING TIME AND LOCATION

9:30 AM to 12:00 PM

Palm Beach Metropolitan Planning Organization (MPO)

Traffic ITS Conference Room 4th Floor Room: 4E-42

2300 N. Jog Rd.

West Palm Beach, FL 33411

MEETING ATTENDEES

1. Aditya Katragadda, Corradino Group, Akatragadda@corradino.com
2. Ashutosh Kumar, CTG, AKumar@ctgconsult.com
3. Brent Selby, Cambridge Systematics, bselby@camsys.com
4. Buffy Sanders, Broward MPO, sandersb@browardmpo.org
5. Hui Zhao, FDOT D4, Hui.Zhao@dot.state.fl.us
6. Jay Evans, Cambridge Systematics, JEvans@camsys.com
7. Jeanette Berk, Gannett Fleming, Jberk@gfnet.com
8. John Lafferty, WSP, John.Lafferty@WSP.com
9. Josh DeLaRosa, Abt Associates, josh_delarosa@abtassoc.com
10. Martin Milkovits, Cambridge Systematics, MMilkovits@camsys.com
11. Mike Brown, TPS, TPS.Mike.Brown@comcast.net
12. Neil Lyn, FDOT D6, Neil.Lyn@dot.state.fl.us
13. Paul Flavien, Broward MPO, FlavienP@browardmpo.org
14. Renee Cross, Palm Beach MPO, RCROSS@palmbeachmpo.org
15. Rosella Picado, WSP, rosella.picado@wsp.com
16. Scott Seeburger, FDOT, Scott.Seeburger@dot.state.fl.us
17. Shi-Chiang Li, FDOT D4, Shi-Chiang.li@dot.state.fl.us
18. Thomas Rossi, Cambridge Systematics, trossi@camsys.com
19. Tim Verbeke, Palm Beach MPO, Tverbeke@palmbeachmpo.org
20. Todd Brauer, Whitehouse Group, tbrauer@whitehousegroup.com
21. Trang Phan, FDOT D4, trang.phan@dot.state.fl.us
22. Wilson Fernandez, Miami-Dade TPO, wilson.fernandez@mdtpo.org
23. Yingfei Huang, Cambridge Systematics, yhuang@camsys.com
24. Yongqiang, Wu, CTS, Ywu@ctseinc.com

MEETING NOTES

Below is a summary of items discussed during the meeting. <u>Action items and motions are underlined</u>.

I. **Call to Order**

   Neil called the meeting to order at 9:40 AM.

II. **Introductions** (5 minutes)

III. **Approval of the July 12, 2017 Meeting Summary*** (5 minutes)

   <u>Shi-Chiang moved to approve the July 12, 2017 meeting summary. The motion was unanimously approved by the RTTAC-MS.</u>

IV. **Regional Household Survey Progress Update -** John Lafferty / Rosella Picado /Josh DeLaRosa (30 minutes)

   Rosella gave an update about the regional household survey expansion. The expansion uses a multi-dimensional list balancing method to derive a set of weights that minimize deviations between the weighted sample totals and target (control) totals. Control totals are segmented by household size, household workers, household income, person age, etc. Controls may be set at different levels of spatial aggregation.

   The application of this method produced good expansion results with small differences (<0.05%) between expanded households and target households for all control variables at the county level. The expanded persons at the regional level, however, have substantial differences (-9% to -41%) from the persons control totals. This is largely due to the regional average household size of the survey expansion being close to 2, while the average household size of 2015 American Community Survey (ACS) is about 3. Rather than matching the expanded persons, Rosella recommended expanding with a lower importance placed on the persons control totals to avoid high weight factors.

   Shi-Chiang asked how the survey responses compared to census/ACS data. <u>Rosella will check and include that information in the report.</u>

   There was a discussion about how to make best use of the survey data in preparing the next version of the SERPM model given the sample coverage and other challenges. Tom explained that the most-robust aspects of the survey data will be used in the SERPM 8 model development. Based on the current analysis, the household survey will be used to update a subset of the activity-based models, either directly through estimation or through the model validation process. For example, it has been determined that the survey will not be used to address exploration of public/private school trip making differences. Rosella said that the survey data limitations will be described in the report to guide users on how best to use the survey data for decision making.

   <u>Rosella will incorporate the RTTAC-MS' recommendations and finalize the survey expansion by September 29. A report that documents the detailed methodology and statistics will be provided to the RTTAC-MS for review in two weeks.</u>

V. **Regional Household Origin – Destination Update** – Rosella Picado (5 minutes)

Rosella informed the RTTAC-MS that the Streetlight O-D matrix data and two reports are available on the project site. The O-D data includes both the raw data and the trip index, or expansion factor, for 2015 and 2016. Rosella explained that there is not much difference between the two years and that an analysis could use either year or combine them, but that use of the 2016 survey alone is sufficient.

VI. **SERPM 8.0: Project / Input Data Status** – Jay Evans / Marty Milkovits / Hui Zhao (20 minutes)

Schedule:

Jay explained that the SERPM 8 schedule for model delivery and training was adjusted from August 2018 to September 2018 due to the delay in receiving weighted household survey data and missing transit access mode data.

Renee asked how this adjustment will impact the development of the 2045 Palm Beach County Long Range Transportation Plan (LRTP). Jay responded that the model will be ready by September 2018 and the initial work in the LRTP will be to develop the 2045 zonal data and networks, which do not require a working model to prepare.

Input Data Status:

Marty provided an update about status of zonal data, network updates, system-level validation data.

Zonal Data:

CS has received feedback on trend and consistency checks of the 2015 zonal data from the Palm Beach and Broward MPOs. CS is currently working on assembling daily enplanements data and freight activity data. There is no further action required from Palm Beach MPO and Broward MPO regarding zonal data. Miami-Dade TPO is working on review of trends and addressing issues for several zonal datasets. Wilson said that the Miami-Dade TPO will finish the review of zonal data and provide feedback by the next RTTAC-MS meeting.

Network:

CS has addressed initial comments from FDOT District 4 on the highway network. The comments covered both FDOT District 4 and District 6 links. Jay explained that the comments were primarily related to issues related to the pre-existing network that have been uncovered through recent use of the SERPM7 model. To avoid delay of model development, additional issues/items will be tracked in a list to be reviewed/addressed going forward. Hui commented that critical issues will be prioritized.

The team has finalized the transit network inclusion criteria and updated a documentation memo.

System data:

All comments on traffic count data have been incorporated.

Regarding speed data, the team has associated TMC by direction with 1880 links in the model network and finished the initial comparison with free flow and congested speed by facility type.

Transit onboard surveys have been processed and expanded to 2015. A memo describing the transit onboard surveys will be shared with RTTAC-MS.

CS will continue working on preparing initial system level summaries, and assembling issues list to track minor items, network modification, and TAZ/MAZ-level corrections.

VII. **SERPM 8.0: 2015 Employment Data*** – Jay Evans / Marty Milkovits / Hui Zhao (10 minutes)

Marty summarized the completion of work developing 2015 employment data. For wage / salary data, use 2015 Central Office employment data, consistent with BEA 2015 county control totals. MAZ-level adjustments are incorporated based on T/MPO feedback. To include accounting for self-employment, factors derived from PUMS data are applied consistent with the SERPM7 derivation process.

Wilson motioned to approve these employment data and self-employment factors, Paul seconded. The motion was unanimously approved by the RTTAC-MS.

VIII. **SERPM 8.0: Synthetic Population Data Process*** – Jay Evans / Marty Milkovits / Hui Zhao (10 minutes)

Marty summarized the completion of work developing 2015 population data. We will maintain TAZ total household and total person control totals as specified by the T/MPOs (T/MPO spatial distribution is more reliable than ACS). TAZ control totals will be adjusted to match ACS distribution pattern by market segment at the super district level (ACS market segment distribution is more reliable).

Neil motioned to approve this modification to the T/MPO provided inputs, Tim seconded. The motion was unanimously approved by the RTTAC-MS.

IX. **SERPM 8.0: Model Estimation / Validation Plan** – Tom Rossi / Jay Evans / Hui Zhao (20 minutes)

Tom gave a presentation about SERPM 8.0 model estimation.

The main structure and components of the model design plan will remain the same. Therefore, models will only be re-estimated where the survey data is deemed sufficient to support improvements. The components that will not be re-estimated include those that may be excluded from SERPM 8, such as toll transponder ownership, or involve future technology and cannot be estimated, such as auto technology and the willingness to ridesource.

The household survey data has a smaller sampler size and lower trip rates than expected, which prevents the use of the survey to update model components related to tour and trip frequency. The CS team has made an initial assessment of the survey and determined that it has reasonable responses in destination, time of day, and mode, although the full information for tour mode is not yet available. Tom presented slides that specified the components that would not be re-estimated and those where a re-estimation would be attempted.

Tom followed up on the previous discussion about whether the school location choice model should be segmented into districted and non-districted (e.g., charter schools and private schools). He explained that, due to the few school location survey responses and that the compressed estimation schedule, the segmentation is not recommended. Instead, the current school location structure that combines both districted and non-districted schools into a single choice would be maintained.

The SERPM 8 mode choice model structure will follow the structure of the SERPM 6.7 model for the transit mode alternatives. The mode choice model parameters will be estimated using household survey data. Various data sources will be used to validate/calibrate the model, including household survey, various transit on-board surveys, and transit ridership counts.

Neil asked why the SERPM 6.7 transit structure is preferable to SERPM 7.0, which has a more disaggregate set of transit sub-modes. Tom explained that the general trend in the industry has been towards fewer transit alternatives in mode choice to maintain consistency between mode choice and assignment. Rosella confirmed that this trend is occurring, but cautioned that the model validation is more reliant on the transit path builder because alternative specific constants in mode choice are not as prevalent. Ashu added that the structure in SERPM 6.7 is similar to the structure of FTA STOPS model.

Tom explained that the model validation will be done according to the model validation plan. The plan specifies a validation of all demand components by running the full model and comparing results to the best available data sources. The validation also entails a highway and transit system-level validation as well as sensitivity testing.

X. Member Comments

Shi-Chiang suggested to add an agenda item to discuss the 2045 zonal data in the next meeting.

XI. Next Meeting

The next meeting is the Florida DOT District 6 rotation, but will be held at the Miami-Dade TPO on Wednesday, November 15, 2017.

XII. Adjournment*

Neil adjourned the meeting at 11: 47 AM.

*Action Item