The NCMUG's vision is to provide a forum for sharing knowledge and experiences of using state-of-practice transportation modeling tools, techniques and innovations appropriate to answer transportation planning and policy questions for the State of North Carolina, and promote its implementation across the State.

2024 Spring NCMUG Meeting
Wednesday, April 17, 2024
10:00 AM-12:00 PM ET

New Bern Riverfront Convention Center
Room Tryon B (Second floor)

<u>Agenda</u>

Moderator: Joe Schirripa

Welcome

Model Development and Long-Range Planning Across NC (15 minutes)
NCDOT, Triad Region, Triangle Region, Metrolina Region

Conducting a regional travel model update and regional long-range transportation plan update simultaneously for better planning/modeling integration (35 minutes)
Kyeongsu (Steve) Kim, PhD, RSG Inc.

Learning Objectives

➢ *Model development efforts often begin before all the planning questions have been asked.* Presentation will examine how practitioners can build flexibility into simultaneous efforts (metropolitan transportation plan + demand model development + strategic model development) and how development efforts need to integrate planning concerns early in the effort while maintaining flexibility to be responsive to new questions later in the process.

➢ *Travel demand models will not be able to answer all of the planning questions.* Presentation will examine how practitioners can combine traditional demand model development and lightweight strategic models in metropolitan planning processes to ensure toolkit is able to be responsive to substantially more questions in the planning process than before.

➢ *Alignment of multiple efforts is challenging but results in products and plans that are more data informed and responsive.* Presentation will demonstrate how early alignment and planning resulted in better sensitivity to compact development, how a strategic model quickly narrowed hundreds of MTP alternative scenarios for analysis in a demand model, and how the final analysis materialized in a metropolitan transportation plan.

Abstract
RSG led an update of the Anchorage, AK region's travel demand model simultaneously with supporting the MPO's Metropolitan Transportation Plan (MTP) update through using the new model to forecast performance of the potential plan alternatives. RSG worked carefully with the client and the MTP team to design integrated work plans so that the updated model clearly addressed the chosen MTP goals, objectives, and performance measures. The joint projects included tailoring the travel model to the

region's planning priorities, applying the VisionEval strategic model to help "design" the draft MTP alternatives by examining hundreds of scenarios relative to the MTP objectives, and applying the updated travel model to the final four draft MTP alternatives. Of particular interest to the MUG audience would be specific travel model features included to meet local planning needs (e.g. the inclusion of "4D/5D" explanatory variables for mode choice) and the alignment of the VisionEval and travel model output performance measures to the MTP objectives.

Regional Travel Demand Model Development for Region 17 (35 minutes)

David Schellinger, P.E. Senior Principal – Model Development and T&R Analysis, Stantec

Learning Objectives
- ➢ Understanding Unique Client Objectives for the RTDMs
- ➢ Challenges for Estimating CAV Demand and Visitor Travel
- ➢ Reviewing the Model Structure and Developer / User Controls

Abstract
This presentation will focus on the development of the NCDOT's first new Regional Travel Demand Model (RTDM) for Region 17. These new models will provide a uniform modeling process to estimate demand for the regions where NCDOT provides forecast. The new models include a more comprehensive treatment of visitor travel as well as the ability to estimate CAV demand for scenario planning. The model is structured in a manner that supports travel demand forecasting in areas covered by smaller MPOs and RPOs. The presentation will include discussion of how various data sources were used in the model development and techniques used for controlling the estimation of CAV demand.

Using the NCSTM for P7 Prioritization (35 minutes)

Roberto Miquel, PE, Whitman, Requardt and Associates, LLP

Learning Objectives
- ➢ What the NCSTM is and its role in NCDOT's project prioritization process.
- ➢ About the P7 schedule including the build up to P7 and its current status.
- ➢ Considerations for the successful application of the NCSTM to evaluate a high volume of projects, including the resource constraints involved in meeting tight schedule deadlines and how these were managed.

Abstract
Since 2010, NCDOT has been continually developing and maintaining the North Carolina Statewide Transportation Model (NCSTM). The first version of the model used to support NCDOT's project prioritization process was the Gen2 model used for P4. Then in 2017, the Gen3 model was developed for use on P5. This was followed by the Gen4.5 model that was used in P6. This presentation will discuss the use of the NCSTM Gen4.5 for generating travel time savings for NCDOT's Strategic Prioritization (SPOT) Office's P7 Prioritization. The topics covered will include the basic structure of the model, the project run and analysis tool, and the fundamental concepts involved in how the NCSTM calculates project specific travel time savings. The presentation will also cover the NCSTM's role in the P7 process and cover project coding, computer resource needs, task scheduling, results summaries, and QA/QC.