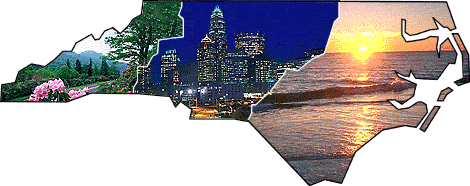
**NCMUG Vision:** to provide a forum for sharing knowledge and experiences of using state-of-practice transportation modeling tools, techniques and innovations appropriate to answer transportation planning and policy questions for the State of North Carolina, and promote its implementation across the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

 **2021 Fall NCMUG Meeting**

**Presenter Info**

**Time: TBD**

**Online [link later]**

**Special Notes to Presenters and/or Discussion Facilitators**

Depends upon the meeting and topic, a presentation usually would be 20-30 minutes for the formal presentation, and 5-10 minutes of Q and A.

For all the ideas, methodologies, approaches, tools and so on to be presented/discussed, please indicate

1. The purpose and validity
2. Why it is important and necessary to implement in North Carolina, e.g., the benefit to NC
3. In order to implement, the type of policy decision, data sources/support needed and/or available in NC
4. Effort involved
5. Lessons learnt and limitation

**Presentation Topic:**

**???**

**Presenters’ respective name, title, and agency:**

**???**

***Learning Objectives* [**up to 5; especially how your presentation would benefit North Carolina practice]:

**Abstract** [one paragraph – help Executive Committee with selection]

**Your Bio** [one brief paragraph – sense of humor encouraged! ☺ ]

**Each respective presenter’s name and email, and office location:**

**Bio:**

**Example**

**Utilizing Macro- and Micro-Simulation Tools for the Completion of I-485 HOV/HOT Analysis in the Charlotte area**

Vivek Hariharan, RS&H; Craig Gresham, Clearbox Forecast Group; Brian Wert, NCDOT

***Learning Objectives:***

* Working between Macrosimulation and Microsimulation Models
* Utilizing ODME Matrix Manipulation for Transmodeler analysis
* Limitations of regional models for microsimulation analysis

**Abstract**

NCDOT and FHWA propose improvements to approximately 17 miles of I-485 (Charlotte Outer Loop) in southern Mecklenburg County, from I-77 to US 74 (Independence Boulevard), by adding one express lane in each direction, as well as an additional general purpose lane in each direction between Rea Road and Providence Road. The purpose of the project is to provide a reliable travel time option for the corridor. Multiple tools were select, in part, to have a more refined representation of travel times in the corridor beyond what regional models are capable of providing.

Multiple microsimulation and macrosimulation tools were used to complete the analysis and traffic forecast. The primary software tools used for the traffic operations analysis are TransCAD, **TransModeler, and VISUM**. TransCAD is the standard macroscopic travel demand modeling software used in North Carolina for small area, regional, and statewide models. TransModeler is a traffic simulation package that can model the behavior of complex traffic systems to evaluate traffic flow dynamics, ITS operations, and overall network performance. VISUM is a comprehensive software system for transportation planning and travel demand modeling, and is designed for multimodal analysis. VISUM was primarily used in the development of Origin-Destination (O-D) matrices.

The presentation will focus on the rationale for the combination of tools used, along with the general process used to complete the project, and lessons learned through the process.

**Bio**

**Craig Gresham**

[craig@clearboxforecast.com](mailto:craig@clearboxforecast.com), Clearbox Forecast Group, Cary, NC

Craig has 19 years of experience in travel demand modeling, traffic forecasting, and GIS. Before starting Clearbox Forecast Group in the fall of 2009, he spent 10 years at Kimley-Horn and Associates and 3 years with North Carolina DOT Transportation Planning Branch. Craig specializes in model development, HOT/HOV model analysis, multimodal analysis, time-of-day analysis, project-level traffic forecasting, and socioeconomic forecasting. When not working from his corporate headquarters in his basement, he’s either entertaining his two children, working on some project on the house, trying to get some exercise in, or looking for the next great craft beer.

**Vivek Hariharan**

[vivek.hariharan@rsandh.com](mailto:vivek.hariharan@rsandh.com), RS&H, Washington D.C.

Vivek Hariharan is a transportation engineer at RS&H Inc in their Washington D.C. office. He has over 9 years of experience in transportation industry. He is currently involved in several traffic engineering and transportation planning projects in Washington D.C., Maryland, Virginia, North Carolina and other parts of the country. He is a registered Professional Engineer (PE) in Washington D.C., Maryland, Virginia, and North Carolina and a certified Professional Traffic Operations Engineer (PTOE). Vivek holds a bachelor’s degree in engineering from Osmania University in India and a master’s degree in engineering from The Ohio State University in Columbus, Ohio. Vivek received the ITE Transportation Consultant Council - 2012 Young Professionals Scholarship Award, 2013 NCSITE New Member Award, and 2013 NCSITE President’s Award.

**Brian Wert**

[bmwert@ncdot.gov](mailto:bmwert@ncdot.gov), NCDOT, Raleigh, NC

Brian Wert is a planning professional with over 15 years of experience. He is currently a supervisor for the western planning group at TPB. Prior to that he was the NCDOT State Traffic Forecast Engineer. In that time he worked to improve the forecasting process as well as to help address recent court rulings that impacted traffic forecasting and travel demand modeling.