

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.



2022 Fall NCMUG Meeting

Monday, November 7, 2022

1:00 PM-4:00 PM ET

Piedmont Authority for Regional Transportation Board Room

107 Arrow Rd., Greensboro

with virtual option

GoTo Meeting Link: <https://meet.goto.com/430295093>

Access Code: 430-295-093

Agenda

Moderator: Anna Gallup, CDOT

Welcome

Model Development and Long-Range Plan Updates

NCDOT, Triad Region, Triangle Region, Metrolina Region

Picking (on) Parking – Parking Choice Models in the New TRM

Vince Bernardin, Ph.D., Vice President, Travel Demand Analytics, Caliper Corporation

Learning Objectives

- Deeper familiarity and understanding of the TRM
- Understanding parking mode & destination choice models

Passive Data Use for Model Development (40 minutes)

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

Learning Objectives

- Exploring the use of Passive Data for model development and application
- Reviewing the use of new trip types available from Passive Data
- Understanding Creative Options to Estimate Visitor Trips with Passive Data

The Intersection of Smartphone Travel Survey and Passive Big Data (40 minutes)

Michelle Lee, Senior Director, RSG; Abigail Rosenson, Senior Consultant, RSG

Learning Objectives:

- Understand the current state of practice for smartphone GPS travel surveys.
- Understand the current state of practice for analyzing and applying passive “Big Data.”
- Understand the benefits of each data source and how they can be used in complementary ways.

Data-driven Traffic Demand Models: Calibrating fundamental diagram of traffic flow and volume-delay functions from both speed and count data (40 minutes)

Xuesong (Simon) Zhou, Associate Professor and Fang (Alicia) Tang, Ph.D., Graduate Student
School of Sustainable Engineering and the Built Environment, Arizona State University

Learning Objectives

- Understand how widely-used volume-delay BPR function can be interpreted from queueing analysis model, especially when demand > capacity
- Understand opportunities of improving highway assignment modeling accuracy by using speed and count data in supply-side calibration
- Calibrate fundamental diagram of traffic flow (capacity) and volume-delay parameters (alpha and beta) for different facility types
- Open-source analysis tools to streamline and automate the calibration progress,
- Case studies in North Virginia and Phoenix, AZ area and transferability in calibrating travel demand models in North Carolina

Note: This research is partially motivated by the excellent talk given by Dr. Leta Huntsinger and Dr. Nagui M Roupail for North Carolina Model Users Group Meeting – April 2011. Title: Calibrating Travel Demand Model Volume-Delay Functions Using Bottleneck and Queuing Analysis

Note: 2.5 PDHs can be earned at the meeting