2015 Fall NCMUG Meeting

Thursday, November 19, 2015
1:00 p.m. – 5:00 p.m.
Room 2600, ITRE/NCSU
909 Capability Drive, Research Building IV, Raleigh, North Carolina 27606

Agenda

Moderator: Joe Schirripa, Transportation Planning Branch, NCDOT

- **INTRODUCTION**

- **MODELING MANAGED LANES**
  Modeling Managed Lanes for Traffic and Revenue Forecasting (40 minutes)
  James Mooradian, Planner, CDM Smith

  **Learning Objectives:**
  - Understanding the general concepts of modeling for managed lanes and how they relate to standard toll road studies
  - Making critical adjustments to the travel demand model to allow for the sensitivity of managed lane use
  - Static approximation of dynamic tolling on managed lanes
  - Added functionality for special cases of managed lane use

  Express Lane Time of Day Model (ELToD) (40 minutes)
  Jeanette Berk, Senior Consultant, RSG

  **Learning Objectives:**
  - FDOT-Turnpike ELToD Model Structure and why it was developed
  - How ELToD interacts with the Travel Demand Model and other data inputs
  - What types of inputs are needed for an ELTod Model assignment
  - What type information/data is obtained from the ELToD Model

  Development of Managed Lane Model Based on Meso-Scopic Simulation Approach (40 minutes)
  Heejoo Ham, Ph.D., Director of Technical Support, Citilabs

  **Learning Objectives:**
  - Difference between static and dynamic models
  - Difference between macro-scopic and meso-scopic simulations
  - Types of toll diversion models
  - Implementation of dynamic tolling process
  - Major concerns in a meso-scopic simulation model
  - Model validation using dynamic O-D trip estimation
Managed Lanes Coding in Travel Demand Models (40 minutes)
Brian Wert, PE - NCDOT State Traffic Forecast Engineer

*Learning Objectives:*
- Access coding plays a large role in traffic assignment
- Many facilities originally added as HOV lanes
- HOV lanes have much less connectivity than Managed Lanes
- Do we know enough about proposed designs to update TDM networks

- **MICRO-SIMULATION MODEL**
  A National Freight Micro-Simulation Using Open Software (40 minutes)
  Gregory Macfarlane, Ph.D., WSP | Parsons Brinckerhoff

*Learning Objectives:*
- Present an input-output methodology to disaggregate freight flows to discrete trucks
- Review a nationwide agent-based path simulation, validated against North Carolina truck counts
- Software: written in R and Python, with the agent-based simulation in MATSim (a Java-based open simulation framework)

Simulation Based Dynamic Traffic Assignment for Planning Applications (40 minutes)
Daniel Morgan, Qi Yang, Howard Slavin, Caliper

*Learning Objectives:*
- Recent advance in using microscopic and meso-scopic traffic simulation to model time-variant traffic flows in large scale road network with emphasis on (potential) planning applications

**Other Notes:**
Four (4) PDHs can be earned at the meeting (roster sheet & forms will be provided).

---

**Pre-meeting lunch:**
**Time:** 11:30 AM, Thursday, November 19, 2015
**Location:** Sammy's Tap & Grill [http://www.sammysnusu.com/], 2235 Avent Ferry Road, Raleigh 27606