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.sammysncsu.com/, 2235 Avent Ferry Road, Raleigh 27606