

**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 Spring NCMUG Meeting

1:00-3:00 PM, Tuesday, April 27, 2021

Zoom Meeting Link: <https://ncsu.zoom.us/j/94550953441>

## Agenda

Moderator: Amar Pillai, NCDOT

- **INTRODUCTION**

- **CAV IMPACTS – SCENARIO TEST**

01:00-01:40 PM (40 minutes)

**Adapting Models for Scenario Testing of CAV Impacts**

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

*Learning Objectives*

- Understanding how CAVs may impact future travel
- Emerging changes in travel behavior
- Options for enhancing and restructuring model components for scenario testing

**Abstract**

The presentation will focus on current changes in travel behavior coupled with modeling of Connected Autonomous Vehicles (CAVs). While there is significant uncertainty as to the magnitude and timing of impacts from CAVs in the future, there are benefits to analyzing various scenarios to assist decision makers with understanding those potential impacts. As North Carolina is a rapidly growing state, NCDOT can benefit from understanding options for modeling the impacts of this technology, along with other changes in travel resulting from the increasing role of Internet-based services. The presentation will also include some discussion of other considerations and emerging techniques that are being developed to address CAV impacts within travel demand models in a more robust manner.

**Bio**

**David Schellinger:** [david.schellinger@stantec.com](mailto:david.schellinger@stantec.com), Stantec Consulting Services, Plymouth Meeting, PA

A 40-year industry veteran, David leads a group of transportation analysts responsible for the development and application of travel demand models for a broad range of clients. His model application projects include both highway and transit studies. In this role, he is responsible to support the conversion of existing models to more current software platforms and to assist existing clients with various model refinements and enhancement efforts. When not chained to his computer, he is working on projects around the house or at the outer banks enjoying the ocean. His pet projects include fixing his corvette.

- **FORECAST**

01:40-02:20 PM (40 minutes)

**Accuracy Assessment of Traffic Forecasting**

Dave Schmitt, CTG, Ashu Kumar, CTG

*Learning Objectives:*

- Understanding the potential model factors that affect the forecasting accuracy
- Empirical evidence about the accuracy of past traffic forecasts in multiple states
- The implementation example of NCHRP 934 research procedure

## Abstract

State departments of transportation and other transportation planning agencies use traffic forecasts to inform important decisions about transportation projects, including the selection of which projects to build and the design of particular elements as a function of demand. It is therefore important that transportation planners and policymakers base such decisions on the most accurate possible traffic forecasts.

NCHRP Research Report 934 aims to fill that gap, focusing specifically on project-level traffic forecasts for public roads in the United States. To accomplish this task, the research team assembled the largest known database of past traffic forecast reports, composed of information about traffic forecasts and measured outcomes after the projects open. The report examines the accuracy of these forecasts and modeling factors related to the accuracy and presents a series of case studies aimed at providing a better understanding of the sources of inaccuracy. Together, the analysis coupled with the case studies provide empirical evidence about the accuracy of past traffic forecasts.

The research procedure was recently implemented into the practical forecasting database to assess forecasting accuracy for FDOT District 4. The database of 600 projects was created with the available AADT forecasts and counts including mostly design level forecasts along with few forecasts from other traffic studies conducted since 1999. The application developed analyzes the accuracy of these forecasts by different dimensions (such as the county, forecasting method, AADT range, difference between forecast year and existing year, area type, etc.), providing the margin of error of the forecasts, assessing whether the forecasting accuracy has improved over the years, and providing guidance on how to use the assessment in reviewing/evaluating future traffic forecasts. The uncertainty was quantified associated with forecasts.

## Bio

### Dave Schmitt

[dschmitt@ctgconsult.com](mailto:dschmitt@ctgconsult.com), Connetics Transportation Group, Inc., Orlando, FL

Mr. Schmitt is the co-Principal Investigator for this NCHRP 934 study. He has over 25 years' experience working on travel demand models around the country. He develops and applies models tailored to the client's needs based on good practice and grounded by data. His experience includes developing and applying entire regional models, upgrading models to achieve stricter standards, developing models targeted to specific modes or travel markets, performing independent reviews of travel models, and leading model validation efforts. Mr. Schmitt led the development of a database that incorporated project traffic forecasting and count information for over 3,000 projects from seven states.

### Ashu Kumar

[AKumar@ctgconsult.com](mailto:AKumar@ctgconsult.com), Connetics Transportation Group, Inc., Fort Lauderdale, FL

Mr. Kumar has 16 years of experience in travel demand model development and forecasting, multi-modal corridor planning studies, data-driven planning techniques, traffic and transit ridership estimates, and New Starts analyses. He implemented the NCHRP 934 research procedure and developed the practical forecasting database for FDOT D4.

02:20-03:00 PM (40 minutes)

## "VisionEval": Collaborative Development of New Strategic Planning Models

Jeremy Raw, FHWA

### *Learning Objectives*

- Understand the role for transportation planning of strategic models in general, and VisionEval in particular
- Provide an overview of the functions of VisionEval and how to set it up and run it.
- Explain where to get additional information on VisionEval.

## Abstract

Transportation planning faces many new challenges ranging from the effects of climate change to changes in travel due to Covid-19. New technologies are already making fundamental changes in how and why people travel, affecting work, school, shopping and other trips. Since it is impossible to predict the outcome of these changes on a twenty-year (or longer) time horizon, planners are developing new approaches to supporting confident decision-making. Strategic planning, which examines risks and opportunities and seeks to identify resilient policies and projects, is one such approach. The VisionEval model framework was originally developed for assessing policies intended to address greenhouse gas emissions and has

gradually been enlarged to examine a range of emerging transportation policies and technologies. This session will review the need for VisionEval, its application to the planning process, and how the model can be set up and applied to support robust decision-making by evaluating and comparing many possible future scenarios.

**Bio**

Jeremy Raw

[Jeremy.Raw@dot.gov](mailto:Jeremy.Raw@dot.gov) , Federal Highway Administration, US Department of Transportation, Washington DC

Jeremy Raw, P.E., is a Community Planner in the FHWA Office of Planning where he coordinates research and deployment of data collection and analysis techniques and modeling for transportation planning, as well as planning applications for national data sets. His work areas include support for performance-based planning through performance measure development, modeling and analysis; planning for connected and automated vehicles; scenario planning; and strategic planning techniques. Jeremy holds degrees in philosophy, literature, engineering, and city planning.

**Other Notes:**

**Two (2) PDHs can be earned at the meeting.**