NCDOT RESEARCH AND DEVELOPMENT UNIT WEBINAR

How NCDOT is Taking Steps Toward Planning and Designing for CAVs

Speaker: Joe Hummer, PhD, PE

June 6, 2022 1:00-2:00 pm

Connected and automated vehicles (CAVs) will change many aspects of the transportation business, and our lifestyles in general. Steady progress continues toward widespread implementation, with forecasts showing that by 2045 or 2050 large percentages of the traffic on our roads will be CAVs. The year 2045 is the current NCDOT design year, but to this point we are planning and designing for exactly zero percent CAVs. NCDOT has begun to take steps toward planning and designing for CAVs, and this webinar will describe three of those steps.

1. NCDOT helped sponsor a research project that developed capacity adjustment factors for different road situations based on the percentage of CAVs in the fleet.
2. NCDOT sponsored a research effort to develop some interim guidance on how increasing CAV percentages will affect demand on our roads. Will traffic volumes go up, due to the ease of CAV travel and empty-vehicle trips, or will traffic volumes go down, due to trips shifting to off-peak times? We will review the interim guidance.
3. An NCDOT-sponsored research project is just about to get underway to take a deeper dive into the demand side and develop longer-lasting guidance. We will look at the research methods and look ahead a couple years to how we will use the final product.

Registration Link

Joseph E. Hummer, PhD, PE, is the State Traffic Management Engineer with the North Carolina DOT Mobility and Safety Division. He specializes in alternative intersection and interchange designs, and recently developed an interest in automated vehicles. He began researching alternative designs in 1990, has published numerous articles about them, has invented several new designs. On automated vehicles, he is the author of the 2020 book “Driverless America”, a book that forecasts life after widespread deployment. Joe spent most of his career as a Professor at North Carolina State before serving as Chair of Civil Engineering at Wayne State. He returned to North Carolina and joined the NCDOT in 2016 to work on the implementation of new ideas.