### SHRP 2 WEBINAR: Calibration of Microscopic Traffic Simulation Using Naturalistic Driver Behavior and Car-Following Metrics for Freeway Segments

**When:** Wednesday, January 25, 2023 from noon to 1 p.m. EST

The webinar is open to anyone interested in this topic; no pre-registration is necessary. Click or paste this link in your browser: <https://virginiatech.zoom.us/j/86511374374> and follow the instructions to join the webinar. The link is also posted on the InSight website home page (<https://insight.shrp2nds.us>).

**This research was conducted as part of the SHRP 2 Naturalistic Driving Study (NDS) Pooled Fund** and leveraged SHRP2 NDS datasets to improve understanding of driving behavior, particularly car-following from passenger vehicles on freeway segments. This research proposes a calibration process for microscopic traffic simulation to ensure that simulated vehicle-to-vehicle interactions reflect naturalistic behavior. The proposed calibration is intended to complement typical calibration practices focused on macroscopic metrics such as travel time, delay, and queues. Over 1,600 hours of car-following data from more than 1,700 unique drivers were used as a basis to create driving behavior distribution targets and represent naturalistic driving in terms of vehicle spacing, acceleration, and jerk at different speed levels. A portable open-source tool, called Naturalistic Assessments of Car-following Trajectories (NACT) was developed to read generic trajectories from microscopic simulation, extract car-following behavior, and perform statistical comparisons against the NDS targets to guide the calibration process.

The webinar will be presented by Juan Medina (University of Utah).

**Dr. Juan Medina** is a Research Associate Professor in the Department of Civil and Environmental Engineering at the University of Utah. Dr. Medina’s research is focused on traffic safety and operations, using approaches with significant data-driven components. Dr. Medina has contributed in over twenty federal and state-sponsored research projects. He is the lead researcher of the Utah Transportation and Public Safety – Crash Data Initiative (UTAPS-CDI), a long-standing joint effort between the University of Utah, the Utah Department of Transportation, and the Utah Department of Public Safety to develop custom solutions for data management, analysis, and web interfaces. Dr. Medina has extensive experience on field data collection, data management, traffic simulation, and statistical and agent-based modeling, and he is a certified professional in administering databases.

The webinar host will collect specific questions throughout the webinar, and time will be allotted for questions and discussion at the conclusion of the presentation.

The SHRP 2 User Experience webinar series is designed to provide a periodic opportunity for current and future users of the SHRP 2 to engage in discussions on topics suggested by the user community. If you have a topic that you’d like to hear about, let us know by emailing [InSightFeedback@vtti.vt.edu](mailto:InSightFeedback@vtti.vt.edu).

For more details visit: <https://insight.shrp2nds.us>.