“SHRP2 WEBINAR: Developing Speed Crash Modification Factors (CMFs) using SHRP 2 RID”

This research was conducted as part of the SHRP 2 Naturalistic Driving Study (NDS) Pooled Fund (<https://www.pooledfund.org/Details/Study/613>).

Speed is widely recognized as having significant safety impacts, especially on the severity of crashes. However, these effects are complex and generally have not been captured in the Highway Safety Manual (HSM). This project developed speed-related crash modification factors (CMFs) for 12 different roadway facility types from rural highways, urban and suburban arterials, and rural and urban freeways by using Washington (WA) and North Carolina (NC) data from three major databases: the Strategic Highway Research Program 2 Roadway Information Database (SHRP-2 RID), the National Performance Management Research Dataset (NPMRDS), and the Highway Safety Information System (HSIS). The results show that speed variation (e.g., the standard deviation of operating speed) was the dominant speed measure for rural highways and rural and urban freeways, and speed differential (e.g., the difference between the posted speed limit and average operating speed) was the dominant speed measure for urban and suburban arterials. In most cases, the association of speed variation/differential with crashes is positive. CMFs were developed for 129 crash types and severity levels, and most obtained three-star CMF Clearinghouse ratings. These CMFs were developed through a data-driven safety analysis approach, and application of these CMFs (e.g., in HSM-related evaluation tools) requires careful interpretation. The findings show that inclusion of speed-related CMFs improve model precision. While this study focused on WA and NC data, other states can use the documented approach to develop speed-related CMFs for their own jurisdictions.

The webinar will be presented by Subasish Das (Texas State University) and Seyedehsan (Ehsan) Dadvar (Genex Systems)

Dr. Subasish Das is an Assistant Professor of Civil Engineering Program in the Ingram School of Engineering at Texas State University. He is also involved with Texas A&M Transportation Institute (TTI) as a part time Associate Research Scientist. Previously, he worked as a full-time Associate Research Scientist at TTI during 2015 to 2022. He has more than 13 years of experience related to roadway safety, traffic operation, and connected and automated vehicle (CAV) technologies. He has published more than 160 peer-reviewed publications including technical reports, journal articles, and book chapters. He is the author of the book “Artificial Intelligence in Highway Safety,” which was published by CRC Press in 2022.

Dr. Seyedehsan (Ehsan) Dadvar is a Transportation Research Engineer at Geometric Design Laboratory (GDL) of FHWA at Turner-Fairbank Highway Research Center (TFHRC). He received his Ph.D. in Transportation from Morgan State University in Baltimore, MD in 2018. He was the co-principal investigator of three safety research projects funded by DOTs of Maryland & Washington, DC and co-author of several technical reports & peer-reviewed journal articles. He has been a licensed “Road Safety Professional” (RSP) by the Transportation Professional Certification Board (TPCB) since 2019. He is currently a member of ITE Standing Committee of Data-Driven Safety Analysis (DDSA).

**When**: Thursday, March 23, 2023, from noon to 1 p.m. EST

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 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/87513018421> and follow the instructions to join the webinar. The link is also posted on the InSight website home page (<https://insight.shrp2nds.us/>).

The SHRP2 NDS User Experience webinar series is designed to provide a periodic opportunity for current and future users of the SHRP 2 NDS 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.

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