

Advancing Crash Frequency Prediction Modeling Using GIS

Dr. Srinivas S. Pulugurtha, P.E., F.ASCE

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About the Talk:

Traffic volume and on-network characteristics have, historically, been used to quantify risk and model crash frequency on roads. However, such data are not available at all points or for all links in the transportation network. Alternatively, surrogate data such as demographic, socio-economic, and land use characteristics can be used to estimate the crash frequency as they are the factors that are directly related to trip generation or attraction (exposure). In addition to accurately predicting crash frequency, understanding the role of these explanatory variables on safety will help practitioners “proactively” incorporate safety into transportation planning and land use planning processes. The presentation will focus on exploring geographic information systems to integrate data, capture explanatory variables, and model crash frequency.

About the Speaker:

Dr. Srinivas S. Pulugurtha, P.E., F.ASCE is currently working as Professor & Research Director of the Department of Civil & Environmental Engineering at The University of North Carolina at Charlotte (UNC Charlotte). He is also currently the Director of IDEAS Center at UNC Charlotte. He is a registered Professional Engineer (Civil) in the State of North Carolina and a Fellow of the American Society of Civil Engineers (ASCE).

Dr. Pulugurtha has experience and worked in diverse fields of transportation, like traffic safety, active transportation, Intelligent Transportation Systems and connected and automated vehicles, transportation system planning, traffic operations, data analytics and visualization (including GIS, AI, OR and statistical modeling), and operations research applications. He has led and successfully completed more than 85 sponsored projects/grants as Principal Investigator (PI) or co-PI. He authored/co-authored 248 peer-reviewed publications (includes 124 journal papers) and 300 technical presentations at international, national, regional and local conferences. Dr. Pulugurtha has mentored/advised 21 Ph.D. students and 58 M.S. students. His research accomplishments were recognized with three “best research paper” awards.

He is a member of several professional organizations, including ASCE, Institute of Transportation Engineers (ITE), and Transportation Research Board (TRB). He served as a member of several technical, scientific, and conference steering committees.