

WEBINAR # 7

Estimating and Forecasting Transportation Metrics - Lessons Learned -



Dr. Laurence R. Rillet

Dr. Laurence R. Rillet is the Ginn Distinguished Professor, Director of the Auburn University Transportation Research Institute (AUTRI), and Director of the Alabama Local Technical Assistance Program. He has been a principal or co-principal investigator on 50+ research and workforce development projects, securing over \$60M in funding and publishing 100+ peer-reviewed articles. In 2021, he received ASCE's Frank M. Masters Award for contributions to transportation research and workforce diversity. In 2022, he earned the ARTBA S.S. Steinberg Outstanding Educator Award for his impact on transportation education and research.

19 March 2025

A conversation between

and



Dr. Andrzej Nowak

Dr. Andrzej Nowak is a Professor at Auburn University, formerly at Michigan and Nebraska. He earned his MS and Ph.D. from Politechnika Warszawska. His expertise includes structural reliability and bridge engineering, notably developing reliability-based calibration for AASHTO, ACI 318, and Canadian codes. He contributed to bridge diagnostics, load modeling, and experimental WIM measurement. Author of 450+ publications, he chaired 38 doctoral committees and held leadership roles in ASCE, ACI, TRB, IABSE, and IABMAS. Honors include an honorary doctorate, ASCE Moisseiff Award, ACI Mete Sozen Award, and multiple medals.

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Brief Outline

Transportation planners and engineers have recently begun to utilize traffic simulation models to estimate and forecast transportation operations and reliability metrics. For example, the Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis (HCM-6) has recently defined capacity and passenger car equivalents based on output from the microsimulation model VISSIM. The advantage to simulation methods is that the metrics, which may be based on measures of central tendency (e.g. mean, median), measures of dispersion (variance, percentile), or even a combination of other metrics (e.g. travel time index), may be easily calculated and/or estimated. As one example, many researchers over the past decade have focused on developing and estimating metrics related to network reliability and resilience. This talk will focus on a number of issues related to using simulation for estimating transportation metrics with a focus on model assumptions and model calibration.