



# Transportation Data Science Seminar Series

## Introduction on How to Estimate Transportation Safety

### Seminar summary

Road traffic injury is a major global public health problem. Each year, more than 1.3 million roadway users died as a result of traffic crashes. It is necessary to take proactive actions to reduce both number and severity of roadway traffic crashes. Transportation engineers have developed roadway safety management approaches (e.g., *the AASHTO's Highway Safety Manual*, *the PIARC's Road Safety Manual*). In the traffic safety management process, safety estimation plays a critical role. Unreliable estimation in safety may lead to inaccurate hotspot identification, and result in inefficient use of limited investments and additional loss of lives. This seminar is an introduction of the premier components in roadway safety studies, including the fundamental concepts for traffic safety analyses, crash data collection and database management, statistical crash modeling, hotspot identification, and safety effectiveness evaluation methods.



### Speaker's information

Dr. Lingtao Wu is an Assistant Research Scientist at TTI with about 10 years of experience as a transportation safety analyst. Dr. Wu's research interests include safety data statistical modeling, crash prediction, data-driven safety analysis, effectiveness evaluation of safety countermeasures, and roadway hotspot identification. Dr. Wu has extensive experience in safety data manipulation and analytics. The data cover various aspects, including the traditional roadway inventory data, traffic data, crash records, as well as emerging connected and automated vehicle data, phone use data, and naturalistic driving study data. Dr. Wu uses analytical methods to estimate roadway safety, identify hotspots (i.e., segments or intersections that are prone to crashes), and provide improvement strategies. The primary objectives are to reduce the occurrences of crashes and save lives. Dr. Wu is the recipient of the Transportation Research Board Young Researcher Paper Award, the International Road Federation Fellowship, and the European Road Safety Award.

Time: 4:00-5:00 p.m. US Central Time (Thursday, April 1, 2021)

Zoom Meeting ID: 732 641 0814 Passcode: 575829

Direct Link: <https://tamu.zoom.us/j/7326410814?pwd=cGZKY045dmVkdzVRLy9MYWhocWorQT09>

Host: Xiao Li, Mobility Analysis Program, Texas A&M Transportation Institute



TEXAS A&M UNIVERSITY  
Landscape Architecture  
& Urban Planning



TEXAS A&M  
Institute of  
Data Science