



Transportation Data Science Seminar Series

Data insights to understand micromobility user behavior and safety

Seminar summary

Micromobility vehicles have become popular in most cities, ranging from personally owned e-bikes to shared scooters. These vehicles provide new mobility services that do not fit neatly into existing behavioral or safety frameworks. Their use tends to blur the lines between utilitarian and recreational trips, which prompt different policy frameworks for regulating their use. Fortunately for researchers and practitioners, micromobility vehicles and their systems generate datasets that allow opportunities to understand how people use the vehicles. This presentation will cover the potential for using probe data for micromobility vehicle analysis with several applications. Specifically, this study will cover three main topics related to the interpretation of probe data generated by micromobility. The first set of applications will investigate scooter user behavior with a specific focus on how to categorize trip purpose based solely on patterns in the dataset. The second analysis pairs some of this exposure data (e.g., number of trips) with crash data. In a similar vein, personal e-bike use is not well understood and a subject of significant policy debate. Governments are offering incentives and even the proposed Build Back Better federal legislation has included e-bike incentives for the first time. These incentives hinge on rider behavior changes that reduce car trips. The third application will present preliminary findings of a two-year longitudinal study of e-bike riders using a custom trip tracking application. This work applies machine learning models to label trips by purpose and mode substitution pattern that can inform policy as it relates to sustainability, safety, and health. This presentation will conclude with direction for future research on how the pairing of data analytics and micromobility systems can improve our overall understanding of how to leverage the benefits of micromobility and manage the negative impacts. This seminar series is co-organized by Department of Landscape Architecture and Urban Planning, Transportation Institute, and Institute of Data Science at Texas A&M University.

Speaker's information



Dr. Chris Cherry is a Professor in Civil Engineering at the University of Tennessee. His research is centered on the intersection of policy, technology, travel behavior, safety and sustainability in the transportation sector. His past and current work spans the globe, with projects in Asia and the US. Focusing on low-impact transportation modes, much of the work of his career has aimed to understand the role of lightweight electric vehicles (micromobility) in the transportation space, starting with his PhD dissertation on e-bikes in China from UC Berkeley in 2007. He directs the Light Electric Vehicle Education and Research Initiative and is a PI on several ongoing projects focused on safety of vulnerable road users (pedestrians and micromobility) funded by USDOT, TRB, and TDOT.

Time: 8:00-9:00 p.m. US Central Time (Thursday, December 16, 2021)

Zoom Meeting ID: 732 641 0814 Passcode: 575829

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

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