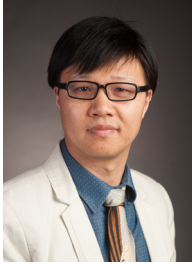




# UNIVERSITY TRANSPORTATION CENTER RESEARCH BRIEF

## Micro-Mobility Promises and Challenges in the Pacific Northwest

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### Background

Electric-scooters (e-scooters), e-bicycles, and other “micro” modes have emerged as a shared micro-mobility service in 65 U.S. cities. These services have the potential to be a powerful tool in fulfilling first- and last-mile needs. However, several cities have enacted cease and desist orders

for these services due to safety concerns for riders and pedestrians. In Portland, OR, nearly half of e-scooter riders who know they are required to wear a helmet choose not to. An even greater proportion of riders know that they cannot ride on sidewalks, but still choose to at least “sometimes.”

There is a research need to identify the challenges associated with the rapid adoption of shared micro-mobility services in the Pacific Northwest. There is also limited existing knowledge on e-scooter user and potential user behavior and characteristics. Filling these knowledge gaps may help to better understand what the overall impact of these new services will be, and will enable agencies to better prepare for and adopt these micro-modes.

### Research Project

The goal of this research is to develop a framework that can be used by transportation agencies to evaluate the potential impact shared micro-mobility services may have on their respective communities. The framework will include details on 1) estimating current micro-mobility vehicle miles travelled, 2) projecting future micro-mobility vehicle miles travelled, and 3) implementation strategies including rider education and infrastructure development suggestions. These details will help agencies combat issues such as congestion, emissions, and emergency relief. The research will also produce qualitative and quantitative models to capture and predict phenomena related to switching modes.

These goals will be achieved through 1) stated preference and revealed preference survey questionnaires, 2) micro-mobility stakeholder workshops; and 3) data-driven micro-mobility behavior analysis administered in Oregon and Alaska. The

qualitative and quantitative results will be integrated into a useful framework for communities and municipalities of different sizes interested in adopting or expanding micro-mobility services. The survey questionnaires will be used to determine e-scooter user behavior and characteristics, critical factors affecting choice behavior, and the market potential for shared micro-mobility services. Stakeholder workshops will be used to identify the opportunities, issues, and challenges associated with the rapid adoption of micro-mobility services, and assess stakeholder perceptions of these modes and services. These two qualitative sources of data will be integrated with empirically collected data of micro-mobility user behavior under different intersection control, which will inform the resulting models.



### ABOUT THE AUTHORS

The research team consisted of Haizhong Wang and David Hurwitz of Oregon State University and Nathan Belz of the University of Alaska Fairbanks.

### ABOUT THE FUNDERS

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### EXPECTED DATE OF COMPLETION

August 2021

### FOR MORE INFORMATION

<http://depts.washington.edu/pactrans/research/projects/micro-mobility-promises-and-challenges-in-the-pacific-northwest/>