

UTC Project Information	
Project Title	Supplementing fixed-route transit with dynamic shared mobility services: a marginal cost comparison approach
University	University of Washington
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Funding Source(s) and Amounts Provided (by each agency or organization)	University of Washington PacTrans \$40,000 University of Washington \$40,000
Total Project Cost	\$ 80,000
Agency ID or Contract Number	69A3551747110
Start and End Dates	March 16, 2021- Sept 15, 2022
Brief Description of Research Project	<p>This research addresses a key research need regarding how public transit agencies should respond to the rapid growth of shared mobility services, while leveraging unique policy innovations implemented in the Seattle metropolitan region. It develops a novel theory-and-data-driven approach for public transit agencies to evaluate the cost-effectiveness of incorporating app-based shared mobility to supplement fixed-route transit.</p> <p>Based on the economic concept of marginal cost, this research aims to deepen our understanding of when, where, and how public agencies should utilize shared mobility modes. Using data from King County Metro (KCM)'s Via to Transit program, it builds simulation models for KCM and other public transit agencies to estimate and compare the marginal costs of delivering mobility services, including both traditional and shared mobility options. By accounting for both the service provider's cost and the users' cost, we obtain a more complete and accurate measure for the cost of each option.</p>

<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	<p>The research findings were presented to relevant planners and policy makers in King County Metro. There are indications that the work has generated some impact on how transportation planners are thinking about making innovative use of new, on-demand mobility service options to help close accessibility gaps and promote transportation equity. For example, my research proposal for further developing this analytical approach and using it to compare mobility options for a selected urban peripheral area and a selected rural area has been recommended by the Public Transportation Division of WSDOT (Washington State Department of Transportation) for the coming round of applied research funding.</p>
<p>Impacts/Benefits of Implementation (actual, or anticipated)</p>	<p>Our research results indicate that, if on-demand micro-transit is used to support first mile/last mile travel in a rail transit station area similar to the case study area, it has clear cost advantages over the traditional approach of using fixed-route buses. In particular, if fixed-route bus service frequency is substantially increased to achieve a comparable travel time to that of on-demand micro-transit, the cost would be prohibitively high, implying significantly benefits of providing on-demand micro-transit instead of the traditional option.</p>
<p>Web Links</p> <ul style="list-style-type: none"> • Reports • Project Website 	