UTC Project Information	
Project Title	Locating Fast Charging Stations for Safe and Reliable Intercity Electric Vehicle Travel in Washington
University	University of Washington
Principal Investigator	Donald MacKenzie
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Funding Source(s) and Amounts Provided (by each agency or organization)	University of Washington PacTrans $20,000 Washington State Department of Transportation $20,000
Total Project Cost	$40,000
Agency ID or Contract Number	DTRT13-G-UTC40
Start and End Dates	December 16, 2016 – January 31, 2018
Brief Description of Research Project	The goal of this work was to identify high-value locations for public DCFC investment based on (1) high level of expected demand based on EV ownership and long-distance travel patterns, and (2) high potential to spur further EV adoption. WSDOT purchased and provided to the team origin-destination data on long-distance vehicle trips in Washington state, and Department of Licensing provided data on the numbers of EVs and of all vehicles registered in each ZIP code across the state. We are using these data to develop an O-D matrix for EV trips in the state, and the expected level of EV traffic along each highway segment, if recharging were not an obstacle to long-distance EV travel. Then we are assigning these trips to the highway network based on travel times and costs.

Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	The key output of this project was a calibrated model of origin-destination flows between ZIP codes in Washington. This model was incorporated into a tool developed for WSDOT, which is an agent-based simulation of long-distance electric vehicle travel and associated charging demands. The model is reported in this paper: Jabbari, P., Khaloei, M., & MacKenzie, D. Estimating potential demand for long-distance electric vehicle travel in Washington State. *TRB Paper No. 19-05264*, Transportation Research Board 98th Annual Meeting. Washington, DC. January, 2019.
Impacts/Benefits of Implementation (actual, or anticipated)	The model developed in this project is an essential component of the long-distance EV travel simulation that has been developed for WSDOT. That tool is nearly completed, and WSDOT staff expect to use it to support decisions about allocation of public funds for charging station development.
Web Links • Reports • Project Website	