UNIVERSITY TRANSPORTATION CENTER

RESEARCH BRIEF

PROJECT TITLE: Examining the Effects of King County Metro Carpool Incentive Fund

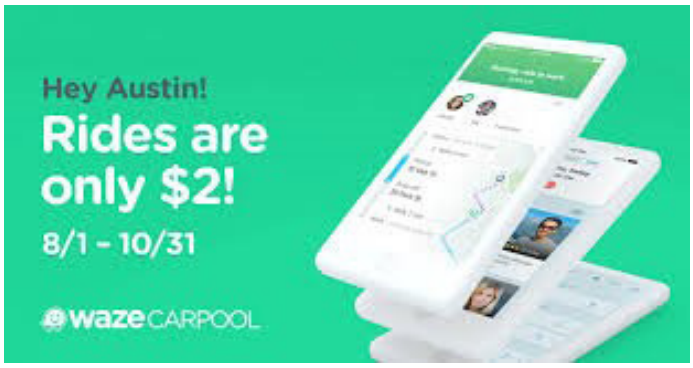
PRINCIPAL INVESTIGATOR: Qing Shen (UW)

INSTITUTION: SINGLE-INSTITUTION PROJECT
ESTIMATED COMPLETION DATE: AUGUST 2020
SPONSORS: THE PACIFIC NORTHWEST TRANSPORTATION CONSORTIUM, UW

Background

Mobile information and communication technologies have created exciting opportunities for reviving carpooling as a key component of shared mobility. To take full advantage of the opportunities, King County Metro has created the Carpool Incentive Fund (CIF) program that allows dynamic carpooling service providers to draw compensation for providing incentives to encourage commuters who are normally prone to driving alone to share rides.

The implementation of the CIF program enables this team to conduct data-based research on the effects of using monetary incentives to encourage carpooling. As part of the agreement between Metro and participating carpool service providers, Metro collects a monthly report on the carpooling trips that received CIF incentives, which contains detailed usage data for each carpool passenger and driver. In addition, an electronic survey of participants is conducted every three months, asking questions with regards to mode shift and demographics. These data serve a solid empirical basis for evaluating the performance of the CIF program.



Research Project

The project will examine the outcomes of the CIF program with the ultimate goal to identify effective ways for public transit agencies to promote carpools that generate desirable social and environmental outcomes. The research will aim to answer several questions: 1) Do monetary incentives significantly influence the use of carpooling, particularly with any evidence of mode shift from single occupancy vehicle (SOV) to ridesharing? 2) Do carpool trips show distinctive spatial and temporal patterns? Do they compete with or complement fixed route public transit? 3) Do carpool trips reduce VMT without significantly increasing travel time?

App-based demand-responsive carpooling reduces the time cost and uncertainty for carpooling, which makes this form of shared mobility more appealing. The provision of monetary incentives further reduces the generalized travel cost for this travel option relative to others, which is expected to increase the mode share for carpooling. However, the new participants of carpooling may be drawn from different modes, including SOV, public transit, walk, and bike. Therefore, the overall impact of the CIF program must be assessed based on the analysis of empirical data.

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