Ridesharing and the Journey to Work in Vermont

Modeling Composition of Vehicle Occupancy using the 2009 National Household Travel Survey

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ABSTRACT

Ridesharing serves to mitigate pollution and congestion with minimal investment of public capital while also increasing the efficiency of the transportation system. This research addresses the gaps in the literature on the structure and formation of ridesharing by identifying individual, household, and physical-environment characteristics that correspond with an individual's choice to rideshare instead of drive alone. In order to fully understand ridesharing behavior, there first must be a better understanding of *who* is in the vehicle not just *how many*. A distinction is made between *intra*-household (internal) and *inter*-household (external) ridesharing. Using the Vermont add-on sample of the 2009 National Household Travel Survey, a multinomial logit and nested logit model were developed to examine the determinants of ridesharing. The analysis in this research stresses the importance of how ridesharing behavior is extracted from survey data - improper methods drastically under-represent number of trips being taken with multiple occupants. Further, a new method for calculating household vehicle availability is presented, which places less importance on drivers that are not full-time workers. The results indicate that employment density, distance to work and working in small urban area have positive influences on the likelihood of ridesharing. Vehicle availability, age, sex (male), and time spent per trip on the journey-to-work were all found to negatively influence the propensity to rideshare. Cost of travel does not emerge as having a significant effect on ridesharing likelihood.