



Caltrans Division of Research,  
Innovation and System Information

# Research



# Results

Planning/Policy/  
Programming

## The Division of Car Use in Auto-Deficit Households

UTC - Who's in the Driver's Seat? The Division of Car Use in Auto-Deficit Households, (UCCONNECT)

### WHAT IS THE NEED?

While the importance of household interdependencies in shaping individual travel is increasingly recognized among researchers, research on intra-household automobile use is lacking in the U.S. The studies cited above rely on travel survey data from Germany and the Netherlands.

### WHAT WAS OUR GOAL?

This proposal responded to Goal 3: Sustainability, Livability, and Economy and contributes to the growing number of studies that find associations between mode, mobility, and economic outcomes. This study examined the effect of relative access to automobiles on travel mode (the likelihood of traveling by car or by modes other than the automobile), number of trips, and number of miles. In the second part of the analysis, we examined the role of residential location. We were interested in whether mobility differences (measured as miles traveled and number of trips taken) between spouses erode in denser urban environments with greater access to sustainable car-alternative modes like transit, walking, and biking.

### WHAT DID WE DO?

This proposal responded to Goal 3: Sustainability, Livability, and Economy and contributes to the growing number of studies that find associations between mode, mobility, and economic outcomes. This study examined the effect of relative access to automobiles on travel mode (the likelihood of traveling by car or by modes other than the automobile), number of trips, and number of miles. In the second part of the analysis, we examined

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The Division of Car Use in Auto-Deficit Households

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## WHAT WAS THE OUTCOME?

The deliverables for this task were:

1. Deliverable 1: A working paper
2. Deliverable 2: A journal article
3. Deliverable 3: ACCESS article
4. Deliverable 4: A conference presentation

The biggest differences in the characteristics of households by vehicle ownership status occur when households move from carlessness to auto ownership. However, there are still statistically-significant differences between auto-deficit households and households with one or more vehicles per driver. Auto-deficit households tend to be larger, suggesting the need to coordinate household travel either in the form of carpooling or negotiating complementary use of the household vehicle. They are also more likely to live in dense urban areas where some household members might be able to take advantage of high levels of transit service.

Finally, auto-deficit households also are more likely to have lower incomes. In general, income is negatively related to the likelihood of being auto deficit except at very low incomes when the mobility benefits of an additional car may not outweigh the ownership costs.

## WHAT IS THE BENEFIT?

The analysis-while seemingly academic provides a better understanding of the factors that predict automobile access within households. Insight into

to the demographic and mobility questions will help policy makers to understand how households with constrained car access make tradeoffs and how those tradeoffs vary based on modal options available to them. In addition, it helps our understanding of the determinants of travel behavior and the potential markets for travel by modes other than the automobile.