

Planning/Policy/ Programming

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Project Title: Car or Public Transit?
Exploring Factors Affecting Mode Choice
in the Mobility of Care

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Car or Public Transit? Exploring Factors Affecting Mode Choice in the Mobility of Care

Many transit systems are built primarily around traditional commute patterns, even though a large portion of daily travel involves responsibilities like childcare, medical appointments, and other caregiving needs. These kinds of trips are especially common among women, who rely on transit in large numbers but often turn to cars when transit services don't align with the timing or complexity of their routines. This project will look at how transit agencies could better design services to support these caregiving trips and estimate the potential reduction in driving if those needs were more fully incorporated into transit planning.

WHAT IS THE NEED?

Transit systems have traditionally been planned around work commutes, even though "care trips", such as taking children to school, visiting family, or going to medical appointments, make up almost as many daily trips for working adults. Women make up more than half of transit riders, but many rely on cars because transit often doesn't meet the needs of complex, time-sensitive care-related travel. This project aims to identify what changes in transit planning and operations could better support women's care-related travel and to estimate how much driving (and thus vehicle miles traveled [VMT]) could be reduced if transit systems were designed with these types of trips in mind.

WHAT ARE WE DOING?

This study explores the factors affecting women's decisions to drive rather than using other modes for care trips. By applying discrete choice modeling to the publicly available travel survey data of the 2022 National Household Travel Survey (NHTS), this study expects to provide evidence of factors where transit service may better accommodate women's mobility of care. Moreover, it will highlight how public transit contributes to reducing household vehicles VMT generated by

care trips when considering women as their potential transit riders and considering their mobility of care.

The factors are likely to include the socio-demographic characteristics of the individual and the characteristics of care trips they serve. Building upon literature on women's travel and the mobility of care, the socio-demographics feature gender, employment status, income, household structure (e.g., presence of children, spouse/partner), and residential location. As travel is a derived demand from activities people engage in, who-an-individual-is (i.e., the socio-demographics) affects what activities they are engaged in and the trips associated with those activities (i.e., the trip purpose). The destination for the activity informs the trip distance. In combination with the transport mode taken, the trip distance indicates the trip duration, or the amount of time taken to travel for the activity.

WHAT IS OUR GOAL?

The results of this study will also provide insights into the reliance on auto modes for care trips and where improvement of alternatives, including transit service and bicycle and pedestrian infrastructure, may encourage the use of these modes more in mobility of care.

WHAT IS THE BENEFIT?

This study focuses on the differences in factors that affect the mode choice for this type of trip. The researchers expect to obtain distinct characteristics of care trips and the socio-demographics of those who travel for care to inform Caltrans on aspects where gender-sensitive transit-related manuals, guidelines, and policies are critical to accommodate women's travel and their mobility of care. The researchers also expect to inform transit agencies of improvements to consider.

WHAT IS THE PROGRESS TO DATE?

Held kickoff meeting with Caltrans staff and incorporated input into study plans. We have been compiling data for the project: household travel survey from Central California and San Diego and the relevant MPOs. We are reviewing and processing the data, and putting together the dataset that will be used in analysis for the study; this includes

merging files, removing unnecessary variables, defining the sample for the project, recoding variables where needed, etc. Some background descriptive statistics have been produced and evaluated.

IMAGES



Image 1: Bicitekas/BYCS