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Evaluating Pilot Approaches to Increase Rural Mobility

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POLICY BRIEF

Issue

People who live in rural areas in California face unique transportation challenges due to long travel distances, infrequent transit service, the cost of car ownership, and limited access to app-based rideshare services that are common in more populated urban centers.

Over the past eight years, UC Davis has partnered with the eight San Joaquin Valley Metropolitan Planning Organizations to identify and support development of three innovative mobility pilot concepts for the region. These pilots, launched in 2019 and 2020, are managed by nonprofit, community-based, and local government organizations with public funding to serve the San Joaquin Valley. The first is an electric vehicle carsharing service, Míocar, which has 27 vehicles located in eight affordable housing complexes in Tulare and Kern counties. The second is a volunteer ridesharing service, VOGO, which facilitates the use of personal vehicles to supplement existing transit services in San Joaquin and Stanislaus counties. The third is a Mobility-as-a-Service mobile application, Vamos, which provides trip planning and payment capabilities for fixed and demand-responsive transit services.

Researchers at the University of California, Davis evaluated these three pilot programs using survey and service usage data collected from their launch dates in 2019 and 2020 through November 2021 to understand the participant characteristics and outcomes of each pilot. The results are part of ongoing research, and preliminary results presented for Vamos and VOGO are considered exploratory.

Key Research Findings

Míocar is improving mobility for lower-income households. Based on member surveys, 63% of trips taken with Míocar would not have occurred in the absence of the service. Three-quarters of the vehicle miles traveled during these additional trips were driven by members of low-, very low-, or extremely low-income households (Figure 1).

Míocar is also reducing greenhouse gas emissions by replacing conventional vehicle travel with electric vehicle travel, particularly for higher-income households. Of the 20% of Míocar trips that members reported would still have occurred in the absence of the service, nearly all would have involved a personal internal combustion engine vehicle. Most of the vehicle miles traveled associated with these trips (65%) were driven by members of moderate- or high-income households. Together, the usage data and survey data suggest that Míocar is replacing internal combustion engine vehicle travel for higher-income households and providing improved mobility to lower-income households.

VOGO is improving mobility for its rider base by providing reliable access to essential destinations. Most VOGO riders do not have access to a personal vehicle and are uncomfortable driving vehicles due to medical issues or other concerns. Most respondents reported that all the trips they made with VOGO would not have occurred if the service had not been available. While the service encountered operational difficulties due to the onset of the COVID-19 pandemic, it continued to provide rides to essential destinations such as medical appointments and grocery shopping for most of the

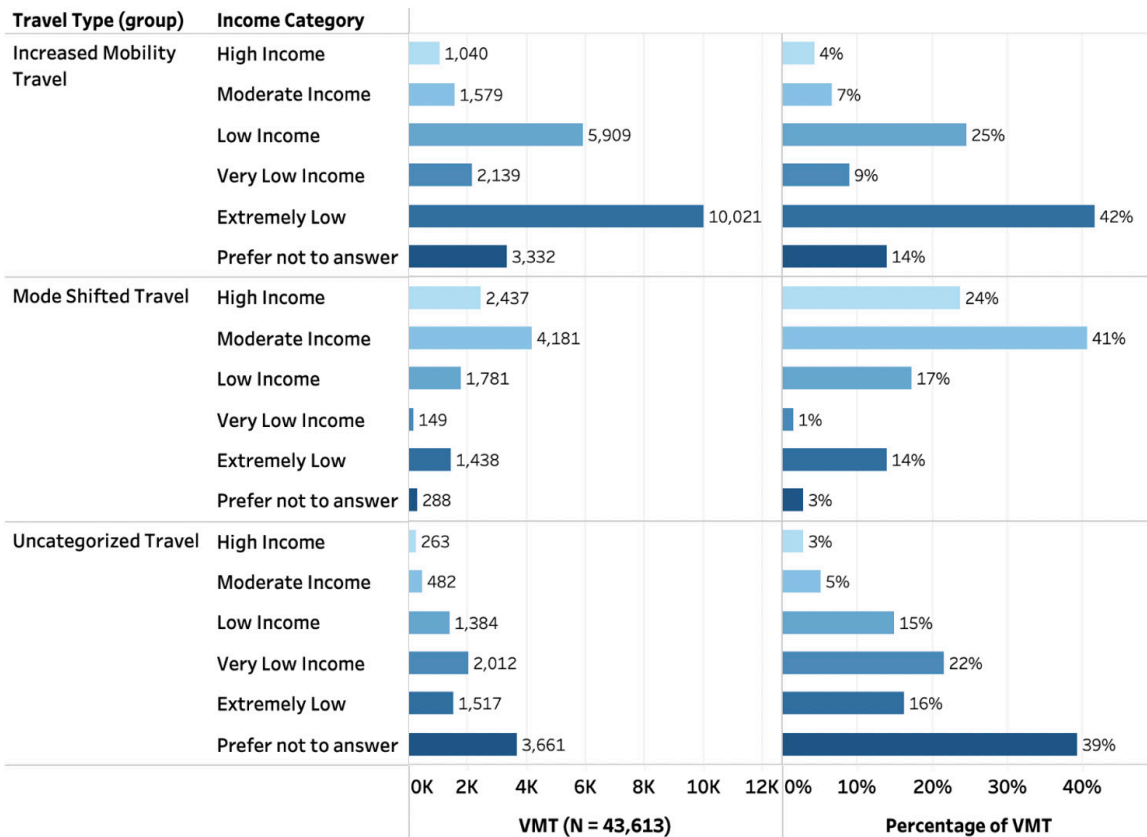


Figure 1. Vehicle miles traveled with Míocar by income category. Increased Mobility Travel includes trips that would not have occurred in the absence of Míocar. Mode Shifted Travel refers to trips that would have been taken using another mode of transportation in the absence of Míocar. Uncategorized Travel refers to trips that could not be categorized due to incomplete or inconclusive survey responses.

study period. The results suggest that the volunteer ridesharing offered by VOGO has been instrumental in filling transit gaps for riders with limited or no personal vehicle access and few alternative transportation options.

Vamos is valued primarily as a fare payment solution, and the expanding service provides an opportunity for further study into Mobility-as-a-Service effects on travel behaviors. The evaluation results suggest that Vamos is viewed as a valuable transit fare payment tool and that it contributes to an improved transportation experience for its active users. The Mobility-as-a-Service approach has been effective in linking the many transit agencies across the region into a single transportation interface. However, further data collection from long-term users may help determine the extent of Vamos' role in shifting modes or improving mobility for its target populations. The number of

long-term users may grow as a result of increased user engagement as the application garners a more extensive user base and expands its service area through its currently planned scaling efforts.

More Information

This policy brief is drawn from “A Before and After Evaluation of Shared Mobility Projects in the San Joaquin Valley,” a report from the National Center for Sustainable Transportation, authored by Caroline Rodier, Brian Harold, and Yunwan Zhang of the University of California, Davis. The full report can be found on the NCST website at <https://ncst.ucdavis.edu/project/before-and-after-evaluation-shared-mobility-projects-san-joaquin-valley>.

For more information about the findings presented in this brief, contact Caroline Rodier at cjrodier@ucdavis.edu.

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