

Research Results

Planning/ Policy/ Programming

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Project Title: Exploring Micro Transit Adoption and Impacts on Transportation Access of Underserved Populations

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Exploring Micro Transit Adoption and Impacts on Transportation Access of Underserved Populations

This research focuses on transportation for underserved people in the Sacramento area of California and aims to explore their barriers to and facilitators of adoption of a technology-enabled on-demand service—micro transit.

WHAT WAS THE NEED?

This research addressed a specific California Department of Transportation (Caltrans) research need: Best Practices for Organizational Change in Multimodal Project Development and Delivery. Through this research, the team focused on the new, technology-enabled, flexible-route ridesharing service that meets the needs of disadvantaged population living in underserved communities. This novelty also helps expand access and improve efficiency through an interconnected multi-modal system that supports fixed-route public by providing on-demand services and solving first- and last-mile problem. Therefore, it has the potential to address transportation equity and accessibility problems especially for underserved people. The researchers conducted a quantitative study focusing on a micro transit pilot project, Smart Ride (SR), which is operated by the Sacramento Regional Transit District (SacRT) in the Sacramento area of California. The findings will help policy makers and planners understand public acceptance of micro transit, facilitators of and barriers to its adoption, and modal shift due to micro transit use in transportation disadvantaged communities, and thereby proactively prepare for it and make long-range plans and future investment decisions.

WHAT WAS OUR GOAL?

This study helps Caltrans and stakeholders understand transportation needs of low-income and minority populations, thereby helping to achieve the goal of transportation equity by seeking to ensure full and fair consideration of underserved populations in transportation planning and helping to identify best practices for the implementation of micro transit projects.



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WHAT DID WE DO?

The research team built a database containing information of transportation underserved people including low income, people with disabilities, older adults, and minorities (consisting of people of color and people from non-English speaking households), based on certain criteria in the Sacramento area of California. The research team developed a questionnaire consisting of questions about how underserved populations use and interact with micro transit, what are facilitators of and barriers to its adoption, and benefits of its availability in their communities. Then, the team conducted phone and intercept surveys, and the resulting data was used to explore barriers to and facilitators of adoption of micro transit, and how much it helps to improve service and job accessibility of transportation underserved populations.

The project focused on a broad spectrum of underserved groups. First, four socio-demographic groups—low-income individuals, people with disabilities, older adults, and minorities—were identified from existing survey data and categorized by certain criteria. Second, representatives from the four groups were invited to participate in an online, phone, or intercept surveys conducted to expand the sample and ensure adequate representation across the four socio-demographic groups.

WHAT WAS THE OUTCOME?

Survey responses show that Smart Ride has significantly improved transportation access for underserved communities. Over 80% of users said that Smart Ride has enhanced their ability to reach desired destinations, with more than a quarter noting significant improvements. This expansion in travel coverage addresses the first mile/last mile challenge, as highlighted by the 27.9% of users who connect to fixed-route transit through Smart Ride. Moreover, Smart Ride supports access to crucial services and employment opportunities. One-third of users use it to travel to work, 12.6% for school, and 32% access medical services and shopping facilities. Smart

Ride offers a cost-effective alternative to traditional transportation options with 84.4% of Smart ride users indicating that they would be willing to pay more than the current fare of \$2.50. Additionally, Smart Ride promotes ride sharing with 76.1% of users sharing their trip with at least one other passenger, thereby reducing vehicle emissions and supporting environmental sustainability goals. These findings underscore how Smart Ride enhances mobility and fosters social inclusion and environmental responsibility within underserved communities.

WHAT IS THE BENEFIT?

Underserved populations can potentially benefit from a new emerging technology-enabled on-demand business model, microtransit, which is operated by public agencies aiming to fill in the gaps in fixed-route transit services. Microtransit can help improve riders' experiences through its on-demand scheduling, flexible routes, and low-cost services, and ultimately provide better mobility for underserved people compared with traditional fixed route transit.

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<https://escholarship.org/uc/item/9863j1fz>

IMAGES



Image 1: SacRT Smart Ride vehicle – a shuttle ride-share services where customers can use a smartphone app to request a ride that will pick up and drop off passengers within the service boundaries.