National Center for Sustainable Transportation

POLICY BRIEF

A Glimpse of Microtransit at an Early Stage: The SmaRT Ride Consumer Market in the Sacramento Area

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Issue

Microtransit is a new, technology-enabled, on-demand transportation mode in which small shuttles provide shared rides through flexible routing and scheduling in response to customers' requests for rides. It can potentially offer greater efficiency and more equitable service than ride-hailing services, and it may fill gaps in traditional transit services. Among many pilot microtransit programs emerging nationwide, one of the largest is SmaRT Ride (Figure 1), launched in 2018 by the Sacramento Regional Transit District.

Thus far, the early shape of the microtransit customer market remains unclear. Specifically, why some people are interested in microtransit while others are not remains an open question. For people who have never used it, what factors could work as facilitators or barriers in their willingness to adopt microtransit? Who are early adopters of microtransit? Aiming to fill this gap, in 2021, researchers at the University of California, Davis conducted focus groups and an online survey of SmaRT Ride adopters and users of other means of transportation in the Sacramento area.

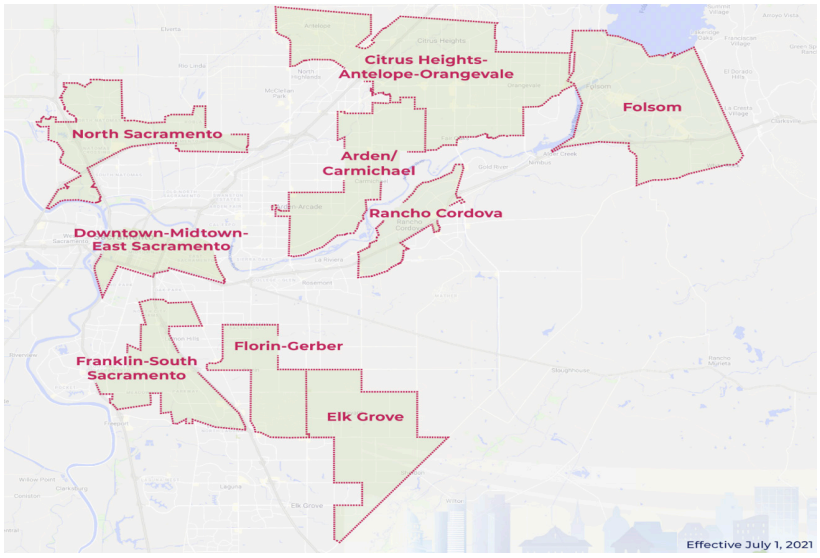

Figure 1. SmaRT Ride service zones in the Sacramento area
Source: Sacramento Regional Transit District

Key Research Findings

SmaRT Ride frequently substitutes for car trips. When asked what mode they would have used for their last SmaRT Ride trip if the service had not been available, more than 40% of users said they would have traveled by car (23% solo driving, 12% driving with others, and 6% ridehailing). Another 7% said they would have taken the bus. This highlights the potential for SmaRT Ride to contribute to reductions in vehicle miles traveled and greenhouse gas emissions.

Microtransit users have certain characteristics that significantly differ from non-users. When compared with non-users, microtransit users were likely to be younger, have a lower education level, have young children, have physical conditions that limit driving, and place a higher value on travel costs. The perception that family, friends, colleagues, and neighbors are supportive of SmaRT Ride also encourages people to use the service.

People who like fixed-route transit services are less likely use microtransit. This implies that microtransit is a complement to, rather than a replacement for, fixed-route transit, and a fixed-route transit user will not necessarily be a microtransit user and vice versa. Bus advocates provided feedback in the focus

groups that they are loyal to traditional buses because they believe fixed-route transit has advantages of travel time certainty, reliability, and environmental friendliness.

The researchers identified several barriers to microtransit adoption. Among individuals who had heard of SmaRT Ride but never used the service, those with more education and those who placed a greater value on their travel time were less willing to adopt microtransit. Inability to drive or take fixed-route transit due to a physical limitation also made individuals who had heard of but never ridden SmaRT Ride less willing to try it, likely due to their limited knowledge of or lack of information about the service. While liking SmaRT Ride significantly encourages the willingness to use it, enjoyment of driving decreases the likelihood of adoption.

The characteristics of early microtransit adopters can inform outreach efforts to grow the microtransit market. The researchers used a statistical technique called latent class analysis to divide SmaRT Ride adopters into three subgroups defined by different combinations of characteristics (demographic, attitudes about travel, etc.). Such an analysis can help providers understand distinct customer market segments and target promotional programs toward them. The class most likely to adopt SmaRT Ride included people who tended to focus on travel cost, be attracted by the novelty and time and money savings of SmaRT Ride, and perceive that their use of SmaRT Ride was supported by their family, friends, and society.

Policy Implications

These findings suggest a multifaceted approach to encouraging both microtransit acceptance and use. Most notably, the feedback from the focus group interviews suggests programs that increase awareness and knowledge of microtransit, including its complementary role in the transit system, could be effective through advertisement and social or community media channels. Given the strong and direct effect of attitude on SmaRT Ride use shown in the empirical study, providers may consider encouraging positive attitudes toward microtransit through promotional or educational programs. These might include establishing a positive social image of microtransit as a greener alternative to driving and providing discounted or free fares on certain days, which may have some lasting effect on microtransit use. Because perceptions of SmaRT Ride's time savings, novelty, and time reliability are found to encourage its adoption and use, it is critical to improve the quality of microtransit services to increase the customer satisfaction level on these attributes. Users in the focus groups pointed out that the inaccuracy of GPS tracking technology led to long and uncertain travel times, indicating that improvement of the microtransit app to provide precise real-time information and thus reduce stress of both drivers and passengers is urgently necessary to increase the quality of the service.

More Information

This policy brief is drawn from "Exploring the Consumer Market of Microtransit Services in the Sacramento Area, California," a report from the National Center for Sustainable Transportation, authored by Yan Xing, Susan Pike, Elham Pourrahmani, Susan Handy, and Yunshi Wang of the University of California, Davis. The full report can be found on the NCST website at https://ncst.ucdavis.edu/project/exploring-consumer-market-and-environmental-impacts-microtransit-services.

For more information about the findings presented in this brief, contact Yan Xing at yxing@ucdavis.edu.

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