FTA RESEARCH
FEDERAL TRANSIT ADMINISTRATION

REPORT SUMMARY

U.S. Department of Transportation
Federal Transit Administration

Mobility on Demand (MOD) Sandbox Demonstration: BART Integrated Carpool to Transit Access Program

Evaluation Report

Background

The BART Integrated Carpool to Transit Access Program was one of 11 Mobility on Demand (MOD) Sandbox Demonstrations funded by the Federal Transit Administration (FTA). The program was operated by Bay Area Rapid Transit (BART) and Scoop Technologies, Inc. (Scoop), with support from the Metropolitan Transportation Commission (MTC) and FTA.

BART is a rapid transit public transportation system serving the San Francisco Bay Area in California and is the fifth-busiest heavy rail rapid transit system in the United States, carrying more than 430,000 daily riders. BART offers a total of 48,000 parking spaces at 34 of its 46 stations. Parking demand at BART stations is very high, with most spaces filling by 8:00 AM each weekday. Most parking spaces are filled by single-occupancy vehicles for the entire day, thus serving one rider per parking space every day. BART's existing Legacy Carpool Program provides first-come/first-served parking spaces for carpools but has very limited capacity and fills up early; it also requires challenging and labor-intensive enforcement and is offered at only one third of its stations.

This project aimed to address the capacity and enforcement challenges of carpooling by using Scoop's carpool platform to match drivers and riders with similar destinations into carpools. Scoop's carpooling matching algorithm enabled drivers to connect with 1-2 riders for travel to the BART station. BART permit parking spaces were available to Scoop carpools until 10:00 AM, which offered riders later arrival times than Legacy carpool spaces. The pilot program initially launched at the Dublin/Pleasanton BART station in January 2017 and expanded to 16 additional stations.

Objectives

The objectives of the project were to 1) improve carpool access to BART and increase carpooling to BART stations and increase ridership, 2) distribute the demand of BART riders over the morning peak commute period, 3) reduce the cost of enforcement for carpool spaces and the rate of fraudulent use, 4) improve access to parking spaces at BART stations and use the parking supply more efficiently, 5) reduce traveler cost and increase BART's revenue relative to the long run operational costs, and 6) lower vehicle miles traveled (VMT). An independent evaluation was conducted to assess the demonstration impacts and outcomes based on the project's goals and objectives.

Findings and Conclusions

The evaluation revealed that the program had positive impacts on carpooling, ridership, parking, enforcement, costs, and VMT.

This report presents the results of an independent evaluation of the BART MOD Sandbox Demonstration, with lessons learned that potentially can help advance similar initiatives within other transit systems. The evaluation ended in April 2019, and the pilot ended shortly afterwards.
Key findings of the Scoop to BART program were as follows:

- Carpooling increased to and from BART stations.
- Users increased their frequency of BART use as a result of using Scoop.
- Carpool trips to BART were more widely spread over the morning hours; carpools were able to arrive later in the morning, and trip start times became more evenly distributed between 6:00 and 10:00 AM.
- The cost of enforcement per carpool space decreased given the large number of dedicated carpool spaces added, and the rate of fraudulent use of carpool spaces decreased.
- Scoop lowered the net cost of travel for some users.
- The project reduced VMT, as a considerable share of Scoop users shifted away from single occupancy vehicle trips.

Benefits

The BART Integrated Carpool to Transit Access Program was a learning experience for all stakeholders about carpooling to and from public transit and the different types of enforcement challenges related to carpool parking. It raised the visibility of carpooling and made it a key strategy for improving the efficiency of dwindling parking resources and advancing BART's parking management and enabled the inclusion of a carpool parking and verification feature into BART's app. The investment required to include this feature was significant and would likely not have been made had the Scoop to BART pilot not created a precedent for an improved and successful carpool program. Survey responses indicated that participants were generally happy with the program, and project partners agreed that the partnership was a model that could be replicated elsewhere and offered a blueprint for future projects upon which to build and advance common objectives with similar initiatives within other transit systems.

Project Information

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This research project was conducted by Elliot Martin, Adam Cohen, Ziad Yassine, and Susan Shaheen of UC Berkeley and Les Brown of ICF. For more information, contact FTA Project Manager Steve Mortensen at (202) 493-0459 or Steven.Mortensen@dot.gov. All research reports can be found at **https://www.transit.dot.gov/about/research-innovation**.