



ARLINGTON RIDESHARE, AUTOMATION, AND PAYMENT INTEGRATION DEMONSTRATION (RAPID)

FINAL REPORT

The Arlington Rideshare, Automation, and Payment Integration Demonstration (RAPID) project is an integration of a shared, dynamically routed, automated vehicle (AV) fleet into an existing public rideshare system in Arlington, Texas. The City of Arlington, working with Via Transportation, Inc. (Via), May Mobility, Inc., and the University of Texas at Arlington (UTA), led the deployment from March 23, 2021, to March 18, 2022, in a one-square mile area that included Arlington’s downtown and the UTA campus.

Background

Arlington, Texas is located in the middle of the Dallas-Fort Worth metropolitan region, one of the fastest growing regions in the United States. It is the 50th largest city in the country, with a population of nearly 400,000 residents in an area of 99 square miles. Over the past few decades, Arlington has transitioned from a bedroom community to a core city, with growing transportation needs. In 2017, the City implemented a fully on-demand rideshare service, powered by Via, which uses a fleet of six-passenger vans to provide shared rides anywhere within the city limits. The City also completed two previous automated vehicle (AV) pilot programs, with the goals of testing AV technology in real-world settings and educating residents and staff about AV technology to help encourage acceptance. The City desired to test integration of AV technology in the existing on-demand rideshare service to better serve core areas of the city and underserved populations, which was made possible by the Federal Transit Administration (FTA) Integrated Mobility Innovation (IMI) award.

Objectives

The City of Arlington and its partners designed this project to provide a blueprint for combining AV and rideshare technologies to develop effective, efficient, safe, and accessible transit networks in a low-density setting where traditional fixed-route transit is impractical. Additionally, the RAPID project was designed to be a flexible and integrated transit system that delivers convenient mobility for all riders. This service aimed to improve road safety, expand transit options for riders with limited mobility, and make Arlington’s existing rideshare platform more efficient, as well as benefit students traveling in and around campus and Arlington’s downtown through free rides for UTA students. On top of the direct benefits to the Arlington community, this project was expected to generate insights to advance AV and ridesharing practices across the transit industry. Specific RAPID project objectives included:

- Increased access for senior citizens, students, and individuals with disabilities
- Improved equity and accessibility to public transit
- Improved safety and efficiency
- Demonstration of performance, safety, and user acceptance of automation on an existing public transportation system
- Demonstration of integrated ride booking and payment between modes
- Use of public-private partnerships for demonstration, data sharing, and knowledge transfer

Findings and Conclusions

Over the one-year RAPID deployment, a total of 28,140 rides were provided with no safety incidents or accidents, successfully demonstrating that an AV service could be seamlessly integrated into an existing on-demand rideshare service and that the public would accept automated rides. Rider feedback showed that riders felt safe, enjoyed the service, and appreciated the free fares for UTA students. Autonomy performance improved over the course of the year as the project team and AV technology learned and adapted to the deployment area. Communication and education to riders and the public was robust, but additional outreach could have extended the information to more members of the public.

Benefits

Findings from the RAPID project can be used to improve automated, shared public transit services in other locations, particularly the findings concerning safety, technology, design of service parameters, communication, and public perception. Data from operational elements and from surveys, interviews, and focus groups provide helpful analysis, conclusions, and recommendations that can be used by others seeking to deploy similar services. The City of Arlington and its partners will continue to operate the RAPID service, incorporating lessons learned to improve and grow the service and its benefits to the community.

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