

STAFF REPORT

SUBJECT: Shared Autonomous Vehicle Project Update

FROM: Christy Wegener, Executive Director
Nathan Barreras, Manager of Capital Projects

DATE: February 27, 2023

Action Requested

Staff will present an update of the Shared Autonomous Vehicle (SAV) project and receive Committee direction. No action is requested at this time.

Background

In 2017, LAVTA initiated the SAV project with the goal of testing a new technology for first/last mile connections from Dublin to the East Pleasanton/Dublin BART Station in order to grow ridership, reduce BART parking demand, and improve safety.

Phase 1

After several years of administrative, planning, engineering and coordination work from a team of project partners, Phase 1 of testing/demonstration and deployment began in June 2020 in the vicinity of the East Dublin/Pleasanton BART Station. During the Phase 1 testing of various aspects of SAV operations and safety, evaluations were conducted and SAV operated autonomously on a very short route for over 400 miles accident-free over several months. With respect to COVID-19 precautions, limited reservations opened in November 2020 for the public to book transportation on the SAV route, allowing up to three passengers per trip. In total, approximately 150-200 trips were taken on the SAV in Phase 1.

Phase 2

As Phase 1 was underway, staff developed a concept for Phase 2 of SAV testing that would build on the lessons learned from Phase 1 and expand testing with a vehicle that could travel higher speeds in mixed traffic. Phase 2 focus expanded the testing/demonstration and service deployment area to include business centers and residential communities near the East Dublin/Pleasanton BART Station, including traveling along and/or crossing Dublin Boulevard in Dublin. Phase 2 envisioned SAV passenger service on weekdays, to and from a central business park (Zeiss) and the East Dublin/Pleasanton BART Station.

To support the Phase 2 work, LAVTA, in partnership with the City of Dublin and Alameda County Transportation Commission (Alameda CTC) received several grants. The Metropolitan Transportation Commission (MTC) awarded an IDEA grant to the City of Dublin in 2021 to complete the systems engineering and the concept of operations for the Phase 2 SAV route. In 2021, an additional \$2.7M was allocated to Phase 2 through MTC via a Regional Measure 2

(RM2) grant with Alameda CTC as the project sponsor. The RM2 monies were scoped for the design of a multi-modal mobility hub at the eastern terminus of the Phase 2 route, to procure three SAV vehicles for passenger service, and to procure/install SAV communications equipment at traffic signals on the route. The RM2 project description also includes a vision of the overall SAV project, including construction of the mobility hub and a commitment to SAV passenger service as the final milestone of the project (Attachment 1). The mobility hub design work (\$150k) is underway and is expected to be complete by the end of 2023; however, the remaining grant funds (\$2.5M) won't be approved until LAVTA has identified an operational funding plan. It is estimated that the cost to maintain and operate the SAV service will be up to \$1.2 million on a yearly basis depending on the approach of turnkey or ownership of the SAV vehicles, as well as the level of service.

Discussion

In order to proceed with the full SAV Phase 2 plan, up to \$1.2 million in operating costs per year needs to be identified. LAVTA is working with the City of Dublin staff, who has indicated that the City has implemented Transportation Demand Management (TDM) requirements on several large businesses to reduce vehicle trips as part of their business development entitlements. With the support of the City of Dublin, LAVTA may pursue feasibility of accessing some of this private funding for SAV operations.

Other funding sources may include Transportation for Clean Air (TFCA) monies and Alameda CTC's Measure BB funds from Technology, Innovation and Development Program. Staff will pursue all available funding options, but if new operating funds cannot be identified by the end of 2023, staff may recommend reallocating the remaining RM2 monies to another eligible project in the 580 corridor.

If funding is secured for operations, LAVTA may procure a turnkey solution via RFP to allow risk and liability to shift over to a 3rd party vendor. Costs for a turnkey solution can be estimated at approximately \$300,000 yearly for a base level of service, up to \$1.2M for the full SAV service vision. The cost of procuring SAVs will depend on the specifications and vehicle requirements. Leasing vehicles may also be an option.

Staff intends to return to the Board with an update in summer 2023.

Fiscal Impact

There is no fiscal impact associated with this informational update

Recommendation

Staff recommends the Committee hear the item and provide feedback to staff.

Attachments:

1. RM2 SAV Project Description

Metropolitan Transportation Commission Programming and Allocations Committee

October 13, 2021

Agenda Item 2d - 21-1146

MTC Resolution No. 3664, Revised

Subject: Regional Measure 2 (RM2) Project 32: Allocation of \$150,000 in RM2 funds to the Livermore Amador Valley Transit Authority (LAVTA) for the Shared Autonomous Vehicle Project.

Background:

RM2 Project 32 History

The \$65 million I-580 Tri-Valley Rapid Corridor Improvements project, identified as capital project number 32 under RM2, currently consists of four subprojects for which MTC has already allocated funds:

1. Project 32.1, **Eastbound I-580 Improvements** (eastbound HOV lane, allocated \$36 million in RM2 funds),
2. Project 32.2, **I-580/I-680 Interchange Modifications and Westbound I-580 Improvements** (HOV connectors between I-580 and I-680, and an I-580 westbound HOV lane, allocated \$17 million in RM2 funds); and
3. Project 32.3, the **Dublin Transit Center Parking Garage project**, (allocated \$7 million in RM2 funds).
4. Project 32.4, the **LAVTA Rapid Bus Stop Improvement Project** (programmed \$2.3 million in RM2 funds for improvements at rapid bus stops serving BART)

Approximately \$2.7 million in RM2 funds remains unprogrammed in Project 32. The Alameda County Transportation Commission (Alameda CTC) is the project sponsor.

LAVTA SAV Project Proposal

This item proposes to add a fifth subproject, 32.5, for the LAVTA Shared Autonomous Vehicle (SAV) Project, and allocate \$150,000 in RM2 funds to LAVTA for the design phase of the project. A second RM2 allocation of the remaining \$2.5 million for the construction phase would likely be recommended for Commission consideration next year.

LAVTA proposes to implement a fixed-route SAV service between Dublin/Pleasanton BART Station and the Zeiss Innovation center and Ross Headquarters business park, one mile from the BART station. Employment at the recently expanded business park is expected to be approximately 3,000. LAVTA has successfully road-tested a version of the SAV service in the area. Phase 2 of the project, proposed to be funded by RM2, includes procurement of three new SAVs, local infrastructure upgrades to support the SAVs, and new passenger facilities near the Ross Headquarters business park to serve as the route endpoint. The total cost for these improvements is \$3.3 million.

As sponsor for RM2 Project 32, Alameda CTC approved the allocation request and designated LAVTA as the implementing agency for the remaining \$2.7 million in RM2 funds for the Shared Autonomous Vehicle project at its Commission meeting on September 23rd, 2021.

Issues:

The total cost of the Phase 2 SAV project is higher than the RM2 funds available for the project. LAVTA is seeking additional capital funding sources, but in case additional funds are not secured, the project could be scaled down, by acquiring two vehicles instead of three, to be delivered with only RM2 funds.

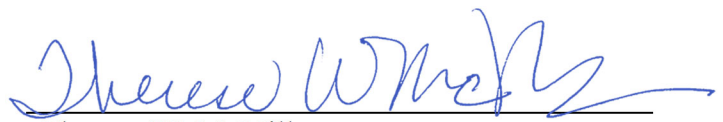
LAVTA has not yet secured funds to operate the SAV service. They have identified potential funding partners in the private businesses that would be served by the new route and are considering other State and Federal operations funding. Ensuring that capital investments for expansion of service are adequately funded for operations is an ongoing area of concern. Staff will continue to monitor LAVTA's progress on this and may take operations funding into consideration when evaluating future requests for construction funding for this project.

Recommendation:

Refer MTC Resolution No. 3664, Revised to the Commission for approval.

Attachments:

MTC Resolution No. 3664, Revised.



Therese W. McMillan