

STAFF REPORT

SUBJECT: Shared Autonomous Vehicle Technology Demonstration Project

FROM: Michael Tree, Executive Director
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DATE: June 6, 2016

Action Requested

The Board is requested to review consider approval of a proposal for LAVTA to sponsor a demonstration project in the City of Dublin for the implementation of a shuttle service to the Dublin BART stations using Shared Autonomous Vehicle (SAV) technology. The \$1 million two-year demonstration project is proposed to be funded with a grant from the Bay Area Air Quality Management District (BAAQMD) Transportation Fund for Clean Air (TFCA) Program.

Background

Over the past few years there has been significant research and demonstration of various Autonomous Vehicle (AV) products. Private companies and automobile manufacturers (AMs) have been testing their AV's with impressive results for a number of Ready-to-Market (RTM) products such as Shared Autonomous Vehicle (SAV) shuttles.

Today transit agencies face growing public frustration with inadequate parking at major transit centers and lack of reliable connections which negatively impact ridership targets. The use of electric SAV shuttles is a strategy being tested by transit agencies to enhance transit accessibility and to affect an appreciable mode shift. The West Dublin and East Dublin BART stations provide inter-city and Transbay transit options for Tri-Valley residents; however parking lots at both of these stations are typically full midway through the morning commute. The on-demand SAV program addresses these issues and will provide the critical first/last mile transit connections for Dublin residents. While the initial deployment of two shuttles will connect to the Dublin BART station, ultimately the program can be expanded to serve schools, business centers and recreational areas in the Tri-Valley.

Discussion

The LAVTA/City of Dublin SAV demonstration project will build on testing that is currently underway in the Bay Area. The Contra Costa Transportation Authority (CCTA) and its strategic partner Stantec initiated the GoMentum Station program at the former Concord Naval Weapons Station and have demonstrated leadership in the development of a range of AV transportation investments. In collaboration with the Bishop Ranch Business Park and EasyMile, a French company, the CCTA will launch the first implementation in North America of AV technologies in combination with innovative business models such as Uber

and Lyft on-demand rides, etc. Over time this will result in a transformation of the mobility landscape with significant societal implications. Safety is the single most important benefit associated with AV's given that over 90% of traffic incidents are caused by human error, followed by "transit accessibility", health and economic benefits.

The proposed project is a natural extension of AV technology into the sphere of public transportation. The application of electric SAV shuttles will complement and be integrated with traditional modes of transit. This concept has been in the demonstration phase in Europe for the CityMobil2 initiative during the past four years and holds great promise in addressing the challenges faced by transit operators.

The LAVTA/City of Dublin SAV Shuttle Program is anticipated to enhance transit system ridership and contribute to modal shift and the overall optimization of our transportation network in Alameda County. Other key benefits include significant health benefits due to a reduction of GHG emissions coupled with economic benefits that will result from high paying jobs.

Keys to success of SAV shuttles include the following:

- Technology testing and prototype development (ongoing);
- Appropriate regulatory frameworks and certifications for operations under reduced speeds for safe and efficient early deployment (in development);
- Identification of sites with demonstrated transit need, demand and infrastructure integration
- Operational expertise to ensure efficient and reliable services; and
- Improved "backbone transit" such as bus rapid transit (BRT), connection buses, shuttle buses or other to improve travel time and reliability.

Advancement of the LAVTA/City of Dublin Shared Autonomous Vehicle Shuttle Program will take advantage of planned testing at both the GoMentum Station and Bishop Ranch that will take place from July 2016 until July 2018. The GoMentum Station program has been recognized as a national leader in the development of AV testing and innovation. The estimated cost for the LAVTA/City of Dublin demonstration project is \$1 million for the procurement, testing and deployment of two SAV shuttles in early 2017. The SAV demonstration project will be two years in duration and is proposed to be funded with TFCA funding through the BAAQMD, who will take action on the funding request this month.

Recommendation

The Board is requested to review and consider approval of a proposal for LAVTA to sponsor a demonstration project in the City of Dublin for the implementation of a shuttle service to the Dublin BART stations using Shared Autonomous Vehicle (SAV) technology. The \$1 million two-year demonstration project is proposed to be funded with a grant from the Bay Area Air Quality Management District (BAAQMD) Transportation Fund for Clean Air (TFCA) Program.

Submitted by: _____