



Livermore Amador Valley Transit Authority (LAVTA)

Request for Information (RFI)

#2023-09

Shared Autonomous Vehicles (SAV)

Return Response to:	LAVTA Attn: Jennifer Yeamans jyeamans@lavta.org	Request for Information (RFI) RFI #2023-09 Shared Autonomous Vehicles (SAV)
Point of Contact: Jennifer Yeamans jyeamans@lavta.org		
SOLICITATION SCHEDULE		
Issue Date: September 14, 2023		
RFI Response Due Date: September 29, 2023, at 2:00 p.m. PDT		
Submittal Instructions: Responses will be received via email to Jennifer Yeamans at jyeamans@lavta.org until the date and time indicated above. Hard copy submissions will NOT be accepted. Hard copies received will be returned (unopened) to Responders without consideration.		
Addendum: An Addendum may be issued to this solicitation. Any such Addendum will be posted on LAVTA's website. Prior to submitting your response, please visit our website to download any Addenda that may have been issued. Please remember to sign and return the Addendum Acknowledgment Form (to be included with any Addendum) with your completed Response Package.		

SECTION 1: INTRODUCTION

The Livermore Amador Valley Transit Authority (LAVTA) and its project partner, the City of Dublin (City), are conducting a Shared Autonomous Vehicle (SAV) systems engineering project to explore the feasibility of deploying a first/last mile transit service in the vicinity of the East Dublin/Pleasanton Bay Area Rapid Transit (BART) station. This service would serve as a first/last-mile connector between the BART station and nearby business, residential, and commercial developments.

The Metropolitan Transportation Commission (MTC) has designated the East Dublin/Pleasanton Bay Area Rapid Transit (BART) Station and its surrounding area as a Transit Priority Area (TPA) and a Priority Development Area (PDA). The area around the BART station has gone through the development of a Transit Area Plan and has been designated as the Dublin Transit Center. To date, the Dublin Transit Center has developed 1,556 residential units with ground floor retail. The Dublin Crossing Specific Plan is developing up to 1,995 residential units and up to 200,000 square feet of commercial uses in an area north of the Transit Area Plan area, across Dublin Boulevard. As of now, 1,758 residential units have been in development with 24 high-density neighborhoods. This development is along Dublin Boulevard located inside the TPA and/or PDA, or within one-quarter of a mile of where SAV services would be provided.

This project builds on a Phase 1 effort that culminated in a demonstration of SAV shuttle service near the BART station in early 2021. During Phase 1, an EasyMile SAV shuttle operated autonomously for over 500 miles, carrying 116 passengers along a test route from the BART Station to the intersection near the Persimmon Place Shopping Center on Martinelli Way. The initial phase was successful and well received by the public, but the SAV was limited to slow travel speeds (below 10 mph) and only operated on a short segment.

Phase 2 of the project is intended to build on this success by expanding service to a longer, more complex fixed route that connects the BART station with nearby businesses and employment centers. The SAV would initially operate at 15-minute headways to align with the typical weekday BART schedule. The Phase 2 project would also allow LAVTA and the City to test the infrastructure's readiness for the SAV implementation. The City and LAVTA would test the SAV between the BART Station and existing housing and job centers along the SAV route where it might serve as a solution to address the first and last mile transit connectivity challenge and improve access for transit and alternative modes. The SAV project would also help in improving the overall safety and mobility around the route, reducing greenhouse emissions, increasing usage of public transportation, and evaluating future possibilities for public transit services to communities not currently served.

SECTION 2: REQUEST FOR INFORMATION

2.1 PURPOSE

This Request for Information (RFI) is to identify the current capabilities of SAV vendors. Its purpose is to solicit feedback and input on the potential deployment of SAVs in this proposed service area. The objective is to understand current SAV capabilities and whether they would be compatible with the needs and goals of this project. This RFI will not result in a contract award.

2.2 GENERAL INFORMATION

REQUEST FOR INFORMATION COSTS

All costs and expenses incurred by any Respondent or party in responding to this Request for Information, preparing a Response to this Request for Information, participating in this Request for Information (i.e., Interviews, Questions and Answers Sessions, Meeting with LAVTA staff, etc.), and any re-submittals, are the sole responsibility of the Respondent.

COMPLIANCE REQUIREMENT

Respondent shall show how their proposed SAV service will comply with all state and federal safety standards. California standards can be found at: <https://www.dmv.ca.gov/portal/vehicle-industry-services/autonomous-vehicles/california-autonomous-vehicle-regulations/>. Guidance on Federal standards can be found at: <https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety>.

If Respondent is unable to meet state and federal safety standards to test and operate on public roads, Respondent must explain how a National Highway Traffic Safety Administration (NHTSA) exemption will be obtained and the anticipated timeline involved. Respondent must also demonstrate their ability to obtain the appropriate permits to test and operate an SAV in California.

NO RETURN OF RESPONSE

All information submitted shall become the property of LAVTA and shall not be returned.

RELIANCE UPON INFORMATION

This document is issued directly by LAVTA and LAVTA shall be the sole distributor of all addenda and/or changes to this document. It is the responsibility of the Respondent to confirm the legitimacy of procurement opportunities or notices directly with LAVTA Procurement department. LAVTA is not responsible for any solicitations advertised by subscriber publications, or other sources not connected with LAVTA, and the Respondent should not rely on such sources for information regarding any solicitation made by anyone other than LAVTA.

THE PUBLIC RECORDS ACT AND TRADE SECRET INFORMATION

The Respondent is aware and understands that LAVTA is a public entity and, as such, it is subject to all applicable public records acts. Subject to certain exemptions, Responses received by LAVTA are public records and may be subject to disclosure. The Respondent is aware of this fact and that it is possible that its Response may be disclosed by LAVTA pursuant to a public records request.

A Respondent's Response may include certain information which the Respondent believes to be a "trade secret." If a Respondent would like for LAVTA to treat such information as confidential, particularly in the event LAVTA receives a public records request, then the Respondent must clearly, in bold and large type, identify the specific information which it deems to constitute a trade secret and be confidential. It is unacceptable to LAVTA for the Respondent to classify, for example, its entire Response as trade secret and thus confidential.

In the event LAVTA receives a request for a copy of a Respondent's Response, LAVTA will endeavor to notify the Respondent and will endeavor to comply with public records laws as to what is required to be

produced. Absent any clear identification by the Respondent that a portion of its Response is a trade secret and is confidential, LAVTA will furnish a copy of the Response in response to any valid public records request and LAVTA shall have no liability whatsoever for such disclosure. If the Respondent so identifies a portion of its Response as being a trade secret and confidential, or if LAVTA in its discretion determines that a portion of the Response is not subject to disclosure and should not be disclosed (such as if the disclosure would compromise LAVTA security systems), LAVTA will endeavor to assert said exemption.

In the case of any exemption being asserted by LAVTA based upon action by the Respondent (e.g., the Respondent asserts that information in its Response is a trade secret and, as a result, LAVTA declines to satisfy a public records request for the portion of the Response which has been identified as a trade secret), the Respondent will indemnify and hold LAVTA harmless from any claims, expenses, including attorneys' fees, that LAVTA may incur if the person requesting said information pursues its demand that the public record be furnished.

Respondent represents and warrants that it has the full right and authority to submit and disclose information, and that such submission, information and disclosures does not infringe upon or violate the rights of any third party. By submitting a response to this RFI, a respondent agrees to hold LAVTA harmless with regard to any third-party claims asserting any rights over any information submitted as part of a response to this RFI.

By responding to this RFI and presenting information to LAVTA in connection with this RFI, each respondent agrees that LAVTA may use any information, ideas, and materials the respondent provides in any manner LAVTA so desires, including but not limited to stakeholder discussions, the development of technical specifications, and inclusion in any procurement documents for a SAV solution.

LAVTA reserves all rights with respect to this RFI including, but not limited to, the right at any time to change or modify the content of the RFI, or the RFI process itself, if such changes satisfy the best interests of LAVTA. The schedule set forth in this RFI is subject to change by LAVTA.

LAVTA makes no representation, warranties, or guarantees that the information contained within this RFI and its attachments is accurate, complete, final, timely, or that it represents the terms, conditions, requirements or specifications that may be included in a subsequent RFP and contract for procurement of a SAV solution.

No material submitted in response to this RFI will be returned. Submissions in response to this RFI become the exclusive property of LAVTA and may be used by LAVTA in any way deemed appropriate. All submissions are subject to the California Public Records Act, and may be determined to be public records subject to disclosure, even if the Respondent requests confidential treatment.

By submitting a response, respondents shall be deemed to have accepted all terms and agreed to all requirements of the RFI including any revisions/additions made thereto by LAVTA.

PROPOSED OPERATING ENVIRONMENT

Two different route options are currently being considered for Phase 2. Each route connects the BART station with a nearby office center that includes Ross Headquarters and Zeiss Innovation Center. Each route crosses through a combination of stop-controlled, uncontrolled, and signalized intersections.

Figure 1 shows the first route option and Figure 2 shows the second route option. The highest posted speed limit on these routes is 35 mph. The SAV would be expected to be capable of servicing either of the routes at any given time. The SAV would also be expected to communicate wirelessly with the traffic signals via C-V2X technology to request transit signal priority or queue jumping to help the SAVs safely traverse the intersections and stay on schedule.

Figure 1: Phase 2 Route – Option 1

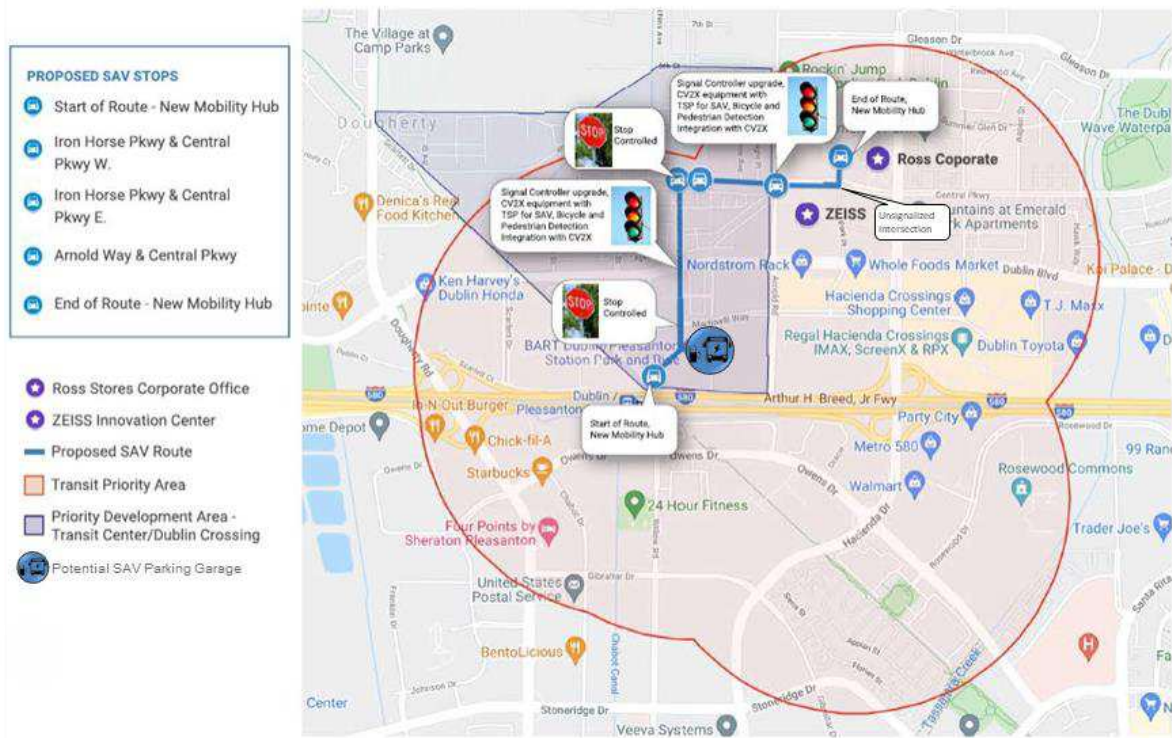
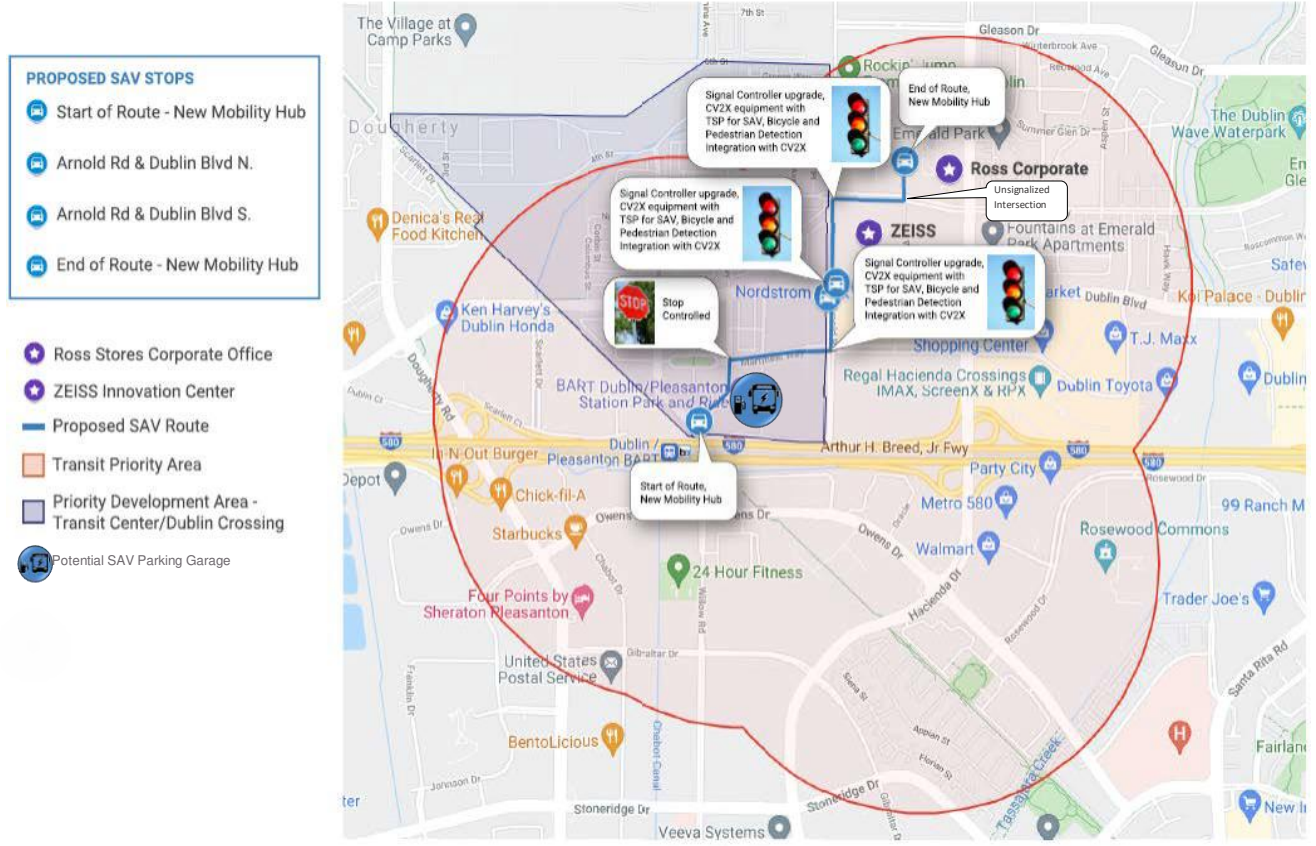


Figure 2: Phase 2 Route – Option 2



SECTION 3: QUESTIONS FOR RESPONDERS

Please number your responses to the following questions. For additional information or clarification, please reach out to Jennifer Yeamans at jyeamans@lavta.org. Requests for additional information or clarification must be received by September 22, 2023.

General Questions about the SAV

1. Describe the general form factor and specifications of any SAVs your organization offers, including the passenger capacity, weight, and external and internal dimensions.
 - a. What is the SAV's passenger capacity? How many seated and how many standing?
 - b. Does the same SAV weigh under 10,000 lbs (given that heavy SAVs haven't yet been permitted to operate in California)?
 - c. Does the same SAV meet the Americans with Disabilities Act (ADA) accessibility requirements, or do you have a plan to ensure ADA accessibility for an SAV service?
 - d. Is space available on the same SAV for bulky items such as suitcases, strollers, or bicycles? How are these items secured?
 - e. Does the same SAV comply with all applicable Federal Motor Vehicle Safety Standards (FMVSS) from the National Highway Traffic Safety Administration (NHTSA)? If an exemption is necessary, please include whether it has already been approved elsewhere, and whether there is an alternative plan if an exemption is not possible.
 - f. Would the same SAV be able to adhere to "Buy America" provisions? Please briefly explain.

Questions about SAV Operations

2. What is the maximum safe operating speed of your SAV on roadways with a speed limit of 25 to 35 miles per hour? Note that the SAV will need to operate in the same lanes as other traffic.
3. Are there any conditions under which the SAV would not be able to operate and would need to be taken from service (e.g., unfavorable weather, humans manually directing traffic, communication/signal failure, etc.)? If so, please describe the type and level of conditions and the proposed response protocol.
4. Would it be possible for the SAV to operate on-demand service that alters from a fixed route and a fixed schedule?
 - a. If so, how would passenger rides and stop locations be requested and coordinated? Would the on-demand service be available to all users, including those without smartphones or credit cards?
 - b. Alternatively, could the SAV switch to alternative routes? How much lead time would be required to switch between pre-programmed routes or to a newly defined route?

5. Can the SAV be monitored and/or controlled from a remote location, such as a control center? Is an SAV management system typically included as part of a turnkey SAV service?
6. Is the SAV electrically powered? If so, how often and for how long does the SAV need to charge under continuous operations?
7. Does the SAV operate on virtual tracks (i.e., is it limited to operate within a tight geofence)?
8. Can the SAV request Transit Signal Priority (TSP) at signalized intersections without human interaction? If so, where has this functionality been implemented? What TSP technology has been implemented with your SAV?

Questions about SAV Information and Data Availability

9. Does your SAV service include user-friendly route, schedule, and fare information of available service, as well as real-time route information, including current vehicle location and estimated arrival times?
10. Project goals and objectives will require the collection of data to measure the performance of the system, to determine key SAV system reliability measures, such as frequency of disengagements and proportion of time operating in automated or manual mode. Please explain how your organization would support data collection and provision to project partners. Do you have any restrictions on the data sets that you would provide?

Questions about SAV Testing

11. Describe the type of testing that has been conducted with your SAV. What experiences does the SAV have in:
 - a. Mixed traffic operations, including crossing high-traffic, high-speed, signalized and unsignalized intersections;
 - b. Safely operating in the vicinity of bicyclists and pedestrians (including those using mobility devices); and
 - c. Various weather and other environmental conditions?
12. Under what conditions has this testing been conducted? For example, did you require an operator to be onboard the SAV at all times?

Questions about Infrastructure Needs

13. Can the SAV be connected to smart infrastructure and send, receive, and respond to messages with other connected vehicles and infrastructure? If so, what types of connected vehicle (CV) technology and applications can the SAV support?
14. Describe any other infrastructure installations, modifications, or maintenance that may be required to support safe operations of your SAV.

Questions about SAV Pricing and Business Models

15. If a deployment has variable days and hours of service, such as only operating three days per week or only during peak periods with a midday break, would there be any cost savings versus operating a full-time SAV service? Please explain.

16. While any service would likely be fare-free during preliminary operations, there may be a desire to test the ability to collect fares onboard and/or via a mobile app. Fare collection is likely to use the San Francisco Bay Area’s common fare payment system known as the Clipper Card: <https://www.clippercard.com/ClipperWeb/>. Is this something your SAV is capable of? Describe the possible options and your thoughts on the feasibility of fare collection as a sustainable revenue model.
17. What longer-term business opportunities and challenges do you foresee within the SAV industry? Given the dynamic nature of the industry, what would a sustainable business model entail?

Questions about SAV Deployment Experience

18. Please provide information on one or more recent deployment examples demonstrating the features of your SAV(s). Please include any acquisition contracts for specified delivery and ongoing operations with public agencies or provide links to this information if it is publicly available.

SECTION 4: PRICING

Respondent shall provide the potential cost including, but not limited to, the following:

- Monthly lease of an SAV, and what this price includes
- Maintenance of the SAV (monthly)
- Operations of the SAV (monthly)
 - For full time service: 7 days per week, 7am – 6pm
 - For part-time service: 3 days per week, 7am-10am and 3pm-6pm
- Estimate of any other potential additional costs
- Training (for both operators and maintainers)

SECTION 5: RESPONSE FORMAT

Respondent shall submit via email to Jennifer Yeamans at jyeamans@lavta.org no later than **2:00 p.m. Pacific Daylight Time (PDT) on September 29, 2023**, responses organized as follows:

Section One	Cover letter introducing Respondent
Section Two	Respondent’s Company Background and Organizational Structure
Section Three	SAV Documentation, i.e. types, functionality, operations requirements, warranty, design, capacity, etc.
Section Four	Responses to questions in Section 3
Section Five	Pricing information per Section 4
Section Six	Promotional Literature (optional)

Responses received after the above date and time will not be considered. Hard copy submissions will NOT be accepted. Hard copies received will be returned (unopened) to Proposers without consideration.