

STAFF REPORT

SUBJECT: Cloud-Based Transit Signal Priority Project
Award of On-Call Task Order # 3 for Project Design and Engineering

FROM: David Massa, Capital Projects Manager

DATE: August 26, 2024

Action Requested

Staff requests the Finance and Administration Committee recommend the Board of Directors authorize LAVTA's Executive Director to execute Task Order #3 with Kimley-Horn & Associates, Inc., for design, engineering, project management and coordination services for the Cloud-Based Transit Signal Priority Project.

Background

When buses run late, TSP technology allows for extended green lights and shortened red lights when it senses a bus approaching an intersection. TSP provides much-needed travel time savings and improves the schedule reliability of buses by eliminating dwell times at lights. Since 2010, LAVTA has been operating with Transit Signal Priority (TSP) at a number of intersections in the Tri-Valley. The original LAVTA TSP system utilized infrared detection between an emitter on the bus and a receiver mounted at the intersection; it required line-of-sight in order to operate.

In 2018, LAVTA upgraded its TSP system from infrared technology to a GPS-enabled system. The GPS-enabled TSP system is more accurate than the infrared detection and utilizes GPS to identify the bus location in relation to the intersection. The agency also expanded the footprint of the TSP network, adding a number of intersections along Santa Rita Road in Pleasanton. The agency currently has 67 intersections equipped with the GPS-enabled TSP system. While more accurate than infrared, the GPS-enabled system is very limited with its reporting capabilities; additionally, LAVTA's technology vendor indicated it will no longer support the GPS-enabled system beyond 2025.

For at least five years, there has been significant development in cloud-based TSP technology. Cloud-based TSP requires no physical emitters or GPS-devices; it requires intersections to be connected wirelessly and requires a high (2 second) ping rate from the buses. Once the intersections have the appropriate infrastructure, expansion becomes easy if the buses have the right connectivity.

In May 2024, the LAVTA Board approved Resolution 10-2024, supporting an allocation request from the Metropolitan Transportation Commission (MTC) for RM2 funding to support the design phase the Cloud-Based TSP Upgrade Project (Attachment 1). MTC approved the

allocation request in July 2024. Staff is now moving forward with procuring design services for the project.

Discussion

Kimley Horn and Associates (Kimley Horn) is one of LAVTA's on-call engineering contractors, and is the only LAVTA on-call contractor who specified advanced traffic management systems and Intelligent Transportation Systems as areas of service in their proposal. They have extensive experience working with Tri-Valley traffic engineers and were the lead agency for the design of LAVTA's upgrade to the GPS-based TPS system. Staff requested a proposal from Kimley Horn for design services for the Cloud-Based TSP Upgrade project, which is included as Attachment 2.

Budget

Based on the proposed scope of work, Kimley Horn will provide the work for a firm fixed price fee of \$352,640. With a standard 10% contingency in place, the total budget for this portion of the project is \$387,904. The project budget is funded 100% by RM2 funds; the initial allocation of \$388,000 for design was approved by MTC in July 2024 (Attachment 3).

Recommendation

Recommend the Board of Directors approve Resolution 24-2024, authorizing the Executive Director to execute Task Order #3 with Kimley Horn and Associates for design, engineering, project management and coordination services for the Cloud-Based Transit Signal Priority Upgrade Project, for a not-to-exceed amount of \$352,640, with a contingency amount of \$35,264 (10%) to be utilized at the discretion of the Executive Director.

Attachment:

1. April 1, 2024 RM2 Funding Allocation Staff Report
2. Kimley Horn LAVTA Cloud-Based TSP Design and Implementation Proposal
3. MTC Staff Report
4. Resolution 24-2024

LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY

STAFF REPORT

SUBJECT: Resolution in Support of Allocation Request for Regional Measure 2 Funding for the Transit Signal Priority Upgrade and Expansion Project

FROM: Jennifer Yeamans, Senior Grants & Management Specialist

DATE: April 1, 2024

Action Requested

The Finance & Administration Committee recommends the Board of Directors approve Resolution 10-2024 in support of an allocation request to the Metropolitan Transportation Commission (MTC) for \$388,000 in Regional Measure 2 (RM2) funds for the design phase of LAVTA's Transit Signal Priority Upgrade and Expansion Project. This resolution is required to request an allocation of this funding from MTC.

Background

Regional Measure 2 (RM2) funds various traffic relief programs and projects in eligible Bay Area bridge corridors from a portion of bridge tolls collected. RM2 legislation identified the Alameda County Transportation Commission (ACTC) as the project sponsor of \$65 million in anticipated revenues to be allocated for RM2 Project 32, *I-580 (Tri-Valley) Rapid Transit Corridor Improvements in Alameda County*. In late 2020, MTC notified LAVTA staff that a balance remained on the Project available for allocation to eligible transit-related projects in the corridor and requested proposal(s) from LAVTA that could utilize the funds. ACTC expressed willingness to delegate their responsibility as project sponsors to LAVTA as implementing agency for such projects in order to spend down the available RM2 funds.

In September 2021, LAVTA's Board approved Resolution 26-2021 in support of an allocation request to MTC for \$150,000 in RM2 funds for the design phase of the Shared Autonomous Vehicle (SAV) Phase 2 Deployment Project. At the time, the SAV Project was one of LAVTA's priority initiatives following a successful Phase 1 testing deployment which launched in 2018 and concluded in late 2020. Funds for design-engineering were requested in anticipation of a subsequent allocation for the construction phase of \$2.545 million (including vehicle acquisitions and construction of a mobility hub near Dublin's Zeiss Innovation Center and Ross headquarters), for a total RM2-eligible funding plan for the SAV project of \$2.695 million. In October 2021 and with concurrence from ACTC, MTC allocated the initial design-phase funding for the SAV Phase 2 Deployment project, with conditions that future construction-phase allocations would be subject to LAVTA securing additional funding needed to fully support the project's capital needs, as well as an identified source of funding to operate the Project.

LAVTA staff subsequently worked with project partners to implement Phase 2 of the project, however various feasibility issues emerged that were not previously anticipated, including the delay of market-ready technology available to meet the route's performance specifications, as well as a lack of operating funding that was exacerbated by the persistence of remote work post-pandemic. With a lack of progress in terms of market favorability for the project, in November 2023 the Projects & Services Committee directed staff to close out the SAV project and seek an alternative project that would be eligible to receive RM2 funds and could be implemented in a timely fashion, contingent on concurrence of corresponding funding agencies. No RM2 funds previously allocated for the SAV project were expended by LAVTA.

Discussion

LAVTA staff has identified a need to upgrade the existing Transit Signal Priority (TSP) system utilized by 24 Rapid-branded buses at 67 intersections on Routes 10R and 30R. The current system using GPS technology was procured in 2019 and will no longer be supported by the manufacturer after the initial five-year contract term is complete. TSP functionality helps LAVTA meet On-Time Performance (OTP) goals on our highest-ridership routes by allowing Rapid buses to request a longer green phase when the bus is approaching an intersection more than 3 minutes behind schedule, enabling buses to get back on schedule as quickly as possible. If the bus is not behind schedule, no TSP request is made. This "low-priority" TSP functionality is distinct from the high-priority Emergency Vehicle Preemption (EVP) system that bypasses normal traffic signal operations to prioritize movement of emergency vehicles through intersections.

TSP is increasingly used in local jurisdictions to enhance operating efficiency of transit vehicles operating in mixed traffic, with numerous existing examples in operation around the Bay Area and nationwide. LAVTA currently has a high OTP over 85% as of January 2024, but with congestion increasing amid post-pandemic and economic recovery, it will be essential to keep the TSP system in optimal working order throughout the service area in order to maintain efficient and reliable travel times for riders using the system now and in the future. LAVTA staff therefore recommends upgrading the obsolescent GPS-based TSP system to a cloud-based system to improve performance and reliability, and expanding the TSP functionality to encompass the entire fleet, in order to maximize the benefits of TSP for riders regardless of vehicle subfleet assignments ("Rapid" vs. "Wheels"-branded buses) on Rapid routes.

To request RM2 funding, project sponsors must submit a governing-board certification of compliance with RM2 provisions ([Attachment 1](#)). Because the RM2 legislation identifies ACTC as the project sponsor, ACTC must also submit a resolution of local support for the project following LAVTA's Board approval, and LAVTA would again request ACTC designate LAVTA as the project's Implementing Agency, delegating responsibility to LAVTA for compliance with all RM2 Policies and Procedures.

RM2 Policies and Procedures require each allocation fund a minimum usable segment and/or deliverable. Thus MTC's initial allocation will fund \$388,000 budgeted for the project's design phase only, which will include professional engineering services provided by LAVTA's on-call engineering consultant, Kimley-Horn and Associates, for the planning, design, and installation oversight and coordination of a new Cloud-Based TSP system to

replace the existing GPS-Based system. Kimley-Horn’s proposed services will consist of project management, vendor coordination, design of field equipment installations, coordination with the local cities, and overall oversight of the installation, testing and commissioning of the new Cloud-Based TSP system as a turnkey solution for LAVTA.

Pending acceptance of 100% plans, specifications, and estimates for the project, MTC may consider allocating an additional \$2.307 million for the construction phase as described in the Initial Project Report (IPR), shown in Attachment 2. A map of current TSP locations to be upgraded is shown in Attachment 3. Of the 67 intersections now equipped with GPS-based TSP, there are 26 in Dublin, 8 in Pleasanton, and 33 in Livermore.

Budget

The project budget is funded 100% by RM2 funds in the design phase and by a combination of RM2 and TDA funds in the construction phase, as shown below (all amounts shown in thousands of dollars). LAVTA staff will seek out other outside grant funding to support the construction phase if available, in lieu of using TDA funds to complete the project.

Phase	RM2	TDA	Total
Design (<i>current allocation</i>)	\$388	--	\$388
Construction (<i>future allocation</i>)	\$2,307	\$95	\$2,402
Total	\$2,695	\$95	\$2,790

Next Steps

Following MTC approval of the RM2 allocation later this spring, LAVTA staff will request Board approval to execute a Task Order with its on-call design-engineering firm, Kimley-Horn, to complete the necessary design-engineering work, and begin seeking additional grant funding to support the project’s construction phase in lieu of using TDA funds.

Recommendation

The Finance & Administration Committee recommends the Board of Directors approve Resolution 10-2024 in support of an allocation request to the Metropolitan Transportation Commission for \$388,000 in RM2 funding for the design phase of the Transit Signal Priority Upgrade & Expansion Project.

Attachments:

1. Resolution 10-2024
2. Initial Project Report: LAVTA Transit Signal Upgrade & Expansion Project
3. IPR Attachment A: Intersections currently equipped with GPS-based TSP

RESOLUTION NO. 10-2024

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY
AS IMPLEMENTING AGENCY FOR REGIONAL MEASURE 2 FUNDING FOR THE
TRANSIT SIGNAL PRIORITY UPGRADE AND EXPANSION PROJECT**

WHEREAS, SB 916 (Chapter 715, Statutes 2004), commonly referred as Regional Measure 2, identified projects eligible to receive funding under the Regional Traffic Relief Plan; and

WHEREAS, the Metropolitan Transportation Commission (MTC) is responsible for funding projects eligible for Regional Measure 2 funds, pursuant to Streets and Highways Code Section 30914(c) and (d); and

WHEREAS, MTC has established a process whereby eligible transportation project sponsors may submit allocation requests for Regional Measure 2 funding; and

WHEREAS, allocations to MTC must be submitted consistent with procedures and conditions as outlined in Regional Measure 2 Policy and Procedures; and

WHEREAS, Streets and Highways Code Section 30914(c) and (d) identifies the Alameda County Transportation Commission as Project Sponsor for RM2 Project 32, I-580 (Tri-Valley) Rapid Transit Corridor Improvements in Alameda County; and

WHEREAS, in September 2021 the Alameda County Transportation Commission approved Resolution 21-014 designating the Livermore Amador Valley Transit Authority (LAVTA) as implementing agency for the design and construction of the Shared Autonomous Vehicle Phase 2 Deployment Project, an eligible project under RM2 Project 32, I-580 (Tri-Valley) Rapid Transit Corridor Improvements; and

WHEREAS, LAVTA is an eligible implementing agency for transportation project(s) in Regional Measure 2, Regional Traffic Relief Plan funds; and

WHEREAS, in October 2021 MTC approved MTC Resolution 3664, Revised, allocating one hundred fifty thousand dollars (\$150,000) in RM2 funds to LAVTA for design-engineering for the Shared Autonomous Vehicle Phase 2 Deployment project as an eligible project under RM2 Project 32, I-580 (Tri-Valley) Rapid Transit Corridor Improvements; and

WHEREAS, despite LAVTA's sustained efforts to implement the SAV Phase 2 Deployment project as originally planned, LAVTA was unable to procure equipment and vehicles meeting the specifications necessary to complete the project's construction phase in a timely fashion due to lack of market availability and therefore terminated the Project; and

WHEREAS, LAVTA did not expend any RM2 funds allocated for the SAV Phase 2 Deployment Project and therefore desires to request an allocation of RM2 funds for a different eligible Project; and

WHEREAS, LAVTA has identified the Transit Signal Priority Upgrade and Expansion Project as an eligible project meeting all the requirements of RM2 Project 32, I-580 (Tri-Valley) Rapid Transit Corridor Improvements and which is ready to be implemented; and

WHEREAS, the Alameda County Transportation Commission intends to designate the Livermore Amador Valley Transit Authority (LAVTA) as implementing agency for the design and construction of the Transit Signal Priority Project Upgrade and Expansion Project, an eligible project under RM2 Project 32, I-580 (Tri-Valley) Rapid Transit Corridor Improvements; and

WHEREAS, the Transit Signal Priority Upgrade and Expansion Project is eligible for consideration in the Regional Traffic Relief Plan of Regional Measure 2, as identified in California Streets and Highways Code Section 30914(c) or (d); and

WHEREAS, the Regional Measure 2 allocation request, attached hereto in the Initial Project Report and incorporated herein as though set forth at length, lists the project, purpose, schedule, budget, expenditure and cash flow plan for which LAVTA is requesting that MTC allocate Regional Measure 2 funds; now, therefore, be it

RESOLVED, that LAVTA, and its agents shall comply with the provisions of the Metropolitan Transportation Commission's Regional Measure 2 Policy Guidance (MTC Resolution No. 3636); and be it further

RESOLVED, that LAVTA certifies that the project is consistent with the Regional Transportation Plan (RTP); and be it further

RESOLVED, that the year of funding for any design, right-of-way and/or construction phases has taken into consideration the time necessary to obtain environmental clearance and permitting approval for the project; and be it further

RESOLVED, that the Regional Measure 2 phase or segment is fully funded, and results in an operable and useable segment; and be it further

RESOLVED, that LAVTA approves the updated Initial Project Report, attached to this resolution; and be it further

RESOLVED, that LAVTA approves the cash flow plan, attached to this resolution; and be it further

RESOLVED, that LAVTA has reviewed the project needs and has adequate staffing resources to deliver and complete the project within the schedule set forth in the updated Initial Project Report, attached to this resolution; and, be it further

RESOLVED, that LAVTA is an eligible sponsor of projects in the Regional Measure 2 Regional Traffic Relief Plan, Capital Program, in accordance with California Streets and Highways Code 30914(c); and be it further

RESOLVED, that LAVTA is authorized to submit an application for Regional Measure 2 funds for the Transit Signal Priority Upgrade and Expansion Project in accordance with California Streets and Highways Code 30914(c); and be it further

RESOLVED, that LAVTA certifies that the projects and purposes for which RM2 funds are being requested is in compliance with the requirements of the California Environmental Quality Act (Public Resources Code Section 21000 et seq.), and with the State Environmental Impact Report Guidelines (14 California Code of Regulations Section 15000 et seq.) and if relevant the National Environmental Policy Act (NEPA), 42 USC Section 4-1 et. seq. and the applicable regulations thereunder; and be it further

RESOLVED, that there is no legal impediment to LAVTA making allocation requests for Regional Measure 2 funds; and be it further

RESOLVED, that there is no pending or threatened litigation which might in any way adversely affect the proposed project, or the ability of LAVTA to deliver such project; and be it further

RESOLVED, that LAVTA agrees to comply with the requirements of MTC's Transit Coordination Implementation Plan as set forth in MTC Resolution 3866; and be it further

RESOLVED, that LAVTA indemnifies and holds harmless MTC, its Commissioners, representatives, agents, and employees from and against all claims, injury, suits, demands, liability, losses, damages, and expenses, whether direct or indirect (including any and all costs and expenses in connection therewith), incurred by reason of any act or failure to act of LAVTA, its officers, employees or agents, or subcontractors or any of them in connection with its performance of services under this allocation of RM2 funds. In addition to any other remedy authorized by law, so much of the funding due under this allocation of RM2 funds as shall reasonably be considered necessary by MTC may be retained until disposition has been made of any claim for damages, and be it further

RESOLVED, that LAVTA shall, if any revenues or profits from any non-governmental use of property (or project) that those revenues or profits shall be used exclusively for the public transportation services for which the project was initially approved, either for capital improvements or maintenance and operational costs, otherwise the Metropolitan Transportation Commission is entitled to a proportionate share equal to MTC's percentage participation in the projects(s); and be it further

RESOLVED, that assets purchased with RM2 funds including facilities and equipment shall be used for the public transportation uses intended, and should said facilities and equipment cease to be operated or maintained for their intended public transportation purposes for its useful

life, that the Metropolitan Transportation Commission (MTC) shall be entitled to a present day value refund or credit (at MTC's option) based on MTC's share of the Fair Market Value of the said facilities and equipment at the time the public transportation uses ceased, which shall be paid back to MTC in the same proportion that Regional Measure 2 funds were originally used; and be it further

RESOLVED, that LAVTA shall post on both ends of the construction site(s) at least two signs visible to the public stating that the Project is funded with Regional Measure 2 Toll Revenues; and be it further

RESOLVED, that LAVTA authorizes its Executive Director or his/her designee to execute and submit an allocation request for the design phase with MTC for Regional Measure 2 funds in the amount of three hundred eighty-eight thousand dollars (\$388,000), for the project, purposes and amounts included in the project application attached to this resolution; and be it further

RESOLVED, that the Executive Director or his/her designee is hereby delegated the authority to make non-substantive changes or minor amendments to the IPR as he/she deems appropriate; and be it further

RESOLVED, that a copy of this resolution shall be transmitted to MTC in conjunction with the filing of the LAVTA application referenced herein; and be it further

RESOLVED, that allocation of Regional Measure 2 funding for the Transit Signal Priority Upgrade & Expansion Project is contingent upon action by the Alameda County Transportation Commission designating LAVTA as implementing agency for the Project and the Metropolitan Transportation Commission's approval of this designation with the allocation request.

PASSED AND ADOPTED BY the governing board of the Livermore Amador Valley Transit Authority on this 1st day of April 2024.

Melissa Hernandez, Chair

Attest:

Christy Wegener, Executive Director

Regional Measure 2 – INITIAL PROJECT REPORT

Regional Measure 2 Initial Project Report (IPR)

Project Title:

LAVTA Transit Signal Priority Upgrade and Expansion

RM2 Project No.32.5
(deallocation and reprogramming of SAV Phase 2 Project)**Allocation History:**

	MTC Approval Date	Amount	Phase
#1:			
#2			
#3			

Total: \$**Current Allocation Request:**

IPR Date	Amount Being Requested	Phase Requested
4/2/2024	\$388,000	PSE

Regional Measure 2 – INITIAL PROJECT REPORT**I. OVERALL PROJECT INFORMATION****A. Project Sponsor / Co-sponsor(s) / Implementing Agency**

Alameda County Transportation Commission / Livermore Amador Valley Transit Authority

B. Project Purpose

LAVTA will alleviate congestion in the I-580 Corridor by upgrading the obsolete and unsupported GPS-based Transit Signal Priority (TSP) technology on its two Rapid routes (30R between West Dublin/Pleasanton BART and Lawrence Livermore/Sandia National Laboratories, and 10R between East Dublin/Pleasanton BART and the Livermore Transit Center/ACE Station) to a modern, cloud-based system, and expanding TSP functionality from 20 buses currently to the entire fleet of 68 buses.

C. Project Description (Attach graphics to your submittal as appropriate)

LAVTA will replace its existing GPS-Based Transit Signal Priority (TSP) system encompassing 67 intersections located within its service area in Dublin (26 intersections), Pleasanton (8 intersections), and Livermore (33 intersections) to a Cloud-Based TSP system. LAVTA will also expand deployment of the vehicle-side TSP equipment from the current TSP-enabled subfleet of 20 buses to encompass LAVTA's entire fleet of 68 buses in order to optimize flexibility of vehicle assignments to TSP-equipped routes and maximize benefits of travel time reduction, congestion relief, and improved on-time performance in the I-580 corridor. A map of Tri Valley intersections in the I-580 corridor currently equipped with GPS-based TSP is included as **Attachment A**.

D. Impediments to Project Completion

Funding currently programmed and allocated for Project 32.5 will need to be deprogrammed and deallocated in order to be made available for programming and allocation of funds for this project.

E. Operability

Once construction is complete, the system is expected to remain in continuous use over the life of the master service agreement for a minimum of 10 years. LAVTA will be responsible for O&M in accordance with existing encroachment/maintenance agreements with the cities of Dublin, Pleasanton, and Livermore.

Regional Measure 2 – INITIAL PROJECT REPORT

II. PROJECT PHASE DESCRIPTION and STATUS

F. Environmental –

Does NEPA Apply: Yes No

N/A – project is statutorily exempt from CEQA (PRC 21080.25) The proposed project meets the definition of a transit prioritization project as defined in PRC Section 21080.25 (a)(11)(B) for the installation of wayside technology and onboard technology for transit prioritization projects in the public right-of-way. NEPA does not apply.

G. Design –

LAVTA has solicited a proposal for design-engineering services for the project from its on-call engineering consultant, Kimley-Horn and Associates, who also supported the deployment of the initial infrared-based TSP system launched in 2010, as well as the GPS-based successor system. The proposed work to be performed is described in Attachment B.

H. Right-of-Way Activities / Acquisition –

Any ROW issues are to be addressed and specified during PS&E phase in consultation with the jurisdiction – see attached proposed Scope of Work from Kimley-Horn for details. All work is expected to be within existing City/public ROW and no new ROW will need to be acquired as part of this project.

I. Construction / Vehicle Acquisition -

The construction phase will include acquisition and installation of both vehicle-based and intersection-based TSP equipment and software licensing fees for up to 10 years of cloud-based software operation.

Regional Measure 2 – INITIAL PROJECT REPORT**III. PROJECT BUDGET****J. Project Budget (Escalated to year of expenditure)**

Phase	Total Amount - Escalated - (Thousands)
Environmental Studies & Preliminary Eng (ENV / PE / PA&ED)	\$ --
Design - Plans, Specifications and Estimates (PS&E)	\$388
Right-of-Way Activities /Acquisition (R/W)	\$ --
Construction / Rolling Stock Acquisition (CON)	\$2,402
Total Project Budget (in thousands)	\$2,790

L. Project Budget – Deliverable Segment (Escalated to year of expenditure)

Phase	Total Amount - Escalated - (Thousands)
Environmental Studies & Preliminary Eng (ENV / PE / PA&ED)	
Design - Plans, Specifications and Estimates (PS&E)	\$388
Right-of-Way Activities /Acquisition (R/W)	
Construction / Rolling Stock Acquisition (CON)	
Total Project Budget (in thousands)	\$388

IV. OVERALL PROJECT SCHEDULE

Phase-Milestone	Planned (Update as needed)	
	Start Date	Completion Date
Environmental Document	N/A	N/A
Environmental Studies, Preliminary Eng. (ENV / PE / PA&ED)	N/A	N/A
Final Design - Plans, Specs. & Estimates (PS&E)	7/1/24	3/31/25
Right-of-Way Activities /Acquisition (R/W)	N/A	N/A
Construction (Begin – Open for Use) / Acquisition / Operating Service (CON)	7/1/25	3/31/26

Regional Measure 2 – INITIAL PROJECT REPORT

V. ALLOCATION REQUEST INFORMATION

N. Detailed Description of Allocation Request

Describe the scope of the allocation request. Provide background and other details as necessary.

This allocation request will provide for professional engineering, project management and implementation oversight and coordination services to assist LAVTA in the design and delivery of a new Cloud-Based TSP system. This new TSP system includes the field equipment elements, field modifications at traffic signals, equipment installation on LAVTA buses, new central management systems and traffic operating parameters necessary for the new TSP system to operate at the signalized intersections.

Funds for equipment acquisition and construction phase will be requested upon completion of the PS&E phase.

Amount being requested (in escalated dollars)	\$388,000
Project Phase being requested	PS&E
Are there other fund sources involved in this phase?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of anticipated Implementing Agency Board approval the RM2 IPR Resolution for the allocation being requested	4/1/2024
Month/year being requested for MTC Commission approval of allocation	May 2024

O. Status of Previous Allocations (if any)

\$150,000 in RM2 funds for PS&E was allocated by MTC in October 2021 for work on LAVTA's Shared Autonomous Vehicle Phase 2 Deployment project (RM2 project #32.5). Despite LAVTA's ongoing efforts alongside the City of Dublin to implement the project in the face of challenges related to pandemic-impacted demand and technology readiness, in November 2023, LAVTA's Projects & Services Committee directed staff to discontinue the SAV project and seek reprogramming of existing funds dedicated to the project to another eligible project. The SAV project was then discontinued due to a lack of availability of vehicles meeting specifications for operations on arterial roadways (speed minimums) and lack of operating funding given the new post-pandemic use case relative to previous project plans assuming workers were commuting to and from East Dublin/Pleasanton BART five days per week. LAVTA in consultation with ACTC staff and pending approval of Alameda CTC is now requesting deallocation of the \$150,000 in funds previously allocated to Project 32.5 and reallocation to a different project scope consistent with RM2 funding principles.

Q. Impediments to Allocation Implementation

None. LAVTA's existing but obsolete TSP system is already operational at 67 intersections in all 3 cities. LAVTA's on-call engineering consultant is available and capable of completing the design-engineering

Regional Measure 2 – INITIAL PROJECT REPORT

work. LAVTA has received quotes from prospective vendors who can furnish the necessary equipment and software in the construction phase.

VI. RM-2 FUNDING INFORMATION**R. RM-2 Funding Expenditures for funds being allocated**

The companion Microsoft Excel Project Funding Spreadsheet to this IPR is included

S. Next Anticipated RM2 Allocation Request, if any

April 2025 (CON)

VII. GOVERNING BOARD ACTION

Check the box that applies:

Governing Board Resolution attached

Governing Board Resolution to be provided on or before: May 7, 2024

VIII. CONTACT / PREPARATION INFORMATION**Contact for Applicant's Agency**

Name: Jennifer Yeamans

Phone: (925) 455-7561

Title: Senior Grants & Management Specialist

E-mail: jyeamans@lavta.org

Address: 1362 Rutan Court, Suite 100, Livermore, CA 94551

Information on Person Preparing IPR

Name: Jennifer Yeamans

Phone: (925) 455-7561

Title: Senior Grants & Management Specialist

E-mail: jyeamans@lavta.org

Address: 1362 Rutan Court, Suite 100, Livermore, CA 94551

Applicant Agency's Accounting Contact

Name: Tamara Edwards

Phone: (925) 455-7566

Title: Director of Finance

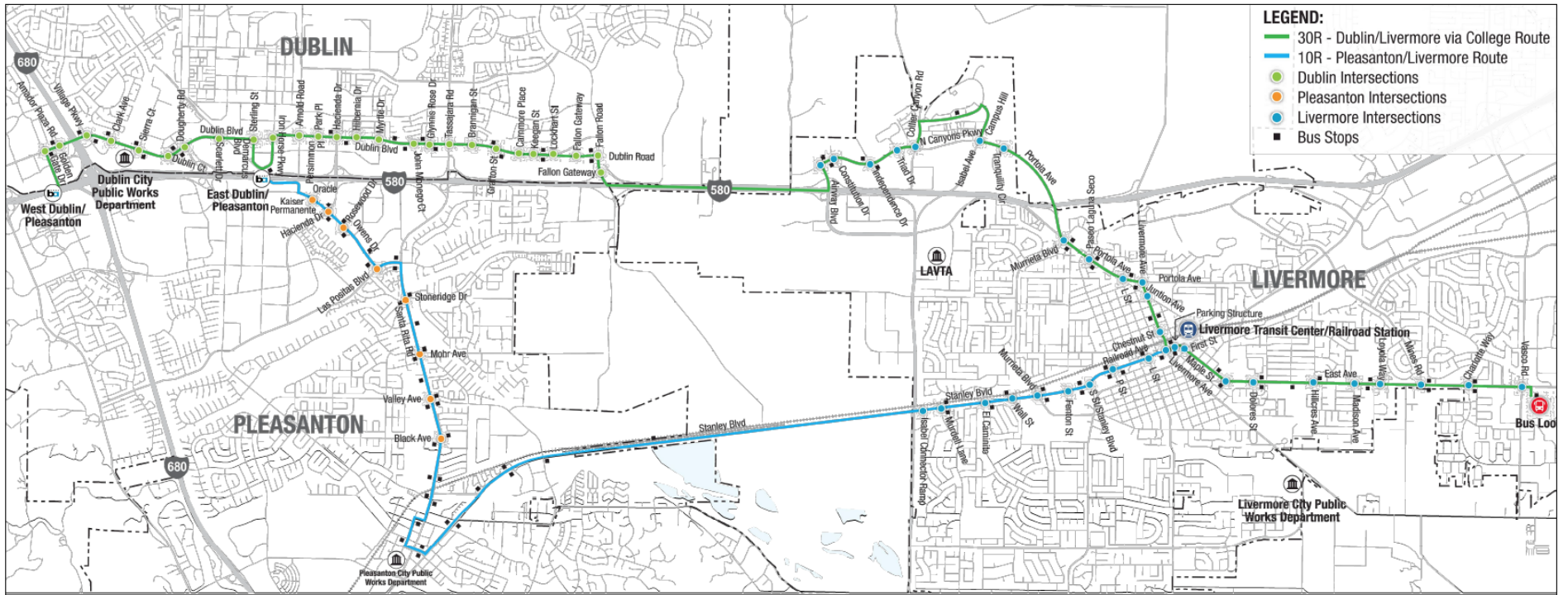
E-mail: tedwards@lavta.org

Address: 1362 Rutan Court, Suite 100, Livermore, CA 94551

Revised IPR_REV12-05-new.docx

LAVTA TSP Upgrade and Expansion Project Locations

May 2019



*Locations for reference only;
map not to scale*



February 14, 2024

1300 Clay Street, Suite 900
Oakland, CA 94612
(510) 625-0712

Christy Wegener
Executive Director
Livermore Amador Valley Transit Authority
1362 Rutan Court, Suite 100
Livermore, CA 94551

RE: Proposal for Professional Services for the Planning, Design and Implementation Oversight and Coordination for a new Cloud-Based Transit Signal Priority (TSP) Solution

Dear Christy:

Kimley-Horn is pleased to submit our proposal and fee estimate to provide professional engineering services for the planning, design and installation oversight and coordination of a new Cloud-Based Transit Signal Priority (TSP) system that will replace the existing GPS-Based TSP system that operates along the rapid routes.

We understand that LAVTA will be replacing the existing GPS-Based TSP system to a Cloud-Based TSP system. We also understand that the existing Emergency Vehicle Preemption (EVP) system functionality that operates with the existing TSP system will need to be retained with the replacement.

Our services will consist of project management, vendor coordination, design of field equipment installations, coordination with the local cities and overall oversight of the installation, testing and commissioning of the new Cloud-Based TSP system. It is our intent to provide these services to assist in the delivery of a turnkey system for LAVTA.

Attached is our detailed scope of services, schedule, and fee estimate for your review.

We appreciate the opportunity to work with you on this project. If you have any questions, please do not hesitate to call me at (510) 350-0217 (office) or (510) 393-6232 (cell).

Very truly yours,

KIMLEY-HORN AND ASSOCIATES, INC.

Kevin Aguigui, P.E., T.E., E.E., CSEP
Project Manager

SCOPE OF SERVICES

Kimley-Horn and Associates, Inc. (Kimley-Horn) will provide professional engineering, project management and implementation oversight and coordination services to assist LAVTA in the design and delivery of a new Cloud-Based TSP system. This new TSP system includes the field equipment elements, field modifications at traffic signals, equipment installation on LAVTA buses, new central management systems and traffic operating parameters necessary for the new TSP system to operate at the signalized intersections.

It is our understanding that the following list provides an overview of the required items for the planning, design and implementation of the new TSP system:

- The new Cloud-Based TSP system will initially only include those intersections along the 10R and 30R routes. Other corridors will be part of an expansion of the system.
- There are about 38 traffic signals in Livermore that operate with GPS-Based TSP today, about 50 traffic signals in Dublin and about 12 traffic signals in Pleasanton.
- New equipment for the Cloud-Based TSP system will only be installed at those locations that currently operate with the existing TSP system.
- If needed for the preferred Cloud-Based TSP solution, there are up to 60 buses that will be eventually equipped with the new on-board TSP equipment, but only 28 buses will need the TSP equipment initially.
- Commercially available Cloud-Based TSP systems and their respective vendors will need to be evaluated, with a preferred system procured for LAVTA.
- The new Cloud-Based TSP vendor and/or other contractor will provide the installation, configuration and integration of any central, field, cloud-based accounts and on-board TSP equipment on the buses.
- The Cloud-Based TSP vendor will be responsible for any new hardware, software or other virtual interfaces with each of the local agency traffic management systems.
- Any new TSP field equipment at the existing traffic signals will be installed by the TSP vendor or construction contractor.

Kimley-Horn will provide overall project management, design, implementation oversight and coordination of the migration of the existing TSP system to the new Cloud-Based TSP system. The implementation and oversight services Kimley-Horn will provide includes assistance in the evaluation and selection of the preferred system/vendor, system installation coordination and integration and acceptance testing of the new system.

Task 1 – Project Management and Meetings

This task includes project management related tasks and meetings to consist of preparation of invoices, budget oversight, adherence to project scheduling, and general project coordination. Kimley-Horn will coordinate with the LAVTA throughout the project to track project requirements and expectations, project installation and implementation schedules, gathering of needed project information, and the coordination of project meetings amongst LAVTA, the local cities and the TSP vendor.

We anticipate that there will be on-going coordination between Kimley-Horn, LAVTA, the TSP vendor and the cities over the course of the project. We have assumed up to three (3) project meetings, one to kick-off the project and two with LAVTA, the TSP vendor and the local cities to develop the overall project schedule.

We have included in our effort a recurring set of project meetings with LAVTA and/or the TSP vendor to continuously track the project's progress and milestones. We have assumed that this recurring meeting would initially occur on a weekly basis and then transition to a monthly basis after a few months into the installation of the system for a total of up to 20 meetings.

Deliverables:

- Meeting agendas and notes
- Preparation and maintenance of the TSP System Implementation Schedule
- Invoices and Progress Reports

Task 2 – Coordination with Local Cities

Kimley-Horn will coordinate and meet with the local cities (Dublin, Livermore and Pleasanton) to gather specific issues, needs and requirements that will be necessary for the new Cloud-Based TSP system as it pertains to the local city's traffic management systems.

Our understanding is that the agencies are currently operating the following traffic management systems:

- City of Dublin – ATMS.now
- City of Pleasanton – ATMS.now
- City of Livermore - StreetWise

Our team will work with LAVTA and the cities on the different ways of implementing, operating and maintaining the new TSP system as it relates to each of the local agency's traffic management systems. If needed, we will assist LAVTA in the preparation of additional documents that may be necessary (e.g., MOUs).

Upon procurement of the new TSP system vendor, Kimley-Horn will coordinate closely with the local cities, the TSP vendor, LAVTA and the city's traffic management system vendor, on the implementation, operations and maintenance responsibilities with the new TSP system.

Deliverables:

- Meeting agendas and notes
- Technical support for additional documents (as needed)

Task 3 - Prepare User Needs and System Requirements

Kimley-Horn will work with LAVTA and the local cities assess and determine user needs for a TSP system. The needs will be based off of operational objectives and strategies desired by LAVTA and the local cities and may involve any lessons learned from the existing TSP system.

Kimley-Horn will develop an initial set of user needs as a starting point to use for the discussions with the local cities. Kimley-Horn will hold meetings (up to three) with the local agencies to discuss user needs and system requirements.

Kimley-Horn will prepare the TPS System Requirements which will be based on the needs and requirements of LAVTA and the local cities as well as literature reviews. Kimley-Horn will also reach out to agencies who currently have deployed Cloud-Based TSP systems to gather any additional information to prepare a comprehensive set of system requirements.

Kimley-Horn will prepare a technical memorandum that will summarize the user needs and system requirements.

Deliverable:

- Technical memorandum summarizing the User Needs and System Requirements.

Task 4 – Assist with System/Vendor Procurement

Kimley-Horn will assist LAVTA in the procurement of the preferred TSP system and vendor. This includes preparation of procurement documents (i.e., Request for Proposals), development of evaluation criteria, attendance at meetings, review of vendor proposals, and if needed, assistance with negotiations with the preferred system vendor.

Deliverables:

- Summary notes from meetings regarding procurement
- Preparation of the Request for Proposals
- Reviews of procurement documents as requested by LAVTA

Task 5 – Detailed Installation Designs

Kimley-Horn will prepare detailed designs for the installation of new TSP field elements working with the selected vendor. The designs will include all necessary details for the installation of the TSP equipment such as mounting details, installation and connection details, particularly as it relates to field equipment. It will also include details on re-connecting existing connections within each cabinet to retain any existing functionality, e.g., emergency vehicle preemption.

The detailed designs will include plans and technical specifications as necessary for LAVTA to hire a construction contractor to perform the field installations. The detailed designs will be able to be used by the TSP vendor to perform the field installation should that be the preferred direction by LAVTA. The detailed designs will be prepared for the existing locations that currently operate with TSP within each of the three cities.

Deliverables:

- Detailed design plans and technical specifications for the field installation of the new TSP elements

Task 6 – System Implementation Oversight and Coordination

Kimley-Horn will provide implementation oversight and coordination during the installation, configuration, integration and testing of the new TSP system. This effort will cover through the Cloud-Based TSP system commissioning after the successful completion of the acceptance tests and the final burn-in test.

A few of the work elements that we will provide implementation and oversight for the TSP system migration includes, but is not limited to:

- Oversight of the construction and installation of the field TSP system elements. This includes, but is not limited to, the preparation of Invitation for Bids (IFB), responding to Requests for Information (RFI), preparation of bid addendums, contract compliance reviews, analysis of bids and/or cost information and the preparation of project background information or clarification as necessary during the construction contractor procurement process.

- Coordinate with LAVTA and the TSP vendor on gathering specific information from the local cities, particularly information on their traffic management systems.
- Coordinate with the local cities on the design, installation and testing of the field TSP equipment at existing traffic signals.
- Oversight and coordination of the TSP system installation, integration and testing. The testing stages may include bench testing, integration testing and acceptance testing.
- Review test plans to be prepared by the TSP vendor.

Deliverables:

- Preparation of procurement documents (e.g., IFB, addendums, etc.)
- Monthly progress reports
- Progress tracking including action logs, installation checklists and punchlists.
- Reviews of product submittals
- Responses to RFIs
- Reviews of vendor and contractor invoices
- Review of TSP system designs (system architecture and/or system diagrams)
- Reviews of test plans
- Observing and witnessing of tests (bench, integration and acceptance)

SCHEDULE

Kimley-Horn is prepared to begin work upon receipt of the notice to proceed (NTP) and will endeavor to meet your scheduling needs. Kimley-Horn will conduct our services in accordance with the schedule and milestones as follows:

Task	Time
Kick-off Meeting	TBD
Coordination with Local Cities	TBD
System Requirements	TBD
Procurement Documents	TBD
Detailed Designs	TBD
Implementation Oversight and Coordination	TBD

PROFESSIONAL FEE

Kimley-Horn will provide the Scope of Services for a Firm Fixed Price fee of \$352,640. The fee includes labor cost, direct and indirect expenses incurred in performing these services. Fees will be invoiced monthly based upon the percent completed as of the invoice date. Materials expenditures shall be billed at cost with no mark-ups applied.

Those services other than those set forth in the Scope of Services shall constitute extra services. Extra services, such as attendance at meetings other than those included in the Scope of Services and evaluation of additional intersections, shall be performed only with your authorization, and for additional fees to be

negotiated prior to authorization.

The following table outlines the estimated level of effort for each task. The table is provided for information only and the hours shown may not represent the actual hours dedicated by each staff to each task necessary to deliver the system.

Task	Project Manager	Sr. Prof	Prof	Jr. Prof	Analyst	Sr. Support Staff	Admin Staff	TOTAL
Task 1: Project Management and Meetings	48			60		8	16	132
Task 2: Coordination with Local Cities	32	32	32	8	32		8	144
Task 3: Prepare User Needs and System Requirements	32	24	8	24	8		4	100
Task 4: Assist with System Vendor Procurement	32	8	24	16	8	8	8	104
Task 5: Detailed Installation Designs	40	16	48	120	200	8	8	440
Task 6: Implementation Oversight and Coordination	60	16	160	180	160		8	584
Total Hours	244	96	272	408	408	24	52	
Fully Burdened Rate	\$370	\$350	\$250	\$190	\$170	\$150	\$140	
Labor Total	\$90,280	\$33,600	\$68,000	\$77,520	\$69,360	\$3,600	\$7,280	\$349,640
Direct Expenses								\$3,000
TOTAL								\$352,640

**Metropolitan Transportation Commission
Programming and Allocations Committee**

June 12, 2024

Agenda Item 2c-24-0638

MTC Resolution No. 3664, Revised.

Subject:

Rescission of \$150,000 in Regional Measure 2 (RM2) capital funds from the design phase of the Livermore Amador Valley Transit Authority (LAVTA) Shared Autonomous Vehicle Pilot Program and allocation of \$388,000 in RM2 capital funds to the design phase of the LAVTA Transit Signal Priority Upgrade and Expansion 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 five 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),
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, allocated \$230,000 for PS&E), and
5. Project 32.5, the LAVTA Shared Autonomous Vehicle Project (programmed \$2.7 million in RM2 funds, allocated \$150,000 for PS&E).

The Alameda County Transportation Commission (Alameda CTC) is the project sponsor.

Cancellation of the LAVTA Shared Autonomous Vehicle (SAV) Project

Since the allocation approval in October 2021, LAVTA staff have worked with project partners towards implementation of the SAV project. However, development of the required technology

has been delayed and expected operating funding did not materialize due to the persistence of remote work beyond the COVID-19 pandemic. Due to a lack of progress, LAVTA has closed out the project and requests that MTC rescind the RM2 allocation and cancel the project. No RM2 funds allocated to the SAV project were expended by LAVTA.

LAVTA Transit Signal Priority (TSP) Upgrade and Expansion

LAVTA identified a need to upgrade the existing TSP system utilized by its 10R and 30R rapid routes, which uses technology that will no longer be supported by the manufacturer once the current contract term is complete. The TSP system helps LAVTA's rapid buses meet on-time performance goals. To maintain and maximize reliable travel times supported by this system, LAVTA proposes to upgrade their existing system to a cloud-based TSP system and expand the functionality to their entire bus fleet. LAVTA has received a proposal from their on-call engineering contractor for the project with an estimated total cost of \$2.79 million.

As sponsor for RM2 Project 32, Alameda CTC approved the allocation request and designated LAVTA as the implementing agency for approximately \$2.7 million in RM2 funds for the TSP Upgrade and Expansion project at its Commission meeting on May 23, 2024.

Staff propose to:

- Cancel and rescind \$150,000 in RM2 capital funds from RM2 project 32.5, the LAVTA Shared Autonomous Vehicle (SAV) project;
- Add a new subproject 32.6, the LAVTA Transit Signal Priority (TSP) Upgrade and Expansion project; and
- Allocate \$388,000 in RM2 capital funds to the PS&E phase of the LAVTA TSP Upgrade and Expansion Project.

A second RM2 allocation request is expected in the next fiscal year for the remaining \$2.3 million in RM2 funds for the implementation and construction of the TSP project.

Issues:

None identified.

Recommendations:

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

Attachments:

- MTC Resolution No. 3664, Revised
- Attachments 32.5 A-D, 32.6 A-D

A handwritten signature in black ink that reads "Andrew B. Fremier". The signature is written in a cursive, flowing style.

Andrew B. Fremier

RESOLUTION NO. 24-2024

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY
AWARDING A TASK ORDER CONTRACT FOR THE DESIGN OF THE
CLOUD BASED TRANSIT SIGNAL PRIORITY PROJECT**

WHEREAS, on April 1, 2022, the Livermore Amador Valley Transit Authority (hereinafter “Authority”) and Kimley-Horn and Associates (hereinafter “Consultant”) entered into an agreement for On-Call Engineering Services (hereinafter “Agreement”); and

WHEREAS, LAVTA requires the services of a traffic engineering firm to oversee the Cloud Based Transit Signal Priority (TSP) upgrade project, including providing design services; and

WHEREAS, Kimley Horn is the only on-call firm that has the qualifications to complete the work necessary to execute the Cloud Based TSP upgrade project; and

WHEREAS, Kimley Horn and LAVTA have negotiated a detailed scope of work for the Cloud Based TSP upgrade project at a firm fixed fee of \$352,640.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Livermore/Amador Valley Transit Authority that the Executive Director may enter into a task order contract with Kimley Horn for \$352,640 for this project.

BE IT FURTHER RESOLVED that the Board of Directors authorizes the Executive Director to expend a 10% contingency amount not to exceed \$35,264, for a total authorized amount not to exceed \$387,904.

BE IT FURTHER RESOLVED that the Executive Director is authorized to execute a task order contract with Kimley Horn in a form approved by LAVTA’s Legal Counsel.

PASSED AND ADOPTED this 9th day of September 2024

Evan Branning, Chair

ATTEST:

Christy Wegener, Executive Director

APPROVED AS TO FORM:

Michael Conneran, Legal Counsel