

STAFF REPORT

SUBJECT: Transit Signal Priority GPS Upgrade and Expansion Project Equipment Purchase

FROM: Jennifer Yeamans, Senior Grants & Management Specialist

DATE: July 1, 2019

Action Requested

Staff requests that the Board of Directors approve Resolution 23-2019, authorizing the Executive Director to execute an Agreement between LAVTA and Global Traffic Technologies LLC (GTT) to purchase GPS-based Transit Signal Priority equipment for 24 LAVTA-owned buses and 67 intersections served by Rapid Routes 10R and 30R in Livermore, Pleasanton, and Dublin.

Background

Following implementation of the Comprehensive Operational Analysis in 2016, in March 2017, LAVTA staff briefed the Projects & Services Committee on plans to expand and update LAVTA's infrared-based Transit Signal Priority system deployed with the original Rapid project with a more modern GPS-based technology using networked real-time schedule information along the newly realigned 10R and 30R routes.

In September 2017, LAVTA approved a Memorandum of Understanding with the City of Dublin (Attachment 2) for use of \$1.14 million in Tri-Valley Transportation Council (TVTC) funds for the Transit Signal Priority (TSP) Upgrade and Expansion project approved by TVTC in July 2017 (Attachment 3). The City of Dublin is a signatory agency to TVTC and as such is the project sponsor for the project (as described in Attachment 4), also known as Express Bus Phase 2, and LAVTA serves as Lead Agency.

In addition to providing more reliable performance and lower maintenance requirements than the existing optical system, the GPS-based system will also provide improved accuracy of queue-jump signal requests and reporting of TSP utilization and its impacts on on-time performance of LAVTA's two Rapid routes, which together carry about 55% of LAVTA's fixed-route ridership. Networked GPS software will only turn the TSP "on" when the buses run three or more minutes behind their published schedule, but keep the TSP "off" when the buses are on-time. The new technology will be installed in parallel to the legacy infrared technology LAVTA currently uses for TSP and which is also utilized for Emergency Vehicle Priority (EVP) systems in Livermore, Dublin, and Pleasanton. The legacy technology was furnished by Opticom, which is now owned by GTT. Similar GPS-based TSP systems have been deployed in the Bay Area by SFMTA and AC Transit with near-immediate improvements in operating performance reported.

In October 2017, LAVTA's Board of Directors authorized the Executive Director to execute a task-order contract with Kimley-Horn and Associates, Inc. to perform project management, design, and construction management services for the TSP Upgrade Project pursuant to the terms of LAVTA's existing on-call Engineering Services Contract (Agreement #842, RFP #2016-14). This work included data collection and field reviews, preparation of detailed installation designs, and extensive coordination with each of the cities of Livermore, Pleasanton, and Dublin, and was completed in May 2019. The intersection locations included in the project are included as Attachment 5. Of the 67 total intersections included in the project, 26 are in Dublin, 33 are in Livermore, and 8 are in Pleasanton.

Discussion

With the project design and specifications complete, LAVTA can proceed with procurement of needed equipment, software, and on-board installation services for the project. Field installation of equipment needed at the 67 intersections in each of the three jurisdictions will be performed by a licensed contractor to be procured via a separate contract in accordance with LAVTA's Procurement Policy.

Sole Source Justification and Cost Analysis

Consistent with LAVTA's Procurement Policy and FTA third-party contracting guidance, staff recommends utilizing a sole-source method of procurement for the TSP equipment, software, and on-board installation services. Sole-source procurements are permissible in limited circumstances, including when an offeror demonstrates a unique or innovative capability not available from another source and/or in order to avoid substantial duplication of costs that are not expected to be recovered through competition. In this case, GTT offers a unique capability with the newer technology to be backwards-compatible with the existing infrared equipment still in use for the cities' EVP systems, and GTT is the only source of the equipment. In addition, staff's cost analysis determined that a substantial duplication of cost will occur if an alternative technology or system were to be deployed that would not be recovered through competition, including time and resources spent by LAVTA coordinating with each of the cities to install new equipment at all 67 affected city-owned traffic signals, programming and testing an entirely new encoding scheme with all three cities and their emergency responders, and training all operations and maintenance personnel at the cities and LAVTA.

Based on the final project designs and specifications Kimley-Horn provided to LAVTA, GTT furnished LAVTA with a price quote for the equipment, software, on-board installation, and related services required to complete the project, exclusive of installation of field equipment, in May. Staff conducted an analysis using a similar contract awarded by another transit agency and determined that the price proposal received from GTT for the equipment, software, and on-board installation services is both reasonable and fair. Staff has since worked with GTT and LAVTA's Legal Counsel to finalize mutually acceptable terms for the purchase.

Fiscal Impact

This project was included in the Fiscal Year 19-20 budget. TVTC funds via the City of Dublin will provide 76% of the revenue to pay for this project, with the remaining 24% provided by Federal Transit Administration (FTA) funds remaining on LAVTA's Transit Performance

Initiative (TPI) grant for Dublin Boulevard. The TPI Dublin Boulevard Project was completed in late 2018 and realized over \$300,000 in cost savings primarily from delivering one of the project elements via an existing third-party product needing only minimal startup funding to deliver. Availability of these FTA funds are subject to FTA approval and concurrence from the Metropolitan Transportation Commission, which staff expects to receive, as the TSP project is within the scope of the original Dublin Boulevard project and the FTA funds would only be applied to expenses attributable to Dublin Blvd. intersections included in the original TPI grant.

The project budget is \$896,585.05 and consists of the contract award amount of \$815,077.32 for all materials necessary, labor to install, shipping, and tax, and a 10% project contingency of \$81,507.73.

Next Steps

Upon execution of the agreement with GTT, LAVTA will issue a purchase order for the TSP equipment, software, and on-board installation services, and also advertise the field-installation contract for award this fall to be performed following delivery of the needed equipment to LAVTA in order to complete the project.

Recommendation

Staff requests that the Board of Directors authorize the Executive Director to execute an Agreement between LAVTA and Global Traffic Technologies LLC to acquire GPS-based Transit Signal Priority equipment for 24 LAVTA-owned buses and 67 intersections served by Rapid Routes 10R and 30R in Livermore, Pleasanton, and Dublin.

Attachments

1. Resolution 23-2019
2. MOU with the City of Dublin
3. TVTC Resolution #2017-07
4. TVTC Strategic Expenditure Plan Project A-11 Description
5. Map of Project Locations

Approved: _____

RESOLUTION NO. 23-2019

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY
AUTHORIZING THE EXECUTIVE DIRECTOR TO EXECUTE A CONTRACT
FOR THE PURCHASE OF TRANSIT SIGNAL PRIORITY UPGRADE AND
EXPANSION EQUIPMENT, SOFTWARE, AND ON-BOARD INSTALLATION
SERVICES WITH GLOBAL TRAFFIC TECHNOLOGIES LLC**

WHEREAS, the Livermore Amador Valley Transit Authority (LAVTA) has identified a need to upgrade and expand its Transit Signal Priority (TSP) infrastructure for its two realigned Rapid routes 10R and 30R with modern, more functional, and more reliable technology utilizing Global Positioning System (GPS) and real-time vehicle location and schedule information (Project); and

WHEREAS, the Tri-Valley Transportation Council (TVTC) approved Resolution 2017-07 in July 2017, appropriating \$1.14 million in funding to complete the Express Bus/BRT Phase 2 Project for the City of Dublin, which is a signatory agency to TVTC, to implement the TSP and Upgrade project; and

WHEREAS, LAVTA and the City of Dublin executed a Memorandum of Understanding in September 2017 establishing the City of Dublin as the Project Sponsor of the Express Bus/BRT Phase 2 Project and LAVTA as the Lead Agency and clarifying the funding arrangements between the two agencies to complete the project; and

WHEREAS, LAVTA has utilized an existing infrared TSP system originally furnished by Opticom, now owned by Global Traffic Technologies LLC (GTT) since 2011. This proprietary equipment is also used by existing Emergency Vehicle Priority (EVP) systems in each of the cities of Dublin, Pleasanton, and Livermore and must remain in use to ensure continued backward-compatible operability of that system; and

WHEREAS, the acquisition of equipment, software, and on-board installation services from GTT for the Project on a sole-source basis to ensure backwards-compatibility of new equipment utilizing proprietary technology with existing EVP systems and in order to avoid substantial duplication of cost has been deemed appropriate under FTA third-party contracting guidance by LAVTA's Legal Counsel and in accordance with LAVTA's Procurement Policy; and

WHEREAS, installation of field equipment required to complete the Project will be procured under a separate contract; and

WHEREAS, this Project was included in the Fiscal Year 2020 budget that was approved by the LAVTA Board of Directors;

NOW, THEREFORE, BE IT RESOLVED, by the Board of Directors of the Livermore Amador Valley Transit Authority that the Executive Director is authorized to

execute a contract with Global Traffic Technologies, LLC, to acquire GPS-based Transit Signal Priority equipment, software, and on-board installation services for 24 LAVTA-owned buses and 67 intersections served by Rapid Routes 10R and 30R in Livermore, Pleasanton, and Dublin, for a not-to-exceed amount of \$815,077.32; and

NOW, THEREFORE, BE IT FURTHER RESOLVED, that the Board of Directors authorizes the Executive Director to expend a 10% contingency amount not to exceed \$81,507.73.

PASSED AND ADOPTED by the governing body of the Livermore Amador Valley Transit Authority (LAVTA) this 1st day of July 2019.

BY _____
David Haubert, Chair

ATTEST _____
Michael Tree, Executive Director

EXHIBIT 1

**MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF DUBLIN
AND THE LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY FOR THE
IMPLEMENTATION OF EXPRESS BUS/RAPID BUS TRANSIT PAHSE 2 PROJECT**

This Memorandum of Understanding (MOU) is entered into as of September 5, 2017 between the City of Dublin, a municipal corporation (DUBLIN) and the Livermore Amador Valley Transit Authority, a joint powers authority (LAVTA).

RECITALS

- A. WHEREAS, DUBLIN, as one of the members of the Tri-Valley Transportation Council ("TVTC") is a signatory to the Joint Exercise of Powers Agreement pertaining to the Tri-Valley Transportation Development Fee (TVTDF) for Traffic Mitigation; and
- B. WHEREAS, DUBLIN has cooperatively participated in the development and adoption of the TVTC Strategic Expenditure Plan (SEP) and the TVTDF Funding Plan, which provide guidance for expenditure of the TVTDF on 22 projects (List A and List B); and
- C. WHEREAS, the Express Bus/BRT Phase 2 Project ("PROJECT") is one of the "List A" projects in the SEP (Project A-11); and
- D. WHEREAS, DUBLIN serves as the TVTC Project Sponsor of the PROJECT identified in the TVTC SEP 2017 Update; and
- E. WHEREAS, LAVTA is the lead agency responsible for management and implementation of the PROJECT; and
- F. WHEREAS, the PROJECT is listed in the TVTC SEP 2017 update with \$1.14 million from TVTDF in fiscal years 2016/17 and 2017/18; and
- G. WHEREAS, using TVTDF funds, LAVTA wishes to fund part of the PROJECT construction in accordance with the terms and conditions set forth herein; and
- H. WHEREAS, as a member of the TVTC, DUBLIN intends to ensure that funds set aside for PROJECT in the TVTDF Funding Plan are appropriated as expeditiously as feasible for the PROJECT;

EXHIBIT 1

- I. NOW, THEREFORE, in consideration of the promises herein, the parties agree as follows:

SECTION I

DUBLIN AGREES:

- A. To initiate a request from the TVTC for the disbursement of TVTDF funds in the amount of \$1.14 million in accordance with the TVTDF funding plan.
- B. To, upon receipt of the funds from the TVTC, pass the funds through to LAVTA, the party responsible for the management and construction of the PROJECT.

SECTION II

LAVTA AGREES:

- A. To receive TVTC pass-through funds from DUBLIN in the amount of \$1.14 million.
- B. To oversee the construction of the PROJECT, in accordance with LAVTA policy.

SECTION III

IT IS MUTUALLY AGREED:

- A. This MOU constitutes the entire agreement between the parties regarding the subject matter hereof and any oral discussions or written or oral agreements with respect thereto preceding the effective date of this MOU are superseded hereby. No amendment, alteration, or variation of the terms of the MOU shall be valid unless made in writing and signed by the parties hereto, and no oral understanding or agreement not incorporated herein shall be binding on any of the parties hereto.
- B. DUBLIN and LAVTA each render their services under this MOU as independent agencies. None of the agents or employees of either shall be deemed agents or employees of the other.
- C. Any notice given under this MOU shall be in writing and shall be deemed given if delivered personally or mailed by registered or certified mail or commercial overnight courier, return receipt or confirmation of delivery requested, or by facsimile transmission with voice confirmation of receipt, the parties at the following addresses (or at such other address for a party as shall be specified by like notice):

EXHIBIT 1

If to DUBLIN:

Obaid Khan, P.E.
Public Works
100 Civic Plaza, Dublin ca 94568
Obaid.khan@dublin.ca.gov
Fax: 925-829-9248

If to LAVTA:

Christy Wegener
1362 Rutan Court, Suite 100
Livermore, CA 94551
cwegener@lavta.org
Fax: 925-443-1375

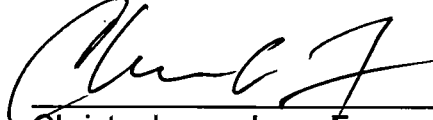
EXHIBIT 1

THIS AGREEMENT executed the date and year first above written.

LIVERMORE AMADOR VALLEY
TRANSPORTATION AUTHORITY

Michael Tree, Executive Director

CITY OF DUBLIN



Christopher L. Foss, City
Manager

ATTEST:

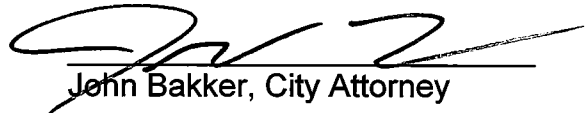


Caroline Soto, City Clerk

APPROVED AS TO FORM:

Michael Conneran
Legal Counsel to LAVTA

APPROVED AS TO FORM:



John Bakker, City Attorney

THIS AGREEMENT executed the date and year first above written.

LIVERMORE AMADOR VALLEY
TRANSPORTATION AUTHORITY



Michael Tree, Executive Director

CITY OF DUBLIN

Christopher L. Foss, City Manager

ATTEST:

Caroline Soto, City Clerk

APPROVED AS TO FORM:



Michael Conneran
Legal Counsel to LAVTA

APPROVED AS TO FORM:

John Bakker, City Attorney

**TRI-VALLEY TRANSPORTATION COUNCIL
RESOLUTION NO. 2017-07**

**A RESOLUTION OF THE TRI-VALLEY TRANSPORTATION COUNCIL
APPROPRIATING \$1,140,000 IN TRI-VALLEY TRANSPORTATION
DEVELOPMENT FEE (TVTDF) FUNDS FOR THE PURPOSES OF FUNDING
ADVANCED TECHNOLOGY EXPRESS BUS/BRT PHASE 2**

WHEREAS, in 1995, the Tri-Valley Transportation Council (TVTC) adopted the "Tri-Valley Transportation Plan/Action Plan (TVTP/AP) for Routes of Regional Significance; and

WHEREAS, the TVTP/AP identified 11 specific transportation improvements to be given high priority for funding; and

WHEREAS, in 1998, the TVTC, and entered into a Joint Exercise Powers of Agreement (JEPA) to provide authority to collect a Tri-Valley Transportation Development Fee (TVTDF) to collect impact fees for the traffic mitigation to be applied to the 11 high priority projects; and

WHEREAS, in 1999, the TVTC prepared and approved a Strategic Expenditure Plan (SEP), which guides the expenditure of revenue collected from TVTDF; and

WHEREAS, the SEP identifies priorities, project sponsors, and funding for TVTDF projects; and

WHEREAS, in 2004, the TVTC adopted an update to the SEP that reflected an update to the regional and sub-regional transportation outlook for the Tri-Valley; and

WHEREAS, in 2011, the TVTC prepared and approved the 2011 TVTDF Funding Plan that provides guidance for expenditure of the TVTDF on 22 projects (List A and List B) including Express Bus/BRT Phase 2 (Project A-11); and

WHEREAS, in 2017, the TVTC prepared and approved an update of the 2011 SEP, and provided a funding plan for the remaining projects; and

WHEREAS, the 2017 update of the SEP programmed \$1.00 million in fiscal year 17/18 and \$0.140 million in fiscal year 16/17 for a total of \$1.140 million to Express Bus/BRT Phase 2 (Project A-11); and

WHEREAS, the City of Dublin ("Dublin") a signatory agency to the 1991 Joint Powers Agreement governing the TVTC and is the TVTC-member sponsor Agency for the purposes of administering the appropriation of TVTD Fees to the Express Bus/BRT Phase 2 Project; and

WHEREAS, the Livermore Amador Valley Transit Authority ("LAVTA") is the Lead Agency for the implementation of Express Bus/BRT Phase 2 Project; and

WHEREAS, Dublin and LAVTA will enter into a Memorandum of Understanding (2017 MOU), which outlines how the funds will flow from TVTC through the City of Dublin to LAVTA, who will be managing the Express Bus/BRT Phase 2 Project; and

WHEREAS, sufficient revenue in the Joint TVTDF Fee Account is available for the FY 17/18 drawdown of \$1,140,000 for the Express Bus/BRT Phase 2 Project.

NOW THEREFORE BE IT RESOLVED THAT the Tri-Valley Transportation Council adopts:

1. The Tri-Valley Transportation Council authorizes an appropriation from the Tri-Valley Transportation Development Fee Account for the Express Bus/BRT Phase 2 TSP Upgrade (Project No. A-11) of \$1,140,000, as programmed in the Strategic Expenditure Plan for fiscal years 2017/18 and 16/17, subject to Dublin and LAVTA's approval and execution of the 2017 MOU. Funds are to be dispersed in accordance with the TVTC Strategic Expenditure Plan.
2. Upon confirmation of Dublin and LAVTA's approval and execution of the 2017 MOU, the Tri-Valley Transportation Council authorizes the TVTC Treasurer to transmit \$1,140,000 in funds in the Tri-Valley Transportation Development Fee Account to the City of Dublin, which will, in turn, pass the funds through to the Livermore Amador Valley Transit Authority, the party responsible for the management and construction of the Express Bus/BRT Phase 2 Project.
3. The Tri-Valley Transportation Council authorizes any related action to further the intent of this Resolution.

PASSED, APPROVED, AND ADOPTED at the meeting of July 17, 2017 by the following votes:

AYES: 6 (Spedowfski, Perkins, Biddle, Stepper, Haggerty, Anderson)

NOES: 0

ABSENT: 1 (Olson)

ABSTAIN: 0



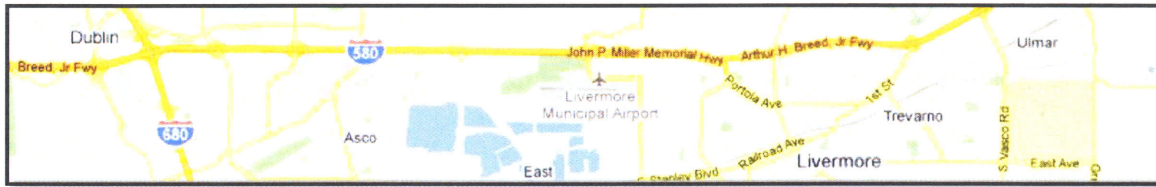
Steven Spedowski, Chair
Tri-Valley Transportation Council

ATTEST:



Debbie Bell, TVTC Administrative Staff

A-11. EXPRESS BUS/BUS RAPID TRANSIT (BRT) – PHASE 2



TVTC PROJECT SPONSOR

City of Dublin

LEAD AGENCY

Livermore Amador Valley Transit Authority (LAVTA)

OTHER INVOLVED PARTIES

City of Livermore, City of Pleasanton

PROJECT DESCRIPTION *(UPDATED FALL 2015)*

Project A-11 is Phase 2 of the Express Bus/BRT, which consists of two phases. The express bus route associated with Phase 1 of the project has been operating since January 2011.

Phase 2 includes upgrades to and expansion of the initial Rapid Project, as well as some project refinements, updates, and maintenance/replacement of original project elements and equipment based on evaluation of the existing components and conditions at the time of funding. The transit system priorities include the following elements:

- A technologically advanced transit system
- A multi-modal transportation system that supports the local economy
- Prioritized regional transfers and connections
- Reliability and efficiency that maximizes value to taxpayers and the community

Phase 2 will consist of five key potential elements (based upon conditions at time of funding):

1. **Advanced Technology** – Design and installation of advanced technologies and road features allowing rapid transit to operate quickly and efficiently, and help to mitigate delay in dwell times, boardings, and travel times. Some of the advanced technologies and road features that LAVTA is considering for Phase 2 are: transit signal priority, enhanced stations, queue jumps, environmentally friendly coaches and advanced onboard technology, advanced fare collection systems, level boarding, dedicated travel lanes, and better integrated park and ride facilities and transit centers. Element 1 is currently budgeted at \$2 Million.
2. **North/South Express Bus/Rapid Service** – In keeping with the Alameda Countywide Transit Plan, and in order to provide a strong foundation for LAVTA's System, I-680 service expansion, North/South Express Bus/BRT service, and other Express/Rapid service options, will be explored and considered. Element 2 is currently budgeted at \$6.5 Million.
3. **Dublin Extension** – Continued study and planning will be done on how best to integrate the planned extension of Dublin Boulevard and the planned Livermore BART Extension into LAVTA's Express Bus/BRT service. Element 3 is currently budgeted at \$6.5 Million.

4. **Pleasanton Alignment** – Complete “Rapidization,” of the Livermore to Pleasanton alignment will be evaluated, with advanced technology and improved service elements planned for the south side of I-580, and possible connection to the existing Rapid service. Element 4 is currently budgeted at \$1.5 Million.
5. **Park and Ride Lots** – In working with local cities and Alameda County, LAVTA will consider improved park and ride elements to support bus, biking, and walking access in the Tri-Valley, and to improve the accessibility of transportation alternatives that would ease congestion on I-580. These options might include: construction of new lots, smart signage, improved bicycle storage, increased pedestrian accessibility and safety, enhanced multi-modal elements on coaches, and increased or revised bus service to rail stations and regional transit connections. Element 5 is currently budgeted at \$2 Million.

STATUS

Phase 1 is fully completed and operational, as of January 2011.

Phase 2 is in the research, design, and planning stage. In August 2016, LAVTA realigned the Express Bus/BRT Route (Route 30R) to serve Las Positas College, and transformed existing Route 10 into an Express Bus/BRT (Route 10R) operating through Pleasanton to BART. The transformation of Route 10 into Route 10R was the first step in implementation of the Phase 2 Pleasanton Alignment. LAVTA intends to implement additional items from Phase 2 (Advanced Technology) to both Routes 10R and 30R in 2017, which includes upgrading the traffic signal priority onboard the buses and at key intersections along both Rapid routes.

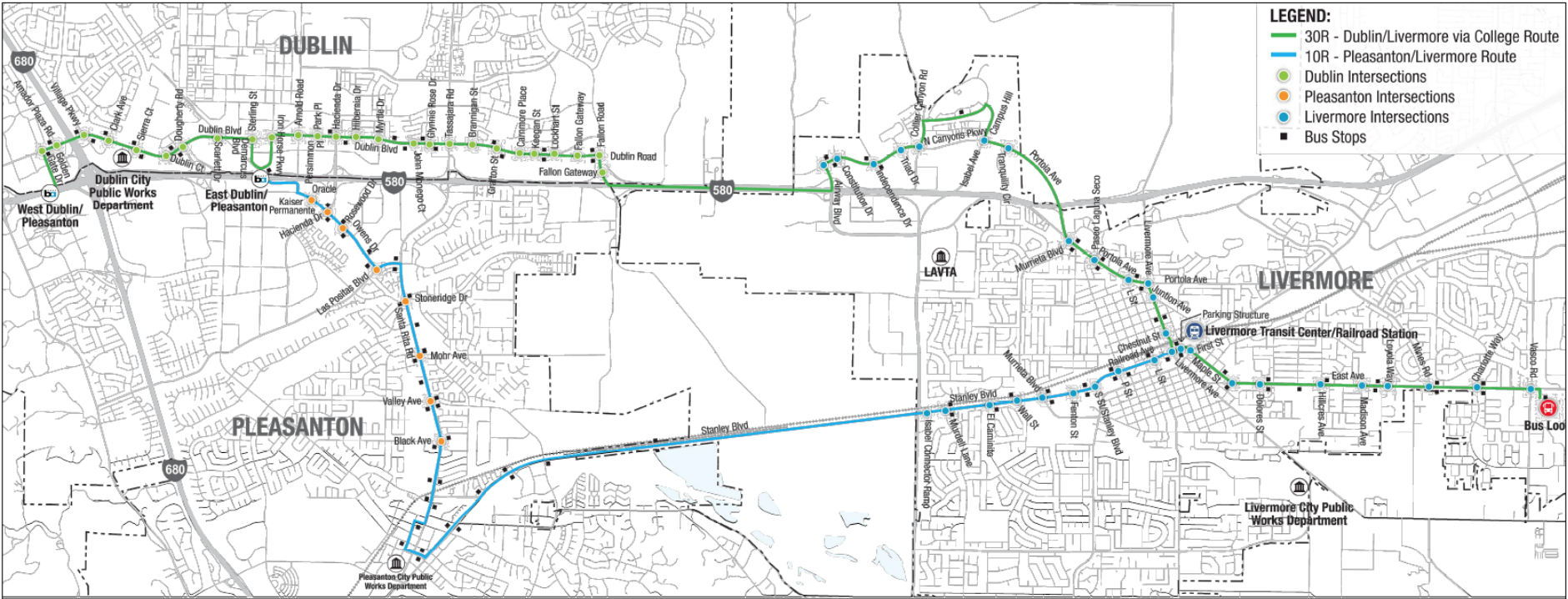
PHASING AND SCHEDULE

Costs for Phase 2 have been updated to reflect current pricing for the project elements listed above. Phase 2 Scope of work, schedule, and full funding parameters are not known at this time.

COST ESTIMATE AND FUNDING SOURCES

Phase 2:	
Cost (Millions, 2015)	\$18.50
Funding (Millions, 2015)	
TVTDF	\$1.14
Total Funding (Millions, 2015)	\$1.14
Total Funding Shortfall (Millions, 2015)	\$17.36

LAVTA TSP Upgrade and Expansion Project Locations May 2019



*Locations for reference only;
map not to scale*