



City of Emeryville

CALIFORNIA

MEMORANDUM

DATE: March 19, 2020
TO: Christine Daniel, City Manager
FROM: Christine Daniel, Acting Public Works Director
SUBJECT: **Resolution Of The City Council Of Emeryville Authorizing The City Manager To Issue A Purchase Order To Advanced Traffic Products, Inc. In The Amount Of \$115,554.60 For The Purchase Of Equipment For Transit Signal Priority (TSP) Expansion On City Corridors Related To The IDEA Grant Project, CIP No. T-10 (Project No. 20254001)**

RECOMMENDATION

Staff recommends that the City Council adopt the above-entitled resolution.

BACKGROUND

In August 2017, Metropolitan Transportation Commission (MTC) initially invited eligible Bay Area public agencies to submit applications for consideration under a new regional initiative called “Innovative Deployments to Enhance Arterials” (IDEA). The new grant program aims to use \$13 million in federal funds to help cities, counties and transit agencies improve the operation of major arterial roadways and to make these roadways ready for connected and automated vehicle technologies.

On November 17th, 2017, City staff turned in an IDEA application to MTC for a proposed project that included a fusion of various technology-focused transportation elements to be deployed throughout the City of Emeryville. On February 14th, 2018, MTC’s Programming and Allocations Committee released the results and Emeryville’s project was selected to be programmed and funded.

Emeryville’s project (“Project”) elements include:

Automated Traffic Signal Performance Measures (ATSPMs) (Category 1)

ATSPMs are proposed to be deployed at fifteen (15) traffic signals owned and maintained by the City of Emeryville to provide the City with a means to proactively monitor system performance metrics (i.e. corridor travel time, arrivals on red, split failures, vehicle and pedestrian delay). With deployment of ATSPMs, real-time high-resolution data will be made available to the City of Emeryville to utilize in analyses of potential isolated or corridor-wide improvements (i.e. signal timing adjustments). The City will also have the ability to utilize the data collected to monitor system performance after deployment of improvements and make data driven decisions. As part of the project, existing 170 traffic signal controllers will be upgraded to 2070 controllers which are needed to support the deployment of ATSPM infrastructure.

Transit Signal Priority (TSP) (Category 1)

The City of Emeryville, in partnership with AC Transit and Emery-Go-Round, is proposing to expand upon its existing TSP system by deploying new and upgraded TSP infrastructure at signalized intersections along project corridors utilized by AC Transit and Emery-Go-Round buses. TSP is a low-cost, mature operational strategy that facilitates the movement of transit buses through signalized intersections to improve transit reliability. Intersections that already have legacy infrared (IR) phase selectors will be upgraded to Opticom multimode phase selectors, and new multimode phase selectors will be procured and installed at locations that currently do not have existing TSP equipment. New Opticom GPS vehicle equipment will be procured for AC Transit and Emery-Go-Round for installation on buses that utilize the project corridors. The City may request support from its on-call traffic engineering consultant to provide technical support in updating the TSP settings and timing parameters for the traffic signals on the project corridors. Through collaboration, the City and transit operators will achieve comprehensive benefits for users of all modes of transportation.

Bicycle Signal Prioritization (Category 2)

Bicycle Signal Prioritization is proposed to be deployed at City owned and maintained traffic signals by utilizing an innovative mobile application that is developed to communicate with the traffic signal controllers and provide detection functionality. The bike application is an innovative, cost-effective, GPS-based advanced bicycle detection solution. The mobile application installed on cyclists' smartphones can be independent of existing agency signal systems and includes an interface that allows a call to be placed to the local controller by sending a secure wireless message from the app to a cloud server. This solution is completely software based and leverages modern technologies without any field construction and works with standard communication protocols (e.g., AB3418, NTCIP). As part of the project, roadway signs and pavement markings to support bicycle signal prioritization would be developed and installed. The City may also request support from its on-call traffic engineering consultant to provide technical assistance.

DISCUSSION

In October 2018, City Council gave authorization for the City Manager to execute a funding agreement for Innovative Deployments to Enhance Arterials (IDEA) Category 2 Project, a Supplement 1 to the Master Funding Agreement with MTC, and for all other agreements necessary to implement the IDEA project.

As part of this project, TSP equipment will be installed at signalized intersections in the project corridors to provide improved TSP functionality. AC Transit currently uses the Global Traffic Technologies (GTT) GPS-based TSP equipment on its bus fleet and the central monitoring system at its offices to manage and monitor the TSP equipment. AC Transit also uses GTT GPS-based TSP equipment at the signalized intersections since the TSP equipment on its bus fleet works exclusively with this intersection equipment. As a result, the new intersection TSP system in City of Emeryville are specialized equipment required to be compatible with AC Transit's existing bus fleet TSP system, which is widely

deployed throughout its multi-county service area, and AC Transit's existing central monitoring system in order to function.

Since AC Transit requires this specific TSP equipment by a specific manufacturer for interoperability with the larger system, the direct sourcing of the proprietary GTT TSP equipment by City of Emeryville is necessary for synchronization with existing facilities per 23 CFR 635.411(a)(2) and is in the public's best interest. City of Emeryville has also taken steps also to ensure the cost-effectiveness of this solution.

The purchase of this TSP equipment referenced in the quotation is an eligible expense under the funding agreements with MTC and Alameda CTC.

FISCAL IMPACT

Through the City's IDEA Grant Funding Agreement with MTC, MTC will provide \$868,406 in funding with a required estimated local cash match of \$173,681 (15% requirement) and an in-kind match of \$115,787 (10% requirement), for a total project value of \$1,157,874.

Alameda CTC is expected to fund the City's portion of the 15% local cash match, while AC Transit and ETMA will fund their respective required matches for equipment installed on their buses. Emeryville will be required to pay MTC the entire local cash match and will later be reimbursed by Alameda CTC, AC Transit, and ETMA for their portions.

The purchase of the TSP equipment referenced in the quotation is an eligible expense under the funding agreements with MTC and Alameda CTC. The City will use funds from Fund 254 – ACTC Grant/MTC Grant for these costs under CIP Project No. 20254001 to make this purchase. The City will be reimbursed by MTC and ACTC back into Fund 254 – ACTC Grant/MTC Grant for these costs.

STAFF COMMUNICATION WITH THE PUBLIC

Staff has presented and given updates to the project at various City of Emeryville BPAC Meetings and at various Inter-Agency Liaison Committee Meetings with AC Transit since the grant was awarded in February 2018.

PREPARED BY: Ryan O'Connell, P.E., Senior Civil Engineer, Public Works

APPROVED AND FORWARDED TO THE CITY COUNCIL OF THE CITY OF EMERYVILLE:



Christine Daniel, City Manager

ATTACHMENTS

- Draft Resolution

- Quotation