DATE: June 18, 2024

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT: Adopt a Resolution Authorizing the City Manager to Execute a Professional Services Agreement with TransCore in an Amount Not-to-Exceed $202,500 for Adaptive Signal Control Implementation Services for the Winton Avenue/D Street and Tennyson Road Corridors Signal Timing Project, Project No. 05342

RECOMMENDATION

That Council adopts a resolution (Attachment II) authorizing the City Manager to execute a Professional Services Agreement (PSA) with TransCore for adaptive signal control implementation services for a not-to-exceed (NTE) contract amount of $202,500 with a termination date of December 31, 2025.

SUMMARY

The City was awarded $515,000 from the Bay Area Air Quality Management District under the Transportation Fund for Clean Air (TFCA) to implement adaptive signal control technology and other related infrastructure improvements to the Winton Avenue/D Street and Tennyson Road corridors. A sole source contract is recommended so that the City can continue to use the existing Sidney Coordinated Adaptive Traffic System (SCATS) adaptive signal control software and reduce operations and maintenance costs.

BACKGROUND

In August of 2023, City staff applied for TFCA funding for an amount of $515,000 with a local contribution of $297,000 for a total of $812,000. The City's scope in the application proposed the implementation of adaptive signal control system on the Winton Ave/D Street and Tennyson Road corridors, along with other improvements to support the adaptive signal control system, such as installation of fiber communications and video detection technology. This project, along with the TFCA 2023-24 program, was approved

by the ACTC commission on December 7, 2023. On December 12, 2023[1], Council adopted a resolution to execute a funding agreement between the City and ACTC .

DISCUSSION

One of the major improvements scoped in the project is the implementation of the adaptive signal control system.

The project will implement adaptive signal control at seven intersections on the Winton Ave/D Street corridor from Santa Clara St to Atherton St and ten intersections on the Tennyson Rd corridor from Sleepy Hollow Rd to Dixon St. These limits were determined by evaluating collected data and potential corridors for cost-effectiveness under the TFCA program guidelines. Adaptive signal control adjusts when green lights start and end to accommodate current traffic patterns in real-time. In addition, for the Winton Avenue/D Street corridor, seven traffic signals will be connected to the existing fiber communication. It is also estimated that three intersections from each corridor will be upgraded to video detection systems.

Some of the benefits of adaptive signal control technology over conventional signal systems are that it can automatically adapt to unexpected changes in traffic conditions, reduce congestion and greenhouse gas emissions, and reduce the complaints that the City will receive due to outdated signal timing. The Federal Highway Administration reports that studies show that adaptive signal control improves various performance metrics (travel time, control delay, emissions, and fuel consumption) by 10 percent or more, with some improvements as high as fifty percent or more when compared to extremely outdated signal timing in saturated conditions.

There are currently 146 signalized intersections in the City. The Sydney Coordinated Adaptive Traffic System (SCATS) is an existing adaptive signal control system already operating at 43 signalized intersections, the most of any other adaptive system currently operating. The other adaptive system running is KITS-Kadence which runs along 17 intersections on Hesperian Boulevard. The proposed contract includes SCATS software license for 17 additional intersections, which would bring the City's total number of intersections running SCATS to 60. By staying consistent with its use of SCATS, the City will gain the benefits of adaptive signal control technology while minimizing operations and maintenance costs by avoiding the inefficiencies of managing and operating multiple systems. There are also potential safety benefits with SCATS. SCATS features allow for the setting of target speeds, which when used, can function as a form of speed management while retaining most of the benefits of adaptive signal control.

TransCore is the sole source distributor of SCATS software and provider of SCATS support in the United States. To support the project's schedule and to implement SCATS within the timeline in the funding agreement, it is recommended that the City execute the sole source

[1] https://hayward.legistar.com/LegislationDetail.aspx?ID=6448361&GUID=B59E9DC5-130D-4037-A00A-4440CF1CD42E&Options=&Search=

contract so that TransCore can start initial configuration and firmware work. Under the current schedule, Tennyson Rd implementation is expected to start in the Fall 2024 and Winton Ave/D Street implementation in the Spring of 2025.

ECONOMIC IMPACT

Residents, employers and employees in the City will benefit from the implementation of SCATS adaptive signal control through travel time reductions due to dynamically optimized signal timing. Excessive congestion has been shown to negatively affect mobility, job growth, and worker productivity. Reducing this congestion will aid in maintaining the region's economic competitiveness, while also reducing pollution and greenhouse gas emissions, which are related to negative health and environmental consequences.

FISCAL IMPACT

There is no impact to the General Fund. On December 12, 2023[2], Council accepted and appropriated grant funding from Alameda County Transportation Commission for the Winton Avenue/D Street and Tennyson Road Corridors Signal Timing Project, and for the Construction of Traffic Signal Infrastructure and implementation of Adaptive Signal Timing. The previously accepted and appropriated funding will cover the cost of the contract with TransCore.

STRATEGIC ROADMAP

This agenda item supports the Strategic Priority of Combat Climate Change. This item is not specifically identified in the Strategic Roadmap. However, adaptive signal timing has been shown to reduce greenhouse gas emissions.

SUSTAINABILITY FEATURES

The implementation of SCATS adaptive signal control will result in smoother traffic flow and reduced vehicle idling along Winton Ave/D Street and Tennyson Road corridors, resulting in reduced fuel consumption and reduced greenhouse gas emissions.

PUBLIC CONTACT

No public contact has been made related to this agenda item.

NEXT STEPS

If City Council approves this request, the City Manager will execute a contract with TransCore to deliver the project.

[2] https://hayward.legistar.com/LegislationDetail.aspx?ID=6448361&GUID=B59E9DC5-130D-4037-A00A-4440CF1CD42E&Options=&Search=

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