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Title:	ACCEPTANCE OF OCTA GRANT AND AWARD OF CONTRACT FOR BAKER-PLACENTIA-VICTORIA-19TH STREET REGIONAL TRAFFIC SIGNAL SYNCHRONIZATION PROJECT		
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Date	Ver.	Action By	Action	Result

TITLE:

ACCEPTANCE OF OCTA GRANT AND AWARD OF CONTRACT FOR BAKER-PLACENTIA-VICTORIA-19TH STREET REGIONAL TRAFFIC SIGNAL SYNCHRONIZATION PROJECT

DEPARTMENT: PUBLIC SERVICES DEPARTMENT / TRANSPORTATION SERVICES DIVISION

PRESENTED BY: RAJA SETHURAMAN, PUBLIC SERVICES DIRECTOR

CONTACT INFORMATION: JENNIFER ROSALES, TRANSPORTATION SERVICES MANAGER (714) 754-5343

RECOMMENDATION:

Staff recommends the City Council:

1. Accept OCTA competitive grant award of $1.77 million and award a Professional Services Agreement (PSA) to Architectural Engineering Technology, Inc. for the design and implementation of the Baker-Placentia-Victoria 19th Street Regional Traffic Signal Synchronization Project in the amount of $2,211,405.23 (Attachment 1), including a local match requirement of $443,000, in substantially the form as attached and in such final form as approved by the City Attorney.

2. Authorize a five (5) percent contingency in the amount of $110,570 for any additional services that may be required for the project.

3. Authorize the City Manager and the City Clerk to execute the agreement and future amendments to the agreement.

BACKGROUND:

The Orange County Transportation Authority (OCTA) Measure M2 Program, half-cent sales tax for transportation improvements, includes funding for cooperative Traffic Signal Synchronization (TSS) projects spanning multiple jurisdictions within Orange County. OCTA issued a competitive "call for projects" under the TSS Program soliciting projects for potential grant funding in 2019.

In July 2020, OCTA approved the City's competitive grant application for the Baker-Placentia-Victoria 19th Street Regional Traffic Signal Synchronization Project. OCTA awarded the City $1,773,000 in grant funds for the engineering and implementation of traffic signal equipment and timing improvements for these corridors. The OCTA grant for this project is one of the largest grants of this type ever awarded by OCTA to a single agency and the only agency to receive this grant for multiple corridors.

The Baker-Placentia-Victoria 19th Street Regional Traffic Signal Synchronization Project will result in a comprehensive improvement of traffic signal coordination accommodating the needs of pedestrians, bicyclists and motorists along the entire length of the corridors (Attachment 3). The City of Costa Mesa will administer this project, and Caltrans will be a participating agency. Thirty-nine (39) intersections under jurisdiction of the City of Costa Mesa and two (2) intersections of Caltrans will be improved and coordinated as part of this project. Additionally, the project will improve signal timing for all users - pedestrians, bicyclists and motorists, - at thirty-nine (39) signalized intersections within the City of Costa Mesa's jurisdiction that will improve overall safety for pedestrians and bicyclists.

The project also includes the installation of upgraded traffic signal communication equipment such as replacement of outdated traffic signal controllers, new video detection for bicycles that will enhance safety for bicyclists, new pedestrian countdown heads with timing changes that provide pedestrians more time to cross the street, new audible pedestrian push buttons that improve accessibility and produce voice commands to assist pedestrians, Emergency Vehicle Preemption (EVP) units using Global Positioning System (GPS), and Traffic Management Center (TMC) upgrades.

The scope of work for the RTSS Project includes:

- Development of optimized traffic signal synchronization timing plans that serve to encourage lower average speeds;
- Installation of traffic signal upgrades;
- Communication upgrades between traffic signals and TMC;
- Implementation of enhanced pedestrian timing;
- Implementation of updated bicycle timing and video detection of bicycles;
- Implementation of audible pedestrian push buttons;
- Implementation of Leading Pedestrian Interval (LPI) at several intersections;
- Preparation of "before and after" studies; and
- Two years of signal timing maintenance.

This grant project will modernize the traffic signal equipment along these corridors to incorporate signal timing for bicycles and improve timing for pedestrian crossings at all signalized intersections along the project corridors. The signal timing will be modified to accommodate longer pedestrian crossing intervals. It is important to note that a "minimum green time requirement for pedestrians" does not mean that the green time must or will be minimized for pedestrians; it is merely a reference to current minimally required engineering standards. City staff will ensure that the minimum green time for pedestrians meets or exceeds standards based on an analysis of each intersection. The

project's standard for minimum pedestrian time will be based on crossing time calculated at 3.5 feet per second, which provides more time for pedestrians to cross a street than the earlier standard that assumes a pedestrian can cross 4 feet per second. All of the traffic signals on these corridors will be reviewed and programmed to meet or exceed this pedestrian clearance time, thereby enhancing safety for all pedestrians, especially near schools and other locations serving vulnerable populations (e.g. Senior Center), among many other improved safety and active transportation features outlined below.

ANALYSIS:

In August 2021, the City issued a Request for Proposals (RFP) for the design and implementation of the project. Five (5) proposals were received to provide the professional engineering services for the project. Proposals were reviewed for compliance with the City's RFP, and consultants were evaluated based on project understanding, depth of experience, technical expertise, and associated evaluation criteria. The highest ranked consultant teams were selected to interview for further evaluation. After careful review of all proposals and interview responses, Architectural Engineering Technology, Inc. was selected for the design and implementation of the project. The consultant team, Architectural Engineering Technology, Inc., successfully demonstrated a thorough understanding of the project, technical ability and experience. The AET/HDR team has significant experience working on active transportation projects and traffic signal synchronization projects with safety improvements in Orange and Los Angeles counties including the City of Santa Ana, City of Long Beach, City of Pasadena, City of Los Angeles, and City of San Diego. In addition, the City of Los Angeles recently approved speed limit reductions of five miles per hour on 170 miles of their complete streets program, and HDR has been involved in the program as a Program Manager. The combined years of experience of the AET team's Project Manager (Kenny Chao/AET) and Deputy Project Manager (Doug Smith/HDR) is fifty-nine (59) years.

The City of Costa Mesa will manage the project, provide a match share for the improvements, and implement the timing plans in the City's jurisdiction. Caltrans will implement the timing plans for the two intersections within its jurisdiction. Each agency is responsible for maintenance of the improvements within their jurisdiction. OCTA, as a grantor agency, will fund, monitor, and audit the project in accordance with previously approved funding agreements.

The Southern California Association of Governments (SCAG), as part of their Go Human Campaign - Planning for Safer Streets initiative, identified traffic signal improvements as one of the critical areas to pursue grant funding to enhance Active Transportation. The Baker-Placentia-Victoria and 19th Street Traffic Signal Synchronization Project reflects a comprehensive plan to achieve this goal with the following significant improvements:

New Countdown Pedestrian Heads

An important mechanism to enhance pedestrian and bicyclist safety is the use of countdown pedestrian heads at signalized intersections. Pedestrian countdown signals consist of a standard pedestrian signal head, with an added display showing a countdown of the remaining crossing time providing vital information to pedestrians. As a result of this grant, ten (10) new additional countdown pedestrian heads will be installed at several intersections along the project corridors that currently do

not have such devices. This will enable all of the signals along these corridors to have countdown pedestrian heads. The following ten (10) intersections will have new countdown pedestrian heads for the first time ever under this project:

- Baker Street/Red Hill Avenue
- Baker Street/Coolidge Avenue
- Baker Street/Fairview Road
- Baker Street/College Avenue
- Baker Street/Royal Palm Drive
- Placentia Avenue/Wilson Street
- Placentia Avenue/18th Street
- Victoria Street/Newport Boulevard NB
- Victoria Street/Newport Boulevard SB
- Victoria Street/American Avenue

New Leading Pedestrian Intervals (LPI's)

This project will implement leading pedestrian intervals (LPI's) at 16 locations. An LPI provides pedestrians a three to seven second head start into the crosswalk in advance of the corresponding green phase for vehicles in the same direction of travel. This will increase the visibility of pedestrians crossing, thereby enhancing pedestrian safety. The following sixteen (16) locations will have LPI's implemented for the first time ever with up to ten (10) more locations to be identified and added during the project study:

- Baker Street/Babb Street
- Baker Street/Mendoza Street
- Baker Street/Coolidge Avenue
- Placentia Avenue/Fairview Park
- Placentia Avenue/Estancia North
- Placentia Avenue/Estancia South
- Placentia Avenue/Wilson Street
- Placentia Avenue/West 19th Street
- Placentia Avenue/West 18th Street
- Placentia Avenue /West 17th Street
- Placentia Avenue /West 16th Street
- Victoria Street/Harbor Boulevard
- Victoria Street/American Avenue
- West 19th Street/Meyer Place
- West 19th Street/Anaheim Avenue
- West 19th Street/Park Avenue

Currently the City only has only one location with an LPI on these corridors. The project will add 16 more LPIs in the locations identified above, plus an additional ten (10) locations yet to be identified, bringing the total number of Leading Pedestrian Interval intersections from only 1 currently to 27 locations, the highest number ever, along these corridors.

New Audible Pedestrian Push Buttons

Another enhancement to the City's Active Transportation efforts is the installation of audible pedestrian push buttons. This will aid visually impaired persons using crosswalks at signalized intersections by providing audible interpretation of pedestrian indications. The following six (6) locations along West 19th Street near the Senior Center and senior housing will have audible pedestrian push buttons thereby promoting safer crossings for all pedestrians including the visually impaired:

- Placentia Avenue/19th Street
- West 19th Street/Pomona Avenue
- West 19th Street/Meyer Place
- West 19th Street/Anaheim Avenue
- West 19th Street/Park Avenue
- West 19th Street/Harbor Boulevard

New Video Detection Cameras

This grant project also includes the purchase and installation of video detection cameras at

signalized intersections specifically designed and engineered to detect bicycles. There are limitations with current bicycle detection using in-pavement loops, which can only detect bicycles with heavy metal and positioned on a bicycle loop. The new video detection equipment will enable all bicycles to be detected in through lanes, left-turn lanes, bicycle lanes, and bicycle boxes. This is a significant enhancement to the City's active transportation infrastructure and network.
After installation, when a bicycle is detected, the appropriate green time will be extended to allow for safe movement of that bicycle through the intersection. In addition, video detection cameras can detect a bicyclist approaching an intersection during a green phase and extend the green phase for a bicyclist to fully clear that intersection.

The following nineteen (19) locations will have new video detection added:

- Baker Street/Bear Street
- Baker Street/Mendoza Drive
- Baker Street/Harbor Boulevard
- Placentia Avenue/Adams Avenue
- Placentia Avenue/Estancia North
- Placentia Avenue/Wilson Street
- Placentia Avenue/Victoria Street
- Placentia Avenue/19th Street
- Placentia Avenue/17th Street
- Victoria Street/Newport Boulevard NB
- Victoria Street/Newport Boulevard SB
- Victoria Street/Harbor Boulevard
- Victoria Street/National Avenue
- Victoria Street/American Avenue
- Victoria Street/Canyon Drive
- Victoria Street/Valley Road
- 19th Street/Meyer Place
- 19th Street/Anaheim Avenue
- 19th Street/Harbor Boulevard

In addition to the aforementioned Active Transportation enhancements and features, the benefits of this signal synchronization project also include:

- Reduction of greenhouse gases as the number of vehicles are reduced that decelerate, stop, idle, and accelerate;
- Accommodate all transportation user needs of traffic signals efficiently and safely including pedestrians, bicycles, and vehicles;
- Provide for orderly movement of vehicles along corridors by timing the traffic signals to reduce speeding. For most streets, better coordination is achieved at a speed that is considerably below the speed limit;
- Reduces queueing and backing up of traffic, especially at closely-spaced signals; and
- Provides for efficient movement of public safety vehicles, including emergency services.

The City uses grant funds from OCTA's Measure M2 competitive traffic signal synchronization program to make improvements that benefit Active Transportation in the City. The City's signals along the subject corridors are already coordinated. However, signal timing adjustments will need to be made as part of this project to accommodate longer pedestrian and bicycle crossing durations to further promote safe walking and biking throughout the City. This project also enables the City to procure and implement several of the Active Transportation measures identified by the Bikeway and Walkability Committee, as well as the draft Pedestrian Master Plan and draft Local Road Safety Plan. Please see Attachment 2 for a detailed listing of the specific elements of each plan that this project addresses in achieving the City's Active Transportation goals. Following the completion of this project, **there will be a reduction of overall green time allocated for vehicles and an increase in the green time allocated for pedestrians and bicycles**.

ALTERNATIVES:

An alternative is to reject this project. This would entail the return of $1.77 million in OCTA grant funding awarded to the City under a competitive process. Such an action could also jeopardize future funding opportunities through OCTA and Cal TRANS. As the City Council has encouraged staff to pursue additional grant opportunities to support its Active Transportation efforts and infrastructure, this alternative is not recommended.

FISCAL REVIEW:

Funding for the Professional Services Agreement with Architectural Engineering Technology, Inc. is available in the FY 2021-22 Approved Capital Improvement Project (CIP) Baker-Placentia-Victoria 19th Street Regional Traffic Signal Synchronization Budgets, in Fund 203 (Air Quality Management District Fund - $200,000), Fund 214 (Traffic Impact Fee Fund - $243,000), and Fund 415 (Measure “M2” Regional Fund - $1,773,000) competitive OCTA grant award.

LEGAL REVIEW:

The City Attorney’s Office has reviewed this agenda report, prepared the proposed Professional Services Agreement and approves them both as to form.

CITY COUNCIL GOALS AND PRIORITIES:

This item supports the following City Council Goals:

- Strengthen the public’s safety and improve the quality of life.
- Maintain and enhance the City’s facilities, equipment and technology.
- Advance environmental sustainability and climate resiliency.

CONCLUSION:

Staff recommends the City Council:

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