

Regional Planning and Highways Committee Meeting

Committee Members

Mark A. Murphy, Chairman Barbara Delgleize, Vice Chair Lisa A. Bartlett Doug Chaffee Joe Muller Richard Murphy Miguel Pulido Orange County Transportation Authority
Headquarters
Conference Room 07
550 South Main Street
Orange, California
Monday, October 5, 2020 at 10:30 a.m.

Any person with a disability who requires a modification or accommodation in order to participate in this meeting should contact the OCTA Clerk of the Board, telephone (714) 560-5676, no less than two (2) business days prior to this meeting to enable OCTA to make reasonable arrangements to assure accessibility to this meeting.

Agenda descriptions are intended to give members of the public a general summary of items of business to be transacted or discussed. The posting of the recommended actions does not indicate what action will be taken. The Committee may take any action which it deems to be appropriate on the agenda item and is not limited in any way by the notice of the recommended action.

All documents relative to the items referenced in this agenda are available for public inspection at www.octa.net or through the Clerk of the Board's office at the OCTA Headquarters, 600 South Main Street, Orange, California.

Guidance for Public Access to the Board of Directors/Committee Meeting

On March 12, 2020 and March 18, 2020, Governor Gavin Newsom enacted Executive Orders N-25-20 and N-29-20 authorizing a local legislative body to hold public meetings via teleconferencing and make public meetings accessible telephonically or electronically to all members of the public to promote social distancing due to the state and local State of Emergency resulting from the threat of Novel Coronavirus (COVID-19).

In accordance with Executive Order N-29-20, and in order to ensure the safety of the Orange County Transportation Authority (OCTA) Board of Directors (Board) and staff and for the purposes of limiting the risk of COVID-19, in-person public participation at public meetings of the OCTA will not be allowed during the time period covered by the above-referenced Executive Orders.



Regional Planning and Highways Committee Meeting

Guidance for Public Access to the Board of Directors/Committee Meeting (Continued)

Instead, members of the public can listen to AUDIO live streaming of the Board and Committee meetings by clicking the below link:

http://www.octa.net/About-OCTA/Who-We-Are/Board-of-Directors/Live-and-Archived-Audio/

Public comments may be submitted for the upcoming Board and Committee meetings by emailing them to <u>boardofdirectors@octa.net</u>.

If you wish to comment on a specific agenda Item, please identify the Item number in your email. All public comments that are timely received will be part of the public record and distributed to the Board. Public comments will be made available to the public upon request.

In order to ensure that staff has the ability to provide comments to the Board Members in a timely manner, please submit your public comments 30 minutes prior to the start time of the Board and Committee meeting date.



Regional Planning and Highways Committee Meeting

Call to Order

Roll Call

Pledge of Allegiance

Committee Chairman M. Murphy

1. Public Comments

Special Calendar

There are no Special Calendar matters.

Consent Calendar (Items 2 through 8)

All items on the Consent Calendar are to be approved in one motion unless a Committee Member or a member of the public requests separate action or discussion on a specific item.

2. Approval of Minutes

Approval of the minutes of the Regional Planning and Highways Committee meeting of September 3, 2020.

3. Agreement for Facility Modifications at Santa Ana Bus Base for the Interstate 405 Toll Operations Center

George Olivo/James G. Beil

Overview

The Orange County Transportation Authority's Santa Ana Bus Base requires facility modifications to accommodate the Interstate 405 Express Lanes Toll Operations Center. An invitation for bids was released on July 15, 2020. Bids were received in accordance with Board of Directors-approved procedures for public works projects. Board of Directors' approval is requested to execute the agreement.



Regional Planning and Highways Committee Meeting

3. (Continued)

Recommendations

- A. Find Reed Family Enterprises, Inc., the apparent low bidder, as non-responsive for failure to meet the federal requirement for Disadvantaged Business Enterprise participation.
- B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-0-2191 between the Orange County Transportation Authority and Dalke & Sons Construction, Inc., the lowest responsive, responsible bidder, in the amount of \$636,680, for facility modifications at the Santa Ana Bus Base for the Interstate 405 Express Lanes Toll Operations Center.
- 4. Contract Change Orders for the Interstate 405 Improvement Project from State Route 73 to Interstate 605

Jeff Mills/James G. Beil

Overview

On November 14, 2016, the Orange County Transportation Authority Board of Directors approved Agreement No. C-5-3843 with OC 405 Partners, a joint venture, for the design and construction of the Interstate 405 Improvement Project from State Route 73 to Interstate 605. Contract change orders are needed at this time to compensate OC 405 Partners for additional design and construction efforts related to additional extra maintenance work, United States Postal Service parking lot improvements, extension of a westbound Talbert Avenue third lane, and to provide a temporary bypass waterline at the Goldenwest Street overcrossing bridge.

Recommendations

- A. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 3.2 to Agreement No. C-5-3843 between the Orange County Transportation Authority and OC 405 Partners, a joint venture, in the amount of \$2,200,000, to provide additional extra maintenance work.
- B. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 78 to Agreement No. C-5-3843 between the Orange County Transportation Authority and OC 405 Partners, a joint venture, in the amount of \$537,436, to provide parking lot improvements at the United States Postal Service property.



Regional Planning and Highways Committee Meeting

4. (Continued)

- C. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 79 to Agreement No. C-5-3843 between the Orange County Transportation Authority and OC 405 Partners, a joint venture, in the amount of \$270,528, to provide an extension of the third westbound lane on Talbert Avenue to Cashew Street.
- D. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 80 to Agreement No. C-5-3843 between the Orange County Transportation Authority and OC 405 Partners, a joint venture, in the amount of \$579,604, to provide a temporary bypass waterline for the Goldenwest Street overcrossing bridge.
- 5. Amendment to Cooperative Agreement with the City of Fountain Valley for the Interstate 405 Improvement Project

 Jeff Mills/James G. Beil

Overview

On March 14, 2016, the Orange County Transportation Authority Board of Directors approved Cooperative Agreement No. C-5-3613 with the City of Fountain Valley for city services required during the design-build implementation of the Interstate 405 Improvement Project. An amendment to the cooperative agreement is needed for the procurement and installation of emergency vehicle preemption at key signal locations within the City of Fountain Valley.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 5 to Cooperative Agreement No. C-5-3613 between the Orange County Transportation Authority and the City of Fountain Valley, in the amount of \$374,000, for the procurement and installation of emergency vehicle preemption at 28 proposed signal locations, as part of the Interstate 405 Improvement Project. This will increase the maximum obligation of the cooperative agreement to a total value of \$5,023,708.



Regional Planning and Highways Committee Meeting

6. Cooperative Agreement with the California Department of Transportation for the State Route 91 Improvement Project Between State Route 57 and State Route 55 and Authority to Acquire Right-of-Way Jeannie Lee/James G. Beil

Overview

The Orange County Transportation Authority proposes to enter into a cooperative agreement with the California Department of Transportation to define roles, responsibilities, and funding obligations for right-of-way support services, right-of-way engineering, right-of-way acquisition, and utility relocation for the State Route 91 Improvement Project between State Route 57 and State Route 55.

Recommendations

- A. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-0-2583 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of \$970,000, to perform right-of-way support services for the State Route 91 Improvement Project between State Route 57 and State Route 55.
- B. Authorize the use of up to \$39.602 million in State Route 91 Express Lanes excess revenue funding for right-of-way capital and right-of-way support services for the following projects:
 - State Route 91 from State Route 55 to Lakeview Avenue (Segment 1) \$5.926 million
 - State Route 91 from La Palma Avenue to State Route 55 (Segment 2) - \$28.166 million
 - State Route 91 from Acacia Street to La Palma Avenue (Segment 3) \$5.510 million
- C. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program and execute or amend all necessary agreements to facilitate the above actions.
- D. Authorize the Chief Executive Officer to initiate discussions with property owners and utility owners, make offers, and execute agreements for the acquisition of all necessary real property interests and necessary utility relocations.



Regional Planning and Highways Committee Meeting

7. 2020 Project X - Environmental Cleanup Program Tier 1 Call for Projects - Programming Recommendations

Alfonso Hernandez/Kia Mortazavi

Overview

The Orange County Transportation Authority's Environmental Cleanup Program provides Measure M2 funding for water quality improvement projects to address transportation-related pollution. The fiscal year 2020-21 Tier 1 Grant Program call for projects was issued on March 9, 2020. Evaluations are now complete, and a list of projects and recommended funding allocations are presented for review and approval.

Recommendation

Approve 12 projects, in the amount of \$2,800,000, for the 2020 Tier 1 Environmental Cleanup Program Tier 1 call for projects.

8. Regional Traffic Signal Synchronization Program Update Alicia Yang/Kia Mortazavi

Overview

The Orange County Transportation Authority has been working with local cities, the County of Orange, and the California Department of Transportation to fund and implement key regional traffic signal synchronization projects. This report provides an update on the Measure M2 Regional Traffic Signal Synchronization Program, including results from recently completed projects.

Recommendation

Received and file as an information item.





Regional Planning and Highways Committee Meeting

Regular Calendar

9. Consultant Selection for the Preparation of Project Report and Environmental Document for the Interstate 5 Improvement Project from San Diego County Line to Avenida Pico

Josue Vaglienty/James G. Beil

Overview

On June 22, 2020, the Orange County Transportation Authority Board of Directors approved the release of a request for proposals for the preparation of the project report and environmental document for the Interstate 5 improvement project from the San Diego County Line to Avenida Pico. Board of Directors' approval is requested for the selection of a firm to perform the required work.

Recommendations

- A. Approve the selection of Advanced Civil Technologies as the firm to prepare the project report and environmental document for the Interstate 5 improvement project from the San Diego County Line to Avenida Pico.
- B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-0-2335 between the Orange County Transportation Authority and Advanced Civil Technologies to prepare the project report and environmental document for the Interstate 5 improvement project from the San Diego County Line to Avenida Pico.

Discussion Items

- 10. Chief Executive Officer's Report
- 11. Committee Members' Reports
- 12. Closed Session

There are no Closed Session items scheduled.

13. Adjournment

The next regularly scheduled meeting of this Committee will be held at **10:30 a.m. on Monday, November 2, 2020**, at the Orange County Transportation Authority Headquarters, Conference Room 07, 550 South Main Street, Orange, California.



MINUTES

Regional Planning and Highways Committee Meeting

Darrell E. Johnson, Chief Executive Officer Martha M. Ochoa, Assistant Clerk of the Board Sahara Meisenheimer, Deputy Clerk of the Board

James M. Donich, General Counsel (Via Teleconference)

Staff Present

Committee Members Present

Joe Muller

Via Teleconference

Mark A. Murphy, Chairman Barbara Delgleize, Vice Chair Doug Chaffee Richard Murphy Miguel Pulido

Committee Members Absent

Lisa A. Bartlett

Call to Order

The September 3, 2020 regular meeting of the Regional Planning and Highways Committee was called to order by Committee Chairman M. Murphy at 10:32 a.m.

Roll Call

The Assistant Clerk of the Board conducted an attendance Roll Call and announced that there was a quorum of the Regional Planning and Highways Committee.

Pledge of Allegiance

Committee Vice Chair Delgleize led the Pledge of Allegiance.

1. Public Comments

There were no public comments.

Special Calendar

There were no Special Calendar matters.

Consent Calendar (Items 2 through 4)

2. Approval of Minutes

A motion was made by Director Pulido, seconded by Director Muller, and following a roll call vote, declared passed 6-0, to approve the minutes of the Regional Planning and Highways Committee meeting of August 3, 2020.



3. Cooperative Agreement with the City of Mission Viejo for the Chrisanta Drive Community Soundwall

A motion was made by Director Pulido, seconded by Director Muller, and following a roll call vote, declared passed 6-0, to authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-0-2543 between the Orange County Transportation Authority and the City of Mission Viejo, in the amount of \$215,700, for the City of Mission Viejo to prepare the plans, specifications, and estimates for the Chrisanta Drive community soundwall.

4. Active Transportation Program Regional Project Selection Process - Orange County Project Prioritization Methodology

A motion was made by Director Pulido, seconded by Director Muller, and following a roll call vote, declared passed 6-0, to approve the Orange County project prioritization methodology for the 2021 Active Transportation Program regional project selection process and future Active Transportation Program cycles.

Regular Calendar

5. Interstate 405 Improvement Project Update

Jeff Mills, Senior Program Manager, Capital Programs, and Chris Boucly, Section Manager II, External Affairs, co-presented a PowerPoint presentation as follows:

- Project Location and Key Features;
- Background;
- Project Update;
- Construction Update;
- Look Ahead for Bridge Construction;
- Bridge Construction Map;
- Project Challenges;
- Schedule Mitigations Implemented;
- Community Engagement; and
- Upcoming Outreach.

No action was taken on this receive and file information item.



Discussion Items

6. Chief Executive Officer's Report

Darrell E. Johnson, Chief Executive Officer (CEO), reported on the following:

- Interstate 5 (I-5) Central Project -
 - Reported that last week the Orange County Transportation Authority (OCTA) opened the northbound High-Occupancy Vehicle lanes on the Interstate 5 Central County Improvements Project several months ahead of schedule.
 - The southbound lanes were opened previously in July.
 - Partnered with California Department of Transportation on this project that adds a second carpool lane in each direction on the I-5 between the State Route 55 and the State Route 57.
 - Reduced traffic has been one of the silver linings of the pandemic and has allowed crews to work night and day, and ultimately finish the construction work a lot sooner than planned.
 - Thanked OCTA staff who have worked on this project.

Transit App -

- OCTA recently launched an innovative real-time occupancy data feature on OCTA's Transit app.
- This feature allows riders to check in real-time on how full a bus is and decide if they want to board or wait for a less full bus.
- Riders can use the app to get information if a bus has "many seats" (which is less than one-third full), "some seats" (less than two-thirds full), or "very limited seats" (more than two-thirds full).
- This is the latest safety measure OCTA has implemented in its ongoing response to the pandemic.
- OCTA is one of only 38 agencies worldwide offering bus capacity information through the Transit app.



MINUTES

Regional Planning and Highways Committee Meeting

7. Committee Members' Reports

Director Muller inquired how the Transit App works. Mr. Johnson, CEO, stated the technology is based on the fare box recording boardings and the automated passenger counters located at the doors, which feeds the data into the system, and links with the Transit App in real-time.

8. Closed Session

There were no Closed Session items scheduled.

9. Adjournment

The Regional Planning and Highways Committee meeting adjourned at 10:52 a.m.

The next regularly scheduled meeting of this Committee will be held at **10:30 a.m. on Monday, October 5, 2020**, at the Orange County Transportation Authority Headquarters, Conference Room 07, 550 South Main Street, Orange, California.

ATTEST	
	Martha M. Ochoa
	Assistant Clerk of the Board
Mark A. Murphy	
Committee Chairman	



October 5, 2020

Regional Planning and Highways Committee

Darrell E. Johnson, Chief Execution To:

From:

Agreement for Facility Modifications at Santa Ana Bus Base for the Subject:

Interstate 405 Toll Operations Center

Overview

The Orange County Transportation Authority's Santa Ana Bus Base requires facility modifications to accommodate the Interstate 405 Express Lanes Toll Operations Center. An invitation for bids was released on July 15, 2020. Bids were received in accordance with Board of Directors-approved procedures for public works projects. Board of Directors' approval is requested to execute the agreement.

Recommendations

- Α. Find Reed Family Enterprises, Inc., the apparent low bidder, as non-responsive for failure to meet the federal requirement for Disadvantaged Business Enterprise participation.
- Authorize the Chief Executive Officer to negotiate and execute B. Agreement No. C-0-2191 between the Orange County Transportation Authority and Dalke & Sons Construction, Inc., the lowest responsive, responsible bidder, in the amount of \$636,680, for facility modifications at the Santa Ana Bus Base for the Interstate 405 Express Lanes Toll Operations Center.

Discussion

The Orange County Transportation Authority (OCTA), in cooperation with the California Department of Transportation, is implementing Interstate 405 (I-405) Improvement Project between State Route 73 (SR-73) and Interstate 605 (I-605) (Project). The Project will add one general purpose lane from Euclid Street to I-605, consistent with Project K of Measure M2, and will add an additional lane in each direction that would combine with the existing high-occupancy vehicle lane to provide dual express lanes in each direction on I-405 from SR-73 to I-605, otherwise known as the 405 Express Lanes. On October 12, 2015, the OCTA Board of Directors (Board) approved the operating assumptions for the 405 Express Lanes. The lanes will operate in a manner similar to the existing 91 Express Lanes, including all-electronic tolling using transponders, account types, and process for violations.

On February 26, 2018, the Board approved the selection of Kapsch TrafficCom USA, Inc., (Kapsch) as the toll system integrator (TSI) for the 405 Express Lanes. As TSI, Kapsch is responsible for the design, development, testing, installation, and maintenance of a complete and integrated electronic toll and traffic management (ETTM) system. In addition, Kapsch will provide and maintain the roadside systems, including the variable message signs, the closed-circuit television (CCTV) cameras, with video feeds displayed on a video wall in the Toll Operations Center (TOC), establish and operate the TOC, and provide staff to monitor incidents and traffic conditions on the 405 Express Lanes facility. The TOC will be operational 24 hours a day, seven days a week.

These facility modifications will provide the required space needed for the I-405 toll operations center. OCTA completed construction of the Santa Ana Bus Base in 2005, and the maintenance building contains various offices and equipment rooms in support of operations. Room 164, which was the original coin counting room, and Room 167, the original security room, are currently not being utilized. Improvements to these two rooms are required to accommodate planned use as the TOC. The building improvements will include mechanical, electrical, plumbing, fire protection, framing and finishes, and related work to upgrade the space needed for the I-405 TOC at the Santa Ana Bus Base.

Procurement Approach

This procurement was handled in accordance with OCTA's Board-approved procedures for public works projects. These procedures, which conform to both state and federal requirements, require that contracts are awarded to the lowest responsive, responsible bidder after a sealed bidding process.

Invitation for Bids (IFB) 0-2191 was electronically released on July 15, 2020, through OCTA's CAMM NET system. The project was advertised in a newspaper of general circulation on July 15 and 22, 2020. A pre-bid conference was held on July 23, 2020 and was attended by seven firms. Three addenda were issued to provide the pre-bid conference registration sheets and handle administrative issues related to the IFB. On August 17, 2020, three bids were received and publicly opened.

All bids were reviewed by staff from both the Contracts Administration and Materials Management and Facilities Engineering departments to ensure

compliance with the contract terms and conditions, and technical specifications. The list of bidders and bid amounts is presented below:

Firm and Location	Bid Amount
Reed Family Enterprises, Inc. Temecula, California	\$537,000
Dalke & Sons Construction, Inc. Riverside, California	\$636,680
Fast-Track Construction Corporation Irwindale, California	\$870,000

The apparent low bidder, Reed Family Enterprises, Inc., was deemed non-responsive for failure to meet the federal requirement for Disadvantaged Business Enterprise participation or demonstrate sufficient good faith efforts as required by the bid instructions and regulations from the United States Department of Transportation, which is providing funding for this project.

State law requires award to the lowest responsive, responsible bidder. As such, staff recommends award to Dalke & Sons Construction, Inc., the lowest, responsive, responsible bidder, in the amount of \$636,680, for the facility modifications at the Santa Ana Bus Base for the I-405 TOC.

The engineer's estimate for this project was \$680,000. The recommended firm's bid is 6.3 percent below the engineer's estimate and is considered by staff to be fair and reasonable. The bidder is a general engineering and electrical contractor, licensed and in business for over 29 years. Reference checks received noted successful delivery of work on similar projects. The bid includes all the required work components. Dalke & Sons Construction, Inc., met the requirements of the IFB, as well as all federal and state requirements.

Fiscal Impact

The project was approved in OCTA's Fiscal Year 2020-21 Budget, Capital Programs Division, Account 0037-9023-A9510-X14, and is funded through the Transportation Infrastructure Finance and Innovation Act.

Summary

Based on the information provided, staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Agreement No. C-0-2191 to Dalke & Sons Construction, Inc., in the amount of \$636,680, for the facility modifications at the Santa Ana Bus Base for the Interstate 405 Toll Operations Center.

Attachment

None.

Prepared by:

George Olivo, P.E. Program Manager

(714) 560-5872

Pia Veesapen

Interim Director, Contracts Administration and Materials

Management (714) 560-5619 Approved by:

James G. Beil, P.E.

Executive Director, Capital Programs

(714) 560-5646



October 5, 2020

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Contract Change Orders for the Interstate 405 Improvement

Project from State Route 73 to Interstate 605

Overview

On November 14, 2016, the Orange County Transportation Authority Board of Directors approved Agreement No. C-5-3843 with OC 405 Partners, a joint venture, for the design and construction of the Interstate 405 Improvement Project from State Route 73 to Interstate 605. Contract change orders are needed at this time to compensate OC 405 Partners for additional design and construction efforts related to additional extra maintenance work, United States Postal Service parking lot improvements, extension of a westbound Talbert Avenue third lane, and to provide a temporary bypass waterline at the Goldenwest Street overcrossing bridge.

Recommendations

- A. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 3.2 to Agreement No. C-5-3843 between the Orange County Transportation Authority and OC 405 Partners, a joint venture, in the amount of \$2,200,000, to provide additional extra maintenance work.
- B. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 78 to Agreement No. C-5-3843 between the Orange County Transportation Authority and OC 405 Partners, a joint venture, in the amount of \$537,436, to provide parking lot improvements at the United States Postal Service property.
- C. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 79 to Agreement No. C-5-3843 between the Orange County Transportation Authority and OC 405 Partners, a joint venture, in the amount of \$270,528, to provide an extension of the third westbound lane on Talbert Avenue to Cashew Street.

D. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 80 to Agreement No. C-5-3843 between the Orange County Transportation Authority and OC 405 Partners, a joint venture, in the amount of \$579,604, to provide a temporary bypass waterline for the Goldenwest Street overcrossing bridge.

Discussion

The Orange County Transportation Authority (OCTA), in cooperation with the California Department of Transportation (Caltrans), is implementing the Interstate 405 (I-405) Improvement Project from State Route 73 (SR-73) to Interstate 605 (I-605) (Project). The Project will add one general purpose lane from Euclid Street to I-605, consistent with Measure M2 (M2) Project K, and will add an additional lane in each direction that would combine with the existing high-occupancy vehicle lane to provide dual express lanes in each direction on I-405 from SR-73 to I-605, otherwise known as the 405 Express Lanes.

On November 14, 2016, the OCTA Board of Directors (Board) approved Agreement No. C-5-3843 with OC 405 Partners (OC405), a joint venture, for the design and construction of the Project. The contract was executed, and Notice to Proceed (NTP) No. 1 was issued to OC405 on January 31, 2017. NTP No. 2, for the full design and construction of the Project, was issued to OC405 on July 27, 2017.

Extra Maintenance Work

Under the Project's cooperative agreement between OCTA and Caltrans, OCTA is responsible for maintenance of the freeway facilities within the Project limits while OCTA is administering the Project. In accordance with the contract documents and in compliance with the encroachment permit issued by Caltrans, OC405 is required to perform extra maintenance work as directed by OCTA. The contract provides that OC405 is responsible for all freeway maintenance from NTP No. 2 until final project acceptance. The contract distinguishes between routine maintenance work that is covered by the lump sum contract, and extra maintenance work beyond the control of OC405 that is paid by OCTA through a contract change order (CCO).

Routine maintenance work that is covered by the lump sum contract includes sweeping, weed abatement, trash/litter removal, maintaining existing pavement markings, right-of-way fencing, lighting, signals, landscaping, and irrigation systems. The extra maintenance work that will be paid by OCTA includes repairs and replacements due to damage from crashes and other actions caused by the traveling public and/or third parties. Examples of extra maintenance work

include: maintaining existing pavement and structures, repairing shoulder drop-offs, replacing and repairing existing asphalt shoulders, repairing and replacing existing overhead and roadside signs, replacing damaged guardrails and barriers, repairing and replacing impact attenuators and crash cushions, removing graffiti, repairing crash damage to permanent structures, repairing crash damage to lighting and lighting standards, performing extraordinary and emergency maintenance, and repairing damage due to force majeure events such as earthquakes.

CCO Nos. 3 and 3.1, in the amounts of \$200,000 and \$1,300,000 respectively, were previously issued for the extra maintenance work. Since then, costs for extra maintenance work have exceeded the original estimates, particularly for graffiti removal and the repair of guardrails and crash cushions damaged by traffic accidents. OCTA staff developed an independent cost estimate for the anticipated extra maintenance work, in the amount of \$2,200,000, based on the level of extra maintenance required over the last 24 months. Therefore, staff is now requesting Board approval of supplemental CCO No. 3.2, in the amount of \$2,200,000, which brings the total for CCO No. 3 to \$3,700,000. Costs and expenses for extra maintenance will be tracked, reviewed, and paid on a time-and-materials basis.

United States Postal Service (USPS) Parking Lot Improvements

In accordance with the contract documents, OC405 is required to widen the freeway in the northbound direction adjacent to the USPS property (California Department of Transportation Parcel No. 103126) near Bolsa Avenue in the City of Westminster. A partial property acquisition is required from USPS, which caused parking and circulation impacts to the property. OCTA and USPS agreed to mitigations to provide additional parking, which requires additional paving, lighting, striping, and fencing at the property. These mitigations resulted in OCTA obtaining possession of the needed property, which enabled OC405 to maintain the schedule on construction activities adjacent to the USPS property. This CCO includes the design and construction of the USPS parking lot improvements agreed to as mitigation.

The additional improvements were not anticipated in the original scope of work (SOW) and a CCO is now needed, in the amount of \$537,436, for OC405 to comply with this directive.

Talbert Avenue Third Lane Extension

In accordance with the contract documents, OC405 is required to extend a third westbound lane on Talbert Avenue through the intersection with Brookhurst Avenue. The City of Fountain Valley expressed concerns regarding traffic safety during the design review of the roadway plans. OCTA agreed with

the concerns, and, as a result, OC405 was directed to develop a design to extend the lane approximately 200 feet to the Cashew Street intersection.

The additional lane extension was not anticipated in the original SOW and a CCO is now needed, in the amount of \$270,528, for OC405 to comply with this directive.

Temporary Bypass Waterline at Goldenwest Street Overcrossing Bridge

In accordance with the contract documents, OC405 is required to reconstruct the Goldenwest Street overcrossing bridge and relocate an existing waterline that previously resided in the old bridge into the new bridge. OC405 is also required to reconstruct the Bolsa Avenue overcrossing bridge and relocate an existing waterline that previously went under the freeway into the new bridge. OC405 is further required to maintain service in at least one of these two waterlines at all times. Each bridge is being constructed in two phases and both are under construction at the same time. The underground waterline at the Bolsa Avenue overcrossing bridge is currently out of service while the first half of the new bridge is being constructed. The Bolsa Avenue overcrossing bridge has encountered several delays related to unforeseen conditions during construction. In order to eliminate any schedule impacts on the Goldenwest Street overcrossing bridge, OC405 was directed to develop a design to incorporate a temporary bypass waterline allowing the second half of Goldenwest Street overcrossing bridge to be demolished on schedule and prior to completion of the first half of Bolsa Avenue overcrossing bridge. This allows construction at Goldenwest Street to continue without pause and eliminates several months of Project delay.

The temporary waterline was not anticipated in the original SOW and a CCO is now needed, in the amount of \$579,604, for OC405 to comply with this directive.

Procurement Approach

The procurement was handled in accordance with the best-value selection process authorized by AB 401 (Chapter 586, Statutes of 2013) for design-build (DB) projects, and with OCTA's Board-approved procedures for public works projects, which conform to both federal and state requirements. On November 14, 2016, OCTA approved Agreement No. C-5-3843 with OC405 for the design and construction of the Project through a DB contract.

Proposed supplemental CCO No. 3.2, in combination with the previously approved CCO Nos. 3 and 3.1, in the amount of \$1,500,000, for a total of \$3,700,000, will give OCTA staff the ability to timely direct extra maintenance work on an as-needed basis without impacting the Project schedule.

Proposed CCO No. 78, in the amount of \$537,436, will provide compensation to OC405 for the additional design and construction necessary to mitigate impacts to the USPS property.

Proposed CCO No. 79, in the amount of \$270,528, will provide compensation to OC405 for the additional design and construction necessary to extend the third through-lane on Talbert Avenue.

Proposed CCO No. 80, in the amount of \$579,604, will provide compensation to OC405 for the additional design and construction to install a temporary bypass waterline at Goldenwest Street overcrossing bridge.

Attachment A lists the CCOs that have been executed to date, and the CCOs that are pending execution with OC405.

Fiscal Impact

Funding for this work was approved in OCTA's Fiscal Year 2020-21 Budget, Capital Programs Division, accounts 0017-9084-FK101-0GM and 0037-9017-A9510-0GM, and is funded with a combination of federal, state, and local funds. M2 funds will be used for improvements specific to M2 Project K, and non-M2 funds will be used for improvements specific to the 405 Express Lanes. The costs of CCO Nos. 3.2, 78, 79, and 80 are funded from the Project contingency and are not anticipated to increase the total Project estimate of \$1.9 billion.

Summary

Staff recommends Board authorization for the Chief Executive Officer to negotiate and execute with OC405, to Agreement No. C-5-3843, CCO No. 3.2, in the amount of \$2,200,000; CCO No. 78, in the amount of \$537,436; CCO No. 79, in the amount of \$270,528; and CCO No. 80, in the amount of \$579,604.

Contract Change Orders for the Interstate 405 Improvement Page 6 Project from State Route 73 to Interstate 605

Attachment

A. OC 405 Partners, Agreement No. C-5-3843, Contract Change Order Log

Prepared by:

Jeff Mills, P.E.

Senior Program Manager

(714) 560-5925

Pia Veesapen

Interim Director, Contracts Administration

and Materials Management

1- Valor

(714) 560-5619

Approved by:

James G. Beil, P.E.

Executive Director, Capital Programs

(714) 560-5646

OC 405 Partners Agreement No. C-5-3843 Contract Change Order Log

Contract Change Order (CCO) No.	Title	Status	Date Executed	Cost
001	Technical Provisions – Execution Version	Approved	06/14/2017	\$0.00
002	Notice to Proceed No. 1 Payment Cap Increase and Substantial Completion Deadline Modifications	Approved	6/21/2017	\$0.00
003	Extra Maintenance Work (Provisional Sum)	Approved	7/28/2017	\$200,000.00
003.1	Amendment to Change Order to Add Additional Funds for Extra Maintenance Work	Approved	10/2/2018	\$200,000.00
003.1.1	Provisional Sum for Extra Maintenance Work- Unilateral	Approved	10/10/2019	\$400,000.00
003.1.2	Supplemental Extra Maintenance Work	Approved	1/16/2020	\$350,000.00
003.1.3	Supplemental Extra Maintenance Work	Approved	8/4/2020	\$350,000.00
003.2	Additional Extra Maintenance Work	Pending		\$2,200,000.00
004	Design-Builder Personnel Changes (Appendices 7 and 23)	Approved	12/20/2017	\$0.00
005	Dispute Review Board (Provisional Sum)	Approved	9/13/2017	\$50,000.00
005.1	Increase in Provisional Sum per Contract Section 19.4 Disputes Board	Approved	7/1/2019	\$50,000.00
006	Partnering (Provisional Sum)	Approved	9/13/2017	\$50,000.00
006.1	Partnering per Contract Section 19.1	Approved	7/1/2019	\$50,000.00
007	Implementation of California Department of Transportation (Caltrans) Guidance on Six-Inch Wide Longitudinal Traffic Lines and Non-Reflective Raised Pavement Markers	Approved	3/15/2018	\$0.00
008	Collection and Disposal of Unknown Hazardous Materials (Provisional Sum)	Approved	9/13/2018	\$100,000.00
008.1	Supplemental Unknown Hazardous Materials	Approved	9/11/2019	\$100,000.00
008.2	Supplemental Unknown Hazardous Materials	Approved	11/25/2019	\$250,000.00
008.2.1	Supplemental Unknown Hazardous Materials	Approved	3/11/2020	\$150,000.00
008.3	Supplemental Unknown Hazardous Materials	Approved	5/4/2020	\$500,000.00
009	Repair of Caltrans' Fiber Optic Line	Approved	5/16/2018	\$31,753.69

Contract Change Order (CCO) No.	Title	Status	Date Executed	Cost
010	Five Project Funding Identification Signs (Provisional Sum)	Approved	7/2/2018	\$32,644.25
011	Revised Right-of-Way (ROW) Availability Date of Caltrans Parcel No. 102919 Used By Mike Thompson's RV Super Store	Approved	6/28/2018	\$0.00
012	Credit to OCTA for Elimination of the Street Widening Improvements Along Eastbound Edinger Avenue	Approved	9/13/2018	-\$237,982.39
013	Additional Design and Construction Cost Compensation Related to: City Bridge Width; Construction Changes to Minimize ROW Impacts; Revised Design Concept at Ellis Avenue On-Ramp to Southbound I-405; State Route 73 Overhead Sign Structures; Sendero Apartments Left-Turn Pocket on Magnolia Street; Newland Street Waterline Extension; and Signal Improvements at Ellis Avenue/ Bushard Street	Approved	2/25/2019	\$8,560,556.00
013.1	Permanent Traffic Signal at the intersection of Warner Avenue and Greenleaf Street	Approved	12/5/2019	\$460,327.00
014	Thrust Blocks for the City of Fountain Valley Water Lines	Approved	10/29/2018	\$88,021.00
015	Slater Bridge Construction Shuttle Services	Approved	12/4/2018	\$175,000.00
016	Construction Zone Speed Reduction	Approved	12/3/2018	\$70,000.00
016.1	Additional Speed Reduction Signs	Approved	12/31/2019	\$4,512.00
017	Relocation of Water Lines for the City of Fountain Valley	Approved	3/8/2019	\$800,000.00
018	Enhanced Gawk Screen at Bolsa Chica Road	Approved	1/25/2019	\$56,395.00
019	Brookhurst Street Overhead Sign Location Redesign	Approved	1/25/2019	\$11,484.00
020	Differing Site Conditions - Pavement Thickness at Magnolia	Approved	1/29/2019	\$4,095.00
021	Polymer Fibers in All Concrete Bridge Decks	Approved	3/19/2019	\$1,463,020.00
022	Temporary Construction Easement Reduction at La Quinta	Approved	3/19/2019	\$85,573.00
023	Updated FasTrak Logos (Unilateral)	Approved	2/21/2019	\$20,532.00
024	Express Lanes Channelizers	Approved	3/12/2019	\$122,778.00
025	Stainless Steel Inserts at Fairview Road Overcrossing	Approved	3/12/2019	-\$9,293.00

Contract Change Order (CCO) No.	Title	Status	Date Executed	Cost
026	OCTA PlanGrid Software Licenses	Approved	3/28/2019	\$35,994.00
026.1	Supplemental for OCTA PlanGrid Software Licenses	Approved	9/11/2019	\$8,570.00
027	Utility potholing on Milton Ave	Approved	9/12/2019	\$61,731.87
027.1	Electrical Infrastructure Work at Milton Avenue	Approved	1/16/2020	\$278,282.28
028	Mesa Water District 12-inch Water Line (CN-1127)	Approved	5/7/2019	\$208,600.00
029	Magnolia Loop Ramp CMS Deletion	Approved	05/15/19	-\$74,319.00
030	Motel 6 Sound Wall (SW-791) Elimination	Approved	05/15/19	-\$130,000.00
031	Sound Wall 956 Reduction	Approved	05/22/19	-\$30,000.00
033	Edinger Channel Pavement Rehabilitation	Approved	07/30/19	\$176,465.00
034	Chevron and Crimson Utility Relocation at Goldenwest Crossing	Approved	8/2/2019	\$75,000.00
034.1	Chevron and Crimson Utility Relocation Support	Approved	12/31/2019	\$12,018.00
034.2	Chevron and Crimson Goldenwest Relocation Assistance	Approved	02/18/2020	\$110,000.00
034.3	Chevron and Crimson Goldenwest Relocation Assistance	Approved	8/4/2020	\$10,982.00
034.4	Chevron and Crimson Goldenwest Relocation Assistance	Pending		\$300,000.00
035	Incompatible Specifications - Adjacent to CRCP Pavement	Approved	06/26/19	\$2,900,557.00
036	Minor Construction Support for Dry Utilities	Approved	5/11/2020	\$100,000.00
037	Sound Wall 375 Protect in Place	Approved	06/04/19	\$200,000.00
040	HDPE in Lieu of RCP	Approved	7/9/2019	-\$7,418.68
041	Emergency Vehicle Preemption Devices at Fairview	Approved	7/9/2019	\$44,147.00
042	Executed Utility Agreements (Unilateral)	Approved	11/4/2019	\$0.00
043	Early Partial Removal of Sound Wall 328	Approved	9/16/2019	\$14,414.18
044	Field survey for Frontier at Westminster	Approved	1/7/2020	\$12,908.42
045	Water Line Betterments (CN 1012 & 6044) at Warner Avenue	Approved	10/12/2019	\$256,244.00

Contract	Title	Status	Date	Cost
Change Order			Executed	
(CCO) No.			40/7/0040	*****
046	Additional Water Lines at Brookhurst Street and Talbert Avenue in the City of Fountain Valley	Approved	12/5/2019	\$389,878.00
047	Additional Water Line Valves for the City of Fountain Valley	Approved	12/5/2019	\$266,828.00
048	Temporary Construction Easement Reduction at Sit n' Sleep (CPN 103026)	Approved	10/17/2019	\$129,243.00
049	Beach Blvd Lane Widths Reduction (Necessary Basic Configuration Change)	Approved	10/17/2019	\$160,000.00
050	Vibration Sensitive Receptors (McFadden OC Abutment 3)	Approved	10/17/2019	\$59,383.87
051	Exercising Water Valves for the City of Fountain Valley	Approved	1/16/2020	\$50,000.00
052	McFadden Avenue Interconnect Between Beach Boulevard and Sugar Drive	Approved	11/14/2019	\$0.00
053	Traffic Signal Modification at Beach and McFadden	Approved	11/14/2019	-\$128,118.00
054	DSC Pavement Against Median K-Rail	Approved	12/31/2019	\$11,133.00
055	LA Fitness at Retaining Wall 717	Approved	12/31/2019	\$8,428.29
056	Additional Speed Reduction Signs and Radar Packages	Approved	12/31/2019	\$148,397.00
057	Archeological Treatment Plan	Approved	6/4/2020	\$200,000.00
057.1	Archaeological Treatment Plan	Approved	7/9/2020	\$500,000.00
057.1.1	Archaeological and Native American Monitors at Goldenwest Street and Bolsa Avenue (Supplemental)	Approved	8/27/2020	\$500,000.00
058	Biological Monitoring Naval Weapons Station (Unilateral)	Approved	6/29/2020	\$50,000.00
059	Pavement Limits for Beach Boulevard and Edinger Avenue	Approved	02/18/2020	\$33,573.00
060	Heil Pedestrian Overcrossing and Switchback Ramp (Unilateral)	Approved	2/25/20	\$1,044,927.00
061	Plant Establishment Period	Approved	02/26/2020	\$1,600,000.00
062	Senate Bill 1: Diesel Fuel Sales Tax Rate Increase	Approved	3/9/2020	\$1,764,164.64
063	Bracing for Southern California Edison Power Poles at CN 2012	Approved	03/05/2020	\$169,770.00
064	City Sales and Use Tax Increases (Unilateral)	Approved	4/22/2020	\$28,657.00
065	Traffic Studies to Analyze Schedule Mitigation	Approved	4/22/2020	\$70,854.00
066	Combined Authority-accepted Extra Work	Approved	5/14/2020	\$18,826.00

Contract Change Order (CCO) No.	Title	Status	Date Executed	Cost
067	SCE Conduit at Heil Avenue	Approved	5/14/2020	\$109,219.00
068	Archaeological Monitoring for all Ground disturbing activities at Naval Weapons Station	Approved	8/27/2020	\$100,000.00
069	Drainage System 757 Access	Approved	5/14/2020	\$60,374.00
070	Amendments to Contract Sections 19.3.4 and 19.5.2 No Cost	Approved	5/19/2020	\$0.00
071	UPRR Flagging Costs	Approved	6/13/2020	\$200,000.00
072	SCE and Frontier Electrical Infrastructure Work at Almond Avenue	Approved	5/19/2020	\$1,843,329.00
073	Shadow Striping for Temporary Pavement Delineation for North End of Project.	Pending		\$200,000.00
074	Combined Authority Accepted Extra Work (PCOs 169 and 122G)	Approved	7/7/2020	\$6,965.39
075	Bushard Pile Conflict with Existing Piles	Approved	7/21/2020	\$28,867.00
076	Combined Authority Accepted Extra Work (PCOs 180, and 183)	Pending		\$12,668.80
077	Toll Rate Changeable Message Signs (CMS)	Approved	9/8/2020	\$146,031.00
078	Parking Lot Improvements at United States Postal Service Property	Pending		\$537,436.00
079	Extension of the Third Westbound Lane on Talbert Avenue to Cashew Street.	Pending		\$270,528.00
080	Temporary Bypass Waterline for the Goldenwest Street bridge.	Pending		\$579,604.00

Original Contract Price	\$1,217,065,000.00
Contingency Fund	\$98,935,000.00
Total Contract Allotment	\$1,316,000,000.00
Subtotal Approved CCO	\$28,374,321.81
Subtotal Pending CCOs	<u>\$4,100,238.80</u>
Total CCOs	\$32,474,560.61
Proposed Revised Contract Price	\$1,249,539,560.61
Remaining Contingency Fund	\$66,460,439.39



October 5, 2020

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Amendment to Cooperative Agreement with the City of

Fountain Valley for the Interstate 405 Improvement Project

Overview

On March 14, 2016, the Orange County Transportation Authority Board of Directors approved Cooperative Agreement No. C-5-3613 with the City of Fountain Valley for city services required during the design-build implementation of the Interstate 405 Improvement Project. An amendment to the cooperative agreement is needed for the procurement and installation of emergency vehicle preemption at key signal locations within the City of Fountain Valley.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 5 to Cooperative Agreement No. C-5-3613 between the Orange County Transportation Authority and the City of Fountain Valley, in the amount of \$374,000, for the procurement and installation of emergency vehicle preemption at 28 proposed signal locations, as part of the Interstate 405 Improvement Project. This will increase the maximum obligation of the cooperative agreement to a total value of \$5,023,708.

Discussion

The Orange County Transportation Authority (OCTA), in cooperation with the California Department of Transportation and the cities of Costa Mesa, Fountain Valley, Huntington Beach, and Westminster, is implementing the Interstate 405 (I-405) Improvement Project between State Route 73 (SR-73) and Interstate 605 (I-605) (Project). The Project will add one general purpose lane from Euclid Street to I-605, consistent with Measure M2 Project K, and will add an additional lane in each direction that would combine with the existing high-occupancy vehicle lane to provide dual express lanes in each direction on I-405 from SR-73 to I-605. The Project includes improvements to city-owned and operated streets, and city traffic facilities impacted by the Project.

Amendment to Cooperative Agreement with the City of *Page 2* Fountain Valley for the Interstate 405 Improvement Project

On March 14, 2016, the OCTA Board of Directors approved a cooperative agreement with the City of Fountain Valley (City) for city services to be provided during the design-build implementation of the Project. The reimbursement to the City includes costs for review and approval of plans, specifications, and reports, and oversight of construction inspection services for city facilities, review and acceptance of the transportation management plan, traffic engineering, and police services during design and construction of the Project (Attachment A).

The City has agreed to critical schedule mitigation measures to construct the Warner Avenue bridge in a single stage and to start construction of the Brookhurst Street bridge earlier than planned, immediately after Bushard Street is fully open to traffic, but before the Talbert Avenue bridge is open to traffic. A traffic analysis was performed and identified various city intersections affected by the schedule mitigation measures. To mitigate the impacts to these intersections during construction, OCTA will coordinate with the City to adjust the signal timing and other improvements at these intersections and will continue to monitor traffic operations to determine if any additional adjustments are necessary. Additionally, OCTA will mitigate the impacts to emergency vehicle response times at key intersections during construction by reimbursing the City a lump sum amount of \$374,000 in order for the City to procure and install emergency vehicle preemption at 28 proposed signal locations. This will supplement the City's existing emergency vehicle preemption network as shown in Attachment B to minimize impacts to emergency response times during construction.

Attachment C to this report depicts the revised reimbursement amount for the City. The proposed amendment will be funded from the Project contingency and is not anticipated to increase the total project estimate of \$1.9 billion.

Fiscal Impact

Funding for this amendment is included in OCTA's Fiscal Year 2020-21 Budget, Capital Programs Division, accounts 0017-9084-FK101-0I2 and 0037-9017-A9510-0I2, and is funded with a combination of federal, state, and local funds.

Amendment to Cooperative Agreement with the City of *Page 3* Fountain Valley for the Interstate 405 Improvement Project

Summary

Staff requests Board of Directors' approval for the Chief Executive Officer to negotiate and execute Amendment No. 5 to Cooperative Agreement No. C-5-3613 with the City of Fountain Valley, in the amount of \$374,000, for the procurement and installation of emergency vehicle preemption at 28 proposed signal locations within the City of Fountain Valley, as part of the Interstate 405 Improvement Project.

Attachments

- A. City of Fountain Valley, Cooperative Agreement No. C-5-3613 Fact Sheet
- B. City of Fountain Valley Emergency Vehicle Preemption Map
- C. Revised Schedule A, Reimbursement/Contribution Schedule for Combined City Services, City of Fountain Valley

Prepared by:

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Approved by:

James G. Beil, P.E.

Executive Director, Capital Programs

In SPRI

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City of Fountain Valley Cooperative Agreement No. C-5-3613 Fact Sheet

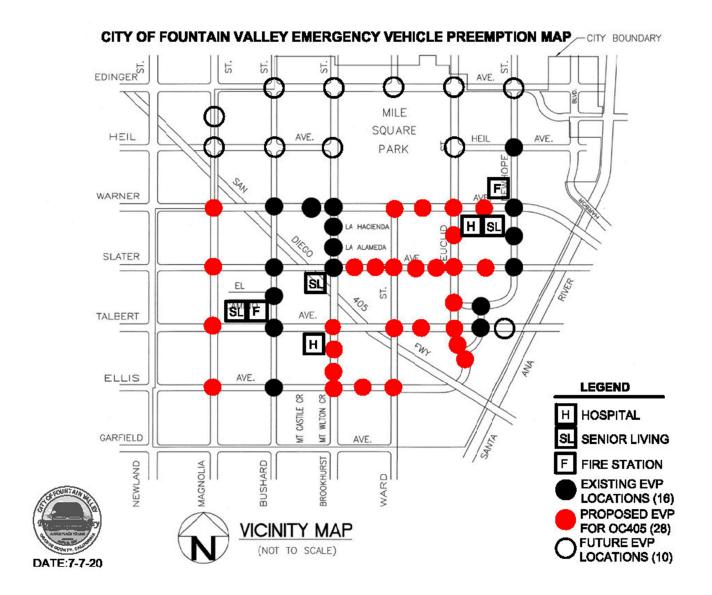
- 1. March 14, 2016, Cooperative Agreement No. C-5-3613, \$975,700, approved by the Board of Directors (Board).
 - To provide City of Fountain Valley (City) services, including plan review and approval of plans, specifications, reports, and traffic management plan, and oversight of construction and detour inspection services; traffic engineering and police services; and for repairs to city street pavements impacted by signed, long-term freeway detours for the Interstate 405 Improvement Project (Project).
- 2. November 12, 2018, Amendment No. 1 to Cooperative Agreement No. C-5-3613, \$657,008, approved by the Board.
 - To include costs for repairs to city street pavements impacted by signed, long-term freeway detours during construction of the Project that were not accounted for in the original cooperative agreement.
- 3. December 18, 2018, Amendment No. 2 to Cooperative Agreement No. C-5-3613, \$750,000, approved by the Board.
 - To include reimbursement costs (City's cost share), in the amount of \$750,000, from the City to pay for the relocation of city water lines into bridges.
- 4. April 8, 2019, Amendment No. 3 to Cooperative Agreement No. C-5-3613, \$1,985,000, approved by the Board.
 - To provide additional city services, including plan review and approval of plans, specifications, reports; oversight construction and detour inspection services; review and acceptance of the traffic management plan, traffic engineering, and police services.
- 5. March 9, 2020, Amendment No. 4 to Cooperative Agreement No. C-5-3613, \$282,000, approved by the Board.
 - To provide design, construction, and construction for the replacement of a new eight-inch waterline along the freeway between Mt. Baldy Circle and Euclid Street in the City.
- 6. October 12, 2020, Amendment No. 5 to Cooperative Agreement No. C-5-3613, \$374,000, pending Board approval.

1

• To procure and install emergency vehicle preemptions at the 28 proposed signal locations within the City.

Total cooperative agreement amount, including \$750,000 reimbursement from the City, after approval of Amendment No. 5 to Cooperative Agreement No. C-5-3613: \$5,023,708.

ATTACHMENT B



REVISED SCHEDULE A

REIMBURSEMENT/CONTRIBUTION SCHEDULE FOR COMBINED CITY SERVICES CITY OF FOUNTAIN VALLEY

Item No.	Description of City Services	Maximum Reimbursement Amount by AUTHORITY ¹	Maximum Contribution Amount by CITY
1	Review and approval of plans, specifications, plans, and other pertinent engineering plans and reports, Traffic Management Plan review and concurrence, and construction oversight inspection services related to CITY FACILITIES.	\$2,138,500	
2	Traffic engineering and detour oversight inspection.	\$642,000	
3	Police services (including overtime costs).	\$180,200	
4	Pavement mitigation.	\$657,008	
5	Replacement of Water Line between Mt. Baldy Circle and Euclid Street.	\$282,000	
6	Procurement and installation of the emergency vehicle preemptions at twenty-eight (28) proposed signal locations.	\$374,000	
	TOTAL MAXIMUM REIMBURSEMENT BY AUTHORITY	\$4,273,708	
7	Relocation of CITY water lines into bridges		\$750,000
	TOTAL MAXIMUM CONTRIBUTIONS BY CITY		\$750,000
	TOTAL AGREEMENT AMOUNT (AUTHORITY AND CITY)		\$5,023,708

⁽¹⁾ Revised Schedule A shows estimated reimbursement amounts for each CITY SERVICES item of work. During the term of this agreement, the CITY may redistribute funds for items of work as needed; however, the total amount for CITY SERVICES shall not exceed the Total Maximum Reimbursement amount shown herein.



October 5, 2020

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Cooperative Agreement with the California Department of

Transportation for the State Route 91 Improvement Project Between State Route 57 and State Route 55 and Authority to

Acquire Right-of-Way

Overview

The Orange County Transportation Authority proposes to enter into a cooperative agreement with the California Department of Transportation to define roles, responsibilities, and funding obligations for right-of-way support services, right-of-way engineering, right-of-way acquisition, and utility relocation for the State Route 91 Improvement Project between State Route 57 and State Route 55.

Recommendations

- A. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-0-2583 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of \$970,000, to perform right-of-way support services for the State Route 91 Improvement Project between State Route 57 and State Route 55.
- B. Authorize the use of up to \$39.602 million in State Route 91 Express Lanes excess revenue funding for right-of-way capital and right-of-way support services for the following projects:
 - State Route 91 from State Route 55 to Lakeview Avenue (Segment 1)
 \$5.926 million
 - State Route 91 from La Palma Avenue to State Route 55 (Segment 2)
 \$28.166 million
 - State Route 91 from Acacia Street to La Palma Avenue (Segment 3)
 \$5.510 million

Cooperative Agreement with the California Department of Transportation for the State Route 91 Improvement Project Between State Route 57 and State Route 55 and Authority to Acquire Right-of-Way

- C. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program and execute or amend all necessary agreements to facilitate the above actions.
- D. Authorize the Chief Executive Officer to initiate discussions with property owners and utility owners, make offers, and execute agreements for the acquisition of all necessary real property interests and necessary utility relocations.

Discussion

State Route 91 (SR-91) improvements between State Route 57 (SR-57) and State Route 55 (SR-55) (Project) are part of Project I in the Measure M2 (M2) freeway program. In the updated Next 10 Delivery Plan, adopted by the Orange County Transportation Authority (OCTA) Board of Directors (Board) in November 2019, the Project is listed as one of the M2 freeway projects to be cleared through the environmental process and to move into design using 91 Express Lanes (EL) excess revenue.

The Project will add a general purpose lane in the eastbound direction between La Palma Avenue and SR-55, and provide westbound operational improvements between Acacia Street and La Palma Avenue and between SR-55 and Lakeview Avenue.

On June 10, 2019, the Board authorized Cooperative Agreement No. C-9-1274 with the California Department of Transportation (Caltrans) to provide oversight of the plans, specifications, and estimate, and to advertise and award the construction contracts for the Project. An additional cooperative agreement with Caltrans is now needed to initiate the Project's right-of-way (ROW) phase.

The final environmental document, approved in June 2020, identifies the build alternative as the preferred alternative to be implemented. Therefore, the Project is ready to proceed into the final design phase. The Project is being developed as three separate design and construction projects to enhance the participation and competitive bidding of consultants and contractors, with the following Project limits:

- Segment 1 extends from SR-55 to Lakeview Avenue
- Segment 2 extends from La Palma Avenue to SR-55
- Segment 3 extends from Acacia Street to La Palma Avenue

Cooperative Agreement with the California Department of Transportation for the State Route 91 Improvement Project Between State Route 57 and State Route 55 and Authority to Acquire Right-of-Way

OCTA proposes to enter into a cooperative agreement with Caltrans to define the roles and responsibilities of both agencies. OCTA will be the lead agency implementing ROW activities, which shall include property acquisitions, relocation assistance for displacees if necessary, and coordination of utility relocations for the Project. OCTA will also be the lead agency for eminent domain proceedings, which shall include OCTA Board resolutions of necessity if needed. Caltrans will be the lead agency for ROW engineering activities for segments 1 and 2, which shall include mapping, surveying and monumentation as directly reimbursed work, and oversight of ROW activities for all three segments, at no cost to OCTA. Caltrans' work will be funded by 91 EL excess revenue, in the amount of \$970,000. ROW engineering activities for Segment 3 will be done by OCTA's consultant team.

ROW activities are anticipated to commence in spring 2021 upon completion of 65 percent design and determination of final ROW requirements. The Project is estimated to impact a total of 16 properties, both privately and publicly-owned properties, and 28 utility conflicts. The current list of impacted properties has land uses, which include vacant, commercial/industrial, multifamily residential, residential, and public (Attachment A). The real property requirements are comprised of a combination of partial fee acquisitions, permanent easements, utility easements, and temporary construction easements. There are no anticipated full fee acquisitions. The needed property rights are required to implement the Project scope as defined in the final environmental document. Consistent with Recommendation D above and the Project schedule, the Chief Executive Officer (CEO) will initiate conversation with property owners and utility owners upon Board approval of this item.

OCTA shall follow the Caltrans Right of Way Manual (RWM) and the OCTA Real Property Policies and Procedures Manual (RPPPM) to properly handle the acquisition of property rights in compliance with requirements set by the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act). The Uniform Act was enacted by the federal government to ensure real property is acquired, and that displacees are relocated in an equitable, consistent, and equal manner. The Caltrans RWM and OCTA RPPPM also incorporate State of California laws and regulations enacted to provide benefits and safeguards to property owners. Statutory offers for the purchase of property will be made for an amount established as just compensation, which shall be determined through an independent appraisal process. Efforts will be made to reach a negotiated settlement with property owners or businesses; however, when an impasse is reached, as an act of last resort, staff, through a separate Board action, may request the Board to adopt a resolution of necessity to initiate eminent domain proceedings to obtain the necessary interests in real property.

Cooperative Agreement with the California Department of Transportation for the State Route 91 Improvement Project Between State Route 57 and State Route 55 and Authority to Acquire Right-of-Way

The Project does not intend to require the permanent relocation or displacement of any residences or businesses as a result of property acquisitions. In the event of a need to displace any individual or business as a result of the Project, relocation assistance will be provided in accordance with the Caltrans RWM and OCTA RPPPM.

OCTA and Caltrans staff will continue to evaluate the need for property through the design phase. If any modifications to the ROW requirements are necessary, OCTA staff will appropriately justify and document the need to secure such property to construct the Project in accordance with procedural requirements. Any need for additional ROW requirements will be addressed within the parameters of the California Environmental Quality Act and National Environmental Policy Act.

Fiscal Impact

As part of this cooperative agreement, funding for Caltrans services for ROW support is included in OCTA's Fiscal Year (FY) 2020-2021 Budget, and will be proposed for FY 2021-22 and FY 2022-23 budgets, Capital Programs Division, accounts 0017-7514-FI106-1OQ and 0017-7514-FI105-1OR, and will be funded through 91 EL excess revenue.

While the cooperative agreement with Caltrans represents a portion of the ROW cost, OCTA is requesting Board approval to program funds for ROW based on the current estimated cost for ROW capital and support. The 91 EL excess revenue funds for Project I will be drawn from the Board-approved 91 EL Capital Reserve fund. Project I is consistent with the SR-91 Implementation Plan to reinvest net revenues in the SR-91 corridor to improve regional mobility. The Capital Programming Policy, which is the guiding document OCTA uses for programing federal, state, and local funds, currently does not have a policy regarding 91 EL excess revenue funds. An update to reflect the usage of these funds will be presented to the Board at a later date. Meanwhile, these projects will be added into the Capital Funding Program which depicts funding for OCTA projects, and is provided as Attachment B.

Cooperative Agreement with the California Department of Transportation for the State Route 91 Improvement Project Between State Route 57 and State Route 55 and Authority to Acquire Right-of-Way

Summary

Staff requests Board approval for the CEO to negotiate and execute Cooperative Agreement No. C-0-2583 with Caltrans, in the amount of \$970,000, to provide oversight at no cost, perform a portion of ROW support services, and certify the ROW for the Project. In addition, staff requests approval to use up to \$39.602 million in 91 EL excess revenue for the ROW phase for Project I. Finally, staff requests the Board authorize the CEO to make offers and execute agreements with property owners and utility owners for the acquisition of all necessary interests in real property and necessary utility relocations for the Project.

Attachments

- A. State Route 91 Improvement Project Between State Route 57 and State Route 55 Right-of-Way
- B. Capital Funding Program Report

Prepared by:

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Pia Veesapen

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Approved by:

James G. Beil, P.E.

Executive Director, Capital Programs

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State Route 91 Improvement Project Between State Route 57 and State Route 55 Right-of-Way

City Location Anaheim 1415 N Burto
1400 N Baxter St Baxter Street Properties LLC
2/01 E La Palma Ave 1431 N Daly St
1461 N Daly St
Anaheim, CA EMS Real Estate Consortium, CGGS Holdings LLC
2761 E White Star Ave
3154 E La Palma Ave
3158 E La Palma Ave
4540 E Riverdale Ave
Anaheim, CA State of California Dept of Public Works
3200 E Frontera St
Anaboin CA
Carge County water District
Anaheim, CA Orange County Water District
950 N Tustin Ave
Anaheim, CA Secrest Luther E TR Brandon Chase Trust
Anaheim, CA Orange County Flood Control District

* The record search from the environmental phase shows "agricultural" as property type and "commercial" as present use. As a result, the ROW data sheet counted as "Commercial" but it is a vacant lor.

Acronyms: ROW - right-of-way SF - square feet TCE - temporary construction easement

Capital Funding Program Report

Pending Board of Directors (Board) Approval - October 5, 2020

			Sta	State Highway Project	Project							
				Fe	Federal Funds	ls	S	State Funds	S		Local Funds	9
	Project Title	M Code	M Code Total Funding	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
I-5 from SR-55 to SR-57, add one HOV lane each direction	IOV lane each direction	∢	\$41,500	\$36,191							\$5,309	
I-5 widening, I-405 to Yale Avenue (Segment 1)	(Segment 1)	В	\$219,903	\$52,357			\$95,338	\$44,791			\$27,417	
I-5 widening, Yale Avenue to SR-55 (Segment 2)	(Segment 2)	В	\$17,425	\$15,027							\$2,398	
I-5 widening, Alicia Parkway to El Toro Road (Segment 3)	oro Road (Segment 3)	J	\$181,327	\$49,897		\$4,728		\$9,388			\$117,314	
I-5 widening, Oso Parkway to Alicia Parkway (Segment 2)	a Parkway (Segment 2)	O	\$205,695	\$47,676		\$7,921					\$150,098	
I-5 widening, SR-73 to Oso Parkway (Segment 1)	y (Segment 1)	O	\$213,267	\$28,167		\$6,433	\$91,977		\$29,832		\$56,858	
I-5, SR-73 to El Toro Road landscaping/replacement planting	oing/replacement planting	J	\$12,365				\$6,000				\$6,365	
I-5/El Toro Interchange		О	\$4,400	\$4,400								
SR-55 (I-5 to SR-91)		F	\$13,921	\$5,000							\$8,921	
SR-55 widening between I-405 and I-5	11-5	ш	\$410,932	\$103,805		\$46,800	\$80,000	\$70,000			\$110,327	
SR-57 Orangewood Avenue to Katella Avenue	ella Avenue	9	\$7,277	\$2,500							\$4,777	
SR-91, Acacia Avenue to La Palma Avenue (Segment 3)	Avenue (Segment 3)	_	\$16,201	\$1,770							\$30	\$14,401
SR-91, La Palma Avenue to SR-55 (Segment 2)	Segment 2)	_	\$46,314	\$3,460							\$40	\$42,814
SR-91, SR-55 to Lakeview Avenue (Segment 1) ¹	Segment 1) ¹	_	\$15,779	\$1,770							\$30	\$13,979
SR-91, SR-241 to I-15		_	\$41,800									\$41,800
I-405 improvements, SR-73 to I-605	5	¥	\$1,900,000	\$35,000		\$10,648			\$89,771		\$1,135,651	\$628,930
I-405 (I-5 to SR-55)		_	\$8,000	\$8,000								
I-405 s/b aux lane - University to Sa	-405 s/b aux lane - University to Sand Canyon and Sand Canyon to SR-133		\$2,328				\$2,328					
I-605/ Katella Avenue interchange		Σ	\$4,824								\$4,824	
241/91 Express Lanes (HOT) Connector	ector		\$182,298	\$20								\$182,248
I-5 HOV Lane Extension from Aven	I-5 HOV Lane Extension from Avenida Pico to San Diego County Line (PSR/PDS)		\$6,071	\$6,071								
SR-74 widening, Calle Entradero-City/County line	ity/County line		\$16,653				\$14,053		\$250		\$1,950	\$400
SR-74 widening, City/County line to Antonio Parkway	o Antonio Parkway		\$40,905	\$5,285			\$10,000					\$25,620
State Highway Project Totals	als		\$3,609,185	\$406,426		\$76,530	\$299,696	\$124,179	\$119,853		\$1,632,309	\$950,192
Federal Funding Total	\$482,956											
State Funding Total	\$543,728											
Local Funding Total	\$2,582,501											
Total Funding (000's)	\$3,609,185											
J												

		State Hig	State Highway Project Completed	ect Comp	eted						
			Fe	Federal Funds	qs	J,	State Funds	ls	ĭ	Local Funds	10
Project Title	M Code Total	Total Funding	Funding STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
I-5 HOV lane each direction s/o PCH to San Juan Creek Road	C	\$74,300	\$11,326					\$20,789		\$42,185	
I-5 HOV lanes from s/o Avenida Vista Hermosa to s/o PCH	C	\$75,300	\$12,065			\$46,779				\$16,456	
I-5 HOV lanes: s/o Avenida Pico to s/o Vista Hermosa	C	\$83,500	\$26,867		\$1,600	\$43,735				\$11,298	
I-5/SR-74 interchange improvements	٥	\$80,300				\$48,683		\$24,109	\$2,500		\$5,008



Capital Funding Program Report

Pending Board of Directors (Board) Approval - October 5, 2020

		State High	State Highway Project Completed	ct Comp	eted						
			Fe	Federal Funds	sp	0,	State Funds	ls		Local Funds	
Project Title	M Code	Total	Funding STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
I-5/SR-74 interchange landscaping/replacement planting	D	\$1,440			\$752	\$89\$					
SR-57 n/b widening, Katella Avenue to Lincoln Avenue - landscaping	ŋ	\$2,172								\$2,172	
SR-57 n/b widening, SR-91 to Yorba Linda Boulevard - landscaping	ŋ	\$946								\$946	
SR-57 n/b widening, Katella Avenue to Lincoln Avenue	ŋ	\$35,827						\$24,127		\$11,700	
SR-57 n/b widening, SR-91 to Yorba Linda Boulevard	ŋ	\$51,354						\$39,475		\$11,879	
SR-57 n/b widening, Yorba Linda to Lambert Road	ŋ	\$52,871						\$41,250		\$11,621	
SR-57 n/b widening, Yorba Linda to Lambert Road - landscaping	ŋ	\$1,193								\$1,193	
SR-91 w/b connect existing aux lanes, I-5 to SR-57	I	\$62,977						\$27,227		\$35,750	
SR-91 w/b connecting existing aux lanes, I-5 to SR-57 - landscaping	I	\$2,290								\$2,290	
SR-91 w/b (SR-55 - Tustin interchange) improvements	_	\$43,753				\$15,753		\$14,000		\$14,000	
SR-91 e/b widening, SR-241 to SR-71	_	\$57,773			\$45,911					\$6,942	\$4,920
SR-91 w/b Routes 91/55 - e/o Weir replacement planting	_	\$2,898				\$2,898					
SR-91 widening, SR-55 to Gypsum Canyon (Weir/SR-241)	_	\$76,993				\$22,250		\$54,045		\$69\$	
I-405/SR-22/I-605 HOV connector - landscaping		\$4,600	\$4,600								
HOV connectors from I-405 and I-605	M1	\$173,091	\$14,787					\$135,430	\$16,200		\$6,674
HOV connectors from SR-22 to I-405	M1	\$115,878	\$64,375		\$49,625				\$1,878		
State Highway Project Completed Totals		\$999,456	\$134,020		\$97,888	\$180,786		\$380,452	\$20,578	\$169,130	\$16,602

ompieted Lotals	\$231,908	\$561,238	\$206,310	\$999,456
state Hignway Project Completed Totals	Federal Funding Total	State Funding Total	Local Funding Total	Fotal Funding (000's)

Capital Funding Program Report

Pending Board of Directors (Board) Approval - October 5, 2020

Board Actions:

excess revenue funding for right-of-way capital and right-of-way support services 1. Authorize the use of up to \$39.602 million in State Route 91 Express Lanes for the following projects:

•State Route 91 from State Route 55 to Lakeview Avenue (Segment 1) - \$5.926 million State Route 91 from La Palma Avenue to State Route 55 (Segment 2) - \$28.166 million

•State Route 91 from Acacia Street to La Palma Avenue (Segment 3) - \$5.510

Acronyms:

Aux - Auxilliary

CMAQ - Congestion Mitigation Air Quality Improvement

Program

FTA - Federal Transit Administration

FY - Fiscal Year

HOT - High-Occupancy Toll

HOV - High-Occupancy Vehicle

Hwy - Highway

I-405 - Interstate 405

-5 - Interstate 5

-605 - Interstate 605

LA - Los Angeles

M Code - Project Codes in Measure M1 and M2

M1 - Measure M1

M2 - Measure M2

N/B - Northbound

OC - Orange County

OCTA - Orange County Transportation Authority

PCH - Pacific Coast Highway

RSTP - Regional Surface Transportation Program

S/B - Southbound

S/O - South of

SR-133 - State Route 133

SR-241 - State Route 241

SR-55 - State Route 55

SR-71 - State Route 71 SR-57 - State Route 57

SR-73 - State Route 73

SR-90 - State Route 90

SR-91 - State Route 91 SS - Southside STBG - Surface Transportation Block Grant

STIP - State Transportation Improvement Program

W/B - Westbound



October 5, 2020

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: 2020 Project X – Environmental Cleanup Program Tier 1 Call for

Projects – Programming Recommendations

Overview

The Orange County Transportation Authority's Environmental Cleanup Program provides Measure M2 funding for water quality improvement projects to address transportation-related pollution. The fiscal year 2020-21 Tier 1 Grant Program call for projects was issued on March 9, 2020. Evaluations are now complete, and a list of projects and recommended funding allocations are presented for review and approval.

Recommendation

Approve 12 projects, in the amount of \$2,800,000, for the 2020 Tier 1 Environmental Cleanup Program Tier 1 call for projects.

Background

In May 2010, the Orange County Transportation Authority (OCTA) Board of Directors (Board) approved a two-tiered approach to fund the Measure M2 (M2) Project X Environmental Cleanup Program (ECP). The Tier 1 Grant Program is designed to mitigate the more visible forms of pollutants, such as litter and debris, which collect on roadways and in catch basins (i.e., storm drains) prior to being deposited in waterways and the ocean. The Tier 2 Grant Program provides funding for larger (i.e., treating catchment areas of 50 acres or greater) potentially multijurisdictional, capital-intensive structural treatment best management practice (BMP) types of projects.

Tier 1 funds are made available through a call for projects (call) to Orange County local governments to purchase equipment and provide upgrades to existing catch basins and other related BMPs that supplement current requirements. Examples include screens, filters, and inserts for catch basins, as well as other devices designed to remove the above-mentioned pollutants.

Proposed projects must demonstrate a direct nexus to the reduction of transportation-related pollution, as developed and defined by the OCTA Environmental Cleanup Allocation Committee (ECAC).

To date, the Board has approved funding for 177 Tier 1 projects, totaling approximately \$25 million. It is estimated that nearly 33 million gallons of trash have been captured since inception of the ECP in 2011. On March 9, 2020, the Board approved issuance of the current fiscal year 2020-21 ECP Tier 1 call, making available up to \$2.8 million to support a tenth call.

Discussion

The initial deadline for the ECP Tier 1 call applications was May 7, 2020. However, due to the coronavirus (COVID-19) pandemic and Governor Newsom's statewide stay-at-home order (issued during the call), the application deadline was extended to June 25, 2020. As of that date, 13 applications were submitted from 13 local agencies. Subsequently, the City of Lake Forest elected to withdraw their application due to anticipated budget uncertainties resulting from impacts of COVID-19. The applications were reviewed and evaluated by an application review committee consisting of OCTA staff, the ECAC Chairman, and an additional member of the ECAC. Project applications were evaluated based on key Board-approved criteria for project applications, which included the following:

- Effectiveness at removing trash and debris;
- Cost/benefit analyses;
- Pollution reducing benefits;
- Project readiness;
- Adequacy of proposed operations and maintenance plans; and
- Submission of clear and detailed work plans with specific implementation timing documented.

The ECAC met on September 10, 2020, and at that meeting the ECAC approved recommending to the Board that 12 projects be awarded ECP Tier 1 funds, in an amount equaling \$2,800,000. The projects that are recommended for funding primarily consist of catch basin debris screen devices, including 1,346 connector pipe screens (CPS), 963 automatic retractable screens (ARS) devices, 32 catch basin inlet filters, one trash interceptor, one debris separating baffle box, and one continuous deflection separator.

All 12 projects met overall program objectives and satisfied key Board-approved criteria for project applications (listed above).

A brief overview of the project types that are recommended for funding is provided below. Attachment A includes project-specific information, final scores, and recommended award amount.

- Catch basin debris screen devices: These devices prevent trash and debris from entering storm drain systems through catch basins and primarily consist of CPS and/or ARS types of devices.
- Catch basin inserts consist of filters inserted into storm drains and/or catch basins, which filter and remove trash and debris from storm water flowing through them.
- A trash interceptor (also referred to as a trash wheel) includes a floating boom system that captures trash and directs it toward a conveyor system that is powered by stream flow and solar power. Trash is lifted by a conveyor system and then dropped into a haul-off container, which is then collected and emptied as part of regular maintenance and operations.
- A debris-separating baffle box is an advanced storm water treatment system utilizing a non-clogging screen technology and hydrodynamic separation to capture pollutants. The non-clogging screening system stores trash and debris in a dry state, suspended above sedimentation chambers, thereby allowing for easier maintenance.
- A continuous deflection separator device, which allows storm water to be conveyed through 5mm-diameter perforated metal sheets while trapping trash, debris, and solids for subsequent maintenance and removal.

As part of this program, local agencies agree to contribute a minimum cash match of 20 percent of total project costs. All recommended projects meet this requirement and are recommended for programming approval.

Next Steps

If these programming recommendations are approved by the OCTA Board, each funded agency will be required to execute a letter amendment to the Comprehensive Transportation Funding Programs (CTFP) Master Agreement prior to project implementation. OCTA will then monitor project status and implementation through the CTFP semi-annual review process.

Summary

In order to assist local agencies in delivering projects that support water quality improvements related to transportation infrastructure, staff is seeking Board approval to program \$2,800,000 in ECP funds to 12 local agency projects.

Attachment

A. Project X 2020 Tier 1 Call for Projects, Programming Recommendations

Prepared by:

Alfonso Hernandez Senior Transportation Funding Specialist (714) 560-5363

Kia Mortazavi Executive Director, Planning (714) 560-5741

Approved by:

Project X 2020 Tier 1 Call for Projects Programming Recommendations

Projects Reco	ommended for Funding				
Agency	Project	Project Description	Score	Funding	Cumulative
San Clemente	San Clemente Eastern Pico Corridor Runoff Treatment Project	Install 100 CPS units and 244 ARS devices	86.33	\$ 220,000	\$ 220,000
Mission Viejo	Mission Viejo Trash and Runoff Abatement Project – Central City Area	Install 60 CPS units and 184 ARS devices	84.17	\$ 160,000	\$ 380,000
Placentia	Catch Basin Insert Project - Phase 6	Install 108 CPS units and 116 ARS devices	83.50	\$ 160,000	\$ 540,000
Fullerton	Installation of Full Capture Trash Devices in Catch Basins - 2020	Install 100 CPS units	83.33	\$ 95,244	\$ 635,244
Laguna Hills	Laguna Hills CPS-Mod and ARS-CL Screen Project Phase IX	Install 109 CPS units and 237 ARS devices	81.83	\$ 200,000	\$ 835,244
Anaheim	Storm Drain Full Capture Catch Screen Project	Install 625 CPS units	81.50	\$ 499,552	\$ 1,334,796
Newport Beach	Newport Bay Trash Interceptor Project	One trash interceptor	79.67	\$ 500,000	\$ 1,834,796
Yorba Linda	Yorba Linda Arterial Roadway Automatic Retractable Screens Retrofit Project	Install 182 ARS devices	77.83	\$ 160,000	\$ 1,994,796
Irvine	Irvine Citywide Catch Basin Connector Pipe Screen Installation Phase 1 Project	Install 223 CPS units	75.73	\$ 113,819	\$ 2,108,615
City of Orange	DSBB and CPS BMP Installation - 2020	Install 13 CPS units and one DSBB device	72.17	\$ 308,803	\$ 2,417,418
Laguna Woods	City-Maintained Catch Basins Full Capture Systems Retrofit Project	Eight CPS units and 32 catch basin inlet filters	63.67	\$ 31,641	\$ 2,449,059
Costa Mesa	Placentia Avenue Stormwater Quality Improvement Project	Install one continuous deflection separator	62.17	\$ 350,941	\$ 2,800,000

CPS - Connector Pipe Screen

ARS - Automatic Retractable Screen

BMP - Best Management Practice

DSBB - Debris Separating Baffle Box



October 5, 2020

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Regional Traffic Signal Synchronization Program Update

Overview

The Orange County Transportation Authority has been working with local cities, the County of Orange, and the California Department of Transportation to fund and implement key regional traffic signal synchronization projects. This report provides an update on the Measure M2 Regional Traffic Signal Synchronization Program, including results from recently completed projects.

Recommendation

Receive and file as an information item.

Background

The Orange County Transportation Authority (OCTA) provides funding and assistance to implement multi-agency signal synchronization as part of the Measure M2 (M2) Regional Traffic Signal Synchronization Program (Project P). Annually, OCTA provides competitive grants specifically dedicated to the coordination of traffic signals across jurisdictional boundaries. The goal of Project P is to improve the flow of traffic by developing and implementing regional signal coordination that crosses local agencies' boundaries and maintains coordination through freeway interchanges, where possible.

Since 2008, OCTA and local agencies have implemented signal synchronization for 84 projects that included 2,897 signalized intersections and 746 centerline miles of streets (Attachment A). The projects have improved travel times, reduced delays and congestion, and the increased number of successive green light drivers see in their daily commutes. The results of the program translate into direct benefits to motorists in time savings and cost savings in lower fuel consumption and a reduction of greenhouse gas (GHG) emissions.

Discussion

Signal synchronization is a cost-effective way to increase roadway throughput without major new construction. Projects are corridor-based, and new optimized signal timings are developed based on traffic conditions and current travel patterns. These projects optimize traffic signal timing to reduce travel times, stops, delays, and ultimately give users an overall better driving experience. Key to these efforts is regular dialogue between partner agencies and the California Department of Transportation, resulting in agencies working together towards the multijurisdictional goal of the program.

Funding is provided through annual calls for projects (call), with 80 percent of funding from M2 (Project P) and 20 percent from local agencies' matching funds. Supplemental funding is used whenever available, including SB 1 (Chapter 5, Statutes of 2017) Local Partnership Program funds and Solutions for Congested Corridors Program grants. A variety of sources have been used in the past to fund signal synchronization projects, including Measure M1, Proposition 1B Traffic Light Signal Synchronization Program, and air quality funds.

Signal synchronization projects implement a coordination strategy involving time-based synchronization of the respective agencies' systems, including the necessary upgrades to the traffic signal infrastructure. This includes modifications to prepare for future connected and autonomous vehicle technologies and applications. Existing synchronization on crossing arterials is incorporated when and where possible. Optimized timings are developed and implemented for identified peak periods, which are typically weekday mornings, midday, and evenings. For weekend operations, the peak is typically mid-morning through early evening. To quantify signal synchronization benefits, "before and after" travel time studies are conducted to evaluate the improvements from these new optimized timing plans.

These studies are conducted during peak traffic periods with specially equipped vehicles that have computer-linked global positioning system devices to collect traffic data. Several runs are made in each direction with the car "floating" in the middle of the traffic platoon of vehicles for each run. These studies showed improvements across all performance measures, including travel time, number of stops, and average safe speed. Additionally, fuel consumption, GHG, and other vehicle emission data is reported (Attachment B). Historically, signal synchronization efforts nationwide have resulted in travel time and speed improvements, as well as a reduction in stops in the range between five and 15 percent. Comparisons of the corridors' before and after studies indicate results in the high-end of this range due to the combination of the optimized traffic signal timing plans, cooperation between all participating agencies, and minor signal upgrades to maximize traffic flow.

Signal Synchronization Projects

OCTA and local agencies have completed 84 signal synchronization projects since 2008. The signal program's target of regularly synchronizing 2,000 signalized intersections, as expressed in the M2 voter guide, was met before December 2016. A total of 2,897 signalized intersections and 746 centerline miles of streets have been implemented. The total Board of Directors grant allocations for the completed projects were approximately \$59.95 million. The completed projects are identified on the map in Attachment A. A summary of the results for the 84 completed signal synchronization projects is identified in the table in Attachment B. The early acceleration of Project P allowed the benefits of signal synchronization to be experienced by travelers much earlier than originally promised.

The completed projects have reduced average travel time by 13 percent and the average number of stops by 29 percent. Average speed improved by 14 percent. Consumers will save approximately \$172.1 million (at \$3.90 per gallon in today's dollars) on fuel costs and reduce GHG emissions by approximately 885.9 million pounds over the three-year project cycle. The reduction of GHG emissions is made possible by reducing the number of stops, smoothing the flow of traffic, and reducing the amount of acceleration and deceleration of vehicles. These results are comparable to signal synchronization efforts nationwide.

The following table lists the six signal synchronization projects, where new timing plans were implemented in the last year, along with the corresponding travel time and speed improvements:

Corridor	Limits	Length (Miles)	Travel Time Improvements	Average Speed Improvements
El Toro Road	Bridger Road to Ridgeline Road	7.17	20%	25%
Alicia Parkway	Crown Valley Parkway to Rustic Oak	10.50	12%	13%
Marguerite Parkway	El Toro Parkway to Auto Mall	8.97	8%	9%
Coast Highway	Orange Street to Reef Point Drive	9.01	5%	5%
Westminster Avenue/17 th Street	Apollo Drive to Newport Avenue	16.33	5%	5%
Olympiad Road/ Felipe Road	Marguerite Parkway & Olympiad Road to Marguerite Parkway & Felipe Road	5.82	3%	3%

The travel time collection for all completed projects, including these six corridors, occurred prior to March 2020 or the Governor's stay-at-home executive order. Traffic engineers are continuing to monitor and update the signal timing to respond to changes in traffic patterns and to ensure travelers experience benefits from the completed projects.

OCTA is currently funding an additional 33 signal synchronization projects that are in various stages of implementation. The committed funding from OCTA is primarily from the competitive signal program, and the grant allocation of these projects is approximately \$70.8 million. Once completed, these funded projects will synchronize an additional 1,184 signals and 307 miles of roadway.

It is good practice to periodically resynchronize traffic signals to make sure they consider changes in traffic. The signal program allows previously completed streets and highways projects to compete again for funding during the annual call. Previous investments made as part of earlier projects are incorporated into the revisited projects. An example of this would be the Alicia Parkway corridor. The signals along this corridor were synchronized in 2010 and updated in 2019. The result is a program that can regularly coordinate intersections as the basis for synchronized operation across Orange County.

Next Steps

OCTA continues to work with local agencies through various venues, including the Technical Steering Committee, Technical Advisory Committee, and the traffic forum to identify corridors that are eligible for funding and would benefit from signal program funding as part of the annual call.

Summary

OCTA and local agencies have successfully implemented new cooperative traffic signal synchronization timing on 84 corridors. Another 33 projects are planned or underway. The synchronization of traffic signals along these regional corridors continually results in significant improvements to traffic flow by reducing total travel times, stops per mile, and improving average safe speeds while decreasing fuel costs, GHG, and overall vehicle emissions.

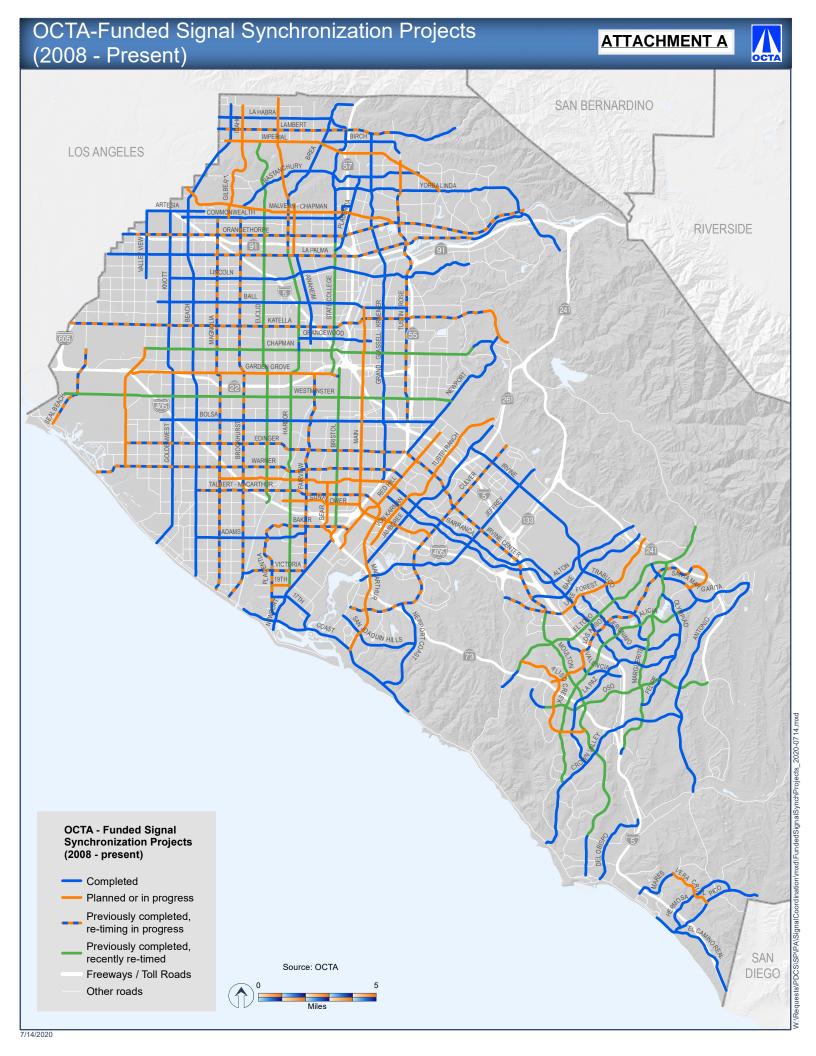
Attachments

- A. OCTA-Funded Signal Synchronization Projects, (2008 Present)
- B. Summary of Results for Completed Regional Traffic Signal Synchronization Projects

Prepared by:

Alicia Yang Project Manager III (714) 560-5362 Approved by:

Kia Mortazavi Executive Director, Planning (714) 560-5741



Summary of Results for Completed Regional Traffic Signal Synchronization Projects

Function	2008 OCTA 15 62 \$ 480,083 \$ 3,091,631 16,188,276 20% 24% 2009 OCTA 9 34 \$ 248,272 \$ 3,647,370 19,098,249 22% 29% 2010 OCTA 11 41 \$ 939,144 \$ 806,001 4,220,358 13% 12% 2010 OCTA 21 70 \$ 1,243,859 \$ 10,469,722 54,821,202 14% 21% 2010 OCTA 14 52 \$ 798,161 \$ 3,244,679 16,989,696 16% 21% 2011 OCTA 22 109 \$ 846,217 \$ 4,609,706 24,137,220 11% 21% 2011 OCTA 16 107 \$ 890,377 \$ 3,226,111 16,892,430 11% 21% 2011 OCTA 17 47 \$ 697,585 \$ 2,659,036 13,923,183 17% 21% 2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15% 2	Improvement 43% 50% 40% 28% 46% 34% 23% 42% 28%
Pacific Park Drive/Oso Parkway* 2009 OCTA 9 34 \$ 248.272 \$ 3.647.370 19.098.249 22% 3 Alicia Parkway* 2010 OCTA 11 411 \$ 393.444 \$ 806.001 4.220.358 13% 4 Baeach Boulevard* 2010 OCTA 21 70 \$ 1.243.859 \$ 10.499.722 54.621.202 14% 5 Chapman Avenue (South)** 2010 OCTA 14 52 \$ 798.161 \$ 3.244.679 16.989.696 16% 5 Chapman Avenue (South)** 2010 OCTA 14 52 \$ 798.161 \$ 3.244.679 16.989.696 16% 6 Edinger Avenue/rine Center Drive/ 6 Edinger Avenue/rine* 2011 OCTA 16 107 \$ 890.377 \$ 3.226.111 16.892.430 11% 8 Orangethorpe Avenue* 2011 OCTA 17 47 \$ 897.586 \$ 2.659.036 13.923.183 17% 9 State College Boulevard/Bristol Street** 2011 OCTA 17 47 \$ 877.686 \$ 2.659.036 13.923.183 17% 10 Westminster Avenue* 2011 OCTA 13 48 \$ 3.08.847 \$ 4.233.390 22.1667.396 14% 11 Brookhurst Street* 2012 OCTA 16 56 \$ 637.764 \$ 7.850.213 41.105.031 19% 12 El Toro Road** 2012 OCTA 17 69 \$ 673.845 \$ 4.435.716 23.226.165 14% 14 La Palma Avenue* 2012 OCTA 17 69 \$ 673.845 \$ 4.435.716 23.226.165 14% 14 La Palma Avenue* 2013 COTA 17 69 \$ 673.845 \$ 4.435.716 23.226.165 14% 15 Bastanchury Road 2013 Fullerton 8 27 \$ 5.39.936 \$ 1.053.007 5.513.723 13% 15 Bastanchury Road 2013 Fullerton 8 27 \$ 5.39.936 \$ 1.053.007 5.513.723 13% 16 Euclid Street* 2014 Anahelim 13 53 \$ 777.910 \$ 1.564.300 \$ 4.576.312 23.972.607 14% 19 Yorbe Linda Boulevard* 2013 OCTA 10 43 \$ 683.000 \$ 4.576.312 23.972.607 14% 19 Yorbe Linda Boulevard* 2014 Costa Mesa 3 9 \$ 2.20.000 \$ 4.576.312 23.972.607 14% 19 Yorbe Linda Boulevard* 2014 Costa Mesa 3 9 \$ 2.20.000 \$ 3.056.000 \$ 63.507.921 12%	2009 OCTA 9 34 \$ 248,272 \$ 3,647,370 19,098,249 22% 29% 2010 OCTA 11 41 \$ 939,144 \$ 806,001 4,220,358 13% 12% 2010 OCTA 21 70 \$ 1,243,859 \$ 10,469,722 54,821,202 14% 21% 2010 OCTA 14 52 \$ 798,161 \$ 3,244,679 16,989,696 16% 21% 2011 OCTA 22 109 \$ 846,217 \$ 4,609,706 24,137,220 11% 21% 2011 OCTA 16 107 \$ 890,377 \$ 3,226,111 16,892,430 11% 21% 2011 OCTA 17 47 \$ 697,585 \$ 2,659,036 13,923,183 17% 21% 2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15% 21% 2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 2	50% 40% 28% 46% 34% 23% 42%
A Beach Boulevard* 2010 OCTA 11 41 \$ 39.31.44 \$ 806.001 4.220.358 13%	2010 OCTA 11 41 \$ 939,144 \$ 806,001 4,220,358 13% 12% 2010 OCTA 21 70 \$ 1,243,859 \$ 10,469,722 54,821,202 14% 21% 2010 OCTA 14 52 \$ 798,161 \$ 3,244,679 16,989,696 16% 21% 2011 OCTA 22 109 \$ 846,217 \$ 4,609,706 24,137,220 11% 21% 2011 OCTA 16 107 \$ 890,377 \$ 3,226,111 16,892,430 11% 21% 2011 OCTA 17 47 \$ 697,585 \$ 2,659,036 13,923,183 17% 21% 2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15% 21% 2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 21% 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19%	40% 28% 46% 34% 23% 42%
Beach Boulevard'	2010 OCTA 21 70 \$ 1,243,859 \$ 10,469,722 54,821,202 14% 21% 2010 OCTA 14 52 \$ 798,161 \$ 3,244,679 16,989,696 16% 21% 2011 OCTA 22 109 \$ 846,217 \$ 4,609,706 24,137,220 11% 21% 2011 OCTA 16 107 \$ 890,377 \$ 3,226,111 16,892,430 11% 21% 2011 OCTA 17 47 \$ 697,585 \$ 2,659,036 13,923,183 17% 21% 2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15% 21% 2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 21% 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 21% 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% <	28% 46% 34% 23% 42%
Chapman Avenue (South)**	2010 OCTA 14 52 \$ 798,161 \$ 3,244,679 16,989,696 16% 21% 2011 OCTA 22 109 \$ 846,217 \$ 4,609,706 24,137,220 11% 21% 2011 OCTA 16 107 \$ 890,377 \$ 3,226,111 16,892,430 11% 21% 2011 OCTA 17 47 \$ 697,585 \$ 2,659,036 13,923,183 17% 21% 2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15% 21% 2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 21% 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 21% 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 21%	46% 34% 23% 42%
Edinger Avenue/Irvine Center Drive/ 6 Moulton Parkway** 2011 OCTA 22 109 \$ 846,217 \$ 4,609,706 24,137,220 11% 7 Harbor Boulevard** 2011 OCTA 16 107 \$ 890,377 \$ 3,226,111 16,892,430 11% 8 Orangethorpe Avenue* 2011 OCTA 17 47 \$ 697,595 \$ 2,659,036 13,923,183 17% 17% 17 17 18 Orangethorpe Avenue* 2011 OCTA 17 47 \$ 697,595 \$ 2,659,036 13,923,183 17% 17% 10 OCTA 17 17 17 18 OCTA 17 18 OCTA 17 OCTA 17 18 OCTA 17 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 11 Brookhurst Street* 2012 OCTA 11 40 \$ 478,916 \$ 3,902,828 17,294,160 19% 12 El Toro Road** 2012 OCTA 11 40 \$ 478,916 \$ 3,902,828 17,294,160 19% 13 Katella Avenue* 2012 OCTA 11 40 \$ 478,916 \$ 3,902,828 17,294,160 19% 13 OCTA 13 OCTA 13 OCTA 14 OCTA	2011 OCTA 22 109 \$ 846,217 \$ 4,609,706 24,137,220 11% 21% 2011 OCTA 16 107 \$ 890,377 \$ 3,226,111 16,892,430 11% 21% 2011 OCTA 17 47 \$ 697,585 \$ 2,659,036 13,923,183 17% 21% 2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15% 21% 2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 21% 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 21% 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 21%	34% 23% 42%
Moulton Parkway*1	2011 OCTA 16 107 \$ 890,377 \$ 3,226,111 16,892,430 11% 21% 2011 OCTA 17 47 \$ 697,585 \$ 2,659,036 13,923,183 17% 21% 2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15% 21% 2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 21% 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 21% 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 21%	23% 42%
State College Boulevard/Bristol Street* 2011 OCTA 17 47 \$ 697,585 \$ 2,659,036 13,923,183 17% 9 State College Boulevard/Bristol Street* 2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15% 10 Westminster Avenue* 2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 11 Brookhurst Street* 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 12 El Toro Road** 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 13 Katella Avenue* 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 14 La Palma Avenue* 2012 OCTA 18 61 \$ 803,999 \$ 6,281,546 32,391,229 18% 15 Bastanchury Road 2013 Fullerton 8 27 \$ 539,936 \$ 1,053,007 5,513,723 13% 16 Euclid Street* 2013 Fullerton 17 66 \$ 1,000,000 \$ 4,376,312 22,599,458 15% 17 Lambert Avenue 2013 La Habra 10 26 \$ 520,000 \$ 4,576,312 23,972,807 14% 18 Tustin Avenue/Rose Drive 2013 OCTA 12 46 \$ 521,837 \$ 1,813,693 9,496,799 12% 19 Yorba Linda Boulevard* 2013 OCTA 12 46 \$ 521,837 \$ 1,813,693 9,496,799 12% 20 Lincoln Avenue 2014 Anaheim 13 53 \$ 777,910 \$ 1,556,300 8,190,935 9% 21 Valley View Street 2014 Costa Mesa 3 9 \$ 220,000 \$ 1,23,098 64,653 7% 22 Trih Street 2014 Costa Mesa 3 9 \$ 220,000 \$ 1,23,098 64,653 7% 23 Baker Street/Placentia Avenue 2014 Costa Mesa 3 11 \$ 200,000 \$ 124,820 \$ 653,561 22% 24 Fairview Road/Street 2014 Costa Mesa 3 11 \$ 200,000 \$ 124,820 \$ 653,561 22% 25 Victoria Street 2014 Costa Mesa 3 11 \$ 200,000 \$ 124,820 \$ 653,561 22% 26 Brea Boulevard 2014 Fullerton 4 16 \$ 320,000 \$ 13,531 4,259,783 12% 27 Commonwealth Avenue 2014 Fullerton 4 16 \$ 320,000 \$ 13,531 4,259,783 12% 28 Lemon Street/Anaheim Boulevard 2014 Fullerton 4 16	2011 OCTA 17 47 \$ 697,585 \$ 2,659,036 13,923,183 17% 21% 2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15% 21% 2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 21% 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 21% 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 21%	42%
State College Boulevard/Bristol Street** 2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15%	2011 OCTA 17 97 \$ 574,639 \$ 4,089,735 21,414,531 15% 21% 2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 21% 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 21% 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 21%	
10 Westminster Avenue¹ 2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 11 Brookhurst Street¹ 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 12 12 El Toro Road¹¹ 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 13 Katella Avenue¹ 2012 OCTA 17 69 \$ 673,845 \$ 4,435,716 23,226,165 14% 14 La Palma Avenue¹ 2012 OCTA 18 61 \$ 803,999 \$ 6,281,546 32,321,229 18% 15 Bastanchury Road 2013 Fullerton 8 27 \$ 539,936 \$ 1,053,007 5,513,723 13% 16 Euclid Street¹ 2013 Fullerton 17 66 \$ 1,000,000 \$ 4,316,031 22,599,458 15% 17 Lambert Avenue 2013 Fullerton 17 66 \$ 5,520,000 \$ 4,578,312 23,972,807 14% 18 Tustin Avenue/Rose Drive 2013 OCTA 10 43 \$ 683,200 \$ 2,309,842 12,094,717 15% 19 Yorba Linda Boulevard¹ 2013 OCTA 12 46 \$ 521,837 \$ 1,813,693 9,496,799 12% 10 10 10 10 10 10 10 1	2011 OCTA 13 48 \$ 308,847 \$ 4,233,390 22,166,736 14% 21% 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 21% 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 21%	28%
11 Brookhurst Street 2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 192 El Toro Road 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 138 Katella Avenue 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 14% La Palma Avenue 2012 OCTA 18 61 \$ 803,999 \$ 6,281,546 32,326,165 14% 14% La Palma Avenue 2012 OCTA 18 61 \$ 803,999 \$ 6,281,546 32,329,1229 18% 155 Bastanchury Road 2013 Fullerton 8 27 \$ 539,936 \$ 1,053,007 5,513,723 13% 156 ELuclid Street 2013 Fullerton 17 66 \$ 1,000,000 \$ 4,316,031 22,599,486 15% 17 Lambert Avenue 2013 La Habra 10 26 \$ 520,000 \$ 4,578,312 23,972,807 14% 188 Tustin Avenue/Rose Drive 2013 OCTA 10 43 \$ 683,200 \$ 2,309,842 12,094,717 15% 19 Yorba Linda Boulevard 2013 OCTA 10 43 \$ 683,200 \$ 2,309,842 12,094,717 15% 19 Yorba Linda Boulevard 2014 Anaheim 13 53 \$ 777,910 \$ 1,564,300 8,190,935 9% 12 12 12 12 12 12 12 1	2012 OCTA 16 56 \$ 631,764 \$ 7,850,213 41,105,031 19% 21% 2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 21%	
Total	2012 OCTA 11 40 \$ 478,916 \$ 3,302,828 17,294,160 19% 21%	35%
13		31%
14	2012 OCTA 17 69 \$ 673.845 \$ 4.435.716 23.226.165 1.402 2.102	32%
15 Bastanchury Road 2013 Fullerton 8 27 \$ 539,936 \$ 1,053,007 5,513,723 13% 16 Euclid Street* 2013 Fullerton 17 66 \$ 1,000,000 \$ 4,316,031 22,599,458 15% 17 Lambert Avenue 2013 La Habra 10 26 \$ 520,000 \$ 4,316,031 22,599,458 15% 18 Tustin Avenue/Rose Drive 2013 OCTA 10 43 \$ 683,200 \$ 2,309,842 12,094,717 15% 19 Yorba Linda Boulevard* 2013 OCTA 12 46 \$ 521,837 \$ 1,813,693 9,496,799 12% 20 Lincoln Avenue 2014 Anaheim 13 53 \$ 777,910 \$ 1,564,300 8,190,935 9% 21 Valley View Street 2014 Buena Park 3 20 \$ 280,000 \$ 3,056,008 16,002,194 28% 22 17th Street 2014 Costa Mesa 3 9 \$ 220,000 \$ 123,098 644,563 7% 23 Baker Street/Placentia Avenue 2014 Costa Mesa 8 27 \$ 519,960 \$ 540,228 2,828,724 14% 24 Fairview Road/Street 2014 Costa Mesa 8 27 \$ 519,960 \$ 540,228 2,828,724 14% 25 Victoria Street 2014 Costa Mesa 8 31 \$ 620,001 \$ 1,735,472 9,087,220 11% 26 Brea Boulevard 2014 Fullerton 4 16 \$ 320,000 \$ 123,098 643,563 12% 27 Commonwealth Avenue 2014 Fullerton 4 16 \$ 320,000 \$ 813,531 4,259,783 12% 28 Lemon Street/Anaheim Boulevard 2014 Fullerton 2 13 \$ 280,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 16 \$ 320,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 16 \$ 320,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 16 \$ 320,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 16 \$ 320,000 \$ 531,872 2,784,969 16% 30 Culver Drive 2014 Irvine 9 27 \$ 230,608 \$ 3,173,217 16,615,495 9% 31 Jamboree Road 2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 10,005,845 9% 32 La Habra Boulevard 2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 10,005,8	2012 301π 11 03 ψ 010,040 ψ 4,430,110 23,220,100 14/0 21/0	36%
Tellerton	2012 OCTA 18 61 \$ 803,999 \$ 6,281,546 32,391,229 18% 21%	27%
17	2013 Fullerton 8 27 \$ 539,936 \$ 1,053,007 5,513,723 13% 21%	49%
Tustin Avenue/Rose Drive 2013 OCTA 10 43 \$ 683,200 \$ 2,309,842 12,094,717 15%	2013 Fullerton 17 66 \$ 1,000,000 \$ 4,316,031 22,599,458 15% 21%	39%
19 Yorba Linda Boulevard 2013 OCTA 12 46 \$ 521,837 \$ 1,813,693 9,496,799 12%	2013 La Habra 10 26 \$ 520,000 \$ 4,578,312 23,972,807 14% 21%	41%
Lincoln Avenue 2014 Anaheim 13 53 \$ 777,910 \$ 1,564,300 8,190,935 9% 21 Valley View Street 2014 Buena Park 3 20 \$ 280,000 \$ 3,056,089 16,002,194 28% 22 17th Street 2014 Costa Mesa 3 9 \$ 220,000 \$ 123,098 644,563 7% 23 Baker Street/Placentia Avenue 2014 Costa Mesa 8 27 \$ 519,960 \$ 540,228 2,828,724 14% 24 Fairview Road/Street 2014 Costa Mesa 8 31 \$ 620,001 \$ 1,735,472 9,087,220 11% 25 Victoria Street 2014 Costa Mesa 3 11 \$ 200,000 \$ 124,820 653,581 22% 26 Brea Boulevard 2014 Fullerton 4 16 \$ 320,000 \$ 813,531 4,259,783 12% 27 Commonwealth Avenue 2014 Fullerton 8 30 \$ 600,000 \$ 803,023 4,204,761 11% 28 Lemon Street/Anaheim Boulevard 2014 Fullerton 2 13 \$ 280,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 15 \$ 380,000 \$ 570,921 2,989,436 18% 30 Culver Drive 2014 Irvine 11 39 \$ 779,856 \$ 3,625,648 18,984,498 12% 31 Jamboree Road 2014 Irvine 9 27 \$ 230,608 \$ 3,173,217 16,615,495 9% 31 Jamboree Road 2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 10,005,845 9% 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8% 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8% 34 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8% 34 34 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8% 34 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8% 34 34 34 34 34 34 34 3	2013 OCTA 10 43 \$ 683,200 \$ 2,309,842 12,094,717 15% 21%	37%
21 Valley View Street 2014 Buena Park 3 20 \$ 280,000 \$ 3,056,089 16,002,194 28% 22 17th Street 2014 Costa Mesa 3 9 \$ 220,000 \$ 123,098 644,563 7% 23 Baker Street/Placentia Avenue 2014 Costa Mesa 8 27 \$ 519,960 \$ 540,228 2,828,724 14% 24 Fairview Road/Street 2014 Costa Mesa 8 31 \$ 620,001 \$ 1,735,472 9,087,220 11% 25 Victoria Street 2014 Costa Mesa 3 11 \$ 200,000 \$ 124,820 653,581 22% 26 Brea Boulevard 2014 Fullerton 4 16 \$ 320,000 \$ 813,531 4,259,783 12% 27 Commonwealth Avenue 2014 Fullerton 8 30 \$ 600,000 \$ 803,023 4,204,761 11% 28 Lemon Street/Anaheim Boulevard 2014 Fullerton 2 13 \$ 280,00	2013 OCTA 12 46 \$ 521,837 \$ 1,813,693 9,496,799 12% 21%	21%
22 17th Street 2014 Costa Mesa 3 9 \$ 220,000 \$ 123,098 644,563 7% 23 Baker Street/Placentia Avenue 2014 Costa Mesa 8 27 \$ 519,960 \$ 540,228 2,828,724 14% 24 Fairview Road/Street 2014 Costa Mesa 8 31 \$ 620,001 \$ 1,735,472 9,087,220 11% 25 Victoria Street 2014 Costa Mesa 3 11 \$ 200,000 \$ 124,820 653,581 22% 26 Brea Boulevard 2014 Fullerton 4 16 \$ 320,000 \$ 813,531 4,259,783 12% 27 Commonwealth Avenue 2014 Fullerton 8 30 \$ 600,000 \$ 803,023 4,204,761 11% 28 Lemon Street/Anaheim Boulevard 2014 Fullerton 2 13 \$ 280,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 15 \$ 380,000	2014 Anaheim 13 53 \$ 777,910 \$ 1,564,300 8,190,935 9% 21%	25%
23 Baker Street/Placentia Avenue 2014 Costa Mesa 8 27 \$ 519,960 \$ 540,228 2,828,724 14% 24 Fairview Road/Street 2014 Costa Mesa 8 31 \$ 620,001 \$ 1,735,472 9,087,220 11% 25 Victoria Street 2014 Costa Mesa 3 11 \$ 200,000 \$ 124,820 653,581 22% 26 Brea Boulevard 2014 Fullerton 4 16 \$ 320,000 \$ 813,531 4,259,783 12% 27 Commonwealth Avenue 2014 Fullerton 8 30 \$ 600,000 \$ 803,023 4,204,761 11% 28 Lemon Street/Anaheim Boulevard 2014 Fullerton 2 13 \$ 280,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 15 \$ 380,000 \$ 570,921 2,989,436 18% 30 Culver Drive 2014 Irvine 11 39 \$ 779,856 <td>2014 Buena Park 3 20 \$ 280,000 \$ 3,056,089 16,002,194 28% 21%</td> <td>37%</td>	2014 Buena Park 3 20 \$ 280,000 \$ 3,056,089 16,002,194 28% 21%	37%
24 Fairview Road/Street 2014 Costa Mesa 8 31 \$ 620,001 \$ 1,735,472 9,087,220 11% 25 Victoria Street 2014 Costa Mesa 3 11 \$ 200,000 \$ 124,820 653,581 22% 26 Brea Boulevard 2014 Fullerton 4 16 \$ 320,000 \$ 813,531 4,259,783 12% 27 Commonwealth Avenue 2014 Fullerton 8 30 \$ 600,000 \$ 803,023 4,204,761 11% 28 Lemon Street/Anaheim Boulevard 2014 Fullerton 2 13 \$ 280,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 15 \$ 380,000 \$ 570,921 2,989,436 18% 30 Culver Drive 2014 Irvine 11 39 \$ 779,856 \$ 3,625,648 18,984,498 12% 31 Jamboree Road 2014 Irvine 9 27 \$ 230,608 \$	2014 Costa Mesa 3 9 \$ 220,000 \$ 123,098 644,563 7% 21%	0%
25 Victoria Street 2014 Costa Mesa 3 11 \$ 200,000 \$ 124,820 653,581 22% 26 Brea Boulevard 2014 Fullerton 4 16 \$ 320,000 \$ 813,531 4,259,783 12% 27 Commonwealth Avenue 2014 Fullerton 8 30 \$ 600,000 \$ 803,023 4,204,761 11% 28 Lemon Street/Anaheim Boulevard 2014 Fullerton 2 13 \$ 280,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 15 \$ 380,000 \$ 570,921 2,989,436 18% 30 Culver Drive 2014 Irvine 11 39 \$ 779,856 \$ 3,625,648 18,984,498 12% 31 Jamboree Road 2014 Irvine 9 27 \$ 230,608 \$ 3,173,217 16,615,495 9% 32 Jeffrey Road 2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 <td>2014 Costa Mesa 8 27 \$ 519,960 \$ 540,228 2,828,724 14% 21%</td> <td>34%</td>	2014 Costa Mesa 8 27 \$ 519,960 \$ 540,228 2,828,724 14% 21%	34%
26 Brea Boulevard 2014 Fullerton 4 16 \$ 320,000 \$ 813,531 4,259,783 12% 27 Commonwealth Avenue 2014 Fullerton 8 30 \$ 600,000 \$ 803,023 4,204,761 11% 28 Lemon Street/Anaheim Boulevard 2014 Fullerton 2 13 \$ 280,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 15 \$ 380,000 \$ 570,921 2,989,436 18% 30 Culver Drive 2014 Irvine 11 39 \$ 779,856 \$ 3,625,648 18,984,498 12% 31 Jamboree Road 2014 Irvine 9 27 \$ 230,608 \$ 3,173,217 16,615,495 9% 32 Jeffrey Road 2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 10,005,845 9% 4 La Habra Boulevard/Central Avenue/ State College Boulevard 2014 La Habra 6		24%
27 Commonwealth Avenue 2014 Fullerton 8 30 \$ 600,000 \$ 803,023 4,204,761 11% 28 Lemon Street/Anaheim Boulevard 2014 Fullerton 2 13 \$ 280,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 15 \$ 380,000 \$ 570,921 2,989,436 18% 30 Culver Drive 2014 Irvine 11 39 \$ 779,856 \$ 3,625,648 18,984,498 12% 31 Jamboree Road 2014 Irvine 9 27 \$ 230,608 \$ 3,173,217 16,615,495 9% 32 Jeffrey Road 2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 10,005,845 9% La Habra Boulevard/Central Avenue/ State College Boulevard 2014 La Habra 6 23 \$ 460,000 \$ 1,550,184 8,117,025 10% 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 19		25%
28 Lemon Street/Anaheim Boulevard 2014 Fullerton 2 13 \$ 280,000 \$ 531,872 2,784,969 16% 29 Placentia Avenue 2014 Fullerton 4 15 \$ 380,000 \$ 570,921 2,989,436 18% 30 Culver Drive 2014 Irvine 11 39 \$ 779,856 \$ 3,625,648 18,984,498 12% 31 Jamboree Road 2014 Irvine 9 27 \$ 230,608 \$ 3,173,217 16,615,495 9% 32 Jeffrey Road 2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 10,005,845 9% La Habra Boulevard/Central Avenue/ State College Boulevard 2014 La Habra 6 23 \$ 460,000 \$ 1,550,184 8,117,025 10% 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8%	2014 Fullerton 4 16 \$ 320,000 \$ 813,531 4,259,783 12% 21%	43%
29 Placentia Avenue 2014 Fullerton 4 15 \$ 380,000 \$ 570,921 2,989,436 18% 30 Culver Drive 2014 Irvine 11 39 \$ 779,856 \$ 3,625,648 18,984,498 12% 31 Jamboree Road 2014 Irvine 9 27 \$ 230,608 \$ 3,173,217 16,615,495 9% 32 Jeffrey Road 2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 10,005,845 9% La Habra Boulevard/Central Avenue/ State College Boulevard 2014 La Habra 6 23 \$ 460,000 \$ 1,550,184 8,117,025 10% 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8%		36%
30 Culver Drive 2014 Irvine 11 39 \$ 779,856 \$ 3,625,648 18,984,498 12% 31	2014 Fullerton 2 13 \$ 280,000 \$ 531,872 2,784,969 16% 21%	40%
31 Jamboree Road 2014 Irvine 9 27 \$ 230,608 \$ 3,173,217 16,615,495 9% 32 Jeffrey Road 2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 10,005,845 9% La Habra Boulevard/Central Avenue/ State College Boulevard 2014 La Habra 6 23 \$ 460,000 \$ 1,550,184 8,117,025 10% 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8%		48%
32 Jeffrey Road 2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 10,005,845 9% La Habra Boulevard/Central Avenue/ State College Boulevard 2014 La Habra 6 23 \$ 460,000 \$ 1,550,184 8,117,025 10% 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8%		19%
33 La Habra Boulevard/Central Avenue/ State College Boulevard 2014 La Habra 6 23 \$ 460,000 \$ 1,550,184 8,117,025 10% 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8%		19%
33 State College Boulevard 2014 La Habra 6 23 \$ 460,000 \$ 1,550,184 8,117,025 10% 34 Paseo de Valencia 2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8%	2014 Irvine 9 40 \$ 410,032 \$ 1,910,910 10,005,845 9% 21%	26%
	2014 La Habra 6 23 \$ 460,000 \$ 1,550,184 8,117,025 10% 21%	27%
	2014 Laguna Hills 3 12 \$ 190,742 \$ 169,859 889,411 8% 21%	34%
35 Ball Road 2014 OCTA 11 38 \$ 733,416 \$ 1,532,115 8,022,411 5%	2014 OCTA 11 38 \$ 733,416 \$ 1,532,115 8,022,411 5% 21%	13%
36 Crown Valley Parkway 2014 OCTA 9 30 \$ 367,200 \$ 556,861 2,915,820 4%	2014 OCTA 9 30 \$ 367,200 \$ 556,861 2,915,820 4% 21%	20%
37 Edinger Avenue* 2014 OCTA 12 38 \$ 753,800 \$ 1,264,832 6,622,870 2%		25%
38 First Street/Bolsa Avenue 2014 OCTA 12 49 \$ 980,000 \$ 3,506,276 18,359,448 11%	2014 OCTA 12 49 \$ 980,000 \$ 3,506,276 18,359,448 11% 21%	26%
39 Lake Forest Drive 2014 OCTA 2 10 \$ 119,679 \$ 685,904 3,591,510 19%	2014 OCTA 2 10 \$ 119,679 \$ 685,904 3,591,510 19% 21%	33%
40 Los Alisos Boulevard 2014 OCTA 7 21 \$ 332,617 \$ 27,876 145,962 5%		16%
41 MacArthur Boulevard/Talbert Avenue 2014 OCTA 7 24 \$ 392,256 \$ 524,129 2,744,427 7%	2014 OCTA 7 24 \$ 392,256 \$ 524,129 2,744,427 7% 21%	13%
42 Magnolia Street 2014 OCTA 16 54 \$ 399,943 \$ 2,208,937 11,566,362 10%	2014 OCTA 16 54 \$ 399,943 \$ 2,208,937 11,566,362 10% 21%	26%
43 Marguerite Parkway 2014 OCTA 9 31 \$ 323,056 \$ 609,084 3,189,264 11%		21%
44 Pacific Park Drive/Oso Parkway* 2014 OCTA 8 32 \$ 490,222 \$ 1,912,481 10,014,071 16%		29%
45 Warner Avenue 2014 OCTA 13 43 \$ 621,848 \$ 1,797,186 9,410,366 8%	,	15%
		21%
47 El Camino Real 2014 San Clemente 4 19 \$ 359,998 \$ 1,482,733 7,763,838 9%	2014 OCTA 13 43 \$ 621,848 \$ 1,797,186 9,410,366 8% 21%	25%
48 Del Obispo Street 2014 San Juan Capistrano 4 16 \$ 138,800 \$ 992,762 5,198,269 13%	2014 OCTA 13 43 \$ 621,848 \$ 1,797,186 9,410,366 8% 21% 2014 San Clemente 4 21 \$ 416,453 \$ 705,991 3,696,687 9% 21%	

Summary of Results for Completed Regional Traffic Signal Synchronization Projects

								Estimated			
						M1 / M2 Grant	Estimated Proiect Life Gas	Project Life Greenhouse		Average	
		Timing		Length		Board	Savings	Gas Savings	Travel Time	Speed	Stops
	Corridor Name	Completed	Lead Agency	(Miles)	Signals	Allocation	(Dollars)^	(lbs)	Improvement	•	Improvement
49	Knott Avenue	2015	Buena Park	7	28	\$ 448,000	\$ 1,918,098	10,043,483	23%	21%	37%
50	Newport Coast Drive	2015	Newport Beach	5	15	\$ 260,000	\$ 651,984	3,413,896	10%	21%	6%
51	San Joaquin Hills Road	2015	Newport Beach	4	11	\$ 220,000	\$ 584,913	3,062,701	11%	21%	32%
52	Jeronimo Road¹	2015	OCTA	6	16	\$ 267,360	\$ 1,508,063	7,896,471	12%	21%	35%
53	Santa Margarita Parkway	2015	OCTA	5	20	\$ 311,912	\$ 1,705,334	8,929,416	15%	21%	41%
54	Trabuco Road¹	2015	OCTA	5	16	\$ 266,971	\$ 1,294,844	6,780,018	15%	21%	32%
55	Avenida Vista Hermosa	2015	San Clemente	3	17	\$ 305,856	\$ 252,899	1,324,219	17%	21%	54%
56	Camino De Los Mares	2015	San Clemente	2	13	\$ 248,208		3,153,365	27%	21%	57%
57	Artesia Boulevard	2016	Buena Park	2	11	\$ 422,142	\$ 795,156	4,163,572	20%	21%	38%
58	Alton Parkway	2016	Irvine	14	48	\$ 1,209,396	\$ 3,082,089	16,138,332	12%	21%	39%
59	Barranca Parkway	2016	Irvine	13	44	\$ 2,106,434	\$ 2,734,900	14,320,395	10%	21%	26%
60	Adams Avenue ¹	2016	OCTA	5	17	\$ 1,042,374	\$ 2,065,973	10,817,781	7%	21%	27%
61	Antonio Parkway ¹	2016	OCTA	10	27	\$ 1,156,920	\$ 2,274,125	11,907,699	16%	21%	23%
62	Bake Parkway	2016	OCTA	6	19	\$ 532,603	\$ 1,434,344	7,510,464	12%	21%	28%
63	La Paz Road	2016	OCTA	8	23	\$ 328,192	\$ 1,951,861	10,220,270	14%	21%	21%
64	Newport Avenue/Boulevard (North)1	2016	OCTA	7	24	\$ 946,045	, , .	3,046,041	12%	21%	36%
65	Newport Boulevard (South)	2016	OCTA	7	33	\$ 1,304,596	\$ 944,446	4,945,276	5%	21%	17%
66	State College Boulevard*1	2016	OCTA	5	35	\$ 1,041,579	\$ 1,484,920	7,775,289	10%	21%	16%
67	Seal Beach Boulevard/Los Alamitos Boulevard	2016	Seal Beach	3	13	\$ 586,720	\$ 1,016,379	5,321,931	10%	21%	31%
68	Harbor Boulevard*	2017	Anaheim	4	22	\$ 731,867	\$ 1,414,593	7,407,047	8%	21%	15%
69	Birch Street/Rose Drive	2017	Brea	4	14	\$ 664,230	\$ 629,603	3,296,709	23%	21%	37%
70	Bristol Street*	2017	OCTA	8	45	\$ 1,884,620	\$ 1,649,926	8,639,290	7%	21%	13%
71	Goldenwest Street	2017	OCTA	8	32	\$ 380,800	\$ 374,406	1,960,454	11%	21%	23%
72	Harbor Boulevard*	2017	Santa Ana	10	46	\$ 1,852,080	\$ 4,320,825	22,624,563	10%	21%	15%
73	El Toro Road*	2018	Laguna Woods	3	15	\$ 514,000	\$ 1,116,724	5,847,356	17%	21%	33%
74	Moulton Parkway*	2018	Laguna Woods	11	37	\$ 645,440	\$ 939,620	4,920,008	12%	21%	41%
75	Marguerite Parkway*	2018	Mission Viejo	9	30	\$ 759,232	\$ 1,663,372	8,709,695	8%	21%	18%
76	Olympiad Road-Felipe Road	2018	Mission Viejo	6	18	\$ 515,656		1,036,240	3%	21%	6%
77	Chapman Avenue*	2018	OCTA	14	55	\$ 2,344,044	\$ 2,322,428	12,160,622	8%	21%	0%
78	Kraemer Boulevard/Glassell Street/ Grand Avenue	2018	OCTA	15	61	\$ 2,433,520	\$ 1,722,240	441,600	12%	21%	8%
79	Orangewood Avenue	2019	Anaheim	3	15	\$ 683,328	\$ 1,140,726	5,973,032	17%	21%	46%
80	Irvine Boulevard	2019	Irvine	7	29	\$ 378,166	\$ 2,757,359	14,437,996	17%	21%	37%
81	Alicia Parkway*	2019	OCTA	11	40	\$ 1,847,200	\$ 3,550,240	18,589,652	12%	21%	31%
82	Coast Highway	2019	OCTA	9	27	\$ 1,799,210	\$ 1,907,001	9,985,376	5%	21%	8%
83	El Toro Road*	2019	OCTA	7	25	\$ 1,112,447	\$ 4,079,112	21,358,911	20%	21%	42%
84	Westminster Avenue/17th Street*	2019	OCTA	16	63	\$ 2,820,102	\$ 141,754	742,246	5%	21%	16%
Sumr	nary of All Projects			746	2897	\$ 59,950,327	\$ 172,135,479	885,947,131	13%	21%	29%

^{*} Euclid Street, Pacific Park Drive/Oso Parkway, Harbor Boulevard, State College Boulevard, Bristol Street, Moulton Parkway, Chapman Avenue, Westminster Avenue, El Toro Road, Alicia Parkway, and Marguerite Parkway are included multiple times because these corridors have been revisited.

Note: Improvements are averaged across both directions over the full corridor.

M1/M2 - Measure M1/Measure M2

Board - Board of Directors

lbs - pounds

OCTA - Orange County Transportation Authority

^{^ \$3.90} per gallon gasoline price used to estimate savings.

¹ Project Board allocation includes external funding.



October 5, 2020

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Consultant Selection for the Preparation of Project Report and

Environmental Document for the Interstate 5 Improvement Project

from San Diego County Line to Avenida Pico

Overview

On June 22, 2020, the Orange County Transportation Authority Board of Directors approved the release of a request for proposals for the preparation of the project report and environmental document for the Interstate 5 improvement project from the San Diego County Line to Avenida Pico. Board of Directors' approval is requested for the selection of a firm to perform the required work.

Recommendations

- A. Approve the selection of Advanced Civil Technologies as the firm to prepare the project report and environmental document for the Interstate 5 improvement project from the San Diego County Line to Avenida Pico
- B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-0-2335 between the Orange County Transportation Authority and Advanced Civil Technologies to prepare the project report and environmental document for the Interstate 5 improvement project from the San Diego County Line to Avenida Pico.

Discussion

The Transportation Corridor Agencies (TCA) and the California Department of Transportation (Caltrans) are concluding efforts on the South County Traffic Relief Effort (SCTRE). Based on technical work, public feedback, and policy direction, three alternatives are proposed to move forward into project development. On March 12, 2020, the TCA Board of Directors approved recommendations to proceed with project development of a non-tolled extension of Los Patrones Parkway, widening of Ortega Highway between

Calle Entradero and Reata Road, and the extension of high-occupancy vehicle (HOV) lane improvements on Interstate 5 (I-5) from the San Diego County Line to Avenida Pico. On April 13, 2020, the Orange County Transportation Authority (OCTA) Board of Directors (Board) also approved recommendations to proceed with these projects. Caltrans and TCA will provide a final project report for SCTRE that will formalize these recommendations.

The I-5 improvement project from San Diego County Line to Avenida Pico (Project) would complete the HOV lane network in Orange County and complement the I-5 HOV improvements that were recently completed as part of Project C in the Measure M2 freeway program. The Project proposes to construct one HOV lane in each direction on I-5 from the San Diego County Line to Avenida Pico, reestablish existing auxiliary lanes, and modify interchange ramps.

Procurement Approach

This procurement was handled in accordance with OCTA's Board-approved procedures for architectural and engineering (A&E) services that conform to both state and federal laws. Proposals are evaluated and ranked in accordance with the staffing and project organization, workplan approach, and the qualifications of the firm. As this is an A&E procurement, price is not an evaluation criterion pursuant to state and federal laws. An evaluation of the proposals was conducted based on overall qualifications to develop a competitive range of offerors. The highest-ranked firm is requested to submit a cost proposal, and the final agreement is negotiated. Should negotiations fail with the highest-ranked firm, a cost proposal will be solicited from the second-ranked firm in accordance with Board-approved procurement policies.

On June 22, 2020, the Board authorized the release of Request for Proposals (RFP) 0-2335, which was electronically issued on CAMM NET. The Project was advertised on June 22 and June 29, 2020, in a newspaper of general circulation. A pre-proposal conference was held on June 25, 2020, with 35 attendees representing 22 firms. Three addenda were issued to make available the pre-proposal conference registration sheets, provide responses to questions received, and handle administrative issues related to the RFP.

On July 22, 2020, five proposals were received. An evaluation committee consisting of members from OCTA's Contracts Administration and Materials Management, Highway Programs, and Planning departments, as well as external representatives from Caltrans and the City of San Clemente, met to

review all submitted proposals. The proposals were evaluated utilizing the following Board-approved evaluation criteria and weightings:

•	Qualifications of the Firm	25 percent
•	Staffing and Project Organization	40 percent
•	Work Plan	35 percent

The evaluation criteria are consistent with the weighting developed for similar A&E procurements. The qualifications of the firm evaluated the firm's experience in performing work of similar scope and size. The greatest importance was assigned to staffing and project organization of the firm, as the qualifications of the project manager (PM) and other key personnel are very important to the successful and timely delivery of the Project. Similarly, high importance was given to the work plan criterion to emphasize the importance of the team's understanding of the Project, its challenges, and its approach to implementing the various elements of the scope of work. The technical approach to the Project is critical to the successful performance of the Project.

The evaluation committee reviewed all proposals based on the evaluation criteria and found three firms most qualified to perform the required services. The three most qualified firms are listed below in alphabetical order:

Firm and Location

Advanced Civil Technologies (ACT) Santa Ana, California

Parsons Transportation Group, Inc. (Parsons)
Irvine, California

WSP USA, Inc. (WSP) Orange, California

On August 18, 2020, the evaluation committee interviewed the three firms. The interviews consisted of a presentation allowing each team to present its qualifications, highlight its proposal, and respond to evaluation committee questions. Each firm also discussed its staffing plan, work plan, and perceived Project challenges. Each firm was asked general questions related to qualifications, relevant experience, project organization, and approach to the work plan. All firms were also asked questions specific to its proposals regarding its team's approach to the requirements of the scope of work, management of the Project, coordination with various agencies, experience with similar projects, and the proposed solutions toward achieving the Project goals. After considering

responses to the questions asked during the interviews, the evaluation committee adjusted the preliminary scores for each firm; however, ACT remained as the top-ranked firm with the highest cumulative score.

Based on the evaluation of written proposals and information obtained during the interviews, staff recommends ACT as the top-ranked firm to prepare the project report and environmental document (PR/ED) for the Project. This firm ranked highest among proposing firms because of its experience with similar projects and familiarity with Caltrans requirements. ACT's proposed team consists of qualified key personnel that have specific, relevant experience with PR/ED projects and knowledge of the Project corridor. The firm demonstrated an understanding of the Project requirements and presented a comprehensive work plan addressing key issues that are critical to meeting the Project schedule. The following is a brief summary of the proposal evaluation results.

Qualifications of the Firm

All short-listed firms are well established with recent and relevant experience and are qualified to perform the services.

ACT has provided professional transportation engineering services for state and local government agencies since 1996, including OCTA, Caltrans, TCA, Riverside County Transportation Commission (RCTC), and the Los Angeles County Metropolitan Transportation Authority (LA Metro). The firm's corporate headquarters is located in the City of Santa Ana. ACT recently completed similar projects, which include: PR/ED for the I-5 widening project from State Route 73 (SR-73) to El Toro Road, PR/ED for the I-5 HOV lane extension, PR/ED for the southbound Interstate 405 (I-405) auxiliary lane project from State Route 133 to University Drive, and the plans, specifications, and estimates for the I-5/El Camino Real ramp modifications and soundwall implementation. ACT proposed to utilize nine subconsultants with a wide range of disciplines to provide services required by the scope of work, and all have prior working experience with ACT on past projects.

WSP was founded in 1885 and provides services in the areas of highway and structural planning and design, transportation engineering, traffic analysis and modeling, and environmental clearance. The firm has 108 offices in the United States and four offices in Southern California located in the cities of Los Angeles, Orange, San Bernardino, and San Diego. Recent relevant firm experience includes the PR/ED for the State Route 57 (SR-57) improvement project from Orangewood Avenue to Katella Avenue, as well as the project report for the State Route 241/Oso Parkway Bridge and Los Patrones Parkway, and the PR/ED for the State Route 91 Corridor improvement project for RCTC. The

team also has prior working relationships with eight of the ten proposed subconsultants, and demonstrated experience working together on projects of similar size and scope.

Founded in 1944, Parsons is a full-service engineering and construction firm that offers a wide range of services in infrastructure, defense, and intelligence. Parsons has offices in 34 states, including six in Southern California, operates in 25 countries, and has over 16,000 personnel worldwide, with 500 members located within Southern California. Parsons is familiar with Caltrans' processes and requirements and have worked on similar PR/ED projects, including the PR/ED for the I-405 improvement project from SR-73 to Interstate 605 (I-605) and the PR/ED for the I-405 improvement project from I-5 to State Route 55 (SR-55). In addition to these completed projects, Parsons is currently working on the I-605 Corridor improvement project for LA Metro with an expected completion date of 2021. Parsons proposed to utilize 11 subconsultants in which all but one firm have worked with Parsons on past projects.

Staffing and Project Organization

All firms proposed qualified PMs, key personnel, and subconsultants with relevant PR/ED experience in interchange and freeway widening projects.

ACT proposed a qualified project team with relevant experience and comprehensive understanding of the Project issues, risks, and challenges. The team is proficient in various disciplines required for the Project and has extensive recent OCTA and Caltrans experience. The team has demonstrated experience working on projects within the Project corridor and are familiar with the local constraints and stakeholder concerns. The proposed PM has over 33 years of experience, of which 11 years were spent at Caltrans, and has delivered over 20 projects in the PR/ED phase, including the I-5 widening project from SR-73 to El Toro Road and the I-5 HOV lane extension project from Avenida Pico to San Juan Creek Road. The deputy PM/project engineer has 15 years of experience managing infrastructure projects throughout Southern California and has demonstrated the ability to successfully coordinate with agencies and stakeholders to deliver projects on schedule. The proposed environmental lead has 35 years of experience in environmental compliance pursuant to National Environmental Policy Act and California Environmental Quality Act (CEQA) requirements and recently worked on the I-5 widening project from I-405 to SR-55 for both OCTA and Caltrans. The ACT team includes subconsultants T.Y. Lin International that prepared the project study report-project development study (PSR-PDS) for the Project, as well as Kittelson and Associates that provided traffic analysis services.

WSP proposed a qualified project team with relevant experience and demonstrated understanding of the Project issues, risks, and challenges. The team is proficient and has recent OCTA and Caltrans experience. The proposed PM has 31 years of experience planning, environmentally clearing, and designing freeway improvements, including the delivery of 13 PR/ED projects within Orange County. The PM led the completion of the PR/ED for the SR-57 improvement project from Orangewood Avenue to Katella Avenue and the I-5 improvements in the cities of Irvine and Tustin. The proposed engineering lead has 37 years of experience in transportation planning and design and has completed seven PR/EDs for HOV-managed lanes. The proposed environmental lead has 26 years of experience preparing environmental documents and specializes in transportation projects involving Caltrans, including the delivery of environmental documents for over 100 projects. The proposed staffing plan demonstrated a clear understanding of the local community issues, as well as familiarity with the Project area from its previous work on the SCTRF PSR-PDS

Parsons proposed a project team and key personnel with relevant experience in PR/ED projects in Southern California. The proposed PM has 20 years of experience with technical expertise on highway projects with an emphasis on PR/ED projects, and is familiar with Caltrans' requirements as a former Caltrans employee. The proposed PM's depth of experience in serving in the PM role was limited to the current I-605 Corridor improvement project for LA Metro. The proposed engineering lead has 19 years of experience with a strong technical background in developing and designing highway transportation projects. The team's recent relevant experience includes the PR/ED for the I-405 improvement project from SR-73 to I-605 and the PR/ED for the I-405 improvement project from I-5 to SR-55. The proposed staffing plan clearly demonstrated an effective coordination approach to ensure environmental permits were obtained on time as staff were specifically designated to work with the California Coastal Commission.

Work Plan

All short-listed firms met the requirements of the RFP, and each firm adequately discussed its approach to the Project.

ACT presented a comprehensive work plan that addressed all the requirements in the scope of work and discussed all required tasks to complete the Project. The Project is on an expedited 32-month schedule, and the firm has proposed an accelerated schedule of 27 months for completing the PR/ED. The work plan also included opportunities to maximize the benefits of the Project, which include alternative enhancements, traffic management plan circulation during

construction, and stakeholder involvement. The plan proposed detailed recommendations and solutions on environmental issues to ensure efficient delivery of the environmental impact report/environmental assessment to allow for streamlined approvals in future phases. The plan also identified considerations for mainline enhancements that would improve safety while avoiding impacts to improvements that were recently constructed in the area. Compliance with SB 743 was also addressed and will be performed by staff currently participating in the development of the approach and methodology for CEQA transportation analysis. The plan outlined several alternatives to replacing the Concordia pedestrian overcrossing, including the use of a precast bridge to minimize traffic impacts, and provided a detailed analysis of how each alternative would benefit the Project.

The overall approach to Project execution described in the work plan and presented during the interview included a thorough discussion of disciplines that are critical for successful PR/ED performance, including environmental expertise and coordination with coastal agencies and compliance with newly implemented SB 743 guidelines. The interview confirmed the technical knowledge and expertise of the ACT team and its comprehensive understanding of Project challenges, risks, and requirements. The ACT team demonstrated in-depth knowledge of its proposed approach to the scope of work by providing detailed, Project-specific responses to all interview questions.

WSP presented its approach to completing the Project by discussing in its work plan the necessary tasks that would be completed. The firm demonstrated its understanding of the Project by addressing the general work activities that would be undertaken and proposed an accelerated Project schedule with a 90-day plan that includes immediate tasks requiring Caltrans approval. WSP proposed to eliminate the Avenida San Luis Rey Bridge replacement entirely, potentially saving months from the schedule and saving construction costs; however, it did not identify the existing constraints within this area. WSP also identified parcels of land that could be acquired and resold, which would minimize the right-of-way impacts for the Concordia pedestrian overcrossing while still providing a pedestrian overcrossing that is compliant with the requirements of the Americans with Disabilities Act and provides savings in construction costs.

The overall approach to Project execution described in the work plan and presented during the interview demonstrated an understanding of the scope of work, challenges, risks, and Project requirements. The WSP team provided detailed responses to all interview questions.

Parsons presented a work plan identifying issues, recommendations, challenges, and potential solutions that demonstrated an understanding of the scope of work, challenges, and risks associated with the Project. The plan included general discussions on early stakeholder coordination and proposed geometric enhancements to increase weaving distance between southbound Avenida Presidio on-ramp and southbound El Camino Real off-ramp to improve safety. The plan discussed visual engineering enhancements to address local community concerns regarding impacted coastal views and clearly corelated the engineering data that would be needed for the completion of the ED.

The overall approach to Project execution described in the work plan and presented during the interview demonstrated the firm's knowledge of the scope of work, objectives, challenges, and risks associated with the Project. The PM provided thorough responses to the interview questions.

Procurement Summary

Based on the evaluation of the written proposals, team qualifications, and information obtained during the interviews, the evaluation committee recommends the selection of ACT as the top-ranked firm to prepare the PR/ED for the Project.

Fiscal Impact

The Project is included in OCTA's Fiscal Year 2020-21 Budget, Capital Programs Division, Account 0001-7519-A9160-F01, and will be funded through federal Surface Transportation Block Grant funding.

Summary

Staff requests Board of Directors' approval for the Chief Executive Officer to negotiate and execute Agreement No. C-0-2335 with Advanced Civil Technologies as the firm to prepare the project report and environmental document for the Interstate 5 improvement project from the San Diego County Line to Avenida Pico.

Attachments

- A. Review of Proposals, RFP 0-2335 Consultant Services to Prepare the Project Report and Environmental Document for the Interstate 5 Improvement Project from San Diego County Line to Avenida Pico
- B. Proposal Evaluation Criteria Matrix (Short-Listed), RFP 0-2335 Consultant Services to Prepare the Project Report and Environmental Document for the Interstate 5 Improvement Project from San Diego County Line to Avenida Pico
- C. Contract History for the Past Two Years, RFP 0-2335 Consultant Services to Prepare the Project Report and Environmental Document for the Interstate 5 Improvement Project from San Diego County Line to Avenida Pico

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Review of Proposals RFP 0-2335 Consultant Services to Prepare the Project Report and Environmental Document for the Interstate 5 Improvement Project from San Diego County Line to Avenida Pico Presented to RP&H Committee - October 5, 2020

5 proposals were received, 3 firms were interviewed, 1 firm is being recommended

Overall Ranking	Overall	Firm & Location	Subcontractors	Evaluation Committee Comments
	91	Advanced Civil Technologies Santa Ana, California	T.Y. Lin International LSA Associates, Inc. AECOM Kittelson & Associates, Inc. Leighton Consulting, Inc. Mark Thomas & Company, Inc. Psomas TranSystems Corporation Value Management Strategies, Inc.	Highest-ranked firm overall. Firm has recent relevant experience managing and delivering design transportation projects of similar size and scope. Qualified team, including project manager, key personnel, technical staff, and subconsultants with experience working together on recent project approval and environmental document (PA/ED) projects on Interstate 5. Project manager has comprehensive experience, which includes California Department of Transportation experience and has demonstrated experience working on similar projects. Comprehensive work plan identifying key issues, providing sound recommendations, and viable solutions. Proposed a 27-month expedited project schedule.
2	83	WSP USA, Inc. Orange, California	ICF Jones & Stokes, Inc. Fehr & Peers AYCE, Inc. Epic Land Solutions, Inc. FPL and Associates, Inc. Guida Surveying, Inc. Lynn Capouya, Inc. Leighton Group, Inc. Value Management Strategies, Inc. VCS Environmental	Firm has relevant experience performing PA/ED and other similar projects. Qualified team, including project manager, key personnel, and subconsultants with experience working together on recent PA/ED projects. Project Manager is qualified with relevant experience planning, managing, and successfully delivering transportation projects. Work plan proposed modifications and innovative solutions to reduce construction costs and minimize right-of-way impacts. Detailed presentation and interview with thorough responses to all interview questions.
м	81	Parsons Transportation Group, Inc. Irvine, California	Arellano Associates Earth Mechanics, Inc. GPA Consulting Guida Surveying, Inc. Iteris Kleinfelder Overland, Pacific & Cutler, Inc. Q4 Transportation Solutions Sommer Engineering, Inc. Terry A. Hayes Associates, Inc. Value Management Strategies, Inc.	Firm has recent and relevant experience managing and delivering design transportation projects of similar size and scope. Qualified team, including project manager, discipline leads, key and technical staff, and subconsultants with proven experience working together on recent PA/ED projects. Project manager and key staff have experience in performing work of a similar scope. Work plan demonstrated a general understanding of the project requirements and potential issues. Thorough team presentation and interview with detail project-specific responses to all interview questions.
Evaluation Panel: 6 Members Internal:	<u>Members</u>	Evaluation Panel: 6 Members Internal: Contrade Administration and Materials Management (1)	Evaluation Criteria: Qualifications of the Firm Staffing and Project Organization	Weight Factors 25% 40%

Value Management Strategies, Inc.	Evaluation Criteria: Weight Factors	Qualifications of the Firm	nd Materials Management (1) Staffing and Project Organization	Work Plan 35%	
	Evaluation Panel: 6 Members	Internal:	Contracts Administration and Materials Management (1)	Highway Programs (1)	Planning (1)

California Department of Transportation (2)

External:

City of San Clemente (1)

PROPOSAL EVALUATION CRITERIA MATRIX (Short-Listed)

RFP 0-2335 Consultant Services to Prepare the Project Report and Environmental Document for the Interstate 5 Improvement Project from San Diego County Line to Avenida Pico

Advanced Civil Technologies								
Evaluator Number	1	2	3	4	5	6	Weights	Criteria Score
Qualifications of Firm	4.00	4.50	4.50	4.50	5.00	4.00	5	22.1
Staffing/Project Organization	4.50	5.00	4.50	5.00	5.00	4.50	8	38.0
Work Plan	4.50	4.50	4.00	4.50	4.50	4.50	7	30.9
Overall Score	88	94	87	94	97	88		91

WSP USA, Inc.								
Evaluator Number	1	2	3	4	5	6	Weights	Criteria Score
Qualifications of Firm	4.50	4.00	4.00	4.00	4.00	4.50	5	20.8
Staffing/Project Organization	4.50	4.00	4.00	4.50	4.00	4.00	8	33.3
Work Plan	4.50	4.00	4.00	4.00	4.00	4.50	7	29.2
Overall Score	90	80	80	84	80	86		83

Parsons Transportation Group, Inc).							
Evaluator Number	1	2	3	4	5	6	Weights	Criteria Score
Qualifications of Firm	4.50	4.50	4.50	4.00	4.50	3.50	5	21.3
Staffing/Project Organization	4.50	3.50	4.00	4.00	4.50	3.50	8	32.0
Work Plan	4.00	3.50	4.00	4.00	4.50	4.00	7	28.0
Overall Score	87	75	83	80	90	74		81

The range of scores for the non-short-listed firms was 68-71.

CONTRACT HISTORY FOR THE PAST TWO YEARS

RFP 0-2335 Consultant Services to Prepare the Project Report and Environmental Document for the Interstate 5 Improvement Project from San Diego County Line to Avenida Pico

Prime and Subconsultants	Contract No.	Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
Advanced Civil Technologies						
		Design Alternatives Analysis for State Route 91 (SR-91) between State Route 241 and State				
Contract Type: Firm-Fixed-Price	C-9-1658	Route 71	May 5, 2020	October 31, 2021		\$ 599,809
Subconsultants:						
None						
				Subtotal		\$ 599,809
WSP USA, Inc.						
Contract Type: Contract Task Order	C-8-1465	On-call Consulting Services for the 91 Express Lanes	June 21, 2018	March 31, 2023		\$
Subconsultants:			,	,		
None						
Contract Type: Firm-Fixed-Price	C-8-2072	Orange County Rail Infrastructure Defense Against Climate Change Plan	September 3, 2019	March 31, 2021		\$ 549,953
Subconsultants:						
Arellano Associates, LLC, LLC					\$ 67,517.00	
Fehr & Peers					\$ 29,842.00	
Watearth, Inc.						
Contract Type: Firm-Fixed-Price	C-8-1629	Bristol Street Transit Corridor Study	October 24, 2018	January 31, 2021		\$ 538,158
Subconsultants:						
Arellano Associates, LLC						
Kal Krishnan Consulting Services, Inc.					\$ 20,000.00	
STV, Inc.						
Contract Type: Contract Task Order	C-5-3273	On-call Planning Services for Commuter and Intercity Rail Support	February 1, 2016	January 31, 2020		€
Subconsultants:						
Cogstone Resource Management, Inc.						
Epic Land Solutions, Inc.						
IBI Group, Inc.						
Kal Krishnan Consulting Services, Inc.						
Michael Kodoma Planning						
MLM & Associates Engineering, Inc.						
SMA Rail Consulting + IT, Corp.						
				Subtotal		\$ 1,088,111

Prime and Subconsultants	Contract No.	Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
Parsons Transportation Group, Inc.						
		Consultant Services to Prepare the Plans, Specifications, and Estimates for the SR-91 Project from State Route 55 (SR-55) to Lakeview				
Contract Type: Firm-Fixed-Price Subconsultants:	C-9-1160	Avenue	March 30, 2020	April 30, 2028		\$ 6,798,503
Earth Mechanics, Inc.					\$ 353,302,59	
Kleinfelder					\$ 338,092.73	
Paleo Solutoins, Inc.						
Psomas					9	
		Program Management Consultant Services for the Interstate 405 (I-405) Imrpovement Project				
Contract Type: Time and Expense	C-2-1513	from Euclid Street to Interstate 605	March 3, 2014	May 31, 2023		\$ 132,796,531
Subconsularits:						
CTI Environmental Inc						
Delcan Corporation						
Falcon Engineering Services						
GCAP Services, Inc.						
Group Delta Consultants, Inc.						
HNTB Corporation						
MARRS Services, Inc.						
Mclean & Schultz						
Overland, Pacific & Cutler, LLC						
Panacea, Inc.						
Progressive Transport Solutions, LLC						
Spilles						
SPEC Services, Inc.						
The Alliance Group Enterprise, Inc.						
Contract Type: Contract Task Order	C-8-1462	On-call Consulting Services for the 91 Express Lanes	June 21, 2018	March 31, 2023		€
Subconsularius. None						
		Consultant Services to Prepare the Plans,				
Controct Town Cived Drice	70700	Specifications, and Estimates for the 91 Express	0,000	1, 100 OC OC.		400 040
Subconsultants:	0-0-7	Lailes Gailtí y rioject	Julie 12, 2019	Julie 30, 2021		
Earth Mechanics. Inc.					\$ 47,685.00	
Psomas					\$ 17,696.00	
Contract Type: Time and Expense	C-9-0809	Construction Program Management Support Services for Grade Separation Projects	July 30, 2010	March 31, 2020		\$ 9,407,991
Subconsultants:						
Padilla & Associates, Inc.						

Prime and Subconsultants	Contract No.	Contract Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
		Consultant Services to Prepare the Plans, Specifications, and Estimates for Segment 1 of the Interstate 5 (I-5) High-Occupancy Vehicle Project between San Juan Creek and Avenida				
Contract Type: Firm-Fixed-Price	C-0-1864	Pico	June 8, 2011	December 31, 2019		\$ 7,308,519
Subconsultants:						
Earth Mechanics, Inc.					\$ 444,696.00	
FPL & Associates, Inc.					\$ 667,661.00	
Group Delta Consultants, Inc.					\$ 29,767.37	
Lynn Capouya, Inc.					\$ 196,804.00	
Psomas					\$ 265,670.65	
WKE, Inc.					\$ 45,020.00	
		Consultant Services to Prepare the Project Report				
		and Environmental Document for the I-405				
Contract Type: Firm-Fixed-Price	C-3-2190	Improvement Project from I-5 to SR-55	December 10, 2014	December 31, 2018		\$ 6,119,865
Subconsultants:						
Advanced Civil Technologies					\$ 242,787.00	
Earth Mechanics, Inc.					\$ 107,926.00	
Iteris, Inc.					\$ 127,952.00	
MARRS Services, Inc.					\$ 159,269.00	
Psomas					\$ 377,151.00	
Terry A. Hayes Associates, Inc.					\$ 147,440.00	
Transystems Corporation					\$ 865,221.08	
Value Management Strategies, Inc.					\$ 42,791.00	
				Sub Total		\$162,851,679