

M e m o r a n d u m

To: CHAIR AND COMMISSIONERS
CALIFORNIA TRANSPORTATION COMMISSION

CTC Meeting: August 20, 2014

Reference No.: 2.5e.(3)
Action Item

From: NORMA ORTEGA
Chief Financial Officer

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Transportation Programming

Subject: **ALLOCATION FOR SUPPLEMENTAL FUNDS FOR PREVIOUSLY VOTED PROJECT
RESOLUTION FA-14-04**

RECOMMENDATION:

The California Department of Transportation (Department) recommends that the California Transportation Commission (Commission) allocate an additional \$3,822,000 for the State Highway Operation and Protection Program (SHOPP) project identified below.

ISSUE:

Additional funds are needed for this previously approved project in order to award the construction contract.

RESOLUTION:

Resolved, that \$3,822,000 be allocated from the Budget Act of 2013, Budget Act Items 2660-302-0042 and 2660-302-0890 to provide additional funds to allow the following project to be awarded.

<u>Project</u>	<u>Dist-Co-Rte</u>	<u>Fund Source</u>	<u>Original Allocation Amount</u>	<u>Current Allocation</u>	<u>Allocation Adjustment</u>	<u>Revised Allocation</u>	<u>% Increase Above Current Allocation</u>
1	04-SF-280	SHOPP	\$2,060,000	\$2,060,000	\$ 3,822,000	\$5,882,000	
		<u>OTS</u>	<u>\$5,500,000</u>	<u>\$5,500,000</u>	<u>\$ 0</u>	<u>\$5,500,000</u>	
		Total	\$7,560,000	\$7,560,000	\$ 3,822,000	\$11,382,000	50.6%

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Reason for Supplemental Funds	PPNO Program Funding Year Item # Fund Type Program Codes Project ID Adv Phase EA	State Federal Current Amount by Fund Type	State Federal Additional Amount by Fund Type	State Federal Revised Amount by Fund Type
2.5e.(3) Supplemental Funds for Previously Voted Projects					Resolution FA-14-04
1 \$3,822,000 Department of Transportation San Francisco 04-SF-280 R4.1/R4.4	In San Francisco, on Route 280 at PM R4.1/R4.4; also on Route 101 at PM 1.5/1.8. Outcome/Output: Replace a total of 24,375 linear feet of existing Type 1 and Type 2 bridge rails with the latest standard bridge rail, Concrete Barrier Type 732. Supplemental Funds needed to award contract. (Additional contributions: \$5,500,000 – Office of Traffic Safety (OTS) federal grant.) Total Revised Amount: \$5,822,000 (\$17,808,000 construction capital and \$2,610,000 construction support.)	04-0268P SHOPP 2012-13 302-0042 SHA 302-0890 FTF 20.20.201.112 SHOPP 2013-14 302-0042 SHA 302-0890 FTF 0400000496 4 1A5514	\$41,000 \$2,019,000	\$76,000 \$3,746,000	\$41,000 \$2,019,000 \$76,000 \$3,746,000

PROJECT DESCRIPTION:

This project is located in San Francisco on routes 280 and 101. This project will replace 24,375 linear feet (4.6 miles) of bridge rails with new Concrete Rail Type 732 Modified on 10 bridges on main line and connector ramps at the I-280/US-101 interchange. The project will replace existing bridge rails with the current standard concrete barrier rail, to prevent errant vehicles from leaving the structure, reduce the severity of vehicle collisions, and improve safety.

PROJECT LOCATION:



“Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability”

FUNDING STATUS:

This project was programmed for \$17,808,000 in 2012 SHOPP. Grant funding in the amount of \$5,500,000 from the Office of Traffic Safety (OTS) was obtained and the Commission voted \$2,060,000 from SHOPP allocation at the January 29, 2014, meeting, bringing the total allocation to \$7,560,000.

An additional \$3,822,000 in supplemental funds is needed in order to award this project to the low bidder.

REASONS FOR COST INCREASE:

The contract was advertised May 2014, and five bids were received. The apparent low bidder was 50 percent above the Department's estimate. The Department performed a bid analysis to evaluate the differences between the Engineer's Estimate and the contract bid items.

The cost of bridge work, increased contingencies, lighting, mobilization, and traffic control were identified as the contributors to the difference between the Engineer's Estimate and the apparent low bidder.

Unlike most bridge projects where bridge rail is one of many elements in the project, the majority of the work in this project is bridge rail replacement. The length of concrete bridge rail and barrier through this interchange is 4.6 miles. In addition to the volume of bridge rail, the work is complicated by the requirement to remove the existing barrier by saw-cutting at the base. This removal method is both costly and labor-intensive, but required to minimize construction noise impacts to adjacent residential areas. In addition, as rail removal cannot be accomplished over live traffic, night lane closures are required. The limited work windows and nighttime closures result in lower production rates. Furthermore, for construction worker safety, much of the work will be behind temporary concrete railing. Although this railing provides a safer work zone, the temporary railing limits work space and makes logistics more difficult. With these factors in mind and with the lack of comparable projects, the Department performed a special study in an attempt to estimate the cost of barrier removal and the associated bridge items. The analysis did not fully incorporate the impact of these conditions and contract requirements in the cost of the structural items. The increase in the structural items adds \$2,348,371 to the cost of this project.

Further, after bid opening the Department re-evaluated risks associated with this project and determined that the conventional five percent contingencies were inadequate. Significant risks include the potential for additional traffic control, potential for additional structural work because of degradation of concrete or steel in the bridges, and potential for noise complaints requiring further modifications to work schedule or methods. This supplemental funds request requests funding to increase contingencies to ten percent of the contract value. The increase in contingencies adds \$584,616 to the cost of this project.

The third item contributing to the difference between engineers estimate and contractor bid is lighting and sign illumination. The Department's estimate undervalued the material costs for the electrical work. This added \$431,000 to the cost of this project.

Mobilization also added to the cost of this project. In general, mobilization is approximately ten percent of the contract items. The increase in mobilization is consistent with the overall cost increase and adds \$320,000 to the cost of this project.

The last item is traffic control. The complex traffic control involving rolling lane closures on U.S. 101 while working on elevated structures contributed to the higher bid price. The increase in traffic control adds \$124,000 to the cost of this project.

The remainder of the increase, \$14,013, is a result of miscellaneous adjustments.

An additional \$3,822,000 in supplemental funds is needed in order to award this project to the low bidder.

LESSONS LEARNED:

There is significant volatility in the historic data for several of the contract items included in this project. In addition, there are unique features of the scope of work in this project that were dissimilar from the historic data.

The Department is currently developing new procedures to identify projects that are unique or carry unusually high cost risks during construction. When these high risk projects are identified an additional level of review will be performed, regardless of project size. In addition, for the lump sum price for Bridge Removal (Portion), an improved pricing method is being developed and information from previous projects will be more quickly available to improve project delivery quality

FUNDING OPTIONS:

OPTION A: Approve this request as presented above for \$3,822,000 to allow this project to be awarded.

OPTION B: Deny this request and direct the Department to down scope the project to remain within the allocated amount. The Department considered this option and determined that reducing the scope of work on this project and executing another project to complete the deleted work later would result in greater costs and delay the benefits of safety enhancements to the traveling public.

OPTION C: Deny this request and direct the Department to reject all bids and re-advertise the project. The Department performed an analysis and has determined that it is unlikely lower bids would be received.

RECOMMENDED OPTION:

The Department recommends that this request of \$3,822,000, as presented in "Option A" above, be approved to award the project to the low bidder.